

**Supplement**



**THS720A MOD NV TekScope™  
Component-Level Information Package  
070-9750-02**

# Supplement



## THS720A MOD NV TekScope™ Component-Level Information Package 070-9750-02

This document applies to serial number B030100 and above and firmware version 1.00 and above.

First printing: July 1998

### **Warning**

The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries prior to performing service.

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In order to obtain service under this warranty, Customer must notify Tektronix of the defect before the expiration of the warranty period and make suitable arrangements for the performance of service. Customer shall be responsible for packaging and shipping the defective product to the service center designated by Tektronix, with shipping charges prepaid. Tektronix shall pay for the return of the product to Customer if the shipment is to a location within the country in which the Tektronix service center is located. Customer shall be responsible for paying all shipping charges, duties, taxes, and any other charges for products returned to any other locations.

This warranty shall not apply to any defect, failure or damage caused by improper use or improper or inadequate maintenance and care. Tektronix shall not be obligated to furnish service under this warranty a) to repair damage resulting from attempts by personnel other than Tektronix representatives to install, repair or service the product; b) to repair damage resulting from improper use or connection to incompatible equipment; or c) to service a product that has been modified or integrated with other products when the effect of such modification or integration increases the time or difficulty of servicing the product.

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## Service Assurance

If you have not already purchased Service Assurance for this product, you may do so at any time during the product's warranty period. Service Assurance provides Repair Protection and Calibration Services to meet your needs.

**Repair Protection** extends priority repair services beyond the product's warranty period; you may purchase up to three years of Repair Protection.

**Calibration Services** provide annual calibration of your product, standards compliance and required audit documentation, recall assurance, and reminder notification of scheduled calibration. Coverage begins upon registration; you may purchase up to five years of Calibration Services.

### Service Assurance Advantages

- Priced well below the cost of a single repair or calibration
- Avoid delays for service by eliminating the need for separate purchase authorizations from your company
- Eliminates unexpected service expenses

### For Information and Ordering

For more information or to order Service Assurance, contact your local Tektronix representative and provide the information below. Service Assurance may not be available in locations outside the United States of America.

|                          |  |
|--------------------------|--|
| Name                     | VISA or Master Card number and expiration  |
| Company                  | date or purchase order number              |
| Address                  | Repair Protection (1,2, or 3 years)        |
| City, State, Postal code | Calibration Services (1,2,3,4, or 5 years) |
| Country                  | Instrument model and serial number         |
| Phone                    | Instrument purchase date                   |

To learn the location of your nearest Tektronix representative, please call 1-800-TEK-WIDE in North America, 1-503-627-7111 elsewhere, or look us up on the World Wide Web at <http://www.tek.com>.

## Introduction

This Component-Level Information Package (CLIP) provides component-level theory of operation, an electrical parts list, and schematic diagrams for the THS720A MOD NV.

This document is a supplement to the *THS710A, THS720A, THS730A & THS720P Service Manual*, part number 070-9752-XX. The Service Manual covers module-level information that also applies to the THS720A MOD NV.

The section below describes the differences between a standard THS720A and the THS720A MOD NV. The sections that follow contain the electrical parts list and schematic diagrams.

### THS720A Mod NV Description

The THS720A MOD NV is identical to a standard THS720A except for the three differences below:

- The THS720A MOD NV includes two P6101B passive probes with 1× attenuation in addition to the two standard P6117 probes (10X attenuation).
- The THS720A MOD NV includes the *THS710A, THS720A, THS730A & THS720P Service Manual*, which is part number 070-9752-XX.
- The THS720A MOD NV includes this document, the *THS720A MOD NV Component-Level Information Package*, which is part number 070-9750-XX.

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**NOTE.** For your convenience, you can insert this document into the back of the binder for the THS710A, THS720A, THS730A & THS720P Service Manual.

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## Related Documents

This document must be used in combination with the *THS710A, THS720A, THS730A & THS720P Service Manual*, part number 070-9752-XX. The Service Manual contains information about specifications, general maintenance, disassembly and troubleshooting.



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**CAUTION.** *To prevent product damage, refer to Chapter 6 Maintenance in the THS710A, THS720A, THS730A & THS720P Service Manual for information about ESD prevention.*

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For information about product operation and applications, refer to the *THS710A, THS720A, THS730A & THS720P User Manual*, part number 070-9731-XX.

For information about operating the product over the RS-232 interface, refer to the *THS710A, THS720A, THS730A & THS720P Programmer Manual*, part number 070-9751-XX.

## Component-Level Theory of Operation

This section describes the electrical operation of the THS720A MOD NV. Refer to the schematics in the *Component-Level Diagrams* section as necessary.

### Logic Conventions

This manual refers to digital logic circuits with standard logic symbols and terms. Unless otherwise stated, all logic functions are described using the positive logic convention: the more positive of the two logic levels is the high (1) state and the more negative level is the low (0) state. Signal states may also be described as “true” meaning their active state or “false” meaning their non-active state. The specific voltages that constitute a high or low state vary among the electronic devices.

Active-low signals are indicated by an asterisk (\*) following the signal name, for example IRQ\*. Signal names are considered to be either active-high, active-low, or to have both active-high and active-low states.

### Oscilloscope System

Each of the two oscilloscope input signals enters the main board and passes through an attenuator and preamplifier. Then each signal passes through an isolation interface before reaching the trigger circuitry and sampler/digitizer. The digitized signals are written into system memory for transfer to the display system.

#### Acquisition System

The acquisition system amplifies the input signals, samples them, converts them to digital signals, and controls the acquisition process under direction of the processor system. The acquisition system includes the trigger, acquisition timing, and acquisition control circuitry.

**Attenuators.**  Circuitry in the attenuator selects the input coupling and attenuation factor. The processor system controls the attenuators with a serial interface as well as with DC control voltages.

The Main Board assembly contains two attenuator hybrids (AT1 and AT2). To allow floating measurements, the attenuators are individually isolated from the rest of the Main Board by an isolation interface. Power to the attenuators is coupled through transformers. Opto-isolators couple control voltages and DC control signals to each attenuator. Transformers couple the high-frequency signal

path from each attenuator to the main board. Opto-isolators couple the low-frequency signal path from each attenuator to the main board.

Each attenuator hybrid contains two attenuators, an AC coupling capacitor, three relays, three relay drivers, and a preamplifier. The AC/DC coupling relay couples the output of the BNC to the other relays in the attenuator hybrid. For AC signals, the AC/DC coupling relay inserts a coupling capacitor into the input signal path. The second relay selects a X10 attenuation factor. The third relay selects a X100 attenuation factor.

**Sampler Driver.**  The output of the attenuator drives the sampler driver (U44) inputs. The sampler driver provides gain amplification, bandwidth limit filters, and outputs for the sampler and trigger signal paths.

**Daculator.**  The daculator (U5) performs the function of sixteen independent D/A converters. The daculator provides DC control voltages to the attenuator hybrids and acquisition system. The CPU controls the daculator serially.

**Sampler.**  The sampler IC (U7) provides two complete acquisition channels. It contains all of the functions associated with sampling, A/D conversion, trigger placement, and time base control.

Using a 30.303 MHz clock, the Sampler samples the analog signals from the Sampler driver at up to a 500 MS/s rate. It converts each sampled value into an 8-bit digital value. The A/D reference voltage is 2.5 V.

The sampler finds the approximate trigger position by counting clocks. At high sample rates, it locates precise trigger position by acquiring the trigger signal and interpolating it to find the zero crossing.

**Acquisition Memory.**  The acquisition memory consists of 128KB-by-8 SRAM (U9). The CPU reads this memory through the sampler.

**Trigger.**  The trigger IC (U47) provides all the functions of the trigger system except video sync separation, which is provided by a separate sync separator IC (U65).

The sampler driver selects the trigger source. The analog trigger signal is sent to the trigger IC directly or through filters, which perform the high-frequency reject or low-frequency reject functions.

Next, the signal is compared to two reference thresholds (i.e., trigger levels). The difference between the thresholds set the amount of hysteresis; an increased hysteresis setting performs the noise-reject function. The polarity of the

comparator can be switched to change the trigger slope. A shift register controls filter selection, slope selection, and mode selection.

The trigger IC also contains digital logic and a timer to provide the pulse-width trigger functions.

The output of the trigger integrated circuit is sent to the sampler.

The video sync separator (U65) locates vertical sync pulses and detects even and odd fields. Its output is sent to the trigger IC and to the sampler.

## DMM System

◇ The DMM input enters the Main board and passes through a switching network to select the meter function and range. The DMM signal is converted to a digital value by the DMM IC (U36).

**DC Volts.** The DC Volts circuit uses voltage dividers to cover all ranges except the most sensitive range (400 mVDC). For the 400 mVDC range, the input signal is applied without attenuation to the DMM IC. Input latching relay (K1) provides the switching between the 400 mV range and other ranges.

**AC Volts.** The signal applied to the input of the DMM IC is not AC coupled; therefore, both AC and DC components are processed. The RMS converter (U8) provides two outputs, the DC component of the signal and the RMS value of the DC + AC components. Analog switch (U29) allows the DMM IC to select and measure the composite RMS value and the DC component of the input signal. The DC component is measured and subtracted from the measured composite RMS value to obtain the RMS value of the AC component.

**Resistance.** To measure resistance, the DMM forces a current through the unknown resistor and measures the voltage. The DMM IC computes the resistance by measuring the voltage across the unknown resistor and dividing by the current being forced.

When an open circuit condition exists, comparator (U35) detects the condition and sets a latch, which is read by the readback register (U28). The DMM IC is ignored and the open circuit condition is displayed.

Range changes are made by changing the magnitude of the current being forced. The DMM IC does this by selecting different resistors in the current force circuit. The resistors in the attenuation network for the voltage measurement mode are used for this purpose.

**Voltage Reference.** Voltage reference (U31) generates an accurate reference that is used by the DMM circuits. The 2.5 V output is divided with four resistors to supply the needed reference voltages.

**DMM Isolation.**  The DMM is isolated from the rest of the main board. The digital signals are coupled through opto-couplers. Power is transformer coupled from the isolated power supply .

## CPU System

 The CPU system contains a 68331 microprocessor (U6) that controls all oscilloscope, DMM, and display activities.

**CPU Clock.** Processor clocks are derived from the 30.303 MHz oscillator that drives the sampler (U7) and display controller IC (U21). The display controller IC divides the 30.303 MHz clock by two for a processor clock of 15.15 MHz.

**Interrupts.** The 68331 supports seven levels of auto-vectored interrupts dedicated to different interrupt levels. The sampler, display system, and DUART generate interrupts.

**Reset.** The CPU resets both at power-on and power-off using the reset signal. Reset controller (U3) controls system reset. Power-on reset asserts after the +5 V supply stabilizes. Power-off reset asserts when the supply falls below a usable threshold.

**Memory.** The memory subsystem includes flash ROM for power-off storage and processor firmware. The memory system also includes dynamic RAM for use as system RAM.

The flash ROM (U1)  is a 1 MB × 8 device that provides nonvolatile storage of front-panel settings, waveforms, and calibration constants. It also contains the product firmware.

Dynamic RAM (U18)  is organized as 256 K × 16 and provides of 512 KB of system RAM.

**Front Panel.**  The front panel switch matrix is scanned by the CPU. The scan signals are generated by (U13).

**RS-232.** ◊<sub>13</sub> Signals travel from the processor to the dual asynchronous receiver/transmitter (DUART) (U4). The DUART sends data to the driver/receiver (U24). U24 converts signals from logic levels on the DUART side to RS-232 levels at the RJ-45 connector.

## Display System

◊<sub>14</sub> A raster display controller IC (U21) processes text and waveforms. The display system sends the text and waveform information to the LCD display.

The primary functions of the display circuit is to write waveform data into waveform planes and refresh the LCD display. The circuitry provides Vector, Dot, Vector Accumulate, Dot Accumulate, XY, and YT display modes.

The display system provides text, graticule, and waveform bit planes. All information displayed is first written to a plane. The bit planes are stored in a dedicated DRAM (U17). The information is sent to the LCD display at a regular refresh interval.

### LCD Display

The LCD display is a liquid-crystal display with a florescent backlight. Digital data for the LCD is provided by the display controller. The AC voltage to power the backlight is generated by the Inverter Board. The backlight intensity is set to a fixed level that optimally balances brightness against battery life.

## Main Power Supply

◊<sub>16</sub> The main power supply provides DC power to non-isolated circuits on the Main board and to the isolated power supply. Power supply controller (U66) and gate driver (U67) drive power transistor (Q15) through transformer (T6) to generate +5V, -5V, and -25V DC.

### Battery and External Power

◊<sub>15</sub> Instrument power comes from either the internal battery or from an external DC source. When you connect an AC adapter to the DC INPUT, the battery can be charged. If an overvoltage is applied to the DC INPUT, SCR Q8 fires and opens the self-healing poly-fuse F3.

The battery pack consists of four C-size NiCd cells. A low-battery condition is detected by operational amplifier (U55) which sends a warning signal to the CPU system.

## Isolated Power Supply

◆ The isolated power supply provides power to the attenuators and DMM; the power is coupled through transformers to allow floating measurements. Dual transistor (Q7) forms an oscillator that drives the primaries of transformers (T2, T4, and T5). The secondaries are rectified into three sets of +5V and -5V DC voltages.

## Component-Level Electrical Parts List

This section contains a list of the electrical components for the THS720A MOD NV. Use this list to identify and order replacement parts.

### Parts Ordering Information

Replacement parts are available through your local Tektronix field office or representative.

Changes to Tektronix products are sometimes made to accommodate improved components as they become available and to give you the benefit of the latest improvements. Therefore, when ordering parts, it is important to include the following information in your order:

- Part number
- Instrument type or model number
- Instrument serial number
- Instrument modification number, if applicable

If you order a part that has been replaced with a different or improved part, your local Tektronix 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.

### Using the Replaceable Electrical Parts List

The tabular information in the Replaceable Electrical Parts List is arranged for quick retrieval. Understanding the structure and features of the list will help you find all of the information you need for ordering replacement parts. The following table describes each column of the electrical parts list.



