



SERVICE MANUAL

HF ALL BAND TRANSCEIVER

IC-765

INTRODUCTION

This service manual describes the latest service information for the **IC-765** HF ALL BAND TRANSCEIVER at the time of going to press and covers the following versions:

| VERSION | VERSION NUMBER |
|-----------|----------------|
| U.S.A. | #02 |
| Australia | #03 |
| Europe | #04 |
| France | #05 |

To upgrade quality, any electric or mechanical part and internal circuits are subject to change without notice or obligation.

DANGER

Use **ONLY** the specified AC voltage described on the AC power socket. Other voltages may cause the transceiver damage or personal injury.

DO NOT expose the transceiver to rain, snow or any liquids.

DO NOT reverse the polarities of the power supply when connecting the transceiver.

DO NOT apply an RF signal of more than 20 dBm (100 mW) to the antenna connector. This could damage the transceiver's front end.



ORDERING PARTS

Be sure to include the following 4 points when ordering replacement parts:

1. 10-digit order numbers
2. Component part number and name
3. Equipment model name and unit name
4. Quantity required

<SAMPLE ORDER>

1110001310 IC μ PC577HA IC-765 MAIN UNIT 5 pieces
8810004690 Screw BiH M4 x 5 ZK BS IC-765 Top cover 10 pieces

Addresses are provided on the inside back cover for your convenience.

REPAIR NOTE

1. Make sure a problem is internal before disassembling the transceiver.
2. **DO NOT** open the transceiver until the transceiver is disconnected from a power source.
3. **DO NOT** force any of the variable components. Turn them slowly and smoothly.
4. **DO NOT** short any circuits or electronic parts. An insulated tuning tool **MUST** be used for all adjustments.
5. **DO NOT** keep power ON for a long time when the transceiver is defective.
6. **DO NOT** transmit power into a signal generator or a sweep generator.
7. **ALWAYS** connect a 40 dB~50 dB attenuator between the transceiver and a deviation meter or spectrum analyzer when using such test equipment.
8. **READ** the instructions of test equipment thoroughly before connecting equipment to the transceiver.

TABLE OF CONTENTS

| | | | |
|----------------|----------|---|-------------------|
| SECTION | 1 | SPECIFICATIONS | 1 — 1 ~ 2 |
| SECTION | 2 | INSIDE VIEWS | 2 — 1 ~ 3 |
| | 2-1 | TOP VIEW | 2 — 1 |
| | 2-2 | BOTTOM VIEW | 2 — 2 |
| | 2-3 | REG UNIT | 2 — 2 |
| | 2-4 | TUNER UNIT | 2 — 3 |
| | 2-5 | PA UNIT | 2 — 3 |
| SECTION | 3 | CIRCUIT DESCRIPTION | 3 — 1 ~ 13 |
| | 3-1 | RECEIVER CIRCUITS | 3 — 1 |
| | 3-2 | TRANSMITTER CIRCUITS | 3 — 5 |
| | 3-3 | PLL CIRCUITS | 3 — 9 |
| | 3-4 | LOGIC CIRCUITS | 3 — 10 |
| | 3-5 | ANTENNA TUNER CIRCUITS | 3 — 11 |
| | 3-6 | POWER SUPPLY CIRCUITS | 3 — 12 |
| SECTION | 4 | MECHANICAL PARTS AND DISASSEMBLY | 4 — 1 ~ 12 |
| | 4-1 | FRAME DISASSEMBLY | 4 — 1 |
| | 4-2 | FRONT PANEL | 4 — 3 |
| | 4-3 | REAR PANEL | 4 — 5 |
| | 4-4 | TUNER AND MKR SW UNITS | 4 — 7 |
| | 4-5 | UNPACKING | 4 — 8 |
| | 4-6 | OTHER UNIT CONNECTOR ASSEMBLY | 4 — 9 |
| SECTION | 5 | PARTS LIST | 5 — 1 ~ 27 |
| SECTION | 6 | ADJUSTMENT PROCEDURES | 6 — 1 ~ 18 |
| | 6-1 | PREPARATION BEFORE SERVICING | 6 — 1 |
| | 6-2 | PLL ADJUSTMENT | 6 — 2 |
| | 6-3 | RECEIVER ADJUSTMENT | 6 — 4 |
| | 6-4 | TRANSMITTER ADJUSTMENT | 6 — 9 |
| | 6-5 | TUNER UNIT ADJUSTMENT | 6 — 16 |
| | 6-6 | REG UNIT ADJUSTMENT | 6 — 18 |
| SECTION | 7 | BOARD LAYOUTS | 7 — 1 ~ 12 |
| | 7-1 | DISPLAY, MKR SW AND SENSOR UNITS | 7 — 1 |
| | 7-2 | LOGIC UNIT | 7 — 2 |
| | 7-3 | FRONT UNIT | 7 — 3 |
| | 7-4 | PLL AND DDS UNITS | 7 — 4 |
| | 7-5 | MAIN UNIT | 7 — 6 |
| | 7-6 | MATRIX UNIT | 7 — 8 |
| | 7-7 | RF UNIT | 7 — 9 |
| | 7-8 | PA UNIT | 7 — 10 |
| | 7-9 | TUNER UNIT | 7 — 11 |
| | 7-10 | REG AND FILTER UNITS | 7 — 12 |
| SECTION | 8 | BLOCK DIAGRAM | 8 — 1 |
| SECTION | 9 | VOLTAGE DIAGRAMS | 9 — 1 ~ 3 |

SECTION 1 SPECIFICATIONS

■ GENERAL

- Frequency coverage : Receive: 0.10000 ~ 30.00000 MHz
Transmit: 160m band 1.8 ~ 2.0 MHz
80m band 3.5 ~ 4.0 MHz
40m band 7.0 ~ 7.3 MHz
30m band 10.1 ~ 10.15 MHz
20m band 14.0 ~ 14.35 MHz
17m band 18.068 ~ 18.168 MHz
15m band 21.0 ~ 21.45 MHz
12m band 24.89 ~ 24.99 MHz
10m band 28.0 ~ 29.7 MHz
- Modes : SSB (A3J), CW (A1), AM (A3), FM (F3), RTTY (F1)
- Frequency step : 10 Hz (with [TS] OFF), 1 kHz (with [TS] ON)
- Frequency stability : Less than ± 200 Hz
(+25 °C; +77 °F, up to 1 hour after power is turned ON)
Less than ± 30 Hz (+25 °C; +77 °F, after every hour)
Less than ± 350 Hz (0 °C ~ +50 °C; +32 °F ~ +122 °F)
Less than ± 100 Hz when the optional CR-282 is installed
- Antenna impedance : 50 Ω unbalanced (with [TUNER] OFF),
16.7 ~ 150 Ω unbalanced (with [TUNER] ON)
- Power supply requirement : U.S.A. version AC 100 ~ 120 V
Australia, Europe, France versions AC 200 ~ 240 V
- Power consumption : Transmitting max.: 650 VA min.: 250 VA
Receiving max. audio: 80 VA standby: 75 VA
- Dimensions : 424(W) \times 150(H) \times 390(D) mm 16.7(W) \times 5.9(H) \times 15.4(D) in.
(Projections not included)
- Weight : 17.5 kg (38.6 lb)
- Usable temperature range : -10 °C ~ +60 °C (+14 °F ~ +140 °F)

■ TRANSMITTER

- Output power : SSB 100 W PEP
CW, RTTY, FM 100 W
AM 40 W
- Modulation : SSB Balanced modulation
FM Variable reactance modulation
AM Low level modulation
- Max. frequency deviation : ± 5 kHz
- RTTY shift width : 170 Hz, 850 Hz selectable
- Spurious emissions : Less than -60 dB
- Carrier suppression : Less than -40 dB
- Unwanted sideband : Less than -55 dB with 1000 Hz modulation
- Microphone impedance : 600 Ω
- Δ TX variable range : ± 9.99 KHz

■ RECEIVER

- Receive system : SSB, CW, RTTY, AM Quadruple-conversion superheterodyne
FM Triple-conversion superheterodyne

- Intermediate frequencies :

| | SSB | CW, RTTY | AM | FM |
|-----|---------|----------|---------|---------|
| 1st | 69.0115 | 69.0106 | 69.0100 | 69.0100 |
| 2nd | 9.0115 | 9.0106 | 9.0100 | 9.0100 |
| 3rd | 0.4550 | 0.4550 | 0.4550 | 0.4550 |
| 4th | 9.0115 | 9.0106 | 9.0100 | — |

(Unit: MHz)

- Sensitivity : SSB, CW, RTTY (for 10 dB S/N) 0.1~0.5 MHz Less than 0.7 μ V
 ([PRE/ATT] switch is [PRE] position) 0.5~1.8 MHz Less than 1.0 μ V
 1.8~30 MHz Less than 0.15 μ V
 AM narrow (for 10 dB S/N) 0.1~0.5 MHz Less than 4.0 μ V
 0.5~1.8 MHz Less than 6.0 μ V
 1.8~30 MHz Less than 1.0 μ V
 FM (for 12 dB SINAD) 28~30 MHz Less than 0.3 μ V
- FM squelch sensitivity : 28~30 MHz Less than 0.3 μ V
- Selectivity ([IF SHIFT] switch is OFF) : SSB More than 2.2 kHz/−6 dB
 Less than 3.8 kHz/−60 dB
 CW (narrow), RTTY (narrow) More than 500 Hz/−6 dB
 Less than 1.0 kHz/−60 dB
 AM More than 6.0 kHz/−6 dB
 Less than 18.0 kHz/−50 dB
 FM More than 15.0 kHz/−6 dB
 Less than 30 kHz/−50 dB
- Spurious and image rejection ratio : Image: Less than −80 dB IF: Less than −70 dB
- Audio output power : More than 2.6 W at 10 % distortion with an 8 Ω load
- Audio output impedance : 8 Ω
- RIT variable range : \pm 9.99 kHz

■ ANTENNA TUNER

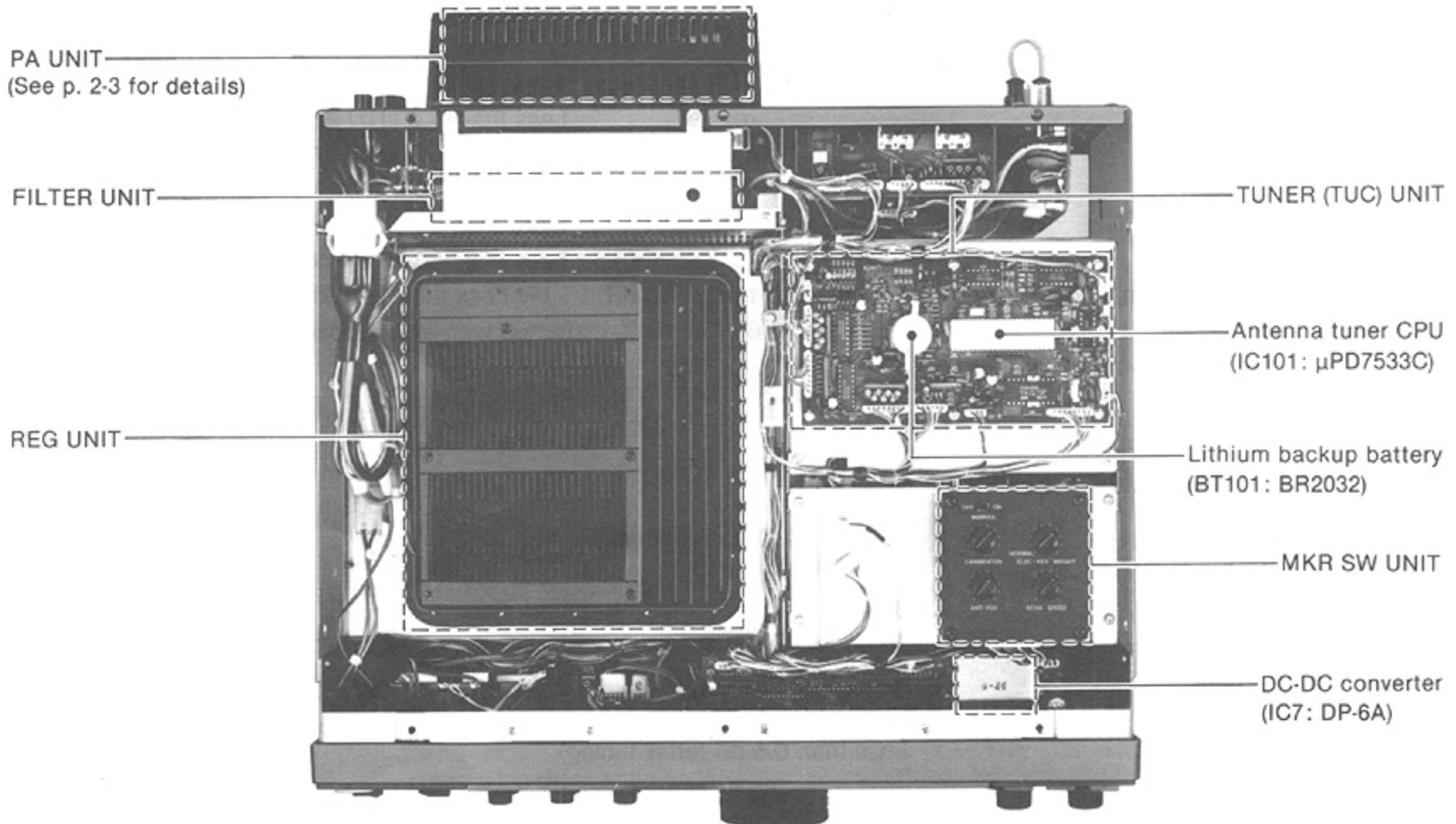
- Output matching range : 16.7~150 Ω unbalanced
 ([TUNER] switch is ON)
- Minimum input power : 8 W
- Band switching time : 3 seconds or less
- Auto tuning time : 3 seconds or less
- Auto tuning accuracy : VSWR 1.2 : 1 or less
- Insertion loss : Less than 0.5 dB (after tuning)

All stated specifications are subject to change without notice or obligation.

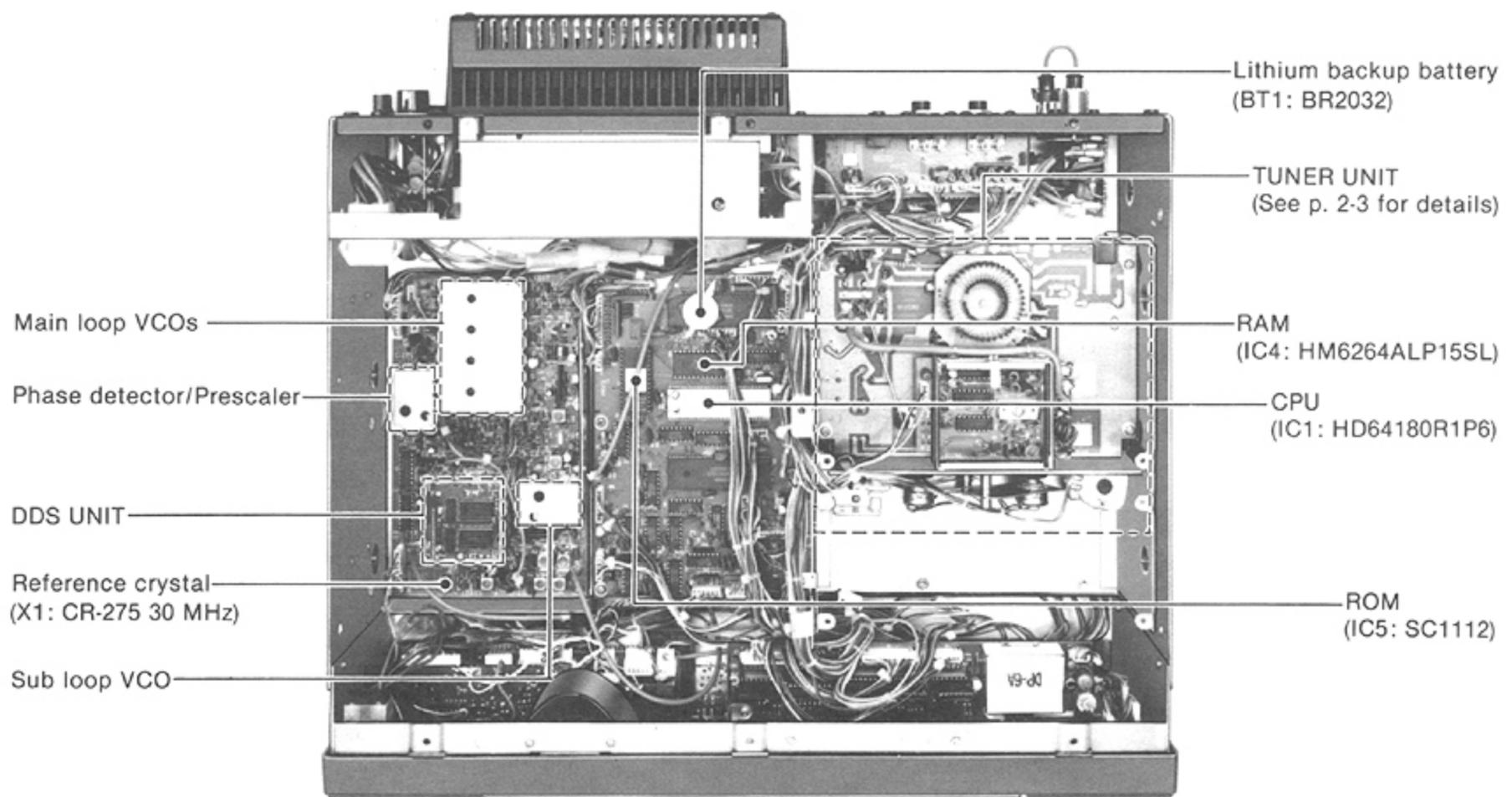
SECTION 2 INSIDE VIEWS

2-1 TOP VIEW

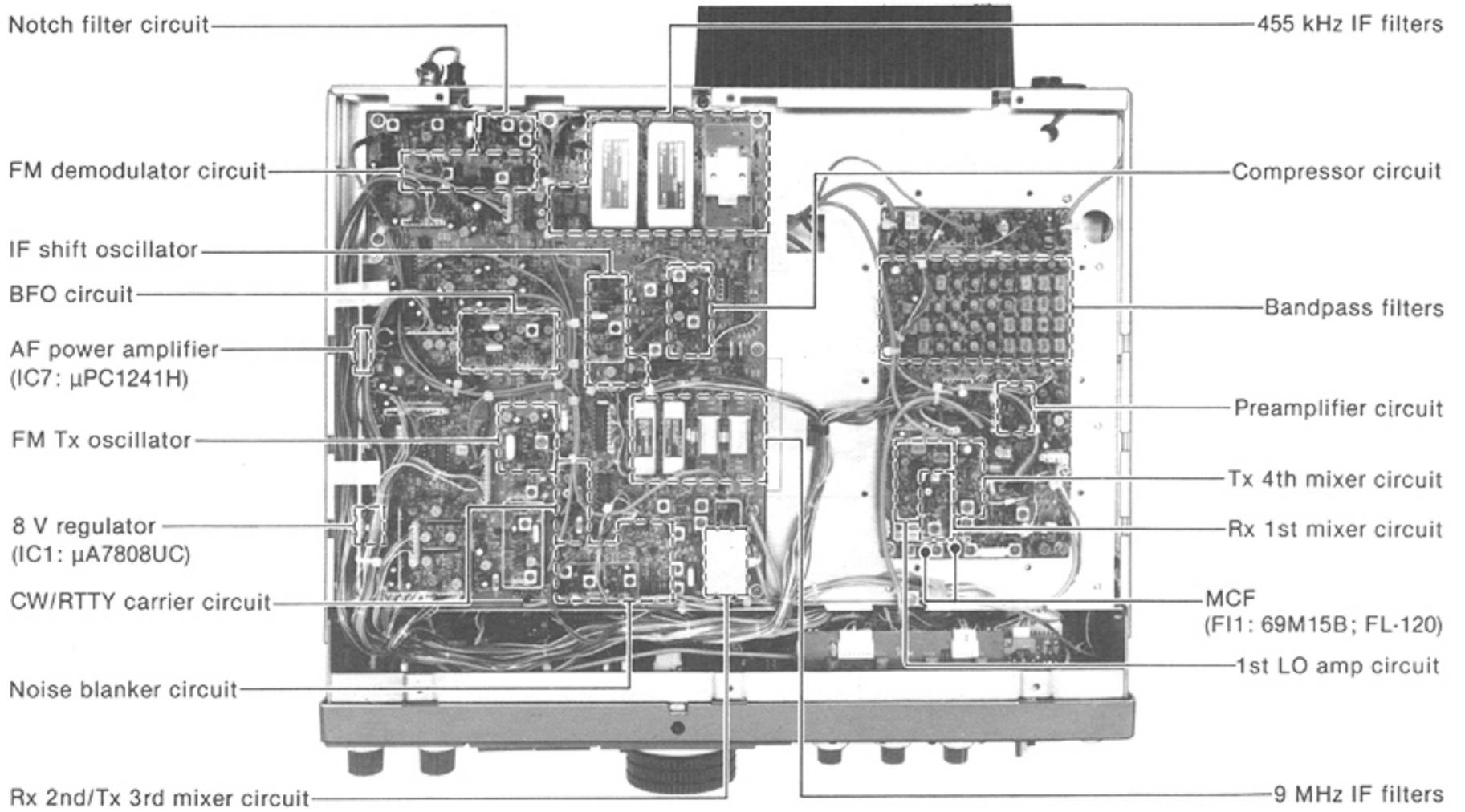
• REG AND TUNER (TUC) UNITS ARE ATTACHED



