

TEK SERVICE
MANUAL

TEKTRONIX

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Product Group 2F

2710 SPECTRUM ANALYZER



Please Check for CHANGE INFORMATION at the Rear of This Manual

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FROM Frank Gray, 50-PAT
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Serial Number _____

PREFACE

This manual contains service information for the TEKTRONIX 2710 SPECTRUM ANALYZER.

Other instruction manuals for this product are:

2710 Operators Manual

2710 Option 03 Programmers Manual¹

For manual ordering information, refer to the Replaceable Mechanical Parts List at the rear of this manual or contact your local Tektronix Field Office.

Who Should Use This Manual?

This manual is intended for electronic technicians with experience in servicing digital, analog, and rf circuitry. Circuit analysis is mostly functional and should help isolate most malfunctions to a board or block of circuitry. The technician should then be able, with the aid of test equipment, to isolate the malfunction to a specific component or components.

Documentation Standards

Most terminology and graphics follow ANSI standards. A glossary of terms is provided as an appendix. Refer to the following standards:

ANSI Y1.1 Abbreviations

ANSI Y32.2 Graphic Symbols

IEEE 91 Logic Symbols

Change/History Information

Manual corrections or additional information is included when manual pages are revised. A revised page is identified by a revision date located in the lower inside corner of the page. This helps ensure that the manual contains the latest and most accurate information available through the evolution of the instrument.

History information, with the updated data, is integrated into the text or diagrams. When a text page is updated, the revised pages are identified by a revision date in the lower inside corner of the page. When a diagram is updated, the revision date is placed at the lower center of the diagram. History information is shown with a gray tint. When a component value is changed, the designator on the drawing is boxed with a grey outline. When a circuit is deleted or changed, the original configuration is shown in grey, drawn either at its original location or to the side of the drawing.

If you have a manual other than the one that came with your instrument it may contain revisions that do not apply to your instrument; however all history information that pertains to the earlier instruments is retained. When a major modification has been made to an assembly or circuit board, the data for the replaced assembly will follow the new information and will be identified with appropriate titles or headings such as instrument serial number range or the assembly or board part numbers.

Also, if your instrument has an assembly replaced with a newer version, documentation for the newer assembly may be supplied. Contact any Tektronix Service Center for information.

¹ When Option 03 becomes available.

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SERVICING SAFETY SUMMARY

Do Not Service Alone

Do not perform internal service or adjustment of this product unless another person capable of rendering first aid and resuscitation is present.

Do Not Wear Jewelry

Remove jewelry prior to servicing. Rings, necklaces, and other metallic objects could come into contact with dangerous voltages and currents.

Use Care When Servicing With Power On

Dangerous voltages exist at several points in this product. To avoid personal injury, do not touch exposed connections and components while power is on.

Disconnect power before removing protective panels, soldering, or replacing components.

Power Source

This product is intended to operate from a power source that will not apply more than 250 volts rms between the supply conductor and ground. A protective ground connection by way of the grounding conductor in the power cord is essential for safe operation.

X-Radiation

X-ray emission generated within this instrument has been sufficiently shielded. Do not modify or otherwise alter the high voltage circuitry or the crt enclosure.

TERMS

In This Manual

CAUTION statements identify conditions or practices that could result in damage to the equipment or other property.

WARNING statements identify conditions or practices that could result in personal injury or loss of life.

As Marked on Equipment

CAUTION indicates a personal injury hazard not immediately accessible as one reads the marking, or a hazard to property including the equipment itself.

DANGER indicates a personal injury hazard immediately accessible as one reads the marking.

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SYMBOLS

In This Manual



This symbol indicates where applicable cautionary or other information is to be found.

As Marked on Equipment



DANGER High Voltage.



Protective ground (earth) terminal.



ATTENTION Refer to manual.



Refer to manual.

Grounding the Product

This product is grounded through the grounding conductor of the power cord. To avoid electrical shock, plug the power cord into a properly wired receptacle before connecting to the product input or output terminals. A protective ground connection by way of the grounding conductor in the power cord is essential for safe operation.

Danger Arising From Loss of Ground

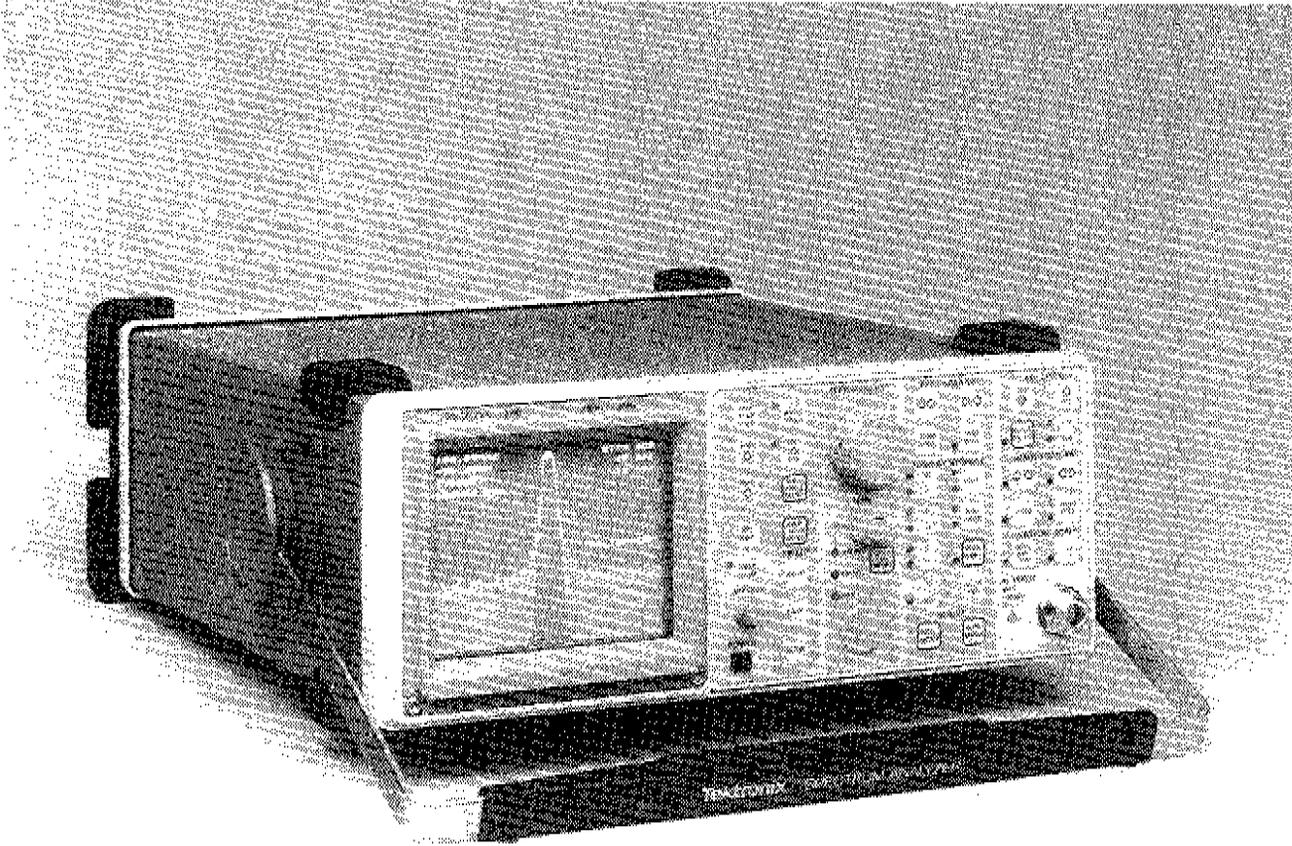
Upon loss of the protective ground connection, all accessible conductive parts (including knobs and controls that may appear to be insulating) can render an electric shock.

Use the Proper Power Cord

Use only the power cord and connector specified for your product.

Use only a power cord that is in good condition.

Refer to Section 1 for information on power cords and connectors.



2710 SPECTRUM ANALYZER

GENERAL INFORMATION

This Section of the Manual includes a general description of the instrument, a list of Options, Unpacking and Repackaging instructions, Storage and Service information, and a list of Standard and Optional accessories.

INSTRUMENT DESCRIPTION

The 2710 Spectrum Analyzer is a portable instrument for the 10 kHz to 1.8 GHz frequency range. Center Frequency accuracy is $1 \times 10\%$. A minimum Resolution Bandwidth of 3 kHz, with a Span/Div down to 10 kHz provides measurement resolution commensurate with the frequency accuracy. Options are available for performance enhancement.

The Spectrum Analyzer's main features are:

- **Precision Measurements** – Menu selectable routines provide directions for normalizing the internal reference (calibrator signal) to external frequency and amplitude references. After the internal reference is normalized, other menu selections provide for normalizing all, or selected, instrument measurement parameters. It is recommended practice to invoke the normalization routines prior to a critical measurement.

- **Menu Operation** – Menu-selected routines provide Diagnostics, Normalization, Adjustments, and set-up of basic parameters such as center frequency, frequency span, reference level, vertical scale factor, resolution bandwidth, etc. Each menu is described in Section 4 in the Operators manual.

- **Single and Δ Markers** – A single marker can be enabled to show the frequency and amplitude of a specific point on the display. Delta (Δ) markers show the difference frequency and amplitude, between any two points on the display.

- **Tracking** – Signal tracking holds a drifting signal to center screen.

- **Center Measure** – When this function is activated, the instrument completes the sweep and centers the signal nearest center-screen or with markers activated, the signal nearest the marker. A readout of center frequency and amplitude is displayed.

- **Display** – In the Spectral mode, the numerical values of signals and setup parameters are displayed. In the Menu mode, menus with their selections and prompts are displayed. Error, warning, or information messages are displayed in both modes.

Conformance to Industry Standards

This Spectrum Analyzer conforms with the following Industry Safety Standards and Regulatory Requirements:

CSA – Electrical Bulletin 556B

ANSI C39.5 (11th Draft) – Safety Requirement for Electrical and Electronic Measuring and Controlling Instrumentation.

IEC 348 (2nd Edition) – Safety Requirement for Electronic Measuring Apparatus.

UL 1244 (2nd Edition) – Measuring Testing Equipment.

Product Service

To assure adequate product service and maintenance for our instruments, Tektronix has established Field Offices and Service Centers at strategic points throughout the United States and in countries where our products are sold. Several types of maintenance or repair agreements are available.

For example, for a fixed fee, a maintenance agreement program provides maintenance and recalibration on a regular basis. Tektronix will remind you when a product is due for recalibration and perform the service within a specified time.

Tektronix emergency repair service provides immediate service when the instrument is urgently needed.

Contact your local Tektronix Service Center, representative, or sales engineer for details regarding product service.

Instrument Construction

Modular construction provides ready access to the major circuits. Circuit boards containing rf-sensitive circuits are mounted in castings, with feedthrough connectors through the compartment wall. Most boards and assemblies plug onto a common interconnect board. Most adjustments and test points are accessible while the instrument is operational and with the modules or assemblies secured in their normal position.

General Information – 2710 Service

Extenders are available in an optional Service Kit (see Maintenance section under Service Fixtures and Tools for Maintenance). Most of the modules or boards can be removed without disturbing the structural or functional integrity of the other modules. The extenders allow most circuit board assemblies to function in an extended position for service or adjustment. All other circuit boards (which should require minimal service) are accessible by removing the instrument's cabinet.

NOTE

Disassembly of some modules may require special tools and procedures. These procedures are located in the Maintenance section.

Most of circuits are isolated in shielded compartments to obtain and maintain the frequency stability, sensitivity, and EMI characteristics. While shielding helps ensure spurious-free response, the closeness of the circuits minimizes losses and interactions with other functions. Interconnections between compartments are made by feedthrough terminals rather than cables. If the compartments are opened, be sure that the shields are properly reinstalled before operating.

Installation and Preparation for Use

Section 1 of the Operators Manual provides unpacking, storage, repackaging for shipment, initial inspection, and installation information.

Power Cord

The power cord that is supplied with the instrument depends on the available power source (see Specification section). Power cord options are described in the Options section.

Replacing the Fuse

Replace the line fuse with a 1.5 A Slow-Blow fuse.

Some components are selected to meet Tektronix specifications. These components are shown in the parts list and may carry a Tektronix Part Number under the Mfr. Part Number column.

Selected value components are identified on the circuit diagram and in the parts list as a "SEL" value. The component description lists either the nominal value or a range of values. Selection criteria is included in the Maintenance section. Selection procedures are included in the Adjustment Procedure or Maintenance sections of the manual as needed.

Assembly and Circuit Numbering

Each assembly and subassembly are assigned assembly numbers. Generally, each component is assigned a circuit number according to its geographic location within an assembly. The Replaceable Electrical Parts list prefixes these circuit numbers with the corresponding assembly and subassembly numbers.

EXAMPLE: R260 on assembly A14 becomes A14R260.

EXAMPLE: U140 on subassembly A1 of assembly A19 is found in the electrical parts list as A19A1U140.

Accessories

The Replaceable Mechanical Parts list contains the part numbers, descriptions, and ordering information for all standard and optional accessories offered for this Spectrum Analyzer.

The following list includes all standard accessories currently shipped with each instrument. Refer to the Options section of this manual for alternate information.

Standard Accessories

- Operator's Manual
- Power Cord¹
- Front Cover
- Adapter 50Ω, N Male to BNC Female

The Options page at the end of the Replaceable Mechanical Parts in this Manual contains information on all of the options currently available for the Spectrum Analyzer.

¹The power cord is replaced with the correct cord for Power Cord Options A1, A2, A3, A4, and A5.

SPECIFICATION

This section lists the electrical, physical, and environmental characteristics of the Spectrum Analyzer, specifies performance requirements, and provides supplementary information. Any changes to a characteristic's performance, due to the addition of an option, are integrated with the specific characteristic.

ELECTRICAL CHARACTERISTICS

The following tables of electrical characteristics and features apply to the 2710 Spectrum Analyzer after a 15 minute warm-

up period (within the environmental limits) and a Normalization function has been performed.

Information in the Performance Requirement column is guaranteed and verifiable, either through diagnostic routines or written performance check procedures.

Supplemental information is intended to further explain a characteristic, its performance requirement, or it may describe the performance of a characteristic that is impractical to verify. Supplemental information is not guaranteed and may not be supported by a performance check procedure.

Table 2-1
FREQUENCY RELATED CHARACTERISTICS

Characteristic	Performance Requirement	Supplemental Information
Frequency		
Range	10 kHz to 1.8 GHz	Tuned by the FREQ/MARKERS control or set via the MKR/FREQ MENU.
Accuracy		
2710	1×10^{-5} of center frequency ± 5 kHz	Assume zero drift since last normalization procedure. The Option 02 requirement applies to spans ≤ 10 MHz/Div.
2710 Option 01	5×10^{-7} of center frequency ± 700 Hz	
2710 Option 02	1×10^{-5} of center frequency ± 10 Hz ± 1 LSB	
2710 Option 01/02 (Counter)	5×10^{-7} of center frequency ± 10 Hz ± 1 LSB	
Drift		
Long Term (One Year)		
2710		3×10^{-5} of Center Frequency
2710 Option 02		10 PPM/Year
2710 Option 01/02		2 PPM/Year
Short Term		
2710	≤ 20 kHz	Between correction cycles
2710 Option 01 (with SPAN/DIV ≤ 20 kHz)	≤ 400 Hz	
Readout Resolution		
2710		1% of Span/Div to 100 Hz
2710 Option 01		1% of Span/Div to 10 Hz
2710 Option 02		1 kHz or 1Hz (counter readout), menu selectable

Table 2-1 (continued)

Characteristics	Performance Requirements	Supplemental Information
Frequency Span/Div Range		1.8 GHz in MAX SPAN and 0 Hz for ZERO SPAN, plus selections in a 1-2-5 sequence from 100 MHz/div to 10 kHz/div, with the FREQ SPAN/DIV pushbutton selectors, or to two significant digits via the Utility Menu. Option 01 adds 1, 2,, and 5 kHz/div.
Accuracy/Linearity	Within 3%.	Measured over the center 8 divisions.
Flatness (About the midpoint between two extremes)	± 1.5 dB	Measured with 10 dB of RF Attenuation Flatness is affected by: <ul style="list-style-type: none"> • Input VSWR (voltage standing-wave ratio) • gain variation • mixer conversion
Residual FM 2710	≤ 2 kHz peak to peak total excursion in 20 ms.	Short term, after 1 hr warm-up.
2710 Option 01 (With SPAN/DIV ≤ 20 kHz)	≤ 100 Hz peak to peak total excursion in 20 ms.	
2710 Option 01 (With SPAN/DIV > 20 kHz)	≤ 2 kHz peak to peak total excursion in 20 ms.	
Resolution Bandwidth (6 dB down)		Resolution bandwidth selections are: 5 MHz, 500 kHz, 30 kHz, 3 kHz for the standard Spectrum Analyzer. Option 01 adds a 300 Hz filter.
Shape Factor (60 dB/6 dB)	6:1 or less	
Noise Sidebands	≥ 70 dBc at 30 X Resolution Bandwidth	
Video Filter		Reduces video bandwidth to approximately 1/100th of the selected resolution bandwidth; or one of eleven video filters (3 Hz, 10 Hz, 30 Hz, 100 Hz, 300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, 100 kHz, 300 kHz, or OFF) can be selected via the Utility Menu.

Table 2-2
FREQUENCY/AMPLITUDE RELATED CHARACTERISTICS

Characteristics	Performance Requirement	Supplemental Information
Marker		The Frequency and amplitude values of the marker position are preceded by the character "M" and are displayed. MKR "arrows" position the marker to the next right or left signal peak.
Accuracy		
Frequency		Same as Span/Div
Amplitude		A function of the Reference level and Vertical scale factor. (see Display Dynamic Range)
Delta Marker	When activated, a second marker is displayed at the same frequency as the first marker. This is the "Reference Marker".	The FREQ/MARKERS control may be used to position the first marker. The frequency and amplitude differences between markers are readouts preceded by a "D".
Accuracy		
Frequency		Same as Span/Div.
Frequency With Counter	$1 \times 10^{-5} \pm 10 \text{ Hz}$	Option 02 must be installed.
Amplitude		Same as Marker .

Table 2-2 (continued)

Characteristic	Performance Requirement	Supplemental Information
Center Measure		When activated, the signal nearest center screen (or with marker on, nearest the marker) and above a preset threshold level, is moved to center screen.
Option 02		The frequency and amplitude values, preceded by "C", are displayed.
Readout resolution		
2710	10% of Span/Div to 1kHz	
2710 Option 02	10% of Span/Div to 1kHz or 1Hz	Readout resolution is selectable.
Tracking		When activated after a Center Measure function, the centered signal is held at center screen. Tracking requires a signal strength greater than the threshold level. If the strength of a signal being tracked decreases below the threshold level, the instrument moves to an idle mode.
Vertical Display Mode		10 dB/Div, 5 dB/Div, 1 dB/Div, and Linear.

**Table 2-3
AMPLITUDE RELATED CHARACTERISTICS**

Characteristic	Performance Requirement	Supplemental Information
Reference Level (Top of graticule)		
Range		
Log Mode		-70 dBm to +20 dBm, -23 dBmV to +66.9 dBmV
Linear Mode		8.83 μ V/Div to 280 mV/Div (0.1W or 2.2 V peak, maximum safe input)
Steps		
Log Mode		1 dB or 10 dB
Linear Mode		1-2-5 sequence: 10 μ V/Div to 280 mv/Div
1dB Activated		≥ 0.2 Division per Increment
Accuracy		Dependent on the following: <ul style="list-style-type: none"> • Calibrator accuracy • Frequency response
Display Dynamic Range	80 dB maximum (Log mode) 8 divisions (Linear mode)	
Accuracy		
10 dB/Div Mode	± 1.0 dB/10 dB to a maximum cumulative error of ± 2.0 dB over the 80 dB range.	
5 dB/Div Mode	± 1.0 dB/10 dB to a maximum cumulative error of ± 2.0 dB over the 40 dB range.	
1 dB/Div Mode	± 1 dB maximum error over the 8 dB range.	
Linear Mode	$\pm 5\%$ of full scale	

Table 2-3 (continued)

Characteristic	Performance Requirement		Supplemental Information
RF Attenuator			
Range	0 to 50 dB in 2 dB steps		
Sensitivity (without preamp)			Equivalent maximum input noise for each resolution bandwidth.
Resolution Bandwidth	100 MHz	1.8 GHz	Sensitivity decreases linearly approximately 8 dB from low to high end of the frequency range.
5 MHz	-85 dBm	-77 dBm	
500 kHz	-95 dBm	-87 dBm	
30 kHz	-107 dBm	-99 dBm	
3 kHz	-117 dBm	-109 dBm	
300 Hz (Option 01)	-127 dBm	-119 dB	
Sensitivity (With preamp)			<i>NOTE: Preamp not specified above 500MHz.</i>
5 MHz	-97 dBm		
500 kHz	-107 dBm		
30 kHz	-119 dBm		
3 kHz	-129 dBm		
300 Hz (Option 01)	-139 dBm		
Spurious Responses			
Residual (no input signal)	-100 dBm or less		
Intermodulation Products			
3rd Order	≥70 dBc		From any two on-screen signals within any frequency span.
Zero Frequency (0 Hz) Spur	-10 dBm or less		Referenced to input with 0 dB RF attenuation
2nd Harmonic Distortion	≥ 66 dBc		Measured across entire band
LO (Local Oscillator) Emission	-70 dBm		With 0 dB RF Attenuation.

Table 2-4
INPUT/OUTPUT SIGNAL CHARACTERISTICS

Characteristic	Performance Requirement	Supplemental Information
RF INPUT		Type N female connector
VSWR with RF Attenuation ≥ 10 dB		1.5:1 maximum
VSWR with 0 dB RF Attenuation		3.0:1 maximum
Maximum Safe Input (With 0 dB RF Attenuation)		20 dBm (0.1W) continuous peak. 100 V DC blocking capacitor. <div style="border: 1px solid black; padding: 2px; text-align: center; margin-top: 5px;">DO NOT APPLY >100 V DC TO THE RF INPUT</div>
1 dB Compression Point (Minimum)	-15 dBm	With no RF Attenuation and 1st mixer at -30 dBm.
EXT TRIG (J102)		BNC connector, 10 k Ω impedance, DC coupled input for external trigger signals.
Voltage Range		
Minimum		At least 100 mV peak, 15 Hz to 1 MHz
Maximum		35 V (DC + peak AC)
Pulse Width		0.1 μ s minimum
ACCESSORY CONNECTOR (J103)		9-pin connector (Not RS-232-compati- ble).
Pin 1: External Video Input		DC coupled, 0 – 100 kHz, 0 – 1.6 V (200 mV/Div) signal input for vertical defle- ction of the crt beam. The signal is processed through the digital storage circuits and the 1 dB, 5 dB, and 10 dB scale factor circuits. Display storage may be bypassed.

Table 2-4 (continued)

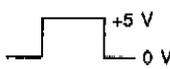
Characteristic	Performance Requirement	Supplemental Information
(J103)		
Pin 6: Sweep Gate		TTL level signal that goes to +5 V while the crt beam is sweeping
Pin 2: Chassis and Signal Ground		
Pin 7: Sweep Output		Provides a nominal +1.3 V to -1.3 V negative going ramp, proportional to the horizontal sweep.
Pin 3: Video Output		Provides 0 V to +1.6 V of video signal, proportional to the vertical display amplitude. 0 V is the top of the screen. Impedance is 1 k Ω .
Pins 4, 5, 8, and 9		Reserved for Future Programming Options

Table 2-5
POWER REQUIREMENTS

Characteristic	Performance Requirement	Supplemental Information
Input Voltage		
Line Voltage Range	90 V AC to 250 V AC	
Line Frequency Range	48 Hz to 63 Hz	
Line Voltage Range	90 V AC to 132 V AC	
Line Frequency Range	48 Hz to 440 Hz	
Line Fuse	1.5 A Slow-Blow (recommended)	2 A Fast-Blow (maximum)
Input Power	90 W maximum (1.2 A)	At 115V and 60 Hz
Leakage Current		3.5 mA rms maximum or 5 mA peak maximum

Table 2-6
GENERAL CHARACTERISTICS

Characteristic	Performance Requirement	Supplemental Information
Sweep		Normal, Single Sweep, Manual Scan, and Video Monitor (Option 10).
Sweep Rate	1 μ s/Div to 2 sec/Div in a 1–2–5 sequence	
Accuracy	$\pm 10\%$ over the center 8 divisions	
Triggering		Free Run, Internal, External, Line, TV Line, and TV Field
Internal Trigger Level	1 division or more of signal	
External Trigger Level	1.0 V peak, minimum	DC-coupled (15 Hz to 1 MHz). Maximum external trigger input amplitude is ≤ 35 V (DC + peak AC).
Non-Volatile Memory (Option 11) (Battery-Backed Up)		Instrument settings, waveforms, and some Normalization results are stored in non-volatile RAM.
Battery Life		
At +55° C Ambient Temperature		1 to 2 years (Lithium or Silver)
At + 25° C Ambient Temperature Lithium (Standard)		At least 5 years
Temperature Range for Retaining Data		
Operating		-15° C to + 55° C
Non-Operating		-30° C to + 85° C
Internal Calibrator		Provides 100 MHz marker for amplitude calibration and comb of 100 MHz markers for frequency and span calibration.
Amplitude and Accuracy		
2710	-30 dBm ± 0.3 dB at 100 MHz ± 5 kHz	
2710 Option 01	-30 dBm ± 0.3 dB at 100 MHz ± 2 kHz	
Drift		
2710	± 10 PPM/Year	
2710 Option 01	± 2 PPM/Year	

Table 2-7
ENVIRONMENTAL CHARACTERISTICS

The Description column describes how most characteristics were derived and a description of the characteristic. This instrument meets MIL T-28800C, type III class 5, style C specifications.

Characteristic	Description
Temperature	
Operating and Humidity	0° C to +50° C MIL T-28800C 5 cycles (120 hours).
Non-operating*	-55° C to +75° C
Altitude	
Operating	15,000 ft
Non-operating	50,000 ft
Humidity (Non-operating)	Five cycles (120 hours) in accordance with MIL-Std-28800C, class 5
Vibration	
Operating (Instrument secured to a vibration platform during test)	MIL-Std-28800C, Method 514 Procedure X (modified). 15 minutes along each of 3 major axes at a total displacement of 0.015 inch peak-to-peak (2.4 g at 55 Hz), with frequency varied from 10 Hz to 55 Hz in 1-minute sweeps. Hold for 10 minutes at 55 Hz. All major resonances must be above 55 Hz.
Shock (Operating and Non-operating)	Three guillotine-type shocks of 30g, one-half sine, 11 ms duration each direction along each major axis; total of 18 shocks.
Transit Drop (free fall)	8 inch, one per each of six faces and eight corners (instrument is tested and meets drop height of 12 inches).
Electromagnetic Interference (EMI)	
Radiated and Conducted Emission	
FCC	FCC Part 15, sub-part J, Class A.
VDE	VDE 0871, Class B.
Susceptibility	Part 7 Mil Std 461B

* After storage at temperatures below -15° C, the instrument may not reset when power is first turned on. If this happens, allow the instrument to warm up for at least 15 minutes, then turn POWER OFF for 5 seconds and back ON.

Table 2-8
PHYSICAL CHARACTERISTICS

Characteristic	Description
Weight	<11.25 kg (25 lbs) maximum, includes Standard accessories. <9.5 kg (21 lbs) nominal for basic configuration.
Dimensions	
Height with feet and handle	137 mm (5.4 in)
Width	
With Handle	361 mm (14.2 in)
Without Handle	328 mm (12.9 in)
Depth	
With Front Panel Cover	445 mm (17.5 in)
Without Front Panel Cover	428 mm (16.85 in)
With Handle Extended	511 mm (20.1 in)

PERFORMANCE CHECK

Introduction

The procedures in this section verify that the instrument is performing according to the characteristics specified under the Performance Requirement column in Section 2, Specification.

If a failure is found, it is recommended that only those circuits that do not meet performance criteria be adjusted. If adjustment fails to return the circuit to its specified performance, refer to the Maintenance section for repair procedures.

Procedures that are unique to instrument options, are described as a sub-part of the step within this section.

Incoming Inspection Test

The Operators manual contains an operational check (power-up check) of the Spectrum Analyzer. This check is recommended for incoming inspections because it requires no external equipment or special experience and is a reliable indication that the instrument is performing properly.

Verification of Tolerance Values

Tests shall be performed only after the normalizations have occurred. If a test should fail, normalize the instrument by pressing UTIL MENU/#3 (NORMALIZATIONS)/#0 (ALL PARAMETERS). The normalization will correct for any changes in the operating environment due to time or temperature.

Measurement tolerance of test equipment should be negligible in comparison to the specification being tested. If not, the error of the measuring apparatus must be added to the specification tolerance.

History Information

The instrument and manual are periodically evaluated and updated. If modifications require changes in the procedures, information applicable to earlier instruments will be included within a step or as a sub-part to a step.

Equipment Required

Table 3-1 lists the test equipment recommended for the Performance Check. The characteristics specified are the minimum. If equipment is substituted, it must meet or exceed these specifications.

Performance Check - 2710 Service

Table 3-1
EQUIPMENT REQUIRED

Test Equipment	Characteristics	Recommendation
Frequency Standard	100 MHz*	WWV Receiver or comparable frequency standard
Test Oscilloscope	Vertical sensitivity, 50 mV/Div to 5 V/Div; Bandwidth, DC to 100 MHz	Any TEKTRONIX 7000-Series oscilloscope with plug-in units for real-time display such as 7A26/7B53A, and P6108A 10X Probe
Spectrum Analyzer	Frequency range at least 2 GHz up to 4 GHz	TEKTRONIX 492A
Sweep Oscillator	Output: 0 dBm to +13 dBm Spectral Purity: 25 dB or more below the fundamental	Hewlett-Packard 8620C with HP 86222A Plug-in
Signal Generator	Frequency range of 500 kHz to at least 100 MHz	Hewlett-Packard 8640B
Signal Generator	To at least 225 MHz; 0 to 5 V	TEKTRONIX SG 503 with TM 500-Series Power module
Sine-Wave Generator	1 Hz to 1 MHz; 0 to 20 V _{pp}	TEKTRONIX FG 503 Function Generator
10 dB and 1 dB Step Attenuators	Range: 132 dB in combination 10 dB and 1 dB steps Accuracy: ±0.1 dB. Frequency Range: 0 to at 1 GHz	Hewlett Packard 355C and 355D, calibrated using precision standard attenuators such as Weinchel Model AS-6
Power Meter with Power Sensor	-30 dBm to +20 dBm full scale; 100 kHz to 4.2 GHz	Hewlett Packard Model 436A with 8482A
Return Loss Bridge	10 MHz to 1 GHz	Wiltron VSWR Bridge 62BF50
Time Mark Generator	1 μs markers; accuracy 0.001%	TEKTRONIX TG 501 with TM 500-Series Power module
Bandpass Filter	Centered near 100 MHz with 2nd harmonic rejection better than 90 dB	Tektronix 119-1025-00 (110 MHz)
2 each 20 dB/50 Ω Attenuators		Tektronix Part No. 011-0059-01
BNC T Adapter		Tektronix Part No. 103-0030-00
BNC Female-to-Female Adapter		Tektronix Part No. 103-0028-00
Two 50 Ω Coaxial Cables		Tektronix Part No. 012-0057-01
FM Antenna		Any commercially available FM antenna

* The 100 MHz reference signal is obtained by overdriving the Spectrum Analyzer front end with the frequency standard output. If necessary, enable the preamplifier by pressing INPUT MENU/#1 [PREAMP (ON)] to get a high enough on-screen signal.

PERFORMANCE CHECK PROCEDURE

Power Up Procedure

- a. Connect the spectrum analyzer power cord to an appropriate power source.
- b. Push the front panel power switch ON.
- c. The instrument will initialize itself according to the configuration stored in the USR DEF (User Defined) Power Up settings. If this register is empty it will initialize to the configuration stored in the Factory Default Power Up settings.
- d. Allow a 30 minute warm up period before continuing this procedure.
- e. The instrument must be Normalized before any measurements can be made. Press UTIL MENU/#3 (NORMALIZATIONS)/#0 (ALL PARAMETERS). The instrument will begin Normalizations and print progress messages on the CRT.
- f. After the instrument has completed normalization, press UTIL MENU/ #5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/ #5 (SERVICE NORMALIZATIONS)/#8 (NORMALIZE PASS/ FAIL RESULTS)/#0 (FREQUENCY RESULTS). Verify that all frequency related tests have passed.
- g. Press UTIL MENU/#1 (AMPLITUDE RESULTS). Verify that all amplitude related tests have passed.
- h. Press UTIL MENU 5 times to exit.

Front Panel Operation

Refer to Sections 3 and 4 of the Operators Manual for an explanation of Front Panel functions.

1. Check Frequency Accuracy

- (1 X 10⁻⁵ of center frequency ±5 kHz)
- (5 X 10⁻⁵ of center frequency ±700 Hz with Option 01)
- (1 X 10⁻⁵ of center frequency ±10 Hz with Option 2)

Equipment Required:

- 100 MHz Frequency Standard

- a. Select the following settings on the Spectrum Analyzer:

FREQUENCY	100 MHz
SPAN/DIV	1 MHz
RESOLUTION BW	AUTO

- b. Press MKR/FREQ MENU/#9 (SETUP TABLE)/#2 (COUNTER RESOLN)/#1 (1 HZ)

- c. If Option 02 has not been installed, span down to the narrowest resolution bandwidth.
- d. Connect a known frequency standard (100 MHz), such as WWV, to the RF INPUT and tune the signal to the center of the screen.
- e. Set the REFERENCE LEVEL for a well defined signal.
- f. Press CTR MEAS/TRKG.
- g. Check that the frequency readout displays the frequency of the signal with an accuracy of ±6 kHz for the standard instrument, ±750 kHz for Option 01, or ±1.010 kHz for Option 02.

2. Check Resolution Bandwidth Shape Factor (6:1 or less)

- a. Select the following settings on the Spectrum Analyzer:

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
SPAN/DIV	2 MHz
RESOLUTION BW	5 MHz
VIDEO FILTER	ON
VERTICAL SCALE	10DB/DIV
SWEEP	AUTO

- b. Press DSPL MENU/#4 (ACQUISITION MODE MAX/MIN).
- c. Enable the Calibrator by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM ON).
- d. Press APPL MENU/#9 (SETUP TABLE)/#0 (DB DOWN FOR BANDWIDTH MODE) and enter -6 dBc. Press APPL MENU/#0 (DB DOWN FOR BANDWIDTH MODE) to activate bandwidth mode and exit.
- e. The marker readout displays the bandwidth of the filter 6dB down from peak amplitude. Make a note of this value.
- f. Extrapolate the skirts of the 5 MHz filter to make the measurement at the 60 dB level.
- g. Check that the ratio of the 60 dB bandwidth to the 6 dB bandwidth is 6:1 or less.
- h. Using Table 3-2, verify that the -60 dBc readings for the other resolution bandwidth filters do not exceed six times the -6 dBc reading.

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Table 3-2
SHAPE FACTOR CHECK SETTINGS

Span	Resolution
2 MHz	5 MHz
200 kHz	500 kHz
10 kHz	30 kHz
10 kHz	3 kHz

i. Turn off Δ markers.

3. Check Short Term Drift

(≤ 20 kHz between frequency corrections)

a. Select the following settings on the Spectrum Analyzer:

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
SPAN/DIV	10 kHz
RESOLUTION BW	3 kHz
VIDEO FILTER	OFF
VERTICAL SCALE	10DB/DIV
SWEEP	AUTO

b. Enable the Calibrator by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM ON).

c. Enable frequency corrections by pressing UTIL MENU/#4 (SYSTEM CONFIGURATION)/#4 (FREQUENCY CORRECTIONS - ON).

d. Press CTR MEAS/TRKG to center the signal.

e. Check that the signal does not move more than ± 2 divisions from center-screen.

4. Check Noise Sidebands

(≥ 70 dBc at 30 X Resolution Bandwidth)

Equipment Required:

- Signal Generator
- Step Attenuator

a. Enable the Calibrator by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM ON).

b. Select the following settings on the Spectrum Analyzer:

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
SPAN/DIV	50 kHz
RESOLUTION BW	3 kHz
VIDEO FILTER	ON
VERTICAL SCALE	10DB/DIV
SWEEP	AUTO

c. Enable peak detection by pressing DSPL MENU/#4 (ACQUISITION MODE - PEAK).

d. Check that the noise sidebands are at least 70 dB down from peak amplitude 90 kHz away from center frequency (30 times the selected bandwidth).

d. Reset RESOLUTION BW to 30 kHz and SPAN/DIV to 500 kHz.

e. Check that the noise sidebands are at least 70 dB down from peak amplitude 900 kHz away from center frequency.

f. For filters greater than 100 kHz, use the following procedure:

(i) Disable the Calibrator by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DB - OFF).

(ii) Select the following settings on the Spectrum Analyzer:

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
RESOLUTION BW	Filter Value
SPAN/DIV	$\approx 10X$ Filter Value
VIDEO FILTER	ON
VERTICAL SCALE	10DB/DIV
SWEEP	AUTO

(iii) Connect a 100 MHz signal to the RF INPUT through 30 dB of attenuation.

(iv) Set the generator controls for full deflection (0dBm).

(v) Remove the 30 dB of attenuation from the input signal path.

(vi) Check that the noise sidebands are at least 70 dB down from peak amplitude at 30 times the selected bandwidth away from center frequency.

5. Check Frequency Span/Div Accuracy

(Within 3% over the center 8 divisions)

Equipment Required:

- Time Mark Generator

a. Select the following settings on the Spectrum Analyzer:

FREQUENCY 500 MHz
 SPAN/DIV 100 MHz
 RESOLUTION BW 500 kHz
 VIDEO FILTER OFF
 REFERENCE LEVEL Set for Visible Marks

- b. Connect a time mark generator to the input of the Spectrum Analyzer and select 10ns marks.
- c. Press MKR DELTA OFF to enable the marker system and place the marker on the mark at the 2nd graticule line from the left.
- d. Press MKR DELTA OFF again to enable the Delta Marker and place the second marker on the mark at the 10th graticule line.
- e. The Delta Frequency readout should read between 776 MHz and 824 MHz.
- f. Use the following Table 3-3 to check the rest of the Spectrum Analyzer spans.
- g. Press MKR DELTA OFF to exit marker mode.

6. Check Flatness
 (±1.5 dB with 10 dB of RF ATTENUATION)

Equipment Required:

- Sweep Oscillator

- a. Select the following settings on the Spectrum Analyzer:

VERTICAL SCALE 1 dB/
 REFERENCE LEVEL -30 DBm
 FREQ SPAN/DIV MAX
 RESOLUTION BW AUTO
 RF ATTENUATION 10 dB

- b. Press DSPL MENU/#4 (ACQUISITION MODE) to select PEAK mode for the display storage.
- c. Connect the output of the sweep oscillator to the RF INPUT. Set the sweep oscillator output frequency to 100MHz and output amplitude for a 5-division excursion. The sweep oscillator's sweep rate should be on its slowest setting.
- d. Press A to enable the Display A register. Start the sweep on the sweep oscillator, and press MAX HOLD on the Spectrum Analyzer.
- e. Check that swept frequency flatness is within ±1.5 dB of a midpoint between the highest and lowest points of the displayed sweep.

7. Check Marker Operation

- a. Select the following settings on the Spectrum Analyzer:

FREQUENCY 400 MHz
 REFERENCE LEVEL -30 dBm
 FREQ SPAN/DIV 100 MHz
 RESOLUTION BW 500 kHz
 VIDEO FILTER ON
 VERTICAL SCALE 10 dB/

- b. Enable the Calibrator by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM ON).
- c. The instrument is now displaying a combine of 100 MHz marks of varying amplitudes. Press MKR PEAK FIND. The marker should go to the highest signal, and the readout should display that signal's frequency and amplitude. Frequency and amplitude readouts are preceded by the letter "M".

Table 3-3
 SPAN ACCURACY SETTINGS

Time Markers	Center Frequency	Span/Div	Resolution Bandwidth	Spec Range
10 ns	500 MHz	100 MHz	500 KHz	776 - 824 MHz
20 ns	250 MHz	50 MHz	500 KHz	388 - 412 MHz
50 ns	100 MHz	20 MHz	500 KHz	155.2 - 164.8 MHz
0.1 μs	50 MHz	10 MHz	30 kHz	77.6 - 82.4 MHz
0.2 μs	25 MHz	5 MHz	30 kHz	38.8 - 41.2 MHz
0.5 μs	10 MHz	2 MHz	30 kHz	15.52 - 16.48 MHz
1 μs	5 MHz	1 MHz	30 kHz	7.76 - 8.24 MHz
2 μs	2.5 MHz	500 kHz	30 kHz	3.88 - 4.12 MHz
5 μs	1 MHz	200 kHz	3 kHz	1.552 - 1.648 MHz
10 μs	500 kHz	100 kHz	3 kHz	776 - 824 kHz
20 μs	250 kHz	50 kHz	3 kHz	388 - 412 kHz
50 μs	125 kHz	20 kHz	3 kHz	155.2 - 164.8 kHz
0.1 ms	62.5 kHz	10 kHz	3 kHz	77.6 - 82.4 kHz

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d. Press MKR \rightarrow and note that the marker moves to the next signal to the right. Continue pressing MKR \rightarrow and observe the marker position and readouts.

e. The marker will only recognize those signals whose amplitude is above a preset threshold level. The threshold level is set via MKR/FREQ MENU/#9 (SETUP TABLE)#1 (THRESHOLD).

f. Repeat part d using the MKR \leftarrow button.

g. Press MKR DELTA OFF once. The readouts should now be preceded by the letter "D" and read 0.

h. Tune the FREQ/MARKERS control and note that a second marker appears. The marker readout should now display frequency and amplitude differences between the two markers.

i. Pressing MKR DELTA OFF again will disable the second marker and return readouts back to normal.

8. Check Center Measure/Counter

(10% of Span/Div to 1 kHz)
(Selectable :1 Hz or 10% of Span/Div to 1 kHz)

a. Select the following settings on the Spectrum Analyzer:

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
FREQ SPAN/DIV	1 MHz
RESOLUTION BW	AUTO
VIDEO FILTER	OFF
VERTICAL SCALE	5 dB/

b. Enable the Calibrator by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM ON).

c. Tune the signal approximately three divisions to one side of the center of the screen.

c. If Option 02 is installed, select a readout resolution of 1 Hz by pressing MKR/FREQ MENU/#9 (SETUP TABLE)#2 (COUNTER RESOLUTION)#1 (1 HZ). If Option 02 is not installed, proceed to part d.

d. Press CTR MEAS/TRKG.

e. Check that the signal moves to the center of the screen, and the readout displays center frequency (to two decimal places) and amplitude of the signal.

f. Check that the signal frequency and amplitude readouts are preceded by the letter C, and the frequency readout is displayed to six decimal places, if Option 02 is installed.

g. If option 02 is installed, select a readout resolution of 1 kHz, and check that the signal frequency readout is displayed in MHz to three decimal places.

h. Disable the Calibrator by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM OFF).

9. Check Display Dynamic Range

(80 dB maximum for Log mode)
(8 Divisions maximum for Linear mode)

Equipment Required:

- Signal Generator
- 10 dB and 1 dB Step Attenuators

a. Select the following settings on the Spectrum Analyzer by pressing UTIL MENU/#2 (KEYPAD ENTERED SETTINGS):

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
FREQ SPAN/DIV	10 kHz
RESOLUTION BW	30 kHz
VIDEO FILTER	ON
VERTICAL SCALE	10 dB/

b. Select peak acquisition mode by pressing DSPL MENU/#4 (ACQUISITION MODE PEAK).

c. Connect a 100 MHz signal to the input of the Spectrum Analyzer through a set of 1 dB and 10 dB step attenuators. Set the amplitude of the signal for full screen deflection with the attenuators set for 0 dB attenuation.

d. Add attenuation in the input signal path in 10 dB steps to a total attenuation of 80 dB while observing a 10 dB changes in amplitude as each 10 dB of attenuation is added.

e. Check that the signal drops 10 dB \pm 1 dB each time 10 dB of attenuation is added. The maximum cumulative error should not exceed \pm 2 dB over the 80 dB range.

f. Set VERTICAL SCALE to 5 dB/, and set the attenuators for 0 dB attenuation.

g. Add attenuation in the input signal path in 5 dB steps to a total attenuation of 40 dB while observing 5 dB changes in amplitude as each 5 dB of attenuation is added.

h. Check that the signal drops 10 dB \pm 1 dB each time a total of 10 dB (two 5 dB decrements) of attenuation is added. The maximum cumulative error should not exceed \pm 2 dB over the 40 dB range.

i. Set VERTICAL SCALE to 1 dB/, and set the attenuators for 0 dB attenuation.

j. Add attenuation in the input signal path in 1 dB steps to a total attenuation of 8 dB while observing amplitude changes as each 1 dB of attenuation is added.

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- k. Check that the maximum cumulative error does not exceed ± 1 dB over the 8 dB range.
- l. Set VERTICAL SCALE to LIN, and reset the attenuators for 0 dB attenuation.
- m. Add 6 dB of attenuation in the input signal path.
- n. Check that the signal amplitude drops down 4 divisions ± 2 minor divisions.
- o. Add another 6 dB of attenuation in the input signal path (12 dB total attenuation).
- p. Check that the signal amplitude drops down another 2 divisions (6 divisions total ± 2 minor divisions).

- f. Enable the preamplifier by pressing INPUT MENU/#1 (PREAMP), and reset the input signal amplitude to -97 dBm.
- g. Check that the readout shows the difference amplitude to be ≥ 2.1 dB.
- h. Using Table 3-5, check the rest of the filters with and without the PREAMP enabled.
- i. Press MKR DELTA OFF to turn off the markers.

Table 3-5
SENSITIVITY SETTINGS @ 110 MHz

RES BW	Reference Level	RF INPUT Level	
		Preamp OFF	Preamp ON
5 MHz	-50 dBm	-85 dBm	-97 dBm
500 kHz	-50 dBm	-95 dBm	-107 dBm
30 kHz	-70 dBm	-107 dBm	-119 dBm
3 kHz	-70 dBm	-117 dBm	-129 dBm

10. Check Sensitivity
(See Table 3-4)

Table 3-4
SENSITIVITY @ 110 MHz

RES BW	Sensitivity	
	Preamp OFF	Preamp ON
5 MHz	-85 dBm	-97 dBm
500 kHz	-95 dBm	-107 dBm
30 kHz	-107 dBm	-119 dBm
3 kHz	-117 dBm	-129 dBm

11. Check Sensitivity @ 1.8GHz with
PREAMP OFF
(See Table 3-6)

Table 3-6
SENSITIVITY @ 1.8 GHz

RES BW	Reference Level	Sensitivity
5 MHz	-30 dBm	-77 dBm
500 kHz	-30 dBm	-87 dBm
30 kHz	-50 dBm	-99 dBm
3 kHz	-60 dBm	-109 dBm

- a. Select the following settings on the Spectrum Analyzer:

FREQUENCY 110 MHz
 REFERENCE LEVEL -50 dBm
 FREQ SPAN/DIV 5 MHz
 RESOLUTION BW 5 MHz
 VIDEO FILTER 10 Hz
 VERTICAL SCALE 10 dB/

- b. Press DSPL/#4 (ACQUISITION MODE) to enable peak detection mode.

- c. Connect a 110 MHz/-85 dBm signal to the RF INPUT.

- d. After one sweep, press MKR DELTA OFF to enable the marker. Tune the marker away from the signal and onto the noise. Press MKR DELTA OFF to enable a second marker (the delta marker) and position the delta marker on the signal peak. It may be necessary to keep retuning the delta marker if the signal is drifting.

- e. Check that the delta marker amplitude readout shows the difference amplitude to be ≥ 2.1 dB.

- a. Select the following settings on the Spectrum Analyzer:

FREQUENCY 1800 MHz
 REFERENCE LEVEL -30 dBm
 FREQ SPAN/DIV ZERO SPAN
 RESOLUTION BW 5 MHz
 VIDEO FILTER 10 Hz
 VERTICAL SCALE 10 dB/

- b. Disable the preamplifier by pressing INPUT MENU/#1 (PREAMP - OFF).

- c. Check that the noise floor is ≤ -77 dBm.

- d. Use Table 3-6 to check sensitivity for the rest of the bandpass filters.

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12. Check Spurious Responses (≤ -100 dBm)

- a. Select the following settings on the Spectrum Analyzer:

PREAMP	OFF
FREQUENCY	25 MHz
REFERENCE LEVEL	-40 dBm
FREQ SPAN/DIV	5 MHz
RESOLUTION BW	30 kHz
ACQUISITION MODE	PEAK

- b. Press UTIL MENU/#2 (KEYPAD ENTERED SETTINGS)/#5 (VIDEO FILTER)/#1 (FIXED) and enter 3 KHZ to select the 3 kHz video filter. Press UTIL MENU twice to exit.

Table 3-7
50 MHz WINDOW CENTER FREQUENCIES

Center Frequency	50 MHz Window
25 MHz	0-50 MHz
75 MHz	50-100 MHz
125 MHz	100-150 MHz
175 MHz	150-200 MHz
225 MHz	200-250 MHz
275 MHz	250-300 MHz
325 MHz	300-350 MHz
375 MHz	350-400 MHz
425 MHz	400-450 MHz
475 MHz	450-500 MHz
525 MHz	500-550 MHz
575 MHz	550-600 MHz
625 MHz	600-650 MHz
675 MHz	650-700 MHz
725 MHz	700-750 MHz
775 MHz	750-800 MHz
825 MHz	800-850 MHz
875 MHz	850-900 MHz
925 MHz	900-950 MHz
975 MHz	950-1000 MHz
1025 MHz	1000-1050 MHz
1075 MHz	1050-1100 MHz
1125 MHz	1100-1150 MHz
1175 MHz	1150-1200 MHz
1225 MHz	1200-1250 MHz
1275 MHz	1250-1300 MHz
1325 MHz	1300-1350 MHz
1375 MHz	1350-1400 MHz
1425 MHz	1400-1450 MHz
1475 MHz	1450-1500 MHz
1525 MHz	1500-1550 MHz
1575 MHz	1550-1600 MHz
1625 MHz	1600-1650 MHz
1675 MHz	1650-1700 MHz
1725 MHz	1700-1750 MHz
1775 MHz	1750-1800 MHz

- c. This check will allow the entire 1800 MHz band to be checked for spurs in 50 MHz windows. The following frequencies can be entered through the keypad or tuned manually with the frequency knob. Spurs may not exceed -100 dBm. Use Table 3-7 to set 50 MHz windows.

- d. Repeat part b and set the Video Filter back to AUTO.

13. Check Intermodulation Products (IM) (3rd Order IM ≥ 70 dBc)

Equipment Required:

- 2 Generators
- 2 20 dB Pads
- BNC T Adapter
- BNC Female to Female Adapter

- a. Connect the test equipment as shown in Figure 3-1.

- b. Select the following setting on the Spectrum Analyzer:

FREQUENCY	200 MHz
REFERENCE LEVEL	-30 dBm
FREQ SPAN/DIV	10 MHz
RESOLUTION BW	30 kHz
VIDEO FILTER	OFF
VERTICAL SCALE	10 dB/

- c. Set generator #1 for a 200 MHz/full-screen signal, and set generator #2 for a 225 MHz/full-screen signal.

- d. Check that the 3rd Order IM products are 70 dB or more down from the reference level.

- e. Reset the Spectrum Analyzer FREQ SPAN/DIV to 500 kHz, and reset the second generator output frequency for a 201 MHz/full-screen signal.

- f. Check that the 3rd Order IM products are 70 dB or more down from the reference level.

14. Check Harmonic Distortion (66 dB down or more from carrier)

Equipment Required

Signal Generator
Bandpass Filter

- a. Connect the test equipment as shown in Figure 3-2.

- b. Select the following settings on the Spectrum Analyzer:

Performance Check - 2710 Service

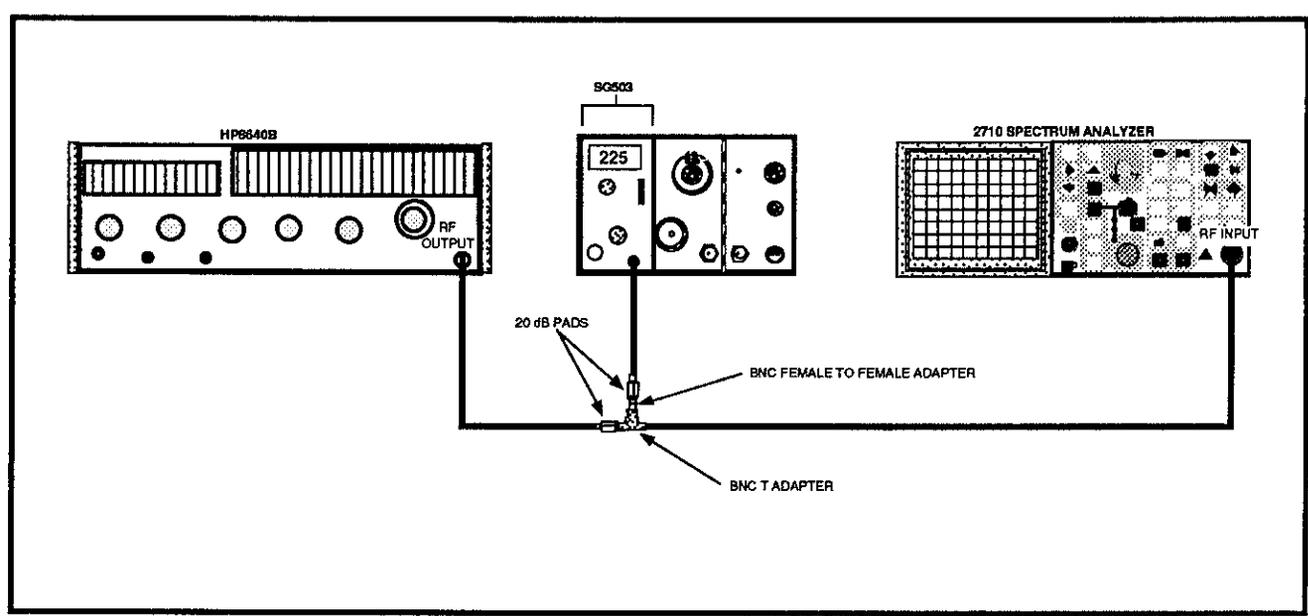


Figure 3-1. 3rd Order IM (25 MHz Separation)

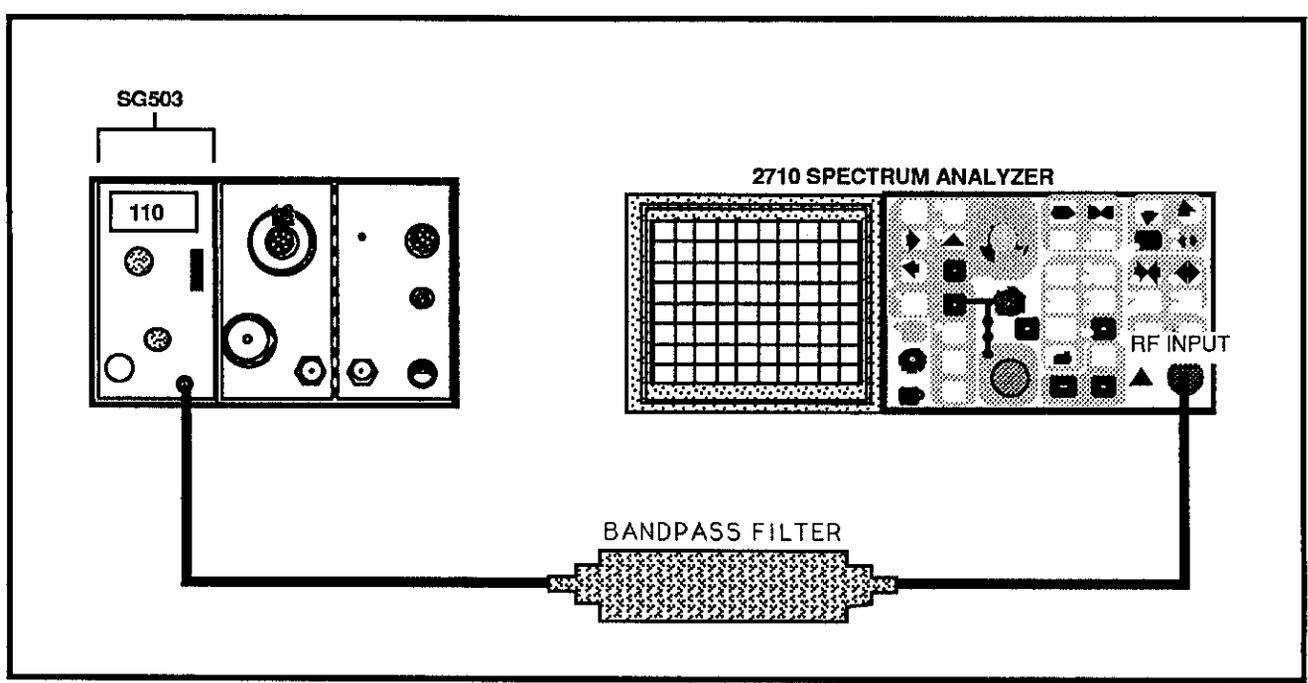


Figure 3-2. Harmonic distortion test equipment setup.

Performance Check – 2710 Service

REFERENCE LEVEL	-30 dBm
FREQ SPAN/DIV	100 kHz
RESOLUTION BW	30 kHz
VIDEO FILTER	ON (AUTO)
VERTICAL SCALE	10 dB/

c. Set the output frequency of the signal generator and the center frequency of the Spectrum Analyzer to the frequency of the bandpass filter.

d. Set the signal generator output amplitude for a full screen signal.

e. Reset the center frequency of the Spectrum Analyzer to 2X the input frequency.

f. Check that the 2nd harmonic is 66 dB down or more from the carrier.

15. Check Start Spur Amplitude
(≤ -10 dBm)

Equipment Required:

- Signal Generator

a. Select the following settings on the Spectrum Analyzer:

FREQUENCY	100 MHz
FREQ SPAN/DIV	2 MHz
RESOLUTION BW	5 MHz
VIDEO FILTER	OFF
REFERENCE LEVEL	-30 dBm

b. Connect a 100 MHz/-10 dBm signal to the RF INPUT.

c. Press SAVE and A to store the reference signal.

d. Reset the FREQUENCY to 0 Hz.

e. Check that the 0 Hz spur skirts are less than those of the stored signal.

16. Check LO (Local Oscillator) Emission
(≤ -70 dBm)

Equipment Required:

- Spectrum Analyzer

a. Select the following settings on the Spectrum Analyzer:

REFERENCE LEVEL	-30 dBm
FREQ SPAN/DIV	MAX

b. Press SWP/TRIG MENU/#7 (MANUAL SCAN) to enable manual scan.

c. Monitor the RF INPUT with a high frequency spectrum analyzer. Set the test spectrum analyzer controls to monitor the 2 GHz - 4 GHz frequency range.

d. Tune the LEVEL control (manual scan) and check that any signal that appears on the test analyzer is ≤ -70 dBm.

17. Check 1 dB Compression Point
(-15 dBm)

Equipment Required:

- 2 Generators
- Return Loss Bridge

a. Connect the test equipment as shown in Figure 3-3.

b. Select the following settings on the Spectrum Analyzer:

FREQUENCY	200 MHz
REFERENCE LEVEL	-30 dBm
FREQ SPAN/DIV	10 kHz
RESOLUTION BW	30 kHz
VIDEO FILTER	ON
VERTICAL SCALE	1 dB/

c. Press DSPL MENU/#4 (ACQUISITION MODE) to enable peak mode.

d. Set one generator controls for a full-screen, 200 MHz signal.

e. Set the second generator controls for a full-screen, 205.5 MHz signal.

f. Increase the output amplitude of the second generator until the 200 MHz signal drops 1 dB.

g. Check that the second generator output is ≥ -15 dBm.

18. Check J103 Accessory Connector

- (Pin 3: Video Out)
- (Pin 6: Sweep Gate)
- (Pin 7: Sweep Output)

Equipment Required:

- Test Oscilloscope

a. Select the following settings on the Spectrum Analyzer:

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
FREQ SPAN/DIV	1 MHz
RESOLUTION BW	AUTO
VIDEO FILTER	OFF
VERTICAL SCALE	10 dB/
DISPLAY STORAGE	OFF

Performance Check – 2710 Service

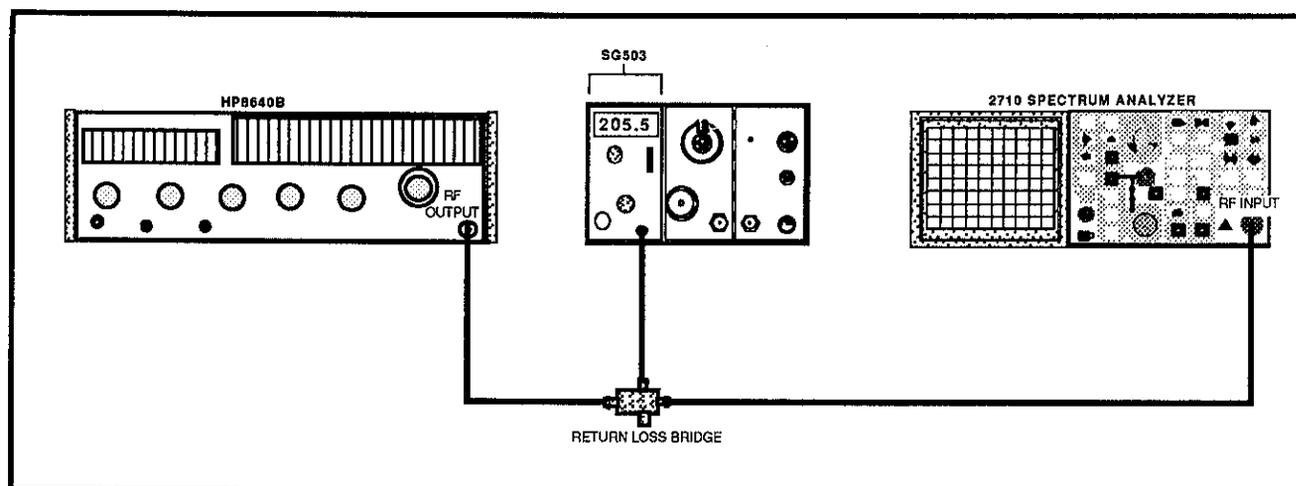


Figure 3-3. 1dB Compression Point Test

- b. Enable the calibrator by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM).
- c. Press UTIL MENU/#4 (SYSTEM CONFIGURATION)/#4 (FREQUENCY CORRECTIONS) to disable frequency corrections.
- d. Monitor Pin 3 of J103 with the test oscilloscope. Set the test oscilloscope sweep rate to 10 ms/Div.
- e. Check for a 0 V to 1.6 V inverted display of the Spectrum Analyzer display.
- f. Monitor Pin 6 of J103 with the test oscilloscope. Set the test oscilloscope sweep rate to 1 ms/Div.
- g. Press ZERO SPAN, then press FAST until the readout reads 1MS/.
- h. Check for a 5 V square wave (Sweep Gate).
- i. Monitor Pin 7 of J103 with the test oscilloscope.
- j. Check for a negative-going ramp approximately +1.3 V to -1.3 V.
- c. Set the time mark generator controls for 10 ms time marks, and turn off the Spectrum Analyzer Video Filter.
- d. Press SWP/TRIG MENU/#1 (INTERNAL) to select the internal trigger and set the Trigger Level control for a stable display.
- e. It may be necessary to set the Horizontal position pot on the rear panel to align the marks with the graticule.
- f. Check the accuracy of the 2 s to 1 μ s sweep timing range by applying appropriate markers for each sweep setting. The error should not exceed ± 4 minor divisions measured over the center 8 divisions.
- g. It will be necessary to turn off the Digital Storage for the 500 μ s and faster sweep settings. Also, the sweep rates of 5 μ s, 2 μ s, and 1 μ s may require an external trigger if the time mark generator has low output amplitude.

19. Check Sweep Rate and Sweep Accuracy

(10% over the center 8 divisions)

Equipment Required:

- Time Mark Generator

- a. Connect a time mark generator to pin 1 of J103 on the back panel of the Spectrum Analyzer.
- b. Press DSPL MENU/#7 (DISPLAY SOURCE)/#3 (EXTERNAL INPUT) to enable the External Video Input.

20. Check Triggering

(Internal: 1 division or more of signal)

(External: 1.0 V peak minimum)

Equipment Required:

- Function Generator

- a. Select the following settings on the Spectrum Analyzer:

FREQ SPAN/DIV	ZERO SPAN
VERTICAL SCALE	10 dB/
DISPLAY STORAGE	Off

- b. Press FAST until the readout reads 1US/.
- c. Press DSPL MENU/#7 (DISPLAY SOURCE)/#3 (EXTERNAL INPUT) to enable the External Video Input.

Performance Check - 2710 Service

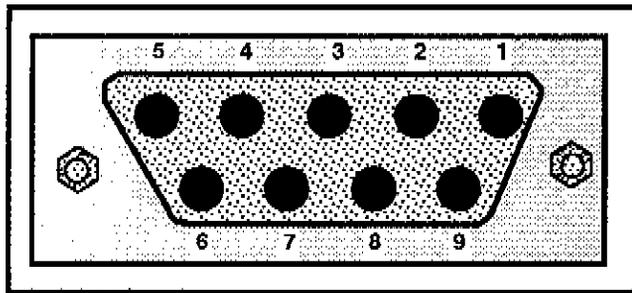


Figure 3-4. Accessories connector J103.

- d. Connect a 1 MHz square wave signal to Pin 1 of J103 on the rear panel of the Spectrum Analyzer. See Figure 3-4.
- e. Set the output of the generator for 1 division or less of signal at the top of the screen.
- f. Press SWP/TRIG MENU/#1 (INTERNAL).
- g. Check that the TRIGGER LEVEL control can be set for a triggered display.
- h. Using another cable, connect the same square wave source to the EXT TRIG input (J102) at the rear of the Spectrum Analyzer.
- i. Set the generator controls for a 15 Hz, 1 V_{pp} signal or less.
- j. Press SWP/TRIG MENU/#2 (EXTERNAL).
- k. Press SLOW until the readout reads 10MS/.
- l. Check that the TRIGGER LEVEL control can be set for a triggered display.
- m. Remove the cable from the EXT TRIG input.
- n. Press SWP/TRIG MENU/#3 (LINE).
- o. Check that the TRIGGER LEVEL control can be set for a visible display. The display will not be stable.

21. Check Internal Calibrator
(-30 dBm ±0.3 dB at 100 MHz ±5 kHz)

Equipment Required:

- Leveled Signal Generator
- Frequency Counter
- Power Meter

- a. Apply a 100 MHz signal to the frequency counter through a 3 dB attenuator and a 50 Ω cable. Set the generator output frequency at 100 MHz.

- b. Disconnect the frequency counter from the signal generator, and connect the signal established in part a to the power meter, through the same 50 Ω cable and 3 dB attenuator. Set the generator output level for a reading of -30 dBm on the power meter.

- c. Disconnect the power meter from the signal generator, and connect the reference signal established in parts a and b to the RF INPUT, through the same 50 Ω cable and 3 dB attenuator.

- d. Select the following settings on the Spectrum Analyzer:

FREQUENCY	100MHZ
REFERENCE LEVEL	-28DBM
SPAN/DIV	10KHZ
RESOLUTION BW	30KHZ
VIDEO FILTER	ON
VERTICAL SCALE	1DB/DIV

- d. Press DSPL/#4 (ACQUISITION MODE - PEAK) to enable peak detection mode.
- e. Press SAVE and A to store the reference signal signal.
- f. Remove the reference signal from the RF INPUT and enable the Calibrator signal by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM - ON).
- g. Compare the active Calibrator signal to the stored reference signal.
- h. Check that the signals are within ±0.5 divisions of each other in frequency and ±1.5 minor divisions in amplitude.

22. Check FM and AM Detectors

Equipment Required:

- FM Antenna

- a. Connect an antenna to the RF INPUT.
- b. Tune the Spectrum Analyzer to an FM station near 100 MHz. Select the FM detector by pressing DET/GEN MENU/#2 (FM DETECTOR). Push ZERO SPAN, then verify that the detector is working properly and the LEVEL CONTROL does in fact control the FM audio level.
- c. Tune the Spectrum Analyzer to an AM station. Select the AM detector by pressing DET/GEN MENU/#1 (AM DETECTOR). Push ZERO SPAN, then verify that the detector is working properly and the LEVEL CONTROL does in fact control the AM audio level.

Performance Check - 2710 Service

23. Check Residual FM

(<2 kHz_{pp} total excursion in 20 ms with
Span/Div ≤50 kHz)
(≤5 kHz_{pp} total excursion in 20 ms with
Span/Div >50 kHz)

This check requires a 1 hour warm up period.

a. Select the following settings on the Spectrum Analyzer:

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
SPAN/DIV	10 kHz
RESOLUTION BW	30 kHz
VIDEO FILTER	OFF
VERTICAL SCALE	10DB/DIV
SWEEP	AUTO

b. Enable the Calibrator by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM ON).

c. Tune the signal so that the filter slope can be measured on the most linear portion of the filter response. See Figure 3-5. Make a note of the frequency delta over 2 vertical divisions. The ratio of the frequency delta to 2 divisions then is the vertical scale factor for this measurement, Delta f/2 kHz/Div.

d. Activate ZERO SPAN, and reset Time/Div to 2 ms by pressing FAST until the readout indicates 2MS/.

e. Tune the center frequency control to position the trace 2 divisions down from the top of the screen.

f. Check that the signal does not move more than ±2 kHz according to the vertical scale factor established in part c.

g. Reset SPAN/DIV to 200 kHz, RESOLUTION BW to 500 kHz, and SWEEP to AUTO. Select the 300 Hz VIDEO FILTER to reduce the noise on the filter skirts.

h. Again, determine the vertical scale factor as in part c.

i. Activate ZERO SPAN, and reset Time/Div to 2 ms by pressing FAST until the readout indicates 2MS/.

j. Tune the center frequency control to position the trace 2 divisions down from the top of the screen.

k. Check that the signal does not move more than ±5 kHz according to the vertical scale factor established in part c.

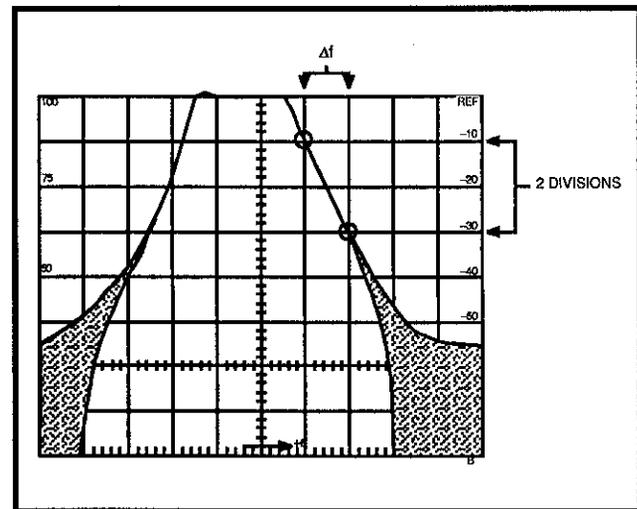


Figure 3-5. Determining vertical scale factor for the FMtest.

ADJUSTMENT

Introduction

If the instrument performance is not within specified requirements for a particular characteristic, determine the cause, repair if necessary, then use the appropriate adjustment procedure to return the instrument operation to performance specification. After any adjustment, verify performance by repeating the applicable part of the Performance Check.

Allow the instrument to warm up for at least 15 minutes, in an ambient temperature of 20° C to 30° C before making any adjustments. Waveform illustrations in the adjustment procedure are typical and may differ from one instrument to another. These waveforms should not be construed as being representative of specification tolerances.

CAUTION

STATIC DISCHARGE CAN DAMAGE MANY SEMICONDUCTOR COMPONENTS USED IN THIS INSTRUMENT.

Many semiconductor components, especially MOS types, can be damaged by static discharge. Damage may not be catastrophic and, therefore, not immediately apparent. It usually appears as a degradation of the semiconductor characteristics. Devices that are particularly susceptible are: MOS, CMOS, JFETs, and high impedance operational amplifiers (FET input stages.) The damaged parts may operate within accepted limits over a short period, but their reliability will have been severely impaired. Damage can be significantly reduced by observing the following precautions.

1. Handle static-sensitive components or circuit assemblies at or on a static-free surface. Work station areas should contain a static-free bench cover or work plane such as conductive polyethylene sheeting and a grounding wrist strap. The work plane should be connected to earth ground.

2. All test equipment, accessories, and soldering tools should be connected to earth ground.

3. Minimize handling by keeping the components in their original containers until ready for use. Minimize the removal and installation of semiconductors from their circuit boards.

4. Hold the IC devices by their body rather than the terminals.

5. Use containers made of conductive material or filled with conductive material for storage and transportation. Avoid using ordinary plastic containers. Any static sensitive part or assembly (circuit board) that is to be returned to Tektronix, Inc., should be packaged in its original container or one with anti-static packaging material.

Recommended Test Equipment

Table 4-1 lists test equipment and test fixtures recommended for the adjustment procedure. The characteristics specified are the minimum required for the checks. Substitute equipment must meet or exceed these characteristics.

Adjustment - 2710 Service

Table 4-1
EQUIPMENT REQUIRED

Test Equipment	Characteristics	Recommendation
Isolation Transformer	At least 500 VA	Stancor GIS-500
Spectrum Analyzer	Frequency range up to at least 2.2 GHz	TEKTRONIX 7L14 Option 39
Test Oscilloscope	Vertical sensitivity: 50 mV/Div to 5 V/Div; Bandwidth: DC to 100 MHz; and X Y display capability	Any TEKTRONIX 7000-Series oscilloscope with plug-in units for real-time display such as 7A26/7B53A Option 02, and P6108 10X Probe
Multimeter	100 mV to 350 V _{dc}	TEKTRONIX DM 501A or DM 502A with TM 500-Series Power module
Sweep/Signal Generator	Output: 0 dBm to +13 dBm Spectral Purity: 25 dB or more below the fundamental	Hewlett Packard 8620C with 86222A Plug-in
Signal Generator	Frequency range of 500 kHz to at least 100 MHz (cw), and capable of 80 kHz peak deviation FM at 100 MHz	Hewlett Packard 8640B
10 dB and 1 dB Step Attenuators	Range: 110 dB in combination 10 dB and 1 dB steps Accuracy: ± 0.1 dB. Frequency Range: 0 to 1.8 GHz	Hewlett Packard 8494B and 8496B with 11716A interconnect kit, calibrated using precision standard attenuators such as Weinchel Model AS-6
Function or Sine-Wave Generator	1 Hz to 1 MHz; 0 to 20 V _{pp}	TEKTRONIX FG 503 Function Generator
Power Meter with Power Sensor	-30 dBm to +20 dBm full scale; 100 kHz to 4.2 GHz	Hewlett Packard Model 435A or 436A with 8482A Power Sensor
Time Mark Generator	1 μ s markers; accuracy 0.001%	TEKTRONIX TG 501 with TM 500-Series Power module
Tracking Generator	Frequency range, 100 kHz to 1.8 GHz	TEKTRONIX TR502
N male to N male coaxial cable		Tektronix Part No. 012-0114-00
N male to SMA male adapter		Tektronix Part No. 015-0369-00
50 Ω Semi-rigid cable		Tektronix Part No. 175-4542-00
50 Ω bnc male to square pin female cable		Tektronix Part No. 175-2140-00
SMA female to female adapter		Tektronix Part No. 015-1012-00
Two Attenuators with BNC Connectors	6 dB (2X); dc to 2 GHz; 50 Ω	Tektronix Part No. 011-0069-02

ADJUSTMENT PROCEDURE

PREPARATION

Remove the cabinet as follows:

1. Turn the power off and remove the power cord.
2. Set the instrument on its face with the front cover installed.
3. Remove the rear cover (two T15 Torx® head screws), two (front) top and bottom feet (four T15 screws), three pan-head screws from the bottom rear, and two pan-head screws from the top rear of the instrument.
4. Pull the cover up and off.
5. Place the instrument on the bench and reconnect the power cord.
6. Remove the plastic safety cover over the Power Supply board.

1. Adjust Power Supply and Deflection

(R280, R386, R430, R501, R504, R526, R900, and R901 on the Power Supply board)
(R6, R7, and R121 on the rear panel)

Test Equipment Required:

- (1) Voltage-Variable Isolation Transformer
- (2) Multimeter

WARNING

AC line potential is present on the Power Supply board. Exercise extreme caution when working in this area. It is highly recommended that an isolation transformer be used.

The transformer must have a three-wire input and output connector with ground through the input and output. Stancor GIS21000 is an example of a suitable transformer.

If the shield on the bottom of the mother board is removed during servicing, hazardous line potential exists on the mother board at all times the instrument power cord is connected. If it is necessary to remove the shield, use extreme caution when handling the instrument.

Refer to Figure 4-1 for the location of all adjustments and test points.

- a. Connect an isolation transformer in line with the Spectrum Analyzer power input and connect the transformer primary to the mains source. The mains voltage should be within a range of 90 V_{ac} and 250 V_{ac}.
- b. Apply power to the Spectrum Analyzer and turn on the graticule lights.
- c. Adjust R386 (+5 V) on the Power Supply board for +10.5 V_{ac} at the +10 V test point.
- d. Check the other supply voltages at the test points indicated in Figure 4-1 against tolerances listed in Table 4-2.
- e. Monitor the collector of Q453 with a test oscilloscope. Ground the test oscilloscope probe at TP292 on the Power Supply board.
- f. Set the test oscilloscope timing such that one period of the waveform at the collector of Q453 is exactly 6 divisions.
- g. Move the test oscilloscope probe from the collector of Q453 to the gate of Q15.
- h. Adjust R280 (ØL) on the Power Supply board such that the period of the waveform at the gate of Q15 is exactly 2 divisions.

Table 4-2
POWER SUPPLY TOLERANCES

Supply	Tolerance	Test Point	Ripple
-11.2 V	±1 V	-11 V	49-87 mV
+5 V	±0.2 V	+5 V	25-73 mV
+10.45 V	±0.05 V	+10 V	25-53 mV
+22 V	±2 V	+20 V	25 mV
+43 V	±2 V	+43 V	35-55 mV
+115 V	±5 V	+115 V	13-35 mV

NOTE

Parts i through l apply to instruments from B010001 to B010318 only.

- i. Set the INTENSITY control fully clockwise, and enable the graticule lights.
- j. Adjust R430 (Hv) on the Power Supply board for 20 V_{dc} ±5 V at the collector of Q341.

Adjustment - 2710 Service

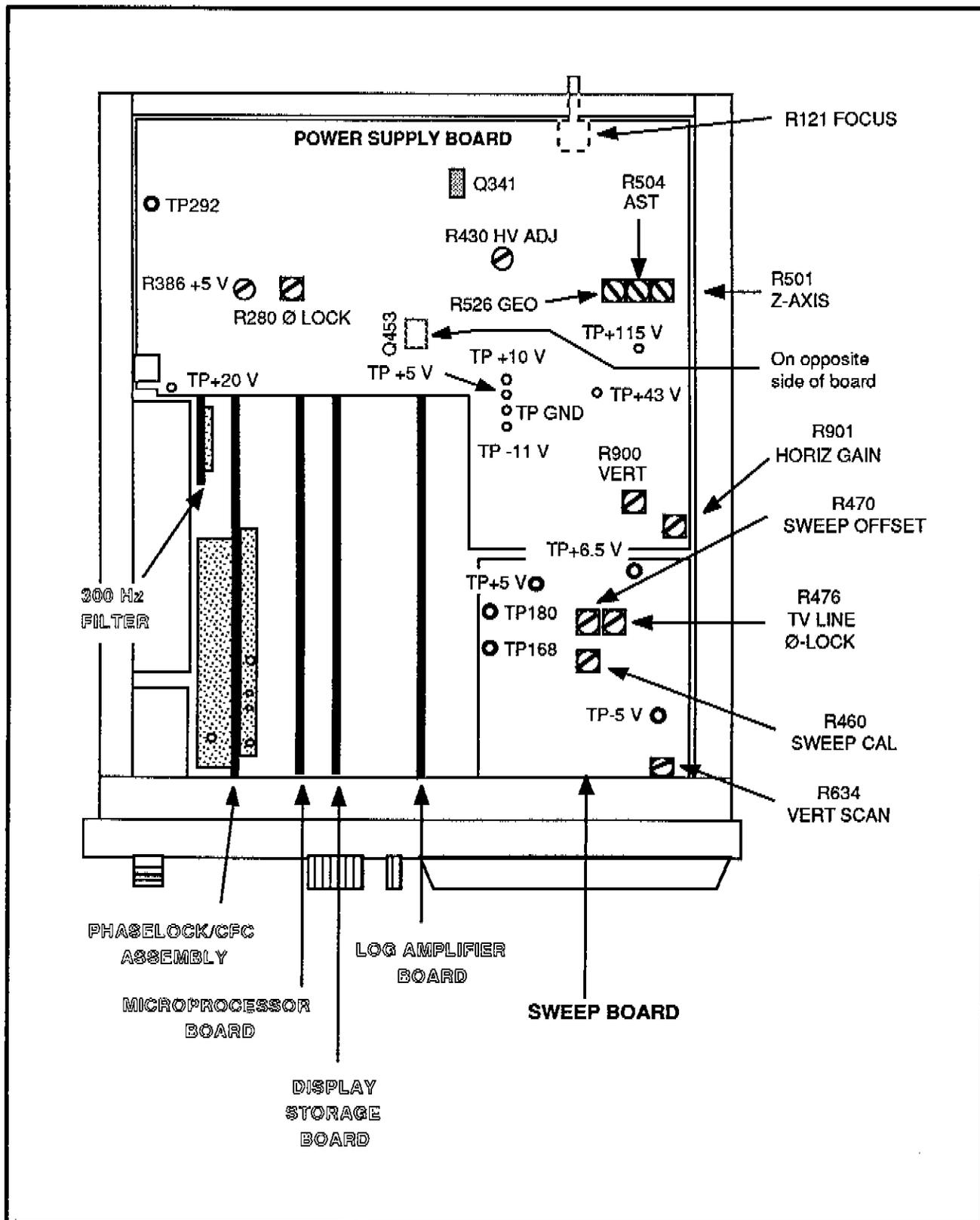


Figure 4-1. Adjustment and test point locations on the Power Supply and Sweep boards.

- k. Turn the graticule lights off, and set the INTENSITY control fully counter-clockwise.
- l. Check that the level at the collector of Q341 is no more than 110 V_{dc}. If the level is over 110 V_{dc}, repeat parts i through l, readjusting R430 for slightly less than 20 V at the collector of Q341.
- m. Select 100 MHz SPAN, and set R121 on the Power Supply board (FOCUS) fully counter-clockwise. R121 is accessible from the rear of the Spectrum Analyzer.
- n. Adjust R504 (Ast) on the Power Supply board for a round dot at center screen.
- o. Adjust R121 for a sharp, clear display.
- p. Set the front-panel INTENSITY control fully clockwise.
- q. Adjust R501 (Z-Axis) on the Power Supply board as follows: Set the INTENSITY control fully clockwise. Vary R501 until extraneous dots appear, then back it off until the dots just extinguish.
- r. Press MAX SPAN (Instruments from B020319 and Up).
- s. Adjust R430 (Hv) on the Power Supply board for no shift of the display as the graticule lights are turned on and off with the INTENSITY set to maximum and minimum (Instruments from B020319 and Up).
- t. Turn Display Storage off.
- u. Press UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#2 (MANUAL ADJUSTMENTS)/#1 (DEFLECTION AMP CAL). Press UTIL MENU three times to exit.
- v. Adjust VERT POS (R6) on the rear panel to position the top trace at the top graticule line.
- w. Press SWP TRIG MENU/#6 (SWEEP RATE) and enter 100 μ s/div.
- x. Disable frequency corrections with UTIL MENU/#4 (SYSTEM CONFIGURATION)/#4 [FREQUENCY CORRECTIONS (OFF)].
- y. Press UTIL MENU two times to exit.
- z. Select the default normalization values by selecting UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#5 (SERVICE NORMALIZATIONS)/#3 (DEFAULT NORMALIZATION VALUES).
- aa. Press UTIL MENU/#4 (SYSTEM CONFIGURATION)/#4 [FREQUENCY CORRECTIONS (OFF)] to disable frequency corrections. Press UTIL MENU twice to exit.
- bb. Adjust TRACE ROT (R7) on the rear panel to set traces parallel to the the horizontal graticule lines.
- cc. Adjust R526 (Geometry) on the Power Supply board for the straightest possible parallel lines.
- dd. Adjust R900 (Vert Gain) on the Power Supply board to position bottom trace on bottom graticule line.

2. Adjust Sweep and Horizontal Deflection Amplifier

(R470 and R460 on the Sweep board)
(HORIZ POS (R5) on the rear panel)
(R901 on the Power Supply board)

Test Equipment Required:

(1) Voltmeter

- a. Select UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#2 (MANUAL ADJUSTMENTS)/#1 [DEFLECTION AMP CAL (OFF)]/#3 [SWEEP CAL (CENTR)]. Press UTIL MENU three times to exit. Make sure that the DISPLAY STORAGE is turned off.
- b. Monitor TP168 with the voltmeter. See Figure 4-1.
- c. Adjust R470 (Offset) on the Sweep board for 0.0 V \pm 2 mV at TP168.
- d. Adjust HORIZ POS (R5) on the rear panel to position the crt beam at center screen.
- f. Press AUTO twice to enable the sweep, then press DSPL MENU/#6 [READOUT (OFF)].
- g. Adjust R901 on the Power Supply board such that the sweep starts more than one minor division before the left graticule line.
- h. Check that the sweep extends past the right side of the screen.
- i. Select UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#2 (MANUAL ADJUSTMENTS)/#3 (SWEEP CAL (CENTR)). Press UTIL MENU three times to exit, then press SWEEP SLOW three times.
- j. Adjust R460 (Sweep Cal) to position the crt beam at the fifth graticule line to the right of center screen.
- k. Press SWEEP FAST three times and check that the beam falls on the second graticule line to the right of center-screen, first graticule to the right of center-screen, and center-screen respectively.
- l. Press DSPL MENU/#6 [READOUT ON]] to turn on the graticule lights.

Adjustment - 2710 Service

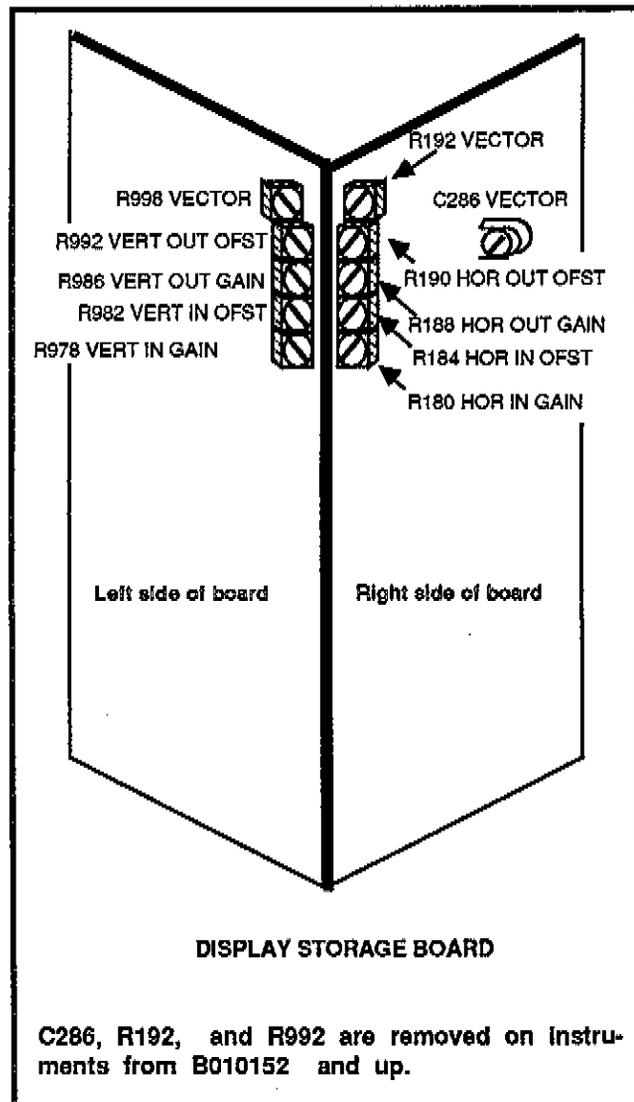


Figure 4-2. Display Storage board adjustment locations.

3. Preset Display Storage

(R190, R188, R192, R998, C286, R992, and R986 on the Display Storage board)

- a. Select UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#2 (MANUAL ADJUSTMENTS)/#2 (DISPLAY STORAGE CAL).
- b. Adjust R190 [Hoo (Horizontal Output Offset)] on the Display Storage board to position the center of the checkerboard pattern at center screen. See Figure 4-2.
- c. Adjust R188 [Hog (Horizontal Output Gain)] on the Display Storage board for optimum one checkerboard square per division (edges of intensified squares positioned to left and right vertical graticule lines).

d. For instruments from B010001 to B010151, adjust R192, R998, and C286 (vector adjustments) on the Display Storage board for optimum transient response on the checkerboard pattern display.

e. Adjust R992 [Voo (Vertical output offset)] and R986 [Vog (Vertical Output Gain)] on the Display Storage board for proper spacing of the pattern at the top and bottom of the screen respectively.

f. Press UTIL MENU six times to exit. Enable the readout by pressing DSPL MENU/#6 (READOUT (ON)), and set sweep speed to 100 μ s by pressing SWP/TRIG MENU/#6 [SWEEP RATE (100 μ s/DIV)].

4. Adjust Log Amplifier

(R154, R160, R103, R600, R451, R131, and R510 on the Log board)

Test Equipment Required:

- (1) 10 dB and 1 dB Step Attenuators
- (2) Signal Generator
- (3) RF Cable, bnc-to-SMB

See Figure 4-3 for the locations of adjustments on the Log board.

- a. Set R154 (Slope) and R160 (Slope Offset) fully clockwise so they will have no effect on baseline noise in MAX SPAN.
- b. Select ZERO SPAN and LIN mode.

c. Disconnect P190 (P7A in some early instruments) and jumper P684 from the Log board.

d. Adjust R103 (Detector Offset) on the Log board for minimum noise at pin 2 of J513. On some early Log boards, R103 is adjusted for 0.0 V \pm 5 mV at pin 2 of J513.

e. Replace P684 over pins 2 and 3 on the Log board. Apply a 10 MHz/-12 dBm signal to J190 (J7A in some early instruments).

f. Turn the DISPLAY STORAGE off, and enable AUTO VIDEO FILTER.

g. Adjust R600 (Log Gain) on the Log board for constant signal amplitude as the VERTICAL SCALE is changed from 10 dB/div to 5 dB/div to 1 dB/div.

h. Adjust VERT POS, R6, (Figure 4-4) on rear of the Spectrum Analyzer to position the signal at the top graticule line.

i. Set VERTICAL SCALE to 10 dB/div. Insert 60 dB of attenuation in the test signal path.

j. Adjust R451 (Vert Scale Factor) on the Log board to position the signal two divisions from the bottom graticule line.

- k. Remove the test signal from J190 (J7A).
- l. Check logging at 10 dB/div, 5 dB/div, and 1 dB/div. Refer to performance check step 9 in Section 3, Performance Check. If 10 dB logging is poor between the top and 60 dB down, repeat steps e through j setting the signal for -10 dBm in step e.
- m. Select LIN mode.
- n. Adjust R131 (Lin Offset) on the Log board to position the trace at the bottom of the screen.
- o. Reconnect the 10 MHz/-12 dBm signal to J190.
- p. Adjust R510 (Lin Gain) on the Log board to position the signal at the top of the screen.
- q. Remove test signal from J190 (J7A), and reconnect P190 (P7A).

5. Adjust Calibrator Amplitude and IF Gain
 (R804 on the Center Frequency Control board)
 (R200 on the RF Mother board)

Test Equipment Required:

- (1) Signal Generator
- (2) BNC Cable
- (3) Power Meter with Power Sensor

See Figure 4-5 for adjustment locations.

a. Use the power meter to set the amplitude of a 100 MHz signal from the generator and cable combination at -30 dBm, then connect the cable to the RF INPUT.

b. Set the following instrument parameters either manually or via UTIL MENU/#2 (KEYBOARD ENTERED SETTINGS):

REFERENCE LEVEL	-30 dBm
SPAN/DIV	1 MHz
RESOLUTION BW	5 MHz
VIDEO FILTER	ON
VERTICAL SCALE	1 dB/DIV

c. Turn Digital Storage on, press SWEEP AUTO, and save the signal in one of the displays.

d. Enable the calibrator signal by pressing INPUT MENU/#9 [CAL SIG @ 100MHZ -30DBM (ON)]. Tune the FREQUENCY to locate the 100 MHz calibrator signal.

e. Adjust R170 (Cal Level) on the Reference Oscillator board on instruments from B020319 and up, or R804 on the Center Frequency Control board on instruments from B010001 to B010318, to match the calibrator level to the level of the saved -30 dBm signal.

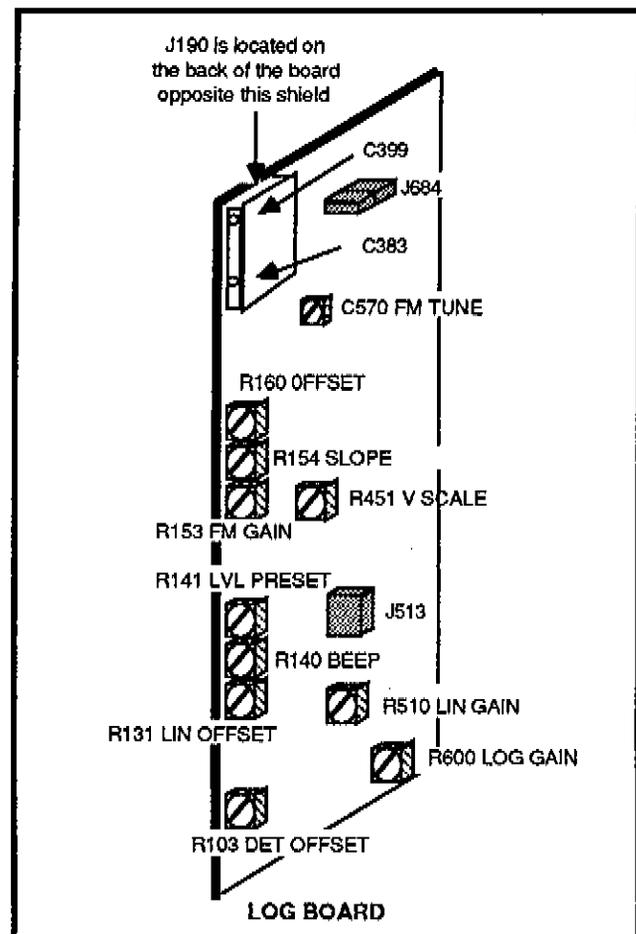


Figure 4-3. Log board adjustment and Jumper locations.

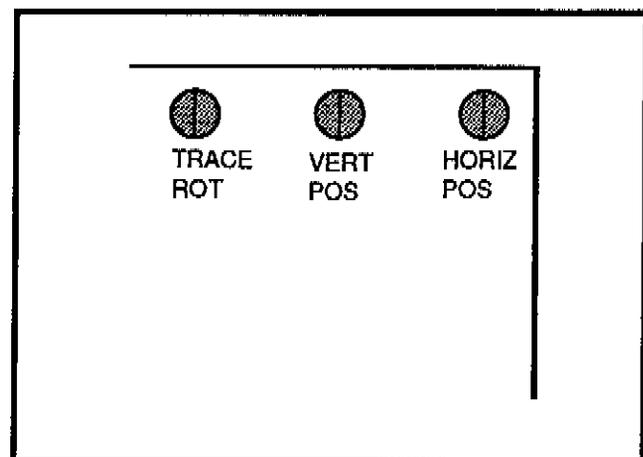


Figure 4-4. Rear-panel adjustments.

Adjustment - 2710 Service

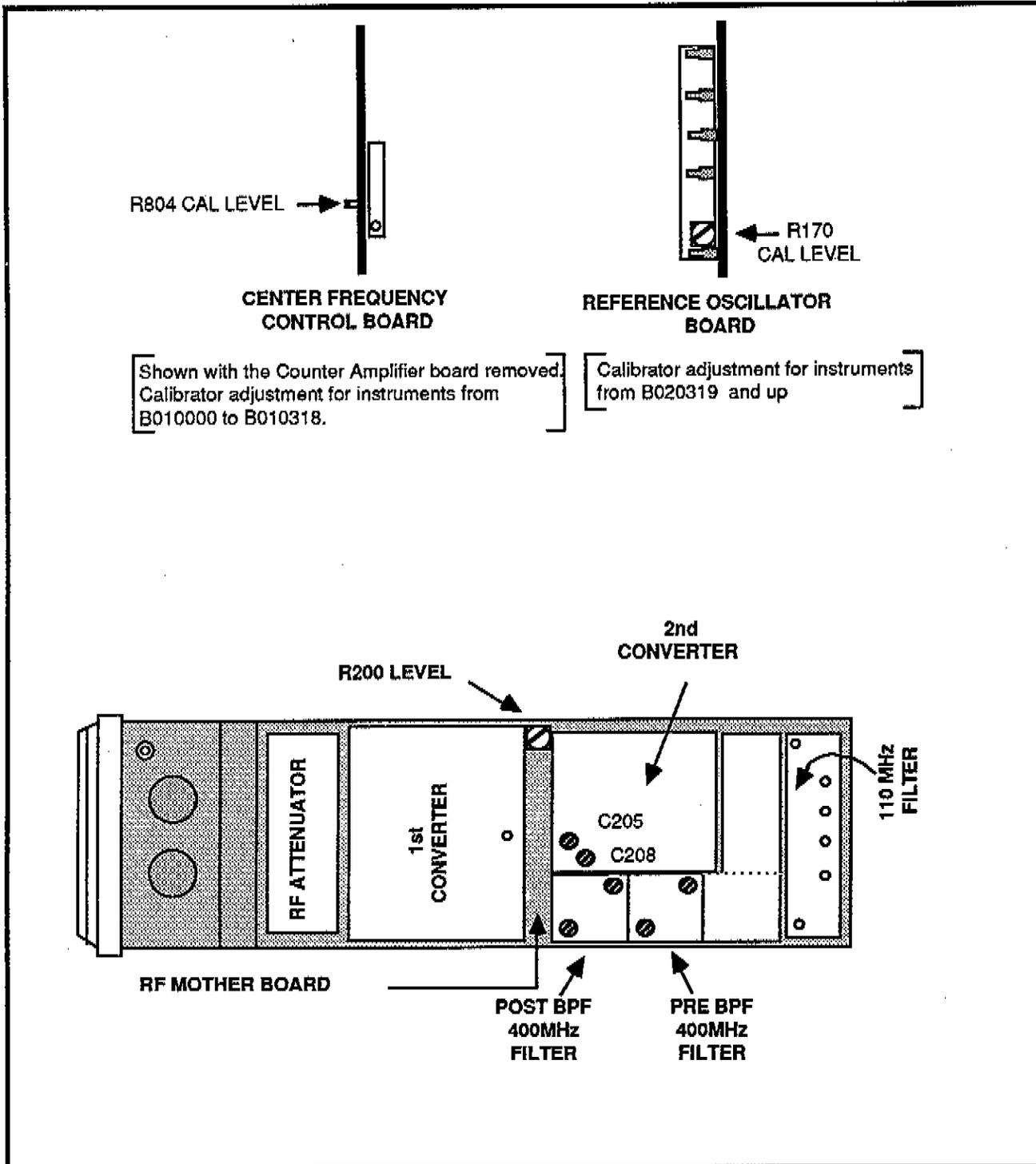


Figure 4-5. Calibrator and IF Gain adjustment locations.

f. Turn DISPLAY STORAGE off.

g. Adjust R200 (Level) on the RF Mother board to set the calibrator signal at full screen.

6. Adjust Display Storage

(R190, R188, R992, R986, R184, R180, R982, and R978 on the Display Storage board)

See Figure 4-2 for the location of adjustments on the Display Storage board.

a. Press UTIL/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#2 (MANUAL ADJUSTMENTS)/#2 (DISPLAY STORAGE CAL).

b. Adjust (readjust) R190 [Hoo (Horizontal Output Offset)] on the Display Storage board to position the center of the checkerboard pattern at center screen.

c. Adjust R188 [Hog (Horizontal Output Gain)] on the Display Storage board for optimum one checkerboard square per division.

d. Enable the display line by pressing DSPL/#8 (Display Line) and entering -60 dBm via the keypad.

e. Adjust R992 [Voo (Vertical Output Offset)] on the Display Storage board to position the display line at the top graticule line. If the display exhibits a lot of noise on the display line, then position the bright dot at the top graticule line.

f. Reset the Display Line to +20 dBm by pressing DSPL/#8 (Display Line) and entering +20 dBm via the keypad.

g. Adjust R986 [Vog (Vertical Output Gain)] on the Display Storage board to position the display line at the bottom graticule line. Again, if the display exhibits a lot of noise on the display line, then position the bright dot at the bottom graticule line.

h. Press UTIL MENU six times to exit, then set FREQ SPAN/DIV to 100 MHz and set FREQUENCY to 100 MHz. Enable the calibrator signal by pressing INPUT MENU/#9 [CAL SIG @ 100MHZ -30DBM (ON)], and turn DISPLAY STORAGE on.

i. Position the marker nearest to center screen at center screen.

j. Adjust R184 [Hio (Horizontal Input Offset)] on the Display Storage board to align the stored display to the non-stored display at center screen while switching between a stored and a non-stored display.

k. Adjust R180 [Hig (Horizontal Input Gain)] on the Display Storage board to align the stored display to the non-stored display one division from the left and right edges at center

screen vertically.

l. Set REF LEVEL units to 1dB, VIDEO FILTER on, FREQUENCY to 100 MHz, FREQ SPAN/DIV to 1 MHz, and RESOLUTION BW to 5 MHz.

m. Disable the readout by pressing DSPL MENU/#6 (READOUT).

n. Adjust R982 [Vio (Vertical Input Offset)] on the Display Storage board to match the amplitudes of the stored display to the non-stored display at the top of the screen while switching between a stored and a non-stored display.

o. Reset the REFERENCE LEVEL to bring the signal one division above bottom-screen. (Set VERTICAL SCALE to 1 dB/ and press $\frac{5}{\square}$ to place the signal at one division above bottom-screen.)

p. Adjust R978 [Vig (Vertical Input Gain)] on the Display Storage board to match the stored display to the non-stored display at the bottom of the screen while switching between a stored and a non-stored display.

7. Adjust Span Attenuator and Center Frequency Accuracy

a. Instruments from B020319 and up

(1) 900 MHz Adjustment

(R931, R918, and R920 on the Phaselock CFC board)

Refer to Figure 4-6 for adjustment and test point locations excluding TP168 on the Sweep board.

(a) Set the following instrument parameters either manually or via UTIL MENU/#2 (KEYBOARD ENTERED SETTINGS):

FREQUENCY	900 MHZ
REFERENCE LEVEL	-30 dBm
FREQ SPAN/DIV	MAX SPAN
RESOLUTION BANDWIDTH	AUTO
VIDEO FILTER	OFF
VERTICAL SCALE	10 dB/DIV

(b) Enable the calibrator signal by pressing INPUT MENU/#9 [CAL SIG @ 100MHZ -30DBM (ON)].

(c) Adjust R931 (Main Coil Offset) on the Phaselock CFC board to center the 900 MHz harmonic (9th mark to the right of the start spur) of the calibrator signal. Use the SPAN/DIV arrows to reduce the span/div to 1 MHz while keeping the signal centered with R931.

(d) Reset FREQUENCY to 400 MHz and FREQ SPAN/DIV to 100 MHz.

(e) Adjust R918 (Main SWP Gain) on the Phaselock CFC board for 1 mark per division.

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(f) Disable the calibrator signal by pressing INPUT MENU/#9 [CAL SIG @ 100MHZ -30DBM (OFF)].

(g) Apply 0.2 μ s time marks to the RF INPUT.

(h) Reset FREQUENCY to 145 MHz and FREQ SPAN/DIV to 5 MHz, and enable the preamp by pressing INPUT MENU/#1 [PREAMP (ON)].

(i) Adjust R920 (FM SWP Gain) on the Phaselock - CFC board for 1 mark per division.

(2) Low Frequency VCO Adjustment (R746 and R827 on the Phase Lock CFC board)

(a) Press UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#2 (MANUAL ADJUSTMENTS)/#4 (CFCV1 ADJUSTMENTS)/#0 (LFVCO ADJUST), then follow directions up to the adjustment of R746.

(b) After adjusting R746, press UTIL MENU once to return to CFCV1 ADJUSTMENTS, then press #3 (FM DAC SENSITIVITY ADJUST) and follow directions.

(3) High Frequency VCO Adjustment (C611 on the HFVCO)

(a) Press UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#1 (EXTENDED DIAGNOSTICS)/#6 (CF BOARD TEST)/#1 (NOT LOCKED CNT VCO)/# 9 (ENTER DAC VALUE) and enter the number 2047.

(b) Disconnect P100 from the Phase Lock - CFC board and connect a test spectrum analyzer in its place using a SMB coax cable. (Use a DC block on the spectrum analyzer). Set the center frequency of the test spectrum analyzer to 25.9 MHz, Span/div to 200 kHz, vertical mode to 10 dB/div, and reference level to 0 dBm.

(c) Vary C611 on the HFVCO. As the capacitor is varied, there will be a point near 25.9 MHz where the signal remains constant for a small range of the capacitor. One of two things will occur as the capacitor is varied in one direction from this point. One, a point is reached where oscillations occur indicated by extra signals to the sides of 25 MHz; and two, the signal will begin to move.

(d) Adjust C611 such that it is midrange between the points where extra signals 25 MHz occur and where the signal begins to move. There should be no oscillations at this point.

(e) Press #0 (NOT LOCKED NORMAL), and exit the menu by pressing UTIL MENU 4 times, then nvoke frequency normalizations by pressing UTIL MENU/#3 (NORMALIZATIONS)/#1 (FREQUENCY ONLT).

(4) Counter Level Adjustment (R620 on the Phaselock CFC board)

(a) Disable frequency corrections by pressing UTIL MENU #4 (SYSTEM CONFIGURATION)/#4 [FREQUENCY CORRECTIONS (OFF)].

(b) Press UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#1 (EXTENDED DIAGNOSTICS)/#6 (CF BOARD TEST)/#2 (NOT LOCKED CNT BEAT). Exit by pressing UTIL MENU 4 times.

(c) Set FREQ SPAN/DIV to MAX SPAN, enable manual scan by pressing SWEEP/TRIG MENU/#7 (MANUAL SCAN), and disable DISPLAY STORAGE.

(d) Connect TP168 on the Sweep board to the X channel input of the test oscilloscope (Channel 1 input).

(e) Connect the negative plate of C221 on the Phaselock - CFC board to the Y channel of the test oscilloscope. The negative plate of C221 is accessible at the front terminal of R620 (CNT LVL) on the Phaselock - CFC board.

(f) Set the X input deflection factor at .2 V/div and the Y input deflection factor at 50 mV, ac-coupled.

(g) Turn storage on and off while tuning the FREQ/MARKERS control to match the dot marker to the point of lowest beat notes.

(h) Monitor J130 on the Phase Lock - CFC board (counter amplifier output) with the test oscilloscope.

(i) Set the test oscilloscope sweep rate at .5 μ s/div and deflection factor at 1 V/div.

(j) Press UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#1 (EXTENDED DIAGNOSTICS)/#6 (CF BOARD TEST) and enter various DAC values to get a 1-3 MHz beat note on the test oscilloscope.

(k) Adjust R620 (CNT LVL) on the Phase Lock - CFC board until the square wave on the test oscilloscope disappears, then back up 1/6th turn.

b. Instruments from B010001 to B010318 (R622, R620, R621, and R422 on the Center Frequency Control board)

Test Equipment Required:

- (1) Time Mark Generator or WWV Receiver (1 MHz)

See Figure 4-7 for adjustment locations.

i. Press UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#5 (SERVICE NORMALIZATIONS)/#3 (DEFAULT NORMALIZATION VALUES).

ii. Press UTIL MENU/#4 (SYSTEM CONFIGURATION)/#4 (FREQUENCY CORRECTIONS OFF), then press UTIL MENU two times to exit.

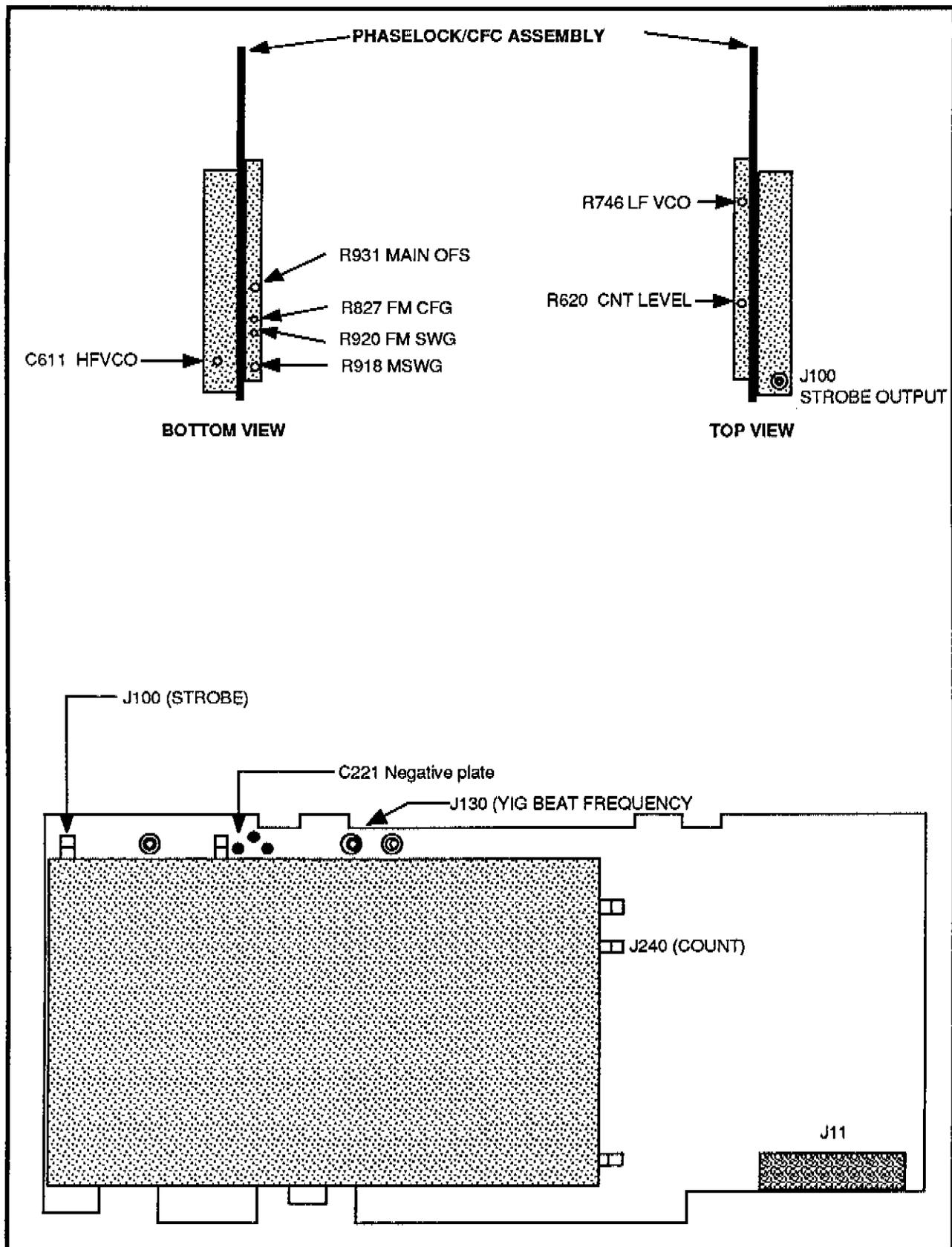


Figure 4-6. Phase-locked frequency control adjustment and test point locations.

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iii. Enable the calibrator signal by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM ON), and turn the DISPLAY STORAGE on.

iv. Set the following instrument parameters either manually or via UTIL MENU/#2 (KEYBOARD ENTERED SETTINGS):

FREQUENCY	400 MHz
REFERENCE LEVEL	-30 dBm
SPAN/DIV	100 MHz
RESOLUTION BW	500 kHz
VERTICAL SCALE	10dB/Div

v. Press SWEEP AUTO, and observe the comb of 100 MHz markers across the screen.

vi. Adjust R622 (Main Span) on the Center Frequency Control board for one mark per division.

vii. Change the center frequency to 900 MHz by pressing MKR/FREQ MENU/#0 (FREQUENCY ENTRY) and entering 900MHZ, and change the span/div setting to 1 MHz by pressing MKR/FREQ MENU/#1 (SPAN/DIV ENTRY) and entering 1MHZ.

viii. Adjust R620 (Main Coil Offset) on the Center Frequency Control board to center the 900 MHz comb on the screen.

ix. Change the center frequency to 0 Hz.

x. Adjust R621 (Main Coil Gain) on the Center Frequency Control board to place the 0 Hz spur at center screen.

NOTE

R620 moves the whole spectrum display in one direction or the other, while R621 compresses or spreads out the spectrum display.

xi. Change the center frequency to 1800 MHz, and check for a marker within 2 divisions of the center graticule line. If necessary, readjust R621 for a compromise between the 0 Hz spur and the 1800 MHz harmonic. That is, after readjusting R621, go back and check that the 0 Hz spur is within 2 minor divisions of the center graticule line. The resolution bandwidth may need to be reduced to locate the 1800 MHz harmonic.

xii. Repeat parts vii through xi to ensure optimum adjustment.

xiii. Disable the calibrator signal by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM OFF).

xiv. Insert 1 μ s markers in the instrument. Set the span/div to 1 MHz and resolution bandwidth to 30 kHz. Select a center frequency that will put markers at or near the graticule lines, such as 6 MHz.

xv. Adjust R422 (FM Span) on the Center Frequency Control board for one marker per division.

xvi. Press UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#2 (MANUAL ADJUSTMENTS)/#6 (YIG (1st LO) ACCURACY TEST) to check for proper 1st LO balance. The Spectrum Analyzer should draw a reference line at center screen and a curve of the oscillator balance. See Figure 4-8 for a typical plot. The curve should be centered about the reference line and be within 4 major divisions of the reference line. If not, repeat all of step 7.

xvii. Turn off the A and B displays, and SAVE A and SAVE B when finished with the plot.

xviii. Press UTIL MENU/#3 (NORMALIZATIONS)/#2 (FREQUENCY ONLY).

xix. Press UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#5 (SERVICE NORMALIZATIONS)/#7 (NORMALIZATION VALUES)/#7 (CF NORMALIZATIONS), and check that FM DAC SENS (FM DAC sensitivity) is within the range of 200 Hz and 650 Hz. Do not adjust if within range.

xx. If the FM DAC sensitivity is outside of the range specified in part xviii, adjust R431 on the Center Frequency Control board, perform frequency normalizations (UTIL MENU/#3/#1), and recheck FM DAC sensitivity. Repeat this part until FM DAC sensitivity lies within 200 Hz and 650 Hz.

8. Adjust Variable Resolution Filters**a. Adjust 5 MHz Resolution Bandwidth**

(Six capacitors on 110 MHz filter)

(1) Press APPL MENU/#9 (SETUP TABLE)/#0 (DB DOWN FOR BW MODE) and enter -6 dB. Press APPL MENU twice to exit. Set FREQ SPAN/DIV to 2 MHz.

(2) Enable the calibrator signal by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM ON).

(3) Set the following instrument parameters either manually or via UTIL MENU/#2 (KEYBOARD ENTERED SETTINGS):

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
SPAN/DIV	2 MHz
RESOLUTION BW	30 kHz
VERTICAL SCALE	10dB/Div

(4) Save the display in one of the registers.

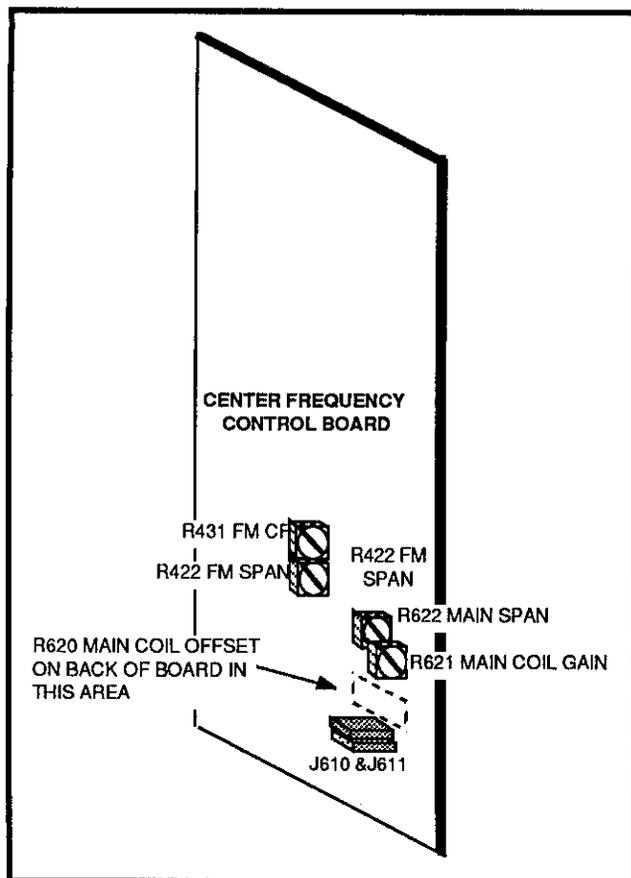


Figure 4-7. Center Frequency Control board adjustment locations for Instruments from B010001 through B010318.

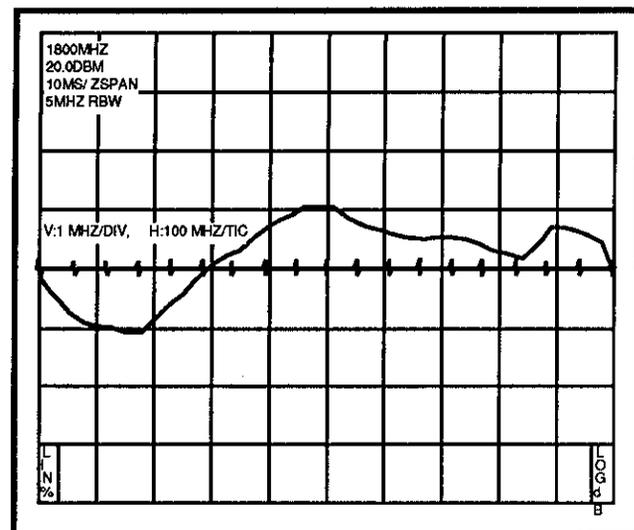


Figure 4-8. 1st LO balance curve.

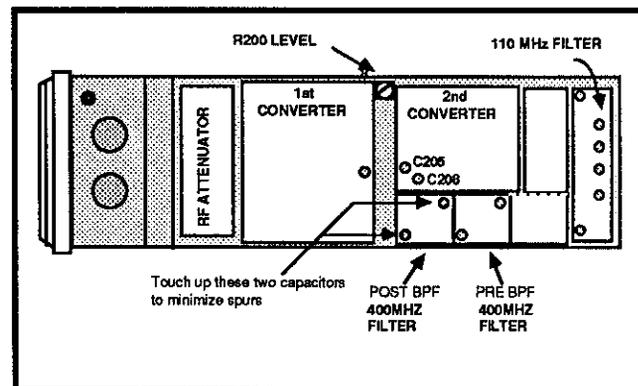


Figure 4-9. RF Mother board adjustment locations.

(5) Change the resolution bandwidth to 5 MHz, and press APPL MENU/#0 (BANDWIDTH MODE).

(6) Adjust six capacitors on the 110 MHz Filter and C399 on the Log board for highest amplitude, best filter shape, and centering about the stored 30 kHz filter, of the 5 MHz (4 to 6 MHz) pass band. Check for <1 dB of ripple. See Figure 4-9 for the locations of the capacitors and Figure 4-3 for the location of C399.

(7) Adjust C383 on the Log board for best shape in LIN mode. See Figure 4-3 for the location of C383.

(8) Repeat adjustment step 5 (IF Gain).

b. Adjust 500 kHz Resolution Bandwidth Filter
(C611, C612, C620, and C621 on the VR Filter Select board)

(1) Enable the calibrator signal and set the RESOLUTION BW at 500 kHz and FREQ SPAN/DIV at 500 kHz.

(2) Adjust C610, C611, C620, and C621 on the VR Filter Select board (Figure 4-10) for highest amplitude, best filter shape, and centering at center screen.

(3) Check that ripple is less than 1 dB_{p-p}. Typical ripple ranges from 0.4 dB_{p-p} to 0.6 dB_{p-p}.

c. Adjust 30 kHz resolution Bandwidth Filter
(C314 and C430 on the VR Filter Select board)

(1) Set RESOLUTION BW to 30 kHz and FREQ SPAN/DIV to 20 kHz.

(2) Adjust C314 and C430 on the VR Filter Select board for highest amplitude, best filter shape, and centering at center screen.

(3) Check that ripple is less than 1 dB_{p-p}. Typical ripple ranges from 0.3 dB_{p-p} to 0.5 dB_{p-p}.

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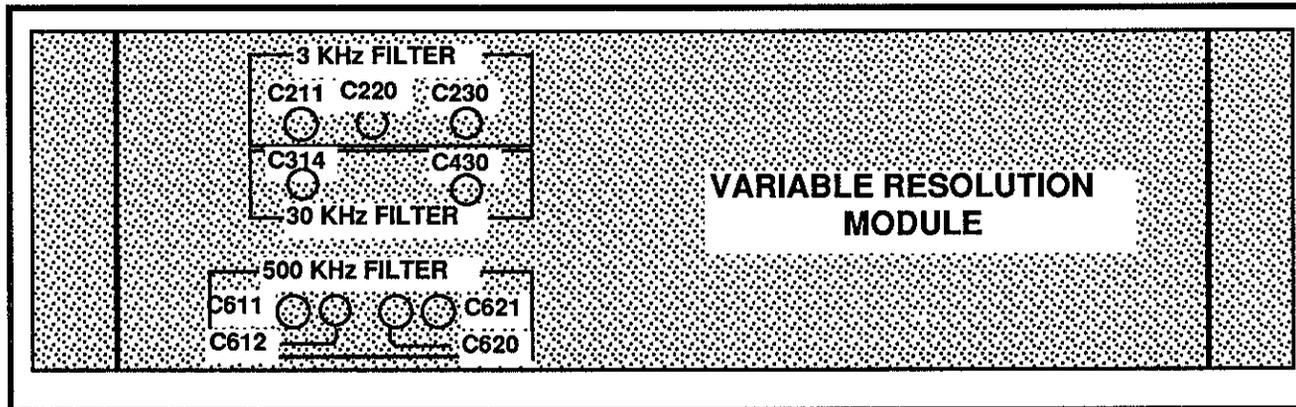


Figure 4-10. Variable Resolution module adjustment locations.

d. Adjust 3 kHz resolution Bandwidth Filter
(C211, C220, and C230 on the VR Filter Select board)

- (1) Press SWEEP AUTO, and make sure that the VIDEO FILTER is turned off.
- (2) Set the RESOLUTION BW at 3 kHz and FREQ SPAN/DIV to 2 kHz.
- (3) Adjust C211, C220, and C230 on the VR Filter Select board for highest amplitude, best filter shape, and centering at center screen.
- (4) Check that ripple is less than 1 dB_{p-p}.

9. Adjust Log Board Peripherals
(R140, R141, C570, and R153 on the Log board)

Required Test Equipment:

- (1) Signal Generator (10 MHz and 100 MHz)

- a. Press UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#1 (EXTENDED DIAGNOSTICS)/#2 (AUDIO BEEP).
- b. Adjust R140 (Beep Level) on the Log board for desired nominal beep loudness. See Figure 4-3.
- c. Press UTIL MENU three times to exit.
- d. Adjust R141, Preset Level (Figure 4-3), on the Log board for midrange.
- e. Set up the Generator for FM modulation with 80 kHz peak deviation on a 100 MHz carrier.

- f. Disable the calibrator by pressing INPUT MENU/#9, then set the following instrument parameters:

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
SPAN/DIV	500 kHz
RESOLUTION BW	500 kHz
VERTICAL SCALE	10 dB/Div

- g. Press CTR MEAS/TRKG, ZERO SPAN, DSPL MENU/#7 (DISPLAY SOURCE)/#2 (FM DETECTOR, SWP/TRIG MENU/#6 [SWEEP RATE 500 μs/DIV]), and SWP/TRIG MENU/#1 (INTERNAL). Set the trigger LEVEL control fully counter-clockwise.

- h. Preset R153 (FM Gain) (Figure 4-3) on the Log board to place the signal 2 divisions above bottom-screen.

- i. Adjust C570 (Figure 4-3) on the Log board to bring the bottom of the sinewave signal to its lowest point.

- j. Adjust R153 (FM Gain on the Log board) to place the bottom of the sinewave signal at bottom-screen.

- k. Change the generator FM deviation to 40 kHz and check for 4 divisions of deflection.

- l. Set VERTICAL SCALE to 5 dB/Div and check for full-screen deflection ±1 minor division.

10. Adjust Flatness
(R154 and R160 on the Log board)

Required Test Equipment:

- (1) Sweep Generator
- (2) N male to N male coaxial cable
- (3) N male to SMA male adapter
- (4) 50 Ω Semi-rigid cable
- (5) SMA female to female adapter
- (6) Tracking Generator

- a. Connect the test equipment as shown in Figure 4-11. The semi-rigid cable and SMA female-to-female adapter are used to access J300 (1st LO) on the 1st LO Buffer Amplifier, but are not needed if Option 15 is installed. When Option 15 is installed, the 1st LO is available at the rear panel of the instrument (SMA connector). The 50 Ω terminator at J300 will have to be removed for this adjustment.
 - b. Set the Sweep Generator controls for a cw output at approximately 2100 MHz/+10 dBm, then set the vernier control on the Sweep Generator for maximum Tracking Generator amplitude.
 - c. Press UTIL MENU/#0 (INITIALIZE INSTR SETTINGS) to reset the instrument, then press DSPL MENU/#4 [ACQUISITION MODE (PEAK)].
 - d. Set the VERTICAL SCALE to 1dB/DIV, and set the reference level for a vertically centered display.
 - e. Adjust R154 (Slope) and R160 (Slope Offset) on the Log board for flatness within 1.5 dB of the midpoint between any two extremes.
 - f. Check flatness by sweeping the Spectrum Analyzer with the Sweep Generator, with the Spectrum Analyzer set up for MAX HOLD display storage.
- 11. Adjust Log Match**
(R600 on the Log board)
(VERT POS (R6) on the rear panel)
- Test Equipment Required:
- (1) Signal Generator
- a. Apply a 10 MHz/-10 dBm signal to J190. Turn the DISPLAY STORAGE off.

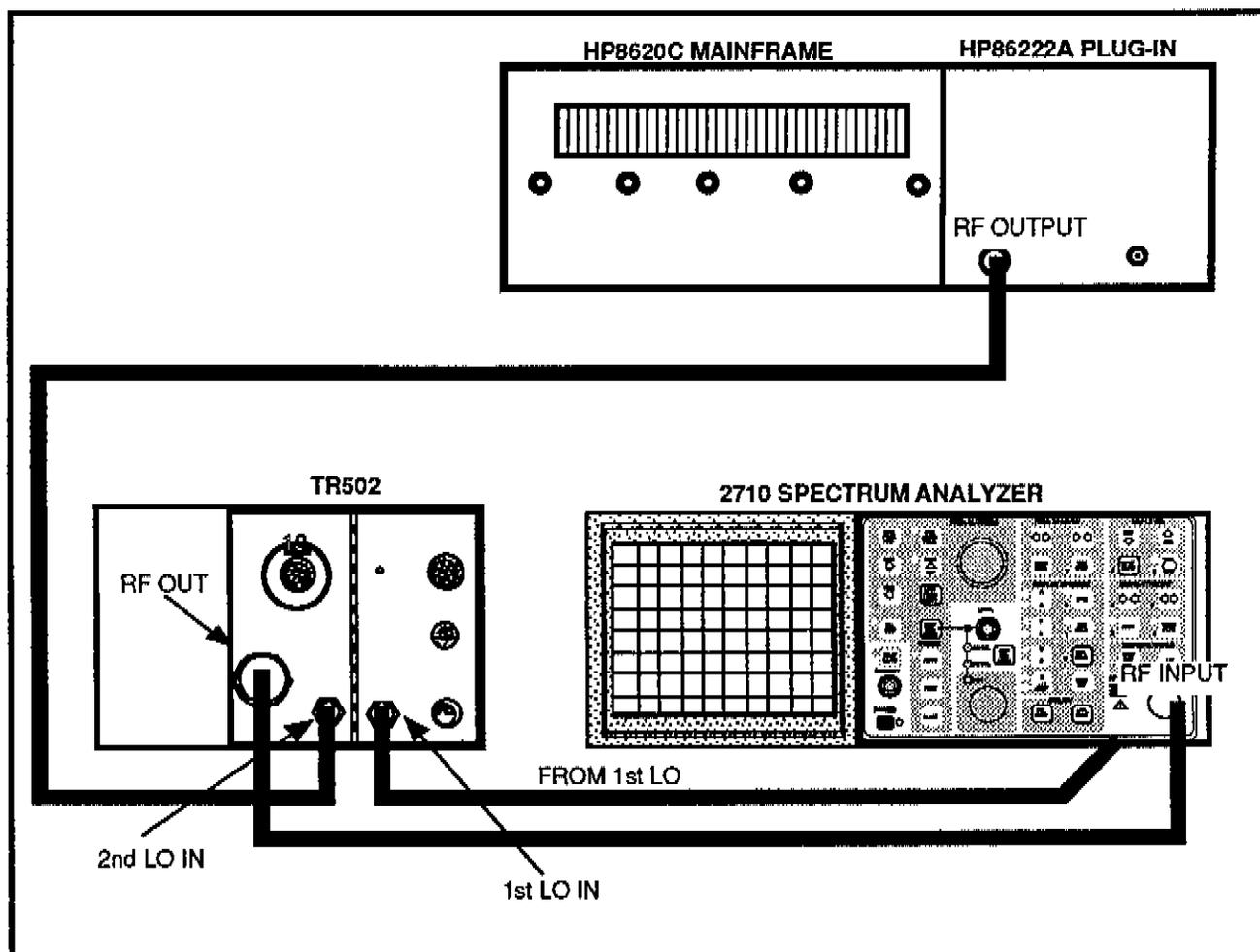


Figure 4-11. Band leveling test equipment setup.

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- b. Adjust R600 (Log Gain) on the Log board for constant signal amplitude as the VERTICAL SCALE is changed from 10 dB/div to 5 dB/div and 1 dB/div.
- c. Adjust VERT POS (R6) on the rear panel of the Spectrum Analyzer to position the signal at the top graticule line.

12. Adjust Counter Amplifier Instruments from B010001 to B010318 (R2261 and R563 on the Counter Amp board)

Equipment Required:

- (1) Test Oscilloscope

- a. Press UTIL MENU/#0 (INITIALIZE INSTR SETTINGS).
- b. Press UTIL MENU/#5 (DIAGNOSTICS/ADJUSTMENTS)/#1 (EXTENDED DIAGNOSTICS)/#4 (FREQUENCY COUNTER TESTS)/#2 (RF, 100MHZ STROBE). This enables the 100 MHz strobe.

c. Monitor the negative plate of C325 (Figure 4-12) with the test oscilloscope.

d. Adjust R562 (Figure 4-12) for $0.7 V_{pp}$ of the beat note.

e. Press #2 (RF, 100MHZ STROBE)/#3 (RF, 50MHZ STROBE). This disables the 100 MHz strobe and enables the beat note.

f. Adjust R261 on the Counter Amp board for $0.7 V_{pp}$ of the 50 MHz strobe signal.

g. Press #3 (RF, 50MHZ STROBE)/#5 (RF, 33MHZ STROBE). This disables the 50 MHz strobe and enables the 33 MHz strobe.

h. Check that the beat note amplitude is $0.5 V_{pp}$ or more. If the beat note amplitude is less than $0.5 V_{pp}$, readjust the 50 MHz beat note amplitude (parts e and f), and recheck the 33 MHz beat note amplitude.

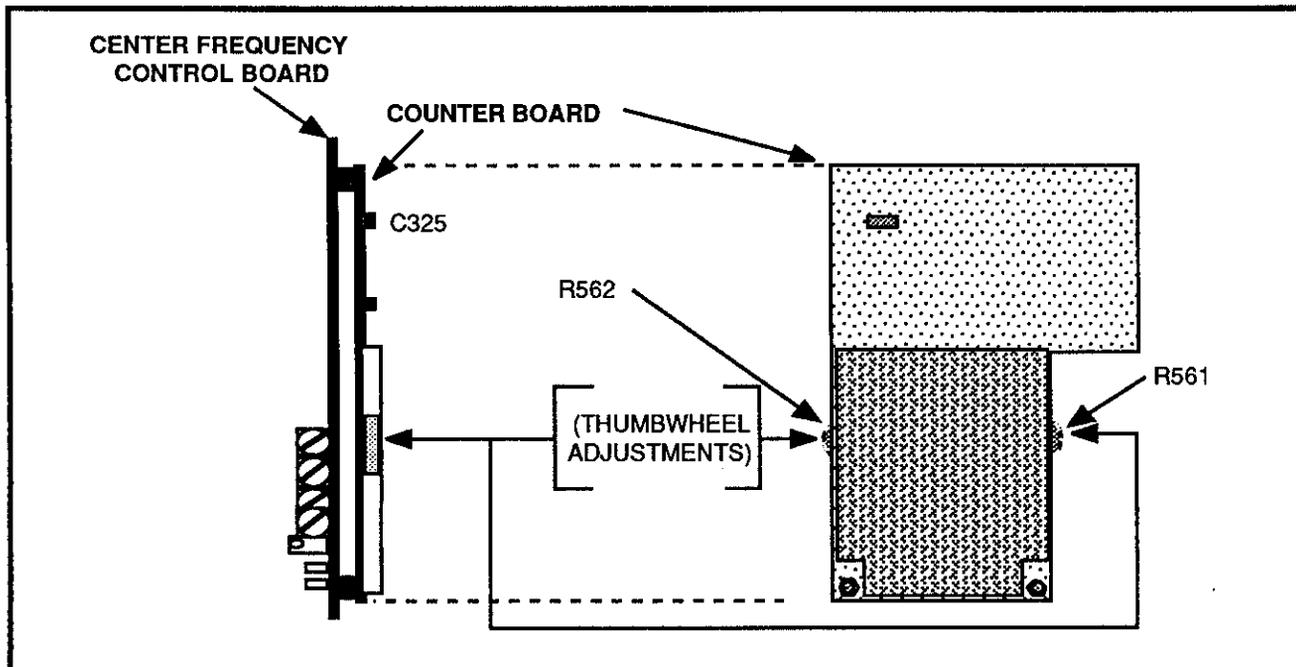


Figure 4-12. Counter Amplifier board adjustments.

13. Perform Service Normalizations

a. GAIN STEP REFERENCE

- i. Connect the test equipment as shown in Figure 4-13.
- ii. Set the step attenuators to 0 dB, and set the generator for a 100 MHz output and a power meter reading of -20 dBm.
- iii. Set the step attenuators to 10 dB (add 10 dB of attenuation to the 100 MHz signal) and make a note of the power meter reading. Deduct -20 dBm from this reading to obtain the actual attenuation of the 10 dB step.
- iv. Reset the step attenuator to 0 dB. Disconnect the cable from the power meter sensor and connect it to the RF INPUT.
- v. Press UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#5 (SERVICE NORMALIZATIONS)/#0 (GAIN STEP REFERENCE), and press #1 (CONNECTED MEASURE). The instrument will make a measurement and return to GAIN STEP REFERENCE menu.
- vi. Press #2 (GAIN STEP REF - MEASUREMENT 2). Press #1 (SERIES PAD VALUE) and enter the actual value of the 10 dB step attenuation determined in part iii.
- vii. Add 10 dB of attenuation in the signal path and press #2 (CONNECTED MEASURE).
- viii. Press UTIL MENU to return to SERVICE NORMALIZATIONS menu.

b. INTERNAL REFERENCE FREQ

- i. Press UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#5 (SERVICE NORMALIZATIONS)/#1 (INTERNAL REFERENCE FREQ), and follow screen prompts.

c. INTERNAL REFERENCE AMPLTD

- i. Press UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#5 (SERVICE NORMALIZATIONS)/#2 (GAIN INTERNAL REFERENCE AMPLTD), and follow screen prompts.

d. Perform All Normalizations

- i. Press UTIL MENU#3 (NORMALIZATIONS)/#0 (ALL PARAMETERS).

14. Adjust Reference Frequency (Option 02)

Equipment Required

100 MHz Frequency Standard

a. Instruments from B020319 and up (SW410 on the Reference Oscillator board)

- i. Connect the frequency standard to the RF INPUT.
- ii. Set the following instrument parameters:

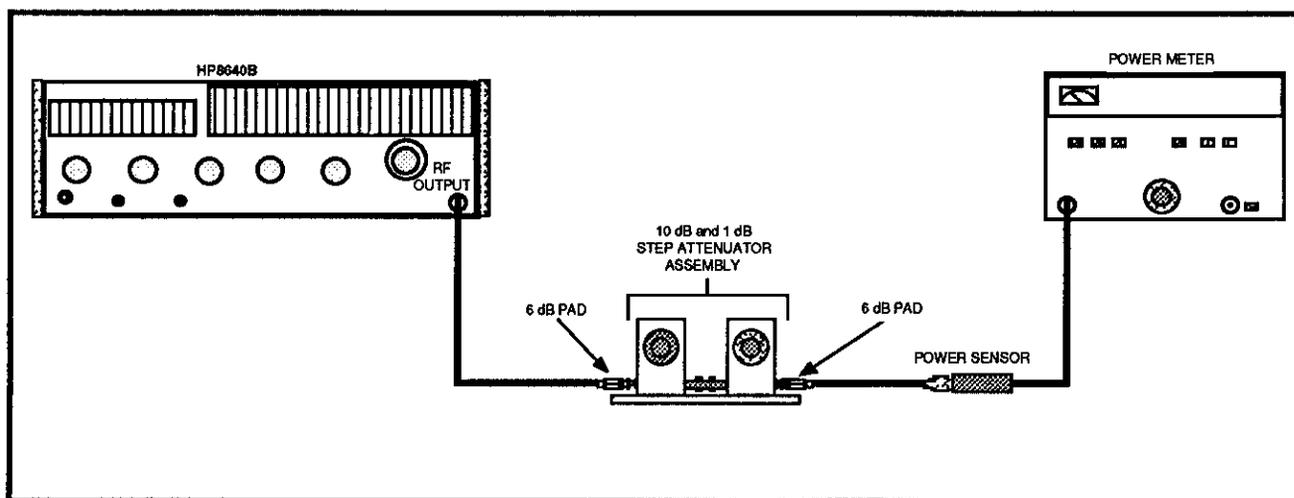


Figure 4-13. Gain Step Reference test setup.

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FREQUENCY	100 MHz
REFERENCE LEVEL	-50 dBm
SPAN/DIV	50 KHz
RESOLUTION BW	30 KHz
VERTICAL SCALE	-10 dBm

NOTE

The 100 MHz reference signal is obtained by overdriving the Spectrum Analyzer front end with the frequency standard output. If necessary, enable the preamplifier by pressing INPUT MENU/#1 [PREAMP (ON)] to get a high enough on-screen signal.

- iii. Enable signal tracking by pressing CTR MEAS/TRKG twice.
- iv. Note the difference between the tracking readout and 100,000,000 MHz.
- v. Set SW410 (Figure 4-14) switches on the Reference Oscillator board for the frequency difference noted in part iv. The frequency difference is set by opening equivalent switches in SW410 for the desired value. See Table 4-3.

**Table 4-3
SWITCH FREQUENCY VALUE**

Switch No.	ΔF
8	10 Hz
7	20 Hz
6	40 Hz
5	80 Hz
4	160 Hz
3	320 Hz
2	640 Hz
1	1280 Hz

- b. Instruments from B010001 to B010318 (R467, R465, R463, R461, R374, and R373 on the Center Frequency Control board)

- a. Connect a known frequency standard, such as WWV, to the RF INPUT.
- b. Set the following instrument parameters:

FREQUENCY	100 MHz
REFERENCE LEVEL	As needed
SPAN/DIV	50 kHz
RESOLUTION BW	30 kHz

- c. Enable default reference values by pressing UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#5 (SERVICE NORMALIZATIONS)/#4 (DEFAULT REFERENCE VALUES).
- d. Set counter resolution to 1 Hz by pressing MKR/FREQ MENU/#9 (SETUP TABLE)/#2 (COUNTER RESOLUTION)/#1 (1 Hz).
- e. Press CTR MEAS/TRKG.
- f. Check that the Spectrum Analyzer counter reads 100 MHz ± 100 Hz. If necessary, readjust the digital frequency number on the Center Frequency board using the 1 k Ω resistors in Table 4-5. Removing a combination of these resistors raises the reference frequency by the equivalent amount (sum) according to Table 4-4. See Figure 4-15 for the location of the 1 k Ω resistors.

**Table 4-4
FREQUENCY ADJUSTING RESISTORS**

Resistor	ΔF
R467	100 Hz
R465	200 Hz
R463	400 Hz
R461	800 Hz
R374	1600 Hz
R373	3200 Hz

- vi. Turn power off and back on. Recall last power down settings by pressing UTIL MENU/#1 (STORED SETTINGS)/#0 (LAST POWER-DOWN). Recheck error.

Invoke the normalization routines after the instrument has warmed up for one hour by pressing UTIL MENU/#3 (NORMALIZATIONS)/#0 (ALL PARAMETERS).

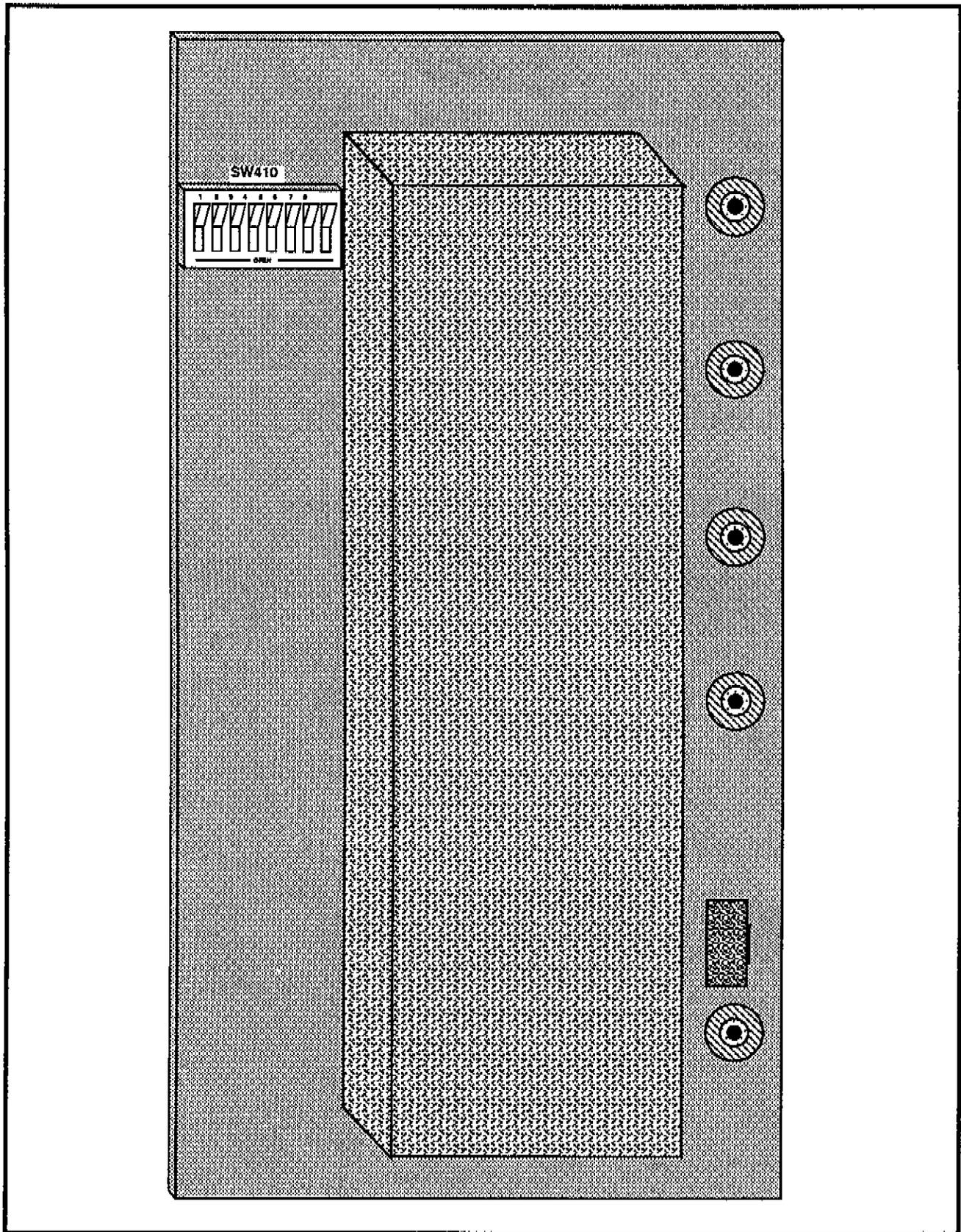


Figure 4-14. SW410 on the Reference Oscillator board.

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15. Adjust Video Monitor (Option 10)

(R476 and R634 on Sweep board)

Required Test Equipment:

(1) TV Visual Carrier Source

- a. Press UTIL MENU/#0 (INITIALIZE INSTR SETTINGS). Set FREQ SPAN/DIV to 2 MHz and RESOLUTION BW to 5 MHz.
- b. Connect a rf visual carrier to the RF INPUT such as from an antenna.
- c. Tune the Spectrum Analyzer to a TV visual carrier. See Table 4-5.

Table 4-5
TELEVISION CHANNELS

Channel	Visual Carrier
2	55.25 MHz
3	61.25 MHz
4	67.25 MHz
5	77.25 MHz
6	83.25 MHz
7	175.25 MHz
8	181.25 MHz
9	187.25 MHz
19	193.25 MHz
11	199.25 MHz
12	205.25 MHz
13	211.25 MHz

NOTE

The aural carrier is 4.5 MHz away from the visual carrier. Carrier frequencies for Channels A through W and 14 through 83 are omitted from this table.

- d. Press SWP/TRIG MENU/#9 (SETUP TABLE) and select sync and video polarity (#1 and #2 respectively). Press SWP/TRIG MENU 6twice to exit.
- e. Press REF LEVEL  to set the peak carrier level at top-screen.
- f. Press SWP/TRIG MENU/#8 (BROADCAST <AM> VIDEO), and set the LEVEL control such that there is no flicker in the displayed picture.
- g. Adjust R476 (TV Line Ø-Lock) on the Sweep board to center of lock range as per the visual image. When out of lock range, the picture disappears.
- h. Adjust R636 (Vert Scan) on the Sweep board to move the bottom of the scan to bottom-screen.

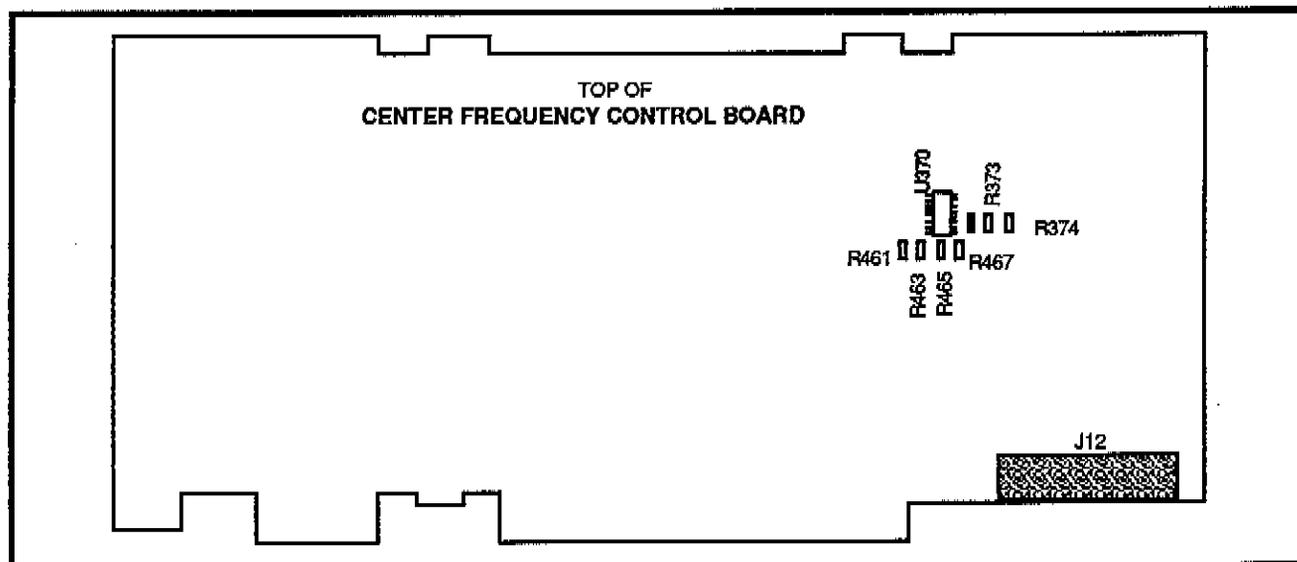


Figure 4-15. Reference frequency adjusting resistors.

PREVENTIVE MAINTENANCE

Preventive maintenance consists of cleaning, visual inspection, performance check, and if needed a recalibration. The preventive maintenance schedule that is established for the instrument should be based on the environment in which the instrument is operated and the amount of use. A preventive maintenance check should be performed every 2,000 hours of instrument operation.

Cleaning

Clean the instrument often enough to prevent dust or dirt from accumulating in or on it. Accumulation of dirt and grease acts as a thermal insulating blanket and prevents efficient heat dissipation. It also provides high resistance electrical leakage paths between conductors or components in a humid environment.

Exterior: Clean the dust from the outside of the instrument by wiping or brushing the surface with a soft cloth or small brush. The brush will remove dust from around the front-panel selector buttons. Hardened dirt may be removed with a cloth dampened in water that contains a mild detergent. Abrasive cleaners should not be used.

Interior: Clean the interior by loosening accumulated dust with a dry soft brush, then remove the loosened dirt with low pressure air to blow the dust clear. (High velocity air can damage some components.) Hardened dirt or grease may be removed with a cotton tipped applicator dampened with a solution of mild detergent in water. Do not leave detergent on critical memory components. Abrasive cleaners should not be used. If the circuit board assemblies need cleaning, remove the circuit board by referring to the instructions under Corrective Maintenance in this section.

After cleaning, allow the interior to thoroughly dry before applying power to the instrument.

CAUTION

Do not allow water to get inside any enclosed assembly or components such as the hybrid assemblies, RF Attenuator assembly, potentiometers, etc. Instructions for removing these assemblies are provided in the Corrective Maintenance part of this section. Do not clean any plastic materials with organic cleaning solvents such as benzene, toluene, xylene, acetone or similar compounds because they may damage the plastic.

Fixtures and Tools for Maintenance

Table 5-2 lists kits and fixtures that are available to aid in servicing the spectrum analyzer. Topping the list is the Extender Kit consisting of the following:

- Main Extender with circuit board ejectors
- Secondary Extender
- An assortment of six coaxial cables

The Main Extender is to be used with all circuit boards that use the 50-conductor microprocessor bus cable. The Secondary Extender card is added to the Main Extender for use with the Log and Center Frequency Control boards. See Figure 5-1.

On the Main Extender, signal lines and power supply lines from the bottom edge connector to the pins at the top edge of the Extender are completed by a set of two-pin jumpers (excluding two ground lines and the 50-conductor microprocessor bus cable). Thus, except for the two ground lines, all signal and power supply lines are interruptible via these two-pin jumpers.

Signal lines are brought to square pins where they can be steered to one of two bnc connectors on the Main Extender. See Figure 5-2. There are 20 rows of 3-pin sets numbered 1 through 12 and 17 through 24. The numbers correspond to pin numbers of the interconnect system on the Power Supply board. Placing a jumper at position A in Figure 5-2 steers the selected signal to bnc connector A, and a jumper at position B steers the signal to connector B. Consequently, a maximum of two signals may be steered to the bnc connectors at any one time.

Conversely, an external signal may be injected on any one of these signal lines by removing the proper jumper on the signal line, selecting a bnc connector, and applying the external signal to the selected connector.

The double shielded coaxial cables with SMB connectors and the coaxial cable with square pin connectors are for interboard connections when needed.

Visual Inspection

After cleaning, carefully check the instrument for such defects as defective connections and damaged parts. The remedy for most visible defects is obvious. If heat-damaged parts are discovered, try to determine the cause of overheating before the damaged part is replaced; otherwise, the damage may be repeated.

Transistor and Integrated Circuit Checks

All transistors and integrated circuits are soldered on the boards to prevent pin contact problems. Periodic checks of the transistors and integrated circuits is not recommended. The best measure of performance is the actual operation of the component in the circuit. In most cases any degradation in performance will be detected by the microprocessor during power-up. Performance of these components is also checked during NORMALIZATION; any sub-standard transistors or integrated circuits will usually be detected at that time.

Performance Checks and Recalibration

The instrument performance should be checked after each 2000 hours of operation or every 12 months if the instrument is used intermittently to ensure maximum performance and assist in locating defects that may not be apparent during regular operation. Instructions for conducting a performance check are provided by the Performance Check section of the service instructions.

Stored Data in Non-Volatile Memory

Data stored in non-volatile memory will be lost if backup-battery power to the memory is interrupted, such as when changing the battery.

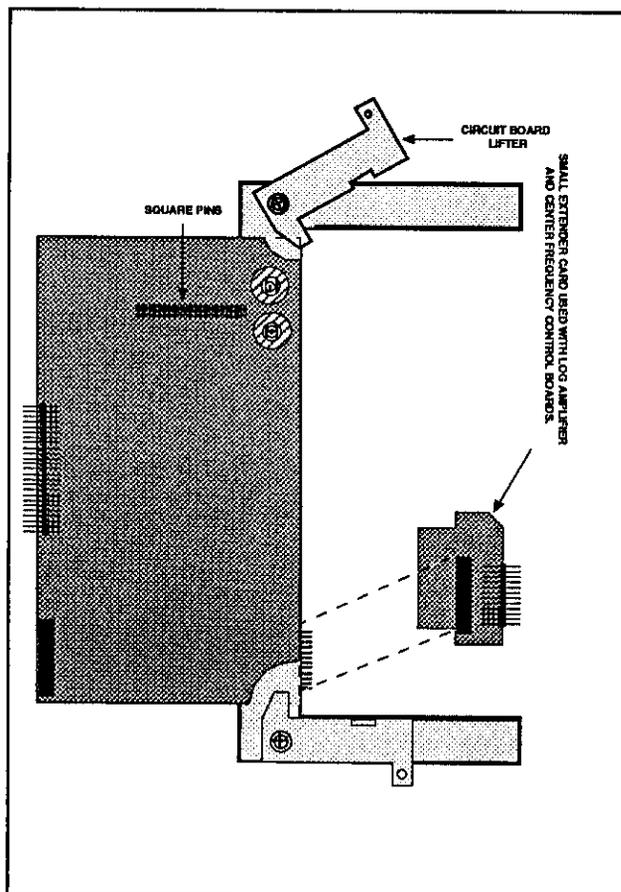


Figure 5-1. Main Extender and Secondary Extender.

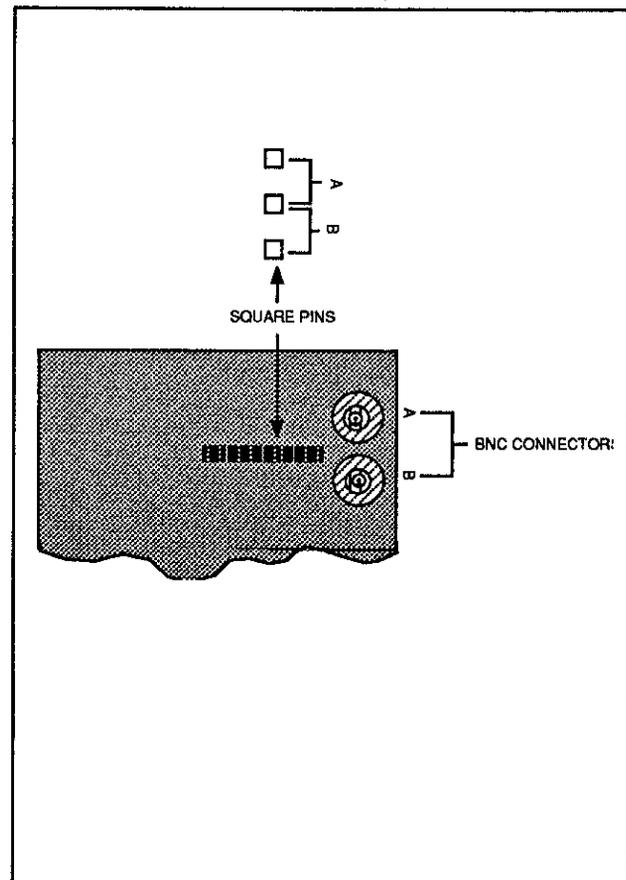


Figure 5-2. Signal steering square pins.

Table 5-2
SERVICE KITS AND TOOLS

Nomenclature	Tektronix Part No.
Extender Kit	606-0110-00
50 Ω cable, Sealectro male-to-Sealectro female (3)	175-2902-00
Screwdriver, flat, with 1/4 to 3/8-inch bit	
Screwdriver, Posidrive 440-2	
Screwdrivers, Torx® T15 and T20	
Wrench, 5/16-inch open-end	
Hex drive wrenches, 3/32, 5/64, 7/64-inch	003-1324-00
Torque Wrench Kit	

TROUBLESHOOTING

The spectrum analyzer contains firmware that will troubleshoot the frequency control system. A troubleshooting procedure for this system is provided in the Diagnostics part of this section. After the defective assembly or component has been located, refer to the Replacing Assemblies and Sub-assemblies part of this section for removal and replacement instructions.

Troubleshooting Aids

Diagrams – Functional block and circuit diagrams, on foldout pages in the Diagrams section, contain significant waveforms, voltages, and logic data information. Conditions for getting the data are provided on the diagram or adjacent to it. Refer to the Replaceable Electrical Parts list section for a description of all assemblies and components.

Schematic diagrams list the Tektronix Part Number (670-xxxx-xx) for the assembly or board along with the assembly number (e.g. A5) and name. The last two digits or suffix of the part number are not indicated on the diagram, however, they are listed in the Electrical Parts section. These two digits reflect changes or modifications to the assembly or board. When a change is made to the assembly the suffix rolls one digit. The diagram indicates these changes with a grey tint drawing of the original circuit or if a component changes value the symbol is enclosed with a grey tint box. When a major modification is made to an assembly or board and it is no longer compatible with earlier instruments a new part number is assigned and a separate schematic with associated illustrations are added, all diagrams indicate the new part number and the instrument serial number break. If the assembly is compatible with earlier instruments and the change is significant enough to require a separate schematic, this will also be identified.

NOTE

Corrections to the manual and instrument modifications are documented by adding correction pages behind a tabbed page, labeled Change Information, at the rear of the manual. Check this Change Information section for changes to the manual or the instrument.

Circuit Board Illustrations and Component Locator Charts - Electrical components, connectors, and test points are identified on circuit board illustrations that are located on the inside fold of the corresponding circuit diagram or the back of the preceding diagram. A grid on the circuit board illustration and the circuit schematic, plus a look-up table, provide the means to quickly locate components on either the diagram or the circuit board.

In most cases, circuit numbers are assigned according to the physical location of the component on the board or assembly. The first digit designates the row of a grid, the second the column, with the last two reserved as an expander. Three digit numbers designate chassis mounted components.

General Troubleshooting Techniques

Before using test equipment, to measure across static-sensitive components or assemblies, be certain that voltages and currents supplied by the test equipment do not exceed the limits of the components to be tested.

Try to isolate the problem to a component through signal analysis. Determine that circuit voltages will not damage the replacement.

Semiconductor Checks - Semiconductor failures account for the majority of electronic equipment failures. All semiconductors are soldered to the boards to reduce pin contact problems. The following guidelines should be observed if you substitute any of these components.

1. Always turn the power off before removing an assembly or circuit board.
2. Use a heat gun to remove surface-mounted components, and a 15 W or less soldering iron to remove components with leads.
3. Use only good components for substitution. Be sure the new component is inserted into the board properly before soldering. Refer to the manufacturer's data sheet for integrated circuit and transistor lead configuration.

Diode Checks - Most diodes can be checked in the circuit by taking measurements across the diode and comparing these with voltages listed on the diagram. Forward-to-back resistance ratios can usually be taken by referring to the schematic and pulling appropriate transistors and pin connectors to remove low resistance loops around the diode.

CAUTION

Do not use an ohmmeter scale with a high external current to check diode junctions. Do not check the forward-to-back resistance ratios of mixer diodes.

Diagnostic Firmware

The firmware in the spectrum analyzer provides diagnostic routines that can be used with the Diagnostic part of this section to troubleshoot the Frequency Control system. This part follows General Troubleshooting information. Refer to this part to help isolate problems within this loop. The following are also some general suggestions that may help isolate a problem when troubleshooting.

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Troubleshooting Steps

1. Ensure that the problem exists in the spectrum analyzer by checking the operation of associated test equipment.
2. Try to isolate the problem to a circuit or at least to the board level by evaluating operational symptoms; for example, absence of the frequency dot could be caused by a malfunction in the marker generator, or switching circuits.
3. Three levels of block diagrams are provided to aid in understanding the theory of operation. The most detailed level is adjacent to the schematic and usually provides signal and voltage levels at critical points within the circuits. Signal levels are usually the levels required to produce full screen deflection.
4. Instructions on how to remove or replace those assemblies which are not obvious, are provided in this section. Refer to this part before removing any assembly.
5. Visually inspect the area or assembly for such defects as broken or loose connections, improperly connected components, overheated or burned components, chafed insulation, etc. Repair or replace all obvious defects. In the case of overheated components, try to determine the cause of the overheated condition and correct before applying power.

6. Use successive electrical checks to try to locate the problem. An oscilloscope is a valuable test item for evaluating circuit performance. If applicable, check the calibration adjustments; however, before changing an adjustment note its position so it can be returned to its original setting. This will facilitate recalibration after the trouble has been located and repaired.

7. Determine the extent of the repair needed; if complex, we recommend contacting your local Tektronix Field Office or representative. If minor, such as a component replacement, see the Replaceable Parts list for replacement information. Removal and replacement procedure of the assemblies and sub-assemblies are described under Corrective Maintenance.

CAUTION

When measuring voltages and waveforms, use extreme care with the placement of test probes. Because some circuit boards have a high component density, access to points in some circuits is limited. A test probe could accidentally short a circuit and generate transient voltages that can destroy many static-sensitive components.

CAL DEBUG FLAGS

From time to time, certain screen messages are displayed when normalizations are performed with the CAL DEBUG FLAGS turned on (UTIL MENU/#5/#3/#4).

The following is a list of all possible messages which the normalizations can produce.

Message	Meaning
"ERROR in REF GAIN STEP OFF: Cannot set external signal near full screen"	The signal could not be placed at or above full screen by reducing RF attenuation.
"ERROR in REF GAIN STEP OFF: Cannot set signal to 0.75 division from full screen"	The signal could not be placed exactly 0.75 division below full screen by using only the VR fine gain DAC.
"ERROR in REF GAIN STEP ON: External signal at incorrect level"	The signal did not drop at least 70 storage locations when the operator reduced the signal by 10 dB (lin mode).

Message	Meaning
"ERROR in REF GAIN STEP ON: Cannot measure lin mode sensitivity"	The calculations for lin mode sensitivity were outside of reasonable limits.
"ERROR in REF GAIN STEP ON: Result out of range"	The calculated result for this test was outside of reasonable limits.
ERROR in REF FREQUENCY: Cannot count reference signal"	The user-applied reference signal could not be counted using the center-measure function.
"ERROR in REF FREQUENCY: Result out of range"	The calculated result for this test was outside of reasonable limits.
"ERROR in REF AMPLITUDE: Cannot span down on external signal (1)"	The externally-applied signal could not be set to zero span, 5 MHz filter. Probably due to frequency instability in the signal or the instrument.
"ERROR in REF AMPLITUDE: Cannot set calibrator to full screen"	The user-applied reference signal could not be set a half a division from full screen using VR gain steps, RF attenuators, and the VR fine gain DAC.
"ERROR in REF AMPLITUDE: No amplitude change when 10 dB step changes"	The 10 dB reference step was removed to calculate the lin mode sensitivity, The amplitude did not change.
"ERROR in REF AMPLITUDE: Lin mode sensitivity out of range"	The calculations for lin mode sensitivity were outside of reasonable limits.
"ERROR in REF AMPLITUDE: Cannot span down on calibrator"	The internal calibrator signal could not be set to zero span, 5 MHz filter. Probably due to frequency instability in the signal or the instrument.
"ERROR in REF AMPLITUDE: Result out of range"	The calculated result for this test was outside of reasonable limits.
"ERROR in VCO UPPER SENS: Cannot count phase lock VCO"	The LF VCO could not be counted at some point on the Upper VCO DAC.
"ERROR in VCO UPPER SENS: Result out of range"	The calculated result for this test was outside of reasonable limits.
"ERROR in VCO UPPER SENS: Cannot calculate polynomial"	The coefficients for the curve-fitting algorithm could not be calculated. One of the 20 sample points taken along the VCO curve were probably in error.
"ERROR in VCO LOWER SENS: Cannot count phase lock VCO (1)"	The LF VCO could not be counted when the upper VCO DAC was set for a VCO frequency of approximately 13.4 MHz and the lower VCO DAC was at center (2047).
"ERROR in VCO LOWER SENS: Cannot count phase lock VCO (2)"	The LF VCO could not be counted when the upper VCO DAC was set for a VCO frequency of approximately 13.4 MHz and the lower VCO DAC was at its upper limit (4095).
"ERROR in VCO LOWER SENS: Result out of range"	The calculated result for this test was outside of reasonable limits.
"ERROR in VCO SENS @ 13 MHZ: Cannot calculate result"	The LF VCO DAC calculator failed to find a proper VCO sensitivity when given a frequency of 13 MHz. This should never happen if the Upper VCO normalization worked properly.