## Manufacturers cross index

| Mfr. code | Manufacturer                  | Address  | City, state, zip code      |
|-----------|-------------------------------|--|----------------------------|
| 01295     | TEXAS INSTRUMENTS INC         | SEMICONDUCTOR GROUP<br>13500 N CENTRAL EXPRESSWAY<br>PO BOX 655303 | DALLAS, TX 75272-5303      |
| 04222     | AVX/KYOCERA                   | PO BOX 867   | MYRTLE BEACH, SC 29577     |
| 04713     | MOTOROLA INC                  | SEMICONDUCTOR PRODUCTS SECTOR<br>5005 E MCDOWELL ROAD              | PHOENIX, AZ 85008-4229     |
| 06090     | RAYCHEM CORP                  | 300 CONSTITUTION DR  | MENLO PARK, CA 94025-1111  |
| 09969     | DALE ELECTRONIC COMPONENTS    | EAST HWY 50<br>P.O. BOX 180  | YANKTON, SD 57078          |
| 0H1N5     | UNITED CHEMI-CON INC          | 998 FIRST EDGE DR  | VERNON HILLS, IL 60061     |
| 0HAF7     | EPSON AMERICA                 | 20770 MADRONA AVE  | TORRANCE, CA 90503         |
| OJR03     | ZMAN MAGNETICS INC            | 7633 S 180TH   | KENT, WA 98032             |
| OJR04     | TOSHIBA AMERICA INC.          | ELECTRONICS COMPONENTS DIV<br>9775 TOLEDO WAY                      | IRVINE, CA 92718           |
| 0NFL0     | COILTRONICS INC               | 6000 PARK OF COMMERCE BLVD   | BOCA RATON, FL 33487       |
| 13919     | BURR-BROWN CORPORATION        | CORP OFFICE<br>6730 S TUCSON BLVD<br>PO BOX 11400                  | TUCSON, AZ 85706           |
| 17554     | AVX/KYOCERA CORP              | 69 LANDRY ST<br>AIRPORT INDUSTRIAL PK                              | BIDDEFORD, ME 04005-4319   |
| 1CH66     | PHILIPS SEMICONDUCTORS        | 811 E ARQUES AVE<br>PO BOX 3409                                    | SUNNYVALE, CA 94086-3409   |
| 1ES66     | MAXIM INTEGRATED PRODUCTS INC | 120 SAN GABRIEL DR   | SUNNYVALE, CA 94086        |
| 24355     | ANALOG DEVICES                | 1 TECHNOLOGY DRIVE   | NORWOOD, MA 02062          |
| 27014     | NATIONAL SEMICONDUCTOR CORP   | 2900 SEMICONDUCTOR DR<br>PO BOX 58090 MS 30-115                    | SANTA CLARA, CA 95051-0606 |
| 29454     | JOHANSON DIELECTRICS INC      | 15191 BLEDSOE STREET   | SYLMAR, CA 91342           |
| 31433     | KEMET ELECTRONICS CORP        | P O BOX 5928   | GREENVILLE, SC 29606       |
| 34335     | ADVANCED MICRO DEVICES INC    | ONE AMD PLACE<br>PO BOX 3453                                       | SUNNYVALE, CA 94088-3453   |
| 34371     | HARRIS SEMICONDUCTORS         | SEMICONDUCTOR SECTOR<br>MS 58-71<br>PO BOX 883                     | MELBOURNE, FL 32902-0883   |
| 4T165     | NEC ELECTRONICS, INC.         | 2880 SCOTT BLVD<br>PO BOX 58062                                    | SANTA CLARA, CA 95052-8062 |
| 50139     | ALLEN-BRADLEY COMPANY INC     | ELECTRONIC COMPONENTS DIVISION<br>1414 ALLEN BRADLEY DRIVE         | EL PASO, TX 79936          |
| 50157     | THERM-O-DISC                  | 1981 PORT CITY BLVD.<br>PO BOX 9903                                | MUSKEGON, MI 49443         |
| 50434     | HEWLETT PACKARD               | 370 W TRIMBLE ROAD   | SAN JOSE, CA 95131-1008    |
| 51993     | INTERNATIONAL RECTIFIER CORP  | 233 KANSAS STREET  | EL SEGUNDO, CA 90245       |
| 56845     | DALE ELECTRONIC COMPONENTS    | 2300 RIVERSIDE BLVD<br>PO BOX 74                                   | NORFOLK, NE 68701          |

## Component-Level Electrical Parts

## Manufacturers cross index (Cont.)

| Mfr. code | Manufacturer                           | Address   | City, state, zip code    |
|-----------|--|---|--------------------------|
| 57924     | BOURNS INC                             | INTEGRATED TECHNOLOGY DIV.<br>1400 NORTH 1000 WEST                  | LOGAN, UT 84321          |
| 59124     | KOA SPEER ELECTRONICS INC              | BOLIVAR DRIVE<br>PO BOX 547   | BRADFORD, PA 16701       |
| 61429     | FOX ELECTRONICS                        | DIV OF FOX ENTERPRISED INC<br>5842 CORPORATION CIRCLE               | FORT MEYERS, FL 33905    |
| 62643     | UNITED CHEMI-CON INC                   | 9801 W HIGGINS RD   | ROSEMONT, IL 60018-4771  |
| 62786     | HITACHI AMERICA LTD                    | HITACHI PLAZA<br>2000 SIERRA POINT PKWY                             | BRISBANE, CA 94005       |
| 64155     | LINEAR TECHNOLOGY CORP.                | 1630 MCCARTHY BOULEVARD   | MILPITAS, CA 950357487   |
| 64762     | ELANTEC INC                            | 1996 TAROB COURT  | MILPITAS, CA 95035-6824  |
| 91637     | DALE ELECTRONIC COMPONENTS             | 1122 23RD ST  | COLUMBUS, NE 68601       |
| TK1065    | AVX/KYOCERA                            | C/O WESTERN TECHNICAL SALES<br>3720 SW 141ST STREET<br>SUITE 200    | BEAVERTON, OR 97005      |
| TK1913    | WIMA                                   | DIV OF INTER-TECHNICAL GROUP INC<br>175 CLEARBROOK RD<br>PO BOX 535 | ELMSFORD, NY 10523-0535  |
| TK1920    | TOKIN AMERICA INC                      | 155 NICHOLSON LANE  | SAN JOSE, CA 95134       |
| TK1943    | NEILSEN MANUFACTURING INC              | 3501 PORTLAND RD NE   | SALEM, OR 97303          |
| TK2058    | TDK CORPORATION OF AMERICA             | 1600 FEEHANVILLE DRIVE  | MOUNT PROSPECT, IL 60056 |
| TK2441    | INTERNATIONAL MICROELECTRONIC PRODUCTS | 2830 NORTH 1ST ST   | SAN JOSE, CA 95134       |
| TK2469    | UNITREK CORPORATION                    | 3000 LEWIS & CLARK HWY<br>SUITE 2                                   | VANCOUVER, WA 98661      |
| TK2598    | MAXIM - ASICS                          | 14150 SW KARL BRAUN DRIVE<br>M/S 59-420                             | BEAVERTON, OR 97077      |
| TK2601    | MAXTEK COMPONENTS CORPORATION          | 13335 SW TERMAN RD<br>PO BOX 1480                                   | BEAVERTON, OR 97075-1480 |

## Replaceable electrical parts list

| Component number | Tektronix part number | Serial no. effective | Serial no. discont'd | Name & description   | Mfr. code | Mfr. part number  |
|------------------|-----------------------|----------------------|----------------------|--|-----------|-------------------|
| A1AT1            | 165-0034-00           | B030100              |                      | MICROCKT, HYBRID: ATTENUATOR/PREAMPLIFIER  | TK2601    | 165-0034-00       |
| A1AT2            | 165-0034-00           | B030100              |                      | MICROCKT, HYBRID: ATTENUATOR/PREAMPLIFIER  | TK2601    | 165-0034-00       |
| A1C3             | 283-5349-00           | B030100              |                      | CAP, FXD, CERAMIC: 470PF, 10%, 100V, X7R, 0603, SMD                                      | 04222     | 06031C471KAT2A    |
| A1C4             | 283-5267-00           | B030100              |                      | CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD                               | 04222     | 12063G105ZAT4A    |
| A1C5             | 283-5267-00           | B030100              |                      | CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD                               | 04222     | 12063G105ZAT4A    |
| A1C6             | 290-5024-00           | B030100              |                      | CAP, FXD, TANT: 3.3UF, 20%, 25V, 0.236 X 0.126, 6032, SMD                                | 04222     | TAJC335M025       |
| A1C7             | 290-5024-00           | B030100              |                      | CAP, FXD, TANT: 3.3UF, 20%, 25V, 0.236 X 0.126, 6032, SMD                                | 04222     | TAJC335M025       |
| A1C8             | 283-5350-00           | B030100              |                      | CAP, FXD, CERAMIC: 1000PF, 10%, 100V, X7R, 0603, SMD                                     | 04222     | 06031C102KAT2A    |
| A1C9             | 283-5267-00           | B030100              |                      | CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD                               | 04222     | 12063G105ZAT4A    |
| A1C10            | 283-5267-00           | B030100              |                      | CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD                               | 04222     | 12063G105ZAT4A    |
| A1C11            | 283-5267-00           | B030100              |                      | CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD                               | 04222     | 12063G105ZAT4A    |
| A1C12            | 283-5267-00           | B030100              |                      | CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD                               | 04222     | 12063G105ZAT4A    |
| A1C13            | 283-5267-00           | B030100              |                      | CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD                               | 04222     | 12063G105ZAT4A    |
| A1C17            | 283-5335-00           | B030100              |                      | CAP, FXF, CERAMIC: MLC, 0.01UF, 10%, 50V, X7R, 0603, SMD                                 | 04222     | 06035C103KAT2A    |
| A1C18            | 283-5267-00           | B030100              |                      | CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD                               | 04222     | 12063G105ZAT4A    |
| A1C19            | 283-5267-00           | B030100              |                      | CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD                               | 04222     | 12063G105ZAT4A    |
| A1C20            | 283-5267-00           | B030100              |                      | CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD                               | 04222     | 12063G105ZAT4A    |
| A1C21            | 283-5267-00           | B030100              |                      | CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD                               | 04222     | 12063G105ZAT4A    |
| A1C22            | 285-1502-00           | B030100              |                      | CAP, FXD, PLASTIC: FILM&FOIL, 6800PF, 5%, 100V, POLYPROPYLENE, 7 X 7.2MM, RADIAL, 0.2 LS | TK1913    | FKP2 6800/100/5   |
| A1C27            | 283-5201-00           | B030100              |                      | CAP, FXD, CERAMIC: MLC, 33PF, 5%, 100V, NPO, 1206, SMD                                   | 04222     | 12061A330JAT1A    |
| A1C28            | 283-5348-00           | B030100              |                      | CAP, FXD, CERAMIC: 220PF, 5%, 100V, NPO, 0603, SMD                                       | 04222     | 06031A221JAT2A    |
| A1C30            | 283-5260-00           | B030100              |                      | CAP, FXD, CERAMIC: MLC, 10UF, +80%-20%, 25V, Z5U, 5.9X2.7MM, SM2210, SMD                 | TK1920    | 1E106ZY5U-C205M-T |
| A1C31            | 283-5226-00           | B030100              |                      | CAP, FXD, CERAMIC: MLC, 270PF, 5%, 50V, NPO, 1206, SMD                                   | 04222     | 12065A271JAT1A    |
| A1C32            | 290-5037-01           | B030100              |                      | CAP, FXD, ALUM: 10UF, 20%, 35V, 5.7 H X 5 DIA MM, SMD                                    | 62643     | MVK35VC10RME60TPX |
| A1C33            | 290-5036-01           | B030100              |                      | CAP, FXD, ALUM: 22UF, 20%, 16V, 5.7MM(0.224), SMD  | 62643     | MVK16VC22RME60TPX |
| A1C34            | 283-5381-00           | B030100              |                      | CAP, FXD, CERAMIC: 33 PF, 5%, 200V, NPO, 1206, SMD                                       | TK1065    | 12062A330JAT      |
| A1C35            | 283-5347-00           | B030100              |                      | CAP, FXD, CERAMIC: 22PF, 5%, 100V, NPO, 0603, SMD  | 04222     | 06031A220JAT2A    |
| A1C36            | 283-5347-00           | B030100              |                      | CAP, FXD, CERAMIC: 22PF, 5%, 100V, NPO, 0603, SMD  | 04222     | 06031A220JAT2A    |

## Component-Level Electrical Parts

## Replaceable electrical parts list (Cont.)

| Component number | Tektronix part number | Serial no. effective | Serial no. discont'd | Name & description                                | Mfr. code | Mfr. part number |
|------------------|-----------------------|----------------------|----------------------|---|-----------|------------------|
| A1C37            | 283-5267-00           | B030100              |                      | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD | 04222     | 12063G105ZAT4A   |
| A1C40            | 283-5267-00           | B030100              |                      | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD | 04222     | 12063G105ZAT4A   |
| A1C42            | 283-5267-00           | B030100              |                      | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD | 04222     | 12063G105ZAT4A   |
| A1C43            | 283-5267-00           | B030100              |                      | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD | 04222     | 12063G105ZAT4A   |
| A1C44            | 283-5267-00           | B030100              |                      | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD | 04222     | 12063G105ZAT4A   |
| A1C45            | 283-5267-00           | B030100              |                      | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD | 04222     | 12063G105ZAT4A   |
| A1C46            | 283-5267-00           | B030100              |                      | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD | 04222     | 12063G105ZAT4A   |
| A1C49            | 283-5369-00           | B030100              |                      | CAP,FXD CERAMIC:27PF,5%,100V,0603,SMD             | 04222     | 06031A270JAT2A   |
| A1C50            | 283-5334-00           | B030100              |                      | CAP,FXD CERAMIC:MLC,10PF,5%,100V,NPO,0603,SMD     | 29454     | 250R14N100CV4T   |
| A1C51            | 283-5348-00           | B030100              |                      | CAP,FXD,CERAMIC:220PF,5%,100V,NPO,0603,SMD        | 04222     | 06031A221JAT2A   |
| A1C53            | 283-5381-00           | B030100              |                      | CAP,FXD,CERAMIC:33 PF,5%,200V,NPO,1206,SMD        | TK1065    | 12062A330JAT     |
| A1C54            | 283-5381-00           | B030100              |                      | CAP,FXD,CERAMIC:33 PF,5%,200V,NPO,1206,SMD        | TK1065    | 12062A330JAT     |
| A1C56            | 283-5381-00           | B030100              |                      | CAP,FXD,CERAMIC:33 PF,5%,200V,NPO,1206,SMD        | TK1065    | 12062A330JAT     |
| A1C57            | 290-5003-00           | B030100              |                      | CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD  | 04222     | TAJD476M010      |
| A1C61            | 283-5267-00           | B030100              |                      | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD | 04222     | 12063G105ZAT4A   |
| A1C63            | 283-5267-00           | B030100              |                      | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD | 04222     | 12063G105ZAT4A   |
| A1C64            | 283-5267-00           | B030100              |                      | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD | 04222     | 12063G105ZAT4A   |
| A1C65            | 283-5348-00           | B030100              |                      | CAP,FXD,CERAMIC:220PF,5%,100V,NPO,0603,SMD        | 04222     | 06031A221JAT2A   |
| A1C71            | 283-5335-00           | B030100              |                      | CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD   | 04222     | 06035C103KAT2A   |
| A1C72            | 283-5267-00           | B030100              |                      | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD | 04222     | 12063G105ZAT4A   |
| A1C73            | 283-5335-00           | B030100              |                      | CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD   | 04222     | 06035C103KAT2A   |
| A1C74            | 290-5003-00           | B030100              |                      | CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD  | 04222     | TAJD476M010      |
| A1C75            | 283-5267-00           | B030100              |                      | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD | 04222     | 12063G105ZAT4A   |
| A1C76            | 290-5003-00           | B030100              |                      | CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD  | 04222     | TAJD476M010      |
| A1C78            | 290-5003-00           | B030100              |                      | CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD  | 04222     | TAJD476M010      |
| A1C79            | 283-5381-00           | B030100              |                      | CAP,FXD,CERAMIC:33 PF,5%,200V,NPO,1206,SMD        | TK1065    | 12062A330JAT     |
| A1C81            | 283-5335-00           | B030100              |                      | CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,0603,SMD       | 04222     | 06035C103KAT2A   |
| A1C82            | 283-5202-00           | B030100              |                      | CAP,FXD,CERAMIC:MLC,0.022UF,10%,50V,1206,SMD      | 04222     | 12065C223KAT1A   |
| A1C85            | 290-5003-00           | B030100              |                      | CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD  | 04222     | TAJD476M010      |