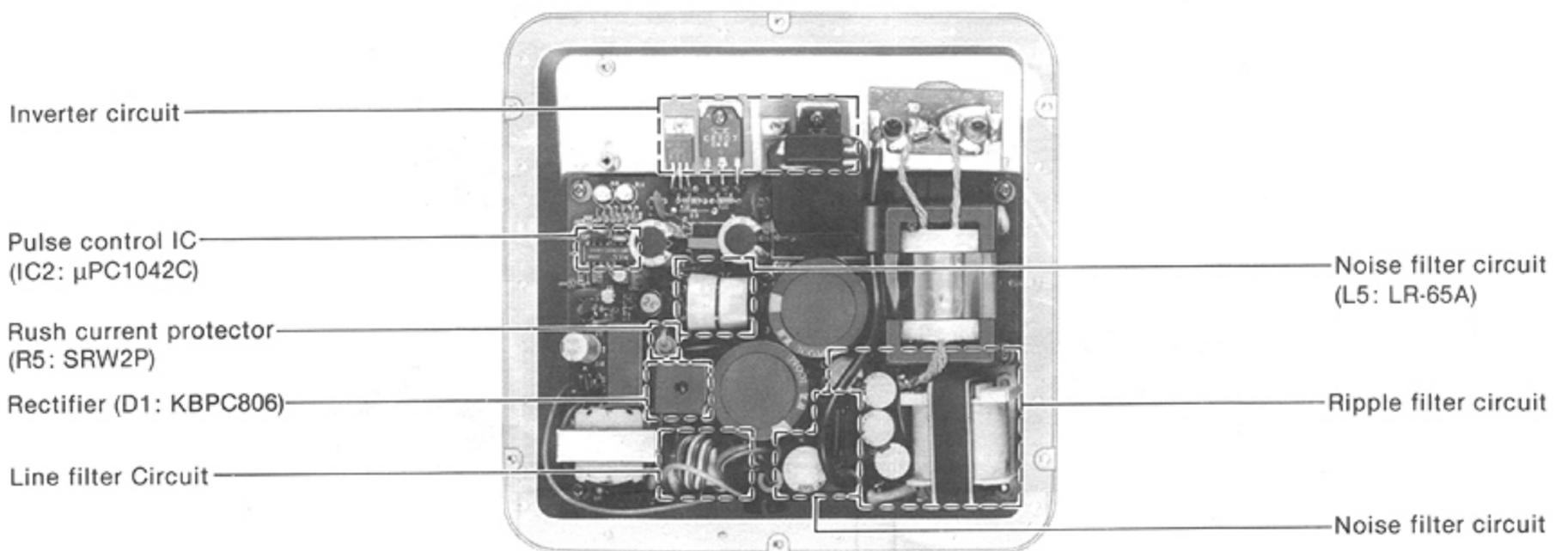
• REG AND TUNER (TUC) UNITS ARE REMOVED



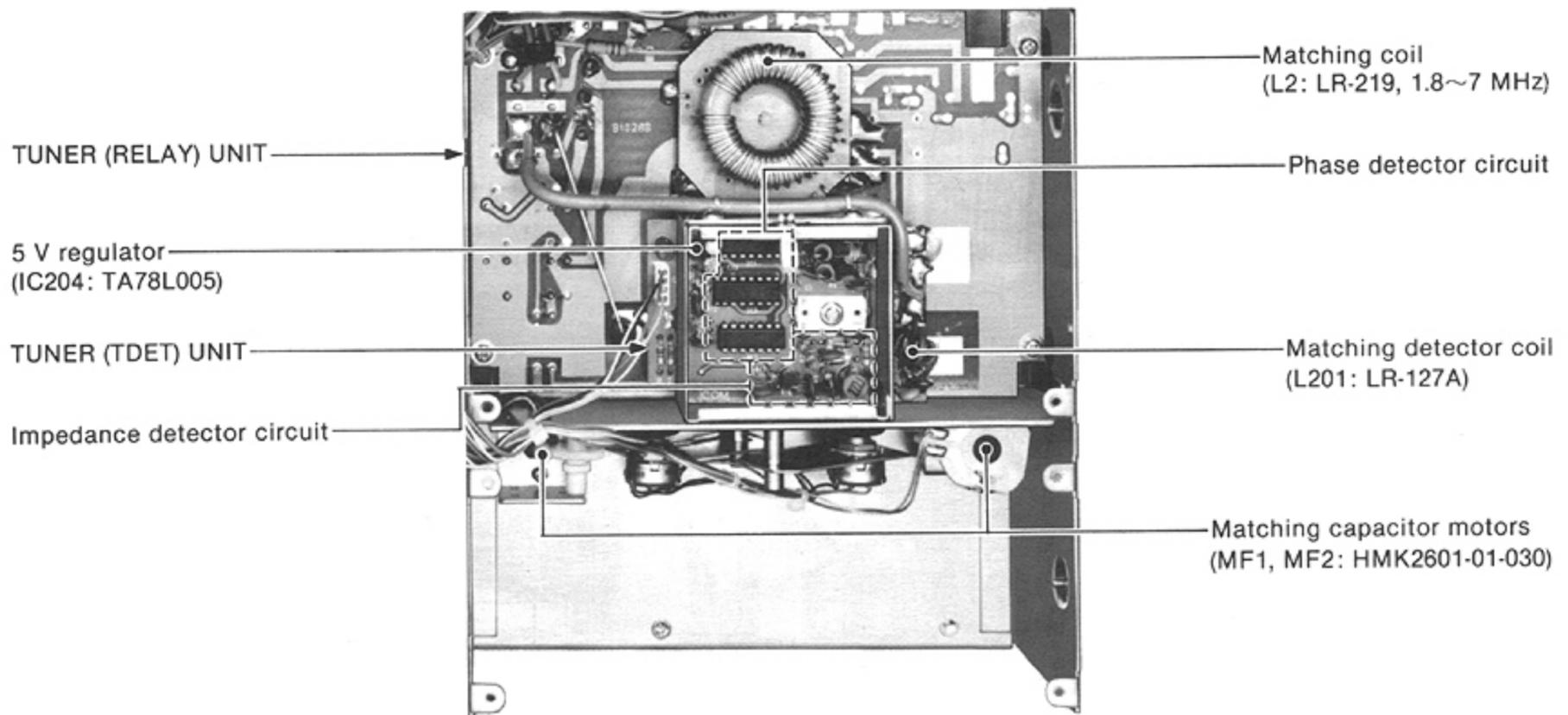
2-2 BOTTOM VIEW



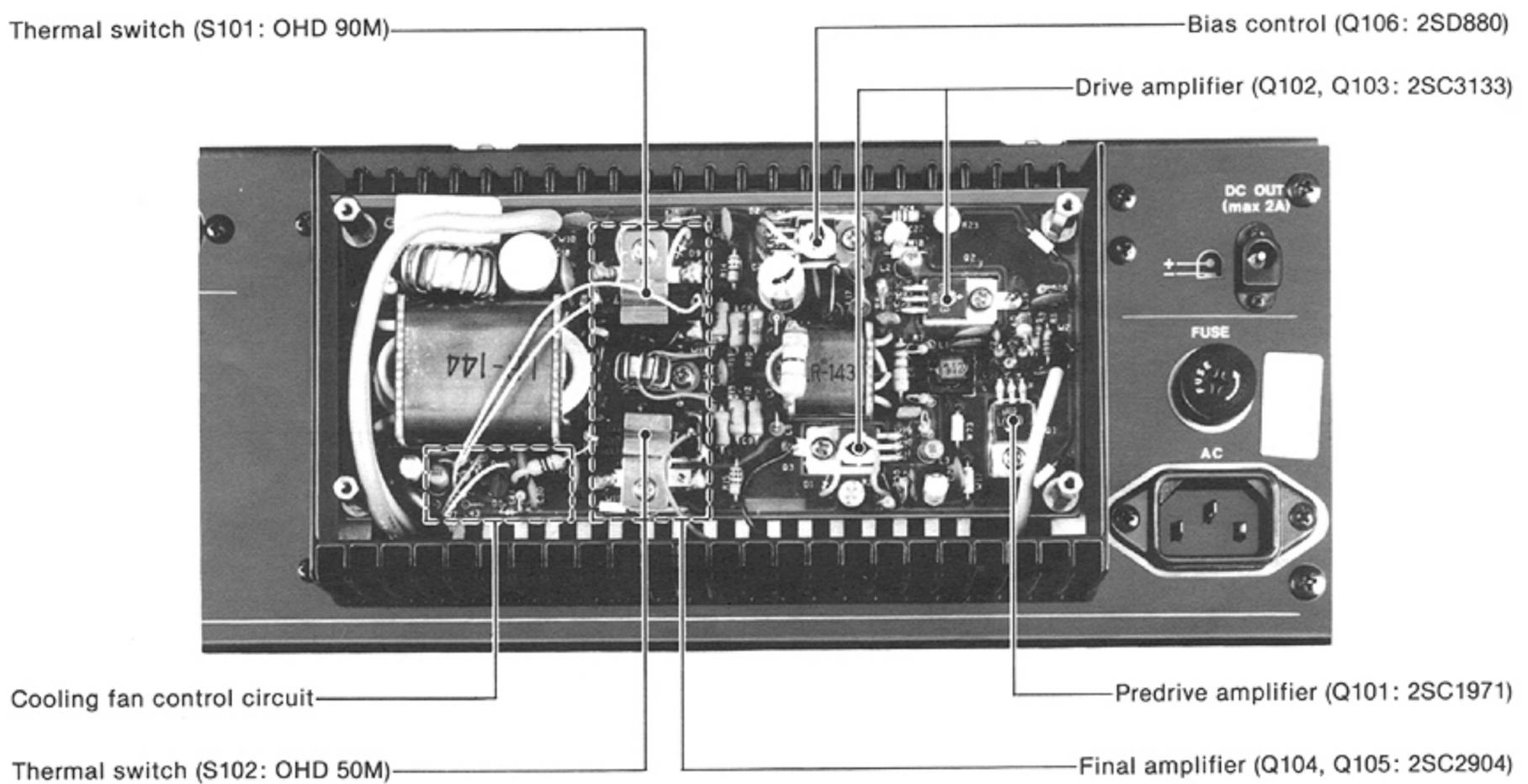
2-3 REG UNIT



2-4 TUNER UNIT



2-5 PA UNIT



SECTION 3 CIRCUIT DESCRIPTION

3-1 RECEIVER CIRCUITS

3-1-1 RF SWITCHING CIRCUIT (ANT SW AND RF UNITS)

RF signals from the antenna connector pass through the TUNER UNIT, the receive line switching relay (RL201), the receive antenna jacks and a low-pass filter. The signals either bypass or are attenuated at the 10 dB attenuator (R211) and are then applied to the RF UNIT via P201 (RF UNIT: J10). RL201 is a reed relay and is used as a switching relay corresponding to the full break-in switching speed.

The signals applied to the RF UNIT either bypass or are attenuated at a 20 dB attenuator using RL1. The signals are then applied to RF filters. The signals from the [X-VERTER] jack are also applied to the RF filters.

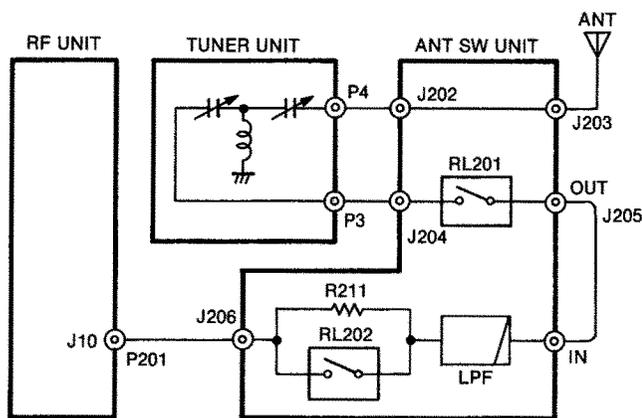


Fig. 1

3-1-2 RF BANDPASS FILTER (RF UNIT)

The RF UNIT has 9 RF bandpass filters for signals above 1.6 MHz and 2 low-pass filters for signals below 1.6 MHz. The signals pass through one of the bandpass or low-pass filters depending on the receive frequency range. Pin diodes (D41~D44, D47) are used at the front-end switching diodes to prevent distortion caused by strong signals.

(1) 0.1~0.5 MHz

Signals are applied to a low-pass filter via D44. Diodes (D43, D44) are turned ON when "B1" line is "HIGH." Filtered signals are applied to a 30 MHz cut-off low-pass filter via D43.

(2) 0.5~1.6 MHz

Signals are applied to a low-pass filter via D42. Diodes (D41, D42) are turned ON when "B2" line is "HIGH." Filtered signals are applied to the 30 MHz cut-off low-pass filter via D41.

(3) 1.6 MHz AND ABOVE

Signals passed through D47 are applied to a high-pass filter consisting of L101, L102, C180~C182. This filter suppresses strong signals below 1.6 MHz such as a broadcasting station. Filtered signals are applied to one of the 9 bandpass filters depending on the frequency of the signals.

After passing through a bandpass filter, the signals are applied to an L-type attenuator by using D10 and D11. The attenuator functions as an RF AGC circuit. These diodes are pin diodes and are controlled by AGC bias voltage via Q3 and Q5. By combining 2 diodes D10 and D11, an input impedance of the circuit is maintained at approximately 50 Ω. When strong signals are received, the AGC circuit increases the attenuation level, preventing front-end overloading.

PREAMP CIRCUIT

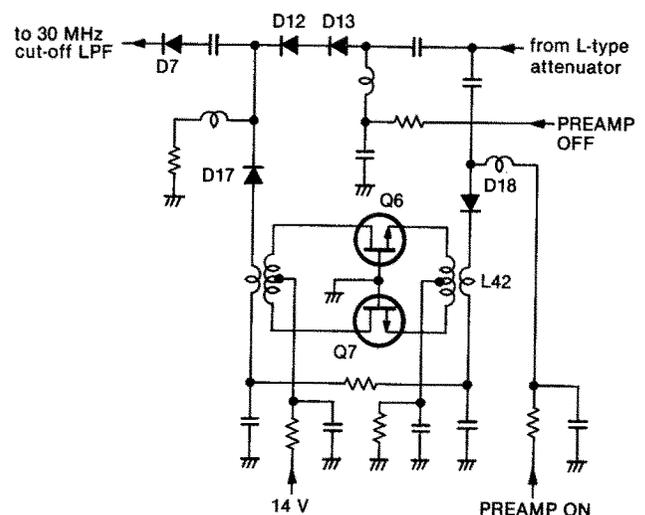


Fig. 2

When the [PRE/ATT] switch is set to the [PRE] position, the signals from the attenuator are amplified at the preamplifier circuit (Q6, Q7). The preamplifier provides 8~10 dB gain over a wideband frequency range. When the [PRE/ATT] switch is set to the [OFF] position, the signals bypass the preamplifier through D12 and D13. Amplified or bypassed signals are applied to the 30 MHz cut-off low-pass filter via D7.

(4) FILTER SWITCHING CIRCUIT

BPF or LPF switching voltage (B1~B11) is obtained at IC1 and IC2 by decoding band signals (B1~B11; see Section 3-4-3 for details) from the LOGIC UNIT.

3-1-5 NOISE BLANKER CIRCUIT (MAIN UNIT)

The IC-765 uses a noise trigger noise blanker circuit that cuts out pulse-type noise signals at the noise blanker gate (D87~D90).

A portion of the signal from FI2 is amplified at the noise amplifiers (Q55~Q57), which employs 2 dual-gate FETs for wide AGC dynamic range. The signal is detected at the noise detector (D83, D84). The detected voltage from the noise detector is applied to the noise blanker switch (Q61).

The threshold level of the noise blanker switch is controlled by the [NB LEVEL] control. When the detected voltage exceeds the threshold level, Q60 outputs a blanking signal to activate the noise blanker gate (D87~D90).

The signal from Q61 is also applied to the pulse width stretch circuit (IC16). This circuit consists of the Miller integrator (IC16b) and comparator (IC16a) to function as a blank pulse delay for corresponding to the "woodpecker" noise.

A portion of the detected voltage is applied to the noise AGC circuit (Q58) and fed back to the noise amplifier as noise AGC voltages. The time constant of the noise AGC circuit is determined by R264, R267 and C165. This AGC circuit does not operate to detect pulse-type noise.

Q59 cancels the noise blanker operation after 1~2 msec. to prevent unnecessary distortion from this circuit. When the [NB WIDE] switch is ON, C173 is connected in parallel with C175 to change the noise blanker cancelling time for 10 msec.

3-1-6 NOTCH FILTER CIRCUIT (MAIN UNIT)

The notch circuit attenuates a particular frequency at a resonance circuit. The IC-765 uses a bridge notch filter including a crystal as the resonance circuit.

NOTCH FILTER CIRCUIT

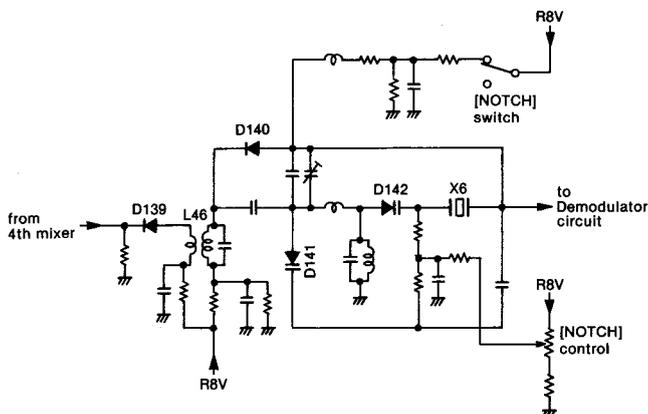


Fig. 4

The 4th IF signal passes through the bridge notch filter (D141, D142, X6, L47, L48). The [NOTCH] control varies the applying voltage to D141 and D142 to adjust the center frequency of the notch filter. When the [NOTCH] switch is turned OFF, D140 is turned ON and the 4th IF signal bypasses the notch filter through D140.

The signal from the notch filter is applied to the MCF (FI9) to filter leaked signal components from the 4th LO signal used at IC19. The signal is then applied to demodulator circuits.

3-1-7 IF SHIFT OSCILLATOR (MAIN UNIT)

A 9.465 MHz band signal (9.4636~9.4670) is oscillated at Q46 using X5. To adjust IF shift frequency, the bias voltage (0~8 V) controlled by the [IF SHIFT] control is applied to the varactor diode (D70). -5 V is applied to the anode of D70 to provide wideband frequency variation.

When the [IF SHIFT] switch is turned OFF or while transmitting, Q43 is turned ON and the IF shift frequency is fixed to the center frequency.

The output signal is applied to the 3rd mixer and buffer amplifier (Q47). The buffer-amplified signal is applied to the 4th mixer. The output frequency is adjusted by the [IF SHIFT] control to electronically change the center frequency of the 455 kHz IF filter.

3-1-8 BFO CIRCUIT (MAIN UNIT)

A 9 MHz signal oscillated at the BFO circuit (Q14, X1, X2) is buffer-amplified at Q13 and used at the balanced modulator (IC4) and the product detector (IC21). The BFO frequency is also used at the monitor detector (IC5). The BFO frequency is shifted with a mode signal using D13~D18.

In USB mode, the "USB" signal line becomes "HIGH," turning D13 ON. The frequency is then adjusted with C42 to set an USB carrier point. X2 provides USB BFO oscillation only.

In CW mode receiving, the "CW" signal line becomes "HIGH" and Q16 becomes OFF, turning D14 ON. The frequency is then adjusted with C307 to set a CW receive carrier point. A voltage controlled by the [CW PITCH] control is applied to the varactor diode (D19) to adjust receive CW audio tone.

In LSB mode, the "LSB" signal line turns "HIGH," turning D14 ON. In AM mode transmitting, the "AM" signal line becomes "HIGH" and Q15 turns OFF, turning D15 ON. The frequency is then adjusted with C45 to set a LSB carrier point.

In RTTY mode, the "RTTY" signal line becomes "HIGH," turning D17 ON. The frequency is then adjusted with L5 to set an RTTY carrier point (space frequency).

BFO FREQUENCY IN EACH MODE

| MODE | FREQUENCY (MHz) |
|------------------|-----------------|
| USB | 9.0130 |
| LSB, AM (Tx) | 9.0100 |
| CW (Rx) | 9.0099 |
| RTTY (Rx) | 9.008475 |
| AM (Rx), CW (Tx) | NO OUTPUT |

3-1-9 DEMODULATOR CIRCUITS (MAIN UNIT)

The IC-765 has 3 detector circuits, a product detector, a diode detector and an FM detector to demodulate the SSB/CW/RTTY signal, AM signal and FM signal respectively.

The 4th IF signal (SSB, CW, AM and RTTY) from the notch circuit (IC19 through FI9) is amplified at Q71 and Q85, and then applied to the demodulator circuits.

In SSB/CW/RTTY mode, the 4th IF signal is mixed with BFO signal at the product detector (IC21) to demodulate the 4th IF signal into an AF signal. The detected signal passes through the AF input mode selector switch (IC15, pin 10 and 11).

In AM mode, the 4th IF signal from Q85 passes through the impedance converter (Q84) is detected at D151, amplified at Q83, and passes through the AF input mode selector switch (IC15, pins 8 and 9).

In FM mode, the 2nd IF signal from Q70 is amplified at Q72 and Q73, and is limiter-amplified at IC20 to remove AM components such as a noise signal. It is then applied to the ceramic discriminator (X7), D143 and D144 to demodulate the 3rd IF signal into an AF signal.

The detected signal is also applied to the AF input mode selector switch (IC15, pins 3 and 4) via the de-emphasis circuit (R427, C277). This de-emphasis circuit is an integrated circuit with frequency characteristics of -6 dB/octave.

AGC CIRCUIT

3-1-10 AF INPUT MODE SELECTOR SWITCH (MAIN UNIT)

The AF signal from the demodulator, AM detector or FM detector is applied to the AF input mode selector switch (IC15) consisting of 4 analog switches. The AF signal is selected with a mode signal from the LOGIC UNIT and that passes through the squelch gate (IC15, pins 1 and 2). The AF signal is applied to an AF amp circuit.

3-1-11 AF AMP CIRCUIT (MAIN UNIT)

The AF signal from the AF input mode selector switch is applied to the AF preamplifier (IC6, pin 6). A CW sidetone signal, monitor signal and "VOIC" signal (output from the optional UT-36) are applied to the monitor AF amplifier (IC6, pin 2). The feedback level of the monitor amplifier is controlled by the [MONITOR GAIN] control to adjust the monitor AF level.