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Message	Meaning
"ERROR in VCO SENS @ 13 MHZ: Result out of range"	The calculated result for this test was outside of reasonable limits.
"ERROR in MAIN DAC OFFSET: Cannot center start spur"	Beginning at 10 MHz/div span, the start spur was located and centered, then span was reduced. In 1 MHz/div span, the signal could not be centered within 30 horizontal storage bits.
"ERROR in MAIN DAC OFFSET: Cannot count beat frequency (1)"	The beat frequency was connected to the counter, but an attempt at counting was unsuccessful. This attempt occurred when the start spur was within 300 KHz of center screen, producing a beat frequency of around 5 MHz for a new version CFC board, and around 10 MHz for an old version CFC board.
"ERROR in MAIN DAC OFFSET: Cannot set main DAC low enough"	To actually center the start spur, a DAC value < 1 was requested.
"ERROR in MAIN DAC OFFSET: Cannot count beat frequency (2)"	The beat frequency was connected to the counter, but an attempt at counting was unsuccessful. This attempt occurred when the start spur was within 300 KHz of center screen, producing a beat frequency of around 5 MHz for a new version CFC board, and around 10 MHz for an old version CFC board.
"ERROR in MAIN DAC OFFSET: Result out of range"	The calculated result for this test was outside of reasonable limits.
"ERROR in MAIN DAC SENS: Cannot count beat frequency (1)" (Old version of CFC only.)	The beat frequency should have been around 10 MHz, but was not countable. This count was done at 0 MHz CF.
"ERROR in MAIN DAC SENS: Cannot count beat frequency (2)" (Old version of CFC only.)	The beat frequency should have been around 10 MHz, but was not countable. This count was done on the way up from 0 to 1800 MHz.
"ERROR in MAIN DAC SENS: Main DAC overrange" (Old version of CFC only.)	The next 100 MHz step going up to 1800 MHz would have set the main DAC over 4095.
"ERROR in MAIN DAC SENS: Main DAC underrange" (Old version of CFC only.)	The next 100 MHz step going up to 1800 MHz would have set the main DAC under 1.
"ERROR in MAIN DAC SENS: Result out of range" (Old version of CFC only.)	The calculated result for this test was outside of reasonable limits.
"ERROR in MAIN DAC SENS: Cannot count beat frequency (3)" (New version of CFC only.)	The beat frequency should have been around 10 MHz, but was not countable. This count was done at approximately 900 MHz CF.
"ERROR in MAIN DAC SENS: YIG cannot be counted at 0 MHz" (New version of CFC only.)	The 1st LO frequency could not be determined after a series of LF VCO and beat frequency counts. This was tried at approximately 0 MHz (2110 MHz 1st LO frequency).
"ERROR in MAIN DAC SENS: YIG cannot be counted at 80% of CF range" (New version of CFC only.)	The 1st LO frequency could not be determined after a series of LF VCO and beat frequency counts. This was tried at approximately 1440 MHz (3550 MHz 1st LO frequency).

Message	Meaning
"ERROR in MAIN DAC SENS: Result out of range (1)" (New version of CFC only.)	The intermediate result predicted a main DAC value greater than 4095 at 1800 MHz.
"ERROR in MAIN DAC SENS: YIG cannot be counted at 100% of CF range" (New version of CFC only.)	The 1st LO frequency could not be determined after a series of LF VCO and beat frequency counts. This was tried at approximately 1800 MHz (3910 MHz 1st LO frequency).
"ERROR in MAIN DAC SENS: Result out of range (2)" (New version of CFC only.)	The final value calculated is outside reasonable limits.
"ERROR in MAIN DAC SENS: YIG cannot be counted at 50% of CF range" (New version of CFC only.)	The 1st LO frequency could not be determined at 900 MHz CF.
ERROR in FM DAC SENS: Cannot set strobe to required frequency" (New version of CFC only.)	The strobe frequency could not be set to a known frequency.
"ERROR in FM DAC SENS: Cannot count beat frequency (1)"	Failed to count the beat frequency while trying to set the 1st LO to a specific position (5 MHz for the New CFC board, 15 MHz for the old.)
"ERROR in FMDAC SENS: Cannot set beat frequency with main DAC"	5 attempts have failed to set the beat frequency to the proper location.
"ERROR in FM DAC SENS: Cannot count beat frequency (2)"	The beat frequency could not be counted when the FMDAC was set to 1.
"ERROR in FM DAC SENS: Cannot count beat frequency (3)"	The beat frequency could not be counted when the FMDAC was set to 4095.
"ERROR in FM DAC SENS: Result out of range"	The calculated result for this test was outside of reasonable limits.
"ERROR in FREQUENCY DRIFT: Cannot count beat frequency (1)" (Old version of CFC only.)	The beat frequency could not be counted while finding a good starting frequency.
"ERROR in FREQUENCY DRIFT: Cannot find a good starting frequency" (Old version of CFC only.)	5 attempts have failed to set the beat frequency to the proper location.
"ERROR in FREQUENCY DRIFT: Cannot count beat frequency (2)" (Old version of CFC only.)	Could not count beat frequency after letting 1st LO settle.
"ERROR in FREQUENCY DRIFT: Cannot count beat frequency (3)" (Old version of CFC only.)	Could not count beat frequency during actual drift test.
"ERROR in FREQUENCY DRIFT: Result out of range" (Old version of CFC only.)	The calculated result for this test was outside of reasonable limits.
"ERROR in FREQUENCY ACCY: Cannot count YIG (1)" (New version of CFC only.)	The 1st LO frequency could not be determined.
"ERROR in FREQUENCY ACCY: Cannot count beat frequency (1)" (Old version of CFC only.)	The beat frequency could not be counted.
"ERROR in FREQUENCY ACCY: Out of range (1)"	The result was outside of acceptable limits.

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Message	Meaning
"ERROR in FREQUENCY ACCY: Out of range (2)"	The result was outside of acceptable limits.
"SPANS: range X"	This is an indicator to show which span range is being tested. This is not an error message.
"ERROR in SPANS: Cannot count at center screen, DAC low"	For this span range, the effective screen frequency could not be determined when the span DAC was set to 30 and the sweep was parked at center screen.
"ERROR in SPANS: Cannot count at center screen, DAC high"	For this span range, the effective screen frequency could not be determined when the span DAC was set to 4095 and the sweep was parked at center screen.
"ERROR in SPANS: Cannot count at right screen, DAC low"	For this span range, the effective screen frequency could not be determined when the span DAC was set to 30 and the sweep was parked at right screen.
"ERROR in SPANS: Cannot count at right screen, DAC high"	For this span range, the effective screen frequency could not be determined when the span DAC was set to 4095 and the sweep was parked at right screen.
"ERROR in SPANS: Span out of range"	The calculated result for this test was outside of reasonable limits.
"ERROR in GAIN AND ATTEN: Cannot span down on calibrator (1)"	On The first attempt, the calibrator could not be centered sufficiently to go to zero span without losing the signal.
"ERROR in GAIN AND ATTEN: Cannot span down on calibrator (2)"	On The second attempt, the calibrator could not be centered sufficiently to go to zero span without losing the signal.
"ERROR in GAIN AND ATTEN: Cannot calculate lin mode sensitivity"	Lin mode sensitivity figures were outside of reasonable limits.
"ERROR in GAIN AND ATTEN: Attenuation result out of range"	One of the attenuator steps measured outside of reasonable limits.
"ERROR in GAIN AND ATTEN: Gain step result out of range"	One of the gain steps measured outside of reasonable limits.
"ERROR in VR FINE GAIN: Cannot span down on calibrator"	On The second attempt, the calibrator could not be centered sufficiently to go to zero span without losing the signal.
"ERROR in VR FINE GAIN: Cannot calculate lin mode sensitivity"	Lin mode sensitivity figures were outside of reasonable limits.
"ERROR in VR FINE GAIN: Result out of range"	The calculated result for this test was outside of reasonable limits.
"ERROR in VR FILTER AMPLTD: Cannot measure lin mode sensitivity"	Lin mode sensitivity figures were outside of reasonable limits.
"ERROR in VR FILTER AMPLTD: Cannot set filter to full screen"	The RF attenuators could not reduce the signal below full screen.
"ERROR in VR FILTER AMPLTD: Result out of range"	The calculated result for this test was outside of reasonable limits.

Message	Meaning
"ERROR in VR LOG FLTR AMPLTD: Cannot set filter to full screen"	The RF attenuation, VR gain, and VR fine gain together could not set the filter being tested to full screen.
"ERROR in VR LOG FLTR AMPLTD: Result out of range"	The calculated result for this test was outside of reasonable limits.
"ERROR in VERTICAL OFFSET: Cannot span down on calibrator"	Could not keep calibrator signal on screen when spanning down to 1 MHz span, 5 MHz filter.
"ERROR in VERTICAL OFFSET: Cannot set calibrator to full screen, scale X", where X is one of: 1dB/div 5dB/div 10dB/div LIN	The signal could not be set to full screen with the RF attenuators, VR gain steps, and VR fine gain in the specified scale factor.
"ERROR in VERTICAL OFFSET: Out of range, scale X", where X is one of: 1dB/div 5dB/div 10dB/div LIN	The calculated result for this test was outside of reasonable limits.
"ERROR in PREAMP GAIN: Cannot span down on calibrator"	On The second attempt, the calibrator could not be centered sufficiently to go to zero span without losing the signal.
"ERROR in PREAMP GAIN: Cannot calculate lin mode sensitivity"	Lin mode sensitivity figures were outside of reasonable limits.
"ERROR in PREAMP GAIN: Cannot bring signal on screen with attenuators"	Once the preamp was turned on, the signal could not be brought down below full screen with the RF attenuators.
"ERROR in PREAMP GAIN: Result out of range"	The calculated result for this test was outside of reasonable limits.
"ERROR in LOGGING ERROR: Lost signal while spanning down"	On The second attempt, the calibrator could not be centered sufficiently to go to zero span without losing the signal.
"ERROR in LOGGING ERROR: Cannot set signal to full screen (1)"	Initially, the calibrator signal could not be set to full screen with the RF attenuators, VR gain steps, or VR fine gain DAC.
"ERROR in LOGGING ERROR: Cannot set signal to full screen (2)"	The calibrator could not be set to full screen for one of the three log mode scale factors.
"ERROR in LOGGING ERROR: Out of range"	The calculated result for this test was outside of reasonable limits.
"ERROR in SENSITIVITY: Result out of range (1)"	The peak of the unfiltered noise floor minus the peak of the filtered noise floor was outside of reasonable limits.
"ERROR in SENSITIVITY: Result out of range (2)"	The peak sensitivity with preamp on was out of range.
"ERROR in SENSITIVITY: Result out of range (3)"	The peak sensitivity with preamp off was out of range.

CORRECTIVE MAINTENANCE

Corrective maintenance consists of component replacement and instrument repair. Special techniques and procedures that may be required to remove and replace assemblies and/or components in this instrument are described here.

Handling Static Sensitive Components

Most semiconductor types, both separately and in assemblies, are susceptible to damage to static charge, see Table 5-1 for voltage levels. We recommend static sensitive procedures be implemented for all operations involving semiconductor handling.

Obtaining Replacement Parts

All electrical and mechanical parts are available through your local Tektronix Field Office or representative. The Replaceable Parts list section contains information on how to order these replacement parts.

Parts orientation and lead dress should be duplicated because some components are oriented to reduce interaction between circuits or control circuit characteristics.

Where applicable, an improved part will be substituted when a replacement is ordered. If the change is complex, your local Field Office or representative will contact you concerning the change. After repair, the circuits may need recalibration.

Parts Repair and Return Program

Assemblies containing hybrid circuits or substrates in a semi-sealed module, and complex assemblies such as the 1st LO can be returned to Tektronix for repair under the repair and return program.

Tektronix repair centers provide replacement or repair service on major assemblies as well as the unit. Return the instrument or assembly to your local Field Office for this service, or contact your local Field Office for repair and exchange rates.

Selected Components

A few components are selected to meet certain parameters such as temperature compensation, or to center the range of some adjustable component/s. The selected components are identified as selectable on the circuit diagram and in the Replaceable Electrical Parts list. The Replaceable Parts list description for the component gives a nominal value. The

procedure for selection is explained in the adjustment part of recalibration procedure.

Replacing Firmware EPROM Devices

Firmware for the microcomputer is contained in a set of ROMs on the Microprocessor board. Refer to the Replaceable Electrical Parts list for the versions and part numbers. Refer to Replacing Transistor and Integrated Circuit for procedure.

Surface-Mounted Components

Surface-mounted components are used in this instrument. These components are mounted on pads on the circuit board, rather than through holes in the board. (In some rare instances, components may be mounted on pads around through holes.) Lead configurations of these components are shown in Figure 5-3.

The positive end of electrolytic capacitors is identified with a band. Other capacitors and resistors have no visible identification. However, like their axial-leaded counterparts, their values can be measured with a meter.

Surface-mounted semiconductor devices are sensitive to static electricity discharges, and should be treated as outlined in the beginning of this section.

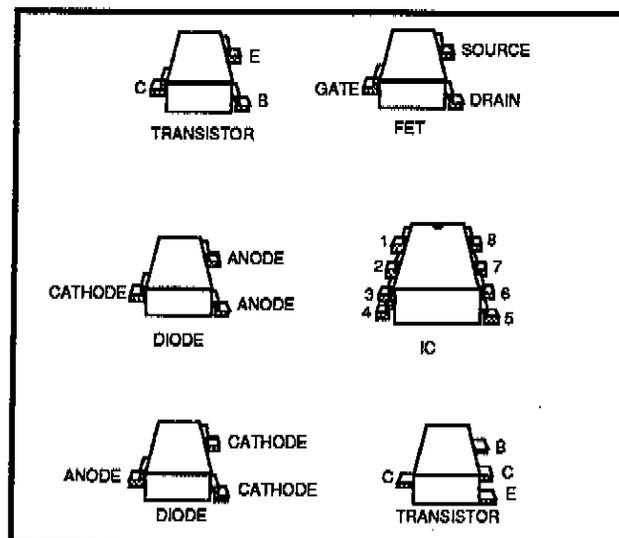


Figure 5-3. Surface-mounted components lead configuration.

Table 5-3
SERVICING TOOLS FOR BOARDS WITH SURFACE MOUNTED COMPONENTS

Description	Model Type	Tektronix Part No.
Hot Air Repair Terminal	Nu-Concepts Systems HART200A	N/A
Tempilaq	Nu-Concepts Systems	N/A
Tempilaq Thinner	Nu-Concepts Systems TLTH	N/A
Flux Dispenser	Nu-Concepts Systems FD2	N/A
Soldering Iron	Hexacon Model SMD10	003-1401-00
Soldering Iron SMD Tips		
Semi-Chisel, 1/16"	Hexacon Model Z780X	003-1402-00
Conical, 1/32"	Hexacon Model Z783X	003-1403-00
Sharp Conical"	Hexacon Model Z784X	003-1404-00
Bevel, 1/32"	Hexacon Model Z786X	003-1405-00
Chisel, 1/16"	Hexacon Model Z787X	003-1406-00
Bevel, 1/16"	Hexacon Model Z788X	003-1407-00
0.062" Slot"	Hexacon Model S303	003-1408-00
0.195" Slot	Hexacon Model S308	003-1409-00
0.195" Slot	Hexacon Model S314	003-1410-00
0.195" Slot	Hexacon Model S316	003-1411-00
0.195" Slot	Hexacon Modified S302	003-1412-00
Stainless Steel, Non-Magnetic Tweezers		
Straight Tip		003-464-00
Curved Tip		003-0465-00
Silver Solder		251-0514-00

Replacing Surface-Mounted Components

A Hot Air Machine, such as Hart Model 200A manufactured by Nu-Concept Systems Incorporated of Colmar, Pennsylvania, is recommended for unsoldering and soldering surface-mounted components.

Table 5-3 lists tools that are suitable for servicing circuit boards with surface-mounted components.

Do not apply too much heat or pull hard on the components, as the pad/s on which the device is soldered may be lifted from the circuit board.

1. Unsolder the component.
2. Clean the board with isopropyl alcohol.
3. Solder in the replacement. Surface-mounted components are pretinned, and therefore require little or no solder.

CAUTION

If you use a soldering iron, use one with a small tip. After applying the solder-paste, touch the corner of the pad with the iron to fasten the component. Avoid touching the component with the hot soldering iron. Thermal shock causes hairline cracks that are not visible to the eye.

Transistor and Integrated Circuit Configurations

Lead identification for transistors and integrated circuits, is readily available from manufacturer's data books. Integrated circuit pin-outs for Vcc and ground are shown with a box on the schematic diagram. Refer to Soldering Technique in Corrective Maintenance part for unsoldering and soldering instructions.

Diode Color Code

The cathode of each glass encased diode is indicated by a stripe, a series of stripes, or a dot. Some diodes have a diode symbol printed on one side. Figure 5-4 illustrates diode types and polarity markings that are used in this instrument.

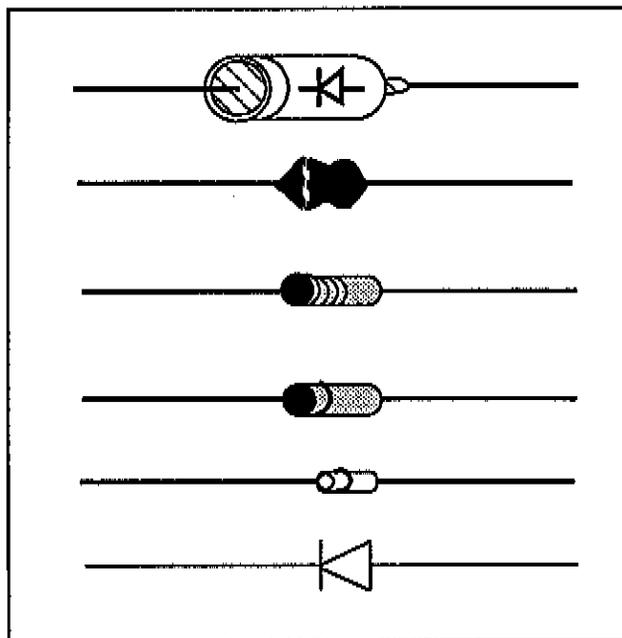


Figure 5-4. Diode polarity markings.

Multiple Terminal (Harmonica) Connectors

Some intercircuit connections are made through square-pin connectors that are mounted in a harmonica type holder. If one of the pins is damaged and must be replaced, all the pins at that location must be replaced as a set. Except for two-pin connectors, the three-pin connector at the back of the Log board, and the 50-pin connector between the Microprocessor, Display Storage, and Digital Options boards, all ribbon-cable connectors are keyed. The key location on the circuit board is identified by a missing pin.

Resistor Values

Surface-mounted resistors have no visible identification. However, their values can be measured with a meter. Other types of resistors (such as composition, metal film, tapped, thick film resistor network package, plate, etc.) are used. The value is either color coded in accordance with the EIA color code, or printed on the body of the component.

Capacitor Marking

Surface-mounted capacitors (chip capacitors) have no visible markings. The capacitance value of electrolytic capacitors is marked in microfarads on the side of the component body. The ceramic tubular capacitors and feed-through capacitors are color coded in picofarads.

Soldering Techniques**CAUTION**

Disconnect the instrument from its power source before replacing or soldering components.

Extreme caution must be used when removing or replacing components because the instrument contains several multi-layer circuit boards. Excess heat from the soldering iron and bent component leads may pull the plating out of the hole.

Most components in this Spectrum Analyzer are surface-mounted devices. A Hot Air Machine, such as Hart Model 200A manufactured by Nu-Concept Systems Incorporated of Colmar, Pennsylvania, is recommended for unsoldering and soldering surface-mounted components. See Table 5-3.

Some circuit boards do contain leaded components. To remove the component leads, use a 15 W (or less) pencil type soldering iron. Straighten the leads on the back side of the board; then when the solder melts, gently pull the soldered lead through the hole. A desoldering tool should be used to remove the old solder. Use a desoldering tool that has a low build-up of static charge, such as Silverstat Soldapullit desoldering tool, when unsoldering integrated circuits or transistors.

REMOVING AND REPLACING ASSEMBLIES AND SUBASSEMBLIES

Most assemblies or sub-assemblies in this instrument are easily removed and replaced. The following describes procedures for replacing those assemblies that require special attention. Top and bottom views are shown in Figures 5-5 and 5-6, respectively. These illustrations show the location and identify most assemblies by name.

The Microprocessor, Display Storage, and Digital Options boards must be placed on an extender to access test points or adjustments. A second extender card is added to the main extender for use with the Center Frequency, Log, and RF Options boards.

Turn the power off before removing an assembly.

Removing the Instrument from Its Cabinet

1. Remove the power cord.
2. Set the instrument on its face with the front cover installed.
3. Remove the rear cover (two T15 Torx® head screws), two (front) top and bottom feet (four T15 screws), three pan-head screws from the bottom rear, and two pan-head screws from the top rear of the instrument.
4. Pull the cover up and off.

Replace the instrument in its cabinet by reversing the removal procedure.

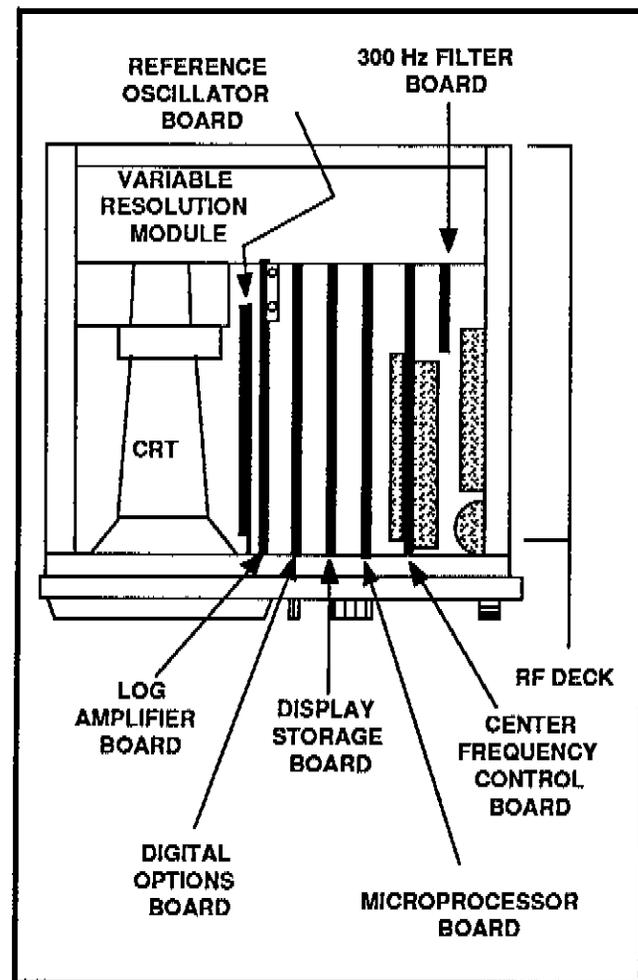


Figure 5-5. Top view of assemblies and RF Deck.

Replacing the Crt

WARNING

Breaking the crt may result in an implosion. Protective clothing and safety glasses should be worn. Avoid hitting the crt against any object which may cause it to crack. Place the crt in a protective carton or place it face-down on a smooth surface in a protected location with a soft mat under the face plate.

1. Remove the instrument from its cabinet.

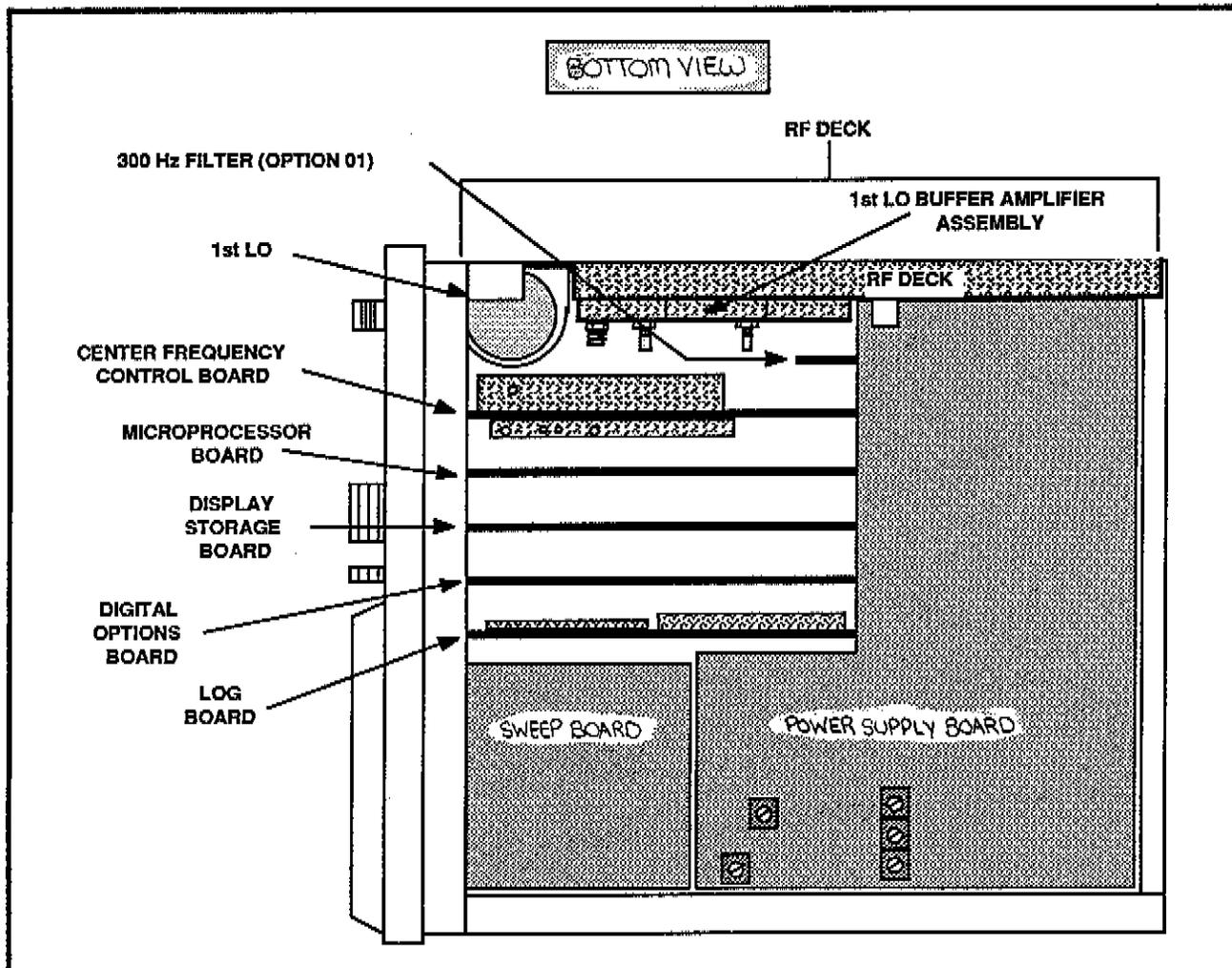


Figure 5-6. Assemblies seen from the bottom of the Spectrum Analyzer.

2. Remove the circuit board retainer.
3. Disconnect the crt anode lead and discharge it to the main chassis.

WARNING

The crt anode lead retains a high voltage charge after the instrument is turned off. To avoid electrical shock, ground the anode lead to the main chassis immediately after disconnecting.

4. Disconnect P0 (Trace Rotation) from the Power Supply board.
5. Use a T15 Torx head driver to remove the two crt bezel screws, and remove the bezel.

6. Remove the crt rear cover and plastic shield.
7. Disconnect the crt socket.
8. Slide the crt out through the front panel.

Replace the crt by reversing the removal procedure.

Repairing the Crt Trace Rotation Coil

The trace rotation coil is part of the crt assembly. If the coil is damaged beyond repair, the crt with the damaged coil must be replaced.

If the "finish" (red) lead is broken, remove the tape and unwind one or two turns so it can be respliced and soldered to the lead wire. Rewind and retape.

If the "start" (black) lead is broken and the lead is too short to re-splice, attempt to fish out the broken end so one or two

turns can be unwound, re-splice and solder to the lead; then rewind and retape.

In all three instances, the crt must be removed from the instrument.

Removing or Replacing Semi-rigid Coaxial Cables

Performance of the instrument is easily degraded if these connectors are loose, dirty, or damaged. The following procedure will help ensure that the connection is good enough to maintain proper performance.

1. Use a 5/16 inch open-end wrench to loosen or tighten the connectors. It is good practice to use a second wrench to hold the rigid (receptacle) portion of the connector to prevent bending or twisting the cable.
2. Ensure that the plug and receptacle are clean and free of any foreign matter.
3. Insert the plug connector fully into the receptacle before screwing the nut on. Tighten the connection to 8 in-lb to ensure that the connection is tight. Do not overtighten (15 to 20 in-lb) because this can damage the connector.

Removing the RF Deck

1. Remove the instrument from its cabinet.
2. Remove the circuit board retainer.
3. Remove the Variable Resolution module.
4. Disconnect P710 and P760 from the Center Frequency Control board.
5. Disconnect P410, P400, P100, P200, P430, and P460 from the RF Deck.
6. Remove the seven screws and two nuts shown in Figure 5-7.
7. Loosen the two nuts shown in Figure 5-7.
8. With the instrument facing you, carefully raise the rear part of the deck and swing it to the left while pulling it backwards.

Replace the RF deck by reversing the removal procedure.

Replacing the 1st Converter Mixer Diodes

1. Disconnect the semi-rigid cables from the RF Input, LO Input, and IF Input connectors on the 1st Converter.
2. Remove nuts and washers from the RF Input, LO Input, and IF Output connectors on the 1st Converter.
3. Unsolder the power supply lines at the feed-through capacitors in the side of the 1st converter assembly.
4. Remove the four flat head screws at the corners of the assembly.
5. Remove the 1st Converter assembly from the RF deck.
6. Remove the cover from the assembly.
7. Unsolder all connections at the external power-supply-coupling capacitors (Figure 5-8), and remove the coupling capacitors from the assembly. Be sure to make a note of which wire goes where.
8. Unsolder the strap from the upper board (RF Input board) to the mixer diode junction.
9. Remove 19 Allen-head screws (5/64") holding the two boards and an extrusion.
10. Remove the RF Input board and the small extrusion, then remove the lower board (1st Converter Mother board).
11. Replace the mixer diodes.

CAUTION

After soldering the diodes in the 1st Converter Mother board, clip off excess leads protruding out the bottom of the circuit board to avoid shorts.

When bending the diode leads, be sure to grasp the diode lead with needle nose pliers between the diode body and the bend point to minimize mechanical stress on the diode inside the case.

Re-install the 1st Converter in the Spectrum Analyzer by reversing the removal procedure.

The Spectrum Analyzer may not meet the start spur specification after the mixer diodes are replaced. Check that the start spur (0 Hz) amplitude is within limits by doing performance check step 15 in Section 3. Also check for spurs by doing performance check step B in Section 4.

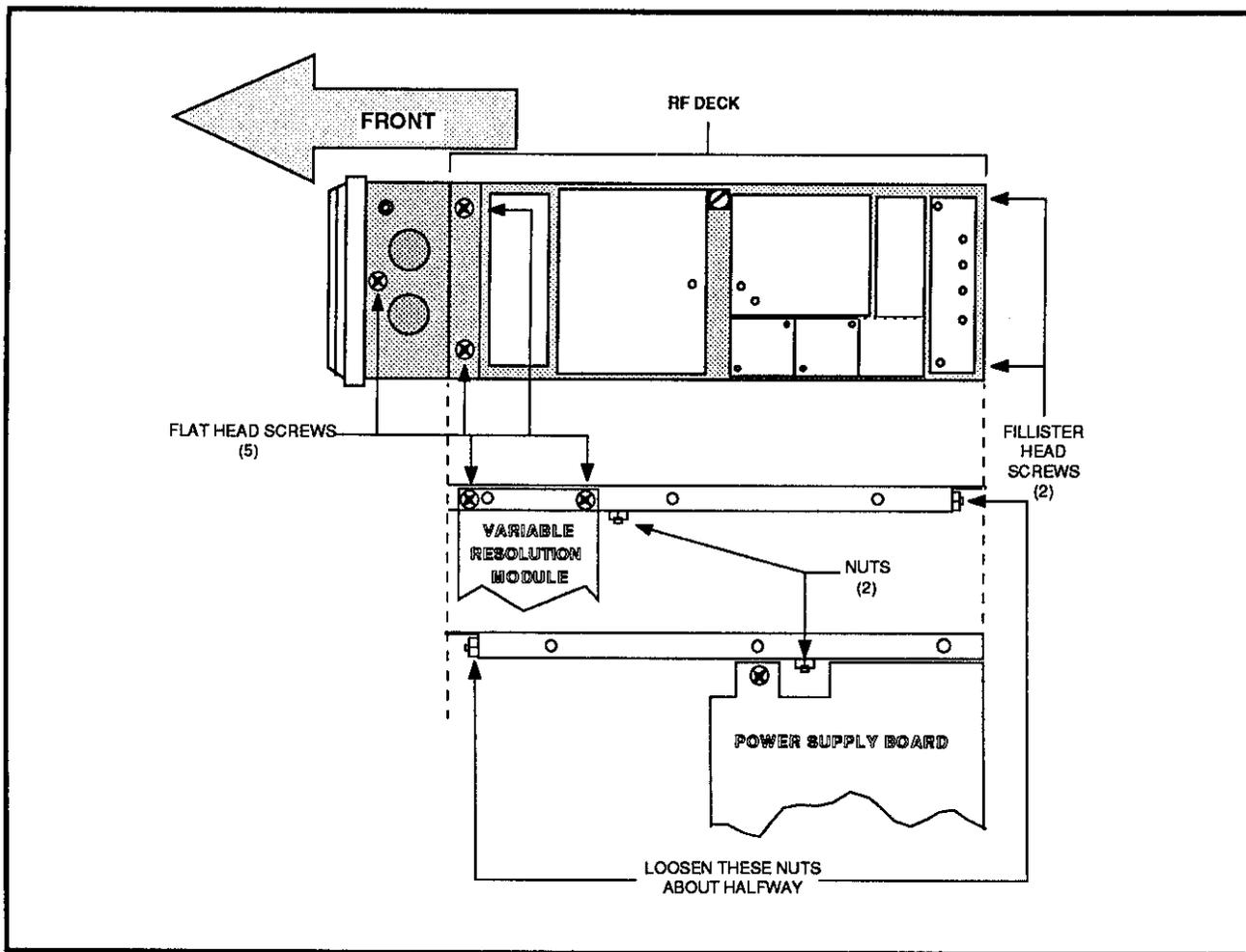


Figure 5-7. RF Deck screws and nuts.

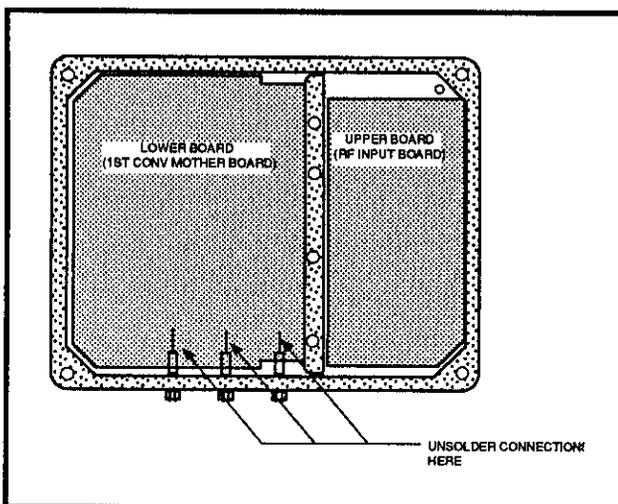


Figure 5-8. 1st Converter with the cover removed.

Replacing the 1st LO Assembly

1. Remove the RF Deck from the Spectrum Analyzer. See Figure 5-6 and Figure 5-7.
2. Disconnect P100 from the 1st LO Buffer Amplifier (semi-rigid cable from the 1st LO assembly to the 1st LO Buffer Amplifier).
3. Remove the 1st LO assembly from the RF deck.

Replace the 1st LO assembly by reversing the removal procedure.

Replacing the Step Attenuator

1. Disconnect P150 from the Step Attenuator.
2. Remove the nuts and washers from J100, J150, J200, and J250 on the Step Attenuator.

3. Remove the Step Attenuator.

Replace the Step Attenuator by reversing the removal procedure.

Replacing the 1st LO Buffer Amplifier

1. Remove the RF Deck from the Spectrum Analyzer. See Figure 5-6 and Figure 5-7.
2. Disconnect P100 and P380 from the 1st LO Buffer Amplifier, and disconnect P100 from the 2nd Converter.
3. Remove the Step Attenuator.
4. Remove two 1/4" nuts and a screw holding the 1st LO buffer Amplifier in place. The screw is located at one corner of the 1st Converter assembly.
5. Remove the 1st LO Buffer Amplifier assembly from the RF deck.

Replace the assembly by reversing the removal procedure.

Replacing the Front Panel Board

1. Remove the instrument from its cabinet.
2. Remove the plug-in circuit board retainer.
3. Remove all the plug-in circuit boards.
4. Remove the nut and washer on the RF INPUT connector.
5. Remove the front, plug-in circuit board guide plate by removing four screws, two at the top and two at the bottom. See Figure 5-9.
6. Disconnect P6 from the Front Panel board.
7. Remove the small cover on the front panel by removing a screw and washer behind the front panel (Figure 5-9).

NOTE

If Option 04 is installed, the small cover and screw in Figure 5-9 are replaced by an output connector. In that case, remove the nut and washer on that connector.

8. Remove the four 5/16th inch nuts behind the front panel, near the corners of the front panel.

Replace the Front Panel by reversing the removal procedure.

Replacing the Fan Assembly

The fan comes as an assembly consisting of the fan, fan control unit, and connecting wires (two).

1. Remove the instrument from its cabinet.
2. Remove the Variable Resolution module.
3. Remove the crt rear cover.
4. Disconnect the crt socket.
5. Remove four (4) screws from the four corners of the rear chassis. Swing the rear chassis away from the Power Supply.
6. Unsolder the red and blue fan wires from the Power Supply board.
7. Remove two screws at opposite ends of the fan and two screws at opposite ends of the fan control unit.
8. Remove the fan.

Re-install the fan by reversing the removal procedure.

Replacing the RF Mother Board

1. Remove the instrument from its cabinet.
2. Disconnect P100, P410, and P670 from the RF Mother board.
3. Remove the nuts and washers from P100, P410, and P670 on the RF Mother board.
4. Remove four screws from the four corners of the RF Mother board.
5. Remove the RF Mother board assembly.

Replace the assembly by reversing the removal procedure.

Replacing the Power Supply Board

1. Remove the instrument from its cabinet.
2. Remove the plug-in circuit board retainer.

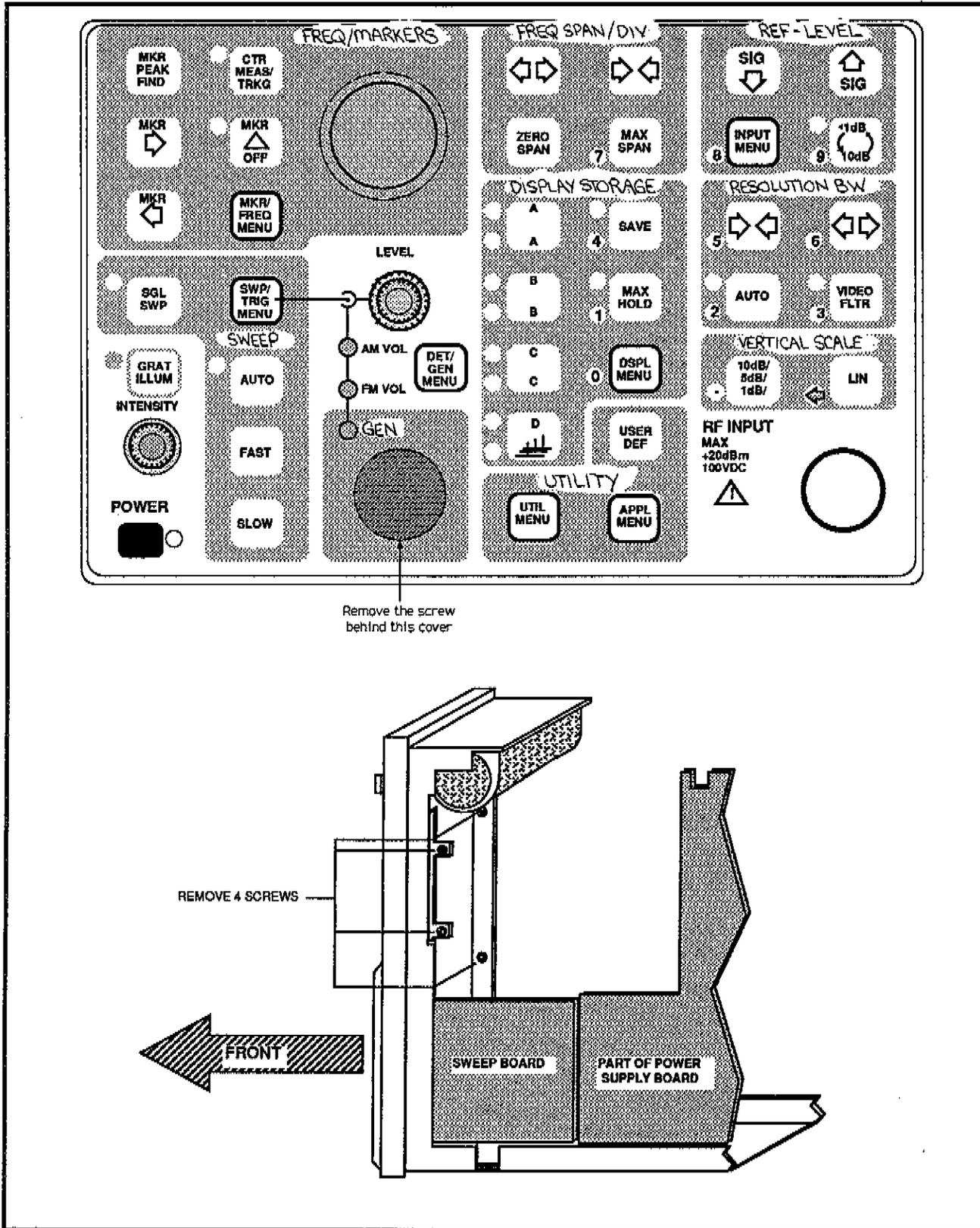


Figure 5-9. Removing the Front Panel.

3. Remove all the plug-in circuit boards.
4. Remove the Variable Resolution module.
5. Disconnect P0, P3, and P6 from the Power Supply board.
6. Disconnect P480 from the Sweep board (P5 etched on some early boards).
7. Disconnect the crt anode lead and ground it to the chassis.
8. Remove two screws that hold the heat sink for Q15 to the chassis.
9. Remove the rear crt cover and disconnect the crt socket.
10. Remove four screws at the corners of the rear sub-panel.
11. Remove five screws as shown in Figure 5-10).
12. Remove the Power Supply board together with the rear sub-panel as an assembly.

Replace the Power Supply board by reversing the removal procedure.

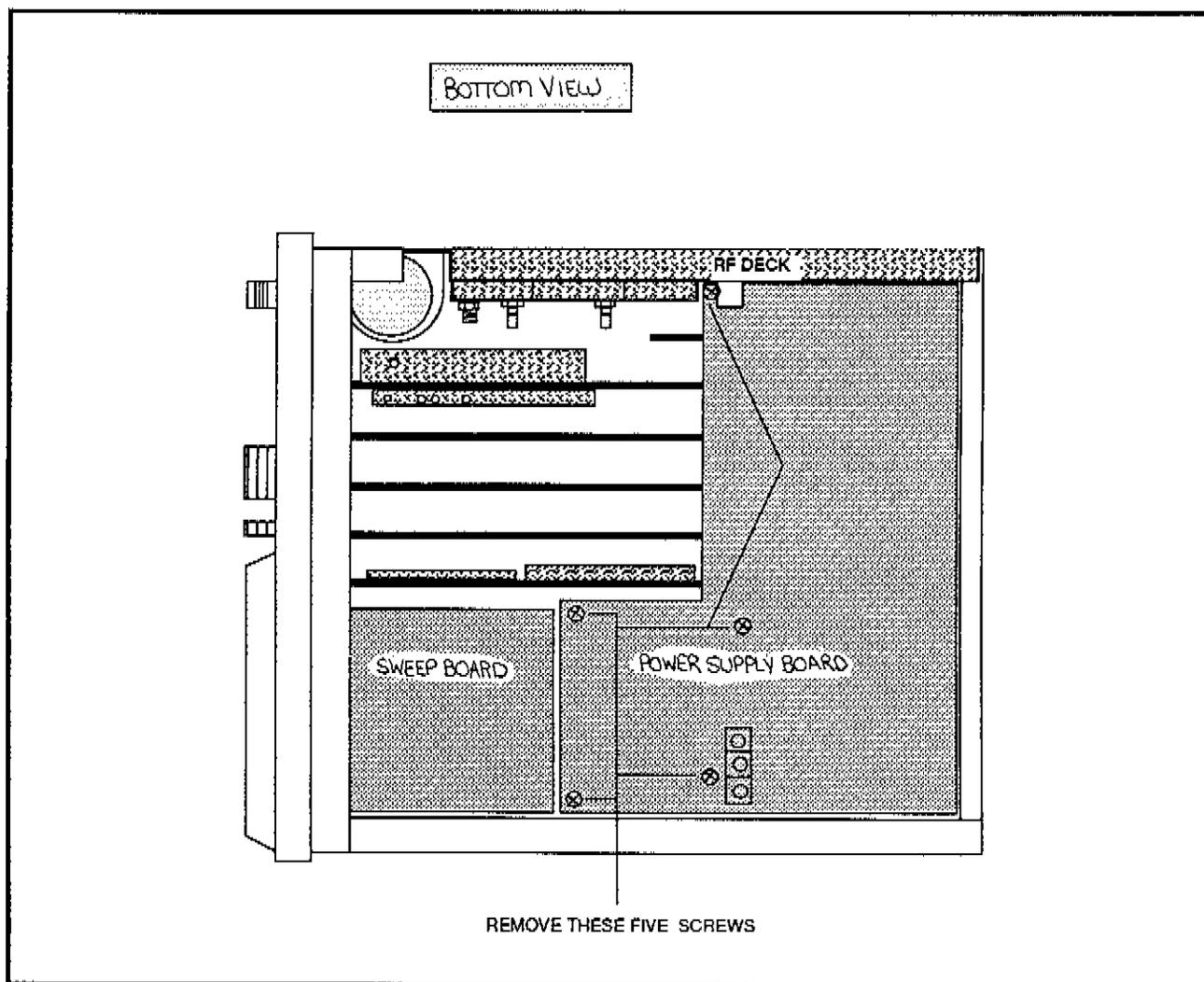


Figure 5-10. Power Supply board removal.

MAINTENANCE ADJUSTMENTS

Adjusting Start Spur Amplitude

a. Set the following instrument parameters either manually or via UTIL MENU/#2 (KEYBOARD ENTERED SETTINGS):

FREQUENCY	0 Hz
REFERENCE LEVEL	-30 dBm
SPAN/DIV	5 MHz
RESOLUTION BW	500 kHz
VIDEO FILTER	ON
VERTICAL SCALE	10dB/Div

b. Adjust R341 (Figure 5-11) on the 1st Converter for minimum phase noise (Figure 5-12) to the right of the start spur.

c. Adjust tuning tabs (Figure 5-11), if necessary, for a start spur amplitude ≤ -10 dBm. Phase noise must be low enough to meet sensitivity 10 KHz from 0 Hz.

Adjusting the Four Cavity Filter

The characteristics of the filter are checked with a network analyzer. Frequency of the filter is 2110 MHz, bandpass is approximately 20 MHz, 6 dB down, and insertion loss is approximately 1.5 dB.

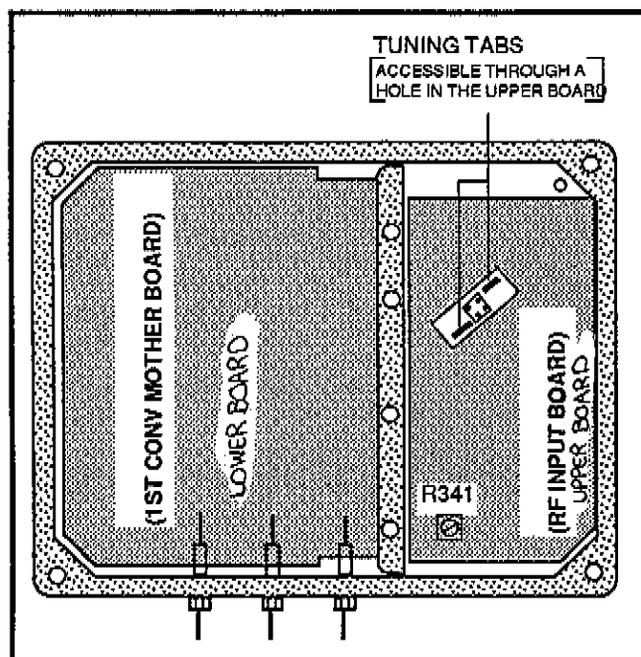


Figure 5-11. 1st Converter adjustment locations.

Adjusting the 2nd Converter

The 2nd Converter assembly is precalibrated prior to installation, and must be calibrated in the instrument it is to be used with. The following procedure describes adjustments that can be made.

To gain access to the adjustments, remove the two aluminum shields over C205 and C208.

Enable the calibrator signal, and tune a marker to center screen. Adjust C205 and C208 (see Figure 5-13) for maximum signal amplitude and minimum 20 MHz spur and other spurs.

Check for spurs by doing performance check step 12 in Section 3. If the spurious response check fails, readjust C205 and C208, and touch up the second 400 MHz Filter by adjusting the capacitors shown in Figure 5-13.

Adjusting RF Mother Board Amplitudes

a. Select UTIL MENU/#0 (INITIALIZE INSTR SETTINGS), enable the calibrator signal by pressing INPUT MENU/#9 [CAL SIG @ 100MHZ -30DBM (ON)], and set the following instrument parameters either manually or via UTIL MENU/#2 (KEY PAD ENTERED SETTINGS):

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
SPAN/DIV	1 MHz
RESOLUTION BW	5 MHz

b. Adjust PRE BPF capacitors for maximum signal amplitude. See Figure 5-13 for the location of adjustments.

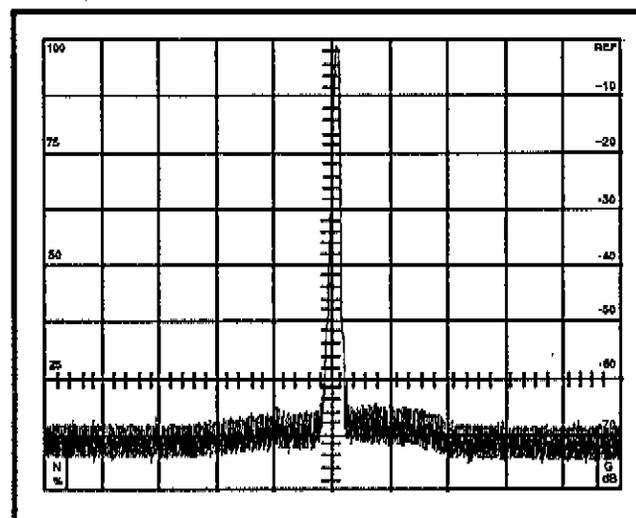


Figure 5-12. Typical start spur amplitude and phase noise.

- c. Adjust POST BPF capacitors for maximum signal amplitude.
- d. Adjust C205 and C208 on the 2nd Converter for maximum signal amplitude.

NOTE

If the instrument exhibits spurs, make these adjustments while observing the 2 GHz signal coming out of the 2110 MHz input to the 2nd Converter and a spur 18 MHz below the 2 GHz signal.

Adjusting the 1st LO Buffer Amplifier

Equipment Required

Power Meter	50 mV to 5 V
Test Oscilloscope	
Open-end Wrench, 5/16-in	
Allen Wrench, 5/64-in	
Phillips No. 1 Screwdriver	175-9254-00
50 Ω Coaxial Cable (Sealelectro Female to BNC Female)	012-0649-00
50 Ω Coaxial Cable with SMA connectors	015-1018-00
BNC Female to SMA Male Adapter	103-0029-00
BNC Male to Male Adapter	103-0029-00

- a. Remove the RF Deck from the Spectrum Analyzer.
- b. Remove the 1st LO Buffer Amplifier assembly from the RF Deck.
- c. Remove the cover from the 1st LO Buffer Amplifier assembly (22, 5/64" Allen-head screws).
- d. Remove the 1st LO assembly from the RF Deck.

- e. Reconnect the 1st LO output cable and the Strobe Output cable (from the Center Frequency Control assembly) to J100 and J460 respectively on the 1st LO Buffer Amplifier assembly. See Figure 5-14.

- f. Turn the 1st LO assembly Buffer and 1st LO over, and reconnect the power cables.

- g. Apply power to the instrument, and monitor J380 on the 1st LO Buffer Amplifier assembly with a power meter.

- h. Press the SWP/TRIG MENU button on the front panel, and select MANUAL SCAN (#7).

- i. Turn the Digital Storage off, and set the dot to the far left side of the screen using the manual scan control.

- j. Slowly move the dot to the far right side of the screen while noting the level on the test power meter. Note the lowest power meter reading, and set the dot at the position that yielded that reading.

- k. Adjust R288 on the 1st LO Buffer Amplifier board for a power meter reading of +11.5 dBm.

- l. Monitor J430 on the 1st LO Buffer Amplifier assembly with a test oscilloscope through a 600 Ω terminator.

- m. Adjust R438 on the 1st LO Buffer Amplifier board for 0 V dc at J430.

Beat Note Level Adjustment

(Select R602 on the Phase Lock - CFC board)

- a. Remove the small shield over part of the Phase Lock - CFC board.

- b. Disable frequency corrections by pressing UTIL MENU/#4 (SYSTEM CONFIGURATION)/#4 [FREQUENCY CORRECTIONS (OFF)]. Enable continuous strobos by pressing UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#1 (EXTENDED DIAGNOSTICS)/#6 (CF BOARD TEST)/#6 [CONTINUOUS STROBES (ON)].

- c. Monitor J240 on the LFVCO (phaselock module) with the test oscilloscope. Set the test oscilloscope deflection factor at 1 V/div and sweep rate at 20 μs/div.

- d. Set the FREQ SPAN/DIV at 200 kHz. There should be a square wave present. Tune the FREQ/MARKERS control to get the lowest frequency possible. Reset the test oscilloscope time/div as needed.

- e. Measure the beat note amplitude on the bottom of R602 on the Phase Lock - CFC board.

Maintenance - 2710 Service

NOTE

If the beat note frequency is above 50 kHz it will not be visible.

f. If the amplitude is greater than 60 mV pick a lower value for R602. If the amplitude is lower than 40 mV, pick a higher value. See Figure 5-15 for the location of R602. The following formula helps in picking a resistor value:

$$R602 = 5620 \frac{60\text{mV}}{V_{pp}} \Omega$$

g. Replace the shield on the Phase Lock - CFC board.

h. Enable frequency normalizations pressing UTIL MENU/# 3 (NORMALIZATIONS)#1 (FREQUENCY ONLY).

i. After frequency normalizations are complete, set the FREQUENCY to 100 MHz and enable the calibrator signal (INPUT MENU/#9). There should be a 100 MHz signal at center screen.

Phase Lock Offset Adjustment

(Select R709 on the Phase Lock - CFC board)

a. Remove the small shield over part of the Phase Lock - CFC board.

b. Disable frequency corrections by pressing UTIL MENU/#4 (SYSTEM CONFIGURATION)#4 [FREQUENCY CORRECTIONS (OFF)]. Enable continuous strobes by pressing UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)#1 (EXTENDED DIAGNOSTICS)#6 (CF BOARD TEST)#6 [CONTINUOUS STROBES (ON)].

c. Press MAX SPAN.

d. Monitor the bottom of R602 on the Phase Lock - CFC board with a voltmeter capable of reading unit milli-volts.

e. Watch the voltmeter closely for approximately 45 seconds, and make a note of the highest and lowest reading.

f. Check that the point halfway between the values noted in part e lies within -1.3V and +1.0 V. That is, the expression:

$$-1.3 \text{ V} < \left[a - \frac{a-b}{2} \right] < +1.0 \text{ V} \text{ is satisfied.}$$

Where a is the highest reading and b is the lowest reading

If the average value falls outside the range, R709 must be replaced with a new value. Use the graph of Figure 5-15A to find the new value. Find the nearest standard value resistor and check that it falls between the darker curves. If it falls outside the darker curves, it will be necessary to use a series or parallel combination of standard resistors to obtain the right value.

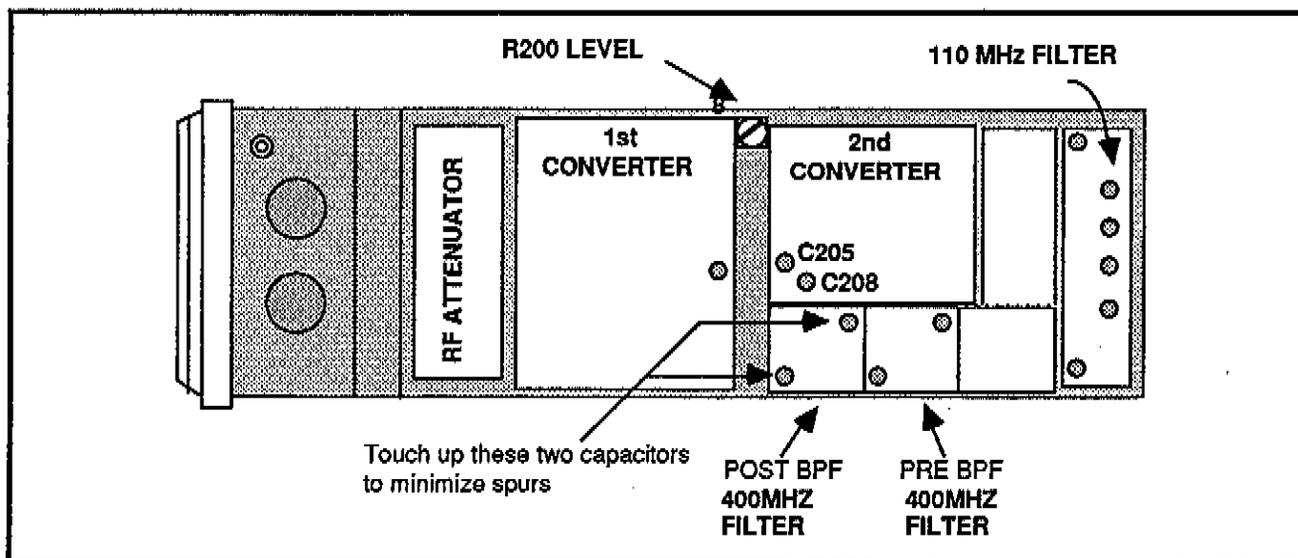


Figure 5-13. RF Mother board and 2nd Converter adjustment locations.

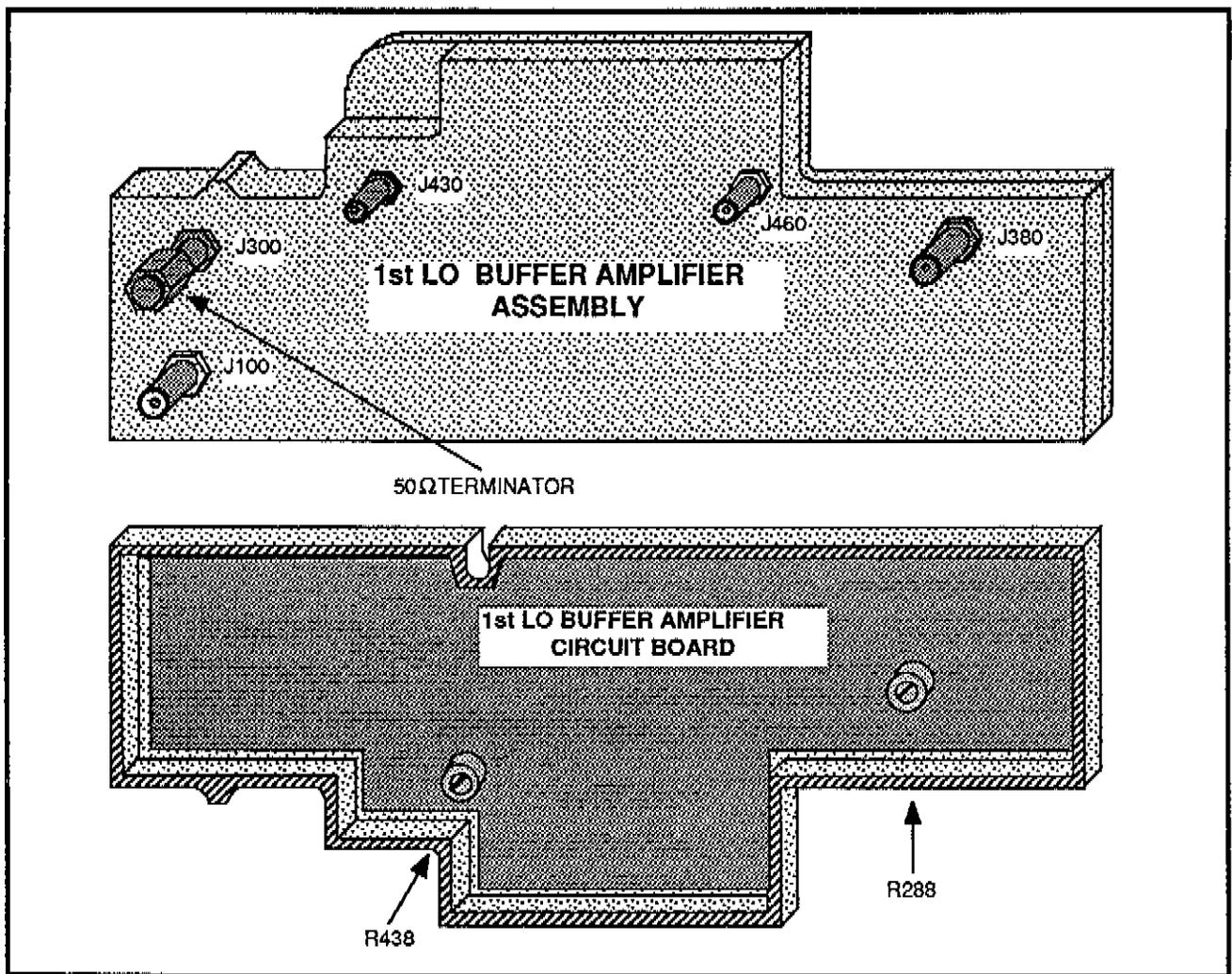


Figure 5-14. RF connectors and adjustments in the 1st LO Buffer Amplifier assembly.

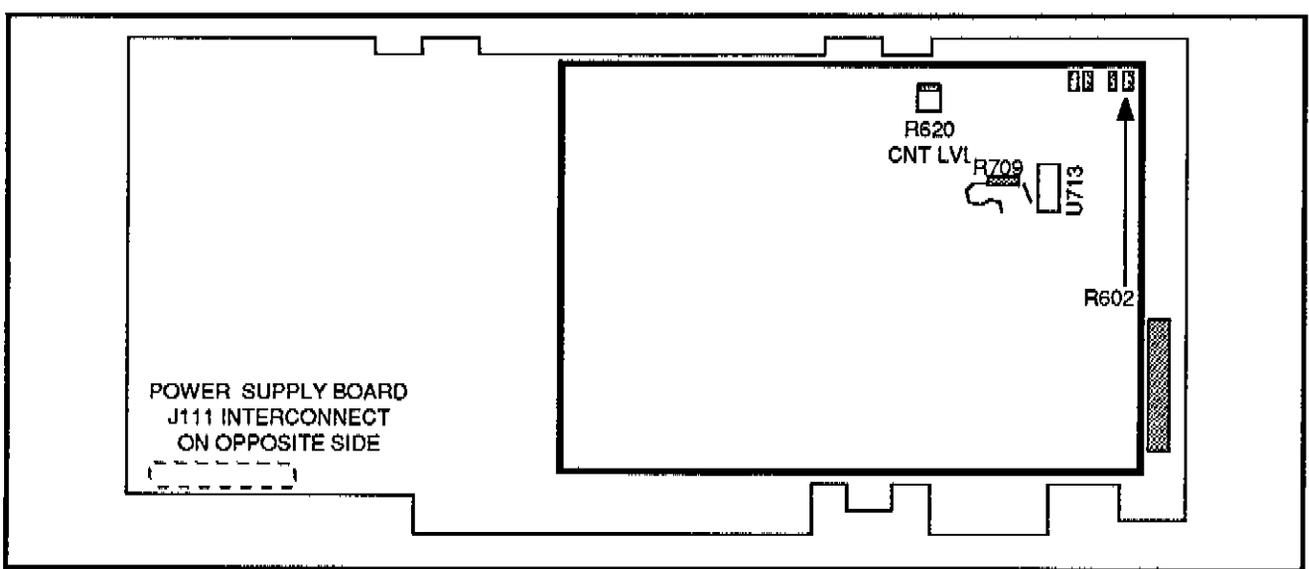


Figure 5-15. Location of R602 on the Phase Lock - CFC board.

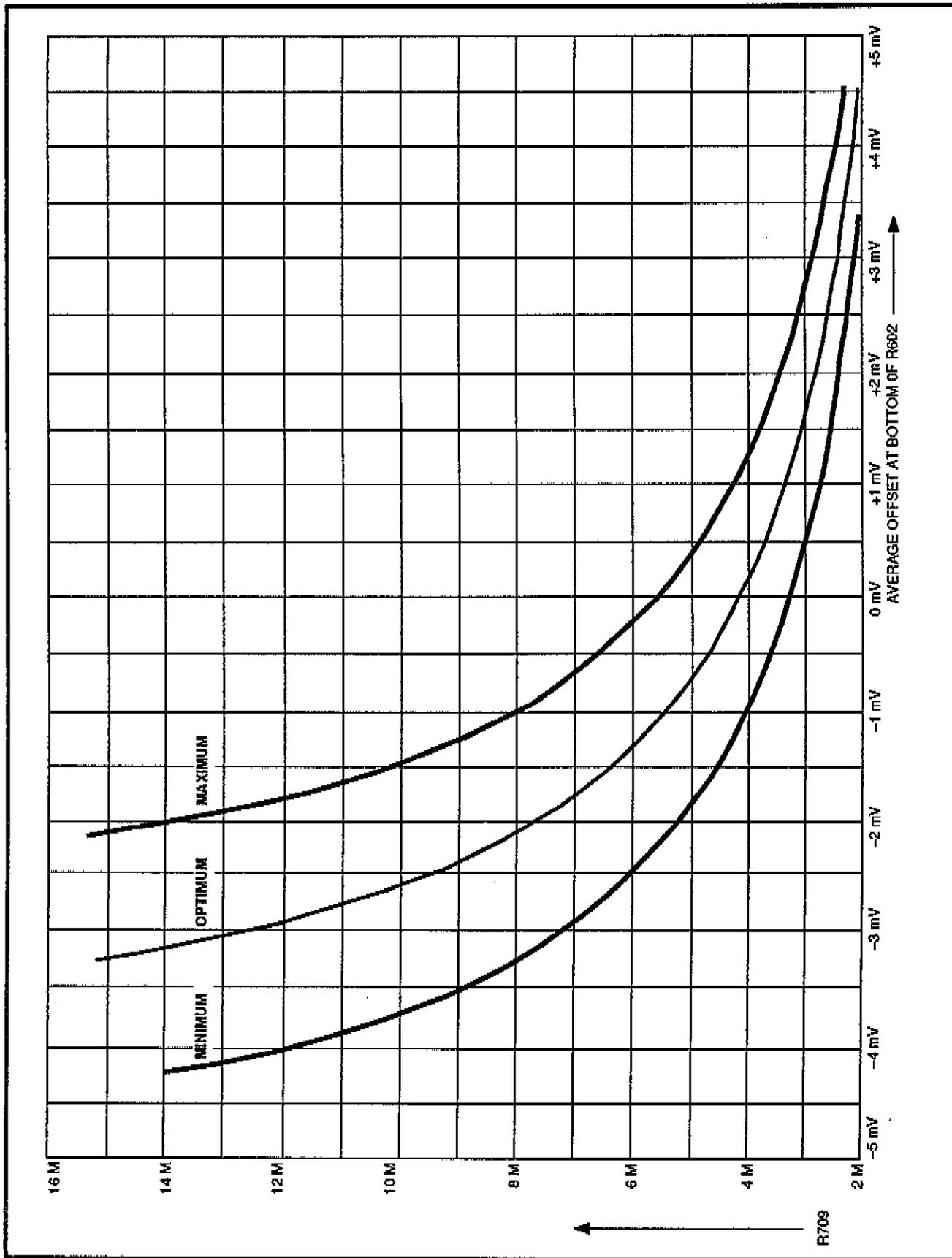


Figure 5-15A. Curves for selecting R709.

MENU OPERATION

INTRODUCTION

There are seven menus of selections that are used to invoke most of the setups, operational modes, and applications. See Figure 5-16 and Figure 5-17.

MENU DISPLAY

A menu of selections may be displayed by pressing its front panel pushbutton. MENU pushbuttons are outlined in black and are the on/off switch for their respective menu.

KEYPAD and ALPHA CHARACTERS

When a menu is displayed, the front-panel keypad numbers 0 through 9, a decimal point, a back-space arrow, and alpha characters A, B, C, and D are lighted by green LED's. The numbers are used to invoke a selection or set values. The alpha characters are used as terminators. Appropriate directions for their use appear as prompts on the display. The back-space arrow may be used to "undo" an entry or selection.

MENU SELECTIONS

To choose a selection within a displayed menu, press the corresponding keypad number. Notice that in some menus, certain keypad numbers are not used for selections, e.g. the INPUT MENU does not have selections #7 and #8.

INVOKING A SELECTION

When the corresponding keypad number for a selection is pressed:

- Some selections invoke the choice and return the instrument to the spectral display.
- Some selections replace the displayed main-menu with a sub-menu that expands the field of choices (see Figure 5-18).
- Other selections change or add a prompt to the current display (see Figure 5-19). A prompt may provide directions for entry of a quantitative value with units, or it may be instructions for returning to a prior menu or to the spectral display.

MENU PATH

In this manual, a Menu Path is an abbreviated set of instructions for invoking the setup or operational choices within a menu or sub-menu.

This is an example of a menu path where a main menu selection invokes a sub-menu of operational choices.

<i>main menu</i>	<i>selection</i>	<i>action</i>
V	V	V
UTIL MENU/	#3-NORMALIZATION/	choose one
<i>choices in sub-menu</i>		
V		
#0 - ALL PARAMETERS		
#1 - FREQUENCY ONLY		
#2 - AMPLITUDE ONLY		

To follow this menu path:

- Press the front panel UTIL MENU.
- The "/" indicates "next step".
- Press keypad #3 to choose NORMALIZATION.
- The UTILITY MENU display is replaced by a sub-menu of operational selections.
- The "next step" or action, is to choose one of the three entries using the keypad.

DISPLAY RESPONSE

There are six possible display responses for the menu selections. A key to these display responses is provided as follows:

- ^D = Exit to the Spectral Display.
- ^M = Exit to the prior (higher) menu.
- S = Stay in the current menu, returning to initial state.
- vM = Move to a Sub Menu.
- R = Perform a routine, then return to initial state of current menu.

<p>INPUT MENU (page 5-30)</p> <ul style="list-style-type: none"> 0 REF LEVEL ENTRY 1 PREAMP 2 50 OHM DBM/75 OHM DBMV 3 REF LEVEL UNIT <ul style="list-style-type: none"> 0 DBM 1 DBMV 2 DBV 3 DBUV 4 DBUW 5 DBUV/M 4 1ST MIXER INPUT LVL 5 RF ATTENUATION 6 EXTERNAL ATTEN/AMPL <ul style="list-style-type: none"> 0 ON/OFF 1 ATTEN/AMPL ENTRY 9 CAL SIG @ 100MHZ -30DBM 	<p>SWP/TRIG MENU (page 5-34)</p> <p>Trigger Menu</p> <ul style="list-style-type: none"> 0 FREE RUN 1 INTERNAL 2 EXTERNAL 3 LINE 4 TV LINE 5 TV FIELD <p>Sweep Menu</p> <ul style="list-style-type: none"> 6 SWEEP RATE 7 MANUAL SCAN 8 BROADCAST (AM) VIDEO 9 SETUP TABLE <p>Monitor</p> <ul style="list-style-type: none"> 0 VIDEO DETECT MODE 1 SYNC POLARITY 2 VIDEO POLARITY <p>Horizontal Line Triggering</p> <ul style="list-style-type: none"> 3 CONTINUOUS 4 KNOB SELECTABLE 5 KEYPAD ENTERED LINE 6 KEYPAD ENTRY
<p>MKR/FREQ MENU (page 5-32)</p> <ul style="list-style-type: none"> 0 FREQUENCY ENTRY 1 SPAN/DIV ENTRY 2 KNOB FUNCTION 3 NEXT HIGHER AMPTD PEAK 4 NEXT LOWER AMPTD PEAK 5 TRANSPOSE MARKERS 6 MARKER START/STOP 7 FREQUENCY START/STOP <ul style="list-style-type: none"> 0 FREQ START ENTRY 1 FREQ STOP ENTRY 2 RETURN TO DISPLAY 8 TUNING INCREMENT 9 SETUP TABLE <ul style="list-style-type: none"> 0 CENTER/START FREQ 1 THRESHOLD 2 COUNTER RESOLUTION <ul style="list-style-type: none"> 0 COUNTER OFF WHEN TRKG (1HZ) 1 1 HZ 2 1 KHZ 3 PROGRMD TUNING INC <ul style="list-style-type: none"> 0 CENTER FREQ 1 MARKER FREQ 2 KEYPAD ENTRD INC 3 KEYPAD ENTRY 4 RETURN TO AUTO 4 TABULAR TUNING INC <ul style="list-style-type: none"> 0 *TV VHF UHF 1 CATV STANDARD 2 CATV HRC 3 CATV IRC 	<p>DSPL MENU (page 5-36)</p> <ul style="list-style-type: none"> 1 ENSEMBLE AVERAGING (page 5-38) <ul style="list-style-type: none"> 1 INITIATE AVERAGING 2 TERMINATE AVERAGING 3 MAX 4 MEAN 5 MIN 6 MAX/MIN 7 NUMBER OF AVERAGES 8 SAVE RESULTS IN DISPLAY 2 B,C MINUS A 3 B,C MINUS A OFFSET TO 4 ACQUISITION MODE 5 TITLE MODE (page 5-40) 6 READOUT 7 DISPLAY SOURCE (page 5-36) <ul style="list-style-type: none"> 1 AM DETECTOR 2 FM DETECTOR 3 EXTERNAL INPUT 8 DISPLAY LINE 9 MIN HOLD IN WFM C
<p>DET/GEN MENU (page 5-44)</p> <ul style="list-style-type: none"> 0 OFF 1 AM DETECTOR 2 FM DETECTOR 3 AM & FM DETECTOR 	<p>APPL MENU (page 5-42)</p> <ul style="list-style-type: none"> 0 BANDWIDTH MODE 1 CARRIER TO NOISE 2 NOISE NORM'D 9 SETUP TABLE <ul style="list-style-type: none"> 0 DB DOWN FOR BW MODE 1 NORM BW FOR C/N 2 NOISE NORM'D BW

Figure 5-16. Menu selections.

UTIL MENU (page 5-46)	UTIL MENU (Continued)
<ul style="list-style-type: none"> 0 INITIALIZE INSTR SETTINGS 1 STORED SETTINGS <ul style="list-style-type: none"> 0 LAST POWER-DOWN 1 FACTORY DEFAULT POWER-UP 2 USER DEFINED POWER-UP 3-9 USER DEFINED SETTINGS 2 KEYPAD ENTERED SETTINGS <ul style="list-style-type: none"> 0 FREQUENCY <ul style="list-style-type: none"> 1 REFERENCE LEVEL 2 SPAN/DIV 3 RF ATTENUATION 4 RESOLUTION BW <ul style="list-style-type: none"> 0 AUTO <ul style="list-style-type: none"> 1 FIXED 5 VIDEO FILTER <ul style="list-style-type: none"> 0 AUTO <ul style="list-style-type: none"> 1 FIXED 6 VERTICAL SCALE <ul style="list-style-type: none"> 0 LOG 1 DB/DIV 1 LOG 5 DB/DIV 2 LOG 10 DB/DIV 3 LINEAR 7 SWEEP RATE 3 NORMALIZATIONS <ul style="list-style-type: none"> 0 ALL PARAMETERS <ul style="list-style-type: none"> 1 FREQUENCY ONLY 2 AMPLITUDE ONLY 4 SYSTEM CONFIGURATION <ul style="list-style-type: none"> 0 COMMUNICATION PORT CONFIG 1 SCREEN PLOT CONFIG 2 AUDIO ALERT LEVEL 3 REAL-TIME CLOCK 4 FREQUENCY CORRECTIONS 5 PHASE LOCK 9 INSTALLED OPTIONS DISPLAY includes firmware version 5 INSTR DIAGNOSTICS/ADJUSTMENTS <ul style="list-style-type: none"> 0 DIAGNOSTICS <ul style="list-style-type: none"> 1 EXTENDED DIAGNOSTICS <ul style="list-style-type: none"> 0 NVM CHECKSUM TEST 1 DISPLAY STORAGE DATA ACCUMULATION 2 AUDIO BEEP 3 INSTRUMENT CONFIGURE 4 FREQUENCY COUNTER TESTS 5 FRONT PANEL KEYS TEST 6 CFC BOARD TEST MENU 7 TTY PORT OUTPUT TEST 8 TTY PORT INPUT TEST 	<ul style="list-style-type: none"> 5 INSTR DIAGNOSTICS/ADJUSTMENTS (Continued) <ul style="list-style-type: none"> 2 MANUAL ADJUSTMENTS <ul style="list-style-type: none"> 1 DEFLECTION AMP CAL 2 DISPLAY STORAGE CAL 3 SWEEP CAL 4 CFCV1 ADJUSTMENTS <ul style="list-style-type: none"> 0 LFVCO ADJUST <ul style="list-style-type: none"> 1 HFVCO ADJUST 2 REF OSC CORRECTIONS BITS SET 3 FM DAC SENSITIVITY ADJUST 5 PERFORM DATA LOOPBACK 5 CF CORRECTIONS DISPLAY 6 YIG ACCURACY TEST 7 LOG TEST 3 DEBUG MENU <ul style="list-style-type: none"> 0 MORE DEBUG FLAGS <ul style="list-style-type: none"> 1 ALL DEBUG FLAGS 2 I/O SUBSYS DEBUG FLAGS 3 HW DEBUG FLAGS 4 PORT DEBUG FLAGS 5 CAL DEBUG FLAGS 6 VERBOSE DEBUG FLAGS 7 SETTINGS DEBUG FLAGS 8 READOUT FLAGS 9 DEBUG DISPLAY 4 INTERNAL PARAMETER S <ul style="list-style-type: none"> 0 MINIMUM SIGNAL SIZE <ul style="list-style-type: none"> 1 YIG SETTLE DELAY 2 SETTINGS VERIFY 3 PRINT NVM DIRECTORY TO 4 FORCE NVM INIT AT POWER UP 5 SERVICE NORMALIZATIONS <ul style="list-style-type: none"> 0 GAIN STEP REFERENCE <ul style="list-style-type: none"> 1 INTERNAL REFERENCE FREQ 2 INTERNAL REFERENCE AMPLTD 3 DEFAULT NORMALIZATION VALUES 4 DEFAULT REFERENCE VALUES 5 RECALL NORMALIZATION VALUES 6 RECALL REFERENCE VALUES 7 NORMALIZATION VALUES 8 NORM PASS/FAIL RESULTS 9 PRINT ALL NORM VALUES 6 DIGITAL OPTIONS DIAGNOSTICS <ul style="list-style-type: none"> 0 CENTRONICS DIAGNOSTICS <ul style="list-style-type: none"> 1 REAL TIME CLOCK DIAGNOSTICS 2 TTY DIAGNOSTICS 3 NVM DIAGNOSTICS 6 WAVEFORM PLOT

Figure 5-17. More menu selections.

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^IS = Invalid Selection. Returns to initial menu and displays instructions.

Modifications to the Display Response keys are indicated with the following suffixes.

d = a momentary delay occurs prior execution. This delay is intended to allow the user time to confirm the choice.

p = a prompt must be responded to before the choice will be invoked.

NOTE

These display response keys are shown in the manual, they are not part of the display.

INPUT MENU/#3-REF LEVEL UNIT/ choose option.

Follow this "menu path" and a sub-menu of Reference Level Options replaces the INPUT MENU.

```

^M 0 DBM
^M 1 DBMV
^M 2 DBV
^M 3 DBUV
^M 4 DBUW
^M 5 DBUV/M

PRESS "INPUT MENU" TO RETURN
TO INPUT MENU
  
```

Figure 5-18. Example of a selection that invokes a SUB-MENU.

INPUT MENU/ #0-REFERENCE LEVEL ENTRY/

Follow this "menu path" and a Prompt appears below the list of selections as shown. In this example the operator is directed to enter a new Reference Level value and to terminate the value with the appropriate alpha character.

```

^Dp
      INPUT MENU
      *0 REF LEVEL ENTRY

      1 PREAMP
      2 50 OHM DBM/75 OHM DBMV
      3 REF LEVEL UNIT
      4 1ST MXR INPUT LVL
      5 RF ATTENUATION
      6 EXTERNAL ATTEN

      9 CAL SIG @ 100MHZ -30DBM

      ENTER NEW VALUE: newvalue
      A = -DBX      B = +DBX
  
```

* indicates current selection.

Figure 5-19. Example of a selection that invokes a PROMPT.

MENU DESCRIPTIONS

Each menu and its major sub-menus are described in the remaining pages of this section. The layout scheme is to use the left and right facing pages for a given menu.

The left page contains directions for displaying the menu, a representation of the display, the display response to each selection, and supplementary information.

The right page contains a brief description of each menu selection.

Press **INPUT MENU** to display the menu selections shown in Figure 5-20.

NOTE: See facing page for menu selection details.

NOTE

In an actual display, only the CAPITAL letters within the boxed area are shown; the current value replaces the lower-case letters. The information outside the box is supplemental.

response key	INPUT MENU		
^Dp	0 REF LEVEL ENTRY	current	[10 DBX]
^D	1 PREAMP	ON	(OFF)
^D	2 50 OHM DBM/75 OHM DBMV	50	(75)
vM	3 REF LEVEL UNIT	current	[DBM, DBV, DBMV, DBUV, DBUW, DBUV/M]
^Dp	4 1ST MXR INPUT LVL	current	[-30 DBX]
^DP	5 RF ATTENUATION	FIXED	[(AUTO) 10 DB]
vM	6 EXTERNAL ATTEN/AMPL	current	[12.3 DB] (NONE)
^D	9 CAL SIG @ 100MHZ -30DBM	OFF	(ON)
	PRESS * INPUT MENU* TO EXIT		

Figure 5-20. Input menu display and supplemental information.

INPUT MENU SELECTIONS

- 0 **REFERENCE LEVEL ENTRY:** Current level is displayed. This selection calls up a prompt for a new value. Enter value and terminate with appropriate unit.
- 1 **PREAMP (ON/OFF):** Current status is displayed. This selection toggles the mode to the other state and returns to the display. When PREAMP is ON, the front-end gain is increased approximately 18 dB and the IF/RF gain reduced a proportionate amount. The Pre-amplifier is used to increase sensitivity. The normal operating mode is OFF for minimum distortion.
- 2 **50 OHM DBM/75 OHM DBMV:** The current configuration is displayed. When invoked, the microprocessor calculates a calibrated reference level with respect to both the unit and impedance change, then exits to the spectral display.
- 3 **REF LEVEL UNIT*:** The current unit (DBM, DBMV, DBV, DBUV, DBUW, DBUV/M) is displayed. This selection calls up a REFERENCE LEVEL UNIT OPTIONS sub-menu for selecting the desired unit. When the unit is selected, the display returns to the INPUT MENU.
- 4 **1st MXR INPUT LVL:** The current input level to the 1st mixer is displayed. When selected a prompt asks for the new value. Enter the new value, via the keyboard, and terminate with either A (-dBx), B (+dBx), or C (nominal current unit). Values are limited to -20 dB through -50 dB in 2 dB steps.
- 5 **RF ATTENUATION:** This selection calls up a prompt for the user to enter a new value (0 to 50 dB in 2 dB steps) or AUTO. Terminate the entry with the units pushbutton. When AUTO is selected, RF Attenuation is selected by the microcomputer as a function of the Reference Level, preamp status, 1st mixer input level and external Atten a fixed value is entered, the RF Attenuation remains fixed until changed to another fixed value or AUTO.
- 6 **EXTERNAL ATTEN/AMPL:** This selection calls up a sub-menu to enter the value of an external attenuator or amplifier. When "A" is pressed to terminate, the spectral display returns and the Ref Lvl readout now includes the added external value.
- 9 **CAL SIG:** This selection toggles the calibrator signal ON or OFF and returns to the spectral display. When ON the display will contain a comb of 100 MHz markers with a -30 dBm, 100 MHz fundamental.

* M in DBM, DBMV, and DBUV/M denotes mill (m).
U in DBUV, DBUW, and DBUV/M denotes micro (μ).

Press **MKR/FREQ MENU** to display the menu selections shown in Figure 5-21A.

response key	MARKER/FREQUENCY MENU		
^Dp	0 FREQUENCY ENTRY	current	[350KHZ]
^Dp	1 SPAN/DIV ENTRY	current	[150KHZ]
^D	2 KNOB FUNCTION	FREQ	(MARKER)
^D	3 NEXT HIGHER AMPTD PEAK		
^D	4 NEXT LOWER AMPTD PEAK		
^D	5 TRANSPOSE MARKERS		
^D	6 MARKER START/STOP		
vM	7 FREQUENCY START/STOP		
S	8 TUNING INCREMENT	AUTO	(PROGRMD) (TABULAR)
vM	9 SETUP TABLE		

[] = example entry. () = alternate entry.

PRESS "MKR/FREQ MENU" TO EXIT

NOTE: See facing page for menu selection details

Figure 5-21A. Marker and frequency menu selections.

MARKER-FREQUENCY MENU/ #9-SETUP TABLE. This is a menu path that invokes the following sub-menu.

MKR/FREQ MENU - SETUP TABLE			
^D	0 CENTER/START FREQ	CENTER	(START)
^Ddp	1 THRESHOLD	current	[(AUTO) -30DBX]
vM	2 COUNTER RESOLUTION	1HZ	(1KHZ)
vM	3 PROGRMD TUNING INC		
vM	4 TABULAR TUNING INC		

PRESS "MKR/FREQ MENU TO RETURN TO MKR/FREQ MENU

Figure 5-21B. Marker-Frequency Setup Table.

MARKER-FREQUENCY MENU/ #9-SETUP TABLE/ #3-PROGRAMMED TUNING INCREMENT/

PROGRAMMED TUNING INCREMENT				
(START FREQ)	^D	0 CENTER FREQUENCY	current	[500 KHZ]
(DELTA MKR FREQ)	^D	1 MARKER FREQUENCY	current	(OFF)
	^D	2 *KEYPAD ENTRD INC	current	[233KHZ]
	^Dp	*3 KEYPAD ENTRY		
	^D	4 RETURN TO AUTO	current	[30KHZ]
		CURRENT TUNING INC	current	[30KHZ]

ENTER NEW VALUE:
A=HZ B=KHZ C=MHZ D=GHZ

This keypad entered increment is the MKR/FREQ MENU/ #8 - TUNING INCREMENT/ PROGRMD value.

Figure 5-21C. Tuning increment programming.

MARKER, FREQUENCY- MENU SELECTIONS

- 0 **FREQUENCY ENTER:** This selection displays the current setting and calls up a prompt that allows user to enter a new value. After entry is terminated with units selection, the display returns to the spectral display.
- 1 **SPAN/DIV ENTRY:** This selection displays the current setting and calls up a prompt that allows the user to enter a different Span per division value. After entry is terminated with units selection, the display returns to the spectral display.
- 2 **KNOB FUNCTION:** This selection toggles the function of the **FREQ/MARKERS** control between Frequency and Markers.
- 3 **NEXT HIGHER AMPTD PEAK:** This activates marker mode. The marker moves to the next signal whose amplitude equals or is higher than current signal. Screen returns to the spectral display. If two or more signals are equal in amplitude the marker moves to the next right signal. If next signal is above the dynamic range of the display, an error message "OUT OF RANGE" is displayed.
- 4 **NEXT LOWER AMPTD PEAK:** This activates marker mode and moves the marker to the next signal whose amplitude is equal to or lower (provided signal is above threshold level) than the current signal. Screen returns to the spectral display.
- 5 **TRANSPOSE MARKERS:** In Delta mode, this selection switches the active function from one marker to the other.
- 6 **MARKER START/STOP:** This selection changes the current span to a span whose start and stop frequencies are those of the delta markers. The instrument must be in Delta Mode for this selection to be operative.
- 7 **FREQUENCY START/STOP:** This selection calls up a sub-menu to select frequency start/stop limits. As the Start/Stop selections are made, prompts ask for the new value and when the units key is pressed, the frequency value is updated to that entered. Select #2 (RETURN TO DISPLAY) to return to the display.
- 8 **TUNING INCREMENT:** This selection toggles the choices of tuning increments for the **FREQUENCY/MARKERS** control through **AUTO**, **PROGRAMMED**, and **TABULAR**. If either Programmed or Tabular increments are selected, The value of the increments may be read or changed by going to Selection #9 **SETUP TABLE** and choosing the appropriate sub-menu.
- 9 **SETUP TABLE:** This selection calls up a sub-menu that expands the selections.
 - 0 **CENTER/START FREQ:** When selected, the indicated frequency dot toggles between the center frequency and start frequency of the display.
 - 1 **THRESHOLD:** Threshold establishes the minimum amplitude level for marker related functions. When selected, a prompt asks for a new threshold value or selection of the **AUTO** threshold level (10 dB above the displayed noise floor). Enter new value or press "C" for Auto. When a new value is terminated with a units selection, the threshold readout is updated.
 - 2 **COUNTER RESOLUTION:** (applicable with Option 02 only). This selection invokes a sub-menu with choices of 1 Hz, 1 kHz, or **COUNTER OFF WHEN TRKG** (counter turned off in Signal Tracking mode).
 - 3 **PROGRMD TUNING INC:** See Figure 5-21C. The selections in this sub-menu are active only when **MKR/FREQ MENU/ #8 TUNING INCREMENT/PROGRMD** is active. To revert to normal increment, select **MKR/FREQ MENU/ #8-TUNING INCREMENT/AUTO**.
 - 4 **TABULAR TUNING INC:** THIS SUB-MENU IS UNDER DEVELOPMENT.

Press **SWP/TRIG MENU** to display the selections shown in Figure 5-22.

response key	TRIGGER MENU	[] = example entry. () = alternate entry.
^Dd	0 *FREE RUN	(SINGLE SWEEP)
^Dd	1 INTERNAL	(SINGLE SWEEP)
^Dd	2 EXTERNAL	(SINGLE SWEEP)
^Dd	3 LINE	(SINGLE SWEEP)
^Dd	4 TV LINE	(SINGLE SWEEP)
^Dd	5 TV FIELD	(SINGLE SWEEP)
	SWEEP MENU	* See facing page.
^Dp	6 SWEEP RATE current	[20 MS/DIV]
^D	7 MANUAL SCAN OFF	(ON)
^D	8 BROADCAST (AM) MONITOR OFF	(ON) vM 9 SETUP TABLE
	PRESS "SWP/TRIG MENU" TO EXIT	

NOTE: See facing page for menu selection details.

Figure 5-22A. Trigger and Sweep menus.

SWEEP-TRIGGER MENU/ #9-SETUP TABLE. This is a menu path that invokes the following sub-menu.

SWEEP/TRIGGER MENU - SETUP TABLE			
MONITOR			
^Dd	0 VIDEO DETECT MODE	BROADCAST	(SATELLITE)
S	1 SYNC POLARITY	POSITIVE	(NEGATIVE)
S	2 VIDEO POLARITY	NEGATIVE	(POSITIVE)
HORIZONTAL LINE TRIGGERING			
^Dd	3 CONTINUOUS		
^Dd	4 KNOB SELECTABLE		
^Dd	5 KEYPAD ENTERED LINE		
^Dp	*6 KEYPAD ENTRY	current	[17]
PRESS "SWP/TRIG MENU" TO RETURN TO MONITOR SETUP			

* When #6 - KEYPAD ENTRY is chosen, the following prompt appears;

ENTER NEW VALUE: (new value choices are 6 to 1023.)
A = ENTER

Fig. 5-22B. Sweep/Trigger Menu/ #9-Setup Table

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TRIGGER MENU SELECTIONS

- 0 **FREE RUN:** The sweep is free running without regard to trigger source. Other trigger modes are cancelled, including Single Sweep.
- 1 **INTERNAL:** This selection triggers the sweep with the demodulated signal from the instrument's detected video. The demodulated signal is a by-product of the RF carrier at the RF INPUT.
- 2 **EXTERNAL:** This selection triggers the sweep with a signal applied to the External Trigger connector.
- 3 **LINE:** The sweep is triggered by a sample of the ac power line voltage.
- 4 **TV LINE:** This selection triggers the sweep with the demodulated signal detected from the TV RF carrier; only the horizontal sync frequency portion (about 15 kHz) of the detected signal is passed through to the trigger circuit.
- 5 **TV FIELD:** This selection triggers the sweep with the demodulated signal from a TV carrier signal; only the vertical sync portion of the signal is passed through to the triggering circuit.
- ** **SINGLE SWEEP** is a frontpanel selection. When activated, SINGLE SWEEP, appears on the menu display next to the selected trigger source.

SWEEP MENU SELECTIONS

- 6 **SWEEP RATE:** This selection calls up a prompt to enter a new sweep rate value (time /div) and terminate with either "A" for second, "B" for millisecond, or "C" for microsecond.
- 7 **MANUAL SCAN:** This selection is an ON - OFF toggle. The crt beam position is controlled by turning the LEVEL control (small knob). No trigger is required.
- 8 **BROADCAST (AM) MONITOR:** ON - OFF toggle for the Video Monitor option. When activated, the Resolution Bandwidth changes to 5 MHz, Sweep Rate to 5 μ s/Div, a vertical generator is invoked to generate TV Field, the video filter and digital storage are deactivated. The display is a monitor for the AM or FM modulated video signal. When the MONITOR is switched off, the previous instrument setup is restored. The signal peak must be brought to within 5 dB of the reference level to produce a raster on the display.
- 9 **SETUP TABLE:** This selection invokes the sub-menu shown in Figure 5-22B.

MONITOR

- 0 **VIDEO DETECT MODE:** This is a BROADCAST or SATELLITE toggle. (SATELLITE not currently available.)
- 1 **SYNC POLARITY:** This is a POSITIVE or NEGATIVE toggle.
- 2 **VIDEO POLARITY:** This is a POSITIVE or NEGATIVE toggle.

HORIZONTAL LINE TRIGGERING

- 3 **CONTINUOUS:** Each horizontal line is used as a trigger.
- 4 **KNOB SELECTABLE:** The FREQ/MARKERS control is used to select one line (6 through 1023). The selected line number is displayed in the upper-right of the screen.
- 5 **KEYPAD ENTERED LINE:** The line entered using #6 below, is the trigger.
- 6 **KEYPAD ENTRY:** Invokes a prompt for entering a line number.

Press **DSPL MENU** to display the menu selections shown in Figure 5-23A.

response key	DISPLAY MENU		
vM	1 ENSEMBLE AVERAGING		
^D	2 B, C MINUS A	OFF	(ON)
^D	3 B, C MINUS A OFFSET TO	CTR	(TOP)
^D	4 ACQUISITION MODE	PEAK	(MAX/MIN)
vM	5 TITLE MODE		
^D	6 READOUT	OFF	(ON)
vM	* 7 DISPLAY SOURCE	FM	(AM , EXT)
^Dp	** 8 DISPLAY LINE	off or current	
^D	9 MIN HOLD IN WFM C	OFF	(ON)
	PRESS "DSPL MENU" TO EXIT		

[] = example entry. () = alternate entry.

NOTE: See facing page for menu selection details

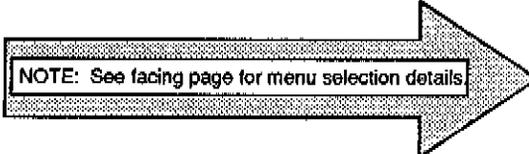


Figure 5-23A. Display Storage Menu selections.

* This sub-menu is displayed when #7- DISPLAY SOURCE is selected.

DISPLAY SOURCE

1 * AM DETECTOR
2 FM DETECTOR
3 EXTERNAL INPUT

PRESS DISPLAY MENU TO
RETURN TO DISPLAY MENU

**This prompt is displayed when #8-DISPLAY LINE is selected.

ENTER VALUE OR "C" OR "D" _

A = - DBX B = + DBX

C = MARKER D = OFF

The sub-menu "vM" for #1 - ENSEMBLE AVERAGING is shown on pages 5-37 and 5-38 and for #5 - TITLE MODE, on pages 5-39 and 5-40.

DISPLAY MENU SELECTIONS

- 1 **ENSEMBLE AVERAGING FOR DISPLAYS A, B, C:** When selected, a sub-menu is displayed (see pages 5-38 & 5-39 for details). The selections provide routines for Ensemble Averaging "n" sweeps by partitioning the screen into 512 segments and finding the numerical average of each segment over successive sweeps.
- 2 **[B, C] MINUS A:** This selection is an On or Off toggle. In the ON state, values in the Saved A register are subtracted from B or C and the difference is displayed. This difference waveform may be saved. A waveform must be saved in A before a subtraction can occur. The "D" display is always the current display.
- 3 **[B, C] MINUS A OFFSET TO:** Top or center of screen. The results of menu selection #2 are offset either to the top or the center of the screen. Normal position is center screen so both positive and negative excursions can be observed. In some cases the active (B & C) waveforms may be larger than the reference so the difference could be off-screen. This is corrected by shifting the reference to the top of the screen.
- 4 **ACQUISITION MODE:** This selection toggles between MAX/MIN or PEAK acquisition modes, then returns to the spectral display. Data is acquired on the next sweep. In MAX/MIN mode, 256 digital horizontal locations acquire the maximum excursions and 256 the minimum excursions. This produces a 512 point horizontal display, showing both maximum and minimum values of the acquired event. PEAK mode is a 512 point display where only the positive peak excursions of the event are acquired and displayed.
- 5 **TITLE MODE:** This selection calls up a sub-menu (see pages 5-40 & 5-41 for details). NOTE: This feature not implemented in early instruments.
- 6 **READOUT:** This selection toggles the display readout ON or OFF.
- 7 **DISPLAY SOURCE:** This selection invokes a sub-menu for selecting demodulated AM or FM from the front panel input signal or an external (EXT) video signal applied to J103 pin 1 on the rear panel as the vertical signal source for the display. When selected, Display Source overrides any front panel source selections.

AM is the power-up Display Source selection, it is the choice for most spectral applications.

FM Display Source provides a means of measuring frequency deviation. In ZERO SPAN, the Reference Level is the top of the screen. Deviation calibration is displaced vertically as follows:

- 10 kHz/div
- 5 kHz/div
- 1 kHz/div

The 10 dB/ 5 dB/ 1dB/ control cycles through 10 kHz/div, 5 kHz/div, and 1 kHz/div.

EXT selects the rear panel External Video Input.

- 8 **DISPLAY LINE:** This horizontal line provides a reference for amplitude measurements. When selected, a prompt appears that provides the means of setting the line to a specific amplitude or to the amplitude of the marker.

NOTE

DISPLAY MENU/ #8-DISPLAY LINE/ is not an ON/OFF toggle.

To turn the Display Line OFF, follow this menu path.

DISPLAY MENU/ #8-DISPLAY LINE/ press front panel "D".

DSPL MENU/ #1-ENSEMBLE AVERAGING/ choose selection. This menu path invokes the following sub-menu

ENSEMBLE AVERAGING	
1	INITIATE AVERAGING
2	TERMINATE AVERAGING
3	MAX
4	MEAN
5	MIN
6	MAX/MIN
7	NUMBER OF AVERAGES current
8	SAVE RESULTS IN DISPLA Y C

PRESS " DISPLAY MENU"
TO RETURN TO DISPLAY MENU

NOTE: See facing page for menu selection details

[16] (CONT)
(A, B)

Figure 5-23B. The Ensemble Averaging sub-menu of the Display Menu.

Ensemble Averaging requires the user to invoke this menu path, DISPLAY MENU/ #1-ENSEMBLE AVERAGING- choose selection: The averaging provides an improved signal-to-noise ratio. The choice of acquisition mode (selection 3,4,5,or 6) is dependent upon the application (type of signal, noise, etc.).The averaging function includes acquiring digital values for the vertical components, saving the values at horizontal data points, finding the numerical average over successive sweeps, and storing the specified data in a register (bin) for display.

An "acquisition" occurs every 400 nanoseconds, and the input signal strength is measured and converted to a digital value (A to D conversion). Each acquisition or conversion is compared with the last (previous) and the maximum and minimum values are retained. These values are referred to as Vertical units. The number of conversions that occur prior to a "save" function depends on the sweep rate.

A "save" function occurs when the sweep encounters the next Horizontal Data Point. At this time, the Vertical values are saved at that data point. This acquiring and saving continues to the end of the sweep.

When an acquisition mode is invoked, the specified Vertical values within each of the saved data points are acted on by a mathematical routine over successive sweeps and the result is stored in the selected display register.

ENSEMBLE AVERAGING OPTIONS - MENU SELECTIONS (Figure 5-23B)

- 1 **INITIATE AVERAGING:** This selection starts the ensemble routine unless the register chosen in #8 contains a saved waveform. If the selected register contains a waveform, a **WARNING** message is displayed. Screen prompts provide directions to override the saved display, abort the command, or select another register.
- 2 **TERMINATE AVERAGING:** This selection stops the averaging process, saves the average in the selected register and returns to the display.
- 3 **MAX:** Maximum positive excursions within each bin are averaged with previous sweeps and saved.
- 4 **MEAN:** Mean values within each bin are averaged with previous sweeps and saved.
- 5 **MIN:** Minimum values within each bin are averaged with previous sweeps and saved.
- 6 **MAX/MIN:** The maximum values within each bin are averaged with previous sweeps and saved, and the minimum values within each bin is averaged with previous sweeps and saved. The display is the vectors produced by alternating from the maximum to minimum values in each bin in turn.
- 7 **NUMBER OF AVERAGES:** Current number is displayed. When selected, a prompt asks for a new value. Enter value (default is 16, maximum is 1024). Terminate by pressing the "A" pushbutton. For continuous averaging press "C". In the continuous averaging mode the significance of the previous value for each point decreases with time.
- 8 **SAVE RESULTS IN DISPLAY (A, B, or C):** This selection will toggle between registers. At the completion of a #7 - **NUMBER OF AVERAGES** function. The result is saved in the selected register.

DSPL MENU/ #5-TITLE MODE/ choose selection. This menu path invokes the following sub-menu.

TITLE MODE			
S	1 TITLE MODE	OFF	(ON)
^Dp	2 TITLE MODE EDIT		
Sp	3 ON SCREEN INFO		
S	4 ON SCREEN INFO EDIT	OFF	(ON)
PRESS "DSPL MENU" TO RETURN TO DISPLAY MENU			

NOTE: See facing page for menu selection details

Figure 5-23C. Title Mode sub-menu of the Display Menu.

TITLE MODE - MENU SELECTIONS (Figure 5-23D)

There are two title modes: TITLE MODE EDIT (for the display) and ON SCREEN INFO EDIT (for waveform annotation).

- 1 **TITLE MODE:** This selection toggles TITLE MODE on or off. When TITLE MODE is enabled, readout information is pushed two lines down the screen, but the waveform display remains fixed.
- 2 **TITLE MODE EDIT:** This selection causes a cursor to appear about mid-screen and to the left of the display. The cursor, may be positioned with the **FREQ SPAN/DIV** and **REF LEVEL** front panel arrows. Characters and numbers for the title are selected with the **FREQ/MARKERS** control and the keypad. A character selected via the keypad is automatically entered as it is selected, and a character selected via the **FREQ/MARKERS** control is entered by moving the cursor to another position. Two lines of title information may be entered. If multiple registers (waveforms) are active at the same time, the title is associated with the highest order register at the time of its creation. Also, if multiple registers with different titles are displayed simultaneously, the title associated with the highest order register will be displayed ("D" over "C", "B", and "A" etc.) The printing (hard copy) program moves the Title information outside the plot window. The editing session is finalized by pressing "A". A writing session is terminated without saving the recently entered characters by pressing "D". A previously existing title can be deleted by pressing "B".
- 3 **ON SCREEN INFO:** This selection toggles **WRITE INFO** on or off.
- 4 **ON SCREEN INFO EDIT:** With #4 Selection set to ON, this selection causes an exit from the menu to a blank page (if no text has previously been written on the screen). This selection is used for writing in the waveform display area (signal annotation). Cursor positioning and character entry is the same as it is for TITLE MODE EDIT. Information written on screen will be displayed with the highest order register being currently displayed. The printing program will maintain the on screen relationship between the information and the waveform.

Press **APPL MENU** to display the menu selections shown in Figure 5-24A.

response key	APPLICATIONS MENU			[] = example entry. () = alternate entry.
^D	0 BANDWIDTH MODE	@	current	[-6HZ BW]
^D	1 CARRIER TO NOISE	@	current	[4.2 MHz]
^D	2 NOISE NORM'D	@	current	[1HZ BW]
vM	9 SETUP TABLE			
	PRESS "APPL MENU" TO EXIT			

NOTE: See facing page for menu selection details

Figure 5-24A. Applications menu selections.

APPL MENU/ #9-SETUP TABLE/ choose selection and enter new value. This menu path invokes the sub-menu shown in Figure 5-24B.

	APPLICATIONS MENU - SETUP TABLE		
Sp	0 DB DOWN FOR BW MODE	current	[-6DBC]
Sp	1 NORM BW FOR C/N	current	[4.2MHZ BW]
Sp	2 NOISE NORM'D BW	current	[1HZ BW]
	PRESS "APPL MENU" TO RETURN TO APPL MENU		

Figure 5-24B. Setup table sub-menu for Applications Menu.

APPLICATIONS MENU SELECTIONS

- 0 **BANDWIDTH MODE:** Selects an operational routine that measures the bandwidth (pre-defined in the Setup table) of a signal that is at center screen and above the threshold level. The **FREQ/MARKERS** knob is designated as the center frequency control so signals to be measured can be tuned to center screen. The bandwidth is measured and the read out is updated at the end of each sweep.
- 1 **CARRIER-TO-NOISE:** When selected, this routine performs a center measure for the signal nearest center screen, then turns Delta markers on. At this time, the fixed and active markers will appear at the center peak of the signal being measured. Use the **FREQ/MARKERS** control to move the active marker 30 times the Resolution Bandwidth to the right of the fixed marker. The routine will calculate the carrier-to-noise ratio after several sweeps, normalized to the bandwidth specified in the setup table. Readout is preceded with "C/N" to denote carrier-to-noise.
- If **MARKERS** are activated prior to entering this mode. The routine will perform its operation on the signal nearest the marker.
- 2 **NOISE NORM'D (dB/Hz):** When this is selected, the absolute noise level per user selected bandwidth, at the marker position, is computed and the read out is updated at the end of each sweep.

9 **SETUP TABLE**

- 0 **dB DOWN FOR BW MODE:** When selected, a prompt allows the user to enter bandwidth reference points for the **BANDWIDTH MODE** measurement routine.
- 1 **NORMALIZED BW for C/N:** When selected, a prompt allows the user to enter the desired normalized bandwidth for the **CARRIER-TO-NOISE** measurement routine.
- 2 **NOISE NORM'D BW:** This selection calls up a prompt for the user to enter the desired normalized bandwidth for the **NOISE NORM'D** measurement routine.
-
-

Press **DET/GEN** to display the menu selections shown in Figure 5-25.

response key	DETECTOR/GENERATOR MENU
^Dd	0 OFF
^Dd	1 FM DETECTOR
^Dd	2 AM DETECTOR
^Dd	3 AM AND FM DETECTOR
	PRESS "DET/GEN MENU" TO EXIT

NOTE: See facing page for menu selection details

Figure 5-25. Detector- Generator menu display.

Maintenance - 2710 Service

DETECTOR/GENERATOR MENU SELECTIONS

- | | | |
|---|--------------------|---|
| 0 | OFF | This selection disables any selected detector. |
| 1 | FM Detector | Enables the FM Detector and sets the outer knob of the LEVEL control to its receiver volume function. |
| 2 | AM Detector | Enables the AM Detector and sets the outer knob of the LEVEL control to its receiver volume function. |
| 3 | AM and FM | Enables both detectors simultaneously. |

Press **UTIL MENU** to display the menu selections shown in Figure 5-26.

response key	UTILITY MENU
^D	0 INITIALIZE INSTRUMENT SETTINGS
vM	1 STORED SETTINGS
VM	2 KEYBOARD ENTERED FUNCTIONS
vM	3 NORMALIZATION
vM	4 SYSTEM CONFIGURATION
vM	5 INSTR DIAGNOSTICS/ADJUSTMENTS
vM	6 WAVEFORM PLOT
	PRESS "UTIL MENU" TO EXIT

[] = example entry. () = alternate entry.
(user sel or factory)
(optionally operative)

NOTE: See facing page for menu selection details

Figure 5-26. Utility menu.

Maintenance - 2710 Service

UTIL MENU SELECTIONS

- 0 **INITIALIZE SETTINGS:** This selection resets the instrument settings. The configuration is determined by the settings entered in:
- UTIL MENU/ #1- STORED SETTING/ #2 USER DEFINED POWER-UP
 - Or, if sub-menu selection #2 is empty, then selection #1- FACTORY DEFAULT POWER-UP settings are used.
- 1 **STORED SETTINGS:** Invokes a sub-menu (Figure 5-27) that lists Last Power- Down, Factory Default Power-Up, User Defined Power- Up, and up to seven User Selected setups.
- 2 **KEYBOARD ENTERED SETTINGS:** Invokes a sub-menu (Figure 5-28) which allows the user to directly enter basic operational parameters and functions.
- 3 **NORMALIZATION:** Invokes a sub-menu of routines for setting measurement parameters to an internal reference to ensure performance in accord with specifications. Selections, #0-ALL PARAMETERS, #1-FREQUENCY ONLY, and #2-AMPLITUDE ONLY, are Operator choices. When normalizations are invoked, the μ processor performs amplitude measurements, frequency measurements, or both; determines the amount of correction necessary for a calibrated display; and stores those values for use when needed.
- 4 **SYSTEM CONFIGURATION:** Invokes a sub-menu that shows the Communication Port (if installed) and Installed Options (including the Firmware version), and allows the user to set the Screen Plot Configurations, Audio Alert Level, and Real-Time Clock (if installed). The sub-menu also allows the user to enable or disable Frequency Corrections and Phase Lock.
- 5 **INSTRUMENT DIAGNOSTICS/ADJUSTMENTS:** When selected, a sub-menu is called up that lists additional sub-menus with routines for normalizing the instruments measurement parameters, conducting diagnostic tests, and performing internal adjustments to re-calibrate the instrument. These diagnostics tests and adjustment procedures are for service personnel only. The Normalization routines use external test equipment to perform frequency, reference level, and 10 dB gain step normalization. The Extended Diagnostics routine verifies all the display plus front panel performance and all signal related characteristics such as frequency response and spurious response.
- 6 **WAVEFORM PLOT:** (Optional Centronics® Interface required.) This selection executes a plot of a display on an external plotter.
-

UTIL MENU/ #1-STORED SETTINGS/ choose option. This menu path invokes the following sub-menu.

response key	STORED SETTINGS	[] = example entry.
^D	0 LAST POWER-DOWN	
^D	1 FACTORY DEFAULT POWER-UP	
^Dp, ^Dd, Sp, ^IS	2 USER DEFINED POWER-UP	
^Dp, ^Dd, Sp, ^IS	3 user selected settings	[50 MHZ 23DBM 100MHZ/]
	4	
	5	
	6	
	7	
	8	
	9	
	PRESS "UTIL MENU" TO RETURN TO UTILITY MENU	

NOTE: See facing page for menu selection details

Figure 5-27. Stored Settings sub-menu.

UTIL MENU/ #2-KEYBOARD ENTERED SETTINGS/ choose selection.

response key	KEYBOARD ENTERED SETTINGS		[] = example entry. () = alternate entry.
Sp	0 FREQUENCY	current	[350MHZ]
Sp	1 REFERENCE LEVEL	current	[10DBX]
Sp	2 SPAN/DIV	current	[150KHZ]
Sp	3 RF ATTENUATION	current	[10DB] (AUTO)
vM	4 RESOLUTION BW	current	[500KHZ] (AUTO)
vM	5 VIDEO FILTER	off current	[3HZ] (AUTO)
vM	6 VERTICAL SCALE	current	[5DB/DIV 50UV/DIV]
Sp	7 SWEEP RATE	current	[20MS/DIV]
	PRESS "UTIL MENU" TO RETURN TO UTILITY MENU		

Figure 5-28. Keyboard Entered Settings sub-menu.

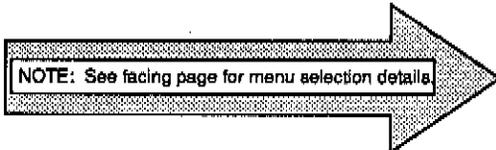
#1- STORED SETTINGS SUB-MENU SELECTIONS

- 0 **LAST POWER-DOWN:** This selection resets instrument settings to those that existed when power was last interrupted or switched off.
 - 1 **FACTORY DEFAULT POWER-UP:** This selection resets the instrument settings to factory default.
 - 2 **USER DEFINED POWER-UP:** This selection resets the instrument to user designated settings.
 - 3 - 9 **User Selected Setups:** The current instrument setup or a "saved" waveform (saved display register) plus its setups can be stored, recalled, or deleted in any of these selections. An on-screen prompt provides the four choices: **STORE** the current instrument settings or a saved waveform plus its instrument settings. **RECALL** the Selected Setup and waveform to the display. If the recalled selection is empty, the prompt changes to show only the **ABORT** and **STORE** choices. **DELETE** removes the contents of the selection. **ABORT** returns to the **STORED SETTINGS** sub-menu.
-

#2-KEYBOARD ENTERED SETTINGS

- 0 **FREQUENCY:** Displays current setting. This selection calls up a prompt to enter a new value and terminate with units key.
- 1 **REFERENCE LEVEL:** Displays current setting. This selection calls up a prompt to enter new value and terminate with units key.
- 2 **SPAN/DIV:** Displays current setting. This selection calls up a prompt to enter a new value and terminate with the units key.
- 3 **RF ATTENUATION:** This selection toggles between **AUTO** and **FIXED**. In **AUTO**, attenuation is varied to maintain a -30 dBm level at the mixer input, or the level **INPUT MENU/ #4-1st MIXER INPUT LEVEL**. In **FIXED**, a prompt appears and the user can set attenuation values from 0 to 50 in 2 dB steps. This value remains fixed regardless of reference level setting and will limit the range of reference levels available.
- 4 **RESOLUTION BANDWIDTH:** Displays current setting. Switches to sub-menu when pressed, to allow the user to enter new value or Auto mode. In Auto, the bandwidth is a function of the Span/Div and Sweep Time.
- 5 **VIDEO FILTER:** When **KEYBOARD ENTERED SETTINGS** sub-menu is displayed, the state of this selection (**AUTO**, current **FIXED** value, or **OFF**) is also displayed. When #5 is selected, a sub-menu allows the user to select **AUTO** or **FIXED**. **AUTO** provides a filter that is 1/100th of the selected resolution bandwidth. **FIXED** provides for filter selection from 3Hz to 300 kHz in a 1, 3 sequence. To turn **OFF** the Video Filter, press the front panel **VIDEO FLTR** pushbutton.
- 6 **VERTICAL SCALE:** Displays current scale factor value. This selection calls up a sub-menu listing the Log (1 dB/Div, 5 dB/Div and 10 dB/Div) or Linear options. When Linear mode is selected a prompt asks for the new value.
- 7 **SWEEP RATE:** Displays current rate. This selection calls up a prompt to enter new sweep rate value (1-2-5- sequence) and terminate with a units selection.

UTIL MENU/ #5-INSTR DIAGNOSTICS-ADJUSTMENTS/ choose selection.



NOTE: See facing page for menu selection details.

response key	INSTR DIAGNOSTICS/ADJUSTMENTS
vM	0 DIAGNOSTICS
vM	1 EXTENDED DIAGNOSTICS
vM	2 MANUAL ADJUSTMENTS
vM	3 DEBUG MENU
vM	4 INTERNAL PARAMETERS
vM	5 SERVICE NORMALIZATIONS

PRESS "UTIL MENU" TO RETURN
TO UTILITY MENU

Figure 5-29. Instrument Diagnostics/Adjustments sub-menu.

UTIL MENU/ #5-INSTR DIAGNOSTICS & ADJUSTMENTS/ #5-SERVICE NORMALIZATIONS/ choose selection.

response key	SERVICE NORMALIZATIONS
vM	0 GAIN STEP REFERENCE
vM	1 INTERNAL REF FREQ
vM	2 INTERNAL REF AMPLTD
vM	3 DEFAULT NORM VALUES
vM	4 DEFAULT REF VALUES
vM	5 RECALL NORM VALUES
vM	6 RECALL REF VALUES
vM	7 NORMALIZATION VALUES
vM	8 NORMALIZATION PASS/FAIL RESULTS

UTIL MENU #5-INSTRUMENT DIAGNOSTICS/ADJUSTMENTS

- 0 **DIAGNOSTICS:** This selection invokes a sub-menu that lists routines for checking the processor and its data paths and the instruments analog measurement parameters.
- 1 **EXTENDED DIAGNOSTICS:** This a servicing selection. It contains routines for checking analyzer operation and signal measurement parameters, such as frequency response and intermodulation.
- 2 **MANUAL ADJUSTMENTS:** This is a servicing selection.
- 3 **DEBUG MENU:** This is a servicing selection.
- 4 **INTERNAL PARAMETERS:** When selected, the following sub-menu is displayed:
 - 0 **MINIMUM SIGNAL SIZE:** Factory default is 20 vertical-digital-storage units. A signal difference less than the set value will not be recognized during a "next left" or "next right" operation.
 - 1 **YIG SETTLE DELAY:** Factory default is 400 ms. Time allowed for YIG settling after a frequency adjustment and prior to a frequency count.
- 5 **SERVICE NORMALIZATIONS:** When selected the following sub-menu is displayed:
 - 0 **GAIN STEP REFERENCE:** This is a servicing selection.
 - 1 **INTERNAL REF FREQ:** This selection is used to normalize the frequency of the internal Reference with respect to an external frequency reference. When selected, the procedure appears on the display.
 - 2 **INTERNAL REF AMPLTD:** This selection is used to normalize the amplitude of the internal reference with respect to an external amplitude reference.
 - 3 **DEFAULT NORMALIZATION VALUES**
 - 4 **DEFAULT REFERENCE VALUES**
 - 5 **RECALL NORMALIZATION VALUES**
 - 6 **RECALL REFERENCE VALUES**
 - 7 **NORMALIZATION VALUES**
 - 8 **NORM PASS/FAIL RESULTS:** This selection displays a menu of normalization results.
 - 0 **FREQUENCY RESULTS**
 - 1 **AMPLITUDE RESULTS**
 - 2 **MISCELLANEOUS**

OPTIONS

Introduction

This section describes the options available for the Spectrum Analyzer.

Options are usually factory installed; however, field kits are available for some options. Contact your local Tektronix Field Office or representative for information on field kits and their installation.

Options A1 Through A5 (Power Cord Options)

There are five international power cord options offered for the spectrum analyzer. The physical descriptions of the cord plugs are listed in Table 6-1. For replacement purposes, refer to the Replaceable Mechanical Parts list.

**Table 6-1
POWER CORD OPTIONS**

Option A1	Universal Euro, 220 V/50 Hz at 16A
Option A2	United Kingdom, 240 V/50 Hz at 13A
Option A3	Australian, 240 V/50 Hz, at 10A
Option A4	North American, 240 V/60 Hz, at 12A
Option A5	Swiss, 250 V/50 Hz, at 6A

Option B1 (Service Manual)

Option B1 includes a service manual with the instrument.

Options M1 Through M3 (Extended Service and Warranty Options)

There are three extended service and warranty options offered for the spectrum analyzer that go beyond the basic one-year coverage (see Table 6-2). Contact your local Tektronix Field Office or representative for additional information about your specific requirements.

**Table 6-2
EXTENDED SERVICE
AND WARRANTY OPTIONS**

Option	Description
M1	Two routine calibrations to published specifications; one each in years two and three of warranty coverage, plus two years remedial service.
M2	Four years remedial service
M3	Four routine calibrations to published specifications; one each in years two, three, four, and five of product ownership, plus four years of remedial service.

OPTION 01

Option 01 adds a 300 Hz resolution bandwidth filter and a minimum Span/Div of 1 kHz for enhanced measurement resolution that is commensurate with the improved frequency accuracy of 5×10^{-7} .

OPTION 02

Option 02 adds a frequency counter with readout resolution selectable between 1 Hz and 1 kHz. Also, a provision for turning off the counter when tracking is invoked has been provided.

OPTION 06

Introduction

Option 06 includes the Tektronix 1106 Battery Power Supply and the Tektronix 1107 DC Converter with adapter mounting kits and their respective instruction manuals. The following describes the installation of the Tektronix 1106 and 1107 Battery Power option.

Installation of 1106 Battery Power Supply

Two mounting straps, with slots at each end, are welded on the bottom of the Spectrum Analyzer. These mounting straps with the conversion kit supplied with the 1106 Battery Power unit provide the means to attach the 1106 to the Spectrum Analyzer. The following procedure describes the process for installing the Battery Power Supply.

1. Lay the Spectrum Analyzer on its top so the underside is exposed. Note the two mounting straps, with slots at each end, welded to the bottom of the instrument.
2. Slide the four (4) studs, from the mounting kit, into the slots on the mounting strip and bolt them in place using the washers and the thick 8-32 nuts. See Figure 6-1. Tighten the four nuts finger tight so the studs will still move in the slot.
3. Now place the adapter plate assembly, with the slotted feet up, on the mounting studs and install the four (4) plain nuts to hold the plate assembly on the studs.
4. Using a 5/16 inch wrench, tighten the nuts holding the adapter plate on the studs.
5. The analyzer, with its adapter plate will now mount on the 1106 Battery Power Supply. Set the slotted feet of the adapter plate into the recessed holes on the battery pack and close the retaining slide catch.

Installing 1107 DC Converter

The installation kit for this Tektronix DC Converter consists of an adapter plate and mounting hardware. The following describes how to install this DC converter.

1. Remove the two Spectrum Analyzer rear panel mounting screws and replace them with the two standoff studs, supplied with the adapter kit.
2. Tighten the studs with a 5/16 inch open-end wrench.
3. Install the adapter plate on the standoff studs, using the two 8-32, 5/16 inch flat-head screws.

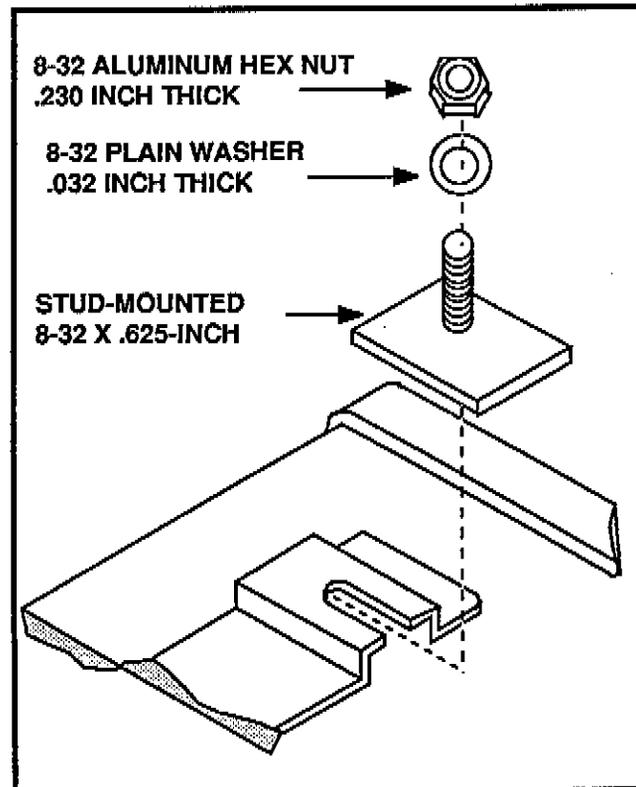


Figure 6-1. Installing a stud into a mounting strip.

4. The 1107 DC Converter can now be mounted on the four slotted feet of the rear panel adapter plate.
5. Plug the DC Converter power cord into the receptacle on the Battery Power Supply pack.
6. The Spectrum Analyzer is now ready for battery power operation.

OPTION 09

Option 09 adds a Centronics®-compatible parallel printer interface. The pertinent circuits are located on the Digital Options board. The Centronics port consists of two 8-bit, tri-statable data latches and two 8-bit, tri-statable data buffers. The port can be used as a 12-bit read/4-bit write or 4-bit read/12-bit write port for diagnostics, or as a full specification Centronics communications port. The rear-panel connection provides full IBM-PC printer compatibility.

J104 - Centronics Port Bus

Pin #	Description	Pin #	Description
1	STROBE	2	FEED
3	D0	4	ERROR
5	D1	6	INIT bar
7	D2	8	SLCT IN
9	D3	10	Ground
11	D4	12	Ground
13	D5	14	Ground
15	D6	16	Ground
17	D7	18	Ground
19	ACKNLG	20	Ground
21	BUSY	22	Ground
23	PE	24	Ground
25	SLCT	26	Ground

When more than one waveform is plotted using a 4-pen plotter, each waveform is plotted with a different color pen. A legend at the upper left hand corner of the plot identifies by color the register in which each waveform resides (A, B, C, or D). Also, each waveform may be given a title via TITLE MODE (UTIL MENU/#5). See Figure 6-2 for a typical plot.

NOTE

Plotter time may be reduced by selecting PEAK ACQUISITION MODE (DSPL MENU/#4) or enabling the VIDEO FILTER.

Baseline noise has negligible effect on display reproduction time when using matrix printing devices.

Compatible Plotters and Printers

The Centronics interface may be used with all EPSON FX-compatible printers and HPGL-compatible plotters, such as the TEKTRONIX HC100 COLOR PLOTTER.

Using the Plot Feature

When UTIL MENU/#6 (WAVEFORM PLOT) is pressed, display and graticule information is sent over the interface bus to drive an external plotter or printer. Graticule information is plotted only when the graticule is illuminated.

To use the plot feature, connect the plotter or printer to the Spectrum Analyzer interface port J104 and perform the following:

- a. On the Spectrum Analyzer, press UTIL MENU/#4 (SYSTEM CONFIGURATION)#1 (SCREEN PLOT CONFIG), then press keypad #1 until the desired output device type (HPGL 2-PEN, HPGL 4-PEN, or EPSON FX-80) is displayed.
- b. Press keypad #3 (PLOT SPEED) until the desired plotter speed (SLOW, NORMAL, FAST, FASTER, or FASTEST) is displayed. The best resolution is obtained at the slowest speed. Press UTIL MENU three times to exit.
- c. Power-up the plotter/printer, ascertain that the paper is in position, and confirm that the desired display is on the screen.
- d. Press UTIL MENU/#6 (WAVEFORM PLOT) to start the plot.

NOTE

When using an EPSON FX-series or equivalent printer, there is a 30-second delay between initiation of the waveform plot session and the beginning of the printing action. The Spectrum Analyzer front panel is locked out until just before the plot/print action ends.

OPTION 10

Option 10 adds Video Monitor capabilities. The pertinent circuits are located on the Sweep board.

OPTION 11

Option 11 adds non-volatile memory.

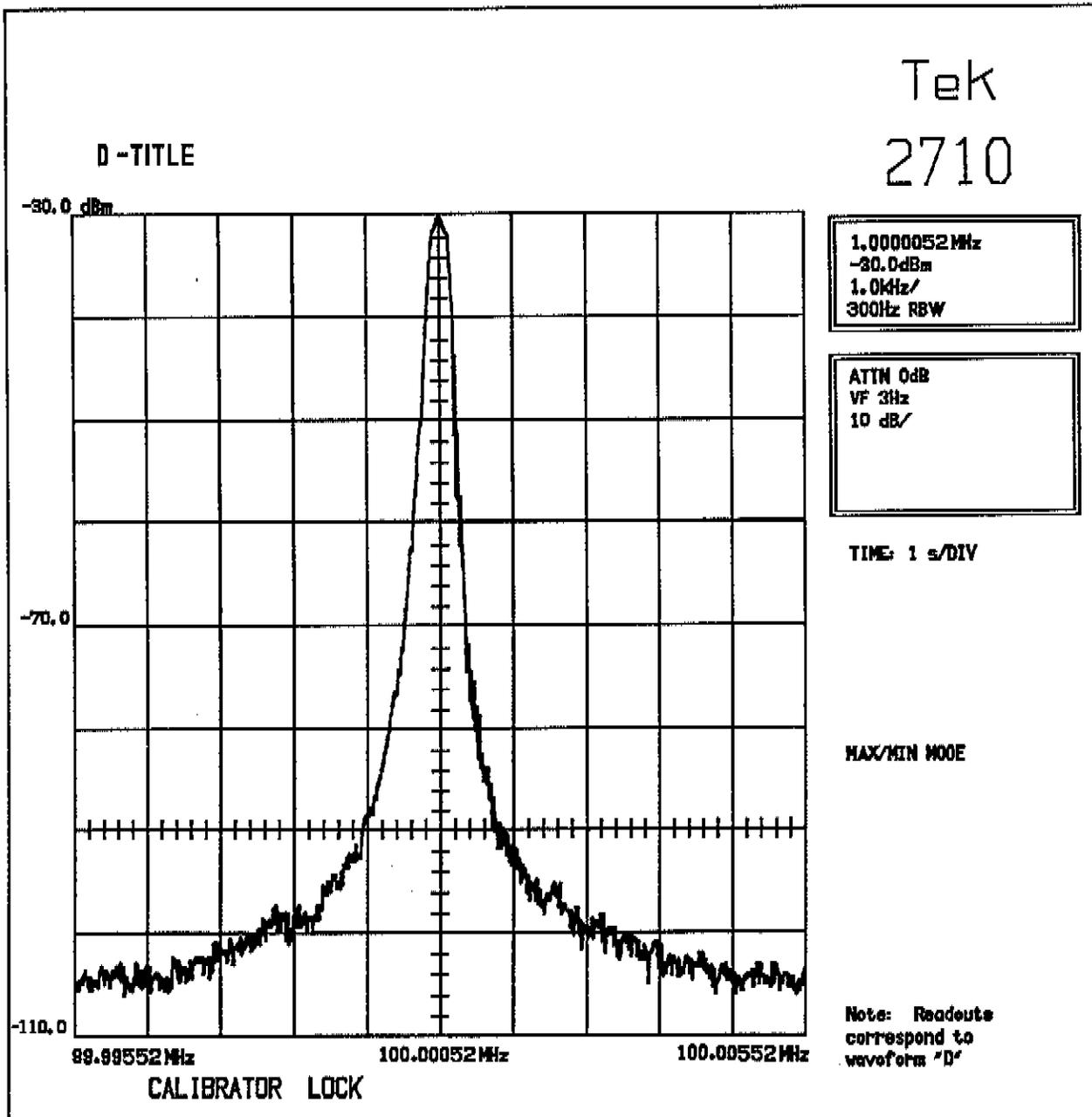


Figure 6-2. Typical plot.

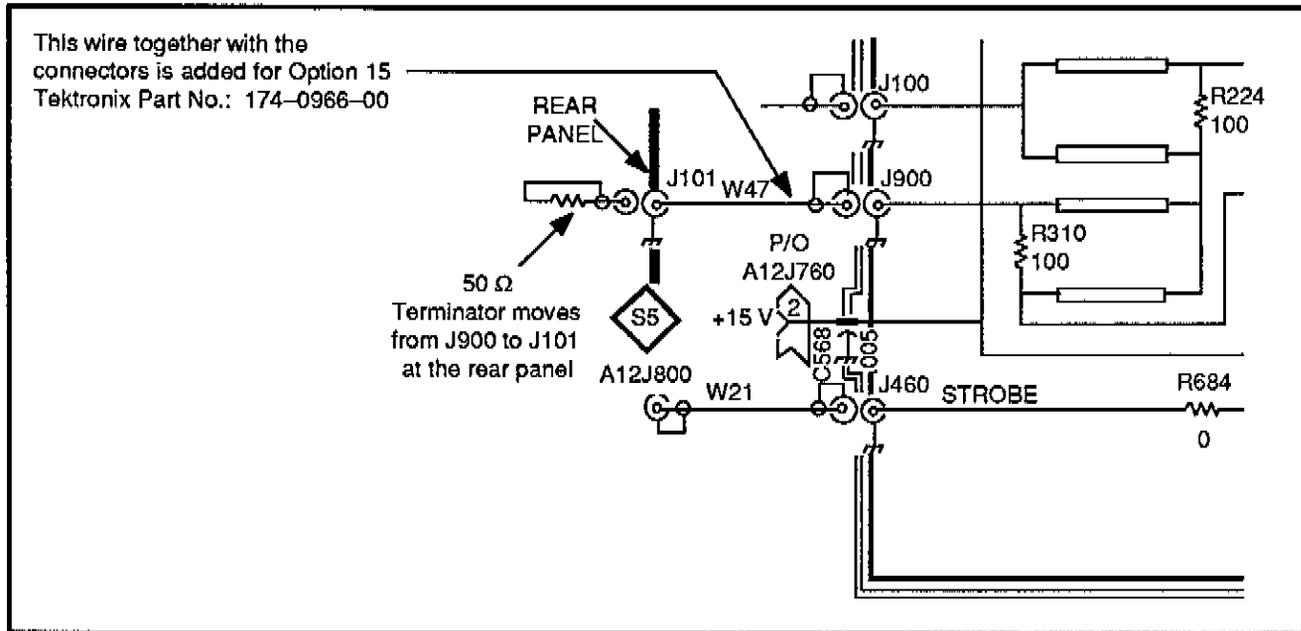


Figure 6-3. Partial 1st LO Buffer Amp schematic.

OPTION 15

Option 15 Provides an interface for a 1405 TV Sideband Analyzer. The 1st LO is routed to J101 at the rear panel and terminated in 50 Ω . See Figure 6-3.

Clearance Requirements

Figure 6-4 is a dimensional drawing of the Rack Adapter and Spectrum Analyzer. At least 5 1/4 inches (133 mm) of vertical space are needed to mount the Spectrum Analyzer in an equipment rack. Minimum width of the opening between the left and the right front rails in the rack must be 17 5/8 inches (448 mm). Total depth of the rack must be at least 17 inches (432 mm). These clearances will allow sufficient space for air circulation and accommodation of the power cord and mounting hardware.

OPTION 30

Introduction

Option 30 enables mounting of the Spectrum Analyzer in a standard 19-inch rack. The Spectrum Analyzer is guaranteed to meet all electrical and environmental characteristics, published in both the Operators and Service Manuals, when it is mounted according to the procedures given in this instruction sheet.

Temperature Requirements

Ambient temperature inside the rack with the Spectrum Analyzer power on must not exceed +50° C (122° F).

NOTICE

Installation is to be performed only by qualified service personnel.

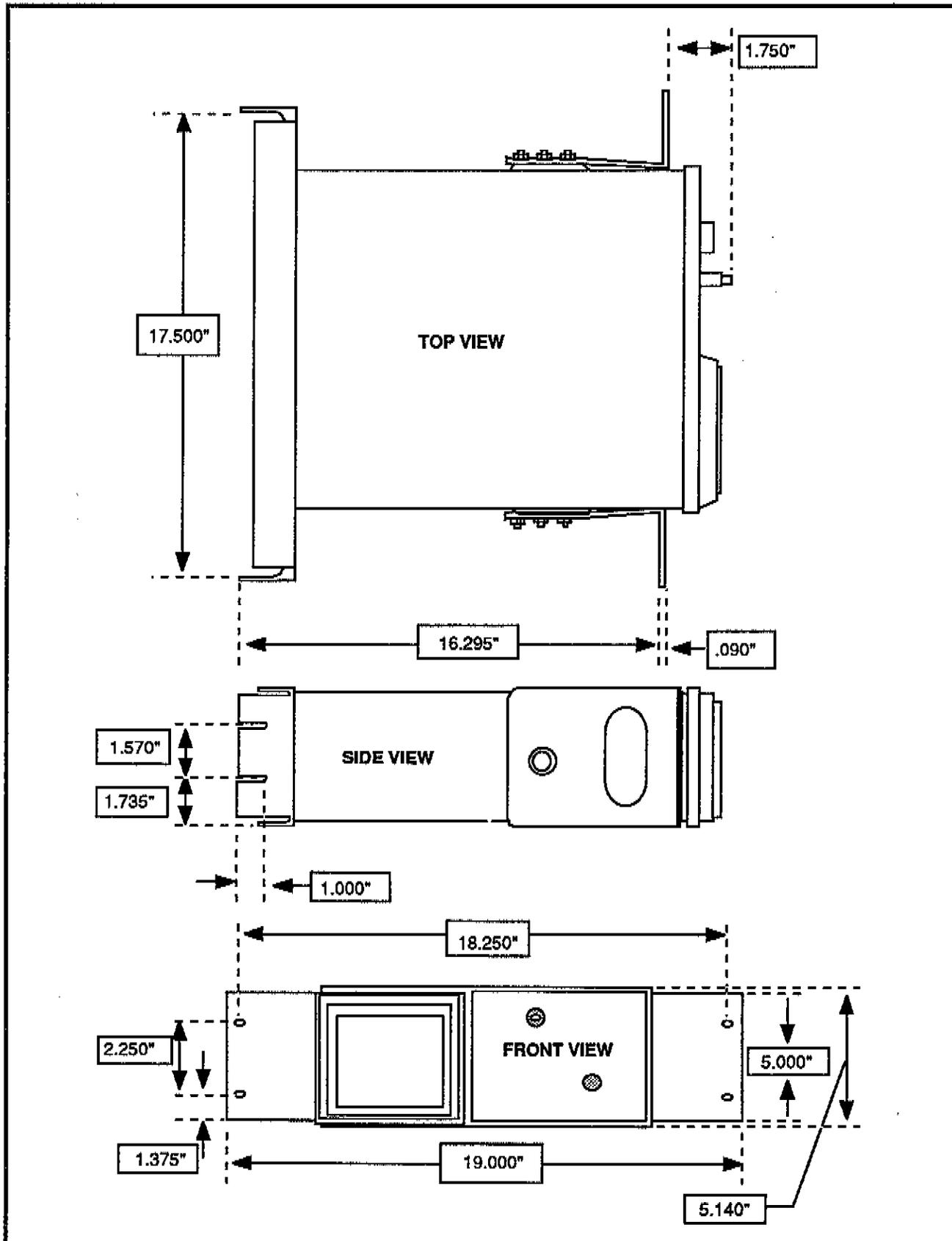


Figure 6-4. Dimensional drawing.

MOUNTING PROCEDURE

Assembling The Adapter

The following steps describe how to attach the Rack Adapter to the Spectrum Analyzer in preparation for installing it in a cabinet or rack.

1. Disconnect the power cord from the rear of the Spectrum Analyzer.
2. Use a #T15 Torx® tip to remove the two screws that retain the rear panel, and the four screws that retain the feet at the top and bottom front of the Spectrum Analyzer cabinet. Remove the four feet and the rear panel.
3. Remove the two 4-32 x 5/16-inch screws from the top rear of the Spectrum Analyzer cabinet.
4. Pull the front panel and attached chassis forward and out of the Spectrum Analyzer cabinet.
5. Pry off the two rubber feet from the bottom front part of the instrument's cabinet.
6. Use a #T20 Torx tip to remove the two screws that retain the handle from the inside of the cabinet. Remove the handle.

NOTE

The following items (previously removed) can be set aside and saved, for reconvertng to a portable Spectrum Analyzer at some future time, if so desired: rear panel with two attaching screws, four feet with four attaching screws, two feet, handle with two retaining screws.

7. Install the front right frame onto the Spectrum Analyzer cabinet using four 10-32 x 7/16-inch flat-head screws and four 10-32 Keps nuts. Use a small torque wrench to tighten the nuts to 20 in-lb.
8. Install the front left frame onto the Spectrum Analyzer cabinet using four 10-32 x 7/16-inch flat-head screws and four 10-32 Keps nuts. Tighten the nuts to 20 in-lb.
9. Slide the Spectrum Analyzer chassis back into its cabinet until the front edge of the cabinet is fully engaged in the front-panel groove. The rear edge of the cabinet should be flush with the rear of the Spectrum Analyzer chassis.

NOTE

Should the flat-head screws (installed in steps 7 and 8) cause the chassis to bind in the cabinet, remove the cabinet and tighten the screws until there is sufficient clearance for the chassis to slide freely into the cabinet.

A slight amount of chassis deformation will occur when tightening the screws. Therefore, the rear support must seat firmly on the Spectrum Analyzer chassis to ensure proper vibration dampening.

10. Install the two 4-32 x 5/16-inch screws in the top rear of the Spectrum Analyzer cabinet.
11. Install the rear support using four 6-32 x 7/16 -inch pan-head screws. Use a small torque wrench to tighten the nuts to 7.5 in-lb.
12. The adapted Spectrum Analyzer is now ready to be installed in a standard equipment rack.

RACKMOUNTING THE ADAPTED SPECTRUM ANALYZER

Perform the following procedure to install the Spectrum Analyzer (with attached rack adapter) in a standard 19-in rack.

1. Select appropriate mounting holes in the front rails of the equipment rack, observing the clearance measurements shown in Figure 6-5.
2. Secure a bracket extension to each of the two rear rails on the equipment rack, using mounting holes in the rear rails that correspond to the same level as the front-rail holes selected in step 1. If the mounting holes in the rear rails are tapped, use Figure 6-6A as a guide to secure the bracket. If the rear mounting holes are not tapped, use Figure 6-6B.

NOTE

Two persons are needed to bolt the Spectrum Analyzer in the rack. One person is needed to hold the Spectrum Analyzer in place while the other secures it in the rack.

Options - 2710 Service

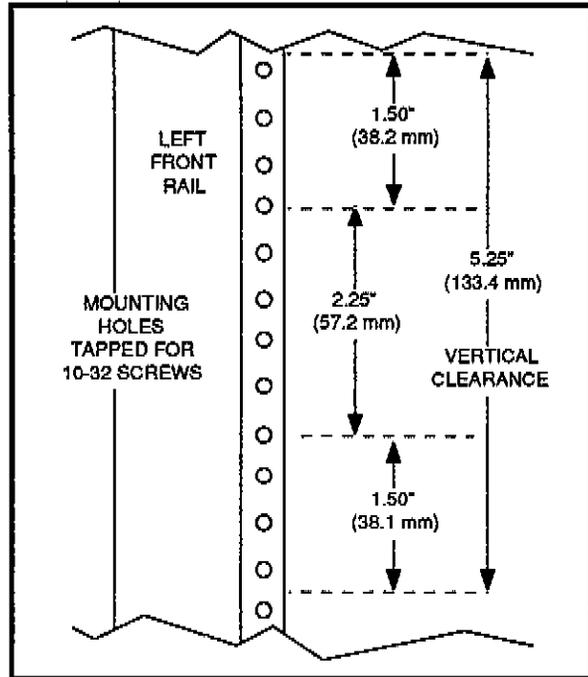


Figure 6-5. Locating mounting holes on front rails of equipment rack.

3. Set the Spectrum Analyzer in the rack and align the screw holes in the front frames of the rack adapter with the screw holes selected in step 1.

4. Secure the front frames of the rack adapter to the front rails of the equipment rack using four oval-head screws, four finishing washers, and four plastic washers, as shown in Figure 6-7.

5. Secure the bracket extensions to the rear support using four 10-32 x 1/2-in hex-head screws, four flat washers, and two bar nuts as shown in Figure 6-6.

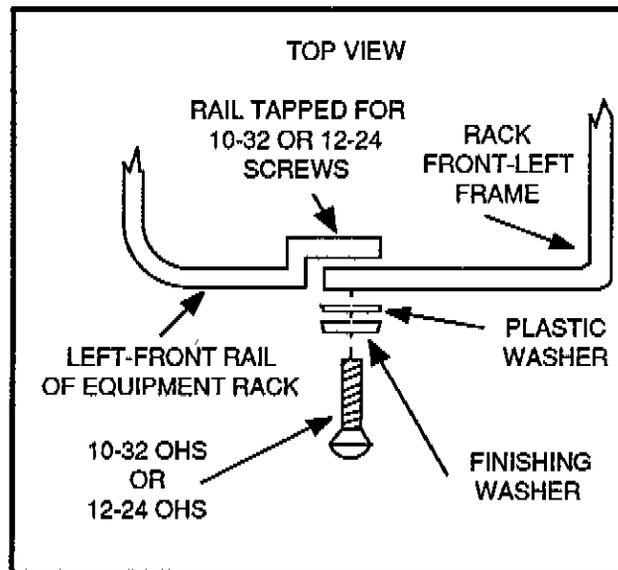


Figure 6-7. Securing rack-adapted Spectrum Analyzer to front rails of equipment rack.

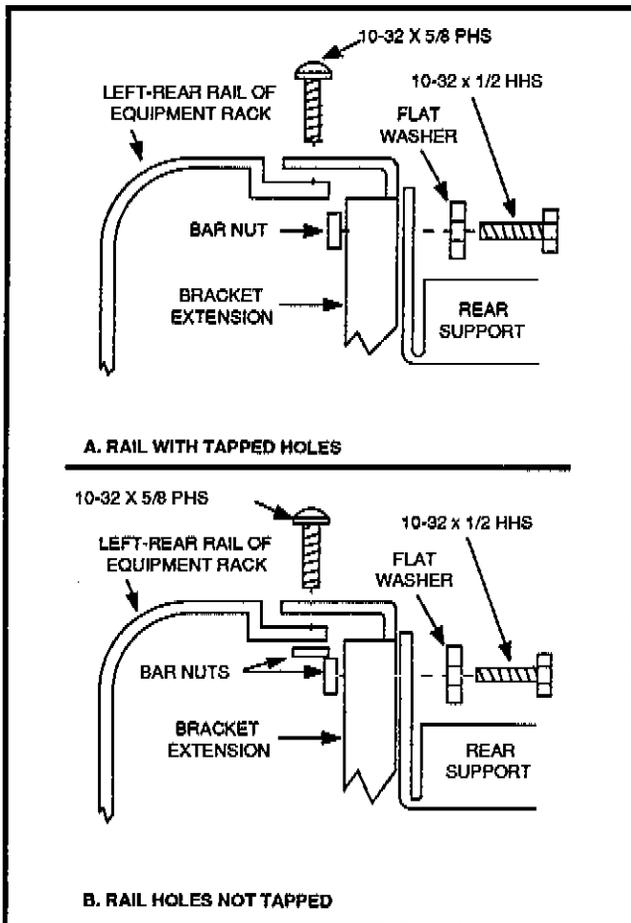


Figure 6-6. Installing bracket extensions.

OPTION 33

Option 33 Provides a Travel Line package including a rain cover, accessory pouch, gray crt filter, and carrying strap.

OPTION 34

Option 34 is a Portable to Rackmount adapter for 19 by 6.970 inch rack dimensions that enables mounting of the TEKTRONIX 2710 Spectrum Analyzer in a standard 19-inch rack. The adapter consists of a cradle (shelf) with slide-out assemblies and a mask to fit over the regular instrument panel.

Temperature Requirements

The ambient temperature inside the rack with the Spectrum Analyzer power on must not exceed +50° C (122° F).

Clearance Requirements

Figure 7-8 is a dimensional drawing of the Rack Adapter. At least 7 in (177.8 mm) of vertical space are needed to mount the Spectrum Analyzer in an equipment rack. Minimum width of the opening between the left and the right front rails in the rack must be 17 5/8 inches (448 mm). Total depth of the rack must be at least 17 inches (432 mm). These clearances will allow sufficient space for air circulation and accommodation of the power cord and mounting hardware.

Mounting the Spectrum Analyzer in the Adapter

The following steps describe how to attach the Spectrum Analyzer to the Rack Adapter in preparation for installing it in a cabinet or rack.

1. Disconnect the power cord from the rear of the Spectrum Analyzer.
2. Swing the Spectrum Analyzer handle up so it ends up at approximately 90° with respect to the Spectrum Analyzer.
3. On the rack adapter, loosen the three screws shown in Figure 6-9, and slide the retaining bar back.
4. Move the tie-down strap on the rack adapter out of the way.
5. Place the Spectrum Analyzer in the rack adapter and push it forward until the crt bezel is flush with the rack adapter mask. See Figure 6-10.
6. Push the rack adapter retaining bar forward to hold the Spectrum Analyzer in the cradle, then tighten the three screws (Figure 6-9).

7. Drape the tie-down over the Spectrum Analyzer and latch it in the hole shown in Figure 6-11.

8. Take up some slack from the tie-down so that the nylon strap is just barely snug, then take up the final slack with the tie-down buckle. See Figure 6-10 for the final product.

9. Swing the Spectrum Analyzer handle back so it ends up resting on the Spectrum Analyzer.

10. The adapted Spectrum Analyzer is now ready to be installed in a standard equipment rack.

11. To install the adapted Spectrum Analyzer in the rack, refer to RACKMOUNTING THE ADAPTED SPECTRUM ANALYZER under Option 33.

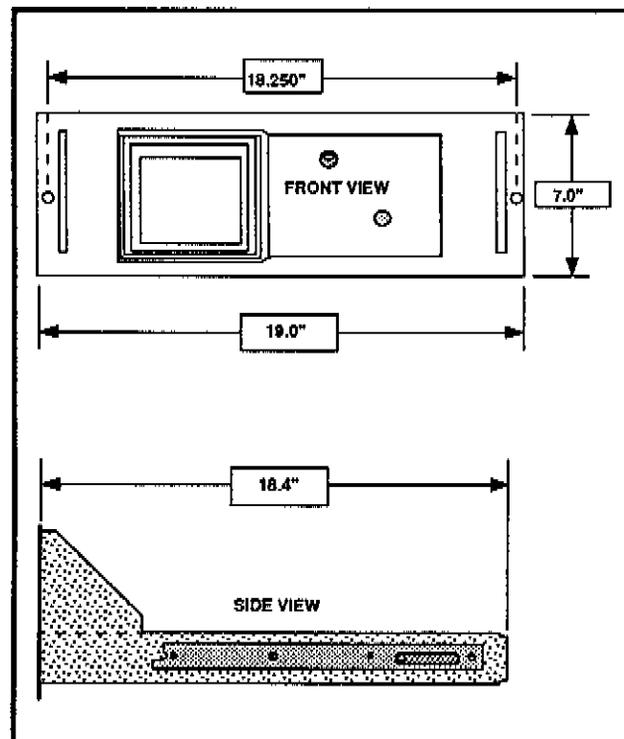


Figure 6-8. Rack Adapter dimensions.

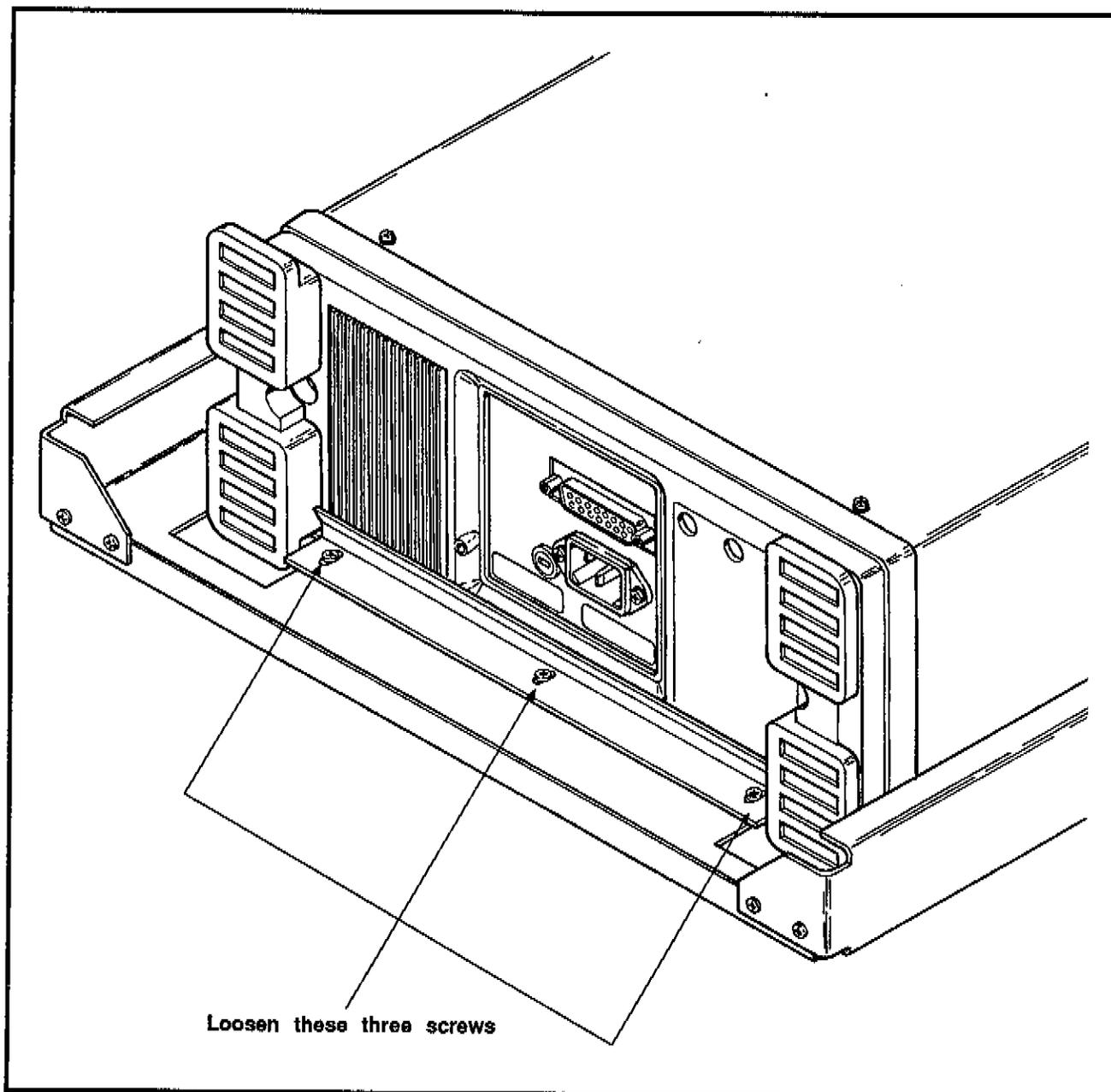


Figure 6-9. Rear of cradle-mount showing retaining bar and three securing screws.

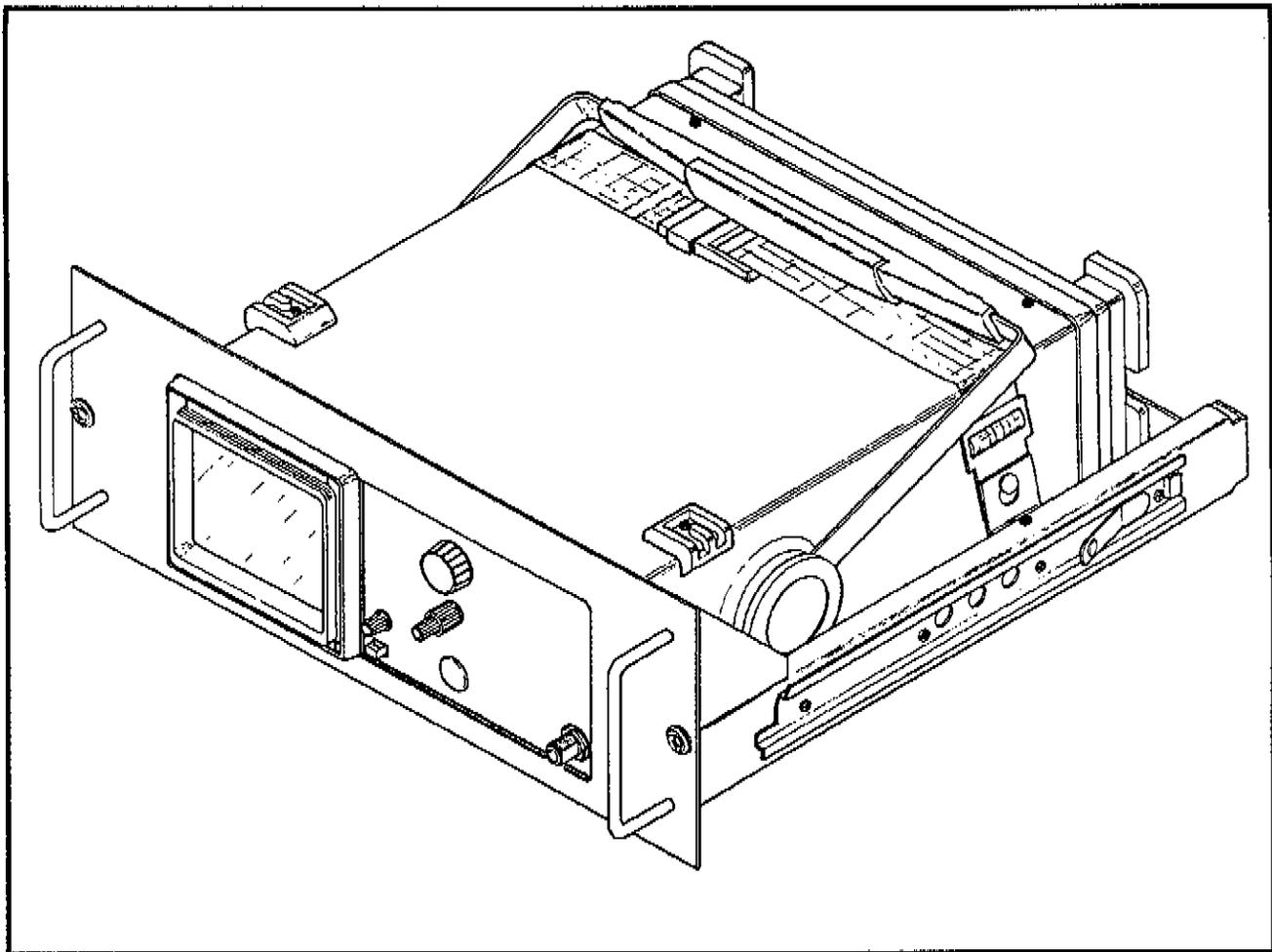


Figure 6-10. Spectrum Analyzer Installed In the cradle-mount rack adapter.

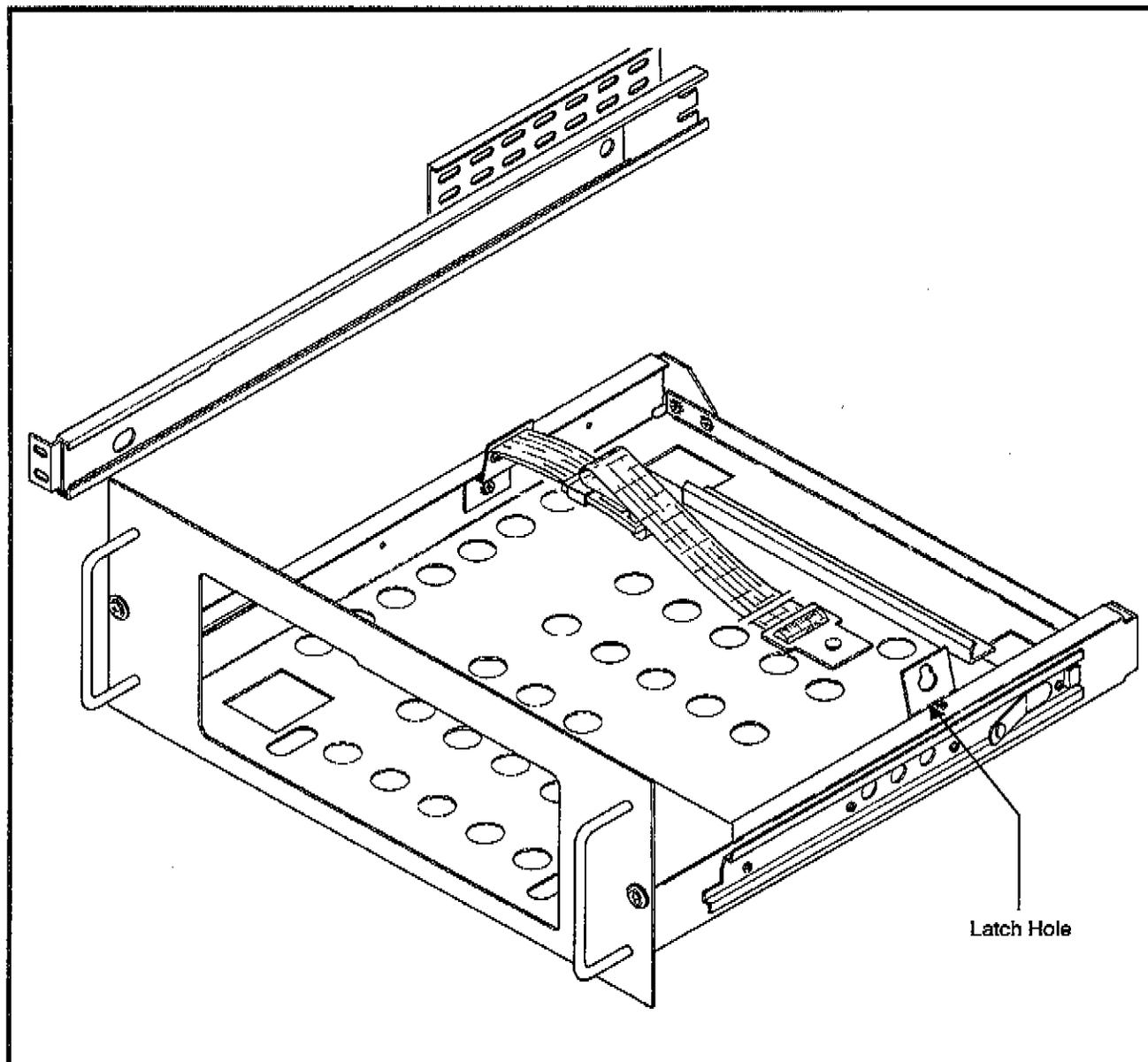


Figure 6-11. Latch hole for tie-down.

THEORY OF OPERATION

BLOCK DIAGRAM DESCRIPTION

The Spectrum Analyzer block diagram can be broken into the following major blocks:

- Attenuator
- Low Pass Filter
- 1st Converter
- Bandpass Filter (4 Cavity Filter)
- 2nd Converter
- RF Mother Board (3rd Converter)
- VR (Variable Resolution Amplifier)
- Log Amplifier
- Microprocessor
- Center Frequency Control
- Counter Amplifier
- 1st LO
- 1st LO Buffer Amplifier
- Display Storage Board
- Sweep
- Power Supply (Deflection)

This is a block diagram description of the Spectrum Analyzer. While reading this description, refer to Figure 7-1. The description titles use the block diagram names for easy reference.

NOTE

The power levels noted in the block diagram between the input and the Log Amplifier assume a -30 dBm input level.

The Block Diagram shows how the major sections in the instrument relate and the paths of most major signals. Not explicitly shown are the interconnections between the Power Supply and the circuit blocks, interconnections between the Sweep board and other major circuit blocks, and interconnections between the Deflection System and other circuit blocks. (The Deflection System is located on the Power Supply board.)

RF-type signal connections between modules are made via double-shielded/coaxial cables, while dc-type signal connec-

tions are made via either multi-pin jacks on the Power Supply board (Power Supply, Log Amplifier, Display Storage, Microprocessor, and Center Frequency Control boards) or small ribbon cables.

The main Block Diagram at the front of the Diagrams section provides a chart of the interconnect system in addition to what is shown in Figure 7-1. Block diagrams showing more detail of these main sections appear before the appropriate schematics together with another description. Circuit schematic diagrams follow the main block diagram.

What It Does

The spectrum analyzer accepts an electrical signal as its input and displays the signal's frequency components on a crt. Signals are applied directly to the RF INPUT.

The display of the input signal appears on the crt as a graph where the horizontal axis is frequency and the vertical axis is amplitude.

How It Works

The Spectrum Analyzer operates as a variable bandwidth receiver. The crt beam moves horizontally as a range of frequencies is spanned. When a frequency component of an input signal is detected, the beam is deflected vertically as a function of input power at that frequency.

ATTENUATOR AND LOW PASS FILTER

There are two selections for inputs to the Spectrum Analyzer, the RF INPUT at the front panel and the internal calibrator signal.

The Attenuator adds attenuation to the input signal such that the level at the input of the 1st mixer (1st Converter) is limited to no more than -30 dBm. This would represent a full-screen signal. Also, an amplifier can be inserted in the signal path to improve sensitivity when small signals are applied to the RF INPUT by invoking the PREAMP mode. The Microprocessor sets the amount of attenuation, depending on the user-selected reference level, to maintain the proper signal level.

The signal is then routed to the 1st Converter via a Low Pass Filter. The Low Pass Filter attenuates out-of-band signals and helps minimize 1st Local Oscillator (LO) emission at the RF INPUT. When the PREAMP mode is invoked, the Microprocessor sets the appropriate amount of attenuation, or sets the gain of an internal amplifier (Variable Resolution) to maintain a calibrated display.