## Replaceable electrical parts list (Cont.)

| Component number | Tektronix part number | Serial no. effective | Serial no. discount'd | Name & description   | Mfr. code | Mfr. part number      |
|------------------|-----------------------|----------------------|-----------------------|--|-----------|-----------------------|
| A1C87            | 290-5003-00           | B030100              |                       | CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD                   | 04222     | TAJD476M010           |
| A1C88            | 283-5267-00           | B030100              |                       | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD                  | 04222     | 12063G105ZAT4A        |
| A1C89            | 283-5267-00           | B030100              |                       | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD                  | 04222     | 12063G105ZAT4A        |
| A1C90            | 283-5335-00           | B030100              |                       | CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,0603,SMD                        | 04222     | 06035C103KAT2A        |
| A1C91            | 283-5200-00           | B030100              |                       | CAP,FXD,CERAMIC:0.47UF,+80%-20%,50V,Z5U,1812,SMD                   | 04222     | 18125E474ZAT1A        |
| A1C93            | 283-5267-00           | B030100              |                       | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD                  | 04222     | 12063G105ZAT4A        |
| A1C94            | 283-5267-00           | B030100              |                       | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD                  | 04222     | 12063G105ZAT4A        |
| A1C95            | 290-5003-00           | B030100              |                       | CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD                   | 04222     | TAJD476M010           |
| A1C96            | 283-5267-00           | B030100              |                       | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD                  | 04222     | 12063G105ZAT4A        |
| A1C97            | 283-5267-00           | B030100              |                       | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD                  | 04222     | 12063G105ZAT4A        |
| A1C98            | 283-5350-00           | B030100              |                       | CAP,FXD,CERAMIC:1000PF,10%,100V,X7R,0603,SMD                       | 04222     | 06031C102KAT2A        |
| A1C99            | 283-5267-00           | B030100              |                       | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD                  | 04222     | 12063G105ZAT4A        |
| A1C100           | 283-5211-00           | B030100              |                       | CAP,FXD,CERAMIC:MLC,4700PF,10%,50V,X7R,1206,SMD                    | 04222     | 12065C472KAT2A        |
| A1C102           | 290-1350-00           | B030100              |                       | CAP,FXD,ALUM:47UF,20%,20V,ESR=0.045 OHM,8 X 10.5 MM,OS-CON,RADIAL  | 0H1N5     | CACFM1D47M            |
| A1C103           | 290-5009-00           | B030100              |                       | CAP,FXD,TANT:15UF,20%,25V,0.287 X 0.169,7343,SMD                   | 04222     | TAJD156M025R          |
| A1C104           | 283-5267-00           | B030100              |                       | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD                  | 04222     | 12063G105ZAT4A        |
| A1C105           | 290-5003-00           | B030100              |                       | CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD                   | 04222     | TAJD476M010           |
| A1C106           | 290-5022-01           | B030100              |                       | CAP,FXD,TANT:68UF,20%,16V,0.287 X 0.174,7343,SMD                   | 17554     | TAJD686M016R          |
| A1C107           | 283-5200-00           | B030100              |                       | CAP,FXD,CERAMIC:0.47UF,+80%-20%,50V,Z5U,1812,SMD                   | 04222     | 18125E474ZAT1A        |
| A1C108           | 283-5267-00           | B030100              |                       | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD                  | 04222     | 12063G105ZAT4A        |
| A1C109           | 290-1351-00           | B030100              |                       | CAP,FXD,ALUM:100UF,20%,10V,ESR=0.045 OHM,8 X 10.5 MM,OS-CON,RADIAL | 0H1N5     | CACFM1A101M           |
| A1C113           | 290-1351-00           | B030100              |                       | CAP,FXD,ALUM:100UF,20%,10V,ESR=0.045 OHM,8 X 10.5 MM,OS-CON,RADIAL | 0H1N5     | CACFM1A101M           |
| A1C114           | 285-5003-00           | B030100              |                       | CAP,FXD,FILM:0.047UF,20%,100V,5.7 X 5 MM,2220,SMD                  | TK1913    | SMD 2220 0.047/100/20 |
| A1C115           | 283-5267-00           | B030100              |                       | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD                  | 04222     | 12063G105ZAT4A        |
| A1C117           | 283-5267-00           | B030100              |                       | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD                  | 04222     | 12063G105ZAT4A        |
| A1C118           | 283-5267-00           | B030100              |                       | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD                  | 04222     | 12063G105ZAT4A        |

## Component-Level Electrical Parts

## Replaceable electrical parts list (Cont.)

| Component number | Tektronix part number | Serial no. effective | Serial no. discontin'd | Name & description  | Mfr. code | Mfr. part number  |
|------------------|-----------------------|----------------------|------------------------|---|-----------|-------------------|
| A1C119           | 283-5267-00           | B030100              |                        | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD                 | 04222     | 12063G105ZAT4A    |
| A1C120           | 283-5335-00           | B030100              |                        | CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD                   | 04222     | 06035C103KAT2A    |
| A1C121           | 283-5335-00           | B030100              |                        | CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD                   | 04222     | 06035C103KAT2A    |
| A1C122           | 283-5335-00           | B030100              |                        | CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD                   | 04222     | 06035C103KAT2A    |
| A1C123           | 283-5335-00           | B030100              |                        | CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD                   | 04222     | 06035C103KAT2A    |
| A1C124           | 283-5335-00           | B030100              |                        | CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD                   | 04222     | 06035C103KAT2A    |
| A1C125           | 283-5335-00           | B030100              |                        | CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD                   | 04222     | 06035C103KAT2A    |
| A1C126           | 283-5335-00           | B030100              |                        | CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD                   | 04222     | 06035C103KAT2A    |
| A1C127           | 283-5335-00           | B030100              |                        | CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD                   | 04222     | 06035C103KAT2A    |
| A1C128           | 283-5335-00           | B030100              |                        | CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD                   | 04222     | 06035C103KAT2A    |
| A1C129           | 283-5267-00           | B030100              |                        | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD                 | 04222     | 12063G105ZAT4A    |
| A1C131           | 283-5350-00           | B030100              |                        | CAP,FXD,CERAMIC:1000PF,10%,100V,X7R,0603,SMD                      | 04222     | 06031C102KAT2A    |
| A1C133           | 283-5350-00           | B030100              |                        | CAP,FXD,CERAMIC:1000PF,10%,100V,X7R,0603,SMD                      | 04222     | 06031C102KAT2A    |
| A1C135           | 290-5002-00           | B030100              |                        | CAP,FXD,TANT:DRY,10UF,20%,20V,TANT OXIDE,0.287 X 0.170,7343,SMD   | 62643     | 20MC106MDTER      |
| A1C136           | 283-5350-00           | B030100              |                        | CAP,FXD,CERAMIC:1000PF,10%,100V,X7R,0603,SMD                      | 04222     | 06031C102KAT2A    |
| A1C137           | 283-5267-00           | B030100              |                        | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD                 | 04222     | 12063G105ZAT4A    |
| A1C138           | 283-5349-00           | B030100              |                        | CAP,FXD,CERAMIC:470PF,10%,100V,X7R,0603,SMD                       | 04222     | 06031C471KAT2A    |
| A1C139           | 283-5335-00           | B030100              |                        | CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD                   | 04222     | 06035C103KAT2A    |
| A1C140           | 290-1350-00           | B030100              |                        | CAP,FXD,ALUM:47UF,20%,20V,ESR=0.045OHM,8X10.5MM,OS-CON,RADIAL     | 0H1N5     | CACFM1D47M        |
| A1C142           | 283-5260-00           | B030100              |                        | CAP,FXD,CERAMIC:MLC,10UF,+80%-20%,25V,Z5U,5.9X2.7MM,SM2210,SMD    | TK1920    | 1E106ZY5U-C205M-T |
| A1C143           | 283-5282-00           | B030100              |                        | CAP,FXD,CERAMIC:MLC,2.2UF,+80%-20%,16V,Y5V,0.120X0.060,CC1206,SMD | 04222     | 1206YG225ZAT2A    |
| A1C147           | 283-5334-00           | B030100              |                        | CAP,FXD,CERAMIC:MLC,10PF,5%,100V,NPO,0603,SMD                     | 29454     | 250R14N100CV4T    |
| A1C148           | 283-5334-00           | B030100              |                        | CAP,FXD,CERAMIC:MLC,10PF,5%,100V,NPO,0603,SMD                     | 29454     | 250R14N100CV4T    |
| A1C151           | 283-5350-00           | B030100              |                        | CAP,FXD,CERAMIC:1000PF,10%,100V,X7R,0603,SMD                      | 04222     | 06031C102KAT2A    |
| A1C152           | 283-5348-00           | B030100              |                        | CAP,FXD,CERAMIC:220PF,5%,100V,NPO,0603,SMD                        | 04222     | 06031A221JAT2A    |
| A1C153           | 283-5267-00           | B030100              |                        | CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD                 | 04222     | 12063G105ZAT4A    |

## Replaceable electrical parts list (Cont.)

| Component number | Tektronix part number | Serial no. effective | Serial no. discount'd | Name & description   | Mfr. code | Mfr. part number |
|------------------|-----------------------|----------------------|-----------------------|--|-----------|------------------|
| A1C154           | 283-5361-00           | B030100              |                       | CAP,FXD,CERAMIC:680PF,5%,100V,X7R,0603,SMD                                       | 04222     | 06031C681JAT2A   |
| A1C155           | 283-5113-00           | B030100              |                       | CAP,FXD,CERAMIC:MLC,0.047UF,10%,50V,X7R,1206,SMD                                 | 04222     | 12065C473KAT1A   |
| A1C157           | 290-1317-00           | B030100              |                       | CAP,FXD,ALUM:33 UF,20%,20V,ESR=90 MOHM,OS-CON, 6.3 X 9.8 MM,RADIAL.0.1(2.5MM) LS | 62643     | CACFM1D330M      |
| A1C158           | 283-5362-00           | B030100              |                       | CAP,FXD,CERAMIC:2200PF,10%,100V,X7R,0603,SMD                                     | 04222     | 06031C222KAT2A   |
| A1C159           | 283-5358-00           | B030100              |                       | CAP,FXD,CERAMIC:100PF,5%,100V,NPO,0603,SMD                                       | 04222     | 06031A101JAT2A   |
| A1C160           | 283-5358-00           | B030100              |                       | CAP,FXD,CERAMIC:100PF,5%,100V,NPO,0603,SMD                                       | 04222     | 06031A101JAT2A   |
| A1C161           | 283-5358-00           | B030100              |                       | CAP,FXD,CERAMIC:100PF,5%,100V,NPO,0603,SMD                                       | 04222     | 06031A101JAT2A   |
| A1C162           | 290-5003-00           | B030100              |                       | CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD                                 | 04222     | TAJD476M010      |
| A1C163           | 283-5358-00           | B030100              |                       | CAP,FXD,CERAMIC:100PF,5%,100V,NPO,0603,SMD                                       | 04222     | 06031A101JAT2A   |
| A1C164           | 283-5370-00           | B030100              |                       | CAP,FXD CERAMIC:39PF,5%,100V,0603,SMD  | 04222     | 06031A390JAT1A   |
| A1C167           | 283-5358-00           | B030100              |                       | CAP,FXD,CERAMIC:100PF,5%,100V,NPO,0603,SMD                                       | 04222     | 06031A101JAT2A   |
| A1C168           | 283-5358-00           | B030100              |                       | CAP,FXD,CERAMIC:100PF,5%,100V,NPO,0603,SMD                                       | 04222     | 06031A101JAT2A   |
| A1C169           | 283-5358-00           | B030100              |                       | CAP,FXD,CERAMIC:100PF,5%,100V,NPO,0603,SMD                                       | 04222     | 06031A101JAT2A   |
| A1C172           | 283-5362-00           | B030100              |                       | CAP,FXD,CERAMIC:2200PF,10%,100V,X7R,0603,SMD                                     | 04222     | 06031C222KAT2A   |
| A1C173           | 283-5363-00           | B030100              |                       | CAP,FXD,CERAMIC:0.022UF,10%,16V,X7R,0603,SMD                                     | 04222     | 0603YC223KAT2A   |
| A1C174           | 283-5348-00           | B030100              |                       | CAP,FXD,CERAMIC:220PF,5%,100V,NPO,0603,SMD                                       | 04222     | 06031A221JAT2A   |
| A1C175           | 283-5348-00           | B030100              |                       | CAP,FXD,CERAMIC:220PF,5%,100V,NPO,0603,SMD                                       | 04222     | 06031A221JAT2A   |
| A1C176           | 283-5226-00           | B030100              |                       | CAP,FXD,CERAMIC:MLC,270PF,5%,50V,NPO,1206,SMD                                    | 04222     | 12065A271JAT1A   |
| A1CR1            | 152-5018-00           | B030100              |                       | DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.0PF,SER-PAIR,MMBD1203,TO-236/SOT-23        | 27014     | MMBD1203         |
| A1CR2            | 152-5018-00           | B030100              |                       | DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.0PF,SER-PAIR,MMBD1203,TO-236/SOT-23        | 27014     | MMBD1203         |
| A1CR3            | 152-5018-00           | B030100              |                       | DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.0PF,SER-PAIR,MMBD1203,TO-236/SOT-23        | 27014     | MMBD1203         |
| A1CR4            | 152-5018-00           | B030100              |                       | DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.0PF,SER-PAIR,MMBD1203,TO-236/SOT-23        | 27014     | MMBD1203         |
| A1CR5            | 152-5018-00           | B030100              |                       | DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.0PF,SER-PAIR,MMBD1203,TO-236/SOT-23        | 27014     | MMBD1203         |
| A1CR6            | 152-5018-00           | B030100              |                       | DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.0PF,SER-PAIR,MMBD1203,TO-236/SOT-23        | 27014     | MMBD1203         |
| A1CR7            | 152-5018-00           | B030100              |                       | DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.0PF,SER-PAIR,MMBD1203,TO-236/SOT-23        | 27014     | MMBD1203         |
| A1CR8            | 152-5027-00           | B030100              |                       | DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB                                    | 04713     | MBRS140T3        |
| A1CR9            | 152-5023-00           | B030100              |                       | DIODE,ZENER:5.1V,5%,0.225W,MMBZ5231BL,TO-236/SOT-23                              | 04713     | MMBZ5231BLT1     |
| A1CR10           | 152-5023-00           | B030100              |                       | DIODE,ZENER:5.1V,5%,0.225W,MMBZ5231BL,TO-236/SOT-23                              | 04713     | MMBZ5231BLT1     |
| A1CR11           | 152-5062-00           | B030100              |                       | DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.0PF,COMMON ANODE,MMBD1205,TO-236/SOT-23    | 27014     | MMBD1205         |

## Component-Level Electrical Parts

## Replaceable electrical parts list (Cont.)

| Component number | Tektronix part number | Serial no. effective | Serial no. discontin'd | Name & description   | Mfr. code | Mfr. part number |
|------------------|-----------------------|----------------------|------------------------|--|-----------|------------------|
| A1CR12           | 152-5047-00           | B030100              |                        | DIODE,SIG:ULTRAFAST,DUAL,COMMON CATHODE,100V,0.74VF,4NS,2.0PF,MMBD1204,TO-236/SOT-23 | 27014     | MMBD1204         |
| A1CR13           | 152-5027-00           | B030100              |                        | DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB  | 04713     | MBRS140T3        |
| A1CR14           | 152-5027-00           | B030100              |                        | DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB  | 04713     | MBRS140T3        |
| A1CR15           | 152-5027-00           | B030100              |                        | DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB  | 04713     | MBRS140T3        |
| A1CR16           | 152-5062-00           | B030100              |                        | DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.0PF,COMMONANODE,MMBD1205,TO-236/SOT-23         | 27014     | MMBD1205         |
| A1CR17           | 152-5047-00           | B030100              |                        | DIODE,SIG:ULTRAFAST,DUAL,COMMON CATHODE,100V,0.74VF,4NS,2.0PF,MMBD1204,TO-236/SOT-23 | 27014     | MMBD1204         |
| A1CR18           | 152-5027-00           | B030100              |                        | DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB  | 04713     | MBRS140T3        |
| A1CR19           | 152-5027-00           | B030100              |                        | DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB  | 04713     | MBRS140T3        |
| A1CR20           | 152-5018-00           | B030100              |                        | DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.0PF,SER-PAIR,MMBD1203,TO-236/SOT-23            | 27014     | MMBD1203         |
| A1CR21           | 152-5027-00           | B030100              |                        | DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB  | 04713     | MBRS140T3        |
| A1CR22           | 152-5027-00           | B030100              |                        | DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB  | 04713     | MBRS140T3        |
| A1CR23           | 152-5062-00           | B030100              |                        | DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.0PF,COMMONANODE,MMBD1205,TO-236/SOT-23         | 27014     | MMBD1205         |
| A1CR24           | 152-5027-00           | B030100              |                        | DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB  | 04713     | MBRS140T3        |
| A1CR25           | 152-5027-00           | B030100              |                        | DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB  | 04713     | MBRS140T3        |
| A1CR27           | 152-5027-00           | B030100              |                        | DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB  | 04713     | MBRS140T3        |
| A1CR28           | 152-5047-00           | B030100              |                        | DIODE,SIG:ULTRAFAST,DUAL,COMMON CATHODE,100V,0.74VF,4NS,2.0PF,MMBD1204,TO-236/SOT-23 | 27014     | MMBD1204         |
| A1CR30           | 152-5027-00           | B030100              |                        | DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB  | 04713     | MBRS140T3        |
| A1CR31           | 152-5027-00           | B030100              |                        | DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB  | 04713     | MBRS140T3        |
| A1CR34           | 152-5072-00           | B030100              |                        | DIODE,ZENER:12V,5%,0.225W,MMBZ5242BL,TO-236/SOT-23                                   | 04713     | MMBZ5242BLT1     |
| A1CR35           | 152-5072-00           | B030100              |                        | DIODE,ZENER:12V,5%,0.225W,MMBZ5242BL,TO-236/SOT-23                                   | 04713     | MMBZ5242BLT1     |
| A1CR37           | 152-5047-00           | B030100              |                        | DIODE,SIG:ULTRAFAST,DUAL,COMMON CATHODE,100V,0.74VF,4NS,2.0PF,MMBD1204,TO-236/SOT-23 | 27014     | MMBD1204         |