The output from the AF preamplifier and monitor amplifier is combined with an output from the beep tone circuit (Q22). The resulting signal is applied to the [RX TONE] control (TONE C UNIT, R602) and the [AF] control (AF VR UNIT, R318a). The AF signal is power-amplified at IC7 to drive the speaker.

The combined signal is applied to the [ACC(1)] socket provided for an external equipment.

3-1-12 AGC AND S-METER CIRCUIT (MAIN UNIT)

The receiver gain is determined by the voltage on the AGC line (Q76, emitter). When strong signals are received, the AGC circuit decreases the voltage on this line.

The IF signal from the impedance converter (Q84) is detected at D149 and D150, and applied to the base of Q77. The time constant (R438, R441, C280, C281) is connected to the AGC line that determines an AGC release time.

The time constant is controlled by the [AGC] switch. When the [AGC] switch is set to the [SLOW] position, R443, C283 and C284 are connected in parallel with the AGC line to obtain a slow AGC release time.

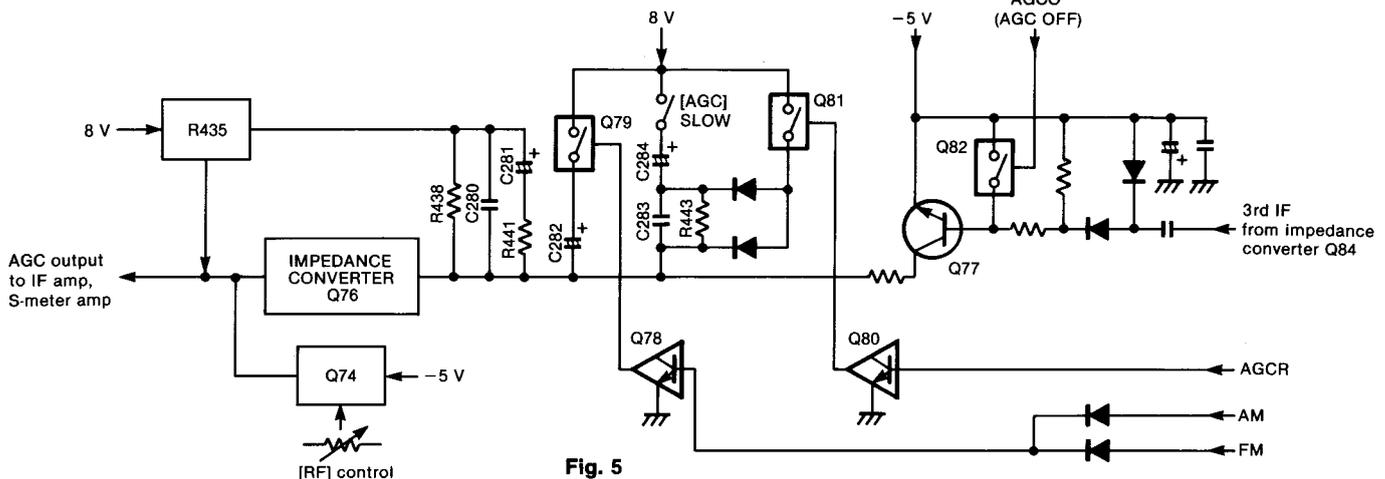


Fig. 5
3 - 4

When the [AGC] switch is set to the [OFF] position, Q82 is turned ON, shorting the detected voltage to deactivate the AGC circuit.

In AM or FM mode, the "AM" or "FM" signal line becomes "HIGH," turning Q78 and Q79 ON. C282 is then connected in parallel with the time constant to obtain an appropriate time constant for AM and FM.

Then impedance converter (Q76) applies AGC bias voltage to the IF amplifiers on the MAIN UNIT and to the L-type attenuator on the RF UNIT. Q74 supplies an AGC reference voltage to the AGC bias voltage line. The AGC bias voltage is controlled by the [RF] control.

The AGC bias voltage is applied to the differential amplifier (IC14 pin 2) where the difference between the AGC bias and reference voltages is detected. The reference voltage is adjusted with R219. The resulting S-meter signal passes through the meter switching circuit (IC13), and is then applied to the multi-function meter.

3-1-13 SQUELCH CIRCUIT (MAIN UNIT)

A squelch circuit mutes an audio output when the S-meter signal is lower than the [SQL] control setting level.

The S-meter signal from IC14 pin 1 is applied to the comparator (IC14 pin 5) to be compared to a reference voltage controlled by the [SQL] control.

In FM mode, the demodulated AF signal via the [SQL] control is applied to the noise amplifier (Q52, Q53) which amplifies noise components of frequencies of 10~20 kHz. The [SQL] control adjusts the Q53 input level. The resulting signals are rectified by D74 and D75, and are converted to DC voltage. The rectified voltage triggers the squelch switch (Q50).

The [SQL] control employs a double variable resistor to obtain 2 relational reference voltages. When the S-meter signal is lower than the threshold level, the comparator turns "HIGH" to activate the squelch gate (IC15, pins 1 and 2). When the noise squelch signal is higher than the threshold level, Q50 turns ON to activate the squelch gate. This signal is also applied to Q49, turning OFF the [RECEIVE] indicator.

3-2 TRANSMITTER CIRCUITS

3-2-1 MIC AMPLIFIER (MAIN UNIT)

Audio signals from the mic connector are amplified at the mic amplifier (Q301) on the AF VR UNIT. The signals pass through the [MIC TONE] and [MIC GAIN] controls, and are then applied to the mic amplifier (Q10) on the MAIN UNIT via J10 pin 1. An external modulation input from the [ACC(1)] socket pin 4 is applied to J10 pin 4.

These signals are applied to the buffer amplifier (Q11) and are then applied to the balanced modulator (IC4).

In FM mode, output signals from Q11 are applied to the IDC UNIT. The signals are limiter-amplified at the IDC UNIT, and are then applied to an FM Tx oscillator circuit.

When the tone function is activated, a subaudible tone is generated at the optional UT-30, amplified at Q32, and then applied to the FM Tx oscillator circuit.

When the [DATA] switch is turned ON, the audio signals are muted at Q302 on the AF VR UNIT for error-free data communication.

3-2-2 BALANCED MODULATOR (MAIN UNIT)

Output signals from the mic amplifier are applied to the balanced modulator circuit (IC4) to be converted to a 9 MHz IF signal. The BFO signal, buffer-amplified at Q13, is applied to IC4 pin 7 as a carrier signal. IC4 outputs a double sideband signal which passes through the 9 MHz filter (FI3) to create an SSB signal. In AM mode, the IF signal bypasses the 9 MHz filter.

R32 and R34 adjust the balance level of IC4 for maximum carrier suppression. In AM mode, Q12 and R37 upset the balance to create an AM carrier signal.

3-2-3 COMPRESSOR CIRCUIT (MAIN UNIT)

The signal from the 9 MHz filter passes through the impedance converter (Q64) and is then applied to the 1st mixer circuit (IC18) to obtain a 455 kHz IF signal. The signal passes through D114 or D116.

When the [COMP] switch is ON, the signal amplified at Q67 passes through the diode limiter (D120, D121) to obtain an average output power, improving signal intelligibility in SSB mode. When the [COMP] switch is OFF, the signal bypasses the above circuits through D116.

The amplified or bypassed signal is amplified at Q69 and applied to a 455 kHz IF filter.

COMPRESSOR CIRCUIT

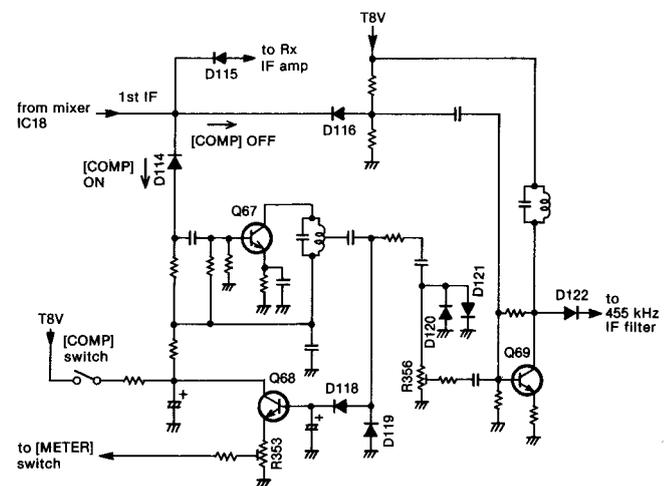


Fig. 6

3-2-4 CW/RTTY CARRIER OSCILLATOR (MAIN UNIT)

CW/RTTY carrier signals are generated at Q35 using X4 and applied to the Tx IF amplifier (Q34).

An RTTY keying signal is applied to Q37 via D35. The output signal is applied to Q35 to control the oscillation. When the polarity selector switch (S3) is reversed, the output signal is inverted at Q36 and applied to Q35. 170 Hz or 850 Hz shift frequencies can be selected with the shift width selector switch (S2). The oscillated frequency is adjusted with C123, C125 and C128.

In CW mode, the oscillation frequency is fixed to 9.0106 MHz using the "CW" signal line.

3-2-5 FM TX OSCILLATOR (MAIN UNIT)

The transmitter has its own IF circuit. An FM Tx oscillator circuit generates a 9.0105 MHz signal.

IDC UNIT output signals (microphone AF signals) and Q32 (subaudible tone signals) are applied to the modulation circuit (D31) in VCO (Q31) to produce an FM signal. The FM signal is applied to the Tx IF amplifier (Q34).

The resulting signal through D23 is combined with the 2nd IF signal (SSB, AM), passes through the MCF (F11) and IF amplifier (Q33), and is then applied to the Tx 3rd mixer (IC17) via low-pass filter.

3-2-6 IF CIRCUITS (MAIN AND RF UNITS)

The 455 kHz IF signal from the compressor circuit passes through a 455 kHz filter where unwanted signals are removed. The resulting signal is amplified at Q70, and is then mixed with the IF SHIFT signal to be converted to a 9 MHz IF signal at IC19. Q70 and IC19 are used in receiving and transmitting.

The 9 MHz IF signal is combined with the IF signal for CW, RTTY and FM modes. The combined signal is applied to the MCF (F11) and then to the IF amplifier (Q33). The IF amplifier is a dual-gate FET. The 1st gate of Q33 is controlled by an ALC bias voltage from the ALC circuit. The 2nd gate of Q33 is controlled by the [RF PWR] control.

The 9 MHz IF signal is converted to a 69 MHz IF signal at IC17 and then enters the RF UNIT. The signal is amplified at Q11 and is then applied to the double tuned filter (L32, L33, C77) to suppress spurious components. The 2nd gate of Q11 is also controlled by the ALC bias voltage. The amplified signal is converted to the displayed frequency at the balanced mixer (Q12, Q13).

3-2-7 RF CIRCUITS (RF AND PA UNITS)

The converted signal from Q12 and Q13 is applied to a 30 MHz low-pass filter where unwanted LO signal emission is reduced. The converted signal bypasses the preamplifier (Q6, Q7) and L-type attenuator (D10, D11) circuits. The signal passes through one of the 8 band-pass filter (1.8~30 MHz HF amateur bands), is amplified at Q14, and is then applied to the PA UNIT via J8.

When the "TRV8" signal line becomes "HIGH," D46 is turned ON. The signal from a bandpass filter is applied to the [X-VERTER] jack via J9 for use with an external transverter.

L101, L102 and C180~C182 form a high-pass filter to prevent re-application of strong signals below 1.6 MHz, such as those from a broadcasting station.

TRANSMITTER IF CIRCUITS

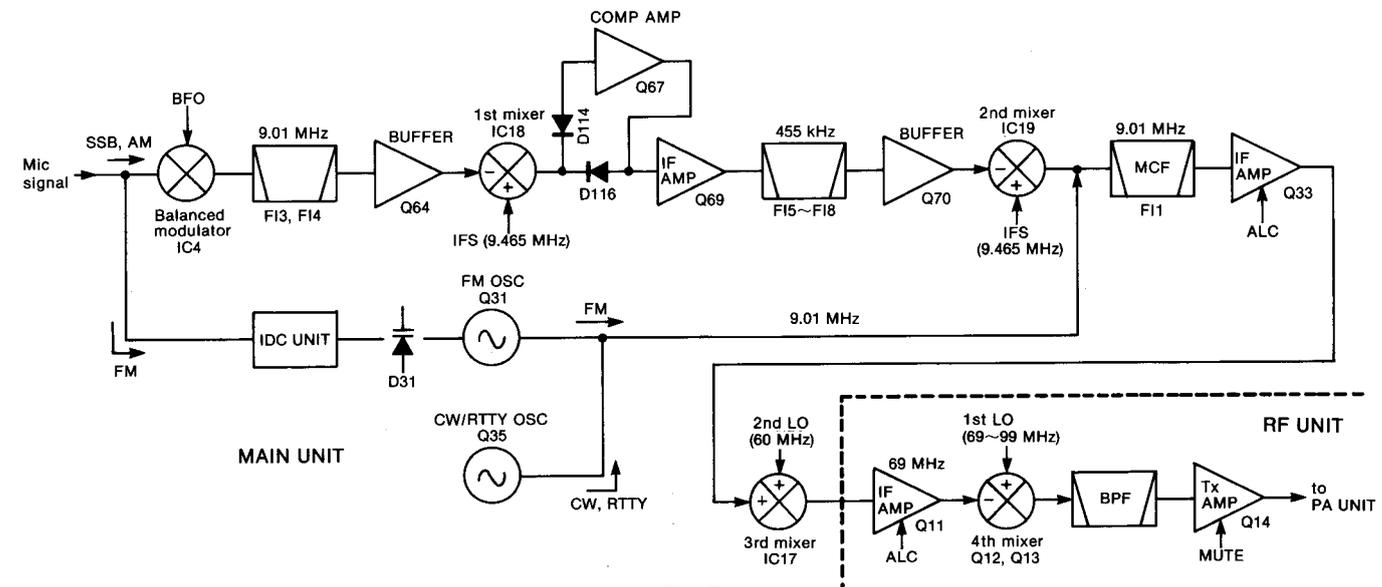


Fig. 7

Incoming signal from the RF UNIT is amplified at the predrive amplifier (Q101), the drive amplifier (Q102, Q103) and the power amplifier (Q104, Q105) to obtain stable 100 W RF output power in the PA UNIT. The predrive amplifier is a class A amplifier, and both the drive and power amplifiers are class AB push-pull amplifiers. A stable bias voltage is applied to the predrive, drive and power amplifiers. D101 controls a bias voltage to the drive amplifier. Q106, D102 and D109 supply a bias voltage to the power amplifier.

A 0.012 Ω resistor (R120), inserted in the HV line, is provided for the Ic meter. A voltage generated at both terminals of R120 is applied to the IF UNIT via the "IC+" and "IC-" signal line.

Thermal switches S101 and S102 detect the temperature of Q104 and Q105, and control the cooling fan speed.

| TEMPERATURE °C (°F) | | Below 50 (122) | 50~90 (122~194) | Above 90 (194) |
|---------------------|----------|-------------------|--------------------|-------------------|
| THERMAL SWITCH | S101 | OFF | OFF | ON |
| | S102 | OFF | ON | ON |
| COOLING FAN SPEED | RECEIVE | STOP | LOW | MID |
| | TRANSMIT | STOP | MID HIGH | HIGH |

3-2-8 FILTER UNIT

The FILTER UNIT has 7 Chebyshev low-pass filters. The signal from the PA UNIT, applied to one of the low-pass filters depending on the transmit frequency range, suppresses high harmonic components.

The filter switching voltage, obtained at the LOGIC UNIT, passes through the TUNER UNIT and is applied to the FILTER UNIT via P1.

FREQUENCIES AND APPROPRIATE FILTERS

| FILTER | FREQUENCY RANGE (MHZ) |
|---------|-----------------------|
| 1.8 MHz | Below 2 |
| 3.5 MHz | 2~4 |
| 7 MHz | 4~8 |
| 10 MHz | 8~11 |
| 14 MHz | 11~15 |
| 21 MHz | 15~22 |
| 28 MHz | 22~30 |

The filtered signal passes through the SWR detector circuit (L18) and is then applied to the ANT SW UNIT. The forward signal from L18 is detected at D1 and applied to the MAIN UNIT as the "FOR" voltage. The reflection signal from L18 is detected at D2 and applied to the MAIN UNIT as the "REF" voltage.

SWR DETECTOR CIRCUIT

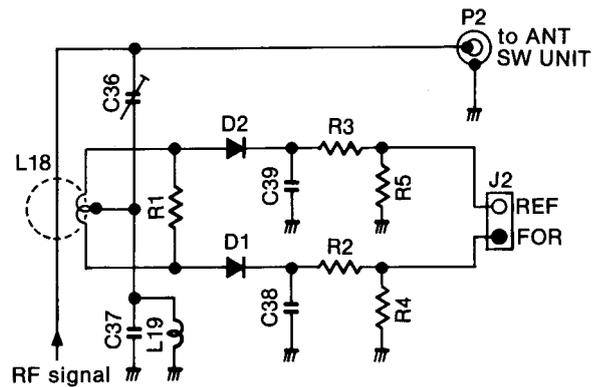


Fig. 8

3-2-9 ANTENNA SWITCHING CIRCUIT (ANT SW UNIT)

The RF signal from the FILTER UNIT passes through the diode switch (D201) and the TUNER UNIT, and is then applied to the antenna connector.

3-2-10 ALC CIRCUIT (MAIN UNIT)

The ALC (Auto Level Control) circuit stably controls the RF output power using the [RF PWR] control.

The "FOR" voltage from the FILTER UNIT is applied to IC9 pin 6 and 3. The "POC" voltage controlled by the [RF PWR] control is also applied to IC9 pin 5 as a reference voltage.

When the "FOR" voltage exceeds the "POC" voltage, IC9 controls the IF amplifiers to reduce the output power until the "FOR" and "POC" voltages are equalized using the impedance converter (Q27).

In AM mode, IC9 operates as an averaging ALC amplifier, because the capacitor (C91) is connected to the base of Q27 using Q25 and Q26. Q24 turns ON and the "POC" voltage is shifted for 40 W AM output power (maximum).

An external ALC input from the [ALC] jack or [ACC] sockets is applied to Q29. ALC operation is identical to that of the internal ALC.

3-2-11 APC CIRCUITS (MAIN UNIT)

An APC circuits protect the final transistors from high SWR and excessive current.

The "REF" voltage from the FILTER UNIT is applied to IC8 pin 5. The amplified signal is applied to IC10 pin 6. A reference voltage, determined by R120 and R121, is applied to IC10 pin 5. The output voltage from IC10 pin 7 is applied to the ALC line via D156 to reduce the output power.

The output voltage of the Ic meter amplifier (IC8 pin 1) is also applied to IC10 pin 6 to prevent excessive current.

3-2-12 CW KEYING CIRCUIT (MAIN UNIT)

A keying signal from the [ELEC-KEY] jack enters the electronic keyer IC (KEYER UNIT, IC401) and is applied to Q5 via the "KEY" signal line. A keying signal from the [KEY] jack is also applied to Q5.

When the CW key is closed, the "KEY" signal line becomes "LOW." IC3 pin 3 outputs a "LOW" signal to the FET switch (Q18) in the CW sidetone circuit. The "LOW" signal is also applied to the VOX UNIT via Q90.

IC3 pin 4 outputs a "HIGH" signal to Q30, turning the CW/RTTY carrier oscillator ON and OFF.

3-2-13 CW SIDETONE CIRCUIT (MAIN UNIT)

A CW sidetone circuit outputs an approx. 700 Hz signal.

In CW mode, the "CW" signal line becomes "HIGH," activating the CW sidetone oscillator (Q17). The CW sidetone signal passes through the FET switch (Q18) controlled by a CW keying signal line. The signal is then applied to the monitor amplifier (IC6 pin 2).

CW SIDETONE CIRCUIT

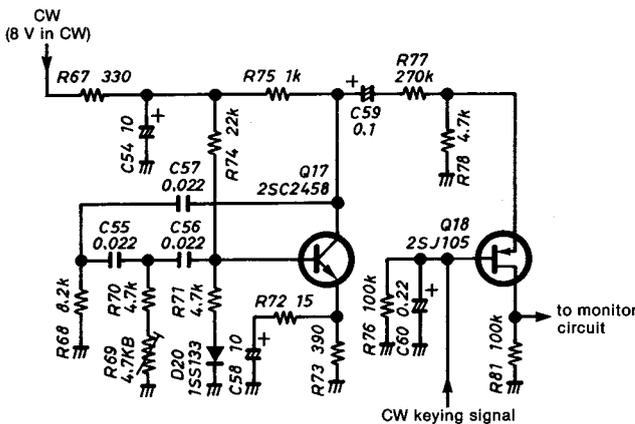


Fig. 9

3-2-14 MONITOR CIRCUIT (MAIN UNIT)

A portion of the 9 MHz IF signal from Q33 is amplified at Q19 and demodulated at IC5. The signal is applied to the monitor mute switch (Q21) and then to the monitor amplifier (IC6 pin 2).

In CW mode, the CW sidetone signal from Q17 is applied to the monitor amplifier.

3-2-15 TRANSMITTER METER CIRCUITS (MAIN UNIT)

(1) Po METER

The "FOR" voltage from the FILTER UNIT is applied to the Po meter amplifier (IC9 pin 3), and is then applied to the meter switch (S202 on the NB VR UNIT). D202 and C206 on the NB VR UNIT are used for peak power measurement.

(2) Ic METER

The "IC+" and "IC-" voltages, generated at the PA UNIT, are applied to the differential amplifier (IC8 pins 2 and 3). The resulting signal is applied to the meter switch.

(3) ALC METER

A voltage from the ALC line is applied to the ALC meter amplifier (IC10 pin 2), and is then applied to the meter switch.

(4) COMP METER

A portion of the output from the compressor amplifier (Q67) is detected at D118 and D119, amplified at Q68, and applied to the meter switch.

(5) SWR METER

The "FOR" voltage, amplified at the Po meter amplifier, is applied to the SWR UNIT. The "REF" voltage, amplified at IC8j, is also applied to the SWR UNIT. The SWR UNIT outputs a signal according to the ratio of "FOR" to "REF" voltage. The signal is applied to the meter switch.