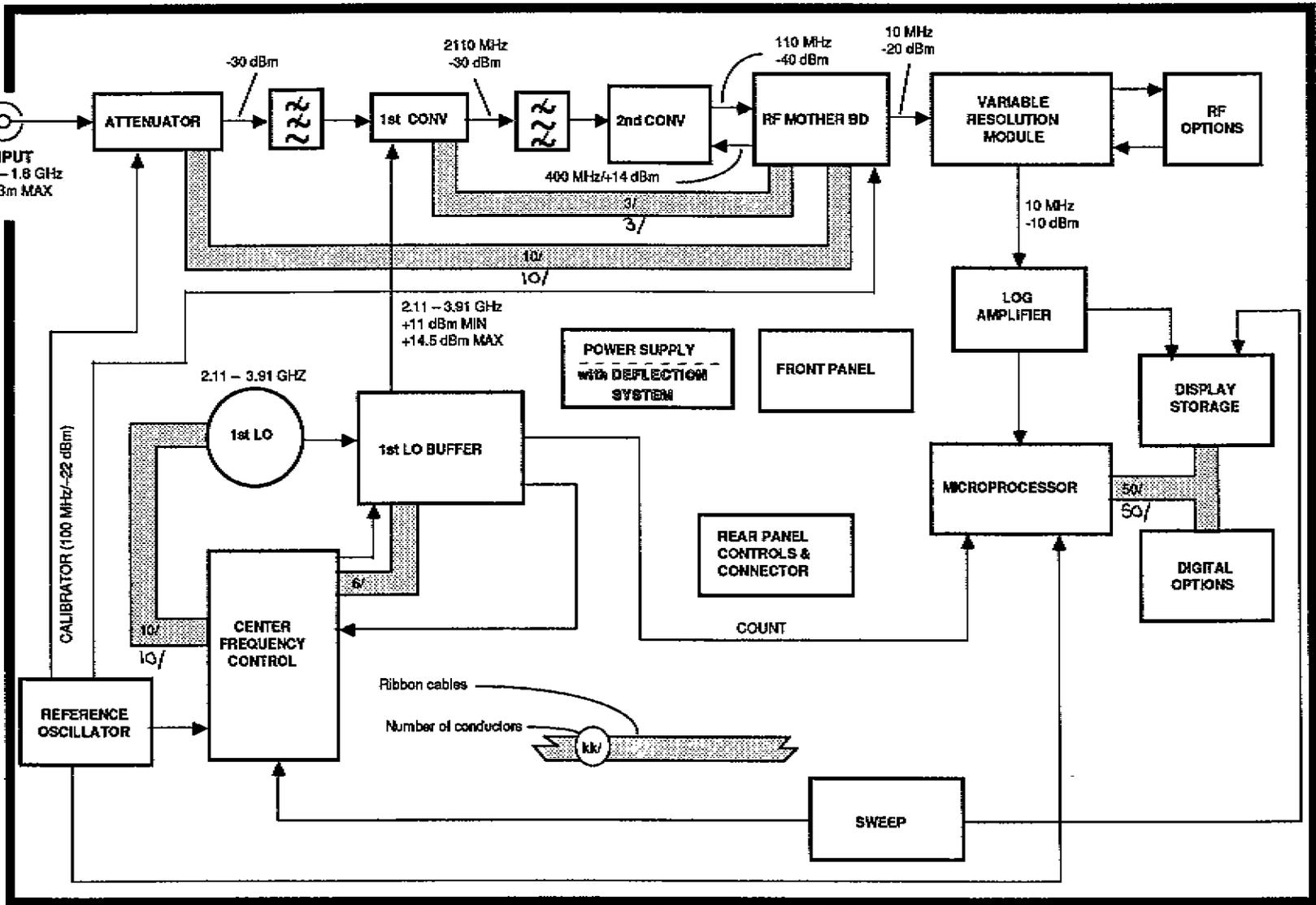


Figure 7-1. Main block diagram.

1ST CONVERTER AND BANDPASS FILTER

The input signal is converted to an intermediate frequency (IF) signal of 2110 MHz. This is accomplished by mixing the input signal with a LO signal that varies over a range of 2.11 GHz to 3.91 GHz. The LO range corresponds to a range of 0 Hz to 1.8 GHz at the RF INPUT. The output of the mixer is then amplified to compensate for the conversion loss, and filtered to allow only the difference frequency to pass. All other mixer products are attenuated.

2ND CONVERTER

The 2nd Converter down-converts the 2110 MHz IF signal to 110 MHz, then routes this 2nd IF to the RF Mother board.

RF MOTHER BOARD

The RF Mother board contains the 5 MHz resolution bandwidth filter, several gain stages, and a mixer (3rd converter). The 3rd converter on the RF Mother board down-converts the 110 MHz 2nd IF to 10 MHz, then route this 3rd IF to the Variable Resolution module. The RF mother board also provides a "LO" source for the 2nd Converter.

VARIABLE RESOLUTION MODULE

The Variable Resolution contains several, selectable gain stages prior to the filters, four filters, and a compensation amplifier. One of the four filters or an external filter may be selected. Each filter has a pad associated with it that compensates for losses in the filter. The system selects the appropriate amplifier for each filter selected.

The signal (10 MHz IF) is processed through one of several band-pass filters, amplified once more, and then routed to the Log Amplifier board.

THIS SPACE RESERVED FOR A FUTURE OPTION

THIS SPACE RESERVED FOR A FUTURE OPTION

LOG AMPLIFIER

The Log Amplifier performs the logarithmic conversion, linear detection and logarithmic detection of the incoming signal, and amplitude calibration. The log display has scale factors of 10dB/div, 5dB/div, and 1dB/div. The module also contains a FM detector, an audio amplifier, an amplitude-limited output for the period counter, and an out-of-band signal clamp.

The detector produces a voltage that corresponds to the input signal strength in decibels. The detector output is then vertically scaled and sent to the Display Storage and Sweep boards.

The control of the log by the control processor is through three 8-bit shift registers.

DISPLAY STORAGE

The Display Storage board contains the circuitry for putting text and waveforms onto the CRT display.

This board contains the following programmable Functions:

- Waveform Storage - four 512 point waveforms
- Dot Markers - up to two intensified markers

Circuit Description - 2710 Service

- Text Storage - four 32 character by 16 lines of text
- Accumulator data - direct access to the output of the A-to-D converter.
- Non-Volatile memory - 32k total; 2k used for waveforms; 2k used for text; the rest is available for general use.

When enabling the analog display, the waveforms A, B, C, and D are turned on, but not displayed. This results in a chopped-blanking effect between the readout and the analog display. The scanning alternates between the readout and the analog display.

The Display Storage board is capable of storing 4 waveforms of 512 bytes each, 4 pages of text of 512 bytes each, and up to two markers. Any combination of waveforms and text may be displayed on the CRT. If one or more waveforms are being displayed, the text portion of the display is limited to approximately 100 characters in order to avoid flicker.

Only one page of text may be displayed at any one time. The readout page is limited to approximately 100 characters.

The waveforms and text displays are accessed through memory reads and writes. When (DISPLAY) A, B, C, or D is selected, the stored waveforms in those registers are displayed. When A, B, C, and D are deselected, the display reverts to the real time (non-digitized) video waveform, and the readout is updated during the readout cycle.

CENTER FREQUENCY CONTROL SYSTEM

The purpose of the Center Frequency Control system is to provide 1st Local Oscillator (1st LO) signal to the 1st Converter at the center frequency and span demanded by the user. In general this is accomplished by a combination of setting, counting, and resetting (as required) of the frequencies of various oscillators.

The system is expected to control the frequency within a few Hz out of a total operating range of about 2 GHz.

The principal elements of the frequency control system are:

1st LO

This is a YIG-tuned oscillator which covers the range of 2.11 through 3.91 GHz. (YIG = Yttrium Iron Garnet.) Ideally, its operating frequency is exactly proportional to the strength of an internal DC magnetic field which is the combined field of two coils, one large (Main coil) and the other small (FM coil). In practice, the frequency is uncertain by up to a few MHz due to problems such as temperature drift, slight nonlinearity, and

magnetic hysteresis. Additionally, the oscillator has some residual FM and phase noise sidebands due both to internal causes and to external noise and drift from imperfect driver circuitry. It is the province of the remainder of the frequency control system to put the oscillator (abbreviated "YIG") at the right frequency despite the above mentioned imperfections. In some regimes it is sufficient to set the YIG, then periodically check its frequency and make small readjustments as required. However, in very narrow spans it is necessary to phase lock the YIG to a more stable source in order to maintain sufficient stability.

The 1st LO Interface provides drive signals for the main coil and FM coil, a control signal for the main coil, and power for the gain stage.

100 MHz Reference Oscillator

This is a precision, temperature-controlled, quartz crystal oscillator which provides the reference around which all instrument frequency related performance revolves. It is designed for maximal frequency stability over temperature and time, with absolute frequency accuracy being secondary. Provision is made in the instrument firmware to account for the absolute frequency inaccuracy so the user effectively has a virtually perfect reference.

Phase Gate

The phase gate is a high speed sampling switch which takes a very brief sample of the 1st LO waveform once each cycle of the strobe frequency. (The strobe is a control signal supplied to the phase gate from an external source.) These samples are later averaged by a low pass filter to eliminate ripple at the strobe frequency as well as some other undesirable components.

When the 1st LO is phase locked to any integer multiple of the strobe frequency, the resulting output is a phase dependent DC voltage which is used as the error voltage in a feedback loop to maintain phase lock.

When the 1st LO is not phase locked, the resulting output is a beat note occurring at the difference frequency between the 1st LO frequency and the nearest integer multiple of the strobe frequency. (Actually many beat frequencies are present at once, but the fore-mentioned low pass filter eliminates all but the lowest frequency one.)

Phase Lock Center Frequency Control (PLCFC) Module

This element is the focal point of the frequency control system hardware. It accepts commands from the instrument micro-processor and then puts out appropriate drive signals to the

Circuit Description - 2710 Service

1st LO as well as a suitable strobe signal to the Phase Gate. The PLCFC module also uses the Phase Gate output. It also provides counter signals and status information to the microprocessor. It requires the 100 MHz reference signal in order to function.

Firmware

Because of the variety of tasks which the Spectrum Analyzer is called upon to do, it is essential to have an intelligent controller. This is especially true in the frequency control context because the required degree of control could not be economically obtained with unassisted analog hardware.

Thus, instrument firmware has the task (among many others) of commanding the frequency control hardware, taking feedback from it, and making readjustments as required to obtain the desired result.

The interface between the microprocessor system and the PLCFC module is through a pair of serial data lines, some latch lines, and some clock signals.

1st LO BUFFER

The 1st LO Buffer consists of Leveled Amplifier and a Phase Gate Detector.

The Leveled Amplifier provides the LO input drive for the 1st Mixer.

The Phase Gate Detector logs 1st LO drift. That information is then used for frequency corrections.

SWEEP

The Sweep board contains a Microprocessor interface, horizontal sweep generator, trigger circuitry, vertical sweep (raster scan) circuitry, video processing, video line triggering, and graticule illumination.

This board receives messages from the microprocessor regarding its operation, but cannot send messages directly to the microprocessor.

Various combinations of resistors and capacitors yield the sweep speed selections.

The available trigger modes are Free Run, Internal, Line, External, TV Field, and TV Line. When the video monitor mode is selected (Option 10 installed), the readout, display storage, and video filter are turned off; the resolution bandwidth is set to 5 MHz; the Vertical display mode defaults to Lin;

the span setting defaults to Zero Span; and the sweep rate defaults to 5 μ s. The video monitor mode can be aborted by deselecting via the trigger menu or by selecting another trigger mode.

The TV Line Trigger mode causes the Spectrum Analyzer to trigger on the selected video line, and display that line and part of the next line.

DISPLAY SYSTEM

The Display System consists of the Vertical Display circuit, Horizontal Display circuit, and Z-Axis circuit. See Figure 7-2.

The Display System has three possible display modes. Active spectrum display mode where the spectrum of the incoming signal is displayed, static spectrum display mode where the stored signals are displayed, and video monitor mode where live video signals are displayed.

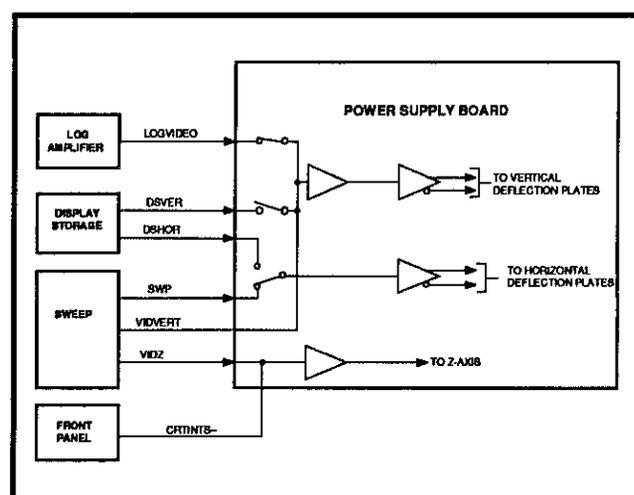


Figure 7-2. Display system.

CIRCUIT DESCRIPTION

ATTENUATOR AND 1ST CONVERTER S1

The Attenuator and 1st Converter signal path consists of:

- Attenuator
- Low-Pass Filter
- 1st Mixer
- Bandpass Filter

Attenuator

The Spectrum Analyzer input frequency range is 10 kHz to 1.8 GHz. The low end of the frequency range is determined by a capacitor on the Attenuator board, the narrowest resolution filter in the Variable Resolution assembly, and FM characteristics of the 1st LO (YIG Oscillator).

The signal comes in at the front-panel RF INPUT connector. The RF INPUT connector is connected to a 0-50 dB step attenuator, capable of stepping from 0 to 50 dB in 2 dB steps. The Attenuator consists of relay-controlled pads of 2, 4, 8, 16, and 20 dB. The relays are controlled by the instrument firmware to provide the necessary attenuation to maintain a calibrated reference level.

A relay switch at the input of the Attenuator selects the rf input signal or the internal calibrator signal. See Figure 7-3. Since the calibrator signal comes into the Attenuator assembly ahead of the attenuators, it can be used to verify the accuracy of the Attenuator besides other parameters. Selection is made via the INPUT MENU control on the front-panel.

Also, an amplifier with 18 to 20 dB of gain may be inserted in the signal path at the output of the Attenuator. This is the PREAMP mode, selectable via the INPUT MENU. It is used

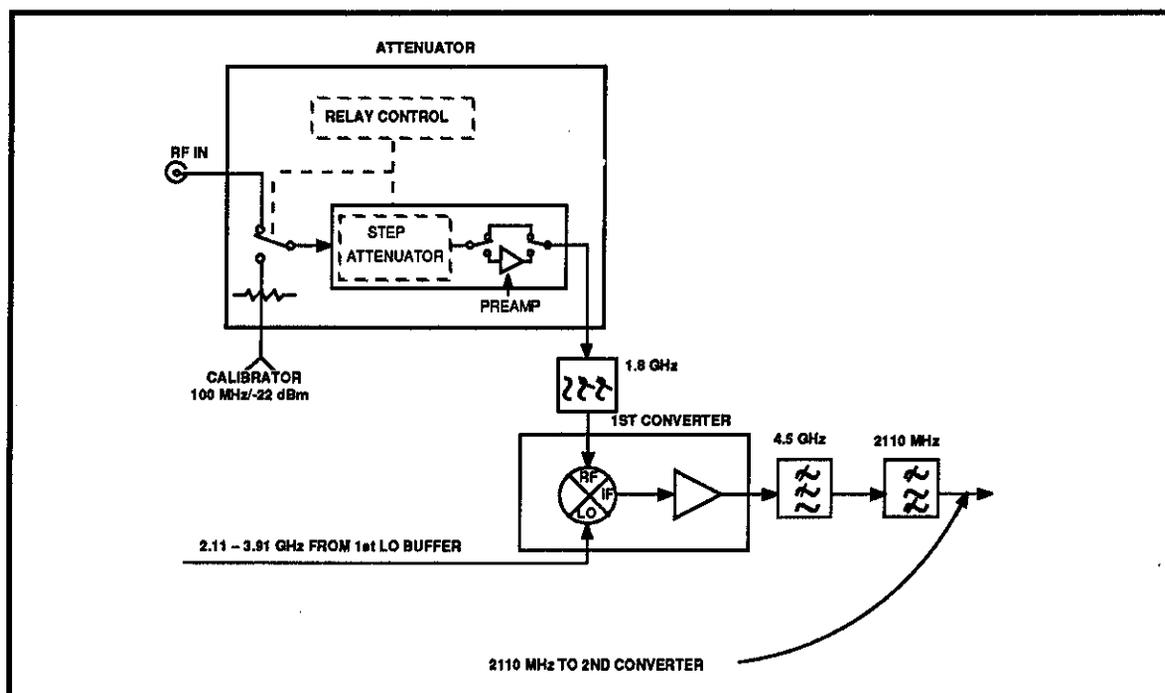


Figure 7-3 Attenuator and 1st Converter

to enhance sensitivity, when small signals are applied to the input, by maintaining the same signal-to-noise ratio from the input to the 2nd Converter. When a small signal is applied to the RF INPUT, and the PREAMP mode activated, both the signal and the noise level are amplified an equal amount. Any attenuation, less than the gain of the preamp, will then attenuate both the signal and the noise. Thus, signal-to-noise ratio remains nearly constant. In the meantime, the instrument makes corrections in the IF to maintain a calibrated reference level.

Low Pass Filter

The Low Pass Filter attenuates all out-of-band frequencies, i.e., it tends to reject all frequencies above 1.8 GHz, preventing them from reaching the mixer input and creating unwanted images. By the same token, it reduces emissions from internally-generated frequencies above 1.8 GHz.

1st Converter

The 1st Converter converts the incoming RF signals to the 1st IF. Input signals are applied through the Step Attenuator and Low-Pass Filter, and via the 1st LO Buffer Amplifier.

The 1st Converter receives the RF signal through the Low Pass Filter and a 1st LO signal from the 1st LO Buffer Amplifier. These signals combine to produce mixing products that are filtered to yield the 2110 MHz IF signal.

The mixer output is coupled to the input of a balanced amplifier where the signal is split into two paths. The signals in the two paths are 90 degrees out of phase. The signals are recombined at the output, yielding a gain of approximately 10 dB. Any reflections to the input are dissipated in a 50 Ω termination. The output is also terminated in 50 Ω to assure a match at the output port.

Bandpass Filter

The Bandpass Filter, a four-cavity filter, is a low-loss narrow-band filter that only passes the 2110 MHz IF signal to the 2nd Converter. Any other frequencies are reflected back to the 1st Converter and dissipated in the termination. In addition, the filter prevents the 2nd Converter "LO" and mixer products from feeding back into the 1st Converter.

Each end resonator is capacitively coupled to external circuits through a coupling hat plugged into a 3 mm connector. Intercavity coupling is provided by coupling loops that protrude from the machined filter top. The resonant frequency of each cavity is determined primarily by the depth of a gap in the underside of the filter top, and is fine-tuned with a tuning screw on the side of each cavity. When properly tuned, the filter return loss is >25 dB from either end (in a 50 Ω system). Figure 7-4 shows the equivalent electrical circuit, and Figure 7-5 shows a cross sectional view of the filter.

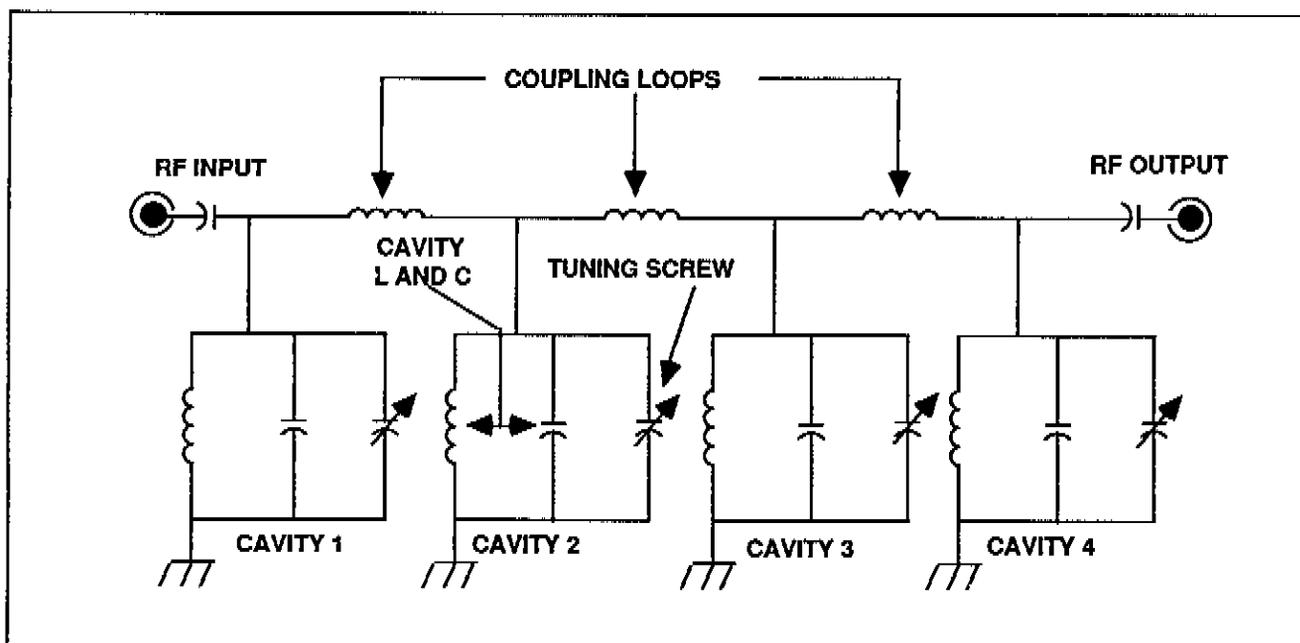


Figure 7-4 Equivalent electrical circuit for the 4-cavity filter.

Circuit Description - 2710 Service

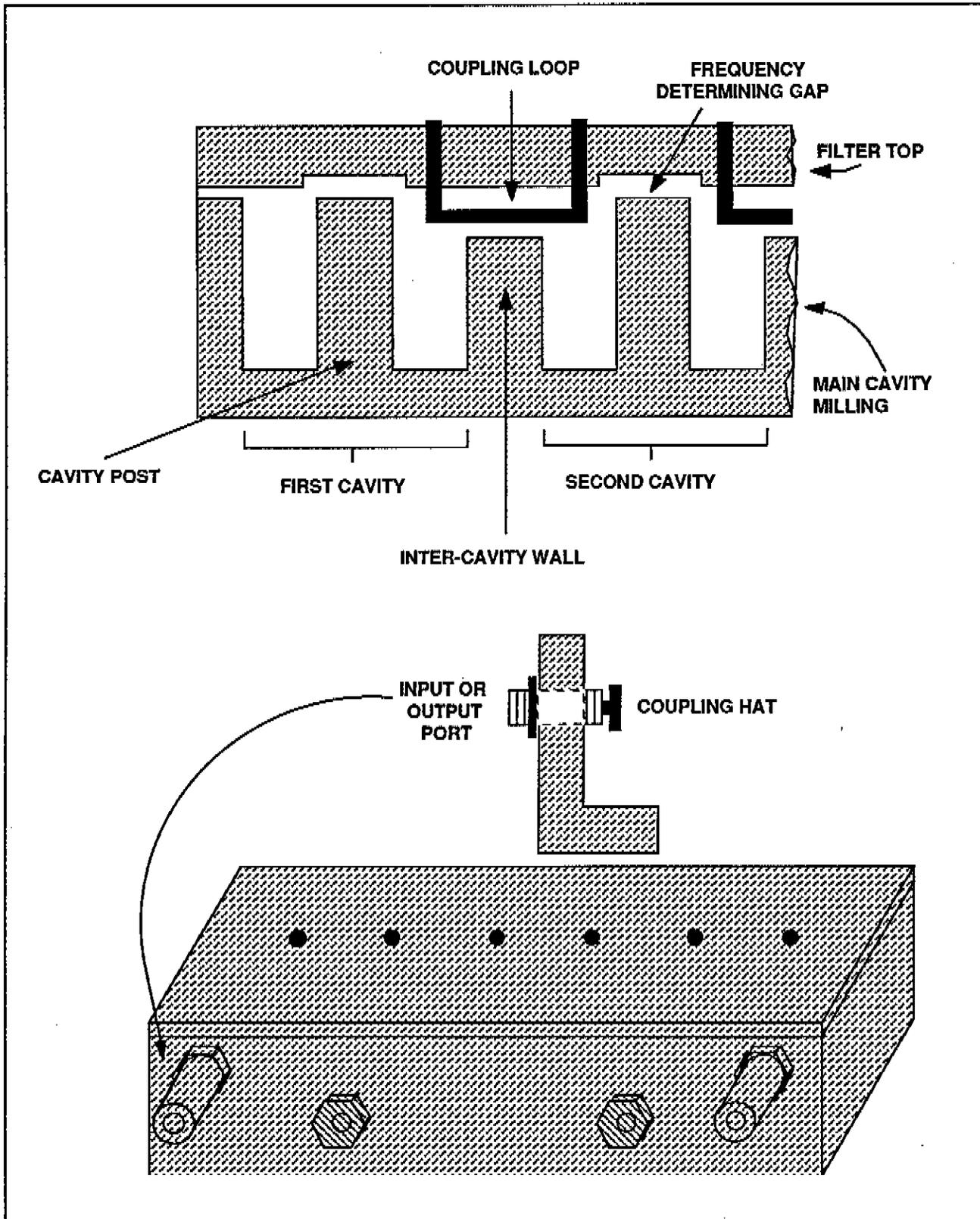


Figure 7-5. Cross-section of 4-cavity filter.

RF MOTHER BOARD AND 2ND CONVERTER S2

2ND CONVERTER

The 2nd Converter mixes the 2110 MHz IF from the 1st Converter with a 2000 MHz "LO" to produce the 110 MHz 2nd IF. The converter consists of four major stages, viz:

- Low Pass Filter
- X5 Multiplier (and 2000 MHz Filter)
- Gain
- Mixer

See Figure 7-6

Low Pass Filter

The Low Pass Filter serves a dual purpose. It passes the 400 MHz, the 4th harmonic of the reference oscillator, and attenuates higher harmonics. Secondly, high order products of the X5 Multiplier, a snap diode multiplier, are prevented from feeding back into the Mother board.

X5 Multiplier

The multiplier stage uses a snap diode to generate energy across the frequency spectrum. The input low-pass filter prevents high order energy from feeding back into the 400 MHz source, while the bandpass filter blocks all frequencies other than the desired 2000 MHz. Out of band frequencies are

dissipated by a damping network (not shown in Figure 7-6) consisting of an RC time constant. This improves output purity by reducing the phase noise around the 2000 MHz signal.

Gain

The amplifier stage consists of two gain stages and two 3 dB pads (not shown) with a combined gain of +10 dB at 2000 MHz. With a matching network between the output of the last gain stage and the LO input port of the mixer, the total gain then becomes +13 dB.

Mixer

The mixer converts the 2110 MHz 1st IF signal to 110 MHz 2nd IF signal. A lowpass filter at the IF output port passes the 110 MHz IF signal and attenuates all high order products from the mixer. The filter has an insertion loss of about 1 dB.

RF MOTHER BOARD

The RF Mother board converts the 2nd IF (110 MHz) to the third and final IF (10 MHz). The board consists of the 100 MHz Gain stage for the incoming LO signal, 110 MHz IF Gain stage, PIN Diode Attenuator, 110/5 MHz Bandpass Filter, 3rd Converter, 10 MHz IF Gain stage, and a 400 MHz "LO" source for the 2nd Converter. See Figure 7-7.

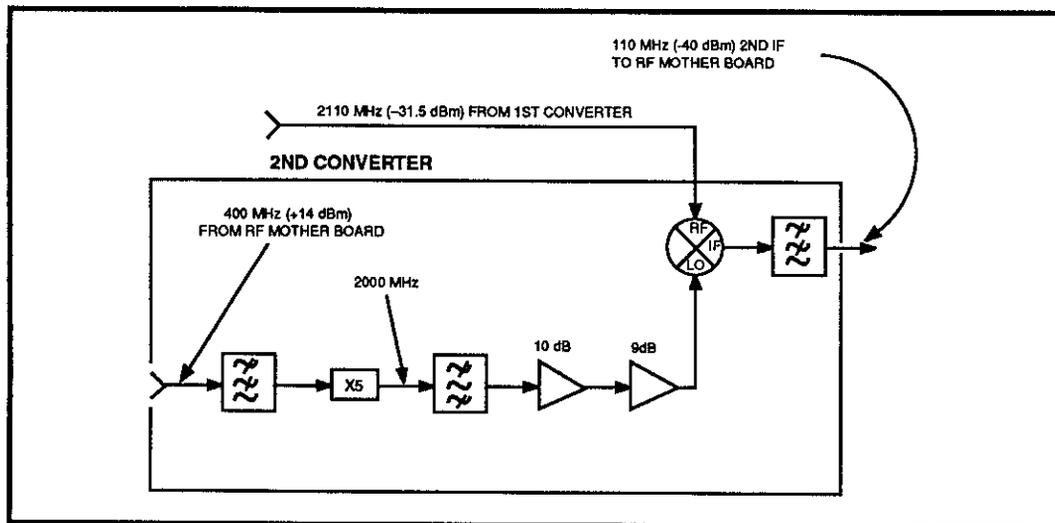


Figure 7-6. 2nd Converter block diagram.

Circuit Description - 2710 Service

100 MHz Gain

The 100 MHz Gain stage consists of two amplifiers. The Reference Oscillator output is coupled to the first amplifier via a low pass filter and a transformer. The two amplifiers have a combined gain of ≈ 30 dB, which yields a total gain of ≈ 25 dB from the input to the second amplifier output. The output of these two amplifiers (3rd LO) drives the switching inputs of the 3rd Converter via a transformer.

110 MHz IF Gain

The 110 MHz IF Gain stage consists of four amplifiers and a PIN diode attenuator. Each one of these amplifiers typically has a gain of ≈ 8.5 dB, for a combined gain of $+34$ dB. However, taking into account losses between stages, the total gain realized becomes $+27$ dB.

The PIN diode attenuator is used to set the overall gain of the IF system while maintaining the 50Ω integrity of the system.

110/5 MHz Bandpass Filter

The 110/5 MHz Bandpass Filter is centered at 110 MHz and from 4 MHz to 6 MHz wide at the 6 dB down point, and is the 5 MHz resolution bandwidth filter. The filter output is coupled to the carrier inputs of the 3rd Converter via a transformer.

3rd Converter

The 3rd Converter consists of a balanced demodulator/mixer and a low pass filter. The carrier input signal is the 2nd IF, and the LO input signal is the reference frequency (100 MHz). The low pass filter suppresses high order mixer products and passes the 10 MHz IF.

10 MHz IF Gain

The 10 MHz IF Gain stage is an amplifier having a gain of 11 dB. The net gain including the filter is $+9$ dB.

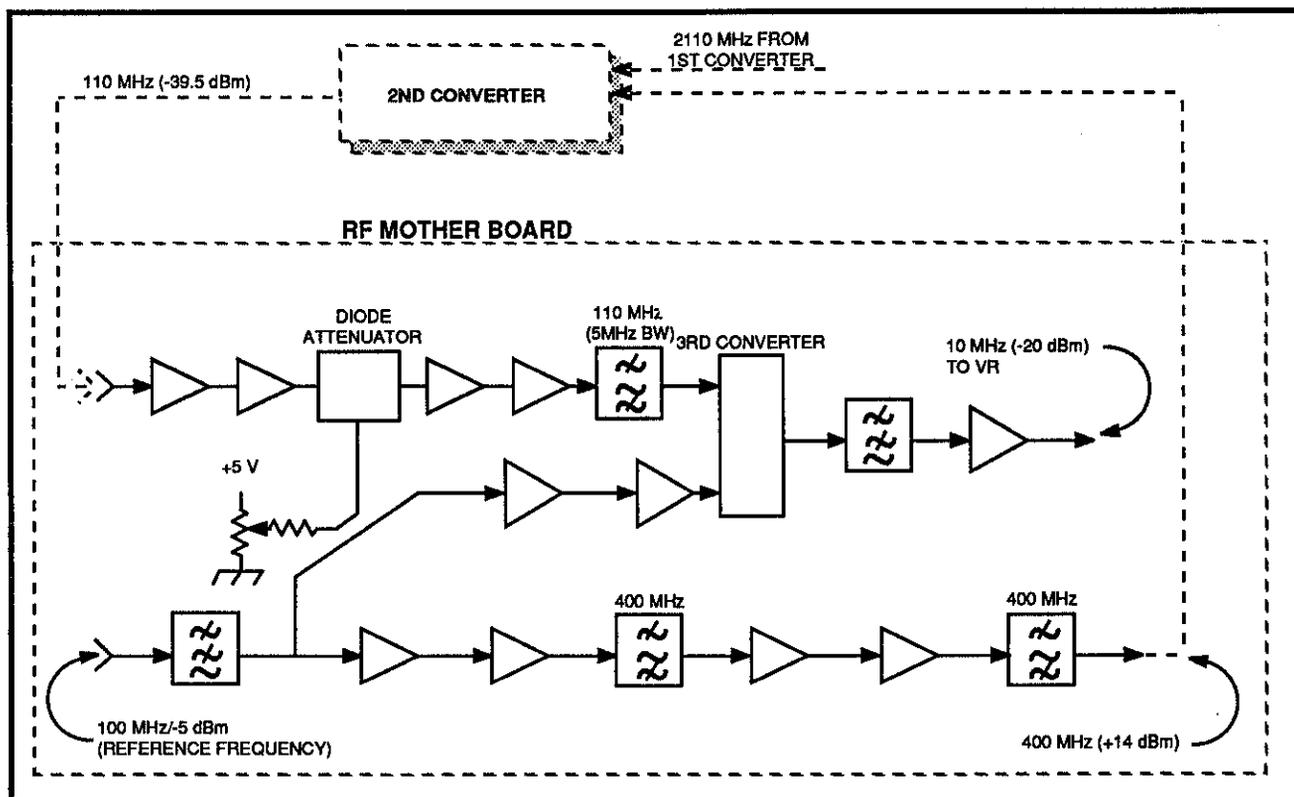


Figure 7-7. RF Mother board block diagram.

1st LO INTERFACE, 1st LO, AND 1st LO BUFFER AMPLIFIER

S3

1st LO INTERFACE AND 1st LO

The 1st LO has a tuning range of 2.11 to 3.91 GHz. The oscillator assembly includes the interface circuit board that couples operating and tuning voltages from the Center Frequency Control board.

Two zener diodes on the interface board clamp transient voltages from the main coil. See Figure 7-8.

When the FM coil is used to sweep the oscillator, the relay on the interface board closes and couples a large capacitor (two capacitors in parallel) across the main coil. The capacitors lower the noise bandwidth of the main coil driving circuit while the FM coil is in operation. The heater provides temperature stability.

The rest of the circuitry on the Interface board provides operating voltages for the two amplifiers in the 1st LO assembly.

The output of the 1st LO drives the 1st LO Buffer Amplifier.

1st LO BUFFER AMPLIFIER

The 1st LO Buffer Amplifier consists of the following:

- An automatic-level-controlled (alc) amplifier
- Strobe Driver
- Sampling Gate

ALC Amplifier

The Alc Amplifier is composed of a wide-band amplifier with impedance matching transmission lines at the input and output, a directional coupler, a detector, a level comparator, and active bias. See Figure 7-9.

The directional coupler couples a portion of the amplified LO signal to the detector, approximately -15 dBm. The coupled signal is then amplitude detected, and the resultant dc level fed to the non-inverting input of a comparator, where it is compared to a reference dc level. (The reference dc level is connected to inverting input). The output of the comparator then controls the active bias tending to hold the amplifier's output at a constant level.

Strobe Driver

A Strobe signal from the Center Frequency Control assembly is coupled to the Strobe Driver. The Strobe Driver is a transformer-coupled gain stage. Its output is coupled to the Sampling Gate.

Sampling Gate

A power divider at the input of the amplifier routes 50% of the 1st LO's output to another power divider. One port of the second divider is reserved for Option 15, and is terminated in 50 Ω . The other port is coupled to the Sampling Gate.

If the output frequency of the 1st LO were stable, LO sampling would occur at the same level since the rate at which the LO output is sampled is constant. However, the LO output has a tendency to drift slightly under certain conditions such as unstable ambient temperature. Consequently, sampling occurs at different levels, resulting in a beat note. Thus, the Beat Note signal is a measure of the 1st LO's drift.

The output of the Sampling Gate is routed to the Phase Lock/Center Frequency Control module.

Circuit Description - 2710 Service

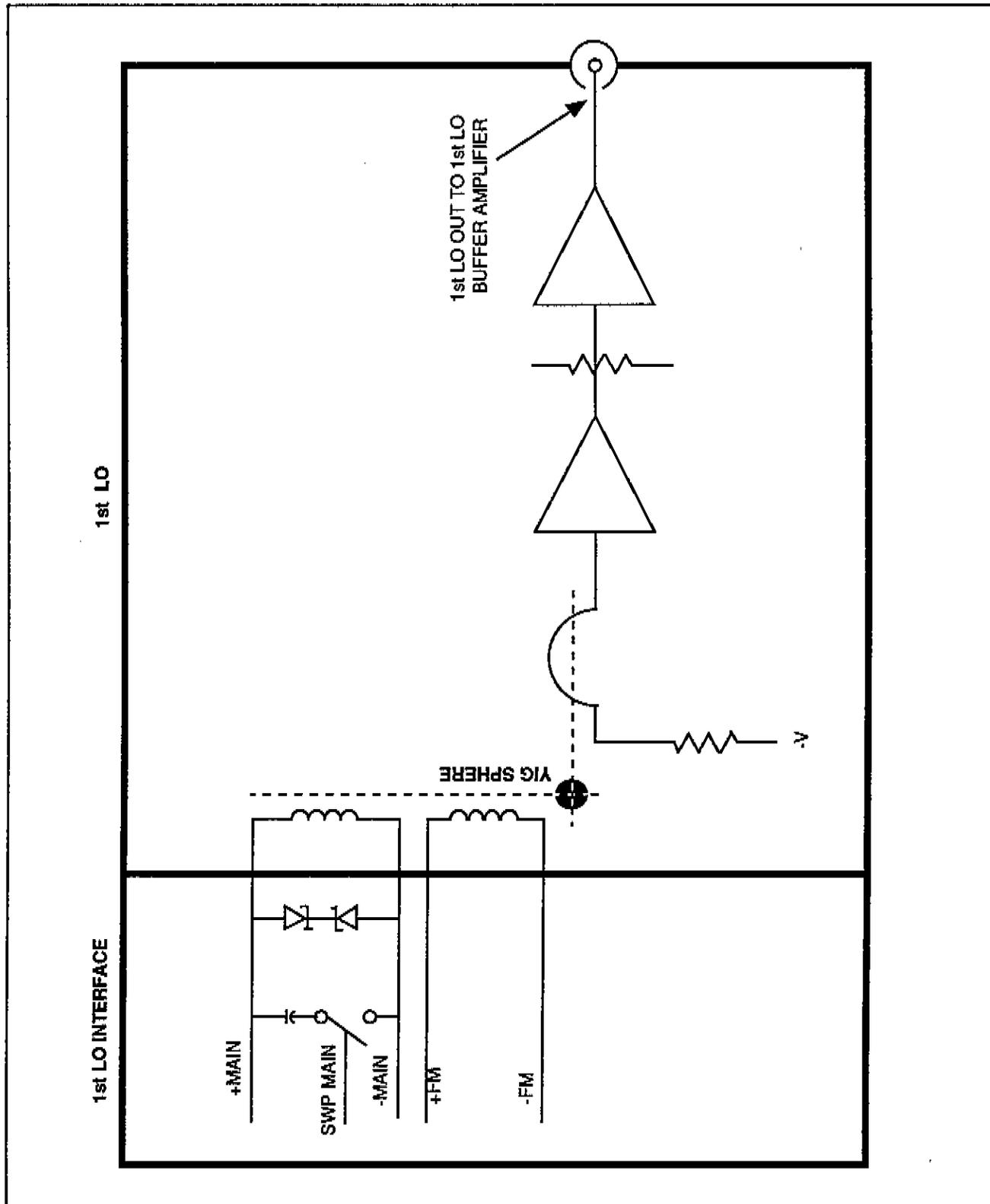


Figure 7-8. 1st LO Interface and 1st LO.

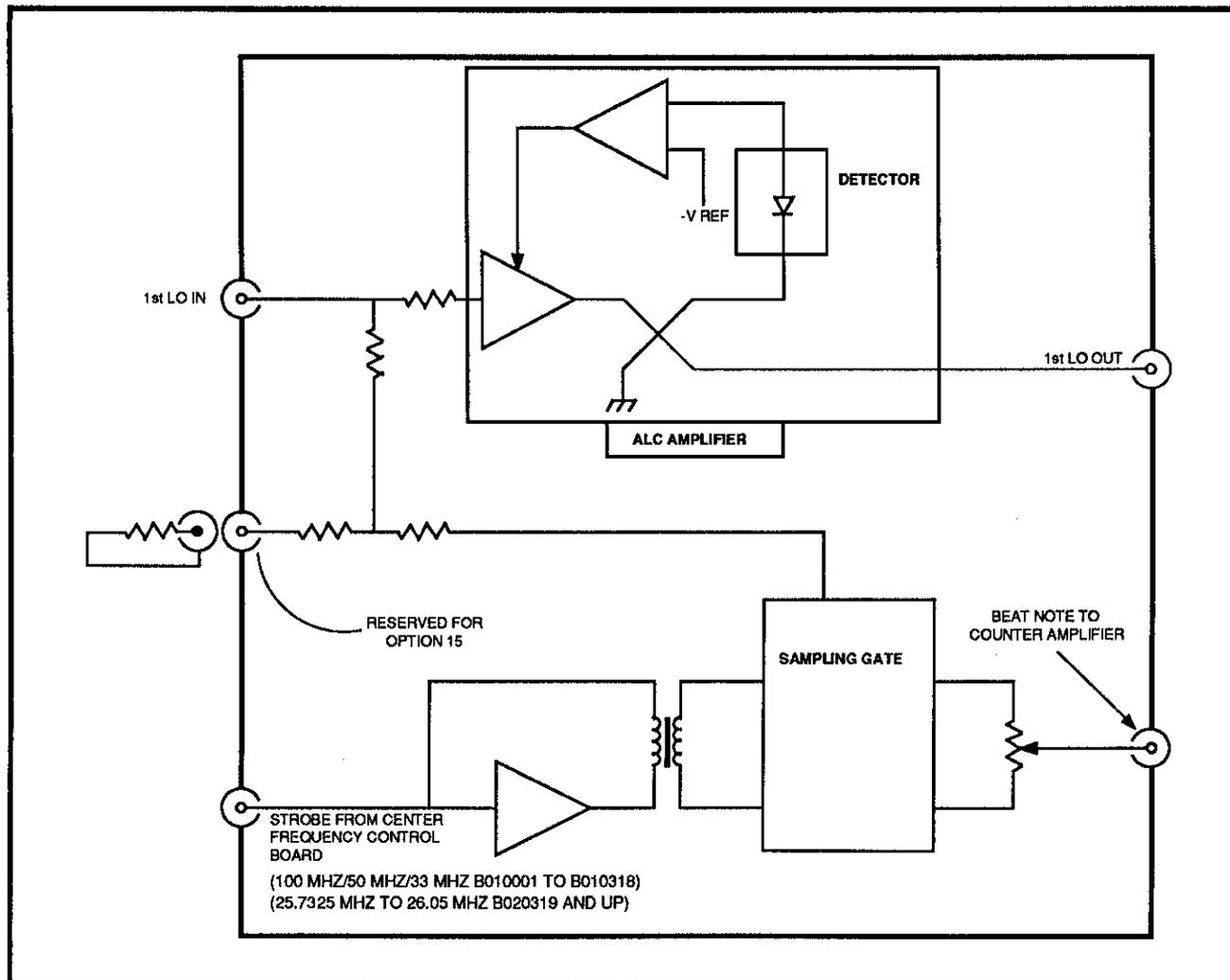


Figure 7-9. 1st LO Buffer Amplifier.

REFERENCE OSCILLATOR

(B020319 and Up)



The Reference Oscillator board provides a "100 MHz" frequency reference and amplitude reference for the Spectrum analyzer. The frequency reference enables the high counter accuracy.

Firmware-based routines use the Amplitude Calibrator output as a reference for calibrating internal gain settings.

The Reference Oscillator consists of the following blocks of circuitry:

- Power Supply Regulation
- Heater
- Oscillator
- Distribution
- Amplitude Calibrator
- Microprocessor Interface

See Figure 7-10.

Circuit Description – 2710 Service

Power Supply Regulation

The Oscillator and the Amplitude Calibrator require stringent, on-board power supply regulation to minimize power supply ripple. If the supplies were not properly regulated, the output signal frequency would exhibit FM sidebands proportional to the amplitude and frequency of the power supply ripple. Therefore, it is important that the power supply regulation remove any power supply switching transients from the power supplies.

Crystal Heater

The Crystal Heater maintains the oscillator crystal's case temperature within a 3° window of the crystal's operating temperature (near 70° C) over the instrument's operating temperature range. The crystal leads sink heat such that the crystal inside the case operates at temperatures below the case temperature.

The heater circuit maintains a constant 15 V across the heater element regardless of power supply ripple. The circuit is shown in Figure 7-11.

Oscillator

The oscillator generates the "100 MHz" reference frequency which is used by the instrument firmware to enhance frequency accuracy. Figure 7-12 shows the ac equivalent for the oscillator. At resonance, the tank inductor and capacitor L_t and C_t exhibit an open circuit condition, and the LC equivalent of the crystal (L_m and C_m) exhibit a short circuit condition. Thus, at resonance, the open loop gain is calculated as:

$$A = \frac{R_t}{(r_{e1} + r_{e2} + r_s)}$$

This gain must be greater than unity to assure oscillation.

At oscillation, the loop gain is unity and the phase 0°. If the phase delay of Q1, Q2, or the tank changes, the operating frequency must also change to maintain a 0° loop phase-shift. Because of this phase/frequency shift dependency, the Q of the parallel tank circuit is made as low as possible to minimize the tank phase change as the values of L_t and C_t drift.

The component values of the tank circuit are determined by the voltage swing at the collector of Q2 (Figure 7-13). The collector of Q2 drives an ECL line receiver. Therefore, the collector voltage should swing 1 V peak-to-peak about 3.8 Vdc (3.8 V being the ECL V_{bb} bias voltage). The gain of Q2 is calculated as:

$$A = \frac{R_{e2}}{(r_{e1} + r_{e2} + r_s)} = 3.$$

The voltage swing required across the tank circuit must be at least equal to the ratio of 1 V to the calculated gain, which is 0.3 V. If the bias current available in Q1 is 3.6 mA, then the tank resistance required is calculated to be:

$$\frac{0.3 \text{ V}}{3.6 \text{ mA}} = 83 \Omega$$

Distribution

The Fan Out circuit represents an ECL line receiver. This circuit receives the 100 MHz signal from the Oscillator and steers it to the following circuits at -4 dBm:

- RF Mother Board
- Microprocessor (Counter Section)
- CFC Board
- Port reserved for future option
- Amplitude Calibrator on the Reference Oscillator board.

Amplitude Calibrator

The Amplitude Calibrator receives a 100 MHz signal from the Fan Out circuit. The level of the 100 MHz signal is adjusted, and the resultant calibrator signal is then routed to a switch on the Step Attenuator board.

When enabled by the Microprocessor, a differential pair of transistors switch a carefully controlled current on and off across a 56.2 Ω resistor. The resulting signal, with a -22 dBm level, is routed to the calibrator port via a pad.

Microprocessor Interface

The Microprocessor Interface is used by the Microprocessor board to communicate with the Reference Oscillator board. An 8-bit input shift register controls the operation of the board, and an 8-bit output shift register contains frequency correction bits for indicating the Oscillator frequency. The microprocessor clocks (CLKO) eight bits of serial data (DATAO) into the input serial register, and then latches the serial contents (RFLATCH-) to the parallel outputs. The microprocessor clocks data out of the output register by setting bit 7 of the input register low to enable the Buffer (see Figure 7-10) and using CLKI- to clock serial DATAI out. Refer to Table 7-1 for the bit mapping of the registers.

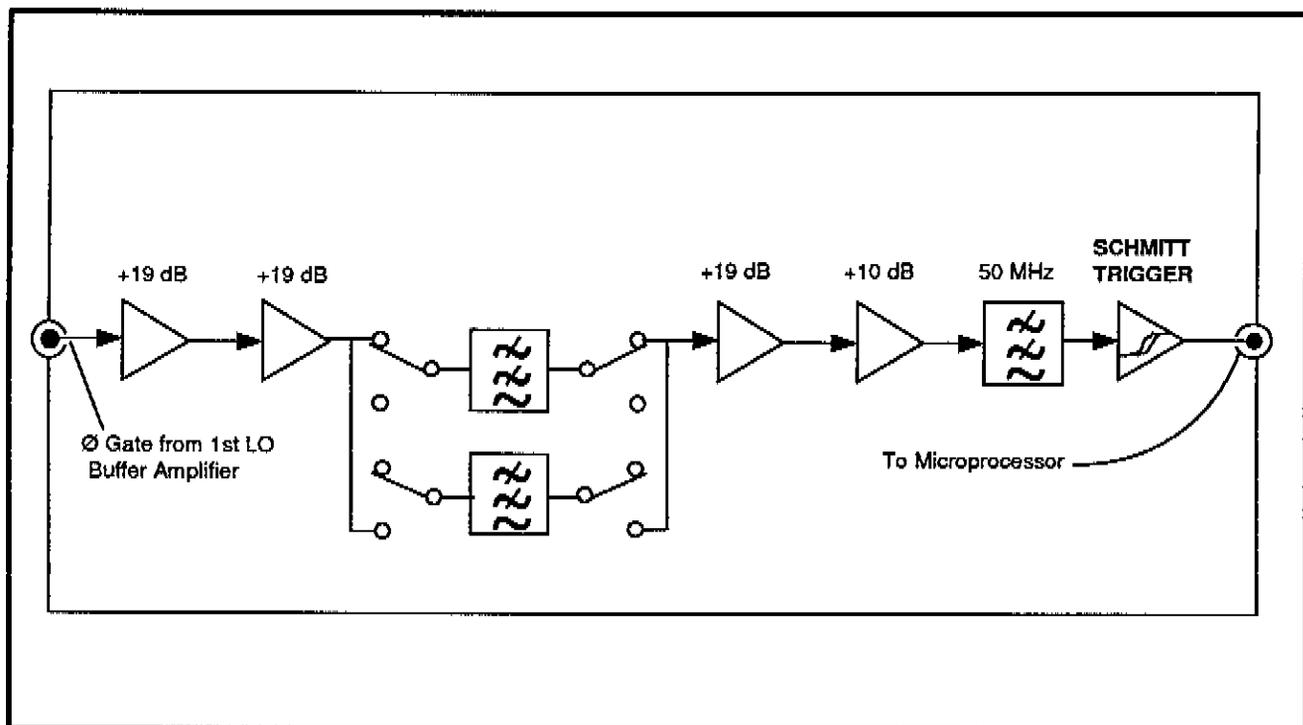


Figure 7-14. Counter Amplifier.

PHASE LOCK ASSEMBLY S5_a S5_b S5_c

(CENTER FREQUENCY CONTROL SYSTEM)

(B020319 and Up)

Overview

There are three major operating areas of the frequency control system.

In wide spans (10 MHz/div or greater), the center frequency is set coarsely by setting a suitable bias current in the main coil. Fine increments of the center frequency are set by appropriate currents to the FM coil. In this mode, sweeping over the span is accomplished by summing a suitably-scaled analog sweep signal with the drive to the main coil. The strobe signal is not even turned on except briefly when needed to assist in verifying the exact 1st LO frequency by counting the beat frequency.

In moderate spans (50 kHz/div through 5 MHz/div), sweeping is done by summing the scaled sweep signal with the drive to the FM coil instead. Additionally, a noise-suppressing low pass filter is inserted into the main coil circuit to minimize residual FM and phase noise due to noise from the main coil driver. Otherwise, the setup is the same as for wide spans, including not using the strobe most of the time.

In narrow spans (20 kHz/div and less), the 1st LO is phase locked to a harmonic of the strobe frequency. Coarse control of the center frequency is effected by choosing which harmonic of the strobe frequency is used (by setting an appropriate main coil current before commanding the hardware to

Circuit Description – 2710 Service

lock). Sweeping and fine control of center frequency are done by controlling the strobe frequency. When phase locked, the FM coil is used solely by the loop to adjust the 1st LO to "zero" phase error.

PLCFC Module Functional Blocks

The module circuitry can be grouped into the following functional areas:

- Power Supply Regulation
- 1st LO Coil Drivers for the Current Source
- Strobe Frequency Generator (VCO Module)
- 1st Phase Lock Loop and Beat Note Processor
- Digital-to-Analog Conversion
- Digital Interface

POWER SUPPLY REGULATION

There are six regulated supplies on the PLCFC circuit board itself and two additional regulators in the VCO module.

–5 V Reference Supply (–5 VREF)

This is a precision reference supply for those circuit applications where a critical frequency is directly dependent on a voltage or current.

This supply is comprised of VR160, U166, U174, Q170, Q674, and associated components. VR160 is a temperature compensated reference diode which defines the output voltage. U166 and Q170 constitute a buffered scaling amplifier to provide the desired –5 V output at sufficient current. C660 makes the closed loop bandwidth very low to minimize noise from the reference diode on the output. U174 and Q674 convert –5 V to +10 V to provide stable low noise current to the reference diode through R171. The +8.5 V path through CR175 is used to guarantee startup of the supply, then CR175 disconnects the potentially noisy startup source once the emitter of Q674 goes sufficiently positive.

–5 V Supply

This supply is not to be confused with the –5 V Reference Supply.

This supply is regulated by U470 and serves solely as a reference for the remaining four supplies on the board. U470 is a programmable shunt regulator whose output voltage is defined by an internal reference and by R472 and R473.

+8.5 V Supply

U282A and Q781 constitute a buffered operational amplifier used in the inverting configuration to provide +8.5 V from an input of –5 V. (Note that Q781 provides a phase inversion, so the polarities of the operational amplifier IC input pins have to be reversed from the usual practice.)

+15 V Supply

U380B and Q880 operate in same fashion as the corresponding parts in the +8.5 V regulator.

–8.5 V Supply

U282B and Q780 serve as a buffered operational amplifier in the non-inverting configuration to provide –8.5 V.

+5 V Supply

U380A and Q881 serve as a buffered operational amplifier used in an inverting configuration to provide +5 V. (Note that Q881 is used in non-inverting fashion, so that the normal polarities of the operational amplifier IC terminals apply here for a change.)

The regulators in the VCO module will be discussed later.

1ST LO COIL DRIVERS CURRENT SOURCE

It is desirable to drive the 1st LO coils from high impedance sources so that temperature dependent changes in winding resistance have negligible effect on stability.

Main Coil Driver

U921 and Q521 constitute a buffered operational amplifier used in an inverting configuration. Inputs to the summing junction are from a number of sources and all pass through Q920. R900 (a current sense resistor in the return lead of the main coil) develops a voltage proportional to main coil current. This voltage across R926 defines the feedback current to the summing junction of the operational amplifier. This circuit forces 1st LO main coil current to be proportional to the sum of the currents from the various control sources, which will be described later. The normal operating current range of the main coil is from approximately 135 mA to 255 mA.

Q920 is a switch which is normally conducting and consequently has no significant impact on circuit operation as described. However, it is sometimes necessary to momentarily set the main coil current to zero in order to standardize frequency errors due to hysteresis in the 1st LO magnetic structure. When this is desired, the microprocessor asserts the DEGAUSS line HIGH (via the digital interface circuits), which causes Q931 and Q930 to pull the gate of Q920 to -8.5 V, which opens the switch, disconnecting the normal input and feedback paths of the circuit. R929 provides a modicum of negative feedback in this situation, ensuring that the main coil current goes to zero instead of to some undefined value.

The main coil current is the sum of at least two items. First, there is a large fixed bias current stemming from the reference supply and R923 (trimmed by R931 and U920) to set the 1st LO at 3.01 GHz in the absence of other inputs. Second, there is a current induced by DAC U950A (and subsequent circuits) which is used to steer the 1st LO over the range from 2.11 to 3.91 GHz. This current is normally a steady state value selected by the microprocessor to coarsely set the center frequency. Third, if the instrument is set to a span greater than 5 MHz/div, there is a sawtooth sweep waveform summed into the main coil current via switch U830A. [This corresponds to the wide span operating mode, discussed earlier (in the Block Diagram Description)].

FM Coil Driver

U811 and U810 together form a buffered operational amplifier used in the inverting configuration. Input currents to the summing junction come from a variety of sources, to be described later. R905 is the current sense resistor for the FM coil. The voltage developed across it results in the current fed back to the summing junction through R815. Thus this circuit forces a current through the FM coil proportional to the sum of the various control currents put into the summing junction. The normal current range for the FM coil is from approximately -120 mA to +120 mA.

Q910 and Q911 serve as a low resistance switch. When closed (gates held several volts positive) the FM coil driver operates as described above. When open (gates held several volts negative) the driver is disconnected and the FM coil gets

its current out of R714, which is the situation when the instrument is phase locked. Control of the switch state is via Q703 and Q800 from the signal PLLCON-. This signal is LOW when the instrument is phase-locked. Several other switches are also controlled by the same command. R812 keeps U811 out of saturation when the switch is open.

When the FM coil driver is in use (instrument not phase-locked) there are two potential signal sources summed into the driver circuit. One that is always present is induced by DAC U850A and subsequent circuits, is steered into U821 by switch U757A, and serves to finely set the center frequency. The other is selected only in moderate spans, and is the sawtooth sweep waveform used to sweep the 1st LO over spans ranging from 50KHz/div through 5 MHz/div.

STROBE FREQUENCY GENERATOR (VCO MODULE)

Functionally, this module is a voltage controlled frequency source that has an output frequency ranging from 25.73 MHz through 26.05 MHz in response to a tuning voltage ranging from approximately 4 V to 12.5 V. There is also a switch to select which of two signals is counted by the microprocessor, and there are means to turn off the output.

The strobe frequency comes from a VCO that ranges from 102.9 MHz through 104.2 MHz and whose output frequency is divided by four to yield the desired strobe frequency. Its frequency is controlled by phase-locking it (with a 100 MHz offset) to 1/4 the frequency of a free running VCO (the LFVCO) which operates over a frequency range of 11.68 MHz through 16.84 MHz. It is this LFVCO that is actually tuned by the incoming tuning voltage referred to earlier, and this phase locked loop within the VCO module is called the "inner loop". The strobe signal is generated in this manner in order to control close-in phase noise and to provide a countable signal (the LFVCO output) whose frequency is not condensed into a very narrow range which would require long times to count to adequate resolution.

The LFVCO is comprised of Q426, T430, the varactors CR532 & CR540, and associated components. Output (from the collector of Q422) is made available for external counting via selector switch U240. LFVCO output frequency is also divided by four via U410, and the result is the reference frequency for the inner loop. U512 and U510 serve as a phase/frequency detector for the inner loop. The differential output of the phase detector is passed through error amplifier U435 and becomes the tuning voltage for the HFVCO.

The HFVCO is comprised of Q522, L610, varactor CR511, trim capacitor C611, and associated parts. Output is taken from a tap on L610, then split through a pair of isolation amplifiers (Q400 and Q410 plus Q316). Output from Q400 is divided by four in U300, providing the useful strobe frequency output of the module. HFVCO output from Q316 is applied to one input of a mixer (U320), whose other input is supplied with

Circuit Description - 2710 Service

100 MHz energy from the Reference Oscillator. The useful output of the mixer is the difference frequency between the HFVCO (say, 103 MHz) and the 100 MHz reference, namely 3 MHz. This signal is amplified (by Q310, Q312, etc) and applied to the remaining input of the phase/frequency detector, thus closing the inner loop.

U240 serves two functions, both controlled by the logic signals CNTSELA and CNTSELB. First, it allows turning the HFVCO on or off via Q425. When the oscillator is turned off, Q101 is turned on at the same time to shut down the strobe driver amplifier in the 1st LO BUFFER module. Also, U240 serves as a count selector switch. It selects either the LFVCO signal or the 1st LO beat signal (from the PLCFC board) for counting by the microprocessor. R241 is part of a TTL to ECL level shifter, the remainder of which is located on the microprocessor board.

U510B provides a lock status indicator for the inner loop so that a lock failure can interrupt the microprocessor via circuitry on the PLCFC board.

The HFVCO receives supplementary power supply regulation via U122.

The LFVCO receives supplementary power supply regulation via U123, Q223, and associated parts.

1ST LO PHASE LOCK LOOP (Outer Loop) and BEAT NOTE PROCESSOR

The output of the phase gate in the 1st LO Buffer module may either be a beat note (when loop is unlocked) or a phase error voltage for maintenance of lock. Thus the output of the phase gate is split into two paths:

Beat signals in the range of about 3 KHz through 11 MHz are passed through a chain including U614, a low pass filter, U723, and U720, to a Schmitt trigger circuit (Q630 through Q633) which produces a clean rectangular wave at TTL levels. Within the bandpass of the low pass filter will normally be the desired beat note, noise, and one or more weak, extraneous beat notes arising from 1st LO harmonics mixing with other harmonics of the strobe frequency. The level control R620 sets the overall signal level so that only the desired beat note is strong enough to overcome the hysteresis designed into the Schmitt trigger. The Schmitt trigger output may be routed to the microprocessor via a selector switch on the VCO module.

Phase error information from DC through a few hundred kHz is passed through U606 and switch U700D (when phase lock is invoked) to the error amplifier U713. The output of U713 is applied to the FM coil through R714. When phase lock is invoked by setting PLLCON to high, U700D is closed and

U700C is opened, closing the outer loop. Nominally, the loop bandwidth is set to 20 kHz, but may vary considerably from this value due to frequency dependent variations in the output level and slope of the phase gate. R709 provides for a known drift direction of the 1st LO tuning when the loop is first closed but the initial frequency is away from lock. The instrument firmware purposely sets up a significant frequency offset in the direction that allows the loop to drift into lock, as a way of dealing with uncertainties in starting conditions.

The outer loop has a holding range of about ± 2.5 MHz before U713 saturates. U650A and U650B are a window comparator which generate logic signals (either INCR MAIN or DCR MAIN) when the loop approaches a range limit so that the microprocessor can take corrective action (for example, changing the main coil current in the appropriate direction to recenter the loop). This allows for 1st LO drift and/or user changes to the center frequency setting without having to drop and re-acquire lock for every little change.

If Q652 is turned on by the signal UNLKIND (signifying that the inner loop is unlocked), both INCR MAIN and DCR MAIN are turned on simultaneously, which is a unique condition that the microprocessor interprets as a hardware failure in the VCO module.

Summary Of Outer Loop Lock Acquisition

When the instrument is placed into a situation calling for phase lock operation, several things are done by the firmware to arrange for a lock at the correct frequency.

The N number (i.e., the harmonic order of the strobe to which the 1st LO will lock) is calculated, and the strobe and corresponding VCO frequencies needed are calculated. The sweep is disconnected, the FM coil DAC is set to mid range (FM coil current to nominal zero), and the main coil DAC is set to the value which will place the 1st LO as close as possible to the desired 1st LO frequency (it can be several hundred kHz off because of the coarseness of the main coil DAC steps). Now the VCO is tuned by trial and error so that the strobe line, at a frequency of $(N \times F_{\text{strobe}})$, is about 100 KHz above the actual 1st LO frequency (i.e., the measured beat frequency is 100 KHz on the correct side of zero beat). Then, lock is invoked by setting PLLCON high. Due to the intentional offset provided by R709, the 1st LO drifts rapidly into lock. After a suitable delay, acquisition of lock is verified by checking the states of both lock limit comparators and by checking that the beat frequency is zero.

At this point the loop is locked, but in the wrong spot. Now the microprocessor proceeds to tune the VCO (and consequently, the strobe and 1st LO) to the correct frequency by repeatedly tuning and counting the VCO. The sweep is then switched into the VCO tuning voltage and the instrument is now scanning the desired spectrum range.

Signal Path and Switching Summary

Wide Span Operation (10 MHz/div and Higher Spans) –
The Main coil is driven by a fixed bias summed with DAC U950A output and a sweep signal (routed through U830A).

The FM coil is driven with VCFC FM arising from DAC U850A only (routed through U757A). Current is routed through Q910 and Q911 to the FM coil. See Figure 7-15.

The VCO is not used except intermittently for frequency corrections, and is tuned by a fixed bias summed with VCFCU arising from DAC U950B.

Moderate Span Operation (50 KHz/div Through 5 MHz/div Spans) – The Main coil is driven by a fixed bias plus a DAC output (U950A).

The FM coil is driven with VCFC FM arising from DAC U850A (routed through U757A) summed with the sweep signal (routed through U830B). Total current is routed through Q910 and Q911 to FM coil. See Figure 7-16.

The VCO is not used except intermittently for frequency corrections, and is tuned by a fixed bias summed with VCFCU arising from DAC U950B.

Narrow Span Operation (20 KHz/div and Smaller Spans) – The instrument is phase locked.

The Main coil is driven with a fixed bias summed with DAC U950A output. See Figure 7-17.

The FM coil is driven with the output of the phase-lock error amplifier U713 only.

The VCO is active continuously and is tuned by a fixed bias summed with VCFCU arising from DAC U950B, VCFC L arising from DAC U850A (routed through U757D), and sweep voltage VSWP PLL (routed through U757B).

DIGITAL-TO-ANALOG CONVERSION

The PLCFC board has four 12 bit DAC's in two IC packages, U850 and U950.

On the digital side, each package has 4 data lines, 3 address lines, and two control lines. The DAC's contain internal registers for the 12 bit words associated with each analog output and, therefore, the microprocessor must write multiple 4 bit words to a package in order to set up a new output.

These are multiplying DAC's. Each delivers an output current which is the product of an analog voltage (called the refer-

ence) and the 12 bit digital word. These units can correctly deal with either polarity of reference voltage. Three of them U850A, U950A, and U950B are supplied fixed reference voltages and serve simply as computer controlled DC sources.

DAC U850A is called the FM DAC but serves two roles. In non phase locked spans its output ultimately ends up fine tuning the 1st LO center frequency via the FM coil. In phase locked spans its output is used to fine tune the VCO frequency. In either case its output passes through U852, which has an output range of 0 to +5 V. U845 sums that with an offset and provides gain so that the output of U845 ranges from -5 V to +5 V. This signal is called VCFC (L/FM) and is routed to the appropriate destination by U757A and U757D.

Main Coil DAC U950A output passes through U952 and U940. U940 provides gain such that the output of U845 ranges from -5 V to +5 V, and the result is summed with the other components of the main coil current. Its function is coarse tuning of the 1st LO center frequency, in steps of about 400 KHz.

U950B is the PLL DAC. Its function is coarse tuning of the VCO frequency. Its output is converted to the -5 V to +5 V range by U954 and U941 before being summed with the other components of the VCO tune voltage.

Unlike the other DAC's, U850B's reference input is supplied with the analog sweep waveform SWP (from the Sweep board via U565) and serves as a microprocessor controlled gain control to determine span/div. Its output passes through U854 to a decade attenuator composed of U831 and associated components. The output of the decade attenuator is then routed to the desired destination by switches U830A, U830B, and U757B. In wide spans, this signal sweeps the 1st LO main coil. In moderate spans it sweeps the 1st LO FM coil. In phase locked spans it is used to sweep the VCO frequency.

DIGITAL INTERFACE

This circuitry links the phase lock hardware with the microprocessor. The link is bi-directional. Commands and DAC setting data are sent to the PLCFC module, and lock status information is sent back to the microprocessor. In addition there is provision to loop input data back to the microprocessor to verify integrity of the interface circuitry.

The path into the PLCFC module is via a 24 bit shift register composed of U361, U460, and U560. Serial data on the DATAO line is shifted into the register by the clock signal CLK0. When all 24 bits have been shifted in, CFLATCH- is used to latch data simultaneously from all shift register stages to parallel output registers. The resulting 24 bit parallel word is used to control switches, set DAC's, etc, on the module. A listing of the 24 lines and their functions will appear later in this section.

Circuit Description – 2710 Service

CFCLATCH- also triggers U372 causing a delayed pulse on the WR- line, latching data into internal registers of the DAC's.

U370 is an 8 bit shift register used for transferring data from the module back to the microprocessor. Serial data is shifted out on the DATAI line by the clock CLKI-, which is gated into the clock input of the register by U270C as controlled by CFCACK-. Data may be serially loaded into this register through the EXAM line coming from the tail end of the 24 bit input register. In this situation the data is clocked into the register by a derivative of CLKO, which is gated by LOADEXM through U270D. This is the loop back path referred to earlier for checking the interface. This register may also be loaded with up to 8 bits of parallel data for subsequent serial transfer to the microprocessor. Only 3 bits are used. Bits 7 and 8 are the signals (INCR MAIN and DCR MAIN) from the lock limits comparator, and bit 5 is wired to logic 1 as a board identity.

The gating of CLKI- and CLKO into the output shift register (by CFCACK- and LOADEXM respectively) is partly a matter of source selection and is also necessitated because both clock signals are used by other boards in the system at some times.

Any transition on either INCR MAIN or DCR MAIN (or both) will load the new states of those lines into the output shift register. (The various sections of U360 serve as edge detectors to generate the load command to the shift register). Further, if LKINTEN is high at the time, U471B will end up SET, interrupting the microprocessor via CFCREQ-. The line READEXM provides a direct method of setting the interrupt if desired. Any transition on LKINTEN will also cause the shift register to be loaded, providing a forced means for checking the status of the lock lines at any time. The microprocessor uses CFCACK- to clear U471 of the interrupt (in addition to the gating function mentioned above).

Summary of Digital Control Lines on PLCFC Module

READEXM – Low to high transition forces CFC interrupt.

LOADEXM – High level gates CLKO into output shift register clock input.

DEGAUSS – High level forces 1st LO main coil current to zero.

CNTSELA – A & B are decoded to set state of selector switch in VCO module. Both high is strobe OFF. A high and B low
CNTSELB: is count VCO. A low and B high is count beat freq. Both low is strobe ON but no count selected.

PLLCON – High level commands phase lock configuration.

LKINTEN – High level enables interrupt on transition of either lock limit comparator line.

CAPCON – High level connects noise reduction capacitor across 1st LO main coil.

SWDECA – A & B are decoded to select setting of sweep decade attenuator. Both low is straight through. A high and B low is div by 10. A low and B high is div by 100. Both high is disconnect sweep.

SWSELA – A & B are decoded in U274 to operate switches which direct sweep waveform to proper destination.

SWSELB – Both low is sweep main coil. A high and B low is sweep FM coil. A low and B high is sweep VCO. Both high is don't sweep anything.

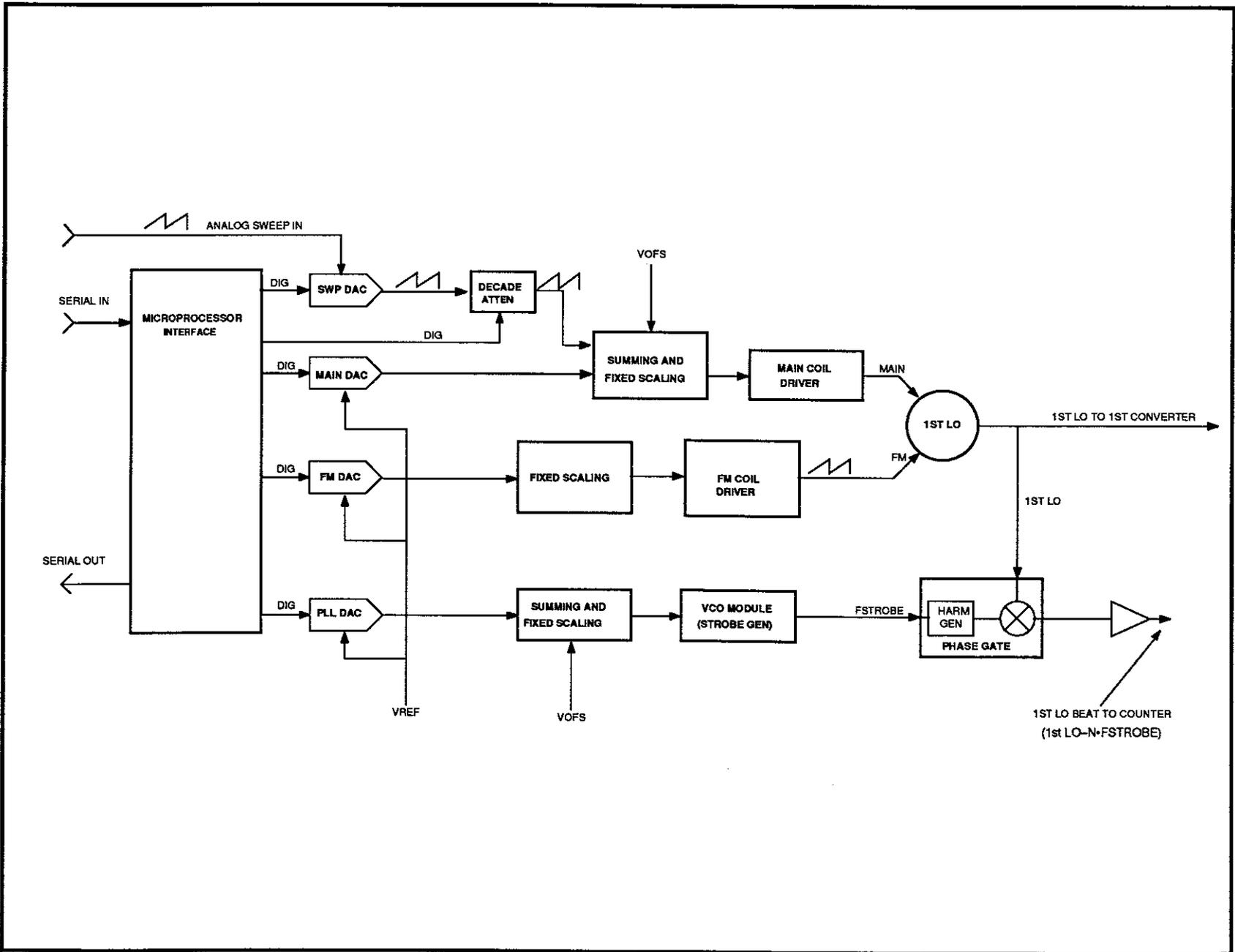
A0, A1, & A2 – Address lines for DAC internal register selection and control.

UPD- – Used for simultaneous transfer to DAC output registers.

DB0', DB1', DB2', & DB3' – Data lines for DAC U950 (A&B).

DB0, DB1, DB2, & DB3 – Data lines for DAC U850 (A&B).

Figure 7-15. PLCFC Configuration for wide spans (Unlocked, Sweep Main Coil).



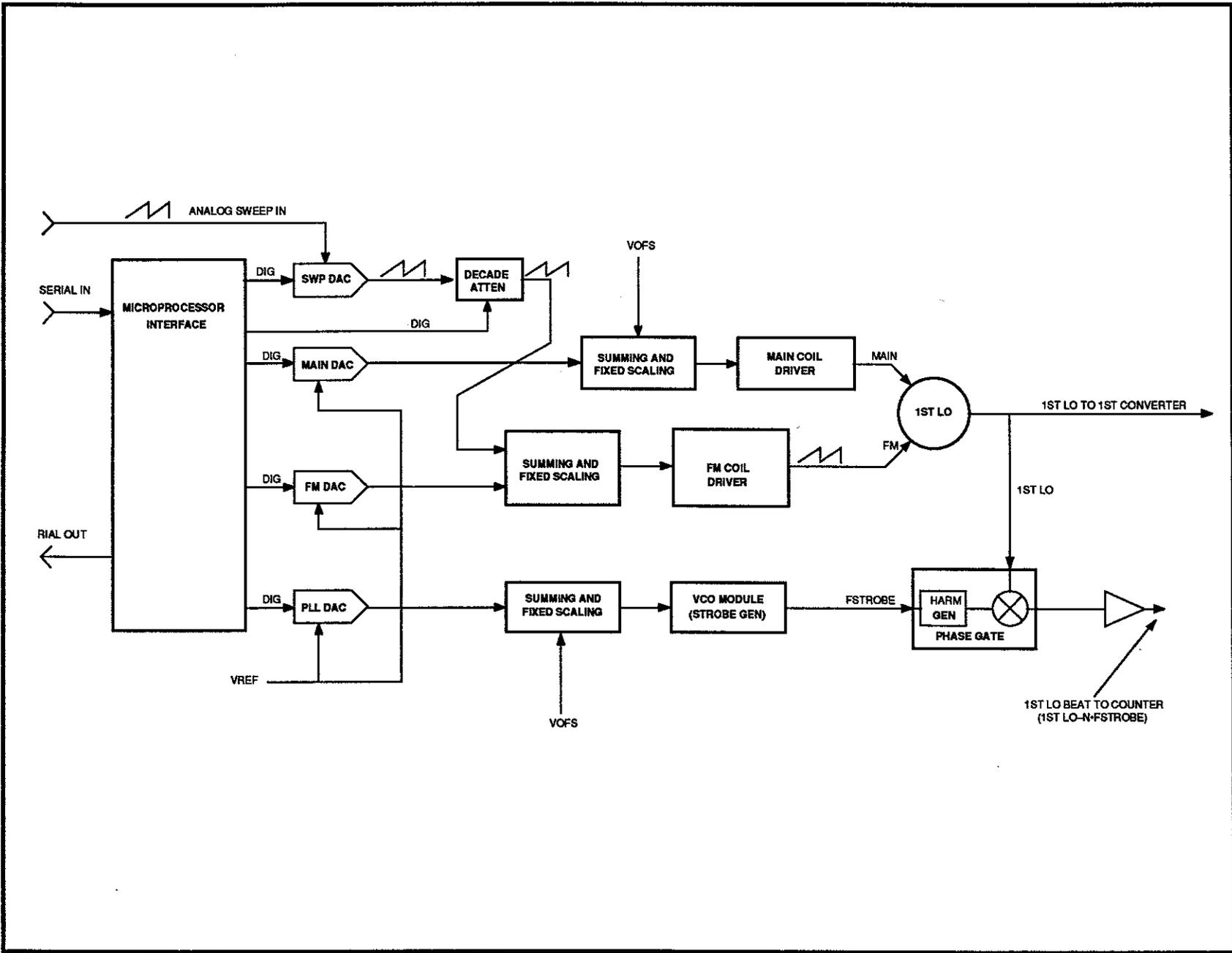
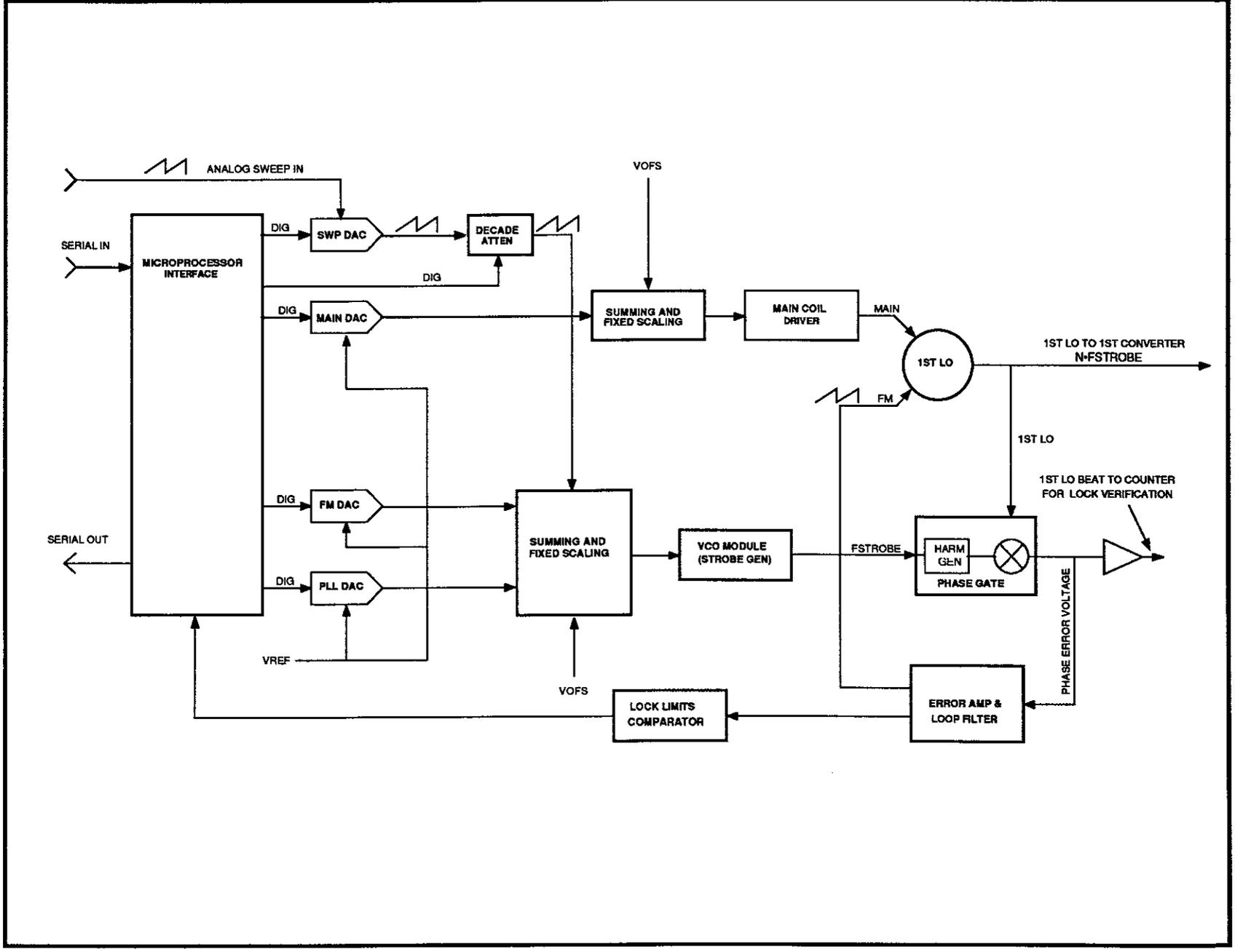
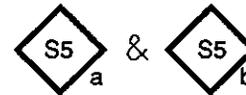


Figure 7-16. PLCFC Configuration for moderate spans (Unlocked, Sweep FM Coil).

Figure 7-17. PLCFC Configuration for narrow spans (Locked, Sweep VCO).



CENTER FREQUENCY CONTROL BOARD



(B010001 to B010318)

The Center Frequency Control (CFC) board controls the frequency of the 1st LO, and generates the Spectrum Analyzer's reference frequency. This board can be divided into five areas:

- Data Interfacing
- CFC Digital-to-Analog Converters (CFC DACs)
- Summing Stages
 - Main Coil Driver
 - FM Coil Driver
- Sweep Attenuator
- Reference Oscillator and Calibrator (100 MHz)

Data Interfacing

Two shift registers link the Center Frequency Control board to the Microprocessor, one at the input and another at the output. The input register (24-bits wide) holds the control data for the board while the output register (8-bits wide) collects information regarding the status of the board.

The Input Register is serially loaded by the Microprocessor with 24 bits. These bits divide into the following five fields:

- UPD (Up-load): 1 bit
- A0 through A2: 3 bits
- DB0 through DB3: 3 bits
- DB'0 through DB'3: 4 bits
- DSW4 through DSW15: 12 bits

UPD is a control line used for latching data from the DAC's internal buffers to their corresponding converters. This control line works in conjunction with a write (WRT) line. Both of these lines are not shown in Figure 7-18.

A0 through A2 are addresses for multiplexing data into the DAC's buffers.

DB0 through DB3 and DB'0 through DB'3 make up two 4-bit data buses for sending data to the DACs. Data is loaded into each DAC with three nibbles of 4 bits each.

DSW4 (SWP Select 1) connects the sweep signal to the main coil's summing stage, and disconnects the capacitor across the main coil.

DSW5 (SWP Select 0) connects the sweep signal to the FM driving stage.

DSW6 (AS 1) connects the sweep signal to the PLL summing stage.

DSW7 (AS 0) selects the decade attenuation desired in the sweep attenuator.

DSW8 (Calibrator Enable) connects the 100 MHz calibrator (-22 dBm) signal to the Step Attenuator.

DSW9 (Lock Interrupt Enable) allows the break lock detectors to interrupt the Microprocessor if the PLL approaches break.

DSW10, DSW11, and DSW12 determine the frequency of the strobe signal.

DSW13 (Check ID) is set high to enable an end-of-sweep signal to interrupt the Microprocessor.

DSW14 (Load Exam Enable) set high when the Microprocessor is ready to shift data into the output shift register.

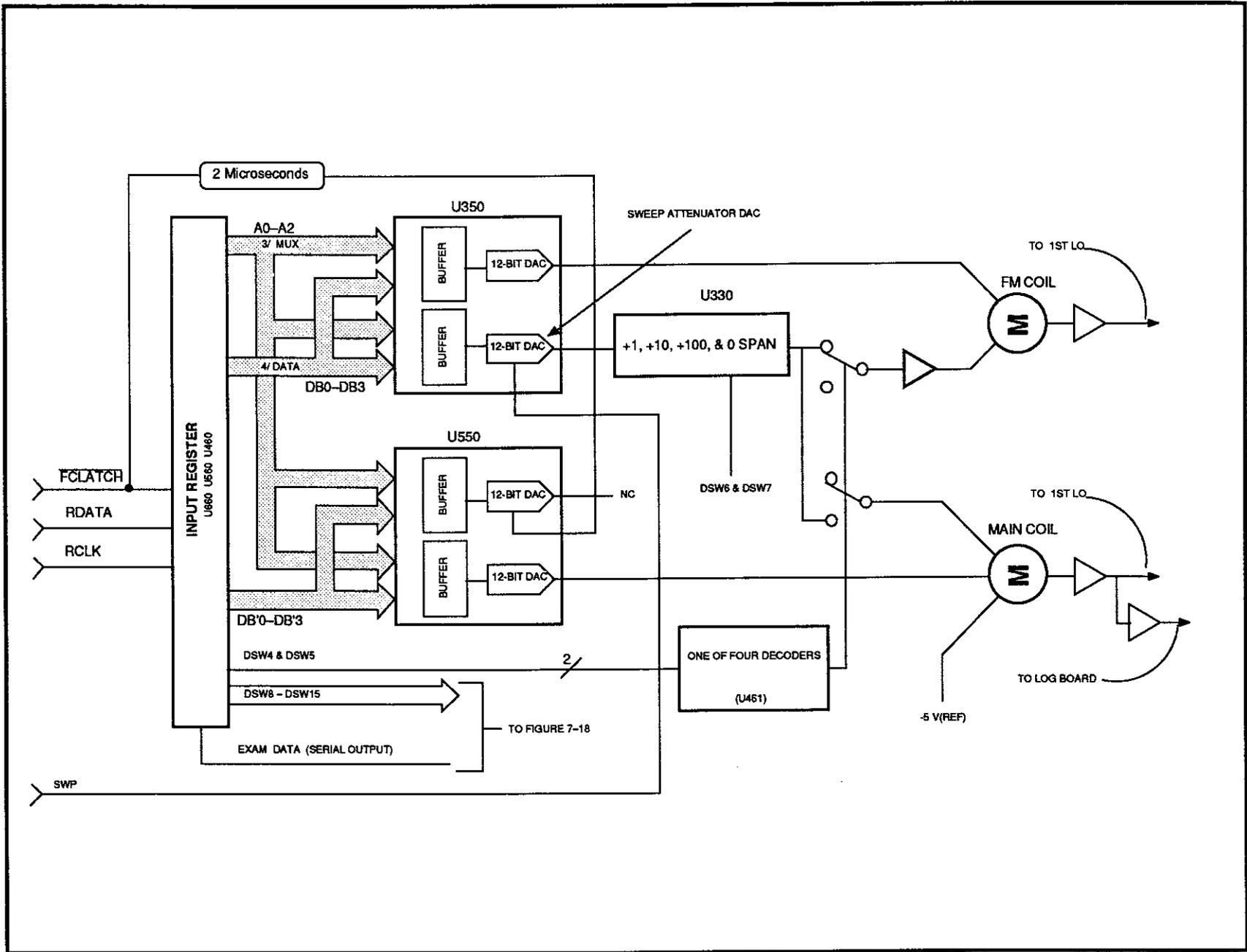
DSW15 (Read Exam) allows the Microprocessor to interrupt itself and read the contents of the output shift register.

The contents of the output register indicate the status of the board. In its normal mode of operation, a condition on the board triggers an interrupt for the Microprocessor and the register latches its parallel data before sending the data to the Microprocessor. For a data path testing, the register is loaded serially.

During a data path test, the Microprocessor joins the two registers together and loads the output register with a known data string. It then reads the contents of the output register and compares the contents to the data sent. After completing the test, the Microprocessor returns the registers to their normal mode of operation.

Once the input register establishes the board's mode of operation, the board functions as an analog unit. Digital-to-Analog Converters (DACs) convert digital data into equivalent analog voltages, which are summed at appropriate summing stages. See Figure 7-18.

Figure 7-18. Part of Center Frequency Control board



Circuit Description – 2710 Service

The Main Coil Driver drives current through the 1st LO's main coil, proportional to the voltages summed at the Main Coil summing node. A DAC generates the center frequency control voltage. The sweep voltage sweeps the main coil summing stage when required by the frequency span/div. An offset voltage (scaled down from the -5 V reference), sets the 1st LO frequency to the middle of its frequency range.

The FM coil driver operates like the main driver, except it does not require an offset voltage.

The sweep attenuator attenuates the sweep voltage coming from the Sweep board before passing the sweep to a summing stage. The user, by selecting a frequency span, sets the multiplication constant of the attenuator DAC (via an algorithm of processes of the Microprocessor).

Reference Oscillator and Callibrator

A crystal oscillator provides the 100 MHz reference frequency for the instrument. With additional buffering, the 100 MHz signal is routed to the calibration port of the instrument, to the Strobe Generator, to the RF Mother board, and to the Microprocessor board.

Strobe Generator

A combination of three signals (DSW10, DSW11, and DSW12) determines the strobe frequency for driving the 1st LO's phase gate. The Strobe Generator can be configured as a divide-by-one, a divide-by-two, or a divide-by-three circuit to generate a 100 MHz, 50 MHz, and 30 MHz strobe signal respectively. See Table 7-2.

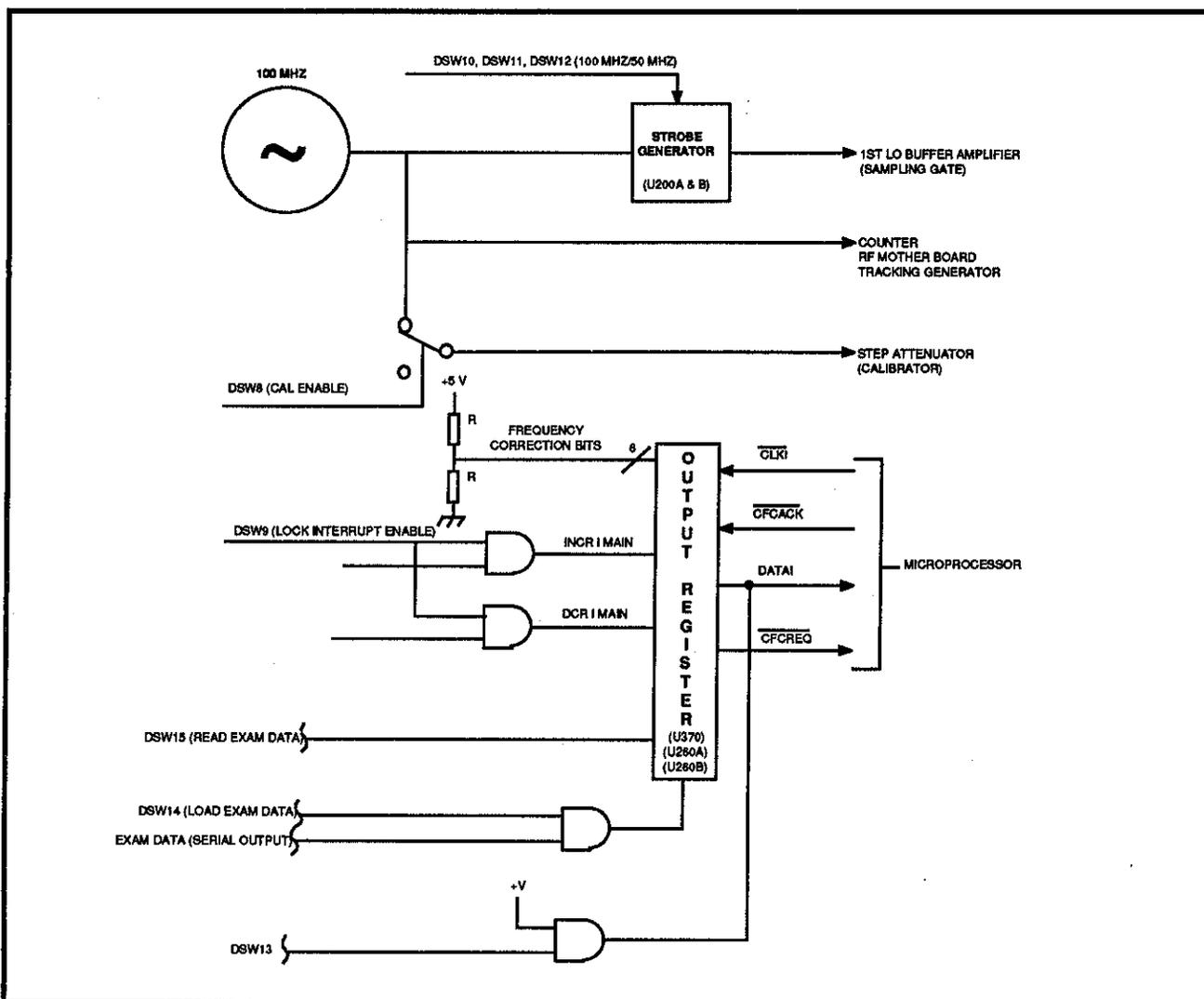
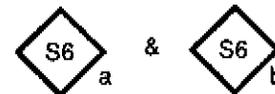


Figure 7-19. Part of Center Frequency Control board.

Table 7-2
STROBE FREQUENCIES

DSW10	DSW11	DW12	Strobe	Counter Amp Mode
0	0	0	33 MHz	15 MHz
0	0	1	100 MHz	40 MHz
0	1	0	33 MHz	15 MHz
0	1	1	Off	Off
1	0	0	50 MHz	15 MHz
1	0	1	100 MHz	40 MHz
1	1	0	50 MHz	15 MHz
1	1	1	Off	Off

VARIABLE RESOLUTION MODULE



Input Amplifier

The input amplifier used is a transformer feedback stage which provides approximately 12 dB of gain with 10 dB of reverse isolation. See Figure 7-20. The match at each port with the other terminated is better than 15 dB at 10 MHz. The noise figure is less than 3 dB and, with 12 mA flowing in the device, the output intercept is about +30 dBm. The match at each port is highly sensitive to a proper termination being presented to the other port.

PIN Attenuator

The PIN attenuator design is based upon a pair of reasonably well matched pin diodes used in a Tee configuration. A characteristic of this configuration is that the impedance match at each end can be maintained, providing the product of the PIN diode resistances is equal to the square of the end terminations. This can be approximated if the sum of the currents in the PIN diodes is equal to a constant. The DAC has complementary current outputs whose total is set by an adjustment. The attenuation range is about 12 dB with a 1 dB minimum loss. The worst case return loss at the end points is 15 dB. The step-size for an 8-bit DAC is 0.04 dB steps in the center of its range.

10 dB Gain Step Amplifier

The 10 dB gain step stages also incorporate a transformer fed back amplifier. The stage has about 0.5 dB of loss or 9.5 dB

of gain for a net difference of 10 dB. When the step gain is selected, the signal is routed through the amplifier for a gain of about 11.5 dB. A pad of approximately 1.5 dB is added to trim the gain down to 10 dB. The signal is then routed through a switch which has about 0.5 dB of loss. When the amplifier is deselected, the signal is routed around the amplifier altogether, thus preserving noise figure and intercept point. A total of 4 of these step gain stages are used.

1 dB Gain Step Amplifier

The 1 dB Gain Step Amplifier is the last amplifier before the filter switching tree. The amplifier is composed of a class AB, three-stage, feed back amplifier. The gain is adjusted in 2 dB steps for a total of 10 dB. The 1 dB steps are done by shunting part of the signal to ground appearing at the input of this amplifier. This configuration allows the entire 10 dB gain sequence to be contained within one step-gain stage.

Routing Switches

The routing switches are used to route RF signals to various areas. They are composed of a transistor in heavy saturation that has the characteristic of relatively large charge storage characteristics. The topology used is a shunt series configuration. These switches are used on both the input and output of each filter including the external filter connection.

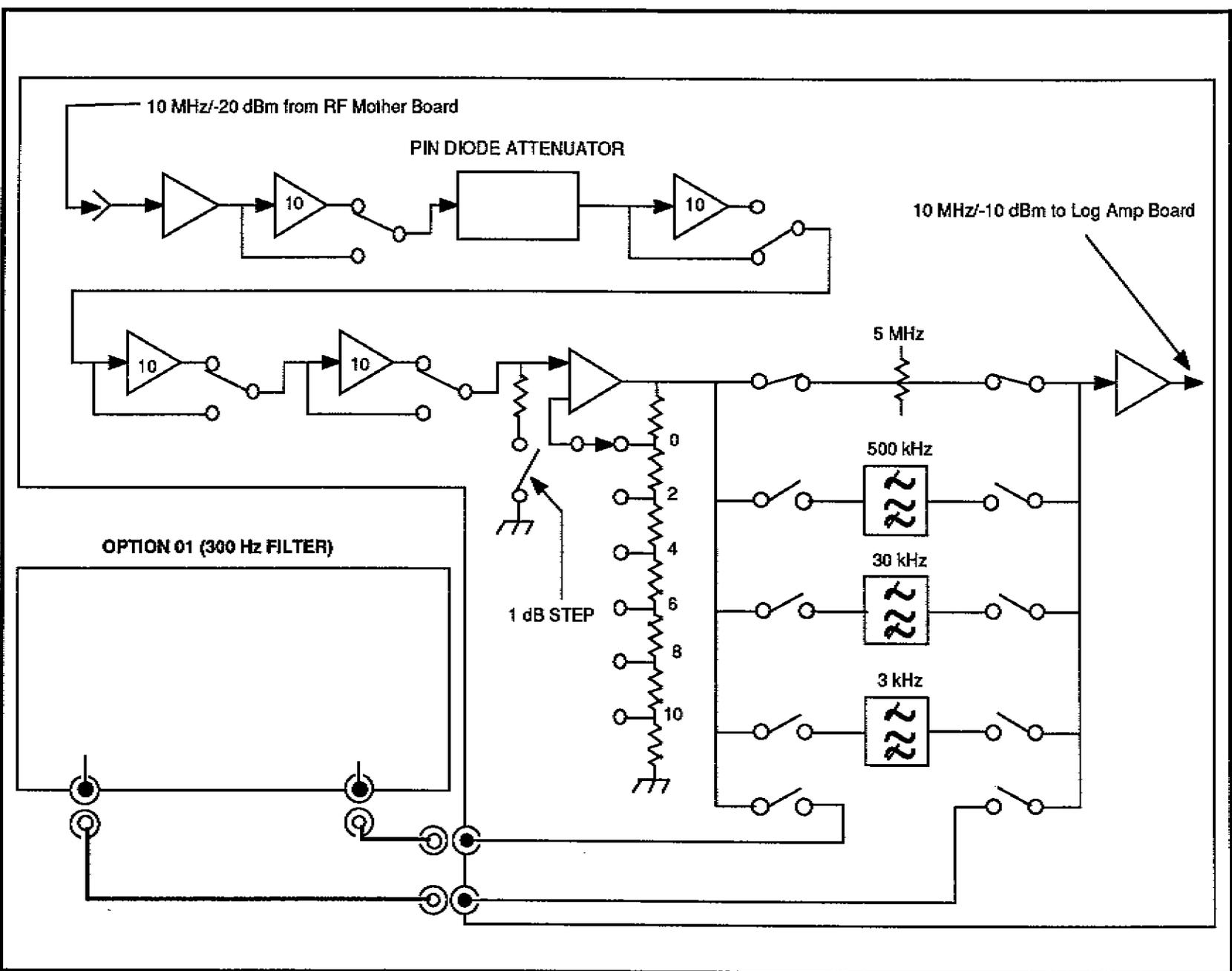


Figure 7-20. Variable Resolution Module block diagram.

LOG AMPLIFIER &

The LOG system is an intermediate amplifier system that provides linear and logarithmic detection of the incoming signal. The log display has scale factors of 10 dB/div, 5 dB/div, and 1 dB/div. The linear mode has ability to magnify the top portion of the waveform to enhance the measurement capability. The board also contains a FM and AM detector which can be used to monitor the modulated input signal for enhanced signal identification, when used with the built in audio amplifier. See Figure 7-21.

The processor interface is through three 8-bit shift registers.

Preamplifier

The 10 MHz IF input signal from the VR circuits drives an input preamplifier that provides variable gain between 18 dB and 24 dB, depending on where the frequency of the 1st LO is set. The variable gain compensates for amplitude errors over the frequency range of the Spectrum Analyzer. The amplitude error, which is frequency dependent, is greater at the higher frequencies. Therefore, the preamplifier is adjusted such that the gain is 18 dB at low frequencies and approximately 24 dB at the high end of the frequency range. The variable gain is accomplished by applying an analog voltage (Sweep Slope from the Center Frequency Control board) to a PIN diode gain cell (CR180). The Sweep Slope voltage is proportional to the center frequency, and has a full range of +5 V to -5 V.

The preamplifier is composed of a three stage feed back amplifier (Q288, Q289, Q291, and Q392) biased for class AB operation. The gain is established by setting the ratio of the feedback to the input of Q288. The variable gain is done by shunting to ground part of the signal appearing at the input of this amplifier. The feedback is adjusted by changing the impedance of the PIN diode in the gain cell, that is, by changing the amount of current flowing in the PIN diode.

The output of the preamplifier is then fed to a 2-pole Noise Filter, and to buffer amplifier Q274 configured in a common base stage to yield an auxiliary IF output for a future option. The signal level at the output of this amplifier, for full-screen deflection, is +8 dBm.

Noise Filter

The Noise Filter band-limits the noise to 5 MHz and provides two more poles of 5 MHz bandwidth resolution filter. The output of this filter is then sent to routing switches via a jumper so the signal can be processed for calibration purposes, and to the FM Detector.

Logarithmic Amplifier Stages

Logarithmic amplification of the signal is required to calibrate the graticule in dB/division. This is performed by a seven stage amplifier that produces an output proportional to the logarithm of the input. Thus, in the 10 dB/div display mode for example, each division of displacement on the screen represents a signal level change of 10 dB regardless of its location on the crt.

The amplifier circuits logarithmically amplify the input signal from the VR, apply it to a synchronous detector circuit, then route the detected video output to the Sweep board, Display Storage board, and the rear-panel connector J103.

The logging stages consist of seven cascaded cells that have the unique property of having approximately 10 dB (3.16) of gain for small signal levels and 0 dB (1) at large signal levels. Each stage is identical to the previous stage. The result of the cascade is a piece-wise approximation to a log curve. Each cell consists of a cascode stage and this discussion will be about second cell, Q753 and Q759. A simplified expression for the gain of the cell is the total load resistance divided by the total emitter resistance. For small signals, the emitter resistance is the sum of the discrete emitter resistors 851 and R852 in parallel with the dynamic resistance of the diode pair CR757. For large signals the diodes become reverse biased and the dynamic resistance is much higher. Consequently, the total gain of the cell drops to unity.

Routing switches are used to route RF signals to either the logging stages when in LOG mode or to the detector via a variable pad when in the LIN mode. They are composed of transistors in heavy saturation that has the characteristic of relatively large charge storage. The topology used is a shunt series configuration.

After the mode of the signal is determined the output of the routing switches is passed to the synchronous Video Detector.

Video Detector

This detector is a cross-coupled double differential pair. Detection is accomplished by a limiter/multiplier circuit. The limiter consists of two ECL line receivers U403A and U403B, and the multiplier is configured out of balanced modulator U201. The IF signal is coupled to the lower transistors in the multiplier to determine the absolute value of the differential current. At the same time, a portion of this signal is sent to the limiters which are used to control the upper switching transistors in the balanced modulator chip. The differential outputs

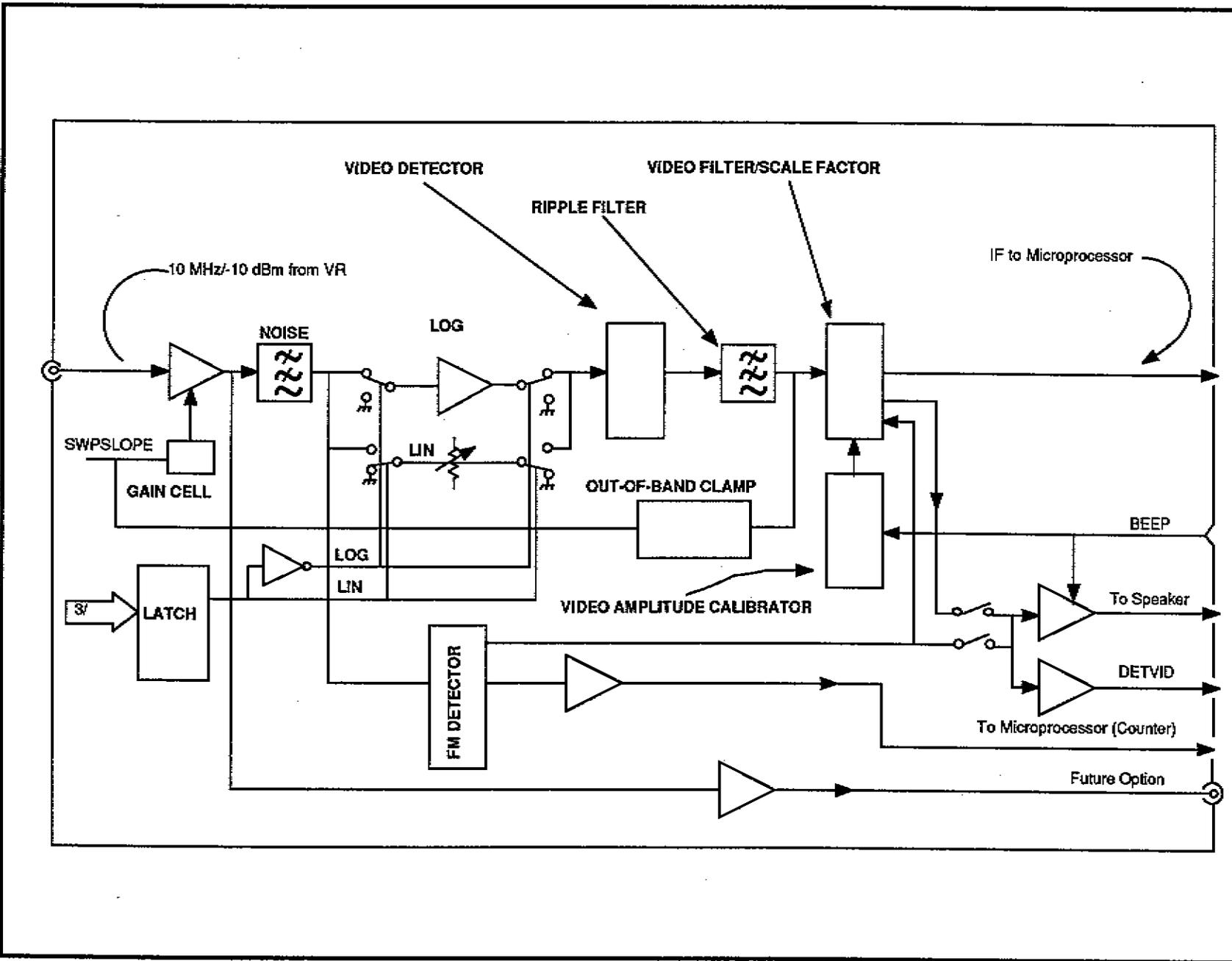


Figure 7-21. Log Amplifier block diagram.

of the multiplier drive differential amplifier. The result is that alternate half cycles of the IF signal flow into opposite sides of the differential amplifier, yielding full-wave rectification of the IF signal. The output of the multiplier is converted from a differential signal to a single ended one by operational amplifier U316A.

Ripple Filter

The Ripple Filter is a 5-pole, elliptic filter with a finite transmission zero at the 10 MHz IF frequency. The filter removes any of the remaining 10 MHz component that may still exist. Because of the full-wave rectification provided by the synchronous detector, the 10 MHz component is attenuated by approximately 30 dB. This greatly reduces the requirements of the ripple filter. However, the signal is not always at 10 MHz. The widest bandwidth is 5 MHz so there is still a significant requirement for ripple reduction as low as 5 MHz input frequency.

Video Filter/Scale Factor

After the video filter, the signal is offset before being amplified to bring the equivalent of a full-screen signal in log or linear mode to correspond to 0 V output. The out-of-band clamping is also done at this time to deflect the CRT beam to the bottom of the screen when the display would otherwise be outside the frequency limits of the Spectrum Analyzer.

Next the video filter selector is chosen. The bandwidth of the vertical chain is approximately 5 MHz. Therefore, when a video filter path is chosen, the maximum bandwidth drops to the bandwidth of the selected Video Filter. This switching tree also multiplexes in the external signals from the rear panel, RF options board, or the FM detector on diagram S8a.

Immediately following the video filters is the Scale Factor amplifier. The Microprocessor sends the proper code to set the gain of the amplifier to 1.1, 2.2, or 11 corresponding to 10dB/div, 5dB/div, or 1dB/div. The linear function is made with the gain set to 1.1.

FM Detector/Period Counter Output

The detector, U580, consists of a FM limiter and quadrature detector used for demodulating FM signals, and a gain stage. The audio output is sent to the audio amplifier selector and to the video input selector (switching tree).

A portion of the energy in the quadrature detector resonator is used to drive ECL line receiver U370C which is used by the period counter located on the Microprocessor board.

Audio Amplifier

The audio amplifier, U260, is used for monitoring purposes and as a means of providing feedback (beeps) to the user from the Microprocessor.

Video Amplitude Calibrator

Audio from the Microprocessor (UPAUD) is used for providing feedback to the operator for push button clicks and out of range (uncal) conditions. This signal is also used to provide a calibration signal for calibrating the deflection amplifier (video amplifier) and display storage. The sweep triggers are also tested by this signal.

System Reset

At power-up, the system reset line (SYSRST-) remains low until the Microprocessor resets it. During this time, the control latches U220, U222, and U232 output enable lines are held false and the outputs are in a high impedance state. This has no useful effect except to the mute bit (n). The mute circuitry in the Audio Amplifier force a mute condition during this time, and thus disallow any extraneous noise from the speaker.

DISPLAY STORAGE

Only the vertical information is digitized since the horizontal sweep is a linear function, and thus can be predicted. The Horizontal Display is broken up into 512 discrete locations or "bins". When a bin boundary is crossed and which bin the sweep is currently in is the only data that need be recorded from the sweep.

The Display Storage consists mainly of 4 distinct sections. These are the Vertical Acquisition, Horizontal Acquisition, Memory and I/O Arbiter, and the Display consisting of the readout and the vector control.

Horizontal Acquisition

The horizontal acquisition system consists of a tracking analog-to-digital converter (ADC). The type of ADC converter used ensures that all values of the sweep get digitized, and facilitates the detection of when a bin boundary is crossed. When a bin boundary is crossed, all of the vertical information that has been acquired since the previous bin boundary crossing is then stored in Memory. The bin boundary signal is called Store-.

The tracking converter is made up of operational amplifier U392; comparators U292A and U292B; state machine U464; up/down counters U246, U242, and U236; digital-to-analog converter (DAC) U574; and some random logic.

Operation of the tracking converter starts with the sweep. The sweep is negative going +1.6 V to -1.6 V. The operational amplifier buffers and inverts the sweep. The voltage appearing on the output then determines the voltage at the window comparator. The digital value in the DAC is such that the voltage appearing in the window comparator is always within the window. When the voltage is outside of the window, the state machine will clock the up/down counters up or down, as appropriate, until the system reaches equilibrium.

The state machine controls the operation of the horizontal tracking ADC. When the UP- line is asserted (in the logic low condition), the next positive edge of the clock sets the output of a J-K flip-flop which enables the Up-Clock to the up/down counters. These counters will count up until HA9 and HA10 reach a 0 state, except when the NOISE line is false (logic low) in which case the counter will count up until HA0, HA9, and HA10 are in a zero state. The DN line causes a similar sequence of events except the counter is counted down. During the time that the counter is enabled, the STORE- line will go low if the STEN line is high, and initiate a write cycle to the Memory. U488, U566A, and U324D prevent the up/down counters from overflowing and underflowing.

Horizontal Multiplexer

When the STORE- line is low, buffers U452 and U446 are enabled. The Horizontal Acquisition address is then placed on the address bus. At this time, the data in MAX accumulator or MIN accumulator is then loaded into Memory. During a write cycle all four display partitions are written into sequentially. If one of the displays has been saved, the write cycle is completed but the actual write enable signal is inhibited for that display during this period. If the NOISE line was low, then both a MIN and a MAX is written (eight clock cycles) into two adjacent storage locations. If the NOISE line is high, then just a MAX is written into one memory location (four clock cycles).

The arbitration for the Memory and the enabling of the display writes (Save A, B, C, D) is done by programmable logic sequencer (PLS) U360. This PLS is the ram arbiter. Internal to the ram arbiter are registers that control the display updates, when written to by the microprocessor.

Vertical Acquisition

The flash ADC U368 provides new data at VA0-VA7 soon after the rising edge of CLK (clock). This data is an accurate digital representation, within limits, of the analog video signal. Multiplexers U206 and U108 select the ADC data or, during the max hold cycle, the output of the Memory. The outputs of the multiplexers are compared by U114 against the MAX accumulator, and the outputs of the ADC are compared by U304 against the MIN accumulator. State machine U318 determines the appropriate time to update (flush) the MIN and MAX accumulators with the present acquired data (VA0-VA7). The accumulators are flushed at the end of a write cycle, when the comparators determine that the data in the accumulator is either greater than (MAX) or less than (MIN) the present acquired data, or at the end of a read accumulator cycle. Another pair of multiplexers, U220 and U226 select the output of the MIN or MAX accumulator to be written into Memory. Max hold and the read accumulator command will force these multiplexers to only select the contents of the max accumulator to be written into memory. The contents of the min accumulator are selected only when MIN MAX pairs are written into memory.

Display Control

The active display is controlled by a state machine composed of U260 and one half of a pair of ripple counters U326A. Eight registers in the state machine retain the active displays, when written to by the Microprocessor. Up to four vector display pages and four pages of text can be active at any one time, although having more than one page of text active at one time

can be confusing. The current active display is depicted by PA0, PA1, and PA2 originating from the counter. When a page of information is completed, a trailing edge detector inside U260 asserts NEWP- (low) and toggles the counter thus selecting the next page. If the next page is inactive, NEWP- will toggle again until an active page is selected.

Vertical Display Control

A state machine in U200 controls the display of vector waveforms, the readout, and the timing for the display-A function. Each vector is eight clock periods or 3.25 μ s long with a 2.46 MHz clock.

Readout

A state machine in U146 is used, in conjunction with character generator chip U130 and some peripheral logic, for controlling the display of the readout characters. Counters U240 and U140 are used for both the display of vectors and the generation of a vertical positioning ramp for the readout. When in the vector mode, the counters are merely preset but not clocked, and when in the character mode the counters are counted but not preset. Exclusive OR-gates U154A, U154B, and U154C invert the ramp when the characters are displayed (as the readout IC displays the characters from top to bottom). The contents of scroll register U160 are added to the displayed

row by 4-bit adder U270. U280 and U180 are display DACs. During a readout page, only one display DAC (U280) is used, and during a vector display both display DACs are used.

Vector Display

Displayed data is loaded into display latch U170 for the MIN vectors, and into latches U240 and U140 for the MAX vectors. The vector is drawn by loading new data into one of the two DACs and then linearly turning on the reference voltage. As reference current in one DAC is increased, the other DAC current is decreased, thus drawing a linear vector between each display point.

Display -A

Vector controller U208 loads the "A" information into tristateable, inverting latch U120. If a (Display - A) is not to be completed, then the inverting latch is held cleared. The "D" inputs to the latch are inverted so that the data appearing at the output is the "ones" complement of the input data. The output of the latch is then added with the I/O data by adders U232 and U132. The resultant is the I/O data minus the "A" data less the end around carry. Since the output is ultimately visual the end around carry was not performed thus providing a one bit error. Also no overflow or underflow blanking is performed.

MICROPROCESSOR &

The Microprocessor board contains the following major circuitry:

- Microprocessor (CPU)
- Clock Generator
- Interrupt Controller
- Input/Output (I/O) Subsystem Interface
- Memory (ROM & RAM)
- Software Option Jumpers
- Programmable Interval Timer
- Counter System

Microprocessor (CPU)

The Microprocessor is centered around a 16-Bit CPU. Input/output (I/O) is provided by an Interrupt Controller. System memory includes read-only-memory (ROM) and random-access-memory (RAM) chips. See Figure 7-22. The ROM contains all the executable code (instrument operating system and other firmware). All temporary codes such as front-panel control settings are stored in RAM. The CPU communicates with the memory and I/O ports via buffers.

The Microcomputer system receives inputs from the front-panel controls and the instrument circuits, and sends control codes to the instrument hardware to set it for desired operation.

The CPU processes data, generates addresses and control signals, and generally controls the operation of the instrument. Whenever an interrupt occurs, the CPU broadcasts data to all the circuit boards that are capable of receiving it, but only the one board that initiated the interrupt is allowed to receive the data. The data is transmitted serially and the enables in parallel. See Figure 7-23.

The CPU has an 8-bit bi-directional data bus and a 20-bit address bus. Parallel data communication from the CPU to the microprocessor's system is through the bus.

Clock Generator

The Clock Generator consists of a 14.7456 MHz oscillator and a clock pulse generator chip. The generator provides a 4.9152 MHz (1/3 the crystal frequency) clock signal, a 14.7456 MHz signal (crystal frequency), and a Reset and

Ready signals for the CPU.

The 14.7456 MHz signal goes through a divide-by-six circuit to provide a 2.4576 MHz clock signal. The clock signal is then buffered before it is routed to the Display Storage board.

A system reset is initiated by a signal from the Power Supply. This signal's level rises slower than the +5 V supply when power is turned on, and falls faster than the +5 V supply when power is turned off. This assures that power is up when the Microprocessor starts executing code, and conversely, the Microprocessor stops executing before power is completely off.

Interrupt Controller

The Interrupt Controller receives interrupts from various parts of the instrument. If a board is attempting to send data to the Microprocessor board, an interrupt will be generated if the Interrupt Enable was set and the Microprocessor interrupts are enabled.

I/O Subsystem Interface

The I/O Subsystem Interface allows the Microprocessor board to communicate with other boards in the instrument via a serial I/O port. The I/O Subsystem Interface uses 7 I/O addresses.

The CPU controls other circuitry (not residing on the Microprocessor board) by reading and writing control information at addressable registers residing on other circuit boards. These addressable registers are part of the I/O Subsystem.

Control information transmitted to other circuit boards is broadcast serially to registers on all the boards capable of receiving it, but only those boards that initiated an interrupt are enabled.

Memory

The Microprocessor board contains up to four programmable-read-only-memory (PROM) chips for executable code and text storage, and four random-access-memory (RAM) chips for general memory use. A programmable logic array (PLA) provides the chip selects for the RAM and ROM.

The PROMs may be 64k bytes or 32k bytes components. A jumper is moved to select the proper component to be installed. Also the address demultiplexer (RAM/ROM selector), a PLA, must be programmed for the specific PROM types to be installed.

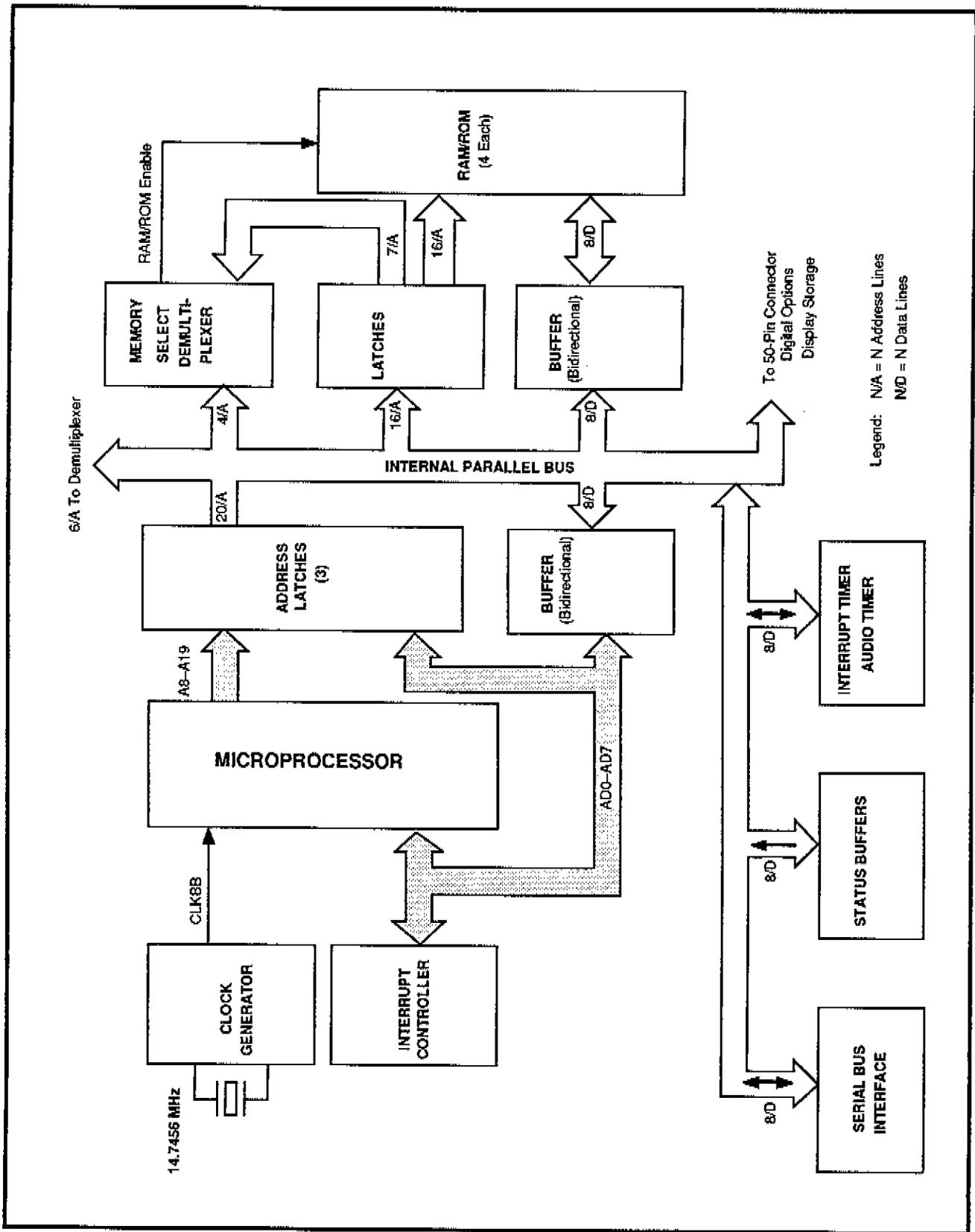


Figure 7-22. Microprocessor Kernel.

Circuit Description - 2710 Service

The RAMs may be 32k byte or 8k byte components. Again, a jumper must be moved to select the appropriate address range for the components installed.

Software Option Jumpers

Jumpers may be used to set various software options. The Microprocessor can then determine the setting of these jumpers.

Interrupt Timer/Audio Timer

The Programmable Interval Timer contains three 16-bit timers. One of its outputs, UPAUD, is used by the μ Processor to acknowledge that a button has been pushed (audio beep).

The rest of the outputs including UPAUD are used for house-keeping such as verifying data paths in I/O Subsystem during power-up.

Counter System

The Counter System is used for making accurate frequency measurements and for counting events. The counter accurately counts to approximately 40 MHz. The amplitude of the input signals must be within the range of -10 dB to +10 dB.

The Counter System consists of three counter chains: a 28-

Bit Presettable Events Counter, a 24-Bit Presettable IF Counter, and a 29-Bit Presettable Reference Counter.

The 28-bits long Event Counter Chain counts input cycles or events. Its input is selected from one of the following:

1. Center Frequency Control Board
2. Output of the Video and FM Detectors
3. Optional Input

The 24-bits long IF Counter chain also counts input cycles or events and is dedicated to the 10 MHz IF. Its input is picked off after the Noise Filter on the Log board.

The 29-bits long Reference Counter chain counts cycles from the 100 MHz Reference Oscillator.

The first counter chain that reaches its maximum count stops all the counter chains. The length of the counter cycle determines the resolution of the count. Also, the length of time required to make a measurement is affected by the resolution of the counter.

Because of the method used to stop the event counter when the period counter reaches its maximum count, the period counter may over-count by one or more counts.

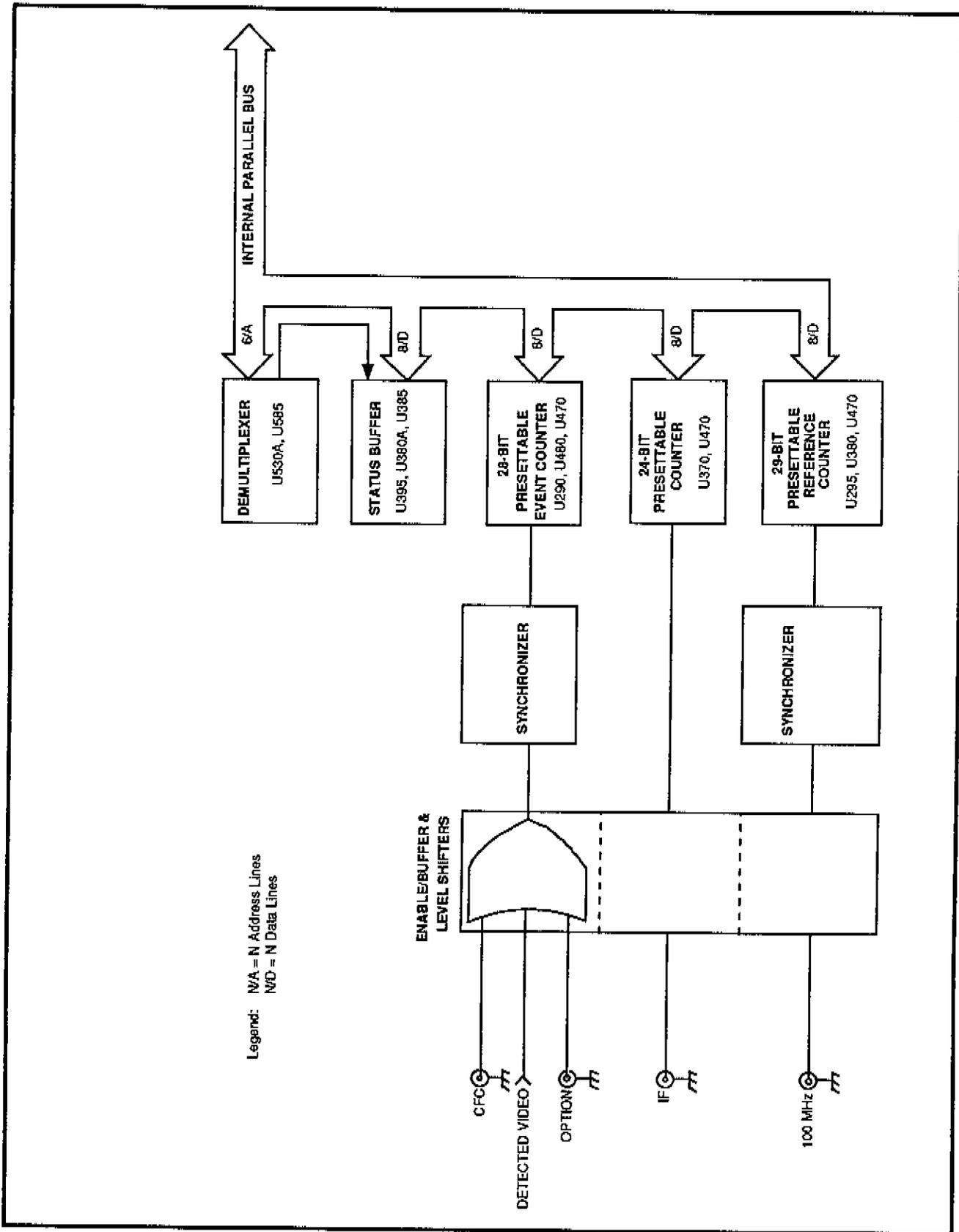


Figure 7-23. Microprocessor counter system.

SWEEP S12

The Sweep board contains a Microprocessor Interface, Trigger/Sweep Generator circuitry, Video Monitor Mode [Vertical Scan (Raster Scan) circuitry], Video Line Triggering, and Graticule Illumination.

Microprocessor Interface

This board receives messages from the Microprocessor regarding its operation, but cannot send messages back directly to the Microprocessor, but via the sweep gate. The interface consists of a shift register (U230, U240, U210, and U240) that is serial in and parallel out. The second half of the shift register, U210 and U240, becomes part of a Selective Line Trigger Counter circuit in conjunction with U310, U320, and U420.

Trigger/Sweep Generator

The available trigger modes are Free Run, Internal, Line, External, TV Field, and TV Line. Address lines TRIG1, TRIG2, and TRIG4 at trigger selector chip U340 are used to select the trigger mode.

For internal triggers, the video signal from the Log board is routed to U340, a multiplexer, via U670A. The output of U670A is also routed to the Z-Axis circuit on the Power Supply board via switch U570C (pin 10). Trigger selection is done via the Microprocessor Interface. The output of the multiplexer drives U260 where the signal drives a Schmitt trigger generator.

Two external multiplexers U160 and U150 are added for sweep speed selections, selecting various RC combinations. Again, these RC combinations are selected via the Microprocessor. Switches U275C is enabled for sweeping the display manually, and U275A for enabled for setting the trigger level and sweeping the display manually.

Video Monitor Mode

When the video monitor mode is selected (Option 10 installed), the readout, display storage, and video filter are turned off; the resolution bandwidth is set to 5 MHz; the Vertical display mode defaults to Lin; the span setting defaults to Zero Span; and the sweep rate defaults to 5 μ s. The video monitor mode can be aborted by deselecting via the trigger menu or by selecting another trigger mode.

The detected video signal from the Log board or the FM Video Detector (U760) on the Sweep board is routed to both the trigger selector chip (U340) and a sync separator (U550). A pair of analog switches (U570A and U570D), controlled by the Microprocessor, enable either normal detected video or inverted video depending on the video source. The two possible sources are the video detector on the Log board and the FM Video Detector on the Sweep board. Another pair of analog switches (U570B and U570C) enable either normal (Log-detected) video or FM video to the Z-Axis circuit on the Power Supply board.

The sync separator regenerates vertical sync and routes it to both the Trigger Selector chip and the Vertical Scan Generator. The sync separator also routes horizontal sync to the Vertical Scan Generator. The regenerated sync controls Q525, a switching FET in a vertical rate ramp generator composed of U620B, Q525 and associated components. The output of the ramp generator is compared with a manually variable level set by R636 to set the K-input of a J-K Flip-Flop that controls the switching FET; this output is also routed to the Z-Axis on the Power supply board.

Graticule Lights

GRATLITE- turns on Q110, saturating Q212 to enable the graticule lights. This places three incandescent lights between +10 V and -11 V with current limited by the parallel combination of R701 and R702.

FRONT PANEL

The Front Panel assembly acts as an interface between the user and the instrument. These circuits translate operator actions on front-panel controls, into data for the Microprocessor to read and execute. The Microprocessor outputs data showing current operating modes to the user via LEDs (light emitting diodes) and crt readout.

The assembly consists of an Input Shift Register, Switch Matrix, Output Shift Register, FREQ/MARKERS Control, and timing and handshake circuitry.

Input Shift Register

This is a 48-bit shift register consisting of U313, U230, U240, U553, and U383 wired in series. Data is loaded in as a serial input and shifted out as parallel outputs. The main purpose of the Input Shift Register is illuminate the proper LEDs when front-panel switches are pushed.

A secondary use is for self-diagnostics at power-up. At that time, the Microprocessor performs a checksum type of operation where it writes a number into the Input Shift Register, shifts it out to the Output Shift Register, then reads it out using CLK0. That number is then compared to the number that was originally written into the Input Shift Register to verify that the path works.

Switch Matrix

The front-panel switches are arranged in a matrix of rows and columns. When a key is pressed (switch closed), data (a high) is loaded in both the row and column portions of the Output Shift Register U620 and U293. At the same time, U142A, a timing circuit, sends a service request (FPREQ-) to the Microprocessor via the handshake circuit (U670A, U670B, and U470D), and an RC time constant in conjunction with normal propagation delay through the handshake circuit locks out

any more front-panel switching until the timing circuit has timed out. The timing circuit times out in approximately 400 ms.

Before anything happens, the Microprocessor writes the correct word to the Input Register to light up a LED, acknowledging that a front-panel button has been pushed.

When the Microprocessor acknowledges that it has received an interrupt (FPACK goes low), data in the output shift register is serially clocked out and enabled to the Microprocessor. At the same time, the Handshake circuit times out and disables the service request and gets armed for the sequence to start all over again. The sequence may be started by either the Switch Matrix or the FREQ/MARKER control on the front panel.

Note that when a key is pressed, pin 10 of U161C is held high, and the only input to this gate is from U142A.

Output Shift Register

This is a 16-bit shift register consisting of U620 and U293 wired in series. Data is loaded in parallel and shifted out serially. The main purpose of the Output Shift Register is to store and shift out onto the Microprocessor serial I/O port all front-panel key clicks and FREQ/MARKERS control settings.

FREQ/MARKERS Control

Each clockwise and counter clockwise click of the FREQ/MARKERS control causes data to be loaded into the Output Register, and a timing circuit composed of U142B and associated components initiates a service request. Another timing circuit locks out the FREQ/MARKERS control for approximately 1 ms. That is, for any number of clicks within 1 ms, the frequency is incremented or decremented once, depending on whether they were clockwise or counterclockwise clicks.

POWER SUPPLY

(PRIMARY)

B020319 and Up

WARNING

Hazardous line potentials exist within the Power Supply.

This Power Supply operates over the 90 V to 250 V range of mains input without range switching. This is accomplished by using a high efficiency Pulse Width Modulator (PWM) preregulator to transform the rectified input (≈ 125 V to 350 V) to a regulated 60 Vdc.

An inverter drives a transformer having numerous secondaries which are rectified to provide operating power for the instrument. This transformer also has the High Voltage winding (≈ 2500 V peak) for the crt.

The dc voltages are supplied unregulated, however some secondary 3 terminal regulation is used as needed. The crt high voltage is regulated by U330A and Q341 which modulate the ground end of the 2500V winding. This keeps the display fixed in size as internal loading varies.

The Power Supply circuits are divided into the Primary Circuits and the Secondary Circuits.

PRIMARY CIRCUITS

The Power Supply primary circuits consist of the following: the AC Input circuit, a PWM, an Inverter, and a Frequency Lock circuit. See Figure 7-24.

AC Input

Power is applied through an EMI line filter, a line fuse, a switch, additional EMI filtering, and a full-wave rectifier and storage capacitor. The line filter prevents power-line interference from entering the Power Supply, and also attenuates internally-generated signals radiating out the power cord. The additional EMI filtering, consisting of a common-mode inductor and a normal mode inductor, line-to-line capacitors, and line-to-ground capacitors, attenuates harmonics of the Pulsed-Width Modulator that are conducted out the power cord.

A thermistor, having a negative temperature coefficient, limits current surge at power-up. The surge current drops within several cycles of line input as the storage capacitor charges. When power is applied, the line input current heats the thermistor. The increase in temperature decreases the resistance value of the thermistor so power loss is minimized.

AC line voltage is picked off ahead of the second EMI filter via T310. This ac voltage is used in the trigger circuits as a line trigger source.

PWM

Integrated circuit U385, a multi-function PWM IC, is used to drive a MOSFET switch. The PWM, operating in a single-ended mode, sets frequency, regulates voltage using its internal +5 V reference, allows current limiting, and provides a slow start up.

At power-up, there is a delay until R190 charges C390 to approximately 20 V, at which time Q393 and Q491 turn on to supply power to the PWM IC. The capacitor provides drive current until the PWM output reaches 60 V relative to special ground (TP292).

Initial pulses to the MOSFET switch are narrow, and they gradually widen as C495 (between pins 4 and 14 of the PWM IC) charges. If current through R363 at the source terminal of the MOSFET switch exceeds 1.9 A, the pulse width is limited until C360 at the primary center tap of the power transformer charges up to the desired voltage. The PWM operates in a voltage control mode set by the string R383, R386, and R484, where the output voltage across C360 is compared to the PWM's internal +5 V reference. The negative end of the +5 V reference is connected to TP293 (60 V above special ground). Frequency is set by C385 and R396 in parallel with R385 and R280. Pin 10 of the PWM conducts through CR381 and R387 to Q480 (a MOSFET switch) for fast positive transitions. Transistor Q380 turns on for fast negative transitions. Series RC damping networks, R498/C497 and R384/C382, compensate the PWM transient response.

The MOSFET duty factor is approximately E_o/E_m . This will be approximately 16% (2.2 μ s) at 250 V line input. The PWM IC has a maximum duty factor of 95%, which means the minimum voltage E_m across storage capacitor C380 can drop to approximately 70 V before loss of regulation occurs.

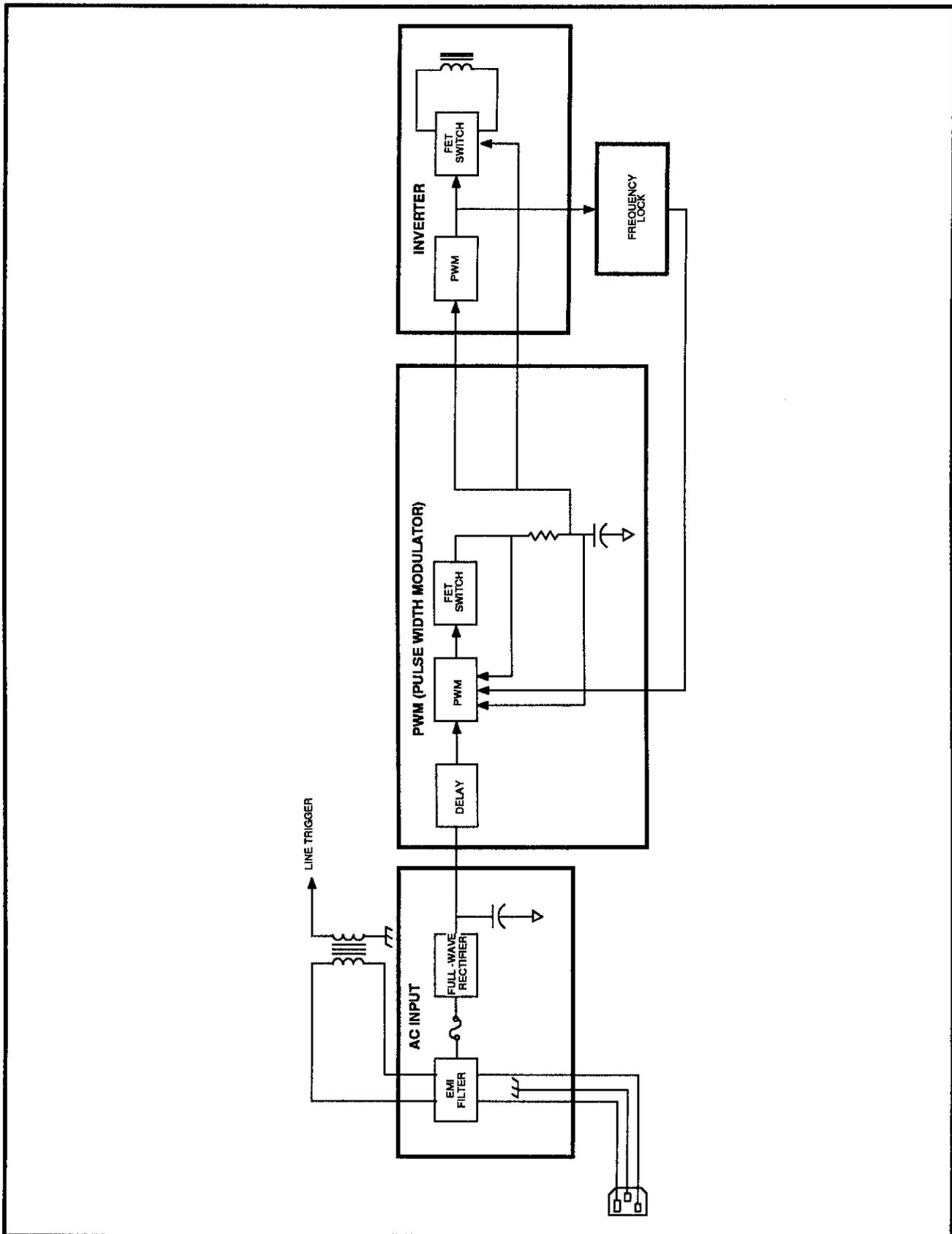


Figure 7-24. Power Supply primary block diagram

Circuit Description - 2710 Service

Three components carry high current. These are the MOSFET Q480, commutating diode CR370, and the coupled winding energy storage inductor (transformer) T290. Capacitor C392 between the storage inductor windings compensates for leakage inductance. The transformer has two auxiliary windings. One winding, pins 6 and 7, has a positive peak of 20 V and provides current for the PWM through 6.2 V zener diode VR290 and CR294. The other winding, pins 9 and 10, drives out of phase current through a small capacitor connected to the chassis. This reduces line conducted EMI by cancelling current flowing through stray capacitance to chassis from the drain of Q480 and other parts connected to the same node.

Current into C360 at the center tap of the power transformer is continuous as in a Buck regulator. The current in the storage inductor ramps up when Q480 is on and ramps down when CR370 conducts. Since there is current and stored charge in the diode when Q480 turns on, L376 is included in the loop to limit current and reduce power losses. Energy stored in L376 is recovered with three diodes and a capacitor, and transferred to the output.

Inverter

The Inverter consists primarily of a PWM IC, a pair of MOSFETs, and the power transformer. The MOSFETs are driven symmetrically and out of phase by U460 (operated in the push-pull mode), providing current to the main transformer

primary. The operating frequency is approximately 24kHz as set by R472 and C473. Supply current for the PWM is through R470 clamped to 12.4 V by VR370 and VR371.

The low impedance, fast switching of the MOSFETs is slowed down by series inductors L450 and L350. Damping networks consisting of diodes, resistors and capacitors take care of two conditions. As each MOSFET turns on, a resonance of the inductor at the drain and transformer reflected impedance (capacitance) is damped by CR440, CR340, and R340. Also, when each MOSFET turns off, CR454, CR356, C353, and R354 limit the peak voltage excursion to approximately 120 V. The series RC networks across the inductors also absorb some energy.

Frequency Lock

The inverter frequency is approximately 24 kHz and the preregulator operates at 3X this rate. The D flip-flop U480B is clocked at 72 kHz with the D input driven at 24 kHz via clamp diode CR460. The Q output is RC-filtered and modulates pin 6 of the PWM IC to maintain the 3:1 frequency ratio. When R280 is adjusted for lock, one sample of the D input is low, the second is high, and the third is at the edge of the 24 kHz waveform. When the third sample is high, the filtered output to the PWM will reduce its frequency, and conversely when low. This lock prevents low frequency IM between the two frequencies which could be audible. The lock can occur at various ratios with 3:1 chosen so the predominant harmonic of the inverter coincides with the PWM fundamental.

POWER SUPPLY

(PRIMARY)

B010001 to B010318

WARNING
Hazardous line potentials exist within the Power Supply.

An inverter drives a transformer having numerous secondaries which are rectified to provide operating power for the instrument. This transformer also has the High Voltage winding ($\approx 2500V$ peak) for the crt.

The dc voltages are supplied unregulated, however some secondary 3 terminal regulation is used as needed. The crt high voltage is regulated by U330A and Q341 which modulate the ground end of the 2500V winding. This keeps the display fixed in size as internal loading varies.

This Power Supply operates over the 90 V to 250 V range of mains input without range switching. This is accomplished by using a high efficiency Pulse Width Modulator (PWM) preregulator to transform the rectified input ($\approx 125 V$ to 350 V) to a regulated 60 Vdc.

The Power Supply circuits are divided into the Primary Circuits and the Secondary Circuits.

PRIMARY CIRCUITS

The Power Supply primary circuits consist of the following: the AC Input circuit, a PWM, an Inverter, and a Frequency Lock circuit. See Figure 7-24.

AC Input

Power is applied through an EMI line filter, a line fuse, a switch, additional EMI filtering, and a full-wave rectifier and storage capacitor. The line filter prevents power-line interference from entering the Power Supply, and also attenuates internally-generated signals radiating out the power cord. The additional EMI filtering, consisting of a common-mode inductor and a normal mode inductor, line-to-line capacitors, and line-to-ground capacitors, attenuates harmonics of the Pulsed-Width Modulator that are conducted out the power cord.

A thermistor, having a negative temperature coefficient, limits current surge at power-up. The surge current drops within several cycles of line input as the storage capacitor charges. When power is applied, the line input current heats the thermistor. The increase in temperature decreases the resistance value of the thermistor so power loss is minimized.

AC line voltage is picked off ahead of the second EMI filter via T310. This ac voltage is used in the trigger circuits as a line trigger source.

PWM

Integrated circuit U385, a multi-function PWM IC, is used to drive a MOSFET switch. The PWM, operating in a single-ended mode, sets frequency, regulates voltage using its internal +5 V reference, allows current limiting, and provides a slow start up.

At power-up, there is a delay until R190 charges C390 to approximately 20 V, at which time Q393 and Q491 turn on to supply power to the PWM IC. The capacitor provides drive current until the PWM output reaches 60 V relative to special ground (TP292).

Initial pulses to the MOSFET switch are narrow, and they gradually widen as C495 charges. If current through R363 at the source terminal of the MOSFET switch exceeds 1.9 A, the pulse width is limited until C360 at the primary center tap of the power transformer charges up to the desired voltage. The PWM operates in a voltage control mode set by the string R383, R386, and R484 in parallel with R485, where the output voltage across C360 is compared to the PWM's internal +5 V reference. The negative end of the +5 V reference is connected to TP293 (60 V above special ground). Frequency is set by C385 and R396 in parallel with R385 and R280. Pin 10 of the PWM conducts through CR381 and R387 to Q480 (a

MOSFET switch) for fast positive transitions. Transistor Q380 turns on for fast negative transitions. Series RC damping networks, R498/C497 and R384/C382, compensate the PWM transient response.

The MOSFET duty factor is approximately E_o/E_m . This will be approximately 16% (2.2 μ s) at 250 V line input. The PWM IC has a maximum duty factor of 95%, which means the minimum voltage E_m across storage capacitor C380 can drop to approximately 70 V before loss of regulation occurs.

Three components carry high current. These are the MOSFET Q15, commutating diode CR160, and the coupled winding energy storage inductor (transformer) T290. Capacitor C392 between the storage inductor windings compensates for leakage inductance. The transformer has two auxiliary windings. One winding, pins 6 and 7, has a positive peak of 20 V and provides current for the PWM through CR294. The other winding, pins 9 and 10, drives out of phase current through a small capacitor connected to the chassis. This reduces line conducted EMI by cancelling current flowing through stray capacitance to chassis from the drain of Q15 and other parts connected to the same node.

Current into C360 at the center tap of the power transformer is continuous as in a Buck regulator. The current in the storage inductor ramps up when Q15 is on and ramps down when CR370 conducts. Since there is current and stored charge in the diode when Q15 turns on, L376 is included in the loop to limit current and reduce power losses.

Inverter

The Inverter consists primarily of a pair of transistors, a coupled winding energy storage inductor, and a power transformer. The transistors are driven symmetrically and out of phase by the coupled winding energy storage inductor, providing current to the main transformer primary. The operating frequency is approximately 24 kHz.

Frequency Lock

The inverter frequency is approximately 24 kHz and the preregulator operates at 3X this rate. The D flip-flop U480B is clocked at 72 kHz with the D input driven at 24 kHz via clamp diode CR350. The Q output is RC-filtered and modulates pin 6 of the PWM IC to maintain the 3:1 frequency ratio. When R280 is adjusted for lock, one sample of the D input is low, the second is high, and the third is at the edge of the 24 kHz waveform. When the third sample is high, the filtered output to the PWM will reduce its frequency, and conversely when low. This lock prevents low frequency IM between the two frequencies which could be audible. The lock can occur at various ratios with 3:1 chosen so the predominant harmonic of the inverter coincides with the PWM fundamental.

POWER SUPPLY (SECONDARIES)

The +5 V potentiometer adjusts the preregulated voltage to set the 5 V source within ± 10 mV at TP+5 V. Other voltages are determined by transformer winding ratios and degree of loading. Three secondary windings (5 V, 10 V, and 43 V) have series RC damping networks to suppress high frequency harmonics of the inverter that occur as each rectifier turns off.

LC filter networks at the output of each rectifier reduce ripple to acceptable levels for instrument power.

Most of the available power comes from the +5 V, +10 V and -11 V supplies. Lighter loads, such as 20 V, are obtained by voltage doubling.

DISPLAY SYSTEM

The Display System consists of the following:

- Vertical Display circuit
- Horizontal Display circuit
- Z-Axis circuit.

See Figure 7-2.

The Display System has three possible display modes. Active spectrum display mode where the spectrum of the incoming signal is displayed, static spectrum display mode where the stored signals are displayed, and video monitor mode where live video signals are displayed.

Vertical Display

The Vertical Display circuit consists of a video amplifier (preamplifier and a parphase amplifier). Gain and dc offset (Vertical Position) are set at the input of the preamplifier such that, for a full screen signal, the signal at the input of the parphase amplifier swings from -0.7 V to +0.7 V. The output of the parphase amplifier then drives the vertical deflection plates.

Three signals may be applied to the Vertical Display circuitry, namely:

- LOGVID (Detected video from the Log board)
- DSVER (from the Display Storage board)
- VIDVERT (Vertical Scan signal from the Sweep board)

Horizontal Display

The Horizontal Display circuit consists of a parphase amplifier. In this case, gain and dc offset (Horizontal Position) are set at the input of the parphase amplifier swings from -0.7 V to +0.7 V. The output of the parphase amplifier then drives the horizontal deflection plates.

Two signals may be applied to the Horizontal Display circuitry, namely:

- SWP (Sweep from the Sweep board)
- DSHOR (from the Display Storage board)

When an active signal is displayed in normal mode, the horizontal drive signal is the sweep (SWP), and the vertical drive signal is the detected video (LOGVID); and when a stored signal is displayed, the horizontal drive signal becomes DSHOR from the Display Storage board, and the vertical drive signal becomes DSVER from the Display Storage board.

When the video monitor mode is enabled, the vertical signal is a vertical scan signal (VIDVERT) and LOGVID and DSVER are switched out. At the same time DSHOR is also switched out, and the sweep signal (SWP) set to a TV line rate. A third signal, VIDZ (live video), is routed to the Z-Axis circuit.

Z-Axis

The Z-Axis circuits receive signals from the Display Storage and Sweep boards, and accept control levels from the front-panel INTENSITY control. These signals are then used to generate unblanking signals to control the display brightness and focus.

The Z-Axis circuits provide the drive currents and bias voltage to operate the crt. They consist of the intensity control circuits, which control the crt beam current for normal signal display operations, and the unblanking gates, which furnish current to the Z-Axis drive amplifier to drive the crt control grid.

The Z-Axis Drive Amplifier is an operational amplifier that consists of discrete transistors and related components. The input of the amplifier is a summing point for the VIDZ signal and the intensity control voltage from the front panel. Two gates also drive the amplifier, one gate (DSBLANK-) during readout display periods, and the second gate (SWPGATE) during sweep display periods.

Circuit Description – 2710 Service

Two transistors provide current for the trace rotation coil. The TRACE ROTATION adjustment sets the current so the displayed trace is aligned with the graticule.

The High-Voltage Supply furnishes the crt bias and filament voltage to the crt cathode, and provides dc restoration for the Z-AXIS DRIVE signal. The supply consists of three main circuits:

1. The voltage multiplier circuit rectifies and filters the high voltage for application to the crt anode.
2. The high-voltage regulator circuit samples the high voltage and regulates the operation of the high-voltage oscillator.
3. The Z-Axis clipper and rectifier circuits couple the Z-AXIS drive signal to the crt control grid.

The voltage multiplier is encapsulated in a high insulation material. The output of the multiplier is applied to the crt anode. Reference voltage for the regulator is also picked off the anode line through a series of large resistors. The anode voltage is also picked off and applied to the filament to hold the filament at the same potential as the anode.

The high-voltage regulator circuit consists of a comparator and surrounding components. The high voltage is applied through a resistive voltage divider network. Thus, a sample of the high voltage is applied to the non-inverting input of the comparator. The correction signal, in the form of dc drive, is applied as bias to a transistor to control the current through the high voltage secondary winding.

The Z-Axis clipper circuit consists of two series diodes, plus associated components. The voltage that passes the clipper circuit is coupled through a capacitor to the Z-Axis rectifier.

The clipped Z-AXIS DRIVE signal is rectified by a pair of diodes. The rectified voltage is then fed to the grid of the crt. A capacitor couples fast changes of the drive voltage to the grid to speed up the response of the grid circuit. The crt grid is protected from high-voltage arcs by three neon bulbs, much like spark gaps. Also, a 4.75 k Ω resistor at the junction of the clipper diodes protects the rectifier diodes from high-voltage surges in case the crt arcs.

REPLACEABLE ELECTRICAL PARTS

PARTS ORDERING INFORMATION

Replacement parts are available from or through your local Tektronix, Inc. Field Office or representative.

Changes to Tektronix instruments are sometimes made to accommodate improved components as they become available, and to give you the benefit of the latest circuit improvements developed in our engineering department. It is therefore important, when ordering parts, to include the following information in your order: Part number, instrument type or number, serial number, and modification number if applicable.

If a part you have ordered has been replaced with a new or improved part, your local Tektronix, Inc. Field Office or representative will contact you concerning any change in part number.

Change information, if any, is located at the rear of this manual.

LIST OF ASSEMBLIES

A list of assemblies can be found at the beginning of the Electrical Parts List. The assemblies are listed in numerical order. When the complete component number of a part is known, this list will identify the assembly in which the part is located.

CROSS INDEX-MFR. CODE NUMBER TO MANUFACTURER

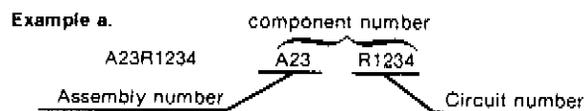
The Mfr. Code Number to Manufacturer index for the Electrical Parts List is located immediately after this page. The Cross Index provides codes, names and addresses of manufacturers of components listed in the Electrical Parts List.

ABBREVIATIONS

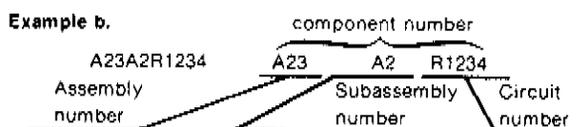
Abbreviations conform to American National Standard Y1.1.

COMPONENT NUMBER (column one of the Electrical Parts List)

A numbering method has been used to identify assemblies, subassemblies and parts. Examples of this numbering method and typical expansions are illustrated by the following:



Read: Resistor 1234 of Assembly 23



Read: Resistor 1234 of Subassembly 2 of Assembly 23

Only the circuit number will appear on the diagrams and circuit board illustrations. Each diagram and circuit board illustration is clearly marked with the assembly number. Assembly numbers are also marked on the mechanical exploded views located in the Mechanical Parts List. The component number is obtained by adding the assembly number prefix to the circuit number.

The Electrical Parts List is divided and arranged by assemblies in numerical sequence (e.g., assembly A1 with its subassemblies and parts, precedes assembly A2 with its subassemblies and parts).

Chassis-mounted parts have no assembly number prefix and are located at the end of the Electrical Parts List.

TEKTRONIX PART NO. (column two of the Electrical Parts List)

Indicates part number to be used when ordering replacement part from Tektronix.

SERIAL/MODEL NO. (columns three and four of the Electrical Parts List)

Column three (3) indicates the serial number at which the part was first used. Column four (4) indicates the serial number at which the part was removed. No serial number entered indicates part is good for all serial numbers.

NAME & DESCRIPTION (column five of the Electrical Parts List)

In the Parts List, an Item Name is separated from the description by a colon (:). Because of space limitations, an Item Name may sometimes appear as incomplete. For further Item Name identification, the U.S. Federal Cataloging Handbook H6-1 can be utilized where possible.

MFR. CODE (column six of the Electrical Parts List)

Indicates the code number of the actual manufacturer of the part. (Code to name and address cross reference can be found immediately after this page.)

MFR. PART NUMBER (column seven of the Electrical Parts List)

Indicates actual manufacturers part number.