## Replaceable electrical parts list (Cont.)

| Component number | Tektronix part number | Serial no. effective | Serial no. discont'd | Name & description   | Mfr. code | Mfr. part number |
|------------------|-----------------------|----------------------|----------------------|--|-----------|------------------|
| A1CR41           | 152-5027-00           | B030100              |                      | DIODE,RECT:SCHTKY,40V,1A,MBRS140, DO-214AA/SMB   | 04713     | MBRS140T3        |
| A1CR42           | 152-5072-00           | B030100              |                      | DIODE,ZENER:12V,5%,0.225W,MMBZ5242BL, TO-236/SOT-23  | 04713     | MMBZ5242BLT1     |
| A1CR43           | 152-5011-00           | B030100              |                      | DIODE,ZENER:6.2V,5%,0.225W,MMBZ5234BL, TO-236/SOT-23   | 04713     | MMBZ5234BLT1     |
| A1E3             | 108-5102-00           | B030100              |                      | EMI,SUPPRESSION:FERRITE BEAD,26 OHM +/-25%@100 MHZ,DCR=0.2 OHM,IMAX=500 MA                     | TK2058    | HF70ACB-321611T  |
| A1E7             | 337-4011-00           | B030100              |                      | SHEILD,ELECT:CKT BD,ATTEN,0.020 BRASS,TIN PLATE,2.62 X 1.22 X 0.325                            | TK1943    | 337-4011-00      |
| A1F3             | 159-0365-00           | B030100              |                      | FUSE,THERMAL:1.35A,30V,SELF RESETTING, 0.35 X 0.53H,UL REC, POLYSWITCH,RUE,RADIAL LEAD         | 06090     | RUE135           |
| A1J2             | 174-3461-00           | B030100              |                      | CA ASSY,SP:DISCRETE,LDI,2,24 AWG,3.1 L,2X2,0.1 CTR,MALE  | TK2469    | 174-3461-00      |
| A1J10            | 174-3488-00           | B030100              |                      | CA ASSY, SP:COAX,RFP,50 OHM,RG174, 2.35 L,PELTOLA X BRAID PIC,PCB TERMINATION                  | TK2469    | 174-3488-00      |
| A1J11            | 174-3488-00           | B030100              |                      | CA ASSY, SP:COAX,RFP,50 OHM,RG174, 2.35 L,PELTOLA X BRAID PIC,PCB TERMINATION                  | TK2469    | 174-3488-00      |
| A1L1             | 321-5051-00           | B030100              |                      | RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM,1206   | 09969     | CRCW1206 JUMPER  |
| A1L2             | 321-5051-00           | B030100              |                      | RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM,1206   | 09969     | CRCW1206 JUMPER  |
| A1L3             | 321-5051-00           | B030100              |                      | RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM,1206   | 09969     | CRCW1206 JUMPER  |
| A1L4             | 321-5051-00           | B030100              |                      | RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM,1206   | 09969     | CRCW1206 JUMPER  |
| A1L5             | 108-5161-00           | B030100              |                      | INDUCTOR,FXD:POWER,4.7UH,10%,IDC<0.65 A, RDC<0.27 OHM,SRF>35 MHZ,453232-4R7,1812               | TK2058    | NLC453232T-4R7K  |
| A1L6             | 108-5161-00           | B030100              |                      | INDUCTOR,FXD:POWER,4.7UH,10%,IDC<0.65 A, RDC<0.27 OHM,SRF>35 MHZ,453232-4R7,1812               | TK2058    | NLC453232T-4R7K  |
| A1L7             | 108-5147-00           | B030100              |                      | INDUCTOR,FXD:COUPLED INDUCTOR, 100UH,PARALLEL RATING:IDC=0.51A, DCR=0.375OHM,NON-POWDER TOROID | ONFLO     | CTX100-1 TR      |
| A1L8             | 108-5147-00           | B030100              |                      | INDUCTOR,FXD:COUPLED INDUCTOR, 100UH,PARALLEL RATING:IDC=0.51A, DCR=0.375OHM,NON-POWDER TOROID | ONFLO     | CTX100-1 TR      |
| A1L9             | 108-5147-00           | B030100              |                      | INDUCTOR,FXD:COUPLED INDUCTOR, 100UH,PARALLEL RATING:IDC=0.51A,DCR=0.375OHM, NON-POWDER TOROID | ONFLO     | CTX100-1 TR      |
| A1L10            | 108-5147-00           | B030100              |                      | INDUCTOR,FXD:COUPLED INDUCTOR, 100UH,PARALLEL RATING:IDC=0.51A, DCR=0.375OHM,NON-POWDER TOROID | ONFLO     | CTX100-1 TR      |
| A1L16            | 108-5161-00           | B030100              |                      | INDUCTOR,FXD:POWER,4.7UH,10%,IDC<0.65 A, RDC<0.27 OHM,SRF>35 MHZ,453232-4R7,1812               | TK2058    | NLC453232T-4R7K  |
| A1L17            | 108-5161-00           | B030100              |                      | INDUCTOR,FXD:POWER,4.7UH,10%,IDC<0.65 A, RDC<0.27 OHM,SRF>35 MHZ,453232-4R7,1812               | TK2058    | NLC453232T-4R7K  |

## Component-Level Electrical Parts

## Replaceable electrical parts list (Cont.)

| Component number | Tektronix part number | Serial no. effective | Serial no. discont'd | Name & description  | Mfr. code | Mfr. part number  |
|------------------|-----------------------|----------------------|----------------------|---|-----------|-------------------|
| A1L18            | 276-5003-00           | B030100              |                      | EMI SUPPRESSION:FERRITE BEAD,31 OHM@100 MHZ,IMAX<1.5 A,RDC<0.04 OHM                       | TK2058    | HF50ACC321611     |
| A1L19            | 276-5003-00           | B030100              |                      | EMI SUPPRESSION:FERRITE BEAD,31 OHM@100 MHZ,IMAX<1.5 A,RDC<0.04 OHM                       | TK2058    | HF50ACC321611     |
| A1Q1             | 151-5656-00           | B030100              |                      | TRANSISTOR,SIG:JFET,N-CH,10V,150MA,30 OHM,MMBF4391L,TO-236/SOT-23                         | 04713     | MMBF4391LT1       |
| A1Q2             | 151-5656-00           | B030100              |                      | TRANSISTOR,SIG:JFET,N-CH,10V,150MA,30 OHM,MMBF4391L,TO-236/SOT-23                         | 04713     | MMBF4391LT1       |
| A1Q3             | 151-5656-00           | B030100              |                      | TRANSISTOR,SIG:JFET,N-CH,10V,150MA,30 OHM,MMBF4391L,TO-236/SOT-23                         | 04713     | MMBF4391LT1       |
| A1Q4             | 151-5656-00           | B030100              |                      | TRANSISTOR,SIG:JFET,N-CH,10V,150MA,30 OHM,MMBF4391L,TO-236/SOT-23                         | 04713     | MMBF4391LT1       |
| A1Q8             | 151-5095-00           | B030100              |                      | THYRISTOR,PWR:BIPOLAR,SCR,200V,4.0A RMS,2.6A AVG, PHASE CONTROL,MCR704A,TO-252/DPAK       | 04713     | MCR704AT4         |
| A1Q15            | 151-5100-00           | B030100              |                      | TRANSISTOR,PWR:MOS,N-CH,30V,10A,0.0135/0.02 OHM, STD/LOGIC LEVEL, SI4410Y/IRF7413,SO8.150 | 51993     | IRF7413-TRL       |
| A1R1             | 307-5041-01           | B030100              |                      | RES,NTWK,FXD,FI:15,4.7K OHM,2%,PIN 16 COMMON,0.08W EA,1.2W PKG,50PPM,SMD                  | 57924     | 4816P-002-472     |
| A1R2             | 321-5421-00           | B030100              |                      | RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD  | 91637     | CRCW06031001FRT-1 |
| A1R3             | 321-5421-00           | B030100              |                      | RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD  | 91637     | CRCW06031001FRT-1 |
| A1R4             | 321-5425-00           | B030100              |                      | RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD  | 91637     | CRCW06034751FRT-1 |
| A1R5             | 321-5425-00           | B030100              |                      | RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD  | 91637     | CRCW06034751FRT-1 |
| A1R6             | 307-5041-01           | B030100              |                      | RES,NTWK,FXD,FI:15,4.7K OHM,2%,PIN 16 COMMON,0.08W EA,1.2W PKG, 50PPM,SMD                 | 57924     | 4816P-002-472     |
| A1R7             | 321-5417-00           | B030100              |                      | RES,FXD,FILM:100 OHM, 1%,100V,62MW,0603,SMD   | 59124     | RK73H1J1000FT     |
| A1R8             | 321-5417-00           | B030100              |                      | RES,FXD,FILM:100 OHM, 1%,100V,62MW,0603,SMD   | 59124     | RK73H1J1000FT     |
| A1R9             | 321-5417-00           | B030100              |                      | RES,FXD,FILM:100 OHM, 1%,100V,62MW,0603,SMD   | 59124     | RK73H1J1000FT     |
| A1R10            | 321-5421-00           | B030100              |                      | RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD  | 91637     | CRCW06031001FRT-1 |
| A1R11            | 321-5429-00           | B030100              |                      | RES,FXD,FILM:27.4K,1%,100V,62.5MW,0603,SMD  | 59124     | RK73H1J2742FT     |
| A1R12            | 321-5436-00           | B030100              |                      | RES,FXD,FILM:1.00M,1%,100V,62.5MW,0603,SMD  | 91637     | CRCW06031004FRT-1 |
| A1R13            | 321-5422-00           | B030100              |                      | RES,FXD,FILM:2.00K,1%,100V,62.5MW,0603,SMD  | 91637     | CRCW06032001FRT-1 |
| A1R14            | 321-5436-00           | B030100              |                      | RES,FXD,FILM:1.00M,1%,100V,62.5MW,0603,SMD  | 91637     | CRCW06031004FRT-1 |
| A1R15            | 321-5165-00           | B030100              |                      | RES,FXD,FILM:10K OHM,0.1%,0.125W,TC=T9 1206PKG  | 91637     | TNPW1206-1002BT-9 |
| A1R16            | 321-5165-00           | B030100              |                      | RES,FXD,FILM:10K OHM,0.1%,0.125W,TC=T9 1206PKG  | 91637     | TNPW1206-1002BT-9 |
| A1R17            | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD  | 59124     | RK73H1J1002FT     |
| A1R18            | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD  | 59124     | RK73H1J1002FT     |
| A1R19            | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD  | 59124     | RK73H1J1002FT     |
| A1R20            | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD  | 59124     | RK73H1J1002FT     |
| A1R21            | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD  | 59124     | RK73H1J1002FT     |
| A1R22            | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD  | 59124     | RK73H1J1002FT     |
| A1R23            | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD  | 59124     | RK73H1J1002FT     |

## Replaceable electrical parts list (Cont.)

| Component number | Tektronix part number | Serial no. effective | Serial no. discount'd | Name & description   | Mfr. code | Mfr. part number      |
|------------------|-----------------------|----------------------|-----------------------|--|-----------|-----------------------|
| A1R24            | 321-5427-00           | B030100              |                       | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD                                   | 59124     | RK73H1J1002FT         |
| A1R25            | 321-5421-00           | B030100              |                       | RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD                                   | 91637     | CRCW06031001FRT-1     |
| A1R26            | 321-5367-00           | B030100              |                       | RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM, SMD,1206 PKG, THIN FILM FOR TIGHT VC | 91637     | TNPW12061004FT        |
| A1R27            | 321-5367-00           | B030100              |                       | RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM, SMD,1206 PKG, THIN FILM FOR TIGHT VC | 91637     | TNPW12061004FT        |
| A1R28            | 321-5379-00           | B030100              |                       | RES,FXD:THIN FILM,1K OHM, 1%,0.125W,TC=25PPM,1206                            | 91637     | TNPW12061001FT-9-R T1 |
| A1R29            | 321-5367-00           | B030100              |                       | RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM, SMD,1206 PKG, THIN FILM FOR TIGHT VC | 91637     | TNPW12061004FT        |
| A1R30            | 321-5165-00           | B030100              |                       | RES,FXD,FILM:10K OHM,0.1%,0.125W,TC=T9 1206PKG                               | 91637     | TNPW1206-1002BT-9     |
| A1R31            | 321-5378-00           | B030100              |                       | RES,FXD:THIN FILM,100K OHM, 1%,0.125W,TC=25PPM,1206                          | 91637     | TNPW12061003FT-9      |
| A1R32            | 321-5367-00           | B030100              |                       | RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM,SMD, 1206 PKG, THIN FILM FOR TIGHT VC | 91637     | TNPW12061004FT        |
| A1R33            | 321-5367-00           | B030100              |                       | RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM,SMD, 1206 PKG, THIN FILM FOR TIGHT VC | 91637     | TNPW12061004FT        |
| A1R34            | 321-5367-00           | B030100              |                       | RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM, SMD,1206 PKG, THIN FILM FOR TIGHT VC | 91637     | TNPW12061004FT        |
| A1R35            | 321-5367-00           | B030100              |                       | RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM, SMD,1206 PKG, THIN FILM FOR TIGHT VC | 91637     | TNPW12061004FT        |
| A1R36            | 321-5367-00           | B030100              |                       | RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM, SMD,1206 PKG, THIN FILM FOR TIGHT VC | 91637     | TNPW12061004FT        |
| A1R37            | 321-5429-00           | B030100              |                       | RES,FXD,FILM:27.4K,1%,100V,62.5MW,0603,SMD                                   | 59124     | RK73H1J2742FT         |
| A1R38            | 321-5379-00           | B030100              |                       | RES,FXD:THIN FILM,1K OHM, 1%,0.125W,TC=25PPM,1206                            | 91637     | TNPW12061001FT-9      |
| A1R39            | 321-5367-00           | B030100              |                       | RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM, SMD,1206 PKG, THIN FILM FOR TIGHT VC | 91637     | TNPW12061004FT        |
| A1R40            | 321-5474-00           | B030100              |                       | RES,FXD,FILM:200K OHM,1%,50V,62.5MW,0603,SMD                                 | 91637     | CRCW06032003F-RT1     |
| A1R41            | 321-5379-00           | B030100              |                       | RES,FXD:THIN FILM,1K OHM, 1%,0.125W,TC=25PPM,1206                            | 91637     | TNPW12061001FT-9      |
| A1R42            | 321-5367-00           | B030100              |                       | RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM, SMD,1206 PKG, THIN FILM FOR TIGHT VC | 91637     | TNPW12061004FT        |
| A1R44            | 321-5427-00           | B030100              |                       | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD                                   | 59124     | RK73H1J1002FT         |
| A1R45            | 321-5367-00           | B030100              |                       | RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM, SMD,1206 PKG, THIN FILM FOR TIGHT VC | 91637     | TNPW12061004FT        |
| A1R46            | 321-5423-00           | B030100              |                       | RES,FXD,FILM:2.74K,1%,100V,62.5MW,0603,SMD                                   | 91637     | CRCW06032741FRT-1     |
| A1R47            | 321-5432-00           | B030100              |                       | RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD                                    | 91637     | CRCW06031003FRT-1     |
| A1R48            | 321-5474-00           | B030100              |                       | RES,FXD,FILM:200K,1%,50V,62.5MW,0603,SMD                                     | 91637     | CRCW06032003F-RT1     |
| A1R50            | 321-5422-00           | B030100              |                       | RES,FXD,FILM:2.00K,1%,100V,62.5MW,0603,SMD                                   | 91637     | CRCW06032001FRT-1     |
| A1R51            | 321-5379-00           | B030100              |                       | RES,FXD:THIN FILM,1K OHM, 1%,0.125W,TC=25PPM,1206                            | 91637     | TNPW12061001FT-9      |
| A1R52            | 321-5427-00           | B030100              |                       | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD                                   | 59124     | RK73H1J1002FT         |
| A1R53            | 321-5436-00           | B030100              |                       | RES,FXD,FILM:1.00M,1%,100V,62.5MW,0603,SMD                                   | 91637     | CRCW06031004FRT-1     |