3-2-16 METER SWITCHING CIRCUIT (MAIN UNIT)

The transmitter meter signal, selected with the meter switch, is applied to the meter switching circuit (IC13). The S-meter signal from IC14 pin 1 is also applied to IC13. The meter signal is selected with the "T8V" and "R8V" voltage lines.

3-2-17 T/R SWITCHING CIRCUIT (MAIN UNIT)

When the PTT or [TRANSMIT/RECEIVE] switch is set to transmit, IC2 pin 3 and IC2 pin 13 are "LOW." At this time, Q8 turns ON, and 0 V is present on the "R8V" line. Q6 turns OFF, and there is 8 V present on the "T8V" line.

When the PTT or [TRANSMIT/RECEIVE] switch is set to receive, IC2 pin 3 and IC2 pin 13 are "HIGH." At this time, Q8 turns OFF, and 8 V is present on the "R8V" line. Q6 turns ON, and there is 0 V present on the "T8V" line.

R10, R11, C12 and C13 provide an appropriate Tx/Rx switching timing.

3-2-18 IF FILTER SWITCHING CIRCUIT (MAIN UNIT)

The IC-765 has two 9 MHz IF filters (plus 1 bypass circuit) and four 455 kHz IF filters. IF filter combinations are selected with mode signals and "R8V" and "T8V" voltages. IC12 is a voltage buffer that turns ON the filter switching diodes.

3-2-19 VOX CIRCUIT (VOX UNIT)

A VOX (voice-operated relay) function controls the transmitter with speaking voice.

A portion of the output from the microphone amplifier (AF VR UNIT Q301) is applied to the VOX1 terminal via the [VOX GAIN] control. A portion of the output from the AF power amplifier (MAIN UNIT IC7) is applied to the AVOX terminal via the [ANTI-VOX] control.

The Tx/Rx switching or break-in delay time is adjusted with the [VOX DELAY] control, changing the time constant (MAIN UNIT R3, C9) of the CW keying line. When the [FULL BK-IN] switch is turned ON, C9 is disconnected, reducing a break-in delay time.

3-3 PLL CIRCUITS

3-3-1 GENERAL DESCRIPTION

The PLL UNIT generates a 1st LO signal (69.1115~99.0115 MHz variable) used in the RF UNIT and 2nd LO signal (60 MHz fixed) used in the MAIN UNIT. The IC-765 uses a dual loop PLL system. A main loop PLL uses 4 VCO circuits for all HF band coverage within 500 kHz steps. A sub loop PLL uses a DDS (Direct Digital Synthesizer) System for 500 kHz coverage within 10 Hz steps. The DDS System provides a rapid lockup time and high quality frequency oscillation.

PLL CIRCUIT BLOCK DIAGRAM

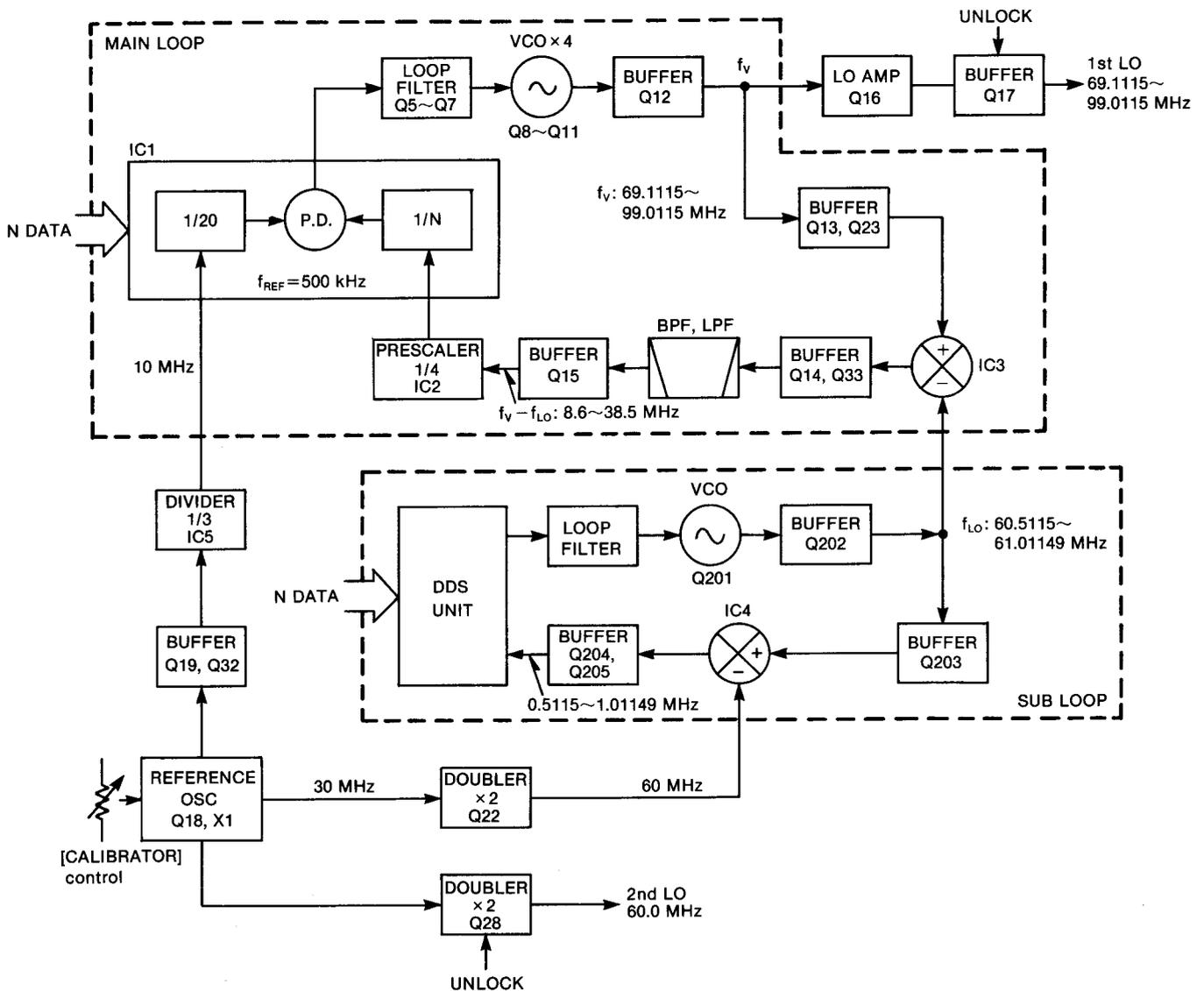


Fig. 10

3-3-2 REFERENCE OSCILLATOR CIRCUIT

A 30 MHz reference frequency is produced by the oscillator Q18 and X1. The reference frequency, buffer-amplified at Q19 and Q32, is divided by 3 at IC5 and is then applied to the PLL circuit as the PLL reference frequency.

The signal oscillated at Q18 is multiplied by 2 at Q28. The resulting 60 MHz signal is filtered at a bandpass filter and is then applied to the MAIN UNIT via J4 as the 2nd LO signal.

3-3-3 MAIN LOOP

The main loop uses the PLL IC (IC1) which contains a programmable divider, phase detector, data shift register and data latch circuits. The main loop generates 69.1115 ~99.0115 MHz signals in 500 kHz steps. Because the sub loop produces 10 Hz steps, the PLL produces a 30 MHz frequency range in 10 Hz steps.

The oscillated signal at one of the 4 VCOs (Q8~Q11; see Section 3-3-4 for details) is amplified at Q12, Q13 and Q23. The signal is mixed with a sub loop output (f_{LO} : 60.5115~61.01149 MHz) at IC3 and filtered at the low-pass filter (L19~L21, C66~C72). Q12 is an isolator which ensures that the mixer input does not affect the VCO output.

The mixed signal is amplified at Q14 and Q33 and is then filtered at one of the 3 Chebyshev filters. The filter is selected by the "VCO1"~"VCO4" signals from the LOGIC UNIT. The filtered signal, amplified at Q15, is then applied to the prescaler (IC2). The signal, divided by 4, is applied to the PLL IC (IC1).

The phase of the divided signal at IC2, detected at IC1 using a reference frequency (f_{REF}) of 500 kHz, is then output from pin 17. The 500 kHz frequency is obtained from the reference oscillator (X1). 30 MHz oscillated at X1, is divided by 3 at IC5 and divided by 20 at a programmable divider section of IC1.

The phase detected signal is then converted to a lock voltage at the loop filter (Q5~Q7), and applied to the VCO. Thus, the VCO output (PLL output) is locked to produce stable oscillation.

The PLL output is amplified at Q16 and Q17, and is then applied to the RF UNIT via J3 (RF UNIT: P1) as the 1st LO signal. The PLL oscillation frequency is obtained with the following calculation:

$$f_V = f_{LO} + N_T \times f_{REF}$$

f_V : Main loop output

f_{LO} : Sub loop output

N_T : Dividing ratio from the LOGIC UNIT

f_{REF} : Reference frequency (500 kHz)

3-3-4 VCO CIRCUIT

A transceiver's C/N ratio is determined by the VCO and the loop filter. 4 VCO circuits keep the low noise and reduce spurious emissions. Q1~Q4 are VCO switches which select the operating VCO with "VCO1"~"VCO4" lines.

3-3-5 SUB LOOP

The sub loop uses the DDS system that generates 60.5115~61.01149 MHz signals in 10 Hz steps.

An oscillated signal at the VCO (Q201) is buffer-amplified at Q202 and Q203, and mixed with a 60 MHz signal at IC4. The resulting signal passes through a low-pass filter, is amplified at Q204 and Q205, and is then applied to the DDS UNIT.

An output pulse-type signal from the DDS UNIT passes through the loop filter (R201, R202, C201, C225, L201) where it is converted into a DC signal (lock voltage). The lock voltage is applied to the VCO to lock the oscillating frequency.

3-3-6 MARKER CIRCUIT

A 10 MHz signal is output from IC5 pin 8. The signal is divided by 100 at IC6 to obtain a 100 kHz signal. The 100 kHz signal is applied to the RF UNIT via P1 (RF UNIT: J6).

3-3-7 MUTE CIRCUIT

When the main loop is unlocked, the "LD" terminal (IC1, pin 13) becomes "HIGH," turning Q24 and Q25 ON. When the sub loop is unlocked, the "LD" terminal on the DDS UNIT becomes "LOW," turning Q25 ON.

When Q25 is ON, Q25 outputs "HIGH" as a "PNB" signal. The "PNB" signal turns Q26 and Q27 ON, deactivating the PLL output buffer amplifier (Q17) and doubler (Q28). The "PNB" signal is also applied to the Rx IF amplifier (Q65) on the MAIN UNIT to cut off the receiver IF signal.

3-4 LOGIC CIRCUITS

3-4-1 CPU (LOGIC UNIT)

The CPU (IC1) uses an 8-bit CMOS CPU with 12.288 MHz clock for rapid operation. The CPU controls operating frequency, mode and the frequency display, etc. The memory contents such as memory channel information are stored in the RAM IC chip (IC4) using a lithium backup battery for more than 5 years.

The Icom CI-V network system allows that the IC-765 can be remotely controlled by a personal computer using an RS-232C I/O port.

3-4-2 SCAN SPEED CONTROL CIRCUIT (MATRIX UNIT)

PB7→PA6 is a scan speed input matrix which receives a scan clock signal. The scan speed clock signal is generated at IC1. Clock speed is determined by R18, R19, C5 and the [SCAN SPEED] control.

3-4-3 BAND SELECTION DATA

To select the correct bandpass filter, the low-pass filter (LPF) and VCOs on the PLL UNIT, the I/O expander (IC2) on the LOGIC UNIT outputs the following data:

R158~R163 and D112~D118 on the TUNER UNIT convert the "1.8 M"~"28 M" signals into the band voltage (0~7.4 V) for external equipment.

| FREQUENCY (MHz) | BPF | BAND VOLTAGE | LPF | VCO |
|-----------------|-----|--------------|-------|------|
| 0.1~ 0.499 | B1 | 7.4 V | 1.8 M | VCO1 |
| 0.5~ 1.599 | B2 | | | |
| 1.6~ 1.999 | B3 | | | |
| 2.0~ 2.999 | B4 | 6.4 V | 3.5 M | |
| 3.0~ 3.999 | B5 | | | |
| 4.0~ 5.999 | B6 | 5.4 V | 7 M | |
| 6.0~ 7.999 | B7 | | | |
| 8.0~10.999 | B8 | 0.0 V | 10 M | VCO2 |
| 11.0~14.999 | B9 | 4.4 V | 14 M | |
| 15.0~21.999 | B10 | 3.4 V | 21 M | VCO3 |
| 22.0~30.0 | B11 | 2.4 V | 28 M | VCO4 |

3-4-4 KEY MATRIX (MATRIX UNIT)

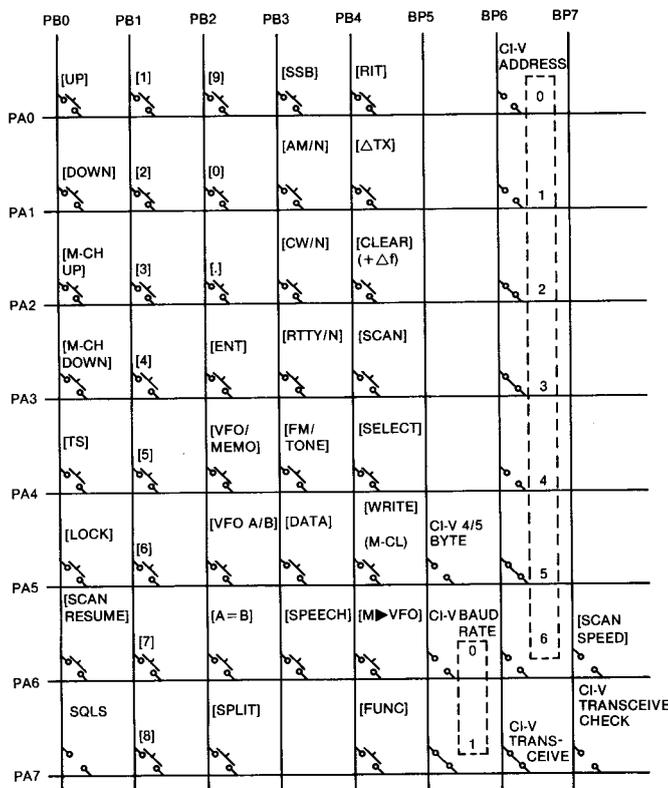


Fig. 11

3-5 ANTENNA TUNER CIRCUITS

3-5-1 MATCHING CIRCUIT

The matching circuit is a T-network. Using 2 motors, the matching circuit obtains rapid overall tuning speed.

Using relays (RL7~RL12), the LPF selector signal from the LOGIC UNIT grounds one of the taps of L1 and L2. The LPF selector signal also connects the combination of capacitors C2/C3 or C4/C5 in parallel to variable capacitors (C17 and C18) when operating in the 1.8~3.5 MHz range.

After selecting the coils or capacitors, 2 motors (MF1, MF2) adjust C17 and C18 using an output of a motor control circuit to obtain a low SWR.

3-5-2 DETECTOR CIRCUIT

The antenna tuner has 2 detector circuits: a resistance component detector and a reactance component detector.

Resistance components are picked up by L201 and detected by D201 and D202 on the TDET UNIT. D201 outputs negative voltage and D202 outputs positive voltage. Output voltage of the resistance component detector is added to the voltage output from D201 and D202. When antenna impedance is higher than 50 Ω, output voltage is negative; when lower than 50 Ω, positive.

Reactance components are picked up by comparing the phases of the RF current and RF voltage. The RF current is detected by L201 and R205. RF voltage is detected by C203~C205. Both detector voltages are buffer-amplified at Q201 and Q202, and are then applied to the phase comparator (IC201~IC203). The output signal of IC203 is detected at D203 and D204. When the RF current phase leads the voltage phase, the detected voltage is negative; when the current lags the voltage, the detected voltage is positive.

3-5-3 MOTOR CONTROL CIRCUIT

The antenna tuner CPU (IC101) controls tuning motors and memorizes the best preset position on each band. The memory contents are stored in the CPU using a lithium backup battery for more than 5 years.

The output signal of the resistance detector (R₀) is compared with a reference voltage (V_{REF}) at IC103 pins 5 and 6, and applied to the A/D converter section (IC101, pin 19). The CPU outputs the RC1 or RC2 signal to the motor driver (IC102) to drive the motor (MF1) in the matching circuit. These signals become a pulse signal just around the preset position for precise and rapid tuning. To detect C18 rotation, voltage from the variable resistor (R5) is applied to the CPU.

The output signal of the resistance detector (ϕ_0) is compared with the reference voltage (V_{REF}) at IC103 pins 9 and 10, and applied to the A/D converter section (IC101, pin 18). The CPU outputs the $\phi C1$ or $\phi C2$ signal to the motor driver (IC102) to drive the motor (MF2) in the matching circuit. To detect C17 rotation, a voltage from the variable resistor (R4) is applied to the CPU.

The reset circuit stops the CPU working while the motor is not controlled. When the operating band is changed, the band signal comparator (IC108) outputs a "LOW" signal to a reset control circuit. The reset control circuit turns the CPU ON, setting C17 and C18 to their preset positions.

When the antenna tuner cannot tune from a previously memorized preset position, a re-try function is activated. The re-try function tunes C17 and C18 from end to end 3 times.

3-5-4 TUNER UNIT CPU PORT ALLOCATIONS

• INPUT PORT

| PORT NAME | PIN NUMBER | DESCRIPTION |
|-----------|------------|--|
| ϕPV | 16 | Input port for the detection of C17 position. |
| RPV | 17 | Input port for the detection of C18 position. |
| ϕ | 18 | Input port for the reactance detection voltage. This voltage becomes $V_{REF}/2$ when antenna is matched. |
| R | 19 | Input port for the resistance detection voltage. This voltage becomes $V_{REF}/2$ when antenna is matched. |
| V_{REF} | 20 | Inputs a reference voltage for internal A/D converters. |
| SET | 23 | Input port for the SET mode signal. |
| WR | 24 | Input port for the WRITE signal. |
| PWRS | 26 | Detects the power. When the signal is "LOW," the CPU is backed up. |
| B1~B3 | 29~27 | These are input ports for the 3-bit band signal from the LOGIC UNIT. |
| SEND | 30 | Inputs transmit/receive switching signals. This port becomes "LOW" while transmitting. |
| SWR | 31 | Detects a SWR signal. When the SWR exceeds 3, this port becomes "HIGH." |
| TUNR | 32 | Detects a tuner switch signal. The signal is "HIGH" when the [TUNER] switch is tuned ON. |
| RESET | 34 | Inputs a reset signal. This port becomes "HIGH" while transmitting or when operating band is changed. |

• OUTPUT PORT

| PORT NAME | PIN NUMBER | DESCRIPTION |
|--------------------|------------|---|
| WAIT | 6 | Outputs a control signal for the [WAIT] indicator. This port becomes "HIGH" while tuning or presetting. This port becomes "HIGH" and "LOW" alternately when the antenna tuner cannot tune the antenna with the re-try function. |
| b1~b3 | 8~10 | These are output ports for the currently 3-bit band signal of the antenna tuner. |
| $\phi C1, \phi C2$ | 12, 11 | Outputs a control signal for MF2. |
| RC1, RC2 | 14, 13 | Outputs a control signal for MF1. |
| WAKE | 25 | Outputs a control signal for the reset circuit. This port becomes "HIGH" while the CPU clock is oscillated. |
| TUN | 39 | Outputs a tuner switch signal. The signal is "HIGH" when the TUNR port is "HIGH." |

3-6 POWER SUPPLY CIRCUITS

The power supply circuit mainly consists of a ± 140 V DC rectifier, a start-up circuit, a 13.8 V DC switching regulator, a 5, 8 V DC regulator and a DC-DC converter.

When turning ON the power, the 13.8 V switching regulator operates with the start-up circuit output voltage. After several milliseconds, the switching regulator operates on its own output voltage.

3-6-1 RECTIFIER CIRCUIT (REG UNIT)

AC voltage from the AC power socket passes through the [POWER] switch and is applied to the REG UNIT. The AC voltage passes through the line filter (L2, C1, C2) and R5. R5 prevents an entry of current until 13.8 V DC are supplied from the REG UNIT. After 13.8 V DC are regulated, the AC voltage bypasses R5 through RL1.

Either 110 or 230 V AC input is selected by jumper wires. The selected AC input is rectified and filtered by D1, C7 and C8 to obtain ± 140 V DC. R1 and R2 keep the voltage balance of C7 and C8 constant.

3-6-2 START-UP CIRCUIT (REG UNIT)

The AC voltage is applied to the transformer (T1), rectified by D3, and applied to a start-up regulator. The start-up regulator (Q1) supplies 13.8 V DC to the switching regulator IC (IC2) until C9 is fully charged. IC1 is a photocoupler IC and used for a start-up regulator switch.

When the switching regulator is activated, the start-up circuit deactivates. IC2 then continuously generates 13.8 V DC, supplying the voltage to itself through D2.

3-6-3 SWITCHING REGULATOR (REG UNIT)

Passing through a line filter, ± 140 V DC are applied to the pulse generator (Q2~Q5) and are converted to a pulse signal, which is then applied to the transformer (T2).

The output voltage is rectified and filtered by D4 and C30~C33 to obtain 13.8 V DC. The 13.8 V DC is fed back to the switching regulator IC (IC2). IC2 contains a 5 V reference voltage circuit, op-amp, comparator and current limiter circuit. IC2 controls the pulse generator and compares the feedback voltage to the reference voltage.

The 0.001Ω resistor (R26) in the GND line provides detection of the total current limiter.

3-6-4 REGULATOR CIRCUITS

Either 8, 5, -5 or -33 V DC are supplied from their corresponding regulator circuits. These are regulated from the 13.8 V DC.