Replaceable Electrical Parts - 2710

CROSS INDEX - MFR. CODE NUMBER TO MANUFACTURER

Mfr. Code	Manufacturer	Address	City, State, Zip Code
00213	NYTRONICS COMPONENTS GROUP INC SUBSIDIARY OF NYTRONICS INC	ORANGE ST	DARLINGTON SC 29532
00681	MINE SAFETY APPLIANCE CO CATALYST RESEARCH DIV	1421 CLARKVIEW RD	BALTIMORE MD 21209-2103
00779	AMP INC	2800 FULLING MILL PO BOX 3608	HARRISBURG PA 17105
00809	CROVEN CRYSTALS SUB OF ELECTRONIC TECHNOLOGIES INC	500 BEECH ST PO BOX 420	WHITBY ONT CAN L1N 5S5
00853	SANGAMO WESTON INC COMPONENTS DIV	SANGAMO RD PO BOX 128	PICKENS SC 29671-9716
01121	ALLEN-BRADLEY CO	1201 S 2ND ST	MILWAUKEE WI 53204-2410
01281	MOTOROLA INC RF & OPTOELECTRONIC PRODUCTS DIV	14520 AVIATION BLVD	LAWDALE CA 90260-1121
01295	TEXAS INSTRUMENTS INC SEMICONDUCTOR GROUP	13500 N CENTRAL EXPY PO BOX 655012	DALLAS TX 75265
02111	HAMILTON STANDARD CONTROLS INC SPECTROL DIV	17070 E GALE AVE P O BOX 1220	CITY OF INDUSTRY CA 91749
02113	COILCRAFT INC	1102 SILVER LAKE RD	CARY IL 60013-1658
02114	AMPEREX ELECTRONIC CORP FERROXCUBE DIV	5083 KINGS HWY	SAUGERTIES NY 12477
02777	HOPKINS ENGINEERING CO	12900 FOOTHILL BLVD	SAN FERNANDO CA 91342-4928
03508	GENERAL ELECTRIC CO SEMI-CONDUCTOR PRODUCTS DEPT	W GENESEE ST	AUBURN NY 13021
04099	CAPCO INC	1328 WINTERS AVE PO BOX 1028	GRAND JUNCTION CO 81502
04222	AVX CERAMICS DIV OF AVX CORP	19TH AVE SOUTH P O BOX 867	MYRTLE BEACH SC 29577
04713	MOTOROLA INC SEMICONDUCTOR PRODUCTS SECTOR	5005 E MCDOWELL RD	PHOENIX AZ 85008-4229
05397	UNION CARBIDE CORP MATERIALS SYSTEMS DIV	11901 MADISON AVE	CLEVELAND OH 44101
07088	KELVIN ELECTRIC CO	5907 NOBLE AVE	VAN NUYS CA 91411
07716	TRW INC TRW IRC FIXED RESISTORS/BURLINGTON	2850 MT PLEASANT AVE	BURLINGTON IA 52601
11532	TELEDYNE RELAYS TELEDYNE INDUSTRIES INC SUB OF TELEDYNE INC	12525 DAPHNE AVE	HAWTHORNE CA 90250-3308
12020	OVENAIRE DIV OF ELECTRONIC TECHNOLOGIES INC	706 FORREST ST PO BOX 1528	CHARLOTTESVILLE VA 22901-4224
12697	CLAROSTAT MFG CO INC	LOWER WASHINGTON ST	DOVER NH 03820
12969	UNITRODE CORP	5 FORBES RD	LEXINGTON MA 02173-7305
13511	AMPHENOL CADRE DIV BUNKER RAMO CORP		LOS GATOS CA
14193	CAL-R INC	1601 OLYMPIC BLVD PO BOX 1397	SANTA MONICA CA 90406
14552	MICROSEMI CORP	2830 S FAIRVIEW ST	SANTA ANA CA 92704-5948
14674	CORNING GLASS WORKS	HOUGHTON PK	CORNING NY 14830
14936	GENERAL INSTRUMENT CORP DISCRETE SEMI CONDUCTOR DIV	600 W JOHN ST	HICKSVILLE NY 11802
15238	ITT SEMICONDUCTORS A DIVISION OF INTERNATIONAL TELEPHONE AND TELEGRAPH CORP	500 BROADWAY PO BOX 168	LAWRENCE MA 01841-3002
15454	AMETEK INC RODAN DIV	721 N POPLAR ST	ORANGE CA 92668
16179	M/A-COM OMNI SPECTRA INC MICROWAVE COMPONENT DIV SUB OF M/A-COM INC	21 CONTINENTAL BLVD	MERRIMACK NH 03054-4303
17856	SILICONIX INC	2201 LAURELWOOD RD	SANTA CLARA CA 95054-1516
18203	ENGELMANN MICROWAVE DIV DIV OF KDI ELECTRONICS INC	60 S JEFFERSON RD	WHIPPANY NJ 07981-1001
18324	SIGNETICS CORP MILITARY PRODUCTS DIV	4130 S MARKET COURT	SACRAMENTO CA 95834-1222
19701	MEPCO/CENTRALAB A NORTH AMERICAN PHILIPS CO	PO BOX 760	MINERAL WELLS TX 76067-0760
21847	REI MICROWAVE INC	825 STEWART DR	SUNNYVALE CA 94086-4514

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Mfr. Code	Manufacturer	Address	City, State, Zip Code
22526	DU PONT E I DE NEMOURS AND CO INC DU PONT CONNECTOR SYSTEMS DIV MILITARY PRODUCTS GROUP	515 FISHING CREEK RD	NEW CUMBERLAND PA 17070-3007
24546	CORNING GLASS WORKS	550 HIGH ST	BRADFORD PA 16701-3737
27014	NATIONAL SEMICONDUCTOR CORP	2900 SEMICONDUCTOR DR	SANTA CLARA CA 95051-0606
28480	HEWLETT-PACKARD CO CORPORATE HQ	3000 HANOVER ST	PALO ALTO CA 94304-1112
29454	JOHANSON DIELECTRICS INC	2210 SCREENLAND DR PO BOX 6465	BURBANK CA 91505-1137
30487	HUNTINGTON ELECTRIC INC	550 CONDIIT ST P O BOX 366	HUNTINGTON IN 46750-2506
31433	KEMET ELECTRONICS CORP NATIONAL SALES HEADQUARTERS	PO BOX 5928	GREENVILLE SC 29606
31918	ITT SHADOW INC	8081 WALLACE RD	EDEN PRAIRIE MN 55344-2224
32997	BOURNS INC TRIMPOT DIV	1200 COLUMBIA AVE	RIVERSIDE CA 92507-2114
33095	SPECTRUM CONTROL INC	2185 W WEIGHT ST	ERIE PA 16505
50101	FREQUENCY SOURCES INC SEMICONDUCTOR DIV SUB OF LORAL CORP	16 MAPLE RD	CHELMSFORD MA 01824-3737
50140	K AND L MICROWAVE INC SUB OF DOVER CORP	408 COLES CIR	SALISBURY MD 21801-3214
50434	HEWLETT-PACKARD CO OPTOELECTRONICS DIV	370 W TRIMBLE RD	SAN JOSE CA 95131
51406	MURATA ERIE NORTH AMERICA INC HEADQUARTERS AND GEORGIA OPERATIONS	2200 LAKE PARK DR	SMYRNA GA 30080
54473	MATSUSHITA ELECTRIC CORP OF AMERICA	ONE PANASONIC WAY PO BOX 1501	SECAUCUS NJ 07094-2917
54583	TDK ELECTRONICS CORP	12 HARBOR PARK DR	PORT WASHINGTON NY 11550
54937	DEYOUNG MANUFACTURING INC	12920 NE 125TH WAY	KIRKLAND WA 98034-7716
55680	NICHICON /AMERICA/ CORP	927 E STATE PKY	SCHAUMBURG IL 60195-4526
56289	SPRAGUE ELECTRIC CO WORLD HEADQUARTERS	92 HAYDEN AVE	LEXINGTON MA 02173-7929
56880	MAGNETICS INC	3000 E PRESTON ST 8 WHATNEY	BALTIMORE MD 21213-3935
57668	ROHM CORP	PO BOX 19515	IRVINE CA 92713
59660	TUSONIX INC	7741 N BUSINESS PARK DR PO BOX 37144	TUCSON AZ 85740-7144
60705	CERA-MITE CORPORATION	1327 6TH AVE	GRAFTON WI 53024-1831
62104	CALIFORNIA EASTERN LABORATORIES INC	3260 JAY ST	SANTA CLARA CA 95054-3309
65238	NOVACAP	1811 N KEYSTONE ST	BURBANK CA 91505
71400	BUSSMANN DIV OF COOPER INDUSTRIES INC	114 OLD STATE RD PO BOX 14460	ST LOUIS MO 63178
72982	ERIE SPECIALTY PRODUCTS INC	645 W 11TH ST	ERIE PA 16512
73138	BECKMAN INDUSTRIAL CORP BECKMAN ELECTRONIC TECHNOLOGIES SUB OF EMERSON ELECTRIC	4141 PALM ST	FULLERTON CA 92635
73899	JFD ELECTRONICS COMPONENTS CORP A DIV OF MURTA ERIE NORTH AMERICA	112 MOTT ST	OCEANSIDE NY 11572-5823
74970	JOHNSON E F CO	299 10TH AVE S W	WASECA MN 56093-2539
75378	CTS KNIGHTS INC	400 REIMANN AVE	SANDWICH IL 60548-1846
75915	LITTELFUSE INC SUB TRACOR INC	800 E NORTHWEST HWY	DES PLAINES IL 60016-3049
78488	STACKPOLE CORP THE	201 STACKPOLE ST	ST MARYS PA 15857-1401
80009	TEKTRONIX INC	14150 SW KARL BRAUN DR PO BOX 500	BEAVERTON OR 97707-0001
81073	GRAYHILL INC	561 HILLGROVE AVE PO BOX 10373	LA GRANGE IL 60525-5914
81483	INTERNATIONAL RECTIFIER	9220 SUNSET BLVD	LOS ANGELES CA 90069-3501
91637	DALE ELECTRONICS INC	2064 12TH AVE PO BOX 609	COLUMBUS NE 68601-3632
92966	GTE PRODUCTS CORP LIGHTING PRODUCTS GROUP HILLSBORO MINIATURE LAMP PLANT	WEST MAIN ST	HILLSBORO NH 03244
95275	VITRAMON INC	BOX 544	BRIDGEPORT CT 06601-0544

Replaceable Electrical Parts - 2710

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Mfr. Code	Manufacturer	Address	City, State, Zip Code
98291	SEAELECTRO CORP BICC ELECTRONICS	40 LINDEMAN DR	TURNBULL CT 06611-4739
D5243	ROEDERSTEIN E SPEZIALFABRIK FUER KONDENSATOREN GMBH	LUDMILLASTRASSE 23-25	8300 LANDSHUT GERMANY
TK0146	BUEHLER PRODUCTS INC	PO BOX A HIGHWAY 70	EAST KINSTON NC 28501
TK0213	TOPTRON CORP		TOKYO JAPAN
TK0515	RIFA INC	403 INTERNATIONAL PKY PO BOX 853904	RICHARDSON TX 75085-3904
TK0900	UNITED CHEMI-CON INC	9801 W HIGGINS SUITE 430	ROSEMONT IL 60018-4704
TK0961	NEC ELECTRONICS USA INC ELECTRON DIV	401 ELLIS ST PO BOX 7241	MOUNTAIN VIEW CA 94039
TK1345	ZMAN AND ASSOCIATES	7633 S 180TH	KENT WA 98032
TK1395	ROEDERSTEIN ELECTRONICS INC	2100 W FRONT ST	STATESVILLE NC 28677-3651
TK1421	COILTRON	PO BOX 904	BEAVERTON OR 97075
TK1424	MARCON AMERICA CORP	700 LANDWEHR RD	NORTHBROOK IL 60062
TK1450	TOKYO COSMOS ELECTRIC CO LTD	2-268 SOBUDAI ZAWA	KANAGAWA 228 JAPAN
TK1452	SHELLEY-RAGON INC (DIST)	919 SW 150TH	SEATTLE WA 98166-1829
TK1483	TEKA PRODUCTS INC	45 SALEM ST	PROVIDENCE RI 02907
TK1869	ALPS	100 N CNTRE AVE	ROCKVILLE CENTRE NY 11570

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discort	Name & Description	Mfr. Code	Mfr. Part No.
A5	670-9417-00	B010001	B010318	CIRCUIT BD ASSY:SWEEP	80009	670-9417-00
A5	670-9417-01	B020319		CIRCUIT BD ASSY:SWEEP	80009	670-9417-01
A6	670-9413-00			CIRCUIT BD ASSY:FRONT PNL	80009	670-9413-00
A7	670-9480-00	B010001	B010182	CIRCUIT BD ASSY:LOG AMPLIFIER	80009	670-9480-00
A7	670-9480-01	B010183		CIRCUIT BD ASSY:LOG AMPLIFIER	80009	670-9480-01
A9	670-9468-00			CIRCUIT BD ASSY:DIGITAL STORAGE	80009	670-9468-00
A10	670-9469-00	B010001	B010195	CIRCUIT BD ASSY:MICROPROCESSOR	80009	670-9469-00
A10	670-9469-01	B010196	B010266	CIRCUIT BD ASSY:MICROPROCESSOR	80009	670-9469-01
A10	671-0653-00	B010267		CIRCUIT BD ASSY:MICROPROCESSOR	80009	671-0653-00
A11	670-9471-09	B010001	B010313	CIRCUIT BD ASSY:DIGITAL OPT 09	80009	670-9471-09
A11	670-9471-10	B010314		CIRCUIT BD ASSY:DIGITAL OPT 09 (OPTION 09 ONLY)	80009	670-9471-10
A12	672-1284-00	B020319		CIRCUIT BD ASSY:PHASELOCK CFC MODULE	80009	672-1284-00
A12	670-9474-00	B010001	B010318	CIRCUIT BD ASSY:CF CONTROL	80009	670-9474-00
A12A1	670-9472-01	B020319		CIRCUIT BD ASSY:PHASELOCKED CF CONTROL	80009	670-9472-01
A12A2	670-9473-01	B020319		CIRCUIT BD ASSY:HIG FREQ VCO	80009	670-9473-01
A12A3	671-0583-01	B020319		CIRCUIT BD ASSY:LOW FREQUENCY	80009	671-0583-01
A13	670-9475-00			CIRCUIT BD ASSY:VARIABLE RESOLUTION	80009	670-9475-00
A14	672-0200-00			CIRCUIT BD ASSY:RF ASSY	80009	672-0200-00
A14A1	670-9415-00			CIRCUIT BD ASSY:RF MOTHER	80009	670-9415-00
A14A2	670-9479-00			CIRCUIT BD ASSY:2ND CONVERTER	80009	670-9479-00
A15	621-0026-00	B010001	B010318	POWER SPLY ASSY:ASSEMBLED CIRCUIT BD & CHAS SIS	80009	621-0026-00
A15	621-0042-00	B020319		PWR SPLY ASSY:CKT BD 7 CHASSIS	80009	621-0042-00
A15A1	670-9414-00	B010001	B010318	CIRCUIT BD ASSY:PWR SPLY	80009	670-9414-00
A15A1	671-0630-00	B020319		CIRCUIT BD ASSY:POWER SUPPLY	80009	671-0630-00
A16	119-2568-00	B010001	B010034	1ST MIXER ASSY:	80009	119-2568-00
A16	119-2568-01	B010035		MIXER ASSY:1ST (PART OF A16)	80009	119-2568-01
A16A1	-----			(PART OF A16)		
A16A2	-----			(PART OF A16)		
A17	119-2301-00	B010001	B010034	YIG BUFFER ASSY:	80009	119-2301-00
A17	119-2301-01	B010035	B010318	YIG BUFFER ASSY:	80009	119-2301-01
A17	119-2301-02	B020319		YIG BUFFER ASSY:	80009	119-2301-02
A17A1	-----			(PART OF A17)		
A18	670-9675-00	B010001	B010318	CIRCUIT BD ASSY:ATTENUATOR	80009	670-9675-00
A18	672-1297-00	B020319		CIRCUIT BD ASSY:DIGITAL CONTROL	80009	672-1297-00
A18A1	671-0767-00	B020319		CIRCUIT BD ASSY:DIGITAL CONTROL	80009	671-0767-00
A18A2	671-0768-00	B020319		CIRCUIT BD ASSY:RF	80009	671-0768-00
A19	119-2206-00			OSCILLATOR,RF:1.9 TO 4.0 GHZ	80009	119-2206-00
A19A1	-----			(PART OF A19)		
A20	671-0218-00	B010001	B010318	CIRCUIT BD ASSY:COUNTER AMPLIFIER	80009	671-0218-00
A21	670-9470-00	B020319		CIRCUIT BD ASSY:REF OSCILLATOR	80009	670-9470-00
A22	670-9416-00	B020319		CIRCUIT BD ASSY:300HZ (OPTION 01 ONLY)	80009	670-9416-00
A5	670-9417-00	B010001	B010318	CIRCUIT BD ASSY:SWEEP	80009	670-9417-00
A5	670-9417-01	B020319		CIRCUIT BD ASSY:SWEEP	80009	670-9417-01
A5C120	295-0199-00			CAP SET,MATCHED:(1) 10UF,1.5%,25V,(1) 0.1UF .1.5%,100V,MATCHED	80009	295-0199-00
A5C140	283-0672-00			CAP,FXD,MICA DI:200PF,1%,50V	00853	D155F2010F0
A5C142	283-0645-00			CAP,FXD,MICA DI:790PF,1%,100V	00853	D153F791F0
A5C221	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A5C230	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A5C231	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A5C248	290-5000-00			CAP,FXD,ELCTL:1UF,20%,50V	TK0900	S50V1MICROF
A5C250	290-5000-00			CAP,FXD,ELCTL:1UF,20%,50V	TK0900	S50V1MICROF
A5C254	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A5C264	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Discnt	Name & Description	Mfr. Code	Mfr. Part No.
A5C279	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A5C280	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A5C282	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A5C330	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A5C346	283-5000-00		CAP, FXD, CER DI: 10PF, 5%, 50V	95275	VJ1206A100JXA
A5C352	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A5C354	283-5014-00		CAP, FXD, CER DI: 330PF, 5%, 50V	80009	283-5014-00
A5C360	283-5003-00		CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A5C361	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A5C374	283-5003-00		CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A5C376	283-5003-00		CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A5C380	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A5C382	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A5C410	290-0944-00		CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A5C424	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A5C426	290-5000-00		CAP, FXD, ELCTLT: 1UF, 20%, 50V	TK0900	S50V1MICROF
A5C440	283-5003-00		CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A5C442	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A5C450	290-5000-00		CAP, FXD, ELCTLT: 1UF, 20%, 50V	TK0900	S50V1MICROF
A5C452	290-5000-00		CAP, FXD, ELCTLT: 1UF, 20%, 50V	TK0900	S50V1MICROF
A5C456	290-5000-00		CAP, FXD, ELCTLT: 1UF, 20%, 50V	TK0900	S50V1MICROF
A5C460	290-5000-00		CAP, FXD, ELCTLT: 1UF, 20%, 50V	TK0900	S50V1MICROF
A5C462	283-5003-00		CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A5C466	290-5000-00		CAP, FXD, ELCTLT: 1UF, 20%, 50V	TK0900	S50V1MICROF
A5C515	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A5C525	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A5C526	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A5C556	290-0944-00		CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A5C558	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A5C566	283-0100-00		CAP, FXD, CER DI: 0.0047UF, 10%, 200V	04222	SR306A472KAA
A5C572	283-5011-00		CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A5C640	290-0944-00		CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A5C650	283-5003-00		CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A5C653	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A5C660	290-5000-00		CAP, FXD, ELCTLT: 1UF, 20%, 50V	TK0900	S50V1MICROF
A5C662	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A5C663	283-5008-00		CAP, FXD, CER DI: 12PF, 5%, 50V	54583	C3216C0G1H120J
A5C680	290-0944-00		CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A5C760	283-5009-00		CAP, FXD, CER DI: 15PF, 5%, 50V	54583	C3216C0G1H150J
A5C762	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A5C763	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A5C772	283-5019-00		CAP, FXD, CER DI: 2PF, +/-0.25PF, 50V	54583	C3216C0G1H020C-T
A5C850	295-0199-00		CAP SET, MATCHED: (1) 10UF, 1.5%, 25V, (1) 0.1UF, 1.5%, 100V, MATCHED	80009	295-0199-00
A5CR211	152-5000-00		SEMICON DVC, DI: SW, SI, 70V, COM CATHODE	04713	BAV70
A5CR241	152-5000-00		SEMICON DVC, DI: SW, SI, 70V, COM CATHODE	04713	BAV70
A5CR242	152-5004-00		SEMICON DVC, DI: SI, SW, SER PR, 70V	04713	BAV99T1
A5CR311	152-5000-00		SEMICON DVC, DI: SW, SI, 70V, COM CATHODE	04713	BAV70
A5CR364	152-5000-00		SEMICON DVC, DI: SW, SI, 70V, COM CATHODE	04713	BAV70
A5CR652	152-5000-00		SEMICON DVC, DI: SW, SI, 70V, COM CATHODE	04713	BAV70
A5DS200	150-0097-00		LAMP, INCAND: 6.3V, 0.2A, #7381, WIRE LEADS	92966	7381
A5DS400	150-0097-00		LAMP, INCAND: 6.3V, 0.2A, #7381, WIRE LEADS	92966	7381
A5DS700	150-0097-00		LAMP, INCAND: 6.3V, 0.2A, #7381, WIRE LEADS	92966	7381
A5L660	108-5001-00		COIL, RF: FXD, 70MH	02113	SS-162-70
A5L890	108-1262-00		INDUCTOR: 100UH	54583	TSL0807-101KR75
ASP5	131-2514-00		CONN, RCPT, ELEC: CKT BD, 2 X 10, MALE	00779	86479-1
A5Q110	151-5000-00		TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A5Q175	151-5001-00		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discont			
A5Q193	151-5001-00			TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A5Q212	151-5001-00			TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A5Q256	151-5001-00			TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A5Q370	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A5Q525	151-5002-00			TRANSISTOR:JFET,N-CH,RDS=60	04713	MMBF4392T1
A5Q530	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A5Q640	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A5R110	321-5026-00			RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A5R112	321-5026-00			RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A5R128	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A5R150	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R152	321-5048-00			RES,FXD,FILM:332K,1%,0.125W	01121	BCK3323FT
A5R153	321-5048-00			RES,FXD,FILM:332K,1%,0.125W	01121	BCK3323FT
A5R154	321-5049-00			RES,FXD,FILM:1 MEG,1%,0.125W	01121	BCK1004FT
A5R155	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A5R166	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R168	321-5049-00			RES,FXD,FILM:1 MEG,1%,0.125W	01121	BCK1004FT
A5R170	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R171	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R173	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R174	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R175	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R176	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R177	321-5035-00			RES,FXD,FILM:27.4K,1%,0.125W	01121	BCK2742FT
A5R179	321-5032-00			RES,FXD,FILM:15.0K,1%,0.125W	01121	BCK1502FT
A5R180	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A5R190	321-5051-00			RES,FXD,FILM:0 OHM,1%,0.125W	80009	321-5051-00
A5R191	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R192	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A5R194	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A5R210	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A5R212	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A5R220	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A5R222	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R232	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A5R252	321-5026-00			RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A5R254	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R258	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A5R260	317-0472-00	B020319		RES,FXD,CMPSN:4.7K OHM,5%,0.125W	01121	BB4725
A5R262	321-5049-00			RES,FXD,FILM:1 MEG,1%,0.125W	01121	BCK1004FT
A5R263	321-5017-00			RES,FXD,FILM:825 OHM,1%,0.125W	01121	BCK8250FT
A5R265	321-5019-00	B010001	B010318	RES,FXD,FILM:1.21K,1%,0.125W	01121	BCK1211FT
A5R265	321-5028-00	B020319	B020319	RES,FXD,FILM:6.81K,1%,0.125W	01121	BCK6811FT
A5R265	321-5030-00	B020319		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A5R270	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R272	321-5013-00			RES,FXD,FILM:392 OHM,1%,0.125W	01121	BCK3920FT
A5R280	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A5R281	321-5010-00			RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A5R342	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A5R344	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R346	321-5034-00			RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A5R348	321-5006-00			RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A5R350	321-5006-00			RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A5R352	321-5013-00			RES,FXD,FILM:392 OHM,1%,0.125W	01121	BCK3920FT
A5R356	321-5034-00			RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A5R357	321-5048-00			RES,FXD,FILM:332K,1%,0.125W	01121	BCK3323FT
A5R360	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A5R370	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discnt.			
A5R372	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R372	321-5027-00	B020319		RES, FXD, FILM: 5.62K, 1%, 0.125W	01121	BCK5621FT
A5R373	321-5035-00			RES, FXD, FILM: 27.4K, 1%, 0.125W	01121	BCK2742FT
A5R374	321-5034-00			RES, FXD, FILM: 22.1K, 1%, 0.125W	01121	BCK2212FT
A5R380	321-5051-00			RES, FXD, FILM: 0 OHM, 1%, 0.125W	80009	321-5051-00
A5R412	321-5048-00			RES, FXD, FILM: 332K, 1%, 0.125W	01121	BCK3323FT
A5R413	321-5048-00			RES, FXD, FILM: 332K, 1%, 0.125W	01121	BCK3323FT
A5R424	321-5033-00			RES, FXD, FILM: 18.2K, 1%, 0.125W	01121	BCK1822FT
A5R430	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R441	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A5R442	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R445	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R446	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R460	311-1235-00			RES, VAR, NONW: 100K OHM, 0.5W	32997	3386F-T04-104
A5R462	321-5017-00			RES, FXD, FILM: 825 OHM, 1%, 0.125W	01121	BCK8250FT
A5R466	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A5R470	311-1235-00			RES, VAR, NONW: 100K OHM, 0.5W	32997	3386F-T04-104
A5R474	321-5022-00			RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A5R476	311-1235-00			RES, VAR, NONW: 100K OHM, 0.5W	32997	3386F-T04-104
A5R510	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R512	321-5031-00			RES, FXD, FILM: 12.1K, 1%, 0.125W	01121	BCK1212FT
A5R514	321-5011-00			RES, FXD, FILM: 274 OHM, 1%, 0.125W	01121	BCK2740FT
A5R520	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R522	321-5027-00			RES, FXD, FILM: 5.62K, 1%, 0.125W	01121	BCK5621FT
A5R523	321-5036-00			RES, FXD, FILM: 33.2K, 1%, 0.125W	01121	BCK3322FT
A5R524	321-5036-00			RES, FXD, FILM: 33.2K, 1%, 0.125W	01121	BCK3322FT
A5R525	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A5R526	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A5R530	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R539	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R542	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A5R560	321-5016-00			RES, FXD, FILM: 681 OHM, 1%, 0.125W	01121	BCK6810FT
A5R561	321-5002-00			RES, FXD, FILM: 15 OHM, 1%, 0.125W	57668	MCR18EZHFW 15E0
A5R562	321-5031-00			RES, FXD, FILM: 12.1K, 1%, 0.125W	01121	BCK1212FT
A5R563	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A5R572	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A5R580	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A5R584	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A5R586	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A5R621	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R626	321-5020-00			RES, FXD, FILM: 1.50K, 1%, 0.125W	01121	BCK1501FT
A5R628	321-5025-00			RES, FXD, FILM: 3.92K, 1%, 0.125W	01121	BCK3921FT
A5R630	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A5R632	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A5R634	321-5038-00			RES, FXD, FILM: 47.5K, 1%, 0.125W	01121	BCK4752FT
A5R635	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R636	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A5R642	321-5038-00			RES, FXD, FILM: 47.5K, 1%, 0.125W	01121	BCK4752FT
A5R651	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A5R701	301-0560-00			RES, FXD, FILM: 56 OHM, 5%, 0.5W	19701	5053CX56R00J
A5R702	301-0560-00			RES, FXD, FILM: 56 OHM, 5%, 0.5W	19701	5053CX56R00J
A5R720	311-1225-00			RES, VAR, NONW: TRMR, 1K OHM, 0.5W	32997	3386F-T04-102
A5R760	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R761	321-5009-00			RES, FXD, FILM: 182 OHM, 1%, 0.125W	01121	BCK1820FT
A5R770	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R771	321-5034-00			RES, FXD, FILM: 22.1K, 1%, 0.125W	01121	BCK2212FT
A5R780	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5U150	156-5097-00			MICROCKT, DGTL: SGL 8 CHAN MULTIPLEXER	80009	156-5097-00

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Component No.	Tektronix	Serial/Assembly No.		Name & Description	Mfr.	Mfr. Part No.
	Part No.	Effective	Discont		Code	
A5U160	156-5097-00			MICROCKT,DGTL:SGL 8 CHAN MULTIPLEXER	80009	156-5097-00
A5U210	156-5021-00			MICROCKT,DGTL:CMOS,8 STATE SHIFT AND STORE	18324	HEF4094BTD
A5U230	156-5021-00			MICROCKT,DGTL:CMOS,8 STATE SHIFT AND STORE	18324	HEF4094BTD
A5U240	156-5021-00			MICROCKT,DGTL:CMOS,8 STATE SHIFT AND STORE	18324	HEF4094BTD
A5U260	155-0055-00			MICROCKT,LINER:TRIGGER & SWP AMPL	80009	155-0055-00
A5U275	156-5274-00			MICROCKT,LINER:CMOS,ANALOG SWITCH	80009	156-5274-00
A5U280	156-5298-00			MICROCKT,LINER:VOLTAGE RGLTR,+5V,100MA	80009	156-5298-00
A5U310	156-5110-00			MICROCKT,DGTL:LSTTL,SYNC 4 BIT UP/DN BIN CN TR	80009	156-5110-00
A5U320	156-5110-00			MICROCKT,DGTL:LSTTL,SYNC 4 BIT UP/DN BIN CN TR	80009	156-5110-00
A5U330	156-5098-00			MICROCKT,DGTL:HCMOS,QUAD 2 INPUT NAND GATE	80009	156-5098-00
A5U340	156-5097-00			MICROCKT,DGTL:SGL 8 CHAN MULTIPLEXER	80009	156-5097-00
A5U350	156-5017-00			MICROCKT,LINER:DUAL 741 OP AMP,1MZ,SO-8	04713	MC1458
A5U380	156-5299-00			MICROCKT,LINER:VOLTAGE RGLTR,-5V,100MA	80009	156-5299-00
A5U410	156-5021-00			MICROCKT,DGTL:CMOS,8 STATE SHIFT AND STORE	18324	HEF4094BTD
A5U420	156-5110-00			MICROCKT,DGTL:LSTTL,SYNC 4 BIT UP/DN BIN CN TR	80009	156-5110-00
A5U430	156-5106-00			MICROCKT,DGTL:CMOS,QUAD 2 INP NOR GATE	80009	156-5106-00
A5U530	156-5081-00			MICROCKT,DGTL:HCMOS,HEX INVERTER	80009	156-5081-00
A5U540	156-5204-00			MICROCKT,DGTL:HCMOS,DUAL JK FF W/RESET	80009	156-5204-00
A5U550	156-3131-00			MICROCKT,LINER:TV HORIZONTAL CONTROL	80009	156-3131-00
A5U570	156-5274-00			MICROCKT,LINER:CMOS,ANALOG SWITCH	80009	156-5274-00
A5U620	156-5017-00			MICROCKT,LINER:DUAL 741 OP AMP,1MZ,SO-8	04713	MC1458
A5U630	156-5119-00			MICROCKT,LINER:DUAL VOLTAGE COMPARATOR	80009	156-5119-00
A5U670	156-5257-00			MICROCKT,LINER:HIGH SPEED OP-AMP	80009	156-5257-00
A5U680	156-5257-00			MICROCKT,LINER:HIGH SPEED OP-AMP	80009	156-5257-00
A5U780	156-5017-00			MICROCKT,LINER:DUAL 741 OP AMP,1MZ,SO-8	04713	MC1458
A6	670-9413-00			CIRCUIT BD ASSY:FRONT PNL	80009	670-9413-00
A6C140	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A6C141	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A6C143	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A6C151	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A6C160	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A6C215	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A6C231	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A6C241	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A6C292	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A6C314	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A6C363	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	14674	12085C103KAT060R
A6C370	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A6C382	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A6C391	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A6C484	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	14674	12085C103KAT060R
A6C522	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A6C552	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A6C560	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A6C581	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A6C640	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A6C741	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A6CR134	152-5000-00			SEMICON DVC,DI:SW,SI,70V,COM CATHODE	04713	BAV70
A6CR302	152-5000-00			SEMICON DVC,DI:SW,SI,70V,COM CATHODE	04713	BAV70
A6CR402	152-5000-00			SEMICON DVC,DI:SW,SI,70V,COM CATHODE	04713	BAV70
A6CR632	152-5000-00			SEMICON DVC,DI:SW,SI,70V,COM CATHODE	04713	BAV70
A6DS180	150-5004-00			LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS210	150-5004-00			LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS211	150-5003-00			LT EMITTING DIO:GREEN,565NM,60MA	50434	HLMP6500-021
A6DS222	150-5003-00			LT EMITTING DIO:GREEN,565NM,60MA	50434	HLMP6500-021

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Component No.	Tektronix		Serial/Assembly No.	Name & Description	Mfr. Code	Mfr. Part No.
	Part No.	Effective Discnt				
A6DS232	150-5003-00			LT EMITTING DIO:GREEN,565NM,60MA	50434	HLMP6500-021
A6DS280	150-5004-00			LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS311	150-5003-00			LT EMITTING DIO:GREEN,565NM,60MA	50434	HLMP6500-021
A6DS321	150-5003-00			LT EMITTING DIO:GREEN,565NM,60MA	50434	HLMP6500-021
A6DS331	150-5004-00			LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS333	150-5003-00			LT EMITTING DIO:GREEN,565NM,60MA	50434	HLMP6500-021
A6DS340	150-5004-00			LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS343	150-5003-00			LT EMITTING DIO:GREEN,565NM,60MA	50434	HLMP6500-021
A6DS410	150-5004-00			LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS412	150-5003-00			LT EMITTING DIO:GREEN,565NM,60MA	50434	HLMP6500-021
A6DS420	150-5004-00			LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS422	150-5003-00			LT EMITTING DIO:GREEN,565NM,60MA	50434	HLMP6500-021
A6DS430	150-5004-00			LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS431	150-5003-00			LT EMITTING DIO:GREEN,565NM,60MA	50434	HLMP6500-021
A6DS440	150-5004-00			LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS442	150-5003-00			LT EMITTING DIO:GREEN,565NM,60MA	50434	HLMP6500-021
A6DS443	150-5004-00			LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS462	150-5004-00			LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS491	150-5004-00			LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS493	150-5004-00			LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS510	150-5003-00			LT EMITTING DIO:GREEN,565NM,60MA	50434	HLMP6500-021
A6DS521	150-5003-00			LT EMITTING DIO:GREEN,565NM,60MA	50434	HLMP6500-021
A6DS531	150-5003-00			LT EMITTING DIO:GREEN,565NM,60MA	50434	HLMP6500-021
A6DS541	150-5003-00			LT EMITTING DIO:GREEN,565NM,60MA	50434	HLMP6500-021
A6DS542	150-5004-00			LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS562	150-5004-00			LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS564	150-5004-00			LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS580	150-5004-00			LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS642	150-5003-00			LT EMITTING DIO:GREEN,565NM,60MA	50434	HLMP6500-021
A6DS780	150-5003-00			LT EMITTING DIO:GREEN,565NM,60MA	50434	HLMP6500-021
A6J6	131-3774-00			CONN,RCPT,ELEC:HEADER,2 X 36,0.1 SPACING	22526	65610-172
A6Q132	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A6Q220	151-5001-00			TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A6Q300	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A6Q304	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A6Q361	151-5001-00			TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A6Q401	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A6Q481	151-5001-00			TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A6Q501	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A6Q631	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A6R130	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A6R131	321-5022-00			RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A6R133	321-5034-00			RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A6R135	321-5049-00			RES,FXD,FILM:1 MEG,1%,0.125W	01121	BCK1004FT
A6R150	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A6R200	321-5022-00			RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A6R212	321-5010-00			RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A6R213	321-5007-00			RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A6R214	321-5038-00			RES,FXD,FILM:47.5K,1%,0.125W	01121	BCK4752FT
A6R216	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A6R221	321-5007-00			RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A6R233	321-5007-00			RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A6R281	321-5010-00			RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A6R282	321-5010-00			RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A6R290	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A6R291	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A6R301	321-5034-00			RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A6R303	321-5022-00			RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT

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Component No.	Tektronix		Name & Description	Mfr.	
	Part No.	Serial/Assembly No. Effective Dscont		Code	Mfr. Part No.
A6R305	321-5034-00		RES, FXD, FILM: 22.1K, 1%, 0.125W	01121	BCK2212FT
A6R310	321-5007-00		RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A6R312	321-5010-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A6R320	321-5007-00		RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A6R322	321-5010-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A6R330	321-5010-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A6R332	321-5007-00		RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A6R334	321-5010-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A6R341	321-5010-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A6R342	321-5007-00		RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A6R344	321-5010-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A6R360	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A6R362	321-5047-00		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A6R364	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A6R365	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A6R366	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A6R390	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A6R400	321-5022-00		RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A6R403	321-5034-00		RES, FXD, FILM: 22.1K, 1%, 0.125W	01121	BCK2212FT
A6R411	321-5007-00		RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A6R421	321-5007-00		RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A6R432	321-5007-00		RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A6R441	321-5007-00		RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A6R450	321-5010-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A6R460	311-0679-00		RES, VAR, NONW: PNL, 2X10K OHM, 0.5W	12697	D381-CM39687
A6R461	321-5010-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A6R471	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A6R482	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A6R483	321-5047-00		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A6R485	321-5010-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A6R490	321-5010-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A6R492	321-5010-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A6R500	321-5022-00		RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A6R502	321-5034-00		RES, FXD, FILM: 22.1K, 1%, 0.125W	01121	BCK2212FT
A6R511	321-5007-00		RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A6R520	321-5007-00		RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A6R530	321-5007-00		RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A6R550	321-5007-00		RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A6R551	321-5010-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A6R561	321-5010-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A6R563	321-5010-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A6R630	321-5022-00		RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A6R633	321-5034-00		RES, FXD, FILM: 22.1K, 1%, 0.125W	01121	BCK2212FT
A6R634	321-5014-00		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A6R641	321-5014-00		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A6R643	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A6R650	321-5007-00		RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A6R740	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A6R742	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A6R750	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A6R770	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A6R771	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A6R772	321-5010-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A6SW260	311-2320-00		ENCODER, DIGITAL: INCREMENTAL, 50PPR, 50 DETENT , QUAD OUTPUT, LOC LUG AT 9 O'CLOCK	TK1869	LA22661
A6U142	156-5265-00		MICROCKT, DGLT: CMOS, DUAL MONOSTABLE MULTI VI BRATOR	80009	156-5265-00

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discont			
A6U161	156-5001-00			MICROCKT,DGTL:LSTTL,QUAD 2 INPUT NAND GATE	01295	SN74LS00D
A6U230	156-5272-00			MICROCKT,DGTL:LSTTL,8 BIT SHF RGTR	80009	156-5272-00
A6U240	156-5272-00			MICROCKT,DGTL:LSTTL,8 BIT SHF RGTR	80009	156-5272-00
A6U293	156-5080-00			MICROCKT,DGTL:CMOS,8 BIT STATIC SHIFT RGTR	80009	156-5080-00
A6U313	156-5272-00			MICROCKT,DGTL:LSTTL,8 BIT SHF RGTR	80009	156-5272-00
A6U383	156-5272-00			MICROCKT,DGTL:LSTTL,8 BIT SHF RGTR	80009	156-5272-00
A6U470	156-5079-00			MICROCKT,DGTL:LATTL,QUAD 3-STATE BUFFER	80009	156-5079-00
A6U480	156-5037-00			MICROCKT,DGTL:LSTTL,HEX INVERTER,SCHMITT	01295	SN74LS14D
A6U553	156-5272-00			MICROCKT,DGTL:LSTTL,8 BIT SHF RGTR	80009	156-5272-00
A6U620	156-5080-00			MICROCKT,DGTL:CMOS,8 BIT STATIC SHIFT RGTR	80009	156-5080-00
A6U670	156-5076-00			MICROCKT,DGTL:CMOS,DUAL D TYPE FLIP FLOP	80009	156-5076-00
A7	670-9480-00	B010001	B010182	CIRCUIT BD ASSY:LOG AMPLIFIER	80009	670-9480-00
A7	670-9480-01	B010183		CIRCUIT BD ASSY:LOG AMPLIFIER	80009	670-9480-01
A7C101	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C111	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C112	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C120	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C121	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C130	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C142	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C151	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C170	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C172	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C181	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C183	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C232	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C244	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C252	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C261	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C272	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C282	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C286	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C290	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C294	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C296	283-5008-00			CAP,FXD,CER DI:12PF,5%,50V	54583	C3216C0G1H120J
A7C300	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C302	283-5002-00	B010183		CAP,FXD,CER DI:1000PF,10%,50V	14674	12061A102KAT050R
A7C303	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C314	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C315	283-5008-00			CAP,FXD,CER DI:12PF,5%,50V	54583	C3216C0G1H120J
A7C350	290-5000-00			CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A7C351	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C352	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C354	290-0944-00			CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A7C360	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C361	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C362	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C365	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C369	283-0156-00	B010001	B010182	CAP,FXD,CER DI:1000PF,+80-20%,200V	05397	C315C10222R5CA
A7C371	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C374	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C381	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C383	281-0298-00			CAP,VAR,CER DI:6-50PF	51406	TZ03Z500YR
A7C390	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C394	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C396	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A7C397	283-5014-00			CAP,FXD,CER DI:330PF,5%,50V	80009	283-5014-00
A7C399	281-0298-00			CAP,VAR,CER DI:6-50PF	51406	TZ03Z500YR

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A7C401	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C402	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C410	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C413	283-5011-00			CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A7C414	283-5000-00			CAP, FXD, CER DI: 10PF, 5%, 50V	95275	VJ1206A100JXA
A7C416	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A7C418	283-5008-00			CAP, FXD, CER DI: 12PF, 5%, 50V	54583	C3216C0G1H120J
A7C420	283-5011-00			CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A7C422	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A7C423	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C429	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C430	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C434	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C435	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C436	283-5002-00			CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A7C437	283-5002-00			CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A7C442	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C446	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C447	283-5008-00			CAP, FXD, CER DI: 12PF, 5%, 50V	54583	C3216C0G1H120J
A7C449	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A7C450	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C452	290-0944-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A7C454	283-5011-00			CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A7C460	290-0944-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A7C470	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C472	283-5008-00			CAP, FXD, CER DI: 12PF, 5%, 50V	54583	C3216C0G1H120J
A7C473	283-5011-00			CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A7C474	283-5011-00			CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A7C476	283-5002-00	B010183		CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A7C482	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C483	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C484	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A7C485	283-5014-00			CAP, FXD, CER DI: 330PF, 5%, 50V	80009	283-5014-00
A7C486	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C491	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C494	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C500	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C504	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C508	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C520	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A7C521	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C545	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C550	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C551	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C562	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C564	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C570	281-0298-00			CAP, VAR, CER DI: 6-50PF	51406	TZ03Z500YR
A7C581	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C582	283-5011-00			CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A7C583	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C587	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C590	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C591	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C593	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C601	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C605	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C607	283-5027-00	B010183		CAP, FXD, CER DI: 470PF, 5%, 50V	54583	C3216C0G1H471J-T
A7C613	283-5001-00	B010183		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A7C616	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C620	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A7C625	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C626	283-5001-00	B010183		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A7C629	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A7C634	283-5001-00	B010183		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A7C636	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C639	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A7C643	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A7C651	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A7C661	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A7C664	283-0024-00	B010001	B010182	CAP, FXD, CER DI: 0.1UF, +80-10%, 50V	04222	SR215C104MAA
A7C664	283-5004-00	B010183		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C669	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C670	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C671	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C672	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C683	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C686	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C687	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C690	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C694	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C702	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C705	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C712	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C715	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C720	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C723	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C727	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C730	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C735	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C736	283-5001-00	B010183		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A7C738	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C739	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C743	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C744	283-5001-00	B010183		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A7C747	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C750	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C755	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C756	283-5001-00	B010183		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A7C758	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C763	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C764	283-5001-00	B010183		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A7C766	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C768	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C771	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C773	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C778	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C780	283-5002-00			CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A7C784	283-5002-00			CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A7C785	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C797	283-5002-00			CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A7C850	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C872	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C873	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7CR180	152-0524-00			SEMICON DVC, DI: SW, SI, 100V, 0.1A, D0-35	28480	5082-1779
A7CR393	152-5004-00			SEMICON DVC, DI: SI, SW, SER PR, 70V	04713	BAV99T1
A7CR617	152-5005-00			SEMICON DVC, DI: DUAL, COMMON ANODE, 70V, BAW56	04713	MBAW56T1

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discont			
A7CR627	152-5005-00			SEMICON DVC,DI:DUAL,COMMON ANODE,70V,BAW56	04713	MBAW56TI
A7CR637	152-5005-00			SEMICON DVC,DI:DUAL,COMMON ANODE,70V,BAW56	04713	MBAW56TI
A7CR737	152-5005-00			SEMICON DVC,DI:DUAL,COMMON ANODE,70V,BAW56	04713	MBAW56TI
A7CR745	152-5005-00			SEMICON DVC,DI:DUAL,COMMON ANODE,70V,BAW56	04713	MBAW56TI
A7CR757	152-5005-00			SEMICON DVC,DI:DUAL,COMMON ANODE,70V,BAW56	04713	MBAW56TI
A7CR765	152-5005-00			SEMICON DVC,DI:DUAL,COMMON ANODE,70V,BAW56	04713	MBAW56TI
A7CR770	152-5004-00			SEMICON DVC,DI:SI,SW,SER PR,70V	04713	BAV99T1
A7J160	131-0391-01			CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0119-22
A7J190	131-0391-01			CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0119-22
A7J260	131-0391-01			CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0119-22
A7J460	131-1857-00			TERM SET,PIN:36/0.025 SQ PIN,ON 0.1 CTRS	TK1483	082-3643-SS10
A7J513	131-1857-00			TERM SET,PIN:36/0.025 SQ PIN,ON 0.1 CTRS	TK1483	082-3643-SS10
A7J684	131-1857-00			TERM SET,PIN:36/0.025 SQ PIN,ON 0.1 CTRS	TK1483	082-3643-SS10
A7L398	108-5012-00			COIL,RF:FXD,2.2UH	02113	1008FS-222
A7L415	108-5037-00			COIL,RF:FXD,22UH	80009	108-5037-00
A7L419	108-5037-00			COIL,RF:FXD,22UH	80009	108-5037-00
A7L471	108-5027-00			COIL,RF:FXD,47UH	54583	NL453232T-470K
A7L475	108-1326-00			COIL,RF:FXD,2UH	80009	108-1326-00
A7L490	108-5005-00			COIL,RF:FXD,560NH	80009	108-5005-00
A7L493	108-5027-00			COIL,RF:FXD,47UH	54583	NL453232T-470K
A7L509	108-5000-00	B010183		COIL,RF:FXD,1UH	54583	NL453232T-1ROM
A7L563	108-5027-00			COIL,RF:FXD,47UH	54583	NL453232T-470K
A7L592	108-5027-00			COIL,RF:FXD,47UH	54583	NL453232T-470K
A7L685	108-5027-00			COIL,RF:FXD,47UH	54583	NL453232T-470K
A7L703	108-5027-00			COIL,RF:FXD,47UH	54583	NL453232T-470K
A7L772	108-5027-00			COIL,RF:FXD,47UH	54583	NL453232T-470K
A7P7	131-3556-00			CONN,RCPT,ELEC:CARD CONN,2 X 12,HORIZ	22526	66527-012
A7P513	131-3618-00			LINK,TERM CONN:LOW PROFILE JUMPER	80009	131-3618-00
A7P684	131-3618-00			LINK,TERM CONN:LOW PROFILE JUMPER	80009	131-3618-00
A7Q208	151-5000-00	B010183		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A7Q241	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A7Q242	151-5011-00			TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q274	151-5011-00			TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q288	151-5011-00			TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q289	151-5016-00			TRANSISTOR:PNP,SI	80009	151-5016-00
A7Q291	151-5011-00			TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q392	151-5016-00			TRANSISTOR:PNP,SI	80009	151-5016-00
A7Q506	151-5005-00			TRANSISTOR:PNP,SI,SOT-89	04713	BCX69T1
A7Q507	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A7Q537	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A7Q585	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A7Q586	151-5005-00	B010001	B010182	TRANSISTOR:PNP,SI,SOT-89	04713	BCX69T1
A7Q586	151-5004-00	B010183		TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A7Q614	151-5011-00	B010001	B010182	TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q614	151-5001-00	B010183		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A7Q623	151-5011-00	B010001	B010182	TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q623	151-5001-00	B010183		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A7Q633	151-5011-00	B010001	B010182	TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q633	151-5001-00	B010183		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A7Q646	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A7Q647	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A7Q648	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A7Q673	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A7Q700	151-5005-00			TRANSISTOR:PNP,SI,SOT-89	04713	BCX69T1
A7Q701	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A7Q710	151-5011-00	B010001	B010182	TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q710	151-5001-00	B010183		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A7Q717	151-5011-00	B010001	B010182	TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00

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Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discont			
A7Q717	151-5001-00	B010183		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A7Q725	151-5011-00	B010001	B010182	TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q725	151-5001-00	B010183		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A7Q733	151-5011-00	B010001	B010182	TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q733	151-5001-00	B010183		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A7Q741	151-5011-00	B010001	B010182	TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q741	151-5001-00	B010183		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A7Q746	151-5011-00	B010001	B010182	TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q746	151-5001-00	B010183		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A7Q753	151-5011-00	B010001	B010182	TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q753	151-5001-00	B010183		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A7Q759	151-5011-00	B010001	B010182	TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q759	151-5001-00	B010183		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A7Q761	151-5011-00	B010001	B010182	TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q761	151-5001-00	B010183		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A7Q767	151-5011-00	B010001	B010182	TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q767	151-5001-00	B010183		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A7Q790	151-5005-00			TRANSISTOR:PNP,SI,SOT-89	04713	BCX69T1
A7Q791	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A7Q795	151-5005-00			TRANSISTOR:PNP,SI,SOT-89	04713	BCX69T1
A7Q830	151-5011-00	B010001	B010182	TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q830	151-5001-00	B010183		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A7R100	321-5015-00			RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A7R100	321-5015-00	B010183		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A7R102	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHF10E
A7R103	311-1244-00	B010001	B010182	RES,VAR,NONW:TRMR,100 OHM,0.5W	32997	3386X-T07-101
A7R103	311-1198-00	B010183		RES,VAR,NONW:TRMR,20K OHM,0.5W	32997	3386X-T07-203
A7R110	321-5006-00			RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A7R131	311-1245-00			RES,VAR,NONW:TRMR,10K OHM,0.5W	32997	3386X-DY6-103
A7R140	311-1245-00			RES,VAR,NONW:TRMR,10K OHM,0.5W	32997	3386X-DY6-103
A7R141	311-1245-00			RES,VAR,NONW:TRMR,10K OHM,0.5W	32997	3386X-DY6-103
A7R150	321-5027-00			RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A7R150	321-5023-00	B010183		RES,FXD,FILM:2.74K,1%,0.125W	01121	BCK2741FT
A7R153	311-1245-00			RES,VAR,NONW:TRMR,10K OHM,0.5W	32997	3386X-DY6-103
A7R154	311-1245-00			RES,VAR,NONW:TRMR,10K OHM,0.5W	32997	3386X-DY6-103
A7R160	311-1245-00			RES,VAR,NONW:TRMR,10K OHM,0.5W	32997	3386X-DY6-103
A7R171	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R177	321-5030-00	B010183		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R182	321-5043-00			RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A7R184	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R186	321-5014-00			RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A7R186	321-5014-00	B010183		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A7R191	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHF10E
A7R200	321-5006-00			RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A7R202	321-5015-00			RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A7R202	321-5015-00	B010183		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A7R203	321-5015-00			RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A7R204	321-5027-00	B010001	B010182	RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A7R205	321-5029-00	B010001	B010182	RES,FXD,FILM:8.25K,1%,0.125W	01121	BCK8251FT
A7R206	321-5016-00	B010183		RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A7R207	321-5010-00			RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A7R209	321-5025-00			RES,FXD,FILM:3.92K,1%,0.125W	01121	BCK3921FT
A7R211	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R212	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A7R213	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A7R221	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R223	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R230	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix		Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
	Part No.		Effective	Discont			
A7R231	321-5018-00				RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A7R233	321-5047-00				RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A7R240	321-5030-00				RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R245	321-5030-00				RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R246	321-5030-00				RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R250	321-5049-00				RES, FXD, FILM: 1 MEG, 1%, 0.125W	01121	BCK1004FT
A7R253	321-5047-00				RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A7R254	321-5030-00				RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R255	321-5030-00				RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R262	321-5000-00				RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A7R270	321-5030-00				RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R275	321-5044-00	B010001	B010318		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCK562FT
A7R275	321-5015-00	B020319			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A7R276	321-5017-00				RES, FXD, FILM: 825 OHM, 1%, 0.125W	01121	BCK8250FT
A7R277	321-5018-00				RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A7R278	321-5030-00				RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R279	321-5022-00	B010183			RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A7R280	321-5023-00				RES, FXD, FILM: 2.74K, 1%, 0.125W	01121	BCK2741FT
A7R281	321-5023-00				RES, FXD, FILM: 2.74K, 1%, 0.125W	01121	BCK2741FT
A7R282	321-5006-00				RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A7R284	321-5018-00				RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A7R285	321-5024-00				RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A7R290	321-5000-00				RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A7R292	321-5018-00				RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A7R293	321-5010-00				RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A7R295	321-5043-00				RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A7R297	321-5014-00				RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R297	321-5014-00	B010183			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R301	321-5044-00	B010001	B010182		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCK562FT
A7R301	321-5015-00	B010183			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A7R302	321-5044-00	B010001	B010182		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCK562FT
A7R304	321-5015-00				RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A7R304	321-5015-00	B010183			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A7R305	321-5013-00	B010001	B010182		RES, FXD, FILM: 392 OHM, 1%, 0.125W	01121	BCK3920FT
A7R306	321-5040-00	B010183			RES, FXD, FILM: 68.1K, 1%, 0.125W	01121	BCK6812FT
A7R307	321-5016-00	B010183			RES, FXD, FILM: 681 OHM, 1%, 0.125W	01121	BCK6810FT
A7R310	321-5026-00				RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A7R311	321-5014-00				RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R311	321-5014-00	B010183			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R312	321-5014-00				RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R312	321-5014-00	B010183			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R313	321-5026-00				RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A7R317	321-5014-00				RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R317	321-5014-00	B010183			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R318	321-5026-00				RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A7R330	321-5030-00				RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R332	321-5021-00	B010001	B010318		RES, FXD, FILM: 1.82K, 1%, 0.125W	01121	BCK1821FT
A7R332	321-5024-00	B020319			RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A7R340	321-5030-00				RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R342	321-5030-00				RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R343	321-5018-00				RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A7R344	321-5048-00				RES, FXD, FILM: 332K, 1%, 0.125W	01121	BCK3323FT
A7R345	321-5024-00				RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A7R353	321-5000-00				RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A7R363	321-5018-00				RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A7R364	321-5018-00				RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A7R366	321-5030-00				RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R367	321-5026-00				RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discort	Name & Description	Mfr. Code	Mfr. Part No.
A7R368	321-5029-00			RES, FXD, FILM:8.25K, 1%, 0.125W	01121	BCK8251FT
A7R372	321-5014-00			RES, FXD, FILM:475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R372	321-5014-00	B010183		RES, FXD, FILM:475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R373	321-5014-00			RES, FXD, FILM:475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R373	321-5014-00	B010183		RES, FXD, FILM:475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R375	321-5022-00	B010183		RES, FXD, FILM:2.21K, 1%, 0.125W	01121	BCK2211FT
A7R380	321-5043-00			RES, FXD, FILM:47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A7R382	321-5000-00			RES, FXD, FILM:10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A7R391	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A7R395	321-5002-00			RES, FXD, FILM:15 OHM, 1%, 0.125W	57668	MCR18EZHFW 15E0
A7R400	321-5015-00			RES, FXD, FILM:562 OHM, 1%, 0.125W	01121	BCK5620FT
A7R400	321-5015-00	B010183		RES, FXD, FILM:562 OHM, 1%, 0.125W	01121	BCK5620FT
A7R404	321-5010-00			RES, FXD, FILM:221 OHM, 1%, 0.125W	01121	BCK221FT
A7R411	321-5015-00			RES, FXD, FILM:562 OHM, 1%, 0.125W	01121	BCK5620FT
A7R411	321-5015-00	B010183		RES, FXD, FILM:562 OHM, 1%, 0.125W	01121	BCK5620FT
A7R412	321-5017-00			RES, FXD, FILM:825 OHM, 1%, 0.125W	01121	BCK8250FT
A7R417	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A7R424	321-5021-00	B010001	B010318	RES, FXD, FILM:1.82K, 1%, 0.125W	01121	BCK1821FT
A7R424	321-5024-00	B020319		RES, FXD, FILM:3.32K, 1%, 0.125W	01121	BCK3321FT
A7R425	321-5021-00	B010001	B010318	RES, FXD, FILM:1.82K, 1%, 0.125W	01121	BCK1821FT
A7R425	321-5024-00	B020319		RES, FXD, FILM:3.32K, 1%, 0.125W	01121	BCK3321FT
A7R426	321-5026-00			RES, FXD, FILM:4.75K, 1%, 0.125W	01121	BCK4751FT
A7R427	321-5014-00			RES, FXD, FILM:475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R427	321-5014-00	B010183		RES, FXD, FILM:475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R428	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A7R438	321-5010-00			RES, FXD, FILM:221 OHM, 1%, 0.125W	01121	BCK221FT
A7R440	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A7R441	321-5049-00			RES, FXD, FILM:1 MEG, 1%, 0.125W	01121	BCK1004FT
A7R443	321-5022-00	B010001	B010182	RES, FXD, FILM:2.21K, 1%, 0.125W	01121	BCK2211FT
A7R443	321-5023-00	B010183		RES, FXD, FILM:2.74K, 1%, 0.125W	01121	BCK2741FT
A7R444	321-5038-00			RES, FXD, FILM:47.5K, 1%, 0.125W	01121	BCK4752FT
A7R445	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A7R451	311-1239-00			RES, VAR, NONWM: TRMR, 2.5K OHM, 0.5W	32997	3386X-T07-252
A7R453	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A7R454	321-5000-00			RES, FXD, FILM:10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A7R461	321-5005-00			RES, FXD, FILM:27.4 OHM, 1%, 0.125W	57668	MCR18EZHFW 27E4
A7R464	321-5008-00			RES, FXD, FILM:150 OHM, 1%, 0.125W	01121	BCK1500FT
A7R465	321-5008-00			RES, FXD, FILM:150 OHM, 1%, 0.125W	01121	BCK1500FT
A7R466	321-5000-00			RES, FXD, FILM:10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A7R467	321-5027-00	B010001	B010182	RES, FXD, FILM:5.62K, 1%, 0.125W	01121	BCK5621FT
A7R467	321-5028-00	B010183		RES, FXD, FILM:6.81K, 1%, 0.125W	01121	BCK6811FT
A7R468	321-5027-00	B010001	B010182	RES, FXD, FILM:5.62K, 1%, 0.125W	01121	BCK5621FT
A7R468	321-5028-00	B010183		RES, FXD, FILM:6.81K, 1%, 0.125W	01121	BCK6811FT
A7R480	321-5047-00			RES, FXD, FILM:100K, 1%, 0.125W	01121	BCK1003FT
A7R481	321-5043-00			RES, FXD, FILM:47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A7R492	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A7R501	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A7R502	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A7R503	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A7R505	321-5000-00			RES, FXD, FILM:10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A7R510	311-1244-00			RES, VAR, NONWM: TRMR, 100 OHM, 0.5W	32997	3386X-T07-101
A7R511	321-5044-00			RES, FXD, FILM:56.2 OHM, 1%, 0.125W	01121	BCK5622FT
A7R512	321-5006-00			RES, FXD, FILM:100 OHM, 1%, 0.125W	01121	BCK1000FT
A7R514	321-5015-00	B010183		RES, FXD, FILM:562 OHM, 1%, 0.125W	01121	BCK5620FT
A7R530	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A7R531	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A7R532	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A7R533	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discont			
A7R534	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R535	321-5034-00			RES, FXD, FILM: 22.1K, 1%, 0.125W	01121	BCK2212FT
A7R536	321-5022-00			RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A7R540	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A7R540	321-5015-00	B010183		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A7R541	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A7R542	321-5032-00			RES, FXD, FILM: 15.0K, 1%, 0.125W	01121	BCK1502FT
A7R543	321-5040-00			RES, FXD, FILM: 68.1K, 1%, 0.125W	01121	BCK6812FT
A7R546	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A7R547	321-5020-00			RES, FXD, FILM: 1.50K, 1%, 0.125W	01121	BCK1501FT
A7R548	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R549	321-5022-00			RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A7R552	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R553	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R555	321-5034-00			RES, FXD, FILM: 22.1K, 1%, 0.125W	01121	BCK2212FT
A7R556	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R557	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R560	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R561	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R584	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A7R600	311-1244-00			RES, VAR, NONW: TRMR, 100 OHM, 0.5W	32997	3386X-T07-101
A7R602	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A7R603	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A7R604	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A7R606	321-5011-00	B010001	B010182	RES, FXD, FILM: 274 OHM, 1%, 0.125W	01121	BCK2740FT
A7R606	321-5014-00	B010183		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R610	321-5038-00	B010183		RES, FXD, FILM: 47.5K, 1%, 0.125W	01121	BCK4752FT
A7R612	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A7R612	321-5015-00	B010183		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A7R613	321-5044-00	B010001	B010182	RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A7R615	321-5026-00	B010183		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A7R618	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R619	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A7R621	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A7R622	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R622	321-5014-00	B010183		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R624	321-5026-00	B010183		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A7R626	321-5044-00	B010001	B010182	RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A7R628	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R630	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A7R631	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R631	321-5014-00	B010183		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R632	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A7R634	321-5044-00	B010001	B010182	RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A7R635	321-5026-00	B010183		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A7R638	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R640	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A7R641	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R641	321-5014-00	B010183		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R642	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R644	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A7R645	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R645	321-5014-00	B010183		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R649	321-5022-00			RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A7R650	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R652	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A7R653	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R653	321-5014-00	B010183		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A7R660	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A7R662	321-5006-00			RES, FXD, FILM:100 OHM, 1%, 0.125W	01121	BCK1000FT
A7R663	321-5014-00			RES, FXD, FILM:475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R663	321-5014-00	B010183		RES, FXD, FILM:475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R665	321-5007-00	B010001	B010182	RES, FXD, FILM:121 OHM, 1%, 0.125W	01121	BCK1210FT
A7R667	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A7R668	321-5000-00	B010001	B010182	RES, FXD, FILM:10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A7R674	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A7R675	321-5026-00			RES, FXD, FILM:4.75K, 1%, 0.125W	01121	BCK4751FT
A7R676	321-5029-00			RES, FXD, FILM:8.25K, 1%, 0.125W	01121	BCK8251FT
A7R680	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A7R681	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A7R682	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A7R691	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A7R692	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A7R693	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A7R704	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A7R711	321-5030-00	B010183		RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A7R713	321-5013-00	B010001	B010182	RES, FXD, FILM:392 OHM, 1%, 0.125W	01121	BCK3920FT
A7R713	321-5012-00	B010183		RES, FXD, FILM:332 OHM, 1%, 0.125W	01121	BCK3320FT
A7R714	321-5004-00	B010001	B010182	RES, FXD, FILM:22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A7R714	321-5042-00	B010183		RES, FXD, FILM:39.2 OHM, 1%, 0.125W	57668	MCR18FWEA39E2
A7R716	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A7R718	321-5034-00	B010001	B010182	RES, FXD, FILM:22.1K, 1%, 0.125W	01121	BCK2212FT
A7R718	321-5030-00	B010183		RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A7R719	321-5038-00	B010183		RES, FXD, FILM:47.5K, 1%, 0.125W	01121	BCK4752FT
A7R721	321-5013-00			RES, FXD, FILM:392 OHM, 1%, 0.125W	01121	BCK3920FT
A7R721	321-5012-00	B010183		RES, FXD, FILM:332 OHM, 1%, 0.125W	01121	BCK3320FT
A7R722	321-5004-00	B010001	B010182	RES, FXD, FILM:22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A7R722	321-5042-00	B010183		RES, FXD, FILM:39.2 OHM, 1%, 0.125W	57668	MCR18FWEA39E2
A7R724	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A7R725	321-5034-00	B010001	B010182	RES, FXD, FILM:22.1K, 1%, 0.125W	01121	BCK2212FT
A7R728	321-5013-00	B010001	B010182	RES, FXD, FILM:392 OHM, 1%, 0.125W	01121	BCK3920FT
A7R728	321-5012-00	B010183		RES, FXD, FILM:332 OHM, 1%, 0.125W	01121	BCK3320FT
A7R729	321-5004-00	B010001	B010182	RES, FXD, FILM:22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A7R729	321-5042-00	B010183		RES, FXD, FILM:39.2 OHM, 1%, 0.125W	57668	MCR18FWEA39E2
A7R731	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A7R732	321-5006-00			RES, FXD, FILM:100 OHM, 1%, 0.125W	01121	BCK1000FT
A7R734	321-5026-00	B010183		RES, FXD, FILM:4.75K, 1%, 0.125W	01121	BCK4751FT
A7R736	321-5044-00	B010001	B010182	RES, FXD, FILM:56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A7R740	321-5006-00			RES, FXD, FILM:100 OHM, 1%, 0.125W	01121	BCK1000FT
A7R742	321-5026-00	B010183		RES, FXD, FILM:4.75K, 1%, 0.125W	01121	BCK4751FT
A7R744	321-5044-00	B010001	B010182	RES, FXD, FILM:56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A7R748	321-5013-00	B010001	B010182	RES, FXD, FILM:392 OHM, 1%, 0.125W	01121	BCK3920FT
A7R748	321-5012-00	B010183		RES, FXD, FILM:332 OHM, 1%, 0.125W	01121	BCK3320FT
A7R749	321-5034-00	B010001	B010182	RES, FXD, FILM:22.1K, 1%, 0.125W	01121	BCK2212FT
A7R749	321-5030-00	B010183		RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A7R751	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A7R752	321-5006-00			RES, FXD, FILM:100 OHM, 1%, 0.125W	01121	BCK1000FT
A7R754	321-5026-00	B010183		RES, FXD, FILM:4.75K, 1%, 0.125W	01121	BCK4751FT
A7R756	321-5044-00	B010001	B010182	RES, FXD, FILM:56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A7R760	321-5006-00			RES, FXD, FILM:100 OHM, 1%, 0.125W	01121	BCK1000FT
A7R762	321-5026-00	B010183		RES, FXD, FILM:4.75K, 1%, 0.125W	01121	BCK4751FT
A7R764	321-5044-00	B010001	B010182	RES, FXD, FILM:56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A7R769	321-5038-00	B010183		RES, FXD, FILM:47.5K, 1%, 0.125W	01121	BCK4752FT
A7R779	321-5014-00			RES, FXD, FILM:475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R779	321-5014-00	B010183		RES, FXD, FILM:475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R781	321-5027-00	B010001	B010182	RES, FXD, FILM:5.62K, 1%, 0.125W	01121	BCK5621FT

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Component No.	Tektronix		Serial/Assembly No.		Name & Description	Mfr.	
	Part No.		Effective	Discont		Code	Mfr. Part No.
A7R782	321-5040-00				RES, FXD, FILM: 68.1K, 1%, 0.125W	01121	BCK6812FT
A7R783	321-5027-00	B010001	B010182		RES, FXD, FILM: 5.62K, 1%, 0.125W	01121	BCK5621FT
A7R792	321-5024-00				RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A7R793	321-5026-00				RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A7R794	321-5018-00				RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A7R796	321-5017-00				RES, FXD, FILM: 825 OHM, 1%, 0.125W	01121	BCK8250FT
A7R820	321-5038-00	B010183			RES, FXD, FILM: 47.5K, 1%, 0.125W	01121	BCK4752FT
A7R831	321-5030-00	B010183			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R832	321-5013-00	B010001	B010182		RES, FXD, FILM: 392 OHM, 1%, 0.125W	01121	BCK3920FT
A7R833	321-5004-00	B010001	B010182		RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A7R833	321-5042-00	B010183			RES, FXD, FILM: 39.2 OHM, 1%, 0.125W	57668	MCR18FWEA39E2
A7R834	321-5030-00				RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R835	321-5004-00	B010183			RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A7R840	321-5004-00	B010001	B010182		RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A7R840	321-5042-00	B010183			RES, FXD, FILM: 39.2 OHM, 1%, 0.125W	57668	MCR18FWEA39E2
A7R841	321-5038-00	B010183			RES, FXD, FILM: 47.5K, 1%, 0.125W	01121	BCK4752FT
A7R842	321-5012-00	B010183			RES, FXD, FILM: 332 OHM, 1%, 0.125W	01121	BCK3320FT
A7R851	321-5013-00	B010001	B010182		RES, FXD, FILM: 392 OHM, 1%, 0.125W	01121	BCK3920FT
A7R851	321-5012-00	B010183			RES, FXD, FILM: 332 OHM, 1%, 0.125W	01121	BCK3320FT
A7R852	321-5004-00	B010001	B010182		RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A7R852	321-5042-00	B010183			RES, FXD, FILM: 39.2 OHM, 1%, 0.125W	57668	MCR18FWEA39E2
A7R853	321-5034-00	B010001	B010182		RES, FXD, FILM: 22.1K, 1%, 0.125W	01121	BCK2212FT
A7R853	321-5030-00	B010183			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R854	321-5030-00				RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R855	321-5038-00	B010183			RES, FXD, FILM: 47.5K, 1%, 0.125W	01121	BCK4752FT
A7R862	321-5013-00	B010001	B010182		RES, FXD, FILM: 392 OHM, 1%, 0.125W	01121	BCK3920FT
A7R862	321-5012-00	B010183			RES, FXD, FILM: 332 OHM, 1%, 0.125W	01121	BCK3320FT
A7R863	321-5004-00	B010001	B010182		RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A7R863	321-5042-00	B010183			RES, FXD, FILM: 39.2 OHM, 1%, 0.125W	57668	MCR18FWEA39E2
A7R864	321-5034-00	B010001	B010182		RES, FXD, FILM: 22.1K, 1%, 0.125W	01121	BCK2212FT
A7R864	321-5030-00	B010183			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R865	321-5030-00				RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R870	321-5044-00				RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A7T187	120-1721-00				TRANSFORMER, RF: AUTO, 6:6:6 RATIO	80009	120-1721-00
A7T206	120-0902-00	B010001	B010182		XFMR, TOROID:	80009	120-0902-00
A7T273	120-1721-00				TRANSFORMER, RF: AUTO, 6:6:6 RATIO	80009	120-1721-00
A7T405	120-0902-00				XFMR, TOROID:	80009	120-0902-00
A7T777	120-1721-00				TRANSFORMER, RF: AUTO, 6:6:6 RATIO	80009	120-1721-00
A7U201	156-5136-00				MICROCKT, LINEAR: BALANCED MODULATOR/DEMODULATOR	80009	156-5136-00
A7U210	156-5081-00				MICROCKT, DGTL: CMOS, HEX INVERTER	80009	156-5081-00
A7U220	156-5021-00				MICROCKT, DGTL: CMOS, 8 STATE SHIFT AND STORE	18324	HEF4094BTD
A7U222	156-5021-00				MICROCKT, DGTL: CMOS, 8 STATE SHIFT AND STORE	18324	HEF4094BTD
A7U232	156-5021-00				MICROCKT, DGTL: CMOS, 8 STATE SHIFT AND STORE	18324	HEF4094BTD
A7U243	156-5018-00				MICROCKT, LINEAR: DUAL OP AMP, LOW PWR, 1MZ	80009	156-5018-00
A7U260	156-2884-00				MICROCKT, LINEAR: AUDIO AMPLIFIER	80009	156-2884-00
A7U271	156-5018-00				MICROCKT, LINEAR: DUAL OP AMP, LOW PWR, 1MZ	80009	156-5018-00
A7U316	156-0317-00				MICROCKT, LINEAR: OPNL AMPL	80009	156-0317-00
A7U320	156-5274-00				MICROCKT, LINEAR: CMOS, ANALOG SWITCH	80009	156-5274-00
A7U321	156-2874-00				MICROCKT, LINEAR: OPERATIONAL AMPLIFIER, WIDE BAND	80009	156-2874-00
A7U321	313-1221-00	B010001	B010182		RES, FXD, FILM: 220 OHM, 5%, 0.2W	57668	TR20JE220E
A7U321	313-1222-00	B010001	B010182		RES, FXD, FILM: 2.2K OHM, 5%, 0.2W	57668	TR20JE 02K2
A7U331	156-5274-00				MICROCKT, LINEAR: CMOS, ANALOG SWITCH	80009	156-5274-00
A7U333	156-5274-00				MICROCKT, LINEAR: CMOS, ANALOG SWITCH	80009	156-5274-00
A7U341	156-5274-00				MICROCKT, LINEAR: CMOS, ANALOG SWITCH	80009	156-5274-00
A7U370	156-5269-00				MICROCKT, DGTL: ECL, TRIPLE LINE RECEIVER	80009	156-5269-00
A7U370	313-1222-00	B010001	B010182		RES, FXD, FILM: 2.2K OHM, 5%, 0.2W	57668	TR20JE 02K2

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Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A7U403	156-5269-00		MICROCKT,DGTL:ECL,TRIPLE LINE RECEIVER	80009	156-5269-00
A7U432	156-5274-00		MICROCKT,LINER:CMOS,ANALOG SWITCH	80009	156-5274-00
A7U433	156-5138-00		MICROCKT,LINER:OP AMP,BIFET,DUAL	80009	156-5138-00
A7U448	156-0317-00		MICROCKT,LINER:OPNL AMPL	80009	156-0317-00
A7U544	156-5018-00		MICROCKT,LINER:DUAL OP AMP,LOW PWR,1MZ	80009	156-5018-00
A7U544	156-5018-00	B010183	MICROCKT,LINER:DUAL OP AMP,LOW PWR,1MZ	80009	156-5018-00
A7U554	156-5119-00		MICROCKT,LINER:DUAL VOLTAGE COMPARATOR	80009	156-5119-00
A7U580	156-5275-00		MICROCKT,LINER:FM IF DETECTOR,LOW POWER	80009	156-5275-00
A7U688	156-5018-00		MICROCKT,LINER:DUAL OP AMP,LOW PWR,1MZ	80009	156-5018-00
A7U871	156-5298-00		MICROCKT,LINER:VOLTAGE RGLTR,+5V,100MA	80009	156-5298-00
A9	670-9468-00		CIRCUIT BD ASSY:DIGITAL STORAGE	80009	670-9468-00
A9BT510	146-0044-00		BATTERY,DRY:3V,0.17AH @ 0.85MA,BUTTON CELL, LITHIUM-MANGANESE DIOXIDE	00681	ORDER BY DESC
A9C118	290-5000-00		CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A9C180	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A9C182	283-5011-00		CAP,FXD,CER DI:33PF,5%,50V	95275	VJ1206A330JXA
A9C183	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A9C185	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A9C191	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A9C254	290-0944-00		CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A9C268	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A9C272	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A9C276	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A9C280	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A9C282	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A9C283	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A9C284	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A9C286	283-0267-00		CAP,FXD,CER DI:0.01UF,20%,500V	59660	0841546Y5500103M
A9C290	283-5002-00		CAP,FXD,CER DI:1000PF,10%,50V	14674	12061A102KAT050R
A9C375	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A9C376	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A9C380	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A9C381	283-5002-00		CAP,FXD,CER DI:1000PF,10%,50V	14674	12061A102KAT050R
A9C382	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A9C384	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A9C386	283-5014-00		CAP,FXD,CER DI:330PF,5%,50V	80009	283-5014-00
A9C390	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A9C395	283-5002-00		CAP,FXD,CER DI:1000PF,10%,50V	14674	12061A102KAT050R
A9C396	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A9C397	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A9C398	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A9C399	290-5000-00		CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A9C412	290-0944-00		CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A9C414	290-0944-00		CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A9C465	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A9C470	290-0944-00		CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A9C472	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A9C474	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A9C476	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A9C480	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A9C481	283-5011-00		CAP,FXD,CER DI:33PF,5%,50V	95275	VJ1206A330JXA
A9C482	283-5002-00		CAP,FXD,CER DI:1000PF,10%,50V	14674	12061A102KAT050R
A9C484	283-5002-00		CAP,FXD,CER DI:1000PF,10%,50V	14674	12061A102KAT050R
A9C486	290-5000-00		CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A9C520	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A9C571	283-5006-00	B010230	CAP,FXD,CER DI:5PF,+/- 0.25PF,50V	54583	C3216C061H050C
A9C574	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A9C580	290-0944-00		CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discort			
A9C582	283-5049-00			CAP, FXD, CER DI:180PF, 5%, 50V	95275	VJ1206A181JXA
A9C642	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C658	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C664	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C706	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C722	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C728	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C738	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C756	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C816	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C822	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C858	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C906	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C946	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C956	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C970	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9CR280	152-5004-00			SEMICON DVC, DI:SI, SW, SER PR, 70V	04713	BAV99T1
A9CR282	152-5004-00			SEMICON DVC, DI:SI, SW, SER PR, 70V	04713	BAV99T1
A9CR410	152-5000-00			SEMICON DVC, DI:SW, SI, 70V, COM CATHODE	04713	BAV70
A9CR438	152-5004-00			SEMICON DVC, DI:SI, SW, SER PR, 70V	04713	BAV99T1
A9CR536	152-5000-00			SEMICON DVC, DI:SW, SI, 70V, COM CATHODE	04713	BAV70
A9J550	131-2221-00			CONN, RCPT, ELEC:CKT BD, 50 CONT, MALE	22526	65626-150
A9L496	108-1262-00			INDUCTOR:100UH	54583	TSL0807-101KR75
A9L498	108-1262-00			INDUCTOR:100UH	54583	TSL0807-101KR75
A9P9	131-3556-00			CONN, RCPT, ELEC:CARD CONN, 2 X 12, HORIZ	22526	66527-012
A9Q195	151-5000-00			TRANSISTOR:PMP, SI, SOT-23	04713	MMBT3906T1
A9Q196	151-5000-00			TRANSISTOR:PMP, SI, SOT-23	04713	MMBT3906T1
A9Q292	151-5001-00			TRANSISTOR:NPN, SI, SOT-23	04713	MMBT3904T1
A9Q294	151-5001-00			TRANSISTOR:NPN, SI, SOT-23	04713	MMBT3904T1
A9Q296	151-5001-00			TRANSISTOR:NPN, SI, SOT-23	04713	MMBT3904T1
A9Q298	151-5001-00			TRANSISTOR:NPN, SI, SOT-23	04713	MMBT3904T1
A9Q490	151-5005-00			TRANSISTOR:PMP, SI, SOT-89	04713	BCX69T1
A9Q492	151-5000-00			TRANSISTOR:PMP, SI, SOT-23	04713	MMBT3906T1
A9Q532	151-5001-00			TRANSISTOR:NPN, SI, SOT-23	04713	MMBT3904T1
A9R166	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A9R180	311-1248-00			RES, VAR, NONNW:TRMR, 500 OHM, 0.5W	32997	3386X-T07-501
A9R183	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A9R184	311-1239-00			RES, VAR, NONNW:TRMR, 2.5K OHM, 0.5W	32997	3386X-T07-252
A9R188	311-1248-00			RES, VAR, NONNW:TRMR, 500 OHM, 0.5W	32997	3386X-T07-501
A9R190	311-1237-00			RES, VAR, NONNW:1K OHM, 10%, 0.50W	32997	3386X-DY6-102
A9R192	311-1248-00			RES, VAR, NONNW:TRMR, 500 OHM, 0.5W	32997	3386X-T07-501
A9R193	321-5022-00			RES, FXD, FILM:2.21K, 1%, 0.125W	01121	BCK2211FT
A9R194	321-5010-00			RES, FXD, FILM:221 OHM, 1%, 0.125W	01121	BCK221FT
A9R198	321-5010-00			RES, FXD, FILM:221 OHM, 1%, 0.125W	01121	BCK221FT
A9R226	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A9R262	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A9R264	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A9R266	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A9R280	321-5006-00			RES, FXD, FILM:100 OHM, 1%, 0.125W	01121	BCK1000FT
A9R286	321-5032-00			RES, FXD, FILM:15.0K, 1%, 0.125W	01121	BCK1502FT
A9R290	321-5022-00			RES, FXD, FILM:2.21K, 1%, 0.125W	01121	BCK2211FT
A9R291	321-5021-00			RES, FXD, FILM:1.82K, 1%, 0.125W	01121	BCK1821FT
A9R292	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A9R293	321-5019-00			RES, FXD, FILM:1.21K, 1%, 0.125W	01121	BCK1211FT
A9R294	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A9R295	321-5019-00			RES, FXD, FILM:1.21K, 1%, 0.125W	01121	BCK1211FT
A9R296	321-5022-00			RES, FXD, FILM:2.21K, 1%, 0.125W	01121	BCK2211FT
A9R298	321-5047-00			RES, FXD, FILM:100K, 1%, 0.125W	01121	BCK1003FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A9R299	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A9R370	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A9R371	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A9R372	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A9R373	321-5015-00			RES, FXD, FILM:562 OHM, 1%, 0.125W	01121	BCK5620FT
A9R374	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A9R376	321-5000-00			RES, FXD, FILM:10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A9R377	321-5048-00			RES, FXD, FILM:332K, 1%, 0.125W	01121	BCK3323FT
A9R378	321-5049-00			RES, FXD, FILM:1 MEG, 1%, 0.125W	01121	BCK1004FT
A9R379	321-5019-00			RES, FXD, FILM:1.21K, 1%, 0.125W	01121	BCK1211FT
A9R380	321-5018-00	B010001	B010229	RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A9R380	321-5006-00	B010230		RES, FXD, FILM:100 OHM, 1%, 0.125W	01121	BCK1000FT
A9R381	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A9R382	321-5048-00			RES, FXD, FILM:332K, 1%, 0.125W	01121	BCK3323FT
A9R383	321-5049-00			RES, FXD, FILM:1 MEG, 1%, 0.125W	01121	BCK1004FT
A9R384	321-5019-00			RES, FXD, FILM:1.21K, 1%, 0.125W	01121	BCK1211FT
A9R385	321-5035-00			RES, FXD, FILM:27.4K, 1%, 0.125W	01121	BCK2742FT
A9R386	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A9R387	321-5026-00			RES, FXD, FILM:4.75K, 1%, 0.125W	01121	BCK4751FT
A9R388	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A9R389	321-5026-00			RES, FXD, FILM:4.75K, 1%, 0.125W	01121	BCK4751FT
A9R390	321-5026-00			RES, FXD, FILM:4.75K, 1%, 0.125W	01121	BCK4751FT
A9R391	321-5047-00			RES, FXD, FILM:100K, 1%, 0.125W	01121	BCK1003FT
A9R392	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A9R393	321-5043-00			RES, FXD, FILM:47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A9R394	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A9R436	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A9R470	321-5000-00			RES, FXD, FILM:10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A9R476	321-5023-00			RES, FXD, FILM:2.74K, 1%, 0.125W	01121	BCK2741FT
A9R478	321-5023-00			RES, FXD, FILM:2.74K, 1%, 0.125W	01121	BCK2741FT
A9R483	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A9R484	321-5040-00			RES, FXD, FILM:68.1K, 1%, 0.125W	01121	BCK6812FT
A9R485	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A9R486	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A9R494	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A9R496	321-5025-00			RES, FXD, FILM:3.92K, 1%, 0.125W	01121	BCK3921FT
A9R532	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A9R534	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A9R538	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A9R562	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A9R574	321-5023-00			RES, FXD, FILM:2.74K, 1%, 0.125W	01121	BCK2741FT
A9R576	321-5023-00			RES, FXD, FILM:2.74K, 1%, 0.125W	01121	BCK2741FT
A9R578	321-5023-00			RES, FXD, FILM:2.74K, 1%, 0.125W	01121	BCK2741FT
A9R586	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A9R978	311-1248-00			RES, VAR, NONNW:TRMR, 500 OHM, 0.5W	32997	3386X-T07-501
A9R982	311-1245-00			RES, VAR, NONNW:TRMR, 10K OHM, 0.5W	32997	3386X-DY6-103
A9R986	311-1236-00			RES, VAR, NONNW:TRMR, 250 OHM, 0.5W	32997	3386X-T07-251
A9R992	311-1245-00			RES, VAR, NONNW:TRMR, 10K OHM, 0.5W	32997	3386X-DY6-103
A9R998	311-1244-00			RES, VAR, NONNW:TRMR, 100 OHM, 0.5W	32997	3386X-T07-101
A9U104	156-5130-00			MICROCKT, DGTL:CMOS, TRIPLE 3 INP NAND GATE	80009	156-5130-00
A9U108	156-5148-00			MICROCKT, DGTL:CMOS, QUAD 2 TO 1 MUX	80009	156-5148-00
A9U114	156-5237-00			MICROCKT, DGTL:LSTTL, 8 BIT MAGNITUDE COMPARA TOR	80009	156-5237-00
A9U120	156-5236-00			MICROCKT, DGTL:ALSTTL, 10 BIT BUS INTERFACE D -TYPE LATCHES W/INVERTING, 3 STATE OUTPUTS	80009	156-5236-00
A9U132	156-5203-00			MICROCKT, DGTL:LSTTL, 4 BIT FULL ADDER	80009	156-5203-00
A9U134	156-1170-00			MICROCKT, DGTL:TTL, ROM, CHAR GEN	27014	DM86S64CAB/N
A9U140	156-5134-00			MICROCKT, DGTL:CMOS, 4 BIT BINARY CNTR	80009	156-5134-00

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discont			
A9U146	160-5006-00			MICROCKT,DGTL:STTL,PLD,FPLS,PRGM	80009	160-5006-00
A9U160	156-5289-00			MICROCKT,DGTL:HCMOS,OCTAL D TYPE FF	80009	156-5289-00
A9U170	156-5289-00			MICROCKT,DGTL:HCMOS,OCTAL D TYPE FF	80009	156-5289-00
A9U180	156-5043-00			MICROCKT,LINER:DAC,8 BIT,DAC-08E	80009	156-5043-00
A9U204	156-5172-00			MICROCKT,DGTL:LSTTL,TRIPLE 3 INP NOR GATE	04713	SN74LS27
A9U206	156-5148-00			MICROCKT,DGTL:HCMOS,QUAD 2 TO 1 MUX	80009	156-5148-00
A9U208	160-5013-00			MICROCKT,DGTL:STTL,PLD,FPLS,PRGM	80009	160-5013-00
A9U214	156-5289-00			MICROCKT,DGTL:HCMOS,OCTAL D TYPE FF	80009	156-5289-00
A9U219	156-5289-00			MICROCKT,DGTL:HCMOS,OCTAL D TYPE FF	80009	156-5289-00
A9U220	156-5148-00			MICROCKT,DGTL:HCMOS,QUAD 2 TO 1 MUX	80009	156-5148-00
A9U224	156-5074-00			MICROCKT,DGTL:HCMOS,DUAL D TYPE FLIP FLOP	80009	156-5074-00
A9U226	156-5148-00			MICROCKT,DGTL:HCMOS,QUAD 2 TO 1 MUX	80009	156-5148-00
A9U232	156-5203-00			MICROCKT,DGTL:LSTTL,4 BIT FULL ADDER	80009	156-5203-00
A9U234	160-5011-00			MICROCKT,DGTL:STTL,PLD,FPLA,PRGM	80009	160-5011-00
A9U236	156-5285-00			MICROCKT,DGTL:ASTTL,4 BIT BIN UP/DN CNTR	80009	156-5285-00
A9U240	156-5134-00			MICROCKT,DGTL:HCMOS,4 BIT BINARY CNTR	80009	156-5134-00
A9U242	156-5285-00			MICROCKT,DGTL:ASTTL,4 BIT BIN UP/DN CNTR	80009	156-5285-00
A9U244	156-5112-00			MICROCKT,DGTL:LSTTL,DUAL J-K POS EDGE TRIGE RED FLIP FLOP	80009	156-5112-00
A9U246	156-5285-00			MICROCKT,DGTL:ASTTL,4 BIT BIN UP/DN CNTR	80009	156-5285-00
A9U254	156-5238-00			MICROCKT,DGTL:HCMOS,8-INP OR/NOR GATE	80009	156-5238-00
A9U256	160-5004-00			MICROCKT,DGTL:STTL,PLD,FPLS,PRGM	80009	160-5004-00
A9U260	160-5007-00			MICROCKT,DGTL:STTL,PLD,FPLS,PRGM	80009	160-5007-00
A9U270	156-5203-00			MICROCKT,DGTL:LSTTL,4 BIT FULL ADDER	80009	156-5203-00
A9U274	156-5081-00			MICROCKT,DGTL:HCMOS,HEX INVERTER	80009	156-5081-00
A9U280	156-5043-00			MICROCKT,LINER:DAC,8 BIT,DAC-08E	80009	156-5043-00
A9U284	156-5095-00			MICROCKT,LINER:OP AMP,LOW NOISE	80009	156-5095-00
A9U292	156-5119-00			MICROCKT,LINER:DUAL VOLTAGE COMPARATOR	80009	156-5119-00
A9U304	156-5237-00			MICROCKT,DGTL:LSTTL,8 BIT MAGNITUDE COMPARA TOR	80009	156-5237-00
A9U308	160-5005-00			MICROCKT,DGTL:STTL,PLD,FPLS,PRGM	80009	160-5005-00
A9U318	160-5012-00			MICROCKT,DGTL:STTL,PLD,FPLS,PRGM	80009	160-5012-00
A9U324	156-5081-00			MICROCKT,DGTL:HCMOS,HEX INVERTER	80009	156-5081-00
A9U326	156-5103-00			MICROCKT,DGTL:HCMOS,DUAL 4 BIT BIN CNTR	80009	156-5103-00
A9U334	156-5103-00			MICROCKT,DGTL:HCMOS,DUAL 4 BIT BIN CNTR	80009	156-5103-00
A9U336	156-5220-00			MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A9U342	156-5220-00			MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A9U352	160-5008-00			MICROCKT,DGTL:STTL,PLD,FPLA,PRGM	80009	160-5008-00
A9U360	160-5002-00			MICROCKT,DGTL:STTL,PLD,FPLS,PRGM	80009	160-5002-00
A9U368	156-2800-00			MICROCKT,INTFC:BIPOLAR,A/D CONVERTER,8 BIT FLASH	80009	156-2800-00
A9U376	156-5095-00			MICROCKT,LINER:OP AMP,LOW NOISE	80009	156-5095-00
A9U392	156-5095-00			MICROCKT,LINER:OP AMP,LOW NOISE	80009	156-5095-00
A9U408	156-5172-00			MICROCKT,DGTL:LSTTL,TRIPLE 3 INP NOR GATE	04713	SN74LS27
A9U420	156-5220-00			MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A9U428	156-5235-00			MICROCKT,DGTL:ALSTTL,10 BIT BUS INTERFACE D -TYPE LATCHES W/NONINVERTING,3 STATE OUTPUT S	80009	156-5235-00
A9U436	156-5286-00			MICROCKT,DGTL:CMOS,32768 X 8,SRAM	80009	156-5286-00
A9U438	156-5142-00			MICROCKT,DGTL:HCMOS,DUAL 2 TO 4 LINE DECODE R/DEMUX	80009	156-5142-00
A9U446	156-5220-00			MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A9U448	156-5220-00			MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A9U452	156-5220-00			MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A9U454	156-5220-00			MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A9U460	156-5289-00			MICROCKT,DGTL:HCMOS,OCTAL D TYPE FF	80009	156-5289-00
A9U462	156-5016-00			MICROCKT,DGTL:LSTTL,OCTAL BUS XCVR	80009	156-5016-00
A9U464	160-5003-00			MICROCKT,DGTL:STTL,PLD,FPLS,PRGM	80009	160-5003-00

Replaceable Electrical Parts - 2710

Component No.	Tektronix	Serial/Assembly No.		Name & Description	Mfr.	Mfr. Part No.
	Part No.	Effective	Discnt.		Code	
A9U474	156-5043-00			MICROCKT, LINEAR: DAC, 8 BIT, DAC-08E	80009	156-5043-00
A9U476	156-5095-00			MICROCKT, LINEAR: OP AMP, LOW NOISE	80009	156-5095-00
A9U484	156-5274-00			MICROCKT, LINEAR: CMOS, ANALOG SWITCH	80009	156-5274-00
A9U486	156-5018-00			MICROCKT, LINEAR: DUAL OP AMP, LOW PWR, 1MZ	80009	156-5018-00
A9U488	156-5088-00			MICROCKT, DGTL: CMOS, 3 TO 8 LINE CDDR/DEMU X	80009	156-5088-00
A9U494	156-0991-00			MICROCKT, LINEAR: VOLTAGE REGULATOR	04713	MC78L05ACP
A9U506	156-5134-00			MICROCKT, DGTL: HCMOS, 4 BIT BINARY CNTR	80009	156-5134-00
A9U520	156-5237-00			MICROCKT, DGTL: LSTTL, 8 BIT MAGNITUDE COMPARA TOR	80009	156-5237-00
A9U526	156-5220-00			MICROCKT, DGTL: ACTUAL TRI STATE BUFFER	80009	156-5220-00
A9U542	156-5235-00			MICROCKT, DGTL: ALSTTL, 10 BIT BUS INTERFACE D -TYPE LATCHES W/NONINVERTING, 3 STATE OUTPUT S	80009	156-5235-00
A9U566	156-5171-00			MICROCKT, DGTL: STTL, TRIPLE 3 INP AND GATE	04713	SN74LS11D
A9U574	156-5043-00			MICROCKT, LINEAR: DAC, 8 BIT, DAC-08E	80009	156-5043-00
A10	670-9469-00	B010001	8010195	CIRCUIT BD ASSY: MICROPROCESSOR	80009	670-9469-00
A10	670-9469-01	B010196	8010266	CIRCUIT BD ASSY: MICROPROCESSOR	80009	670-9469-01
A10	671-0653-00	B010267		CIRCUIT BD ASSY: MICROPROCESSOR	80009	671-0653-00
A10C110	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C128	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C174	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C175	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C183	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C184	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C185	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C210	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A10C228	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A10C275	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A10C280	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A10C295	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C310	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C328	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C360	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C361	283-5011-00			CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A10C362	283-5011-00			CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A10C365	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C370	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C380	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A10C385	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C395	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A10C410	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C428	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A10C450	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A10C460	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C465	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A10C470	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C480	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A10C485	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C510	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A10C527	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A10C528	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A10C529	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C530	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C540	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C550	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C565	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C570	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A10C580	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discort			
A10C595	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A10C715	290-0944-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A10C830	290-0944-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A10C885	290-0944-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A10C890	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A10C895	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C960	290-0944-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A10C961	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C975	290-0944-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A10C982	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C987	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C990	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10J180	131-0391-01			CONN, RCPT, ELEC: SNAP-ON, MALE	98291	051-051-0119-22
A10J185	131-0391-01			CONN, RCPT, ELEC: SNAP-ON, MALE	98291	051-051-0119-22
A10J190	131-0391-01			CONN, RCPT, ELEC: SNAP-ON, MALE	98291	051-051-0119-22
A10J195	131-0391-01			CONN, RCPT, ELEC: SNAP-ON, MALE	98291	051-051-0119-22
A10J528	131-1857-00	B010001	B010266	TERM SET, PIN: 36/0.025 SQ PIN, ON 0.1 CTRS	TK1483	082-3643-SS10
A10J550	131-2221-00			CONN, RCPT, ELEC: CKT BD, 50 CONT, MALE	22526	65626-150
A10L350	108-5023-00			COIL, RF: 5.6UH, 20%	54583	NL453232T-180K
A10P10	131-3556-00			CONN, RCPT, ELEC: CARD CONN, 2 X 12, HORIZ	22526	66527-012
A10P528	131-3618-00	B010001	B010266	LINK, TERM CONN: LOW PROFILE JUMPER	80009	131-3618-00
A10Q175	151-5001-00			TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A10Q194	151-5016-00			TRANSISTOR: PNP, SI	80009	151-5016-00
A10Q195	151-5016-00			TRANSISTOR: PNP, SI	80009	151-5016-00
A10Q196	151-5001-00			TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A10Q197	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A10Q522	151-5001-00			TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A10Q970	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A10Q973	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A10Q975	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A10Q985	151-5016-00			TRANSISTOR: PNP, SI	80009	151-5016-00
A10Q986	151-5016-00			TRANSISTOR: PNP, SI	80009	151-5016-00
A10R172	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R175	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R176	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R177	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R180	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A10R184	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R185	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R186	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R190	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R191	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R192	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A10R193	321-5044-00			RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A10R194	321-5004-00			RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A10R195	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R196	321-5011-00			RES, FXD, FILM: 274 OHM, 1%, 0.125W	01121	BCK2740FT
A10R197	321-5044-00			RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A10R198	321-5044-00			RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A10R199	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R241	321-5014-00	B010001	B010318	RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A10R241	321-5013-00	B020319		RES, FXD, FILM: 392 OHM, 1%, 0.125W	01121	BCK3920FT
A10R242	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R266	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R267	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R270	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R280	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R290	321-5011-00			RES, FXD, FILM: 274 OHM, 1%, 0.125W	01121	BCK2740FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A10R291	321-5004-00			RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A10R292	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R340	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R342	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R344	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R362	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R365	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R370	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R375	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R420	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R460	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R520	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R524	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R535	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R536	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R574	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R577	321-5018-00	B010267		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R578	321-5018-00	B010267		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R686	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R886	321-5004-00			RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A10R887	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R890	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R895	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R970	321-5044-00	B010001	B010318	RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A10R970	321-5007-00	B020319		RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A10R971	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R972	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R973	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R974	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R975	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R976	321-0147-00	B020319		RES, FXD, FILM: 332 OHM, 1%, 0.125W, TC=TO	07716	CEAD332R0F
A10R978	321-5044-00			RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A10R979	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R980	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R981	321-5044-00			RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A10R982	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A10R984	321-5004-00			RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A10R985	321-5011-00			RES, FXD, FILM: 274 OHM, 1%, 0.125W	01121	BCK2740FT
A10R986	321-5011-00			RES, FXD, FILM: 274 OHM, 1%, 0.125W	01121	BCK2740FT
A10R987	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R990	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R991	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R992	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A10R993	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10U120	160-4500-00	B010001	B010195	MICROCKT, DGTL: NMOS, 65536 X 8 EPROM, PRGM	80009	160-4500-00
A10U120	160-4500-02	B010196	B010266	MICROCKT, DGTL: NMOS, 65536 X 8 EPROM, PRGM	80009	160-4500-02
A10U120	160-5429-00	B010267	B010318	MICROCKT, DGTL: NMOS, 128K X 8 EPROM, PRGM	80009	160-5429-00
A10U120	160-5429-01	B020319		MICROCKT, DGTL: NMOS, 128K X 8 EPROM, PRGM	80009	160-5429-01
A10U130	156-5286-00			MICROCKT, DGTL: CMOS, 32768 X 8, SRAM	80009	156-5286-00
A10U170	156-5269-00			MICROCKT, DGTL: ECL, TRIPLE LINE RECEIVER	80009	156-5269-00
A10U175	156-5269-00			MICROCKT, DGTL: ECL, TRIPLE LINE RECEIVER	80009	156-5269-00
A10U185	156-5269-00			MICROCKT, DGTL: ECL, TRIPLE LINE RECEIVER	80009	156-5269-00
A10U195	156-5221-00			MICROCKT, DGTL: ECL DUAL D TYPE MASTER SLAVE FF	80009	156-5221-00
A10U220	160-4499-00	B010001	B010195	MICROCKT, DGTL: NMOS, 65536 X 8 EPROM, PRGM	80009	160-4499-00
A10U220	160-4499-02	B010196	B010266	MICROCKT, DGTL: NMOS, 65536 X 8 EPROM, PRGM	80009	160-4499-02
A10U220	160-5428-00	B010267	B010318	MICROCKT, DGTL: NMOS, 128K X 8 EPROM, PRGM	80009	160-5428-00
A10U220	160-5428-01	B020319		MICROCKT, DGTL: NMOS, 128K X 8 EPROM, PRGM	80009	160-5428-01

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discont			
A10U230	156-5286-00			MICROCKT,DGTL:CMOS,32768 X 8,SRAM	80009	156-5286-00
A10U250	156-5301-00			MICROCKT,DGTL:CMOS,5MHZ,16 BIT MICROPRC	80009	156-5301-00
A10U253	156-5144-00			MICROCKT,DGTL:CMOS,QUAD D TYPE FF	80009	156-5144-00
A10U270	156-5069-00			MICROCKT,DGTL:OCTAL BUFFER/LINE DRVR,3 STAT E INVERTING	80009	156-5069-00
A10U280	156-5070-00			MICROCKT,DGTL:CMOS,OCTAL BUFFER/LINE DRVR	80009	156-5070-00
A10U290	156-5285-00			MICROCKT,DGTL:ASTTL,4 BIT BIN UP/DN CNTR	80009	156-5285-00
A10U294	156-5268-00			MICROCKT,DGTL:LSTTL,HEX INVERTER SCHMITT TR IG	80009	156-5268-00
A10U295	156-5285-00			MICROCKT,DGTL:ASTTL,4 BIT BIN UP/DN CNTR	80009	156-5285-00
A10U320	160-4498-00	B010001	B010195	MICROCKT,DGTL:NMOS,65536 X 8 EPROM,PRGM	80009	160-4498-00
A10U320	160-4498-02	B010196	B010266	MICROCKT,DGTL:NMOS,65536 X 8 EPROM,PRGM	80009	160-4498-02
A10U320	160-5427-00	B010267	B010318	MICROCKT,DGTL:NMOS,128K X 8 EPROM,PRGM	80009	160-5427-00
A10U320	160-5427-01	B020319		MICROCKT,DGTL:NMOS,128K X 8 EPROM,PRGM	80009	160-5427-01
A10U330	156-5286-00			MICROCKT,DGTL:CMOS,32768 X 8,SRAM	80009	156-5286-00
A10U340	156-5093-00			MICROCKT,DGTL:CMOS,PRGM INTRPT CONT,5MHZ	80009	156-5093-00
A10U365	156-5085-00			MICROCKT,DGTL:CMOS,QUAD 2 INP OR GATE	80009	156-5085-00
A10U370	156-5284-00			MICROCKT,DGTL:ALSTTL,8 BIT BIN CNTR W/INPRG TR	80009	156-5284-00
A10U380	156-5284-00			MICROCKT,DGTL:ALSTTL,8 BIT BIN CNTR W/INPRG TR	80009	156-5284-00
A10U385	156-5101-00			MICROCKT,DGTL:OCTAL D TYPE TRANSPARENT LATC H,3 STATE 74HCT373,	80009	156-5101-00
A10U395	156-5220-00			MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A10U420	160-4497-00	B010001	B010195	MICROCKT,DGTL:NMOS,65536 X 8 EPROM,PRGM	80009	160-4497-00
A10U420	160-4497-02	B010196	B010266	MICROCKT,DGTL:NMOS,65536 X 8 EPROM,PRGM	80009	160-4497-02
A10U430	156-5286-00			MICROCKT,DGTL:CMOS,32768 X 8,SRAM	80009	156-5286-00
A10U440	156-5101-00			MICROCKT,DGTL:OCTAL D TYPE TRANSPARENT LATC H,3 STATE 74HCT373,	80009	156-5101-00
A10U450	156-5101-00			MICROCKT,DGTL:OCTAL D TYPE TRANSPARENT LATC H,3 STATE 74HCT373,	80009	156-5101-00
A10U460	156-5071-00			MICROCKT,DGTL:CMOS,OCTAL BUS XCVR	80009	156-5071-00
A10U465	156-5101-00			MICROCKT,DGTL:OCTAL D TYPE TRANSPARENT LATC H,3 STATE 74HCT373,	80009	156-5101-00
A10U470	156-5092-00			MICROCKT,DGTL:CMOS,INTERVAL TIMER,5MHZ	80009	156-5092-00
A10U480	156-5284-00			MICROCKT,DGTL:ALSTTL,8 BIT BIN CNTR W/INPRG TR	80009	156-5284-00
A10U485	156-5070-00			MICROCKT,DGTL:CMOS,OCTAL BUFFER/LINE DRVR	80009	156-5070-00
A10U495	156-5101-00			MICROCKT,DGTL:OCTAL D TYPE TRANSPARENT LATC H,3 STATE 74HCT373,	80009	156-5101-00
A10U515	160-5009-01	B010001	B010266	MICROCKT,DGTL:STTL,ADDRESS DECODER,PRGM	80009	160-5009-01
A10U515	160-5430-00	B010267		MICROCKT,DGTL:STTL,ADDRESS DECODER,PRGM	80009	160-5430-00
A10U530	160-5010-01	B010001	B010266	MICROCKT,DGTL:STTL,ADDRESS DECODER,PRGM	80009	160-5010-01
A10U530	160-5431-00	B010267		MICROCKT,DGTL:STTL,ADDRESS DECODER,PRGM	80009	160-5431-00
A10U540	156-5220-00			MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A10U550	156-5220-00			MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A10U560	156-5071-00			MICROCKT,DGTL:CMOS,OCTAL BUS XCVR	80009	156-5071-00
A10U565	156-5070-00			MICROCKT,DGTL:CMOS,OCTAL BUFFER/LINE DRVR	80009	156-5070-00
A10U570	156-5071-00			MICROCKT,DGTL:CMOS,OCTAL BUS XCVR	80009	156-5071-00
A10U580	156-5092-00			MICROCKT,DGTL:CMOS,INTERVAL TIMER,5MHZ	80009	156-5092-00
A10U585	156-5123-00			MICROCKT,DGTL:CMOS,4 TO 16 LINE DCDR/DEMUX	80009	156-5123-00
A10U595	156-5220-00			MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A10W518	321-5051-00			RES,FXD,FILM:0 OHM,1%,0.125W	80009	321-5051-00
A10W522	321-5051-00	B010001	B010266	RES,FXD,FILM:0 OHM,1%,0.125W	80009	321-5051-00
A10W525	321-5051-00			RES,FXD,FILM:0 OHM,1%,0.125W	80009	321-5051-00
A10W526	321-5051-00			RES,FXD,FILM:0 OHM,1%,0.125W	80009	321-5051-00
A10Y350	158-5001-00			XTAL UNIT,QTZ:14.7456MHZ,PARALLEL RESONANCE ,SM49	80009	158-5001-00

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discont			
A12R901	321-5014-00	B010001	B010318	RES, FXD, FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A12R902	321-5014-00	B010001	B010318	RES, FXD, FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A12R903	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R904	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R905	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R906	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R907	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R908	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R909	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R910	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R911	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R912	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R913	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R914	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R915	321-5014-00	B010001	B010318	RES, FXD, FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A12R916	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R917	321-5014-00	B010001	B010318	RES, FXD, FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A12R918	321-5014-00	B010001	B010318	RES, FXD, FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A12U100	156-5279-00	B010001	B010318	MICROCKT, DGTL:ECL, QUAD AND GATE, 2 INP	80009	156-5279-00
A12U160	156-5154-00	B010001	B010318	MICROCKT, DGTL:CMOS, QUAD 2 INP NAND GATE	80009	156-5154-00
A12U200	156-5221-00	B010001	B010318	MICROCKT, DGTL:ECL DUAL D TYPE MASTER SLAVE FF	80009	156-5221-00
A12U250	156-5155-00	B010001	B010318	MICROCKT, DGTL:HEX INVERTER	80009	156-5155-00
A12U260	156-5074-00	B010001	B010318	MICROCKT, DGTL:CMOS, DUAL D TYPE FLIP FLOP	80009	156-5074-00
A12U330	156-5120-00	B010001	B010318	MICROCKT, DGTL:CMOS, DUAL 4 CHAN ANALOG MUX/D EMLX	80009	156-5120-00
A12U350	156-2648-00	B010001	B010318	MICROCKT, DGTL:DUAL 12 BIT DIGITAL TO ANALOG CONVERTER, LOW NOISE	80009	156-2648-00
A12U360	156-5154-00	B010001	B010318	MICROCKT, DGTL:CMOS, QUAD 2 INP NAND GATE	80009	156-5154-00
A12U370	156-5080-00	B010001	B010318	MICROCKT, DGTL:CMOS, 8 BIT STATIC SHIFT R6TR	80009	156-5080-00
A12U410	156-2848-00	B010001	B010318	MICROCKT, LINEAR:MONOLITH WIDEBAND, HIGH SLEW RATE, HIGH OUTPUT CURRENT BUFFER	80009	156-2848-00
A12U411	156-5017-00	B010001	B010318	MICROCKT, LINEAR:DUAL 741 OP AMP, 1M, 50-8	04713	MC1458
A12U420	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U430	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U440	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U441	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U460	156-5021-00	B010001	B010318	MICROCKT, DGTL:CMOS, 8 STATE SHIFT AND STORE	18324	HEF4094BTD
A12U461	156-5142-00	B010001	B010318	MICROCKT, DGTL:CMOS, DUAL 2 TO 4 LINE DECODE R/DEMUX	80009	156-5142-00
A12U470	156-5017-00	B010001	B010318	MICROCKT, LINEAR:DUAL 741 OP AMP, 1M, 50-8	04713	MC1458
A12U490	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U520	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U530	156-5073-00	B010001	B010318	MICROCKT, DGTL:CMOS, TRIPLE 2 CHAN ANALOG	80009	156-5073-00
A12U540	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U541	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U550	156-2648-00	B010001	B010318	MICROCKT, DGTL:DUAL 12 BIT DIGITAL TO ANALOG CONVERTER, LOW NOISE	80009	156-2648-00
A12U560	156-5021-00	B010001	B010318	MICROCKT, DGTL:CMOS, 8 STATE SHIFT AND STORE	18324	HEF4094BTD
A12U570	156-5095-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE	80009	156-5095-00
A12U571	156-5095-01	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE	80009	156-5095-01
A12U571	156-5095-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE	80009	156-5095-00
A12U571	156-5095-01	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE	80009	156-5095-01
A12U580	156-5095-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE	80009	156-5095-00
A12U580	156-5095-01	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE	80009	156-5095-01
A12U581	156-5297-00	B010001	B010318	MICROCKT, LINEAR:POSITIVE SHUNT REGULATOR	80009	156-5297-00
A12U590	156-5095-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE	80009	156-5095-00
A12U590	156-5095-01	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE	80009	156-5095-01

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A11R363	321-5047-00			RES, FXD, FILM:100K, 1%, 0.125W	01121	BCK1003FT
A11R366	321-5030-00	B010314		RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A11R371	321-5024-00	B010314	B010318	RES, FXD, FILM:3.32K, 1%, 0.125W	01121	BCK3321FT
A11R371	321-5014-00	B020319		RES, FXD, FILM:475 OHM, 1%, 0.125W	01121	BCK4750FT
A11R374	321-5024-00	B010314	B010318	RES, FXD, FILM:3.32K, 1%, 0.125W	01121	BCK3321FT
A11R374	321-5014-00	B020319		RES, FXD, FILM:475 OHM, 1%, 0.125W	01121	BCK4750FT
A11R381	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A11R462	321-5047-00			RES, FXD, FILM:100K, 1%, 0.125W	01121	BCK1003FT
A11U160	156-5113-00			MICROCKT, DGTL: LSTTL, OCTAL TRANSPARENT LCH	01295	SN74LS373D
A11U170	156-5113-00			MICROCKT, DGTL: LSTTL, OCTAL TRANSPARENT LCH	01295	SN74LS373D
A11U260	156-5244-00			MICROCKT, DGTL: LSTTL, OCTAL BFR & LINE DRVR	80009	156-5244-00
A11U270	156-5244-00			MICROCKT, DGTL: LSTTL, OCTAL BFR & LINE DRVR	80009	156-5244-00
A11U283	156-5079-00	B010314		MICROCKT, DGTL: LATT, QUAD 3-STATE BUFFER	80009	156-5079-00
A11U320	156-5081-01	B010001	B010313	MICROCKT, DGTL: HCMOS, HEX INVERTER	80009	156-5081-01
A11U333	160-5329-00			MICROCKT, DGTL: STTL, PLD, FPLA, PRGM	80009	160-5329-00
A11U340	160-5328-00			MICROCKT, DGTL: STTL, PLD, FPLA, PRGM	80009	160-5328-00
A11U353	156-5146-00			MICROCKT, DGTL: HCMOS, QUAD 2 INP AND GATE	80009	156-5146-00
A11U356	156-5081-01	B010314		MICROCKT, DGTL: HCMOS, HEX INVERTER	80009	156-5081-01
A11U360	156-5145-00			MICROCKT, DGTL: HCMOS, DUAL D TYPE FF	80009	156-5145-00
A11U430	156-5220-01			MICROCKT, DGTL: OCTAL TRI STATE BUFFER	80009	156-5220-01
A11U440	156-5220-01			MICROCKT, DGTL: OCTAL TRI STATE BUFFER	80009	156-5220-01
A11U450	156-5071-00			MICROCKT, DGTL: CMOS, OCTAL BUS XCVR	80009	156-5071-00
A11U460	156-5220-01			MICROCKT, DGTL: OCTAL TRI STATE BUFFER	80009	156-5220-01
A11U470	156-5220-01			MICROCKT, DGTL: OCTAL TRI STATE BUFFER	80009	156-5220-01
A12	672-1284-00	B020319		CIRCUIT BD ASSY: PHASELOCK CFC MODULE	80009	672-1284-00
A12	670-9474-00	B010001	B010318	CIRCUIT BD ASSY: CF CONTROL	80009	670-9474-00
A12C100	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C101	283-5000-00	B010001	B010318	CAP, FXD, CER DI: 10PF, 5%, 50V	95275	VJ1206A100JXA
A12C102	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C103	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C110	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C111	283-5003-00	B010001	B010318	CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A12C120	283-5002-00	B010001	B010318	CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A12C121	281-0165-00	B010001	B010318	CAP, VAR, AIR DI: 0.8-10PF, 250V	73899	MVM-010W
A12C130	283-5003-00	B010001	B010318	CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A12C131	283-5003-00	B010001	B010318	CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A12C132	283-5002-00	B010001	B010318	CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A12C140	283-5002-00	B010001	B010318	CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A12C141	283-5002-00	B010001	B010318	CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A12C142	283-5002-00	B010001	B010318	CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A12C143	283-5002-00	B010001	B010318	CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A12C150	283-5002-00	B010001	B010318	CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A12C151	283-5002-00	B010001	B010318	CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A12C200	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C210	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C211	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C212	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C220	283-5002-00	B010001	B010318	CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A12C221	283-5003-00	B010001	B010318	CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A12C230	283-5007-00	B010001	B010318	CAP, FXD, CER DI: 8PF, +/- 0.5PF, 50V	80009	283-5007-00
A12C231	283-5011-00	B010001	B010318	CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A12C232	283-5009-00	B010001	B010318	CAP, FXD, CER DI: 15PF, 5%, 50V	54583	C3216C0G1H150J
A12C233	283-5005-00	B010001	B010318	CAP, FXD, CER DI: 4PF, +/- 0.25PF, 50V	54583	C3216C0G1H040C
A12C240	283-5003-00	B010001	B010318	CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A12C241	283-5003-00	B010001	B010318	CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A12C310	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C311	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C312	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discont			
A12C320	283-5003-00	B010001	B010318	CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A12C330	283-5003-00	B010001	B010318	CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A12C340	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C341	283-5001-00	B010001	B010318	CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A12C342	283-5003-00	B010001	B010318	CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A12C350	283-5001-00	B010001	B010318	CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A12C370	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C400	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C410	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C420	283-5001-00	B010001	B010318	CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A12C430	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C440	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C441	283-5002-00	B010001	B010318	CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A12C450	283-5001-00	B010001	B010318	CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A12C472	283-5011-00	B010001	B010318	CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A12C473	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C474	283-5011-00	B010001	B010318	CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A12C475	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C480	283-5015-00	B010001	B010318	CAP, FXD, CER DI: 3300PF, 10%, 50V	80009	283-5015-00
A12C481	283-5011-00	B010001	B010318	CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A12C482	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C483	290-0944-00	B010001	B010318	CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A12C490	283-5015-00	B010001	B010318	CAP, FXD, CER DI: 3300PF, 10%, 50V	80009	283-5015-00
A12C491	283-5011-00	B010001	B010318	CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A12C492	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C531	283-5001-00	B010001	B010318	CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A12C540	283-5001-00	B010001	B010318	CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A12C541	283-5001-00	B010001	B010318	CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A12C550	283-5001-00	B010001	B010318	CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A12C570	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C571	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C580	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C590	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C670	290-0944-00	B010001	B010318	CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A12C671	290-0944-00	B010001	B010318	CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A12C680	290-0944-00	B010001	B010318	CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A12C681	290-0944-00	B010001	B010318	CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A12C690	290-0963-00	B010001	B010318	CAP, FXD, ELCTLT: 220UF, +50-20%, 25WVDC	54473	ECEA1EV221S
A12C741	283-5003-00	B010001	B010318	CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A12C750	283-5001-00	B010001	B010318	CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A12C760	283-5001-00	B010001	B010318	CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A12C800	290-5001-00	B010001	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C800	290-5002-00	B010117	B010318	CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C801	290-5001-00	B010001	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C801	290-5002-00	B010117	B010318	CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C802	290-5001-00	B010001	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C802	290-5002-00	B010117	B010318	CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C803	290-5001-00	B010001	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C803	290-5002-00	B010117	B010318	CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C804	290-5001-00	B010001	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C804	290-5002-00	B010117	B010318	CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C805	290-5001-00	B010001	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C805	290-5002-00	B010117	B010318	CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C806	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C807	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C808	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C809	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C810	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discort			
A12C811	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C812	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C813	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C814	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C815	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C816	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C817	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C818	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C821	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C822	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C823	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C824	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C900	290-5001-00	B010001	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C900	290-5002-00	B010117	B010318	CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C901	290-5001-00	B010001	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C901	290-5002-00	B010117	B010318	CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C902	290-0963-00	B010001	B010318	CAP, FXD, ELCTLT: 220UF, +50-20%, 25WVDC	54473	ECEA1EV221S
A12C903	290-5001-00	B010001	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C903	290-5002-00	B010117	B010318	CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C904	290-5001-00	B010001	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C904	290-5002-00	B010117	B010318	CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C905	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C906	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C907	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C908	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C909	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C910	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C911	290-5001-00	B010001	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C911	290-5002-00	B010117	B010318	CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C912	290-5001-00	B010001	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C912	290-5002-00	B010117	B010318	CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C913	290-5001-00	B010001	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C913	290-5002-00	B010117	B010318	CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C914	290-5001-00	B010001	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C914	290-5002-00	B010117	B010318	CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C915	290-5001-00	B010001	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C915	290-5002-00	B010117	B010318	CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C916	290-5001-00	B010001	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C916	290-5002-00	B010117	B010318	CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C917	290-5001-00	B010001	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C917	290-5002-00	B010117	B010318	CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C918	290-5001-00	B010001	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C918	290-5002-00	B010117	B010318	CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C919	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C920	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C921	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C922	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C923	290-0944-00	B010001	B010318	CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A12C960	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12CR100	152-0141-02	B010001	B010318	SEMICON DVC, DI: SW, SI, 30V, 150MA, 30V, DO-35	03508	DA2527 (1N4152)
A12CR110	152-0141-02	B010001	B010318	SEMICON DVC, DI: SW, SI, 30V, 150MA, 30V, DO-35	03508	DA2527 (1N4152)
A12CR120	152-0141-02	B010001	B010318	SEMICON DVC, DI: SW, SI, 30V, 150MA, 30V, DO-35	03508	DA2527 (1N4152)
A12CR330	152-5004-00	B010001	B010318	SEMICON DVC, DI: SI, SW, SER PR, 70V	04713	BAV99T1
A12CR331	152-5004-00	B010001	B010318	SEMICON DVC, DI: SI, SW, SER PR, 70V	04713	BAV99T1
A12CR350	152-5000-00	B010001	B010318	SEMICON DVC, DI: SW, SI, 70V, COM CATHODE	04713	BAV70
A12CR650	152-5000-00	B010001	B010318	SEMICON DVC, DI: SW, SI, 70V, COM CATHODE	04713	BAV70
A12CR740	152-5004-00	B010001	B010318	SEMICON DVC, DI: SI, SW, SER PR, 70V	04713	BAV99T1
A12J100	131-1170-00	B020319		CONN, RCPT, ELEC: SNAP-ON, MALE	98291	051-045-0249

Replaceable Electrical Parts - 2710

Component No.	Tektronix		Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
	Part No.	Effective	Discont				
A12J130	131-1170-00	B020319			CONN, RCPT, ELEC: SNAP-ON, MALE	98291	051-045-0249
A12J140	131-1170-00	B020319			CONN, RCPT, ELEC: SNAP-ON, MALE	98291	051-045-0249
A12J150	131-0391-01	B010001	B010318		CONN, RCPT, ELEC: SNAP-ON, MALE	98291	051-051-0119-22
A12J240	131-1170-00	B020319			CONN, RCPT, ELEC: SNAP-ON, MALE	98291	051-045-0249
A12J540	131-1170-00	B020319			CONN, RCPT, ELEC: SNAP-ON, MALE	98291	051-045-0249
A12J610	131-1857-00	B010001	B010318		TERM SET, PIN: 36/0.025 SQ PIN, ON 0.1 CTRS	TK1483	082-3643-SS10
A12J610	131-3199-00	B010001	B010318		BUS CONDUCTOR: LOW-PROFILE JUMPER, 1 X 2, 0.1 SPACING	22526	76264-101
A12J611	131-1857-00	B010001	B010318		TERM SET, PIN: 36/0.025 SQ PIN, ON 0.1 CTRS	TK1483	082-3643-SS10
A12J611	131-3199-00	B010001	B010318		BUS CONDUCTOR: LOW-PROFILE JUMPER, 1 X 2, 0.1 SPACING	22526	76264-101
A12J710	131-3774-00	B010001	B010318		CONN, RCPT, ELEC: HEADER, 2 X 36, 0.1 SPACING	22526	65610-172
A12J760	131-1857-00	B010001	B010318		TERM SET, PIN: 36/0.025 SQ PIN, ON 0.1 CTRS	TK1483	082-3643-SS10
A12J800	131-0391-01	B010001	B010318		CONN, RCPT, ELEC: SNAP-ON, MALE	98291	051-051-0119-22
A12J802	131-0391-01	B010001	B010318		CONN, RCPT, ELEC: SNAP-ON, MALE	98291	051-051-0119-22
A12J804	131-0391-01	B010001	B010318		CONN, RCPT, ELEC: SNAP-ON, MALE	98291	051-051-0119-22
A12J810	131-4135-00	B010001	B010318		CONN, RCPT, ELEC: FEMALE, 14 POS, SQ	80009	131-4135-00
A12K250	148-5000-00	B010001	B010318		RELAY, REED: SWITCH	80009	148-5000-00
A12L210	108-5009-00	B010001	B010318		COIL, RF: FXD, 82UH	80009	108-5009-00
A12L220	108-1325-00	B010001	B010318		COIL, RF: 7UH, INDUCTOR, 6.75 TURNS	80009	108-1325-00
A12L310	108-5009-00	B010001	B010318		COIL, RF: FXD, 82UH	80009	108-5009-00
A12L410	108-5009-00	B010001	B010318		COIL, RF: FXD, 82UH	80009	108-5009-00
A12L812	108-5009-00	B010001	B010318		COIL, RF: FXD, 82UH	80009	108-5009-00
A12L900	108-1262-00	B010001	B010318		INDUCTOR: 100UH	54583	7SL0807-101KR75
A12L901	108-5009-00	B010001	B010318		COIL, RF: FXD, 82UH	80009	108-5009-00
A12P12	131-3556-00	B010001	B010318		CONN, RCPT, ELEC: CARD CONN, 2 X 12, HORIZ	22526	66527-012
A12P610	131-3618-00	B010001	B010318		LINK, TERM CONN: LOW PROFILE JUMPER	80009	131-3618-00
A12P611	131-3618-00	B010001	B010318		LINK, TERM CONN: LOW PROFILE JUMPER	80009	131-3618-00
A12Q150	151-5001-00	B010001	B010318		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A12Q151	151-5001-00	B010001	B010318		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A12Q210	151-5010-00	B010001	B010318		TRANSISTOR: NPN, SI, SOT-89	80009	151-5010-00
A12Q220	151-5001-00	B010001	B010318		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A12Q230	151-5010-00	B010001	B010318		TRANSISTOR: NPN, SI, SOT-89	80009	151-5010-00
A12Q240	151-5010-00	B010001	B010318		TRANSISTOR: NPN, SI, SOT-89	80009	151-5010-00
A12Q241	151-5010-00	B010001	B010318		TRANSISTOR: NPN, SI, SOT-89	80009	151-5010-00
A12Q242	151-5000-00	B010001	B010318		TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A12Q510	151-1119-00	B010001	B010318		TRANSISTOR: FE, N-CHAN, SI, TO-39	81483	IRFF122
A12Q650	151-5001-00	B010001	B010318		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A12Q750	151-5005-00	B010001	B010318		TRANSISTOR: PNP, SI, SOT-89	04713	BCX69T1
A12Q900	151-1127-00	B010001	B010318		TRANSISTOR: MOSFE, N CHANNEL, SI, TO-220	81483	IRF511
A12Q901	151-1128-00	B010001	B010318		TRANSISTOR: MOSFE, P-CHANNEL, SI, TO-220	81483	IRF9521
A12Q902	151-1127-00	B010001	B010318		TRANSISTOR: MOSFE, N CHANNEL, SI, TO-220	81483	IRF511
A12Q903	151-1128-00	B010001	B010318		TRANSISTOR: MOSFE, P-CHANNEL, SI, TO-220	81483	IRF9521
A12R100	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R101	321-5043-00	B010001	B010318		RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A12R110	321-5000-00	B010001	B010318		RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A12R111	321-5015-00	B010001	B010318		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A12R120	321-5043-00	B010001	B010318		RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A12R121	321-5015-00	B010001	B010318		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A12R130	321-5043-00	B010001	B010318		RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A12R131	321-5015-00	B010001	B010318		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A12R140	321-5043-00	B010001	B010318		RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A12R141	321-5015-00	B010001	B010318		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A12R142	321-5015-00	B010001	B010318		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A12R143	321-5042-00	B010001	B010318		RES, FXD, FILM: 39.2 OHM, 1%, 0.125W	57668	MCR18FWEA39E2
A12R144	321-5010-00	B010001	B010318		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A12R145	321-5045-00	B010001	B010318		RES, FXD, FILM: 68.1 OHM, 1%, 0.125W	01121	BCD68R1FT
A12R160	321-5030-00	B010001	B010318		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A12R161	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R162	321-5026-00	B010001	B010318	RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A12R200	321-5015-00	B010001	B010318	RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A12R210	321-5000-00	B010001	B010318	RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHPW10E
A12R211	321-5015-00	B010001	B010318	RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A12R212	321-5045-00	B010001	B010318	RES, FXD, FILM: 68.1 OHM, 1%, 0.125W	01121	BCD68R1FT
A12R213	321-5005-00	B010001	B010318	RES, FXD, FILM: 27.4 OHM, 1%, 0.125W	57668	MCR18EZHPW 27E4
A12R214	317-0560-00	B010001	B010318	RES, FXD, CMPSN: 56 OHM, 5%, 0.125W	01121	BB5605
A12R220	321-5017-00	B010001	B010318	RES, FXD, FILM: 825 OHM, 1%, 0.125W	01121	BCK8250FT
A12R221	321-5014-00	B010001	B010318	RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A12R222	321-5009-00	B010001	B010318	RES, FXD, FILM: 182 OHM, 1%, 0.125W	01121	BCK1820FT
A12R223	321-5012-00	B010001	B010318	RES, FXD, FILM: 332 OHM, 1%, 0.125W	01121	BCK3320FT
A12R240	321-5046-00	B010001	B010318	RES, FXD, FILM: 82.5 OHM, 1%, 0.125W	01121	BCK82R5FT
A12R241	321-5046-00	B010001	B010318	RES, FXD, FILM: 82.5 OHM, 1%, 0.125W	01121	BCK82R5FT
A12R242	321-5018-00	B010001	B010318	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R243	321-5018-00	B010001	B010318	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R244	321-5044-00	B010001	B010318	RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A12R250	321-5026-00	B010001	B010318	RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A12R251	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R261	321-5006-00	B010001	B010318	RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R262	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R263	321-5047-00	B010001	B010318	RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A12R264	321-5018-00	B010001	B010318	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R265	321-5024-00	B010001	B010318	RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A12R266	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R270	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R310	321-5000-00	B010001	B010318	RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHPW10E
A12R311	321-5046-00	B010001	B010318	RES, FXD, FILM: 82.5 OHM, 1%, 0.125W	01121	BCK82R5FT
A12R330	321-5044-00	B010001	B010318	RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A12R331	321-5019-00	B010001	B010318	RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A12R332	321-5027-00	B010001	B010318	RES, FXD, FILM: 5.62K, 1%, 0.125W	01121	BCK5621FT
A12R333	321-5012-00	B010001	B010318	RES, FXD, FILM: 332 OHM, 1%, 0.125W	01121	BCK3320FT
A12R340	321-5006-00	B010001	B010318	RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R341	321-5022-00	B010001	B010318	RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R342	321-5022-00	B010001	B010318	RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R343	321-5022-00	B010001	B010318	RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R344	321-5022-00	B010001	B010318	RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R345	321-5012-00	B010001	B010318	RES, FXD, FILM: 332 OHM, 1%, 0.125W	01121	BCK3320FT
A12R350	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R360	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R370	321-5024-00	B010001	B010318	RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A12R371	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R372	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R373	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R374	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R375	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R400	321-5048-00	B010001	B010318	RES, FXD, FILM: 332K, 1%, 0.125W	01121	BCK3323FT
A12R401	321-5041-00	B010001	B010318	RES, FXD, FILM: 82.5K, 1%, 0.125W	01121	BCK8252FT
A12R402	321-5027-00	B010001	B010318	RES, FXD, FILM: 5.62K, 1%, 0.125W	01121	BCK5621FT
A12R403	321-5023-00	B010001	B010318	RES, FXD, FILM: 2.74K, 1%, 0.125W	01121	BCK2741FT
A12R404	321-5006-00	B010001	B010318	RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R405	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R410	308-0142-00	B010001	B010318	RES, FXD, WW: 30 OHM, 5%, 3W	00213	1240S-30-5
A12R411	321-5032-00	B010001	B010318	RES, FXD, FILM: 15.0K, 1%, 0.125W	01121	BCK1502FT
A12R412	321-5006-00	B010001	B010318	RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R414	321-5020-00	B010001	B010318	RES, FXD, FILM: 1.50K, 1%, 0.125W	01121	BCK1501FT
A12R420	321-5040-00	B010001	B010071	RES, FXD, FILM: 68.1K, 1%, 0.125W	01121	BCK6812FT
A12R420	321-5028-00	B010072	B010318	RES, FXD, FILM: 6.81K, 1%, 0.125W	01121	BCK6811FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A12R421	321-5022-00	B010001	B010089	RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R421	321-5021-00	B010090	B010318	RES, FXD, FILM: 1.82K, 1%, 0.125W	01121	BCK1821FT
A12R422	311-1245-00	B010001	B010318	RES, VAR, NONMW: TRMR, 10K OHM, 0.5W	32997	3386X-DY6-103
A12R430	321-5006-00	B010001	B010318	RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R431	311-1245-00	B010001	B010318	RES, VAR, NONMW: TRMR, 10K OHM, 0.5W	32997	3386X-DY6-103
A12R440	321-5015-00	B010001	B010318	RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A12R441	321-5043-00	B010001	B010318	RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A12R442	321-5002-00	B010001	B010318	RES, FXD, FILM: 15 OHM, 1%, 0.125W	57668	MCR18EZHFV 15E0
A12R443	321-5006-00	B010001	B010318	RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R444	321-5032-00	B010001	B010318	RES, FXD, FILM: 15.0K, 1%, 0.125W	01121	BCK1502FT
A12R445	321-5032-00	B010001	B010318	RES, FXD, FILM: 15.0K, 1%, 0.125W	01121	BCK1502FT
A12R460	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R461	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R462	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R463	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R464	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R465	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R466	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R467	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R468	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R470	321-5020-00	B010001	B010318	RES, FXD, FILM: 1.50K, 1%, 0.125W	01121	BCK1501FT
A12R471	321-5025-00	B010001	B010318	RES, FXD, FILM: 3.92K, 1%, 0.125W	01121	BCK3921FT
A12R472	321-5006-00	B010001	B010318	RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R473	321-5024-00	B010001	B010318	RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A12R474	321-5022-00	B010001	B010318	RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R475	321-5006-00	B010001	B010318	RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R480	321-5024-00	B010001	B010318	RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A12R481	321-5032-00	B010001	B010318	RES, FXD, FILM: 15.0K, 1%, 0.125W	01121	BCK1502FT
A12R482	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R483	321-5018-00	B010001	B010318	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R484	321-5014-00	B010001	B010318	RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A12R485	321-5006-00	B010001	B010318	RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R490	321-5025-00	B010001	B010318	RES, FXD, FILM: 3.92K, 1%, 0.125W	01121	BCK3921FT
A12R491	321-5032-00	B010001	B010318	RES, FXD, FILM: 15.0K, 1%, 0.125W	01121	BCK1502FT
A12R492	321-5023-00	B010001	B010318	RES, FXD, FILM: 2.74K, 1%, 0.125W	01121	BCK2741FT
A12R493	321-5022-00	B010001	B010318	RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R494	321-5006-00	B010001	B010318	RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R520	325-0414-00	B010001	B010318	RES, FXD, FILM: 3.2K OHM, 1%, 0.6W, TC=1PPM	80009	325-0414-00
A12R521	325-0410-00	B010001	B010318	RES, FXD, FILM: 14.3K, 1%, 0.3W, 1PPM	80009	325-0410-00
A12R522	321-0287-09	B010001	B010318	RES, FXD, FILM: 9.53K OHM, 1%, 0.125W, TC=T9	01121	ORDER BY DESCR
A12R523	321-1728-07	B010001	B010318	RES, FXD, FILM: 42.05K OHM, 0.1%, 0.125W, TC=T9	24546	NE55E42051B
A12R524	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R526	321-5036-00	B010001	B010318	RES, FXD, FILM: 33.2K, 1%, 0.125W	01121	BCK3322FT
A12R527	321-5024-00	B010001	B010318	RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A12R530	321-5036-00	B010001	B010318	RES, FXD, FILM: 33.2K, 1%, 0.125W	01121	BCK3322FT
A12R531	321-5030-00	B010001	B010318	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R532	321-5041-00	B010001	B010318	RES, FXD, FILM: 82.5K, 1%, 0.125W	01121	BCK8252FT
A12R533	321-5047-00	B010001	B010318	RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A12R534	321-5047-00	B010001	B010318	RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A12R535	321-5006-00	B010001	B010318	RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R536	321-5022-00	B010001	B010318	RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R537	321-5022-00	B010001	B010318	RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R538	321-5022-00	B010001	B010318	RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R539	321-5022-00	B010001	B010318	RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R540	321-0289-07	B010001	B010318	RES, FXD, FILM: 10.0K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE10K00B
A12R541	321-0289-07	B010001	B010318	RES, FXD, FILM: 10.0K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE10K00B
A12R550	321-0816-07	B010001	B010318	RES, FXD, FILM: 5K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE5K000B
A12R570	321-5006-00	B010001	B010318	RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix		Serial/Assembly No.		Name & Description	Mfr.	
	Part No.	Effective	Discont	Effective		Code	Mfr. Part No.
A12R571	321-5023-00	B010001	B010318		RES, FXD, FILM: 2.74K, 1%, 0.125W	01121	BCK2741FT
A12R572	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R573	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R574	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R575	321-5027-00	B010001	B010318		RES, FXD, FILM: 5.62K, 1%, 0.125W	01121	BCK5621FT
A12R576	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R577	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R580	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R581	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R583	321-5030-00	B010001	B010318		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R584	321-5030-00	B010001	B010318		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R585	321-5044-00	B010001	B010318		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCK56R2FT
A12R586	321-5044-00	B010001	B010318		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCK56R2FT
A12R590	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R591	321-5029-00	B010001	B010318		RES, FXD, FILM: 8.25K, 1%, 0.125W	01121	BCK8251FT
A12R592	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R593	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R600	325-0412-00	B010001	B010318		RES, FXD, FILM: 1.5K OHM, 1%, 0.3W, 1PPM	80009	325-0412-00
A12R601	321-5043-00	B010001	B010318		RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18PWEA47E5
A12R610	321-5009-00	B010001	B010318		RES, FXD, FILM: 182 OHM, 1%, 0.125W	01121	BCK1820FT
A12R620	311-1860-00	B010001	B010318		RES, VAR, NONMW: TRMR, 10K OHM, 0.5W	32997	3299X-R27-103
A12R621	311-1245-00	B010001	B010318		RES, VAR, NONMW: TRMR, 10K OHM, 0.5W	32997	3386X-DY6-103
A12R622	311-1245-00	B010001	B010318		RES, VAR, NONMW: TRMR, 10K OHM, 0.5W	32997	3386X-DY6-103
A12R730	325-0315-00	B010001	B010318		RES, FXD, FILM: 20K OHM, 0.05%, 0.3W	07088	K747 20KOHM .05%
A12R731	325-0411-00	B010001	B010318		RES, FXD, FILM: 15.6K, 1%, 0.3W, 1PPM	80009	325-0411-00
A12R740	321-0130-00	B010001	B010318		RES, FXD, FILM: 221 OHM, 1%, 0.125W, TC=T0	19701	5043ED221R0F
A12R741	321-5026-00	B010001	B010318		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A12R750	321-0289-07	B010001	B010318		RES, FXD, FILM: 10.0K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE10K00B
A12R751	321-0816-07	B010001	B010318		RES, FXD, FILM: 5K OHM, 0.1%, 0.125W, TC=T9	19701	5033RESK000B
A12R752	321-5030-00	B010001	B010318		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R753	321-5030-00	B010001	B010318		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R760	321-5030-00	B010001	B010318		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R761	321-5030-00	B010001	B010318		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R762	321-5021-00	B010001	B010318		RES, FXD, FILM: 1.82K, 1%, 0.125W	01121	BCK1821FT
A12R763	321-5030-00	B010001	B010318		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R770	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R771	321-5047-00	B010001	B010318		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A12R772	321-5047-00	B010001	B010318		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A12R773	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R774	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R775	321-5047-00	B010001	B010318		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A12R776	321-5000-00	B010001	B010318		RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A12R800	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R801	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R802	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R803	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R804	311-1680-00	B010001	B010318		RES, VAR, NONMW: TRMR, 250 OHM, 0.75W	02111	43P251T672
A12R805	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R806	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R807	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R808	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R809	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R810	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R812	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R813	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R814	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R815	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R900	325-0413-00	B010001	B010318		RES, FXD, FILM: 13 OHM, 1%, 2W, 1PPM	80009	325-0413-00

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discont			
A12R901	321-5014-00	B010001	B010318	RES, FXD, FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A12R902	321-5014-00	B010001	B010318	RES, FXD, FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A12R903	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R904	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R905	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R906	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R907	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R908	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R909	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R910	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R911	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R912	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R913	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R914	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R915	321-5014-00	B010001	B010318	RES, FXD, FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A12R916	321-5006-00	B010001	B010318	RES, FXD, FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R917	321-5014-00	B010001	B010318	RES, FXD, FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A12R918	321-5014-00	B010001	B010318	RES, FXD, FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A12U100	156-5279-00	B010001	B010318	MICROCKT, DGTL:ECL, QUAD AND GATE, 2 INP	80009	156-5279-00
A12U160	156-5154-00	B010001	B010318	MICROCKT, DGTL:CMOS, QUAD 2 INP NAND GATE	80009	156-5154-00
A12U200	156-5221-00	B010001	B010318	MICROCKT, DGTL:ECL DUAL D TYPE MASTER SLAVE FF	80009	156-5221-00
A12U250	156-5155-00	B010001	B010318	MICROCKT, DGTL:HEX INVERTER	80009	156-5155-00
A12U260	156-5074-00	B010001	B010318	MICROCKT, DGTL:CMOS, DUAL D TYPE FLIP FLOP	80009	156-5074-00
A12U330	156-5120-00	B010001	B010318	MICROCKT, DGTL:CMOS, DUAL 4 CHAN ANALOG MUX/D EMLX	80009	156-5120-00
A12U350	156-2648-00	B010001	B010318	MICROCKT, DGTL:DUAL 12 BIT DIGITAL TO ANALOG CONVERTER, LOW NOISE	80009	156-2648-00
A12U360	156-5154-00	B010001	B010318	MICROCKT, DGTL:CMOS, QUAD 2 INP NAND GATE	80009	156-5154-00
A12U370	156-5080-00	B010001	B010318	MICROCKT, DGTL:CMOS, 8 BIT STATIC SHIFT R6TR	80009	156-5080-00
A12U410	156-2848-00	B010001	B010318	MICROCKT, LINEAR:MONOLITH WIDEBAND, HIGH SLEW RATE, HIGH OUTPUT CURRENT BUFFER	80009	156-2848-00
A12U411	156-5017-00	B010001	B010318	MICROCKT, LINEAR:DUAL 741 OP AMP, 1M, 50-8	04713	MC1458
A12U420	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U430	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U440	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U441	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U460	156-5021-00	B010001	B010318	MICROCKT, DGTL:CMOS, 8 STATE SHIFT AND STORE	18324	HEF4094BTD
A12U461	156-5142-00	B010001	B010318	MICROCKT, DGTL:CMOS, DUAL 2 TO 4 LINE DECODE R/DEMUX	80009	156-5142-00
A12U470	156-5017-00	B010001	B010318	MICROCKT, LINEAR:DUAL 741 OP AMP, 1M, 50-8	04713	MC1458
A12U490	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U520	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U530	156-5073-00	B010001	B010318	MICROCKT, DGTL:CMOS, TRIPLE 2 CHAN ANALOG	80009	156-5073-00
A12U540	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U541	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U550	156-2648-00	B010001	B010318	MICROCKT, DGTL:DUAL 12 BIT DIGITAL TO ANALOG CONVERTER, LOW NOISE	80009	156-2648-00
A12U560	156-5021-00	B010001	B010318	MICROCKT, DGTL:CMOS, 8 STATE SHIFT AND STORE	18324	HEF4094BTD
A12U570	156-5095-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE	80009	156-5095-00
A12U571	156-5095-01	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE	80009	156-5095-01
A12U571	156-5095-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE	80009	156-5095-00
A12U571	156-5095-01	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE	80009	156-5095-01
A12U580	156-5095-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE	80009	156-5095-00
A12U580	156-5095-01	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE	80009	156-5095-01
A12U581	156-5297-00	B010001	B010318	MICROCKT, LINEAR:POSITIVE SHUNT REGULATOR	80009	156-5297-00
A12U590	156-5095-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE	80009	156-5095-00
A12U590	156-5095-01	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE	80009	156-5095-01

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Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.	
		Effective	Discnt				
A12U600	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00	
A12U606	156-5095-00	B010001	B010193	MICROCKT, LINEAR:OP AMP, LOW NOISE	80009	156-5095-00	
A12U606	156-5095-01	B010194	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE	80009	156-5095-01	
A12U630	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00	
A12U631	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00	
A12U640	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00	
A12U650	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00	
A12U660	156-5021-00	B010001	B010318	MICROCKT, DGTL:CMOS, 8 STATE SHIFT AND STORE	18324	HEF4094BTD	
A12U713	156-5095-00	B010001	B010193	MICROCKT, LINEAR:OP AMP, LOW NOISE	80009	156-5095-00	
A12U713	156-5095-01	B010194	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE	80009	156-5095-01	
A12U740	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00	
A12U750	156-5082-00	B010001	B010318	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00	
A12U760	156-5227-00	B010001	B010318	MICROCKT, DGTL:CMOS, DUAL RETRIG MONOSTABLE M ULTIVIBRATOR W/RESET	80009	156-5227-00	
A12U761	156-5278-00	B010001	B010318	MICROCKT, DGTL:HMOS, QUAD BUFFER/LINE DRVR	80009	156-5278-00	
A12VR210	152-0317-00	B010001	B010318	SEMICON DVC, DI:ZEN, SI, 6.2V, 5%, 0.4W, DO-35	04713	1N825	
A12VR730	152-0526-00	B010001	B010318	SEMICON DVC, DI:ZEN, SI, 6.35V, 1%, 0.4W, DO-7	14552	DT840615A	
A12W36	174-0817-00	B020319		CABLE ASSY, RF:50 OHM COAX, 7.25 L	80009	174-0817-00	
A12W37	174-0817-00	B020319		CABLE ASSY, RF:50 OHM COAX, 7.25 L	80009	174-0817-00	
A12Y230	158-0258-00	B010001	B010318	XTAL UNIT, QTZ:100MHZ, 5PPM, -15 TO +75 DEG	00809	HC-35/U	
A12A1	670-9472-01	B020319		CIRCUIT BD ASSY:PHASELOCKED CF CONTROL	80009	670-9472-01	
A12A1C100	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C101	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C102	283-5004-00	B020319		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K	
A12A1C103	283-5004-00	B020319		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K	
A12A1C110	283-5004-00	B020319		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K	
A12A1C111	283-5003-00	B020319		CAP, FXD, CER DI:0.01UF, 10%, 50V	14674	12065C103KAT060R	
A12A1C112	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C120	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C130	283-5003-00	B020319		CAP, FXD, CER DI:0.01UF, 10%, 50V	14674	12065C103KAT060R	
A12A1C131	283-5003-00	B020319		CAP, FXD, CER DI:0.01UF, 10%, 50V	14674	12065C103KAT060R	
A12A1C200	283-5004-00	B020319		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K	
A12A1C210	283-5004-00	B020319		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K	
A12A1C211	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C212	283-5004-00	B020319		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K	
A12A1C213	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C214	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C220	283-5025-00	B020319		CAP, FXD, CER DI:220PF, 5%, 50V	54583	C3216C0G1H221J-T	
A12A1C221	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C230	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C231	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C232	283-5009-00	B020319		CAP, FXD, CER DI:15PF, 5%, 50V	54583	C3216C0G1H150J	
A12A1C235	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C240	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C241	283-5003-00	B020319		CAP, FXD, CER DI:0.01UF, 10%, 50V	14674	12065C103KAT060R	
A12A1C245	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C280	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C282	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C300	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C310	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C311	283-5004-00	B020319		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K	
A12A1C312	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C314	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C320	283-5003-00	B020319		CAP, FXD, CER DI:0.01UF, 10%, 50V	14674	12065C103KAT060R	
A12A1C321	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C322	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	
A12A1C330	283-5003-00	B020319		CAP, FXD, CER DI:0.01UF, 10%, 50V	14674	12065C103KAT060R	
A12A1C340	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER	

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Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discnt			
A12A1C341	290-5002-00	B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C342	290-5002-00	B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C343	290-5002-00	B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C350	283-5001-00	B020319		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A12A1C352	290-5002-00	B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C370	283-5004-00	B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C388	290-0536-00	B020319		CAP,FXD,ELCTLT:10UF,20%,25V TANTALUM	05397	T368B106M025AS
A12A1C389	290-5002-00	B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C400	283-5004-00	B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C410	290-5002-00	B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C411	290-5002-00	B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C420	290-5002-00	B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C421	290-5002-00	B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C422	290-5002-00	B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C430	283-5004-00	B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C440	283-5004-00	B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C442	290-5002-00	B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C443	290-5002-00	B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C445	290-5002-00	B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C450	283-5001-00	B020319		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A12A1C452	290-5002-00	B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C472	283-5011-00	B020319		CAP,FXD,CER DI:33PF,5%,50V	95275	VJ1206A330JXA
A12A1C473	283-5004-00	B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C474	283-5011-00	B020319		CAP,FXD,CER DI:33PF,5%,50V	95275	VJ1206A330JXA
A12A1C475	283-5004-00	B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C480	283-5015-00	B020319		CAP,FXD,CER DI:3300PF,10%,50V	80009	283-5015-00
A12A1C481	283-5011-00	B020319		CAP,FXD,CER DI:33PF,5%,50V	95275	VJ1206A330JXA
A12A1C482	283-5004-00	B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C483	290-0944-00	B020319		CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A12A1C490	283-5015-00	B020319		CAP,FXD,CER DI:3300PF,10%,50V	80009	283-5015-00
A12A1C491	283-5011-00	B020319		CAP,FXD,CER DI:33PF,5%,50V	95275	VJ1206A330JXA
A12A1C492	283-5004-00	B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C520	290-5002-00	B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C531	283-5001-00	B020319		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A12A1C540	283-5001-00	B020319		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A12A1C540	290-5002-00	B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C541	283-5001-00	B020319		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A12A1C550	283-5001-00	B020319		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A12A1C570	283-5004-00	B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C571	283-5004-00	B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C580	283-5004-00	B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C590	283-5004-00	B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C630	283-5008-00	B020319		CAP,FXD,CER DI:12PF,5%,50V	54583	C3216COG1H120J
A12A1C660	290-5002-00	B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C670	290-0944-00	B020319		CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A12A1C671	290-5002-00	B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C672	290-5002-00	B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C680	290-0944-00	B020319		CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A12A1C681	290-0944-00	B020319		CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A12A1C690	290-0963-00	B020319		CAP,FXD,ELCTLT:220UF,+50-20%,25WVDC	54473	ECEA1EV221S
A12A1C711	283-5002-00	B020319		CAP,FXD,CER DI:1000PF,10%,50V	14674	12061A102KAT050R
A12A1C721	283-5042-00	B020319		CAP,FXD,CER DI:27PF,5%,50V	29454	101R18N270JW4-T
A12A1C722	283-5014-00	B020319		CAP,FXD,CER DI:330PF,5%,50V	80009	283-5014-00
A12A1C729	290-5002-00	B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C741	283-5003-00	B020319		CAP,FXD,CER DI:0.01UF,10%,50V	14674	12065C103KAT080R
A12A1C750	283-5001-00	B020319		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A12A1C760	283-5001-00	B020319		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A12A1C806	283-5004-00	B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K

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Component No.	Tektronix		Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
	Part No.		Effective	Discont			
A12A1C807	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C808	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C809	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C810	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C811	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C812	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C812	321-5037-00		B020319		RES,FXD,FILM:39.2K,1%,0.125W	01121	BCK3922FT
A12A1C813	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C814	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C815	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C816	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C817	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C818	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C821	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C822	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C823	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C824	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C902	290-0963-00		B020319		CAP,FXD,ELCTLT:220UF,+50-20%,25WVDC	54473	ECEA1EV221S
A12A1C905	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C906	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C907	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C908	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C909	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C910	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C919	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C920	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C921	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C922	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C923	290-0944-00		B020319		CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A12A1C960	283-5004-00		B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A1C962	290-5002-00		B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C963	290-5002-00		B020319		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A1C971	283-5014-00		B020319		CAP,FXD,CER DI:330PF,5%,50V	80009	283-5014-00
A12A1CR330	152-5004-00		B020319		SEMICONV DVC,DI:SI,SW,SER PR,70V	04713	BAV99T1
A12A1CR331	152-5004-00		B020319		SEMICONV DVC,DI:SI,SW,SER PR,70V	04713	BAV99T1
A12A1CR350	152-5000-00		B020319		SEMICONV DVC,DI:SW,S1,70V,COM CATHODE	04713	BAV70
A12A1CR639	152-0842-00		B020319		SEMICONV DVC,DI:SCOTTKY,S1,COM ANODE PAIR, 20V	04713	SRV-V-017
A12A1CR650	152-5000-00		B020319		SEMICONV DVC,DI:SW,S1,70V,COM CATHODE	04713	BAV70
A12A1CR740	152-5004-00		B020319		SEMICONV DVC,DI:SI,SW,SER PR,70V	04713	BAV99T1
A12A1J150	131-0391-01		B020319		CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0119-22
A12A1J190	131-1425-00		B020319		CONN,RCPT,ELEC:RTANG HEADER,1 X 36,0.1 SP	22526	65521-136
A12A1J190	131-1426-00		B020319		CONN,RCPT,ELEC:RTANGLE HEADER,1 X 36	22526	65524-136
A12A1J610	131-1857-00		B020319		TERM SET,PIN:36/0.025 SQ PIN,ON 0.1 CTRS	TK1483	082-3643-SS10
A12A1J611	131-1857-00		B020319		TERM SET,PIN:36/0.025 SQ PIN,ON 0.1 CTRS	TK1483	082-3643-SS10
A12A1J710	131-3774-00		B020319		CONN,RCPT,ELEC:HEADER,2 X 36,0.1 SPACING	22526	65610-172
A12A1J760	131-1857-00		B020319		TERM SET,PIN:36/0.025 SQ PIN,ON 0.1 CTRS	TK1483	082-3643-SS10
A12A1J800	131-0391-01		B020319		CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0119-22
A12A1J802	131-0391-01		B020319		CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0119-22
A12A1J804	131-0391-01		B020319		CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0119-22
A12A1L210	108-5009-00		B020319		COIL,RF:FXD,82UH	80009	108-5009-00
A12A1L310	108-5009-00		B020319		COIL,RF:FXD,82UH	80009	108-5009-00
A12A1L410	108-5009-00		B020319		COIL,RF:FXD,82UH	80009	108-5009-00
A12A1L621	108-5021-00		B020319		COIL,RF:1.5UH,10%	54583	NL453232T-1R5M
A12A1L631	108-5023-00		B020319		COIL,RF:5.6UH,20%	54583	NL453232T-180K
A12A1L720	108-5000-00		B020319		COIL,RF:FXD,1UH	54583	NL453232T-1R0M
A12A1L732	108-5012-00		B020319		COIL,RF:FXD,2.2UH	02113	1008FS-222
A12A1L812	108-5009-00		B020319		COIL,RF:FXD,82UH	80009	108-5009-00

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Discnt	Name & Description	Mfr. Code	Mfr. Part No.
A12A1L900	108-1262-00	B020319	INDUCTOR:100UH	54583	YSL0807-101KR75
A12A1L901	108-5009-00	B020319	COIL, RF:FXD,82UH	80009	108-5009-00
A12A1P12	131-3556-00	B020319	CONN,RCPT,ELEC:CARD CONN,2 X 12,HORIZ	22526	66527-012
A12A1P610	131-3618-00	B020319	LINK,TERM CONN:LOW PROFILE JUMPER	80009	131-3618-00
A12A1P611	131-3618-00	B020319	LINK,TERM CONN:LOW PROFILE JUMPER	80009	131-3618-00
A12A1Q150	151-5001-00	B020319	TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A12A1Q151	151-5001-00	B020319	TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A12A1Q220	151-5001-00	B020319	TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A12A1Q242	151-5000-00	B020319	TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A12A1Q630	151-5000-00	B020319	TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A12A1Q632	151-5000-00	B020319	TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A12A1Q650	151-5001-00	B020319	TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A12A1Q750	151-5005-00	B020319	TRANSISTOR:PNP,SI,SOT-89	04713	BCX69T1
A12A1Q800	151-5000-00	B020319	TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A12A1Q900	151-1127-00	B020319	TRANSISTOR:MOSFE,N CHANNEL,SI,TO-220	81483	IRF511
A12A1Q901	151-1128-00	B020319	TRANSISTOR:MOSFE,P-CHANNEL,SI,TO-220	81483	IRF9521
A12A1Q902	151-1127-00	B020319	TRANSISTOR:MOSFE,N CHANNEL,SI,TO-220	81483	IRF511
A12A1Q903	151-1128-00	B020319	TRANSISTOR:MOSFE,P-CHANNEL,SI,TO-220	81483	IRF9521
A12A1Q910	151-1063-00	B020319	TRANSISTOR:MOS FET,N-CHANNEL,SI	80009	151-1063-00
A12A1Q911	151-1063-00	B020319	TRANSISTOR:MOS FET,N-CHANNEL,SI	80009	151-1063-00
A12A1Q920	151-1121-00	B020319	TRANSISTOR:FE,N CHANNEL,SI,TO-92	17856	V10206
A12A1Q931	151-5000-00	B020319	TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A12A1R100	321-5018-00	B020319	RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A12A1R101	321-5043-00	B020319	RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A12A1R111	321-5015-00	B020319	RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A12A1R120	321-5043-00	B020319	RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A12A1R121	321-5015-00	B020319	RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A12A1R130	321-5043-00	B020319	RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A12A1R131	321-5015-00	B020319	RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A12A1R140	321-5043-00	B020319	RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A12A1R141	321-5015-00	B020319	RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A12A1R142	321-5015-00	B020319	RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A12A1R143	321-5042-00	B020319	RES,FXD,FILM:39.2 OHM,1%,0.125W	57668	MCR18FWEA39E2
A12A1R144	321-5010-00	B020319	RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A12A1R145	321-5045-00	B020319	RES,FXD,FILM:68.1 OHM,1%,0.125W	01121	BCD68R1FT
A12A1R160	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R161	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R162	321-5025-00	B020319	RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A12A1R171	321-0161-00	B020319	RES,FXD,FILM:464 OHM,1%,0.125W,TC=T0	07716	CEAD464R0F
A12A1R200	321-5015-00	B020319	RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A12A1R202	321-5016-00	B020319	RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A12A1R204	321-5016-00	B020319	RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A12A1R210	321-5000-00	B020319	RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A12A1R211	321-5015-00	B020319	RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A12A1R212	321-5045-00	B020319	RES,FXD,FILM:68.1 OHM,1%,0.125W	01121	BCD68R1FT
A12A1R220	321-5017-00	B020319	RES,FXD,FILM:825 OHM,1%,0.125W	01121	BCK8250FT
A12A1R221	321-5014-00	B020319	RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A12A1R222	321-5009-00	B020319	RES,FXD,FILM:182 OHM,1%,0.125W	01121	BCK1820FT
A12A1R236	321-0239-07	B020319	RES,FXD,FILM:3.01K OHM,0.1%,0.125W,TC=T9MI	07716	CEAE30100B
A12A1R237	321-0272-07	B020319	RES,FXD,FILM:6.65K OHM,0.1%,0.125W,TC=T9	07716	CEAE66500B
A12A1R238	321-0228-09	B020319	RES,FXD,FILM:2.32K OHM,1%,0.125W,TC=T9	07716	CEAE23200F
A12A1R239	321-0753-06	B020319	RES,FXD,FILM:9K OHM,0.25%,0.125W,TC=T9	07716	CEAE90000C
A12A1R241	321-0306-09	B020319	RES,FXD,FILM:15.0K OHM,1%,0.125W,TC=T9	01121	ORDER BY DESC
A12A1R242	321-0306-09	B020319	RES,FXD,FILM:15.0K OHM,1%,0.125W,TC=T9	01121	ORDER BY DESC
A12A1R243	321-5018-00	B020319	RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A12A1R244	321-5044-00	B020319	RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A12A1R250	321-5016-00	B020319	RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A12A1R251	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT

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Component No.	Tektronix		Name & Description	Mfr. Code	Mfr. Part No.
	Part No.	Serial/Assembly No. Effective Discont			
A12A1R254	321-5016-00	B020319	RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A12A1R261	321-5006-00	B020319	RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12A1R262	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R263	321-5047-00	B020319	RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A12A1R264	321-5018-00	B020319	RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A12A1R265	321-5024-00	B020319	RES,FXD,FILM:3.32K,1%,0.125W	01121	BCK3321FT
A12A1R266	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FY
A12A1R270	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R310	321-5000-00	B020319	RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A12A1R323	321-0924-07	B020319	RES,FXD,FILM:40K OHM,0.1%,0.125W,TC=T9	19701	5033RE40K00B
A12A1R330	321-0193-07	B020319	RES,FXD,FILM:1K OHM,0.1%,0.125W,TC=T9	19701	5033RE1K000B
A12A1R331	321-1722-07	B020319	RES,FXD,FILM:3.39K OHM,0.1%,0.125W,TC=T9	19701	5033RE3K390B
A12A1R332	321-5027-00	B020319	RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A12A1R340	321-5006-00	B020319	RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12A1R341	321-5022-00	B020319	RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A12A1R342	321-5022-00	B020319	RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A12A1R343	321-5022-00	B020319	RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A12A1R344	321-5022-00	B020319	RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A12A1R345	321-5012-00	B020319	RES,FXD,FILM:332 OHM,1%,0.125W	01121	BCK3320FT
A12A1R350	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R360	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R370	321-5024-00	B020319	RES,FXD,FILM:3.32K,1%,0.125W	01121	BCK3321FT
A12A1R371	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R372	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R373	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R374	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R375	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R400	321-5048-00	B020319	RES,FXD,FILM:332K,1%,0.125W	01121	BCK3323FT
A12A1R401	321-5041-00	B020319	RES,FXD,FILM:82.5K,1%,0.125W	01121	BCK8252FT
A12A1R402	321-5027-00	B020319	RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A12A1R403	321-5023-00	B020319	RES,FXD,FILM:2.74K,1%,0.125W	01121	BCK2741FT
A12A1R404	321-5006-00	B020319	RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12A1R405	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R410	308-0142-00	B020319	RES,FXD,WW:30 OHM,5%,3W	00213	1240S-30-5
A12A1R411	321-5032-00	B020319	RES,FXD,FILM:15.0K,1%,0.125W	01121	BCK1502FT
A12A1R412	321-5006-00	B020319	RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12A1R414	321-5020-00	B020319	RES,FXD,FILM:1.50K,1%,0.125W	01121	BCK1501FT
A12A1R421	321-5021-00	B020319	RES,FXD,FILM:1.82K,1%,0.125W	01121	BCK1821FT
A12A1R422	311-1245-00	B020319	RES,VAR,NONW:TRMR,10K OHM,0.5W	32997	3386X-DY6-103
A12A1R430	321-0222-09	B020319	RES,FXD,FILM:2.00K OHM,1,0.125W,TC=T9	07716	CEAE20000F
A12A1R431	321-0222-09	B020319	RES,FXD,FILM:2.00K OHM,1,0.125W,TC=T9	07716	CEAE20000F
A12A1R440	321-5015-00	B020319	RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A12A1R441	321-5043-00	B020319	RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A12A1R442	321-5002-00	B020319	RES,FXD,FILM:15 OHM,1%,0.125W	57668	MCR18EZHFW 15E0
A12A1R443	321-5006-00	B020319	RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12A1R444	321-0193-07	B020319	RES,FXD,FILM:1K OHM,0.1%,0.125W,TC=T9	19701	5033RE1K000B
A12A1R445	321-5032-00	B020319	RES,FXD,FILM:15.0K,1%,0.125W	01121	BCK1502FT
A12A1R460	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R461	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R462	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R463	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R464	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R465	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R466	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R467	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R468	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A1R470	321-5020-00	B020319	RES,FXD,FILM:1.50K,1%,0.125W	01121	BCK1501FT
A12A1R471	321-5025-00	B020319	RES,FXD,FILM:3.92K,1%,0.125W	01121	BCK3921FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont.	Name & Description	Mfr. Code	Mfr. Part No.
A12A1R472	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R473	321-5024-00	B020319		RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A12A1R474	321-5022-00	B020319		RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12A1R475	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R480	321-5024-00	B020319		RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A12A1R481	321-5032-00	B020319		RES, FXD, FILM: 15.0K, 1%, 0.125W	01121	BCK1502FT
A12A1R482	321-5030-00	B020319		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12A1R483	321-5018-00	B020319		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12A1R484	321-5004-00	B020319		RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A12A1R485	321-5004-00	B020319		RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A12A1R486	321-5004-00	B020319		RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A12A1R490	321-5025-00	B020319		RES, FXD, FILM: 3.92K, 1%, 0.125W	01121	BCK3921FT
A12A1R491	321-5032-00	B020319		RES, FXD, FILM: 15.0K, 1%, 0.125W	01121	BCK1502FT
A12A1R492	321-5023-00	B020319		RES, FXD, FILM: 2.74K, 1%, 0.125W	01121	BCK2741FT
A12A1R493	321-5022-00	B020319		RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12A1R494	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R520	325-0414-00	B020319		RES, FXD, FILM: 3.2K OHM, 1%, 0.6W, TC=1PPM	80009	325-0414-00
A12A1R521	325-0410-00	B020319		RES, FXD, FILM: 14.3K, 1%, 0.3W, 1PPM	80009	325-0410-00
A12A1R524	321-5030-00	B020319		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12A1R527	321-5024-00	B020319		RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A12A1R531	321-5030-00	B020319		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12A1R532	321-5041-00	B020319		RES, FXD, FILM: 82.5K, 1%, 0.125W	01121	BCK8252FT
A12A1R533	321-5047-00	B020319		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A12A1R534	321-5047-00	B020319		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A12A1R535	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R536	321-5022-00	B020319		RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12A1R537	321-5022-00	B020319		RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12A1R538	321-5022-00	B020319		RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12A1R539	321-5022-00	B020319		RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12A1R540	321-0289-07	B020319		RES, FXD, FILM: 10.0K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE10K00B
A12A1R541	321-0289-07	B020319		RES, FXD, FILM: 10.0K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE10K00B
A12A1R550	321-0816-07	B020319		RES, FXD, FILM: 5K OHM, 0.1%, 0.125W, TC=T9	19701	5033RESK000B
A12A1R570	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R571	321-5023-00	B020319		RES, FXD, FILM: 2.74K, 1%, 0.125W	01121	BCK2741FT
A12A1R572	321-5018-00	B020319		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12A1R573	321-5018-00	B020319		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12A1R574	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R575	321-5004-00	B020319		RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A12A1R576	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R577	321-5018-00	B020319		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12A1R580	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R581	321-5018-00	B020319		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12A1R583	321-5030-00	B020319		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12A1R584	321-5030-00	B020319		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12A1R585	321-5044-00	B020319		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A12A1R586	321-5044-00	B020319		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A12A1R590	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R591	321-5029-00	B020319		RES, FXD, FILM: 8.25K, 1%, 0.125W	01121	BCK8251FT
A12A1R592	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R593	321-5018-00	B020319		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12A1R600	325-0412-00	B020319		RES, FXD, FILM: 1.5K OHM, 1%, 0.3W, 1PPM	80009	325-0412-00
A12A1R601	321-5043-00	B020319		RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A12A1R602	321-5027-00	B020319		RES, FXD, FILM: 5.62K, 1%, 0.125W	01121	BCK5621FT
A12A1R610	321-5009-00	B020319		RES, FXD, FILM: 182 OHM, 1%, 0.125W	01121	BCK1820FT
A12A1R613	321-5003-00	B020319		RES, FXD, FILM: 18.2 OHM, 1%, 0.125W	57668	MCR18EZHFV 18E2
A12A1R617	321-5050-00	B020319		RES, FXD, FILM: 33.2 OHM, 1%, 0.125W	57668	MCR18FWEA33E2
A12A1R620	311-2275-00	B020319		RES, VAR, NONWV: TRMR, 200 OHM, 20%, 0.5W	TK1450	FG06VT 200 OHM
A12A1R621	311-1245-00	B020319		RES, VAR, NONWV: TRMR, 10K OHM, 0.5W	32997	3386X-0Y6-103

Replaceable Electrical Parts - 2710

Component No.	Tektronix		Serial/Assembly No. Effective Discnt	Name & Description	Mfr.	
	Part No.				Code	Mfr. Part No.
A12A1R622	311-1245-00	B020319		RES, VAR, NONWV: TRMR, 10K OHM, 0.5W	32997	3386X-0Y6-103
A12A1R638	321-5004-00	B020319		RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A12A1R645	321-5038-00	B020319		RES, FXD, FILM: 47.5K, 1%, 0.125W	01121	BCK4752FT
A12A1R653	321-5038-00	B020319		RES, FXD, FILM: 47.5K, 1%, 0.125W	01121	BCK4752FT
A12A1R701	321-5038-00	B020319		RES, FXD, FILM: 47.5K, 1%, 0.125W	01121	BCK4752FT
A12A1R711	321-5022-00	B020319		RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12A1R712	321-5051-00	B020319		RES, FXD, FILM: 0 OHM, 1%, 0.125W	80009	321-5051-00
A12A1R719	321-5050-00	B020319		RES, FXD, FILM: 33.2 OHM, 1%, 0.125W	57668	MCR18FWEA33E2
A12A1R730	325-0315-00	B020319		RES, FXD, FILM: 20K OHM, 0.05%, 0.3W	07088	K747 20K0HM .05%
A12A1R731	325-0411-00	B020319		RES, FXD, FILM: 15.6K, 1%, 0.3W, 1PPM	80009	325-0411-00
A12A1R741	321-5026-00	B020319		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A12A1R750	321-0816-07	B010001	B010318	RES, FXD, FILM: 5K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE5K000B
A12A1R750	321-0289-07	B020319		RES, FXD, FILM: 10.0K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE10K00B
A12A1R751	321-0816-07	B010001	B010318	RES, FXD, FILM: 5K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE5K000B
A12A1R751	321-0816-07	B020319		RES, FXD, FILM: 5K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE5K000B
A12A1R751	321-5033-00	B020319		RES, FXD, FILM: 18.2K, 1%, 0.125W	01121	BCK1822FT
A12A1R751	321-5047-00	B020319		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A12A1R752	321-5031-00	B020319		RES, FXD, FILM: 12.1K, 1%, 0.125W	01121	BCK1212FT
A12A1R753	321-5030-00	B020319		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12A1R760	321-5030-00	B020319		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12A1R761	321-5030-00	B020319		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12A1R762	321-5021-00	B020319		RES, FXD, FILM: 1.82K, 1%, 0.125W	01121	BCK1821FT
A12A1R763	321-5030-00	B020319		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12A1R770	321-5018-00	B020319		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12A1R771	321-5047-00	B020319		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A12A1R772	321-5047-00	B020319		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A12A1R773	321-5018-00	B020319		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12A1R774	321-5018-00	B020319		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12A1R775	321-5047-00	B020319		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A12A1R776	321-5000-00	B020319		RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A12A1R800	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R801	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R802	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R803	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R805	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R806	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R807	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R808	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R809	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R810	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R812	321-5037-00	B020319		RES, FXD, FILM: 39.2K, 1%, 0.125W	01121	BCK3922FT
A12A1R813	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R814	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R815	321-0822-06	B020319		RES, FXD, FILM: 1.76K OHM, 0.25%, 0.125W, TC=T9	19701	5033RE1K760C
A12A1R816	321-0227-09	B020319		RES, FXD, FILM: 2.26K OHM, 1%, 0.125W, TC=T9	19701	5033RE2K260F
A12A1R820	321-0361-06	B020319		RES, FXD, FILM: 56.2K OHM, 0.25%, 0.125W	19701	5033RE56K20C
A12A1R821	321-0193-07	B020319		RES, FXD, FILM: 1K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE1K000B
A12A1R822	321-0926-07	B020319		RES, FXD, FILM: 4K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE4K00B
A12A1R861	321-5035-00	B020319		RES, FXD, FILM: 27.4K, 1%, 0.125W	01121	BCK2742FT
A12A1R863	321-5035-00	B020319		RES, FXD, FILM: 27.4K, 1%, 0.125W	01121	BCK2742FT
A12A1R900	325-0413-00	B020319		RES, FXD, FILM: 13 OHM, 1%, 2W, 1PPM	80009	325-0413-00
A12A1R901	321-5014-00	B020319		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A12A1R902	321-5014-00	B020319		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A12A1R903	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R904	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R905	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R906	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R907	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A12A1R908	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R909	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R910	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R911	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R912	321-0926-07	B020319		RES, FXD, FILM: 4K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE4K00B
A12A1R913	321-0193-07	B020319		RES, FXD, FILM: 1K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE1K000B
A12A1R914	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R915	321-5014-00	B020319		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A12A1R916	321-5006-00	B020319		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12A1R917	321-5014-00	B020319		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A12A1R918	321-5014-00	B020319		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A12A1R921	321-0926-07	B020319		RES, FXD, FILM: 4K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE4K00B
A12A1R924	321-0926-07	B020319		RES, FXD, FILM: 4K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE4K00B
A12A1R925	321-0278-07	B020319		RES, FXD, FILM: 7.68K OHM, 0.1%, 0.125W, TC=T9	80009	321-0278-07
A12A1R936	321-5035-00	B020319		RES, FXD, FILM: 27.4K, 1%, 0.125W	01121	BCK2742FT
A12A1R939	321-5034-00	B020319		RES, FXD, FILM: 22.1K, 1%, 0.125W	01121	BCK2212FT
A12A1R945	321-5049-00	B020319		RES, FXD, FILM: 1 MEG, 1%, 0.125W	01121	BCK1004FT
A12A1T481	108-1420-00	B020319		COIL, RF: 300UH, 20%	80009	108-1420-00
A12A1T490	108-1420-00	B020319		COIL, RF: 300UH, 20%	80009	108-1420-00
A12A1U160	156-5154-00	B020319		MICROCKT, DGTL: HCMOS, QUAD 2 INP NAND GATE	80009	156-5154-00
A12A1U250	156-5155-00	B020319		MICROCKT, DGTL: HEX INVERTER	80009	156-5155-00
A12A1U260	156-5074-00	B020319		MICROCKT, DGTL: HCMOS, DUAL D TYPE FLIP FLOP	80009	156-5074-00
A12A1U282	156-5018-00	B020319		MICROCKT, LINEAR: DUAL OP AMP, LOW PWR, 1MZ	80009	156-5018-00
A12A1U360	156-5154-00	B020319		MICROCKT, DGTL: HCMOS, QUAD 2 INP NAND GATE	80009	156-5154-00
A12A1U360	156-5615-00	B020319		MICROCKT, DGTL: HCMOS, QUAD 2 INP X-NOR GATE	80009	156-5615-00
A12A1U370	156-5080-00	B020319		MICROCKT, DGTL: CMOS, 8 BIT STATIC SHIFT RSTR	80009	156-5080-00
A12A1U380	156-5018-00	B020319		MICROCKT, LINEAR: DUAL OP AMP, LOW PWR, 1MZ	80009	156-5018-00
A12A1U410	156-2848-00	B020319		MICROCKT, LINEAR: MONOLITH WIDEBAND, HIGH SLEW RATE, HIGH OUTPUT CURRENT BUFFER	80009	156-2848-00
A12A1U411	156-5017-00	B020319		MICROCKT, LINEAR: DUAL, 741 OP AMP, 1MZ, SO-8	04713	MC1458
A12A1U420	156-5082-00	B020319		MICROCKT, LINEAR: OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12A1U430	156-5082-00	B020319		MICROCKT, LINEAR: OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12A1U440	156-5082-00	B020319		MICROCKT, LINEAR: OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12A1U441	156-5082-00	B020319		MICROCKT, LINEAR: OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12A1U460	156-5021-00	B020319		MICROCKT, DGTL: CMOS, 8 STATE SHIFT AND STORE	18324	HEF40948TD
A12A1U461	156-5142-00	B020319		MICROCKT, DGTL: HCMOS, DUAL 2 TO 4 LINE DECODE R/DEMUX	80009	156-5142-00
A12A1U470	156-5017-00	B020319		MICROCKT, LINEAR: DUAL 741 OP AMP, 1MZ, SO-8	04713	MC1458
A12A1U490	156-5082-00	B020319		MICROCKT, LINEAR: OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12A1U520	156-5082-00	B020319		MICROCKT, LINEAR: OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12A1U540	156-5082-00	B020319		MICROCKT, LINEAR: OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12A1U541	156-5082-00	B020319		MICROCKT, LINEAR: OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12A1U560	156-5021-00	B020319		MICROCKT, DGTL: CMOS, 8 STATE SHIFT AND STORE	18324	HEF40948TD
A12A1U581	156-5297-00	B020319		MICROCKT, LINEAR: POSITIVE SHUNT REGULATOR	80009	156-5297-00
A12A1U600	156-5082-00	B020319		MICROCKT, LINEAR: OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12A1U606	156-5082-01	B020319		MICROCKT, LINEAR: OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-01
A12A1U614	156-5467-00	B020319		MICROCKT, LINEAR: HIGH FREQ OP-AMP	80009	156-5467-00
A12A1U630	156-5082-00	B020319		MICROCKT, LINEAR: OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12A1U631	156-5082-00	B020319		MICROCKT, LINEAR: OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12A1U640	156-5082-00	B020319		MICROCKT, LINEAR: OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12A1U650	156-5119-00	B020319		MICROCKT, LINEAR: DUAL VOLTAGE COMPARATOR	80009	156-5119-00
A12A1U660	156-5021-00	B020319		MICROCKT, DGTL: CMOS, 8 STATE SHIFT AND STORE	18324	HEF40948TD
A12A1U700	156-5274-01	B020319		MICROCKT, DGTL: CMOS, ANALOG SWITCH	80009	156-5274-01
A12A1U713	156-5082-01	B020319		MICROCKT, LINEAR: OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-01
A12A1U720	156-5280-00	B020319		MICROCKT, LINEAR: WIDEBAND HIGH FREQUENCY AMP LIFIER	80009	156-5280-00
A12A1U723	156-5280-00	B020319		MICROCKT, LINEAR: WIDEBAND HIGH FREQUENCY AMP LIFIER	80009	156-5280-00