## Component-Level Electrical Parts

## Replaceable electrical parts list (Cont.)

| Component number | Tektronix part number | Serial no. effective | Serial no. discont'd | Name & description                                     | Mfr. code | Mfr. part number  |
|------------------|-----------------------|----------------------|----------------------|--|-----------|-------------------|
| A1R54            | 321-5432-00           | B030100              |                      | RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD              | 91637     | CRCW06031003FRT-1 |
| A1R55            | 321-5423-00           | B030100              |                      | RES,FXD,FILM:2.74K,1%,100V,62.5MW,0603,SMD             | 91637     | CRCW06032741FRT-1 |
| A1R56            | 321-5379-00           | B030100              |                      | RES,FXD:THIN FILM,1K OHM,<br>1%,0.125W,TC=25PPM,1206   | 91637     | TNPW12061001FT-9  |
| A1R57            | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD             | 59124     | RK73H1J1002FT     |
| A1R58            | 321-5432-00           | B030100              |                      | RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD              | 91637     | CRCW06031003FRT-1 |
| A1R59            | 321-5436-00           | B030100              |                      | RES,FXD,FILM:1.00M,1%,100V,62.5MW,0603,SMD             | 91637     | CRCW06031004FRT-1 |
| A1R60            | 321-5417-00           | B030100              |                      | RES,FXD,FILM:100 OHM, 1%,100V,62MW,0603,SMD            | 59124     | RK73H1J1000FT     |
| A1R61            | 321-5422-00           | B030100              |                      | RES,FXD,FILM:2.00K,1%,100V,62.5MW,0603,SMD             | 91637     | CRCW06032001FRT-1 |
| A1R62            | 321-5416-00           | B030100              |                      | RES,FXD,FILM:10.0 OHM, 1%,100V,62MW,0603,SMD           | 59124     | RK73H1J10R0FT     |
| A1R63            | 307-2509-00           | B030100              |                      | RES NTWK,FXD,FI:1K,33%,450K,33%,SIP,3PINS,DMM<br>INPUT | TK2601    | 307-2509-00       |
| A1R64            | 321-5418-00           | B030100              |                      | RES,FXD,FILM:221 OHM, 1%,100V,62MW,0603,SMD            | 59124     | RK73H1J2210FT     |
| A1R65            | 321-5423-00           | B030100              |                      | RES,FXD,FILM:2.74K,1%,100V,62.5MW,0603,SMD             | 91637     | CRCW06032741FRT-1 |
| A1R66            | 321-5425-00           | B030100              |                      | RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD             | 91637     | CRCW06034751FRT-1 |
| A1R67            | 321-5425-00           | B030100              |                      | RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD             | 91637     | CRCW06034751FRT-1 |
| A1R68            | 321-5419-00           | B030100              |                      | RES,FXD,FILM:392 OHM, 1%,100V,62MW,0603,SMD            | 59124     | RK73H1J3920FT     |
| A1R69            | 321-5419-00           | B030100              |                      | RES,FXD,FILM:392 OHM, 1%,100V,62MW,0603,SMD            | 59124     | RK73H1J3920FT     |
| A1R70            | 321-5462-00           | B030100              |                      | RES,FXD,FILM:3.92K OHM, 1%,100V,62.5MW,0603,SMD        | 91637     | CRCW06033921FRT-1 |
| A1R71            | 321-5470-00           | B030100              |                      | RES,FXD,FILM:33.2K OHM, 1%,100V,62.5MW,0603,SMD        | 91637     | CRCW06033322FRT-1 |
| A1R72            | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD             | 59124     | RK73H1J1002FT     |
| A1R73            | 321-5425-00           | B030100              |                      | RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD             | 91637     | CRCW06034751FRT-1 |
| A1R74            | 321-5430-00           | B030100              |                      | RES,FXD,FILM:39.2K,1%,100V,62.5MW,0603,SMD             | 59124     | RK73H1J3922FT     |
| A1R75            | 321-5433-00           | B030100              |                      | RES,FXD,FILM:150K,1%,100V,62.5MW,0603,SMD              | 91637     | CRCW06031503FRT-1 |
| A1R76            | 321-5421-00           | B030100              |                      | RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD             | 91637     | CRCW06031001FRT-1 |
| A1R77            | 321-5472-00           | B030100              |                      | RES,FXD,FILM:56.2K OHM, 1%,100V,62.5MW,0603,SMD        | 91637     | CRCW06035622FRT-1 |
| A1R78            | 321-5428-00           | B030100              |                      | RES,FXD,FILM:22.1K,1%,100V,62.5MW,0603,SMD             | 59124     | RK73H1J2212FT     |
| A1R79            | 321-5423-00           | B030100              |                      | RES,FXD,FILM:2.74K,1%,100V,62.5MW,0603,SMD             | 91637     | CRCW06032741FRT-1 |
| A1R80            | 321-5434-00           | B030100              |                      | RES,FXD,FILM:332K,1%,100V,62.5MW,0603,SMD              | 91637     | CRCW06033323FRT-1 |
| A1R81            | 321-5430-00           | B030100              |                      | RES,FXD,FILM:39.2K,1%,100V,62.5MW,0603,SMD             | 59124     | RK73H1J3922FT     |
| A1R82            | 321-5421-00           | B030100              |                      | RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD             | 91637     | CRCW06031001FRT-1 |
| A1R83            | 321-5421-00           | B030100              |                      | RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD             | 91637     | CRCW06031001FRT-1 |
| A1R84            | 321-5421-00           | B030100              |                      | RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD             | 91637     | CRCW06031001FRT-1 |
| A1R85            | 321-5471-00           | B030100              |                      | RES,FXD,FILM:47.5K OHM, 1%,100V,62.5MW,0603,SMD        | 91637     | CRCW06034752FRT-1 |
| A1R86            | 321-5428-00           | B030100              |                      | RES,FXD,FILM:22.1K,1%,100V,62.5MW,0603,SMD             | 59124     | RK73H1J2212FT     |
| A1R87            | 321-5434-00           | B030100              |                      | RES,FXD,FILM:332K,1%,100V,62.5MW,0603,SMD              | 91637     | CRCW06033323FRT-1 |
| A1R88            | 321-5472-00           | B030100              |                      | RES,FXD,FILM:56.2K OHM, 1%,100V,62.5MW,0603,SMD        | 91637     | CRCW06035622FRT-1 |
| A1R89            | 321-5434-00           | B030100              |                      | RES,FXD,FILM:332K,1%,100V,62.5MW,0603,SMD              | 91637     | CRCW06033323FRT-1 |
| A1R90            | 321-5434-00           | B030100              |                      | RES,FXD,FILM:332K,1%,100V,62.5MW,0603,SMD              | 91637     | CRCW06033323FRT-1 |

## Replaceable electrical parts list (Cont.)

| Component number | Tektronix part number | Serial no. effective | Serial no. discount'd | Name & description                             | Mfr. code | Mfr. part number  |
|------------------|-----------------------|----------------------|-----------------------|--|-----------|-------------------|
| A1R91            | 321-5423-00           | B030100              |                       | RES,FXD,FILM:2.74K,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06032741FRT-1 |
| A1R92            | 321-5445-00           | B030100              |                       | RES,FXD,FILM:49.9 OHM,1%,100V,62.5MW,0603,SMD  | 91637     | CRCW060349R9FRT-1 |
| A1R93            | 321-5445-00           | B030100              |                       | RES,FXD,FILM:49.9 OHM,1%,100V,62.5MW,0603,SMD  | 91637     | CRCW060349R9FRT-1 |
| A1R94            | 321-5445-00           | B030100              |                       | RES,FXD,FILM:49.9 OHM,1%,100V,62.5MW,0603,SMD  | 91637     | CRCW060349R9FRT-1 |
| A1R95            | 321-5445-00           | B030100              |                       | RES,FXD,FILM:49.9 OHM,1%,100V,62.5MW,0603,SMD  | 91637     | CRCW060349R9FRT-1 |
| A1R96            | 321-5417-00           | B030100              |                       | RES,FXD,FILM:100 OHM,1%,100V,62MW,0603,SMD     | 59124     | RK73H1J1000FT     |
| A1R97            | 321-5423-00           | B030100              |                       | RES,FXD,FILM:2.74K,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06032741FRT-1 |
| A1R98            | 321-5343-00           | B030100              |                       | RES,FXD,FILM:30.1 OHM,1%,0.125 W,1206 PKG, SMD | 91637     | CRCW120630R1FRT2  |
| A1R99            | 321-5429-00           | B030100              |                       | RES,FXD,FILM:27.4K,1%,100V,62.5MW,0603,SMD     | 59124     | RK73H1J2742FT     |
| A1R100           | 321-5416-00           | B030100              |                       | RES,FXD,FILM:10.0 OHM,1%,100V,62MW,0603,SMD    | 59124     | RK73H1J10R0FT     |
| A1R101           | 321-5423-00           | B030100              |                       | RES,FXD,FILM:2.74K,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06032741FRT-1 |
| A1R102           | 321-5423-00           | B030100              |                       | RES,FXD,FILM:2.74K,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06032741FRT-1 |
| A1R103           | 321-5417-00           | B030100              |                       | RES,FXD,FILM:100 OHM,1%,100V,62MW,0603,SMD     | 59124     | RK73H1J1000FT     |
| A1R104           | 321-5418-00           | B030100              |                       | RES,FXD,FILM:221 OHM,1%,100V,62MW,0603,SMD     | 59124     | RK73H1J2210FT     |
| A1R105           | 321-5343-00           | B030100              |                       | RES,FXD,FILM:30.1 OHM,1%,0.125 W,1206 PKG, SMD | 91637     | CRCW120630R1FRT2  |
| A1R106           | 321-5343-00           | B030100              |                       | RES,FXD,FILM:30.1 OHM,1%,0.125 W,1206 PKG, SMD | 91637     | CRCW120630R1FRT2  |
| A1R107           | 321-5343-00           | B030100              |                       | RES,FXD,FILM:30.1 OHM,1%,0.125 W,1206 PKG, SMD | 91637     | CRCW120630R1FRT2  |
| A1R108           | 321-5424-00           | B030100              |                       | RES,FXD,FILM:3.32K,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06033321FRT-1 |
| A1R109           | 321-5425-00           | B030100              |                       | RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06034751FRT-1 |
| A1R110           | 321-5436-00           | B030100              |                       | RES,FXD,FILM:1.00M,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06031004FRT-1 |
| A1R111           | 321-5436-00           | B030100              |                       | RES,FXD,FILM:1.00M,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06031004FRT-1 |
| A1R112           | 321-5427-00           | B030100              |                       | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD     | 59124     | RK73H1J1002FT     |
| A1R113           | 321-5421-00           | B030100              |                       | RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06031001FRT-1 |
| A1R114           | 321-5427-00           | B030100              |                       | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD     | 59124     | RK73H1J1002FT     |
| A1R115           | 321-5432-00           | B030100              |                       | RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD      | 91637     | CRCW06031003FRT-1 |
| A1R116           | 321-5460-00           | B030100              |                       | RES,FXD,FILM:1.82K OHM,1%,100V,62.5MW,0603,SMD | 91637     | CRCW06031821FRT-1 |
| A1R117           | 321-5429-00           | B030100              |                       | RES,FXD,FILM:27.4K,1%,100V,62.5MW,0603,SMD     | 59124     | RK73H1J2742FT     |
| A1R118           | 321-5425-00           | B030100              |                       | RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06034751FRT-1 |
| A1R119           | 321-5432-00           | B030100              |                       | RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD      | 91637     | CRCW06031003FRT-1 |
| A1R120           | 321-5429-00           | B030100              |                       | RES,FXD,FILM:27.4K,1%,100V,62.5MW,0603,SMD     | 59124     | RK73H1J2742FT     |
| A1R121           | 321-5427-00           | B030100              |                       | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD     | 59124     | RK73H1J1002FT     |
| A1R122           | 321-5421-00           | B030100              |                       | RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06031001FRT-1 |
| A1R123           | 321-5418-00           | B030100              |                       | RES,FXD,FILM:221 OHM,1%,100V,62MW,0603,SMD     | 59124     | RK73H1J2210FT     |
| A1R124           | 321-5459-00           | B030100              |                       | RES,FXD,FILM:1.50 KOHM,1%,50V,62.5MW,0603,SMD  | 59124     | RK73H1J1501FT     |
| A1R125           | 321-5425-00           | B030100              |                       | RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06034751FRT-1 |
| A1R126           | 321-5419-00           | B030100              |                       | RES,FXD,FILM:392 OHM,1%,100V,62MW,0603,SMD     | 59124     | RK73H1J3920FT     |
| A1R127           | 321-5432-00           | B030100              |                       | RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD      | 91637     | CRCW06031003FRT-1 |
| A1R128           | 321-5425-00           | B030100              |                       | RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06034751FRT-1 |