(1) 8 AND 5 V REGULATORS

8 or 5 V DC are regulated by three-terminal voltage regulators.

| VOLTAGE | UNIT | REGULATOR |
|---------|-------|--------------|
| 8 V | MAIN | IC1 |
| | PLL | IC8 |
| 5 V | LOGIC | IC22 |
| | PLL | IC7 |
| | TUNER | IC104, IC204 |

(2) DC-DC CONVERTER (DISPLAY UNIT)

The 13.8 V DC is applied to the DC-DC converter circuit (IC7). IC7 outputs -5 V DC for operational amplifiers and -33 V DC for the frequency display (DS1).

SWITCHING REGULATOR BLOCK DIAGRAM

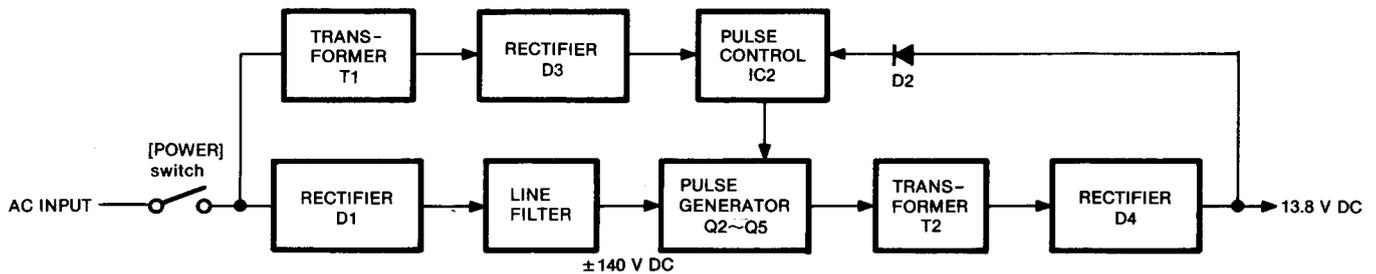


Fig. 12

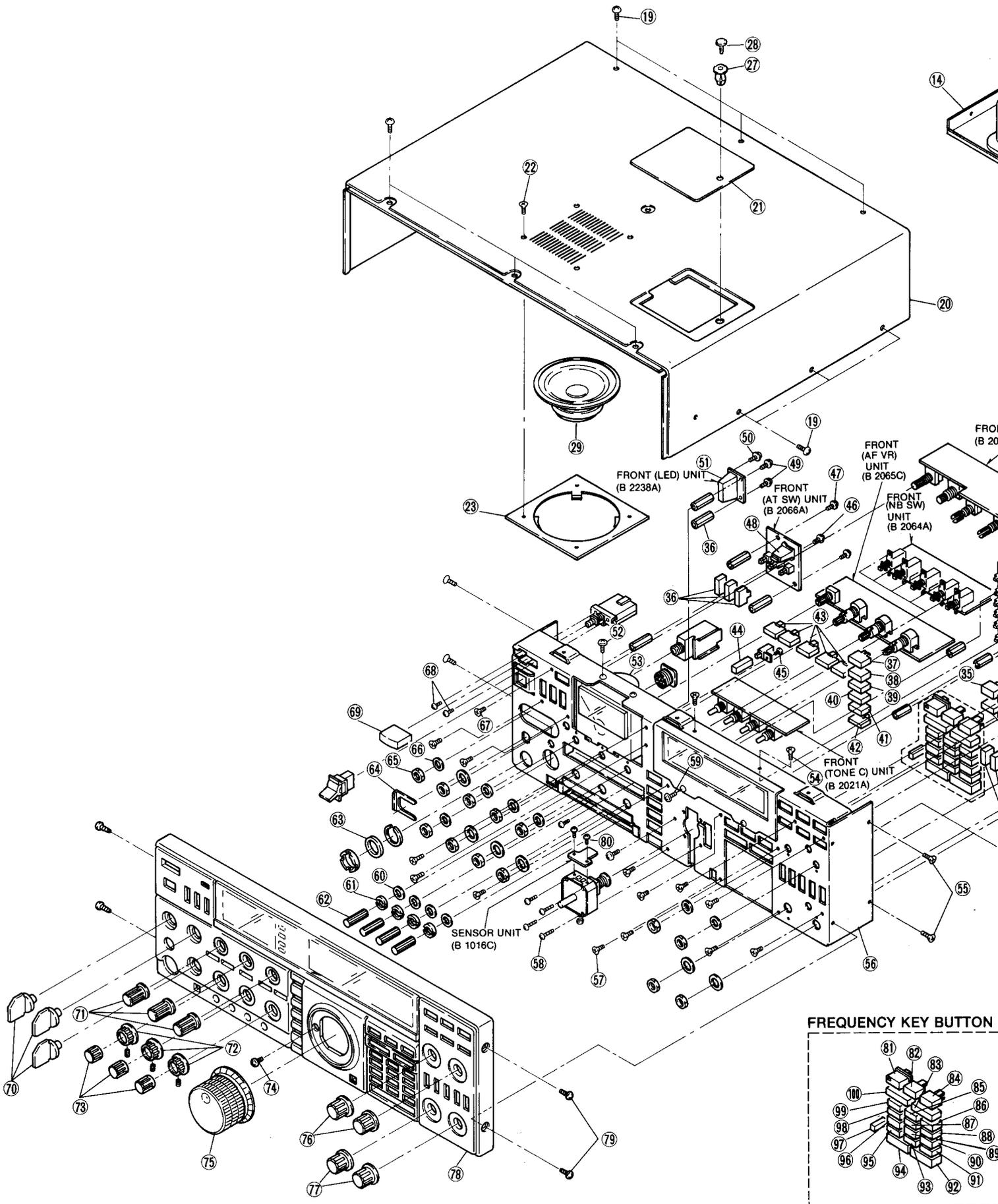
SECTION 4 MECHANICAL PARTS AND DISASSEMBLY

4-1 FRAME DISASSEMBLY

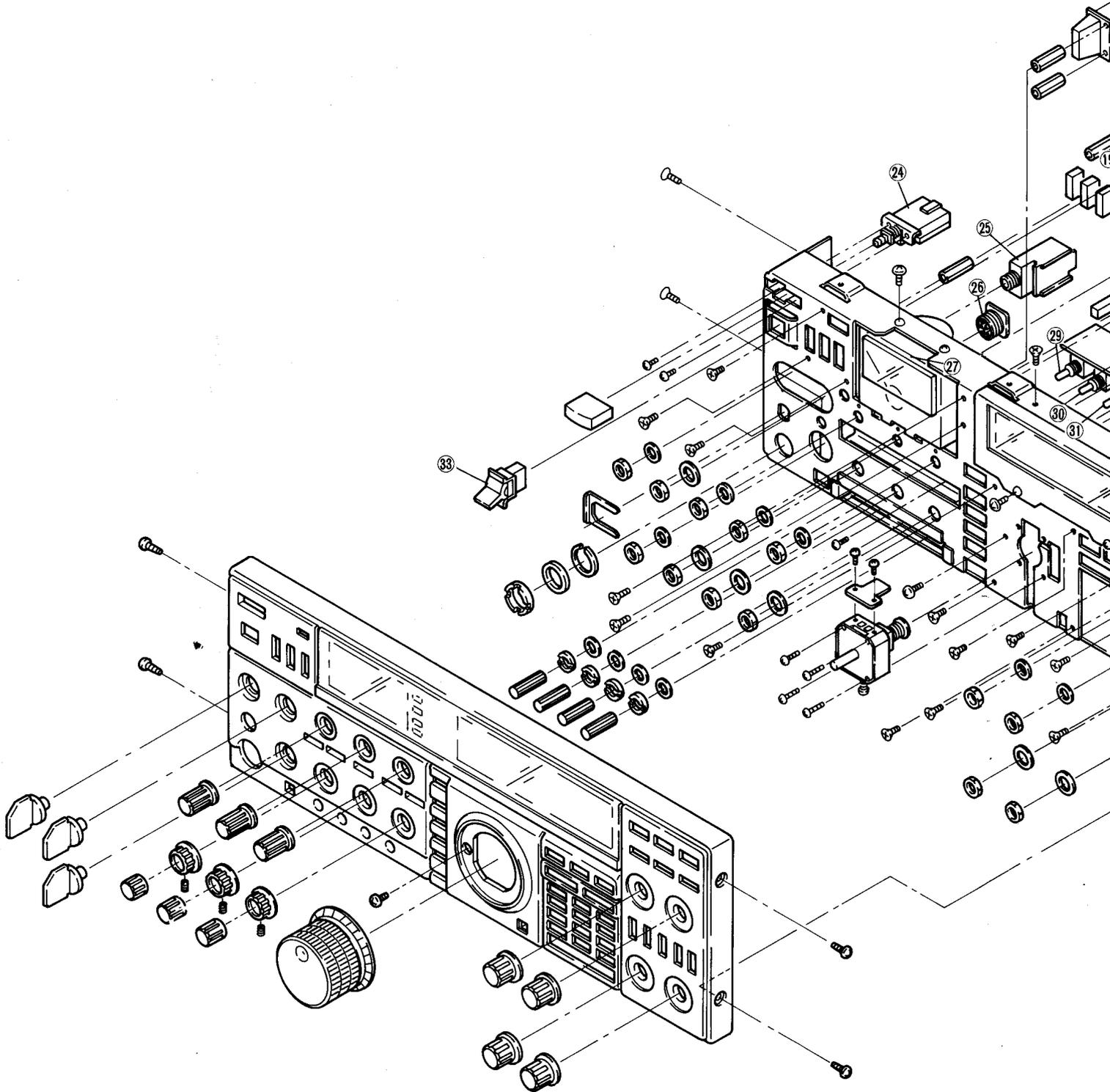
| LABEL NUMBER | ORDER NO. | DESCRIPTION | QTY. | LABEL NUMBER | ORDER NO. | DESCRIPTION | QTY. |
|--------------|------------|---|------|-------------------------------|------------|--|------|
| ① | 8810002160 | Screw FH M3×5 | 2 | 55 | 8810002210 | Screw FH M4×6 | 6 |
| ② | 8510005641 | Filter shield plate-1 | 1 | 56 | 8010008480 | SUB chassis (A) | 1 |
| ③ | 8010008460 | Center partition plate | 1 | 57 | 8810002160 | Screw FH M3×5 | 14 |
| ④ | 8810003360 | Set screw C M3×6 | 6 | 58 | 8810000180 | Screw PH M2.6 × 12 | 4 |
| ⑤ | 8810003160 | Set screw A M3×6 | 12 | 59 | 8810000010 | Screw PH M2×4 | 3 |
| ⑥ | 8510002660 | 194 VCO case cover (C) | 2 | 60 | 8850000160 | Flat washer M 6 Ni BS | 4 |
| ⑦ | 8510000881 | 194 VCO case-1 | 2 | 61 | 8830000030 | VR nut (C) | 4 |
| ⑧ | 8510001340 | 79 shield case cover | 1 | 62 | 8610005960 | Knob N102 (B) [RX TONE], [MONITOR GAIN], etc. | 4 |
| ⑨ | 8410000611 | REG heatsink plate-1 | 1 | 63 | 8930003200 | Spacer (P) | 1 |
| ⑩ | 8510001330 | 79 shield case | 1 | 64 | 8930010070 | Plate (B) | 1 |
| ⑪ | 8810000220 | Screw PH M3×5 | 4 | 65 | 8830000030 | VR nut (C) | 2 |
| ⑫ | 8810001350 | Screw PH B1 M3×6 | 18 | 66 | 8930011730 | 560 Spacer | 2 |
| ⑬ | 8110000020 | PS cover | 1 | 67 | 8810002160 | Screw FH M3×5 | 14 |
| ⑭ | 8010005660 | PS Chassis -1 | 1 | 68 | 8810002170 | Screw FH M3×6 | 2 |
| ⑮ | 8010005590 | Chassis side plate (R)-1 | 1 | 69 | 8610002840 | Button K79 [POWER] | 1 |
| ⑯ | 8010005600 | Chassis side plate (L)-1 | 1 | 70 | 8610005350 | Knob N114 (A) [AGC], [METER], [PRE/ATT] | 3 |
| ⑰ | 8810002180 | Screw FH M3×8 | 2 | 71 | 8610005340 | Knob N113 (A) [NB LEVEL], [ELEC-KEY SPEED], [VOX DELAY] | 3 |
| ⑱ | 8810003360 | Set screw C M3×6 | 15 | 72 | 8610005630 | Knob N118 (A) [RF], [SQL], [RF PWR] | 3 |
| ⑲ | 8810004690 | Screw BiH M4×5 ZK BS | 19 | 73 | 8610005620 | Knob N71 (B) [AF], [CW PITCH], [MIC GAIN] | 3 |
| ⑳ | 8110003450 | Cover upper (A) | 1 | 74 | 8810003740 | Icom screw B10 | 1 |
| ㉑ | 8110000640 | Case cover (A) | 1 | 75 | 8610005320 | Knob N111 (A) [MAIN DIAL] | 1 |
| ㉒ | 8810002480 | Screw FH M3×6 ZK BS | 4 | 76 | 8610005330 | Knob N112 (B) [IF SHIFT], [NOTCH] | 2 |
| ㉓ | 8930010040 | 77 SP plate | 1 | 77 | 8610005640 | Knob N112 (C) [RIT/Δ TX], [MEMORY-CH] | 2 |
| ㉔ | 8510004420 | 560 RF case (A)-1 | 1 | 78 | 8210005210 | Front panel (A) | 1 |
| ㉕ | 8810000220 | Screw PH M3×5 | 10 | 79 | 8810004690 | Screw BiH M4×5 ZK BS | 4 |
| ㉖ | 8110003320 | Cover bottom | 1 | 80 | 8810001700 | Screw PH B0 No.0-3 M1.4×3 | 2 |
| ㉗ | 8930006700 | Nylatch G-2-1 | 1 | • FREQUENCY KEY BUTTON | | | |
| ㉘ | 8930006710 | Nylatch G-2-3-1 | 1 | LABEL NUMBER | ORDER NO. | DESCRIPTION | QTY. |
| ㉙ | 2510000410 | Speaker T080S01I0810 | 1 | 81 | 8610005310 | Button K77 (A) [TS] | 1 |
| ㉚ | 8930010051 | 560 LED plate-1 | 1 | 82 | 8610005600 | Button K88 (B) [A=B] | 1 |
| ㉛ | 8810003360 | Set screw C M3×6 | 12 | 83 | 8610005430 | Button K84 (C) [VFO/MEMO] | 1 |
| ㉜ | 8930000720 | Thread spacer (V) | 14 | 84 | 8610005610 | Button K88 (C) [SPLIT] | 1 |
| ㉝ | 8610005570 | Button K86 (A) [SCAN] | 1 | 85 | 8610005450 | Button K85 (M) [2] | 1 |
| ㉞ | 8610005560 | Button K128 [SELECT] | 1 | 86 | 8610005460 | Button K85 (N) [3] | 1 |
| ㉟ | 8610005560 | Button K128 [FUNC] | 1 | 87 | 8610005480 | Button K85 (P) [5] | 1 |
| ㊱ | 8610002850 | Button K80 [IF SHIFT], [CW250Hz], etc. | 11 | 88 | 8610005490 | Button K85 (Q) [6] | 1 |
| ㊲ | 8610005370 | Button K83 (E) [SSB] | 1 | 89 | 8610005510 | Button K85 (S) [8] | 1 |
| ㊳ | 8610005380 | Button K83 (F) [CW/N] | 1 | 90 | 8610005520 | Button K85 (T) [9] | 1 |
| ㊴ | 8610005390 | Button K83 (G) [RTTY/N] | 1 | 91 | 8610005550 | Button K85 (W) [ENT] | 1 |
| ㊵ | 8610005400 | Button K83 (H) [AM/N] | 1 | 92 | 8610005580 | Button K87 (B) [Δ UP] | 1 |
| ㊶ | 8610005410 | Button K83 (I) [FM/TONE] | 1 | 93 | 8610005530 | Button K85 (U) [0] | 1 |
| ㊷ | 8610005360 | Button K82 (A) [DATA] | 1 | 94 | 8610005590 | Button K87 (C) [▽ DOWN] | 1 |
| ㊸ | 8610002860 | Button K81 [NB], [NB WIDE], etc. | 5 | 95 | 8610005540 | Button K85 (V) [.] | 1 |
| ㊹ | 8610003160 | Button K26 (A) [SPEECH] | 1 | 96 | 8610005500 | Button K85 (R) [7] | 1 |
| ㊺ | 8810000020 | Screw PH M2×5 | 1 | 97 | 8610002830 | Button K78 [LOCK] | 1 |
| ㊻ | 8810001720 | Screw PH B0 No.0-3 M1.4×4 | 2 | 98 | 8610005470 | Button K85 (O) [4] | 1 |
| ㊼ | 8810003360 | Set screw C M3×6 | 3 | 99 | 8610005440 | Button K85 (L) [1] | 1 |
| ㊽ | 8930010160 | Tuner LED holder | 1 | 100 | 8610005420 | Button K84 (B) [VFO A/B] | 1 |
| ㊾ | 8810003160 | Set screw A M3×6 | 2 | | | | |
| ㊿ | 8810004040 | Screw PH B0 No.0-1 M2×5 ZU | 2 | | | | |
| 1 | 8930010150 | LED holder | 1 | | | | |
| 2 | 8810001030 | Screw PH B0 M2.6×5 | 2 | | | | |
| 3 | 8010005872 | 560 Meter holder-2 | 1 | | | | |
| 4 | 8810002160 | Screw FH M3×5 | 2 | | | | |

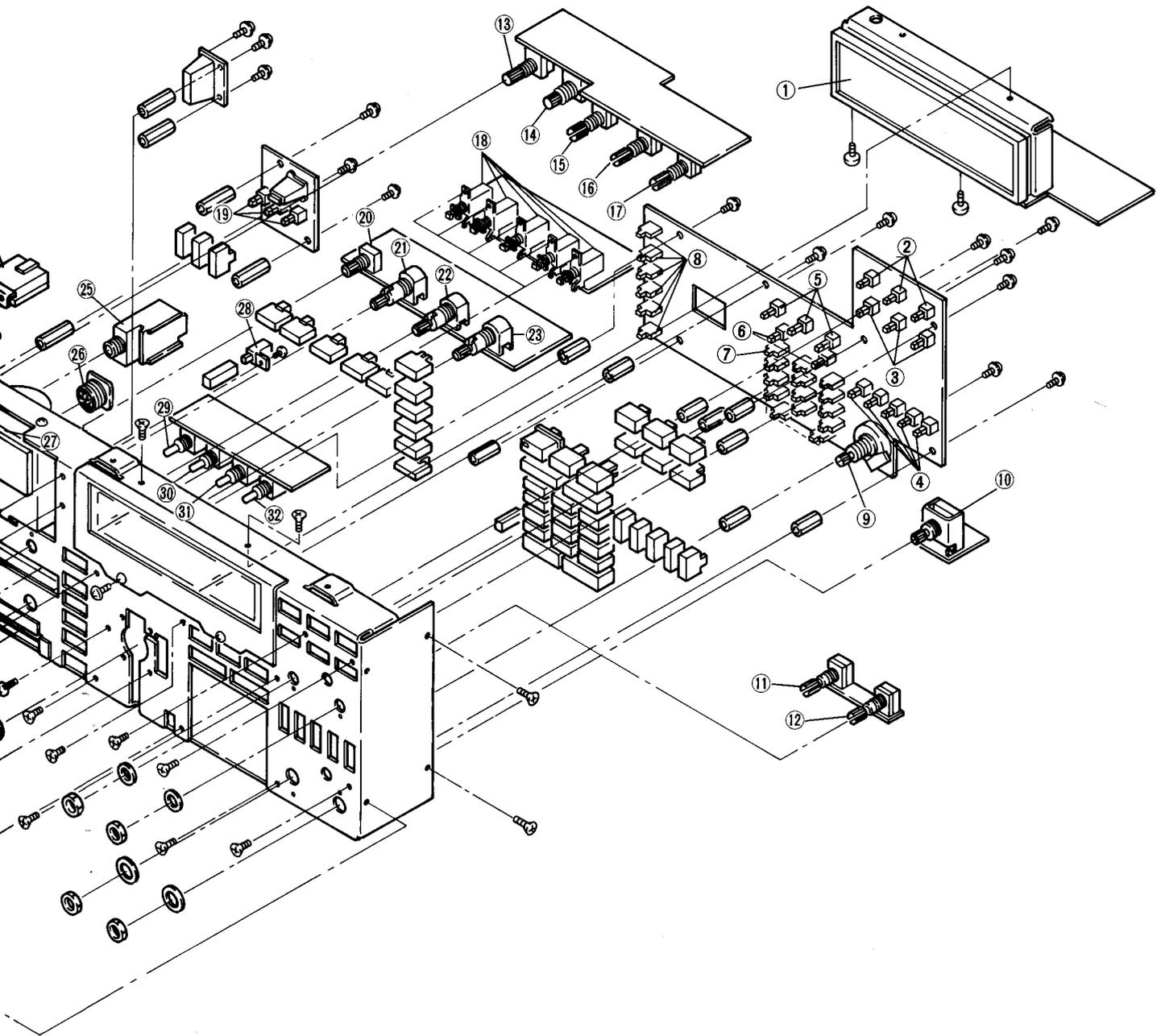
Screw abbreviations

PH: Pan head FH: Flat head B0, B1, FT: Self-tapping screw ZK: Black Ni: Nickel
BS: Brass No. 0: Precision type screw BiH: Binding head