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Component No.	Tektronix Part No.	Serial/Assembly No. Effective Discnt	Name & Description	Mfr. Code	Mfr. Part No.
A12A1U740	156-5082-00	B020319	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12A1U750	156-5082-00	B020319	MICROCKT, LINEAR:OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-00
A12A1U757	156-5274-01	B020319	MICROCKT, DGTL:CMOS, ANALOG SWITCH	80009	156-5274-01
A12A1U760	156-5227-00	B020319	MICROCKT, DGTL:CMOS, DUAL RETRIG MONOSTABLE M	80009	156-5227-00
A12A1U761	156-5278-00	B020319	ULTIVIBRATOR W/RESET		
			MICROCKT, DGTL:HCMS, QUAD BUFFER/LINE DRVR	80009	156-5278-00
A12A1U830	156-5571-00	B020319	MICROCKT, DGTL:CMOS, ANALOG MUX, TRIPLE, 2 CHAN	80009	156-5571-00
A12A1U831	156-5570-00	B020319	MICROCKT, DGTL:CMOS, ANALOG MUX, DUAL 4 CHAN	80009	156-5570-00
A12A1U850	156-5300-00	B020319	MICROCKT, INTFC:DAC, DUAL 12 BIT, MPU COMPATIB	80009	156-5300-00
A12A1U950	156-5300-00	B020319	LE MICROCKT, INTFC:DAC, DUAL 12 BIT, MPU COMPATIB	80009	156-5300-00
			LE		
A12A1VR730	152-0526-00	B020319	SEMICON DVC, DI:ZEN, SI, 6.35V, 1%, 0.4W, D0-7	14552	DT840615A
A12A1VR803	152-5007-00	B020319	SEMICON DVC, DI:ZENER, SI, 9.1V, 5%	80009	152-5007-00
A12A1VR902	152-5007-00	B020319	SEMICON DVC, DI:ZENER, SI, 9.1V, 5%	80009	152-5007-00
A12A2	670-9473-01	B020319	CIRCUIT BD ASSY:HIGH FREQ VCO	80009	670-9473-01
A12A2C103	283-5004-00	B020319	CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A2C110	290-5003-00	B020319	CAP, FXD, ELCTLT:47UF, 20%, 10V	56289	193D476X0010E2
A12A2C111	290-5003-00	B020319	CAP, FXD, ELCTLT:47UF, 20%, 10V	56289	193D476X0010E2
A12A2C120	290-5003-00	B020319	CAP, FXD, ELCTLT:47UF, 20%, 10V	56289	193D476X0010E2
A12A2C133	283-5011-00	B020319	CAP, FXD, CER DI:33PF, 5%, 50V	95275	VJ1206A330JXA
A12A2C200	283-5004-00	B020319	CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A2C212	283-5004-00	B020319	CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A2C222	283-5004-00	B020319	CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A2C224	283-5004-00	B020319	CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A2C231	283-5011-00	B020319	CAP, FXD, CER DI:33PF, 5%, 50V	95275	VJ1206A330JXA
A12A2C233	283-5009-00	B020319	CAP, FXD, CER DI:15PF, 5%, 50V	54583	C3216COG1H150J
A12A2C234	283-5025-00	B020319	CAP, FXD, CER DI:220PF, 5%, 50V	54583	C3216COG1H221J-T
A12A2C302	283-5004-00	B020319	CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A2C310	283-5004-00	B020319	CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A2C321	283-5004-00	B020319	CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A2C331	283-5022-00	B020319	CAP, FXD, CER DI:47PF, 5%, 50V	54583	C3216COG1H470J-T
A12A2C332	283-5001-00	B020319	CAP, FXD, CER DI:100PF, 5%, 50V	95275	VJ1206A101JXA
A12A2C333	290-5002-00	B020319	CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER
A12A2C404	283-5004-00	B020319	CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A2C407	283-5004-00	B020319	CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A2C412	283-5004-00	B020319	CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A2C413	283-5004-00	B020319	CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A2C414	283-5002-00	B020319	CAP, FXD, CER DI:1000PF, 10%, 50V	14674	12061A102KAT050R
A12A2C422	283-5004-00	B020319	CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A2C431	283-5002-00	B020319	CAP, FXD, CER DI:1000PF, 10%, 50V	14674	12061A102KAT050R
A12A2C500	283-5004-00	B020319	CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A2C510	283-5004-00	B020319	CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A2C512	283-5006-00	B020319	CAP, FXD, CER DI:5PF, +/- 0.25PF, 50V	54583	C3216COG1H050C
A12A2C520	283-5004-00	B020319	CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A2C521	283-5005-00	B020319	CAP, FXD, CER DI:4PF, +/- 0.25PF, 50V	54583	C3216COG1H040C
A12A2C523	283-5022-00	B020319	CAP, FXD, CER DI:47PF, 5%, 50V	54583	C3216COG1H470J-T
A12A2C532	283-5002-00	B020319	CAP, FXD, CER DI:1000PF, 10%, 50V	14674	12061A102KAT050R
A12A2C533	283-5001-00	B020319	CAP, FXD, CER DI:100PF, 5%, 50V	95275	VJ1206A101JXA
A12A2C611	281-0165-00	B020319	CAP, VAR, ATR DI:0.8-10PF, 250V	73899	MVM-010W
A12A2C630	290-5002-00	B020319	CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER
A12A2C631	283-5001-00	B020319	CAP, FXD, CER DI:100PF, 5%, 50V	95275	VJ1206A101JXA
A12A2CR511	152-5010-00	B020319	SEMICON DVC, DI:TUNING, 32PF, 30V	80009	152-5010-00
A12A2L230	108-5030-00	B020319	COIL, RF:FXD, 100NH	80009	108-5030-00
A12A2L232	108-5004-00	B020319	COIL, RF:FXD, 1.8UH	80009	108-5004-00
A12A2L415	108-5000-00	B020319	COIL, RF:FXD, 1UH	54583	NL453232T-1R0M
A12A2L610	108-1325-00	B020319	COIL, RF:7UH, INDUCTOR, 6.75 TURNS	80009	108-1325-00
A12A2Q101	151-5001-00	B020319	TRANSISTOR:NPN, SI, 50T-23	04713	MMBT3904T1

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Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A12A2Q213	151-5011-00	B020319	TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A12A2Q316	151-5011-00	B020319	TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A12A2Q400	151-5011-00	B020319	TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A12A2Q410	151-5011-00	B020319	TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A12A2Q425	151-5000-00	B020319	TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A12A2Q522	151-5001-00	B020319	TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A12A2R100	321-5042-00	B020319	RES,FXD,FILM:39.2 OHM,1%,0.125W	57668	MCR18FWEA39E2
A12A2R102	321-5030-00	B020319	RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12A2R121	321-5017-00	B020319	RES,FXD,FILM:825 OHM,1%,0.125W	01121	BCK8250FT
A12A2R123	321-5023-00	B020319	RES,FXD,FILM:2.74K,1%,0.125W	01121	BCK2741FT
A12A2R130	321-5006-00	B020319	RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12A2R131	321-5045-00	B020319	RES,FXD,FILM:68.1 OHM,1%,0.125W	01121	BCD68R1FT
A12A2R132	321-5006-00	B020319	RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12A2R201	321-5015-00	B020319	RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A12A2R202	321-5015-00	B020319	RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A12A2R203	321-5015-00	B020319	RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A12A2R210	321-5016-00	B020319	RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A12A2R211	321-5016-00	B020319	RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A12A2R220	321-5042-00	B020319	RES,FXD,FILM:39.2 OHM,1%,0.125W	57668	MCR18FWEA39E2
A12A2R221	321-5002-00	B020319	RES,FXD,FILM:15 OHM,1%,0.125W	57668	MCR18EZHFV 15E0
A12A2R223	321-5006-00	B020319	RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12A2R301	321-5015-00	B020319	RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A12A2R311	321-5000-00	B020319	RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFV10E
A12A2R312	321-5000-00	B020319	RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFV10E
A12A2R313	321-5010-00	B020319	RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A12A2R314	321-5018-00	B020319	RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A12A2R315	321-5042-00	B020319	RES,FXD,FILM:39.2 OHM,1%,0.125W	57668	MCR18FWEA39E2
A12A2R322	321-5006-00	B020319	RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12A2R330	321-5043-00	B020319	RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A12A2R401	321-5019-00	B020319	RES,FXD,FILM:1.21K,1%,0.125W	01121	BCK1211FT
A12A2R402	321-5028-00	B020319	RES,FXD,FILM:6.81K,1%,0.125W	01121	BCK6811FT
A12A2R403	321-5043-00	B020319	RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A12A2R405	321-5043-00	B020319	RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A12A2R406	321-5000-00	B020319	RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFV10E
A12A2R411	321-5018-00	B020319	RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A12A2R416	321-5008-00	B020319	RES,FXD,FILM:150 OHM,1%,0.125W	01121	BCK1500FT
A12A2R420	321-5043-00	B020319	RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A12A2R421	321-5011-00	B020319	RES,FXD,FILM:274 OHM,1%,0.125W	01121	BCK2740FT
A12A2R423	321-5019-00	B020319	RES,FXD,FILM:1.21K,1%,0.125W	01121	BCK1211FT
A12A2R424	321-5011-00	B020319	RES,FXD,FILM:274 OHM,1%,0.125W	01121	BCK2740FT
A12A2R430	321-5004-00	B020319	RES,FXD,FILM:22.1 OHM,1%,0.125W	57668	MCR18FWEA22E1
A12A2R432	321-5024-00	B020319	RES,FXD,FILM:3.32K,1%,0.125W	01121	BCK3321FT
A12A2R433	321-5018-00	B020319	RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A12A2R434	321-5018-00	B020319	RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A12A2R524	321-5019-00	B020319	RES,FXD,FILM:1.21K,1%,0.125W	01121	BCK1211FT
A12A2R530	321-5050-00	B020319	RES,FXD,FILM:33.2 OHM,1%,0.125W	57668	MCR18FWEA33E2
A12A2R531	321-5024-00	B020319	RES,FXD,FILM:3.32K,1%,0.125W	01121	BCK3321FT
A12A2U122	156-1161-00	B020319	MICROCKT,LINER:VOLTAGE REGULATOR,POS,ADJ	12969	UC317T
A12A2U300	156-5221-00	B020319	MICROCKT,DGTL:ECL DUAL D TYPE MASTER SLAVE FF	80009	156-5221-00
A12A2U320	119-5001-00	B020319	MIXER,RING:+7DBMLO,SMD	80009	119-5001-00
A12A2U435	156-5095-01	B020319	MICROCKT,LINER:OP AMP,LOW NOISE	80009	156-5095-01
A12A3	671-0583-01	B020319	CIRCUIT BD ASSY:LOW FREQUENCY	80009	671-0583-01
A12A3C100	290-5003-00	B020319	CAP,FXD,ELCTLT:47UF,20%,10V	56289	1930476X0010E2
A12A3C110	290-5002-00	B020319	CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A12A3C120	290-5003-00	B020319	CAP,FXD,ELCTLT:47UF,20%,10V	56289	1930476X0010E2
A12A3C122	283-5004-00	B020319	CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12A3C124	283-5004-00	B020319	CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K

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Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discort	Name & Description	Mfr. Code	Mfr. Part No.
A12A3C130	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A3C211	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A3C220	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A3C224	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A3C303	283-5003-00	B020319		CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A12A3C304	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A3C311	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A3C316	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A3C330	283-5014-00	B020319		CAP, FXD, CER DI: 330PF, 5%, 50V	80009	283-5014-00
A12A3C400	283-5001-00	B020319		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A12A3C412	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A3C420	290-5003-00	B020319		CAP, FXD, ELCTLT: 47UF, 20%, 10V	56289	193D476X0010E2
A12A3C421	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A3C431	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A3C500	283-5001-00	B020319		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A12A3C513	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A3C515	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A3C520	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A3C521	290-5003-00	B020319		CAP, FXD, ELCTLT: 47UF, 20%, 10V	56289	193D476X0010E2
A12A3C522	290-5003-00	B020319		CAP, FXD, ELCTLT: 47UF, 20%, 10V	56289	193D476X0010E2
A12A3C523	290-5003-00	B020319		CAP, FXD, ELCTLT: 47UF, 20%, 10V	56289	193D476X0010E2
A12A3C530	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A3C531	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12A3C533	283-5001-00	B020319		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A12A3C542	283-5003-00	B020319		CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A12A3C543	290-5000-00	B020319		CAP, FXD, ELCTLT: 1UF, 20%, 50V	TK0900	S50V1MICROF
A12A3CR216	152-0842-00	B020319		SEMICON DVC, DI: SCHOTTKY, SI, COM ANODE PAIR, 20V	04713	SRV-V-017
A12A3CR413	152-0842-00	B020319		SEMICON DVC, DI: SCHOTTKY, SI, COM ANODE PAIR, 20V	04713	SRV-V-017
A12A3CR532	152-0578-00	B020319		SEMICON DVC, DI: VVC, SI, 22-155PF, DO-7	50101	V34-4202
A12A3CR540	152-0578-00	B020319		SEMICON DVC, DI: VVC, SI, 22-155PF, DO-7	50101	V34-4202
A12A3E411	276-0532-00	B020319		SHLD BEAD, ELEK: FERRITE	02114	56-590-65/4A6
A12A3E511	276-0532-00	B020319		SHLD BEAD, ELEK: FERRITE	02114	56-590-65/4A6
A12A3E514	276-0532-00	B020319		SHLD BEAD, ELEK: FERRITE	02114	56-590-65/4A6
A12A3L200	108-5018-00	B020319		COIL, RF: FXD, 4.7UH, 20%	54583	NL453232T-4R7M
A12A3L534	108-5002-00	B020319		COIL, RF: FXD, 15UH	54583	NL453232T-150K
A12A3Q213	151-5000-00	B020319		TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A12A3Q215	151-5000-00	B020319		TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A12A3Q223	151-5000-00	B020319		TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A12A3Q310	151-5001-00	B020319		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A12A3Q312	151-5001-00	B020319		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A12A3Q422	151-5001-00	B020319		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A12A3Q426	151-5001-00	B020319		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A12A3R111	321-0932-03	B020319		RES, FXD, FILM: 2.5K OHM, 0.25%, 0.125W, TC=T2	19701	5033RC2K500C
A12A3R121	321-5004-00	B020319		RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A12A3R125	321-0168-02	B020319		RES, FXD, FILM: 549 OHM, 0.5%, 0.125W, TC=T2	19701	5033RC549R0D
A12A3R201	321-5008-00	B020319		RES, FXD, FILM: 150 OHM, 1%, 0.125W	01121	BCK1500FT
A12A3R210	321-5043-00	B020319		RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A12A3R212	321-5004-00	B020319		RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A12A3R214	321-5043-00	B020319		RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A12A3R221	321-5019-00	B020319		RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A12A3R222	321-5004-00	B020319		RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A12A3R230	321-5025-00	B020319		RES, FXD, FILM: 3.92K, 1%, 0.125W	01121	BCK3921FT
A12A3R241	321-5013-00	B020319		RES, FXD, FILM: 392 OHM, 1%, 0.125W	01121	BCK3920FT
A12A3R301	321-5013-00	B020319		RES, FXD, FILM: 392 OHM, 1%, 0.125W	01121	BCK3920FT
A12A3R302	321-5008-00	B020319		RES, FXD, FILM: 150 OHM, 1%, 0.125W	01121	BCK1500FT
A12A3R313	321-5018-00	B020319		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont.	Name & Description	Mfr. Code	Mfr. Part No.
A12A3R315	321-5018-00	B020319		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12A3R423	321-5017-00	B020319		RES, FXD, FILM: 825 OHM, 1%, 0.125W	01121	BCK8250FT
A12A3R424	321-5017-00	B020319		RES, FXD, FILM: 825 OHM, 1%, 0.125W	01121	BCK8250FT
A12A3R425	321-5004-00	B020319		RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18PWEA22E1
A12A3R501	321-5018-00	B020319		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12A3R502	321-5018-00	B020319		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12A3R516	321-5016-00	B020319		RES, FXD, FILM: 681 OHM, 1%, 0.125W	01121	BCK6810FT
A12A3R517	321-5004-00	B020319		RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18PWEA22E1
A12A3R541	321-5018-00	B020319		RES, 1.00K, 1%, 0.125W	01121	BCK1001FT
A12A3T430	120-1790-00	B020319		TRANSFORMER: 2-30UH, 5%	80009	120-1790-00
A12A3U123	156-5082-01	B020319		MICROCKT, LINEAR: OP AMP, LOW NOISE/LOW OFFSET	80009	156-5082-01
A12A3U240	156-5038-00	B020319		MICROCKT, DGLT: LSTTL, DUAL 4-INPUT MUX W/ENAB LE	80009	156-5038-00
A12A3U410	156-5074-00	B020319		MICROCKT, DGLT: HCMOS, DUAL D TYPE FLIP FLOP	80009	156-5074-00
A12A3U510	156-5098-00	B020319		MICROCKT, DGLT: HCMOS, QUAD 2 INPUT NAND GATE	80009	156-5098-00
A12A3U512	156-5074-00	B020319		MICROCKT, DGLT: HCMOS, DUAL D TYPE FLIP FLOP	80009	156-5074-00
A13	670-9475-00			CIRCUIT BD ASSY: VARIABLE RESOLUTION	80009	670-9475-00
A13C103	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C104	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C105	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C114	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C131	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C133	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C141	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C143	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C147	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C150	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C152	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C155	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C161	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C163	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C166	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C170	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C172	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C175	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C180	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C182	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C184	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C193	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C195	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C201	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C202	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C204	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C210	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C211	281-0267-00			CAP, VAR, PLASTIC: 6-50PF, 50V	80009	281-0267-00
A13C212	283-5011-00			CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A13C220	281-0267-00			CAP, VAR, PLASTIC: 6-50PF, 50V	80009	281-0267-00
A13C221	283-5011-00			CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A13C230	281-0267-00			CAP, VAR, PLASTIC: 6-50PF, 50V	80009	281-0267-00
A13C231	283-5011-00			CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A13C232	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C243	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C250	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C251	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C255	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C261	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A13C265	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C273	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discort			
A13C274	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C280	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C287	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C290	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C292	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C302	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C304	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C311	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C314	281-0267-00			CAP,VAR,PLASTIC:6-50PF,50V	80009	281-0267-00
A13C315	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C323	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C325	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C330	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C337	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C340	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C343	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C346	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C353	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C355	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C357	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C360	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C361	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C363	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C364	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C371	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C372	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C381	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C383	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C386	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C392	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C396	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C399	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C401	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C411	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C414	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C416	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C417	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C421	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A13C422	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A13C424	283-5014-00			CAP,FXD,CER DI:330PF,5%,50V	80009	283-5014-00
A13C425	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C430	281-0267-00			CAP,VAR,PLASTIC:6-50PF,50V	80009	281-0267-00
A13C433	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C437	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C446	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C454	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C455	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C460	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C466	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C468	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C471	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C473	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C477	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C481	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C482	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C485	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C487	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C489	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K

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Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A13C492	290-0944-00		CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A13C493	290-0944-00		CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A13C494	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C501	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C504	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C505	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A13C510	283-5014-00		CAP, FXD, CER DI: 330PF, 5%, 50V	80009	283-5014-00
A13C511	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A13C512	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A13C513	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A13C514	283-5005-00		CAP, FXD, CER DI: 4PF, +/- 0.25PF, 50V	54583	C3216C0G1H040C
A13C515	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A13C517	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A13C518	283-5015-00		CAP, FXD, CER DI: 3300PF, 10%, 50V	80009	283-5015-00
A13C520	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A13C521	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A13C522	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A13C523	283-5005-00		CAP, FXD, CER DI: 4PF, +/- 0.25PF, 50V	54583	C3216C0G1H040C
A13C526	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C532	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C534	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C542	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C546	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C549	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C553	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C557	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C559	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C562	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C567	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C571	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C575	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C580	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C582	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C590	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C591	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C602	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C607	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C610	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C611	281-0267-00		CAP, VAR, PLASTIC: 6-50PF, 50V	80009	281-0267-00
A13C612	281-0267-00		CAP, VAR, PLASTIC: 6-50PF, 50V	80009	281-0267-00
A13C620	281-0267-00		CAP, VAR, PLASTIC: 6-50PF, 50V	80009	281-0267-00
A13C621	281-0267-00		CAP, VAR, PLASTIC: 6-50PF, 50V	80009	281-0267-00
A13C642	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C645	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C648	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C658	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C661	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C670	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C684	290-5000-00		CAP, FXD, ELCTLT: 1UF, 20%, 50V	TK0900	S50V1MICROF
A13CR157	152-5004-00		SEMICON DVC, DI: SI, SW, SER PR, 70V	04713	BAV99T1
A13CR283	152-0524-00		SEMICON DVC, DI: SW, SI, 100V, 0.1A, DO-35	28480	5082-1779
A13CR480	152-0524-00		SEMICON DVC, DI: SW, SI, 100V, 0.1A, DO-35	28480	5082-1779
A13J13	131-2920-00		CONN, RCPT, ELEC: HEADER, 2 X 5, 0.1 SPACING	00779	86479-3
A13J100	131-0951-00		CONN, RCPT, ELEC: SNAP-ON, MALE	98291	051-051-0159-220
A13J150	131-0951-00		CONN, RCPT, ELEC: SNAP-ON, MALE	98291	051-051-0159-220
A13J190	131-0951-00		CONN, RCPT, ELEC: SNAP-ON, MALE	98291	051-051-0159-220
A13J246	131-3774-00		CONN, RCPT, ELEC: HEADER, 2 X 36, 0.1 SPACING	22526	65610-172
A13J600	131-3774-00		CONN, RCPT, ELEC: HEADER, 2 X 36, 0.1 SPACING	22526	65610-172

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discont			
A13J620	131-0951-00			CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0159-220
A13J630	131-3774-00			CONN,RCPT,ELEC:HEADER,2 X 36,0.1 SPACING	22526	65610-172
A13L164	108-5003-00	B010035		COIL,RF:FXD,12UH	54583	NL453232T-120K
A13L173	108-5003-00	B010035		COIL,RF:FXD,12UH	54583	NL453232T-120K
A13L191	108-5003-00	B010035		COIL,RF:FXD,12UH	54583	NL453232T-120K
A13L241	108-5027-00			COIL,RF:FXD,47UH	54583	NL453232T-470K
A13L342	108-5027-00			COIL,RF:FXD,47UH	54583	NL453232T-470K
A13L465	108-5003-00	B010035		COIL,RF:FXD,12UH	54583	NL453232T-120K
A13L470	108-5003-00	B010035		COIL,RF:FXD,12UH	54583	NL453232T-120K
A13L475	108-5003-00	B010035		COIL,RF:FXD,12UH	54583	NL453232T-120K
A13L484	108-5003-00	B010035		COIL,RF:FXD,12UH	54583	NL453232T-120K
A13L488	108-5003-00	B010035		COIL,RF:FXD,12UH	54583	NL453232T-120K
A13L503	108-5027-00			COIL,RF:FXD,47UH	54583	NL453232T-470K
A13L516	108-5027-00			COIL,RF:FXD,47UH	54583	NL453232T-470K
A13L563	108-5003-00	B010035		COIL,RF:FXD,12UH	54583	NL453232T-120K
A13L583	108-1262-00			INDUCTOR:100UH	54583	TSL0807-101KR75
A13L654	108-5003-00	B010035		COIL,RF:FXD,12UH	54583	NL453232T-120K
A13L685	108-1262-00			INDUCTOR:100UH	54583	TSL0807-101KR75
A13L910	108-1326-00			COIL,RF:FXD,2UH	80009	108-1326-00
A13L911	108-1326-00			COIL,RF:FXD,2UH	80009	108-1326-00
A13L920	108-1326-00			COIL,RF:FXD,2UH	80009	108-1326-00
A13L921	108-1326-00			COIL,RF:FXD,2UH	80009	108-1326-00
A13P246	131-3618-00			LINK,TERM CONN:LOW PROFILE JUMPER	80009	131-3618-00
A13P600	131-3618-00			LINK,TERM CONN:LOW PROFILE JUMPER	80009	131-3618-00
A13P630	131-3618-00			LINK,TERM CONN:LOW PROFILE JUMPER	80009	131-3618-00
A13Q106	151-5009-00			TRANSISTOR:NPN,SI,SOT-89	80009	151-5009-00
A13Q115	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A13Q116	151-5005-00			TRANSISTOR:PMP,SI,SOT-89	04713	BCX69T1
A13Q135	151-5005-00			TRANSISTOR:PMP,SI,SOT-89	04713	BCX69T1
A13Q136	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A13Q144	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A13Q145	151-5005-00			TRANSISTOR:PMP,SI,SOT-89	04713	BCX69T1
A13Q158	151-5016-00			TRANSISTOR:PMP,SI	80009	151-5016-00
A13Q244	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A13Q254	151-5016-00			TRANSISTOR:PMP,SI	80009	151-5016-00
A13Q256	151-5001-00			TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A13Q264	151-5009-00			TRANSISTOR:NPN,SI,SOT-89	80009	151-5009-00
A13Q271	151-5009-00			TRANSISTOR:NPN,SI,SOT-89	80009	151-5009-00
A13Q285	151-5009-00			TRANSISTOR:NPN,SI,SOT-89	80009	151-5009-00
A13Q303	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A13Q310	151-5005-00			TRANSISTOR:PMP,SI,SOT-89	04713	BCX69T1
A13Q320	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A13Q321	151-5005-00			TRANSISTOR:PMP,SI,SOT-89	04713	BCX69T1
A13Q326	151-5005-00			TRANSISTOR:PMP,SI,SOT-89	04713	BCX69T1
A13Q327	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A13Q338	151-5005-00			TRANSISTOR:PMP,SI,SOT-89	04713	BCX69T1
A13Q362	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A13Q370	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A13Q385	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A13Q397	151-5009-00			TRANSISTOR:NPN,SI,SOT-89	80009	151-5009-00
A13Q412	151-5005-00			TRANSISTOR:PMP,SI,SOT-89	04713	BCX69T1
A13Q413	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A13Q432	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A13Q435	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A13Q443	151-5001-00			TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A13Q447	151-5000-00			TRANSISTOR:PMP,SI,SOT-23	04713	MMBT3906T1
A13Q452	151-5009-00			TRANSISTOR:NPN,SI,SOT-89	80009	151-5009-00
A13Q453	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discnt	Name & Description	Mfr. Code	Mfr. Part No.
A13Q476	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A13Q491	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A13Q530	151-5005-00			TRANSISTOR:PNP,SI,SOT-89	04713	BCX69T1
A13Q543	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A13Q547	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A13Q564	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A13Q603	151-5005-00			TRANSISTOR:PNP,SI,SOT-89	04713	BCX69T1
A13Q604	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A13Q643	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A13Q649	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A13Q656	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A13R100	321-5014-00			RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A13R101	321-5014-00			RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A13R102	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A13R107	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A13R111	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R112	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R113	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R130	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R132	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R134	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R140	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R142	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R146	321-5001-00			RES,FXD,FILM:12.1 OHM,1%,0.125W	57668	MCR18EZHFW 12E1
A13R148	321-5013-00			RES,FXD,FILM:392 OHM,1%,0.125W	01121	BCK3920FT
A13R149	321-5013-00			RES,FXD,FILM:392 OHM,1%,0.125W	01121	BCK3920FT
A13R151	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A13R153	321-5043-00			RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A13R154	321-5014-00			RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A13R156	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A13R160	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R162	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A13R164	321-5018-00	B010001	B010034	RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R165	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R171	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A13R173	321-5018-00	B010001	B010034	RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R174	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R183	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A13R191	321-5018-00	B010001	B010034	RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R192	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R194	321-5014-00	B010001	B010034	RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A13R194	321-5009-00	B010035		RES,FXD,FILM:182 OHM,1%,0.125W	01121	BCK1820FT
A13R200	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R203	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R233	321-5003-00			RES,FXD,FILM:18.2 OHM,1%,0.125W	57668	MCR18EZHFW 18E2
A13R234	321-5011-00			RES,FXD,FILM:274 OHM,1%,0.125W	01121	BCK2740FT
A13R235	321-5011-00			RES,FXD,FILM:274 OHM,1%,0.125W	01121	BCK2740FT
A13R240	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R245	321-5051-00			RES,FXD,FILM:0 OHM,1%,0.125W	80009	321-5051-00
A13R247	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R248	321-5043-00			RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A13R252	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A13R253	321-5005-00			RES,FXD,FILM:27.4 OHM,1%,0.125W	57668	MCR18EZHFW 27E4
A13R257	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R260	321-5011-00			RES,FXD,FILM:274 OHM,1%,0.125W	01121	BCK2740FT
A13R262	321-5014-00			RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A13R270	321-5014-00			RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A13R281	321-5006-00			RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix	Serial/Assembly No.		Name & Description	Mfr.	Mfr. Part No.
	Part No.	Effective	Discnt		Code	
A13R282	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A13R284	321-5014-00			RES, FXD, FILM:475 OHM, 1%, 0.125W	01121	BCK4750FT
A13R291	321-5015-00			RES, FXD, FILM:562 OHM, 1%, 0.125W	01121	BCK5620FT
A13R293	321-5045-00			RES, FXD, FILM:68.1 OHM, 1%, 0.125W	01121	BCD68R1FT
A13R294	321-5000-00			RES, FXD, FILM:10 OHM, 1%, 0.125W	57668	MCR18EZHF10E
A13R312	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A13R313	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A13R316	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A13R317	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A13R318	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A13R322	321-5009-00			RES, FXD, FILM:182 OHM, 1%, 0.125W	01121	BCK1820FT
A13R324	321-5050-00			RES, FXD, FILM:33.2 OHM, 1%, 0.125W	57668	MCR18FWEA33E2
A13R331	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A13R332	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A13R333	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A13R334	321-5011-00			RES, FXD, FILM:274 OHM, 1%, 0.125W	01121	BCK2740FT
A13R335	321-5004-00			RES, FXD, FILM:22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A13R336	321-5011-00			RES, FXD, FILM:274 OHM, 1%, 0.125W	01121	BCK2740FT
A13R341	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A13R344	321-5047-00			RES, FXD, FILM:100K, 1%, 0.125W	01121	BCK1003FT
A13R345	321-5000-00			RES, FXD, FILM:10 OHM, 1%, 0.125W	57668	MCR18EZHF10E
A13R348	321-5015-00			RES, FXD, FILM:562 OHM, 1%, 0.125W	01121	BCK5620FT
A13R349	321-5014-00			RES, FXD, FILM:475 OHM, 1%, 0.125W	01121	BCK4750FT
A13R350	321-5008-00			RES, FXD, FILM:150 OHM, 1%, 0.125W	01121	BCK1500FT
A13R351	321-5050-00			RES, FXD, FILM:33.2 OHM, 1%, 0.125W	57668	MCR18FWEA33E2
A13R352	321-5008-00			RES, FXD, FILM:150 OHM, 1%, 0.125W	01121	BCK1500FT
A13R354	321-5011-00	B010001	8010034	RES, FXD, FILM:274 OHM, 1%, 0.125W	01121	BCK2740FT
A13R354	321-5009-00	B010035		RES, FXD, FILM:182 OHM, 1%, 0.125W	01121	BCK1820FT
A13R356	321-5000-00			RES, FXD, FILM:10 OHM, 1%, 0.125W	57668	MCR18EZHF10E
A13R358	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A13R359	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A13R364	321-5015-00			RES, FXD, FILM:562 OHM, 1%, 0.125W	01121	BCK5620FT
A13R365	321-5047-00			RES, FXD, FILM:100K, 1%, 0.125W	01121	BCK1003FT
A13R366	321-5015-00			RES, FXD, FILM:562 OHM, 1%, 0.125W	01121	BCK5620FT
A13R373	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A13R374	321-5045-00			RES, FXD, FILM:68.1 OHM, 1%, 0.125W	01121	BCD68R1FT
A13R375	321-5000-00			RES, FXD, FILM:10 OHM, 1%, 0.125W	57668	MCR18EZHF10E
A13R376	321-5047-00			RES, FXD, FILM:100K, 1%, 0.125W	01121	BCK1003FT
A13R377	321-5015-00			RES, FXD, FILM:562 OHM, 1%, 0.125W	01121	BCK5620FT
A13R378	321-5015-00			RES, FXD, FILM:562 OHM, 1%, 0.125W	01121	BCK5620FT
A13R380	321-5043-00			RES, FXD, FILM:47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A13R382	321-5043-00			RES, FXD, FILM:47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A13R384	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A13R387	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A13R388	321-5045-00			RES, FXD, FILM:68.1 OHM, 1%, 0.125W	01121	BCD68R1FT
A13R390	321-5047-00			RES, FXD, FILM:100K, 1%, 0.125W	01121	BCK1003FT
A13R391	321-5015-00			RES, FXD, FILM:562 OHM, 1%, 0.125W	01121	BCK5620FT
A13R393	321-5000-00			RES, FXD, FILM:10 OHM, 1%, 0.125W	57668	MCR18EZHF10E
A13R394	321-5015-00			RES, FXD, FILM:562 OHM, 1%, 0.125W	01121	BCK5620FT
A13R395	321-5015-00			RES, FXD, FILM:562 OHM, 1%, 0.125W	01121	BCK5620FT
A13R398	321-5000-00			RES, FXD, FILM:10 OHM, 1%, 0.125W	57668	MCR18EZHF10E
A13R402	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A13R403	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A13R404	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A13R410	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A13R418	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A13R420	321-5009-00			RES, FXD, FILM:182 OHM, 1%, 0.125W	01121	BCK1820FT
A13R423	321-5013-00			RES, FXD, FILM:392 OHM, 1%, 0.125W	01121	BCK3920FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discort.	Name & Description	Mfr. Code	Mfr. Part No.
A13R434	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R436	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R438	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R439	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R440	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A13R441	321-5008-00			RES, FXD, FILM: 150 OHM, 1%, 0.125W	01121	BCK1500FT
A13R442	321-5017-00			RES, FXD, FILM: 825 OHM, 1%, 0.125W	01121	BCK8250FT
A13R444	321-5043-00			RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A13R445	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A13R448	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R449	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R451	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R456	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R461	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R462	321-5045-00			RES, FXD, FILM: 68.1 OHM, 1%, 0.125W	01121	BCD68R1FT
A13R463	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A13R465	321-5018-00	B010001	B010034	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R467	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R469	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R470	321-5018-00	B010001	B010034	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R472	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R474	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R475	321-5018-00	B010001	B010034	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R483	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R484	321-5018-00	B010001	B010034	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R486	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R488	321-5018-00	B010001	B010034	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R490	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R495	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R524	321-5001-00			RES, FXD, FILM: 12.1 OHM, 1%, 0.125W	57668	MCR18EZHFW 12E1
A13R525	321-5013-00			RES, FXD, FILM: 392 OHM, 1%, 0.125W	01121	BCK3920FT
A13R531	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R533	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R540	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R541	321-5045-00			RES, FXD, FILM: 68.1 OHM, 1%, 0.125W	01121	BCD68R1FT
A13R544	321-5007-00			RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A13R545	321-5016-00			RES, FXD, FILM: 681 OHM, 1%, 0.125W	01121	BCK6810FT
A13R548	321-5043-00			RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A13R550	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R551	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R552	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R554	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R555	321-5045-00			RES, FXD, FILM: 68.1 OHM, 1%, 0.125W	01121	BCD68R1FT
A13R556	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A13R558	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R560	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A13R561	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A13R563	321-5018-00	B010001	B010034	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R565	321-5011-00			RES, FXD, FILM: 274 OHM, 1%, 0.125W	01121	BCK2740FT
A13R566	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R570	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A13R572	321-5019-00			RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A13R581	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R601	321-5051-00			RES, FXD, FILM: 0 OHM, 1%, 0.125W	80009	321-5051-00
A13R605	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R606	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R608	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R630	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A13R640	321-5009-00			RES, FXD, FILM: 182 OHM, 1%, 0.125W	01121	BCK1820FT
A13R641	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A13R644	321-5023-00			RES, FXD, FILM: 2.74K, 1%, 0.125W	01121	BCK2741FT
A13R646	321-5013-00			RES, FXD, FILM: 392 OHM, 1%, 0.125W	01121	BCK3920FT
A13R647	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A13R650	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R651	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R652	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R653	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R654	321-5018-00	B010001	B010034	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R655	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R657	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R662	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHF10E
A13R680	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R681	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R682	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R683	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13T249	120-1721-00			TRANSFORMER, RF: AUTO, 6:6:6 RATIO	80009	120-1721-00
A13T263	120-1720-00			TRANSFORMER, RF: FEEDBACK AMPLIFIER, 2:8:22 RATIO	80009	120-1720-00
A13T272	120-1720-00			TRANSFORMER, RF: FEEDBACK AMPLIFIER, 2:8:22 RATIO	80009	120-1720-00
A13T286	120-1720-00			TRANSFORMER, RF: FEEDBACK AMPLIFIER, 2:8:22 RATIO	80009	120-1720-00
A13T295	120-1720-00			TRANSFORMER, RF: FEEDBACK AMPLIFIER, 2:8:22 RATIO	80009	120-1720-00
A13T710	120-1720-00			TRANSFORMER, RF: FEEDBACK AMPLIFIER, 2:8:22 RATIO	80009	120-1720-00
A13T730	120-1720-00			TRANSFORMER, RF: FEEDBACK AMPLIFIER, 2:8:22 RATIO	80009	120-1720-00
A13T810	120-1718-00			TRANSFORMER, RF: TOROID, 3:36 RATIO	80009	120-1718-00
A13T830	120-1718-00			TRANSFORMER, RF: TOROID, 3:36 RATIO	80009	120-1718-00
A13U181	156-5155-00			MICROCKT, DGTL: HEX INVERTER	80009	156-5155-00
A13U300	156-5021-00			MICROCKT, DGTL: CMOS, 8 STATE SHIFT AND STORE	18324	HEF4094BTD
A13U301	156-5088-00			MICROCKT, DGTL: CMOS, 3 TO 8 LINE DCDR/DEMU X	80009	156-5088-00
A13U400	156-5021-00			MICROCKT, DGTL: CMOS, 8 STATE SHIFT AND STORE	18324	HEF4094BTD
A13U500	156-5088-00			MICROCKT, DGTL: CMOS, 3 TO 8 LINE DCDR/DEMU X	80009	156-5088-00
A13U573	156-5043-00			MICROCKT, LINEAR: DAC, 8 BIT, DAC-08E	80009	156-5043-00
A13U574	156-5021-00			MICROCKT, DGTL: CMOS, 8 STATE SHIFT AND STORE	18324	HEF4094BTD
A13U584	156-0991-00			MICROCKT, LINEAR: VOLTAGE REGULATOR	04713	MC78L05ACP
A13U660	156-5155-00			MICROCKT, DGTL: HEX INVERTER	80009	156-5155-00
A13Y711	158-0323-00			XTAL UNIT, QTZ: 4 POLE, 10MHZ	75378	965-267
A13Y720	158-0323-00			XTAL UNIT, QTZ: 4 POLE, 10MHZ	75378	965-267
A13Y811	158-0324-00			XTAL UNIT, QTZ: 6 POLE, 10MHZ	75378	965-0266
A13Y820	158-0324-00			XTAL UNIT, QTZ: 6 POLE, 10MHZ	75378	965-0266
A13Y821	158-0324-00			XTAL UNIT, QTZ: 6 POLE, 10MHZ	75378	965-0266
A14	672-0200-00			CIRCUIT BD ASSY: RF ASSY	80009	672-0200-00
A14A1	670-9415-00			CIRCUIT BD ASSY: RF MOTHER	80009	670-9415-00
A14A1C121	283-5004-00			CAP, FXD, CER D1: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C151	283-5004-00			CAP, FXD, CER D1: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C161	283-5004-00			CAP, FXD, CER D1: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C165	283-5004-00			CAP, FXD, CER D1: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C171	283-5004-00			CAP, FXD, CER D1: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C180	283-5004-00			CAP, FXD, CER D1: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C202	283-5004-00			CAP, FXD, CER D1: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C220	283-5004-00			CAP, FXD, CER D1: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C232	283-5004-00			CAP, FXD, CER D1: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C235	283-5004-00			CAP, FXD, CER D1: 0.1UF, 10%, 25V	54583	C3216X7R1E104K

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Discnt	Name & Description	Mfr. Code	Mfr. Part No.
A14A1C241	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C257	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A14A1C261	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C264	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C272	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C274	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C280	281-0168-00		CAP, VAR, AIR DI: 1.3-5.4PF, 250V	74970	187-0103-005
A14A1C310	283-5011-00		CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A14A1C320	290-0944-00		CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A14A1C321	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C323	283-5011-00		CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A14A1C330	290-0944-00		CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A14A1C331	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C360	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C363	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C366	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C370	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C372	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C373	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C377	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C380	281-0165-00		CAP, VAR, AIR DI: 0.8-10PF, 250V	73899	MVM-010W
A14A1C384	283-0165-00		CAP, FXD, CER DI: 50PF, 5%, 1000V (PART OF A14A1FL485)	60705	562CZZ10ZZZ500JA
A14A1C411	283-5011-00		CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A14A1C421	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A14A1C423	283-5011-00		CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A14A1C430	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C433	283-5003-00		CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A14A1C452	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C454	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C461	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C465	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C470	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C472	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C476	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C477	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C480	281-0165-00		CAP, VAR, AIR DI: 0.8-10PF, 250V (PART OF A14A1FL485)	73899	MVM-010W
A14A1C503	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C504	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C533	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C540	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C551	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C552	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C560	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C572	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C574	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C580	281-0165-00		CAP, VAR, AIR DI: 0.8-10PF, 250V (PART OF A14A1FL485)	73899	MVM-010W
A14A1C600	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C601	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A14A1C602	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C603	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A14A1C610	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A14A1C620	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A14A1C621	281-0165-00		CAP, VAR, AIR DI: 0.8-10PF, 250V (PART OF A14A1FL822)	73899	MVM-010W
A14A1C640	281-0165-00		CAP, VAR, AIR DI: 0.8-10PF, 250V (PART OF A14A1FL641)	73899	MVM-010W

Replaceable Electrical Parts - 2710

Component No.	Tektronix		Serial/Assembly No. Effective Dscont	Name & Description	Mfr.	
	Part No.				Code	Mfr. Part No.
A14A1C650	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C651	283-5014-00			CAP, FXD, CER DI: 330PF, 5%, 50V	80009	283-5014-00
A14A1C653	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A14A1C654	283-5014-00			CAP, FXD, CER DI: 330PF, 5%, 50V	80009	283-5014-00
A14A1C660	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C661	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A14A1C662	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A14A1C675	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C676	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C680	281-0165-00			CAP, VAR, AIR DI: 0.8-10PF, 250V (PART OF A14A1FL485)	73899	MVM-010W
A14A1C701	283-5002-00			CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A14A1C702	283-5002-00			CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A14A1C722	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C726	283-5002-00			CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A14A1C727	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C730	283-5002-00			CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A14A1C732	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C733	281-0165-00			CAP, VAR, AIR DI: 0.8-10PF, 250V (PART OF A14A1FL641)	73899	MVM-010W
A14A1C750	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C754	283-5005-00			CAP, FXD, CER DI: 4PF, +/- 0.25PF, 50V	54583	C3216C061H040C
A14A1C755	283-5014-00			CAP, FXD, CER DI: 330PF, 5%, 50V	80009	283-5014-00
A14A1C763	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C772	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C780	281-0168-00			CAP, VAR, AIR DI: 1.3-5.4PF, 250V	74970	187-0103-005
A14A1C820	283-5002-00			CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A14A1C821	281-0165-00			CAP, VAR, AIR DI: 0.8-10PF, 250V (PART OF A14A1FL822)	73899	MVM-010W
A14A1C881	283-5011-00			CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A14A1C882	283-5011-00			CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A14A1CR367	152-0524-00			SEMICON DVC, DI: SW, SI, 100V, 0.1A, DO-35	28480	5082-1779
A14A1CR376	152-0524-00			SEMICON DVC, DI: SW, SI, 100V, 0.1A, DO-35	28480	5082-1779
A14A1FL485	119-2576-00			FILTER: 110MHZ	80009	119-2576-00
A14A1FL641	119-2577-00			FILTER KIT: FILTER KIT FOR 400MHZ	80009	119-2577-00
A14A1FL822	119-2577-00			FILTER KIT: FILTER KIT FOR 400MHZ	80009	119-2577-00
A14A1J142	131-3570-00			TERMINAL, STUD: GOLD PL BRS	80009	131-3570-00
A14A1J160	131-1857-00			TERM SET, PIN: 36/0.025 SQ PIN, ON 0.1 CTRS	TK1483	082-3643-SS10
A14A1J350	131-3570-00			TERMINAL, STUD: GOLD PL BRS	80009	131-3570-00
A14A1J400	131-3774-00			CONN, RCPT, ELEC: HEADER, 2 X 36, 0.1 SPACING	22526	65610-172
A14A1J410	131-0938-00			CONN, RCPT, ELEC: SMB, FEMALE	98291	051-043-0349
A14A1J510	131-3570-00			TERMINAL, STUD: GOLD PL BRS	80009	131-3570-00
A14A1J670	131-0938-00			CONN, RCPT, ELEC: SMB, FEMALE	98291	051-043-0349
A14A1J700	131-3774-00			CONN, RCPT, ELEC: HEADER, 2 X 36, 0.1 SPACING	22526	65610-172
A14A1J770	131-1857-00			TERM SET, PIN: 36/0.025 SQ PIN, ON 0.1 CTRS	TK1483	082-3643-SS10
A14A1L322	108-1262-00			INDUCTOR: 100UH	54583	TS10807-101KR75
A14A1L332	108-1262-00			INDUCTOR: 100UH	54583	TS10807-101KR75
A14A1L378	108-5005-00			COIL, RF: FXD, 560NH	80009	108-5005-00
A14A1L401	108-1262-00			INDUCTOR: 100UH	54583	TS10807-101KR75
A14A1L420	108-5001-00			COIL, RF: FXD, 70NH	02113	SS-162-70
A14A1L422	108-5001-00			COIL, RF: FXD, 70NH	02113	SS-162-70
A14A1L501	108-5012-00			COIL, RF: FXD, 2.2UH	02113	1008FS-222
A14A1L502	108-5012-00			COIL, RF: FXD, 2.2UH	02113	1008FS-222
A14A1L532	108-5000-00			COIL, RF: FXD, 1UH	54583	NL453232T-1ROM
A14A1L729	108-5005-00			COIL, RF: FXD, 560NH	80009	108-5005-00
A14A1L752	108-5001-00			COIL, RF: FXD, 70NH	02113	SS-162-70
A14A1L771	108-5000-00			COIL, RF: FXD, 1UH	54583	NL453232T-1ROM
A14A1L772	108-5000-00			COIL, RF: FXD, 1UH	54583	NL453232T-1ROM

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Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A14A1P160	131-3618-00			LINK, TERM CONN: LOW PROFILE JUMPER	80009	131-3618-00
A14A1P770	131-3618-00			LINK, TERM CONN: LOW PROFILE JUMPER	80009	131-3618-00
A14A1Q164	151-5010-00			TRANSISTOR: NPN, SI, SOT-89	80009	151-5010-00
A14A1Q230	151-5001-00			TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A14A1Q233	151-5001-00			TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A14A1Q234	151-5001-00			TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A14A1Q254	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A14A1Q255	151-5005-00			TRANSISTOR: PNP, SI, SOT-89	04713	BCX69T1
A14A1Q362	151-5010-00			TRANSISTOR: NPN, SI, SOT-89	80009	151-5010-00
A14A1Q455	151-5010-00			TRANSISTOR: NPN, SI, SOT-89	80009	151-5010-00
A14A1Q456	151-5010-00			TRANSISTOR: NPN, SI, SOT-89	80009	151-5010-00
A14A1Q462	151-5010-00			TRANSISTOR: NPN, SI, SOT-89	80009	151-5010-00
A14A1Q677	151-5010-00	B010001	B010029	TRANSISTOR: NPN, SI, SOT-89	80009	151-5010-00
A14A1Q677	151-5009-00	B010030		TRANSISTOR: NPN, SI, SOT-89	80009	151-5009-00
A14A1Q710	151-5010-00			TRANSISTOR: NPN, SI, SOT-89	80009	151-5010-00
A14A1Q720	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A14A1R110	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A14A1R111	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A14A1R120	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A14A1R130	321-5027-00			RES, FXD, FILM: 5.62K, 1%, 0.125W	01121	BCK5621FT
A14A1R131	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A14A1R140	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A14A1R141	321-5039-00			RES, FXD, FILM: 56.2K, 1%, 0.125W	01121	BCK5622FT
A14A1R150	321-5036-00			RES, FXD, FILM: 33.2K, 1%, 0.125W	01121	BCK3322FT
A14A1R162	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A14A1R166	321-5004-00			RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A14A1R170	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A14A1R172	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A14A1R200	311-1228-00			RES, VAR, NONNW: TRMR, 10K OHM, 0.5W	32997	3386F-T04-103
A14A1R221	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A14A1R222	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A14A1R223	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A14A1R224	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A14A1R236	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A14A1R240	321-5036-00			RES, FXD, FILM: 33.2K, 1%, 0.125W	01121	BCK3322FT
A14A1R242	321-5036-00			RES, FXD, FILM: 33.2K, 1%, 0.125W	01121	BCK3322FT
A14A1R244	321-5034-00			RES, FXD, FILM: 22.1K, 1%, 0.125W	01121	BCK2212FT
A14A1R250	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A14A1R251	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A14A1R252	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A14A1R253	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A14A1R256	321-5027-00			RES, FXD, FILM: 5.62K, 1%, 0.125W	01121	BCK5621FT
A14A1R262	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A14A1R263	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A14A1R271	321-5001-00			RES, FXD, FILM: 12.1 OHM, 1%, 0.125W	57668	MCR18EZHFW 12E1
A14A1R273	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A14A1R274	321-5019-00			RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A14A1R275	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A14A1R364	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A14A1R365	321-5043-00			RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A14A1R368	321-5004-00			RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A14A1R371	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A14A1R374	321-5043-00			RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A14A1R379	321-5003-00			RES, FXD, FILM: 18.2 OHM, 1%, 0.125W	57668	MCR18EZHFW 18E2
A14A1R432	321-5010-00			RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A14A1R441	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A14A1R442	321-5044-00			RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A14A1R443	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT

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Component No.	Tektronix	Serial/Assembly No.	Name & Description	Mfr.	Mfr. Part No.
	Part No.	Effective Discnt		Code	
A14A1R444	321-5044-00		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A14A1R450	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A14A1R451	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHF10E
A14A1R453	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A14A1R460	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A14A1R463	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A14A1R464	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A14A1R466	321-5004-00		RES,FXD,FILM:22.1 OHM,1%,0.125W	57668	MCR18FWEA22E1
A14A1R471	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A14A1R473	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHF10E
A14A1R474	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A14A1R475	321-5001-00		RES,FXD,FILM:12.1 OHM,1%,0.125W	57668	MCR18EZHF12E1
A14A1R500	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A14A1R505	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A14A1R530	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A14A1R531	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A14A1R541	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A14A1R551	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHF10E
A14A1R562	321-5004-00		RES,FXD,FILM:22.1 OHM,1%,0.125W	57668	MCR18FWEA22E1
A14A1R563	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A14A1R564	321-5044-00		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A14A1R571	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A14A1R604	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A14A1R611	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A14A1R612	321-5001-00		RES,FXD,FILM:12.1 OHM,1%,0.125W	57668	MCR18EZHF12E1
A14A1R613	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHF10E
A14A1R671	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A14A1R672	321-5001-00		RES,FXD,FILM:12.1 OHM,1%,0.125W	57668	MCR18EZHF12E1
A14A1R673	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A14A1R674	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A14A1R678	321-5004-00		RES,FXD,FILM:22.1 OHM,1%,0.125W	57668	MCR18FWEA22E1
A14A1R700	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A14A1R711	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHF10E
A14A1R712	321-5017-00		RES,FXD,FILM:825 OHM,1%,0.125W	01121	BCK8250FT
A14A1R721	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHF10E
A14A1R723	321-5022-00		RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A14A1R725	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A14A1R728	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A14A1R760	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A14A1R761	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A14A1R764	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A14A1R771	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHF10E
A14A1R773	321-5024-00		RES,FXD,FILM:3.32K,1%,0.125W	01121	BCK3321FT
A14A1R774	321-5026-00		RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A14A1T163	120-1716-00		TRANSFORMER,RF:TOROID ON CORE 276-9712-00 & MOUNTED ON HOLDER 352-0138-00	80009	120-1716-00
A14A1T361	120-1716-00		TRANSFORMER,RF:TOROID ON CORE 276-9712-00 & MOUNTED ON HOLDER 352-0138-00	80009	120-1716-00
A14A1T431	120-0902-00		XFMR,TOROID:	80009	120-0902-00
A14A1T470	120-1716-00		TRANSFORMER,RF:TOROID ON CORE 276-9712-00 & MOUNTED ON HOLDER 352-0138-00	80009	120-1716-00
A14A1T550	120-1630-00		TRANSFORMER,RF:TOROID	80009	120-1630-00
A14A1T570	120-1716-00		TRANSFORMER,RF:TOROID ON CORE 276-9712-00 & MOUNTED ON HOLDER 352-0138-00	80009	120-1716-00
A14A1T750	120-0902-00		XFMR,TOROID:	80009	120-0902-00
A14A1T751	120-1630-00		TRANSFORMER,RF:TOROID	80009	120-1630-00
A14A1T770	120-1720-00		TRANSFORMER,RF:FEEDBACK AMPLIFIER,2:8:22 RA T10	80009	120-1720-00

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Discnt	Name & Description	Mfr. Code	Mfr. Part No.
A14A1T775	120-1630-00		TRANSFORMER, RF: TOROID	80009	120-1630-00
A14A1U122	156-5018-00		MICROCKT, LINEAR: DUAL OP AMP, LOW PWR, 1MZ	80009	156-5018-00
A14A1U231	156-5298-00		MICROCKT, LINEAR: VOLTAGE RGLTR, +5V, 100MA	80009	156-5298-00
A14A1U243	156-5018-00		MICROCKT, LINEAR: DUAL OP AMP, LOW PWR, 1MZ	80009	156-5018-00
A14A1U440	156-5269-00		MICROCKT, DGTL: ECL, TRIPLE LINE RECEIVER	80009	156-5269-00
A14A1U731	156-5280-00		MICROCKT, LINEAR: WIDEBAND HIGH FREQUENCY AMP LIFIER	80009	156-5280-00
A14A1U762	156-5281-00		MICROCKT, LINEAR: RING DEMODULATOR BALANCE MIXER	80009	156-5281-00
A14A2	670-9479-00		CIRCUIT BD ASSY: 2ND CONVERTER	80009	670-9479-00
A14A2C103	283-5000-00		CAP, FXD, CER DI: 10PF, 5%, 50V	95275	VJ1206A100JXA
A14A2C105	283-5011-00		CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A14A2C107	283-5000-00		CAP, FXD, CER DI: 10PF, 5%, 50V	95275	VJ1206A100JXA
A14A2C108	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A14A2C109	283-5005-00		CAP, FXD, CER DI: 4PF, +/- 0.25PF, 50V	54583	C3216COG1H040C
A14A2C113	283-5005-00		CAP, FXD, CER DI: 4PF, +/- 0.25PF, 50V	54583	C3216COG1H040C
A14A2C119	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A14A2C121	283-5003-00		CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A14A2C200	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A14A2C202	283-5005-00		CAP, FXD, CER DI: 4PF, +/- 0.25PF, 50V	54583	C3216COG1H040C
A14A2C204	281-5005-00		CAP, VAR, CER DI: 0.25-0.7PF, 250V, TOP CONTROL	80009	281-5005-00
A14A2C208	281-0221-00		CAP, VAR, CER DI: 2-10PF, 100V	72982	0513013A 2 0-10
A14A2C209	283-5005-00		CAP, FXD, CER DI: 4PF, +/- 0.25PF, 50V	54583	C3216COG1H040C
A14A2C212	283-5005-00		CAP, FXD, CER DI: 4PF, +/- 0.25PF, 50V	54583	C3216COG1H040C
A14A2C216	283-5005-00		CAP, FXD, CER DI: 4PF, +/- 0.25PF, 50V	54583	C3216COG1H040C
A14A2C218	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A14A2C219	283-5005-00		CAP, FXD, CER DI: 4PF, +/- 0.25PF, 50V	54583	C3216COG1H040C
A14A2C220	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A14A2C225	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A14A2CR101	152-0322-00		SEMICON DVC, DI: SCHOTTKY, SI, 15V, 1.2PF, DO-35	50434	5082-2672
A14A2CR102	152-0322-00		SEMICON DVC, DI: SCHOTTKY, SI, 15V, 1.2PF, DO-35	50434	5082-2672
A14A2CR118	152-5000-00		SEMICON DVC, DI: SW, SI, 70V, COM CATHODE	04713	BAV70
A14A2CR203	152-0335-01		SEMICON DVC, DI: SRD, SI, 35V, 1PF, DO-35	50101	6C20279
A14A2J100	131-4203-00		CONN, RCPT, ELEC: SMA JACK TO SPCL END CONFIG	80009	131-4203-00
A14A2L104	108-5013-00		COIL, RF: FXD, 40NH	02113	1008CT-400-05
A14A2L106	108-5001-00		COIL, RF: FXD, 70NH	02113	SS-162-70
A14A2L117	108-5001-00		COIL, RF: FXD, 70NH	02113	SS-162-70
A14A2L120	108-5001-00		COIL, RF: FXD, 70NH	02113	SS-162-70
A14A2L211	108-5001-00		COIL, RF: FXD, 70NH	02113	SS-162-70
A14A2Q112	151-0689-00		TRANSISTOR: NPN, SI, MICRO-X	80009	151-0689-00
A14A2Q210	151-0609-00		TRANSISTOR: NPN, SI, MICRO-STRIP LINE PKG	TK0961	NE21935
A14A2Q223	151-5012-00		TRANSISTOR: PNP, SI, SOT-23	80009	151-5012-00
A14A2R111	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A14A2R114	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A14A2R115	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A14A2R116	321-5004-00		RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A14A2R122	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A14A2R123	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A14A2R124	321-5007-00		RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A14A2R201	321-5009-00		RES, FXD, FILM: 182 OHM, 1%, 0.125W	01121	BCK1820FT
A14A2R207	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A14A2R213	321-5002-00		RES, FXD, FILM: 15 OHM, 1%, 0.125W	57668	MCR18EZHFW 15E0
A14A2R214	321-5012-00		RES, FXD, FILM: 332 OHM, 1%, 0.125W	01121	BCK3320FT
A14A2R215	321-5012-00		RES, FXD, FILM: 332 OHM, 1%, 0.125W	01121	BCK3320FT
A14A2R217	321-5008-00		RES, FXD, FILM: 150 OHM, 1%, 0.125W	01121	BCK1500FT
A14A2R221	321-5005-00		RES, FXD, FILM: 27.4 OHM, 1%, 0.125W	57668	MCR18EZHFW 27E4
A14A2R222	321-5000-00		RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A14A2R224	321-5024-00		RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix	Serial/Assembly No.		Name & Description	Mfr.	Mfr. Part No.
	Part No.	Effective	Discont		Code	
A14A2R226	321-5033-00			RES, FXD, FILM: 18.2K, 1%, 0.125W	01121	BCK1822FT
A15	621-0026-00	B010001	8010318	POWER SPLY ASSY: ASSEMBLED CIRCUIT BD & CHAS SIS	80009	621-0026-00
A15	621-0042-00	B020319		PWR SPLY ASSY: CKT BD 7 CHASSIS	80009	621-0042-00
A15B1	119-0830-00			FAN, TUBEAXIAL: 12VDC, 2.4W, 5250 RPM, 47 CFM	TK0146	SERIES 69.11.54
A15B15	119-0830-00			FAN, TUBEAXIAL: 12VDC, 2.4W, 5250 RPM, 47 CFM	TK0146	SERIES 69.11.54
A15F15	159-0160-00			FUSE, CARTRIDGE: 3AG, 1.5 A, 250 V, 18 SEC, UL	75915	31301.5
A15F15	159-0023-00			FUSE, CARTRIDGE: 3AG, 2A, 250V, SLOW BLOW (OPTION A1, A2, A3, A4, A5 ONLY)	71400	MDX2
A15FL15	119-0389-00			FILTER, RFI: 3A, 115/230VAC, 60HZ	02777	F11935-3
A15Q15	151-1152-00	B010001	8010318	TRANSISTOR: MOSFE, N-CHANNEL, SI, TO-220	04713	IRF820
A15Q355	151-0476-02	B010001	8010318	TRANSISTOR: SELECTED	04713	SJE389
A15Q355	151-1137-00	B020319		TRANSISTOR: FE, N-CHANNEL, MOSFET, TO-220	80009	151-1137-00
A15Q453	151-0476-02	B010001	8010318	TRANSISTOR: SELECTED	04713	SJE389
A15Q453	151-1137-00	B020319		TRANSISTOR: FE, N-CHANNEL, MOSFET, TO-220	80009	151-1137-00
A15Q480	151-1204-00	B020319		TRANSISTOR: POWER MOSFET, N-CHAN, 500V, TO-247/ TO-218	80009	151-1204-00
A15W3	174-0187-00			CABLE ASSY, RF: 50 OHM COAX, RIBBON	80009	174-0187-00
A15A1	670-9414-00	B010001	8010318	CIRCUIT BD ASSY: PWR SPLY	80009	670-9414-00
A15A1	671-0630-00	B020319		CIRCUIT BD ASSY: POWER SUPPLY	80009	671-0630-00
A15A1C102	285-1255-00			CAP, FXD, PLASTIC: 0.01UF, 20%, 3KV	56289	430P582
A15A1C110	285-1255-00			CAP, FXD, PLASTIC: 0.01UF, 20%, 3KV	56289	430P582
A15A1C111	285-1255-00			CAP, FXD, PLASTIC: 0.01UF, 20%, 3KV	56289	430P582
A15A1C120	283-0279-00			CAP, FXD, CER DI: 0.001UF, 20%, 3000V	51406	DHR12Y5S102M3KV
A15A1C151	285-1252-00			CAP, FXD, PLASTIC: 0.15UF, 10%, 250VAC	D5243	F1772-415-2000
A15A1C160	285-1192-00			CAP, FXD, PPR DI: 0.0022 UF, 20%, 250VAC	TK0515	PME271Y510
A15A1C171	285-1192-00			CAP, FXD, PPR DI: 0.0022 UF, 20%, 250VAC	TK0515	PME271Y510
A15A1C180	285-1252-00			CAP, FXD, PLASTIC: 0.15UF, 10%, 250VAC	D5243	F1772-415-2000
A15A1C183	285-1192-00			CAP, FXD, PPR DI: 0.0022 UF, 20%, 250VAC	TK0515	PME271Y510
A15A1C192	283-0481-00			CAP, FXD, CER DI: 220PF, 10%, 250VAC	TK1395	RK0611
A15A1C240	283-0079-00	B020319		CAP, FXD, CER DI: 0.01UF, 20%, 250V	04222	SR503C103MAA
A15A1C261	285-1252-00			CAP, FXD, PLASTIC: 0.15UF, 10%, 250VAC	D5243	F1772-415-2000
A15A1C262	285-1192-00			CAP, FXD, PPR DI: 0.0022 UF, 20%, 250VAC	TK0515	PME271Y510
A15A1C300	290-0947-00			CAP, FXD, ELCTLT: 33UF, +50-10%, 160V W/SLEEVE	55680	UHC2C330TFA
A15A1C301	290-0947-00			CAP, FXD, ELCTLT: 33UF, +50-10%, 160V W/SLEEVE	55680	UHC2C330TFA
A15A1C303	285-1255-00			CAP, FXD, PLASTIC: 0.01UF, 20%, 3KV	56289	430P582
A15A1C304	283-0057-00			CAP, FXD, CER DI: 0.1UF, +80-20%, 200V	04222	SR306E104ZAA
A15A1C320	283-0279-00			CAP, FXD, CER DI: 0.001UF, 20%, 3000V	51406	DHR12Y5S102M3KV
A15A1C321	281-0791-00			CAP, FXD, CER DI: 270PF, 10%, 100V	04222	MA101C271KAA
A15A1C322	283-0057-00			CAP, FXD, CER DI: 0.1UF, +80-20%, 200V	04222	SR306E104ZAA
A15A1C323	283-0057-00			CAP, FXD, CER DI: 0.1UF, +80-20%, 200V	04222	SR306E104ZAA
A15A1C338	290-0963-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 25WVDC	54473	ECEA1EV221S
A15A1C339	290-0963-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 25WVDC	54473	ECEA1EV221S
A15A1C351	283-0142-00	B020319		CAP, FXD, CER DI: 0.0027UF, 5%, 200V	54583	CK45YE2D272J-A
A15A1C360	290-0922-00	B010001	8010318	CAP, FXD, ELCTLT: 1000UF, 20%, 50V	55680	ULB1E102TFAANA
A15A1C360	290-1200-00	B020319		CAP, FXD, ELCTLT: 1000UF, 20%, 63V	TK0900	
A15A1C362	283-0059-00			CAP, FXD, CER DI: 1UF, +80-20%, 25V	31433	C330C105M5R5CA
A15A1C380	290-0978-00			CAP, FXD, ELCTLT: 75UF, +50-10%, 450V	56289	17D1149
A15A1C381	283-0058-00	B020319		CAP, FXD, CER DI: 0.027UF, 10%, 100V	04222	SR301C273KAA
A15A1C382	283-5002-00			CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A15A1C385	283-5002-00			CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A15A1C388	283-5014-00			CAP, FXD, CER DI: 330PF, 5%, 50V	80009	283-5014-00
A15A1C390	290-0973-00			CAP, FXD, ELCTLT: 100UF, 20%, 25VDC	55680	ULB1E101MPA
A15A1C392	285-0932-00	B010001	8010318	CAP, FXD, PLASTIC: 1UF, 10%, 400V	04099	C705D105K
A15A1C392	285-1435-00	B020319		CAP, FXD, PLSTC: 1.0UF, 10%, 400V	80009	285-1435-00
A15A1C400	290-0946-00			CAP, FXD, ELCTLT: 270UF, +100-10%, 40V	00853	301EN271W040B2
A15A1C401	290-0946-00			CAP, FXD, ELCTLT: 270UF, +100-10%, 40V	00853	301EN271W040B2
A15A1C406	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discont.			
A15A1C411	290-0963-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 25WDC	54473	ECEA1EV221S
A15A1C413	290-0963-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 25WDC	54473	ECEA1EV221S
A15A1C414	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C415	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C418	281-0811-00			CAP, FXD, CER DI: 10PF, 10%, 100V	04222	MA101A100KAA
A15A1C426	290-0963-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 25WDC	54473	ECEA1EV221S
A15A1C430	290-0963-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 25WDC	54473	ECEA1EV221S
A15A1C431	290-0963-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 25WDC	54473	ECEA1EV221S
A15A1C433	290-0963-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 25WDC	54473	ECEA1EV221S
A15A1C451	283-0142-00	B020319		CAP, FXD, CER DI: 0.0027UF, 5%, 200V	54583	CK45YE2D272J-A
A15A1C480	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C482	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A15A1C495	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C499	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C500	283-5007-00			CAP, FXD, CER DI: 0.1UF, +80-20%, 200V	04222	SR306E104ZAA
A15A1C502	283-0057-00			CAP, FXD, CER DI: 0.1UF, +80-20%, 200V	04222	SR306E104ZAA
A15A1C505	283-0057-00			CAP, FXD, CER DI: 0.1UF, +80-20%, 200V	04222	SR306E104ZAA
A15A1C512	290-0782-00			CAP, FXD, ELCTLT: 4.7UF, +75-10%, 35VDC	55680	ULB1V4R7TAAANA
A15A1C522	290-0782-00			CAP, FXD, ELCTLT: 4.7UF, +75-10%, 35VDC	55680	ULB1V4R7TAAANA
A15A1C524	290-0963-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 25WDC	54473	ECEA1EV221S
A15A1C530	290-0963-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 25WDC	54473	ECEA1EV221S
A15A1C563	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C601	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C602	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C663	290-5001-00			CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A15A1C701	283-0057-00			CAP, FXD, CER DI: 0.1UF, +80-20%, 200V	04222	SR306E104ZAA
A15A1C702	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C725	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C732	290-5000-00			CAP, FXD, ELCTLT: 1UF, 20%, 50V	TK0900	S50V1MICROF
A15A1C741	283-5004-00	B010001	B020319	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C805	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C815	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	14674	12065C103KAT060R
A15A1C816	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C821	283-5011-00			CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A15A1C826	283-5014-00			CAP, FXD, CER DI: 330PF, 5%, 50V	80009	283-5014-00
A15A1C831	283-5011-00			CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A15A1C914	283-5009-00			CAP, FXD, CER DI: 15PF, 5%, 50V	54583	C3216COG1H150J
A15A1C932	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C938	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1CR122	152-0808-00			SEMICON DVC, DI: RECT, SI, 400V, 1.5 A, 50 NS	01281	DSR3400X
A15A1CR227	152-0808-00			SEMICON DVC, DI: RECT, SI, 400V, 1.5 A, 50 NS	01281	DSR3400X
A15A1CR280	152-0848-00			SEMICON DVC, DI: RECT BRDG, 600V, 2A, FAST RCY	14936	RKBF06
A15A1CR282	152-5000-00			SEMICON DVC, DI: SW, SI, 70V, COM CATHODE	04713	BAV70
A15A1CR294	152-0808-00			SEMICON DVC, DI: RECT, SI, 400V, 1.5 A, 50 NS	01281	DSR3400X
A15A1CR323	152-5008-00			SEMICON DVC, DI: RECTIFIER, COMMON CATHODE, 1A, 400V BAW79D	80009	152-5008-00
A15A1CR325	152-5008-00			SEMICON DVC, DI: RECTIFIER, COMMON CATHODE, 1A, 400V BAW79D	80009	152-5008-00
A15A1CR350	152-5000-00			SEMICON DVC, DI: SW, SI, 70V, COM CATHODE	04713	BAV70
A15A1CR375	152-0661-00			SEMICON DVC, DI: RECT, SI, 600V, 3A	04713	SR3523
A15A1CR377	152-0839-00			SEMICON DVC, DI: RECT, SI, 400V, 50A, TO-220	80009	152-0839-00
A15A1CR380	152-0661-00			SEMICON DVC, DI: RECT, SI, 600V, 3A	04713	SR3523
A15A1CR381	152-5005-00			SEMICON DVC, DI: DUAL, COMMON ANODE, 70V, BAW56	04713	MBAW56TI
A15A1CR411	152-0808-00			SEMICON DVC, DI: RECT, SI, 400V, 1.5 A, 50 NS	01281	DSR3400X
A15A1CR412	152-0808-00			SEMICON DVC, DI: RECT, SI, 400V, 1.5 A, 50 NS	01281	DSR3400X
A15A1CR415	152-5000-00			SEMICON DVC, DI: SW, SI, 70V, COM CATHODE	04713	BAV70
A15A1CR420	152-5008-00			SEMICON DVC, DI: RECTIFIER, COMMON CATHODE, 1A, 400V BAW79D	80009	152-5008-00

Replaceable Electrical Parts - 2710

Component No.	Tektronix		Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
	Part No.		Effective	Discont			
A15A1CR421	152-5008-00	B010001	B010318		SEMICON DVC,DI:RECTIFIER,COMMON CATHODE,1A ,400V BAW79D	80009	152-5008-00
A15A1CR421	152-0867-00	B020319			SEMICON DVC,DI:DUAL RECT,SI,30V,8A,TO-220	80009	152-0867-00
A15A1CR422	152-0600-00				SEMICON DVC,DI:SCHOTTKY,RECTIFIER,SI,35V,1 5A,TO-220	04713	MBR1535CT
A15A1CR520	152-5008-00				SEMICON DVC,DI:RECTIFIER,COMMON CATHODE,1A ,400V BAW79D	80009	152-5008-00
A15A1CR521	152-5008-00				SEMICON DVC,DI:RECTIFIER,COMMON CATHODE,1A ,400V BAW79D	80009	152-5008-00
A15A1CR522	152-5008-00				SEMICON DVC,DI:RECTIFIER,COMMON CATHODE,1A ,400V BAW79D	80009	152-5008-00
A15A1CR524	152-5008-00				SEMICON DVC,DI:RECTIFIER,COMMON CATHODE,1A ,400V BAW79D	80009	152-5008-00
A15A1CR661	152-5000-00				SEMICON DVC,DI:SW,SI,70V,COM CATHODE	04713	BAV70
A15A1CR707	152-5005-00				SEMICON DVC,DI:DUAL,COMMON ANODE,70V,BAW56	04713	MBAW56TI
A15A1CR806	152-5005-00				SEMICON DVC,DI:DUAL,COMMON ANODE,70V,BAW56	04713	MBAW56TI
A15A1DS220	150-0035-00				LAMP,GLOW:90V MAX,0.3MA,AID-T,WIRE LD	TK0213	JH005/3011JA
A15A1DS221	150-0035-00				LAMP,GLOW:90V MAX,0.3MA,AID-T,WIRE LD	TK0213	JH005/3011JA
A15A1DS222	150-0035-00				LAMP,GLOW:90V MAX,0.3MA,AID-T,WIRE LD	TK0213	JH005/3011JA
A15A1E313	276-0635-00	B020319			CORE,EM:TOROID,FERRITE	02114	768 T188/3E2A
A15A1J0	131-1425-00				CONN,RCPT,ELEC:RTANG HEADER,1 X 36,0.1 SP	22526	65521-136
A15A1J2	131-0955-00				CONN,RCPT,ELEC:BNC,FEMALE (PART OF A15W2)	13511	31-279
A15A1J3	131-3774-00				CONN,RCPT,ELEC:HEADER,2 X 36,0.1 SPACING	22526	65610-172
A15A1J6	131-3774-00				CONN,RCPT,ELEC:HEADER,2 X 36,0.1 SPACING	22526	65610-172
A15A1J7	131-3557-00				CONN,RCPT,ELEC:HEADER,2 X 12,VERTICAL	80009	131-3557-00
A15A1J8	131-3557-00				CONN,RCPT,ELEC:HEADER,2 X 12,VERTICAL	80009	131-3557-00
A15A1J9	131-3557-00				CONN,RCPT,ELEC:HEADER,2 X 12,VERTICAL	80009	131-3557-00
A15A1J10	131-3557-00				CONN,RCPT,ELEC:HEADER,2 X 12,VERTICAL	80009	131-3557-00
A15A1J11	131-3557-00				CONN,RCPT,ELEC:HEADER,2 X 12,VERTICAL	80009	131-3557-00
A15A1J12	131-3557-00				CONN,RCPT,ELEC:HEADER,2 X 12,VERTICAL	80009	131-3557-00
A15A1J102	131-0955-00				CONN,RCPT,ELEC:BNC,FEMALE (PART OF W2)	13511	31-279
A15A1L302	108-1262-00				INDUCTOR:100UH	54583	TSL0807-101KR75
A15A1L304	108-1262-00				INDUCTOR:100UH	54583	TSL0807-101KR75
A15A1L311	108-1263-00				INDUCTOR:10UH	54583	TSL 0707-100K1R9
A15A1L312	108-1263-00				INDUCTOR:10UH	54583	TSL 0707-100K1R9
A15A1L313	108-0858-00	B010001	B010318		COIL,RF:FXD,3.2 UH	TK1345	108-0858-00
A15A1L314	108-0858-00	B010001	B010318		COIL,RF:FXD,3.2 UH	TK1345	108-0858-00
A15A1L314	108-0554-00	B020319			COIL,RF:FIXED,5UH,+/-20%	TK1345	108-0554-00
A15A1L350	108-0958-00	B010001	B010318		COIL,RF:FIXED,50UH	80009	108-0958-00
A15A1L350	108-1443-00	B020319			COIL,RF:49UH,20%	80009	108-1443-00
A15A1L376	108-1022-00	B010001	B010318		COIL,RF:FIXED,8.85UH	TK1345	108-1022-00
A15A1L376	108-1441-00	B020319			COIL,RF:8.8UH,20%	80009	108-1441-00
A15A1L380	108-1263-00	B010001	B010318		INDUCTOR:10UH	54583	TSL 0707-100K1R9
A15A1L410	108-1262-00	B010001	B010318		INDUCTOR:100UH	54583	TSL0807-101KR75
A15A1L410	108-0958-00	B020319			COIL,RF:FIXED,50UH	80009	108-0958-00
A15A1L412	108-1262-00	B010001	B010318		INDUCTOR:100UH	54583	TSL0807-101KR75
A15A1L412	108-0958-00	B020319			COIL,RF:FIXED,50UH	80009	108-0958-00
A15A1L424	108-1263-00				INDUCTOR:10UH	54583	TSL 0707-100K1R9
A15A1L425	108-1263-00				INDUCTOR:10UH	54583	TSL 0707-100K1R9
A15A1L427	108-1263-00	B010001	B010318		INDUCTOR:10UH	54583	TSL 0707-100K1R9
A15A1L427	108-1442-00	B020319			COIL,RF:10UH,20%	80009	108-1442-00
A15A1L428	108-1263-00	B010001	B010318		INDUCTOR:10UH	54583	TSL 0707-100K1R9
A15A1L428	108-1442-00	B020319			COIL,RF:10UH,20%	80009	108-1442-00
A15A1L429	108-1263-00				INDUCTOR:10UH	54583	TSL 0707-100K1R9
A15A1L432	108-1262-00				INDUCTOR:100UH	54583	TSL0807-101KR75
A15A1L450	108-0958-00	B010001	B010318		COIL,RF:FIXED,50UH	80009	108-0958-00
A15A1L450	108-1443-00	B020319			COIL,RF:49UH,20%	80009	108-1443-00

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A15A1L523	108-1262-00			INDUCTOR: 100UH	54583	TSL0807-101KR75
A15A1Q307	151-5007-00			TRANSISTOR: PNP, SI, SOT-89	80009	151-5007-00
A15A1Q308	151-5006-00			TRANSISTOR: NPN, SI, SOT-89	04713	MXTA42
A15A1Q314	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A15A1Q355	151-0476-02			TRANSISTOR: SELECTED	04713	SJE389
A15A1Q364	151-0519-00			SCR: SI, TO-92	80009	151-0519-00
A15A1Q380	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A15A1Q393	151-5001-00			TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A15A1Q402	151-5007-00			TRANSISTOR: PNP, SI, SOT-89	80009	151-5007-00
A15A1Q453	151-0476-02			TRANSISTOR: SELECTED	04713	SJE389
A15A1Q491	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A15A1Q564	151-5001-00			TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A15A1Q565	151-5001-00			TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A15A1Q704	151-5007-00			TRANSISTOR: PNP, SI, SOT-89	80009	151-5007-00
A15A1Q706	151-5006-00			TRANSISTOR: NPN, SI, SOT-89	04713	MXTA42
A15A1Q708	151-5006-00			TRANSISTOR: NPN, SI, SOT-89	04713	MXTA42
A15A1Q711	151-5007-00			TRANSISTOR: PNP, SI, SOT-89	80009	151-5007-00
A15A1Q722	151-5006-00			TRANSISTOR: NPN, SI, SOT-89	04713	MXTA42
A15A1Q724	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A15A1Q732	151-5006-00			TRANSISTOR: NPN, SI, SOT-89	04713	MXTA42
A15A1Q740	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A15A1Q823	151-5001-00			TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A15A1Q833	151-5001-00			TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A15A1Q834	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A15A1Q934	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A15A1R5	311-2052-00			RES, VAR, NONNW: PNL, 20K OHM, 20%, 0.5W (PART OF A15W2)	01121	WRA1A028S203M
A15A1R6	311-2052-00			RES, VAR, NONNW: PNL, 20K OHM, 20%, 0.5W (PART OF A15W2)	01121	WRA1A028S203M
A15A1R7	311-2052-00			RES, VAR, NONNW: PNL, 20K OHM, 20%, 0.5W (PART OF A15W2)	01121	WRA1A028S203M
A15A1R103	321-5049-00			RES, FXD, FILM: 1 MEG, 1%, 0.125W	01121	BCK1004FT
A15A1R104	321-5049-00			RES, FXD, FILM: 1 MEG, 1%, 0.125W	01121	BCK1004FT
A15A1R105	311-2052-00			RES, VAR, NONNW: PNL, 20K OHM, 20%, 0.5W (ON FRONT OF BOARD)	01121	WRA1A028S203M
A15A1R105	321-5049-00			RES, FXD, FILM: 1 MEG, 1%, 0.125W	01121	BCK1004FT
A15A1R106	321-5049-00			RES, FXD, FILM: 1 MEG, 1%, 0.125W	01121	BCK1004FT
A15A1R107	321-5049-00			RES, FXD, FILM: 1 MEG, 1%, 0.125W	01121	BCK1004FT
A15A1R121	311-1968-00			RES, VAR, NONNW: PNL, 5M OHM, 20%, 0.5W	01121	72M4ND048SS505M
A15A1R181	301-0474-00			RES, FXD, FILM: 470K OHM, 5%, 0.5W	19701	5053CX470K0J
A15A1R182	301-0131-00			RES, FXD, FILM: 130 OHM, 5%, 0.5W	19701	5053CX130R0J
A15A1R190	303-0154-00			RES, FXD, CMPSN: 150K OHM, 5%, 1W	24546	FPI 150K OHM 5%
A15A1R203	321-5049-00			RES, FXD, FILM: 1 MEG, 1%, 0.125W	01121	BCK1004FT
A15A1R207	321-5049-00			RES, FXD, FILM: 1 MEG, 1%, 0.125W	01121	BCK1004FT
A15A1R208	321-5049-00			RES, FXD, FILM: 1 MEG, 1%, 0.125W	01121	BCK1004FT
A15A1R209	321-5049-00			RES, FXD, FILM: 1 MEG, 1%, 0.125W	01121	BCK1004FT
A15A1R210	321-5027-00			RES, FXD, FILM: 5.62K, 1%, 0.125W	01121	BCK5621FT
A15A1R211	321-5027-00			RES, FXD, FILM: 5.62K, 1%, 0.125W	01121	BCK5621FT
A15A1R223	315-0625-00			RES, FXD, FILM: 6.2M OHM, 5%, 0.25W	01121	CB6255
A15A1R224	317-0681-00	B010001	B010318	RES, FXD, CMPSN: 680 OHM, 5%, 0.125W	01121	BB6815
A15A1R225	321-5002-00			RES, FXD, FILM: 15 OHM, 1%, 0.125W	57668	MCR18EZHFW 15E0
A15A1R226	321-5002-00			RES, FXD, FILM: 15 OHM, 1%, 0.125W	57668	MCR18EZHFW 15E0
A15A1R240	321-5041-00			RES, FXD, FILM: 82.5K, 1%, 0.125W	01121	BCK8252FT
A15A1R241	321-5041-00			RES, FXD, FILM: 82.5K, 1%, 0.125W	01121	BCK8252FT
A15A1R250	301-0512-00			RES, FXD, FILM: 5.1K OHM, 5%, 0.5W	19701	5053CX5K100J
A15A1R281	308-0760-00	B010001	B010318	RES, FXD, WW: 0.2 OHM, 10%, 2W	30487	ALSR-2-0.2-10%
A15A1R306	321-5037-00			RES, FXD, FILM: 39.2K, 1%, 0.125W	01121	BCK3922FT
A15A1R315	321-5051-00			RES, FXD, FILM: 0 OHM, 1%, 0.125W	80009	321-5051-00

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discont			
A15A1R316	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R317	321-5041-00			RES, FXD, FILM: 82.5K, 1%, 0.125W	01121	BCK8252FT
A15A1R318	321-5041-00			RES, FXD, FILM: 82.5K, 1%, 0.125W	01121	BCK8252FT
A15A1R319	321-5041-00			RES, FXD, FILM: 82.5K, 1%, 0.125W	01121	BCK8252FT
A15A1R320	321-5041-00			RES, FXD, FILM: 82.5K, 1%, 0.125W	01121	BCK8252FT
A15A1R321	321-5025-00			RES, FXD, FILM: 3.92K, 1%, 0.125W	01121	BCK3921FT
A15A1R322	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A15A1R324	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A15A1R333	321-5043-00	B020319		RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A15A1R336	321-5043-00	B020319		RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A15A1R340	308-0399-01	B020319		RES, FXD, WW: 10 OHM, 5%, 5W	91637	CW5100HM5%8ULK
A15A1R343	321-5018-00	B020319		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R351	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A15A1R352	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A15A1R353	321-5041-00			RES, FXD, FILM: 82.5K, 1%, 0.125W	01121	BCK8252FT
A15A1R354	301-0273-00	B020319		RES, FXD, FILM: 27K OHM, 5%, 0.5W	19701	5053CX27K00J
A15A1R356	321-5000-00	B010001	B010055	RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A15A1R356	321-5051-00	B010056		RES, FXD, FILM: 0 OHM, 1%, 0.125W (MATCHED SET WITH A15A1R463)	80009	321-5051-00
A15A1R356	321-5043-00	B020319		RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A15A1R361	321-5033-00			RES, FXD, FILM: 18.2K, 1%, 0.125W	01121	BCK1822FT
A15A1R363	308-0298-00	B010001	B010318	RES, FXD, WW: 560 OHM, 5%, 3W	00213	1240S-560-5
A15A1R363	308-0643-00	B020319		RES, FXD, WW: 0.10 OHM, 3%, 3W	14193	SA31 R100H
A15A1R367	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A15A1R375	308-0555-00			RES, FXD, WW: 5 OHM, 5%, 3W	00213	1200S-5.0-5
A15A1R378	308-0331-00	B010001	B010053	RES, FXD, WW: 600 OHM, 1%, 0.5W	91637	WWA26-A600R0F
A15A1R378	308-0252-00	B010054	B010318	RES, FXD, WW: 390 OHM, 5%, 3W	00213	1240S 390-5
A15A1R380	308-0488-00	B010001	B010318	RES, FXD, WW: 5 OHM, 1%, 2.5W	91637	RS2B-05R000F
A15A1R381	308-0331-00	B010001	B010053	RES, FXD, WW: 600 OHM, 1%, 0.5W	91637	WWA26-A600R0F
A15A1R381	308-0252-00	B010054	B010318	RES, FXD, WW: 390 OHM, 5%, 3W	00213	1240S 390-5
A15A1R383	321-5041-00			RES, FXD, FILM: 82.5K, 1%, 0.125W	01121	BCK8252FT
A15A1R384	321-5034-00			RES, FXD, FILM: 22.1K, 1%, 0.125W	01121	BCK2212FT
A15A1R385	307-0124-00	B020319		RES, THERMAL: 5K OHM, 10%, NTC	15454	1DC502K-220-EC
A15A1R386	311-1563-00	B010001	B010318	RES, VAR, NONWW: TMR, 1K OHM, 0.5W	32997	3352T-DY7-102
A15A1R386	311-1562-00	B020319		RES, VAR, NONWW: TMR, 2K OHM, 0.5W	32997	3352T-DY7-202
A15A1R387	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A15A1R389	321-5024-00			RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A15A1R390	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A15A1R394	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A15A1R395	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A15A1R396	321-5033-00			RES, FXD, FILM: 18.2K, 1%, 0.125W	01121	BCK1822FT
A15A1R403	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A15A1R404	321-5035-00			RES, FXD, FILM: 27.4K, 1%, 0.125W	01121	BCK2742FT
A15A1R407	321-5024-00			RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A15A1R408	317-0681-00	B010001	B010318	RES, FXD, CMPSN: 680 OHM, 5%, 0.125W	01121	BB6815
A15A1R409	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A15A1R414	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A15A1R416	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A15A1R417	321-5034-00			RES, FXD, FILM: 22.1K, 1%, 0.125W	01121	BCK2212FT
A15A1R418	321-5019-00			RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A15A1R420	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A15A1R432	321-5043-00	B020319		RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A15A1R440	321-5032-00	B020319		RES, FXD, FILM: 15.0K, 1%, 0.125W	01121	BCK1502FT
A15A1R451	321-5043-00	B020319		RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A15A1R463	321-5000-00	B010001	B010055	RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A15A1R463	321-5051-00	B010056		RES, FXD, FILM: 0 OHM, 1%, 0.125W (MATCHED SET WITH A15A1R356)	80009	321-5051-00
A15A1R470	308-0292-00	B020319		RES, FXD, WW: 2.2K OHM, 5%, 3W	07088	KM300 2201J

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A15A1R480	321-5037-00			RES, FXD, FILM:39.2K, 1%, 0.125W	01121	BCK3922FT
A15A1R481	321-5010-00			RES, FXD, FILM:221 OHM, 1%, 0.125W	01121	BCK221FT
A15A1R483	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R484	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A15A1R486	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A15A1R487	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R490	321-5047-00			RES, FXD, FILM:100K, 1%, 0.125W	01121	BCK1003FT
A15A1R492	321-5028-00			RES, FXD, FILM:6.81K, 1%, 0.125W	01121	BCK6811FT
A15A1R493	321-5024-00			RES, FXD, FILM:3.32K, 1%, 0.125W	01121	BCK3321FT
A15A1R494	321-5047-00			RES, FXD, FILM:100K, 1%, 0.125W	01121	BCK1003FT
A15A1R501	311-1235-00			RES, VAR, NONW:100K OHM, 0.5W	32997	3386F-T04-104
A15A1R502	321-5047-00			RES, FXD, FILM:100K, 1%, 0.125W	01121	BCK1003FT
A15A1R504	311-1235-00			RES, VAR, NONW:100K OHM, 0.5W	32997	3386F-T04-104
A15A1R505	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R506	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R526	311-1235-00			RES, VAR, NONW:100K OHM, 0.5W	32997	3386F-T04-104
A15A1R527	321-5039-00			RES, FXD, FILM:56.2K, 1%, 0.125W	01121	BCK5622FT
A15A1R528	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R529	321-5047-00			RES, FXD, FILM:100K, 1%, 0.125W	01121	BCK1003FT
A15A1R560	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R566	321-5039-00			RES, FXD, FILM:56.2K, 1%, 0.125W	01121	BCK5622FT
A15A1R635	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A15A1R636	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A15A1R660	321-5039-00			RES, FXD, FILM:56.2K, 1%, 0.125W	01121	BCK5622FT
A15A1R662	321-5030-00			RES, FXD, FILM:10.0K, 1%, 0.125W	01121	BCK1002FT
A15A1R670	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R671	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R680	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R681	321-5026-00			RES, FXD, FILM:4.75K, 1%, 0.125W	01121	BCK4751FT
A15A1R700	321-5013-00			RES, FXD, FILM:392 OHM, 1%, 0.125W	01121	BCK3920FT
A15A1R702	321-5025-00			RES, FXD, FILM:3.92K, 1%, 0.125W	01121	BCK3921FT
A15A1R703	321-5020-00			RES, FXD, FILM:1.50K, 1%, 0.125W	01121	BCK1501FT
A15A1R705	321-5047-00			RES, FXD, FILM:100K, 1%, 0.125W	01121	BCK1003FT
A15A1R710	321-5020-00			RES, FXD, FILM:1.50K, 1%, 0.125W	01121	BCK1501FT
A15A1R714	321-5006-00			RES, FXD, FILM:100 OHM, 1%, 0.125W	01121	BCK1000FT
A15A1R720	321-5019-00			RES, FXD, FILM:1.21K, 1%, 0.125W	01121	BCK1211FT
A15A1R721	321-5051-00			RES, FXD, FILM:0 OHM, 1%, 0.125W	80009	321-5051-00
A15A1R723	321-5004-00			RES, FXD, FILM:22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A15A1R730	321-5019-00			RES, FXD, FILM:1.21K, 1%, 0.125W	01121	BCK1211FT
A15A1R731	321-5051-00			RES, FXD, FILM:0 OHM, 1%, 0.125W	80009	321-5051-00
A15A1R733	321-5004-00			RES, FXD, FILM:22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A15A1R740	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R741	321-5027-00			RES, FXD, FILM:5.62K, 1%, 0.125W	01121	BCK5621FT
A15A1R790	321-5000-00	B020319		RES, FXD, FILM:10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A15A1R791	321-5000-00	B020319		RES, FXD, FILM:10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A15A1R792	321-5000-00	B020319		RES, FXD, FILM:10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A15A1R794	321-5000-00	B020319		RES, FXD, FILM:10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A15A1R801	321-5028-00			RES, FXD, FILM:6.81K, 1%, 0.125W	01121	BCK6811FT
A15A1R803	321-5029-00			RES, FXD, FILM:8.25K, 1%, 0.125W	01121	BCK8251FT
A15A1R804	321-5019-00			RES, FXD, FILM:1.21K, 1%, 0.125W	01121	BCK1211FT
A15A1R809	321-5018-00			RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R810	321-5047-00			RES, FXD, FILM:100K, 1%, 0.125W	01121	BCK1003FT
A15A1R811	321-5024-00			RES, FXD, FILM:3.32K, 1%, 0.125W	01121	BCK3321FT
A15A1R812	321-5037-00			RES, FXD, FILM:39.2K, 1%, 0.125W	01121	BCK3922FT
A15A1R813	321-5029-00			RES, FXD, FILM:8.25K, 1%, 0.125W	01121	BCK8251FT
A15A1R814	321-5019-00			RES, FXD, FILM:1.21K, 1%, 0.125W	01121	BCK1211FT
A15A1R817	321-5023-00			RES, FXD, FILM:2.74K, 1%, 0.125W	01121	BCK2741FT
A15A1R820	321-5006-00			RES, FXD, FILM:100 OHM, 1%, 0.125W	01121	BCK1000FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discort	Name & Description	Mfr. Code	Mfr. Part No.
A15A1R822	321-5019-00			RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A15A1R824	321-5004-00			RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A15A1R825	321-5025-00			RES, FXD, FILM: 3.92K, 1%, 0.125W	01121	BCK3921FT
A15A1R828	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A15A1R830	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A15A1R832	321-5019-00			RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A15A1R834	321-5004-00			RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A15A1R900	311-1225-00			RES, VAR, NONW: TRMR, 1K OHM, 0.5W	32997	3386F-T04-102
A15A1R901	311-1225-00			RES, VAR, NONW: TRMR, 1K OHM, 0.5W	32997	3386F-T04-102
A15A1R912	321-5035-00			RES, FXD, FILM: 27.4K, 1%, 0.125W	01121	BCK2742FT
A15A1R913	321-5016-00	B010001		RES, FXD, FILM: 681 OHM, 1%, 0.125W	01121	BCK6810FT
A15A1R913	321-5019-00	B010001	B010000	RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A15A1R917	321-5035-00			RES, FXD, FILM: 27.4K, 1%, 0.125W	01121	BCK2742FT
A15A1R920	321-5021-00			RES, FXD, FILM: 1.82K, 1%, 0.125W	01121	BCK1821FT
A15A1R921	321-5011-00			RES, FXD, FILM: 274 OHM, 1%, 0.125W	01121	BCK2740FT
A15A1R931	321-5011-00			RES, FXD, FILM: 274 OHM, 1%, 0.125W	01121	BCK2740FT
A15A1R935	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A15A1R936	321-5011-00			RES, FXD, FILM: 274 OHM, 1%, 0.125W	01121	BCK2740FT
A15A1R937	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A15A1R939	321-5010-00			RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A15A1RT140	307-0863-00			RES, THERMAL: 10 OHM, 10%, NTC	15454	SG-13S
A15A1SW150	260-1849-00			SWITCH, PUSH: DPDT, 4A, 250VAC	31918	NE15/F2U103EE
A15A1T260	120-1449-00			TRANSFORMER, RF: COMMON MODE, 2.7MH, 2A	02113	P104
A15A1T270	120-1455-00			TRANSFORMER, RF: DIFFERENTIAL MODE, POT CORE	TK1421	120-1455-00
A15A1T290	120-1776-00			TRANSFORMER, RF: ENERGY STORAGE POT CORE	80009	120-1776-00
A15A1T310	120-1401-00			XFMR, TRIGGER: LINE, 1:1 TURNS RATIO	54937	DMI 500-2044
A15A1T430	120-1703-00	B010001	B010318	TRANSFORMER, PWR: HIGH VOLTAGE	80009	120-1703-00
A15A1T430	120-1805-00	B020319		TRANSFORMER, PWR: HIGH VOLTAGE	80009	120-1805-00
A15A1T460	120-1347-00	B010001	B010318	TRANSFORMER, RF: DRIVER SATURATING	54583	B0T-001
A15A1U130	152-0806-00			SEMICON DVC, DI: HV MULT, 4KVAC INPUT, 12KVDC OUTPUT	12969	CMX647
A15A1U330	156-5017-01	B020319		MICROCKT, LINEAR: DUAL 741 OP AMP, 1MZ	80009	156-5017-01
A15A1U385	156-1627-00			MICROCKT, LINEAR: PULSE WIDTH MODULATED CONT CIRCUIT, SWITCHING POWER SUPPLY, SCRN	12969	UC494ACN
A15A1U480	156-5074-00			MICROCKT, DGTL: HCMOS, DUAL D TYPE FLIP FLOP	80009	156-5074-00
A15A1U590	156-5123-00			MICROCKT, DGTL: HCMOS, 4 TO 16 LINE DCDR/DEMUX	80009	156-5123-00
A15A1U750	156-5081-00			MICROCKT, DGTL: HCMOS, HEX INVERTER	80009	156-5081-00
A15A1U760	156-5088-00			MICROCKT, DGTL: CMOS, 3 TO 8 LINE DCDR/DEMU X	80009	156-5088-00
A15A1U761	156-5098-00	B010001	B010318	MICROCKT, DGTL: HCMOS, QUAD 2 INPUT NAND GATE	80009	156-5098-00
A15A1U761	156-5001-00	B020319		MICROCKT, DGTL: LSTTL, QUAD 2 INPUT NAND GATE	01295	SN74LS00D
A15A1U771	156-5144-00			MICROCKT, DGTL: HCMOS, QUAD D TYPE FF	80009	156-5144-00
A15A1U780	156-5121-00			MICROCKT, DGTL: LSTTL, 8 TO 3 LINE PRI ENCDR	80009	156-5121-00
A15A1U807	156-5298-00			MICROCKT, LINEAR: VOLTAGE RGLTR, +5V, 100MA	80009	156-5298-00
A15A1U902	156-5098-00	B010001	B010318	MICROCKT, DGTL: HCMOS, QUAD 2 INPUT NAND GATE	80009	156-5098-00
A15A1U902	156-5001-00	B020319		MICROCKT, DGTL: LSTTL, QUAD 2 INPUT NAND GATE	01295	SN74LS00D
A15A1U911	156-5274-00			MICROCKT, LINEAR: CMOS, ANALOG SWITCH	80009	156-5274-00
A15A1U914	156-5257-00			MICROCKT, LINEAR: HIGH SPEED OP-AMP	80009	156-5257-00
A15A1U933	156-5299-00			MICROCKT, LINEAR: VOLTAGE RGLTR, -5V, 100MA	80009	156-5299-00
A15A1VR152	307-0456-00			RES, V SENSITIVE: 250VAC, 20W, METAL OXIDE	03508	MOV-V250LA15A
A15A1VR363	152-0304-00			SEMICON DVC, DI: ZEN, SI, 20V, 5%, 0.4W, DO-7	15238	Z5411
A15A1VR392	152-5011-00			SEMICON DVC, DI: ZENER, 6.2V, 5%, 225MW, SOT-23	80009	152-5011-00
A15A1W1	174-0370-00			CA ASSY, SP, ELEC: 13.22 AWG, 9.0 L	80009	174-0370-00
A15A1W2	174-0188-01			CABLE ASSY, RF: 50 OHM COAX, 9.0 L, RIBBON	80009	174-0188-01
A15A1W5	175-4464-00			CA ASSY, SP, ELEC: 20, 28 AWG, 2.5 L, RIBBON	22526	80641-001
A15A1W13	174-0198-01	B010001	B010318	CA ASSY, SP, ELEC: RIBBON	80009	174-0198-01
A15A1W13	174-0198-02	B020319		CA ASSY, SP, ELEC: 10, 28 AWG, 5.5 L, RIBBON	80009	174-0198-02
A15A1W14	174-0198-00			CA ASSY, SP, ELEC: RIBBON	80009	174-0198-00
A15A1W15	174-0197-00	B010001	B010318	CA ASSY, SP, ELEC:	80009	174-0197-00

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A16	119-2568-00	B010001	B010034	1ST MIXER ASSY:	80009	119-2568-00
A16	119-2568-01	B010035		MIXER ASSY:1ST	80009	119-2568-01
A16C101	281-0825-00			CAP,FXD,CER DI:0.005UF,+100-0%,100V	33095	51-726-008
A16C102	281-0825-00			CAP,FXD,CER DI:0.005UF,+100-0%,100V	33095	51-726-008
A16C103	281-0825-00			CAP,FXD,CER DI:0.005UF,+100-0%,100V	33095	51-726-008
A16C105	290-0512-00			CAP,FXD,ELCTLT:22UF,20%,15V	05397	T368B226M015AS
A16C106	290-0536-00			CAP,FXD,ELCTLT:10UF,20%,25V TANTALLM	05397	T368B106M025AS
A16C201	281-0825-00			CAP,FXD,CER DI:0.005UF,+100-0%,100V	33095	51-726-008
A16C202	281-0825-00			CAP,FXD,CER DI:0.005UF,+100-0%,100V	33095	51-726-008
A16C350	290-0524-00			CAP,FXD,ELCTLT:4.7UF,20%,10V	05397	T368A475M010AZ
A16R107	315-0181-00			RES,FXD,FILM:180 OHM,5%,0.25W	57668	NTR25J-E180E
A16R108	313-1820-00			RES,FXD,FILM:82 OHM,5%,0.2W	57668	TR20JE 82E
A16A1	-----			(PART OF A16)		
A16A1C106	283-5005-00			CAP,FXD,CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C108	283-5005-00			CAP,FXD,CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C112	283-5005-00			CAP,FXD,CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C114	283-5005-00			CAP,FXD,CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C202	283-5005-00			CAP,FXD,CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C204	283-5005-00			CAP,FXD,CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C214	283-5005-00			CAP,FXD,CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C222	283-5005-00			CAP,FXD,CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C240	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C241	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C242	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C243	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C244	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C245	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C246	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C250	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	14674	12061A102KAT050R
A16A1C251	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	14674	12061A102KAT050R
A16A1C304	283-5005-00			CAP,FXD,CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C312	283-5005-00			CAP,FXD,CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C322	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	14674	12065C103KAT060R
A16A1C324	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	14674	12065C103KAT060R
A16A1C326	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C328	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C330	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C338	283-5005-00			CAP,FXD,CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C340	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	14674	12061A102KAT050R
A16A1C341	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C342	283-5042-00			CAP,FXD,CER DI:27PF,5%,50V	29454	101R18N270JW4-T
A16A1C343	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C344	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C345	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C351	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1CR120	152-0723-00	B010001	B010329	SEMICON DVC,DI:SCHOTTKY,SI,6V,0.45PF,DO-35	21847	A2X1518
A16A1CR125	152-0723-00	B010001	B010329	SEMICON DVC,DI:SCHOTTKY,SI,6V,0.45PF,DO-35	21847	A2X1518
A16A1CR130	153-0080-00	B010330		SEMICON DVC,DI:SCHOTTKY,SI,6V,0.45PF	80009	153-0080-00
A16A1CR131	153-0080-00	B010330		SEMICON DVC,DI:SCHOTTKY,SI,6V,0.45PF	80009	153-0080-00
A16A1CR132	153-0080-00	B010330		SEMICON DVC,DI:SCHOTTKY,SI,6V,0.45PF	80009	153-0080-00
A16A1CR133	153-0080-00	B010330		SEMICON DVC,DI:SCHOTTKY,SI,6V,0.45PF	80009	153-0080-00
A16A1CR220	152-0723-00	B010001	B010329	SEMICON DVC,DI:SCHOTTKY,SI,6V,0.45PF,DO-35	21847	A2X1518
A16A1CR225	152-0723-00	B010001	B010329	SEMICON DVC,DI:SCHOTTKY,SI,6V,0.45PF,DO-35	21847	A2X1518
A16A1CR340	152-5011-00			SEMICON DVC,DI:ZENER,6.2V,5%,225MW,SOT-23	80009	152-5011-00
A16A1CR341	152-5011-00			SEMICON DVC,DI:ZENER,6.2V,5%,225MW,SOT-23	80009	152-5011-00
A16A1J410	131-1803-02			CONN,RCPT,ELEC:SMA,FEMALE	16179	2056-3206-00
A16A1J670	131-1803-02			CONN,RCPT,ELEC:SMA,FEMALE	16179	2056-3206-00
A16A1Q204	151-0608-00			TRANSISTOR:NPN,SI,MICRO-STRIPLINE PKG	62104	NE64535

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Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discont			
A16A1Q212	151-0608-00			TRANSISTOR: NPN, SI, MICRO-STRIPLINE PKG	62104	NE64535
A16A1Q324	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A16A1Q326	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A16A1Q335	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A16A1Q338	151-5005-00			TRANSISTOR: PNP, SI, SOT-89	04713	BCX69T1
A16A1R102	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A16A1R104	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A16A1R106	321-5043-00			RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A16A1R114	321-5043-00			RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A16A1R204	321-5043-00			RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A16A1R214	321-5043-00			RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A16A1R224	321-5033-00			RES, FXD, FILM: 18.2K, 1%, 0.125W	01121	BCK1822FT
A16A1R234	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A16A1R236	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A16A1R240	321-5016-00			RES, FXD, FILM: 681 OHM, 1%, 0.125W	01121	BCK6810FT
A16A1R242	321-5017-00			RES, FXD, FILM: 825 OHM, 1%, 0.125W	01121	BCK8250FT
A16A1R244	321-5017-00			RES, FXD, FILM: 825 OHM, 1%, 0.125W	01121	BCK8250FT
A16A1R250	321-5016-00			RES, FXD, FILM: 681 OHM, 1%, 0.125W	01121	BCK6810FT
A16A1R251	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A16A1R252	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A16A1R253	321-5016-00			RES, FXD, FILM: 681 OHM, 1%, 0.125W	01121	BCK6810FT
A16A1R254	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A16A1R255	321-5003-00			RES, FXD, FILM: 18.2 OHM, 1%, 0.125W	57668	MCR18EZHFW 18E2
A16A1R314	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A16A1R315	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A16A1R322	321-5009-00			RES, FXD, FILM: 182 OHM, 1%, 0.125W	01121	BCK1820FT
A16A1R324	321-5028-00			RES, FXD, FILM: 6.81K, 1%, 0.125W	01121	BCK6811FT
A16A1R325	321-5028-00			RES, FXD, FILM: 6.81K, 1%, 0.125W	01121	BCK6811FT
A16A1R326	321-5009-00			RES, FXD, FILM: 182 OHM, 1%, 0.125W	01121	BCK1820FT
A16A1R328	321-5033-00			RES, FXD, FILM: 18.2K, 1%, 0.125W	01121	BCK1822FT
A16A1R330	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A16A1R332	321-5028-00			RES, FXD, FILM: 6.81K, 1%, 0.125W	01121	BCK6811FT
A16A1R334	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A16A1R335	321-5043-00			RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A16A1R336	321-5043-00			RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A16A1R338	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A16A1R340	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A16A1R341	311-5031-00			RES, VAR, NONW: 10K, 10%, 0.2W	32997	3335W-1-103
A16A1R350	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A16A1R351	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A16A1R352	321-5022-00			RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A16A1U230	156-5017-00			MICROCKT, LINEAR: DUAL 741 OP AMP, 1MZ, SO-8	04713	MCI458
A16A1U340	156-5095-00			MICROCKT, LINEAR: OP AMP, LOW NOISE	80009	156-5095-00
A16A2	-----			(PART OF A16)		
A16A2C240	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A16A2C241	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A16A2C242	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A16A2C243	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A16A2C244	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A16A2C245	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A16A2C246	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A16A2C250	283-5002-00			CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A16A2C251	283-5002-00			CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A16A2C340	283-5002-00			CAP, FXD, CER DI: 1000PF, 10%, 50V	14674	12061A102KAT050R
A16A2C341	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A16A2C343	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A16A2C344	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A16A2C345	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discort	Name & Description	Mfr. Code	Mfr. Part No.
A16A2C351	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A2CR340	152-5011-00			SEMICON DVC,DI:ZENER,6.2V,5%,225MM,SOT-23	80009	152-5011-00
A16A2CR341	152-5011-00			SEMICON DVC,DI:ZENER,6.2V,5%,225MM,SOT-23	80009	152-5011-00
A16A2J100	131-4203-00			CONN,RCPT,ELEC:SMA JACK TO SPCL END CONFIG	80009	131-4203-00
A16A2R240	321-5016-00			RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A16A2R241	321-5017-00			RES,FXD,FILM:825 OHM,1%,0.125W	01121	BCK8250FT
A16A2R242	321-5017-00			RES,FXD,FILM:825 OHM,1%,0.125W	01121	BCK8250FT
A16A2R250	321-5016-00			RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A16A2R251	321-5015-00			RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A16A2R252	321-5003-00			RES,FXD,FILM:18.2 OHM,1%,0.125W	57668	MCR18EZHFW 18E2
A16A2R253	321-5016-00			RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A16A2R254	321-5015-00			RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A16A2R255	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A16A2R340	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A16A2R341	311-5031-00			RES,VAR,NONWM:10K,10%,0.2W	32997	3335W-1-103
A16A2R350	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A16A2R351	321-5015-00			RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A16A2R352	321-5022-00			RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A16A2U340	156-5095-00			MICROCKT,LINER:OP AMP,LOW NOISE	80009	156-5095-00
A17	119-2301-00	B010001	B010034	YIG BUFFER ASSY:	80009	119-2301-00
A17	119-2301-01	B010035	B010318	YIG BUFFER ASSY:	80009	119-2301-01
A17	119-2301-02	B020319		YIG BUFFER ASSY:	80009	119-2301-02
A17C172	281-0825-00			CAP,FXD,CER DI:0.005UF,+100-0%,100V	33095	51-726-008
A17C192	281-0825-00			CAP,FXD,CER DI:0.005UF,+100-0%,100V	33095	51-726-008
A17C568	281-0825-00			CAP,FXD,CER DI:0.005UF,+100-0%,100V	33095	51-726-008
A17HY450	155-0338-00			MICROCKT,LINER:0 GATE	80009	155-0338-00
A17J100	131-1803-02			CONN,RCPT,ELEC:SMA,FEMALE	16179	2056-3206-00
A17J300	131-1803-02			CONN,RCPT,ELEC:SMA,FEMALE	16179	2056-3206-00
A17J380	131-1803-02			CONN,RCPT,ELEC:SMA,FEMALE	16179	2056-3206-00
A17J430	131-0938-00			CONN,RCPT,ELEC:SMB,FEMALE	98291	051-043-0349
A17J460	131-0938-00			CONN,RCPT,ELEC:SMB,FEMALE	98291	051-043-0349
A17P300	015-1022-00			TERMN,COAXIAL:50 OHM,0.5W,SMA	18203	T198CS
A17W12	174-0383-00	B010001	B010318	CA ASSY,SP,ELEC:6.26 AWG,10.5 L,RIBBON	80009	174-0383-00
A17W12	174-0383-01	B020319		CA ASSY,SP,ELEC:6.26 AWG,10.5 L,RIBBON	80009	174-0383-01
A17W27	174-0383-00			CA ASSY,SP,ELEC:6.26 AWG,10.5 L,RIBBON	80009	174-0383-00
A17A1	-----			(PART OF A17)		
A17A1C130	283-0252-00			CAP,FXD,CER DI:0.001UF,10%,50V	04222	ULA105C102K2T60
A17A1C140	283-0252-00			CAP,FXD,CER DI:0.001UF,10%,50V	04222	ULA105C102K2T60
A17A1C142	283-0252-00			CAP,FXD,CER DI:0.001UF,10%,50V	04222	ULA105C102K2T60
A17A1C150	283-0252-00			CAP,FXD,CER DI:0.001UF,10%,50V	04222	ULA105C102K2T60
A17A1C152	283-0252-00			CAP,FXD,CER DI:0.001UF,10%,50V	04222	ULA105C102K2T60
A17A1C160	283-5018-00			CAP,FXD,CER DI:0.033UF,10%,50V	80009	283-5018-00
A17A1C180	290-5001-00			CAP,FXD,ELCTLT:10UF,20%,16V	TK0900	ALCHIP-S16V10UF
A17A1C182	283-0432-00			CAP,FXD,CER DI:51PF,5%,50V	95275	VJ0805-A-510-J-H
A17A1C190	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	14674	12065C103KAT060R
A17A1C194	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A17A1C266	283-0252-00			CAP,FXD,CER DI:0.001UF,10%,50V	04222	ULA105C102K2T60
A17A1C267	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	14674	12065C103KAT060R
A17A1C280	283-0432-00			CAP,FXD,CER DI:51PF,5%,50V	95275	VJ0805-A-510-J-H
A17A1C282	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A17A1C290	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	14674	12061A102KAT050R
A17A1C292	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A17A1C296	283-5042-00			CAP,FXD,CER DI:27PF,5%,50V	29454	101R18N270JW4-T
A17A1C298	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A17A1C392	290-5001-00			CAP,FXD,ELCTLT:10UF,20%,16V	TK0900	ALCHIP-S16V10UF
A17A1C442	283-5004-00	B010001	B010318	CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A17A1C442	283-5000-00	B020319		CAP,FXD,CER DI:10PF,5%,50V	95275	VJ1206A100JXA
A17A1C444	283-5004-00	B010001	B010318	CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Discnt	Name & Description	Mfr. Code	Mfr. Part No.
A17A1C444	283-5000-00	B020319	CAP,FXD,CER DI:10PF,5%,50V	95275	VJ1206A100JXA
A17A1C466	283-5003-00		CAP,FXD,CER DI:0.01UF,10%,50V	14674	12065C103KAT060R
A17A1C468	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A17A1C550	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A17A1C560	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A17A1C564	283-5003-00		CAP,FXD,CER DI:0.01UF,10%,50V	14674	12065C103KAT060R
A17A1CR178	152-0962-00		SEMICON DVC,DI:SCHOTTKY,SI,CER STRIPLINE C ASE	80009	152-0962-00
A17A1CR290	152-0725-00		SEMICON DVC,DI:SI,SCHOTTKY,20V,1.2PF,DO-35	21847	A2X1582
A17A1Q150	151-1221-00		TRANSISTOR:MESFET,GAAS,N CHANNEL	80009	151-1221-00
A17A1Q158	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A17A1Q164	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A17A1Q190	151-5004-00		TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A17A1Q460	151-5010-00		TRANSISTOR:NPN,SI,SOT-89	80009	151-5010-00
A17A1R128	321-5016-00		RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A17A1R130	321-5016-00		RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A17A1R158	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A17A1R160	321-5027-00		RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A17A1R164	321-5005-00		RES,FXD,FILM:27.4 OHM,1%,0.125W	57668	MCR18EZHFV 27E4
A17A1R166	321-5026-00		RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A17A1R168	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A17A1R178	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFV10E
A17A1R184	321-5013-00		RES,FXD,FILM:392 OHM,1%,0.125W	01121	BCK3920FT
A17A1R186	321-5048-00		RES,FXD,FILM:332K,1%,0.125W	01121	BCK3323FT
A17A1R192	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFV10E
A17A1R194	321-5005-00		RES,FXD,FILM:27.4 OHM,1%,0.125W	57668	MCR18EZHFV 27E4
A17A1R230	321-5016-00		RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A17A1R232	321-5016-00		RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A17A1R264	321-5024-00		RES,FXD,FILM:3.32K,1%,0.125W	01121	BCK3321FT
A17A1R266	321-5009-00		RES,FXD,FILM:182 OHM,1%,0.125W	01121	BCK1820FT
A17A1R268	321-5012-00		RES,FXD,FILM:332 OHM,1%,0.125W	01121	BCK3320FT
A17A1R280	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A17A1R284	321-5020-00		RES,FXD,FILM:1.50K,1%,0.125W	01121	BCK1501FT
A17A1R288	311-0622-00		RES,VAR,NONNW:TRMR,100 OHM,0.5W	32997	3329H-L58-101
A17A1R294	321-5048-00		RES,FXD,FILM:332K,1%,0.125W	01121	BCK3323FT
A17A1R296	321-5048-00		RES,FXD,FILM:332K,1%,0.125W	01121	BCK3323FT
A17A1R322	321-5011-00		RES,FXD,FILM:274 OHM,1%,0.125W	01121	BCK2740FT
A17A1R324	321-5011-00		RES,FXD,FILM:274 OHM,1%,0.125W	01121	BCK2740FT
A17A1R326	321-5051-00	B010001	RES,FXD,FILM:0 OHM,1%,0.125W	80009	321-5051-00
A17A1R326	321-5042-00	B020319	RES,FXD,FILM:39.2 OHM,1%,0.125W	57668	MCR18FWEA39E2
A17A1R332	321-5011-00		RES,FXD,FILM:274 OHM,1%,0.125W	01121	BCK2740FT
A17A1R334	321-5011-00		RES,FXD,FILM:274 OHM,1%,0.125W	01121	BCK2740FT
A17A1R394	321-5044-00		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A17A1R438	311-0607-00		RES,VAR,NONNW:TRMR,10K OHM,0.5W	73138	82-25-2
A17A1R450	321-5005-00	B010001	RES,FXD,FILM:27.4 OHM,1%,0.125W	57668	MCR18EZHFV 27E4
A17A1R464	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFV10E
A17A1R466	321-5046-00		RES,FXD,FILM:82.5 OHM,1%,0.125W	01121	BCK82R5FT
A17A1R540	321-5025-00	B010001	RES,FXD,FILM:3.92K,1%,0.125W	01121	BCK3921FT
A17A1R540	321-5034-00	B020319	RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A17A1R542	321-5025-00	B010001	RES,FXD,FILM:3.92K,1%,0.125W	01121	BCK3921FT
A17A1R542	321-5034-00	B020319	RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A17A1R550	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A17A1R552	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A17A1R560	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A17A1R562	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A17A1R563	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A17A1R564	321-5051-00		RES,FXD,FILM:0 OHM,1%,0.125W	80009	321-5051-00
A17A17450	120-1737-00		TRANSFORMER,RF:	80009	120-1737-00

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discnt	Name & Description	Mfr. Code	Mfr. Part No.
A17A1U290	156-5095-00			MICROCKT, LINEAR: OP AMP, LOW NOISE	80009	156-5095-00
A17A1VR190	152-5015-00			SEMICONV DVC, DI: ZENER, SI, 7.5V	80009	152-5015-00
A17A1VR284	152-5011-00			SEMICONV DVC, DI: ZENER, 6.2V, 5%, 225MM, SOT-23	80009	152-5011-00
A18	670-9675-00	B010001	B010318	CIRCUIT BD ASSY: ATTENUATOR	80009	670-9675-00
A18	672-1297-00	B020319		CIRCUIT BD ASSY: DIGITAL CONTROL	80009	672-1297-00
A18C100	283-0253-00	B010001	B010318	CAP, FXD, CER DI: 0.01UF, 10%, 100V	04222	15051C103KZT6C
A18C101	283-0278-01	B010001	B010318	CAP, FXD, CER DI: 2.2UF, 20%, 100V	65238	3520Z225M101PX
A18C143	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A18C144	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A18C145	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A18C151	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A18C210	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A18C220	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A18C225	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A18C230	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A18C235	283-5004-00	B010001	B010318	CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A18C240	290-5004-00	B010001	B010318	CAP, FXD, ELCTLT: 22UF, 20V, TANTALUM	80009	290-5004-00
A18C245	290-5004-00	B010001	B010318	CAP, FXD, ELCTLT: 22UF, 20V, TANTALUM	80009	290-5004-00
A18C330	290-5002-00	B010001	B010318	CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A18C412	290-5000-00	B010001	B010318	CAP, FXD, ELCTLT: 1UF, 20%, 50V	TK0900	S50V1MICROF
A18E141	276-0532-00	B020319		SHLD BEAD, ELEK: FERRITE	02114	56-590-65/4A6
A18E320	276-0532-00	B020319		SHLD BEAD, ELEK: FERRITE	02114	56-590-65/4A6
A18J205	131-3774-00	B010001	B010318	CONN, RCPT, ELEC: HEADER, 2 X 36, 0.1 SPACING	22526	65610-172
A18J300	131-1803-02	B010001	B010318	CONN, RCPT, ELEC: SMA, FEMALE	16179	2056-3206-00
A18J333	131-1803-02	B010001	B010318	CONN, RCPT, ELEC: SMA, FEMALE	16179	2056-3206-00
A18J432	131-1803-02	B010001	B010318	CONN, RCPT, ELEC: SMA, FEMALE	16179	2056-3206-00
A18K103	148-0198-00	B010001	B010318	RELAY, REED: DPDT, 98 OHMS, 6V	11532	712-6
A18K110	148-0198-00	B010001	B010318	RELAY, REED: DPDT, 98 OHMS, 6V	11532	712-6
A18K111	148-0198-00	B010001	B010318	RELAY, REED: DPDT, 98 OHMS, 6V	11532	712-6
A18K120	148-0198-00	B010001	B010318	RELAY, REED: DPDT, 98 OHMS, 6V	11532	712-6
A18K121	148-0198-00	B010001	B010318	RELAY, REED: DPDT, 98 OHMS, 6V	11532	712-6
A18K122	148-0198-00	B010001	B010318	RELAY, REED: DPDT, 98 OHMS, 6V	11532	712-6
A18K130	148-0198-00	B010001	B010318	RELAY, REED: DPDT, 98 OHMS, 6V	11532	712-6
A18Q300	151-5000-00	B010001	B010318	TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A18Q421	151-5000-00	B010001	B010318	TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A18Q430	151-5000-00	B010001	B010318	TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A18Q432	151-5000-00	B010001	B010318	TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A18Q434	151-5000-00	B010001	B010318	TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A18Q441	151-5000-00	B010001	B010318	TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A18Q443	151-5000-00	B010001	B010318	TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A18Q445	151-5000-00	B010001	B010318	TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A18R100	321-5007-00	B010001	B010318	RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A18R101	321-5007-00	B010001	B010318	RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A18R102	321-5044-00	B010001	B010318	RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A18R112	321-5044-00	B010001	B010318	RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A18R113	321-5027-00			RES, FXD, FILM: 5.62K, 1%, 0.125W	01121	BCK5621FT
A18R114	321-5044-00	B010001	B010318	RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A18R115	321-5010-00	B010001	B010318	RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A18R120	321-5007-00	B010001	B010318	RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A18R121	321-5007-00	B010001	B010318	RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A18R122	321-5007-00	B010001	B010318	RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A18R123	321-5044-00	B010001	B010318	RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A18R130	321-5010-00	B010001	B010318	RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A18R131	321-5010-00	B010001	B010318	RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A18R132	321-5004-00	B010001	B010318	RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A18R133	321-5014-00	B010001	B010318	RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A18R134	321-5013-00	B010001	B010318	RES, FXD, FILM: 392 OHM, 1%, 0.125W	01121	BCK3920FT
A18R135	321-5001-00	B010001	B010318	RES, FXD, FILM: 12.1 OHM, 1%, 0.125W	57668	MCR18EZHPW 12E1

Replaceable Electrical Parts - 2710

Component No.	Tektronix		Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
	Part No.		Effective	Discont			
A18R140	321-5045-00	B010001	B010318		RES, FXD, FILM: 68.1 OHM, 1%, 0.125W	01121	BCD68R1FT
A18R141	321-5045-00	B010001	B010318		RES, FXD, FILM: 68.1 OHM, 1%, 0.125W	01121	BCD68R1FT
A18R142	321-5008-00	B010001	B010318		RES, FXD, FILM: 150 OHM, 1%, 0.125W	01121	BCK1500FT
A18R150	321-5000-00	B010001	B010318		RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A18R250	321-5015-00	B010001	B010318		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A18R251	321-5044-00	B010001	B010318		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A18R301	321-5030-00	B010001	B010318		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A18R400	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A18R401	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A18R410	321-5030-00	B010001	B010318		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A18R411	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A18R413	321-5030-00	B010001	B010318		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A18R420	321-5026-00	B010001	B010318		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A18R422	321-5026-00	B010001	B010318		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A18R431	321-5026-00	B010001	B010318		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A18R432	321-5026-00	B010001	B010318		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A18R440	321-5026-00	B010001	B010318		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A18R442	321-5026-00	B010001	B010318		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A18R444	321-5026-00	B010001	B010318		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A18U230	156-2691-00	B010001	B010318		MICROCKT, LINEAR-NEC, UHF AMPLIFIER	80009	156-2691-00
A18U414	156-5021-00	B010001	B010318		MICROCKT, DGLT:CMOS, 8 STATE SHIFT AND STORE	18324	HEF4094BTD
A18A1	671-0767-00	B020319			CIRCUIT BD ASSY: DIGITAL CONTROL	80009	671-0767-00
A18A1C311	290-5002-00	B020319			CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A18A1C330	290-5002-00	B020319			CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A18A1C412	290-5000-00	B020319			CAP, FXD, ELCTLT: 1UF, 20%, 50V	TK0900	S50V1MICROF
A18A1Q300	151-5000-00	B020319			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A18A1Q421	151-5000-00	B020319			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A18A1Q430	151-5000-00	B020319			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A18A1Q432	151-5000-00	B020319			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A18A1Q434	151-5000-00	B020319			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A18A1Q441	151-5000-00	B020319			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A18A1Q443	151-5000-00	B020319			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A18A1Q445	151-5000-00	B020319			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A18A1R301	321-5030-00	B020319			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A18A1R312	321-5000-00	B020319			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A18A1R321	321-5000-00	B020319			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A18A1R400	321-5018-00	B020319			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A18A1R401	321-5018-00	B020319			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A18A1R410	321-5030-00	B020319			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A18A1R411	321-5018-00	B020319			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A18A1R413	321-5030-00	B020319			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A18A1R420	321-5026-00	B020319			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A18A1R422	321-5026-00	B020319			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A18A1R431	321-5026-00	B020319			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A18A1R433	321-5026-00	B020319			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A18A1R440	321-5026-00	B020319			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A18A1R442	321-5026-00	B020319			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A18A1R444	321-5026-00	B020319			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A18A1U414	156-5021-01	B020319			MICROCKT, DGLT:CMOS, 8 STATE SHIFT AND STORE	80009	156-5021-01
A18A2	671-0768-00	B020319			CIRCUIT BD ASSY: RF	80009	671-0768-00
A18A2C110	283-0253-00	B020319			CAP, FXD, CER DI: 0.01UF, 10%, 100V	04222	15051C103KZT6C
A18A2C111	283-0278-01	B020319			CAP, FXD, CER DI: 2.2UF, 20%, 100V	65238	3520Z225M101PX
A18A2C138	281-0720-00	B020319			CAP, FXD, CER DI: 1750PF, +80-20%, 250V	33095	51-707-002
A18A2C143	283-5004-00	B020319			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A18A2C144	283-5004-00	B020319			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A18A2C145	283-5004-00	B020319			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A18A2C151	283-5004-00	B020319			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A18A2C210	283-5004-00	B020319			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Descrt	Name & Description	Mfr. Code	Mfr. Part No.
A18A2C220	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A18A2C222	281-0720-00	B020319		CAP, FXD, CER DI: 1750PF, +80-20%, 250V	33095	51-707-002
A18A2C225	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A18A2C228	281-0720-00	B020319		CAP, FXD, CER DI: 1750PF, +80-20%, 250V	33095	51-707-002
A18A2C230	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A18A2C232	281-0720-00	B020319		CAP, FXD, CER DI: 1750PF, +80-20%, 250V	33095	51-707-002
A18A2C235	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A18A2C238	281-0720-00	B020319		CAP, FXD, CER DI: 1750PF, +80-20%, 250V	33095	51-707-002
A18A2C240	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A18A2C242	281-0720-00	B020319		CAP, FXD, CER DI: 1750PF, +80-20%, 250V	33095	51-707-002
A18A2C244	281-0720-00	B020319		CAP, FXD, CER DI: 1750PF, +80-20%, 250V	33095	51-707-002
A18A2C245	283-5004-00	B020319		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A18A2C248	281-0720-00	B020319		CAP, FXD, CER DI: 1750PF, +80-20%, 250V	33095	51-707-002
A18A2J100	131-4203-00	B020319		CONN, RCPT, ELEC: SMA JACK TO SPCL END CONFIG	80009	131-4203-00
A18A2J150	131-4203-00	B020319		CONN, RCPT, ELEC: SMA JACK TO SPCL END CONFIG	80009	131-4203-00
A18A2J200	131-4203-00	B020319		CONN, RCPT, ELEC: SMA JACK TO SPCL END CONFIG	80009	131-4203-00
A18A2J250	131-4203-00	B020319		CONN, RCPT, ELEC: SMA JACK TO SPCL END CONFIG	80009	131-4203-00
A18A2K110	148-0198-00	B020319		RELAY, REED: DPDT, 98 OHMS, 6V	11532	712-6
A18A2K120	148-0198-00	B020319		RELAY, REED: DPDT, 98 OHMS, 6V	11532	712-6
A18A2K125	148-0198-00	B020319		RELAY, REED: DPDT, 98 OHMS, 6V	11532	712-6
A18A2K130	148-0198-00	B020319		RELAY, REED: DPDT, 98 OHMS, 6V	11532	712-6
A18A2K135	148-0198-00	B020319		RELAY, REED: DPDT, 98 OHMS, 6V	11532	712-6
A18A2K140	148-0198-00	B020319		RELAY, REED: DPDT, 98 OHMS, 6V	11532	712-6
A18A2K145	148-0198-00	B020319		RELAY, REED: DPDT, 98 OHMS, 6V	11532	712-6
A18A2R100	321-5007-00	B020319		RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A18A2R101	321-5007-00	B020319		RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A18A2R102	321-5044-00	B020319		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A18A2R112	321-5043-00	B020319		RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A18A2R113	321-5027-00	B020319		RES, FXD, FILM: 5.62K, 1%, 0.125W	01121	BCK5621FT
A18A2R114	321-5044-00	B020319		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A18A2R115	321-5010-00	B020319		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A18A2R120	321-5044-00	B020319		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A18A2R121	321-5007-00	B020319		RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A18A2R122	321-5007-00	B020319		RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A18A2R123	321-5044-00	B020319		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A18A2R130	321-5010-00	B020319		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A18A2R131	321-5010-00	B020319		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A18A2R132	321-5004-00	B020319		RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A18A2R133	321-5014-00	B020319		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A18A2R134	321-5013-00	B020319		RES, FXD, FILM: 392 OHM, 1%, 0.125W	01121	BCK3920FT
A18A2R135	321-5001-00	B020319		RES, FXD, FILM: 12.1 OHM, 1%, 0.125W	57668	MCR18EZHFW 12E1
A18A2R140	321-5045-00	B020319		RES, FXD, FILM: 68.1 OHM, 1%, 0.125W	01121	BCD68R1FT
A18A2R141	321-5045-00	B020319		RES, FXD, FILM: 68.1 OHM, 1%, 0.125W	01121	BCD68R1FT
A18A2R142	321-5008-00	B020319		RES, FXD, FILM: 150 OHM, 1%, 0.125W	01121	BCK1500FT
A18A2R150	321-5000-00	B020319		RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A18A2R250	321-5015-00	B020319		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A18A2R251	321-5044-00	B020319		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A18A2U155	156-2691-00	B020319		MICROCKT, LINEAR: NEC, UHF AMPLIFIER	80009	156-2691-00
A19	119-2206-00			OSCILLATOR, RF: 1.9 TO 4.0 GHZ	80009	119-2206-00
A19A1	-----			(PART OF A19)		
A19A1C120	290-0326-02			CAP, FXD, ELCTLT: 820UF, 10%, 6V	56289	109D827X9006F2
A19A1C240	290-0726-00			CAP, FXD, ELCTLT: 220UF, 20%, 10V	56289	196D227X0010TE3
A19A1C260	290-5001-00			CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A19A1C320	290-0326-02			CAP, FXD, ELCTLT: 820UF, 10%, 6V	56289	109D827X9006F2
A19A1C430	290-0726-00			CAP, FXD, ELCTLT: 220UF, 20%, 10V	56289	196D227X0010TE3
A19A1CR320	152-5005-00			SEMICON DVC, DI: DUAL, COMMON ANODE, 70V, BAW56	04713	MBAW56TI
A19A1J230	131-3774-00			CONN, RCPT, ELEC: HEADER, 2 X 36, 0.1 SPACING	22526	65610-172
A19A1K220	148-5000-00			RELAY, REED: SWITCH	80009	148-5000-00

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A19AIQ120	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3908T1
A19AIQ140	-----			(PART OF A19)		
A19AIQ318	-----			(PART OF A19)		
A19AIQ320	151-5001-00			TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A19AIQ328	-----			(PART OF A19)		
A19AIR118	321-0097-00			RES,FXD,FILM:100 OHM,1%,0.125W,TC=TO	91637	CMF551166100R0F
A19AIR130	321-5045-00			RES,FXD,FILM:68.1 OHM,1%,0.125W	01121	BCD68R1FT
A19AIR136	-----			(PART OF A19)		
A19AIR212	321-0122-00			RES,FXD,FILM:182 OHM,1%,0.125W,TC=TO	19701	5033ED182R0F
A19AIR214	321-0202-00			RES,FXD,FILM:1.24K OHM,1%,0.125W,TC=TO	24546	NA5501241F
A19AIR216	321-0139-00			RES,FXD,FILM:274 OHM,1%,0.125W,TC=TO	07716	CEAD274R0F
A19AIR218	-----			(PART OF A19)		
A19AIR219	-----			(PART OF A19)		
A19AIR230	-----			(PART OF A19)		
A19AIR232	-----			(PART OF A19)		
A19AIR234	-----			(PART OF A19)		
A19AIR236	-----			(PART OF A19)		
A19AIR240	-----			(PART OF A19)		
A19AIR318	-----			(PART OF A19)		
A19AIR320	-----			(PART OF A19)		
A19AIR322	321-5043-00			RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A19AIR324	-----			(PART OF A19)		
A19AIR326	-----			(PART OF A19)		
A19AIR327	-----			(PART OF A19)		
A19AIR328	-----			(PART OF A19)		
A19AIR360	-----			(PART OF A19)		
A19AIR362	-----			(PART OF A19)		
A19AIR364	-----			(PART OF A19)		
A19AIRV130	-----			(PART OF A19)		
A19AIRV330	-----			(PART OF A19)		
A19AIRV340	-----			(PART OF A19)		
A19AIU120	-----			(PART OF A19)		
A19AIU320	-----			(PART OF A19)		
A19AIU350	-----			(PART OF A19)		
A19AIVR120	152-0304-00			SEMICOND DVC,DI:ZEN,SI,20V,5%,0.4W,DO-7	15238	Z5411
A19AIVR218	152-0304-00			SEMICOND DVC,DI:ZEN,SI,20V,5%,0.4W,DO-7	15238	Z5411
A19AIW29	174-0406-00			CA ASSY,SP,ELEC:3,26 AWG,6.5 L	80009	174-0406-00
A20	671-0218-00	B010001	B010318	CIRCUIT BD ASSY:COUNTER AMPLIFIER	80009	671-0218-00
A20C114	283-5002-00	B010001	B010318	CAP,FXD,CER DI:1000PF,10%,50V	14674	12061A102KAT050R
A20C120	283-5004-00	B010001	B010318	CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C216	283-5004-00	B010001	B010318	CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C310	283-5014-00	B010001	B010318	CAP,FXD,CER DI:330PF,5%,50V	80009	283-5014-00
A20C315	283-5004-00	B010001	B010318	CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C321	290-5000-00	B010001	B010318	CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A20C362	290-5000-00	B010001	B010318	CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A20C363	283-5049-00	B010001	B010318	CAP,FXD,CER DI:180PF,5%,50V	95275	VJ1206A181JXA
A20C370	283-5004-00	B010001	B010318	CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C372	283-5001-00	B010001	B010318	CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A20C374	283-5027-00	B010001	B010318	CAP,FXD,CER DI:470PF,5%,50V	54583	C3216C0G1H471J-T
A20C376	283-5022-00	B010001	B010318	CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J-T
A20C377	283-5011-00	B010001	B010318	CAP,FXD,CER DI:33PF,5%,50V	95275	VJ1206A330JXA
A20C381	283-5004-00	B010001	B010318	CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C383	283-5027-00	B010001	B010318	CAP,FXD,CER DI:470PF,5%,50V	54583	C3216C0G1H471J-T
A20C385	283-5001-00	B010001	B010318	CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A20C386	283-5049-00	B010001	B010318	CAP,FXD,CER DI:180PF,5%,50V	95275	VJ1206A181JXA
A20C391	290-5000-00	B010001	B010318	CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A20C411	283-5004-00	B010001	B010318	CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C413	283-5001-00	B010001	B010318	CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA

Replaceable Electrical Parts - 2710

Component No.	Tektronix		Serial/Assembly No.		Name & Description	Mfr.	Mfr. Part No.
	Part No.	Effective	Discont	Code			
A20C422	283-5004-00	B010001	B010318		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A20C423	283-5004-00	B010001	B010318		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A20C424	290-5000-00	B010001	B010318		CAP, FXD, ELCTLT: 1UF, 20%, 50V	TK0900	S50V1MICROF
A20C425	283-5011-00	B010001	B010318		CAP, FXD, CER DI: 33PF, 5%, 50V	95275	VJ1206A330JXA
A20C451	283-5004-00	B010001	B010318		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A20C452	290-5000-00	B010001	B010318		CAP, FXD, ELCTLT: 1UF, 20%, 50V	TK0900	S50V1MICROF
A20C461	283-5004-00	B010001	B010318		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A20C463	290-5000-00	B010001	B010318		CAP, FXD, ELCTLT: 1UF, 20%, 50V	TK0900	S50V1MICROF
A20C465	283-5004-00	B010001	B010318		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A20C471	283-5004-00	B010001	B010318		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A20C474	283-5001-00	B010001	B010318		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A20C476	283-5049-00	B010001	B010318		CAP, FXD, CER DI: 180PF, 5%, 50V	95275	VJ1206A181JXA
A20C478	283-5001-00	B010001	B010318		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A20C481	283-5004-00	B010001	B010318		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A20C482	283-5004-00	B010001	B010318		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A20C485	283-5049-00	B010001	B010318		CAP, FXD, CER DI: 180PF, 5%, 50V	95275	VJ1206A181JXA
A20C488	283-5001-00	B010001	B010318		CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A20C494	283-5004-00	B010001	B010318		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A20C496	290-5000-00	B010001	B010318		CAP, FXD, ELCTLT: 1UF, 20%, 50V	TK0900	S50V1MICROF
A20C511	283-5004-00	B010001	B010318		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A20C520	283-5004-00	B010001	B010318		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A20C570	283-5004-00	B010001	B010318		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A20C580	283-5004-00	B010001	B010318		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A20C820	290-5001-00	B010001	B010318		CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A20C910	290-5001-00	B010001	B010318		CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A20CR122	152-5000-00	B010001	B010318		SEMICON DVC, DI: SW, SI, 70V, COM CATHODE	04713	BAV70
A20E316	276-0532-00	B010001	B010318		SHLD BEAD, ELEK: FERRITE	02114	56-590-65/4A6
A20E334	276-0532-00	B010001	B010318		SHLD BEAD, ELEK: FERRITE	02114	56-590-65/4A6
A20E374	276-0532-00	B010001	B010318		SHLD BEAD, ELEK: FERRITE	02114	56-590-65/4A6
A20E483	276-0532-00	B010001	B010318		SHLD BEAD, ELEK: FERRITE	02114	56-590-65/4A6
A20J200	131-1931-00	B010001	B010318		CONN, RCPT, ELEC: SNAP CPLG, R ANGLE, CKT BD MT	16179	5164-5006-09
A20J490	131-1931-00	B010001	B010318		CONN, RCPT, ELEC: SNAP CPLG, R ANGLE, CKT BD MT	16179	5164-5006-09
A20J530	131-1425-00	B010001	B010318		CONN, RCPT, ELEC: RTANG HEADER, 1 X 36, 0.1 SP	22526	65521-136
A20L211	108-5000-00	B010001	B010318		COIL, RF: FXD, 1UH	54583	NL453232T-1ROM
A20L373	108-5049-00	B010001	B010318		COIL, RF: FXD, 820NH, 5%	02113	1008CS-821-05
A20L375	108-5005-00	B010001	B010318		COIL, RF: FXD, 560NH	80009	108-5005-00
A20L384	108-5049-00	B010001	B010318		COIL, RF: FXD, 820NH, 5%	02113	1008CS-821-05
A20L477	108-5030-00	B010001	B010318		COIL, RF: FXD, 100NH	80009	108-5030-00
A20P110	131-1857-00	B010001	B010318		TERM SET, PIN: 36/0.025 SQ PIN, ON 0.1 CTRS	TK1483	082-3643-SS10
A20P530	131-3618-00	B010001	B010318		LINK, TERM CONN: LOW PROFILE JUMPER	80009	131-3618-00
A20Q111	151-5001-00	B010001	B010318		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A20Q123	151-5001-00	B010001	B010318		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A20Q360	151-5000-00	B010001	B010318		TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A20Q390	151-5000-00	B010001	B010318		TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A20Q460	151-5001-00	B010001	B010318		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A20Q462	151-5000-00	B010001	B010318		TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A20Q464	151-5001-00	B010001	B010318		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A20Q490	151-5001-00	B010001	B010318		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A20Q491	151-5000-00	B010001	B010318		TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A20Q492	151-5001-00	B010001	B010318		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A20R112	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A20R113	321-5047-00	B010001	B010318		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A20R121	321-5030-00	B010001	B010318		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A20R124	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A20R212	321-5000-00	B010001	B010318		RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A20R213	321-5042-00	B010001	B010318		RES, FXD, FILM: 39.2 OHM, 1%, 0.125W	57668	MCR18FWEA39E2
A20R214	321-5015-00	B010001	B010318		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A20R220	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix		Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
	Part No.		Effective	Discnt			
A20R221	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A20R222	321-5044-00	B010001	B010318		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A20R223	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A20R224	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A20R261	311-1566-00	B010001	B010318		RES, VAR, NONMW: TRMR, 200 OHM, 0.5W	32997	3352T-1-201
A20R311	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A20R312	321-5015-00	B010001	B010318		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A20R313	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A20R314	321-5015-00	B010001	B010318		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A20R320	321-5044-00	B010001	B010318		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A20R322	321-5015-00	B010001	B010318		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A20R323	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A20R324	321-5015-00	B010001	B010318		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A20R325	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A20R361	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A20R371	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A20R380	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A20R382	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A20R412	321-5044-00	B010001	B010318		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A20R414	321-5030-00	B010001	B010318		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A20R415	321-5015-00	B010001	B010318		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A20R416	321-5015-00	B010001	B010318		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A20R417	321-5030-00	B010001	B010318		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A20R420	321-5015-00	B010001	B010318		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A20R421	321-5015-00	B010001	B010318		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A20R450	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A20R453	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A20R470	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A20R472	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A20R473	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A20R479	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A20R480	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A20R483	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A20R484	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A20R486	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A20R493	321-5018-00	B010001	B010318		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A20R495	321-5006-00	B010001	B010318		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A20R512	321-5000-00	B010001	B010318		RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18ZHF10E
A20R562	311-1566-00	B010001	B010318		RES, VAR, NONMW: TRMR, 200 OHM, 0.5W	32997	3352T-1-201
A20U110	156-5106-00	B010001	B010318		MICROCKT, DGTL: CMOS, QUAD 2 INP NOR GATE	80009	156-5106-00
A20U111	156-2223-00	B010001	B010318		MICROCKT, DGTL: VOLTAGE REGULATOR, 600MV	27014	LM337LZ
A20U122	156-1161-00	B010001	B010318		MICROCKT, LINEAR: VOLTAGE REGULATOR, POS, ADJ	12969	UC317T
A20U132	156-1161-00	B010001	B010318		MICROCKT, LINEAR: VOLTAGE REGULATOR, POS, ADJ	12969	UC317T
A20U215	156-5279-00	B010001	B010318		MICROCKT, DGTL: ECL, QUAD AND GATE, 2 INP	80009	156-5279-00
A20U410	156-5269-00	B010001	B010318		MICROCKT, DGTL: ECL, TRIPLE LINE RECEIVER	80009	156-5269-00
A20U510	156-5280-00	B010001	B010318		MICROCKT, LINEAR: WIDEBAND HIGH FREQUENCY AMP LIFIER	80009	156-5280-00
A21	670-9470-00	B020319			CIRCUIT BD ASSY: REF OSCILLATOR	80009	670-9470-00
A21C112	283-5004-00	B020319			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A21C140	283-5001-00	B020319			CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A21C141	283-5001-00	B020319			CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A21C151	283-5001-00	B020319			CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A21C200	283-5004-00	B020319			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A21C232	281-0957-00	B020319			CAP, FXD, CER, DI: 82PF, 5%, 500V	80009	281-0957-00
A21C250	283-5001-00	B020319			CAP, FXD, CER DI: 100PF, 5%, 50V	95275	VJ1206A101JXA
A21C255	283-5004-00	B020319			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A21C256	283-5004-00	B020319			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A21C261	283-5004-00	B020319			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discont			
A21C272	283-5001-00	B020319		CAP, FXD, CER DI:100PF, 5%, 50V	95275	VJ1206A101JXA
A21C280	283-5001-00	B020319		CAP, FXD, CER DI:100PF, 5%, 50V	95275	VJ1206A101JXA
A21C287	283-5004-00	B020319		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A21C331	283-5004-00	B020319		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A21C353	283-5004-00	B020319		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A21C360	283-5001-00	B020319		CAP, FXD, CER DI:100PF, 5%, 50V	95275	VJ1206A101JXA
A21C363	283-5004-00	B020319		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A21C371	283-5004-00	B020319		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A21C374	283-5004-00	B020319		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A21C383	283-5004-00	B020319		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A21C431	283-5004-00	B020319		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A21C441	283-5004-00	B020319		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A21C460	283-5004-00	B020319		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A21C471	283-5004-00	B020319		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A21C480	283-5004-00	B020319		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A21C562	283-5004-00	B020319		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A21C583	290-5002-00	B020319		CAP, FXD, ELCTLT:10UF, 16V	TK1424	20MC100M-TER
A21CR284	152-5004-00	B020319		SEMICON DVC, DI:SI, SW, SER PR, 70V	04713	BAV99T1
A21CR363	152-5004-00	B020319		SEMICON DVC, DI:SI, SW, SER PR, 70V	04713	BAV99T1
A21CR364	152-5004-00	B020319		SEMICON DVC, DI:SI, SW, SER PR, 70V	04713	BAV99T1
A21CR370	152-5004-00	B020319		SEMICON DVC, DI:SI, SW, SER PR, 70V	04713	BAV99T1
A21CR490	152-5004-00	B020319		SEMICON DVC, DI:SI, SW, SER PR, 70V	04713	BAV99T1
A21CR491	152-5004-00	B020319		SEMICON DVC, DI:SI, SW, SER PR, 70V	04713	BAV99T1
A21H310	119-2265-00	B020319		OVEN, CRYSTAL:5W, 5VDC	12020	T05P-15-70
A21J110	131-0938-00	B020319		CONN, RCPT, ELEC:SMB, FEMALE	98291	051-043-0349
A21J130	131-0938-00	B020319		CONN, RCPT, ELEC:SMB, FEMALE	98291	051-043-0349
A21J140	131-0938-00	B020319		CONN, RCPT, ELEC:SMB, FEMALE	98291	051-043-0349
A21J160	131-0938-00	B020319		CONN, RCPT, ELEC:SMB, FEMALE	98291	051-043-0349
A21J180	131-0938-00	B020319		CONN, RCPT, ELEC:SMB, FEMALE	98291	051-043-0349
A21J290	131-2221-00	B020319		CONN, RCPT, ELEC:CKT 80, 50 CONT, MALE	22526	65626-150
A21L230	108-5031-00	B020319		COIL, RF:FXD, 20NH	02113	1008CT-200-5
A21Q213	151-5011-00	B020319		TRANSISTOR:NPN, SI, SOT-23	80009	151-5011-00
A21Q276	151-5011-00	B020319		TRANSISTOR:NPN, SI, SOT-23	80009	151-5011-00
A21Q277	151-5011-00	B020319		TRANSISTOR:NPN, SI, SOT-23	80009	151-5011-00
A21Q286	151-5000-00	B020319		TRANSISTOR:PNP, SI, SOT-23	04713	MMBT3906T1
A21Q320	151-5011-00	B020319		TRANSISTOR:NPN, SI, SOT-23	80009	151-5011-00
A21Q362	151-5000-00	B020319		TRANSISTOR:PNP, SI, SOT-23	04713	MMBT3906T1
A21Q450	151-5001-00	B020319		TRANSISTOR:NPN, SI, SOT-23	04713	MMBT3904T1
A21Q451	151-5001-00	B020319		TRANSISTOR:NPN, SI, SOT-23	04713	MMBT3904T1
A21Q552	151-5000-00	B020319		TRANSISTOR:PNP, SI, SOT-23	04713	MMBT3906T1
A21Q570	151-5001-00	B020319		TRANSISTOR:NPN, SI, SOT-23	04713	MMBT3904T1
A21Q580	151-5004-00	B020319		TRANSISTOR:NPN, SI, SOT-89	04713	BCK68
A21R111	321-5025-00	B020319		RES, FXD, FILM:3.92K, 1%, 0.125W	01121	BCK3921FT
A21R142	321-5051-00	B020319		RES, FXD, FILM:0 OHM, 1%, 0.125W	80009	321-5051-00
A21R150	321-5006-00	B020319	B020319	RES, FXD, FILM:100 OHM, 1%, 0.125W	01121	BCK1000FT
A21R170	311-1237-00	B020319		RES, VAR, NONW:1K OHM, 10%, 0.50W	32997	3386X-DY6-102
A21R210	321-5043-00	B020319		RES, FXD, FILM:47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A21R211	321-5025-00	B020319		RES, FXD, FILM:3.92K, 1%, 0.125W	01121	BCK3921FT
A21R212	321-5018-00	B020319		RES, FXD, FILM:1.00K, 1%, 0.125W	01121	BCK1001FT
A21R221	321-5046-00	B020319		RES, FXD, FILM:82.5 OHM, 1%, 0.125W	01121	BCK82R5FT
A21R223	321-5043-00	B020319		RES, FXD, FILM:47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A21R240	321-5044-00	B020319		RES, FXD, FILM:56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A21R241	321-5014-00	B020319		RES, FXD, FILM:475 OHM, 1%, 0.125W	01121	BCK4750FT
A21R242	321-5044-00	B020319		RES, FXD, FILM:56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A21R243	321-5014-00	B020319		RES, FXD, FILM:475 OHM, 1%, 0.125W	01121	BCK4750FT
A21R244	321-5006-00	B020319	B020319	RES, FXD, FILM:100 OHM, 1%, 0.125W	01121	BCK1000FT
A21R251	321-5044-00	B020319		RES, FXD, FILM:56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A21R252	321-5008-00	B020319		RES, FXD, FILM:150 OHM, 1%, 0.125W	01121	BCK1500FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix		Serial/Assembly No. Effective Dscnt	Name & Description	Mfr.	
	Part No.				Code	Part No.
A21R253	321-5044-00	B020319		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A21R254	321-5014-00	B020319		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A21R260	321-5029-00	B020319		RES,FXD,FILM:8.25K,1%,0.125W	01121	BCK8251FT
A21R262	321-5004-00	B020319		RES,FXD,FILM:22.1 OHM,1%,0.125W	57668	MCR18FWEA22E1
A21R270	321-5022-00	B020319		RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A21R271	321-5008-00	B020319		RES,FXD,FILM:150 OHM,1%,0.125W	01121	BCK1500FT
A21R273	321-5044-00	B020319		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A21R274	321-5044-00	B020319		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A21R275	321-5018-00	B020319		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A21R278	321-5006-00	B020319		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A21R279	321-5004-00	B020319		RES,FXD,FILM:22.1 OHM,1%,0.125W	57668	MCR18FWEA22E1
A21R281	321-5006-00	B020319		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A21R282	321-5046-00	B020319		RES,FXD,FILM:82.5 OHM,1%,0.125W	01121	BCK82R5FT
A21R283	321-5046-00	B020319		RES,FXD,FILM:82.5 OHM,1%,0.125W	01121	BCK82R5FT
A21R285	321-5014-00	B020319		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A21R288	321-5014-00	B020319		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A21R321	321-5020-00	B020319		RES,FXD,FILM:1.50K,1%,0.125W	01121	BCK1501FT
A21R330	321-5010-00	B020319		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A21R332	321-5004-00	B020319		RES,FXD,FILM:22.1 OHM,1%,0.125W	57668	MCR18FWEA22E1
A21R350	321-5006-00	B020319		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A21R351	321-5014-00	B020319		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A21R352	321-5010-00	B020319		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A21R364	321-5010-00	B020319		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A21R365	321-5010-00	B020319		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A21R372	321-5033-00	B020319		RES,FXD,FILM:18.2K,1%,0.125W	01121	BCK1822FT
A21R373	321-5030-00	B020319		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A21R381	321-5018-00	B020319		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A21R382	321-5018-00	B020319		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A21R420	307-5016-00	B020319		RES NTWK,FXD,FI:10K OHM,2%,0.125W	80009	307-5016-00
A21R452	321-5030-00	B020319		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A21R453	321-5030-00	B020319		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A21R472	321-5018-00	B020319		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A21R473	321-5030-00	B020319		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A21R481	321-5000-00	B020319		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A21R530	321-5018-00	B020319		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A21R540	321-5047-00	B020319		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A21R541	321-5018-00	B020319		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A21R542	321-5018-00	B020319		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A21R543	321-5047-00	B020319		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A21R544	321-5047-00	B020319		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A21R545	321-5018-00	B020319		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A21R550	321-5030-00	B020319		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A21R551	321-5018-00	B020319		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A21R561	321-5028-00	B020319		RES,FXD,FILM:6.81K,1%,0.125W	01121	BCK6811FT
A21R563	321-5000-00	B020319		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A21R564	321-5034-00	B020319		RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A21R565	321-5030-00	B020319		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A21R566	321-5034-00	B020319		RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A21R571	321-5035-00	B020319		RES,FXD,FILM:27.4K,1%,0.125W	01121	BCK2742FT
A21R572	321-5030-00	B020319		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A21R573	321-5000-00	B020319		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A21R574	321-5000-00	B020319		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A21R581	321-5000-00	B020319		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A21R582	321-5000-00	B020319		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A21S410	260-1721-00	B020319		SWITCH,ROCKER:8,SPST,125MA,30VDC	81073	76SB08S
A21U340	156-5279-00	B020319		MICROCKT,DGTL:ECL,QUAD AND GATE,2 INP	80009	156-5279-00
A21U380	156-5018-00	B020319		MICROCKT,LINEAR:DUAL OP AMP,LOW PWR,1MZ	80009	156-5018-00

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discnt	Name & Description	Mfr. Code	Mfr. Part No.
A21U430	156-5080-00	B020319		MICROCKT,DGTL:CMOS,8 BIT STATIC SHIFT RGTR	80009	156-5080-00
A21U440	156-5021-01	B020319		MICROCKT,DGTL:CMOS,8 STATE SHIFT ANS STOR	80009	156-5021-01
A21U470	156-5298-00	B020319		MICROCKT,LINER:VOLTAGE RGLTR,+5V,100MA	80009	156-5298-00
A21U560	156-5018-00	B020319		MICROCKT,LINER:DUAL OP AMP,LOW PWR,1MZ	80009	156-5018-00
A21Y310	158-0340-00	B020319		XTAL UNIT,QTZ:100.000MHZ,0.0005%	80009	158-0340-00
A22	670-9416-00	B020319		CIRCUIT BD ASSY:300HZ (OPTION 01 ONLY)	80009	670-9416-00
A22C310	283-5042-00	B020319		CAP,FXD,CER DI:27PF,5%,50V	29454	101R18N270JW4-T
A22C311	283-5000-00	B020319	B020319	CAP,FXD,CER DI:10PF,5%,50V	95275	VJ1206A100JXA
A22C312	283-5001-00	B020319		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A22C313	283-5042-00	B020319	B020319	CAP,FXD,CER DI:27PF,5%,50V	29454	101R18N270JW4-T
A22C313	283-5000-00	B020319		CAP,FXD,CER DI:10PF,5%,50V	95275	VJ1206A100JXA
A22C314	283-5001-00	B020319	B020319	CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A22C314	283-5049-00	B020319		CAP,FXD,CER DI:180PF,5%,50V	95275	VJ1206A181JXA
A22C315	283-5001-00	B020319		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A22C316	283-5011-00	B020319		CAP,FXD,CER DI:33PF,5%,50V	95275	VJ1206A330JXA
A22C317	283-5042-00	B020319	B020319	CAP,FXD,CER DI:27PF,5%,50V	29454	101R18N270JW4-T
A22C400	283-5004-00	B020319		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A22C411	283-5001-00	B020319		CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A22C412	283-5042-00	B020319	B020319	CAP,FXD,CER DI:27PF,5%,50V	29454	101R18N270JW4-T
A22C412	283-5000-00	B020319		CAP,FXD,CER DI:10PF,5%,50V	95275	VJ1206A100JXA
A22C413	283-5001-00	B020319	B020319	CAP,FXD,CER DI:100PF,5%,50V	95275	VJ1206A101JXA
A22C413	283-5049-00	B020319		CAP,FXD,CER DI:180PF,5%,50V	95275	VJ1206A181JXA
A22C414	283-5000-00	B020319	B020319	CAP,FXD,CER DI:10PF,5%,50V	95275	VJ1206A100JXA
A22C415	283-5042-00	B020319		CAP,FXD,CER DI:27PF,5%,50V	29454	101R18N270JW4-T
A22J100	131-0391-01	B020319		CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0119-22
A22J200	131-0391-01	B020319		CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0119-22
A22P212	131-3556-00	B020319		CONN,RCPT,ELEC:CARD CONN,2 X 12,HORIZ	22526	66527-012
A22Q304	151-5001-00	B020319		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A22Q403	151-5000-00	B020319		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A22R305	321-5030-00	B020319		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A22R306	321-5030-00	B020319		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A22R401	321-5000-00	B020319		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A22R402	321-5047-00	B020319		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A22R405	321-5030-00	B020319		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A22R406	321-5047-00	B020319		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A22R407	321-5030-00	B020319		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A22R408	321-5030-00	B020319		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A22R409	321-5047-00	B020319		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A22R410	321-5030-00	B020319		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A22T303	120-1721-00	B020319		TRANSFORMER,RF:AUTO,6:6:6 RATIO	80009	120-1721-00
A22T415	120-1721-00	B020319		TRANSFORMER,RF:AUTO,6:6:6 RATIO	80009	120-1721-00
A22U404	156-5021-01	B020319		MICROCKT,DGTL:CMOS,8 STATE SHIFT ANS STOR	80009	156-5021-01
A22Y110	158-0341-00	B020319		XTAL UNIT,QTZ:10MHZ,HC-47 PKG,SET OF 4	80009	158-0341-00
A22Y111	158-0341-00	B020319		XTAL UNIT,QTZ:10MHZ,HC-47 PKG,SET OF 4	80009	158-0341-00
A22Y210	158-0341-00	B020319		XTAL UNIT,QTZ:10MHZ,HC-47 PKG,SET OF 4	80009	158-0341-00
A22Y211	158-0341-00	B020319		XTAL UNIT,QTZ:10MHZ,HC-47 PKG,SET OF 4	80009	158-0341-00
E1	276-0614-00	B010033		CORE,EM:TOROID,FERRITE (PART OF W9)	78488	57-1656
E2	276-0640-00	B010033		CORE,EM:TOROID,FERRITE (PART OF W4)	56880	J-41005-TC
E3	276-0640-00	B010033		CORE,EM:TOROID,FERRITE (PART OF W4)	56880	J-41005-TC
FL16	119-0294-01			FILTER,LOW PASS:DC TO 1.8GHZ	50140	11L250-X1800-0
FL17	119-2205-00			1ST IF FILTER:TUNED CAVITY 2110	80009	119-2205-00
FL18	015-1027-00	B010038		FILTER,LOW PASS:	80009	015-1027-00
J102	136-0094-00			JACK,TELEPHONE:MINIATURE,SHUNT TYPE	80009	136-0094-00

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
LS103	119-0962-00			(PART OF W25 CABLE ASSY) LOUDSPEAKER, PM: 8 OHM, 3W, 2.047 DIA	54473	EAS-5PH04SC
R101	315-0820-00			(PART OF W25 CABLE ASSY) RES, FXD, FILM: 82 OHM, 5%, 0.25W	57668	NTR25J-E82E0
V1	154-0913-00			(PART OF W25 CABLE ASSY) ELECTRON TUBE: CRT, FINISHED	80009	154-0913-00
W4	174-0199-00			CA ASSY, SP, ELEC: SEMI-RIGID	80009	174-0199-00
W6	175-4287-00	B010001	B010318	CA ASSY, SP, ELEC: 20, 28 AWG, 13.75 L, RIBBON	TK1452	ZCA 08284
W7	174-0195-00			CA ASSY, SP, ELEC:	80009	174-0195-00
W8	174-0196-00			CA ASSY, SP, ELEC:	80009	174-0196-00
W9	174-0193-00	B010001	B010037	CA ASSY, SP, ELEC:	80009	174-0193-00
W10	174-0194-00			CA ASSY, SP, ELEC:	80009	174-0194-00
W11	174-0818-00			CABLE ASSY, RF: 50 OHM COAX, 5.25 L	80009	174-0818-00
W12	174-0817-00			CABLE ASSY, RF: 50 OHM COAX, 7.25 L	80009	174-0817-00
W16	174-0819-00	B010001	B010318	CABLE ASSY, RF: 50 OHM COAX, 8.25 L	80009	174-0819-00
W17	174-0819-00			CABLE ASSY, RF: 50 OHM COAX, 8.25 L	80009	174-0819-00
W18	174-0819-00			CABLE ASSY, RF: 50 OHM COAX, 8.25 L	80009	174-0819-00
W19	174-0819-00			CABLE ASSY, RF: 50 OHM COAX, 8.25 L	80009	174-0819-00
W20	174-0819-00			CABLE ASSY, RF: 50 OHM COAX, 8.25 L	80009	174-0819-00
W21	174-0819-00			CABLE ASSY, RF: 50 OHM COAX, 8.25 L	80009	174-0819-00
W22	174-0200-00			CA ASSY, SP, ELEC: SEMI-RIGID	80009	174-0200-00
W23	174-0747-00	B010001	B010318	CABLE ASSY, RF: 50 OHM COAX, 8.5 L	80009	174-0747-00
W24	174-0192-00			CA ASSY, SP, ELEC: SEMI-RIGID	80009	174-0192-00
W25	174-0251-00			CA ASSY, SP, ELEC: 4, 26 AWG, 3.0 L, RIBBON	80009	174-0251-00
W26	174-0534-00			CA ASSY, SP, ELEC: 50, 28 AWG, 5.0 L RIBBON	80009	174-0534-00
W28	174-0265-00			CA ASSY, SP, ELEC: 10, 26 AWG, 3.0 L	80009	174-0265-00
W29	174-0406-00	B010001	B010318	CA ASSY, SP, ELEC: 3, 26 AWG, 6.5 L	80009	174-0406-00
W29	174-0406-01	B020319		CA ASSY, SP, ELEC: 3, 26 AWG, 6.5 L	80009	174-0406-01
W30	174-1138-00	B010038		CABLE ASSY, RF: 4 CAV FLTR TO LOW PASS FLTR, 4 .915 L, SEMI-RIGID	80009	174-1138-00
W31	174-1143-00	B010038		CABLE ASSY, RF: LOW PASS FLTR TO 1ST CONVERTE R, 2.37 L, SEMI-RIGID	80009	174-1143-00
W35	174-1263-00	B010001	B010318	CABLE ASSY, RF: 50 OHM COAX, 14.0 L	80009	174-1263-00
W35	174-1263-01	B020319		CA ASSY, RF: 50 OHM COAX, 14.0 L	80009	174-1263-01

DIAGRAMS AND CIRCUIT BOARD ILLUSTRATIONS

Symbols

Graphic symbols and class designation letters are based on ANSI Standard Y32.2-1975.

Logic symbols are based on ANSI/IEEE 91-1984. Logic symbols show the logic function performed and may differ from the manufacturer's data.

Abbreviations are based on ANSI Y1.1-1972.

Other ANSI standards used in diagrams are:

- Y14.15-1966 Drafting Practices.
- Y14.2-1973 Line Conventions and Lettering.
- Y10.5-1975 Letter Symbols for Quantities Used in Electrical Science and Electrical Engineering.