## Component-Level Electrical Parts

## Replaceable electrical parts list (Cont.)

| Component number | Tektronix part number | Serial no. effective | Serial no. discont'd | Name & description                             | Mfr. code | Mfr. part number  |
|------------------|-----------------------|----------------------|----------------------|--|-----------|-------------------|
| A1R129           | 321-5459-00           | B030100              |                      | RES,FXD,FILM:1.50K OHM,1%,50V,62.5MW,0603,SMD  | 59124     | RK73H1J1501FT     |
| A1R130           | 321-5418-00           | B030100              |                      | RES,FXD,FILM:221 OHM,1%,100V,62MW,0603,SMD     | 59124     | RK73H1J2210FT     |
| A1R131           | 321-5419-00           | B030100              |                      | RES,FXD,FILM:392 OHM,1%,100V,62MW,0603,SMD     | 59124     | RK73H1J3920FT     |
| A1R132           | 321-5433-00           | B030100              |                      | RES,FXD,FILM:150K,1%,100V,62.5MW,0603,SMD      | 91637     | CRCW06031503FRT-1 |
| A1R133           | 321-5429-00           | B030100              |                      | RES,FXD,FILM:27.4K,1%,100V,62.5MW,0603,SMD     | 59124     | RK73H1J2742FT     |
| A1R134           | 321-5432-00           | B030100              |                      | RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD      | 91637     | CRCW06031003FRT-1 |
| A1R135           | 321-5428-00           | B030100              |                      | RES,FXD,FILM:22.1K,1%,100V,62.5MW,0603,SMD     | 59124     | RK73H1J2212FT     |
| A1R136           | 321-5421-00           | B030100              |                      | RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06031001FRT-1 |
| A1R137           | 321-5421-00           | B030100              |                      | RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06031001FRT-1 |
| A1R138           | 321-5436-00           | B030100              |                      | RES,FXD,FILM:1.00M,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06031004FRT-1 |
| A1R139           | 321-5419-00           | B030100              |                      | RES,FXD,FILM:392 OHM,1%,100V,62MW,0603,SMD     | 59124     | RK73H1J3920FT     |
| A1R140           | 321-5420-00           | B030100              |                      | RES,FXD,FILM:475 OHM,1%,100V,63MW,0603,SMD     | 59124     | RK73H1J4750FT     |
| A1R141           | 321-5432-00           | B030100              |                      | RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD      | 91637     | CRCW06031003FRT-1 |
| A1R142           | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD     | 59124     | RK73H1J1002FT     |
| A1R143           | 321-5425-00           | B030100              |                      | RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06034751FRT-1 |
| A1R144           | 321-5436-00           | B030100              |                      | RES,FXD,FILM:1.00M,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06031004FRT-1 |
| A1R145           | 321-5469-00           | B030100              |                      | RES,FXD,FILM:20.0K,1%,50V,62.5MW,0603,SMD      | 59124     | RK73H1J2002FT     |
| A1R146           | 321-5417-00           | B030100              |                      | RES,FXD,FILM:100 OHM,1%,100V,62MW,0603,SMD     | 59124     | RK73H1J1000FT     |
| A1R147           | 321-5417-00           | B030100              |                      | RES,FXD,FILM:100 OHM,1%,100V,62MW,0603,SMD     | 59124     | RK73H1J1000FT     |
| A1R148           | 321-5422-00           | B030100              |                      | RES,FXD,FILM:2.00K,1%,50V,62.5MW,0603,SMD      | 59124     | RK73H1J2001FT     |
| A1R149           | 321-5426-00           | B030100              |                      | RES,FXD,FILM:8.25K,1%,50V,62.5MW,0603,SMD      | 59124     | RK73H1J8251FT     |
| A1R150           | 321-5469-00           | B030100              |                      | RES,FXD,FILM:20.0K,1%,50V,62.5MW,0603,SMD      | 59124     | RK73H1J2002FT     |
| A1R151           | 321-5432-00           | B030100              |                      | RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD      | 91637     | CRCW06031003FRT-1 |
| A1R152           | 321-5438-00           | B030100              |                      | RES,FXD,FILM:15.0 OHM,1%,100V,62.5MW,0603,SMD  | 91637     | CRCW060315R0FRT-1 |
| A1R153           | 321-5471-00           | B030100              |                      | RES,FXD,FILM:47.5K,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06034752FRT-1 |
| A1R154           | 321-5445-00           | B030100              |                      | RES,FXD,FILM:49.9 OHM,1%,100V,62.5MW,0603,SMD  | 91637     | CRCW060349R9FRT-1 |
| A1R155           | 321-5434-00           | B030100              |                      | RES,FXD,FILM:332K,1%,100V,62.5MW,0603,SMD      | 91637     | CRCW06033323FRT-1 |
| A1R156           | 321-5421-00           | B030100              |                      | RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06031001FRT-1 |
| A1R157           | 321-5343-00           | B030100              |                      | RES,FXD,FILM:30.1 OHM,1%,0.125 W,1206 PKG, SMD | 91637     | CRCW120630R1FRT2  |
| A1R158           | 321-5425-00           | B030100              |                      | RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06034751FRT-1 |
| A1R159           | 321-5432-00           | B030100              |                      | RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD      | 91637     | CRCW06031003FRT-1 |
| A1R160           | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD     | 59124     | RK73H1J1002FT     |
| A1R162           | 321-5436-00           | B030100              |                      | RES,FXD,FILM:1.00M,1%,100V,62.5MW,0603,SMD     | 91637     | CRCW06031004FRT-1 |
| A1R166           | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD     | 59124     | RK73H1J1002FT     |
| A1R167           | 321-5420-00           | B030100              |                      | RES,FXD,FILM:475 OHM,1%,100V,63MW,0603,SMD     | 59124     | RK73H1J4750FT     |
| A1R168           | 321-5420-00           | B030100              |                      | RES,FXD,FILM:475 OHM,1%,50V,63MW,0603,SMD      | 59124     | RK73H1J4750FT     |
| A1R169           | 321-5420-00           | B030100              |                      | RES,FXD,FILM:475 OHM,1%,100V,63MW,0603,SMD     | 59124     | RK73H1J4750FT     |
| A1R170           | 321-5417-00           | B030100              |                      | RES,FXD,FILM:100 OHM,1%,100V,62MW,0603,SMD     | 59124     | RK73H1J1000FT     |

## Replaceable electrical parts list (Cont.)

| Component number | Tektronix part number | Serial no. effective | Serial no. discount'd | Name & description                                     | Mfr. code | Mfr. part number  |
|------------------|-----------------------|----------------------|-----------------------|--|-----------|-------------------|
| A1R171           | 321-5472-00           | B030100              |                       | RES,FXD,FILM:56.2K OHM, 1%,100V,62.5MW,0603,SMD        | 91637     | CRCW06035622FRT-1 |
| A1R172           | 321-5018-00           | B030100              |                       | RES,FXD:THICK FILM,1.0K OHM,1%,0.125W, TC=100 PPM,1206 | 50139     | BCK1001FT         |
| A1R173           | 321-5420-00           | B030100              |                       | RES,FXD,FILM:475 OHM, 1%,100V,63MW,0603,SMD            | 59124     | RK73H1J4750FT     |
| A1R174           | 321-5431-00           | B030100              |                       | RES,FXD,FILM:68.1K,1%,100V,62.5MW,0603,SMD             | 59124     | RK73H1J6812FT     |
| A1R177           | 321-5018-00           | B030100              |                       | RES,FXD:THICK FILM,1.0K OHM,1%,0.125W, TC=100 PPM,1206 | 50139     | BCK1001FT         |
| A1R179           | 321-5415-00           | B030100              |                       | RES,FXD,FILM:0 OHM JUMPER, 100V,62MW,0603,SMD          | 59124     | RM73Z1J000ZT      |
| A1R180           | 321-5425-00           | B030100              |                       | RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD             | 91637     | CRCW06034751FRT-1 |
| A1R181           | 321-5427-00           | B030100              |                       | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD             | 59124     | RK73H1J1002FT     |
| A1R182           | 321-5420-00           | B030100              |                       | RES,FXD,FILM:475 OHM, 1%,100V,63MW,0603,SMD            | 59124     | RK73H1J4750FT     |
| A1R183           | 321-5420-00           | B030100              |                       | RES,FXD,FILM:475 OHM, 1%,100V,63MW,0603,SMD            | 59124     | RK73H1J4750FT     |
| A1R185           | 321-5417-00           | B030100              |                       | RES,FXD,FILM:100 OHM, 1%,100V,62MW,0603,SMD            | 59124     | RK73H1J1000FT     |
| A1R186           | 321-5427-00           | B030100              |                       | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD             | 59124     | RK73H1J1002FT     |
| A1R187           | 321-5471-00           | B030100              |                       | RES,FXD,FILM:47.5K OHM, 1%,100V,62.5MW,0603,SMD        | 91637     | CRCW06034752FRT-1 |
| A1R188           | 321-5417-00           | B030100              |                       | RES,FXD,FILM:100 OHM, 1%,100V,62MW,0603,SMD            | 59124     | RK73H1J1000FT     |
| A1R189           | 321-5471-00           | B030100              |                       | RES,FXD,FILM:47.5K OHM, 1%,100V,62.5MW,0603,SMD        | 91637     | CRCW06034752FRT-1 |
| A1R190           | 321-5432-00           | B030100              |                       | RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD              | 91637     | CRCW06031003FRT-1 |
| A1R191           | 321-5425-00           | B030100              |                       | RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD             | 91637     | CRCW06034751FRT-1 |
| A1R192           | 321-5425-00           | B030100              |                       | RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD             | 91637     | CRCW06034751FRT-1 |
| A1R193           | 321-5422-00           | B030100              |                       | RES,FXD,FILM:2.00K,1%,100V,62.5MW,0603,SMD             | 91637     | CRCW06032001FRT-1 |
| A1R194           | 321-5429-00           | B030100              |                       | RES,FXD,FILM:27.4K,1%,100V,62.5MW,0603,SMD             | 59124     | RK73H1J2742FT     |
| A1R195           | 321-5427-00           | B030100              |                       | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD             | 59124     | RK73H1J1002FT     |
| A1R196           | 321-5427-00           | B030100              |                       | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD             | 59124     | RK73H1J1002FT     |
| A1R197           | 321-5427-00           | B030100              |                       | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD             | 59124     | RK73H1J1002FT     |
| A1R199           | 321-5420-00           | B030100              |                       | RES,FXD,FILM:475 OHM, 1%,100V,63MW,0603,SMD            | 59124     | RK73H1J4750FT     |
| A1R200           | 321-5432-00           | B030100              |                       | RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD              | 91637     | CRCW06031003FRT-1 |
| A1R201           | 321-5432-00           | B030100              |                       | RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD              | 91637     | CRCW06031003FRT-1 |
| A1R202           | 321-5432-00           | B030100              |                       | RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD              | 91637     | CRCW06031003FRT-1 |
| A1R203           | 321-5432-00           | B030100              |                       | RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD              | 91637     | CRCW06031003FRT-1 |
| A1R204           | 321-5415-00           | B030100              |                       | RES,FXD,FILM:0 OHM JUMPER, 100V,62MW,0603,SMD          | 59124     | RM73Z1J000ZT      |
| A1R205           | 321-5415-00           | B030100              |                       | RES,FXD,FILM:0 OHM JUMPER, 100V,62MW,0603,SMD          | 59124     | RM73Z1J000ZT      |
| A1R206           | 321-5425-00           | B030100              |                       | RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD             | 91637     | CRCW06034751FRT-1 |
| A1R207           | 321-5450-00           | B030100              |                       | RES,FXD,FILM:121 OHM, 1%,100V,62.5MW,0603,SMD          | 91637     | CRCW0603121RFRT-1 |
| A1R208           | 321-5472-00           | B030100              |                       | RES,FXD,FILM:56.2K OHM, 1%,100V,62.5MW,0603,SMD        | 91637     | CRCW06035622FRT-1 |
| A1R209           | 321-5425-00           | B030100              |                       | RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD             | 91637     | CRCW06034751FRT-1 |
| A1R210           | 321-5422-00           | B030100              |                       | RES,FXD,FILM:2.00K,1%,100V,62.5MW,0603,SMD             | 91637     | CRCW06032001FRT-1 |
| A1R211           | 321-5422-00           | B030100              |                       | RES,FXD,FILM:2.00K,1%,100V,62.5MW,0603,SMD             | 91637     | CRCW06032001FRT-1 |
| A1R212           | 321-5429-00           | B030100              |                       | RES,FXD,FILM:27.4K,1%,100V,62.5MW,0603,SMD             | 59124     | RK73H1J2742FT     |

## Component-Level Electrical Parts

## Replaceable electrical parts list (Cont.)

| Component number | Tektronix part number | Serial no. effective | Serial no. discont'd | Name & description  | Mfr. code | Mfr. part number  |
|------------------|-----------------------|----------------------|----------------------|---|-----------|-------------------|
| A1R213           | 321-5450-00           | B030100              |                      | RES,FXD,FILM:121 OHM, 1%,100V,62.5MW,0603,SMD                 | 91637     | CRCW0603121RFRT-1 |
| A1R216*          | 321-5452-00           | B030100              |                      | RES,FXD,FILM:182 OHM,1%,100V,62.5MW,0603,SMD                  | 59124     | RK73H1JT1820F     |
| A1R217           | 321-5424-00           | B030100              |                      | RES,FXD,FILM:3.32K,1%,100V,62.5MW,0603,SMD                    | 91637     | CRCW06033321FRT-1 |
| A1R218           | 321-5418-00           | B030100              |                      | RES,FXD,FILM:221 OHM, 1%,100V,62MW,0603,SMD                   | 59124     | RK73H1J2210FT     |
| A1R219           | 321-5417-00           | B030100              |                      | RES,FXD,FILM:100 OHM, 1%,100V,62MW,0603,SMD                   | 59124     | RK73H1J1000FT     |
| A1R220           | 321-5425-00           | B030100              |                      | RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD                    | 91637     | CRCW06034751FRT-1 |
| A1R221*          | 321-5452-00           | B030100              |                      | RES,FXD,FILM:182 OHM,1%,100V,62.5MW,0603,SMD                  | 59124     | RK73H1JT1820F     |
| A1R225           | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD                    | 59124     | RK73H1J1002FT     |
| A1R226           | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD                    | 59124     | RK73H1J1002FT     |
| A1R227           | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD                    | 59124     | RK73H1J1002FT     |
| A1R228           | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD                    | 59124     | RK73H1J1002FT     |
| A1R229           | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD                    | 59124     | RK73H1J1002FT     |
| A1R230           | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD                    | 59124     | RK73H1J1002FT     |
| A1R231           | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD                    | 59124     | RK73H1J1002FT     |
| A1R232           | 321-5429-00           | B030100              |                      | RES,FXD,FILM:27.4K,1%,100V,62.5MW,0603,SMD                    | 59124     | RK73H1J2742FT     |
| A1R233           | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD                    | 59124     | RK73H1J1002FT     |
| A1R234           | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD                    | 59124     | RK73H1J1002FT     |
| A1R235           | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD                    | 59124     | RK73H1J1002FT     |
| A1R236           | 321-5416-00           | B030100              |                      | RES,FXD,FILM:10.0 OHM, 1%,100V,62MW,0603,SMD                  | 59124     | RK73H1J10R0FT     |
| A1R237           | 321-5416-00           | B030100              |                      | RES,FXD,FILM:10.0 OHM, 1%,100V,62MW,0603,SMD                  | 59124     | RK73H1J10R0FT     |
| A1R240           | 321-5424-00           | B030100              |                      | RES,FXD,FILM:3.32K,1%,50V,62.5MW,0603,SMD                     | 59124     | RK73H1J3321FT     |
| A1R241           | 321-5445-00           | B030100              |                      | RES,FXD,FILM:49.9 OHM, 1%,100V,62.5MW,0603,SMD                | 91637     | CRCW060349R9FRT-1 |
| A1R242           | 321-5415-00           | B030100              |                      | RES,FXD,FILM:0 OHM JUMPER, 100V,62MW,0603,SMD                 | 59124     | RM73Z1J000ZT      |
| A1R244           | 321-5471-00           | B030100              |                      | RES,FXD,FILM:47.5K OHM, 1%,100V,62.5MW,0603,SMD               | 91637     | CRCW06034752FRT-1 |
| A1R245           | 321-5471-00           | B030100              |                      | RES,FXD,FILM:47.5K OHM, 1%,100V,62.5MW,0603,SMD               | 91637     | CRCW06034752FRT-1 |
| A1R246           | 321-5466-00           | B030100              |                      | RES,FXD,FILM:12.1K OHM, 1%,100V,62.5MW,0603,SMD               | 91637     | CRCW06031212FRT-1 |
| A1R247           | 321-5427-00           | B030100              |                      | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD                    | 59124     | RK73H1J1002FT     |
| A1R248           | 321-5385-00           | B030100              |                      | RES,FXD,FILM:THICK FILM, 2 OHM, 10%,<br>0.125W,TC=300PPM,1206 | 91637     | CRCW-1206-2R0KT   |
| A1R249           | 321-5385-00           | B030100              |                      | RES,FXD,FILM:THICK FILM, 2 OHM, 10%,<br>0.125W,TC=300PPM,1206 | 91637     | CRCW-1206-2R0KT   |

\* Selectable component value may vary from nominal value shown.