4-2 FRONT PANEL



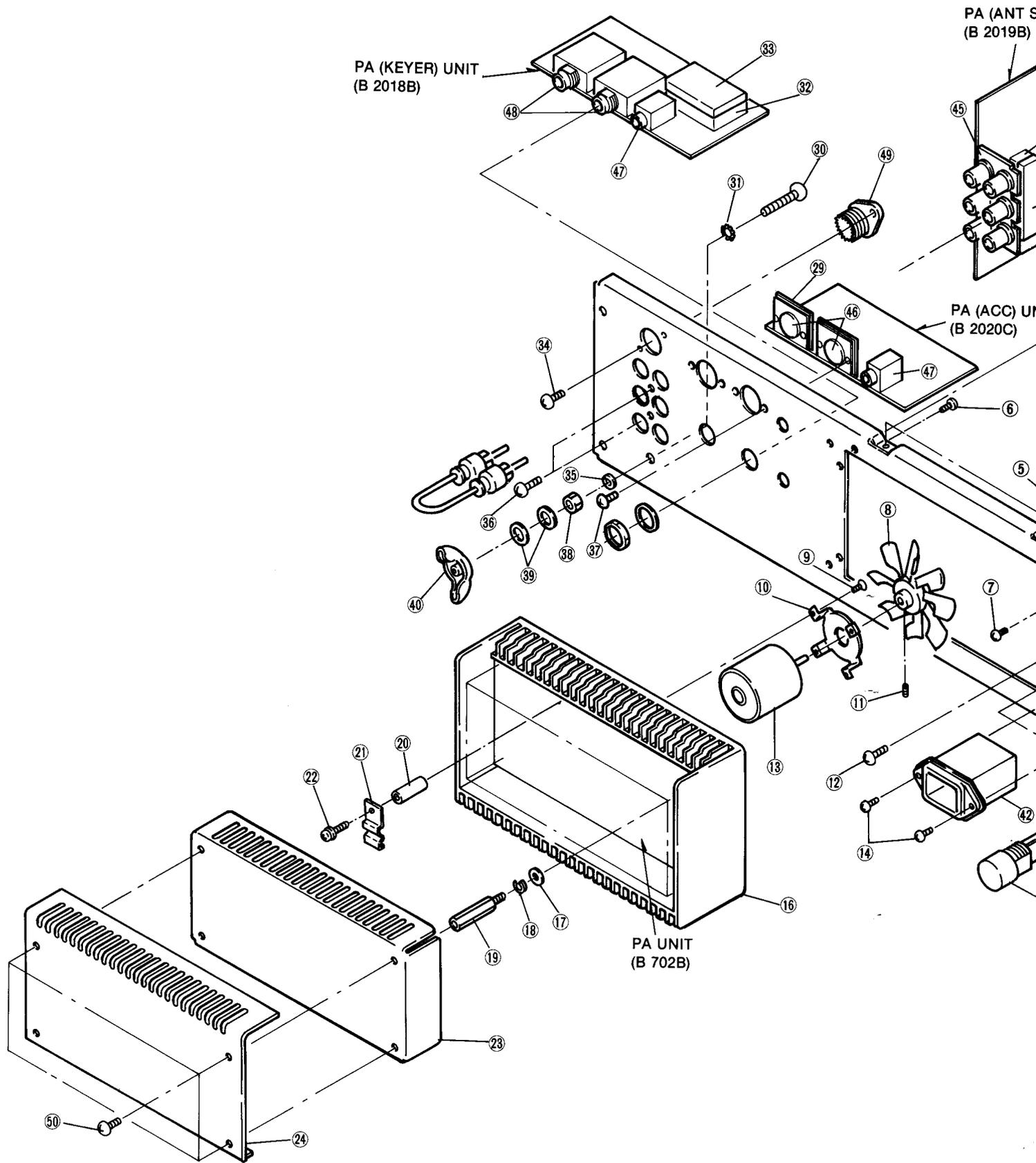


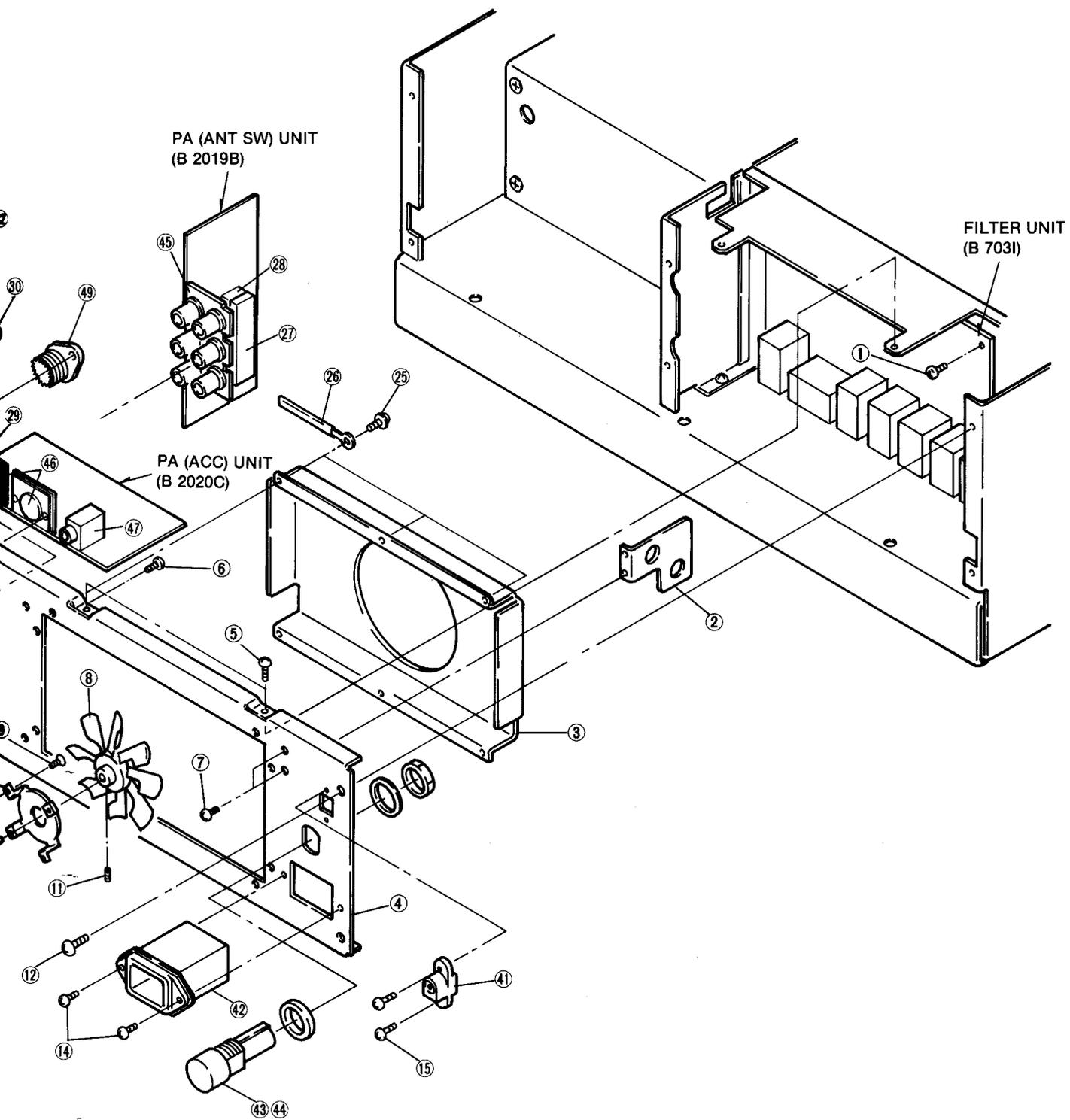
| LABEL NUMBER | ORDER NO. | DESCRIPTION | QTY. |
|--------------|------------|--|------|
| ① | 5020000110 | FIP 12EM10 [FREQUENCY DISPLAY] | 1 |
| ② | 2230000530 | Switch SPPH23078A [FUNC], [SELECT], [SCAN] | 3 |
| ③ | 2230000550 | Switch SPPH23079A [IF SHIFT], [CW 250Hz], [NOTCH] | 3 |
| ④ | 2230000530 | Switch SPPH23078A [RIT], [Δ TX], [CLEAR], [M ▶ VFO], [WRITE] | 5 |
| ⑤ | 2230000550 | Switch SPPH23079A [TS], [A=B], [SPLIT] | 3 |
| ⑥ | 2230000600 | Switch SPPQ19178A [VFO A/B], [VFO/MEMO] | 2 |
| ⑦ | 2230000600 | Switch SPPQ19178A [1], [2], [3], [4], [5], [6], [7], [8], [9], [0], [.] , [ENT], [▽ DOWN], [UP Δ] | 14 |
| ⑧ | 2230000600 | Switch SPPQ19178A [SSB], [CW/N], [RTTY/N], [AM/N], [FM/TONE], [DATA] | 6 |
| ⑨ | 7600000090 | Switch EC24B50B000MB [RIT/Δ TX] | 1 |
| ⑩ | 2260000880 | Switch SRBM1L038A [MEMORY-CH] | 1 |
| ⑪ | 7210001000 | Variable Resistor RK0971110D04A (10KB) [IF SHIFT] | 1 |
| ⑫ | 7210001010 | Variable Resistor RK097111000AA (10KB) [NOTCH] | 1 |
| ⑬ | 2210000120 | Switch SRRU13071A [AGC] | 1 |
| ⑭ | 2210000170 | Switch SRBU16003A [METER] | 1 |
| ⑮ | 7210001270 | R203 Variable Resistor RK097111000WA (1KB) [NB LEVEL] | 1 |
| ⑯ | 7210001580 | Variable Resistor RK097111007ZA (250KC) [ELEC-KEY SPEED] | 1 |
| ⑰ | 7210001300 | Variable Resistor RK097111000XA (1MB) [VOX DELAY] | 1 |
| ⑱ | 2230000210 | Switch SPPJ31116A [NB], [NB WIDE], [FAST/SLOW], [VOX], [FULL BK-IN] | 5 |
| ⑲ | 2230000550 | Switch SPPH23079A [COMP], [MONI], [TUNER] | 3 |
| ⑳ | 2210000160 | Switch SRBU15015A [PRE/ATT] | 1 |
| ㉑ | 7210001240 | Variable Resistor RK1242210026A [AF, RF] | 1 |
| ㉒ | 7210001590 | Variable Resistor RK124232000MA (10KB × 3) [CW PITCH, SQL] | 1 |
| ㉓ | 7210001550 | Variable Resistor RK1242210032A (10KB•10KB) [MIC GAIN, RF PWR] | 1 |
| ㉔ | 2230000120 | Switch SDDSA3159A [POWER] | 1 |
| ㉕ | 6450000190 | Connector HLJ4815-01-030 [PHONES] | 1 |
| ㉖ | 6510000290 | Connector 8S-S-E [MICROPHONE] | 1 |
| ㉗ | 5510000340 | Meter KL-294G-5 (ME-25) [MULTI-FUNCTION METER] | 1 |
| ㉘ | 2230000750 | Switch SPPJ31332A [SPEECH] | 1 |
| ㉙ | 7210001410 | Variable Resistor RK097111T00PA (100KB) [RX TONE] | 1 |
| ㉚ | 7210001410 | Variable Resistor RK097111T00PA (100KB) [MONITOR GAIN] | 1 |
| ㉛ | 7210001130 | Variable Resistor RK097111T005A (10KB) [VOX GAIN] | 1 |
| ㉜ | 7210001410 | Variable Resistor RK097111T00PA (100KB) [MIC TONE] | 1 |
| ㉝ | 2260000310 | Switch M-2012J [TRANSMIT/RECEIVE] | 1 |

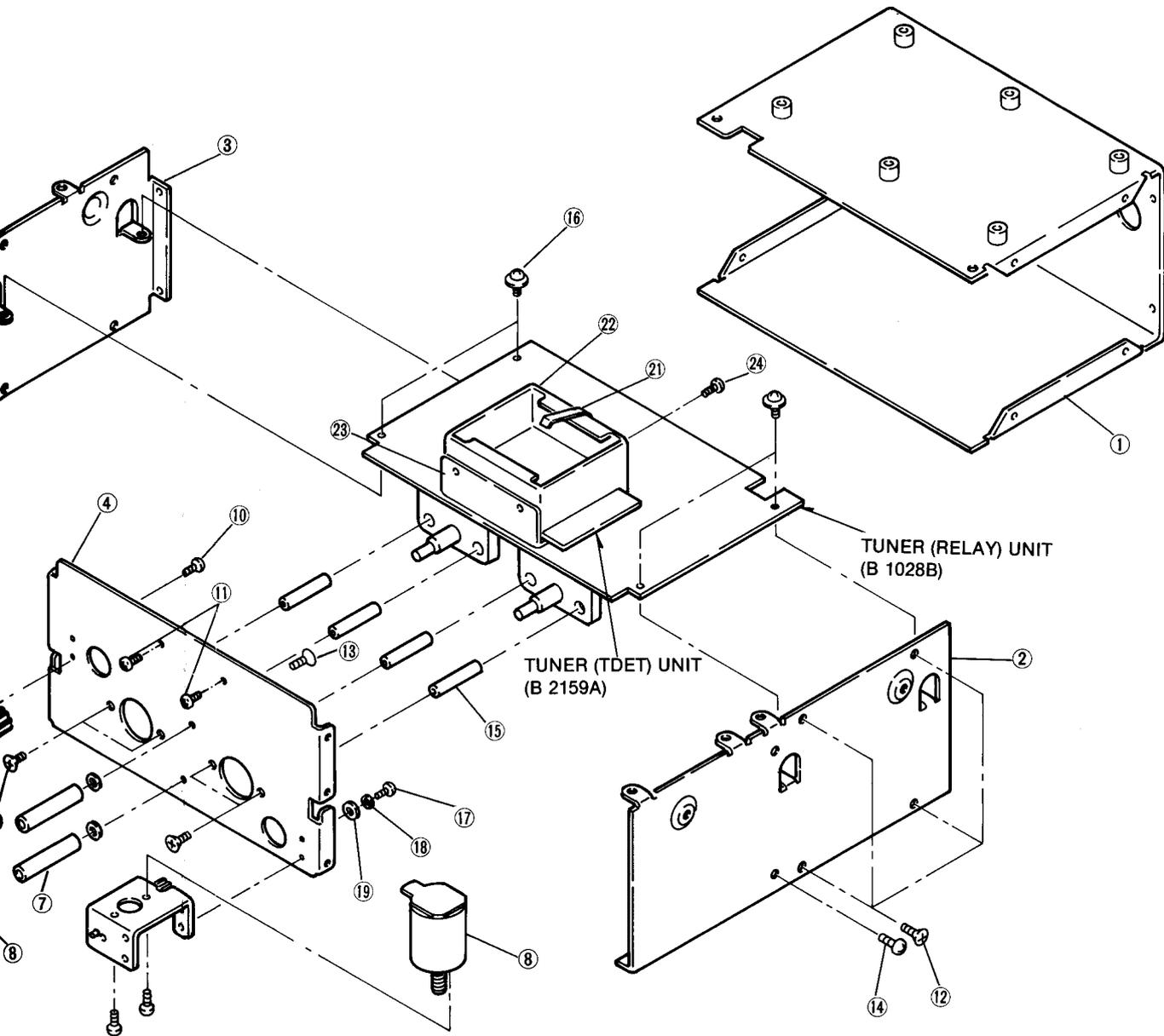
4-3 REAR PANEL

| LABEL NUMBER | ORDER NO. | DESCRIPTION | QTY. |
|--------------|------------|--|------|
| ① | 8810003360 | Set screw C M3×6 | 5 |
| ② | 8310004880 | C plate | 1 |
| ③ | 8010001730 | Heatsink hood | 1 |
| ④ | 8010008471 | Back panel-1 | 1 |
| ⑤ | 8810004280 | Screw PH M3×5 ZK | 2 |
| ⑥ | 8810003160 | Set screw A M3×6 | 4 |
| ⑦ | 8810003710 | Icom screw B 5 | 2 |
| ⑧ | 8010002470 | Cooling fan (A) | 1 |
| ⑨ | 8810000140 | Screw PH M2.6×5 | 4 |
| ⑩ | 8010002070 | Motor angle | 1 |
| ⑪ | 8810003520 | Hex socket screw M3×3 ZK | 1 |
| ⑫ | 8810004690 | Screw BiH M4×5 ZK BS | 4 |
| ⑬ | 2710000050 | Motor M6B12U22 | 1 |
| ⑭ | 8810004140 | Set screw F M3×7 ZK SUS | 2 |
| ⑮ | 8810004290 | Screw PH M2×5 ZK | 2 |
| ⑯ | 8410000411 | 263 Heatsink-2 | 1 |
| ⑰ | 8850000130 | Flat washer M3 (3×8×0.5)Ni BS | 4 |
| ⑱ | 8850000420 | Spring washer M3 Ni | 4 |
| ⑲ | 8930000140 | Standoff (J) | 4 |
| ⑳ | 8930000350 | Spacer (D) | 2 |
| ㉑ | 8930004200 | Thermo sensor hold | 2 |
| ㉒ | 8810003230 | Set screw A M3×18 | 2 |
| ㉓ | 8510001590 | PA Shield plate | 1 |
| ㉔ | 8510001660 | PA cover | 1 |
| ㉕ | 8810003160 | Set screw A M3×6 | 6 |
| ㉖ | 6910000690 | 59TC4772 | 6 |
| ㉗ | 8510002400 | Mixer Shield case cover | 1 |
| ㉘ | 8510002390 | Mixer Shield case | 1 |
| ㉙ | 8930015360 | DIN plate | 2 |
| ㉚ | 8810001980 | Screw PH M5×16 Ni BS | 1 |
| ㉛ | 8850000590 | Star washer M5 | 1 |
| ㉜ | 8510000881 | 194 VCO case-1 | 1 |
| ㉝ | 8510003460 | 194 VCO case cover (A) | 1 |
| ㉞ | 8810004140 | Set screw F M3×7 ZK SUS | 2 |
| ㉟ | 8850000440 | Spring washer M5 Ni | 1 |
| ㊱ | 8810004330 | Screw PH B1 M3×6 ZK | 2 |
| ㊲ | 8810003720 | Icom screw B 6 | 4 |
| ㊳ | 8830000210 | Nut M5 Ni BS | 1 |
| ㊴ | 8850000150 | Flat washer M5 Ni BS | 2 |
| ㊵ | 8830000360 | Wing Nut M5 Ni | 1 |
| ㊶ | 6450000620 | Jack (HEC0630-01-020) [DC OUT] | 1 |
| ㊷ | 2040000280 | Jack (10DEEG3M-1) [AC] | 1 |
| ㊸ | 5220000050 | Holder (FH-032C) [FUSE] | 1 |
| ㊹ | 5210000070 | Fuse (FGB 10A) | 1 |
| ㊺ | 6450000250 | Jack YKC21 0017 (KC21-0060) [RELAY], [ALC], [ANT IN], [OUT], [SPARE], [X-VERTER] | 1 |
| ㊻ | 6450000470 | Connector TCS4670-01-1111 [ACC (1)], [ACC (2)] | 2 |
| ㊼ | 6450000670 | Connector HSJ1505-01-010 [EXT SP], [REMOTE] | 2 |
| ㊽ | 6450000460 | Jack HLJ4306-01-3080 [ELEC-KEY], [KEY] | 2 |
| ㊾ | 6510000410 | Connector MR-DS-E 02 [ANT] | 1 |
| ㊿ | 8810003710 | Icom screw (B)5 | 4 |

Screw abbreviations PH: Pan head FH: Flat head B0, B1, FT: Self-tapping screw ZK: Black Ni: Nickel
BS: Brass BiH: Binding head



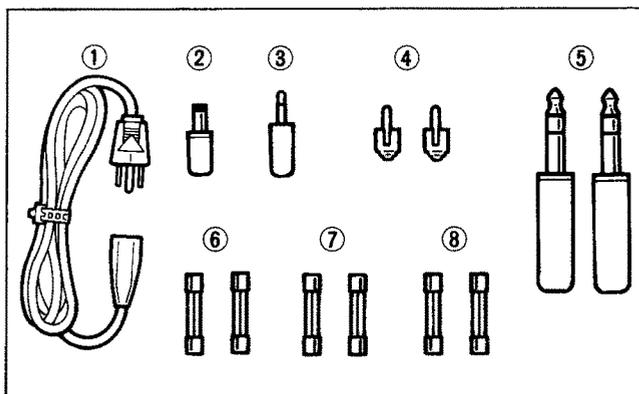




| LABEL NUMBER | ORDER NO. | DESCRIPTION | QTY. | LABEL NUMBER | ORDER NO. | DESCRIPTION | QTY. |
|--------------|------------|----------------------------------|------|--------------|------------|---|------|
| ① | 8010003140 | Chassis (B)-1 | 1 | ⑲ | 8850000130 | Flat washer M3 (3 × 8 × 0.5)Ni BS | 2 |
| ② | 8010008490 | Tuner side plate (right) | 1 | ⑳ | 8810002180 | Screw FH M3 × 8 | 4 |
| ③ | 8010008500 | Tuner side plate (left) | 1 | ㉑ | 8930001160 | Ground spring | 1 |
| ④ | 8010008510 | Tuner partition plate | 1 | ㉒ | 8510001430 | SWR case | 1 |
| ⑤ | 8010008520 | Tuner inner plate | 1 | ㉓ | 8510001560 | DET case cover | 1 |
| ⑥ | 8930002050 | VR plate | 2 | ㉔ | 8810002600 | Screw BuH M2.6 × 4 Ni BS | 2 |
| ⑦ | 8930000310 | Stopper | 2 | ㉕ | 8930007560 | standoff (AF) | 4 |
| ⑧ | 8930000880 | Gear G-15 (Incl. HMK2601-01-030) | 2 | ㉖ | 8810003710 | Icom screw B 5 | 4 |
| ⑨ | 8930005940 | Gear G-16 | 2 | ㉗ | 8610000460 | Knob N62 | 4 |
| ⑩ | 8810003360 | Set screw C M3 × 6 | 2 | ㉘ | 8210004870 | Volume panel | 1 |
| ⑪ | 8810000130 | Screw PH M2.6 × 4 | 2 | ㉙ | 8850000420 | Spring washer M3 Ni | 4 |
| ⑫ | 8810002170 | Screw FH M3 × 6 | 18 | ㉚ | 2220000310 | Switch [MARKER] (SSSU02283A) | 1 |
| ⑬ | 8810000360 | Screw PH M4 × 6 | 2 | ㉛ | 7310001050 | Trimmer EVH60AF15B14 | 2 |
| ⑭ | 8810000230 | Screw PH M3 × 6 | 4 | ㉜ | 7310000870 | Trimmer RH1051D14J0PA (103) [CARIBRATOR], [ANTI-VOX] | 2 |
| ⑮ | 8820000520 | Hex socket screw M4 × 6 | 4 | ㉝ | 7310000880 | Trimmer RH1051D15J0JA (104) [ELEC-KEY WEIGHT] | 1 |
| ⑯ | 8810003360 | Set screw C M3 × 6 | 4 | ㉞ | 7310000890 | Trimmer RH1051D16J0AA (105) [SCAN SPEED] | 1 |
| ⑰ | 8810004340 | Capbolt M3 × 6 ZK FE | 2 | | | | |
| ⑱ | 8850000420 | Spring washer M3 Ni | 2 | | | | |