American National Standard Institute
1430 Broadway
New York, New York 10018

Component Values

Electrical components shown on the diagrams are in the following units unless noted otherwise:

Capacitors = Values one or greater are in picofarads (pF). Values less than one are in microfarads (μ F).

Resistors = Ohms (Ω).

Assembly and Circuit Numbering

Each assembly and subassembly are assigned assembly numbers. The assembly number appears on the circuit board outline on the diagram, in the title for the circuit board illustration, and in the corresponding lookup table.

The Replaceable Electrical Parts list prefixes the circuit numbers with the corresponding assembly and subassembly numbers.

EXAMPLE: R2080 on assembly A20 becomes A20R2080.

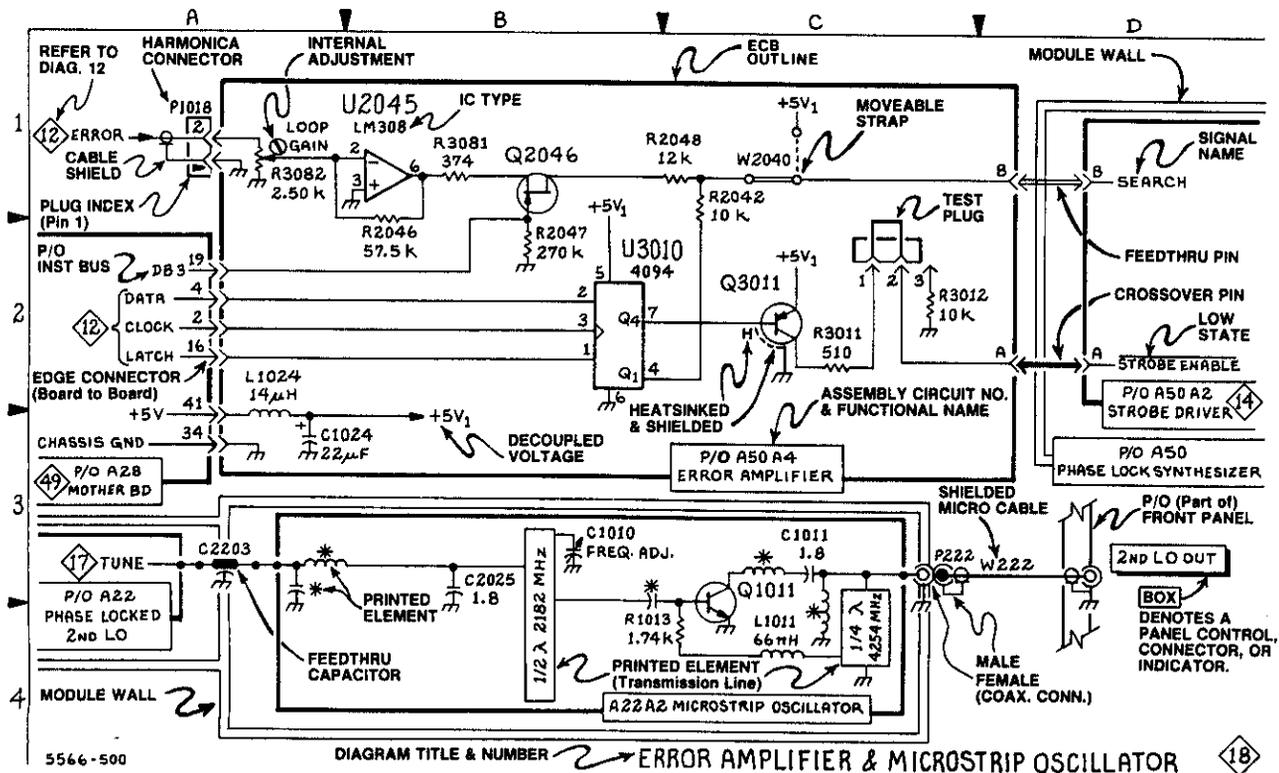
EXAMPLE: U1044 on subassembly A1 of assembly A36 is found in the electrical parts list as A36A1U1044.

Grid Coordinates

The schematic diagrams and circuit board illustrations are labeled with horizontal and vertical grids. Lookup tables with the grid coordinates are provided as a cross reference to help locate components on the corresponding schematic and circuit board.

Sample Diagram

The following sample diagram labels various details found on schematic diagrams.

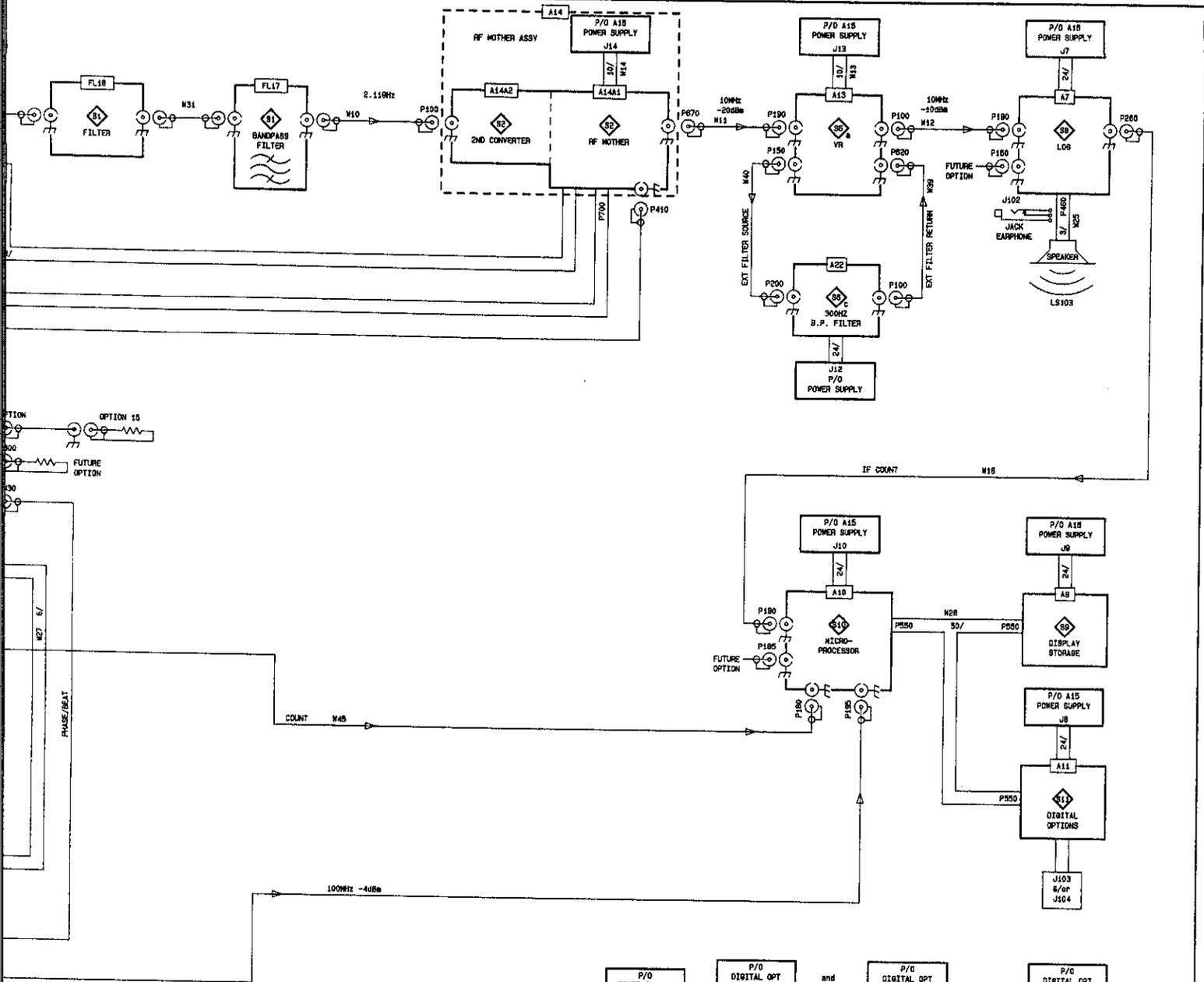


5566-500

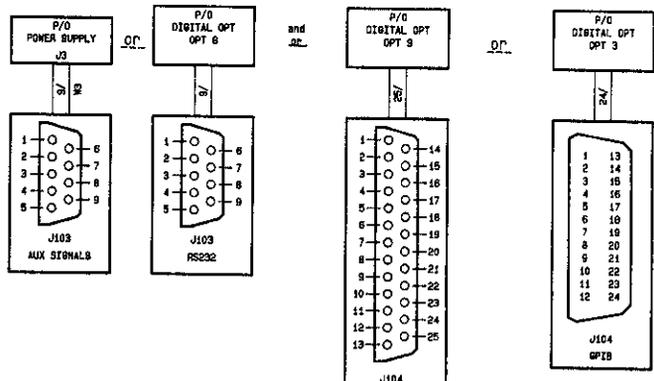
DIAGRAM TITLE & NUMBER → ERROR AMPLIFIER & MICROSTRIP OSCILLATOR

18

B1 SN 8020319 & ↑
SHT. 2 of 2

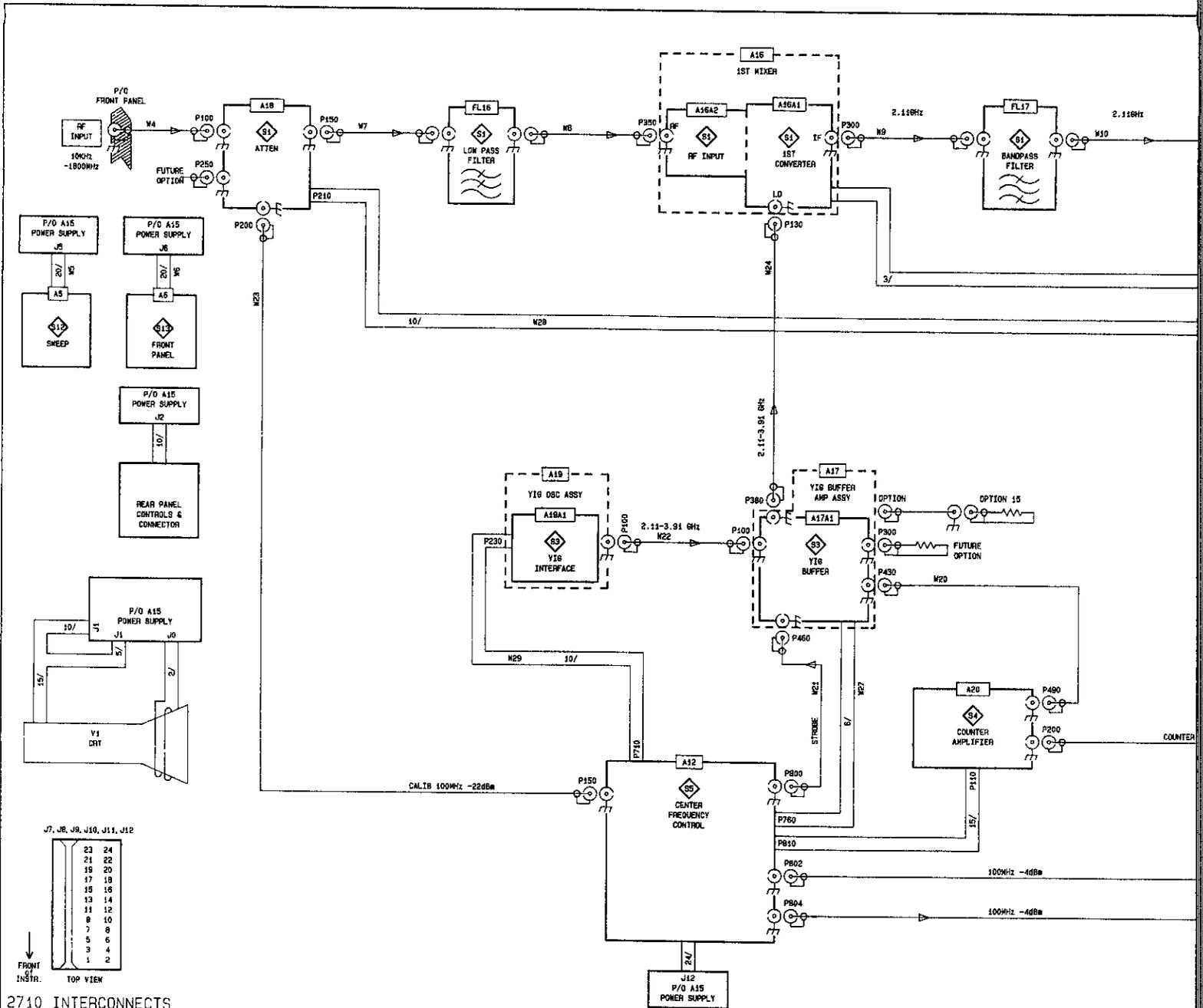


J14 RF MOTHER	J103 AUX SIGNALS	J103 RS232 DTE MALE	J104 PRINTER	J104 OPT B	Pin #
SYBRST-	EXTVID	CD	STROBE-	O101	1
KEYED-	GND	RD	DATA0	O102	2
+25V	LSDVID	TD	DATA1	D103	3
CLK0	DATA1	OTR	DATA2	D104	4
DATA0	KEYACC	SIGNAL GND	DATA3	E01	5
+10V	SNPBATE	DSR	DATA4	DAV	6
+5V	GND	RTS	DATA5	HPFD	7
GND	CLK1-	CTS	DATA6	NDAC	8
-11V	KEYREQ-	RI	DATA7	JFC	9
RELATCH-			ACK-	SR0	10
			BUSY	ATH	11
			P. END	GND	12
			SELECT	O105	13
			AUTOFEED-	D106	14
			ERROR-	D107	15
			INIT P-	D108	16
			SEL IN-	REN	17
			GND	GND	18
			GND	GND	19
			GND	GND	20
			GND	GND	21
			GND	GND	22
			GND	GND	23
			GND	GND	24
			GND	GND	25



2710 INTERCONNECT DIAGRAM
B1

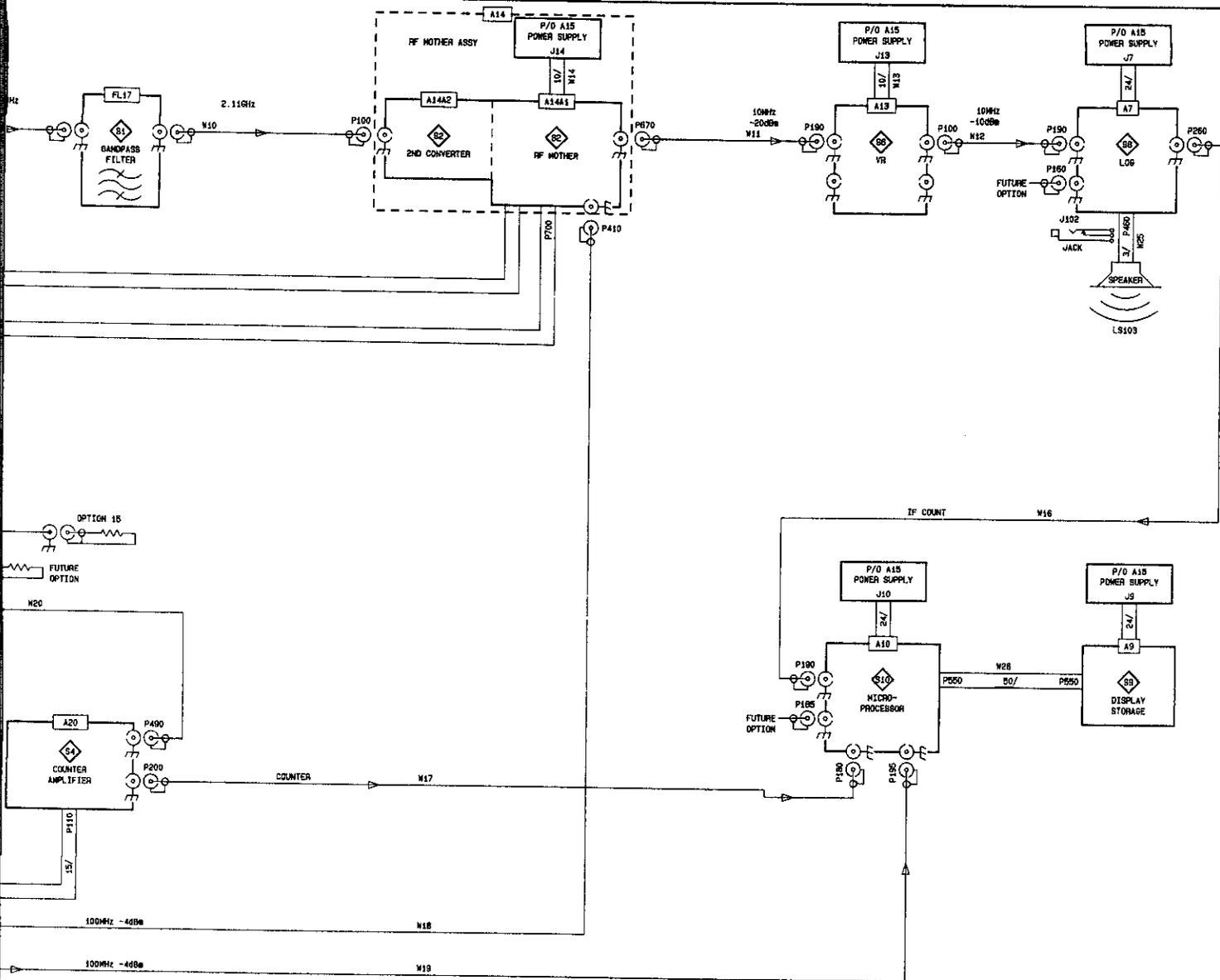
B1 SN 8010001 - 8010318
SHT. 1 of 2



2710 INTERCONNECTS

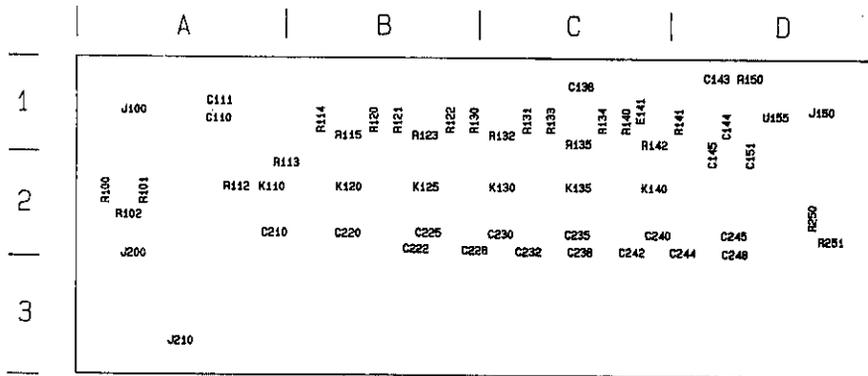
PIN #	J1 CRT SKT	J2 NPANELPOTS	J3 REAR CON	A18 J4 TS	A18 J5 SWEEP	A16 J6 FRONT PNL	A16 J7 LOG	A16 J8 RF OPT	A16 J9 DISP STOR	A16 J10 UPROC	A16 J11 DIS OPT	A16 J12 CF CRT	A16 J13 VR	A16 J14 RF MOTHER
1	CRT-12	EXTSYNC	EXTVID	DATA1	SMPND	CRTINTS-	SMSLOPE	SMP	DETVID	DETVID	SMSLOPE	SMSLOPE	SYBRST-	SYBRST-
2	CRT-11	TR A9.4V	SMPSATE	VLVL	SMP	TLVL	LOGVID	LOGVID	KEYED	KEYED	+20V	+20V	KEYED	KEYED
3	CRT-10	TR CENTER	GND	KEYED	Y16MON	DATA1	SMPGATE	SMPGATE	SMPGATE	SMPGATE	SMPND	SMPND	KEYED	KEYED
4	CRT-9	TR -9.4V	SMP	DATA0	Y16Z	FPACK-	POK	POK	REQ1-	REQ1-	SMP	SMP	KEYED	KEYED
5	CRT-8	VP -5V1	LOGVID	DATA0	Y16VERT	KEYED	REQ1-	REQ1-	REQ1-	REQ1-	REQ1-	REQ1-	DATA0	DATA0
6	CRT-7	VP CENTER	CLKT-	+10V	CLKT-	RFOPVID	RFOPVID	RFOPVID	RFOPVID	RFOPVID	RFOPVID	RFOPVID	RFOPVID	RFOPVID
7	CRT-6	VP GND	DATA1	+5V	CLKT-	CLKO	CLKO	CLKO	CLKO	CLKO	CLKO	CLKO	CLKO	CLKO
8	CRT-5	HP +5V1	KEYREQ-	GND	REFLATCH	REFLATCH	REFLATCH	REFLATCH	REFLATCH	REFLATCH	REFLATCH	REFLATCH	REFLATCH	REFLATCH
9	-----	HP CENTER	KEYACK-	-11V	REFLATCH	REFLATCH	REFLATCH	REFLATCH	REFLATCH	REFLATCH	REFLATCH	REFLATCH	REFLATCH	REFLATCH
10	-----	HP -5V1	KEYACK-	TLATCH-	REFLATCH	REFLATCH	REFLATCH	REFLATCH	REFLATCH	REFLATCH	REFLATCH	REFLATCH	REFLATCH	REFLATCH
11	-----	-----	-----	-----	+10V	-----	+10V	+10V	ACK1-	+10V	+10V	+10V	-----	-----
12	-----	-----	-----	-----	VLVL	-----	+10V	+10V	LOAD-	+10V	+10V	+10V	-----	-----
13	-----	-----	-----	-----	+5V	-----	+10V	+10V	AD00	+10V	+10V	+10V	-----	-----
14	-----	-----	-----	-----	SSTRIG	-----	+5V	+5V	AD01	+5V	+5V	+5V	-----	-----
15	-----	-----	-----	-----	GND	-----	+5V	+5V	AD02	+5V	+5V	+5V	-----	-----
16	-----	-----	-----	-----	GND	-----	GND	GND	AD03	+5V	+5V	+5V	-----	-----
17	-----	-----	-----	-----	LTNETRIG	-----	GND	GND	AD04	+5V	+5V	+5V	-----	-----
18	-----	-----	-----	-----	-11V	-----	GND	GND	AD05	+5V	+5V	+5V	-----	-----
19	-----	-----	-----	-----	EXTSYNC	-----	-11V	-11V	AD06	+5V	+5V	+5V	-----	-----
20	-----	-----	-----	-----	SMPLATCH-	-----	-11V	-11V	AD07	+5V	+5V	+5V	-----	-----
21	-----	-----	-----	-----	LOGVID	-----	REFLATCH-	REFLATCH-	AD08	+5V	+5V	+5V	-----	-----
22	-----	-----	-----	-----	-----	-----	OPAUD	OPAUD	AD09	+5V	+5V	+5V	-----	-----
23	-----	-----	-----	-----	-----	-----	OPAUD	OPAUD	AD10	+5V	+5V	+5V	-----	-----
24	-----	-----	-----	-----	-----	-----	OPAUD	OPAUD	AD11	+5V	+5V	+5V	-----	-----
25	-----	-----	-----	-----	-----	-----	OPAUD	OPAUD	AD12	+5V	+5V	+5V	-----	-----

B1 SN 8010001 - 8010318
SHT. 2 of 2

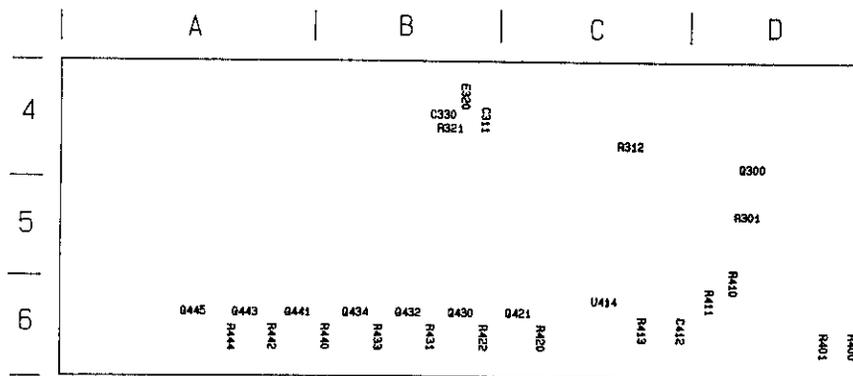


J14 MOTHER	PIN #
CRYST-	1
-KEYED-	2
+20V	3
CLKO	4
DATAO	5
+10V	6
+5V	7
GND	8
-11V	9
FLATCH-	10
	11
	12
	13
	14
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2710
INTERCONNECT
DIAGRAM

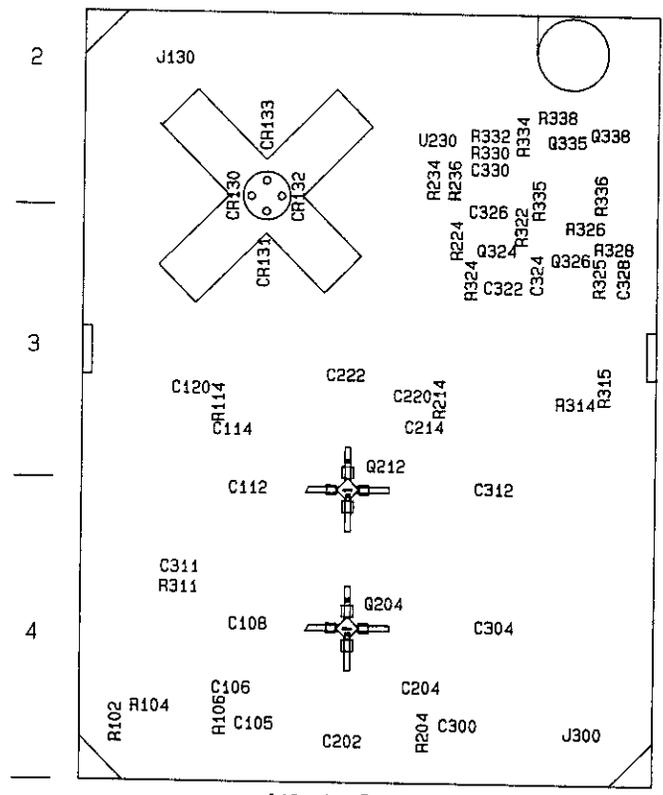
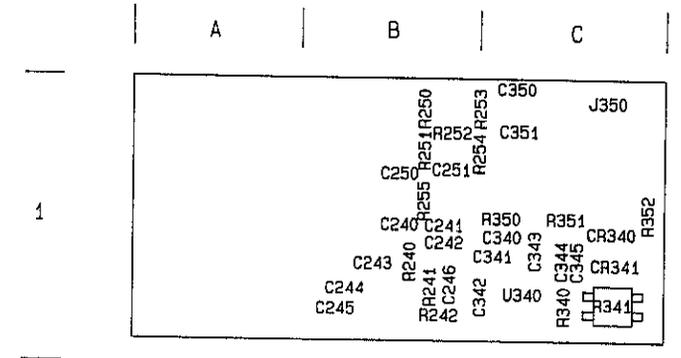


A18—Step Attenuator (Front)



A18—Step Attenuator (Rear)

S1



A16-1st Converter

A18 ATTENUATOR



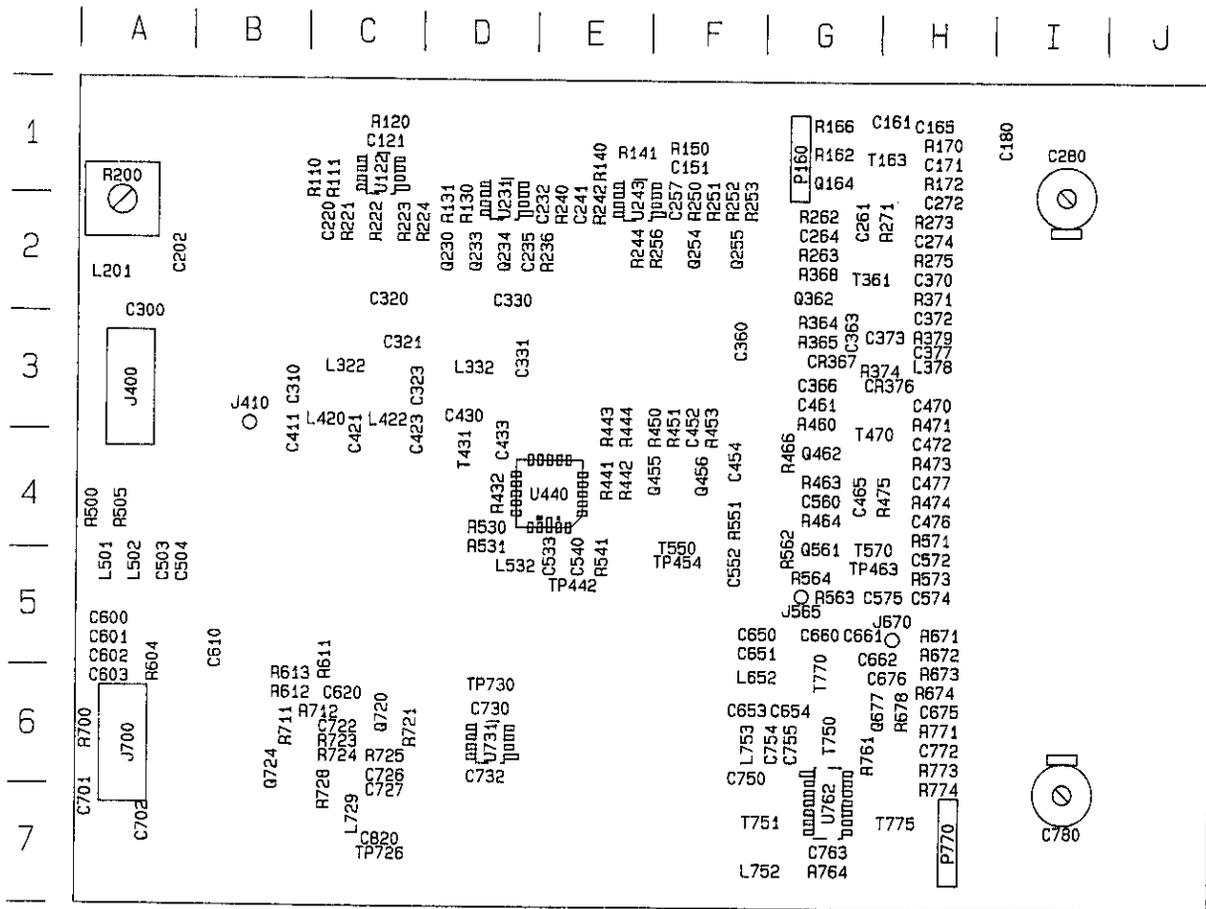
CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C110	B-9	A-1	K120	E-8	B-2	R132	G-9	C-1
C111	B-9	A-1	K125	F-8	B-2	R133	G-9	C-1
C138	I-10	C-1	K130	G-8	C-2	R134	H-9	C-1
C143	I-10	D-1	K135	H-8	C-2	R135	H-9	C-1
C144	J-10	D-1	K140	H-8	C-2	R140	H-9	C-1
C145	I-9	D-1	K145	I-8	D-2	R141	I-9	D-1
C151	J-9	D-1	J210	A-6	A-3	R142	I-9	C-1
C210	D-8	A-2	Q300	C-7	D-2	R150	I-10	D-1
C220	E-8	B-2	Q421	D-7	C-3	R250	J-9	D-2
C222	D-8	B-2	Q430	E-7	B-3	R251	J-9	D-2
C225	F-8	B-2	Q432	G-7	B-3	R301	B-7	D-5
C228	E-8	B-2	Q434	G-7	B-3	R312	H-10	C-4
C230	G-8	C-2	Q441	H-7	A-3	R321	I-10	B-4
C232	F-8	C-2	Q443	H-7	A-3	R400	B-7	D-6
C235	H-8	C-2	Q445	I-7	A-3	R401	B-7	D-6
C238	G-8	C-2	R100	C-9	A-2	R410	B-6	D-5
C240	I-8	C-2	R101	D-9	A-2	R411	C-8	D-6
C242	H-8	C-2	R102	C-8	A-2	R413	C-7	C-6
C244	I-8	D-2	R112	D-9	A-2	R420	D-7	C-6
C245	J-8	C-2	R113	D-9	A-2	R422	E-7	B-6
C248	I-8	D-2	R114	E-9	B-1	R431	F-7	B-6
C311	H-10	B-4	R115	E-9	B-1	R433	F-7	B-6
E141	I-10	C-1	R120	E-9	B-1	R440	G-7	B-6
E320	I-10	B-4	R121	F-9	B-1	R442	H-7	A-6
J100	A-9	A-1	R122	F-9	B-1	R444	I-7	A-6
J150	J-8	D-1	R123	F-9	B-1	U155	I-9	D-1
J200	A-8	A-2	R130	F-9	B-1	U155A	J-10	D-1
J250	J-9	D-2	R131	G-9	C-1	U414	C-7	C-6
K110	D-8	A-2						

A16 1ST MIXER

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C105	F-2	A-4	C341	C-2	C-1	R240	D-2	B-1
C106	F-3	A-4	C342	D-2	C-1	R241	D-1	B-1
C108	F-3	A-4	C343	C-3	C-1	R242	D-1	B-1
C112	F-2	A-3	C344	C-2	C-1	R250	D-3	B-1
C113	F-2	A-4	C345	D-2	C-1	R251	D-3	B-1
C114	F-1	A-3	C350	C-3	C-1	R252	D-3	B-1
C120	F-1	A-3	C351	C-3	C-1	R253	D-3	C-1
C202	G-2	B-4	CR130	E-3	A-2	R254	D-3	C-1
C204	G-3	B-4	CR131	E-3	A-3	R255	D-2	B-1
C214	G-1	B-3	CR132	E-3	B-2	R312	C-5	CHASSIS
C220	G-1	B-3	CR133	E-3	A-2	R313	C-5	CHASSIS
C222	G-1	B-3	CR340	C-1	C-1	R314	H-3	C-3
C240	D-2	B-1	CR341	C-2	C-1	R315	H-3	C-3
C241	D-2	B-1	J130	C-1	A-2	R322	G-4	C-3
C242	D-2	B-1	J300	H-2	C-4	R324	G-5	C-3
C243	D-2	B-1	J350	B-3	C-2	R325	F-5	C-3
C244	D-1	B-1	Q204	G-3	B-4	R326	F-4	C-3
C245	D-1	B-1	Q212	G-2	B-3	R328	F-5	C-3
C246	D-1	B-1	Q324	H-5	C-3	R330	E-5	C-2
C250	D-3	B-1	Q326	F-5	C-3	R332	E-4	C-2
C251	D-3	B-1	Q335	F-4	C-2	R334	F-4	C-2
C300	G-2	B-4	Q338	F-4	C-2	R335	G-4	C-2
C304	H-3	C-4	R102	F-2	A-4	R336	F-4	C-2
C312	H-2	C-3	R104	F-2	A-4	R338	F-3	C-2
C313	C-4	CHASSIS	R106	F-3	A-4	R340	C-2	C-1
C314	C-4	CHASSIS	R113	F-2	A-4	R341	C-2	C-1
C322	H-5	C-3	R114	F-1	A-3	R350	D-1	C-1
C324	F-5	C-3	R204	G-3	B-4	R351	C-2	C-1
C326	G-4	C-3	R214	G-1	B-3	R352	C-2	C-1
C328	F-4	C-3	R224	G-5	B-3	U230	E-4	B-2
C330	E-5	C-2	R234	D-4	B-2	U230A	D-5	B-2
C340	D-1	C-1	R236	E-5	B-2	U340	D-2	C-1
						U340A	C-3	C-1

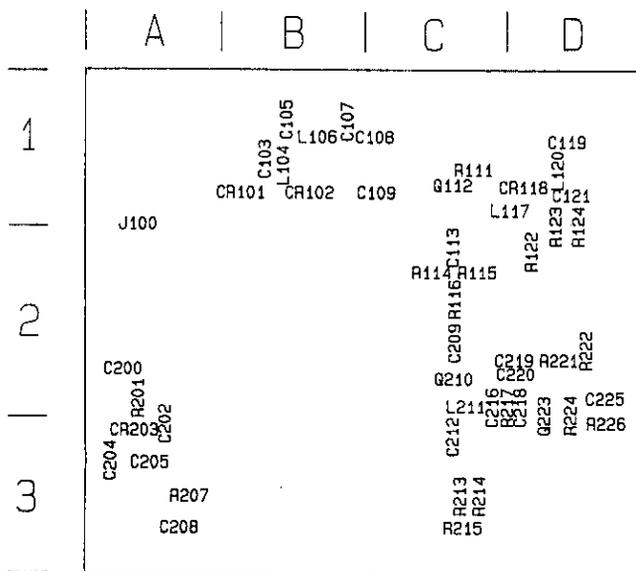
1st CONVERTER and ATTENUATOR





A14A1—RF Mother

A14A1—RF MOTHER
A14A2—2ND CONVERTER



A14A2—2nd Converter

A14A1 RF MOTHER BOARD

S2

A

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C121	B-4	C-1	C755	BI-2	G-6	R379	BC-1	H-3
C151	F-4	F-1	C763	H-3	G-7	R432	B-5	D-4
C161	A-2	H-1	C772	I-1	H-6	R441	C-5	E-4
C165	A-2	H-1	C780	G-2	I-7	R442	C-5	E-4
C171	A-1	H-1	C820	E-5	C-7	R443	B-5	E-3
C180	E-2	I-1	CR367	C-2	G-3	R444	C-5	E-3
C202	C-1	A-2	CR376	C-2	H-3	R450	D-5	F-3
C220	B-3	C-2	J400	C-1	A-3	R451	C-5	F-3
C232	E-1	E-2	J410	A-5	B-3	R453	C-5	F-3
C235	C-3	D-2	J565	J-3	G-5	R460	C-2	G-3
C241	H-3	E-2	J670	J-1	H-5	R463	D-3	G-4
C257	F-3	F-2	J700	A-3	A-6	R464	D-2	G-4
C261	A-1	G-2	L201	C-1	A-2	R466	D-2	G-4
C264	B-2	G-2	L322	D-1	C-3	R471	D-2	H-3
C272	A-1	H-2	L332	D-1	D-3	R473	C-1	H-4
C274	B-2	H-2	L378	C-2	H-3	R474	D-3	H-4
C280	E-2	I-1	L420	A-5	C-3	R475	D-3	H-4
C300	C-1	A-2	L422	A-5	C-3	R475	D-3	H-4
C310	A-5	B-3	L501	A-3	A-5	R500	A-4	A-4
G320	D-1	C-2	L502	A-3	A-5	R530	B-6	D-4
C321	D-1	C-3	L532	A-5	D-5	R531	B-6	D-4
C323	A-6	C-3	L652	I-2	F-6	R541	C-5	E-5
C330	D-1	D-2	L729	E-5	C-7	R551	C-4	F-4
C331	D-1	D-3	L752	H-2	G-7	R562	E-2	G-4
C360	C-3	F-3	L753	I-2	F-6	R563	J-3	G-5
C363	B-1	G-3	P160	A-2	G-1	R564	J-3	G-5
C366	C-3	G-3	P770	H-1	H-7	R571	E-2	H-4
C370	B-1	H-2	Q164	A-2	G-1	R573	D-2	H-5
C372	B-1	H-2	Q230	C-3	D-2	R604	A-4	A-5
C373	C-2	H-3	Q233	C-3	D-2	R611	D-6	C-5
C377	C-2	H-3	Q234	C-3	D-2	R612	D-6	B-6
C411	A-5	B-3	Q254	F-3	F-2	R613	D-5	B-6
C421	A-5	C-3	Q255	F-4	F-2	R671	J-1	H-5
C423	A-5	C-3	Q362	B-2	G-2	R672	J-1	H-5
C430	B-5	D-3	Q455	D-5	F-4	R673	J-1	H-5
C433	B-6	D-4	Q456	C-5	F-4	R674	J-2	H-6
C452	C-5	F-3	Q462	C-2	G-4	R678	J-2	H-6
C454	C-4	F-4	Q561	D-2	G-4	R700	A-4	A-6
C461	D-2	G-3	Q677	I-2	H-6	R711	D-6	B-6
C465	D-2	G-4	Q720	D-5	C-6	R712	D-5	C-6
C470	C-2	H-3	Q724	E-6	B-6	R721	D-5	C-6
C472	C-2	H-4	R110	A-3	C-1	R722	D-5	C-6
C476	D-3	H-4	R111	B-3	C-1	R724	D-5	C-6
C477	C-1	H-4	R120	B-4	C-1	R725	D-5	C-6
C503	E-6	A-5	R130	C-3	D-2	R728	D-5	C-7
C504	E-6	A-5	R131	C-3	D-2	R761	I-2	G-6
C533	A-5	E-5	R140	H-4	E-1	R764	H-3	G-7
C540	C-5	E-5	R141	F-4	E-1	R771	I-1	H-6
C552	C-4	F-5	R150	F-4	F-1	R773	H-3	H-6
C560	E-2	G-4	R162	A-2	G-1	R774	H-3	H-6
C572	D-2	H-5	R166	A-2	G-1	T163	A-1	H-1
C574	D-1	H-4	R170	A-2	G-1	T361	B-1	G-2
C575	J-3	H-5	R172	A-1	H-1	T431	B-5	D-4
C600	A-3	A-5	R200	A-3	A-2	T470	C-2	G-3
C601	A-4	A-5	R221	B-3	C-2	T550	C-4	F-4
C602	A-3	A-5	R222	B-3	C-2	T570	D-2	G-4
C603	A-4	A-6	R223	B-3	C-2	T750	I-2	G-6
C610	F-6	B-5	R224	B-3	C-2	T761	H-2	G-7
C620	D-6	C-6	R236	C-3	C-2	T770	I-1	G-5
C650	I-2	G-5	R240	H-4	E-2	T775	H-2	H-7
C651	I-2	G-5	R242	H-4	E-2	TP442	C-5	E-5
C653	I-2	F-6	R244	E-4	E-2	TP454	D-4	F-5
C654	I-2	G-6	R250	G-3	F-2	TP463	E-2	G-5
C660	I-1	G-5	R251	G-3	F-2	TP726	E-5	C-7
C661	J-1	G-5	R252	F-3	F-2	TP730	C-5	D-6
C662	J-1	H-5	R253	F-3	F-2	U122	B-4	C-1
C675	J-2	H-6	R256	F-4	F-2	U122A	B-3	C-1
C676	J-1	H-6	R262	A-1	G-2	U122B	B-3	C-1
C701	A-4	A-7	R263	B-2	G-2	U231	E-1	D-2
C702	A-5	A-7	R271	A-1	G-2	U243	G-3	E-2
C722	D-5	C-6	R273	B-1	H-2	U243A	F-4	E-2
C726	D-5	C-6	R275	B-2	H-2	U243B	H-4	E-2
C727	E-5	C-7	R364	C-2	G-3	U440	A-6	E-4
C730	D-6	D-6	R365	C-2	G-3	U440A	C-5	E-4
C732	D-5	D-6	R368	B-2	G-2	U440B	B-5	E-4
C750	H-3	F-6	R371	B-1	H-2	U440C	B-5	E-4
C754	I-2	G-6	R374	C-2	H-3	U731	D-6	D-6
						U762	H-2	G-7

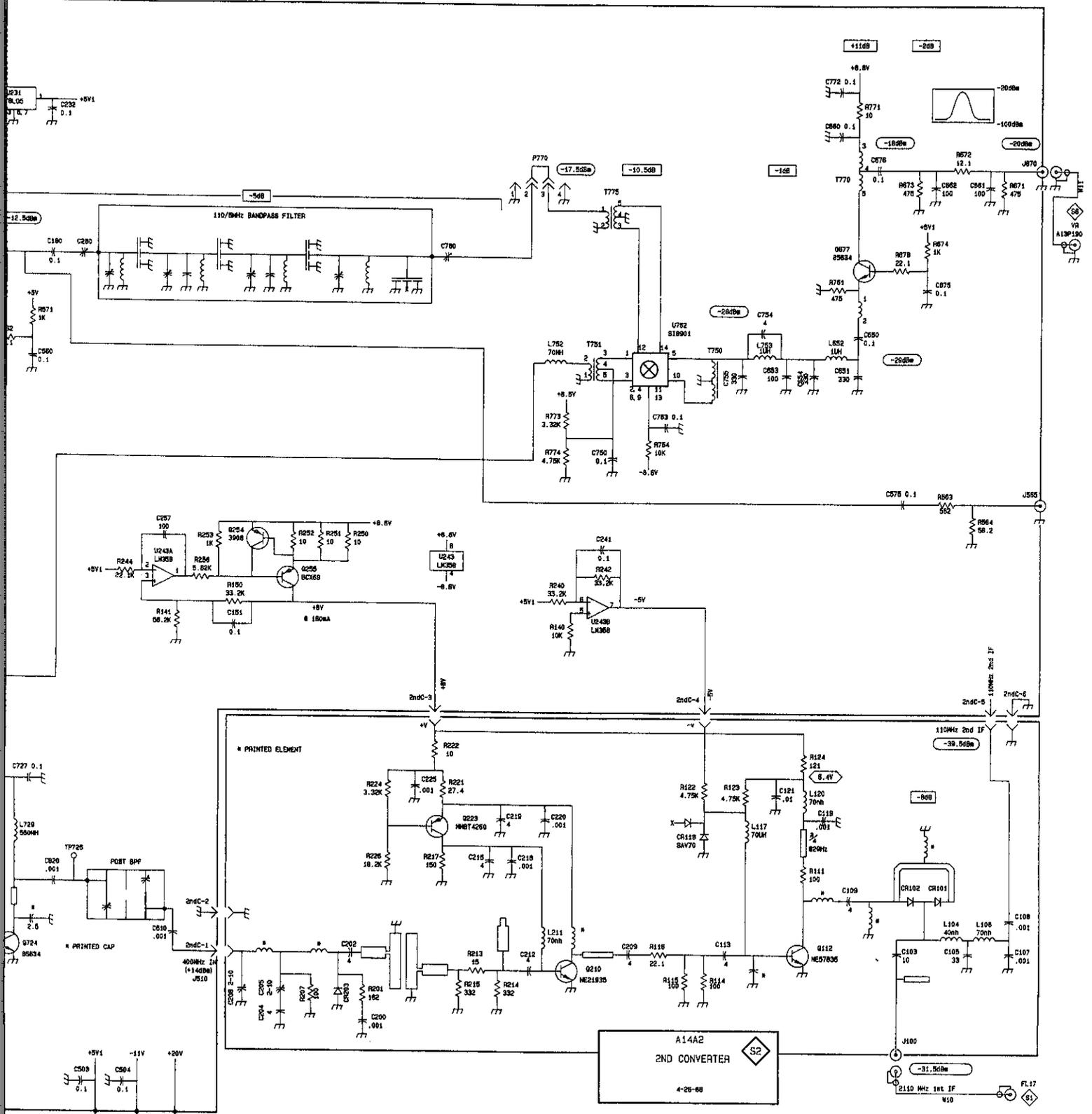
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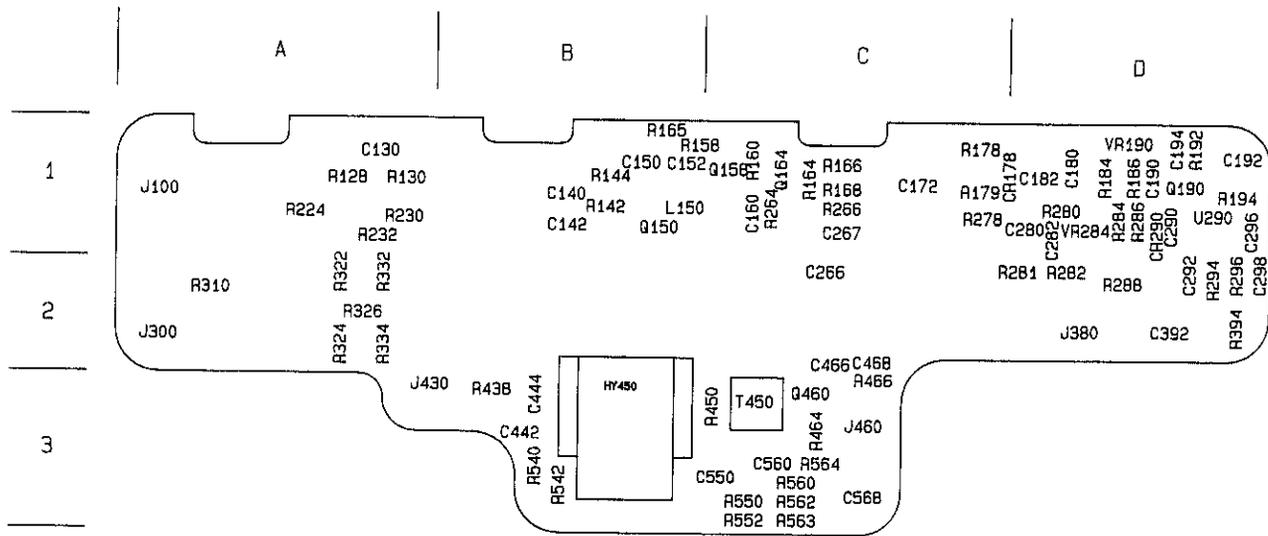
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CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C103	J-6	B-1	C219	G-5	D-2	R114	I-6	C-2
C105	J-6	B-1	C220	H-5	D-2	R115	H-6	C-2
C107	J-6	B-1	C225	G-5	D-2	R116	H-6	C-2
C108	J-5	C-1	CR101	J-5	B-1	R122	I-5	D-2
C109	I-5	C-1	CR102	J-5	B-1	R123	I-5	D-1
C113	I-6	C-2	CR118	I-5	D-1	R124	I-5	D-2
C119	I-5	D-1	CR203	G-6	A-3	R201	G-6	A-2
C121	I-5	D-1	J100	J-6	A-1	R207	F-6	A-3
C200	G-6	A-2	L104	J-6	B-1	R213	G-6	C-3
C202	G-6	A-2	L106	J-6	B-1	R214	G-6	C-3
C204	F-6	A-3	L117	I-5	D-1	R215	G-6	C-3
C205	F-6	A-3	L120	I-5	D-1	R217	G-5	D-2
C208	F-6	A-3	L211	H-6	C-2	R221	G-5	D-2
C209	H-6	C-2	Q112	I-6	C-1	R222	G-5	D-2
C212	H-6	C-3	Q210	H-6	C-2	R224	G-5	D-3
C216	G-5	C-2	Q223	G-5	D-3	R226	G-5	D-3
C218	H-5	D-2	R111	I-5	C-1			

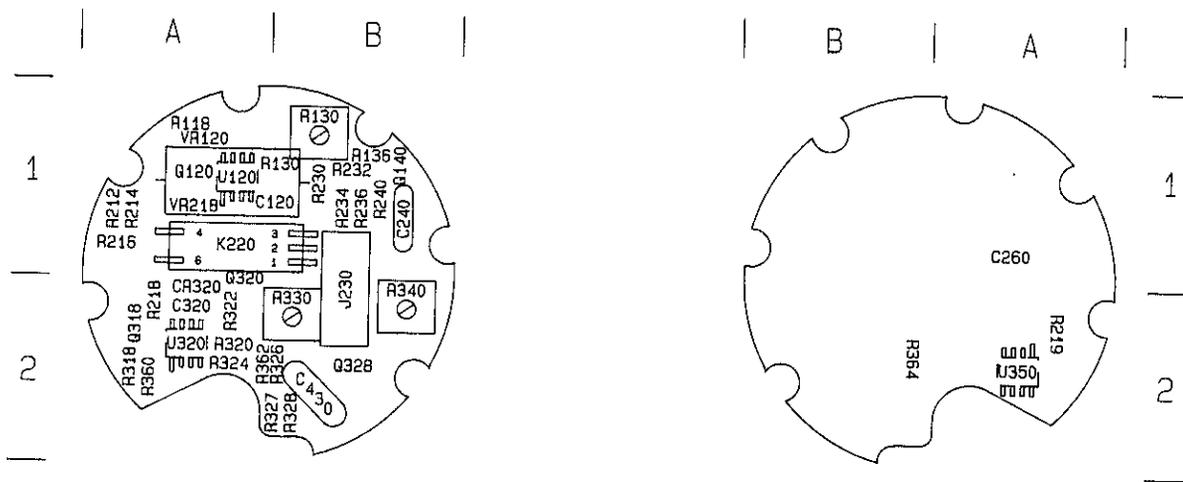
S2 SHT. 2 OF 2

E | F | G | H | I | J





A17A1—1st LO Buffer Amp



A19A1—1st LO Interface (Front)

A19A1—1st LO Interface (Rear)

A17A1—1ST LO BUFFER AMP
 A19A1—1ST LO INTERFACE (FRONT)
 A19A1—1ST LO INTERFACE (REAR)

A19A1 1st LO INTERFACE



Assembly A19A1

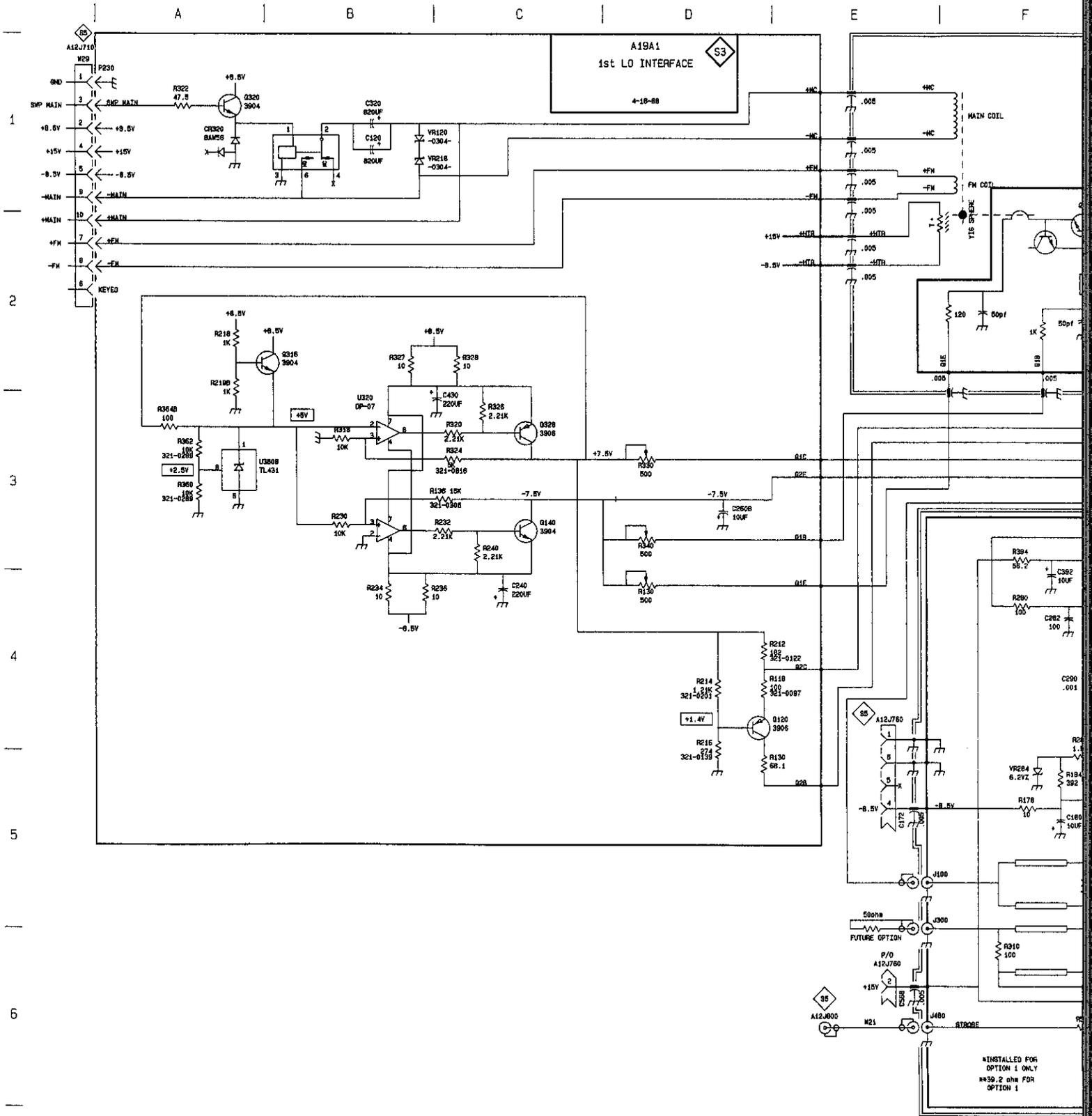
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C120	B-1	B-1	R136	C-3	B-1	R324	C-3	A-2
C240	C-4	B-1	R212	D-4	A-1	R326	C-3	B-2
C260B	D-3	BACK	R214	D-4	A-1	R327	B-2	B-2
C320	B-1	A-2	R216	D-4	A-1	R328	C-2	B-2
C430	C-3	B-2	R218	A-2	A-2	R330	D-3	B-2
CR320	A-1	A-2	R219B	A-2	BACK	R340	D-3	B-2
K220	B-1	A-1	R230	B-3	B-1	R360	A-3	A-2
P230	A-1	B-1	R232	C-3	B-1	R362	A-3	A-2
Q120	D-4	A-1	R234	B-4	B-1	R364B	A-3	BACK
Q140	C-3	B-1	R238	C-4	B-1	U120	B-3	A-1
Q318	B-2	A-2	R240	C-3	B-1	U320	B-3	A-2
Q320	A-1	A-2	R318	B-3	A-2	U350B	A-3	BACK
Q328	C-3	B-2	R320	C-3	A-2	VR120	B-1	A-1
R118	D-4	A-1	R322	A-1	A-2	VR218	B-1	A-1
R130	D-4	B-1						

A17A1 1st LO BUFFER AMP

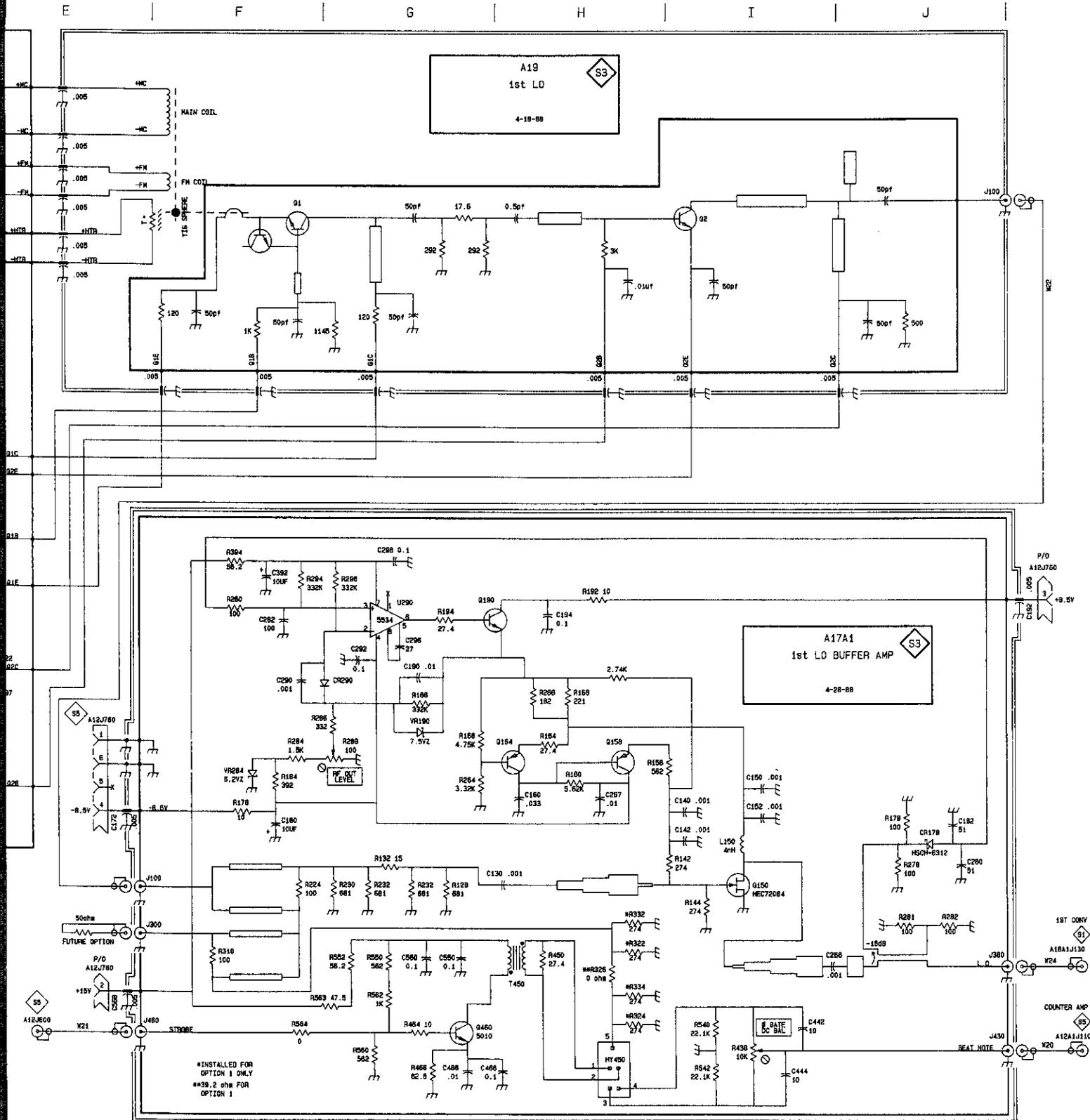
Assembly A17A1

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C130	H-5	A-1	J300	E-5	A-2	R280	F-4	D-1
C140	I-5	B-1	J380	J-6	D-2	R281	J-5	D-2
C142	I-5	B-1	J430	J-6	A-3	R282	J-5	D-2
C150	I-5	B-1	J460	E-6	C-3	R284	F-5	D-1
C152	I-5	B-1	L150	I-5	B-1	R286	G-4	D-1
C160	H-5	C-1	Q150	I-5	B-1	R288	G-5	D-2
C172	F-5	C-1	Q158	H-4	C-1	R284	F-4	D-2
C180	F-5	D-1	Q164	H-4	C-1	R296	G-4	D-2
C182	J-5	D-1	Q190	H-4	D-1	R310	F-6	A-2
C190	G-4	D-1	Q460	G-6	C-3	R322	H-6	A-2
C192	J-4	CHASSIS	R128	G-5	A-1	R324	H-6	A-2
C194	H-4	D-1	R130	G-5	A-1	R326	H-6	A-2
C266	J-6	C-2	R132	G-5	A-1	R332	H-5	A-2
C267	H-5	C-1	R142	I-5	B-1	R334	H-6	A-2
C280	J-5	D-1	R144	I-5	B-1	R394	F-3	D-2
C282	F-4	D-1	R158	I-5	B-1	R438	I-6	B-3
C290	F-4	D-1	R160	H-5	C-1	R450	H-6	C-3
C292	G-4	D-1	R164	H-4	C-1	R464	G-6	C-3
C296	G-4	D-1	R165	H-4	C-1	R466	G-6	C-3
C298	G-3	D-2	R166	G-4	C-1	R540	I-6	B-3
C392	F-3	D-2	R168	H-4	C-1	R542	I-6	B-3
C442	I-6	B-3	R178	F-5	C-1	R550	G-6	C-3
C444	I-6	B-3	R179	J-5	C-1	R552	G-6	C-3
C466	G-6	C-2	R184	F-5	D-1	R560	G-6	C-3
C468	H-6	C-2	R186	G-4	D-1	R562	G-6	C-3
C550	G-6	C-3	R194	G-4	D-1	R563	G-6	C-3
C560	G-6	C-3	R224	F-5	A-1	R564	F-6	C-3
C568	E-6	C-3	R230	G-6	A-1	T450	H-6	C-3
CR178	J-5	D-1	R232	G-5	A-1	U290	G-4	D-1
CR290	G-4	D-1	R264	G-5	C-1	VR190	G-4	D-1
HY450	H-6	B-3	R266	H-4	C-1	VR284	F-5	D-1
J100	E-5	A-1	R278	J-5	D-1			

S3 SHT. 1 of 2



S3 SHT. 2 OF 2



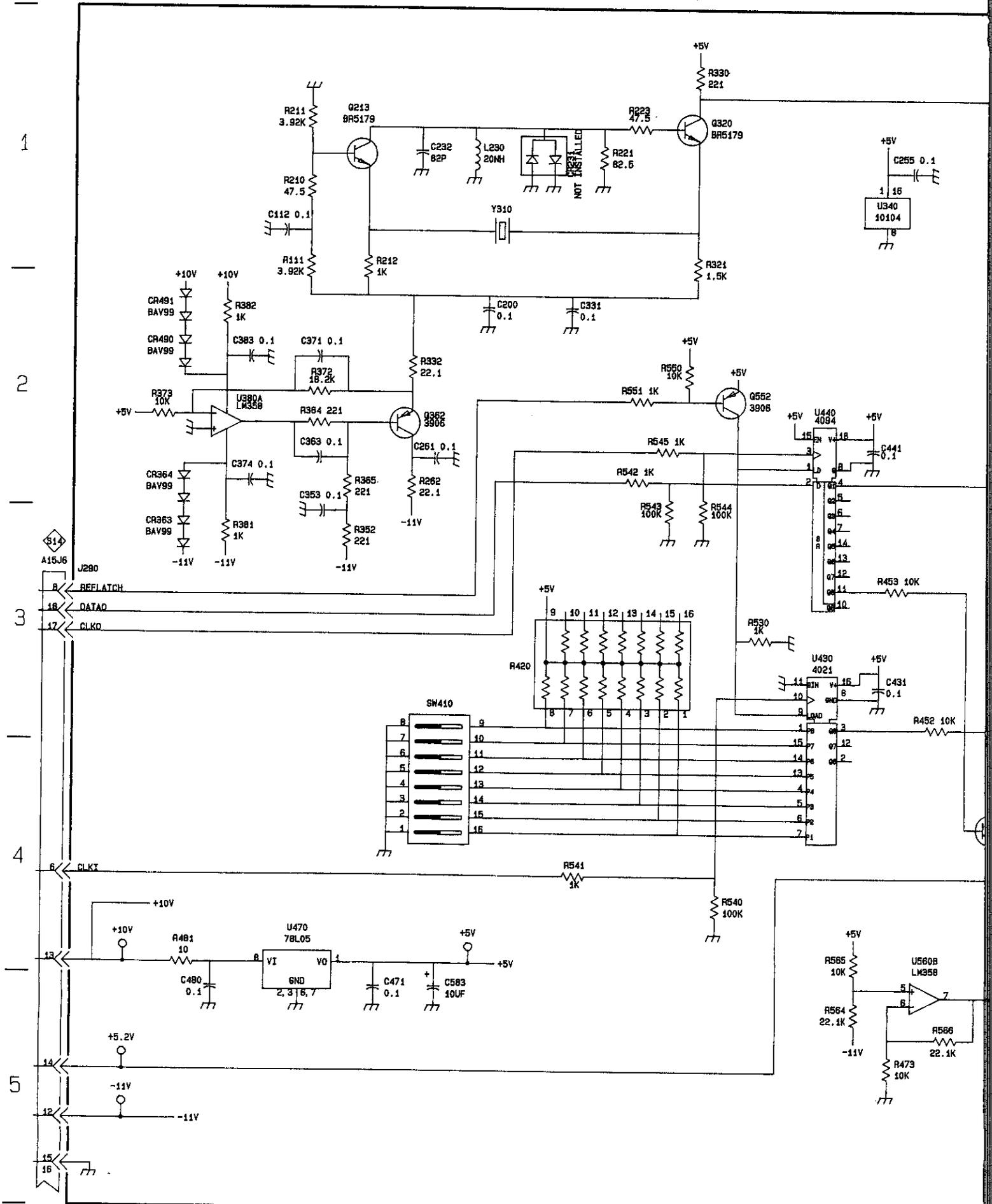
A11 OPTION 09



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C161	H-5	D-1	R275	G-5	D-2
C171	F-5	D-1	R278	G-5	D-2
C183	F-6	E-1	R344	C-3	C-2
C240	H-6	C-2	R351	E-5	C-2
C250	I-5	C-1	R352	E-5	C-2
C251	I-5	C-1	R354	B-6	C-2
C252	I-5	C-1	R362	E-6	D-2
C253	I-6	C-1	R363	B-5	D-2
C254	I-5	C-1	R366	D-5	D-2
C255	I-5	C-1	R371	H-5	D-2
C256	I-5	C-1	R374	H-5	D-2
C257	I-5	C-1	R381	B-5	E-2
C261	H-5	D-1	R462	B-6	D-2
C271	F-4	D-1	U160	H-6	D-1
C272	G-6	D-2	U170	F-6	D-1
C273	G-6	D-2	U260	H-5	D-1
C274	H-6	D-2	U270	F-4	D-1
C276	G-5	D-2	U283	F-6	E-1
C277	G-5	D-2	U283A	F-5	E-1
C332	C-4	B-2	U283B	F-5	E-1
C341	C-3	C-2	U283C	F-6	E-1
C350	B-4	C-2	U283D	F-6	E-1
C355	A-5	C-2	U333	C-5	B-2
C361	E-5	D-2	U340	C-3	C-2
C372	H-5	D-2	U353	B-5	C-2
C373	H-5	D-2	U353A	A-4	C-2
C431	B-1	B-3	U353B	A-5	C-2
C441	B-2	C-3	U353C	E-5	C-2
C451	B-4	C-3	U356	A-5	C-2
C461	B-3	D-3	U356A	B-5	C-2
C472	D-5	D-3	U356B	B-5	C-2
C920	A-6	BACK	U356C	B-6	C-2
C990	A-6	BACK	U356D	A-5	C-2
J8	A-6	E-3	U356E	A-4	C-2
J550	A-1	C-3	U356F	B-6	C-3
J750	E-6	C-3	U360	E-5	D-2
R110	C-5	A-1	U360A	D-5	D-2
R214	C-5	A-1	U360B	E-6	D-2
R241	H-5	C-1	U430	A-1	B-3
R242	H-5	C-1	U440	A-2	C-3
R243	G-5	C-1	U450	A-4	C-3
R244	G-5	C-1	U460	A-3	D-3
R262	D-5	D-2	U470	C-6	D-3

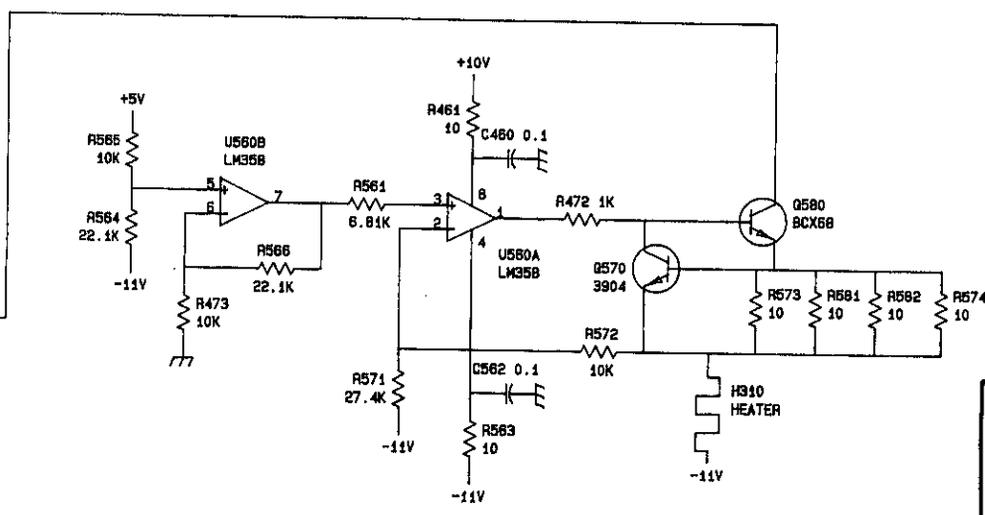
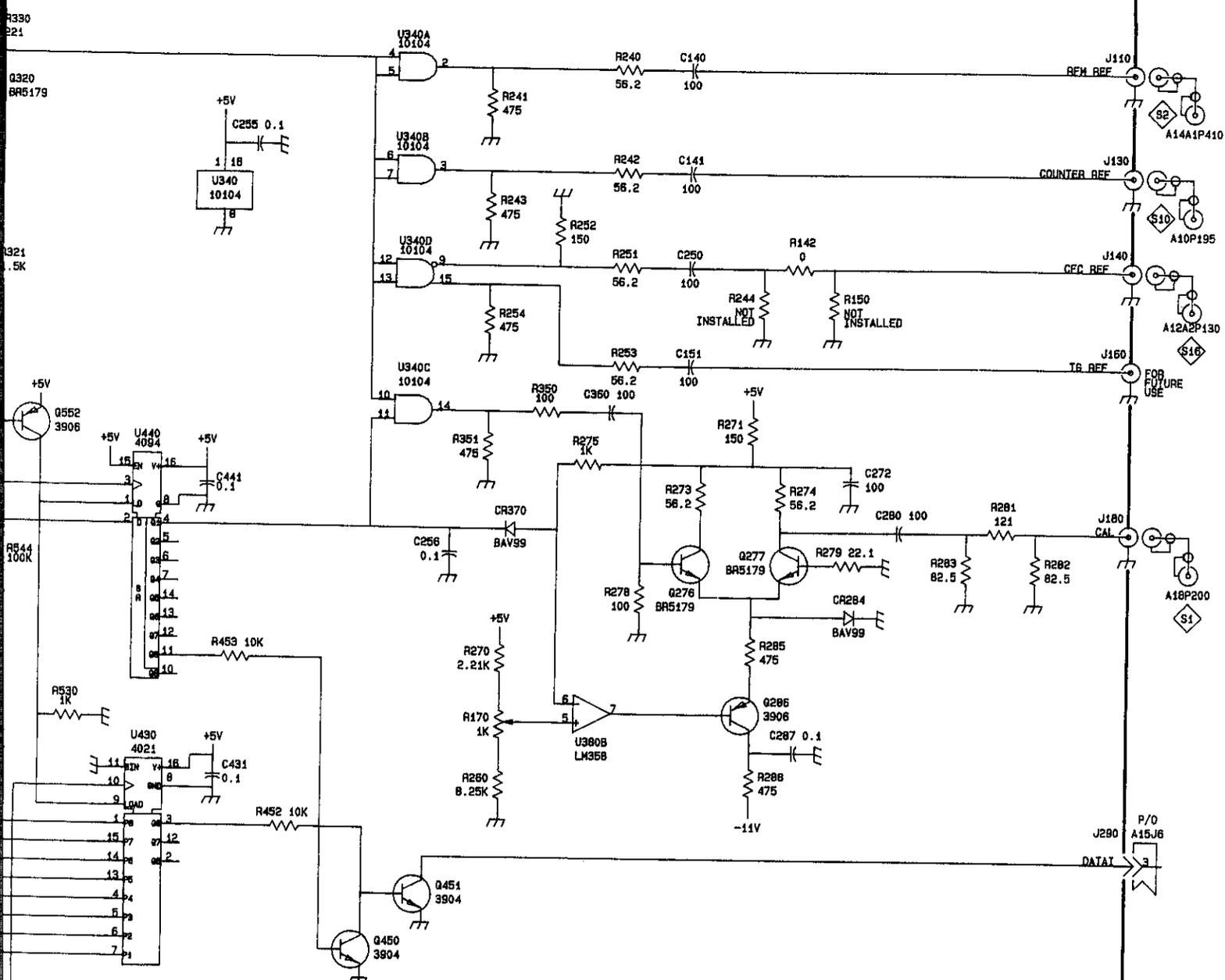
S4 SN B020319 & ↑
SHT. 1 OF 2

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S4 SN B020319 & ↑
SHT. 2 OF 2

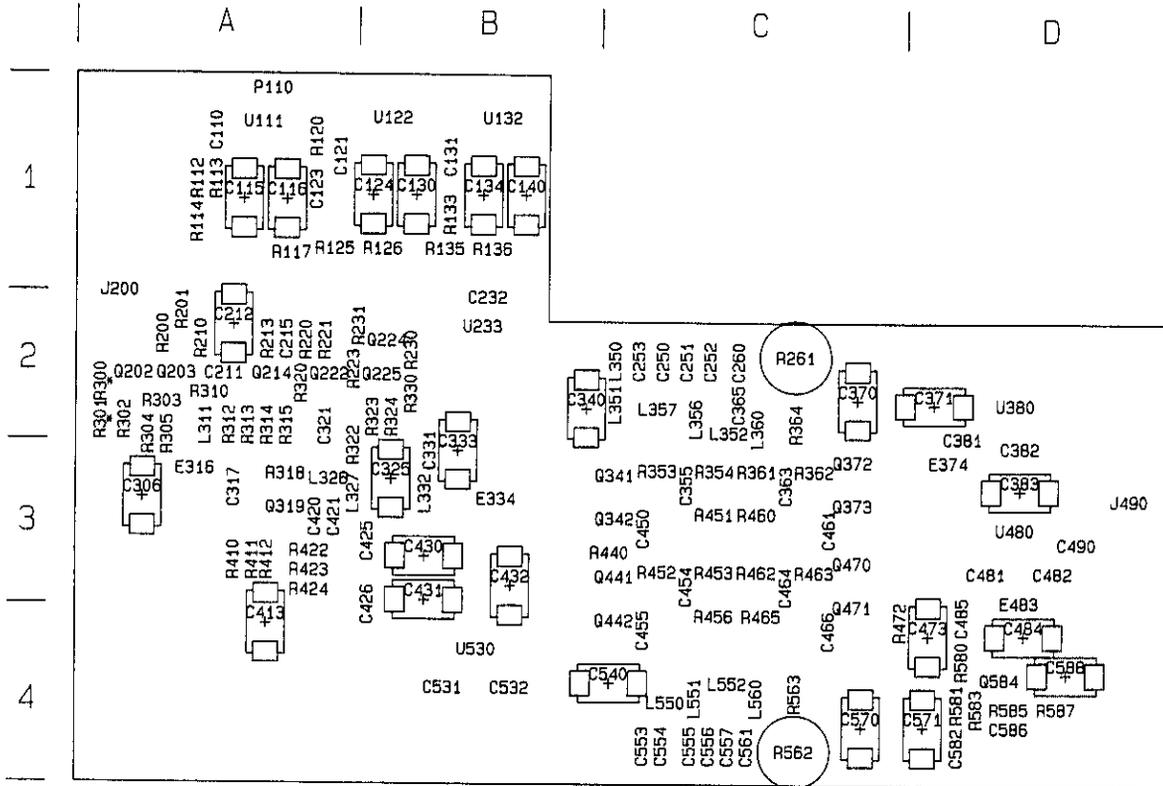
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A21 S4
 REFERENCE OSCILLATOR
 4-25-88

SN 8010001 - 8010318

A20—COUNTER AMPLIFIER



A20—Counter Amplifier

A20 COUNTER AMP



SN B010001 - B010318

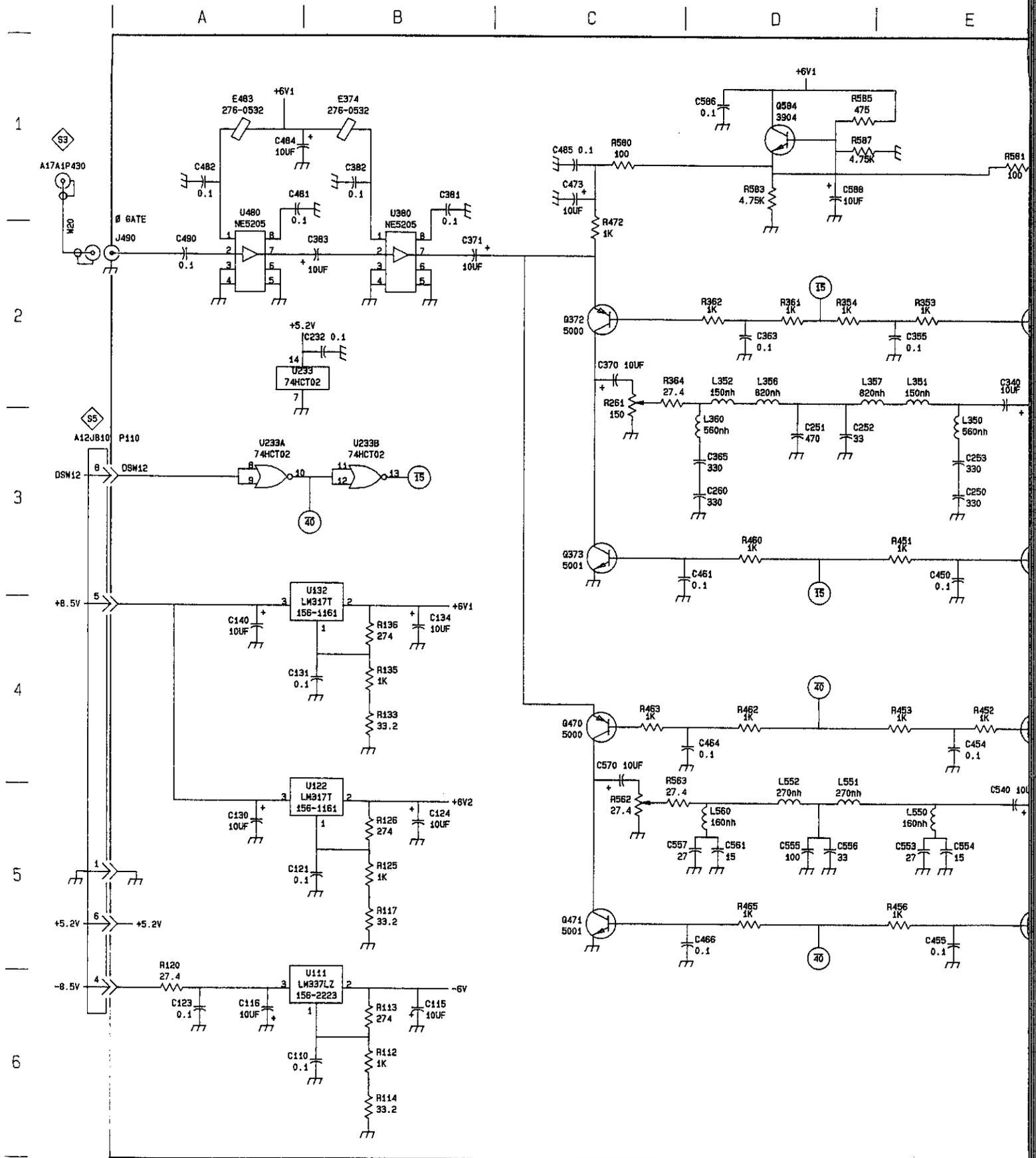
CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C110	B-6	A-1	C568	D-5	C-4	R220	G-4	A-2
C115	B-6	A-1	C567	D-5	C-4	R221	F-4	A-2
C116	A-6	A-1	C561	D-5	C-4	R223	G-4	A-2
C121	B-5	A-1	C570	C-4	C-4	R230	G-5	B-2
C123	A-6	A-1	C571	E-1	D-4	R231	G-5	A-2
C124	B-5	B-1	C582	E-1	D-4	R261	C-2	C-2
C130	A-5	B-1	C588	D-1	D-4	R300	I-4	A-2
C131	B-4	B-1	C588	D-1	D-4	R301	I-4	A-2
C134	B-4	B-1	E316	G-1	A-3	R302	I-4	A-2
C140	A-4	B-1	E334	G-1	B-3	R303	I-4	A-2
C211	H-4	A-2	E374	B-1	D-3	R304	I-4	A-3
C212	I-3	A-2	E483	A-1	D-4	R305	I-5	A-3
C215	G-4	A-2	J200	I-4	A-2	R310	I-4	A-2
C232	B-2	B-2	J490	A-2	D-3	R312	I-4	A-2
C250	E-3	C-2	L311	H-5	A-2	R313	I-4	A-2
C251	D-3	C-2	L326	I-1	A-3	R314	I-4	A-3
C252	D-3	C-2	L327	I-1	A-3	R315	G-4	A-3
C253	E-3	C-2	L332	I-2	B-3	R318	H-1	A-3
C260	D-3	C-2	L350	E-3	C-2	R320	G-4	A-2
C306	H-1	A-3	L351	E-2	C-2	R322	F-5	A-3
C317	H-1	A-3	L352	D-2	C-2	R323	F-4	B-2
C321	G-4	A-2	L356	D-2	C-2	R324	F-5	B-2
C325	F-4	B-3	L357	D-2	C-2	R330	G-5	B-2
C331	I-2	B-3	L360	D-3	C-2	R353	E-2	C-3
C333	G-1	B-3	L550	E-5	C-4	R354	D-2	C-3
C340	E-2	B-2	L551	D-5	C-4	R361	D-2	C-3
C355	E-2	C-3	L552	D-5	C-4	R362	D-2	C-3
C363	D-2	C-3	L560	D-5	C-4	R364	C-3	C-2
C365	D-3	C-2	P110	A-3	A-1	R410	G-1	A-3
C370	C-2	C-2	Q202	I-4	A-2	R411	G-2	A-3
C371	B-2	D-2	Q203	H-4	A-2	R412	H-2	A-3
C381	B-1	D-3	Q214	H-4	A-2	R422	H-2	A-3
C382	B-1	D-3	Q222	G-4	A-2	R423	H-2	A-3
C383	B-2	D-3	Q224	G-4	B-2	R424	H-2	A-3
C413	G-2	A-4	Q225	F-4	B-2	R440	E-1	B-3
C420	I-2	A-3	Q319	H-2	A-3	R451	E-3	C-3
C421	H-2	A-3	Q341	E-2	B-3	R452	E-4	C-3
C425	H-3	B-3	Q342	E-3	B-3	R453	E-4	C-3
C426	H-3	B-4	Q372	C-2	C-3	R456	D-5	C-4
C430	H-3	B-3	Q373	C-3	C-3	R460	D-3	C-3
C431	H-3	B-4	Q441	E-4	B-3	R462	D-4	C-3
C432	F-2	B-3	Q442	E-5	B-4	R463	C-4	C-3
C450	E-3	C-3	Q470	C-4	C-3	R465	E-5	C-4
C454	E-4	C-3	Q471	C-5	C-4	R472	C-1	C-4
C455	E-5	C-4	Q584	D-1	D-4	R562	C-5	C-4
C461	D-3	C-3	R112	B-6	A-1	R580	C-1	D-4
C464	D-4	C-3	R113	B-6	A-1	R581	E-1	D-4
C466	D-5	C-4	R114	B-6	A-1	R583	D-1	D-4
C473	C-1	D-4	R117	B-5	A-1	R585	D-1	D-4
C481	A-1	D-3	R120	A-6	A-1	R587	D-1	D-4
C482	A-1	D-3	R125	B-5	B-2	U111	B-6	A-1
C484	A-1	D-4	R126	B-5	B-2	U122	B-5	B-1
C485	C-1	D-4	R133	B-4	B-1	U132	B-4	B-1
C490	A-2	D-3	R135	B-4	B-2	U233	A-2	B-2
C531	G-1	B-4	R136	B-4	B-2	U233A	A-3	B-2
C532	F-1	B-4	R200	I-4	A-2	U233B	A-3	B-2
C540	E-5	B-4	R201	I-3	A-2	U380	B-2	D-2
C553	E-5	C-4	R210	H-3	A-2	U480	A-2	D-3
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C555	D-5	C-4						

COUNTER AMP

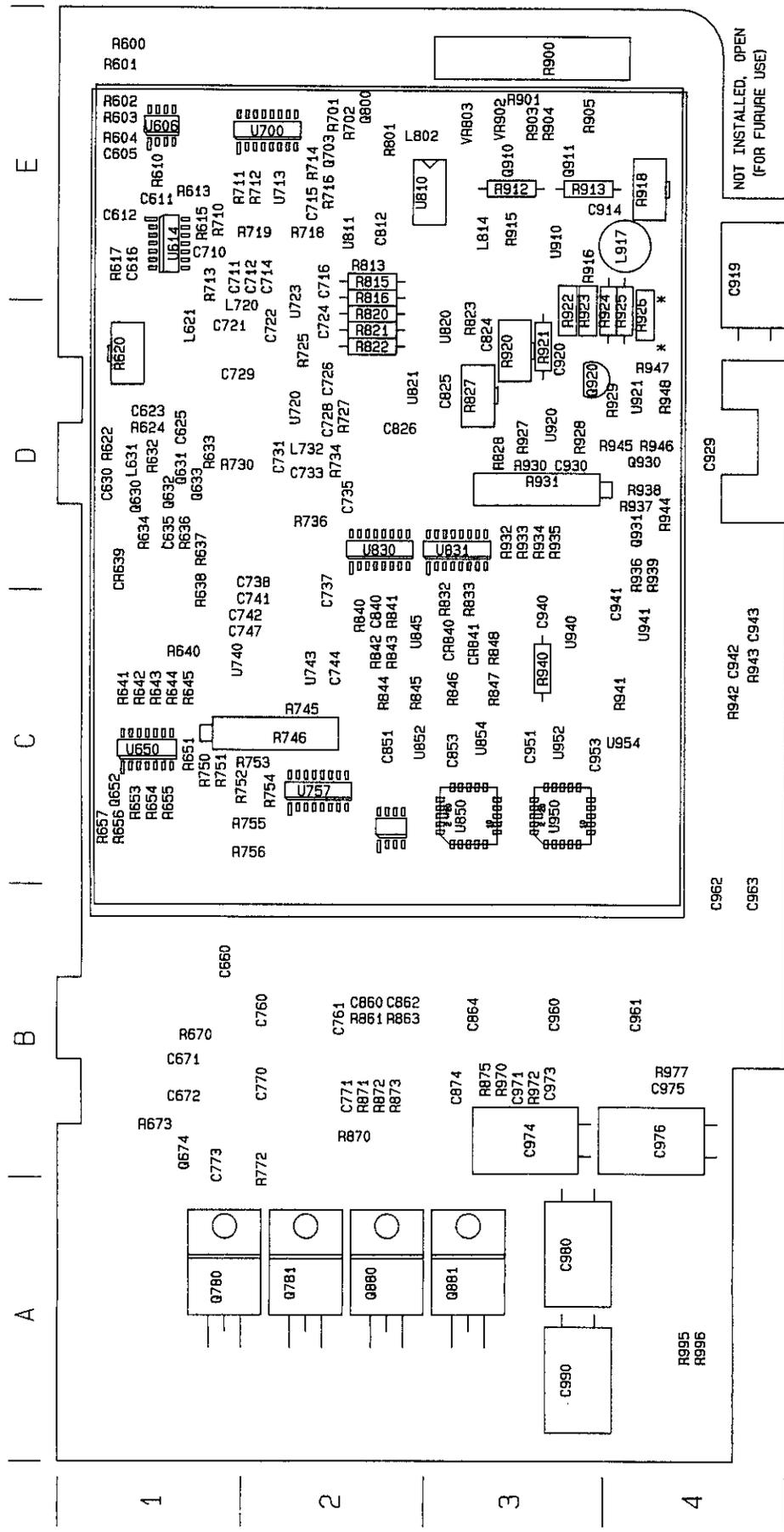


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SN B010001 - B010318
SHT. 1 of 2

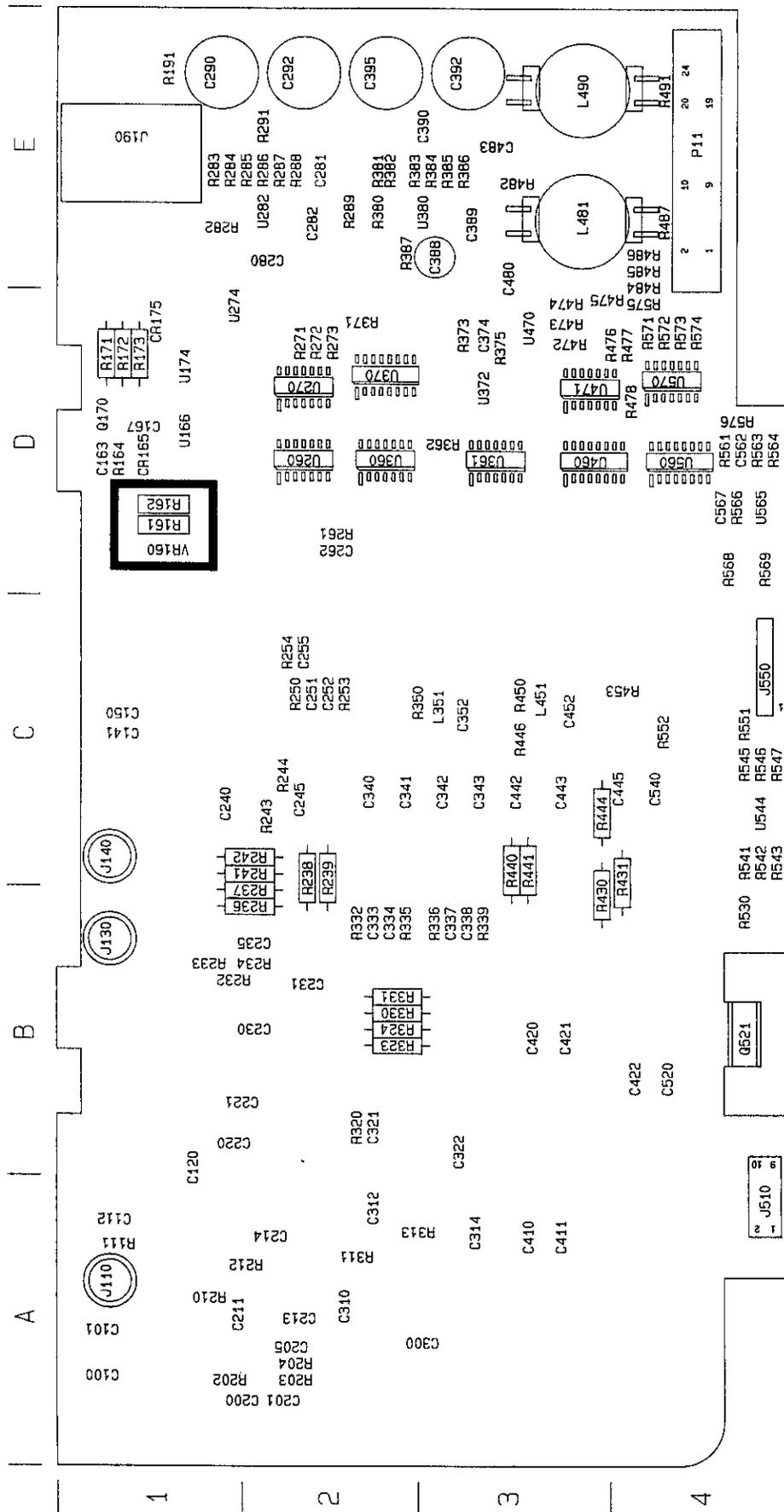


SS SN 8020319 & ↑
A12A1 (REAR)



A12A1—Phaselock CFC (Rear)

SS SN 8020319 # ↑
A12A1 (FRONT)



A12A1—Phaselock CFC (Front)

A12 PHASELOCK ASSEMBLY

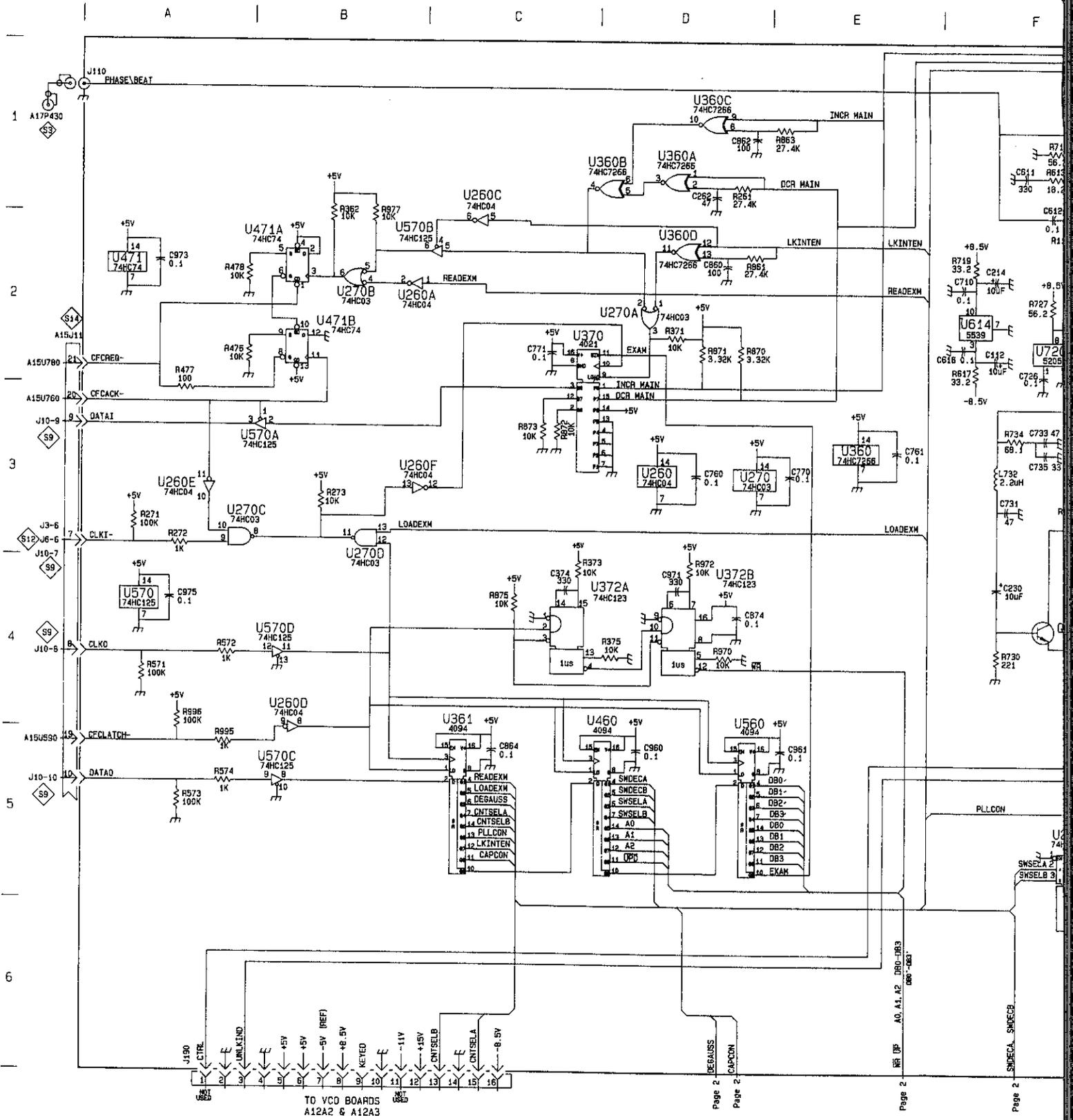
B020319 and up

**A12A1 PHASELOCK CFC**

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C100	H-1	A-1	Q633	F-4	D-1	R745	I-4	C-2
C101	H-1	A-1	Q652	J-2	C-1	R746	H-5	C-2
C112	F-2	A-1	R111	F-2	A-1	R750	I-5	C-1
C120	G-2	B-1	R202	I-3	A-1	R751	I-6	C-1
C141	J-1	C-1	R203	I-3	A-2	R752	I-6	C-1
C150	J-1	C-1	R204	I-3	A-2	R753	I-6	C-1
C200	I-3	A-2	R210	I-2	A-1	R754	H-6	C-2
C201	I-3	A-2	R212	I-3	A-2	R755	I-5	C-2
C205	I-3	A-2	R232	G-4	B-1	R756	I-5	C-1
C211	H-2	A-2	R233	G-4	B-1	R772	F-6	B-2
C213	H-3	A-2	R234	G-4	B-2	R861	D-2	B-2
C214	F-2	A-2	R236	I-5	B-2	R863	E-1	B-2
C220	G-2	B-1	R237	J-5	B-2	R870	D-2	B-2
C221	G-2	B-1	R238	I-4	C-2	R871	D-2	B-2
C230	F-4	B-2	R239	I-4	C-2	R872	C-3	B-2
C231	G-4	B-2	R241	I-5	C-2	R873	C-3	B-2
C235	G-3	B-2	R242	J-5	C-2	R875	C-4	B-3
C240	J-4	C-1	R243	J-4	C-2	R970	D-4	B-3
C245	J-5	C-2	R244	J-5	C-2	R972	D-4	B-3
C251	J-3	C-2	R250	J-3	C-2	R977	B-1	B-4
C252	J-3	C-2	R253	J-3	C-2	R995	A-5	A-4
C255	J-3	C-2	R254	J-3	C-2	R996	A-4	A-4
C262	D-1	D-2	R261	D-1	D-2	U260	D-3	D-2
C374	C-4	D-3	R271	A-3	D-2	U260A	B-2	D-2
C605	G-1	E-1	R272	A-3	D-2	U260B	H-5	D-2
C611	F-1	E-1	R273	B-3	D-2	U260C	C-2	D-2
C612	F-2	E-1	R362	B-1	D-3	U260D	B-5	D-2
C616	F-2	E-1	R371	D-2	D-2	U260E	A-3	D-2
C623	G-4	D-1	R373	C-4	D-3	U260F	B-3	D-2
C625	F-3	D-1	R375	D-4	D-3	U270	D-3	D-2
C630	H-3	D-1	R476	A-2	D-4	U270A	D-2	D-2
C635	F-4	D-1	R477	A-3	D-4	U270B	B-2	D-2
C710	F-2	E-1	R478	A-2	D-4	U270C	A-3	D-2
C711	G-2	E-1	R571	A-4	D-4	U270D	B-3	D-2
C712	G-2	E-2	R572	A-4	D-4	U274	F-5	D-2
C714	H-2	E-2	R573	A-5	D-4	U360	E-3	D-2
C715	I-2	E-2	R574	A-5	D-4	U360A	D-1	D-2
C716	G-3	E-2	R600	H-1	E-1	U360B	D-1	D-2
C721	G-2	D-1	R601	H-1	E-1	U360C	D-1	D-2
C722	G-2	D-2	R602	G-1	E-1	U360D	D-2	D-2
C724	H-3	D-2	R603	G-1	E-1	U361	C-5	D-3
C726	F-2	D-2	R604	G-1	E-1	U370	C-2	D-3
C728	F-2	D-2	R610	G-1	E-1	U372	D-4	D-3
C729	G-3	D-1	R613	F-1	E-1	U460	D-5	D-3
C731	F-3	D-2	R615	F-1	E-1	U471	A-2	D-3
C733	F-3	D-2	R617	F-2	E-1	U471A	B-2	D-3
C735	F-3	D-2	R620	G-3	D-1	U471B	B-2	D-3
C737	J-5	C-2	R622	H-4	D-1	U560	D-5	D-4
C738	I-5	D-2	R624	H-4	D-1	U570	A-4	D-4
C741	I-5	C-2	R632	G-3	D-1	U570A	B-3	D-4
C742	J-5	C-2	R633	G-4	D-1	U570B	B-2	D-4
C744	I-5	C-2	R634	G-4	D-1	U570C	B-5	D-4
C747	J-5	C-2	R636	F-3	D-1	U570D	B-4	D-4
C760	D-3	B-2	R637	G-3	D-1	U606	H-1	E-1
C761	E-3	B-2	R638	G-3	D-1	U606	G-1	E-1
C770	E-3	B-2	R640	J-2	C-1	U614	F-2	E-1
C771	C-2	B-2	R641	J-1	C-1	U614	F-1	E-1
C773	F-5	B-2	R642	I-2	C-1	U650	J-1	C-1
C860	D-2	B-2	R643	I-2	C-1	U650A	I-1	C-1
C862	D-1	B-2	R644	I-2	C-1	U650B	I-2	C-1
C864	C-5	B-3	R645	J-2	C-1	U700	I-1	E-2
C874	D-4	B-3	R651	I-1	C-1	U700A	I-3	E-2
C960	D-5	B-3	R653	I-1	C-1	U700B	H-3	E-2
C961	E-5	B-4	R654	I-1	C-1	U700C	I-1	E-2
C971	D-4	B-3	R655	I-1	C-1	U700D	H-2	E-2
C973	A-2	B-3	R656	J-2	C-1	U713	I-3	E-2
C975	A-4	B-4	R657	J-2	C-1	U713	I-2	E-2
CR638	H-4	D-1	R709	H-2	E-1	U720	F-2	D-2
J110	A-1	A-1	R710	F-1	E-1	U720	G-3	D-2
J130	J-4	B-1	R711	H-2	E-1	U723	G-3	D-2
J140	J-6	C-1	R712	H-2	E-2	U723	G-2	D-2
J190	A-6	E-1	R713	G-2	E-1	U740	J-5	C-1
L621	G-2	D-1	R714	I-2	E-2	U740	J-6	C-1
L631	H-3	D-1	R718	I-2	E-2	U743	J-5	C-2
L720	G-2	D-2	R719	F-2	E-2	U743	I-4	C-2
L732	F-3	D-2	R725	G-3	D-2	U757	J-3	C-2
Q630	G-3	D-1	R727	F-2	D-2	U757A	I-6	C-2
Q631	G-4	D-1	R730	F-4	D-1	U757B	I-6	C-2
Q632	F-3	D-1	R734	F-3	D-2	U757C	H-6	C-2
			R736	G-4	D-2	U757D	H-5	C-2

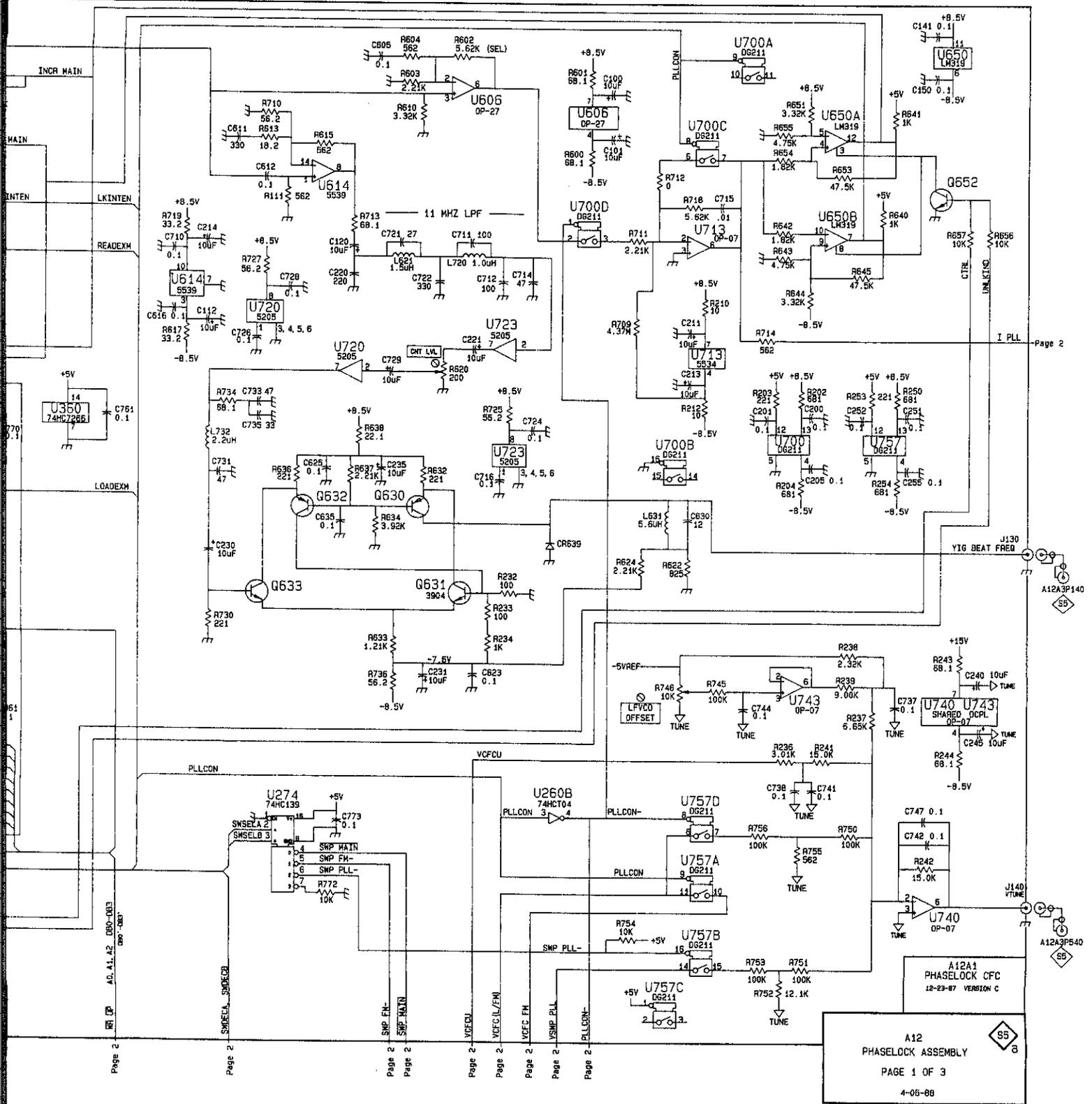
PHASELOCK CFC 

SS SN B020319 & ↑
a SHT. 1 of 2



SN B020319 & ↑
a SHT. 2 OF 2

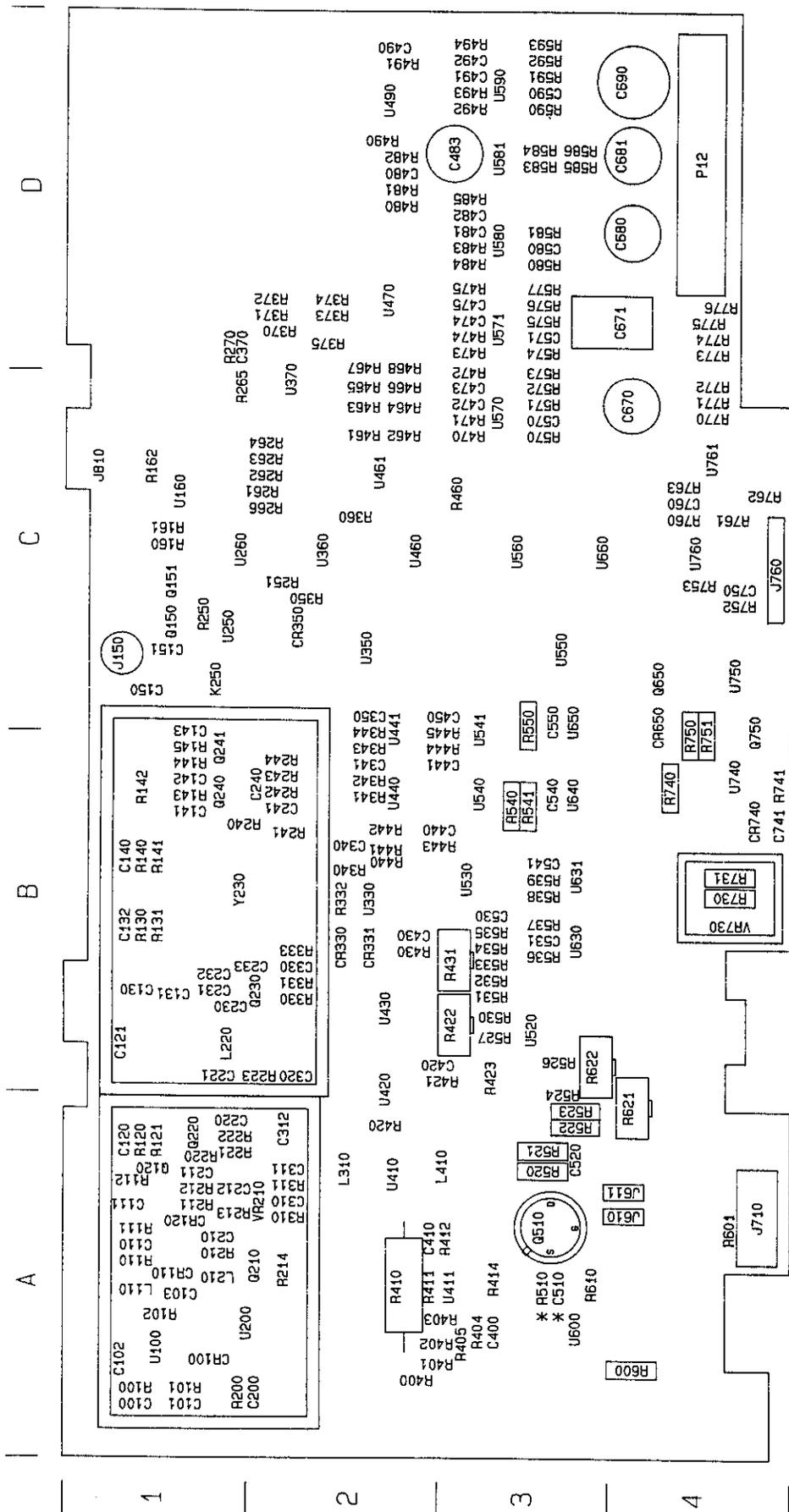
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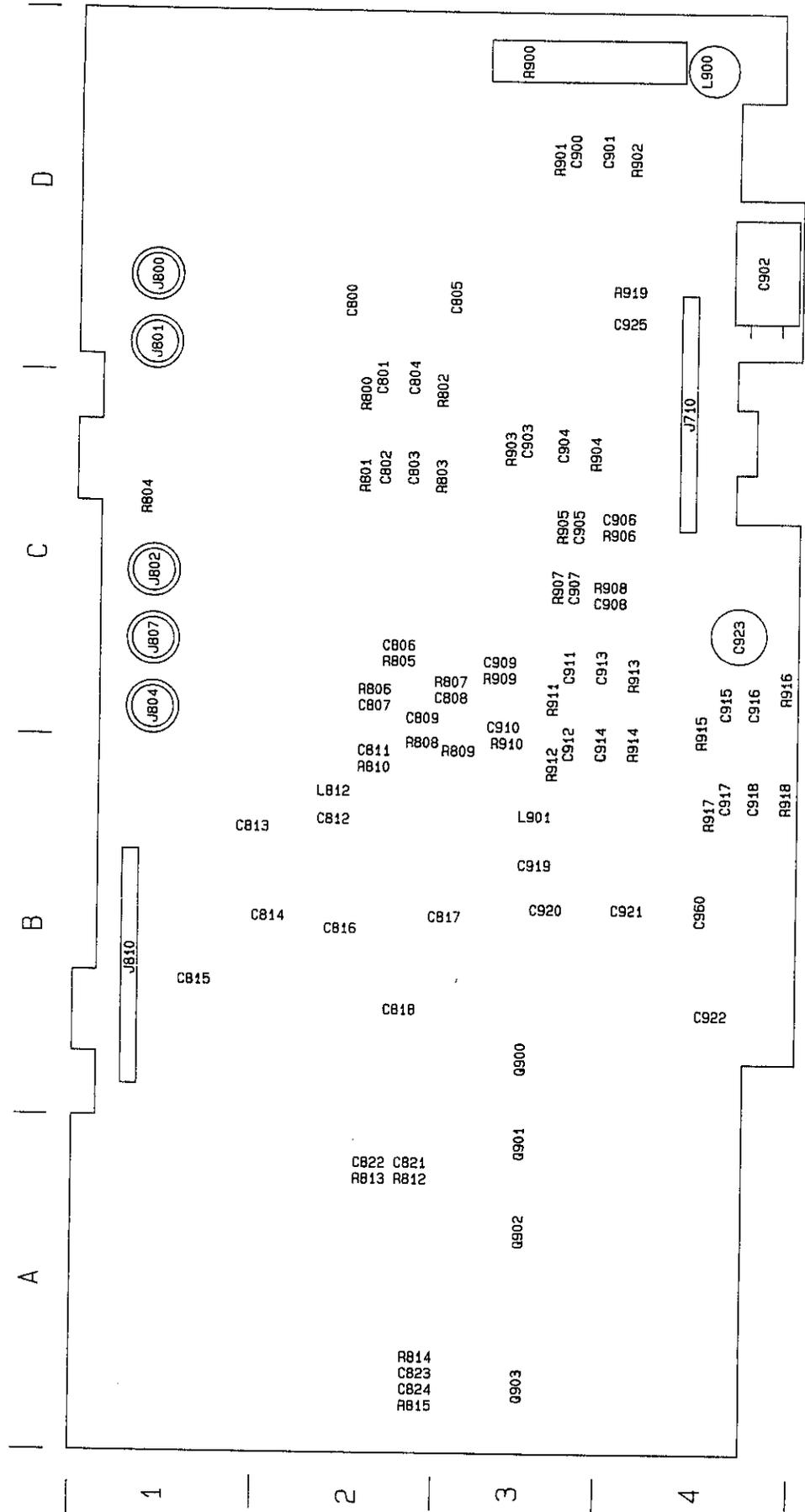
A12
PHASE LOCK ASSEMBLY
PAGE 1 OF 3
4-05-88

SS SN B010001 - B010318
a A1a (FRONT)



A12—Center Frequency Control (Front)
(B010001 to B010318)

SS
a SN B010001-B010318
A12 (REAR)



A12—Center Frequency Control (Rear)
(B010001 to B010318)

A12 CENTER FREQUENCY CONTROL
B010001 to B010318



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C100	I-1	A-1	L210	J-4	A-1	R373	C-2	D-2
C101	I-2	A-1	L220	F-2	B-1	R374	C-2	D-2
C102	J-1	A-1	Q150	G-4	C-1	R375	B-2	D-2
C103	I-4	A-1	Q210	G-2	A-2	R460	F-5	C-3
C110	J-1	A-1	Q220	H-1	A-1	R461	C-2	C-2
C111	J-4	A-1	Q230	F-2	B-2	R462	C-2	C-2
C120	J-2	A-1	Q240	G-2	B-1	R463	D-2	C-2
C121	F-2	B-1	Q241	H-2	B-1	R464	D-2	C-2
C130	G-3	B-1	R100	I-1	A-1	R465	D-2	C-2
C131	G-2	B-1	R101	I-2	A-1	R466	D-2	C-2
C132	J-2	B-1	R102	J-6	A-1	R467	D-2	D-2
C140	J-1	B-1	R110	J-1	A-1	R468	D-2	D-2
C141	H-1	B-1	R111	J-5	A-1	R752	C-3	C-4
C142	I-2	B-1	R120	J-2	A-1	R753	C-3	C-4
C143	I-3	C-1	R121	J-3	A-1	R760	B-3	C-4
C150	H-4	C-1	R130	J-2	B-1	R761	B-3	C-4
C151	H-4	C-1	R131	J-2	B-1	R762	B-4	C-4
C200	J-5	A-2	R140	J-1	B-1	R763	C-3	C-4
C210	J-4	A-1	R141	J-2	B-1	R770	A-3	C-4
C211	G-1	A-1	R142	J-2	A-1	R771	A-4	C-4
C212	G-1	A-1	R143	H-1	A-1	R772	A-4	C-4
C220	I-2	A-1	R144	I-2	A-1	R773	A-4	D-4
C221	F-1	B-1	R145	I-2	A-1	R774	A-4	D-4
C230	G-2	B-1	R160	I-4	C-1	R775	A-4	D-4
C231	G-2	B-1	R161	I-5	C-1	R804	G-3	C-1
C232	G-2	B-1	R162	D-2	C-1	U100	J-2	A-1
C233	G-2	B-2	R200	J-5	A-1	U100A	J-1	A-1
C240	H-2	B-2	R210	J-4	A-1	U160	H-5	C-1
C241	H-3	B-2	R211	H-1	A-1	U160A	I-5	C-1
C310	G-3	A-2	R212	G-1	A-1	U160B	B-3	C-1
C311	G-3	A-2	R213	G-1	A-1	U160C	A-3	C-1
C312	I-1	A-2	R214	G-2	A-2	U160D	I-5	C-1
C320	F-2	B-2	R220	G-1	A-1	U200	J-4	A-2
C330	F-2	B-2	R221	I-2	A-1	U200A	J-5	A-2
C370	B-2	D-1	R222	I-1	A-1	U200B	J-6	A-2
C750	C-3	C-4	R223	F-1	B-2	U250	G-4	C-1
C760	B-3	C-4	R240	G-2	B-1	U250A	E-6	C-1
C813	G-4	B-2	R241	G-2	B-2	U250B	A-3	C-1
C814	A-1	B-2	R242	G-2	B-2	U250C	B-1	C-1
C815	H-5	B-1	R243	H-2	B-2	U250D	B-3	C-1
C816	E-2	B-2	R244	H-2	B-2	U250E	I-4	C-1
C817	D-4	B-3	R250	G-5	C-1	U250F	G-5	C-1
C818	F-5	B-2	R251	A-1	C-2	U260	A-1	C-2
C820	C-4	B-3	R261	A-2	C-2	U260A	B-1	C-2
C821	B-4	B-4	R262	A-3	C-2	U260B	B-2	C-2
C822	A-3	B-4	R263	A-3	C-2	U360A	C-1	C-2
C960	C-3	B-4	R264	A-3	C-2	U360B	C-1	C-2
CR100	J-6	A-1	R265	C-2	C-1	U360C	C-1	C-2
CR110	J-6	A-1	R266	A-2	C-2	U370	B-2	C-2
CR120	J-6	A-1	R270	B-2	D-1	U460	D-4	C-3
CR350	B-1	C-2	R310	G-3	A-2	U461	F-5	C-2
J150	J-4	C-1	R311	G-3	A-2	U560	C-4	C-3
J800	J-4	A-1	R330	F-2	B-2	U660	B-4	C-4
J801	J-2	D-1	R331	F-2	B-2	U760	C-3	C-4
J802	J-2	B-1	R333	F-3	B-2	U761	A-3	C-4
J804	J-2	B-1	R350	B-1	C-2	U761A	A-2	C-4
J807	J-1	C-1	R360	C-1	C-2	U761B	A-4	C-4
J810	C-6	C-1	R370	C-2	D-2	U761C	A-4	C-4
K250	H-4	C-1	R371	C-2	D-2	U761D	A-3	C-4
L110	J-1	A-1	R372	C-2	D-2	VR210	G-3	A-2
						Y230	F-2	B-1

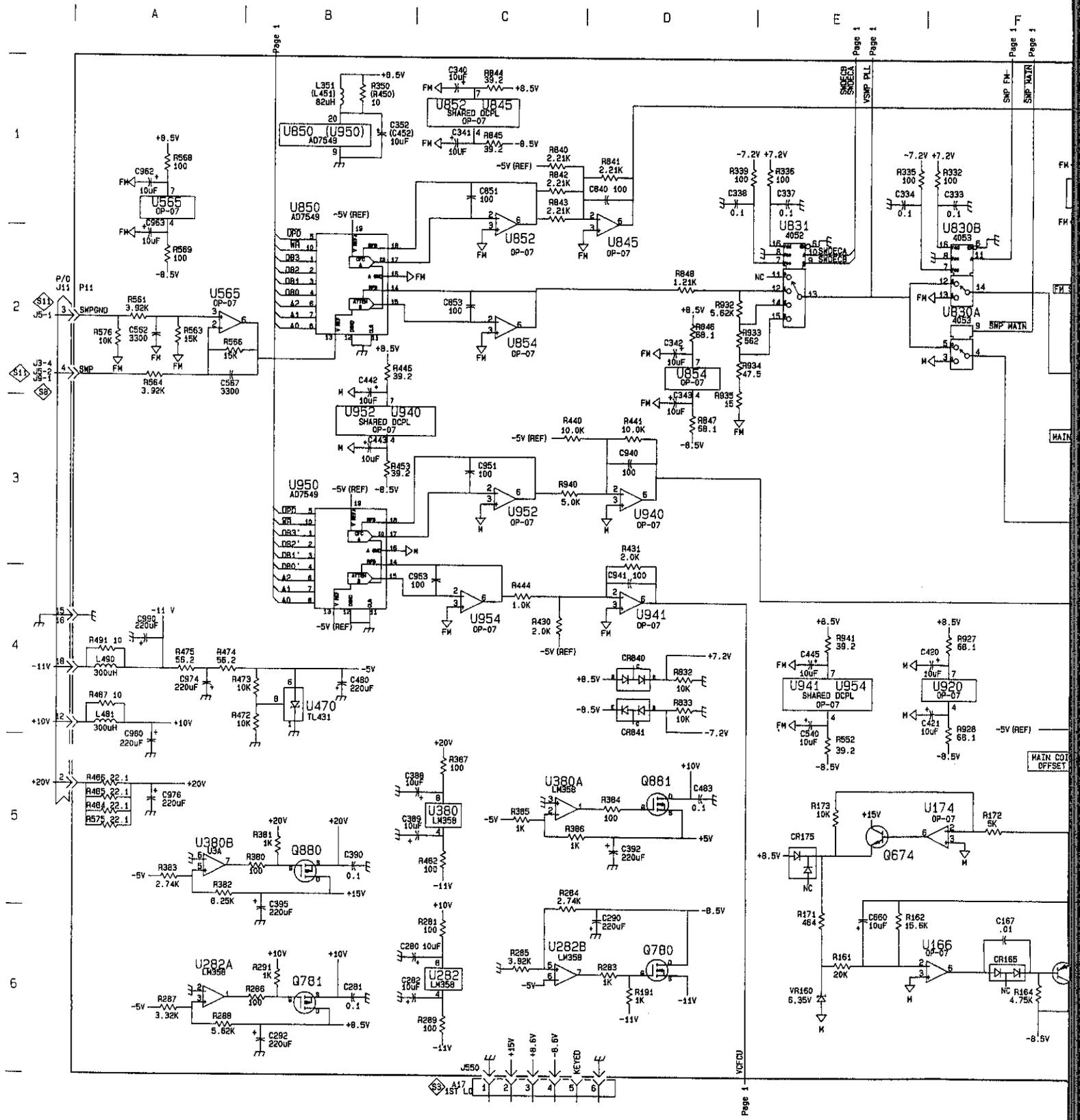
ASSEMBLY A12A1 PHASELOCK CFC

B020319 and up



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C163	F-6	D-1	Q880	B-5	A-2	R821	G-2	D-2
C167	F-6	D-1	Q881	D-5	A-3	R822	G-2	D-2
C280	C-6	E-2	Q910	J-2	E-3	R823	G-2	D-3
C281	B-6	E-2	Q911	J-2	E-3	R827	H-1	D-3
C282	C-6	E-2	Q920	H-4	D-3	R828	J-4	D-3
C290	D-6	E-1	Q930	H-6	D-4	R832	D-4	C-3
C292	B-6	E-2	Q931	G-5	D-4	R833	D-4	C-3
C300	I-2	A-2	R161	E-6	D-1	R840	C-1	C-2
C310	I-1	A-2	R162	E-6	D-1	R841	D-1	C-2
C312	I-2	A-2	R164	F-6	D-1	R842	C-1	C-2
C314	I-2	A-3	R171	E-6	D-1	R843	C-1	C-2
C321	F-1	B-2	R172	F-5	D-1	R844	C-1	C-2
C322	F-1	B-3	R173	E-5	D-1	R845	C-1	C-2
C323	F-1	B-2	R191	D-6	E-1	R846	D-2	C-3
C334	E-1	B-2	R281	C-6	E-1	R847	D-3	C-3
C337	E-1	B-3	R283	D-6	E-1	R848	D-2	C-3
C338	D-1	B-3	R284	C-6	E-1	R800	I-5	E-3
C340	C-1	C-2	R285	C-6	E-2	R901	J-2	E-3
C341	C-1	C-2	R286	B-6	E-2	R903	J-2	E-3
C342	D-2	C-3	R287	A-6	E-2	R904	J-2	E-3
C343	D-3	C-3	R288	A-6	E-2	R905	I-3	E-3
C352	B-1	C-3	R289	C-6	E-2	R912	G-3	E-3
C388	C-5	E-3	R291	B-6	E-2	R913	G-3	E-3
C389	C-5	E-3	R311	I-1	A-2	R915	H-3	E-3
C390	B-5	E-2	R313	I-2	A-2	R916	H-3	E-3
C392	D-5	E-3	R320	G-1	B-2	R918	G-3	E-4
C395	B-6	E-2	R323	H-2	B-2	R920	G-2	D-3
C410	H-3	A-3	R324	H-1	B-2	R921	G-4	D-3
C411	H-3	A-3	R330	G-1	B-2	R922	G-5	D-3
C420	F-4	B-3	R331	G-1	B-2	R923	G-4	D-3
C421	F-4	B-3	R332	F-1	B-2	R924	G-4	D-4
C422	H-4	B-4	R335	E-1	B-2	R925	G-3	D-4
C442	B-2	C-3	R336	E-1	B-3	R926	I-5	D-4
C443	B-3	C-3	R339	D-1	B-3	R927	F-4	D-3
C445	E-4	C-4	R350	B-1	C-2	R928	F-4	D-3
C452	B-1	C-3	R380	B-6	E-2	R929	H-5	D-4
C480	B-4	E-3	R381	B-5	E-2	R930	G-5	D-3
C483	D-5	E-3	R382	A-5	E-2	R931	F-5	D-3
C520	H-4	B-4	R383	A-5	E-2	R932	D-2	D-3
C540	E-4	C-4	R384	D-5	E-3	R933	D-2	D-3
C562	A-2	D-4	R385	C-5	E-3	R934	D-2	D-3
C567	A-2	D-4	R386	C-5	E-3	R935	D-2	D-3
C660	E-6	B-1	R387	C-5	E-2	R936	G-5	D-4
C671	G-6	B-1	R430	C-4	B-3	R937	G-5	D-4
C672	G-6	B-1	R431	D-3	C-4	R938	G-6	D-4
C812	I-2	E-2	R440	C-3	C-3	R939	G-5	D-4
C824	G-2	D-3	R441	D-3	C-3	R940	C-3	C-3
C825	H-2	D-3	R444	C-4	C-3	R941	F-4	C-4
C826	H-2	D-2	R446	B-2	C-3	R942	H-5	C-4
C840	D-1	C-2	R450	B-1	C-3	R943	H-6	C-4
C851	C-1	C-2	R453	B-3	C-4	R944	H-5	D-4
C853	C-2	C-3	R472	B-4	D-3	R945	H-5	D-4
C914	G-3	E-3	R473	B-4	D-3	R946	H-4	D-4
C919	J-4	E-4	R474	A-4	D-3	R947	I-4	D-4
C920	G-4	D-3	R475	A-4	E-3	R948	H-4	D-4
C928	I-4	D-4	R482	A-4	E-3	U166	F-6	D-1
C930	G-5	D-3	R484	C-5	E-3	U174	F-5	D-1
C940	D-3	C-3	R485	A-5	E-4	U282A	A-6	E-2
C941	D-4	C-4	R486	A-5	E-4	U282B	C-6	E-2
C942	I-6	C-4	R487	A-4	E-4	U380A	C-5	E-3
C943	I-6	C-4	R491	A-4	E-4	U380B	A-5	E-3
C951	C-3	C-3	R530	A-4	E-4	U470	B-4	D-3
C953	C-4	C-3	R541	J-4	B-4	U544A	I-6	C-4
C962	A-1	B-4	R542	I-6	C-4	U544B	J-6	C-4
C963	A-2	B-4	R543	J-6	C-4	U565	A-2	D-4
C974	A-4	B-3	R545	J-6	C-4	U810	I-3	E-3
C976	A-5	B-4	R546	J-6	C-4	U811	I-3	E-2
C980	A-5	A-3	R547	I-6	C-4	U820	G-2	D-3
C990	A-4	A-3	R551	J-6	C-4	U821	H-2	D-2
CR165	F-6	D-1	R552	E-4	C-4	U830A	F-2	D-2
CR175	E-5	D-1	R561	A-2	D-4	U830B	F-2	D-2
CR840	D-4	C-2	R563	A-2	D-4	U831	E-2	D-3
CR841	D-4	C-2	R564	A-2	D-4	U845	D-1	C-2
J510	J-3	A-4	R566	A-2	D-4	U850	B-2	C-3
L351	B-1	C-3	R568	A-1	D-4	U852	C-2	C-2
L451	B-1	C-3	R569	A-2	D-4	U854	C-2	C-3
L481	A-4	E-3	R575	A-5	D-4	U910	F-3	E-3
L490	A-4	E-3	R576	A-2	D-4	U920	G-5	D-3
L802	I-2	E-3	R670	G-6	B-1	U921	H-4	D-4
L814	I-2	E-3	R673	G-6	B-1	U940	D-3	C-3
L917	J-4	E-4	R701	J-2	E-2	U941	D-4	C-4
Q170	F-6	D-1	R702	J-1	E-2	U950	B-3	C-3
Q521	I-4	B-4	R716	J-2	E-2	U952	C-3	C-3
Q674	E-5	B-1	R801	J-2	E-2	U954	C-4	C-4
Q703	J-2	E-2	R813	I-3	E-2	VR160	E-6	D-1
Q780	D-6	A-1	R815	I-3	E-2	VR803	J-2	E-3
Q781	B-6	A-2	R816	G-2	D-2	VR902	J-2	E-3
Q800	J-1	E-2	R820	G-2	D-2			

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A12 CENTER FREQUENCY CONTROL
B010001 to B010318



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C340	E-1	B-2	CR330	D-4	B-2	R534	G-2	B-3
C341	D-2	B-2	CR331	D-4	B-2	R535	E-1	B-3
C350	C-1	C-2	CR650	E-5	C-4	R536	C-4	B-3
C400	I-6	A-3	CR740	F-6	B-4	R537	D-3	B-3
C410	I-6	A-2	J610	J-2	A-4	R538	C-3	B-3
C420	H-2	B-3	J611	I-2	A-4	R539	C-4	B-3
C430	D-1	B-2	J710	J-3	B-4	R540	C-3	B-3
C440	F-1	B-3	J760	C-6	C-4	R541	D-3	B-3
C441	D-2	B-3	L310	I-2	A-2	R550	C-3	C-3
C450	C-2	C-3	L410	I-3	A-3	R570	E-6	C-3
C472	C-6	C-3	L812	B-1	B-2	R571	C-6	C-3
C473	E-6	C-3	L900	J-4	D-4	R572	D-6	C-3
C474	A-6	D-3	L901	B-1	B-3	R573	D-6	D-3
C475	C-6	D-3	Q510	I-4	A-3	R574	C-6	D-3
C480	A-2	D-2	Q650	F-5	C-4	R575	A-6	D-3
C481	C-5	D-3	Q750	G-6	C-4	R576	B-6	D-3
C482	E-5	D-3	Q900	D-6	B-3	R577	B-6	D-3
C483	B-6	D-3	Q901	B-6	A-3	R580	E-5	D-3
C490	A-2	D-2	Q902	D-6	A-3	R581	C-5	D-3
C491	A-5	D-3	Q903	B-5	A-3	R583	B-5	D-3
C492	C-5	D-3	R332	D-2	B-2	R584	B-5	D-3
C510	I-5	A-3	R340	E-1	B-2	R585	A-4	D-3
C530	E-1	B-3	R341	C-1	B-2	R586	A-4	D-3
C531	D-4	B-3	R342	D-1	B-2	R589	C-5	D-3
C540	D-3	B-3	R343	C-1	B-2	R591	A-5	D-3
C541	C-4	B-3	R344	C-1	B-2	R592	B-5	D-3
C550	C-3	C-3	R400	J-3	A-2	R593	B-5	D-3
C570	E-6	C-3	R401	J-6	A-3	R600	I-5	A-4
C571	C-6	D-3	R402	J-6	A-3	R601	J-4	A-4
C580	E-5	D-3	R403	J-6	A-3	R610	H-4	A-3
C590	C-5	D-3	R404	I-6	A-3	R620	G-5	A-4
C670	D-6	C-4	R405	I-5	A-3	R621	G-3	A-4
C671	B-6	D-4	R410	J-3	A-2	R622	G-3	B-3
C680	D-5	D-4	R411	J-6	A-2	R730	E-6	B-4
C681	A-5	D-4	R412	I-5	A-3	R731	F-5	B-4
C690	B-6	D-4	R414	J-6	A-3	R740	E-5	B-4
C741	F-6	B-4	R420	H-3	A-2	R741	G-6	B-4
C800	I-2	D-2	R422	G-2	B-3	R750	E-4	B-4
C801	H-3	D-2	R430	D-1	B-2	R751	F-5	B-4
C802	F-2	C-2	R431	G-2	B-3	R776	J-6	D-4
C803	F-3	C-2	R440	G-2	B-3	R800	H-3	C-2
C804	H-3	D-2	R441	D-2	B-2	R801	F-2	C-2
C805B	I-3	D-3	R442	D-2	B-2	R802	H-3	C-2
C806	A-1	C-2	R443	E-1	B-2	R803	F-3	C-2
C807	A-1	C-2	R444	D-2	B-3	R805	A-1	C-2
C808	A-1	C-3	R445	C-2	B-3	R806	A-1	C-2
C809	A-1	C-2	R470	C-6	C-3	R807	A-1	C-3
C810	A-1	C-3	R471	C-6	C-3	R808	A-1	B-3
C811	A-1	B-2	R472	E-6	D-3	R809	A-1	B-3
C812	B-1	B-2	R473	A-6	D-3	R810	A-1	B-2
C821	A-4	A-2	R474	A-6	D-3	R812	A-4	A-2
C822	A-4	A-2	R475	C-6	D-3	R813	A-4	A-2
C823	A-1	A-2	R480	A-2	D-2	R814	A-1	A-2
C824	A-1	A-2	R481	A-2	D-2	R815	A-1	A-2
C900	H-4	D-3	R482	A-3	D-2	R900	I-5	D-3
C901	H-4	D-3	R483	C-5	D-3	R901	H-4	D-3
C902	J-4	D-4	R484	C-5	D-3	R902	H-4	D-4
C903	G-2	C-3	R485	E-5	D-3	R903	H-2	C-3
C904	H-3	C-3	R490	A-2	D-2	R904	G-3	C-3
C905	A-1	C-3	R491	A-2	D-2	R905	A-1	C-3
C906	A-1	C-4	R492	A-5	D-3	R906	A-1	C-4
C907	A-1	C-3	R493	A-5	D-3	R907	A-1	C-3
C908	A-1	C-3	R494	C-5	D-3	R908	A-1	C-3
C909	A-1	C-3	R510	H-5	A-3	R909	A-1	C-3
C910	A-1	C-3	R520	G-4	A-3	R910	A-1	B-3
C911	E-3	C-3	R521	G-5	A-3	R911	E-3	C-3
C912	E-3	B-3	R522	G-4	A-3	R912	E-3	B-3
C913	E-3	C-3	R523	G-4	A-3	R913	E-3	C-4
C914	E-3	B-4	R524	G-3	A-3	R915	F-5	C-4
C915	F-6	C-4	R526	G-3	B-3	R916	F-6	C-4
C916	F-6	C-4	R527	G-2	B-3	R917	F-4	B-4
C917	F-4	B-4	R530	G-2	B-3	R918	F-5	B-4
C918	F-5	B-4	R531	G-2	B-3	R919	G-5	D-4
C919	B-1	B-3	R532	G-2	B-3	U330	E-2	B-2
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C925	G-5	D-4						

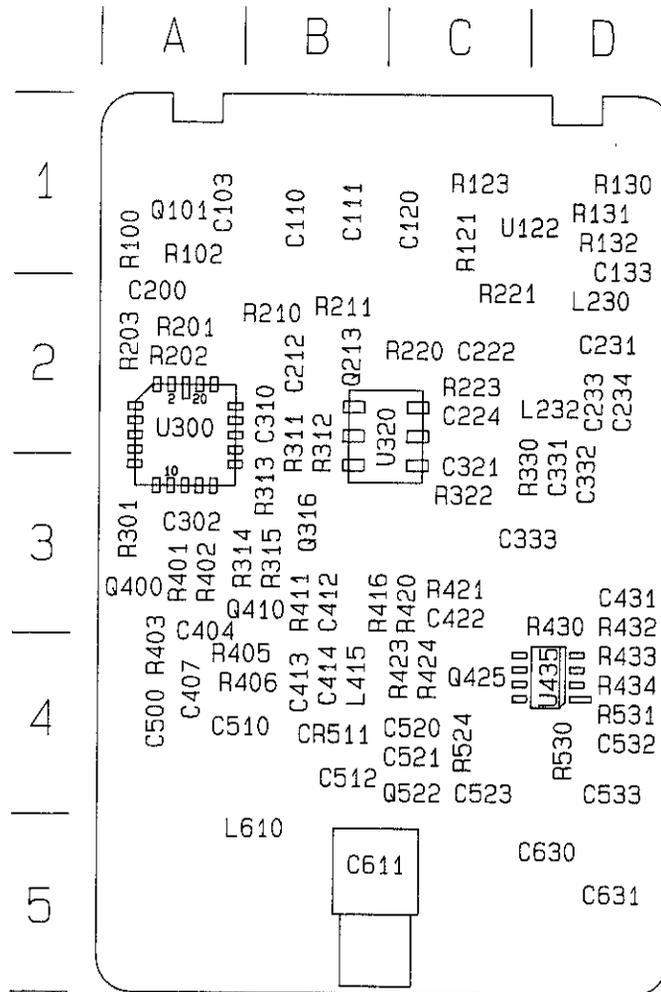
A12 CENTER FREQUENCY CONTROL

B010001 to B010318 (Continued)



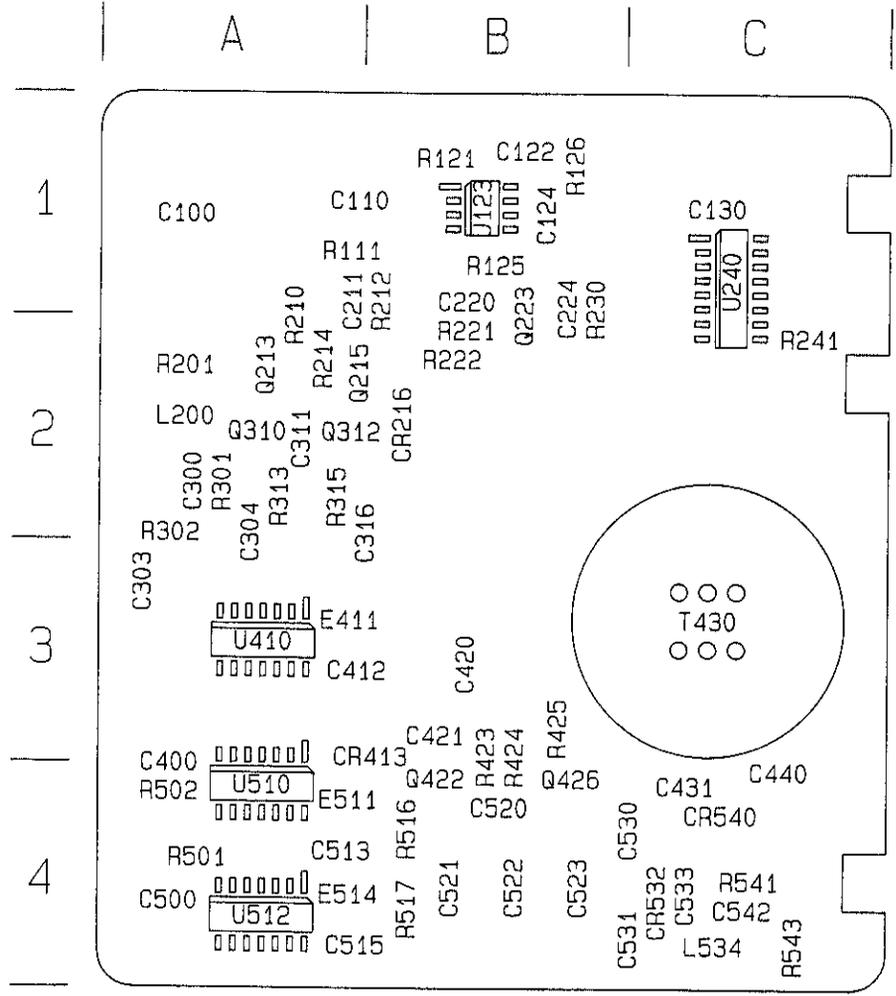
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U360A	B-1	C-3	U490	A-2	D-2	U580A	E-5	D-3
U410	I-3	A-2	U520	H-3	B-3	U581	B-6	D-3
U410A	I-3	A-2	U520A	G-3	B-3	U590	C-5	D-3
U411	I-6	A-3	U530A	F-2	B-3	U590A	A-5	D-3
U411A	I-6	A-3	U530B	F-2	B-3	U600	H-4	A-3
U411B	J-6	A-3	U540	D-2	B-3	U630	D-4	B-3
U420	H-3	B-2	U541	C-2	C-3	U631	C-4	B-3
U430	F-2	B-2	U550	B-4	C-3	U640	E-3	B-3
U440	D-2	B-2	U570	E-6	C-3	U640A	D-3	B-3
U441	C-1	C-2	U570A	C-6	C-3	U650	E-3	C-3
U470	A-4	D-2	U571	C-6	D-3	U740	F-6	B-4
U470A	B-2	D-2	U571A	A-6	D-3	U750	F-5	C-4
U470B	B-5	D-2	U580	C-6	D-3	VR730	E-6	B-4

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A12A2-HF VCO

S5 SN B020319 & ↑
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A12A3-LF VCO

A12 PHASELOCK ASSEMBLY

B020319 and up

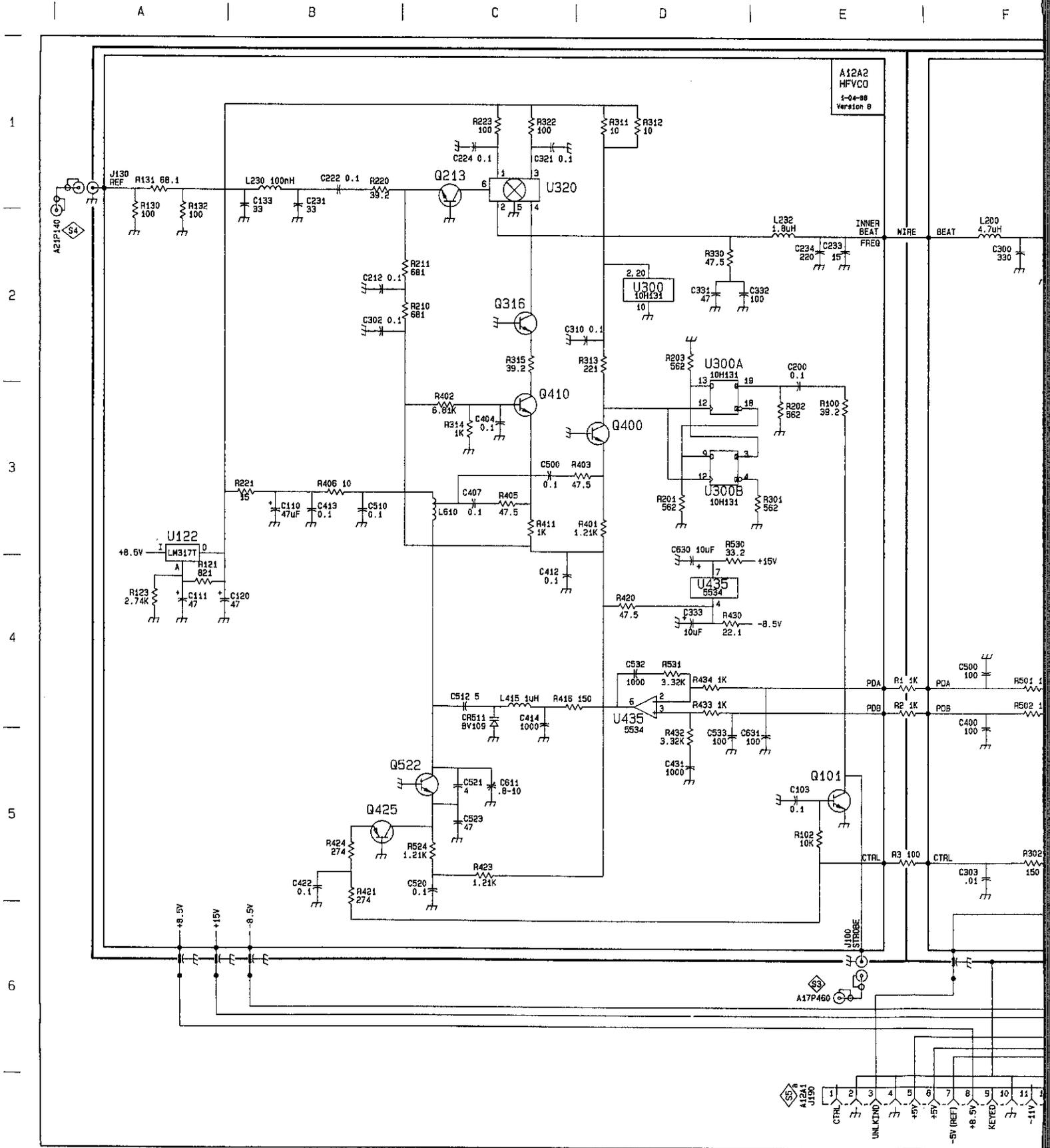
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C103	E-5	A-1	C811	C-5	B-5	R311	D-1	B-2
C110	B-3	B-1	C830	D-4	D-5	R312	D-1	B-2
C111	A-4	B-1	C831	E-5	D-5	R313	D-2	B-3
C120	A-4	C-1	CR511	C-4	B-4	R314	C-3	B-3
C133	B-1	D-1	J100	E-6	A-1	R315	C-2	B-3
C200	E-3	A-2	J130	A-1	D-1	R322	C-1	C-3
C212	B-2	B-2	L230	B-1	D-2	R330	D-2	D-3
C222	B-1	C-2	L232	F-2	D-2	R401	D-3	A-3
C224	C-1	C-2	L415	C-4	B-4	R402	C-3	A-3
C231	B-1	D-2	L810	C-3	B-5	R403	D-3	A-4
C233	E-2	D-2	Q101	E-5	A-1	R405	C-3	A-4
C234	E-2	D-2	Q213	C-1	B-2	R408	B-3	B-4
C302	B-2	A-3	Q316	C-2	B-3	R411	C-3	B-3
C310	D-2	B-2	Q400	D-3	A-3	R416	C-4	B-3
C321	C-1	C-3	Q410	C-3	B-3	R420	D-4	C-3
C331	D-2	D-3	Q425	B-5	C-4	R421	B-5	C-3
C332	D-2	D-3	Q522	C-5	C-4	R423	C-5	C-4
C333	D-4	D-3	R100	E-3	A-1	R424	B-5	C-4
C404	C-3	A-3	R102	E-5	A-1	R430	D-4	D-3
C407	C-3	A-4	R121	A-4	C-1	R432	D-5	D-3
C412	C-4	B-3	R123	A-4	C-1	R433	D-4	D-4
C413	B-3	B-4	R130	A-2	D-1	R434	D-4	D-4
C414	C-4	B-4	R131	A-1	D-1	R524	C-5	C-4
C422	B-5	C-3	R132	A-2	D-1	R530	D-4	D-4
C431	D-5	D-3	R201	D-3	A-2	R531	D-4	D-4
C500	C-3	A-4	R202	E-3	A-2	U122	A-3	D-1
C510	B-3	B-4	R203	D-2	A-2	U300	D-3	A-2
C512	C-4	B-4	R210	C-2	B-2	U300A	D-3	A-2
C520	C-5	C-4	R211	C-2	B-2	U300B	D-2	A-2
C521	C-5	C-4	R220	B-1	C-2	U320	C-1	C-2
C523	C-6	C-4	R221	B-3	C-2	U435	D-4	D-4
C532	D-4	D-4	R223	C-1	C-2	U435A	D-4	D-4
C533	D-5	D-4	R301	E-3	A-3			

ASSEMBLY A12A3 LOW FREQUENCY VCO

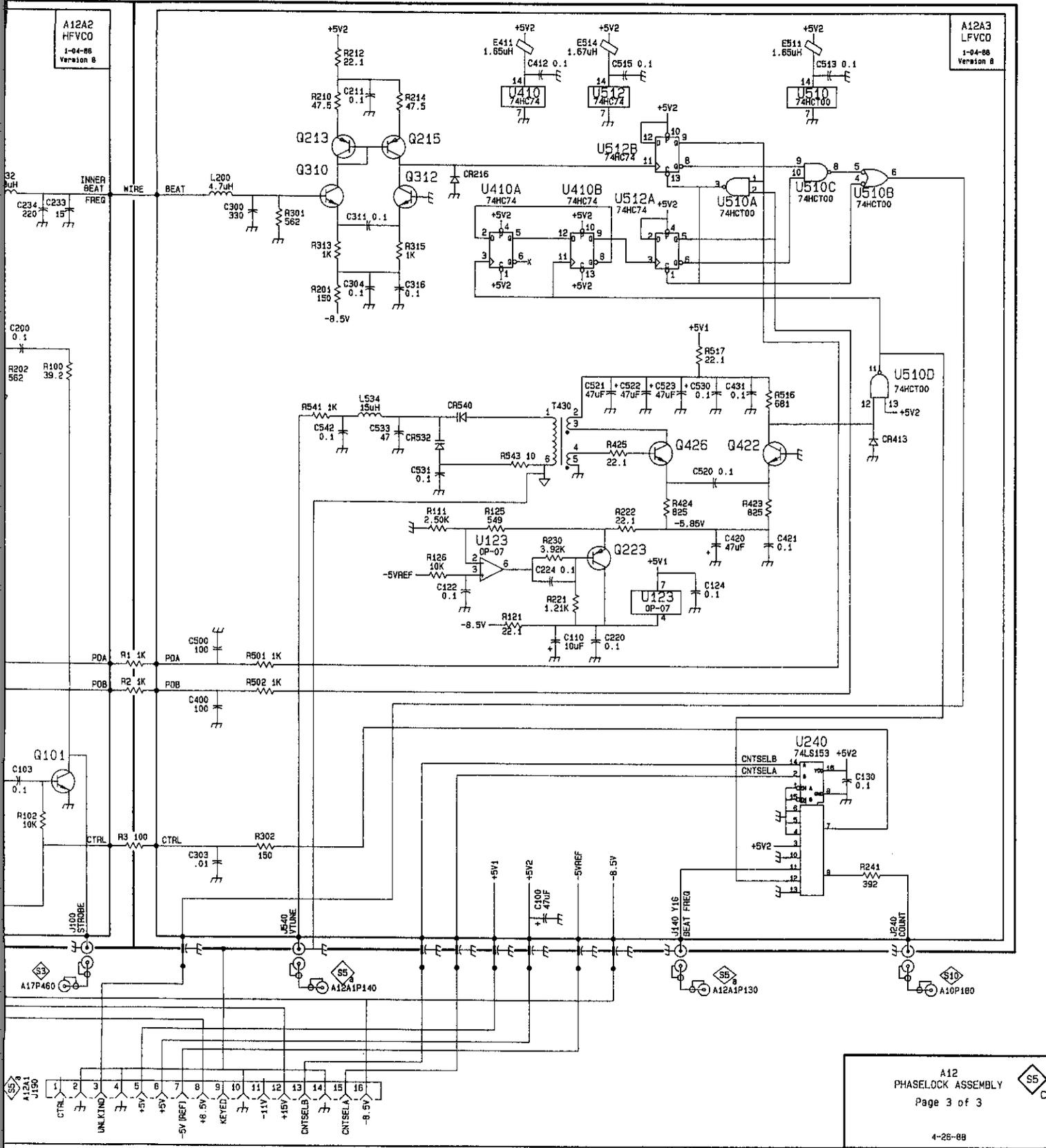
CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C100	H-6	A-1	C542	G-3	C-4	R301	F-2	A-2
C110	H-4	A-1	CR216	G-2	B-2	R302	F-6	A-2
C122	G-4	B-1	CR413	J-3	B-4	R313	G-2	A-2
C124	H-4	B-1	CR532	G-3	C-4	R315	G-2	A-2
C130	I-5	C-1	CR540	G-3	C-4	R423	I-3	B-3
C211	G-1	A-2	E411	H-1	A-3	R424	H-3	B-3
C220	H-4	B-1	E511	I-1	A-4	R425	H-3	B-3
C224	H-4	B-1	E514	H-1	A-4	R501	F-4	A-4
C300	F-2	A-2	L200	F-2	A-2	R502	F-4	A-4
C303	F-6	A-3	L534	G-3	C-4	R516	I-3	B-4
C304	G-2	A-3	Q213	G-1	A-2	R517	I-3	B-4
C311	G-2	A-2	Q215	G-1	B-2	R541	F-3	C-4
C316	G-2	B-2	Q223	H-4	B-1	R543	H-3	C-4
C400	F-4	A-3	Q310	G-2	A-2	T430	H-3	C-3
C412	H-1	A-3	Q312	G-2	A-2	U123	G-4	B-1
C420	I-4	B-3	Q422	I-3	B-4	U123A	H-4	B-1
C421	I-4	B-3	Q426	H-3	B-4	U240	I-5	C-1
C431	I-3	C-4	R111	G-3	A-1	U410	H-1	A-3
C440	G-3	C-4	R121	H-4	B-1	U410A	G-2	A-3
C500	F-4	A-4	R125	G-3	B-1	U410B	H-2	A-3
C513	I-1	A-4	R126	G-4	B-1	U510	I-1	A-4
C515	H-1	A-4	R201	G-2	A-2	U510A	I-2	A-4
C520	I-3	B-4	R210	G-1	A-2	U510B	J-2	A-4
C521	H-3	B-4	R212	G-1	B-1	U510C	I-2	A-4
C522	H-3	B-4	R214	G-1	A-2	U510D	J-3	A-4
C523	H-3	B-4	R221	H-4	B-2	U512	H-1	A-4
C530	I-3	C-4	R222	H-3	B-2	U512A	H-3	A-4
C531	G-3	C-4	R230	H-4	B-1	U512B	H-1	A-4
C533	G-3	C-4	R241	J-5	C-2			

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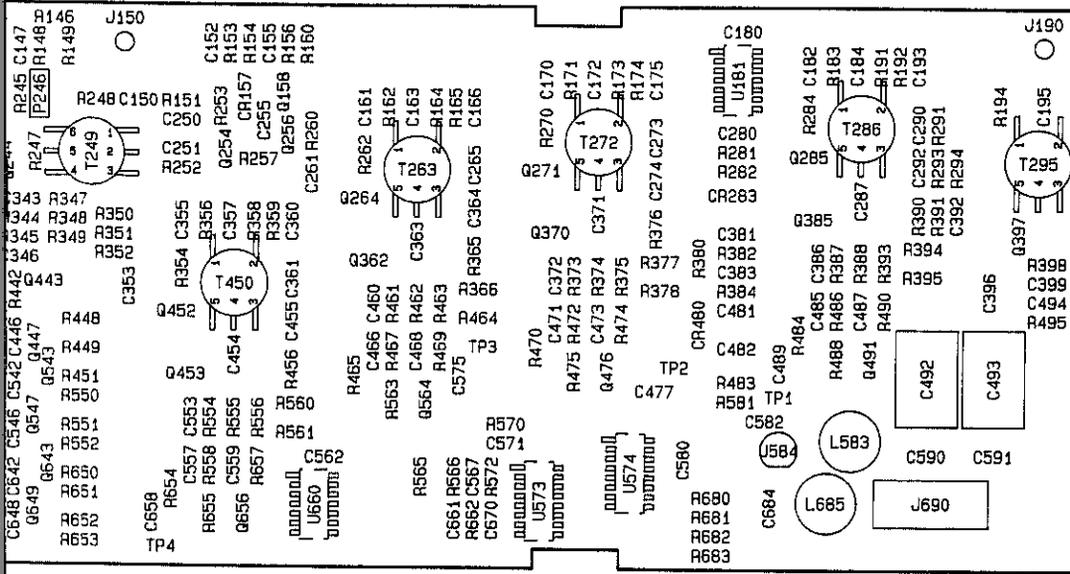
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A12 PHASELOCK ASSEMBLY
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A1-VR

A13 VARIABLE RESOLUTION

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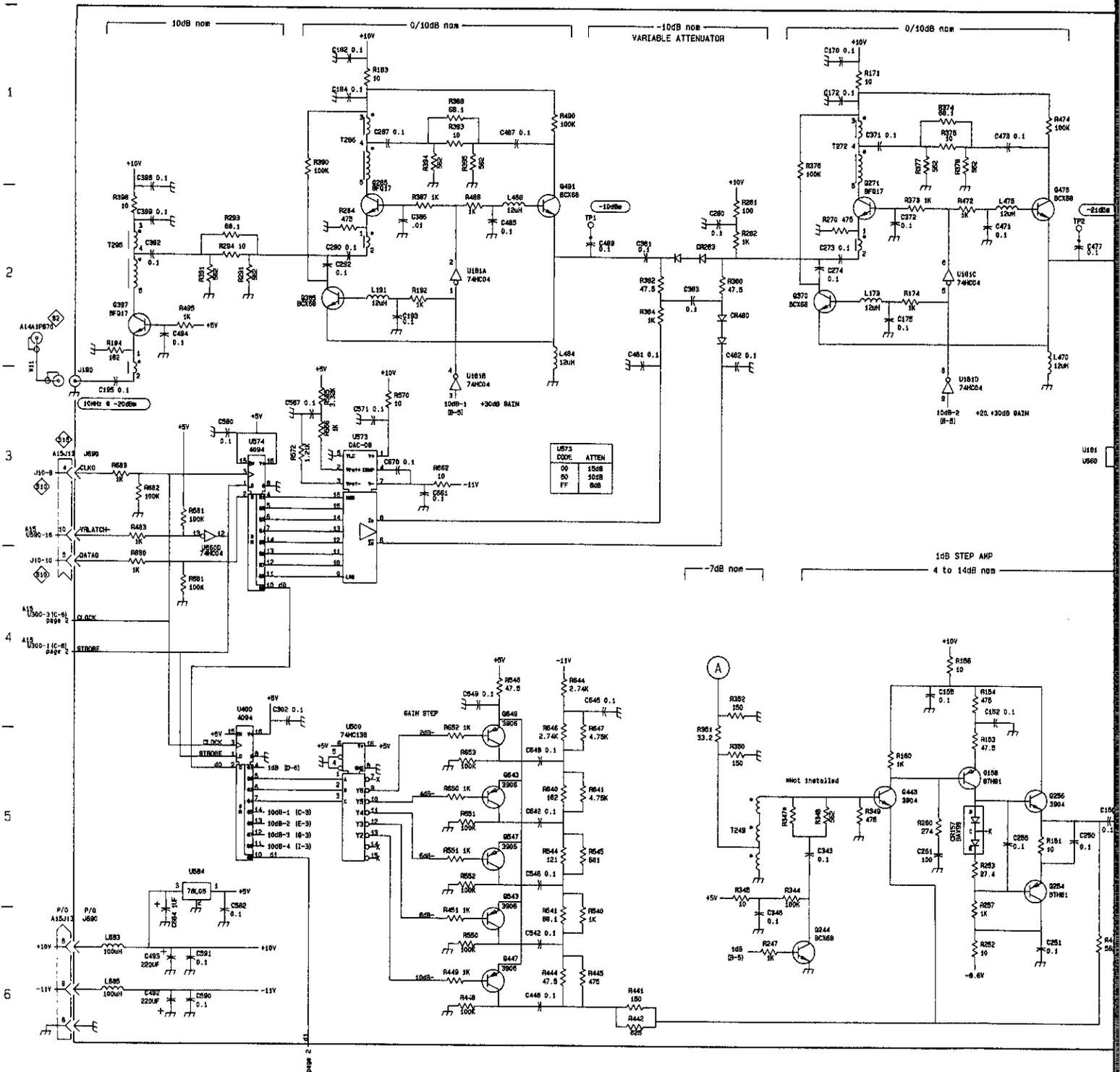


CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
R162	G-1	G-1	R382	D-2	I-3	R566	B-3	G-5
R165	G-2	G-1	R387	B-2	I-3	R570	B-3	H-4
R171	E-1	H-1	R388	C-1	I-3	R572	B-3	H-5
R174	E-2	H-1	R390	B-1	J-2	R581	A-3	I-4
R183	B-1	I-1	R391	A-2	J-2	R640	C-5	E-5
R192	B-2	J-1	R393	C-1	J-3	R641	C-5	E-5
R194	A-2	J-1	R394	C-1	J-3	R644	C-4	E-5
R200	I-5	A-1	R395	C-1	J-3	R646	C-5	E-5
R209	I-5	A-1	R398	A-2	J-3	R647	C-5	E-5
R247	D-6	F-2	R440	F-6	F-3	R650	C-5	E-5
R248	F-5	F-1	R441	D-6	F-3	R651	C-5	E-5
R252	F-6	F-2	R442	D-6	F-3	R652	C-5	E-5
R253	F-5	F-1	R444	C-6	F-3	R653	C-5	E-5
R257	F-5	F-2	R445	C-6	F-3	R655	J-2	F-6
R260	E-5	G-2	R448	C-6	F-3	R657	J-1	F-5
R262	G-2	G-2	R449	C-6	E-4	R662	C-3	G-5
R270	E-2	H-2	R451	C-6	E-4	R680	A-4	I-5
R281	D-2	I-2	R456	H-1	F-4	R681	A-4	I-5
R282	D-2	I-2	R461	G-2	G-3	R682	A-3	I-5
R284	B-2	I-1	R462	G-1	G-3	R683	A-3	I-5
R291	A-2	J-2	R463	G-1	G-3	T249	D-5	E-2
R293	A-2	J-2	R464	G-1	G-3	T263	G-1	G-2
R294	A-2	J-2	R467	G-2	G-4	T272	E-1	H-2
R344	E-5	F-2	R469	H-1	G-4	T286	B-1	I-2
R345	D-5	F-3	R472	E-2	H-3	T295	A-2	J-2
R347	E-5	F-3	R474	F-1	H-3	T450	I-1	F-3
R348	E-5	F-2	R483	A-3	I-4	T700	I-4	A-1*
R349	E-5	F-2	R486	C-2	I-3	TP1	C-2	I-4
R350	D-5	F-2	R490	C-1	J-3	TP2	F-2	H-4
R351	D-5	F-3	R495	A-2	J-3	TP3	H-2	G-4
R352	D-4	F-3	R540	C-6	E-4	TP4	J-2	F-5
R354	I-2	F-3	R541	C-6	E-4	U181A	C-2	I-1
R356	I-1	F-2	R544	C-5	E-4	U181B	C-3	I-1
R358	I-2	F-2	R545	C-5	E-4	U181C	E-2	I-1
R359	I-2	F-2	R548	C-4	E-4	U181D	E-3	I-1
R365	F-1	G-3	R550	C-6	E-4	U181E	G-3	I-1
R366	G-1	G-3	R551	C-5	E-4	U181F	G-2	I-1
R373	E-2	H-3	R552	C-5	E-4	U400	A-5	A-3
R374	E-1	H-3	R554	I-2	F-4	U500	B-5	A-4
R375	E-1	H-3	R555	I-1	F-4	U573	B-3	H-5
R376	E-1	H-2	R556	I-1	F-4	U574	B-3	H-5
R377	E-1	H-3	R558	I-2	F-5	U584	A-5	I-4
R378	E-1	H-3	R560	I-1	G-4	U660A	I-2	G-5
R380	D-2	I-3	R561	I-1	G-4	U660B	I-3	G-5
R382	D-2	I-3	R565	B-3	G-5	U660D	A-3	G-5

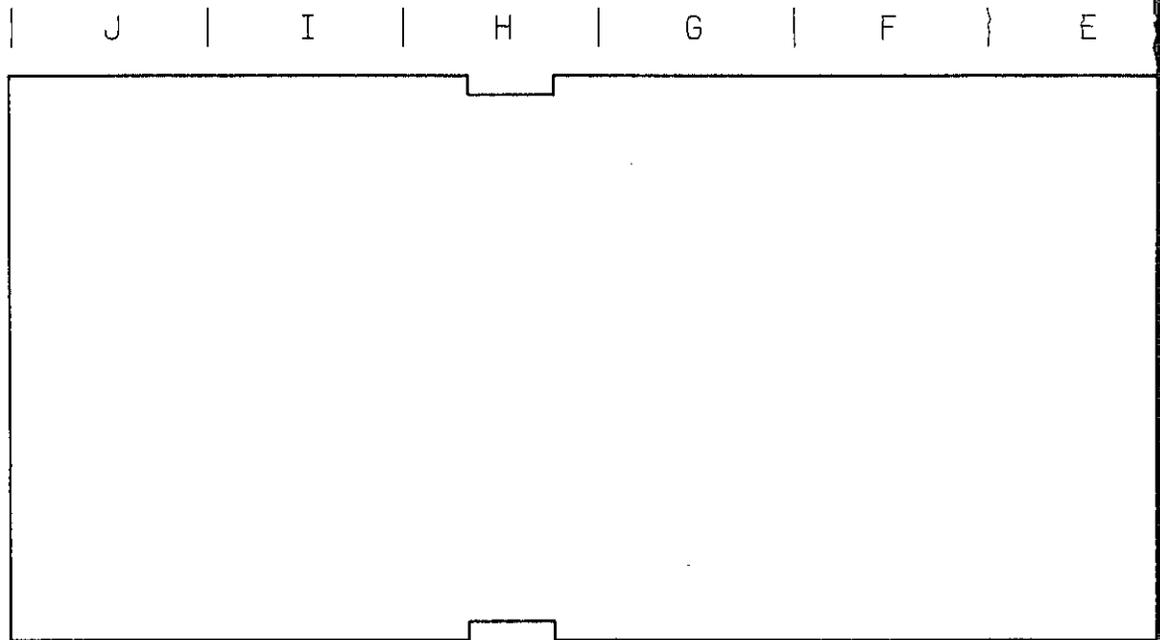
* These components are located on the back of the circuit board.