## Replaceable electrical parts list (Cont.)

| Component number | Tektronix part number | Serial no. effective | Serial no. discount'd | Name & description  | Mfr. code | Mfr. part number    |
|------------------|-----------------------|----------------------|-----------------------|---|-----------|---------------------|
| A1R250           | 321-5427-00           | B030100              |                       | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD  | 59124     | RK73H1J1002FT       |
| A1R251           | 321-5470-00           | B030100              |                       | RES,FXD,FILM:33.2K OHM, 1%,100V,62.5MW,0603,SMD   | 91637     | CRCW06033322FRT-1   |
| A1R252           | 321-5423-00           | B030100              |                       | RES,FXD,FILM:2.74K,1%,100V,62.5MW,0603,SMD  | 91637     | CRCW06032741FRT-1   |
| A1R253           | 321-5475-00           | B030100              |                       | RES,FXD,FILM:221K OHM, 1%,100V,62.5MW,0603,SMD  | 91637     | CRCW06032213FRT-1   |
| A1R254           | 321-5427-00           | B030100              |                       | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD  | 59124     | RK73H1J1002FT       |
| A1R256           | 321-5431-00           | B030100              |                       | RES,FXD,FILM:68.1K,1%,100V,62.5MW,0603,SMD  | 59124     | RK73H1J6812FT       |
| A1R257           | 321-5426-00           | B030100              |                       | RES,FXD,FILM:8.25K,1%,100V,62.5MW,0603,SMD  | 91637     | CRCW06038251FRT-1   |
| A1R258           | 321-5430-00           | B030100              |                       | RES,FXD,FILM:39.2K,1%,100V,62.5MW,0603,SMD  | 59124     | RK73H1J3922FT       |
| A1R259           | 321-5453-00           | B030100              |                       | RES,FXD,FILM:274 OHM,1%,50V,62.5MW,0603,SMD   | 59124     | RK73H1JT2740F       |
| A1R260           | 321-5281-00           | B030100              |                       | RES,FXD:THICK FILM,2K OHM,1%,0.125W, TC=100 PPM,1206  | 91637     | CRCW1206-2001FT     |
| A1R261           | 321-5444-00           | B030100              |                       | RES,FXD,FILM:47.5 OHM, 1%,100V,62.5MW,0603,SMD  | 91637     | CRCW060347R5FRT-1   |
| A1R262           | 321-5444-00           | B030100              |                       | RES,FXD,FILM:47.5 OHM, 1%,100V,62.5MW,0603,SMD  | 91637     | CRCW060347R5FRT-1   |
| A1R263           | 321-5444-00           | B030100              |                       | RES,FXD,FILM:47.5 OHM, 1%,100V,62.5MW,0603,SMD  | 91637     | CRCW060347R5FRT-1   |
| A1R264           | 321-5415-00           | B030100              |                       | RES,FXD,FILM:0 OHM JUMPER, 100V,62MW,0603,SMD   | 59124     | RM73Z1J000ZT        |
| A1R265           | 321-5415-00           | B030100              |                       | RES,FXD,FILM:0 OHM JUMPER, 100V,62MW,0603,SMD   | 59124     | RM73Z1J000ZT        |
| A1R266           | 321-5415-00           | B030100              |                       | RES,FXD,FILM:0 OHM JUMPER, 100V,62MW,0603,SMD   | 59124     | RM73Z1J000ZT        |
| A1R267           | 321-5415-00           | B030100              |                       | RES,FXD,FILM:0 OHM JUMPER, 100V,62MW,0603,SMD   | 59124     | RM73Z1J000ZT        |
| A1R268           | 321-5415-00           | B030100              |                       | RES,FXD,FILM:0 OHM JUMPER, 100V,62MW,0603,SMD   | 59124     | RM73Z1J000ZT        |
| A1R269           | 321-5427-00           | B030100              |                       | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD  | 59124     | RK73H1J1002FT       |
| A1R281           | 321-5474-00           | B030100              |                       | RES,FXD,FILM:200K OHM, 1%,100V,62.5MW,0603,SMD  | 91637     | CRCW06032003FRT-1   |
| A1R282           | 321-5427-00           | B030100              |                       | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD  | 59124     | RK73H1J1002FT       |
| A1R283           | 321-5415-00           | B030100              |                       | RES,FXD,FILM:0 OHM JUMPER,50V,62MW,0603,SMD   | 59124     | RM73Z1J000ZT        |
| A1R284           | 321-5464-00           | B030100              |                       | RES,FXD,FILM:6.81K OHM, 1%,100V,62.5MW,0603,SMD   | 91637     | CRCW-06036811FRT-1  |
| A1R285           | 307-5100-00           | B030100              |                       | RES,THERMAL:50K OHM,5% NTC,-4.40/DEGREE C AT 25 DEGREES C,1206                                    | 56845     | NTHS-1206N01 50K 5% |
| A1R286           | 321-5434-00           | B030100              |                       | RES,FXD,FILM:332K,1%,100V,62.5MW,0603,SMD   | 91637     | CRCW06033323FRT-1   |
| A1R287           | 321-5235-00           | B030100              |                       | RES,FXD,FILM:2 MEG OHM,1%,0.0625W, TC=300 PPM/C,0805,SMD  | 56845     | CRCW0805-2004F-RT1  |
| A1R290           | 321-5427-00           | B030100              |                       | RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD  | 59124     | RK73H1J1002FT       |
| A1R291           | 321-5422-00           | B030100              |                       | RES,FXD,FILM:2.00K,1%,100V,62.5MW,0603,SMD  | 91637     | CRCW06032001FRT-1   |
| A1R294           | 321-5424-00           | B030100              |                       | RES,FXD,FILM:3.32K,1%,100V,62.5MW,0603,SMD  | 91637     | CRCW06033321FRT-1   |
| A1R295           | 321-5424-00           | B030100              |                       | RES,FXD,FILM:3.32K,1%,100V,62.5MW,0603,SMD  | 91637     | CRCW06033321FRT-1   |
| A1R296           | 321-5425-00           | B030100              |                       | RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD  | 91637     | CRCW06034751FRT-1   |
| A1RT1            | 307-1650-00           | B030100              |                       | RES,THERMAL:THERMISTOR,PTC,1K,40%,850V,   | 50157     | 180Q10236           |
| A1T2             | 120-1990-00           | B030100              |                       | TRANSFORMER,PWR:600 VRMS ISOLATION, 130UH,+/-5V INPUT AND OUTPUT WINDINGS, HORIZ ECB MT,W/10 PINS | 0JR03     | Z95047D             |
| A1T4             | 120-1990-00           | B030100              |                       | TRANSFORMER,PWR:600 VRMS ISOLATION, 130UH,+/-5V INPUT AND OUTPUT WINDINGS, HORIZ ECB MT,W/10 PINS | 0JR03     | Z95047D             |

## Component-Level Electrical Parts

## Replaceable electrical parts list (Cont.)

| Component number | Tektronix part number | Serial no. effective | Serial no. discont'd | Name & description  | Mfr. code | Mfr. part number |
|------------------|-----------------------|----------------------|----------------------|---|-----------|------------------|
| A1T5             | 120-1990-00           | B030100              |                      | TRANSFORMER,PWR:600 VRMS ISOLATION, 130UH,+/-5V INPUT AND OUTPUT WINDINGS, HORIZ ECB MT,W/10 PINS | 0JR03     | Z95047D          |
| A1T6             | 120-1991-00           | B030100              |                      | TRANSFORMER,PWR:SW-REGULATOR,BUCK-BOOST PRI 64UH,20%,200KHZ,4-16V INPUT,+/-5.0V AND -25V OUTPUT,  | 0JR03     | Z95055E          |
| A1U1             | 156-7404-01           | B030100              |                      | IC, MEMORY:CMOS,FLASH ,1MEG X 8, 5 VOLT-ONLY, SECTOR ERASE, AM29F080-120EC ,40PIN TSOP            | 34335     | AM29F080-120EC   |
| A1U2             | 156-5304-01           | B030100              |                      | IC,DIGITAL:HCTCMOS,BUFFER,QUAD,3-STATE, 74HCT125,SO14.150   | 01295     | SN74HCT125DR     |
| A1U3             | 156-6101-01           | B030100              |                      | IC,MISC:BIPOLAR,PWR SUPPLY SUPERVISOR,MPU RESET GENERATOR,MICROPOWER,5 VOLT SYSTEMS,MC34          | 04713     | MC34164D-5R2     |
| A1U4             | 156-7025-01           | B030100              |                      | IC,PROCESSOR:CMOS,PERIPHERAL,INDEPENDENT DUAL ASYNCHRONOUS RECEIVER.TRANSMITTER (DUART),26C92     | 1CH66     | SC26C92C1A       |
| A1U5             | 156-6224-01           | B030100              |                      | IC, CONVERTER:CMOS,D/A,12-BIT,VOLTAGE OUT,16 CHANNELS,SERIAL INPUT, DACULATOR,I10412,SO28.300     | TK2441    | I10412-04        |
| A1U6             | 156-6298-00           | B030100              |                      | IC,PROCESSOR:CMOS,MICROCONTROLLER,32-BIT, 16 MHZ,68331,PQFP132                                    | 04713     | MC68331CFC16B1   |
| A1U7             | 156-6952-00           | B030100              |                      | IC,ASIC:CMOS,CUSTOM,FISO,DUAL ACQ MEMORY, PEAK DETECT,A/D CONVERTER,SIGNAL PROCESSOR,ADG2         | 27014     | MM9478-VCE       |
| A1U8             | 156-5954-01           | B030100              |                      | IC,MISC:BIPOLAR,MISC.TRUE RMS TO DC CONVERTER,AD736JR,SO8.150                                     | 24355     | AD736JR-REEL     |
| A1U9             | 156-6151-01           | B030100              |                      | IC, MEMORY:CMOS,SRAM,128K X 8, 100NS,15UA,OE,431000,SO32.440                                      | 62786     | HM628128LFP-10SL |
| A1U10            | 156-5198-01           | B030100              |                      | IC,DIGITAL:HCTCMOS,GATE,QUAD 2-INPUT XOR, 74HCT86,SO14.150  | 1CH66     | 74HCT86DT        |
| A1U11            | 156-5588-01           | B030100              |                      | IC, LINEAR:BIPOLAR,VOLTAGE REFERENCE,POSITIVE,2.5V,1.0%,40PPM,SERIES, MC1403D,SO8.150             | 04713     | MC1403DR2        |
| A1U12            | 156-6296-01           | B030100              |                      | IC,LINEAR:BIFET,OP-AMP,DUAL,LOW POWER,HIGH OUTPUT CURRENT,TLE2062CD,SO8.150                       | 01295     | TLE2062CDR       |
| A1U13            | 156-5135-01           | B030100              |                      | IC,DIGITAL:HCTCMOS,REGISTER,8-BIT SIPO SHIFT, 74HCT164,SO16.150                                   | 1CH66     | 74HCT164DT       |
| A1U14            | 156-5480-01           | B030100              |                      | IC,DIGITAL:CMOS,REGISTER,8-BIT SHIFT, OUTPUT LATCHES,74HC595,SO16.150                             | 01295     | SN74HC595ADR     |
| A1U15            | 156-5306-01           | B030100              |                      | IC,DIGITAL:HCTCMOS,COUNTER,DUAL 4-BIT BINARY RIPPLE, ASYNCH CLEAR,74HCT393,SO14.150               | 1CH66     | 74HCT393DT       |
| A1U16            | 156-5145-01           | B030100              |                      | IC,DIGITAL:HCTCMOS,FLIP FLOP,DUAL D-TYPE, SET,CLEAR,74HCT74,SO14.150                              | 01295     | SN74HCT74D       |
| A1U17            | 156-6846-00           | B030100              |                      | IC, MEMORY:CMOS,DRAM,256K X 16,70NS,FAST PAGE MODE,SELF-REFRESH,42S4260,TSOP44                    | 4T165     | UPD42S4260G5-70  |
| A1U18            | 156-6846-00           | B030100              |                      | IC, MEMORY:CMOS,DRAM,256K X 16,70NS,FAST PAGE MODE,SELF-REFRESH,42S4260,TSOP44                    | 4T165     | UPD42S4260G5-70  |

## Replaceable electrical parts list (Cont.)

| Component number | Tektronix part number | Serial no. effective | Serial no. discont'd | Name & description  | Mfr. code | Mfr. part number |
|------------------|-----------------------|----------------------|----------------------|---|-----------|------------------|
| A1U19            | 156-5118-01           | B030100              |                      | IC,DIGITAL:FTTL,GATE,QUAD 2-INPUT NAND, 74F00,SO14.150                                  | 01295     | SN74F00DR        |
| A1U20            | 156-5118-01           | B030100              |                      | IC,DIGITAL:FTTL,GATE,QUAD 2-INPUT NAND, 74F00,SO14.150                                  | 01295     | SN74F00DR        |
| A1U21            | 156-6426-00           | B030100              |                      | IC,ASIC:CMOS,CUSTOM,SHASTA RASTER DISPLAY, ADG250B,MM9337A, PQFP132                     | 27014     | MM9337-VF8       |
| A1U22            | 156-5358-01           | B030100              |                      | IC,DIGITAL:HCMOS,REGISTER,8-BIT PISO SHIFT, 74HC165,SO16.150                            | 01295     | SN74HC165DR      |
| A1U23            | 156-5133-01           | B030100              |                      | IC,DIGITAL:HCTCMOS,MUX,8-TO-1,ENABLE, COMPLEMENTARY OUTPUT,74HCT151,SO16.150            | 1CH66     | 74HCT151DT       |
| A1U24            | 156-6423-01           | B030100              |                      | IC,MISC:CMOS,INTERFACE,QUAD RS-232 LINE DRIVER/RECEIVER, +5V VCC,EXTERNAL CAPS REQUIRED | 1ES66     | MAX238CWG-T      |
| A1U25            | 156-5088-01           | B030100              |                      | IC,DIGITAL:HCTCMOS,DECODER,1-OF-8,ACTIVE LOW,74HCT138,SO16.150                          | 01295     | SN74HCT138DR     |
| A1U26            | 156-5088-01           | B030100              |                      | IC,DIGITAL:HCTCMOS,DECODER,1-OF-8,ACTIVE LOW,74HCT138,SO16.150                          | 01295     | SN74HCT138DR     |
| A1U28            | 156-5358-01           | B030100              |                      | IC,DIGITAL:HCMOS,REGISTER,8-BIT PISO SHIFT, 74HC165,SO16.150                            | 01295     | SN74HC165DR      |
| A1U29            | 156-5073-01           | B030100              |                      | IC,MISC:HCMOS,ANALOG MUX,TRIPLE SPDT, HC4053,SO16.150                                   | 34371     | CD74HC4053M96    |
| A1U30            | 156-5145-01           | B030100              |                      | IC,DIGITAL:HCTCMOS,FLIP FLOP,DUAL D-TYPE, SET,CLEAR,74HCT74,SO14.150                    | 01295     | SN74HCT74D       |
| A1U31            | 156-5588-01           | B030100              |                      | IC,LINEAR:BIPOLAR,VOLTAGE REFERENCE, POSITIVE,2.5V,1.0%,40PPM,SERIES,MC1403D, SO8.150   | 04713     | MC1403DR2        |
| A1U32            | 156-5254-01           | B030100              |                      | IC,DIGITAL:HCTCMOS,REGISTER,8-STAGE SHIFT & STORE BUS REGISTER,74HCT4094,SO16.150       | 1CH66     | 74HCT4094DT      |
| A1U33            | 156-5254-01           | B030100              |                      | IC,DIGITAL:HCTCMOS,REGISTER,8-STAGE SHIFT & STORE BUS REGISTER,74HCT4094,SO16.150       | 1CH66     | 74HCT4094DT      |
| A1U34            | 156-5138-01           | B030100              |                      | IC,LINEAR:BIFET,OP-AMP,DUAL,MC34002/TL072, SO8.150                                      | 01295     | TL072CDR         |
| A1U35            | 156-5138-01           | B030100              |                      | IC,LINEAR:BIFET,OP-AMP,DUAL,MC34002/TL072, SO8.150                                      | 01295     | TL072CDR         |
| A1U36            | 156-6600-01           | B030100              |                      | IC,CONVERTER:CMOS,A/D,3.75 DIGIT DMM, W/MPU INTERFACE,MAX134CQH,PLCC44                  | 1ES66     | MAX134CQH-T      |
| A1U37            | 156-7003-00           | B030100              |                      | IC,OPTO:COUPLER, DUAL CH, HIGH SPEED, CTR 50%MAX, ISOLATION 5000V, HCPL4534, SOIC 8     | 50434     | HCPL4534#520     |
| A1U38            | 156-7003-00           | B030100              |                      | IC,OPTO:COUPLER, DUAL CH, HIGH SPEED, CTR 50%MAX, ISOLATION 5000V, HCPL4534, SOIC 8     | 50434     | HCPL4534#520     |
| A1U39            | 156-7003-00           | B030100              |                      | IC,OPTO:COUPLER, DUAL CH, HIGH SPEED, CTR 50%MAX, ISOLATION 5000V, HCPL4534, SOIC 8     | 50434     | HCPL4534#520     |
| A1U40            | 156-5304-01           | B030100              |                      | IC,DIGITAL:HCTCMOS,BUFFER,QUAD,3-STATE, 74HCT125,SO14.150                               | 01295     | SN74HCT125DR     |
| A1U41            | 156-6296-01           | B030100              |                      | IC,LINEAR:BIFET,OP-AMP,DUAL,LOW POWER,HIGH OUTPUT CURRENT,TLE2062CD,SO8.150             | 01295     | TLE2062CDR       |