Screw abbreviations PH: Pan head FH: Flat head B0, B1, FT: Self-tapping screw ZK: Black Ni: Nickel
BS: Brass

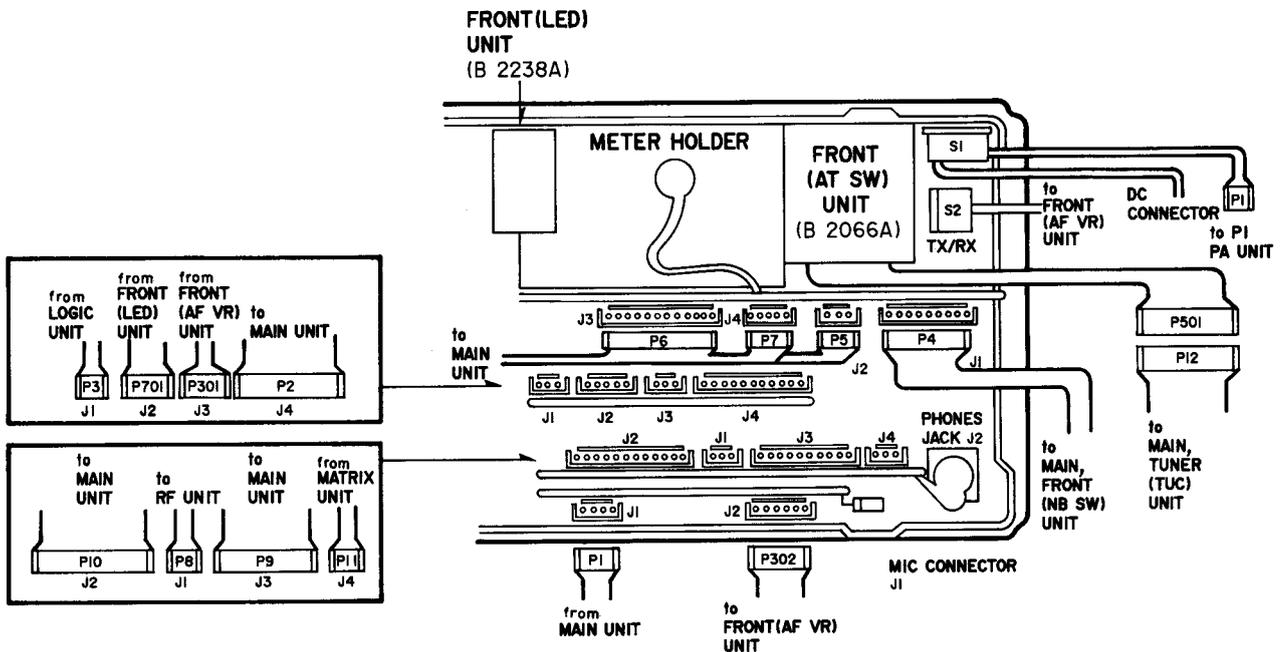
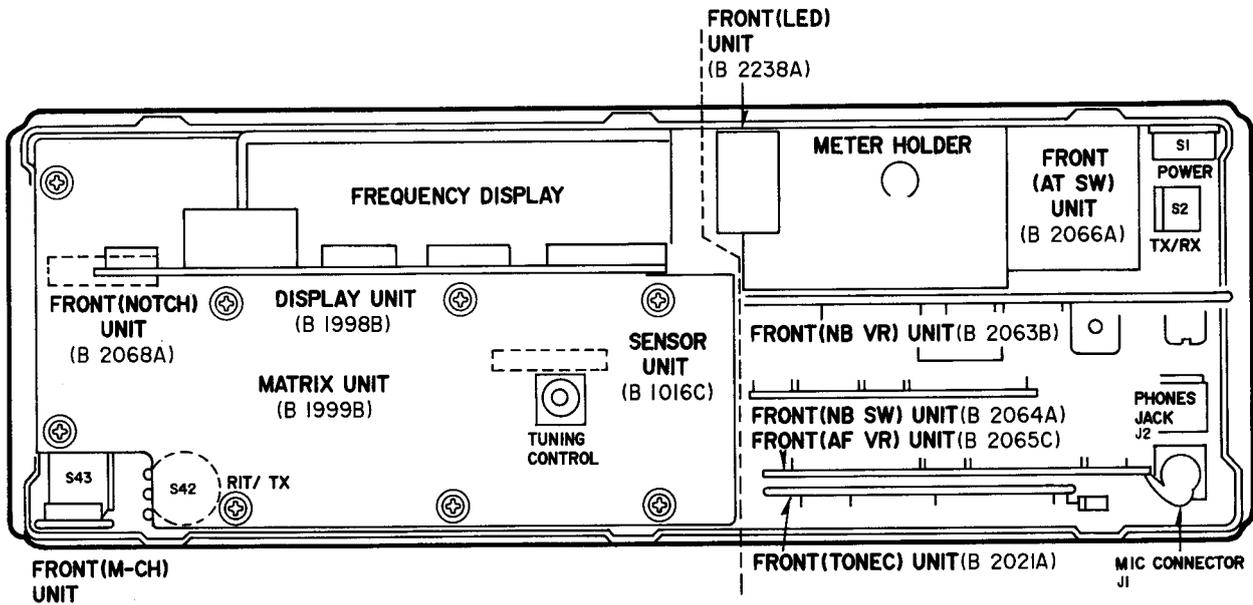
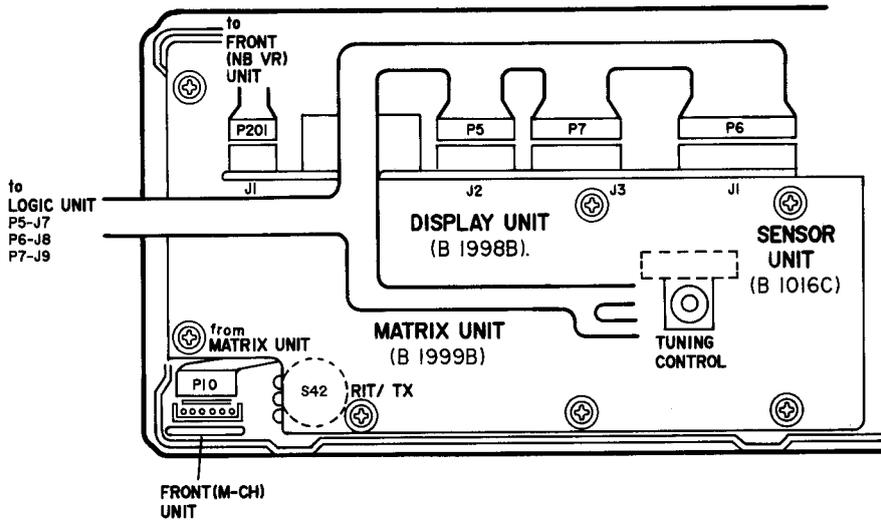
4-5 UNPACKING



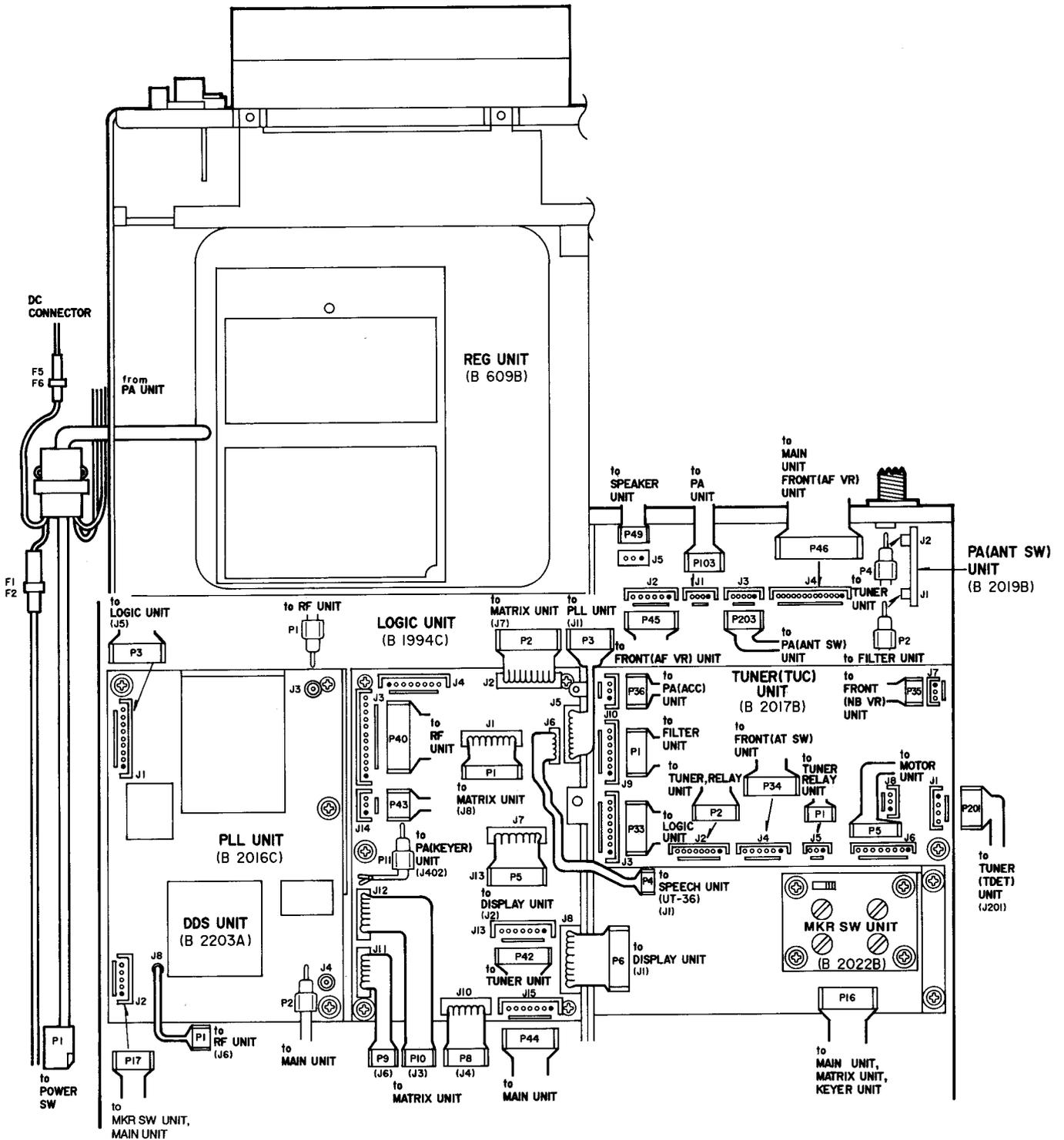
| LABEL NUMBER | ORDER NO. | DESCRIPTION | QTY. |
|--------------|----------------|---|------|
| ① | Optional cable | AC power cable OPC-034 (U.S.A.) | 1 |
| | Optional cable | AC power cable OPC-085 (AUSTRALIA) | 1 |
| | Optional cable | AC power cable OPC-048 A (EUROPE, FRANCE) | 1 |
| ② | 5610000010 | Mini DC power plug AP301 | 1 |
| ③ | 5610000020 | External speaker plug AP313 3.5φ CS plug | 1 |
| ④ | 6510000070 | Pin plug (RCA plug) BP-001 | 2 |
| ⑤ | 5610000050 | 1/4 inch 3 conductor plug AP330 | 2 |
| ⑥ | 5210000070 | Spare Fuse (120 V AC type) FGB 10A (U.S.A.) | 2 |
| | 5210000060 | Spare Fuse (220~240 V AC type) FGB 5A (EUROPE, AUSTRALIA, FRANCE) | 2 |
| ⑦ | 5210000040 | Spare Fuse (DC line) FGB 2A | 2 |
| ⑧ | 5210000060 | Spare Fuse (Internal circuitry) FGB 5A | 2 |

4-6 OTHER UNIT CONNECTOR ASSEMBLY

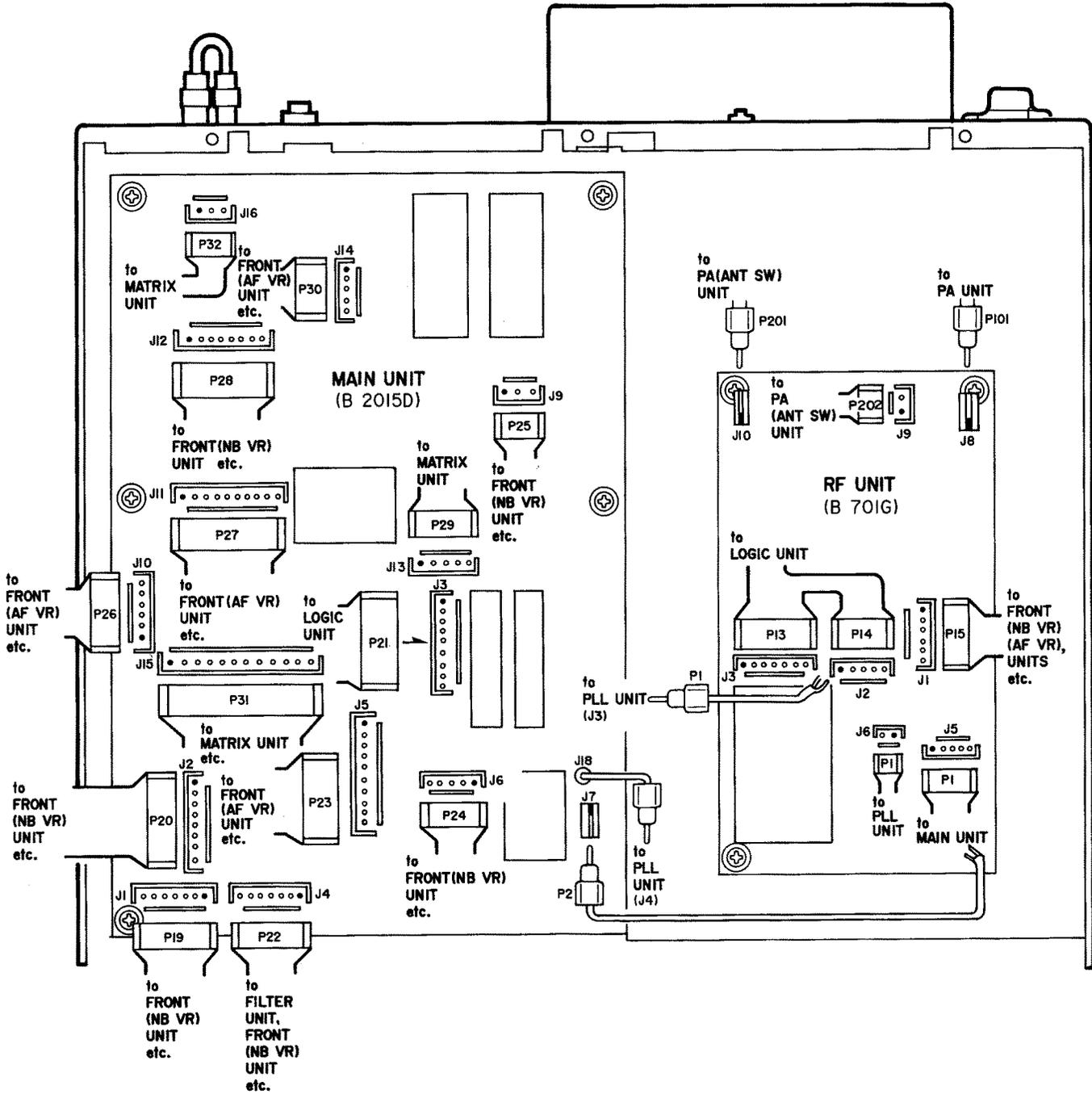
• FRONT UNIT



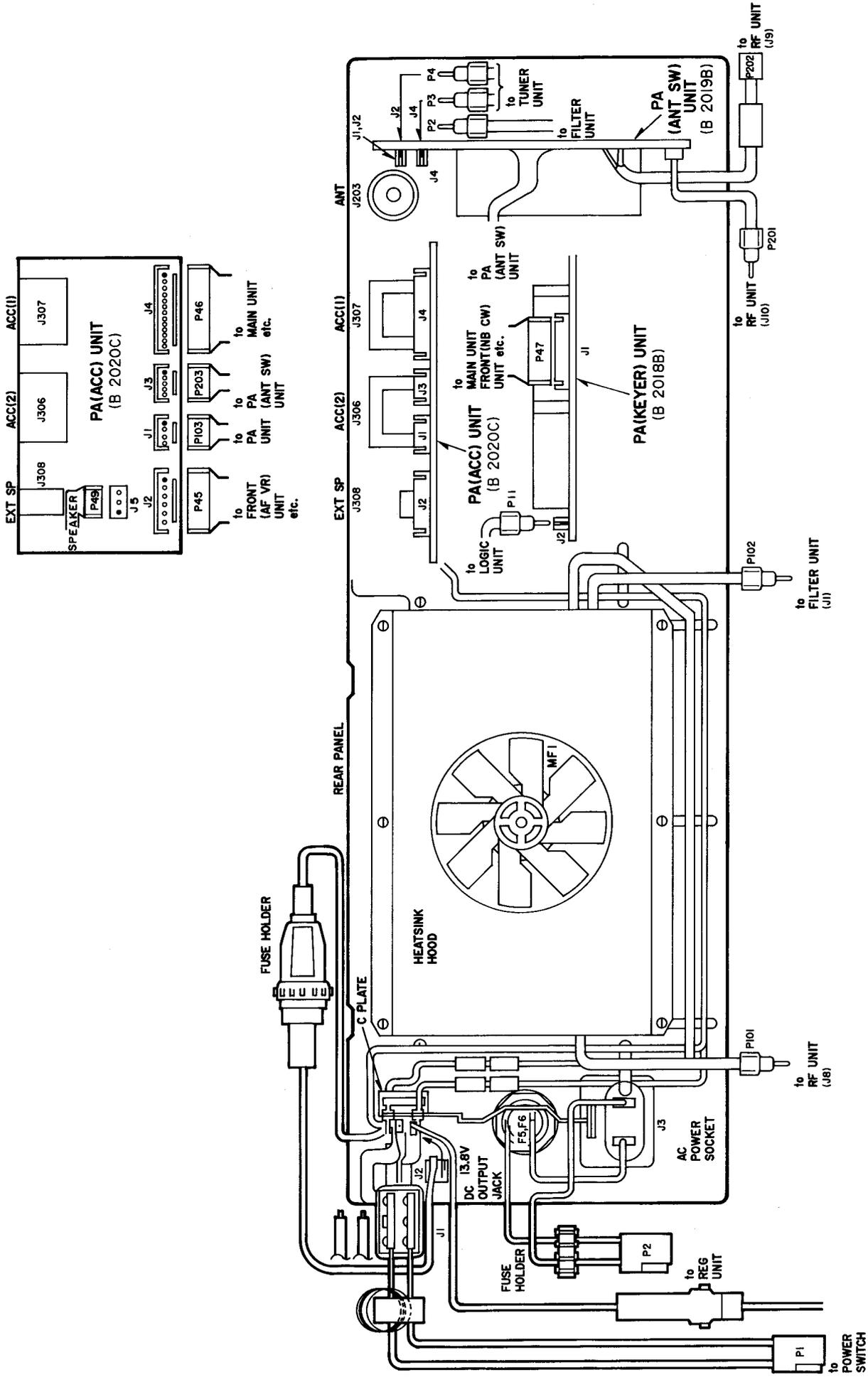
• REG, PLL, MKR AND TUNER UNITS



• MAIN AND RF UNITS



• REAR PANEL



SECTION 5 PARTS LIST

[DISPLAY UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|----------------|------------------------|
| IC1 | 1130004150 | IC | TD62706P |
| IC2 | 1130004150 | IC | TD62706P |
| IC3 | 1130004150 | IC | TD62706P |
| IC4 | 1130004140 | IC | MSL915RS |
| IC5 | 1130004140 | IC | MSL915RS |
| IC6 | 1130003530 | IC | μPD74HC42C |
| IC7 | 6910002011 | DC converter | DP-6A |
| Q1 | 1530000110 | Transistor | 2SC2458-GR |
| Q2 | 1530000110 | Transistor | 2SC2458-GR |
| D1 | 1710000060 | Diode | 1SS55 |
| D2 | 1710000060 | Diode | 1SS55 |
| D3 | 1710000060 | Diode | 1SS55 |
| D4 | 1710000060 | Diode | 1SS55 |
| D5 | 1710000060 | Diode | 1SS55 |
| D6 | 1710000060 | Diode | 1SS55 |
| D7 | 1730000120 | Zener | RD6.2E B2 |
| L1 | 6180001180 | Coil | FL 9H 471K |
| L2 | 6180001120 | Coil | FL 5H 101K |
| L3 | 6180001120 | Coil | FL 5H 101K |
| R1 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R2 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R3 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R4 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R5 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R6 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R7 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R8 | 7410000220 | Resistor Array | RMX- 8 473K |
| R9 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R10 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R11 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R12 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R13 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R14 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R15 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R16 | 7410000150 | Resistor Array | RMX- 6 473K |
| R17 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R18 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R19 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R20 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R21 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R22 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R23 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R24 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R25 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R26 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R27 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R28 | 7410000150 | Resistor Array | RMX- 6 473K |
| R31 | 7010004450 | Resistor | R20J 100 kΩ |
| R32 | 7010004450 | Resistor | R20J 100 kΩ |
| R33 | 7010004320 | Resistor | R20J 10 kΩ |
| R34 | 7010003620 | Resistor | ELR20J 47 kΩ |
| R35 | 7010003620 | Resistor | ELR20J 47 kΩ |
| R36 | 7010003620 | Resistor | ELR20J 47 kΩ |
| R37 | 7010003620 | Resistor | ELR20J 47 kΩ |
| R38 | 7010003620 | Resistor | ELR20J 47 kΩ |
| R39 | 7010003620 | Resistor | ELR20J 47 kΩ |
| R40 | 7010004410 | Resistor | R20J 47 kΩ |
| R41 | 7010003620 | Resistor | ELR20J 47 kΩ |
| C1 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C2 | 4510002380 | Electrolytic | 16 SS 470 μF (10X12.5) |