S6 SHT. 1 OF 2

A | B | C | D | E | F



S6
b A13A2
SHT. 1 OF 2



A13A2—VR Filter Selector

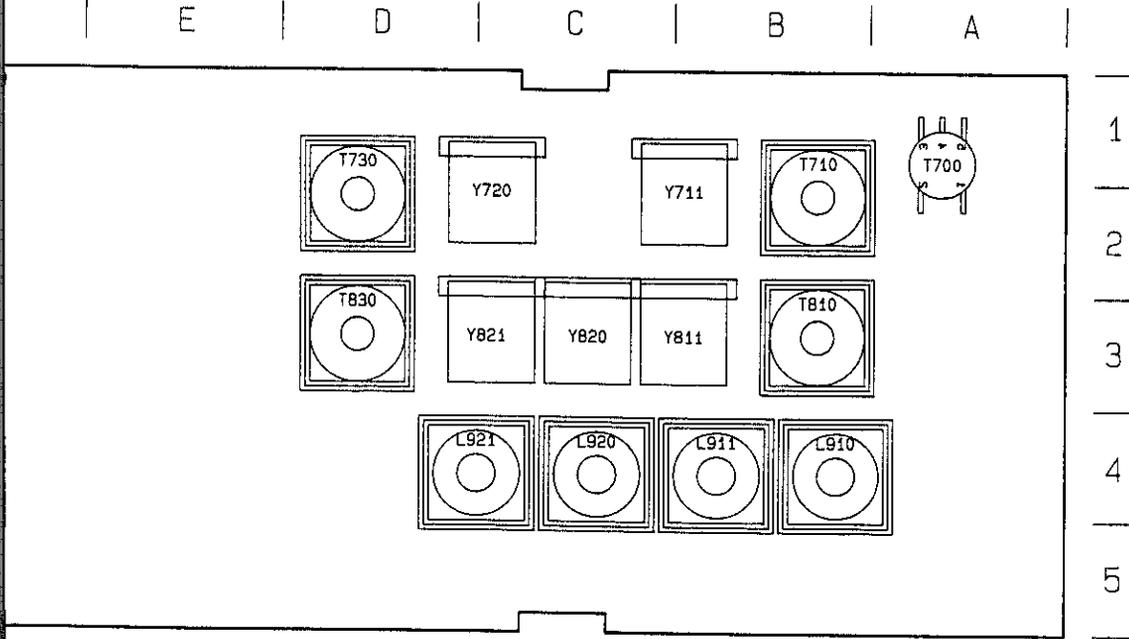
A13 VARIABLE RESOLUTION



A13

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER
C110	G-2	B-1	C401	G-4	A-3	C521	D-4	C-4	Q14
C114	G-2	B-1	C411	G-3	B-3	C522	D-4	C-4	Q14
C131	B-2	D-1	C414	G-4	B-4	C523	D-4	C-5	Q30
C133	B-2	D-1	C415	E-3	B-3	C526	B-4	D-4	Q31
C141	B-1	E-1	C416	G-4	C-3	C532	B-4	D-4	Q32
C143	B-1	E-1	C417	H-2	B-4	C534	B-3	E-4	Q32
C147	B-1	E-1	C421	C-4	C-4	C602	G-1	A-5	Q32
C202	C-5	A-2	C422	C-4	C-4	C607	G-1	B-5	Q32
C210	G-2	B-2	C424	C-4	C-4	C610	G-1	B-5	Q39
C211	E-2	B-2	C425	B-5	D-3	C611	F-4	B-5	Q41
C212	E-2	B-2	C430	D-3	D-3	C612	E-4	B-5	Q41
C220	D-2	C-2	C431	D-3	D-3	C620	D-4	C-5	Q43
C221	D-2	C-2	C433	B-4	D-4	C621	D-4	C-5	Q43
C230	D-2	D-2	C437	B-3	E-3	J150	C-1	F-1	Q53
C231	D-2	D-2	C501	H-1	A-4	J620	G-1	D-5	Q60
C232	B-2	D-1	C504	G-4	A-4	L342	A-2	E-3	Q60
C243	A-1	E-2	C505	F-4	B-5	L516	H-2	B-4	R11
C304	G-3	B-2	C510	F-4	B-4	L910	E-4	B-4	R11
C311	G-3	B-3	C511	F-4	B-4	L911	E-4	B-4	R11
C314	E-3	B-3	C512	F-4	B-5	L920	D-4	C-4	R13
C315	G-5	C-2	C513	F-4	B-5	L921	D-4	D-4	R13
C323	G-5	C-3	C514	E-4	B-4	P630	D-6	D-4	R13
C325	B-5	C-3	C515	E-4	B-4	Q115	G-2	B-1	R14
C330	B-4	D-2	C517	E-4	C-4	Q116	G-2	B-1	R14
C337	B-3	D-3	C518	E-4	C-4	Q135	B-2	D-1	R14
C340	A-2	E-2	C520	D-4	C-4	Q136	B-2	D-1	R14

S6
b
A13A2
SHT. 2 of 2



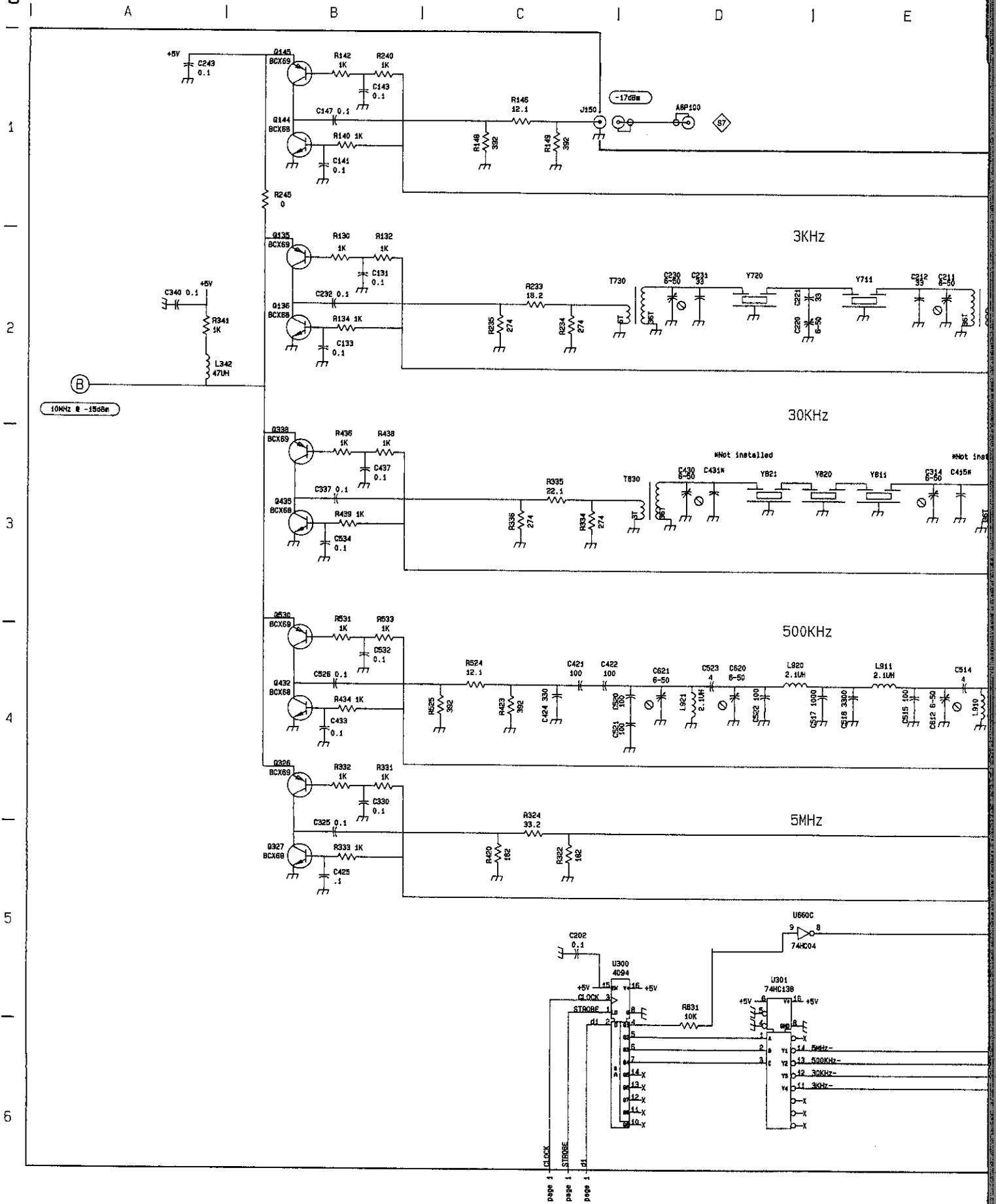
A2—VR Filter Selector

A13 VARIABLE RESOLUTION

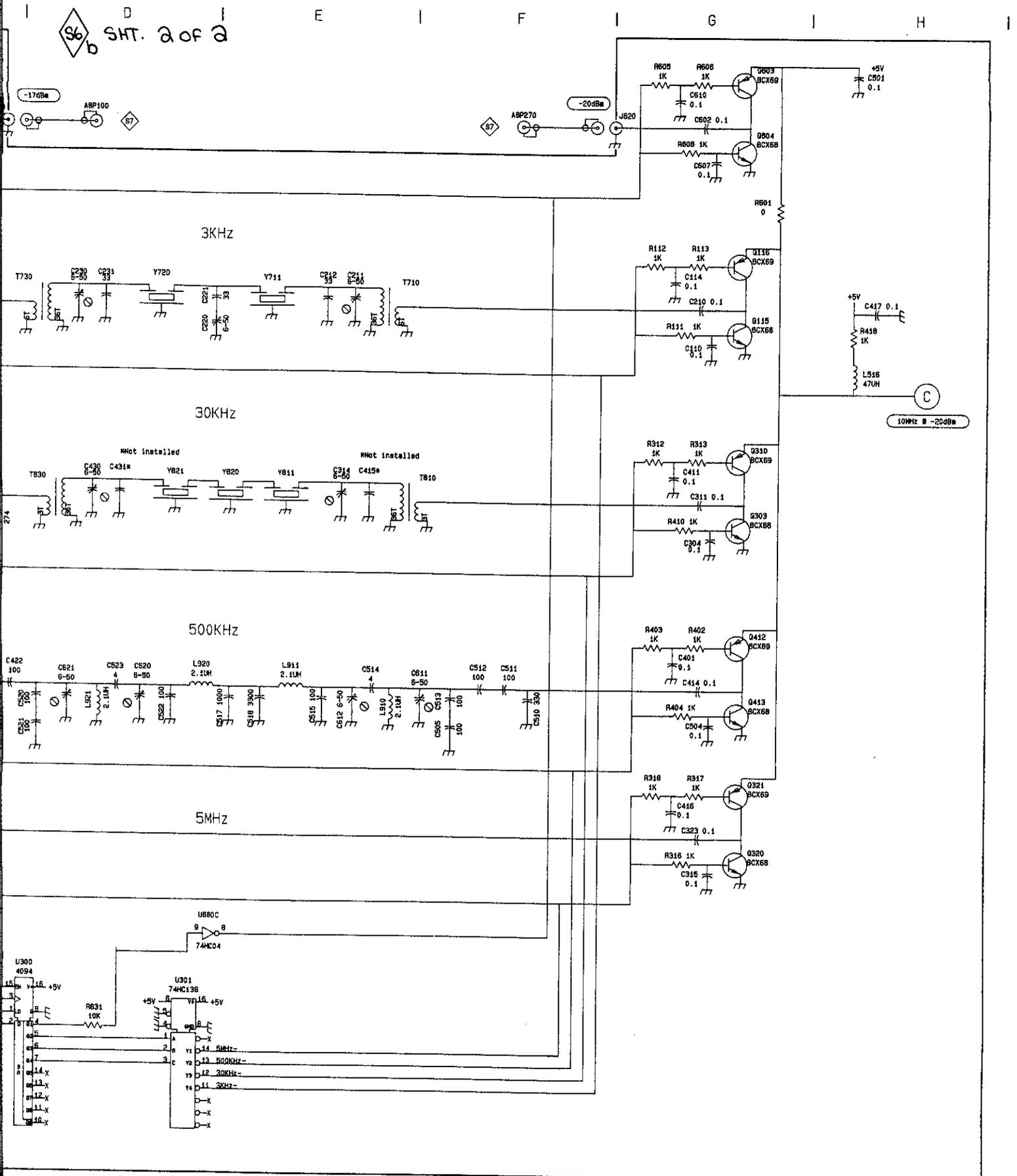
S6
b

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
Q144	B-1	E-1	R149	C-1	E-1	R423	C-4	C-4
Q145	B-1	E-1	R233	C-2	D-2	R434	B-4	D-4
Q303	G-3	B-2	R234	C-2	D-2	R436	B-3	E-3
Q310	G-3	B-2	R235	C-2	D-2	R438	B-3	E-3
Q320	G-5	C-3	R240	B-1	E-1	R439	B-3	E-4
Q321	G-4	C-3	R245	B-1	E-1	R524	C-4	C-4
Q326	B-4	C-3	R312	G-3	B-3	R525	C-4	C-4
Q327	B-5	C-3	R313	G-3	B-3	R531	B-4	D-4
Q338	B-3	D-3	R316	G-5	C-3	R533	B-4	D-4
Q412	G-4	B-4	R317	G-4	C-3	R601	G-1	A-5
Q413	G-4	B-4	R318	G-4	C-3	R605	G-1	B-5
Q432	B-4	D-4	R322	C-5	C-3	R606	G-1	B-5
Q435	B-3	D-4	R324	C-5	C-3	R608	G-1	B-5
Q530	B-4	D-4	R331	B-4	D-3	R631	D-6	D-5
Q603	G-1	A-5	R332	B-4	D-3	T710	E-2	B-2
Q604	G-1	A-5	R333	B-5	D-3	T730	D-2	D-2
R111	G-2	B-1	R334	C-3	D-3	T810	E-3	B-3
R112	G-2	B-1	R335	C-3	D-3	T830	D-3	D-3
R113	G-2	B-1	R336	C-3	D-3	U300	D-6	A-2
R130	B-2	D-1	R341	A-2	E-2	U301	D-6	A-2
R132	B-2	D-1	R402	G-4	A-3	U660C	D-6	G-5
R134	B-2	D-1	R403	G-4	A-4	Y711	E-2	B-2
R140	B-1	E-1	R404	G-4	A-4	Y720	D-2	C-2
R142	B-1	E-1	R410	G-3	B-3	Y811	E-3	B-3
R146	C-1	E-1	R418	H-2	B-4	Y820	E-3	C-3
R148	C-1	E-1	R420	C-5	C-3	Y821	D-3	C-3

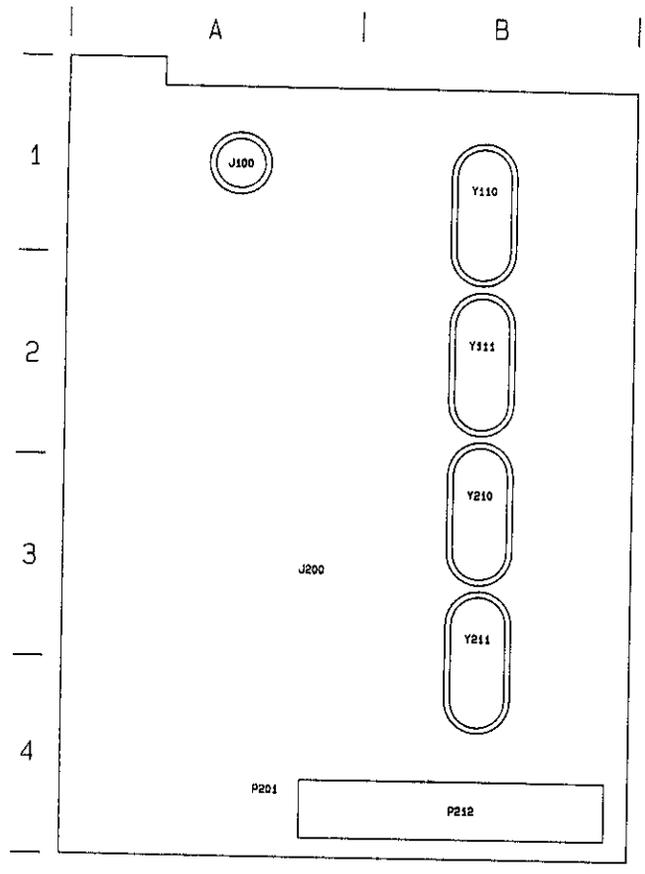
S6 SHT. 1 of 2



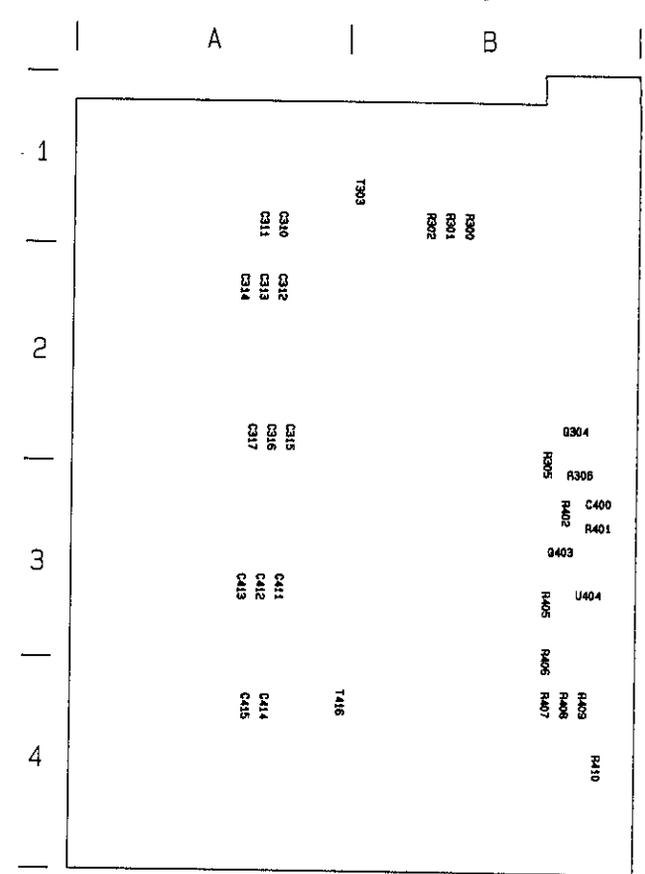
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page 1
page 1



S6 A22 (FRONT)(REAR)
C



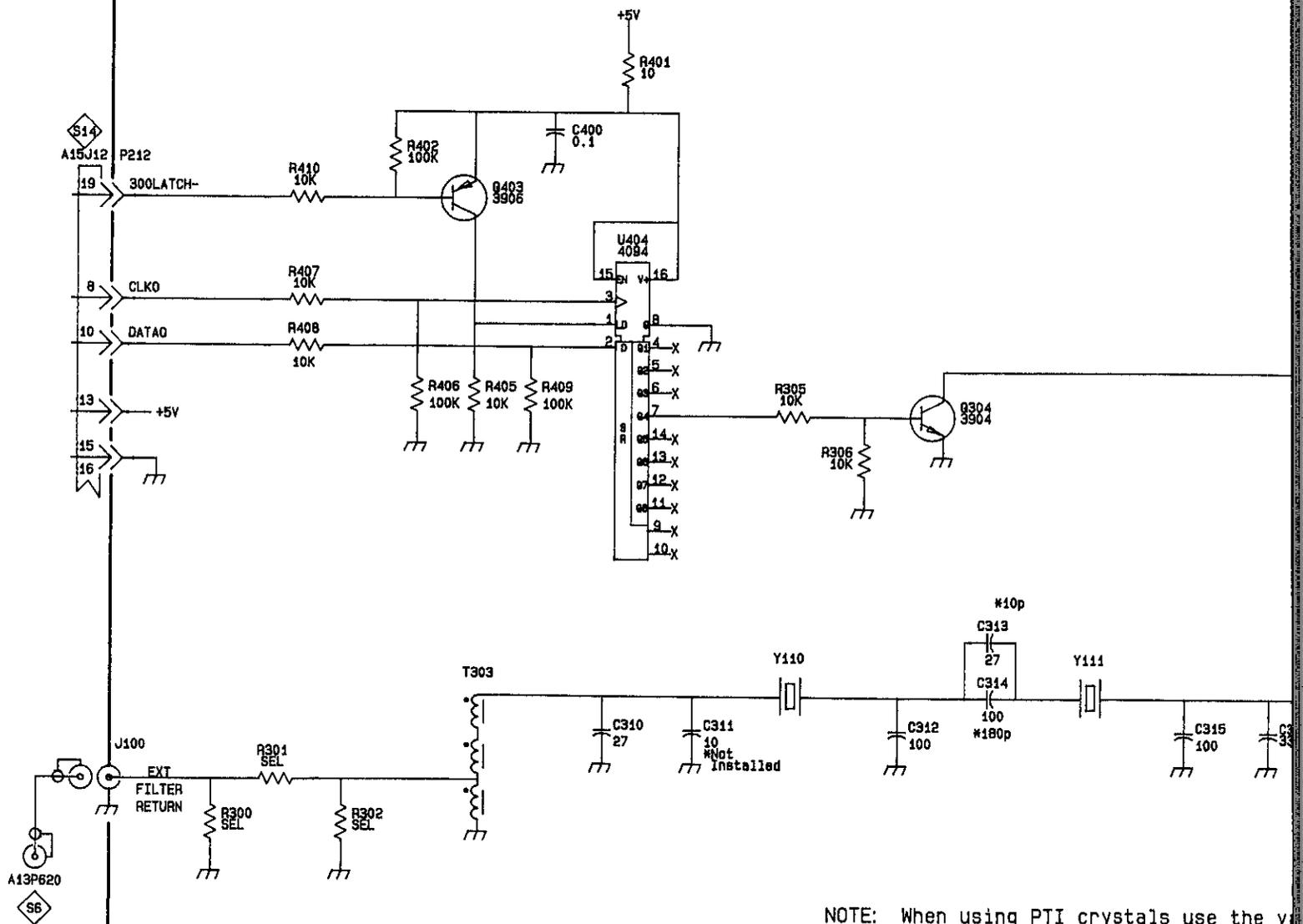
A22-300 Hz Filter (Front)



A22-300 Hz Filter (Rear)

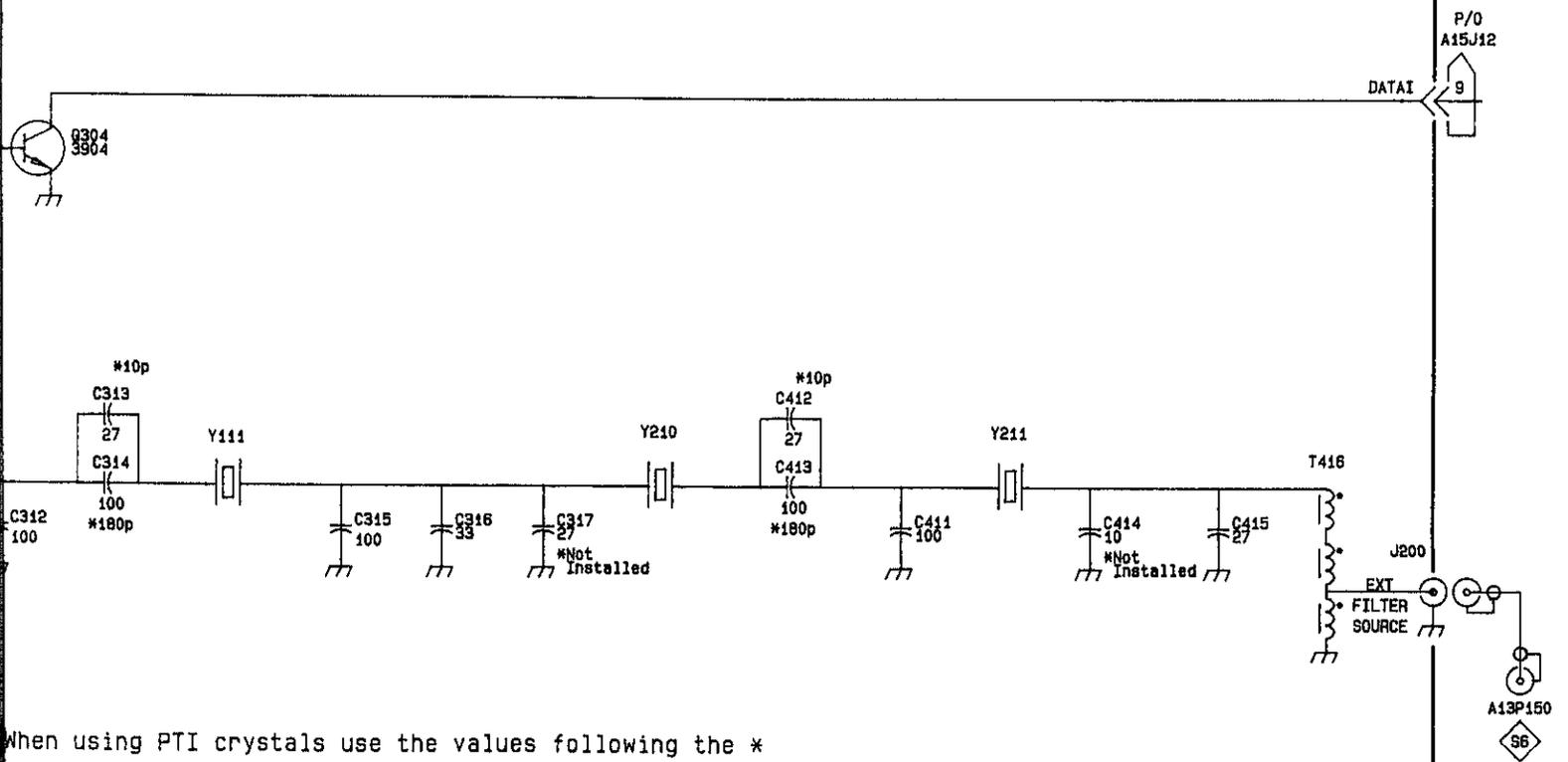
A22-300 Hz FILTER (FRONT)
A22-300 Hz FILTER (REAR)

S6
SHT. 1 OF 2



NOTE: When using PTI crystals use the v

S6 SHT. 2 of 2



When using PTI crystals use the values following the *

S6
C

A22
300Hz BANDPASS FILTER
4-25-88

A7 LOG BOARD



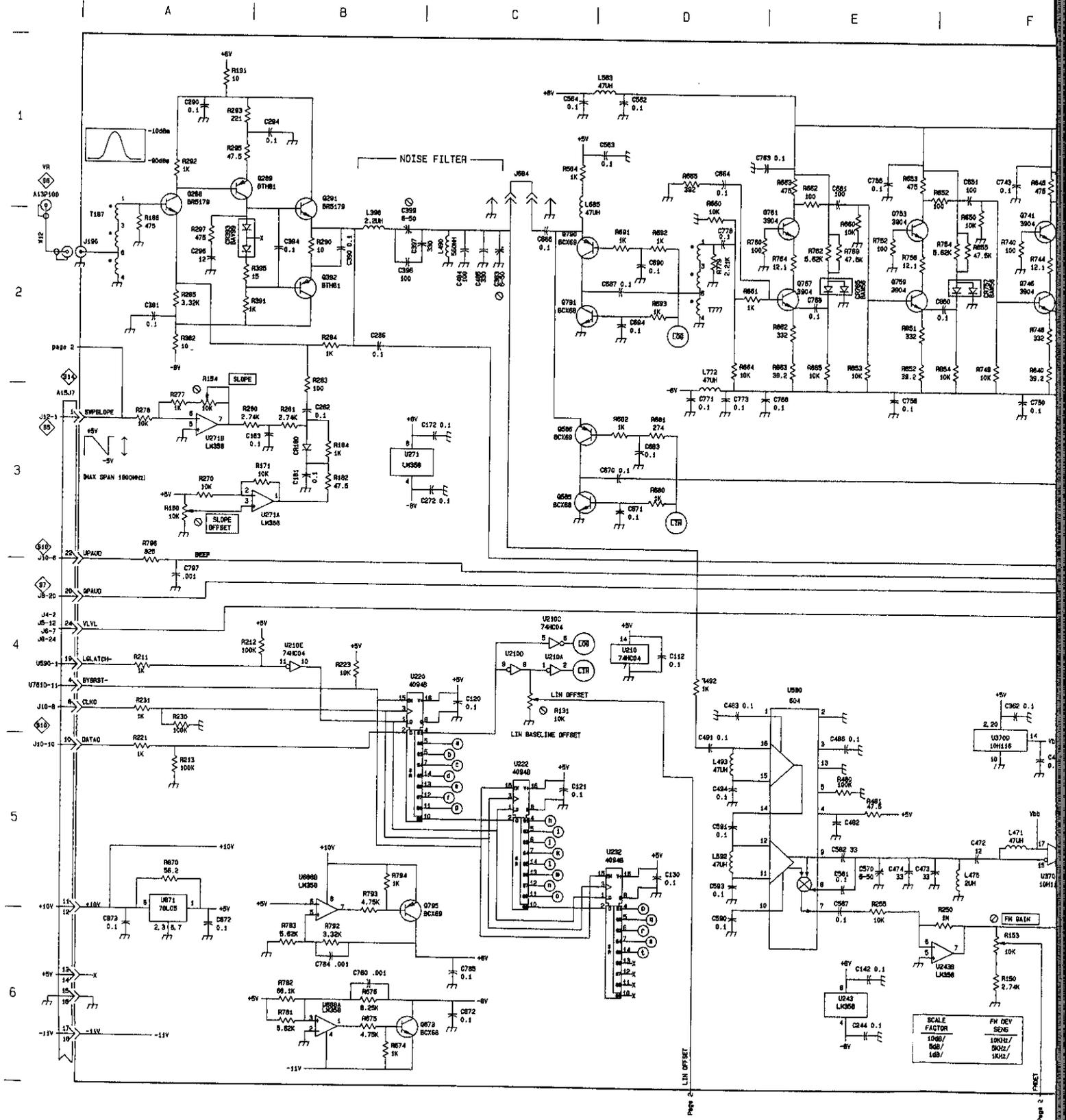
CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C112	D-4	B-1	C670	D-3	H-6	Q623	H-2	C-6
C120	C-4	C-1	C671	D-3	H-1	Q633	H-2	C-6
C121	C-5	C-1	C672	C-6	H-6	Q673	C-8	H-6
C130	D-5	D-1	C683	C-3	I-6	Q700	J-1	A-7
C142	E-6	E-1	C686	C-2	I-6	Q701	J-2	A-7
C170	J-4	H-1	C687	D-2	I-6	Q710	I-2	B-7
C172	C-3	H-1	C690	D-2	J-5	Q717	H-2	B-7
C181	B-3	I-1	C694	D-2	J-5	Q725	H-2	C-7
C183	B-3	I-1	C702	J-1	A-7	Q733	G-2	D-6
C232	I-4	D-2	C705	J-1	A-7	Q741	F-2	E-6
C244	E-6	E-2	C712	I-2	B-7	Q746	F-2	E-7
C252	I-5	F-2	C715	I-3	B-6	Q753	E-2	F-6
C261	J-4	G-2	C720	I-2	C-7	Q759	E-2	F-7
C272	C-3	H-2	C723	H-3	C-6	Q761	E-2	G-6
C282	B-3	I-2	C727	H-2	D-7	Q767	E-2	G-7
C286	B-2	I-2	C730	H-3	D-6	Q790	C-2	J-6
C290	A-1	J-2	C735	G-1	E-7	Q791	C-2	J-6
C294	B-1	J-2	C738	G-3	E-7	Q795	B-6	J-6
C296	A-2	J-2	C739	G-2	C-7	Q830	G-2	D-7
C350	I-5	F-3	C743	F-1	E-7	R101	J-5	CHASSIS
C351	I-5	F-3	C747	F-2	E-7	R131	C-4	D-1
C352	I-5	F-3	C750	F-3	F-7	R140	I-4	E-1
C354	I-5	F-4	C755	E-1	F-7	R141	G-6	E-1
C360	I-5	G-3	C758	E-3	F-7	R150	F-6	F-1
C361	H-5	G-3	C763	D-1	G-7	R153	F-6	F-1
C362	F-4	G-3	C766	D-3	G-7	R154	A-3	G-1
C365	H-5	G-3	C768	E-2	G-7	R160	A-3	G-1
C369	I-4	G-3	C771	D-3	G-6	R171	A-3	H-1
C371	G-5	H-3	C773	D-3	G-7	R182	B-3	I-1
C374	J-5	H-3	C778	D-2	G-7	R184	B-3	I-2
C381	A-2	I-3	C780	B-6	I-6	R186	A-2	I-2
C383	C-2	I-4	C784	B-6	I-6	R191	A-1	J-1
C390	B-2	I-3	C785	C-8	I-7	R211	A-4	B-2
C394	B-2	J-3	C797	A-4	J-7	R212	B-4	B-2
C396	B-2	J-3	C850	F-2	F-7	R213	A-5	B-2
C397	B-2	J-3	C872	A-6	H-7	R221	A-5	B-2
C399	B-2	J-4	C873	A-6	H-7	R223	B-4	C-2
C452	I-5	F-4	CR180	B-3	I-1	R230	A-4	D-2
C460	I-5	G-4	CR393	A-2	J-3	R231	A-4	D-2
C470	F-5	H-4	CR617	I-2	B-6	R233	I-4	D-2
C472	F-5	H-4	CR627	I-2	C-6	R240	I-6	E-2
C473	E-5	H-4	CR637	H-2	D-6	R245	I-6	E-2
C474	E-5	H-4	CR737	G-2	E-7	R246	H-6	E-2
C482	E-5	I-5	CR745	F-2	E-7	R250	F-6	F-2
C483	D-4	I-4	CR757	F-2	F-7	R253	I-5	F-2
C484	C-2	I-4	CR765	E-2	G-7	R254	G-4	F-2
C485	C-2	I-4	J102	J-6	CHASSIS	R255	E-5	F-2
C486	E-5	I-4	J160	J-4	G-1(BACK)	R262	J-4	G-2
C491	D-5	J-4	J190	A-2	J-2(BACK)	R270	A-3	H-2
C494	D-5	J-5	J260	F-6	G-2	R275	J-5	H-2
C500	J-3	A-5	J684	C-1	I-6	R276	J-5	H-2
C504	J-3	A-1	L398	B-2	J-3	R277	A-3	H-2
C508	J-3	A-5	L471	F-5	H-4	R278	A-3	H-2
C562	D-1	G-6	L475	F-5	H-5	R280	A-3	I-2
C564	C-1	H-6	L490	C-2	I-4	R281	B-3	I-2
C570	E-5	H-5	L493	D-5	J-4	R283	B-2	I-2
C581	E-5	I-5	L563	D-1	G-6	R284	B-2	I-2
C582	E-5	I-5	L592	D-5	J-5	R285	A-2	I-2
C583	D-1	I-5	L685	C-1	I-6	R290	B-2	I-2
C587	E-5	I-5	L703	J-1	A-7	R292	A-1	J-2
C590	D-8	J-5	L772	D-2	G-7	R293	A-1	J-2
C591	D-5	J-5	LS103	J-5	CHASSIS	R295	A-1	J-2
C593	D-5	J-5	J460	J-5	G-4	R297	A-2	J-3
C601	J-1	A-6	Q241	I-6	E-2	R340	G-6	E-2
C605	J-2	A-6	Q242	I-6	E-2	R342	G-6	E-3
C616	I-1	B-6	Q274	I-6	E-2	R343	G-6	E-3
C620	I-1	C-6	Q288	J-4	H-2	R353	I-5	F-3
C625	H-1	C-6	Q289	A-1	I-2	R363	H-5	G-3
C629	H-1	C-6	Q291	B-1	I-2	R364	H-5	G-3
C636	G-1	D-6	Q392	B-1	J-2	R366	H-5	G-3
C639	G-1	D-6	Q506	B-2	I-3	R367	H-4	G-3
C643	F-1	E-6	Q507	J-3	A-5	R368	I-4	G-3
C651	F-1	F-6	Q585	C-3	H-5	R372	G-5	H-3
C661	E-2	G-6	Q586	C-3	I-5	R373	F-5	H-3
C664	D-1	G-6	Q614	I-2	B-6	R380	J-6	H-3
C669	D-1	G-6				R382	A-2	I-3

A7 LOG BOARD (CONT.)

LOG BOARD 

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
R391	A-2	I-3	R663	E-1	G-6	R832	G-2	E-7
R395	A-2	J-3	R667	D-1	G-6	R833	G-2	E-7
R454	I-5	F-3	R668	D-1	G-6	R834	G-2	E-7
R461	I-5	G-4	R674	B-6	H-6	R840	F-2	E-7
R464	H-5	G-4	R675	B-6	H-6	R851	E-2	F-7
R465	H-5	G-4	R676	B-6	H-6	R852	E-2	F-7
R466	H-5	G-4	R680	D-3	I-6	R853	E-2	F-7
R480	E-5	I-5	R681	D-3	I-6	R854	F-2	F-7
R481	E-5	I-4	R682	D-3	I-6	R860	D-2	F-7
R492	D-4	J-4	R691	D-2	J-5	R861	D-2	G-7
R501	J-3	A-5	R692	D-2	J-5	R862	E-2	G-7
R502	J-3	A-5	R693	D-2	J-5	R863	E-2	G-7
R503	J-3	A-5	R704	J-1	A-7	R864	D-2	G-7
R505	F-3	A-5	R711	I-2	B-7	R865	E-2	G-7
R510	F-3	B-5	R713	I-2	B-7	R870	A-6	H-7
R511	F-3	B-5	R714	I-2	B-7	T187	A-2	I-1
R512	F-3	B-5	R716	I-2	B-7	T273	J-4	H-2
R584	C-1	I-5	R718	H-2	B-7	T777	D-2	G-7
R600	I-1	A-6	R721	H-2	C-7	U210	B-4	B-2
R602	J-1	A-6	R722	H-2	C-7	U210A	C-4	B-2
R603	J-1	A-6	R724	I-2	C-7	U210B	C-4	B-2
R604	J-2	A-6	R726	H-2	C-7	U210C	C-4	B-2
R606	J-1	A-6	R728	H-2	C-7	U210D	D-4	B-2
R611	I-1	B-6	R729	H-2	C-7	U210E	G-6	B-2
R612	I-2	B-6	R731	H-2	D-7	U220	B-4	B-2
R613	I-2	B-6	R732	G-2	D-7	U222	C-5	C-2
R615	I-2	B-6	R734	G-2	E-7	U232	D-5	D-2
R618	I-2	B-6	R736	G-2	D-7	U243	E-6	E-2
R619	H-2	B-6	R740	F-2	E-7	U243A	H-6	E-2
R621	I-2	C-6	R742	F-2	E-7	U243B	F-6	E-2
R622	H-1	C-6	R744	F-2	E-7	U260	H-5	G-2
R624	I-2	C-6	R748	F-2	E-7	U271	B-3	H-2
R626	H-2	C-6	R749	F-2	E-7	U271A	A-3	H-2
R628	H-2	C-6	R751	F-2	F-7	U271B	A-3	H-2
R630	H-1	C-6	R752	E-2	F-7	U333A	H-4	D-3
R631	H-1	D-6	R754	F-2	F-7	U341	G-4	E-3
R632	G-2	C-6	R756	E-2	F-7	U341A	H-6	E-3
R634	H-2	C-6	R760	D-2	G-7	U341B	H-6	E-3
R635	H-2	C-6	R762	E-2	G-7	U341C	H-5	E-3
R638	G-2	D-6	R764	E-2	G-7	U341D	H-4	E-3
R640	G-1	E-6	R779	D-2	G-7	U370	F-5	H-3
R641	G-1	E-6	R781	B-6	I-6	U370A	H-5	H-3
R642	G-2	E-6	R782	B-6	I-6	U370B	H-5	H-3
R644	F-1	E-6	R783	B-6	I-6	U370C	F-5	H-3
R645	F-1	E-6	R792	B-6	J-6	U590	E-4	I-5
R650	F-2	F-6	R793	B-6	J-6	U688A	B-6	I-6
R652	E-1	F-6	R794	B-5	J-6	U688B	B-5	I-6
R653	E-1	F-6	R796	A-3	J-7	U871	A-5	H-7
R660	E-2	G-6	R831	G-2	D-7	W25	J-6	CHASSIS
R662	E-2	G-6						

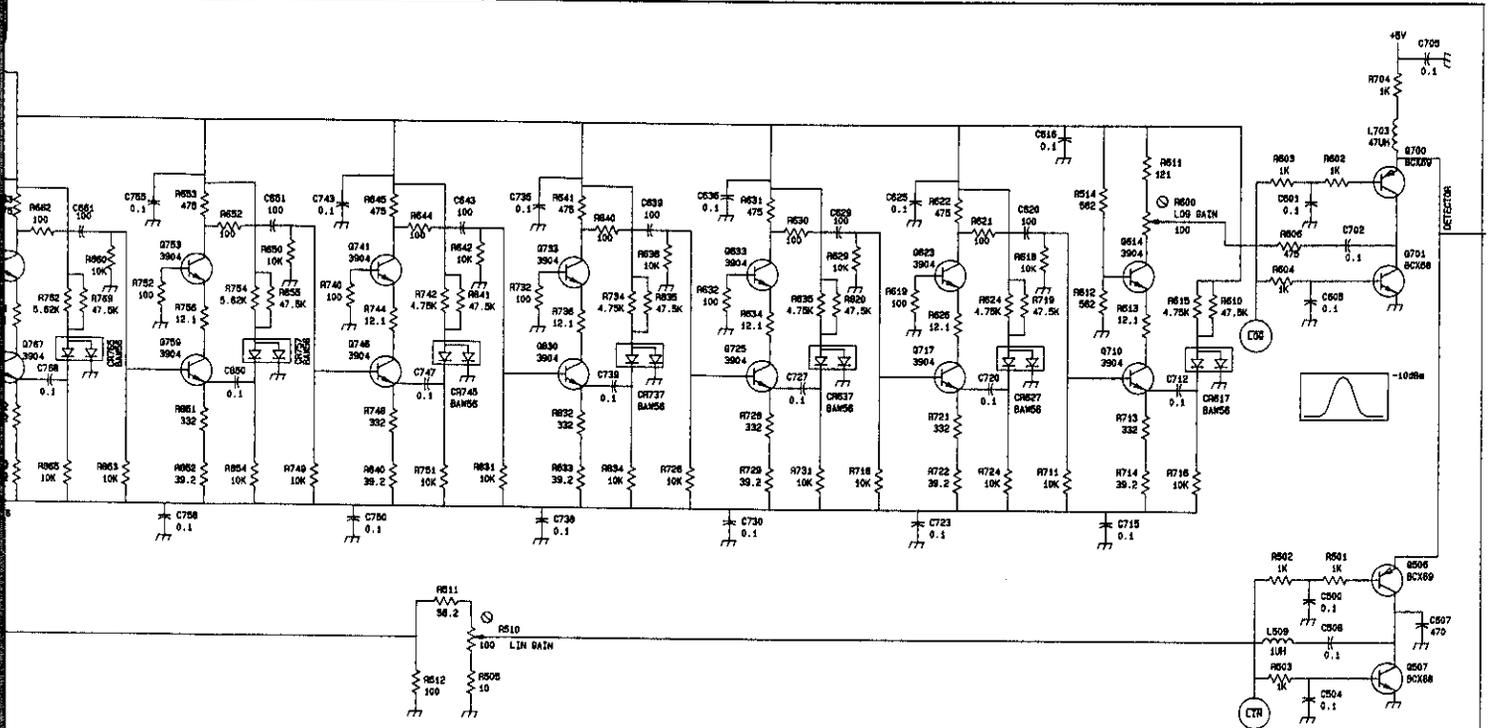
S8 SHT. 1 OF 2



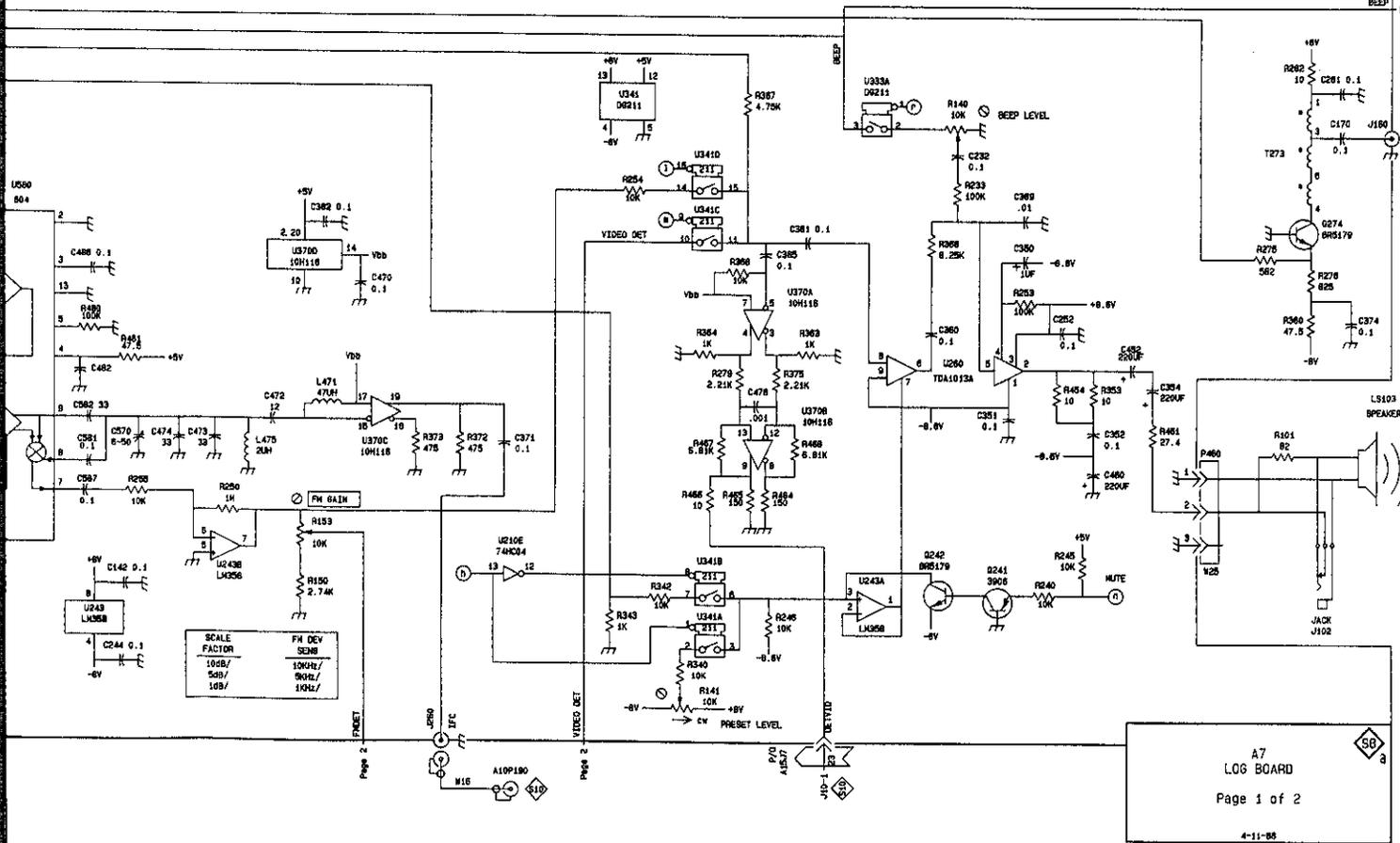
SCALE FACTOR	FN DEV SENS
100K Ω /	10KHz/
50K Ω /	50KHz/
10K Ω /	100KHz/
1K Ω /	1MHz/

S8 SHT. 2 OF 2

E | F | G | H | I | J



Page 2



Page 2

Page 1 of 2

A7 LOG BOARD

4-11-88

A7 LOG BOARD



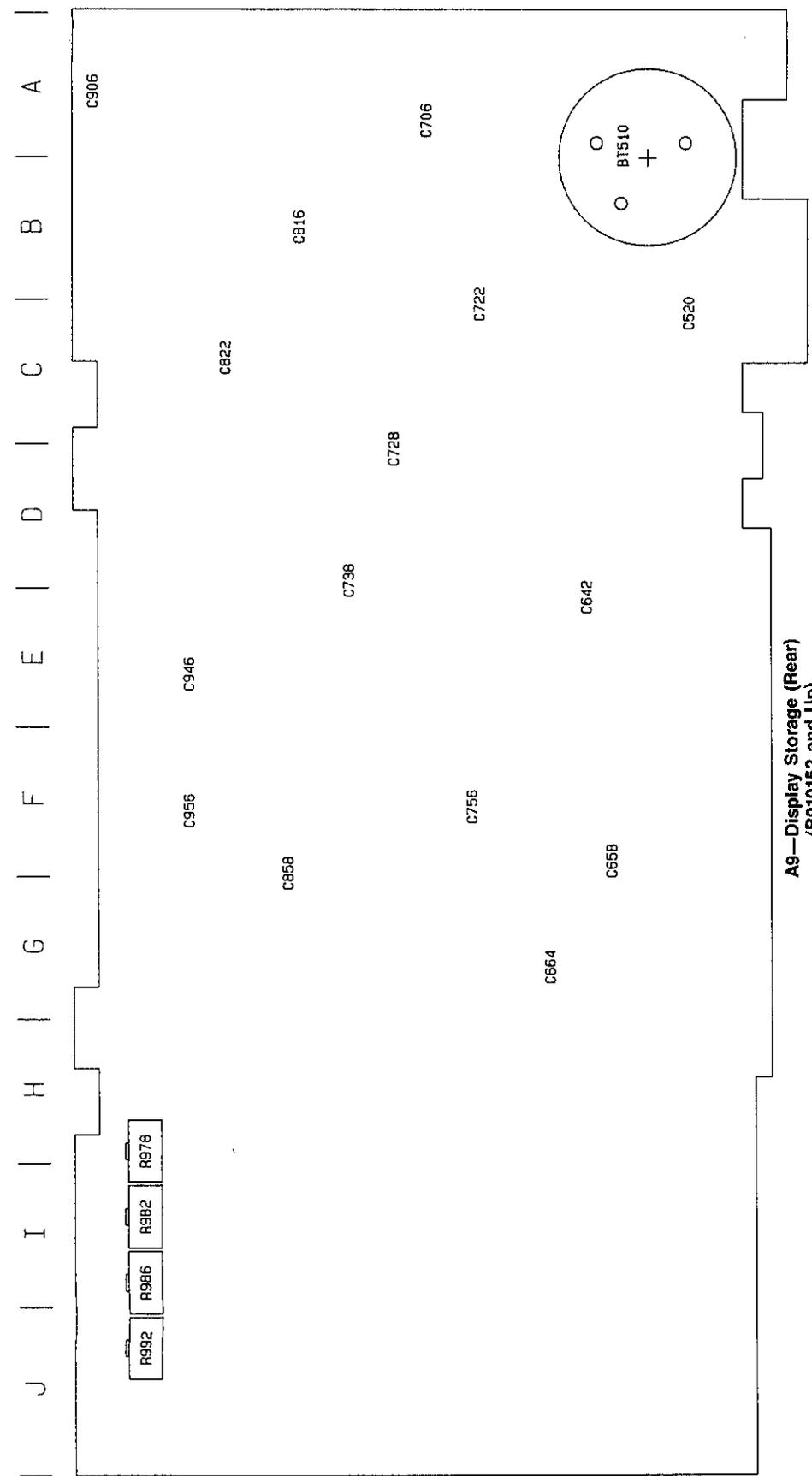
CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C101	C-3	A-1	R203	B-2	A-2	R546	F-2	E-5
C111	C-1	B-1	R204	B-2	A-2	R547	I-4	E-5
C300	B-3	A-3	R205	C-2	A-2	R548	I-4	E-5
C303	A-2	A-3	R207	B-2	A-2	R549	I-4	E-5
C314	D-2	B-3	R301	B-2	A-3	R552	E-3	F-5
C315	D-2	B-3	R302	B-2	A-3	R553	E-3	F-5
C316	I-2	D-4	R304	B-2	A-3	R555	E-3	F-5
C320	I-2	D-4	R305	B-3	A-3	R556	E-3	F-5
C401	A-2	A-4	R310	D-1	B-3	R557	E-3	G-5
C402	A-3	A-4	R311	C-2	B-3	R560	E-3	G-5
C410	D-2	B-4	R312	C-2	B-3	R561	D-3	F-5
C413	D-2	B-4	R313	D-2	B-3	R649	I-3	E-5
C414	E-2	B-4	R317	I-3	B-3	T208	B-3	A-2
C416	E-2	B-4	R318	I-2	B-3	T405	A-2	A-4
C418	E-2	B-4	R319	I-2	C-3	U201	C-2	A-2
C420	E-2	C-4	R330	H-2	D-2	U316	D-2	B-3
C422	G-4	C-4	R332	F-4	D-3	U316A	D-2	B-3
C423	G-4	C-4	R344	G-2	E-3	U320A	I-2	C-3
C429	I-1	C-4	R345	G-2	E-3	U320B	I-2	C-3
C430	I-1	C-4	R400	B-2	A-4	U320C	I-2	C-3
C434	F-5	D-4	R404	A-2	A-4	U320D	H-2	C-3
C435	F-4	D-4	R411	D-2	B-4	U321	I-1	C-3
C436	G-4	D-4	R412	I-3	B-4	U321A	H-2	C-3
C437	G-4	D-4	R417	I-2	B-4	U331A	H-2	D-3
C442	F-1	E-4	R425	G-4	C-4	U331B	F-4	D-3
C446	F-1	E-4	R426	I-3	C-4	U331C	G-2	D-3
C447	F-1	E-4	R427	I-2	C-4	U331D	G-2	D-3
C449	F-6	E-4	R428	H-2	C-4	U333B	H-4	D-3
C450	F-1	F-4	R438	F-6	E-4	U333C	G-2	D-3
C454	G-2	F-4	R440	G-2	E-4	U333D	G-2	D-3
C520	G-4	C-5	R441	G-2	E-4	U403	B-2	A-4
C521	G-4	C-5	R443	F-2	E-4	U403B	B-2	A-4
C545	F-3	E-5	R444	F-2	E-4	U432A	G-5	D-5
C550	F-3	F-5	R445	F-2	E-4	U432B	G-5	D-5
C551	F-3	F-5	R451	F-2	F-4	U432C	G-5	D-5
J513	F-1	B-5	R453	G-1	F-4	U432D	H-5	D-5
L415	E-2	B-4	R530	G-5	D-5	U433	F-5	D-4
L419	E-2	B-4	R531	E-4	D-4	U433A	F-4	D-4
Q537	I-4	E-5	R532	E-4	D-4	U433B	H-2	D-4
Q646	I-4	E-5	R533	H-4	D-5	U448	F-1	E-4
Q647	I-4	E-5	R534	H-4	D-5	U448A	F-2	E-4
R100	C-2	A-1	R535	I-3	D-5	U544	F-3	E-5
R102	C-3	A-1	R536	I-3	E-5	U544A	F-3	E-5
R103	C-1	A-1	R540	F-2	E-5	U544B	E-3	E-5
R110	C-1	B-1	R541	F-3	E-5	U554	E-2	F-5
R200	C-3	A-2	R542	F-3	E-5	U554A	E-3	F-5
R202	C-2	A-2	R543	F-3	E-5	U554B	E-3	F-5

LOG BOARD



S9 A9 (REAR)
a SN 8010152 & ↑

1 | 2 | 3 | 4 | 5 | 6 | 7



A9—Display Storage (Rear)
(8010152 and Up)

A9 DISPLAY STORAGE B010152 And up

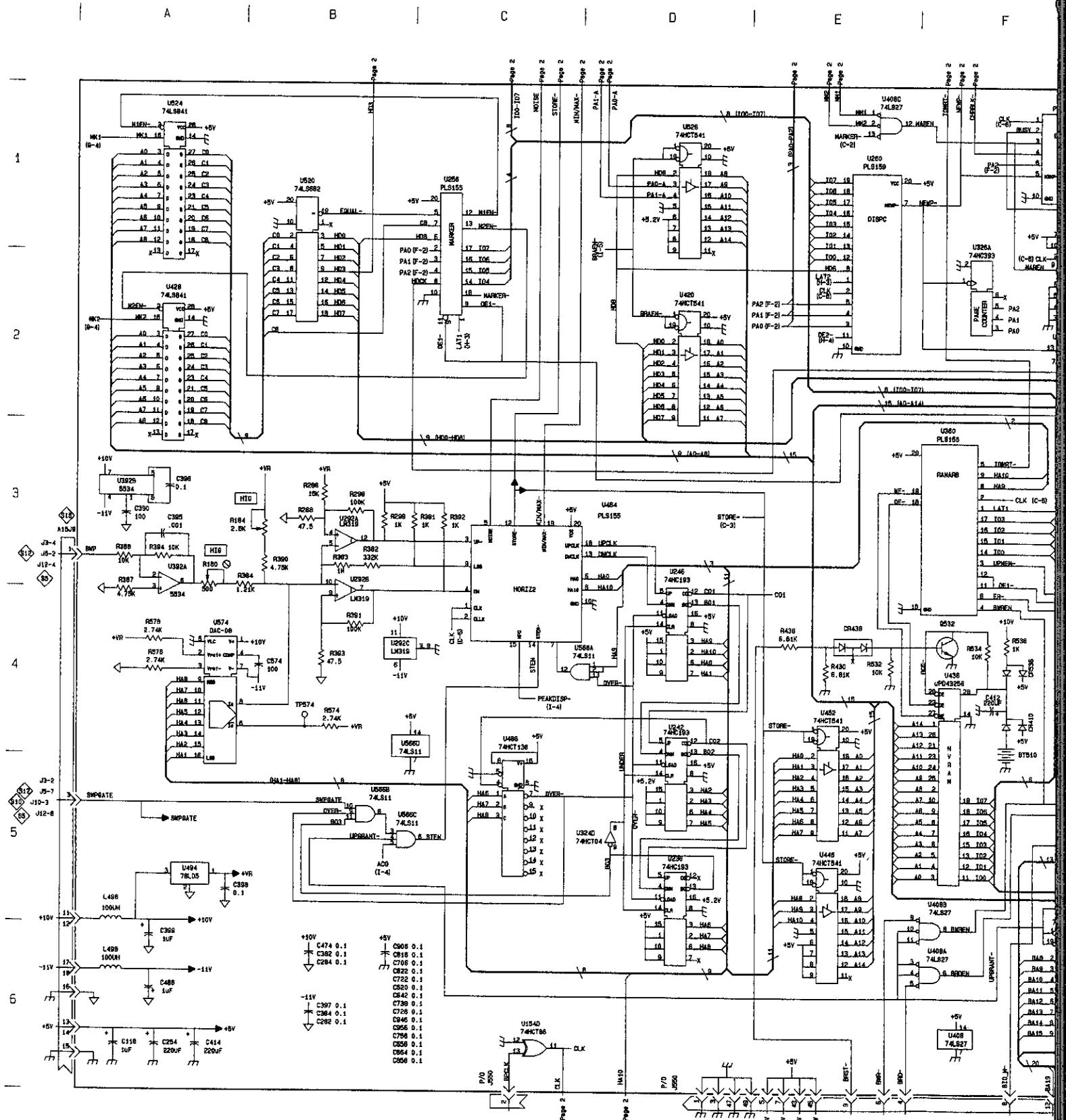


CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
BT510	F-4	B-6*	R184	B-3	I-1	U260	E-1	F-3
C118	A-6	B-1	R188	J-1	I-1	U292A	B-3	J-3
C254	A-6	F-2	R190	J-1	J-1	U292B	B-3	J-3
C282	B-6	I-2	R286	B-3	I-3	U292C	B-4	J-3
C284	B-6	I-3	R288	B-3	I-3	U308	F-1	A-5
C376	J-1	H-5	R298	B-3	J-3	U324D	D-5	C-4
C382	B-6	I-4	R299	B-3	J-3	U324F	F-2	C-4
C384	B-6	I-4	R374	J-2	H-4	U326A	F-2	C-4
C390	A-3	J-4	R377	J-2	H-4	U326B	G-1	C-4
C395	A-3	J-4	R378	J-2	H-4	U334A	G-2	D-4
C396	A-3	J-4	R379	J-1	H-4	U334B	G-2	D-4
C397	B-6	J-4	R381	C-3	I-4	U336	H-2	D-4
C398	A-5	J-4	R382	B-3	I-4	U342	H-1	E-4
C399	A-6	J-5	R383	B-3	I-4	U352	G-4	F-4
C412	F-4	B-5	R384	B-3	I-4	U360	F-3	F-4
C414	A-6	B-5	R385	J-2	I-4	U392A	A-3	J-4
C474	B-6	H-5	R387	A-3	I-4	U392B	A-3	J-4
C476	I-1	H-6	R388	A-3	I-4	U408A	F-6	A-6
C480	J-1	I-5	R389	J-1	I-4	U408B	F-6	A-6
C481	J-1	I-5	R390	B-3	J-4	U408C	E-1	A-6
C482	J-2	I-5	R391	B-4	J-4	U420	D-2	C-5
C486	A-6	I-6	R392	C-3	J-4	U428	A-2	C-5
C520	B-6	C-7*	R393	B-4	J-4	U436	F-4	D-5
C571	I-2	H-6	R394	A-3	J-4	U438A	H-4	D-6
C574	B-4	H-7	R430	E-4	D-6	U438B	H-3	D-6
C642	B-6	E-6*	R436	E-4	D-6	U446	E-5	E-5
C658	B-6	F-6*	R476	I-1	H-6	U448	G-6	E-6
C664	B-6	G-5*	R478	I-1	H-6	U452	E-4	F-5
C706	B-6	A-4*	R483	J-2	I-5	U454	F-6	F-6
C722	B-6	C-5*	R532	E-4	D-6	U460	I-3	F-5
C728	B-6	D-4*	R534	F-4	D-7	U462	I-6	F-6
C738	B-6	D-3*	R538	F-4	D-7	U464	C-3	G-6
C756	B-6	F-5*	R562	J-4	G-7	U474	I-1	H-6
C816	B-6	B-3*	R570	I-2	H-6	U476A	J-2	H-5
C822	B-6	C-2*	R574	B-4	H-7	U476B	J-1	H-5
C858	B-6	F-3*	R576	A-4	H-7	U484A	J-2	I-5
C906	B-6	A-1*	R578	A-4	H-7	U484D	J-2	I-5
C946	B-6	E-2*	TP574	B-4	H-6	U484E	J-3	I-5
C956	B-6	F-2*	U154D	C-6	F-1	U488	C-5	I-6
CR410	F-4	B-6	U228D	I-2	C-3	U494	A-5	J-5
CR438	E-4	D-6	U234	I-4	D-3	U506	F-1	A-7
CR536	F-4	D-7	U236	D-5	E-3	U520	B-1	C-6
J550	D-6	F-7	U242	D-4	E-3	U524	A-1	C-6
L496	A-5	J-5	U244A	G-5	E-2	U526	D-1	C-7
L498	A-6	J-6	U244B	H-5	E-2	U568A	D-4	G-7
P8	A-3	J-7	U244C	G-3	E-2	U568B	B-5	G-7
Q532	F-4	D-6	U246	D-4	E-3	U568C	B-5	G-7
R180	A-3	I-1	U256	C-1	F-3	U568D	B-4	G-7
						U574	A-4	H-7

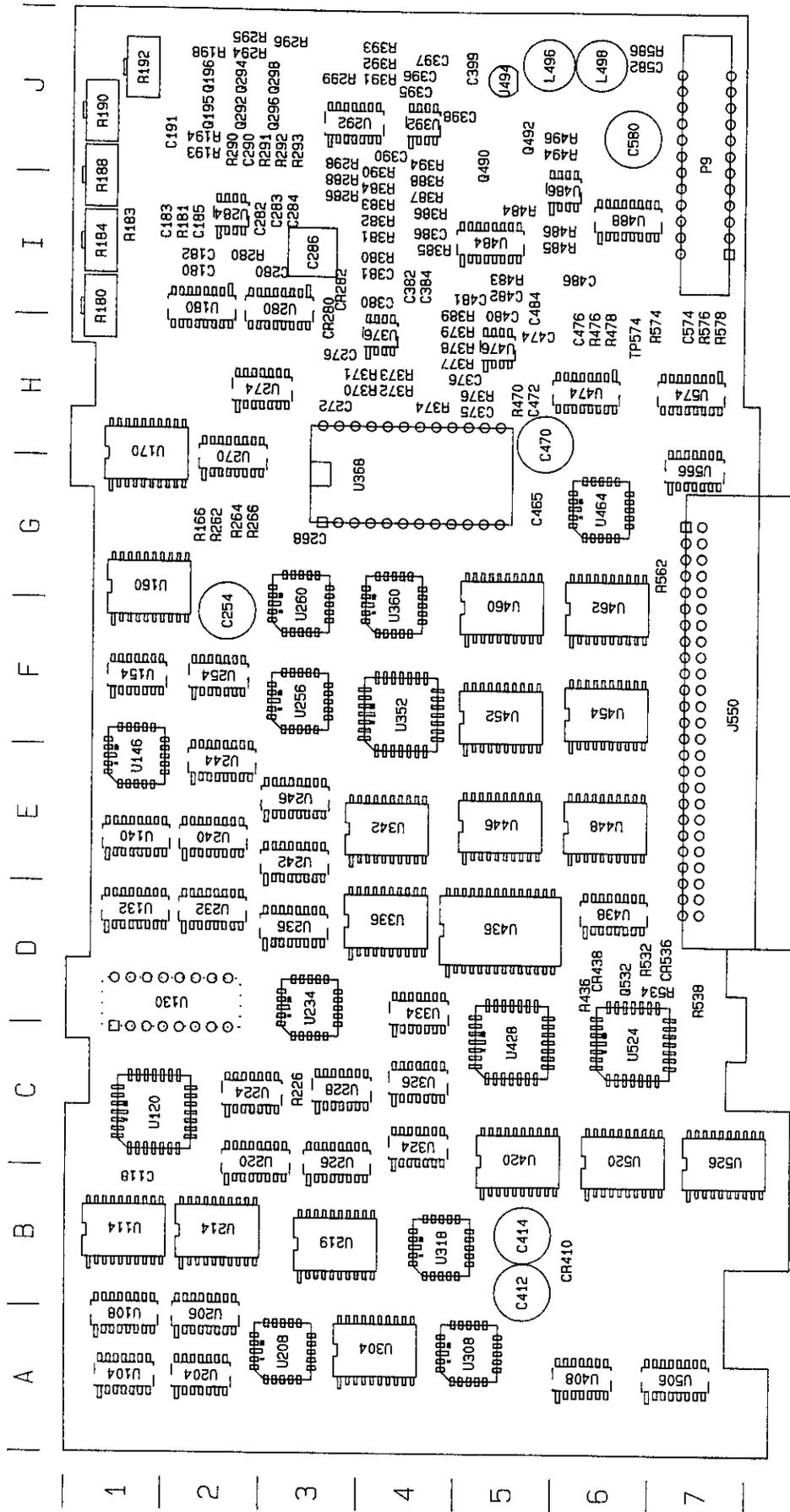
* These components are located on the back of the circuit board.

DISPLAY STORAGE 

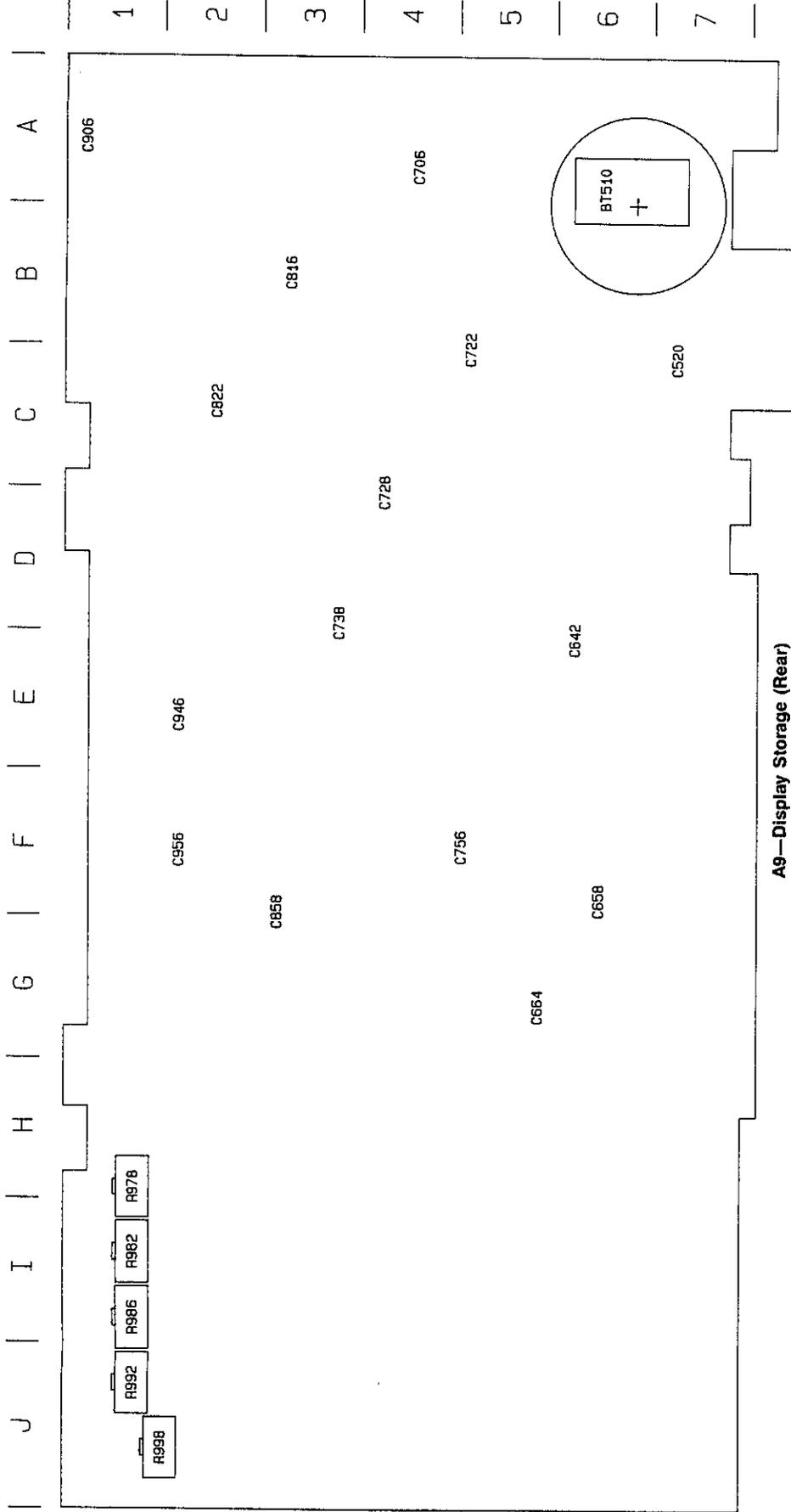
SN 8010152 & ↑
2 SHT. 1 OF 2



SN B010001 - B010151
a A9 (FRONT)



89
a SN B010001 - B010151
A9 (REAR)



A9—Display Storage (Rear)
(B010001 to B010151)

A9 DISPLAY STORAGE

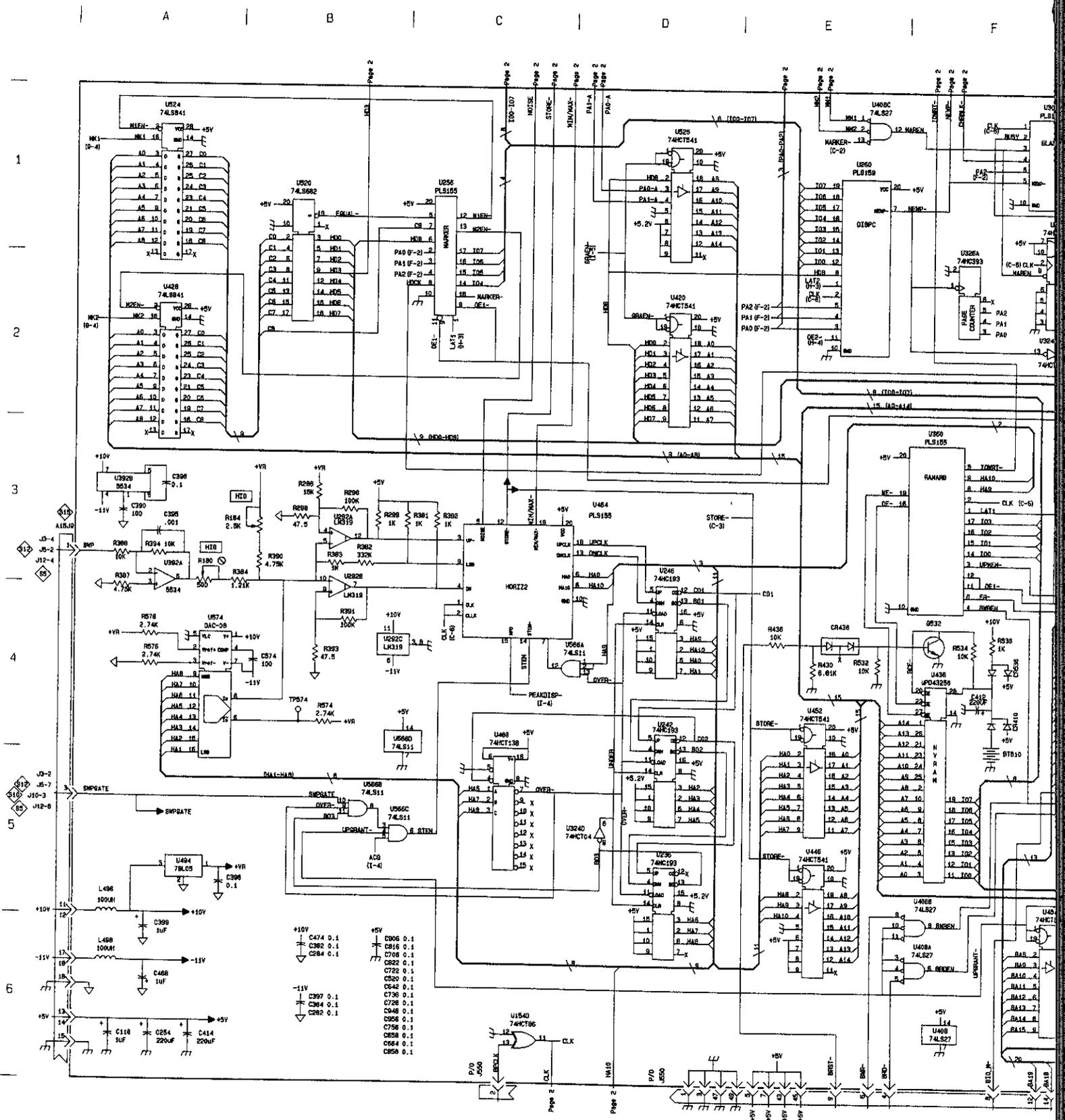
B010001 to B010151



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
BT510	F-4	B-6*	R180	A-3	BI-1	U292A	B-3	J-3
C118	A-6	B-1	R184	B-3	I-1	U292B	B-3	J-3
C254	A-6	F-2	R188	J-1	I-1	U292C	B-4	J-3
C282	B-6	I-2	R190	J-1	J-1	U308	F-1	A-5
C284	B-6	I-3	R286	B-3	I-3	U324D	D-5	C-4
C376	J-1	H-5	R288	B-3	I-3	U324F	F-2	C-4
C382	B-6	I-4	R298	B-3	J-3	U326A	F-2	C-4
C384	B-6	I-4	R299	B-3	J-3	U326B	G-1	C-4
C990	A-3	J-4	R374	J-2	H-4	U334A	G-2	D-4
C995	A-3	J-4	R377	J-2	H-4	U334B	G-2	D-4
C996	A-3	J-4	R378	J-2	H-4	U336	H-2	D-4
C997	B-6	J-4	R379	J-1	H-4	U342	H-1	E-4
C998	A-5	J-4	R381	C-3	I-4	U352	G-4	F-4
C999	A-6	J-5	R382	B-3	I-4	U360	F-3	F-4
C412	F-4	B-5	R383	B-3	I-4	U392A	A-3	J-4
C414	A-6	B-5	R384	B-3	I-4	U392B	A-3	J-4
C474	B-6	H-5	R385	J-2	I-4	U408A	F-6	A-6
C476	I-1	H-6	R387	A-3	I-4	U408B	F-6	A-6
C480	J-1	I-5	R388	A-3	I-4	U408C	E-1	A-6
C481	J-1	I-5	R389	J-1	I-4	U420	D-2	C-5
C482	J-2	I-5	R390	B-3	J-4	U428	A-2	C-5
C484	J-2	I-5	R391	B-4	J-4	U436	F-4	D-5
C486	A-6	I-6	R392	C-3	J-4	U438A	H-4	D-6
C520	B-6	C-7*	R393	B-4	J-4	U438B	H-3	D-6
C574	B-4	H-7	R394	A-3	J-4	U446	E-5	E-5
C642	B-6	E-6*	R436	E-4	D-6	U448	G-6	E-6
C658	B-6	F-6*	R476	I-1	H-6	U452	E-4	F-5
C664	B-6	G-5*	R478	I-1	H-6	U454	F-6	F-6
C706	B-6	A-4*	R483	J-2	I-5	U460	I-3	F-6
C722	B-6	C-5*	R532	E-4	D-6	U462	I-6	F-6
C728	B-6	D-4*	R534	F-4	D-7	U464	C-3	G-6
C738	B-6	D-3*	R538	F-4	D-7	U474	I-1	H-6
C756	B-6	F-5*	R562	J-4	G-7	U476A	J-2	H-5
C816	B-6	B-3*	R574	B-4	H-7	U476B	J-1	H-5
C822	B-6	C-2*	R576	A-4	H-7	U484A	J-2	I-5
C858	B-6	F-3*	R578	A-4	H-7	U484D	J-2	I-5
C906	B-6	A-1*	TP574	B-4	H-6	U484E	J-3	I-5
C946	B-6	E-2*	U154D	C-6	F-1	U488	C-5	I-6
C956	B-6	F-2*	U228D	I-2	C-3	U494	A-5	J-5
C970	B-6	H-1*	U234	I-4	D-3	U506	F-1	A-7
CR410	F-4	B-6	U236	D-5	D-3	U520	B-1	C-6
CR438	E-4	D-6	U242	D-4	E-3	U524	A-1	C-6
CR536	F-4	D-7	U244A	G-5	E-2	U526	D-1	C-7
J550	D-6	F-7	U244B	H-5	E-2	U566A	D-4	G-7
L498	A-5	J-5	U244C	G-3	E-2	U566B	B-5	G-7
L498	A-6	J-6	U246	D-4	E-3	U566C	B-5	G-7
P9	A-3	J-7	U256	C-1	F-3	U566D	B-4	G-7
Q532	F-4	D-6	U260	E-1	F-3	U574	A-4	H-7

* These components are located on the back of the circuit board.

SN B010001 - B010151
2 SHT. 1 OF 2



A9 DISPLAY STORAGE B010152 and up



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C170	I-3	H-1	R181	J-1	I-2	U154B	G-2	F-1
C171	H-3	H-1	R182	J-2	I-2	U154C	G-2	F-1
C172	I-3	H-2	R183	I-1	I-1	U160	G-1	G-1
C173	J-3	H-1	R186	J-2	I-2	U204A	I-4	A-2
C174	I-3	H-2	R187	I-2	I-2	U204B	H-5	A-2
C180	J-2	I-2	R226	J-4	C-3	U204C	I-5	A-2
C182	J-3	I-2	R262	H-1	G-2	U206	D-4	A-2
C183	J-2	I-1	R264	G-1	G-2	U208	G-3	A-3
C185	J-1	I-2	R266	G-1	G-2	U214	F-5	B-2
C268	B-5	G-3	R280	I-1	I-2	U219	F-6	B-3
C272	B-4	H-3	R281	I-1	I-3	U220	F-5	C-2
C276	A-3	H-3	R282	I-1	I-3	U224A	J-6	C-2
C280	I-1	I-3	R370	A-4	H-3	U224B	J-6	C-2
C375	B-4	H-5	R371	A-4	H-3	U226	F-6	C-3
C380	A-3	I-4	R372	A-4	H-4	U228A	J-6	C-3
C381	B-4	I-4	R373	A-4	H-4	U228B	C-1	C-3
C386	J-2	I-4	R376	B-4	H-5	U228C	C-6	C-3
C465	B-4	G-5	R380	B-4	I-4	U232	E-1	D-2
C470	B-4	H-5	R386	J-1	I-4	U240	F-1	E-2
C472	B-3	H-5	R470	C-3	H-5	U254	G-5	F-2
C580	B-4	J-6	R484	J-1	I-5	U270	H-1	G-2
CR280	B-3	I-3	R485	A-1	I-5	U274A	B-5	H-2
CR282	B-3	I-3	R486	A-1	I-5	U274B	B-5	H-2
L270	I-3	H-2	R494	A-1	J-5	U274C	B-5	H-2
L271	I-3	H-2	R496	A-1	J-5	U274F	H-3	H-2
L283	J-3	I-2	R978	B-4	H-1*	U280	I-1	I-3
P9	A-2	J-7	R982	A-3	I-1*	U284A	J-2	I-2
Q183	H-3	G-1	R986	J-1	I-1*	U284B	J-1	I-2
Q164	H-3	G-1	R992	I-1	J-1*	U304	E-5	A-4
Q490	B-1	J-5	U104A	I-4	A-1	U318	B-5	B-4
Q492	B-1	J-5	U104B	G-6	A-1	U324A	H-5	C-4
R161	H-3	G-1	U104C	I-5	A-1	U324B	I-5	C-4
R162	H-3	G-1	U108	D-5	A-1	U324C	J-4	C-4
R166	H-1	G-2	U114	E-4	B-1	U324E	H-1	C-4
R170	I-3	H-1	U120	C-1	C-1	U368	C-4	G-4
R172	I-3	H-1	U130	J-5	D-1	U376A	A-4	H-4
R173	I-3	H-1	U132	E-2	D-1	U376B	A-3	H-4
R174	I-2	H-1	U140	F-2	E-1	U484C	J-1	I-5
R176	I-2	H-2	U146	H-5	E-1	U486A	A-1	I-6
R177	I-2	H-2	U154A	G-2	F-1	U486B	A-1	I-6

* These components are located on the back of the circuit board.

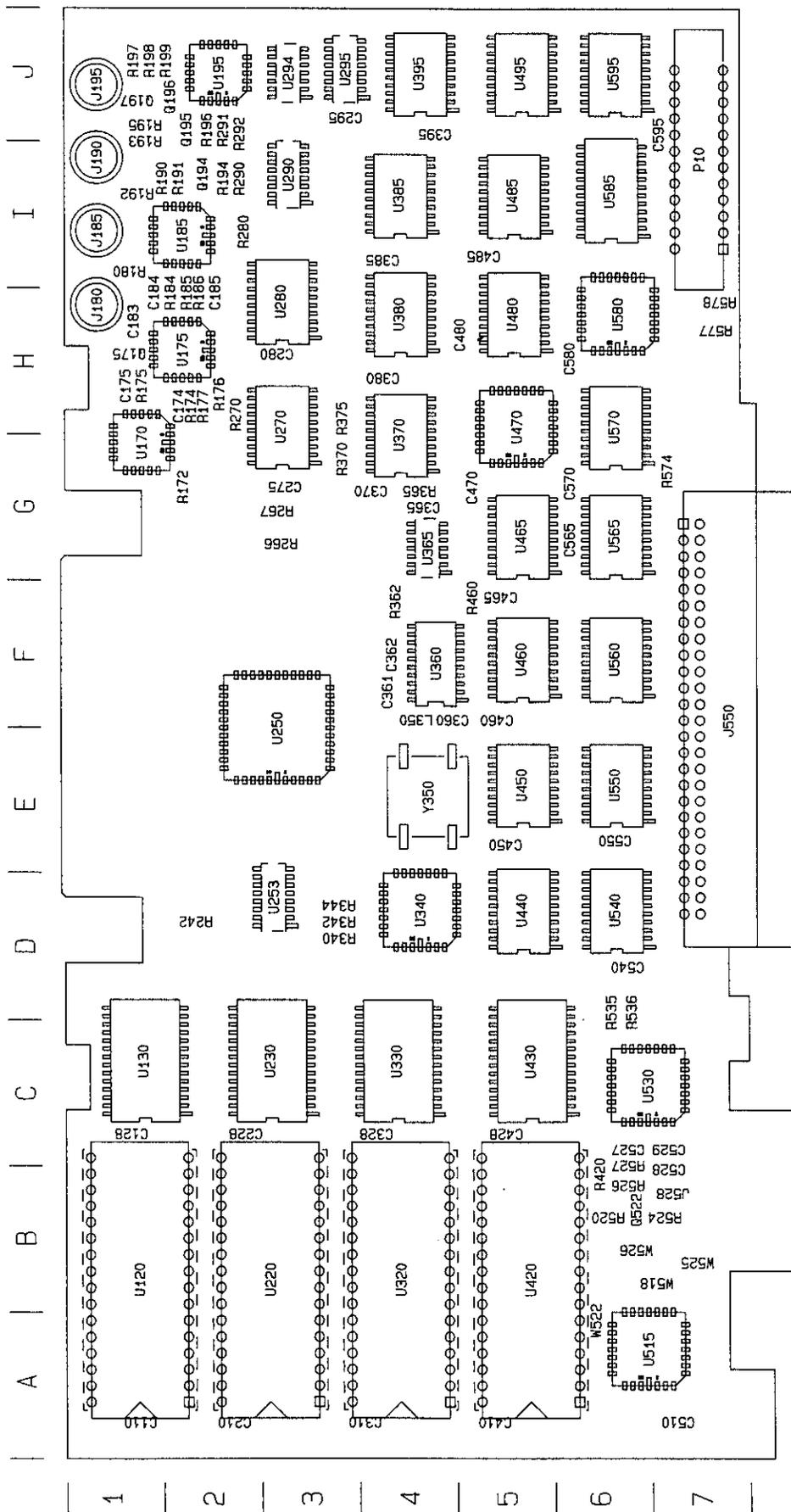
**A9 DISPLAY STORAGE
B010001 to B010151**



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C180	I-3	I-2	R284	G-1	G-2	U154C	G-2	F-1
C182	I-3	I-2	R268	G-1	G-2	U160	G-1	G-1
C183	J-2	I-1	R280	I-1	I-2	U170	H-3	H-1
C185	J-1	I-2	R290	I-2	J-2	U180	I-3	I-2
C191	J-2	J-1	R291	I-2	J-2	U204A	I-4	A-2
C268	B-5	G-3	R292	I-3	J-3	U204B	H-5	A-2
C272	B-4	H-3	R293	J-3	J-3	U204C	I-5	A-2
C276	A-3	H-3	R294	J-3	J-2	U206	D-4	A-2
C280	I-1	I-3	R295	J-3	J-2	U208	G-3	A-3
C283	J-1	I-2	R296	I-2	J-3	U214	F-5	B-2
C286	I-1	I-3	R370	A-4	H-3	U219	F-6	B-3
C290	J-2	J-2	R371	A-4	H-3	U220	F-5	C-2
C375	B-4	H-5	R372	A-4	H-4	U224A	J-6	C-2
C380	A-3	I-4	R373	A-4	H-4	U224B	J-6	C-2
C381	B-4	I-4	R376	B-4	H-5	U226	F-6	C-3
C386	J-2	I-4	R380	B-4	I-4	U228A	J-6	C-3
C465	B-4	G-5	R386	J-1	I-4	U228B	C-1	C-3
C470	B-4	H-5	R470	C-3	H-5	U228C	C-6	C-3
C472	B-3	H-5	R484	J-1	I-5	U232	E-1	D-2
C590	B-4	J-6	R485	A-1	I-5	U240	F-1	E-2
C582	J-2	J-6	R486	A-1	I-5	U254	G-5	F-2
CR280	B-3	I-3	R494	A-1	J-5	U270	H-1	G-2
CR282	B-3	I-3	R496	A-1	J-5	U274A	B-5	H-2
P9	A-2	J-7	R586	J-1	J-6	U274B	B-5	H-2
Q195	J-2	J-2	R978	B-4	H-1*	U274C	B-5	H-2
Q196	J-2	J-2	R982	A-3	I-1*	U274F	H-3	H-2
Q292	J-3	J-2	R986	J-1	I-1*	U280	I-1	I-3
Q294	J-3	J-2	R992	I-1	J-1*	U284A	J-2	I-2
Q296	J-3	J-3	R998	J-3	J-1*	U284B	J-1	I-2
Q298	J-3	J-3	U104A	I-4	A-1	U304	E-5	A-4
Q490	B-1	J-5	U104B	G-6	A-1	U318	B-6	B-4
Q492	B-1	J-5	U104C	I-5	A-1	U324A	H-5	C-4
R166	H-1	G-2	U108	D-5	A-1	U324B	I-5	C-4
R181	J-1	I-2	U114	E-4	B-1	U324C	J-4	C-4
R183	I-1	I-1	U120	C-1	C-1	U324E	H-1	C-4
R192	I-2	J-1	U130	J-5	D-1	U368	C-4	G-4
R193	I-2	J-2	U132	E-2	D-1	U376A	A-4	H-4
R194	J-2	J-2	U140	F-2	E-1	U376B	A-3	H-4
R198	J-2	J-2	U146	H-5	E-1	U484C	J-1	I-5
R226	J-4	C-3	U154A	G-2	F-1	U488A	A-1	I-6
R262	H-1	G-2	U154B	G-2	F-1	U488B	A-1	I-6

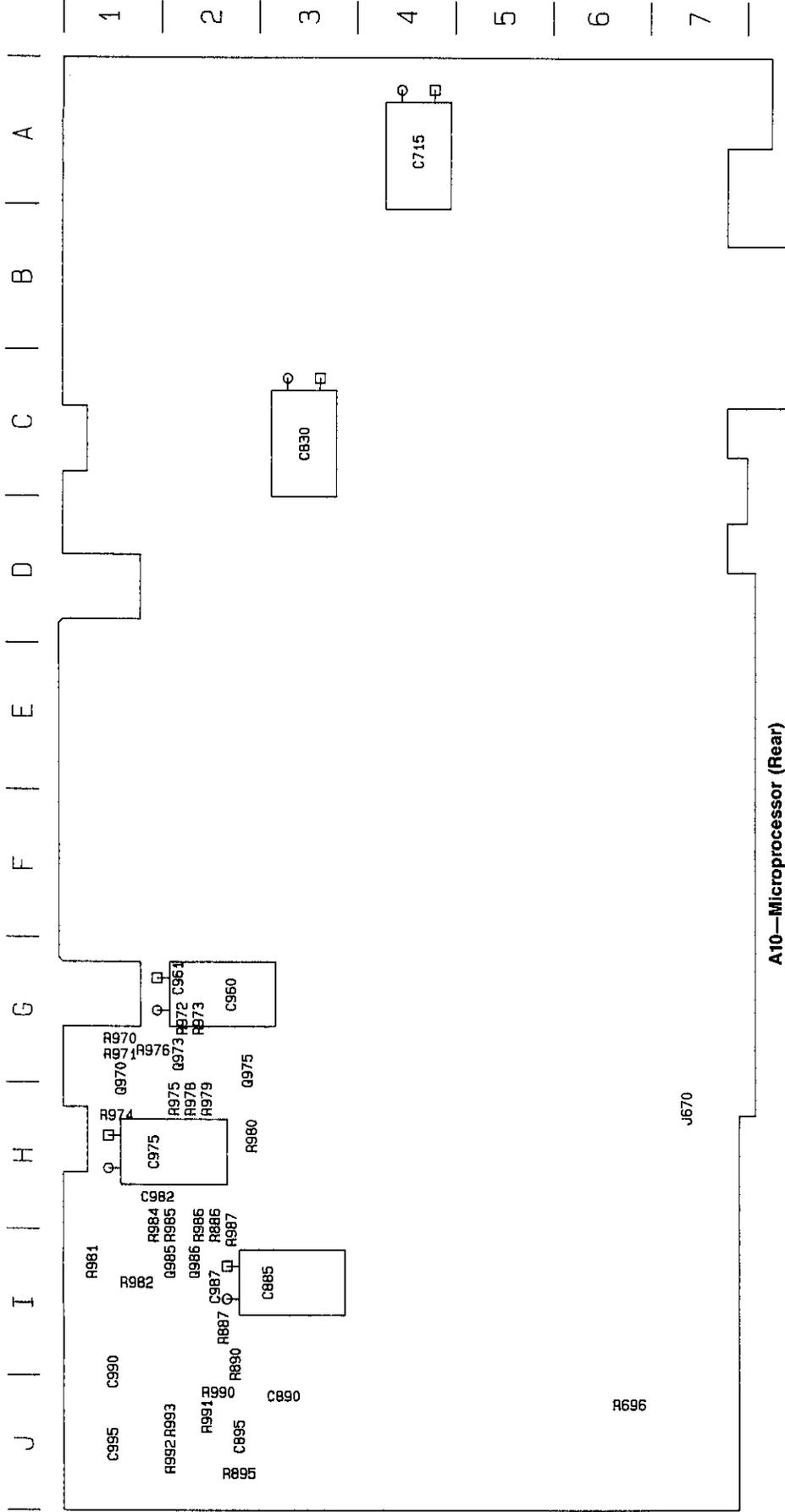
* These components are located on the back of the circuit board.

A10 (FRONT)
SHT. 1 OF 2



A10—Microprocessor (Front)

Sk A10 (REAR)
a SHT. 2 OF 2



A10—Microprocessor (Rear)

A10 MICROPROCESSOR

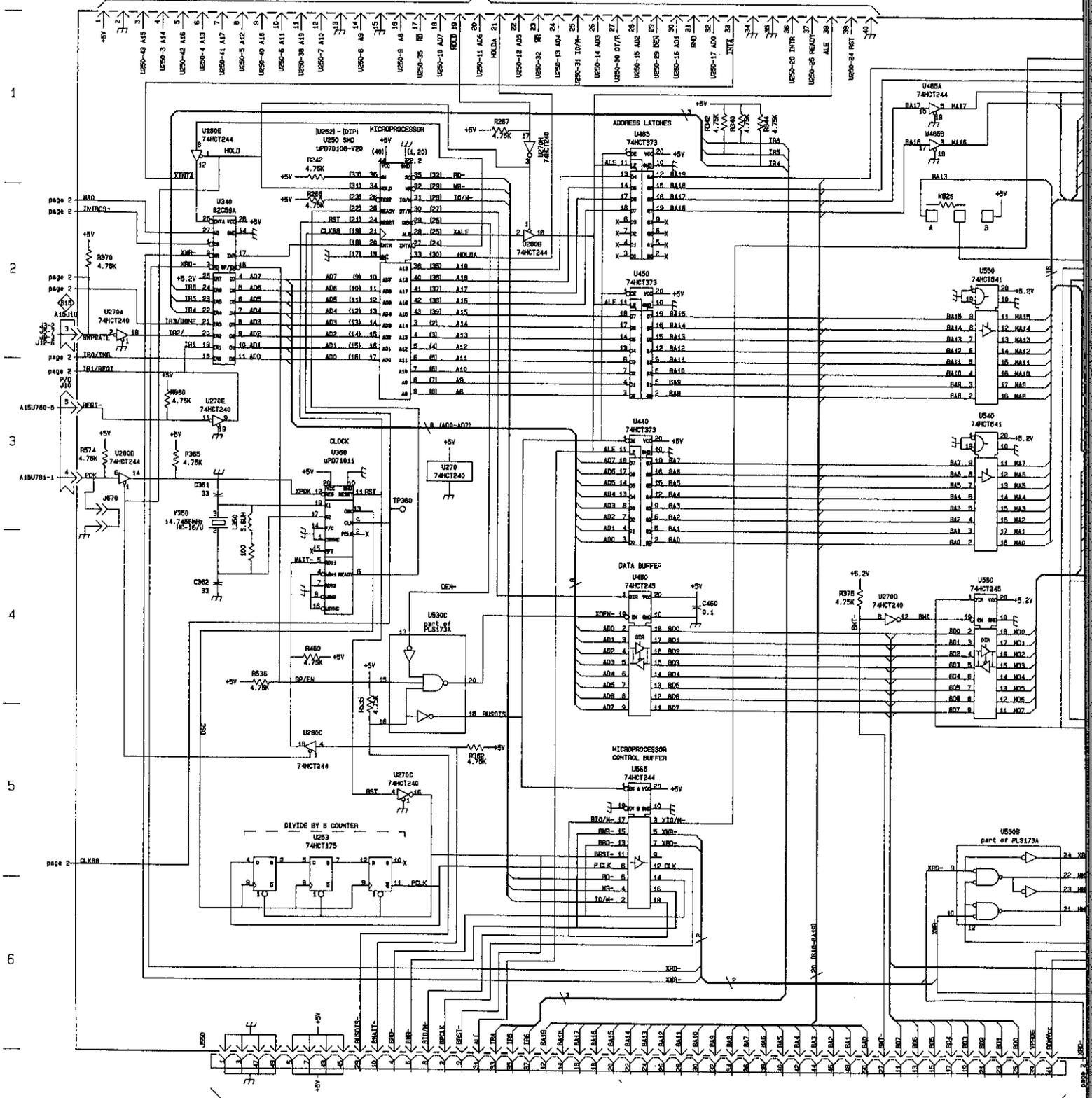


MICROPROCESSOR S10

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C110	J-4	A-1	J528	JG-4	B-7	U253	JB-6	D-3
C128	I-5	C-1	J550	A-6	E-7	U270A	A-2	H-3
C210	I-4	A-2	J670	A-3	H-7*	U270C	C-5	H-3
C228	I-5	C-2	L350	A-3	F-4	U270D	E-4	H-3
C275	I-5	G-3	P10	A-2	I-7	U270E	A-3	H-3
C280	I-5	H-3	Q522	G-5	B-6	U270H	C-1	H-3
C295	I-5	J-3	R242	B-1	D-2	U280B	C-2	H-3
C310	I-4	A-4	R266	B-2	G-3	U280C	B-5	H-3
C328	I-5	C-4	R267	C-1	G-3	U280D	A-3	H-3
C380	I-5	F-4	R340	D-1	D-3	U280E	A-1	H-3
C361	A-3	F-4	R342	D-1	D-3	U320	I-2	B-4
C362	A-3	F-4	R344	D-1	D-3	U330	G-2	C-4
C365	I-5	G-4	R362	C-5	F-4	U340	A-2	D-4
C370	I-5	G-4	R365	A-3	G-4	U360	B-3	F-4
C380	I-5	H-4	R370	A-2	G-3	U420	I-2	B-5
C385	I-5	I-4	R375	E-4	H-3	U430	G-2	C-5
C395	I-5	J-4	R420	G-5	B-6	U440	D-3	D-5
C410	H-4	A-5	R460	B-4	F-5	U450	D-2	E-5
C428	I-5	C-5	R520	G-5	B-6	U460	D-4	F-5
C450	I-5	E-5	R524	G-4	B-7	U485	D-1	G-5
C460	D-4	F-5	R526	G-5	B-6	U485A	E-1	I-5
C465	I-5	F-5	R527	G-5	B-6	U485B	E-1	I-5
C470	I-5	G-5	R535	B-4	D-6	U515	F-1	A-6
C480	I-5	H-5	R536	A-4	D-6	U530B	F-5	C-6
C510	I-5	A-7	R574	A-3	G-7	U530C	C-4	C-6
C527	G-5	C-6	R980	A-3	H-2	U540	F-3	D-6
C528	H-5	B-7	R?	A-4	XXX	U550	F-2	E-6
C540	I-5	D-6	TP380	B-3	F-4	U560	F-4	F-6
C550	I-5	E-6	U120	J-2	B-1	U565	D-5	G-6
C565	I-5	G-6	U130	G-2	C-1	W518	H-2	B-6
C715	H-5	A-4*	U220	J-2	B-3	W522	H-4	A-6
C830	H-5	C-3*	U230	G-2	C-3	W525	H-4	B-7
C890	I-5	J-3*	U250	B-1	E-3	W526	E-2	B-6
						Y350	A-3	E-4

* These components are located on the back of the circuit board.

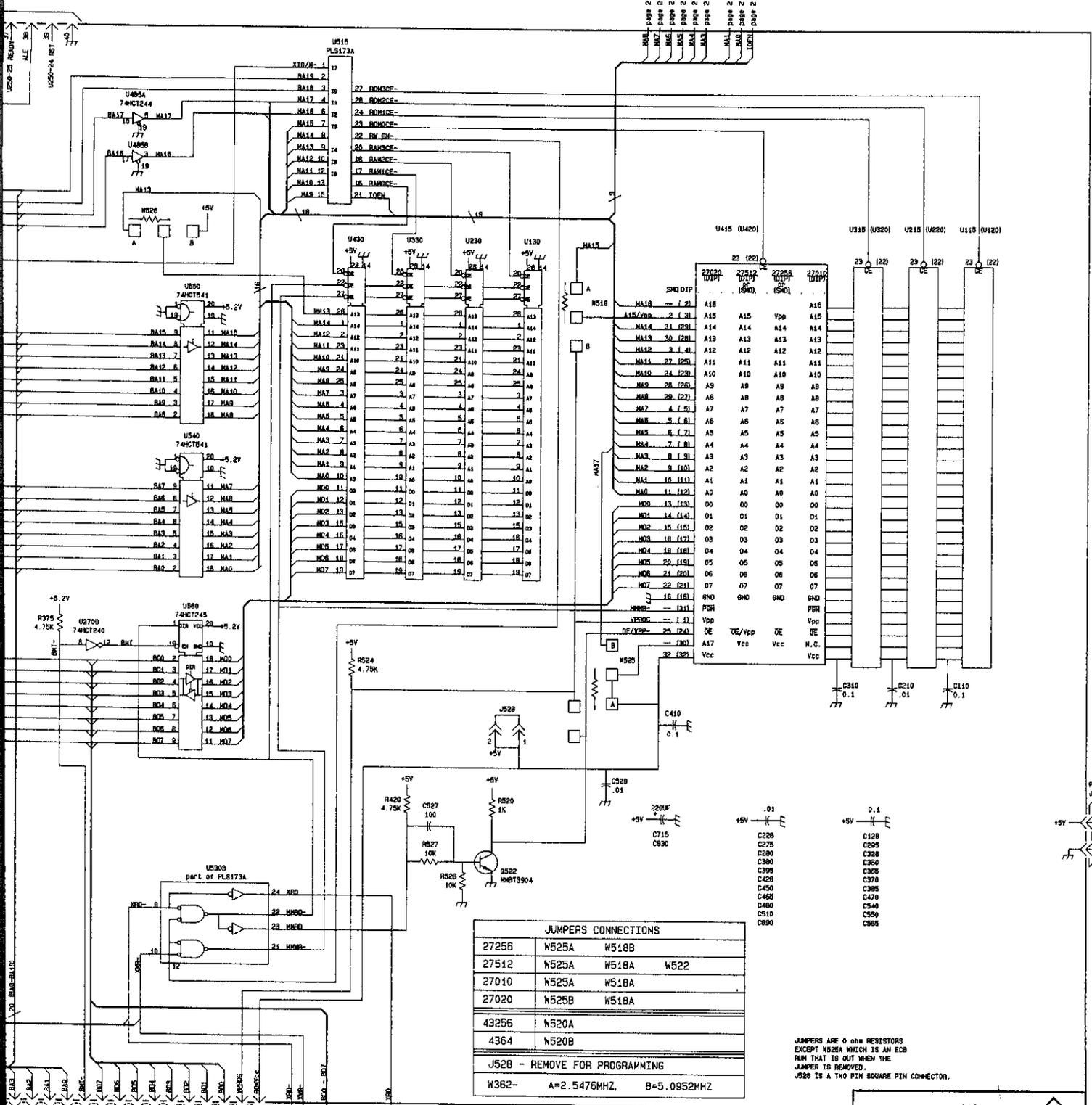
MICROPROCESSOR BOARD TEST CONNECTOR



to A9J550
G A11J550

S10
a SHT. 2 OF 2

E | F | G | H | I | J



JUMPERS CONNECTIONS		
27255	W525A	W518B
27512	W525A	W518A W522
27010	W525A	W518A
27020	W525B	W518A
43255	W520A	
4364	W520B	
J528 - REMOVE FOR PROGRAMMING		
W362-	A=2.5476MHZ,	B=5.0952MHZ

JUMPERS ARE 0 OHM RESISTORS EXCEPT W525A WHICH IS AN ESD RUM THAT IS OUT WHEN THE JUMPER IS REMOVED. J528 IS A TWO PIN SQUARE PIN CONNECTOR.

A10
MICROPROCESSOR
PAGE 1 OF 2
4-12-88

S10
a

A10 MICROPROCESSOR



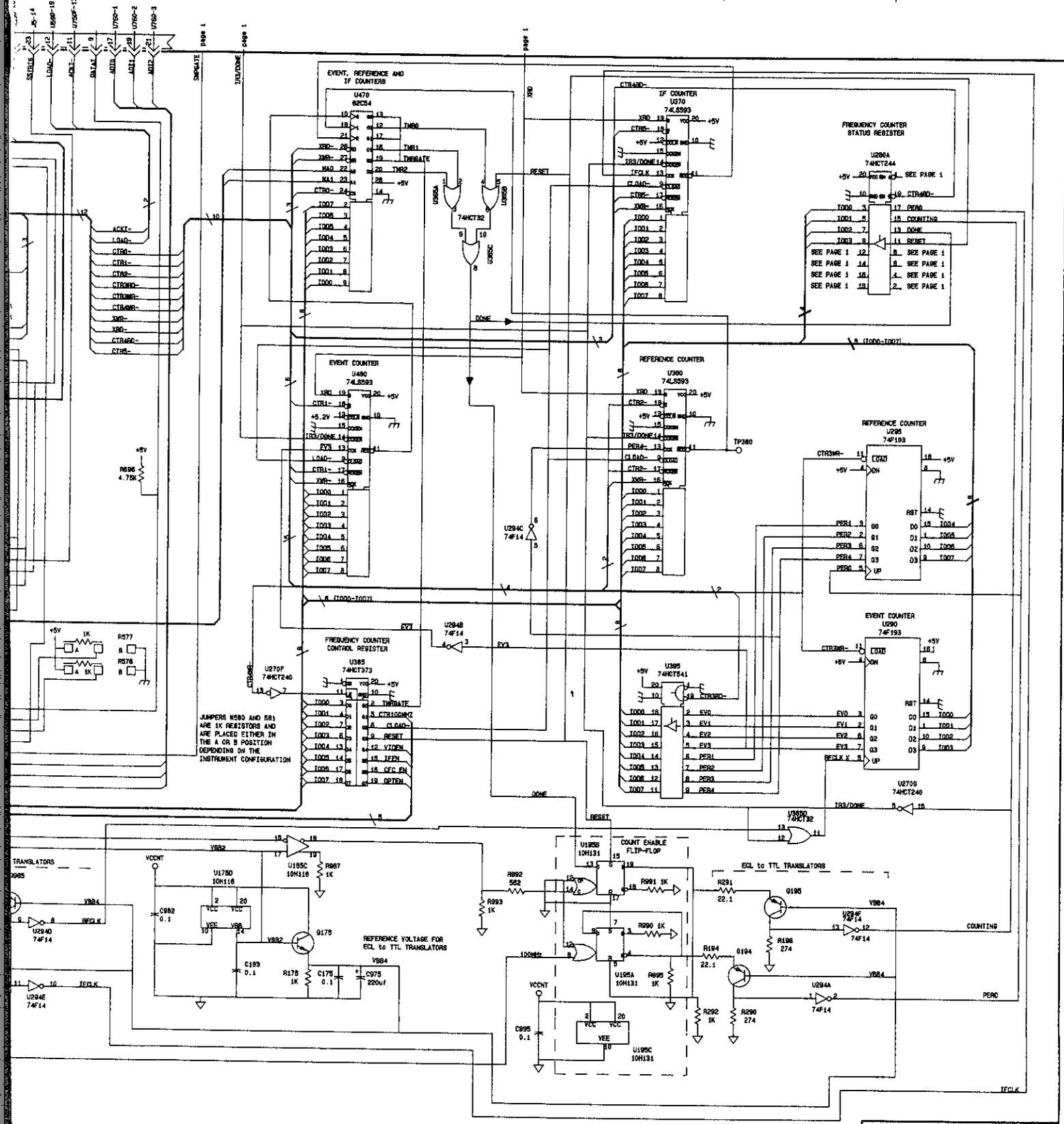
CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C174	A-4	H-2	R190	B-6	I-2	U170B	A-5	G-1
C175	F-6	H-1	R191	C-6	I-1	U170C	A-5	G-1
C183	F-6	H-1	R192	B-6	J-1	U170D	A-4	H-2
C184	A-6	H-1	R193	A-6	I-2	U175A	D-6	H-2
C185	A-6	H-2	R194	I-5	J-1	U175B	A-6	H-2
C485	D-2	I-5	R195	A-6	J-2	U175C	D-5	H-2
C529	B-2	C-7	R196	I-5	J-1	U175D	F-5	I-2
C570	A-3	G-8	R197	A-6	J-1	U185A	C-6	I-2
C580	B-3	H-6	R198	A-6	J-2	U185B	B-6	I-2
C595	D-4	J-6	R199	B-6	H-2	U185C	F-5	I-2
C895	C-6	I-3*	R270	B-5	I-2	U185D	A-8	J-2
C895	H-6	J-2*	R280	C-6	I-2	U195A	H-5	J-2
C960	A-4	G-2*	R290	I-6	J-2	U195B	H-5	J-2
C961	A-4	G-2*	R291	I-5	J-2	U195C	H-6	H-3
C975	F-6	H-1*	R292	H-6	H-7	U270C	D-3	H-3
C982	E-5	H-1*	R577	E-4	H-7	U270F	F-4	H-3
C987	C-6	I-2*	R578	E-4	J-6*	U270G	J-5	H-3
C990	A-6	I-1*	R696	E-3	H-2*	U280A	I-1	I-3
C995	A-6	J-1*	R886	D-6	I-2*	U290	J-4	J-3
J180	A-5	H-1	R887	C-6	I-2*	U294A	I-6	J-3
J185	A-5	I-1	R890	B-6	J-2*	U294B	G-4	J-3
J190	A-6	I-1	R895	H-6	G-1*	U294C	G-3	J-3
J195	A-6	J-1	R970	A-5	G-1*	U294D	E-5	J-3
Q175	F-5	H-1	R971	A-5	G-2*	U294E	E-6	J-3
Q194	I-6	I-2	R972	B-5	G-2*	U294F	I-5	J-3
Q195	I-5	J-2	R973	B-5	H-1*	U295	J-3	G-4
Q196	B-6	J-2	R974	A-5	H-2*	U365A	G-1	G-4
Q197	B-6	J-1	R975	B-5	H-2*	U365B	G-1	G-4
Q970	B-5	G-1	R976	A-4	G-1	U365C	G-2	G-4
Q973	B-5	G-2	R978	A-5	H-2*	U365D	I-5	G-4
Q975	B-5	G-2	R979	A-5	I-1*	U370	H-1	H-4
Q985	D-5	I-2	R981	A-5	I-1*	U380	H-2	I-4
Q986	D-6	I-2	R982	D-5	H-1*	U385	F-4	J-4
R172	A-5	G-2	R984	D-5	H-2*	U395	H-4	H-5
R174	C-5	H-2	R985	D-5	H-2*	U470	F-1	H-5
R175	F-6	H-1	R986	D-6	H-2*	U480	F-2	H-5
R176	C-5	H-2	R987	F-5	J-2*	U485	D-2	I-5
R177	D-5	H-2	R990	H-5	J-2*	U495	D-3	J-5
R180	A-6	I-1	R991	H-5	J-2*	U530A	A-1	C-6
R184	C-6	H-2	R992	G-5	J-2*	U570	A-3	H-6
R185	D-6	H-2	R993	G-5	I-3	U580	B-3	H-6
R186	D-6	H-2	TP380	I-3	G-1	U585	B-1	I-6
			U170A	A-5	G-1	U595	D-4	J-6

MICROPROCESSOR S10

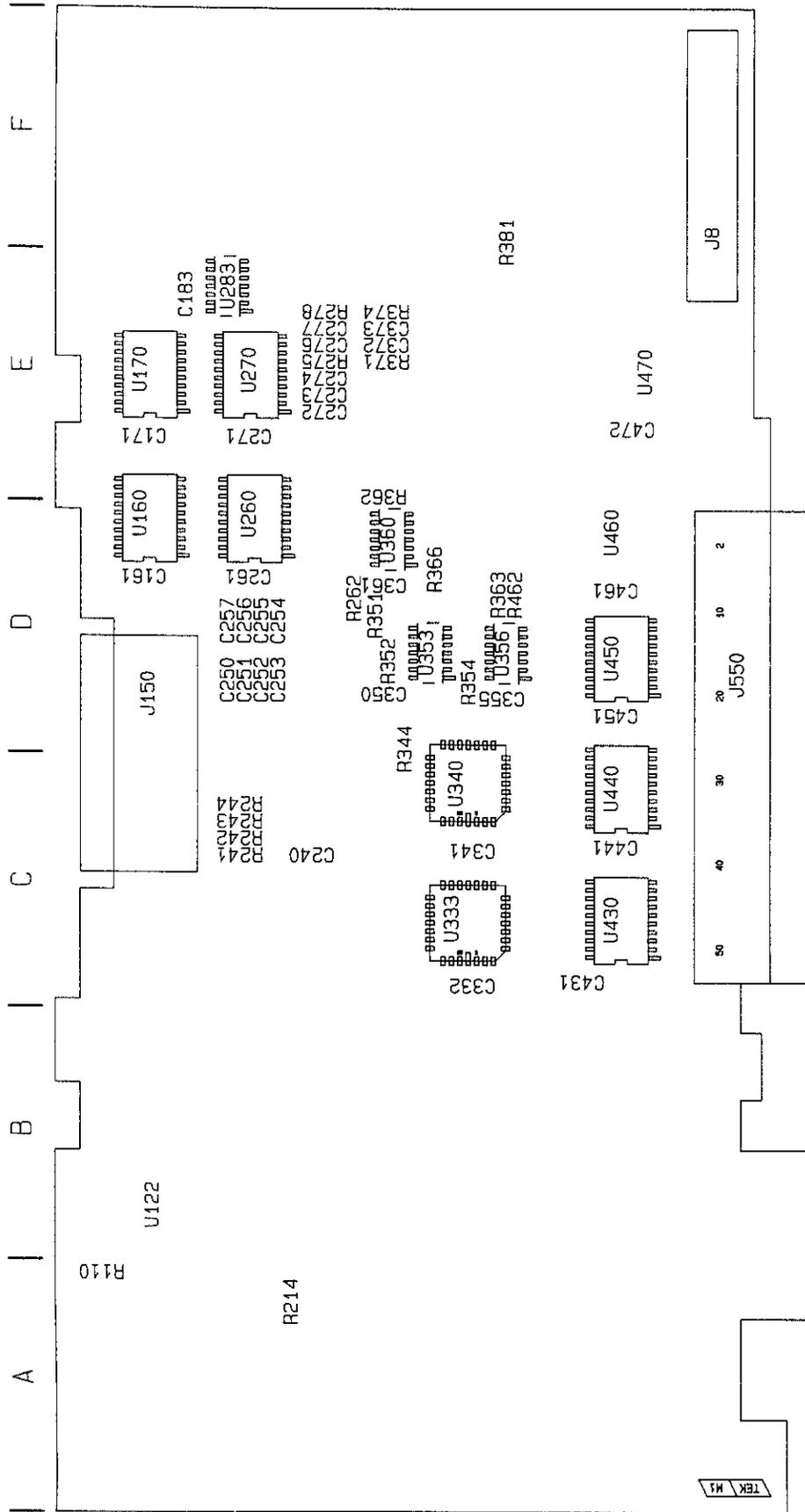
* These components are located on the back of the circuit board.

S10 SHT. 2 OF 2

E | F | G | H | I | J



JUMPERS N80 AND N81 ARE 1K RESISTORS AND ARE PLACED EITHER IN THE A OR B POSITION DEPENDING ON THE INSTRUMENT CONFIGURATION



A11—Option 09

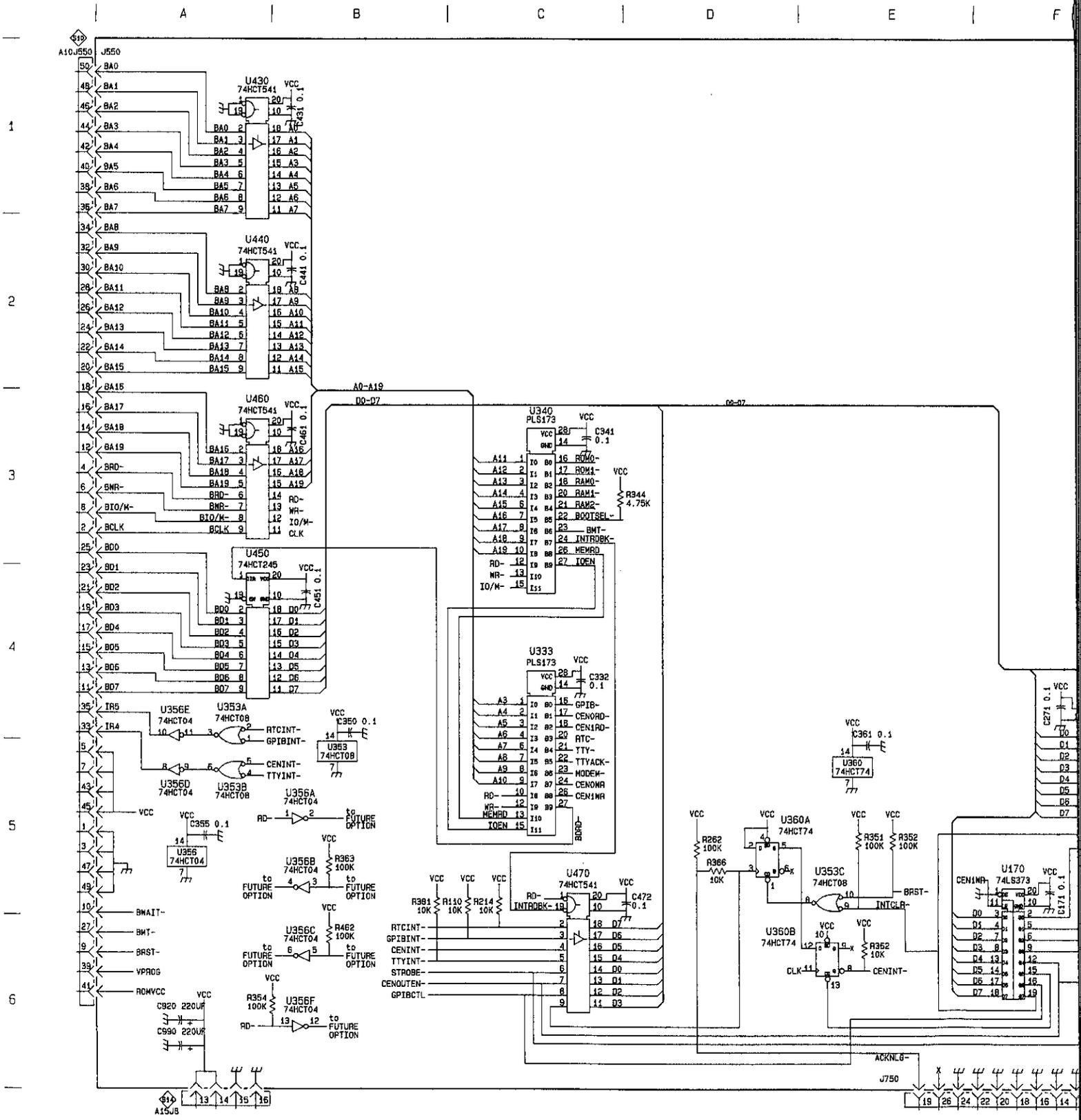
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A11 OPTION 09



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C161	H-5	D-1	R275	G-5	D-2
C171	F-5	D-1	R278	G-5	D-2
C183	F-6	E-1	R344	C-3	C-2
C240	H-6	C-2	R351	E-5	C-2
C250	I-5	C-1	R352	E-5	C-2
C251	I-5	C-1	R354	B-6	C-2
C252	I-5	C-1	R362	E-6	D-2
C253	I-6	C-1	R363	B-5	D-2
C254	I-5	C-1	R366	D-5	D-2
C255	I-5	C-1	R371	H-5	D-2
C256	I-5	C-1	R374	H-5	D-2
C257	I-5	C-1	R381	B-5	E-2
C261	H-5	D-1	R462	B-6	D-2
C271	F-4	D-1	U160	H-6	D-1
C272	G-6	D-2	U170	F-6	D-1
C273	G-6	D-2	U260	H-5	D-1
C274	H-6	D-2	U270	F-4	D-1
C276	G-5	D-2	U283	F-6	E-1
C277	G-5	D-2	U283A	F-5	E-1
C332	C-4	B-2	U283B	F-5	E-1
C341	C-3	C-2	U283C	F-6	E-1
C350	B-4	C-2	U283D	F-6	E-1
C355	A-5	C-2	U333	C-5	B-2
C361	E-5	D-2	U340	C-3	C-2
C372	H-5	D-2	U353	B-5	C-2
C373	H-5	D-2	U353A	A-4	C-2
C431	B-1	B-3	U353B	A-5	C-2
C441	B-2	C-3	U353C	E-5	C-2
C451	B-4	C-3	U356	A-5	C-2
C461	B-3	D-3	U356A	B-5	C-2
C472	D-5	D-3	U356B	B-5	C-2
C920	A-6	BACK	U356C	B-6	C-2
C990	A-6	BACK	U356D	A-5	C-2
J8	A-6	E-3	U356E	A-4	C-2
J550	A-1	C-3	U356F	B-6	C-3
J750	E-6	C-3	U360	E-5	D-2
R110	C-5	A-1	U360A	D-5	D-2
R214	C-5	A-1	U360B	E-6	D-2
R241	H-5	C-1	U430	A-1	B-3
R242	H-5	C-1	U440	A-2	C-3
R243	G-5	C-1	U450	A-4	C-3
R244	G-5	C-1	U460	A-3	D-3
R262	D-5	D-2	U470	C-6	D-3

S11 SHT. 1 OF 2



S11 SHT. 2 OF 2

E

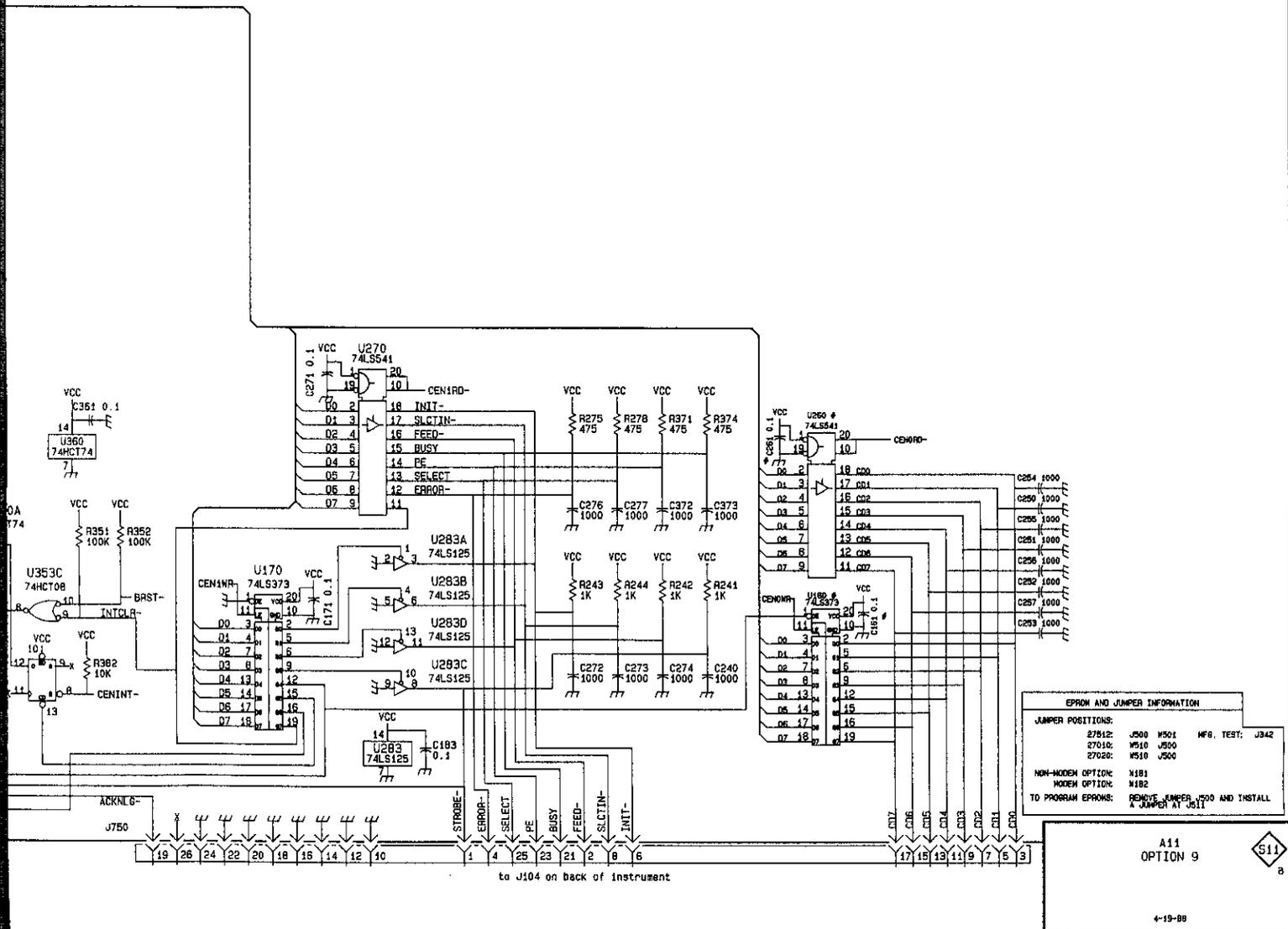
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to J104 on back of instrument

A11
OPTION 9

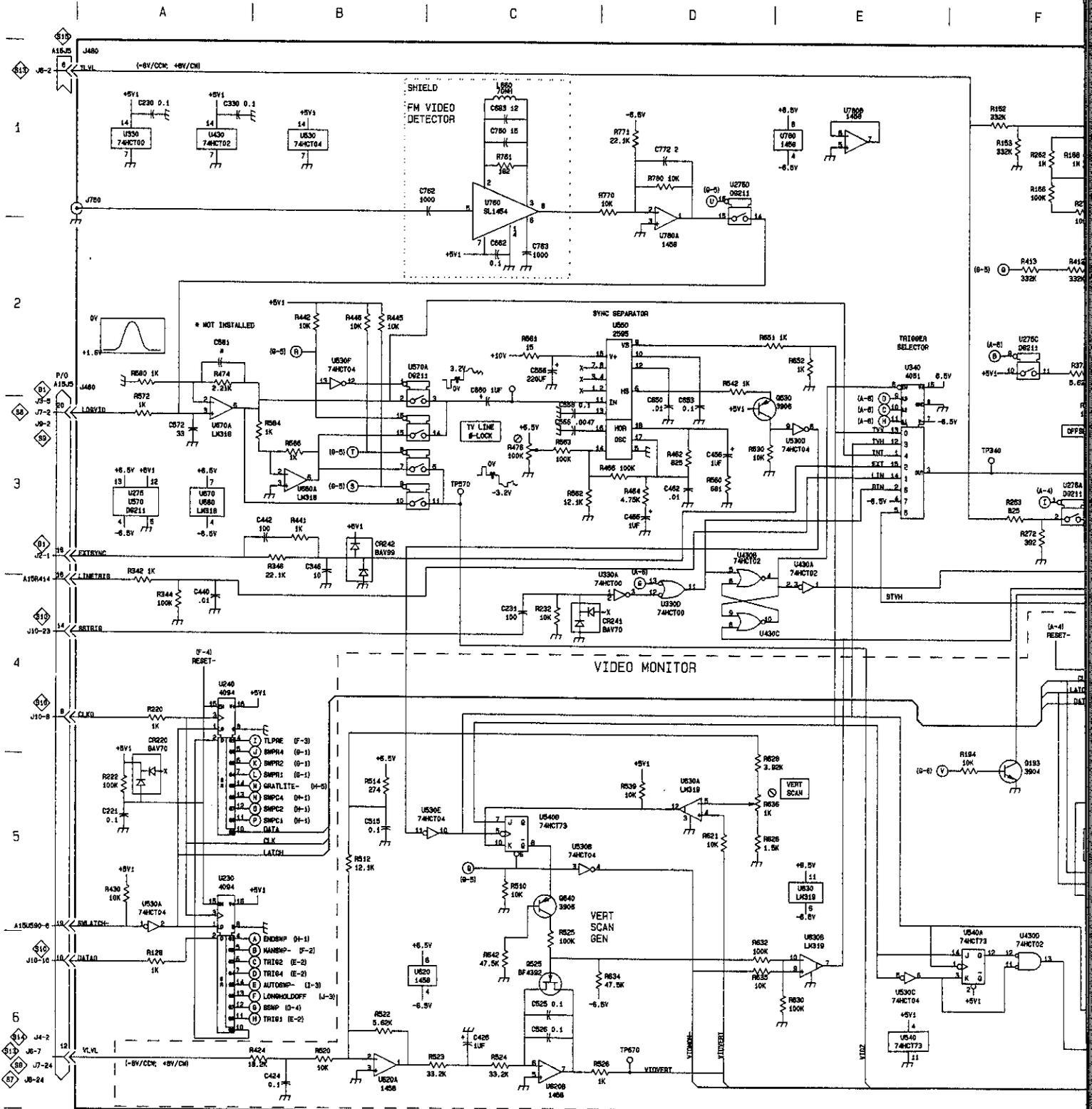
S11

A5 SWEEP

S12

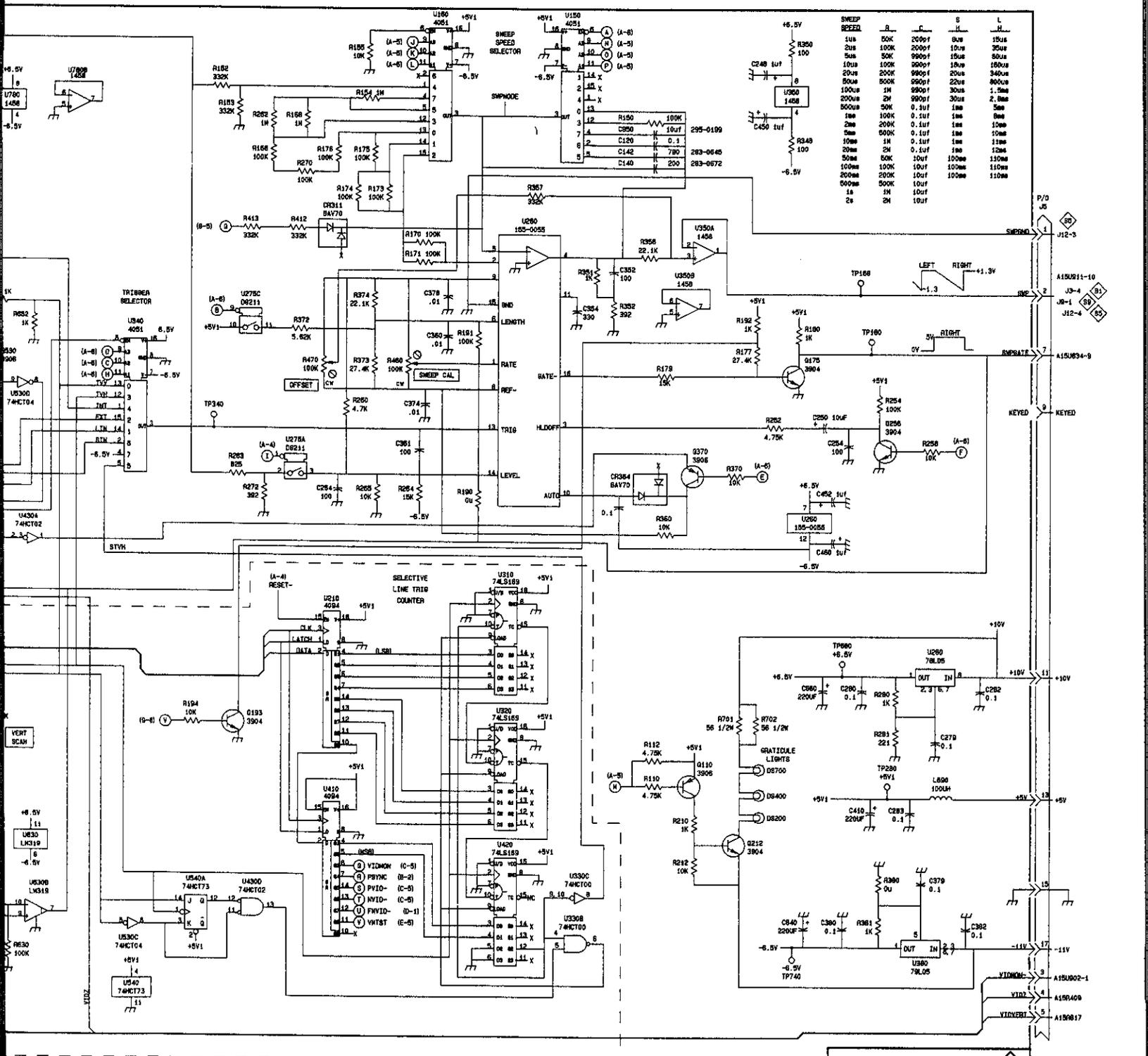
CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C120	H-1	C-1	R154	G-1	E-1	R584	B-3	H-5
C140	H-1	A-1	R155	G-1	E-1	R586	B-3	H-5
C142	H-1	A-1	R166	F-1	F-1	R621	D-5	B-6
C221	A-5	B-2	R168	F-1	F-1	R626	D-5	B-6
C230	A-1	C-2	R170	G-2	G-1	R628	D-5	B-6
C231	C-4	C-2	R171	G-2	G-1	R630	E-6	C-6
C248	I-1	D-2	R173	G-2	G-1	R632	D-6	C-6
C250	I-3	E-2	R174	G-2	G-1	R634	D-6	C-6
C254	I-3	E-2	R175	G-1	G-1	R635	D-6	C-6
C264	F-3	F-2	R176	F-1	G-1	R636	D-5	B-6
C279	J-5	G-2	R177	I-2	G-1	R642	C-6	D-6
C280	J-4	G-2	R179	H-3	G-1	R651	E-2	D-6
C282	J-4	H-2	R180	I-2	G-1	R652	E-2	D-6
C283	J-5	H-2	R190	G-3	H-1	R701	I-5	A-7
C330	A-1	C-3	R191	G-2	H-1	R702	I-5	A-7
C346	B-3	D-3	R192	I-2	G-1	R781	C-1	F-7
C352	H-2	E-3	R194	G-1	H-1	R770	D-1	G-7
C354	H-2	E-3	R210	I-5	A-2	R771	D-1	G-7
C360	G-2	F-3	R212	I-5	A-2	R780	D-1	G-7
C361	G-3	F-3	R220	A-4	B-2	TP168	J-2	F-1
C374	G-3	G-3	R222	A-6	B-2	TP180	J-2	H-1
C378	G-2	G-3	R232	C-4	C-2	TP280	J-5	G-2
C379	J-5	G-3	R252	I-3	E-2	TP340	F-3	D-3
C380	I-6	G-3	R254	J-3	E-2	TP570	C-3	F-6
C382	J-6	H-3	R258	J-3	E-3	TP670	D-6	G-6
C410	J-5	A-4	R260	G-3	E-3	TP680	I-4	H-5
C424	B-6	B-4	R262	F-1	F-2	TP740	I-6	D-7
C426	C-6	B-4	R263	F-3	F-2	U150	H-1	E-1
C440	A-4	D-4	R264	G-3	F-2	U160	G-1	F-1
C442	B-3	D-4	R265	G-3	F-2	U210	F-4	A-2
C450	I-1	E-4	R270	F-1	G-2	U230	A-6	C-2
C452	I-3	E-4	R272	F-3	G-2	U240	A-4	D-2
C456	D-3	E-4	R280	J-4	H-2	U260	I-3	F-3
C460	I-4	F-4	R281	J-5	G-2	U275	A-3	G-2
C462	D-3	F-4	R342	A-3	D-3	U275A	F-3	G-2
C466	D-3	F-4	R344	A-4	D-3	U275C	F-2	G-2
C515	B-5	A-5	R346	B-3	D-3	U275D	D-1	G-3
C525	C-6	B-5	R348	I-1	D-4	U280	J-4	H-2
C526	C-6	B-5	R350	I-1	E-3	U310	G-4	A-3
C556	C-2	F-5	R351	H-2	E-3	U320	G-5	B-3
C558	C-3	D-6	R352	H-2	E-3	U330	A-1	C-3
C566	C-3	E-5	R356	H-2	E-3	U330A	D-4	C-3
C572	A-3	G-5	R357	H-2	E-3	U330B	H-6	C-3
C581	A-2	H-5	R360	H-3	F-3	U330C	H-6	C-3
C640	I-6	D-6	R370	I-3	F-3	U330D	D-4	C-3
C650	D-3	E-6	R372	F-2	G-3	U340	E-3	D-3
C653	D-3	E-6	R373	G-3	G-3	U350	I-1	E-3
C660	C-2	F-6	R374	G-2	G-3	U350A	I-2	E-3
C662	C-2	F-6	R380	J-5	G-3	U350B	H-2	E-3
C680	I-4	H-6	R381	J-6	H-3	U380	J-6	H-3
C683	C-1	F-6	R412	F-2	A-4	U410	F-5	A-4
C760	C-1	E-7	R413	F-2	A-4	U420	G-6	B-4
C762	C-1	F-7	R424	B-6	B-4	U430	A-1	C-4
C763	C-2	F-7	R430	A-5	C-4	U430A	E-4	C-4
C772	D-1	G-7	R441	B-3	D-4	U430B	D-3	C-4
C850	H-1	BACK	R442	B-2	D-4	U430C	D-3	D-4
CR220	A-5	B-2	R445	B-2	D-4	U430D	F-6	C-4
CR241	C-4	C-2	R446	B-2	D-4	U530	B-1	C-5
CR242	B-3	D-2	R460	G-3	F-4	U530A	A-5	C-5
CR311	F-2	A-4	R462	D-3	E-4	U530B	C-5	C-5
CR364	H-3	F-3	R464	D-3	F-4	U530C	E-6	C-5
DS200	I-5	A-2	R466	D-3	F-4	U530D	E-3	C-5
DS400	I-5	A-4	R470	F-3	G-4	U530E	C-5	C-5
DS700	I-5	A-7	R474	A-2	G-5	U530F	B-2	C-5
J480	A-1	H-4	R476	C-3	G-4	U540	E-6	D-5
J750	A-1	E-7	R510	C-5	A-5	U540A	F-6	D-5
L660	C-1	E-6	R512	B-5	A-5	U540B	C-5	D-5
L890	J-5	BACK	R514	B-5	A-5	U560	D-2	E-5
Q110	I-5	A-1	R520	B-6	B-5	U570	A-3	F-6
Q175	I-3	G-1	R522	B-6	B-5	U570A	A-3	F-5
Q193	F-5	G-1	R523	C-6	B-5	U620	C-6	B-5
Q212	I-5	A-2	R524	C-6	B-5	U620A	B-6	B-5
Q256	J-3	E-2	R525	C-6	B-5	U620B	C-6	B-5
Q370	I-3	F-3	R526	D-6	B-5	U630	D-5	C-6
Q525	C-6	B-5	R530	D-3	C-5	U630A	D-5	C-6
Q530	D-3	C-5	R539	D-5	C-5	U630B	E-6	C-6
Q640	C-6	D-6	R542	D-2	D-5	U670	A-3	G-6
R110	H-5	A-1	R560	D-3	E-5	U680	A-3	H-6
R112	H-5	A-1	R561	C-2	E-5	U680A	B-3	H-6
R128	A-6	B-1	R562	C-3	F-5	U760	C-1	F-7
R150	H-1	E-1	R563	C-3	F-5	U780	E-1	G-7
R152	F-1	E-1	R572	A-3	G-5	U780A	D-2	G-7
R153	F-1	E-1	R580	A-2	G-5	U780B	E-1	G-7

SH. 1 OF 2



S12 SHT. 2 of 2

E | F | G | H | I | J

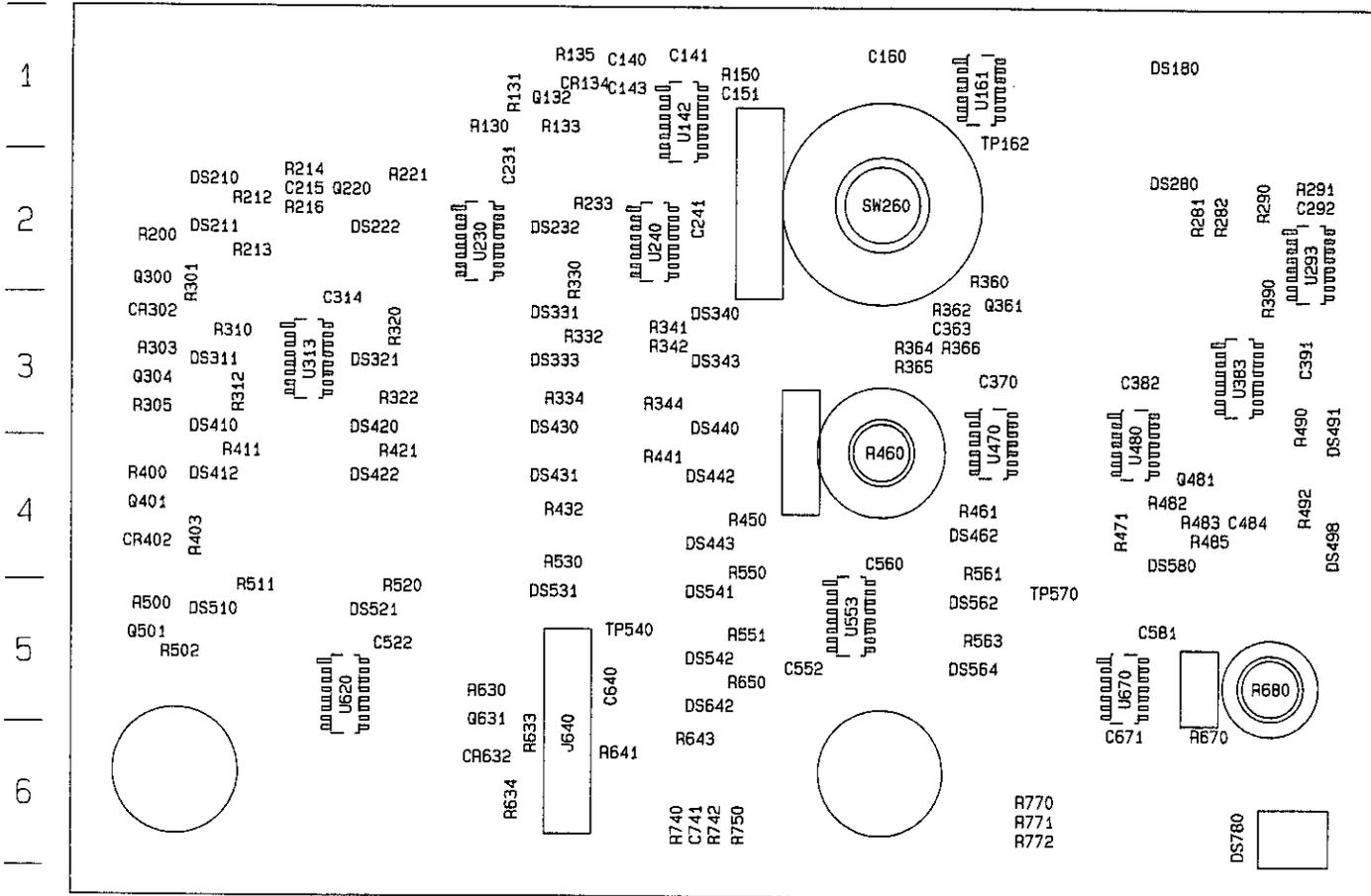


SWEEP SPEED	R	G	B	L
1us	50K	2000F	8us	15us
2us	100K	2000F	10us	20us
5us	50K	9900F	15us	30us
10us	100K	9900F	18us	40us
20us	200K	9900F	20us	50us
50us	500K	9900F	22us	60us
100us	1M	9900F	30us	1.5ms
200us	2M	9900F	30us	2.5ms
500us	500K	0.1uf	1ms	5ms
1ms	100K	0.1uf	1ms	10ms
2ms	200K	0.1uf	1ms	15ms
5ms	500K	0.1uf	1ms	20ms
10ms	1M	0.1uf	1ms	25ms
20ms	2M	0.1uf	1ms	30ms
50ms	500K	10uf	100ms	130ms
100ms	100K	10uf	100ms	150ms
200ms	200K	10uf	100ms	170ms
500ms	500K	10uf	100ms	190ms
1s	1M	10uf	100ms	210ms
2s	2M	10uf	100ms	230ms

A5 SWEEP
4-25-88

S13

A | B | C | D | E | F | G | H | I | J |



A6—Front Panel

A6 FRONT PANEL

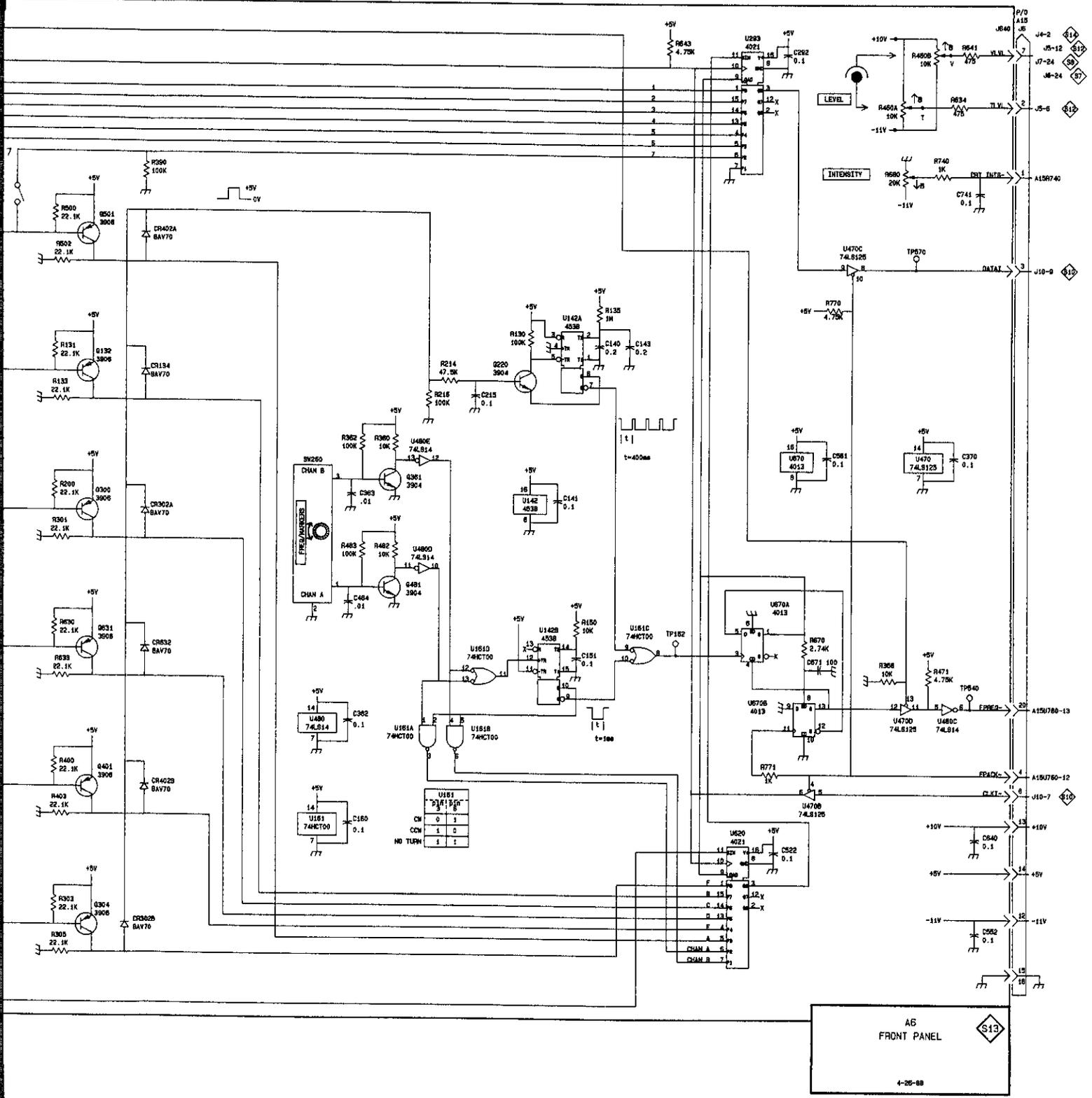


FRONT PANEL S13

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C140	H-3	E-1	CDS564	B-5	G-5	CR471	J-4	H-4
C141	H-3	E-1	DS580	B-6	I-4	R482	G-4	I-4
C143	H-3	E-1	DS642	B-5	E-5	R483	G-4	I-4
C151	H-4	F-1	DS780	A-5	I-6	R485	B-6	I-4
C160	G-5	G-1	J640	A-1	D-6	R490	B-6	J-3
C215	G-3	B-2	Q132	E-3	D-1	R492	B-6	J-4
C231	B-2	D-2	Q220	H-3	C-2	R500	E-2	A-5
C241	B-3	E-2	Q300	E-3	A-2	R502	E-2	A-5
C282	I-1	J-2	Q304	E-6	A-3	R511	B-2	B-5
C314	B-1	C-3	Q361	G-3	G-3	R520	B-3	C-5
C363	G-3	G-3	Q401	E-5	A-4	R530	B-3	D-4
C370	J-3	G-3	Q481	G-4	I-4	R550	B-5	F-4
C382	G-5	I-3	Q501	E-2	A-5	R551	B-5	F-5
C391	B-6	J-3	Q631	E-4	D-5	R561	B-5	G-4
C484	G-4	I-4	R130	H-2	D-1	R563	B-5	G-5
C522	I-6	C-5	R131	E-3	D-1	R630	E-4	D-5
C552	J-6	F-5	R133	E-3	D-1	R633	E-4	D-6
C560	B-5	G-4	R135	H-2	D-1	R634	J-1	D-6
C581	I-3	I-5	R150	H-4	F-1	R641	J-1	E-6
C640	J-5	E-5	R200	E-3	A-2	R643	H-1	E-6
C671	I-4	I-6	R212	B-2	B-2	R650	B-5	F-5
C741	J-2	E-6	R213	B-2	B-2	R670	I-4	I-6
CR134	E-3	D-1	R214	G-3	B-2	R680	J-2	J-5
CR302A	E-4	A-3	R216	G-3	B-2	R740	J-1	E-6
CR302B	E-6	A-3	R221	B-3	C-2	R742	D-6	E-6
CR402A	E-2	A-4	R233	B-4	D-2	R750	C-6	F-6
CR402B	E-5	A-4	R281	B-6	I-2	R770	I-2	H-6
CR632	E-4	D-6	R282	B-6	I-2	R771	I-5	H-6
DS180	B-6	I-1	R290	C-6	J-2	R772	A-5	H-6
DS210	B-2	B-2	R291	C-6	J-2	SW260	F-3	G-2
DS211	B-2	B-2	R301	E-4	A-2	TP162	I-4	G-1
DS222	B-3	C-2	R303	E-6	A-3	TP540	J-5	E-5
DS232	B-4	D-2	R305	E-6	A-3	TP570	J-2	H-5
DS280	B-6	I-2	R310	B-2	B-3	U142A	H-2	E-1
DS311	B-2	B-3	R312	B-2	B-3	U142B	H-4	E-1
DS321	B-3	C-3	R320	B-3	C-3	U161A	G-5	G-1
DS331	B-4	D-3	R322	B-3	C-3	U161B	G-5	G-1
DS333	B-4	D-3	R330	B-4	D-2	U161C	H-4	G-1
DS340	B-4	E-3	R332	B-4	D-3	U161D	G-4	G-1
DS343	B-4	E-3	R334	B-3	D-3	U230	A-3	D-2
DS410	B-2	B-3	R341	B-4	E-3	U240	A-4	E-2
DS412	B-2	B-4	R342	B-4	E-3	U283	I-1	J-2
DS420	B-3	C-3	R344	B-4	E-3	U313	A-2	B-3
DS422	B-3	C-4	R360	G-3	G-2	U383	A-6	I-3
DS430	B-3	D-3	R362	G-3	G-3	U470A	NOT USED	G-4
DS431	B-3	D-4	R364	D-6	G-3	U470B	I-5	G-4
DS440	B-4	E-3	R365	D-6	G-3	U470C	J-2	G-4
DS442	B-4	E-4	R366	J-4	G-3	U470D	J-5	G-4
DS443	B-5	E-4	R390	E-1	J-3	U480A	A-6	I-4
DS462	B-5	G-4	R400	E-5	A-4	U480B	A-2	I-4
DS491	B-6	J-3	R403	E-5	A-4	U480C	J-5	I-4
DS498	B-6	J-4	R411	B-2	B-4	U480D	G-4	I-4
DS510	B-2	B-5	R421	B-3	C-4	U480E	G-3	I-4
DS521	B-3	C-5	R432	B-3	D-4	U553	A-5	F-5
DS531	B-3	D-5	R441	B-4	E-4	U620	I-6	C-5
DS541	B-5	E-5	R450	B-5	F-4	U670A	I-4	H-5
DS542	B-5	E-5	R460	J-1	G-4	U670B	I-5	H-5
DS562	B-5	G-5	R461	B-5	G-4			

S13 SHT. 2 of 2

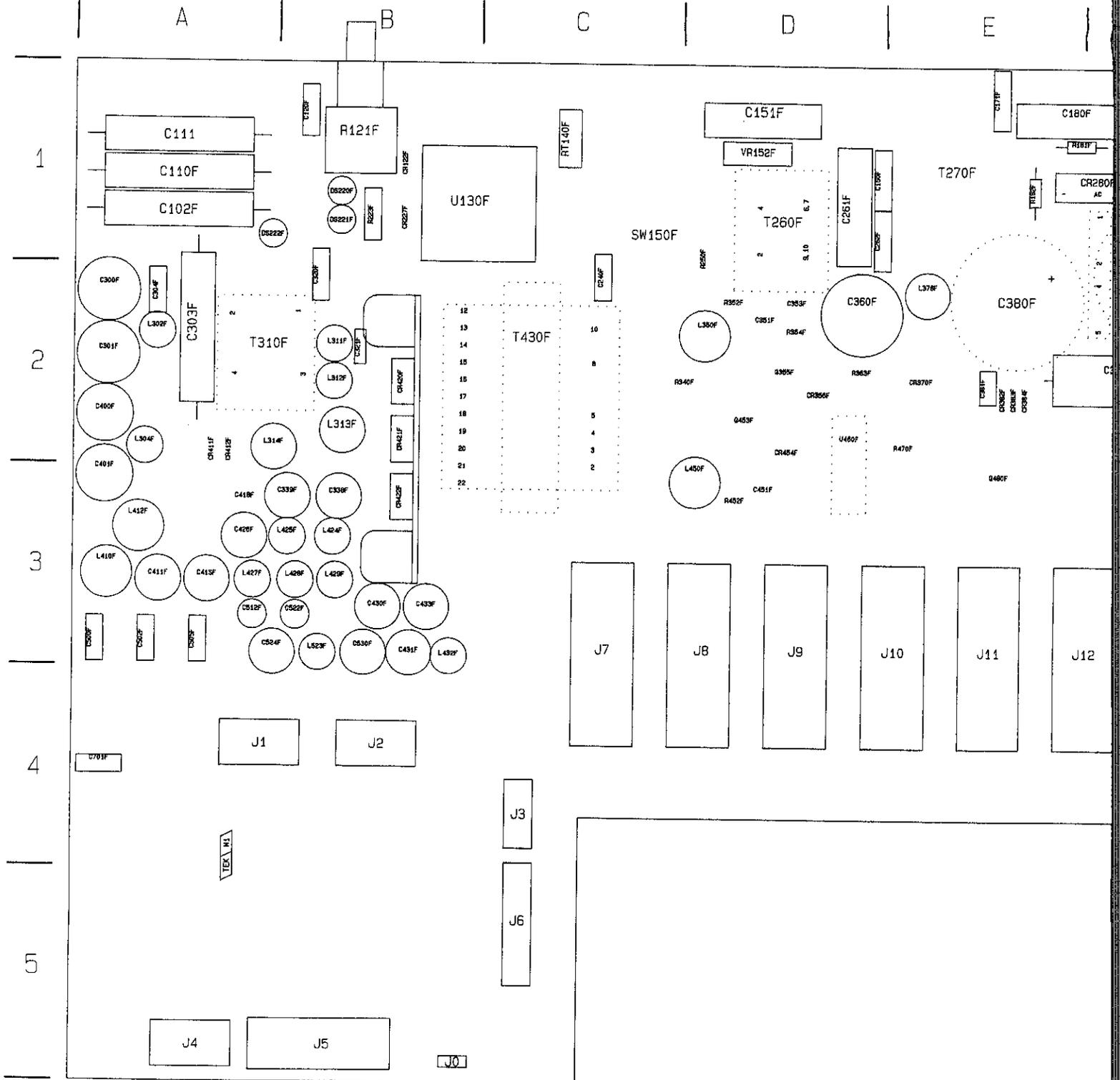
E | F | G | H | I | J



A6 FRONT PANEL S13
4-26-88

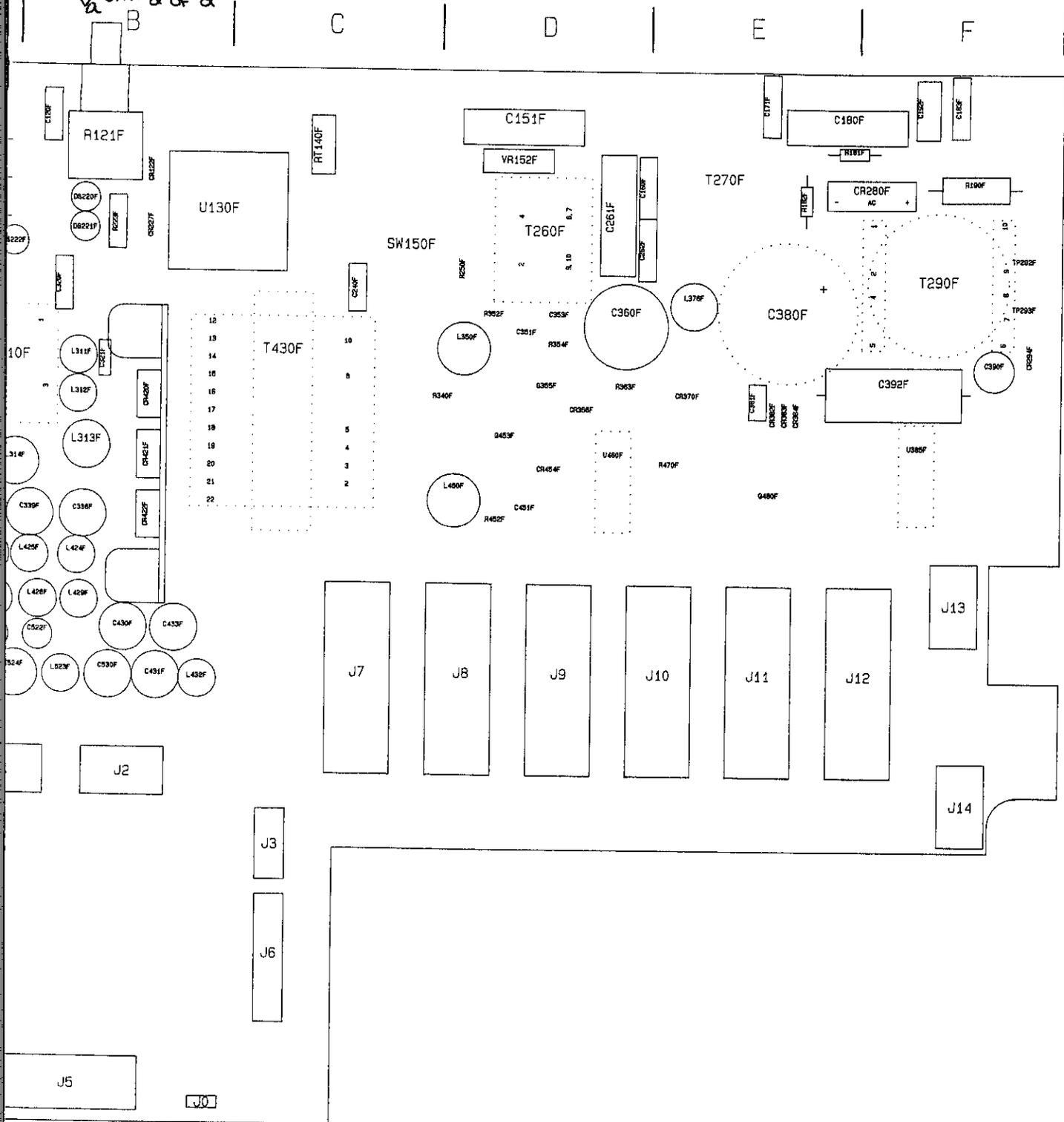

A15 (FRONT)
SN 8020319 & ↑
SHT. 1 OF 2

(B020319 AND UP)



A15—Power Supply (Front)
B020319 and Up)

◇ S14 A15 (FRONT)
SN 8020319 & ↑
SHT. 2 OF 2



A15—Power Supply (Front)
8020319 and Up

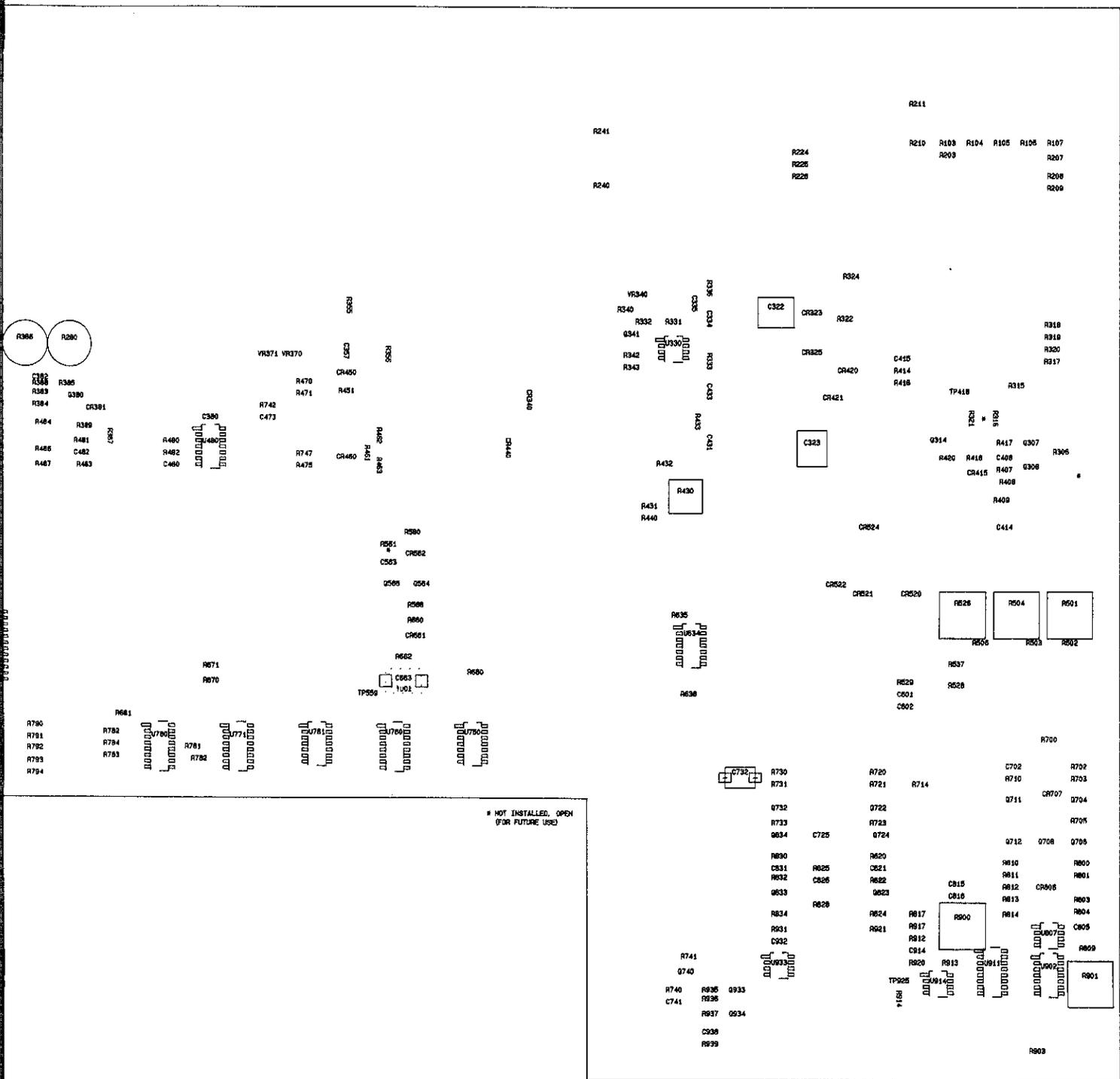
AIS (REAR)
 SN B020319 & ↑
 SHT. 2 OF 2
 E

D

C

B

A



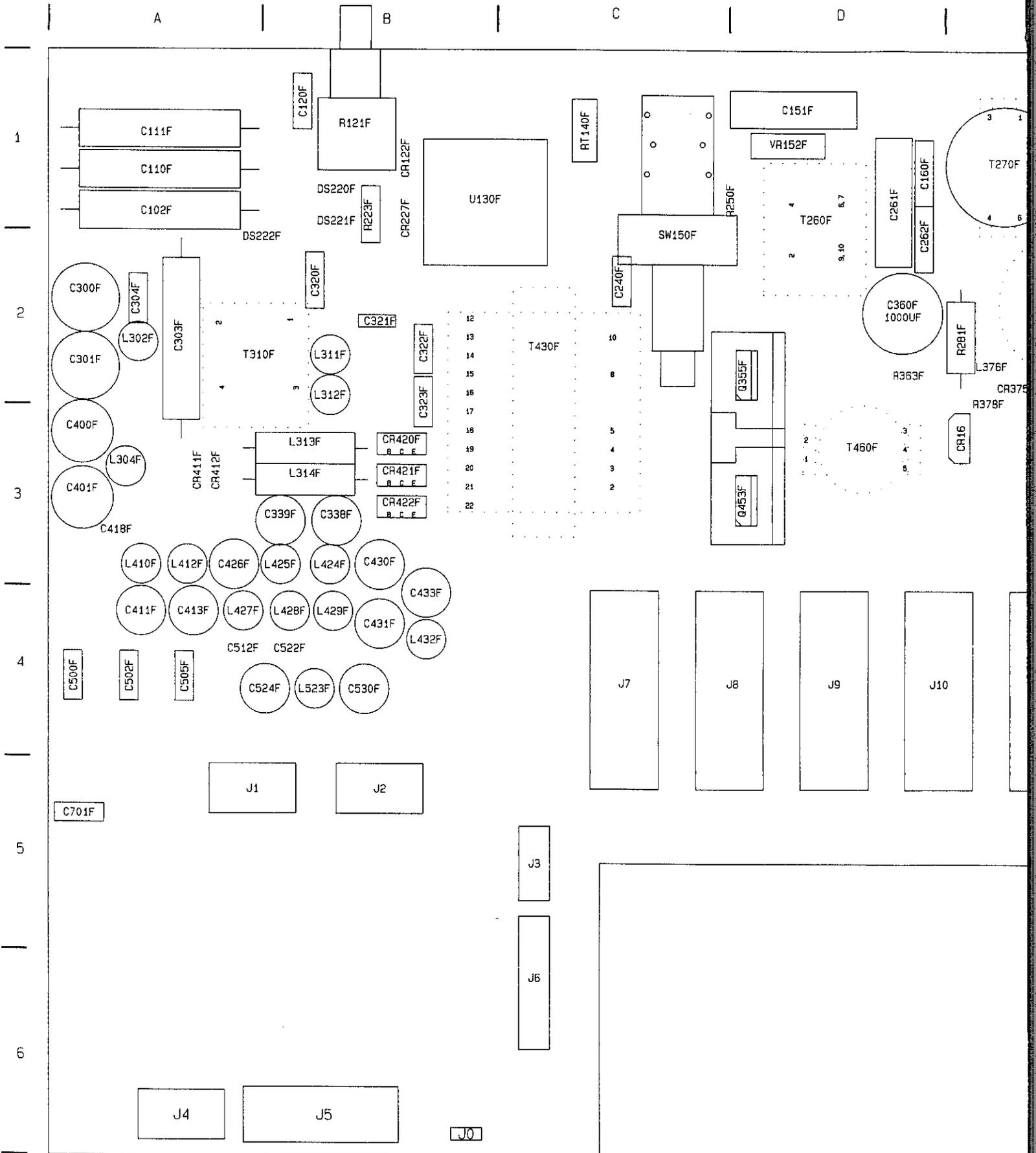
A15 POWER SUPPLY
(PRIMARY) B020319 and up



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C151F	C-1	D-1	R354F	E-6	D-2
C160F	D-1	D-1	R355	E-6	D-2
C171F	E-2	E-1	R356	D-7	D-2
C180F	E-1	E-1	R363F	D-5	D-2
C183F	E-1	F-1	R383	A-5	F-2
C192F	D-3	F-1	R384	A-5	F-2
C261F	D-1	D-1	R385	B-4	E-2
C262F	D-2	D-1	R386	A-4	F-2
C351F	E-7	D-2	R387	D-4	E-3
C353F	E-6	D-2	R388	A-5	F-2
C357	C-6	D-2	R389	C-5	E-2
C360F	F-7	D-2	R390	C-5	F-2
C380	A-6	E-2	R394	B-3	F-2
C380F	F-2	E-2	R395	B-2	F-2
C381F	E-5	E-2	R396	B-4	F-2
C382	A-5	F-2	R414	D-1	A-2
C385	B-4	F-2	R418	D-1	A-2
C390F	B-3	F-2	R451	D-6	D-2
C392F	E-3	F-2	R452F	F-6	D-3
C415	D-1	A-2	R461	D-6	D-3
C451F	E-6	D-3	R462	E-6	D-3
C473	C-7	E-2	R463	D-6	D-3
C480	B-6	E-3	R470	D-7	D-2
C482	B-5	E-3	R470F	C-6	E-2
C495	B-4	F-2	R471	D-7	D-2
C497	B-4	F-3	R472	C-7	E-2
C499	C-3	F-2	R474	B-7	D-3
CR280F	E-1	F-1	R475	B-7	D-3
CR294F	C-2	F-2	R480	B-6	E-3
CR340	F-7	C-2	R481	B-5	E-3
CR356F	E-7	D-2	R482	B-6	E-3
CR370F	E-5	E-2	R483	B-5	E-3
CR381	C-4	E-2	R484	A-4	F-2
CR382F	E-4	E-2	R486	A-4	F-3
CR383F	E-4	E-2	R487	A-5	F-3
CR384F	E-4	E-2	R490	B-3	F-2
CR440	F-6	C-3	R492	B-3	F-3
CR450	D-6	D-2	R493	B-2	F-3
CR454F	E-6	D-2	R494	B-4	F-2
CR460	D-5	D-3	R498	B-4	F-3
L350F	F-7	D-2	RT140F	C-1	C-1
L376F	E-5	E-2	SW150F	B-1	C-1
L450F	F-6	D-3	T260F	C-1	D-1
Q355F	E-7	D-2	T270F	D-1	E-1
Q380	D-4	E-2	T290F	E-3	F-1
Q393	B-3	F-2	T310F	C-1	A-2
Q453F	E-6	D-2	T430F	F-3	C-2
Q480F	E-4	E-3	TP292	E-2	F-1
Q491	C-2	F-2	TP293	F-6	F-2
R181F	E-1	E-1	U385F	C-3	F-2
R182F	D-1	E-1	U460F	C-7	D-2
R190F	B-2	F-1	U480A	A-6	E-3
R240	C-1	C-1	U480B	C-6	E-3
R241	C-1	C-1	VR152F	C-1	C-2
R250F	C-2	D-1	VR290	D-2	F-2
R280	B-4	E-2	VR370	D-6	D-2
R340F	F-6	D-2	VR371	D-6	D-2
R352F	F-7	D-2	VR392	B-3	F-2

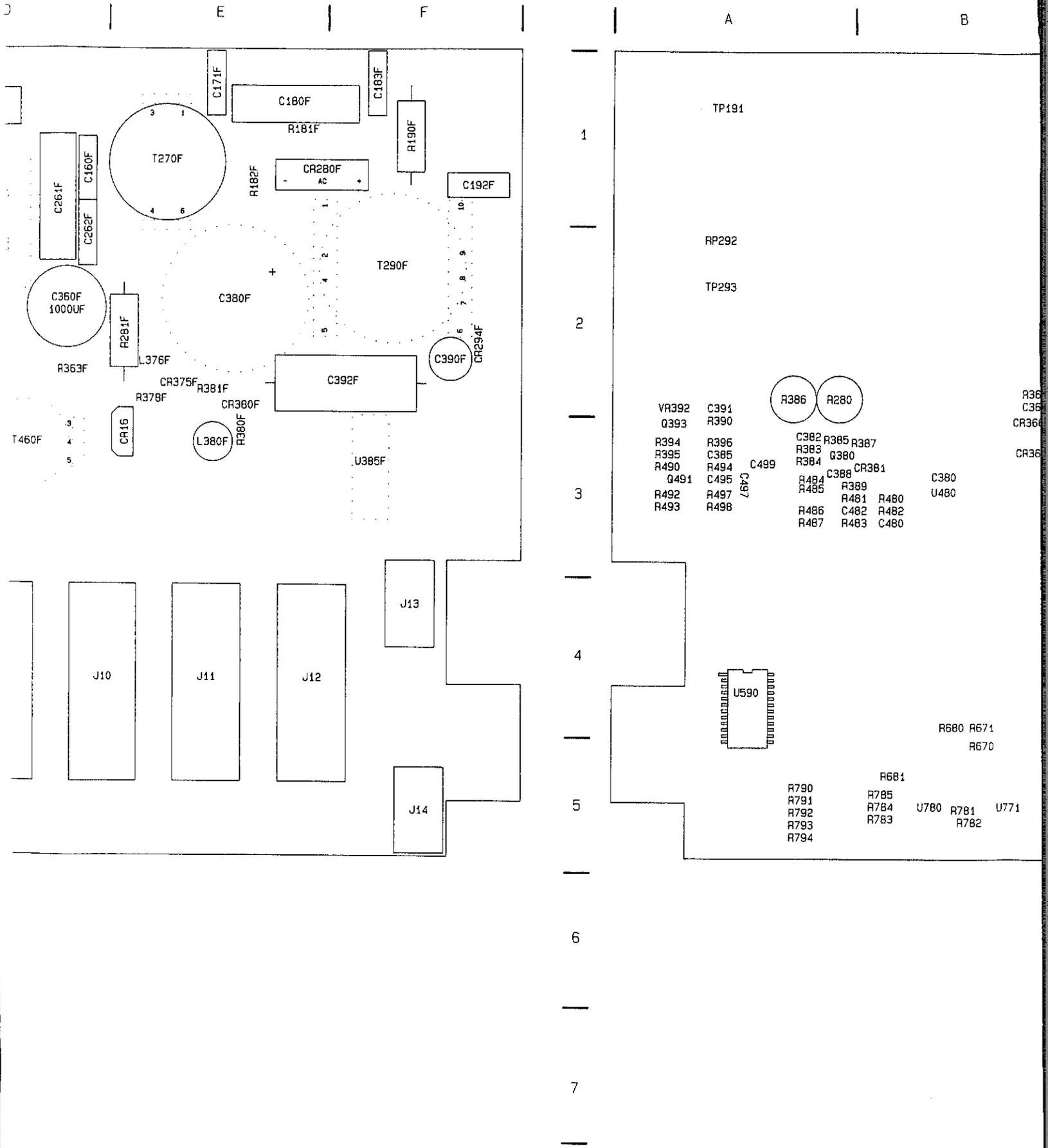
NOTE: The letter F following a circuit number indicates that the component is located on the front of the board.
The rest of the components are located on the back of the board.