## Component-Level Electrical Parts

## Replaceable electrical parts list (Cont.)

| Component number | Tektronix part number | Serial no. effective | Serial no. discontin'd | Name & description  | Mfr. code | Mfr. part number |
|------------------|-----------------------|----------------------|------------------------|---|-----------|------------------|
| A1U42            | 156-6622-01           | B030100              |                        | IC, LINEAR: BIPOLAR, TRANSISTOR ARRAY, SEVEN, NPN COMMON COLLECTOR, OPEN EMITTER, 20V, 100MA/TRANS  | 34371     | CA3082M96        |
| A1U43            | 156-5135-01           | B030100              |                        | IC, DIGITAL: HCTCMOS, REGISTER, 8-BIT SIPO SHIFT, 74HCT164, SO16.150                                | 1CH66     | 74HCT164DT       |
| A1U44            | 156-7390-01           | B030100              |                        | IC, ASIC: BIPOLAR, FISO DRIVER (CORE), QC8-40, M543A-003, 44PLCC                                    | TK2598    | 234-1513-20      |
| A1U45            | 156-7004-00           | B030100              |                        | IC, OPTO: COUPLER, LINEARITY 99.99%, CTR 1.0, ISOLATION 5000V, MONITOR PD, CNR201, SOIC 8           | 50434     | CNR201#500       |
| A1U46            | 156-7004-00           | B030100              |                        | IC, OPTO: COUPLER, LINEARITY 99.99%, CTR 1.0, ISOLATION 5000V, MONITOR PD, CNR201, SOIC 8           | 50434     | CNR201#500       |
| A1U47            | 234-1606-20           | B030100              |                        | IC, ASIC: BIPOLAR, TRIGGER (CORE), QC6-60, M509-006, 28PLC  | TK2598    | 234-1606-2T      |
| A1U48            | 156-7003-00           | B030100              |                        | IC, OPTO: COUPLER, DUAL CH, HIGH SPEED, CTR 50%MAX, ISOLATION 5000V, HCPL4534, SOIC 8               | 50434     | HCPL4534#520     |
| A1U49            | 156-7412-01           | B030100              |                        | IC, LINEAR: BIPOLAR, SW-REGULATOR CONTROLLER, PWM, SINGLE ENDED OPEN COLLECTOR, DEAD TIME CONTROL   | 01295     | TL5001CDR        |
| A1U50            | 156-7004-00           | B030100              |                        | IC, OPTO: COUPLER, LINEARITY 99.99%, CTR 1.0, ISOLATION 5000V, MONITOR PD, CNR201, SOIC 8           | 50434     | CNR201#500       |
| A1U51            | 156-5135-01           | B030100              |                        | IC, DIGITAL: HCTCMOS, REGISTER, 8-BIT SIPO SHIFT, 74HCT164, SO16.150                                | 1CH66     | 74HCT164DT       |
| A1U52            | 156-5135-01           | B030100              |                        | IC, DIGITAL: HCTCMOS, REGISTER, 8-BIT SIPO SHIFT, 74HCT164, SO16.150                                | 1CH66     | 74HCT164DT       |
| A1U53            | 156-6296-01           | B030100              |                        | IC, LINEAR: BIFET, OP-AMP, DUAL, LOW POWER, HIGH OUTPUT CURRENT, TLE2062CD, SO8.150                 | 01295     | TLE2062CDR       |
| A1U54            | 156-6596-01           | B030100              |                        | IC, MISC: BIPOLAR, TEMPERATURE SENSOR, VOLTAGE OUT, DEG CELSIUS CALIBRATION, LM35DM, SO8.150        | 27014     | LM35DMX          |
| A1U55            | 156-5138-01           | B030100              |                        | IC, LINEAR: BIFET, OP-AMP, DUAL, MC34002/TL072, SO8.150   | 01295     | TL072CDR         |
| A1U56            | 156-6622-01           | B030100              |                        | IC, LINEAR: BIPOLAR, TRANSISTOR ARRAY, SEVEN, NPN COMMON COLLECTOR, OPEN EMITTER, 20V, 100MA/TRANS  | 34371     | CA3082M96        |
| A1U57            | 156-7102-01           | B030100              |                        | IC, LINEAR: BIPOLAR, VOLTAGE REFERENCE, 4.096V, 0.2%, 100PPM, SHUNT, LM4040BIM3X-4.1, TO-236/SOT-23 | 27014     | LM4040BIM3X-4.1  |
| A1U58            | 156-7003-00           | B030100              |                        | IC, OPTO: COUPLER, DUAL CH, HIGH SPEED, CTR 50%MAX, ISOLATION 5000V, HCPL4534, SOIC 8               | 50434     | HCPL4534#520     |
| A1U59            | 156-5135-01           | B030100              |                        | IC, DIGITAL: HCTCMOS, REGISTER, 8-BIT SIPO SHIFT, 74HCT164, SO16.150                                | 1CH66     | 74HCT164DT       |
| A1U60            | 156-5135-01           | B030100              |                        | IC, DIGITAL: HCTCMOS, REGISTER, 8-BIT SIPO SHIFT, 74HCT164, SO16.150                                | 1CH66     | 74HCT164DT       |
| A1U61            | 156-7102-01           | B030100              |                        | IC, LINEAR: BIPOLAR, VOLTAGE REFERENCE, 4.096V, 0.2%, 100PPM, SHUNT, LM4040BIM3X-4.1, TO-236/SOT-23 | 27014     | LM4040BIM3X-4.1  |
| A1U62            | 156-5441-01           | B030100              |                        | IC, LINEAR: BIPOLAR, VOLTAGE REGULATOR, POSITIVE, ADJUSTABLE, 100MA, 2%, LOW DROPOUT, MICROPOWER    | 27014     | LP2951CMX        |

## Replaceable electrical parts list (Cont.)

| Component number | Tektronix part number | Serial no. effective | Serial no. discont'd | Name & description   | Mfr. code | Mfr. part number |
|------------------|-----------------------|----------------------|----------------------|--|-----------|------------------|
| A1U63            | 156-7004-00           | B030100              |                      | IC,OPTO:COUPLER, LINEARITY 99.99%,CTR 1.0, ISOLATION 5000V, MONITOR PD, CNR201, SOIC 8       | 50434     | CNR201#500       |
| A1U64            | 156-5135-01           | B030100              |                      | IC,DIGITAL:HCTCMOS,REGISTER,8-BIT SIPO SHIFT, 74HCT164,S016.150                              | 1CH66     | 74HCT164DT       |
| A1U65            | 156-6891-01           | B030100              |                      | IC,MISC:CMOS,VIDEO SUBSYSTEM,SYNC SEPARATOR, W/ADVANCED VERTICAL SYNC DECODING,EL4581CS      | 64762     | EL4581CS()       |
| A1U66            | 156-7412-01           | B030100              |                      | IC,LINEAR:BIPOLAR,SW-REGULATOR CONTROLLER, PWM,SINGLE ENDED OPEN COLLECTOR,DEAD TIME CONTRO  | 01295     | TL5001CDR        |
| A1U67            | 156-7500-01           | B030100              |                      | IC,MISC:CMOS,MISC,DUAL POWER MOSFET GATE DRIVER, INVERTING OUTPUTS, W/REGULATOR,TPS2811      | 01295     | TPS2811DR        |
| A1U70            | 156-7479-01           | B030100              |                      | IC,LINEAR:BIPOLAR,OP-AMP,250UV VOS,40NA IB, 1.5MHZ,SINGLE SUPPLY,LOW POWER,OPA237NA,SOT23-5  | 13919     | OPA237NA-3K      |
| A1U71            | 156-7479-01           | B030100              |                      | IC,LINEAR:BIPOLAR,OP-AMP,250UV VOS,40NA IB, 1.5MHZ,SINGLE SUPPLY,LOW POWER,OPA237NA,SOT23-5  | 13919     | OPA237NA-3K      |
| A1U72            | 156-7422-01           | B030100              |                      | IC,LINEAR:BIPOLAR,VOLTAGE REFERENCE, 2.5V,0.5%,100PPM,SHUNT,LM4040CIM3X-2.5, TO-236/SOT-23   | 27014     | LM4040CIM3X-2.5  |
| A1U74            | 156-6296-01           | B030100              |                      | IC,LINEAR:BIFET,OP-AMP,DUAL,LOW POWER,HIGH OUTPUT CURRENT,TLE2062CD,S08.150                  | 01295     | TLE2062CDR       |
| A1U75            | 156-5352-00           | B030100              |                      | IC,LINEAR:BIFET,OP-AMP,LOW OFFSET, OPA132UA/LT1056S8,S08.150                                 | 64155     | LT1056S8         |
| A1U77            | 156-7422-01           | B030100              |                      | IC,LINEAR:BIPOLAR,VOLTAGE REFERENCE, 2.5V,0.5%,100PPM,SHUNT,LM4040CIM3X-2.5, TO-236/SOT-23   | 27014     | LM4040CIM3X-2.5  |
| A1U78            | 156-7243-01           | B030100              |                      | IC,LINEAR:BIPOLAR,COMPARATOR,DUAL,80NS, WHYSTERISYS, TOTEM POLE OUTPUT, MAX942CUA,TSSOP8.120 | 1ES66     | MAX942CUA-T      |
| A1U79            | 156-7422-01           | B030100              |                      | IC,LINEAR:BIPOLAR,VOLTAGE REFERENCE, 2.5V,0.5%,100PPM,SHUNT,LM4040CIM3X-2.5, TO-236/SOT-23   | 27014     | LM4040CIM3X-2.5  |
| A1U80            | 156-7419-01           | B030100              |                      | IC,DIGITAL:HCMOS,GATE,2-INPUT XOR, 7S86FU,SC59-5   | 0JR04     | TC7S86FUTE85L    |
| A1U81            | 156-7421-01           | B030100              |                      | IC,DIGITAL:HCMOS,FLIP FLOP,D-TYPE, PRESET,CLEAR,COMPLEMENTARY OUTPUTS                        | 0JR04     | TC7W74FUTE12L    |
| A1U82            | 156-7419-01           | B030100              |                      | IC,DIGITAL:HCMOS,GATE,2-INPUT XOR, 7S86FU,SC59-5   | 0JR04     | TC7S86FUTE85L    |
| A1U83            | 156-7479-01           | B030100              |                      | IC,LINEAR:BIPOLAR,OP-AMP,250UV VOS,40NA IB, 1.5MHZ,SINGLE SUPPLY,LOW POWER,OPA237NA,SOT23-5  | 13919     | OPA237NA-3K      |
| A1U84            | 156-7479-01           | B030100              |                      | IC,LINEAR:BIPOLAR,OP-AMP,250UV VOS,40NA IB, 1.5MHZ,SINGLE SUPPLY,LOW POWER,OPA237NA,SOT23-5  | 13919     | OPA237NA-3K      |
| A1VR1            | 152-5107-00           | B030100              |                      | DIODE,ZENER:TRANSIENT SUPPRESSOR, 20V,600W,P6SMB20A,DO-214AA/SMB                             | 04713     | P6SMB20AT3       |

## Component-Level Electrical Parts

## Replaceable electrical parts list (Cont.)

| Component number | Tektronix part number | Serial no. effective | Serial no. discontin'd | Name & description   | Mfr. code | Mfr. part number   |
|------------------|-----------------------|----------------------|------------------------|--|-----------|--------------------|
| A1W1             | 174-3501-00           | B030100              |                        | CABLE ASSY,SP:DISCRETE,1,22 AWG,1.9 INCH,AMP PLUG ONE END,MOLEX STAIN RELIEF OTHER END     | TK2469    | 174-3501-00        |
| A1W2             | 174-3501-00           | B030100              |                        | CABLE ASSY,SP:DISCRETE,1,22 AWG,1.9 INCH,AMP PLUG ONE END,MOLEX STAIN RELIEF OTHER END     | TK2469    | 174-3501-00        |
| A1Y1             | 158-5040-00           | B030100              |                        | OSCILLATOR:CRYSTAL CONTROLLED, 30.303MHZ, 0.01%,HCM0S,W/ OE,SMD,FSO-TYPE                   | 0HAF7     | SG-615PH 30.303MC2 |
| A1Y2             | 158-5013-00           | B030100              |                        | CRYSTAL,QTZ:32.768 KHZ,20 PPM,ESR 50K OHMS, CL 12.5PF, SMD,FSM PKG,0.41 X 0.16,0.14 H      | 61429     | FSM327             |
| A1Y3             | 158-5017-00           | B030100              |                        | XTAL UNIT,QTZ:3.6864 MHZ,+/- 0.01%,PARALLEL, ESR 200 OHM, SMD,PKG 0.508 X 0.197,0.188 HIGH | 61429     | FPX 003.6864 MHZ   |

## Component-Level Diagrams

This section contains diagrams for the THS720A MOD NV. The first few pages show component locations on the Main Board (A1). Next is a block diagram of the THS720A MOD NV. Then this section contains the following schematic diagrams of the Main Board (A1), which begin with diagram number two:

- Channel 1
- Channel 2
- Sampler Driver
- Daculator
- Trigger
- Sampler
- DMM
- DMM Isolation
- CPU
- Serial I/O
- Front-Panel Scan
- RS-232
- Display
- Charger and Power Switch
- Main Power Supply
- Isolated Power Supply