SN B010001 - B010318, A15
 SHT. 1 of 3



A15—Power Supply (Front)
 (B010001 to B010318)

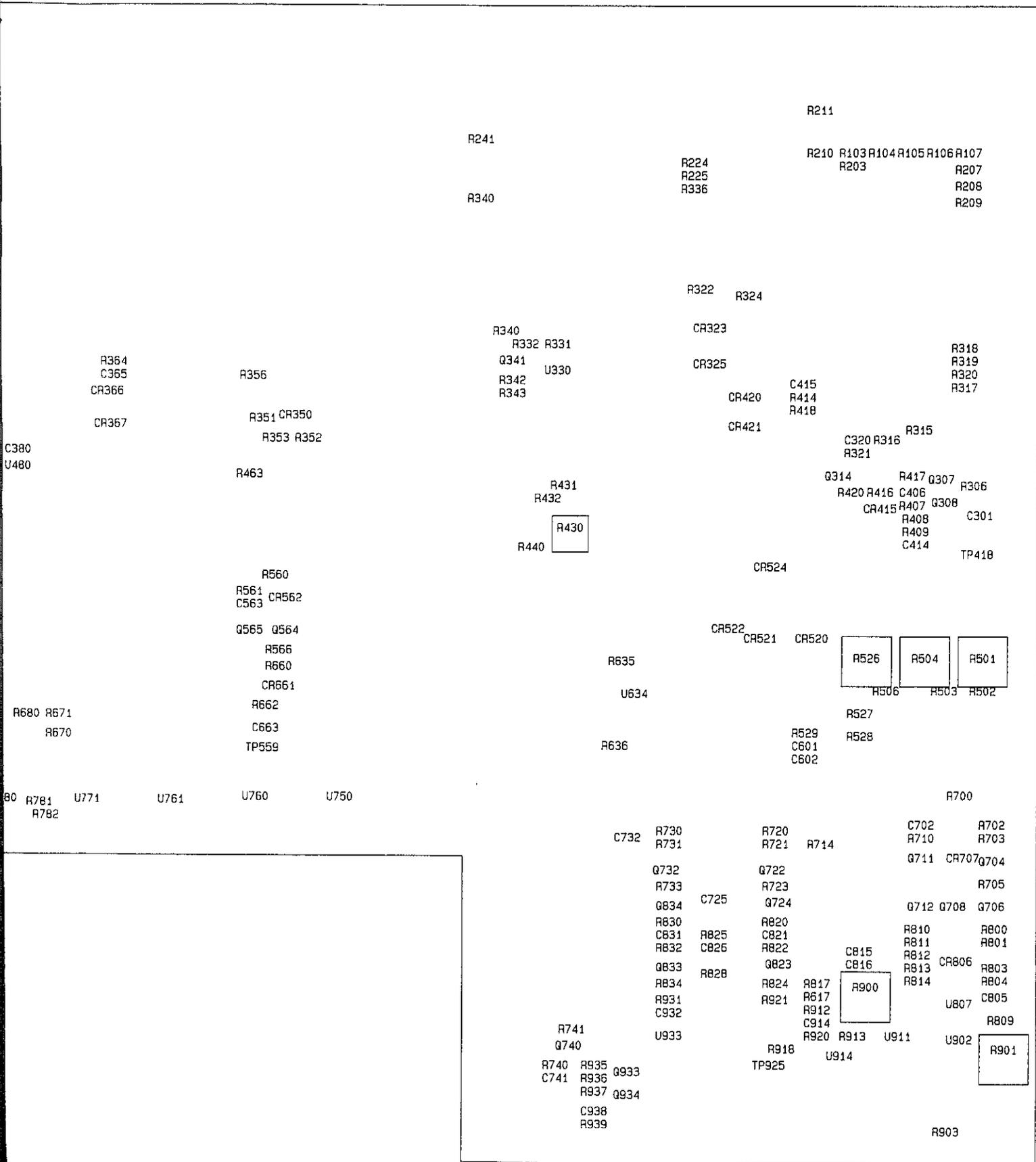
SN 8010001 - 8010318, AIS
 SHT. 2 OF 3



1
2
3
4
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7

TP191
 RP292
 TP293
 VR392 Q393
 R394 R395 R490 Q491 R492 R493
 C391 R390
 R396 C385 R494 C495 R497 R498
 C499
 R386 R280
 C382 R385 R387 R383 Q380 R384 C386 CR381 C388 R389 R481 R480 C380 U480 R486 C482 R482 R487 R483 C480
 R386 R387 R388 R389 R481 R480 R482 R483 C480
 U590
 R680 R671 R670
 R681
 R785 R784 R783
 R790 R791 R792 R793 R794
 U780 R781 R782 U771

B  SN 8010001 - 8010318, A15
 SHT. | 3 of 3 C | D | E | F |



A15—Power Supply (Rear)
 (B010001 to B010318)

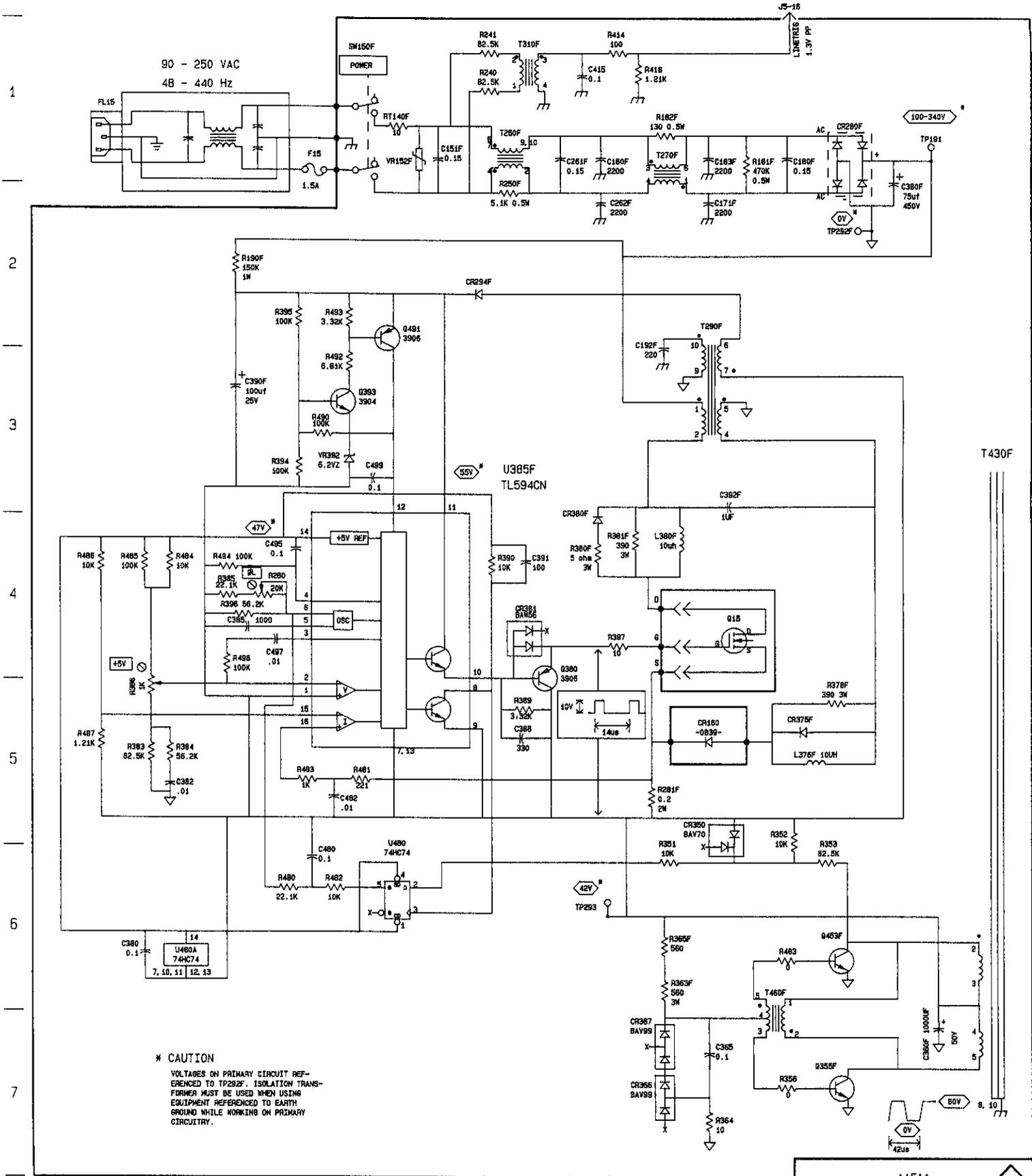
A15 POWER SUPPLY
B010001 to B010318



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C151F	C-1	D-1	R352	E-5	C-3
C160F	D-1	D-1	R353	E-6	C-3
C171F	E-1	E-1	R356	E-7	C-2
C180F	E-1	E-1	R363F	D-6	D-2
C183F	E-1	F-1	R364	E-7	B-2
C192F	D-3	F-1	R365F	D-6	D-2
C261F	D-1	D-1	R378F	E-5	E-3
C262F	D-2	D-2	R380F	D-4	E-3
C360F	F-7	D-2	R381F	D-4	E-2
C365	E-7	B-2	R383	A-5	A-3
C380	A-6	B-3	R384	A-5	A-3
C380F	F-2	E-2	R385	B-4	A-3
C382	A-5	A-3	R386	A-5	A-2
C385	B-4	A-3	R387	D-4	B-3
C388	C-5	A-3	R389	C-5	B-3
C390F	B-3	F-2	R390	C-4	A-2
C391	C-4	A-2	R394	B-3	A-3
C392F	E-3	F-2	R395	B-2	A-3
C415	D-1	E-3	R396	B-4	A-3
C480	B-6	B-3	R414	D-1	E-3
C482	B-5	B-3	R418	D-1	E-3
C495	B-4	A-3	R463	E-6	C-3
C497	B-4	A-3	R480	B-6	B-3
C499	C-3	A-3	R481	B-5	B-3
CR160F	E-5	E-3	R482	B-6	B-3
CR280F	E-1	E-1	R483	B-5	B-3
CR294F	C-2	F-2	R484	A-4	A-3
CR350	E-5	C-3	R485	A-5	A-3
CR366	D-7	B-3	R486	A-4	A-3
CR367	D-7	B-3	R487	A-5	A-3
CR376F	E-5	E-2	R490	B-3	A-3
CR380F	D-4	E-3	R492	B-3	A-3
CR381	C-4	B-3	R493	B-2	A-3
L376F	E-5	E-2	R494	B-4	A-3
L380F	D-4	E-3	R498	B-4	A-3
Q15	E-4	CHASSIS	RT140F	C-1	C-1
Q355F	E-7	D-2	SW150F	B-1	C-2
Q380	D-4	A-3	T260F	C-1	D-1
Q393	B-3	A-3	T270F	D-1	E-1
Q453F	E-6	D-3	T290F	E-3	F-2
Q491	C-2	A-3	T310F	C-1	B-2
R181F	E-1	E-1	T430F	F-3	C-3
R182F	D-1	E-1	T460F	E-6	D-3
R190F	B-2	F-1	TP191	F-1	A-1
R240	C-1	D-1	TP292F	E-2	A-2
R241	C-1	D-1	TP293	D-6	A-2
R250F	C-2	C-1	U385F	C-3	F-3
R280	B-4	A-2	U480	C-6	B-3
R281F	D-5	E-2	U480A	A-6	B-3
R351	D-6	C-3	VR152F	C-1	D-1
			VR392	B-3	A-2

NOTE: The letter F following a circuit number indicates that the component is located on the front of the board.
The rest of the components are located on the back of the board.

SN B010001 - B010318



* CAUTION
 VOLTAGES ON PRIMARY CIRCUIT REFERENCED TO TP282F. ISOLATION TRANSFORMER MUST BE USED WHEN USING EQUIPMENT REFERENCED TO EARTH GROUND WHILE WORKING ON PRIMARY CIRCUITRY.

A15 POWER SUPPLY
(SECONDARIES) B020319 and up



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C102F	D-2	A-1	L311F	E-4	B-2	R526	H-2	A-3
C110F	D-2	A-1	L312F	E-4	B-2	R527	G-2	A-4
C111F	D-2	A-1	L313F	E-6	B-2	R528	F-4	A-4
C120F	D-2	B-1	L314F	E-6	A-2	R529	G-2	B-4
C240F	B-1	C-2	L410F	E-5	A-3	R560	D-6	D-3
C300F	E-4	A-2	L412F	E-5	A-3	R561	D-6	D-3
C301	A-3	A-3	L424F	E-5	B-3	R568	F-6	D-3
C301F	F-4	A-2	L425F	E-5	B-3	R635	A-2	C-3
C303F	D-2	A-2	L427F	E-4	A-3	R636	A-2	C-4
C304F	C-2	A-2	L428F	E-5	B-3	R660	F-6	D-3
C320	B-2	A-2	L429F	F-5	B-3	R662	G-6	D-4
C320F	E-3	B-2	L432F	G-5	B-3	R670	F-6	E-4
C321F	D-3	B-2	L623F	F-4	B-3	R671	D-6	E-4
C322	D-4	B-2	Q307	C-2	A-3	R680	D-6	D-4
C323	E-3	B-3	Q308	C-3	A-3	R681	A-5	E-4
C334	E-4	B-2	Q314	B-2	A-3	R700	I-1	A-4
C335	D-4	C-2	Q341	C-1	C-2	R702	I-1	A-4
C338F	E-6	B-3	Q564	F-6	D-3	R703	H-1	A-4
C339F	E-6	B-3	Q565	F-6	D-3	R705	I-2	A-4
C400F	E-4	A-2	Q704	H-2	A-4	R710	I-1	A-4
C401F	F-4	A-3	Q706	H-2	A-4	R714	H-3	A-4
C406	C-3	A-3	Q708	H-2	A-4	R720	I-3	B-4
C411F	F-5	A-3	Q711	I-2	A-4	R721	I-4	B-4
C413F	F-5	A-3	Q712	I-2	A-4	R723	H-4	B-4
C414	B-2	A-3	Q722	I-4	B-4	R730	H-3	B-4
C418F	C-2	A-3	Q724	I-4	B-4	R731	H-4	B-4
C426F	E-5	A-3	Q732	H-4	B-4	R733	H-4	B-4
C430F	E-5	B-3	Q740	A-1	C-5	R740	A-1	C-5
C431	D-5	B-3	Q823	I-5	B-5	R741	A-1	C-5
C431F	F-5	B-3	Q833	G-5	B-5	R781	B-3	E-4
C433	D-6	B-2	Q834	H-4	B-4	R782	B-3	E-4
C433F	G-5	B-3	Q933	G-1	B-5	R783	B-3	E-4
C500F	D-3	A-3	Q934	G-1	B-5	R784	B-3	E-4
C502F	F-4	A-3	R103	D-2	A-1	R785	B-3	E-4
C505F	G-2	A-3	R104	D-2	A-1	R790	A-4	F-4
C512F	E-4	A-3	R105	D-1	A-1	R791	A-4	F-4
C522F	E-5	B-3	R106	D-1	A-1	R792	A-4	F-4
C524F	F-4	A-3	R107	D-1	A-1	R793	A-4	F-4
C530F	F-4	B-3	R121F	D-2	B-1	R794	A-4	F-4
C563	D-6	D-3	R203	D-2	A-1	R800	H-2	A-5
C601	G-2	B-4	R207	D-1	A-1	R801	H-2	A-5
C602	F-3	B-4	R208	D-1	A-1	R803	H-3	A-5
C663	G-6	D-4	R209	D-1	A-1	R804	H-3	A-5
C701F	I-1	A-4	R210	D-2	A-1	R809	J-2	A-5
C702	H-1	A-4	R211	D-2	A-1	R810	I-2	A-5
C725	H-4	B-4	R223F	D-2	B-1	R811	I-2	A-5
C732	H-3	B-4	R224	E-2	B-1	R812	J-2	A-5
C805	I-3	A-5	R225	E-3	B-1	R813	I-2	A-5
C815	J-5	A-5	R226	E-4	B-1	R814	I-2	A-5
C816	J-5	A-5	R306	C-2	A-3	R817	J-5	A-5
C821	I-5	B-5	R315	C-2	A-2	R820	I-5	B-4
C826	H-5	B-5	R316	B-2	A-2	R822	I-4	B-5
C827	H-5	B-5	R317	C-2	A-2	R824	I-5	B-5
C831	H-5	B-5	R318	C-2	A-2	R825	H-5	B-5
C914	J-5	A-5	R319	C-2	A-2	R828	H-6	B-5
C932	H-5	B-5	R320	C-2	A-2	R830	H-6	B-4
C938	G-1	B-5	R321	B-2	A-2	R832	H-4	B-5
CR122F	E-2	B-1	R322	D-3	B-2	R834	G-5	B-5
CR227F	E-2	B-1	R324	D-3	B-2	R900	J-4	A-5
CR323	E-4	B-2	R331	C-1	C-2	R901	J-2	A-5
CR325	E-4	B-2	R332	C-1	C-2	R903	I-4	A-5
CR411F	D-2	A-2	R333	D-6	B-2	R912	J-5	A-5
CR412F	D-3	A-2	R336	D-4	B-2	R913	J-5	A-5
CR415	B-3	A-3	R340	C-1	C-2	R914	J-5	B-5
CR420	D-4	B-2	R342	C-1	C-2	R917	J-5	A-5
CR420F	E-6	B-2	R343	C-1	C-2	R920	J-5	A-5
CR421	D-3	B-2	R407	C-3	A-3	R921	I-5	B-5
CR421F	E-5	B-2	R408	B-2	A-3	R931	H-5	B-5
CR422F	E-5	B-3	R409	B-3	A-3	R935	G-1	B-5
CR520	E-4	A-3	R416	B-2	A-3	R936	G-1	B-5
CR521	E-5	B-3	R417	C-2	A-3	R937	G-1	B-5
CR522	F-4	B-3	R420	B-2	A-3	R939	G-1	B-5
CR524	F-5	B-3	R430	D-1	C-3	T430F	D-3	C-2
CR562	D-5	D-3	R431	D-1	C-3	TP418	D-3	A-2
CR661	G-6	D-3	R432	D-1	C-3	TP559	J-3	D-4
CR707	I-1	A-4	R433	D-5	C-2	TP925	J-5	B-5
CR806	I-2	A-5	R440	D-1	C-3	U130F	C-2	B-1
DS220F	E-2	B-1	R501	E-3	A-3	U330A	C-1	C-2
DS221F	E-2	B-1	R502	D-3	A-3	U330B	B-1	C-2
DS222F	E-3	A-1	R503	F-4	A-3	U590	A-4	F-3
L302F	F-4	A-2	R504	G-3	A-3	U634	B-1	C-3
L304F	F-4	A-2	R506	H-2	A-3	U634A	A-1	C-3

NOTE: The letter F following a circuit number indicates that the component is located on the front of the board.
The rest of the components are located on the back of the board.

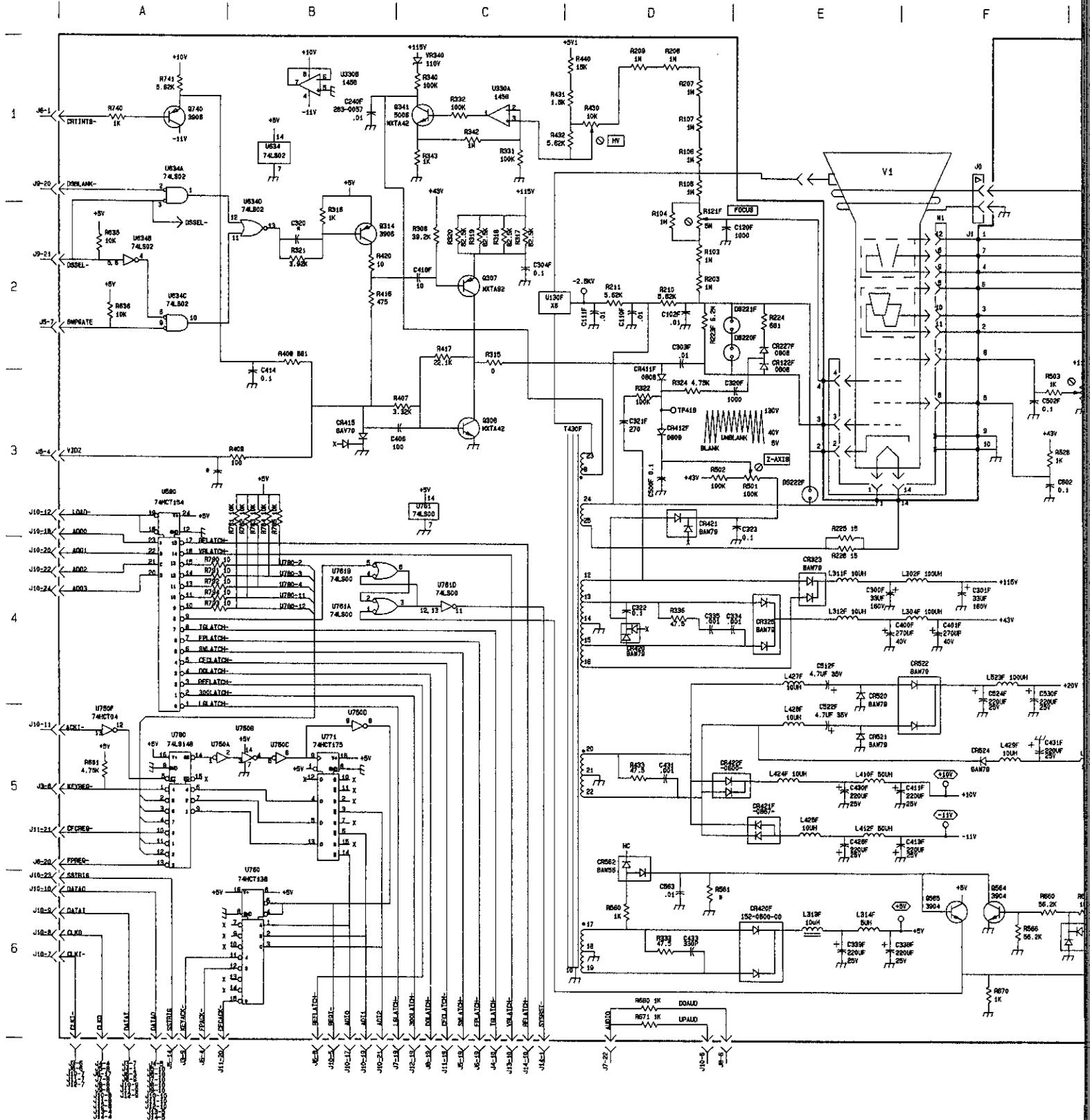
**A15 POWER SUPPLY
(SECONDARIES)
B020319 and up (Continued)**



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
U634B	A-2	C-3
U634C	A-2	C-3
U634D	B-2	C-3
U750A	A-5	D-4
U750B	B-5	D-4
U750C	B-5	D-4
U750D	B-5	D-4
U750F	A-5	D-4
U760	B-6	D-4
U781	C-3	D-4
U781A	B-4	D-4
U781B	B-4	D-4
U781D	C-4	D-4
U771	B-5	E-4
U780	A-5	E-4
U807	G-3	A-5
U902	J-3	A-5
U902A	J-4	A-5
U902D	J-1	A-5
U911	J-3	A-5
U911A	J-4	A-5
U911B&C	J-1	A-5
U911D	J-4	A-5
U914	J-5	A-5
U914A	J-5	A-5
U933	G-3	B-5
VR340	C-1	C-2

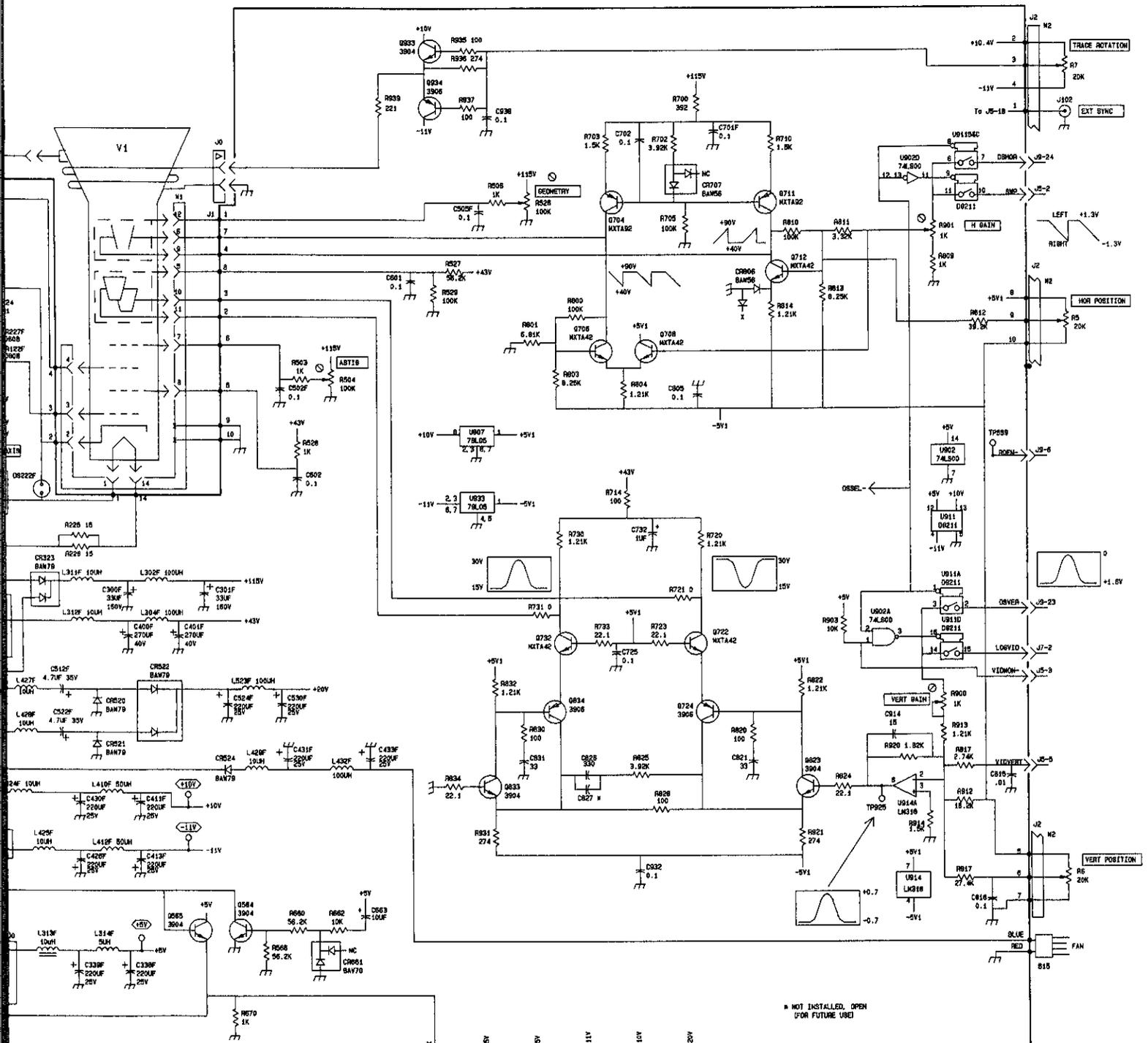
NOTE: The letter F following a circuit number indicates that the component is located on the front of the board. The rest of the components are located on the back of the board.

S14 SN B020319 & ↑
b SHT. 1 OF 2



SN B020319 & ↑
SHT. 2 OF 2

E | F | G | H | I | J



* NOT INSTALLED, OPEN FOR FUTURE USE!

J10-4	J9-13, 14	J4-7	J4-8	J4-9	J4-6
J11-3	J10-13, 14	J5-13, 14	J5-17	J5-11	J5-11
	J6-14	J6-14	J6-12	J6-13	J6-13
	J7-13, 14	J7-17, 18	J7-17, 18	J7-11, 12	J7-11, 12
	J8-13, 14	J8-17, 18	J8-17, 18	J8-11, 12	J8-11, 12
	J12-13, 14	J9-17, 18	J9-17, 18	J9-11, 12	J9-11, 12
	J14-7	J11-17, 18	J11-17, 18	J11-11, 12	J11-11, 12
		J12-17, 18	J12-17, 18	J12-11, 12	J12-11, 12
		J13-9	J13-9	J13-5	J13-5
		J14-9	J14-9	J14-5	J14-5

A15
POWER SUPPLY (SECONDARIES)
OPTION 1
Page 2 of 2
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A15 POWER SUPPLY
(SECONDARIES) B010001 to B010318



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C102F	D-2	A-1	DS222F	E-3	B-2	R431	C-1	D-3
C110F	D-2	A-1	L302F	E-4	A-2	R432	C-1	D-3
C111F	D-2	A-1	L304F	E-4	A-3	R440	D-1	D-3
C120F	D-2	B-1	L311F	E-4	B-2	R501	E-3	F-4
C240F	B-1	C-2	L312F	E-4	B-2	R502	D-3	F-4
C300F	E-4	A-2	L313F	E-6	B-3	R503	F-3	F-4
C301	A-3	F-3	L314F	E-6	B-3	R504	G-3	F-4
C301F	F-4	A-2	L410F	E-5	A-3	R508	H-2	F-4
C309F	D-2	A-2	L412F	E-5	A-3	R526	H-2	F-4
C304F	C-2	A-2	L424F	E-5	B-3	R527	G-2	F-5
C320	B-2	F-3	L425F	E-5	B-3	R528	F-3	F-5
C320F	E-3	B-2	L427F	E-4	A-4	R529	G-2	E-5
C321F	D-3	B-2	L428F	E-5	B-4	R560	D-6	C-4
C322F	D-4	B-2	L429F	F-5	B-4	R566	F-6	C-4
C323F	E-3	B-2	L432F	G-5	B-4	R635	A-2	D-4
C338F	E-6	B-3	L523F	F-4	B-4	R636	A-2	D-5
C339F	E-6	B-3	Q307	C-2	F-3	R660	F-6	C-4
C400F	E-4	A-3	Q308	C-3	F-3	R662	G-6	C-4
C401F	F-4	A-3	Q314	B-2	F-3	R670	F-6	B-5
C406	C-3	F-3	Q341	C-1	D-2	R671	D-6	B-4
C411F	F-5	A-4	Q564	F-6	C-4	R680	D-6	B-4
C413F	F-5	A-4	Q565	F-6	C-4	R681	A-5	B-5
C414	B-3	F-3	Q704	H-2	F-6	R700	I-1	F-5
C419F	C-2	A-3	Q706	H-2	F-6	R702	H-1	F-5
C426F	E-5	A-3	Q708	H-2	F-6	R703	H-1	F-5
C430F	E-5	B-3	Q711	I-2	F-6	R705	I-2	F-6
C431F	F-5	B-4	Q712	I-2	F-6	R710	I-1	F-5
C433F	G-5	B-4	Q722	I-4	E-6	R714	H-3	E-5
C500F	D-3	A-4	Q724	I-5	E-6	R720	I-4	E-5
C502F	F-3	A-4	Q732	H-4	E-6	R721	I-4	E-5
C505F	G-2	A-4	Q740	A-1	D-7	R723	H-4	E-6
C512F	E-4	A-4	Q823	I-5	E-6	R730	H-4	E-5
C522F	E-5	B-4	Q833	G-5	E-6	R731	I-4	E-5
C524F	F-4	B-4	Q834	H-4	E-6	R733	H-4	E-6
C530F	F-4	B-4	Q933	G-1	D-7	R740	A-1	D-7
C563	D-6	C-4	Q934	G-1	D-7	R741	A-1	D-7
C601	G-2	E-5	R103	D-2	F-1	R781	B-3	B-5
C602	F-3	E-5	R104	D-2	F-1	R782	B-3	B-5
C663	G-6	C-5	R105	D-1	F-1	R783	B-3	B-5
C701F	I-1	A-5	R106	D-1	F-1	R784	B-3	B-5
C702	H-1	F-5	R107	D-1	F-1	R785	B-3	B-5
C725	H-4	E-6	R121F	D-2	B-1	R790	A-4	A-5
C732	H-3	D-5	R203	D-2	F-1	R791	A-4	A-5
C805	I-3	F-6	R207	D-1	F-1	R792	A-4	A-5
C815	J-5	F-6	R208	D-1	F-1	R793	A-4	A-5
C816	J-6	F-6	R209	D-1	F-1	R794	A-4	A-5
C821	I-5	E-6	R210	D-2	E-1	R800	H-2	F-6
C826	H-5	E-6	R211	D-2	E-1	R801	H-2	F-6
C831	H-5	E-6	R223	D-2	B-1	R803	I-4	F-6
C914	J-5	E-7	R224	E-2	E-1	R804	H-3	F-6
C932	H-5	E-7	R225	E-3	E-1	R809	J-2	F-7
C938	G-1	D-7	R226	E-4	E-1	R810	I-2	F-6
CR122F	E-2	B-1	R306	C-2	F-3	R811	I-2	F-6
CR227F	E-2	B-1	R315	C-2	F-3	R812	J-2	F-6
CR323	E-4	E-2	R316	B-2	F-3	R813	I-2	F-6
CR325	D-4	E-2	R317	C-2	F-3	R814	I-2	F-6
CR411F	D-3	A-3	R318	C-2	F-2	R817	J-5	E-6
CR412F	D-3	A-3	R319	C-2	F-2	R820	I-5	E-6
CR415	B-3	F-3	R320	B-2	F-2	R822	I-4	E-6
CR420	D-4	E-3	R321	B-2	F-3	R824	I-5	E-6
CR420F	E-6	B-3	R322	D-3	E-2	R825	H-5	E-6
CR421	D-3	E-3	R324	D-3	E-2	R828	H-5	E-6
CR421F	E-5	B-3	R331	C-1	D-2	R830	H-5	E-6
CR422F	D-5	B-3	R332	C-1	D-2	R832	H-4	E-6
CR520	E-4	E-4	R340	C-1	D-2	R834	G-5	E-6
CR521	E-5	E-4	R342	C-1	D-2	R900	J-4	F-6
CR522	F-4	E-4	R343	C-1	D-3	R901	J-2	F-7
CR524	F-5	E-4	R407	C-3	F-3	R903	I-4	F-7
CR562	D-5	C-4	R408	B-2	F-3	R912	J-5	F-7
CR661	G-6	C-4	R409	B-3	F-3	R913	J-5	F-7
CR707	I-1	F-6	R416	B-2	F-3	R917	J-5	E-6
CR806	I-2	F-6	R417	C-2	F-3	R920	J-5	E-7
DS220F	E-2	B-1	R420	B-2	F-3	R921	I-5	E-6
DS221F	E-2	B-1	R430	D-1	D-3	R931	H-5	E-6

NOTE: The letter F following a circuit number indicates that the component is located on the front of the board.
The rest of the components are located on the back of the board.

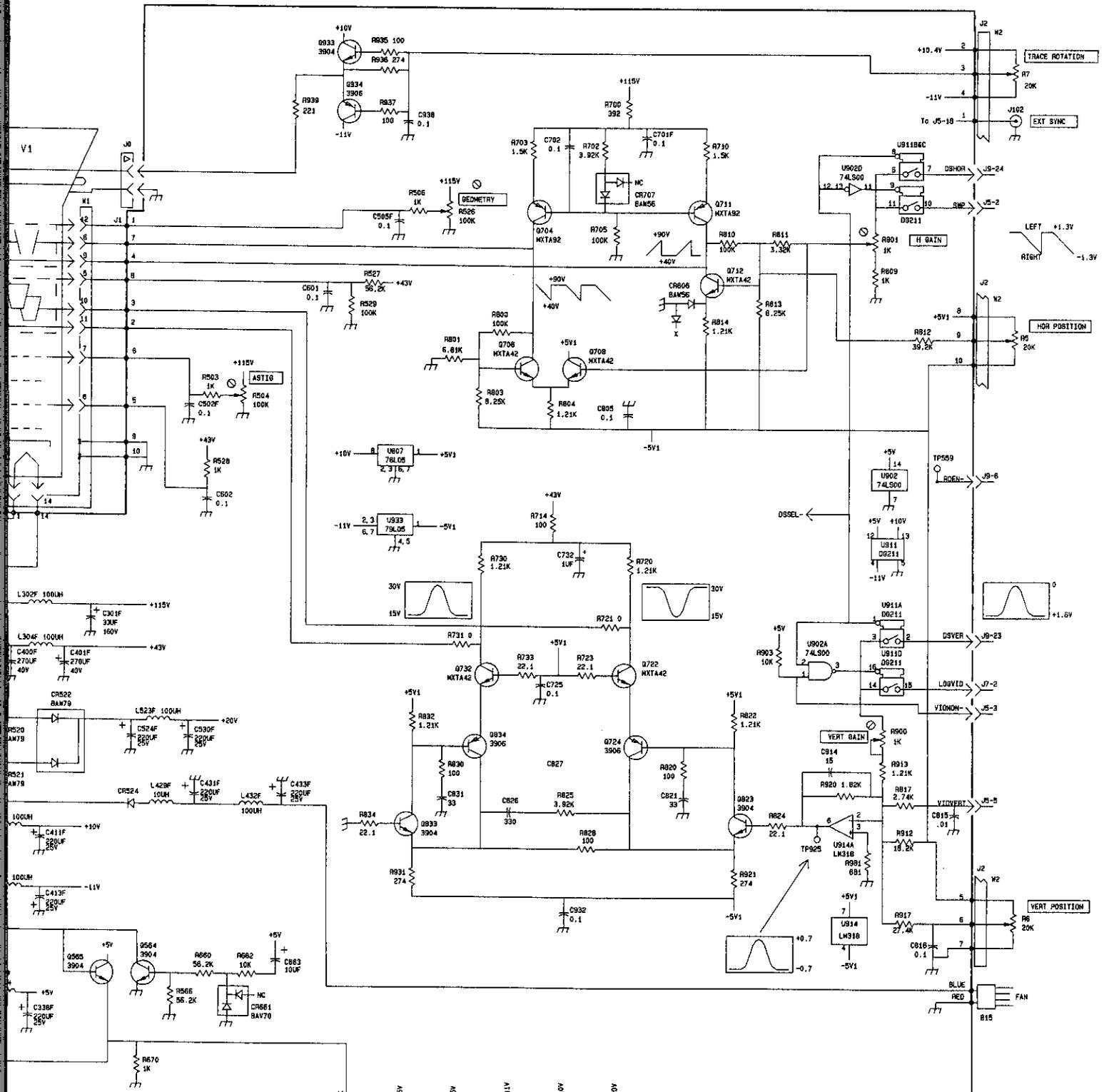
A15 POWER SUPPLY 
 (SECONDARIES)
 B010001 to B010318 (Continued)

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
R935	G-1	D-7
R936	G-1	D-7
R937	G-1	D-7
R939	G-1	D-7
T430F	D-3	C-2
TP418	D-3	F-3
TP559	J-3	C-5
TP925	J-5	E-7
U130F	C-2	B-1
U330	B-1	D-2
U330A	C-1	D-2
U590	A-5	A-4
U634	B-1	E-4
U634A	A-1	E-4
U634B	A-2	E-4
U634C	A-2	E-4
U634C	A-2	E-4
U634D	B-2	E-4
U750A	A-5	C-5
U750B	B-5	C-5
U750C	B-5	C-5
U750D	B-5	C-5
U750F	A-5	C-5
U760	B-6	C-5
U761	C-3	C-5
U761A	B-4	C-5
U761B	B-4	C-5
U761D	C-4	C-5
U761D	C-4	C-5
U771	B-5	B-5
U780	A-5	B-5
U807	G-3	F-7
U902	J-3	F-7
U902A	J-4	F-7
U902D	J-1	F-7
U911	J-3	F-7
U911A	J-4	F-7
U911B&C	J-1	F-7
U911D	J-4	F-7
U914	J-5	F-7
U914A	J-5	F-7
U933	G-3	E-7

NOTE: The letter F following a circuit number indicates that the component is located on the front of the board. The rest of the components are located on the back of the board.

S14 SN B010001 - B010318
 SHT. 2 OF 2

F | G | H | I | J



(B010001 TO B010318)

V/b

+5V	J10-4	J5-5
+5V	J9-13, 14	J10-13, 14
+5V	J4-7	J5-13
+5V	J7-13, 14	J8-14
+5V	J8-13, 14	J12-13, 14
+5V	J14-7	
+5V	J4-8	J5-17
+5V	J6-12	J6-13
+5V	J7-17, 18	J7-11, 12
+5V	J8-17, 18	J8-11, 12
+5V	J9-17, 18	J9-11, 12
+5V	J11-17, 18	J11-11, 12
+5V	J12-17, 18	J12-11, 12
+5V	J13-9	J13-8
+5V	J14-9	J14-8

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 POWER SUPPLY (SECONDARIES)
 670-9414-00
 Page 2 of 2
 10-13-87 VERSION G

REPLACEABLE MECHANICAL PARTS

PARTS ORDERING INFORMATION

Replacement parts are available from or through your local Tektronix, Inc. Field Office or representative.

Changes to Tektronix instruments are sometimes made to accommodate improved components as they become available, and to give you the benefit of the latest circuit improvements developed in our engineering department. It is therefore important, when ordering parts, to include the following information in your order: Part number, instrument type or number, serial number, and modification number if applicable.

If a part you have ordered has been replaced with a new or improved part, your local Tektronix, Inc. Field Office or representative will contact you concerning any change in part number.

Change information, if any, is located at the rear of this manual.

ITEM NAME

In the Parts List, an Item Name is separated from the description by a colon (:). Because of space limitations, an Item Name may sometimes appear as incomplete. For further Item Name identification, the U.S. Federal Cataloging Handbook H6-1 can be utilized where possible.

FIGURE AND INDEX NUMBERS

Items in this section are referenced by figure and index numbers to the illustrations.

INDENTATION SYSTEM

This mechanical parts list is indented to indicate item relationships. Following is an example of the indentation system used in the description column.

```

1 2 3 4 5           Name & Description
Assembly and/or Component
Attaching parts for Assembly and/or Component
    **** END ATTACHING PARTS ****
Detail Part of Assembly and/or Component
Attaching parts for Detail Part
    **** END ATTACHING PARTS ****
Parts of Detail Part
Attaching parts for Parts of Detail Part
    **** END ATTACHING PARTS ****
  
```

Attaching Parts always appear in the same indentation as the item it mounts, while the detail parts are indented to the right. Indented items are part of, and included with, the next higher indentation. The separation symbol --- * --- indicates the end of attaching parts.

ABBREVIATIONS

#	INCH	ELCTRN	ELECTRON	IN	INCH	SE	SINGLE END
ACTR	NUMBER SIZE	ELEC	ELECTRICAL	INCAND	INCANDESCENT	SECT	SECTION
ADPTR	ACTUATOR	ELCTLT	ELECTROLYTIC	INSUL	INSULATOR	SEMICON	SEMICONDUCTOR
ALIGN	ADAPTER	ELEM	ELEMENT	INTL	INTERNAL	SHLD	SHIELD
AL	ALIGNMENT	EPL	ELECTRICAL PARTS LIST	LPHLDR	LAMPHOLDER	SHLDR	SHOULDERED
AL	ALUMINUM	EQPT	EQUIPMENT	MACH	MACHINE	SKT	SOCKET
ASSEM	ASSEMBLED	EXT	EXTERNAL	MECH	MECHANICAL	SL	SLIDE
ASSY	ASSEMBLY	FIL	FILLISTER HEAD	MTG	MOUNTING	SLFLKG	SELF-LOCKING
ATTEN	ATTENUATOR	FLEX	FLEXIBLE	NIP	NIPPLE	SLVG	SLEEVING
AWG	AMERICAN WIRE GAGE	FLH	FLAT HEAD	NON WIRE	NOT WIRE WOUND	SPR	SPRING
BD	BOARD	FLTR	FILTER	OBD	ORDER BY DESCRIPTION	SQ	SQUARE
BRKT	BRACKET	FR	FRAME or FRONT	OD	OUTSIDE DIAMETER	SST	STAINLESS STEEL
BRS	BRASS	FSTNR	FASTENER	OVH	OVAL HEAD	STL	STEEL
BRZ	BRONZE	FT	FOOT	PH BRZ	PHOSPHOR BRONZE	SW	SWITCH
BSHG	BUSHING	FXD	FIXED	PL	PLAIN or PLATE	T	TUBE
CAB	CABINET	GSKT	GASKET	PLSTC	PLASTIC	TERM	TERMINAL
CAP	CAPACITOR	HDL	HANDLE	PN	PART NUMBER	THD	THREAD
CER	CERAMIC	HEX	HEXAGON	PNH	PAN HEAD	THK	THICK
CHAS	CHASSIS	HEX HD	HEXAGONAL HEAD	PWR	POWER	TNSN	TENSION
CKT	CIRCUIT	HEX SOC	HEXAGONAL SOCKET	RCPT	RECEPTACLE	TPG	TAPPING
COMP	COMPOSITION	HLCPS	HELICAL COMPRESSION	RES	RESISTOR	TRH	TRUSS HEAD
CONN	CONNECTOR	HLEXT	HELICAL EXTENSION	RGD	RIGID	V	VOLTAGE
COV	COVER	HV	HIGH VOLTAGE	RLF	RELIEF	VAR	VARIABLE
CPLG	COUPLING	IC	INTEGRATED CIRCUIT	RTNR	RETAINER	W/	WITH
CRT	CATHODE RAY TUBE	ID	INSIDE DIAMETER	SCH	SOCKET HEAD	WSHR	WASHER
DEG	DEGREE	IDENT	IDENTIFICATION	SCOPE	OSCILLOSCOPE	XFMR	TRANSFORMER
DWR	DRAWER	IMPLR	IMPELLER	SCR	SCREW	XSTR	TRANSISTOR

Replaceable Mechanical Parts - 2710

CROSS INDEX - MFR. CODE NUMBER TO MANUFACTURER

Mfr. Code	Manufacturer	Address	City, State, Zip Code
01536	TEXTRON INC CAMCAR DIV SEMS PRODUCTS UNIT	1818 CHRISTINA ST	ROCKFORD IL 61108
02768	ILLINOIS TOOL WORKS INC FASTEX DIVISION	195 ALGONQUIN ROAD	DES PLAINES IL 60016-6103
04963	MINNESOTA MINING AND MFG CO ADHESIVES COATINGS AND SEALERS DIV	3M CENTER	ST PAUL MN 55101-1428
06383	PANDUIT CORP	17301 RIDGELAND	TINLEY PARK IL 07094-2917
06915	RICHO PLASTIC CO	5825 N TRIPP AVE	CHICAGO IL 60646-6013
09772	WEST COAST LOCKWASHER CO INC	16730 E JOHNSON DRIVE P O BOX 3588	CITY OF INDUSTRY CA 91744
12327	FREEWAY CORP	9301 ALLEN DR	CLEVELAND OH 44125-4632
12360	ALBANY FASTENERS PAWTUCKET FASTERNER DIV	327 PINE ST PO BOX 879	PAWTUCKET RI 02862
13103	THERMALLOY CO INC	2021 W VALLEY VIEW LN PO BOX 810839	DALLAS TX 75381
13511	AMPHENOL CADRE DIV BUNKER RAMO CORP		LOS GATOS CA
16428	COOPER BELDEN ELECTRONIC WIRE AND CA SUB OF COOPER INDUSTRIES INC	NW N ST	RICHMOND IN 47374
18565	CHOMERICS INC	77 DRAGON COURT	WOBURN MA 01801-1039
23740	AMUNEL MFG CORP	4737 DARRAH	PHILADELPHIA PA 19124-2705
24931	SPECIALTY CONNECTOR CO INC	2100 EARLYWOOD DR PO BOX 547	FRANKLIN IN 46131
52750	ALAN INDUSTRIES INC	745 GREENWARY DR PO BOX 1203	COLUMBUS IN 47202-2210
70903	COOPER BELDEN ELECTRONICS WIRE AND C SUB OF COOPER INDUSTRIES INC	2000 S BATAVIA AVE	GENEVA IL 60134-3325
71279	INTERCONNECTION PRODUCTS INC	2601 S GARNSEY ST	SANTA ANA CA 92707-3338
71838	SPS TECHNOLOGIES INC AIPD	4444 LEE RD	CLEVELAND OH 44128-2902
73743	FISCHER SPECIAL MFG CO	111 INDUSTRIAL RD	COLD SPRING KY 41076-9749
77900	ILLINOIS TOOL WORKS SHAKEPROOF DIV	ST CHARLES RD	ELGIN IL 60120
78189	ILLINOIS TOOL WORKS INC SHAKEPROOF DIV	ST CHARLES ROAD	ELGIN IL 60120
80009	TEKTRONIX INC	14150 SW KARL BRAUN DR PO BOX 500	BEAVERTON OR 97707-0001
80112	G. C. ELECTRONICS COMPANY, A DIVISIO N OF HYDROMETALS, INC.	3225 EXPOSITION PLACE	LOS ANGELES, CA 90018
83385	MICRODOT MFG INC GREER-CENTRAL DIV	3221 W BIG BEAVER RD	TROY MI 48098
86113	MICRODOT MFG INC CENTRAL SCREW-KEENE DIV	149 EMERALD ST	KEENE NH 03431-3628
86928	SEASTROM MFG CO INC	701 SONORA AVE	GLENDALE CA 91201-2431
93907	TEXTRON INC CAMCAR DIV	600 18TH AVE	ROCKFORD IL 61108-5181
95987	BRADY/WECKESSER MFG CO	4444 WEST IRVING PARK RD	CHICAGO IL 60641
S3109	FELLER	ASA ADOLF AG STOTZWEID CH8810	HORGEN SWITZERLAND
S3629	SCHURTER AG H C/O PANEL COMPONENTS CORP	2015 SECOND STREET	BERKELEY CA 94170
TK0174	BADGLEY MFG CO	1620 NE ARGYLE	PORTLAND OR 97211
TK0428	DLB INDUSTRIES		FRESNO CA
TK0435	LEWIS SCREW CO	4300 S RACINE AVE	CHICAGO IL 60609-3320
TK0456	ARROW FASTERNERS INC	2112 AMERICAN AVE	HAYWARD CA 94545
TK0858	STAUFFER SUPPLY CO (DIST)	810 SE SHERMAN	PORTLAND OR 97214
TK0861	H SCHURTER AG DIST PANEL COMPONENTS	2015 SECOND STREET	BERKELEY CA 94170
TK0EI	HIBBERTS & RICHARDS UNIT A	LANCASTER ROAD NEW BARNET	HERTS ENGLAND
TK1154	COMPLEX TOOLING INC	4635 NAUTILUS COURT SOUTH	BOULDER CO 80301
TK1326	NORTHWEST FOURSIDE INC	18224 SW 100TH CT	TUALATIN OR 97062
TK1336	PARSONS MFG CORP	1055 OBRIEN	MENLO PARK CA 94025
TK1373	PATELEC-CEM (ITALY)	10156 TORINO	VAICENTALLO 62/455 ITALY
TK1452	SHELLEY-RAGON INC (DIST)	919 SW 150TH	SEATTLE WA 98166-1829
TK2165	TRIQUEST CORP	3000 LEWIS AND CLARK HWY	VANCOUVER WA 98661-2999

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Fig. & Index No.	Tektronix Part No.	Serial/Assembly No.		Qty	12345 Name & Description	Mfr.	
		Effective	Discont			Code	Mfr. Part No.
1-1	334-6524-00			1	OVERLAY, FR PNL:POLYCARBONATE	80009	334-6524-00
-2	348-0659-00			2	FOOT,CABINET:BLACK POLYURETHANE	80009	348-0659-00
-3	348-0991-00			4	FOOT,CABINET:FRONT,MOLDED BLACK POLYURETHEN E (ATTACHING PARTS)	80009	348-0991-00
-4	211-0691-00			4	SCREW,MACHINE:6-32 X 0.625,PNH,STL (END ATTACHING PARTS)	TK0858	ORDER BY DESCR
-5	367-0289-00			1	HANDLE,CARRYING:13.855,SST (ATTACHING PARTS)	80009	367-0289-00
-6	212-0144-00			2	SCREW,TPG,TF:8-16 X 0.562 L,PLASTITE,SPCL H D (END ATTACHING PARTS)	93907	225-38131-012
-7	390-0982-00			1	CAB.,WRAPAROUND:ALUMINUM	80009	390-0982-00
-8	348-0990-00			2	FOOT,CABINET:REAR,MOLDED BLACK POLYURETHENE (ATTACHING PARTS)	80009	348-0990-00
-9	211-0658-00			4	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ (END ATTACHING PARTS)	78189	S51-060545-0X
-10	334-6639-00			1	MARKER,IDENT:BLANK	80009	334-6639-00
-11	334-6639-00			1	MARKER,IDENT:BLANK	80009	334-6639-00
-12	211-0121-00			2	SCR,ASSEM WSHR:4-40 X 0.438,PNH,BRS	93907	ORDER BY DESCR

FIG. 1 CABINET

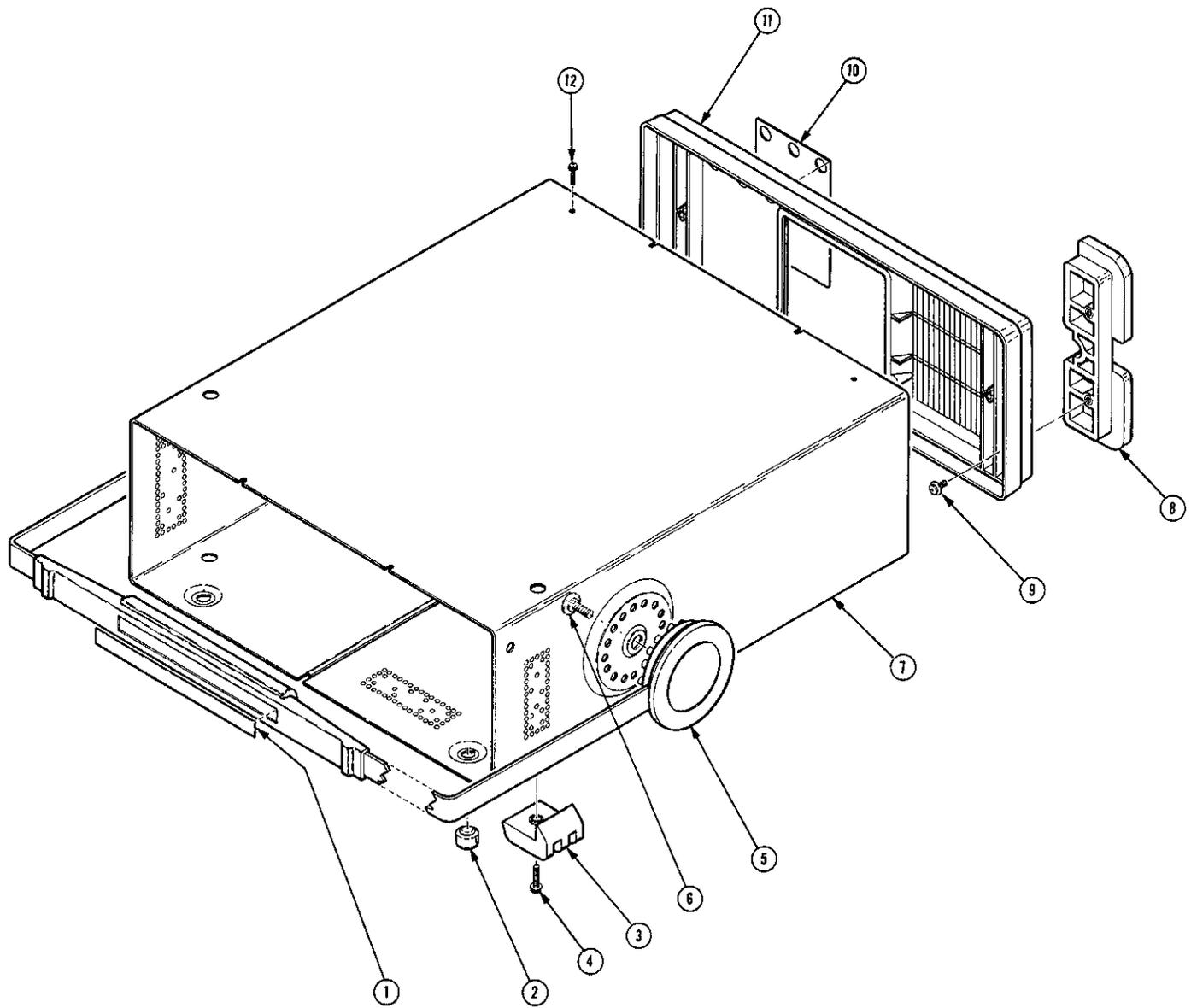


FIG. 2 CHASSIS
 SN 8010001 - 8010318
 SHT. 1 OF 2

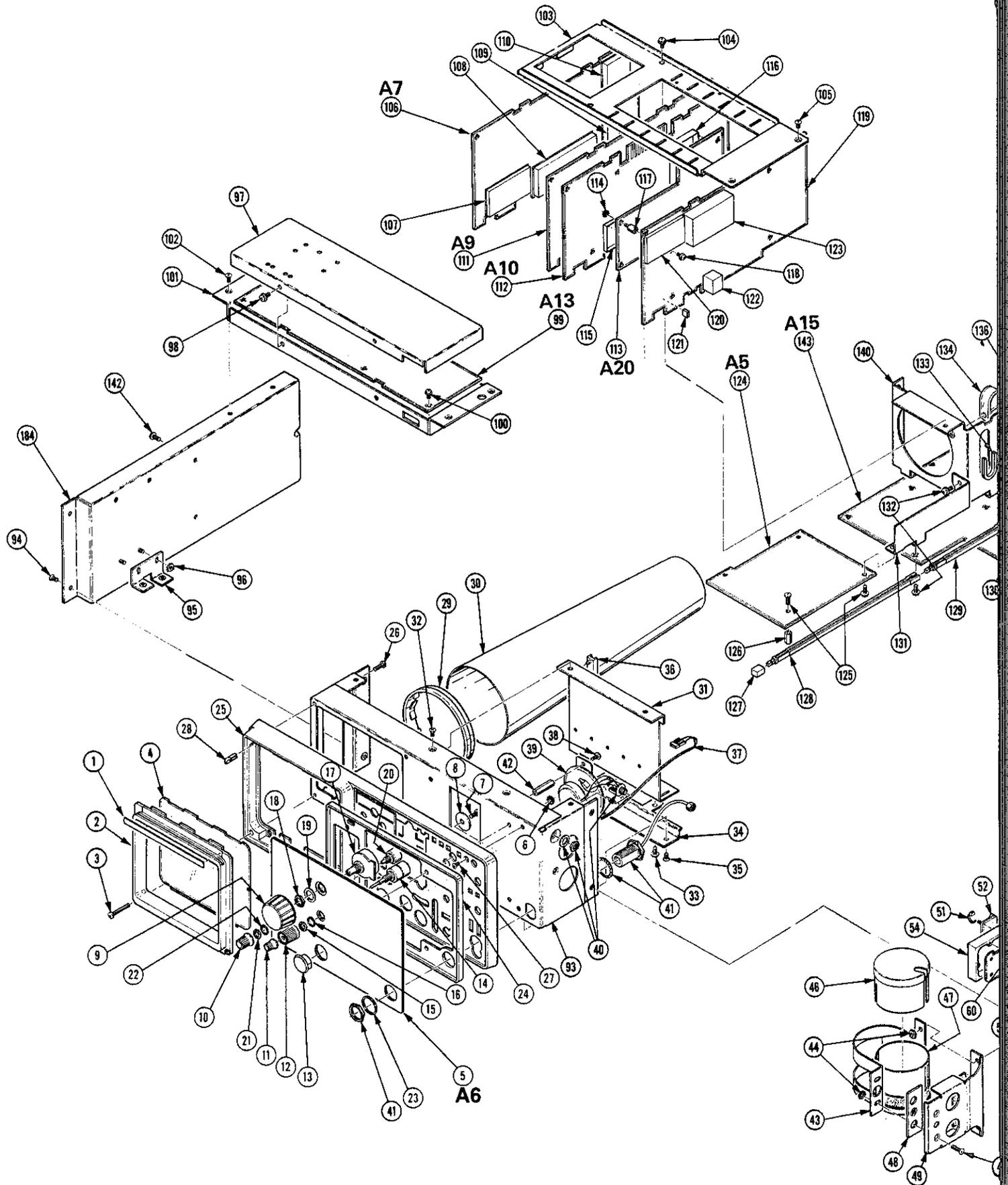
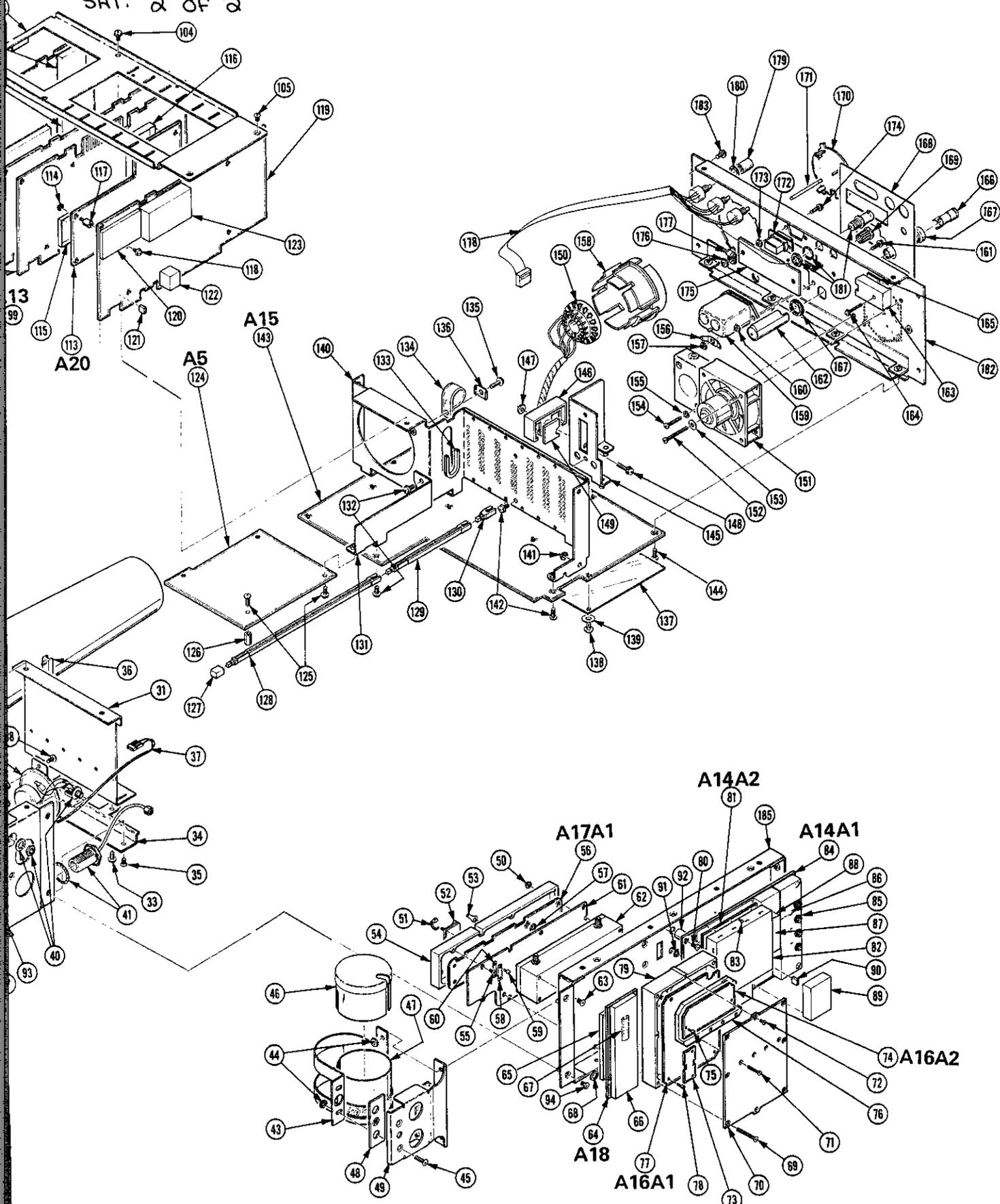


FIG. 2 CHASSIS
SN B010001 - B010318
SHT. 2 OF 2



REV MAY 1988

Replaceable Mechanical Parts - 2710

Fig. & Index No.	Tektronix Part No.	Serial/Assembly No.		Qty	12345 Name & Description	Mfr.	
		Effective	Discont			Code	Mfr. Part No.
2-1	334-6928-00			1	MARKER, IDENT: BLANK	80009	334-6928-00
-2	426-1765-02			1	FRAME, CRT: POLYCARBONATE, GRAY (ATTACHING PARTS)	TK2165	ORDER BY DESCR
-3	211-0690-01			2	SCREW, MACHINE: 6-32 X 0.875 PNH, SST (END ATTACHING PARTS)	86113	ORDER BY DESCR
-4	337-2775-00			1	SHLD, IMPLSION: FILTER, BLUE	80009	337-2775-00
-5	-----			1	CKT BOARD ASSY: FRONT PANEL (SEE A6 REPL) (ATTACHING PARTS)		
-6	210-0457-00			4	NUT, PL, ASSEM WA: 6-32 X 0.312, STL CD PL	78189	511-061800-00
-7	211-0658-00			1	SCR, ASSEM WSHR: 6-32 X 0.312, PNH, STL, POZ	78189	S51-060545-0X
-8	210-0993-00			1	WASHER, FLAT: 0.143 ID X 0.75 OD X 0.051, BRS (END ATTACHING PARTS)	86928	ORDER BY DESCR
-9	366-1782-02			1	.SHELL, KNOB: MOLDED PLASTIC	80009	366-1782-02
-10	366-1708-00			1	.KNOB: SIL GY, 0.127 ID X 0.5 OD X 0.531 H	80009	366-1708-00
-11	366-1696-01			1	.KNOB: GRAY, 0.82 ID X 0.588 OD X 0.6 H	80009	366-1696-01
-12	366-1326-01			1	.KNOB: GRAY, 0.127 ID X 0.588 OD X 0.6 H	80009	366-1326-01
-13	200-3416-00			1	.COVER, TG PORT: PLASTIC	80009	200-3416-00
-14	-----			1	.RESISTOR, VAR: (SEE A6R460 REPL) (ATTACHING PARTS)		
-15	210-0583-00			1	.NUT, PLAIN, HEX: 0.25-32 X 0.312, BRS CD PL	73743	2X-20319-402
-16	210-0046-00			1	WASHER, LOCK: 0.261 ID, INTL, 0.018 THK, STL (END ATTACHING PARTS)	77900	1214-05-00-0541C
-17	-----			1	.ENCODER, DIGITAL: (SEE SW260 REPL) (ATTACHING PARTS)		
-18	210-0590-00			1	.NUT, PLAIN, HEX: 0.375-32 X 0.438 BRS CD PL	73743	28269-402
-19	210-0994-00			1	WASHER, FLAT: 0.125 ID X 0.25 OD X 0.022, STL (END ATTACHING PARTS)	86928	A371-283-20
-20	-----			1	.RESISTOR, VAR: (SEE A6R680 REPL) (ATTACHING PARTS)		
-21	210-0583-00			1	.NUT, PLAIN, HEX: 0.25-32 X 0.312, BRS CD PL	73743	2X-20319-402
-22	210-0046-00			1	WASHER, LOCK: 0.261 ID, INTL, 0.018 THK, STL (END ATTACHING PARTS)	77900	1214-05-00-0541C
-23	210-1010-00			1	WASHER, FLAT: 0.643 ID X 0.875 OD X 0.02, BRS	83385	ORDER BY DESCR
-24	101-0112-00			1	TRIM, CRT SCALE: POLYCARBONATE	80009	101-0112-00
-25	386-5387-00			1	SUBPANEL, FRONT: POLYCARBONATE (ATTACHING PARTS)	80009	386-5387-00
-26	213-0882-00			2	SCREW, TPG, TR: 6-32 X 0.437 TAPTITE, PNH, STL	83385	ORDER BY DESCR
-27	211-0541-00			2	SCREW, MACHINE: 6-32 X 0.25, FLH, 100 DEG, STL (END ATTACHING PARTS) FRONT SUBPANEL INCLUDES:	93907	ORDER BY DESCR
-28	348-0660-00			4	.CUSHION, CRT: POLYURETHANE	80009	348-0660-00
-29	386-4443-00			1	SUPPORT, SHIELD: CRT, FRONT, PLASTIC	80009	386-4443-00
-30	337-2774-00			1	SHIELD, ELEC: CRT, STEEL	23740	C-2059
-31	441-1707-00			1	CHAS, INTER FR: ALUMINUM (ATTACHING PARTS)	80009	441-1707-00
-32	211-0541-00			2	SCREW, MACHINE: 6-32 X 0.25, FLH, 100 DEG, STL	93907	ORDER BY DESCR
-33	211-0658-00			2	SCR, ASSEM WSHR: 6-32 X 0.312, PNH, STL, POZ (END ATTACHING PARTS)	78189	S51-060545-0X
-34	407-3511-00			1	BRACKET, MTG: FRONT INTERCONNECT (ATTACHING PARTS)	80009	407-3511-00
-35	211-0541-00			2	SCREW, MACHINE: 6-32 X 0.25, FLH, 100 DEG, STL (END ATTACHING PARTS)	93907	ORDER BY DESCR
-36	351-0303-00			12	GUIDE, CKT BOARD: T4002A, POLYCARBONATE, SILVER GRAY	80009	351-0303-00
-37	-----			1	CA ASSY, SP, ELEC: (SEE W25 REPL) (ATTACHING PARTS)		
-38	211-0121-00			2	SCR, ASSEM WSHR: 4-40 X 0.438, PNH, BRS (END ATTACHING PARTS) CABLE ASSY INCLUDES:	93907	ORDER BY DESCR
-39	-----			1	.LOUDSPEAKER, PM: (SEE LS103 REPL)		
-40	-----			1	.JACK, TELEPHONE: (SEE J102 REPL)		
-41	174-0199-00			1	CA ASSY, SP, ELEC: SEMI-RIGID	80009	174-0199-00
-42	129-0744-00			2	SPACER, POST: 0.875 L, 4-40 BOTH ENDS, AL	80009	129-0744-00
-43	343-1260-00			1	CLAMP, YIG: SST (ATTACHING PARTS)	80009	343-1260-00
-44	210-0457-00			4	NUT, PL, ASSEM WA: 6-32 X 0.312, STL CD PL	78189	511-061800-00
-45	211-0512-00			2	SCREW, MACHINE: 6-32 X 0.5, FLH, 100 DEG, STL (END ATTACHING PARTS)	TK0435	ORDER BY DESCR

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Fig. & Index No.	Tektronix Part No.	Serial/Assembly No.		Qty	12345 Name & Description	Mfr.	
		Effective	Discont			Code	Mfr. Part No.
2-46	337-3436-00			1	SHIELD, ELEC: YIG, TOP	80009	337-3436-00
-47	333-3437-00			1	PANEL, REAR: 11K REGULATOR MTG PANEL	80009	333-3437-00
-48	386-5565-00			1	SUBPANEL, FRONT:	80009	386-5565-00
-49	352-0797-00			1	HOLDER, YIG: SST	80009	352-0797-00
	-----			1	YIG BUFFER ASSY: (SEE A17 REPL) (ATTACHING PARTS)		
-50	210-0586-00			2	NUT, PL, ASSEM WA: 4-40 X 0.25, STL CD PL (END ATTACHING PARTS) YIG BUFFER ASSY INCLUDES:	78189	211-041800-00
-51	343-0549-00	B010000	B010037	2	.STRAP, TIEDOWN, E: 0.091 W X 4.0 L, ZYTEL	06383	PLTIM
	343-0549-00	B010038		1	.STRAP, TIEDOWN, E: 0.091 W X 4.0 L, ZYTEL	06383	PLTIM
-52	352-0482-00			2	.HOLDER, CA TIE: 0.75 SQ, STICKY BACK, PLASTIC	06383	ABMM-AT-D
-53	210-0206-00			1	.TERMINAL, LUG: 0.2 ID, LOCKING, BRZ TINNED	86928	A373-147-1
-54	380-0811-00	B010001	B010034	1	.HSG, YIG BUFFER: ALUMINUM	80009	380-0811-00
	380-0811-01	B010035		1	.HOUSING, YIG BFR: ALUMINUM (ATTACHING PARTS)	80009	380-0811-01
-55	211-0087-01	B010001	B010034	7	.SCREW, MACHINE: 2-56 X 0.188, FLH, 82 DEG, STL	TK0435	ORDER BY DESCR
	211-0162-00	B010035		7	.SCREW, MACHINE: 2-56 X 0.188, SCH, SST (END ATTACHING PARTS)	TK0428	ORDER BY DESCR
-56	-----			1	.CKT BOARD ASSY: YIG BUFFER (SEE A17A1 REPL)		
-57	210-1002-00			3	.WASHER, FLAT: 0.125 ID X 0.25 OD X 0.022 (ATTACHING PARTS)	86928	5714-147-20N
-58	343-0587-00			2	.RTNR, MICROCKT: CU BE	80009	343-0587-00
-59	211-0650-00			4	.SCREW, CAP: 0-80 X 0.187, SCH, SST PSVT, HEX REC (END ATTACHING PARTS)	71838	20098-90F-3
-60	361-1385-00			2	.SHIM: CHEM MILLED BRASS	80009	361-1385-00
-61	200-3421-00	B010001	B010034	1	.COVER, CKT BD: ALUMINUM, 2710	80009	200-3421-00
	200-3421-01	B010035		1	.COVER, CKT BD: ALUMINUM	80009	200-3421-01
-62	-----			1	1ST IF FILTER: (SEE FL17 REPL) (ATTACHING PARTS)		
-63	211-0541-00			4	SCREW, MACHINE: 6-32 X 0.25, FLH, 100 DEG, STL (END ATTACHING PARTS)	93907	ORDER BY DESCR
-64	-----			1	CKT BOARD ASSY: ATTENUATOR (SEE A18 REPL)		
-65	337-3311-00			1	.SHIELD, ELEC: CIRCUIT BD	80009	337-3311-00
-66	337-3383-00			1	.SHIELD, ELEC: CIRCUIT BOARD	80009	337-3383-00
-67	348-0235-00			1	.SHLD GSKT, ELEK: FINGER TYPE, 4.734 L	80009	348-0235-00
-68	210-0940-00			4	WASHER, FLAT: 0.25 ID X 0.375 OD X 0.02, STL	12327	ORDER BY DESCR
	-----			1	1ST CONVERTER ASSY: (SEE A16 REPL)		
	361-1472-00	B010001	B010318	4	SPACER, SLEEVE: 0.235 L X 0.255 ID, AL (ATTACHING PARTS)	80009	361-1472-00
-69	211-0031-00			4	SCREW, MACHINE: 4-40 X 1.0, FLH, 100 DEG, STL (END ATTACHING PARTS)	83385	ORDER BY DESCR
	-----				1ST CONVERTER ASSY INCLUDES:		
-70	200-3411-00	B010000	B010034	1	.COVER, 1ST CONN: ALUMINUM	80009	200-3411-00
	200-3411-01	B010035		1	.COVER CONV: 1ST, ALUMINUM (ATTACHING PARTS)	80009	200-3411-01
-71	213-0202-00			4	.SCREW, MACHINE: 2-56 X 0.625, FLH 100 DEG	83385	ORDER BY DESCR
-72	211-0087-00	B010001	B010034	4	.SCREW, MACHINE: 2-56 X 0.188, FLH, 82 DEG	TK0435	ORDER BY DESCR
	211-0162-00	B010035		26	.SCREW, MACHINE: 2-56 X 0.188, SCH, SST (END ATTACHING PARTS)	TK0428	ORDER BY DESCR
-73	388-9483-00			2	.CIRCUIT BOARD: COUPLER FOR FIRST CONVERTER	80009	388-9483-00
-74	-----			1	.CKT BOARD ASSY: RF INPUT (SEE A16A2 REPL) (ATTACHING PARTS)		
-75	211-0265-00			14	.SCREW, CAP: 2-56 X 0.375, SCH, SST (END ATTACHING PARTS)	83385	ORDER BY DESCR
-76	386-5560-00			1	.SUPPORT, CKT BD: (ATTACHING PARTS)	80009	386-5560-00
	210-0265-00	B010001	B010266	1	.TERMINAL, LUG: 0.375 X 0.093, BRASS	80009	210-0265-00
	210-0278-00	B010267		1	.TERMINAL, LUG:	80009	210-0278-00
	210-0053-00	B010267		1	.WASHER, LOCK: #2 SPLIT, 0.02 THK STL (END ATTACHING PARTS)	78189	ORDER BY DESCR
-77	-----			1	.CKT BOARD ASSY: 1ST CONV MOTHER (SEE A16A1 REPL) (ATTACHING PARTS)		
-78	211-0265-00			4	.SCREW, CAP: 2-56 X 0.375, SCH, SST (END ATTACHING PARTS)	83385	ORDER BY DESCR
-79	380-0841-00	B010000	B010034	1	.HSG, 1ST CONV:	80009	380-0841-00
	380-0841-01	B010035		1	.HOUSING, CONV: 1ST	80009	380-0841-01

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Fig. & Index No.	Tektronix Part No.	Serial/Assembly No.		Qty	12345 Name & Description	Mfr.	
		Effective	Discount			Code	Mfr. Part No.
2-	-----			1	CKT BOARD ASSY:RF ASSY(SEE A14 REPL) (ATTACHING PARTS)		
-80	211-0661-00			4	SCR,ASSEM WSHR:4-40 X 0.25,PNH,STL,POZ (END ATTACHING PARTS) CKT BOARD ASSY INCLUDES:	01536	821-01655-024
-81	-----			1	.CKT BOARD ASSY:2ND CONV(SEE A14A2 REPL)		
-82	337-3382-00			1	.SHIELD,ELEC:CIRCUIT BOARD	80009	337-3382-00
-83	136-0388-00			6	.SOCKET,PIN TERM:U/W 0.04 DIA PINS	71279	4503704010300
-84	-----			1	.CKT BOARD ASSY:R.F.MOTHER(SEE A14A1 REPL)		
-85	337-3378-00			1	.SHIELD,ELEC:CIRCUIT BOARD	80009	337-3378-00
-86	337-3430-00			3	.SHIELD,ELEC:DIVIDER	80009	337-3430-00
-87	337-3380-00			1	.SHIELD,ELEC:CIRCUIT BOARD	80009	337-3380-00
-88	337-3381-00			1	.SHIELD,ELEC:CIRCUIT BOARD	80009	337-3381-00
-89	337-3379-00			2	.SHIELD,ELEC:CIRCUIT BOARD	80009	337-3379-00
-90	131-3618-00			2	.LINK,TERM CONN:LOW PROFILE JUMPER	80009	131-3618-00
-91	210-0805-00			1	WASHER,FLAT:0.204 ID X 0.438 OD X 0.032,STL	12327	ORDER BY DESCR
-92	129-1202-00			1	SPACER,POST:0.370 L,ALUMINUM	80009	129-1202-00
-93	441-1706-00			1	CHASSIS,FRONT:ALUMINUM (ATTACHING PARTS)	80009	441-1706-00
-94	211-0541-00			6	SCREW,MACHINE:6-32 X 0.25,FLH,100 DEG,STL (END ATTACHING PARTS)	93907	ORDER BY DESCR
-95	407-3462-00			1	BRACKET,MTG:ALUMINUM (ATTACHING PARTS)	80009	407-3462-00
-96	210-0457-00			2	NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL (END ATTACHING PARTS)	78189	511-061800-00
-97	-----				(ATTACHING PARTS)		
-98	200-3158-00	B010001	B010318	1	COVER,CHASSIS:VR,ALUMINUM	80009	200-3158-00
-98	211-0658-00			4	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ (END ATTACHING PARTS)	78189	551-060545-0X
-99	-----			1	CKT BOARD ASSY:VR FILTER(SEE A13 REPL) (ATTACHING PARTS)		
-100	211-0661-00			3	SCR,ASSEM WSHR:4-40 X 0.25,PNH,STL,POZ (END ATTACHING PARTS)	01536	821-01655-024
-101	441-1711-00			1	CHASSIS,VR:ALUMINUM (ATTACHING PARTS)	80009	441-1711-00
-102	211-0541-00			4	SCREW,MACHINE:6-32 X 0.25,FLH,100 DEG,STL (END ATTACHING PARTS)	93907	ORDER BY DESCR
-103	343-1224-00			1	RETAINER,CKT BD:ALUMINUM (ATTACHING PARTS)	80009	343-1224-00
-104	211-0658-00			3	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ	78189	551-060545-0X
-105	211-0541-00			2	SCREW,MACHINE:6-32 X 0.25,FLH,100 DEG,STL (END ATTACHING PARTS)	93907	ORDER BY DESCR
-106	-----			1	CKT BOARD ASSY:LOG AMP(SEE A7 REPL)		
-107	337-3265-00			1	.SHIELD,CKT BD:BRASS	80009	337-3265-00
-108	337-3433-00			1	.SHIELD,ELEC:CIRCUIT BOARD	80009	337-3433-00
-109	337-3265-00			1	.SHIELD,CKT BD:BRASS	80009	337-3265-00
-110	337-3434-00			1	.SHIELD,ELEC:CIRCUIT BOARD	80009	337-3434-00
-111	-----			1	CKT BOARD ASSY:DISPLAY STORAGE (SEE A9 REPL)		
-112	-----			1	CKT BOARD ASSY:MICRO PROCESSOR (SEE A10 REPL)		
-113	-----			1	CKT BOARD ASSY:COUNTER AMP(SEE A20 REPL) (ATTACHING PARTS)		
-114	210-0586-00			4	NUT,PL,ASSEM WA:4-40 X 0.25,STL CD PL (END ATTACHING PARTS)	78189	211-041800-00
-115	337-3458-00			1	.SHIELD,ELEC:COUNTER AMP INPUT	80009	337-3458-00
-116	-----			1	.PART NUMBER NOT AVAILABLE AT THIS PRINT		
-117	129-1200-00			4	SPCR,SHLDR SCR:5.75 L,W 4-40 INT ONE END, 4 -40 EXT INE END,0.188 HEX AL (ATTACHING PARTS)	80009	129-1200-00
-118	211-0661-00			4	SCR,ASSEM WSHR:4-40 X 0.25,PNH,STL,POZ (END ATTACHING PARTS)	01536	821-01655-024
-119	-----			1	CKT BOARD ASSY:CENTER FREQ CONTROL (SEE A12 REPL)		
-120	337-3313-00	B010001	B010318	1	.SHIELD,ELEC:CIRCUIT BD	80009	337-3313-00
-121	131-3618-00			2	.LINK,TERM CONN:LOW PROFILE JUMPER	80009	131-3618-00
-122	337-3314-00			1	.SHIELD,ELEC:CIRCUIT BD	80009	337-3314-00
-123	337-3429-00	B010001	B010318	1	.SHIELD,ELEC:CIRCUIT BOARD	80009	337-3429-00

Replaceable Mechanical Parts - 2710

Fig. & Index No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Qty	12345 Name & Description	Mfr. Code	Mfr. Part No.
2-124	-----			1	CKT BOARD ASSY:SWEEP(SEE A5 REPL) (ATTACHING PARTS)		
-125	211-0658-00			4	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ (END ATTACHING PARTS)	78189	551-060545-0X
-126	385-0080-00			2	SPACER,POST:0.437 L W/6-32 THD THRU,AL	80009	385-0080-00
-127	366-1480-03			1	PUSH BUTTON:BLACK,OFF	80009	366-1480-03
-128	384-1058-00			1	EXTENSION SHAFT:8.157 L	80009	384-1058-00
-129	384-1061-00			1	EXTENSION SHAFT:4.357 L	80009	384-1061-00
-130	384-1136-00			1	EXTENSION SHAFT:0.95 INCH LONG (ATTACHING PARTS)	80009	384-1136-00
-131	407-3512-00	B010001	8010318	1	BRACKET,MTG:REAR INTERCONNECT	80009	407-3512-00
-132	211-0658-00			3	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ (END ATTACHING PARTS)	78189	551-060545-0X
-133	348-0145-00			2	GROMMET,PLASTIC:GRAY,U SHAPE,0.48 ID	80009	348-0145-00
-134	343-0007-00			1	CLAMP,LOOP:0.625 ID,PLASTIC (ATTACHING PARTS)	06915	ORDER BY DESCR
-135	211-0658-00			1	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ	78189	551-060545-0X
-136	210-0863-00			1	WSHR,LOOP CLAMP:0.187 ID U/W 0.5 W CLP (END ATTACHING PARTS)	95987	C191
-137	337-3345-00	B010001	8010318	1	SHIELD,ELEC:PWR SPLY,PLASTIC	80009	337-3345-00
-138	214-3012-00			1	FSTNR,SNAP-IN:0.437 L X 0.3 DIA,ROUND HD	02768	254-090601-01
-139	210-0091-00			2	WASHER,LOCK:#4,0.005 THK (END ATTACHING PARTS)	TK0E1	ORDER BY DESCR
-140	441-1708-00	B010001	8010318	1	CHAS, INTER REAR:ALUMINUM (ATTACHING PARTS)	80009	441-1708-00
-141	210-0457-00			2	NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL	78189	511-061800-00
-142	211-0658-00			11	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ (END ATTACHING PARTS)	78189	551-060545-0X
-143	-----			1	CKT BOARD ASSY:POWER SUPPLY(SEE A15 REPL) (ATTACHING PARTS)		
-144	211-0658-00			7	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ (END ATTACHING PARTS)	78189	551-060545-0X
-145	407-3372-00			1	.BRKT,HEAT SINK:ALUMINUM (ATTACHING PARTS)	80009	407-3372-00
-146	343-0969-00	B010001	8010318	1	.RETAINER,XSTR:	80009	343-0969-00
-147	210-0408-00			1	.NUT,PLAIN,HEX:6-32 X 0.312,BRS CD PL	73743	3040-402
-148	211-0891-00			1	.SCREW,MACHINE:6-32 X 0.625,PNH,STL (END ATTACHING PARTS)	TK0858	ORDER BY DESCR
-149	342-0555-00	B010001	8010318	1	.INSULATOR,PLATE:HEAT SINK,ALUMINA	80009	342-0555-00
-150	-----			1	CA ASSY,SP,ELEC:(SEE A15W1 REPL)		
-151	-----			1	FAN,TUBEAXIAL:(SEE B15 REPL) (ATTACHING PARTS)		
-152	211-0020-00			1	SCREW,MACHINE:4-40 X 1.125,PNH,STL	TK0435	ORDER BY DESCR
-153	210-1001-00			1	WASHER,FLAT:0.119 ID X 0.375 OD X 0.021	12360	ORDER BY DESCR
-154	211-0017-00			1	SCREW,MACHINE:4-40 X 0.75,PNH,STL	93907	ORDER BY DESCR
-155	210-0994-00			1	WASHER,FLAT:0.125 ID X 0.25 OD X 0.022,STL (END ATTACHING PARTS)	86928	A371-283-20
-156	210-0204-00			1	TERMINAL,LUG:0.142 ID,LOCKING,BRZ TINNED (ATTACHING PARTS)	86928	A373-175
-157	210-0586-00			1	NUT,PL,ASSEM WA:4-40 X 0.25,STL CD PL (END ATTACHING PARTS)	78189	211-041800-00
-158	426-1766-00			1	MOUNT,RESILIENT:CRT,REAR	80009	426-1766-00
-159	337-3483-00	B010038		1	SHIELD,ELEC:ALUMINUM	80009	337-3483-00
-159	-----			1	FILTER,RFI:(SEE FL15 REPL) (ATTACHING PARTS)		
-160	210-0586-00			2	NUT,PL,ASSEM WA:4-40 X 0.25,STL CD PL	78189	211-041800-00
-161	211-0116-00			2	SCR,ASSEM WSHR:4-40 X 0.312,PNH,BRS,NP,POZ (END ATTACHING PARTS)	77900	ORDER BY DESCR
-162	200-1388-03			1	COVER,FUSE LEAD:POLYURETHANE (ATTACHING PARTS)	80009	200-1388-03
-163	343-1025-00	B010001	8010318	1	RETAINER,XSTR:	TK1154	ORDER BY DESCR
-164	211-0302-00			1	SCR,ASSEM WSHR:4-40 X 0.75,PNH,STL,TORX DR (END ATTACHING PARTS)	01536	ORDER BY DESCR
-165	342-0582-00			1	INSULATOR,PLATE:TRANSISTOR,CERAMIC	80009	342-0582-00
-166	200-2264-00			1	CAP,FUSEHOLDER:3AG FUSES	S3629	FEK 031 1666
-167	204-0832-00			1	BODY,FUSEHOLDER:3AG & 5 X 20MM FUSES	TK0861	031 1673
-168	334-6523-00			1	OVERLAY,REAR PA:POLYCARBONATE	80009	334-6523-00

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Fig. & Index No.	Tektronix Part No.	Serial/Assembly No.		Qty	12345	Name & Description	Mfr.	
		Effective	Discnt				Code	Mfr. Part No.
2-169	134-0026-00			1		BUTTON, PLUG: U/W 0.375 HOLE	80112	1711-M
-170	200-2519-00			1		CAP, CRT SOCKET: NATURAL LEXAN	80009	200-2519-00
-171	214-1061-05			1		SPRING, GROUND: PLATED	TK1326	ORDER BY DESCR
-172	-----			1		CABLE ASSY, RF: (SEE W3 REPL) (ATTACHING PARTS)		
-173	210-0586-00			2		NUT, PL, ASSEM WA: 4-40 X 0.25, STL CD PL	78189	211-041800-00
-174	211-0021-00			2		SCREW, MACHINE: 4-40 X 1.25, PNH, STL (END ATTACHING PARTS)	TK0435	ORDER BY DESCR
-175	200-3432-00			1		COVER, PLATE: (ATTACHING PARTS)	80009	200-3432-00
-176	210-0586-00			2		NUT, PL, ASSEM WA: 4-40 X 0.25, STL CD PL	78189	211-041800-00
-177	343-0144-00			1		CLAMP, LOOP: 0.125 ID, NYLON (END ATTACHING PARTS)	TK1452	ORDER BY DESCR
-178	-----			1		CABLE ASSY, RF: (SEE W2 REPL) (ATTACHING PARTS)		
-179	358-0251-00			3		BUSHING, VAR RES: 0.25-32 X 0.424 L, BRS NP	80009	358-0251-00
-180	210-0011-00			3		WASHER, LOCK: 0.25 ID, INTL, 0.025 THK, STL (END ATTACHING PARTS) CABLE ASSY INCLUDES:	09772	1214-00-00-0541C
-181	131-0955-00			1		.CONN, RCPT, ELEC: BNC, FEMALE	13511	31-279
-182	441-1709-00			1		CHASSIS, REAR: ALUMINUM (ATTACHING PARTS)	80009	441-1709-00
-183	211-0658-00			4		SCR, ASSEM WSHR: 6-32 X 0.312, PNH, STL, POZ (END ATTACHING PARTS)	78189	551-060545-0X
-184	441-1749-00			1		CHASSIS, TG: ALUMINUM	80009	441-1749-00
-185	441-1710-00			1		CHASSIS, RF: ALUMINUM	80009	441-1710-00

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Fig. & Index No.	Tektronix Part No.	Serial/Assembly No. Effective Dscnt	Qty	12345 Name & Description	Mfr. Code	Mfr. Part No.
3-1	334-6928-00		1	MARKER, IDENT: BLANK	80009	334-6928-00
-2	426-1765-02		1	FRAME, CRT: POLYCARBONATE, GRAY (ATTACHING PARTS)	TK2165	ORDER BY DESC
-3	211-0690-01		2	SCREW, MACHINE: 6-32 X 0.875 PNH, SST (END ATTACHING PARTS)	86113	ORDER BY DESC
-4	337-2775-00		1	SHLD, IMPLOSION: FILTER, BLUE	80009	337-2775-00
-5	-----		1	CKT BOARD ASSY: FRONT PANEL (SEE A6 REPL) (ATTACHING PARTS)		
-6	210-0457-00		4	NUT, PL, ASSEM WA: 6-32 X 0.312, STL CD PL	78189	511-061800-00
-7	211-0658-00		1	SCR, ASSEM WSHR: 6-32 X 0.312, PNH, STL, POZ	78189	551-060545-0X
-8	210-0993-00		1	WASHER, FLAT: 0.143 ID X 0.75 OD X 0.051, BRS (END ATTACHING PARTS)	86928	ORDER BY DESC
-9	366-1782-02		1	.SHELL, KNOB: MOLDED PLASTIC	80009	366-1782-02
-10	366-1708-00		1	.KNOB: SIL GY, 0.127 ID X 0.5 OD X 0.531 H	80009	366-1708-00
-11	366-1696-01		1	.KNOB: GRAY, 0.82 ID X 0.588 OD X 0.6 H	80009	366-1696-01
-12	366-1326-01		1	.KNOB: GRAY, 0.127 ID X 0.588 OD X 0.6 H	80009	366-1326-01
-13	200-3416-00		1	.COVER, TG PORT: PLASTIC	80009	200-3416-00
-14	-----		1	.RESISTOR, VAR: (SEE A6R460 REPL) (ATTACHING PARTS)		
-15	210-0583-00		1	.NUT, PLAIN, HEX: 0.25-32 X 0.312, BRS CD PL	73743	2X-20319-402
-16	210-0046-00		1	.WASHER, LOCK: 0.261 ID, INTL, 0.018 THK, STL (END ATTACHING PARTS)	77900	1214-05-00-0541C
-17	-----		1	.ENCODER, DIGITAL: (SEE SW260 REPL) (ATTACHING PARTS)		
-18	210-0590-00		1	.NUT, PLAIN, HEX: 0.375-32 X 0.438 BRS CD PL	73743	28269-402
-19	210-0994-00		1	.WASHER, FLAT: 0.125 ID X 0.25 OD X 0.022, STL (END ATTACHING PARTS)	86928	A371-283-20
-20	-----		1	.RESISTOR, VAR: (SEE A6R680 REPL) (ATTACHING PARTS)		
-21	210-0583-00		1	.NUT, PLAIN, HEX: 0.25-32 X 0.312, BRS CD PL	73743	2X-20319-402
-22	210-0046-00		1	.WASHER, LOCK: 0.261 ID, INTL, 0.018 THK, STL (END ATTACHING PARTS)	77900	1214-05-00-0541C
-23	210-1010-00		1	WASHER, FLAT: 0.643 ID X 0.875 OD X 0.02, BRS	83385	ORDER BY DESC
-24	101-0112-00		1	TRIM, CRT SCALE: POLYCARBONATE	80009	101-0112-00
-25	386-5387-00		1	SUBPANEL, FRONT: POLYCARBONATE (ATTACHING PARTS)	80009	386-5387-00
-26	213-0882-00		2	SCREW, TPG, TR: 6-32 X 0.437 TAPTITE, PNH, STL	83385	ORDER BY DESC
-27	211-0541-00		2	SCREW, MACHINE: 6-32 X 0.25, FLH, 100 DEG, STL (END ATTACHING PARTS) FRONT SUBPANEL INCLUDES:	93907	ORDER BY DESC
-28	348-0660-00		4	.CUSHION, CRT: POLYURETHANE	80009	348-0660-00
-29	386-4443-00		1	SUPPORT, SHIELD: CRT, FRONT, PLASTIC	80009	386-4443-00
-30	337-2774-00		1	SHIELD, ELEC: CRT, STEEL	23740	C-2059
-31	441-1706-00		1	CHASSIS, FRONT: ALUMINUM (ATTACHING PARTS)	80009	441-1706-00
-32	211-0541-00		8	SCREW, MACHINE: 6-32 X 0.25, FLH, 100 DEG, STL	93907	ORDER BY DESC
-33	211-0512-00		1	SCREW, MACHINE: 6-32 X 0.5, FLH, 100 DEG, STL	TK0435	ORDER BY DESC
-34	211-0658-00		2	SCR, ASSEM WSHR: 6-32 X 0.312, PNH, STL, POZ (END ATTACHING PARTS)	78189	551-060545-0X
-35	407-3511-00		1	BRACKET, MTG: FRONT INTERCONNECT (ATTACHING PARTS)	80009	407-3511-00
-36	211-0541-00		2	SCREW, MACHINE: 6-32 X 0.25, FLH, 100 DEG, STL (END ATTACHING PARTS)	93907	ORDER BY DESC
-37	-----		1	CA ASSY, SP, ELEC: (SEE W25 REPL) (ATTACHING PARTS)		
-38	211-0121-00		2	SCR, ASSEM WSHR: 4-40 X 0.438, PNH, BRS (END ATTACHING PARTS) CABLE ASSY INCLUDES:	93907	ORDER BY DESC
-39	-----		1	.LOUDSPEAKER, PM: (SEE LS103 REPL)		
-40	-----		1	.JACK, TELEPHONE: (SEE J102 REPL)		
-41	174-0199-00		1	CA ASSY, SP, ELEC: SEMI-RIGID	80009	174-0199-00
-42	129-0744-00		2	SPACER, POST: 0.875 L, 4-40 BOTH ENDS, AL	80009	129-0744-00
-43	343-1260-00		1	CLAMP, YIG: SST (ATTACHING PARTS)	80009	343-1260-00
-44	210-0457-00		4	NUT, PL, ASSEM WA: 6-32 X 0.312, STL CD PL	78189	511-061800-00
-45	211-0512-00		2	SCREW, MACHINE: 6-32 X 0.5, FLH, 100 DEG, STL (END ATTACHING PARTS)	TK0435	ORDER BY DESC
-46	337-3436-00		1	SHIELD, ELEC: YIG, TOP	80009	337-3436-00

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Fig. & Index No.	Tektronix Part No.	Serial/Assembly No.		Qty	12345 Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discort				
3-47	333-3437-00			1	PANEL, REAR: 11K REGULATOR MTG PANEL	80009	333-3437-00
-48	386-5665-00			1	NUT PLATE: ALUMINUM	80009	386-5665-00
-49	352-0797-00			1	HOLDER, YIG: SST	80009	352-0797-00
	-----			1	YIG BUFFER ASSY: (SEE A17 REPL) (ATTACHING PARTS)		
-50	210-0586-00			2	NUT, PL, ASSEM WA: 4-40 X 0.25, STL CD PL (END ATTACHING PARTS) YIG BUFFER ASSY INCLUDES:	78189	211-041800-00
-51	343-0549-00			1	.STRAP, TIEDOWN, E: 0.091 W X 4.0 L, ZYTEL	06383	PLTIM
-52	352-0482-00			2	.HOLDER, CA TIE: 0.75 SQ, STICKY BACK, PLASTIC	06383	ABMM-AT-D
-53	210-0206-00			1	.TERMINAL, LUG: 0.2 ID, LOCKING, BRZ TINNED	86928	A373-147-1
-54	380-0811-01			1	.HOUSING, YIG BFR: ALUMINUM (ATTACHING PARTS)	80009	380-0811-01
-55	211-0162-00			22	.SCREW, MACHINE: 2-56 X 0.188, SCH, SST (END ATTACHING PARTS)	TK0428	ORDER BY DESCR
-56	-----			1	.CKT BOARD ASSY: YIG BUFFER (SEE A17A1 REPL)		
-57	210-1002-00			3	.WASHER, FLAT: 0.125 ID X 0.25 OD X 0.022 (ATTACHING PARTS)	86928	5714-147-20N
-58	-----			2	.RTNR, MICROCK: CU BE	80009	343-0587-00
-59	343-0587-00			4	.SCREW, CAP: 0-80 X 0.187, SCH, SST PSVT, HEX REC (END ATTACHING PARTS)	71838	20098-90F-3
-60	361-1385-00			2	.SHIM: CHEM MILLED BRASS	80009	361-1385-00
-61	200-3421-01			1	.COVER, CKT BD: ALUMINUM	80009	200-3421-01
-62	-----			1	1ST IF FILTER: (SEE FL17 REPL) (ATTACHING PARTS)		
-63	211-0541-00			4	SCREW, MACHINE: 6-32 X 0.25, FLH, 100 DEG, STL (END ATTACHING PARTS)	93907	ORDER BY DESCR
-64	-----			1	CKT BOARD ASSY: ATTENUATOR (SEE A18 REPL) (ATTACHING PARTS)		
	210-0046-00	B020319		4	WASHER, LOCK: 0.261 ID, INTL, 0.018 THK, STL	77900	1214-05-00-0541C
	220-0787-00	B020319		4	NUT, PLAIN, HEX: 0.25-36 X 0.312 HEX, SST (END ATTACHING PARTS) CKT BOARD ASSY INCLUDES:	24931	HN109-10
-65	337-3383-00			1	.SHIELD, ELEC: CIRCUIT BOARD	80009	337-3383-00
	220-0787-00	B020319		4	.NUT, PLAIN, HEX: 0.25-36 X 0.312 HEX, SST	24931	HN109-10
-66	210-0940-00			4	WASHER, FLAT: 0.25 ID X 0.375 OD X 0.02, STL	12327	ORDER BY DESCR
-67	361-1496-00	B020319		4	SPACER, SLEEVE: 0.120 L X 0.250 ID, ALUMINUM	80009	361-1496-00
	-----			1	1ST CONVERTER ASSY: (SEE A16 REPL) (ATTACHING PARTS)		
-68	210-0940-00			4	WASHER, FLAT: 0.25 ID X 0.375 OD X 0.02, STL	12327	ORDER BY DESCR
	211-0031-00			4	SCREW, MACHINE: 4-40 X 1.0, FLH, 100 DEG, STL	83385	ORDER BY DESCR
	220-0102-00	B020319		2	NUT, HEX: 0.312, 36000 1/2 HARD (END ATTACHING PARTS) 1ST CONVERTER ASSY INCLUDES:	80009	220-0102-00
-69	200-3411-01			1	.COVER CONV: 1ST, ALUMINUM (ATTACHING PARTS)	80009	200-3411-01
-70	213-0202-00			4	.SCREW, MACHINE: 2-56 X 0.625, FLH 100 DEG	83385	ORDER BY DESCR
-71	211-0162-00			26	.SCREW, MACHINE: 2-56 X 0.188, SCH, SST (END ATTACHING PARTS)	TK0428	ORDER BY DESCR
-72	388-9483-00			2	.CIRCUIT BOARD: COUPLER FOR FIRST CONVERTER	80009	388-9483-00
-73	-----			1	.CKT BOARD ASSY: RF INPUT (SEE A16A2 REPL) (ATTACHING PARTS)		
-74	211-0265-00			14	.SCREW, CAP: 2-56 X 0.375, SCH, SST	83385	ORDER BY DESCR
-75	210-0090-00			14	.WASHER, LOCKING: SPLIT, CU-BE (END ATTACHING PARTS)	80009	210-0090-00
-76	386-5560-00			1	.SUPPORT, CKT BD: (ATTACHING PARTS)	80009	386-5560-00
-77	211-0265-00	B010001	B010266	2	.SCREW, CAP: 2-56 X 0.375, SCH, SST	83385	ORDER BY DESCR
	211-0265-00	B010267		1	.SCREW, CAP: 2-56 X 0.375, SCH, SST	83385	ORDER BY DESCR
	211-0278-00	B010267		1	.SCREW, CAP: 2-56 X 0.5 L, SKT HD, SST	TK0456	ORDER BY DESCR
	210-0053-00	B010267		1	.WASHER, LOCK: #2 SPLIT, 0.02 THK STL	78189	ORDER BY DESCR
-78	210-0090-00			2	.WASHER, LOCKING: SPLIT, CU-BE (END ATTACHING PARTS)	80009	210-0090-00
-79	-----			1	.CKT BOARD ASSY: 1ST CONV MOTHER (SEE A16A1 REPL) (ATTACHING PARTS)		
-80	211-0265-00			4	.SCREW, CAP: 2-56 X 0.375, SCH, SST (END ATTACHING PARTS)	83385	ORDER BY DESCR

Replaceable Mechanical Parts - 2710

Fig. & Index No.	Tektronix Part No.	Serial/Assembly No.		Qty	12345 Name & Description	Mfr.	
		Effective	Discont			Code	Mfr. Part No.
3-81	380-0841-01			1	.HOUSING, CONV:1ST	80009	380-0841-01
	-----			1	CKT BOARD ASSY:RF ASSY(SEE A14 REPL) (ATTACHING PARTS)		
-82	211-0661-00			4	SCR,ASSEM WSHR:4-40 X 0.25,PNH,STL,POZ (END ATTACHING PARTS) CKT BOARD ASSY INCLUDES:	01536	821-01655-024
-83	-----			1	.CKT BOARD ASSY:2ND CONV(SEE A14A2 REPL)		
-84	337-3382-00			1	..SHIELD,ELEC:CIRCUIT BOARD	80009	337-3382-00
-85	136-0388-00			6	..SOCKET,PIN TERM:U/W 0.04 DIA PINS	71279	4503704010300
-86	-----			1	.CKT BOARD ASSY:R.F.MOTHER(SEE A14A1 REPL)		
-87	337-3378-00			1	..SHIELD,ELEC:CIRCUIT BOARD	80009	337-3378-00
-88	337-3430-00			3	..SHIELD,ELEC:DIVIDER	80009	337-3430-00
-89	337-3380-00			1	..SHIELD,ELEC:CIRCUIT BOARD	80009	337-3380-00
-90	337-3381-00			1	..SHIELD,ELEC:CIRCUIT BOARD	80009	337-3381-00
-91	337-3379-00			2	..SHIELD,ELEC:CIRCUIT BOARD	80009	337-3379-00
-92	131-3618-00			2	..LINK,TERM CONN:LOW PROFILE JUMPER	80009	131-3618-00
-93	210-0805-00			1	WASHER,FLAT:0.204 ID X 0.438 OD X 0.032,STL	12327	ORDER BY DESCR
-94	129-1202-00			1	SPACER,POST:0.370 L,ALUMINUM	80009	129-1202-00
-95	366-1480-03			1	PUSH BUTTON:BLACK,OFF	80009	366-1480-03
-96	384-1058-00			1	EXTENSION SHAFT:8.157 L	80009	384-1058-00
-97	384-1061-00			1	EXTENSION SHAFT:4.357 L	80009	384-1061-00
-98	384-1136-00			1	EXTENSION SHAFT:0.95 INCH LONG	80009	384-1136-00
-99	385-0080-00			2	SPACER,POST:0.437 L W/6-32 THD THRU,AL (ATTACHING PARTS)	80009	385-0080-00
-100	211-0658-00			2	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ (END ATTACHING PARTS)	78189	551-060545-0X
-101	-----			1	CKT BOARD ASSY:SWEEP(SEE A5 REPL) (ATTACHING PARTS)		
-102	211-0658-00			2	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ (END ATTACHING PARTS)	78189	551-060545-0X
-103	441-1863-00	B020319		1	CHASSIS,REF:ALUMINUM (ATTACHING PARTS)	80009	441-1863-00
-104	211-0541-00			3	SCREW,MACHINE:6-32 X 0.25,FLH,100 DEG,STL (END ATTACHING PARTS)	93907	ORDER BY DESCR
-105	351-0303-00			12	GUIDE,CKT BOARD:T4002A,POLYCARBONATE,SILVER GRAY	80009	351-0303-00
-106	-----			1	CKT BOARD ASSY:REF OSC(SEE A21 REPL) (ATTACHING PARTS)		
-107	211-0658-00	B020319		2	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ (END ATTACHING PARTS) REF OSC ASSY INCLUDES:	78189	551-060545-0X
-108	337-3497-00	B020319		1	.SHIELD,ELEC:	80009	337-3497-00
-109	342-0855-00	B020319		1	.INSULATOR,OVEN:0.075	80009	342-0855-00
-110	407-3723-00	B020319		1	.BRACKET,MTG:ALUMINUM (ATTACHING PARTS)	80009	407-3723-00
-111	210-0586-00	B020319		2	.NUT,PL,ASSEM WA:4-40 X 0.25,STL CD PL	78189	211-041800-00
-112	211-0097-00	B020319		2	.SCREW,MACHINE:4-40 X 0.312,PNH,STL (END ATTACHING PARTS)	93907	ORDER BY DESCR
-113	337-3496-00	B020319		1	.SHIELD,ELEC:BACK,100MHZ,BRASS	80009	337-3496-00
-114	342-0856-00	B020319		1	.INSULATOR:0.125 THK	80009	342-0856-00
-115	255-0581-00			AR	PLASTIC CHANNEL:0.156 X 0.156,POLYETHYLENE	80009	255-0581-00
-116	343-1224-00			1	RETAINER,CKT BD:ALUMINUM (ATTACHING PARTS)	80009	343-1224-00
-117	211-0658-00			3	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ	78189	551-060545-0X
-118	211-0541-00			2	SCREW,MACHINE:6-32 X 0.25,FLH,100 DEG,STL (END ATTACHING PARTS)	93907	ORDER BY DESCR
	-----			1	CKT BOARD ASSY:PHASELOCK CFC MODULE (SEE A12 REPL) (ATTACHING PARTS)		
-119	210-0457-00	B020319		1	NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL (END ATTACHING PARTS) PHASELOCK CFC MODULE ASSY INCLUDES:	78189	511-061800-00
-120	200-3606-00	B020319		1	.COVER,HOUSING:ALUMINUM,5052-H32 (ATTACHING PARTS)	80009	200-3606-00
-121	129-1254-00	B020319		1	.SPACER,POST:6-32,0.312 HEX,ALUMINUM	80009	129-1254-00
-122	211-0162-00	B020319		25	.SCREW,MACHINE:2-56 X 0.188,SCH,SST (END ATTACHING PARTS)	TK0428	ORDER BY DESCR
-123	-----			1	.CKT BOARD ASSY:HIGH FREQ VCO		

Replaceable Mechanical Parts - 2710

Fig. & Index No.	Tektronix Part No.	Serial/Assembly No. Effective Dscnt	Qty	12345 Name & Description	Mfr. Code	Mfr. Part No.
3-				(SEE A12A2 REPL) (ATTACHING PARTS)		
-124	211-0162-00	B020319	9	.SCREW,MACHINE:2-56 X 0.188,SCH,SST (END ATTACHING PARTS)	TK0428	ORDER BY DESCR
-125	337-3509-00	B020319	1	.CKT BOARD ASSY INCLUDES: .SHIELD,ELEC:COIL,BRASS	80009	337-3509-00
-126	-----		1	.CKT BOARD ASSY:LOW FREQ VCO (SEE A12A3 REPL) (ATTACHING PARTS)		
-127	211-0162-00	B020319	12	.SCREW,MACHINE:2-56 X 0.188,SCH,SST (END ATTACHING PARTS)	TK0428	ORDER BY DESCR
-128	337-3493-00	B020319	1	.CKT BOARD ASSY INCLUDES: .SHIELD,XFMR:SILVER PLATED	80009	337-3493-00
-129	337-3494-00	B020319	1	.SHIELD,COVER:	80009	337-3494-00
-130	211-0116-00	B020319	1	.SCR,ASSEM WSHR:4-40 X 0.312,PNH,BRS,NP,POZ	77900	ORDER BY DESCR
-131	210-1178-00	B020319	1	.WASHER,SHLDR:	13103	7721-7PPS
-132	342-0563-00	B020319	1	.INSULATOR,PLATE:TRANSISTOR	18565	69-11-8805-1674
-133	210-0202-00	B020319	1	.TERMINAL,LUG:0.146 ID,LOCKING,BRZ TIN PL (ATTACHING PARTS)	86928	A-373-158-2
-134	361-1487-00	B020319	1	.SPACER:ALUMINUM (END ATTACHING PARTS)	80009	361-1487-00
-135	337-3500-00	B020319	1	.SHIELD,ELEC:BACK BRASS (ATTACHING PARTS)	80009	337-3500-00
-136	211-0214-00	B020319	4	.SCREW,MACHINE:4-40 X 0.25,TRH,STL	93907	ORDER BY DESCR
-137	210-0004-00	B020319	4	.WASHER,LOCK:#4 INTL,0.015 THK,STL (END ATTACHING PARTS)	77900	1204-00-00-0541C
-138	380-0901-00	B020319	1	.HOUSING,LOCK:ALUMINUM (ATTACHING PARTS)	80009	380-0901-00
-139	211-0661-00	B020319	10	.SCR,ASSEM WSHR:4-40 X 0.25,PNH,STL,POZ (END ATTACHING PARTS)	01536	821-01655-024
-140	129-1200-00	B020319	4	.SPCR,SHLDR SCR:5.75 L,W 4-40 INT ONE END, 4 -40 EXT INE END,0.188 HEX AL (ATTACHING PARTS)	80009	129-1200-00
-141	210-0586-00	B020319	4	.NUT,PL,ASSEM WA:4-40 X 0.25,STL CD PL (END ATTACHING PARTS)	78189	211-041800-00
-142	-----		1	.CKT BOARD ASSY:CFC(SEE A12A1 REPL)		
-143	211-0116-00	B020319	4	.SCR,ASSEM WSHR:4-40 X 0.312,PNH,BRS,NP,POZ	77900	ORDER BY DESCR
-144	210-1178-00	B020319	4	.WASHER,SHLDR:	13103	7721-7PPS
-145	342-0563-00	B020319	4	.INSULATOR,PLATE:TRANSISTOR	18565	69-11-8805-1674
-146	214-4138-00	B020319	1	.HT SK,CKT BD:ALUMINUM	80009	214-4138-00
-147	-----		1	CKT BOARD ASSY:300HZ(SEE A22 REPL) (OPTION 01 ONLY)		
-148	337-3265-00	B020319	2	.SHIELD,CKT BD:BRASS	80009	337-3265-00
-149	407-3735-00	B020319	1	.BRACKET,FILTER:ALUMINUM (ATTACHING PARTS)	80009	407-3735-00
-150	211-0661-00	B020319	2	.SCR,ASSEM WSHR:4-40 X 0.25,PNH,STL,POZ (END ATTACHING PARTS)	01536	821-01655-024
-151	337-3501-00	B020319	1	.SHIELD,ELEC:300HZ,BRASS	80009	337-3501-00
-152	-----		1	CKT BOARD ASSY:MICRO PROCESSOR (SEE A10 REPL)		
-153	-----		1	CKT BOARD ASSY:DISPLAY STORAGE (SEE A9 REPL)		
-154	-----		1	CKT BOARD ASSY:DIGITAL(SEE A11 REPL) (OPTION 09 ONLY)		
-155	-----		1	CKT BOARD ASSY:LOG AMP(SEE A7 REPL)		
-156	337-3265-00		1	.SHIELD,CKT BD:BRASS	80009	337-3265-00
-157	337-3433-00		1	.SHIELD,ELEC:CIRCUIT BOARD	80009	337-3433-00
-158	337-3265-00		1	.SHIELD,CKT BD:BRASS	80009	337-3265-00
-159	337-3434-00		1	.SHIELD,ELEC:CIRCUIT BOARD	80009	337-3434-00
-160	200-3158-01	B020319	1	COVER,VR:ALUMINUM (ATTACHING PARTS)	80009	200-3158-01
-161	211-0658-00		4	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ (END ATTACHING PARTS)	78189	S51-060545-0X
-162	-----		1	CKT BOARD ASSY:VR FILTER(SEE A13 REPL) (ATTACHING PARTS)		
-163	211-0661-00		3	SCR,ASSEM WSHR:4-40 X 0.25,PNH,STL,POZ (END ATTACHING PARTS)	01536	821-01655-024
-164	441-1711-00		1	CHASSIS,VR:ALUMINUM	80009	441-1711-00

Replaceable Mechanical Parts - 2710

Fig. & Index No.	Tektronix Part No.	Serial/Assembly No. Effective Discnt	Qty	12345 Name & Description	Mfr. Code	Mfr. Part No.
3-				(ATTACHING PARTS)		
-165	211-0541-00		4	SCREW,MACHINE:6-32 X 0.25,FLH,100 DEG,STL (END ATTACHING PARTS)	93907	ORDER BY DESCR
-166	348-0145-00		2	GROMMET,PLASTIC:GRAY,U SHAPE,0.48 ID	80009	348-0145-00
-167	343-0007-00		1	CLAMP,LOOP:0.625 ID,PLASTIC (ATTACHING PARTS)	06915	ORDER BY DESCR
-168	211-0658-00		1	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ	78189	S51-060545-0X
-169	210-0863-00		1	WSHR,LOOP CLAMP:0.187 ID U/W 0.5 W CLP (END ATTACHING PARTS)	95987	C191
-170	214-4129-00	B020319	1	BRACKET,HT SK: (ATTACHING PARTS)	80009	214-4129-00
-171	211-0121-00	B020319	2	SCR,ASSEM WSHR:4-40 X 0.438,PNH,BRS (END ATTACHING PARTS)	93907	ORDER BY DESCR
-172	211-0116-00	B020319	3	SCR,ASSEM WSHR:4-40 X 0.312,PNH,BRS,NP,POZ	77900	ORDER BY DESCR
-173	210-1178-00	B020319	3	WASHER,SHLDR:	13103	7721-7PPS
-174	342-0563-00	B020319	3	INSULATOR,PLATE:TRANSISTOR	18565	69-11-8805-1674
-175	348-0502-00	B020319	1	FOOT,CABINET:GRAY RUBBER	04963	SJ-5023 GRAY
-176	337-3518-00	B020319	1	SHIELD,ELEC:POWER SUPPLY (ATTACHING PARTS)	80009	337-3518-00
-177	214-3012-00		1	FSTNR,SNAP-IN:0.437 L X 0.3 DIA,ROUND HD	02768	254-090601-01
-178	210-0091-00		2	WASHER,LOCK:#4,0.005 THK (END ATTACHING PARTS)	TK0E1	ORDER BY DESCR
-179	441-1708-01	B020319	1	CHAS,INNER REAR:ALUMINUM,2710 (ATTACHING PARTS)	80009	441-1708-01
-180	210-0457-00		2	NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL	78189	511-061800-00
-181	211-0658-00		5	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ	78189	S51-060545-0X
-182	211-0116-00		2	SCR,ASSEM WSHR:4-40 X 0.312,PNH,BRS,NP,POZ (END ATTACHING PARTS)	77900	ORDER BY DESCR
-183	348-0238-00	B020319	1	SHLD GSKT,ELEK:FINGER TYPE,5.7 L	80009	348-0238-00
-184	-----		1	CKT BOARD ASSY:POWER SUPPLY(SEE A15 REPL) (ATTACHING PARTS)		
-185	211-0658-00		7	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ (END ATTACHING PARTS)	78189	S51-060545-0X
-186	407-3372-01	B020319	1	BRACKET,HT SINK:ALUMINUM (ATTACHING PARTS)	80009	407-3372-01
-187	211-0121-00	B020319	2	SCR,ASSEM WSHR:4-40 X 0.438,PNH,BRS (END ATTACHING PARTS)	93907	ORDER BY DESCR
-188	343-1397-00	B020319	1	RETAINER,TRANS:NATURAL (ATTACHING PARTS)	80009	343-1397-00
-189	211-0302-00	B020319	1	SCR,ASSEM WSHR:4-40 X 0.75,PNH,STL,TORX DR	01536	ORDER BY DESCR
-190	210-1001-00	B020319	1	WASHER,FLAT:0.119 ID X 0.375 OD X 0.021 (END ATTACHING PARTS)	12360	ORDER BY DESCR
-191	342-0420-00	B020319	1	INSULATOR,PLATE:TRANSISTOR,PORCELAIN	80009	342-0420-00
-192	343-1410-00	B020319	2	RTNR,TRANSISTOR:ALUMINUM (ATTACHING PARTS)	80009	343-1410-00
-193	210-0586-00	B020319	1	NUT,PL,ASSEM WA:4-40 X 0.25,STL CD PL	78189	211-041800-00
-194	211-0145-00	B020319	1	SCR,ASSEM WSHR:4-40 X 1.0,BRS,NP,POZ	TK0435	8565-430
-195	210-0858-00	B020319	2	WASHER,FLAT:0.172 ID X 0.5 OD X 0.062,BRS	12327	ORDER BY DESCR
-196	343-0136-00		1	CLAMP,LOOP:0.25 ID,PLASTIC (END ATTACHING PARTS)	80009	343-0136-00
-197	342-0420-00	B020319	1	INSULATOR,PLATE:TRANSISTOR,PORCELAIN (ATTACHING PARTS)	80009	342-0420-00
-198	211-0014-00	B020319	1	SCREW,MACHINE:4-40 X 0.5,PNH,STL	93907	ORDER BY DESCR
-199	342-0536-00	B020319	1	INSULATOR,XSTR:TO-220,POLYENELENE (END ATTACHING PARTS)	80009	342-0536-00
-200	-----		1	CA ASSY,SP,ELEC:(SEE A15W1 REPL)		
-201	-----		1	FAN,TUBEAXIAL:(SEE B15 REPL) (ATTACHING PARTS)		
-202	211-0020-00		1	SCREW,MACHINE:4-40 X 1.125,PNH,STL	TK0435	ORDER BY DESCR
-203	210-1001-00		1	WASHER,FLAT:0.119 ID X 0.375 OD X 0.021	12360	ORDER BY DESCR
-204	211-0017-00		1	SCREW,MACHINE:4-40 X 0.75,PNH,STL	93907	ORDER BY DESCR
-205	210-0994-00		1	WASHER,FLAT:0.125 ID X 0.25 OD X 0.022,STL (END ATTACHING PARTS)	86928	A371-283-20
-206	210-0204-00		1	TERMINAL,LUG:0.142 ID,LOCKING,BRZ TINNED (ATTACHING PARTS)	86928	A373-175
-207	210-0586-00		1	NUT,PL,ASSEM WA:4-40 X 0.25,STL CD PL (END ATTACHING PARTS)	78189	211-041800-00
-208	426-1766-00		1	MOUNT,RESILIENT:CRIT,REAR	80009	426-1766-00

Replaceable Mechanical Parts - 2710

Fig. & Index No.	Tektronix Part No.	Serial/Assembly No.		Qty	12345 Name & Description	Mfr.	
		Effective	Discont			Code	Mfr. Part No.
3-209	-----			1	FILTER,RFI:(SEE FL15 REPL) (ATTACHING PARTS)		
-210	210-0586-00			2	NUT,PL,ASSEM WA:4-40 X 0.25,STL CD PL	78189	211-041800-00
-211	211-0116-00			2	SCR,ASSEM WSHR:4-40 X 0.312,PNH,BRS,NP,POZ (END ATTACHING PARTS)	77900	ORDER BY DESCR
-212	337-3483-00			1	SHIELD,ELEC:ALUMINUM	80009	337-3483-00
-213	-----			1	CABLE ASSY:(SEE WXXX REPL) (ATTACHING PARTS)		
-214	210-0586-00			2	NUT,PL,ASSEM WA:4-40 X 0.25,STL CD PL	78189	211-041800-00
-215	343-0144-00			1	CLAMP,LOOP:0.125 ID,NYLON (END ATTACHING PARTS)	TK1452	ORDER BY DESCR
-216	-----			1	CABLE ASSY,RF:(SEE W3 REPL) (ATTACHING PARTS)		
-217	210-0586-00			2	NUT,PL,ASSEM WA:4-40 X 0.25,STL CD PL	78189	211-041800-00
-218	211-0021-00			2	SCREW,MACHINE:4-40 X 1.25,PNH,STL (END ATTACHING PARTS)	TK0435	ORDER BY DESCR
-219	200-1388-03			1	COVER,FUSE LEAD:POLYURETHANE	80009	200-1388-03
-220	337-3491-00	B020319		1	SHIELD,FAN:EMI,ALUMINUM (ATTACHING PARTS)	80009	337-3491-00
-221	211-0661-00	B020319		2	SCR,ASSEM WSHR:4-40 X 0.25,PNH,STL,POZ (END ATTACHING PARTS)	01536	821-01655-024
-222	200-2264-00			1	CAP,FUSEHOLDER:3AG FUSES	S3629	FEK 031 1666
-223	204-0832-00			1	BODY,FUSEHOLDER:3AG & 5 X 20MM FUSES	TK0861	031 1673
-224	134-0026-00			1	BUTTON,PLUG:U/W 0.375 HOLE	80112	1711-M
-225	334-6523-00			1	OVERLAY,REAR PA:POLYCARBONATE	80009	334-6523-00
-226	200-3506-00			1	COVER,CRT:REAR (ATTACHING PARTS)	80009	200-3506-00
-227	358-0251-00			1	BUSHING,VAR RES:0.25-32 X 0.424 L,BRS NP	80009	358-0251-00
-228	210-0586-00			1	NUT,PL,ASSEM WA:4-40 X 0.25,STL CD PL (END ATTACHING PARTS)	78189	211-041800-00
-229	200-2519-00			1	CAP,CRT SOCKET:NATURAL LEXAN	80009	200-2519-00
-230	214-1061-05			1	SPRING,GROUND:PLATED	TK1326	ORDER BY DESCR
-231	-----			1	CABLE ASSY,RF:(SEE W2 REPL) (ATTACHING PARTS)		
-232	358-0251-00			3	BUSHING,VAR RES:0.25-32 X 0.424 L,BRS NP	80009	358-0251-00
-233	210-0011-00			3	WASHER,LOCK:0.25 ID,INTL,0.025 THK,STL (END ATTACHING PARTS)	09772	1214-00-00-0541C
-234	441-1709-01			1	CHASSIS,REAR,AS:ALUMINUM (ATTACHING PARTS)	80009	441-1709-01
-235	211-0658-00			4	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ (END ATTACHING PARTS)	78189	S51-060545-0X
-236	407-3462-00			1	BRACKET,MTG:ALUMINUM (ATTACHING PARTS)	80009	407-3462-00
-237	210-0457-00			2	NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL (END ATTACHING PARTS)	78189	511-061800-00
-238	441-1749-00			1	CHASSIS,TG:ALUMINUM (ATTACHING PARTS)	80009	441-1749-00
-239	211-0586-00			2	SCREW,MACHINE:6-32 X 0.188,HEX HD,BRASS (END ATTACHING PARTS)	80009	211-0586-00
-240	441-1710-00			1	CHASSIS,RF:ALUMINUM	80009	441-1710-00

FIG. 3 CHASSIS
SN B020319 & ↑
SHT. 1 OF 2

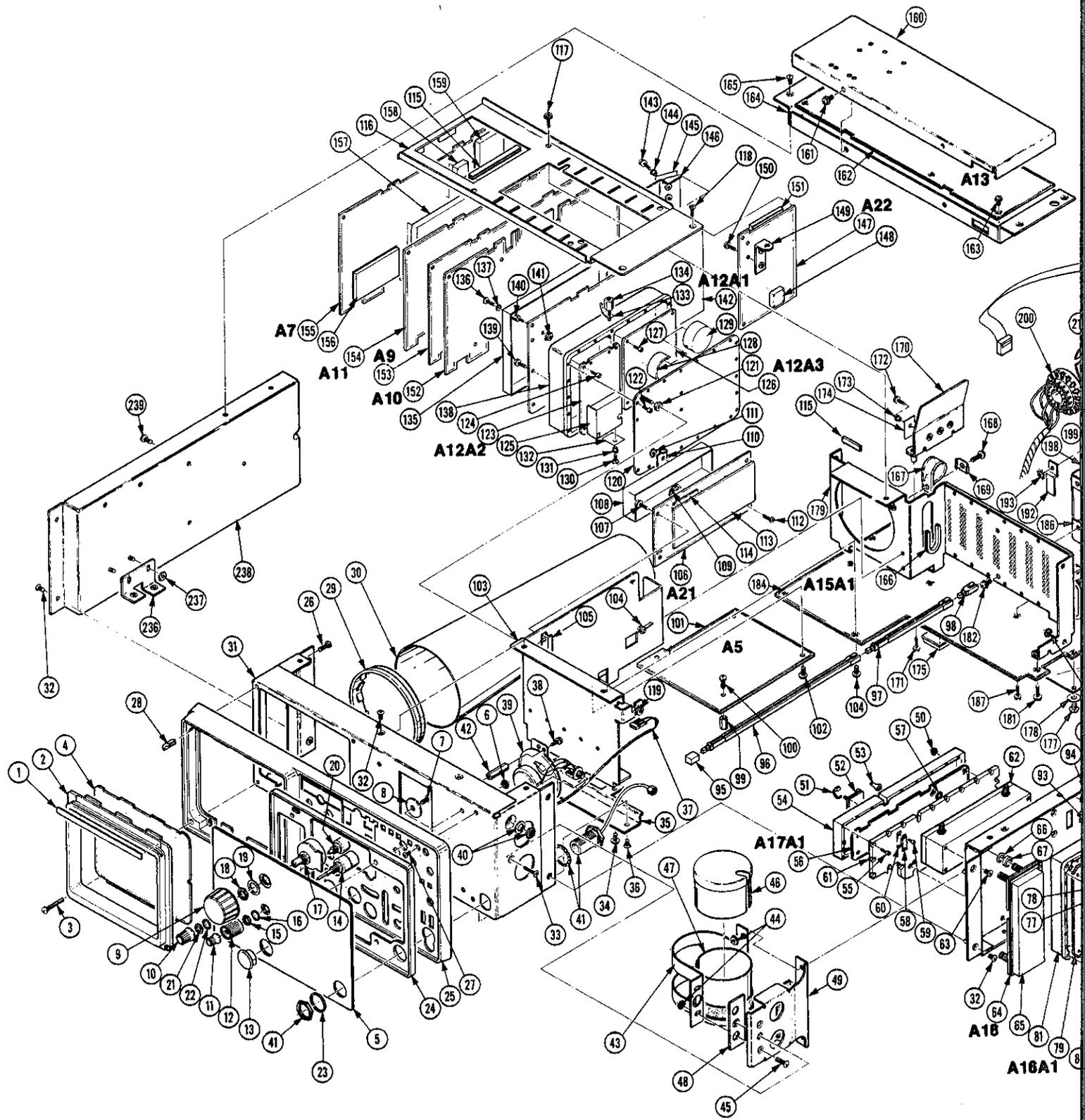
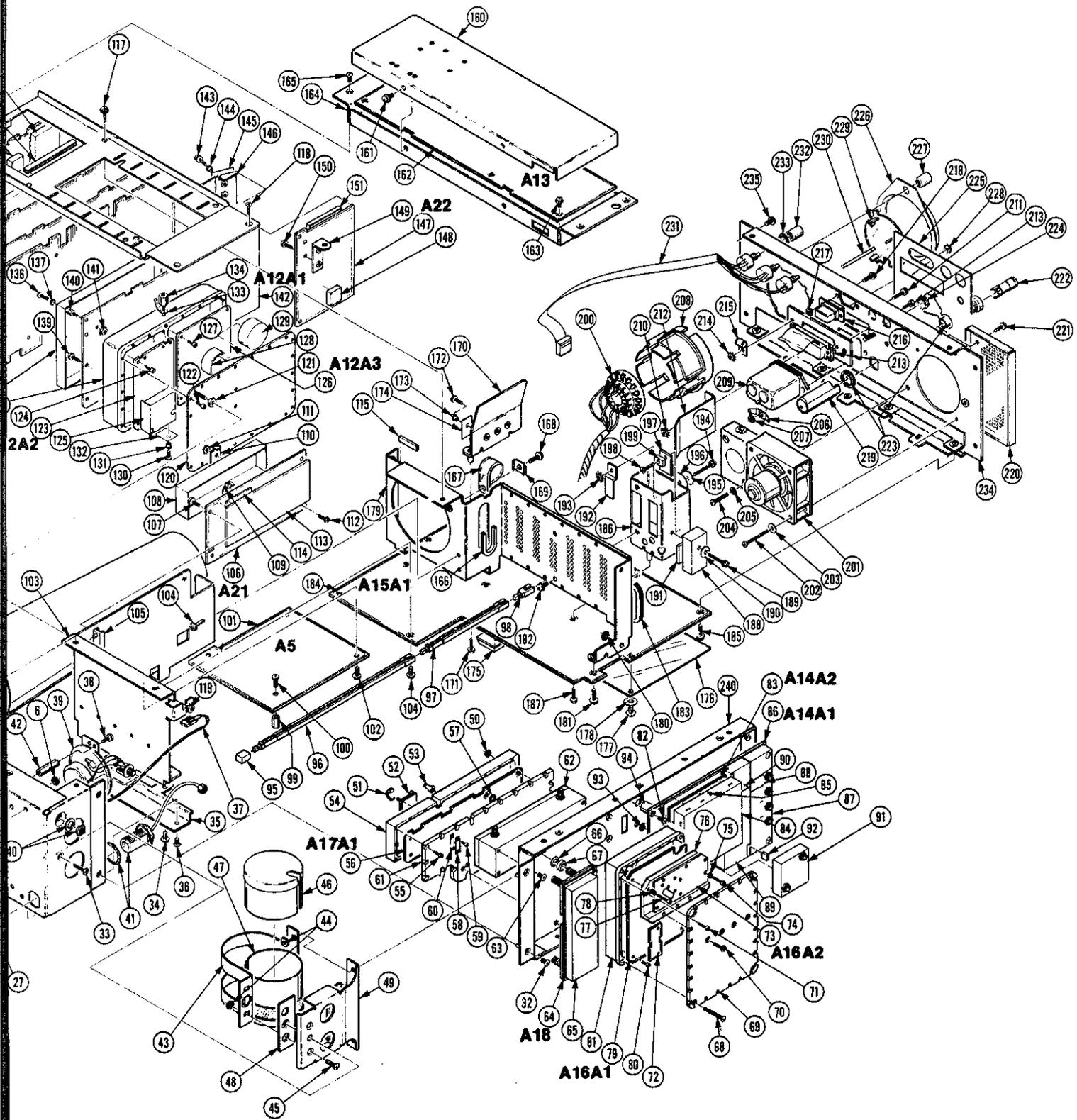
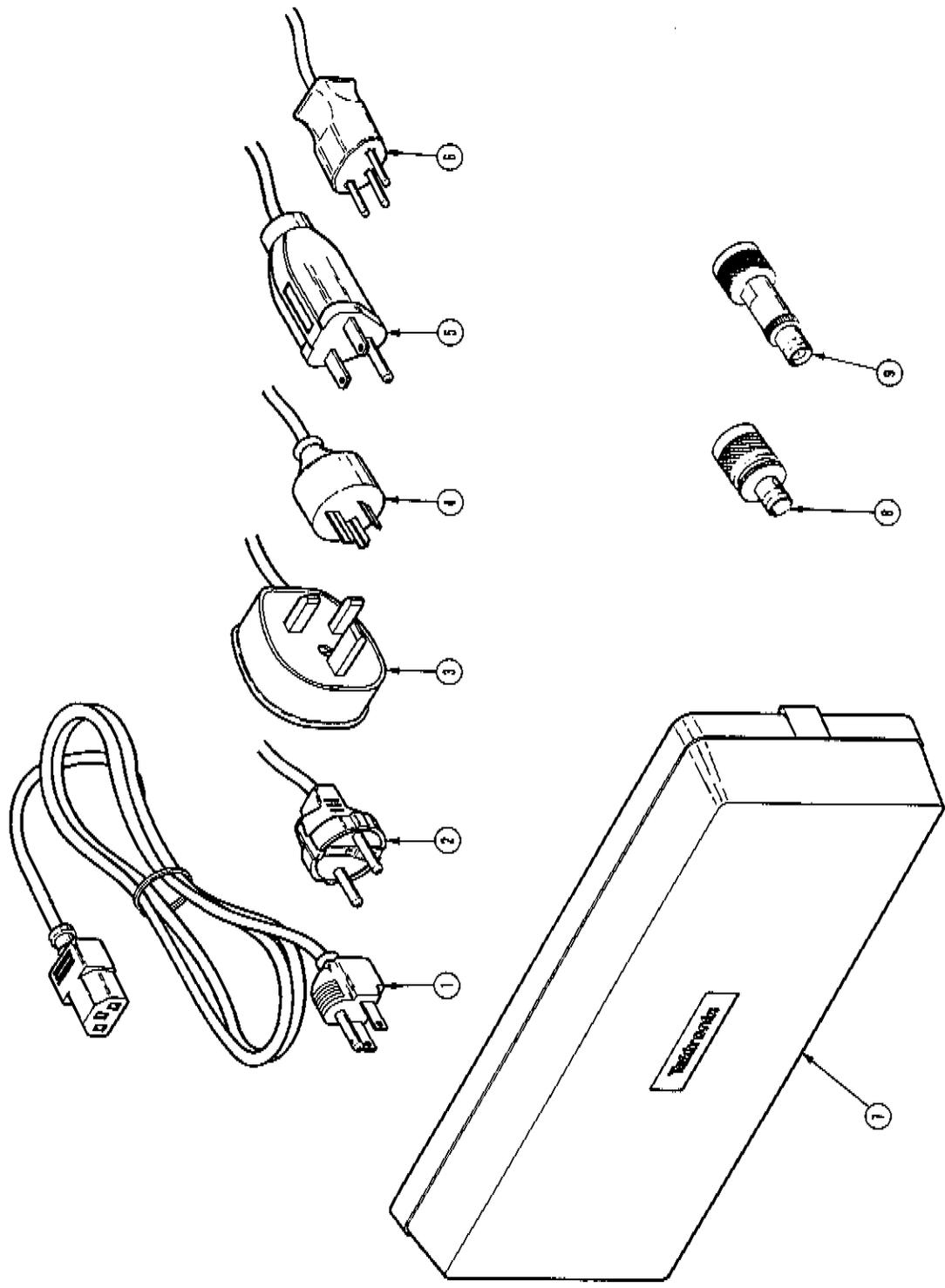


FIG. 3 CHASSIS
SN B020319 & ↑
SHT. 2 of 2



REV MAY 1988

FIG. 4 ACCESSORIES



ADD MAY 1988

Replaceable Mechanical Parts - 2710

Fig. & Index No.	Tektronix Part No.	Serial/Assembly No.		Qty	12345 Name & Description	Mfr.	
		Effective	Discont			Code	Mfr. Part No.
4-1	161-0104-00			1	CABLE ASSY,PWR,:3 WIRE,98.0 L,W/RTANG CONN	16428	CH8352, FH-8352
-2	161-0132-00			1	CABLE ASSY,PWR,:3,0.75MM SQ,220V,3.05M L (EUROPEAN OPTION A1 ONLY)	TK1373	A30BF-RA
-3	161-0133-00			1	CABLE ASSY,PWR,:3,0.75MM SQ,240V,3.05M L (UNITED KINGDOM OPTION A2 ONLY)	TK1373	A30UK-RA
-4	161-0135-00			1	CABLE ASSY,PWR,:3,0.75MM SQ,240V,3.05M L (AUSTRALIAN OPTION A3 ONLY)	S3109	SAA/3-003CCFC3X0
-5	161-0134-00			1	CABLE ASSY,PWR,:3,18 AWG,240V,120.0 L (NORTH AMERICAN OPTION A4 ONLY)	70903	ORDER BY DESCR
-6	161-0167-00			1	CABLE ASSY,PWR,:3.0 X 0.75,6A,240V,2.5M L (SWISS OPTION A5 ONLY)	S3109	ORDER BY DESCR
-7	200-2520-00			1	COVER,SCOPE:FRONT, ABS	TK2165	ORDER BY DESCR
-8	103-0045-00			1	ADAPTER,CONN:N MALE TO BNC FEMALE	24931	29 JP104-3
					OPTIONAL ACCESSORIES		
	070-6022-01			1	MANUAL, TECH:OPERATORS,2710	80009	070-6022-01
	-----			1	CAMERA,SCOPE:C5C (OPTION 02 ONLY)		
	-----			1	K212:CART PORTABLE INSTRUMENT		
	012-0057-01			1	CABLE ASSY,RF:50 OHM COAX,43.0 L	80009	012-0057-01
	012-0074-00			1	CABLE ASSY,RF:75 OHM COAX,42.0 L	80009	012-0074-00
	012-0076-00			1	CABLE ASSY,RF:50 OHM COAX,20.0 L	80009	012-0076-00
	016-0566-00			1	VISOR,CRT:	TK2165	ORDER BY DESCR
	016-0677-02			1	POUCH,ACCESSORY:	TK0174	016-0677-02
	016-0792-01			1	CASE,CARRYING:24.5 X 16.5 X 11.5	TK1336	ORDER BY DESCR
	016-0848-00			1	COVER,PROT:WATERPROOF VINYL	80009	016-0848-00
	070-6024-00			1	MANUAL, TECH:SERVICE	80009	070-6024-00
	103-0273-00			1	ADAPTER,CONN:N FEMALE TO 75 OHM BNC MALE	80009	103-0273-00
	131-4199-00			1	CONN,RCPT,ELEC:75 TO 50 OHM,N STYLE	52750	50Z75-1050
	337-2775-01			1	SHLD,IMPLOSION:	80009	337-2775-01
	337-2775-02			1	SHLD,IMPLOSION:	80009	337-2775-02
	346-0199-00			1	STRAP,CARRYING:MKD TEKTRONIX	80009	346-0199-00
	606-0110-00			1	TEST KIT:SERVICE CABLES & EXTENDER BD	80009	606-0110-00
	174-0804-00			1	.CA ASSY,SP,ELEC:10,28 AWG,12.0 L,RIBBON	80009	174-0804-00
	175-2902-00			1	.CABLE ASSY,RF:50 OHM COAX,12.0 L,CLEAR	80009	175-2902-00
	671-0149-00			1	.CIRCUIT BD ASSY:EXTENDER	80009	671-0149-00

MANUAL CHANGE INFORMATION

At Tektronix, we continually strive to keep up with latest electronic developments by adding circuit and component improvements to our instruments as soon as they are developed and tested.

Sometimes, due to printing and shipping requirements, we can't get these changes immediately into printed manuals. Hence, your manual may contain new change information on following pages.

A single change may affect several sections. Since the change information sheets are carried in the manual until all changes are permanently entered, some duplication may occur. If no such change pages appear following this page, your manual is correct as printed.

Tektronix[®] MANUAL CHANGE INFORMATION

COMMITTED TO EXCELLENCE

Date: 6-13-88

Change Reference: C1/688

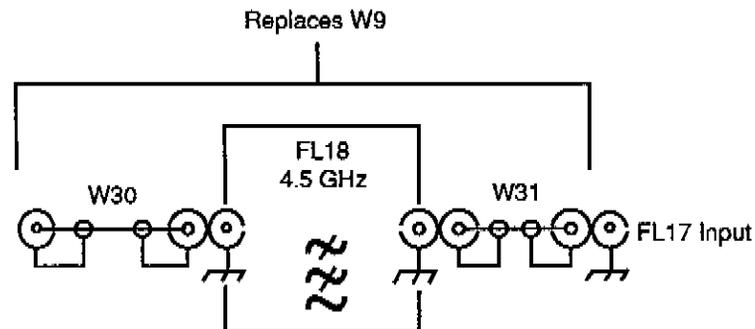
Product: 2710 SPECTRUM ANALYZER

Manual Part No.: 070-6024-01

DESCRIPTION

SCHEMATIC CORRECTION

Replace W9 on Diagram  with the following:



Tektronix[®] MANUAL CHANGE INFORMATION

COMMITTED TO EXCELLENCE

Date: 7-5-88Change Reference: M67131Product: 2710 Spectrum AnalyzerManual Part No.: 070-6024-01

DESCRIPTION

EFFECTIVE SERIAL NUMBER: B020616

The 300 Hz Resolution Filter (Option 01) has been improved and is being installed in instruments starting from serial number B020616. The new design is compatible with Option 01 instruments.

REPLACEABLE ELECTRICAL PARTS

Component No.	Tektronix Part No.	Name & Description	Mfr. Code
A22	671-0975-00	CIRCUIT BD ASSY: 300 HZ FILTER	80009
A22C131	283-5027-00	CAP, FXD, CER DI: 470PF, 5%, 50V	54583
A22C220	281-0267-00	CAP, VAR, PLASTIC: 6-50PF, 50V	80009
A22C221	283-5009-00	CAP, FXD, CER DI: 15PF, +/- 5%, 50V	80009
A22C222	283-5009-00	CAP, FXD, CER DI: 15PF, +/- 5%, 50V	80009
A22C230	283-5001-00	CAP, FXD, CER DI: 100PF, 5%, 50V	54583
A22C231	283-5049-00	CAP, FXD, CER DI: 180PF, 5%, 50V, NPO	54583
A22C232	283-5027-00	CAP, FXD, CER DI: 470PF, 5%, 50V	54583
A22C320	281-0267-00	CAP, VAR, PLASTIC: 6-50PF, 50V	80009
A22C321	283-5001-00	CAP, FXD, CER DI: 100PF, 5%, 50V	54583
A22C322	283-5027-00	CAP, FXD, CER DI: 470PF, 5%, 50V	54583
A22C412	283-5004-00	CAP, FXD, CER DI: 0.1UF, 10% 25V	54583
A22C430	283-5004-00	CAP, FXD, CER DI: 0.1UF, 10% 25V	54583
A22C431	283-5004-00	CAP, FXD, CER DI: 0.1UF, 10% 25V	54583
A22C524	283-5027-00	CAP, FXD, CER DI: 470PF, 5%, 50V	54583
A22C526	283-5004-00	CAP, FXD, CER DI: 0.1UF, 10% 25V	54583
A22C543	283-5004-00	CAP, FXD, CER DI: 0.1UF, 10% 25V	54583
A22C620	281-0267-00	CAP, VAR, PLASTIC: 6-50PF, 50V	80009
A22C630	283-5001-00	CAP, FXD, CER DI: 100PF, 5%, 50V	54583
A22C720	281-0267-00	CAP, VAR, PLASTIC: 6-50PF, 50V	80009
A22C721	283-5001-00	CAP, FXD, CER DI: 100PF, 5%, 50V	54583
A22C722	283-5009-00	CAP, FXD, CER DI: 15PF, +/- 5%, 50V	80009
A22C723	283-5009-00	CAP, FXD, CER DI: 15PF, +/- 5%, 50V	80009
A22C730	283-5049-00	CAP, FXD, CER DI: 180PF, 5%, 50V, NPO	54583
A22C731	283-5027-00	CAP, FXD, CER DI: 470PF, 5%, 50V	54583
A22C820	283-5027-00	CAP, FXD, CER DI: 470PF, 5%, 50V	54583
A22C940	290-0944-00	CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680
A22J132	131-0391-01	CONN, RCPT: SNAP-ON, MALE	98291
A22J810	131-0391-01	CONN, RCPT: SNAP-ON, MALE	98291
A22P910	131-3556-00	CONN, RCPT ELEC: HEADER, 2 X 76, HORIZ	22526

Product 2710 Spectrum Analyzer

Date 7-5-88

Change Reference

M67131

REPLACEABLE ELECTRICAL PARTS
(Continued)

Component No.	Tektronix Part No.	Name & Description	Mfr. Code
A22Q421	151-5009-00	TRANSISTOR: NPN, SI, SOT-89	80009
A22Q443	151-5001-00	TRANSISTOR: NPN, SI, SOT-23	04713
A22Q540	151-5000-00	TRANSISTOR: PNP, SI, SOT-23	04713
A22R324	321-5014-00	RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121
A22R325	321-5001-00	RES, FXD, FILM: 12.1 OHM, 1%, 0.125W	57668
A22R330	321-5014-00	RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121
A22R411	321-5018-00	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121
A22R422	321-5014-00	RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121
A22R441	321-5030-00	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121
A22R442	321-5030-00	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121
A22R520	321-5004-00	RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668
A22R521	321-5001-00	RES, FXD, FILM: 12.1 OHM, 1%, 0.125W	57668
A22R522	321-5014-00	RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121
A22R523	321-5014-00	RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121
A22R541	321-5047-00	RES, FXD, FILM: 100K, 1%, 0.125W	01121
A22R542	321-5000-00	RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668
A22R640	321-5030-00	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121
A22R740	321-5047-00	RES, FXD, FILM: 100K, 1%, 0.125W	01121
A22R840	321-5030-00	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121
A22R841	321-5030-00	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121
A22R842	321-5047-00	RES, FXD, FILM: 100K, 1%, 0.125W	01121
A22R843	321-5030-00	RES, FXD, FILM: 10.0K, 1%, 0.125W	01121
A22R930	321-5000-00	RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668
A22T420	120-1720-00	TRANSFORMER, RF: FEEDBACK AMPLIFIER, 2:8:22	80009
A22U641	156-5021-01	MICROCKT, DGTL: CMOS, 8 STATE SHIFT AND STORE RATIO	18324
A22Y210	158-0129-00	XTAL UNIT, QTZ: PARALLEL, 10MHZ, 0.001%	75378
A22Y310	158-0129-00	XTAL UNIT, QTZ: PARALLEL, 10MHZ, 0.001%	75378
A22Y610	158-0129-00	XTAL UNIT, QTZ: PARALLEL, 10MHZ, 0.001%	75378
A22Y710	158-0129-00	XTAL UNIT, QTZ: PARALLEL, 10MHZ, 0.001%	75378

REPLACEABLE MECHANICAL PARTS

Index No.	Tektronix Part No.	Name & Description	Mfr. Code
2-186	337-3546-00	SHIELD, ELEC SHIELD, FRONT	80009
2-187	337-3547-00	SHIELD, ELEC SHIELD, BACK	80009
2-188	407-3735-00	BRACKET, FILTER	80009

Tektronix[®] MANUAL CHANGE INFORMATION

COMMITTED TO EXCELLENCE

Date: 7-14-88

Change Reference: C2/88 REVISED

Product: 2710 SPECTRUM ANALYZER

Manual Part No.: 070-6024-01

DESCRIPTION

EFFECTIVE SERIAL NUMBER: B020319 AND UP

1. Add the following components to the Replaceable Electrical Parts list.

Component No.	Tektronix Part No.	Name & Description	Mfr. Code	Mfr. Part No.
A12A1CR165	152-5004-00	SEMICON DVC,DI: SI, SW, SER PR, 70V	04713	BAV99T1
A12A1CR175	152-5000-00	SEMICON DVC,DI: SI, 70V,COM CATHODE	04713	BAV70
A12A1Q170	151-5005-00	TRANSISTOR:PNP, SI, SOT-89	04713	BCX69T1
A12A1Q674	151-5000-00	TRANSISTOR:PNP, SI, SOT-23	04713	MMBT3906T1
A15A1R430	311-2235-00	RES, VAR, NONWW: TRMR, 10K OHM, 0.5W	32997	3386F-T04-101
W36	174-0817-00	CABLE ASSY, RF: 50 OHM COAX, 7.25 L	80009	174-0817-00
W37	174-0817-00	CABLE ASSY, RF: 50 OHM COAX, 7.25 L	80009	174-0817-00
W38	174-0817-00	CABLE ASSY, RF: 50 OHM COAX, 7.25 L	80009	174-0817-00
W39	174-1238-00	CABLE ASSY, RF: 50 OHM COAX, 16.5 L	80009	174-1238-00
W40	174-1237-00	CABLE ASSY, RF: 50 OHM COAX, 12.5 L	80009	174-1237-00
W41	174-0820-00	CABLE ASSY, RF: 50 OHM COAX, 11.5 L	80009	174-0820-00
W42	174-1237-00	CABLE ASSY, RF: 50 OHM COAX, 12.5 L	80009	174-1237-00
W43	174-1237-00	CABLE ASSY, RF: 50 OHM COAX, 12.5 L	80009	174-1237-00
W44	174-0819-00	CABLE ASSY, RF: 50 OHM COAX, 8.25 L	80009	174-0819-00
W45	174-0819-00	CABLE ASSY, RF: 50 OHM COAX, 8.25 L	80009	174-0819-00
W46	174-1227-01	CA ASSY, SP, ELEC: 8,26 AWG, 12.0 L, RIBBON	80009	174-1227-01

2. Change the Line Voltage Range and Line Frequency Range specifications in Table 2-5 on page 2-9 as follows:

Characteristic	Performance Requirement	Supplemental Information
Input Voltage		
Line Voltage Range	90 V AC to 250 V AC	
Line Frequency Range	48 Hz to 63 Hz	
Line Voltage Range	90 V AC to 132 V AC	
Line Frequency Range	48 Hz to 440 Hz	

Tektronix[®] MANUAL CHANGE INFORMATION

COMMITTED TO EXCELLENCE

Date: 8-8-88Change Reference: C3/88Product: 2710 SPECTRUM ANALYZERManual Part No.: 070-6024-01

DESCRIPTION

1. Add the following components to the Replaceable Electrical Parts list.
(EFFECTIVE SERIAL NUMBER: B020319 AND UP)

Component No.	Tektronix Part No.	Name & Description	Mfr. Code	Mfr. Part No.
A12A1Q780	151-1127-00	TRANSISTOR: MOSFE, N CHANNEL, SI, TO220	81483	IRF500
A12A1Q781	151-1128-00	TRANSISTOR: MOSFE, P-CHANNEL, SI, TO220	81483	IRF9521
A12A1Q880	151-1128-00	TRANSISTOR: MOSFE, P-CHANNEL, SI, TO220	81483	IRF9521
A12A1Q881	151-1127-00	TRANSISTOR: MOSFE, N CHANNEL, SI, TO220	81483	IRF500
A14A1Q724	151-5010-00	TRANSISTOR:NPN, SI, SOT-89	80009	151-5010-00

2. Remove the following component from the Accessories page at the rear of the manual (Page 10-17).
(EFFECTIVE SERIAL NUMBER: All)

Component No.	Tektronix Part No.	Name & Description	Mfr. Code	Mfr. Part No.
	103-0273-00	CONN, RCPT, ELEC: 75 TO 50 OHM, N STYLE	52750	50Z75-1050