[DISPLAY UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-----------------|-------------------|
| C3 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C4 | 4510002780 | Electrolytic | 16 SS 10 μF |
| C5 | 4510002970 | Electrolytic | 50 SS 4R7 μF |
| C6 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C7 | 4510002810 | Electrolytic | 16 SS 47 μF |
| C8 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C10 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C11 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C12 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C13 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C15 | 4530000350 | Capacitor Array | B8ZC0111-32N |
| C16 | 4530000350 | Capacitor Array | B8ZC0111-32N |
| C17 | 4530000270 | Capacitor Array | B8XC0114-32N |
| C18 | 4530000030 | Capacitor Array | B5RC0124-32N |
| DS1 | 5020000110 | FLD | FIP 12EM10 |
| EP1 | 0910020462 | P.C. Board | B 1998B (DISPLAY) |

[MKR UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|--|
| R1 | 7310000870 | Trimmer | RH1051D14J0PA (103) [CALIBRATOR] |
| R2 | 7310000880 | Trimmer | RH1051D15J0JA (104) [ELEC-KEY WEIGHT] |
| R3 | 7310000870 | Trimmer | RH1051D14J0PA (103) [ANTI-VOX] |
| R4 | 7310000890 | Trimmer | RH1051D16J0AA (105) [SCAN SPEED] |
| S1 | 2220000310 | Switch | SSSU02283A [MARKER] |
| EP1 | 0910021202 | P.C. Board | B 2022B (MKR) |

[SENSOR UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|------------------|------------------|
| Q1 | 1170000070 | Photo transistor | IS-433 |
| Q2 | 1170000070 | Photo transistor | IS-433 |
| Q3 | 1590000350 | Transistor | RN1204 |
| Q4 | 1590000350 | Transistor | RN1204 |
| DS1 | 1170000060 | LED | GL-430 |
| DS2 | 1170000060 | LED | GL-430 |
| R1 | 7010003320 | Resistor | ELR20J 220 Ω |
| C1 | 4040000390 | Barrier Layer | UAT 06V 103K |
| EP1 | 0910011723 | P.C. Board | B 1016C (SENSOR) |

[FRONT UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------------|---|
| Q101 | 1590000340 | Transistor | RN1202 |
| Q301 | 1530000940 | Transistor | 2SC1571G |
| Q302 | 1530000180 | Transistor | 2SC2878-B |
| Q501 | 1520000060 | Transistor | 2SB562C |
| D201 | 1790000240 | Diode | 1SS99 |
| D202 | 1790000070 | Diode | 1SS237 |
| D301 | 1710000040 | Diode | 1S953 |
| D302 | 1710000040 | Diode | 1S953 |
| D303 | 1710000160 | Diode | 1SS133 |
| D304 | 1710000050 | Diode | 1SS53 |
| D305 | 1710000050 | Diode | 1SS53 |
| L201 | 6910000670 | Coil | BT01RN1-A61-001 |
| L202 | 6180002430 | Coil | LAL 04NA 470K |
| L203 | 6910000670 | Coil | BT01RN1-A61-001 |
| L204 | 6910000670 | Coil | BT01RN1-A61-001 |
| L301 | 6180000900 | Coil | LAL 03NA 101K |
| L302 | 6180000900 | Coil | LAL 03NA 101K |
| L303 | 6180000900 | Coil | LAL 03NA 101K |
| L304 | 6180000900 | Coil | LAL 03NA 101K |
| L305 | 6180000900 | Coil | LAL 03NA 101K |
| L306 | 6180000900 | Coil | LAL 03NA 101K |
| L307 | 6180000900 | Coil | LAL 03NA 101K |
| L308 | 6910000670 | Coil | BT01RN1-A61-001 |
| L309 | 6180000900 | Coil | LAL 03NA 101K |
| R101 | 7010004500 | Resistor | R20J 270 kΩ |
| R102 | 7010004100 | Resistor | R20J 180 Ω |
| R103 | 7010004320 | Resistor | R20J 10 kΩ |
| R104 | 7010004270 | Resistor | R20J 4.7 kΩ |
| R105 | 7010004200 | Resistor | R20J 1.2 kΩ |
| R201 | 7210001300 | Variable Resistor | RK097111000XA (1MB) [VOX DELAY] |
| R202 | 7210001580 | Variable Resistor | RK097111007ZA [ELEC-KEY SPEED] |
| R203 | 7210001270 | Variable Resistor | RK097111000WA (1KB) [NB LEVEL] |
| R204 | 7010004270 | Resistor | R20J 4.7 kΩ |
| R205 | 7010003480 | Resistor | ELR20J 4.7 kΩ |
| R206 | 7010004070 | Resistor | R20J 100 Ω |
| R207 | 7310000730 | Trimmer | RH0651CN3J01A (332) |
| R208 | 7010003280 | Resistor | ELR20J 100 Ω |
| R209 | 7010003280 | Resistor | ELR20J 100 Ω |
| R210 | 7310000780 | Trimmer | RH0651CS4J25A (473) |
| R211 | 7010004410 | Resistor | R20J 47 kΩ |
| R212 | 7010004320 | Resistor | R20J 10 kΩ |
| R213 | 7310000710 | Trimmer | RH0651C13J1YA (102) |
| R214 | 7010004450 | Resistor | R20J 100 kΩ |
| R301 | 7010003480 | Resistor | ELR20J 4.7 kΩ |
| R302 | 7010003420 | Resistor | ELR20J 1.5 kΩ |
| R303 | 7010004110 | Resistor | R20J 220 Ω |
| R304 | 7010003370 | Resistor | ELR20J 560 Ω |
| R305 | 7010004440 | Resistor | R20J 82 kΩ |
| R306 | 7010003560 | Resistor | ELR20J 18 kΩ |
| R307 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R308 | 7010003340 | Resistor | ELR20J 330 Ω |
| R309 | 7010003240 | Resistor | ELR20J 47 Ω |
| R310 | 7010001230 | Resistor | R25J 4.7 kΩ |
| R311 | 7010004270 | Resistor | R20J 4.7 kΩ |
| R312 | 7010001030 | Resistor | R25J 100 Ω |
| R313 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R314 | 7010003620 | Resistor | ELR20J 47 kΩ |
| R315 | 7010003240 | Resistor | ELR20J 47 Ω |
| R316 | 7210001550 | Variable Resistor | RK1242210032A 10KB [MIC GAIN, RF PWR] |
| R317 | 7210001590 | Variable Resistor | RK124232000MA 10KB × 3 [CW PITCH, SQL] |
| R318 | 7210001240 | Variable Resistor | RK1242210026A [AF, RF] |
| R319 | 7010001150 | Resistor | R25J 1 kΩ |
| R320 | 7010001030 | Resistor | R25J 100 Ω |
| R321 | 7010004250 | Resistor | R20J 3.3 kΩ |

[FRONT UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------------|---|
| R322 | 7010000250 | Resistor | ELR25J 100 Ω |
| R323 | 7010000250 | Resistor | ELR25J 100 Ω |
| R324 | 7010000500 | Resistor | ELR25J 10 kΩ |
| R401 | 7210001000 | Variable Resistor | RK0971110D04A (10KB) [IF SHIFT] |
| R402 | 7210001010 | Variable Resistor | RK097111000AA (10KB) [NOTCH] |
| R501 | 7010003580 | Resistor | ELR20J 22 kΩ |
| R502 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R503 | 7010001190 | Resistor | R25J 2.2 kΩ |
| R504 | 7010001240 | Resistor | R25J 5.6 kΩ |
| R601 | 7210001410 | Variable Resistor | RK097111T00PA (100KB) [MONITOR GAIN] |
| R602 | 7210001410 | Variable Resistor | RK097111T00PA (100KB) [RX TONE] |
| R603 | 7210001130 | Variable Resistor | RK097111T005A (10KB) [VOX GAIN] |
| R604 | 7210001410 | Variable Resistor | RK097111T00PA (100KB) [MIC TONE] |
| C101 | 4510001150 | Electrolytic | 50 MS7 R47 μF |
| C201 | 4510002810 | Electrolytic | 16 SS 47 μF |
| C202 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C203 | 4510002720 | Electrolytic | 10 SS 47 μF |
| C204 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C205 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C206 | 4510001180 | Electrolytic | 50 MS7 3R3 μF |
| C207 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C301 | 4510002740 | Electrolytic | 10 SS 220 μF |
| C302 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C303 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C304 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C305 | 4510002720 | Electrolytic | 10 SS 47 μF |
| C306 | 4510002940 | Electrolytic | 50 SS 1 μF |
| C307 | 4510002720 | Electrolytic | 10 SS 47 μF |
| C308 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C309 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C310 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C311 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C312 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C313 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C314 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C315 | 4510001740 | Electrolytic | 50 RBP 1 μF |
| C601 | 4310000060 | Mylar | F2D 50V 223K |
| C602 | 4310000060 | Mylar | F2D 50V 223K |
| C603 | 4310000120 | Mylar | F2D 50V 473K |
| C604 | 4310000120 | Mylar | F2D 50V 473K |
| DS1 | 5080000060 | Lamp | BQ044-32582A |
| DS501 | 5040000830 | LED | SLP275B-50 |
| DS502 | 5040000800 | LED | SLP175B-50 |
| DS702 | 5040000920 | LED | SLP162B |
| DS703 | 5040000910 | LED | SLP262B |
| DS704 | 5040000940 | LED | SLP462B |
| DS705 | 5040000920 | LED | SLP162B |
| ME1 | 5510000340 | Meter | KL-294G-5 (ME-25) [MULTI-FUNCTION METER] |
| S1 | 2230000120 | Switch | SDDSA3159A [POWER] |
| S2 | 2260000310 | Switch | M-2012J [TRANSMIT/RECEIVE] |
| S3 | 2230000750 | Switch | SPPJ31332A [SPEECH] |
| S101 | 2230000210 | Switch | SPPJ31116A [NB] |
| S102 | 2230000210 | Switch | SPPJ31116A [NB WIDE] |
| S103 | 2230000210 | Switch | SPPJ31116A [FAST/SLOW] |
| S104 | 2230000210 | Switch | SPPJ31116A [VOX] |
| S105 | 2230000210 | Switch | SPPJ31116A [FULL BK-IN] |
| S201 | 2210000120 | Switch | SRRU13071A [AGC] |
| S202 | 2210000170 | Switch | SRBU16003A [METER] |
| S301 | 2210000160 | Switch | SRBU15015A [PRE/ATT] |

[FRONT UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|--------------|--------------------|
| S501 | 2230000550 | Switch | SPPH23079A [COMP] |
| S502 | 2230000550 | Switch | SPPH23079A [MONI] |
| S503 | 2230000550 | Switch | SPPH23079A [TUNER] |
| EP1 | 0910006330 | F.P.C. Board | B 792 (MIC) |
| EP101 | 0910021041 | P.C. Board | B 2064A (NB SW) |
| EP201 | 0910021072 | P.C. Board | B 2063B (NB VR) |
| EP301 | 0910021053 | P.C. Board | B 2065C (AF VR) |
| EP401 | 0910021031 | P.C. Board | B 2068A (NOTCH) |
| EP501 | 0910021061 | P.C. Board | B 2066A (AT SW) |
| EP601 | 0910021311 | P.C. Board | B 2021A (TONE C) |
| EP701 | 0910022891 | P.C. Board | B 2238A (LED) |

[SWR UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|------------------------|
| IC1 | 1110000960 | IC | NJM4558M (T1) |
| IC2 | 1110000960 | IC | NJM4558M (T1) |
| Q1 | 1560000360 | FET | 2SK209-Y |
| Q2 | 1560000360 | FET | 2SK209-Y |
| D1 | 1750000030 | Diode | 1SS187 |
| R1 | 7030000620 | Resistor | MCR10EZHZ 100 kΩ (104) |
| R2 | 7030000500 | Resistor | MCR10EZHZ 10 kΩ (103) |
| R3 | 7030000500 | Resistor | MCR10EZHZ 10 kΩ (103) |
| R4 | 7030000500 | Resistor | MCR10EZHZ 10 kΩ (103) |
| R5 | 7030000600 | Resistor | MCR10EZHZ 68 kΩ (683) |
| R6 | 7030000570 | Resistor | MCR10EZHZ 39 kΩ (393) |
| R7 | 7030000580 | Resistor | MCR10EZHZ 47 kΩ (473) |
| R8 | 7030000580 | Resistor | MCR10EZHZ 47 kΩ (473) |
| R9 | 7030000540 | Resistor | MCR10EZHZ 22 kΩ (223) |
| R10 | 7030000620 | Resistor | MCR10EZHZ 100 kΩ (104) |
| R11 | 7030000500 | Resistor | MCR10EZHZ 10 kΩ (103) |
| R12 | 7030000500 | Resistor | MCR10EZHZ 10 kΩ (103) |
| R13 | 7030000630 | Resistor | MCR10EZHZ 120 kΩ (124) |
| R14 | 7030000500 | Resistor | MCR10EZHZ 10 kΩ (103) |
| R15 | 7030000480 | Resistor | MCR10EZHZ 6.8 kΩ (682) |
| R16 | 7030000500 | Resistor | MCR10EZHZ 10 kΩ (103) |
| R17 | 7030000570 | Resistor | MCR10EZHZ 39 kΩ (393) |
| R18 | 7030000740 | Resistor | MCR10EZHZ 1 MΩ (105) |
| R19 | 7030000570 | Resistor | MCR10EZHZ 39 kΩ (393) |
| C1 | 4030003360 | Ceramic | GRM40 F 473Z 50PT |
| C2 | 4030001140 | Ceramic | GRM40 F 103Z 50PT |
| C3 | 4030003360 | Ceramic | GRM40 F 473Z 50PT |
| C4 | 4030003360 | Ceramic | GRM40 F 473Z 50PT |
| C5 | 4030003360 | Ceramic | GRM40 F 473Z 50PT |
| C6 | 4030001090 | Ceramic | GRM40 B 471K 50PT |
| C7 | 4030003460 | Ceramic | GRM40 B 562K 50PT |
| EP1 | 0910014861 | P.C. Board | B 1332A (SWR) |

[MATRIX UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|---------------|
| IC1 | 1130000040 | IC | TC4011UBP |
| IC2 | 1130000040 | IC | TC4011UBP |
| Q1 | 1590000350 | Transistor | RN1204 |
| Q2 | 1590000350 | Transistor | RN1204 |
| Q3 | 1510000070 | Transistor | 2SA1048-Y |
| Q4 | 1530000110 | Transistor | 2SC2458-GR |
| Q5 | 1530000591 | Transistor | 2SC2785 EL |
| Q6 | 1510000070 | Transistor | 2SA1048-Y |
| Q7 | 1590000350 | Transistor | RN1204 |
| D1 | 1710000160 | Diode | 1SS133 |
| D2 | 1710000160 | Diode | 1SS133 |
| D3 | 1710000160 | Diode | 1SS133 |
| D4 | 1710000160 | Diode | 1SS133 |
| D5 | 1710000160 | Diode | 1SS133 |
| D6 | 1710000160 | Diode | 1SS133 |
| D7 | 1710000160 | Diode | 1SS133 |
| D8 | 1710000160 | Diode | 1SS133 |
| D9 | 1710000160 | Diode | 1SS133 |
| D10 | 1710000160 | Diode | 1SS133 |
| D11 | 1710000160 | Diode | 1SS133 |
| D12 | 1710000160 | Diode | 1SS133 |
| D13 | 1710000160 | Diode | 1SS133 |
| D14 | 1710000160 | Diode | 1SS133 |
| D15 | 1710000160 | Diode | 1SS133 |
| D16 | 1710000160 | Diode | 1SS133 |
| D17 | 1710000160 | Diode | 1SS133 |
| D18 | 1710000160 | Diode | 1SS133 |
| D19 | 1710000160 | Diode | 1SS133 |
| D20 | 1710000160 | Diode | 1SS133 |
| D21 | 1710000160 | Diode | 1SS133 |
| D22 | 1710000160 | Diode | 1SS133 |
| D23 | 1710000160 | Diode | 1SS133 |
| D24 | 1710000160 | Diode | 1SS133 |
| D25 | 1710000160 | Diode | 1SS133 |
| D26 | 1710000160 | Diode | 1SS133 |
| D27 | 1710000160 | Diode | 1SS133 |
| D28 | 1710000160 | Diode | 1SS133 |
| D29 | 1710000160 | Diode | 1SS133 |
| D30 | 1710000160 | Diode | 1SS133 |
| D31 | 1710000160 | Diode | 1SS133 |
| D32 | 1710000160 | Diode | 1SS133 |
| D33 | 1710000160 | Diode | 1SS133 |
| D34 | 1710000160 | Diode | 1SS133 |
| D35 | 1710000160 | Diode | 1SS133 |
| D36 | 1710000160 | Diode | 1SS133 |
| D37 | 1710000160 | Diode | 1SS133 |
| D38 | 1710000160 | Diode | 1SS133 |
| D39 | 1710000160 | Diode | 1SS133 |
| D40 | 1710000160 | Diode | 1SS133 |
| D41 | 1710000160 | Diode | 1SS133 |
| D42 | 1710000160 | Diode | 1SS133 |
| D43 | 1710000160 | Diode | 1SS133 |
| D44 | 1710000160 | Diode | 1SS133 |
| D45 | 1710000160 | Diode | 1SS133 |
| D46 | 1710000160 | Diode | 1SS133 |
| D47 | 1710000160 | Diode | 1SS133 |
| D48 | 1710000160 | Diode | 1SS133 |
| D49 | 1710000160 | Diode | 1SS133 |
| D53 | 1710000160 | Diode | 1SS133 |
| D54 | 1710000160 | Diode | 1SS133 |
| D55 | 1710000160 | Diode | 1SS133 |
| D56 | 1710000160 | Diode | 1SS133 |
| D57 | 1710000160 | Diode | 1SS133 |
| D58 | 1710000160 | Diode | 1SS133 |
| R1 | 7010003300 | Resistor | ELR20J 150 Ω |
| R2 | 7010003240 | Resistor | ELR20J 47 Ω |
| R3 | 7010003410 | Resistor | ELR20J 1.2 kΩ |
| R4 | 7010004190 | Resistor | R20J 1 kΩ |
| R5 | 7010004410 | Resistor | R20J 47 kΩ |
| R6 | 7010003650 | Resistor | ELR20J 82 kΩ |
| R7 | 7010003670 | Resistor | ELR20J 120 kΩ |

[MATRIX UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|---------------|------------------------|
| R8 | 7010003750 | Resistor | ELR20J 560 kΩ |
| R9 | 7010003670 | Resistor | ELR20J 120 kΩ |
| R10 | 7010003750 | Resistor | ELR20J 560 kΩ |
| R11 | 7010003650 | Resistor | ELR20J 82 kΩ |
| R12 | 7010003800 | Resistor | ELR20J 1.8 MΩ |
| R13 | 7010003800 | Resistor | ELR20J 1.8 MΩ |
| R14 | 7010004230 | Resistor | R20J 2.2 kΩ |
| R15 | 7010004270 | Resistor | R20J 4.7 kΩ |
| R16 | 7010003620 | Resistor | ELR20J 47 kΩ |
| R17 | 7010003480 | Resistor | ELR20J 4.7 kΩ |
| R18 | 7010003720 | Resistor | ELR20J 330 kΩ |
| R19 | 7010004600 | Resistor | R20J 2.2 MΩ |
| R20 | 7010004410 | Resistor | R20J 47 kΩ |
| R21 | 7010004410 | Resistor | R20J 47 kΩ |
| C1 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C2 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C3 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C4 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C5 | 4040000210 | Barrier Layer | UAT 06X 153K |
| C6 | 4010000520 | Ceramic | DD108 B 472K 50V |
| DS1 | 5040000390 | LED | SLB-23VR 5F |
| DS2 | 5040000860 | LED | SLB-23MG 5F |
| DS3 | 5040000860 | LED | SLB-23MG 5F |
| S1 | 2230000600 | Switch | SPPQ19178A [SSB] |
| S2 | 2230000600 | Switch | SPPQ19178A (CW/N) |
| S3 | 2230000600 | Switch | SPPQ19178A [RTTY/N] |
| S4 | 2230000600 | Switch | SPPQ19178A [AM/N] |
| S5 | 2230000600 | Switch | SPPQ19178A [FM/TONE] |
| S6 | 2230000600 | Switch | SPPQ19178A [DATA] |
| S7 | 2230000530 | Switch | SPPH23078A [FUNK] |
| S8 | 2230000530 | Switch | SPPH23078A [SELECT] |
| S9 | 2230000530 | Switch | SPPH23078A [SCAN] |
| S10 | 2230000530 | Switch | SPPH23078A [RIT] |
| S11 | 2230000530 | Switch | SPPH23078A [ΔTX] |
| S12 | 2230000530 | Switch | SPPH23078A [CLEAR] |
| S13 | 2230000530 | Switch | SPPH23078A [M▶VFO] |
| S14 | 2230000530 | Switch | SPPH23078A [MW] |
| S15 | 2230000550 | Switch | SPPH23079A [TS] |
| S16 | 2230000530 | Switch | SPPH23078A [A=B] |
| S17 | 2230000550 | Switch | SPPH23079A [SPLIT] |
| S18 | 2230000600 | Switch | SPPQ19178A [A/B] |
| S19 | 2230000600 | Switch | SPPQ19178A [VFO/MEMO] |
| S20 | 2230000600 | Switch | SPPQ19178A [1.8 (1)] |
| S21 | 2230000600 | Switch | SPPQ19178A [3.5 (2)] |
| S22 | 2230000600 | Switch | SPPQ19178A [7 (3)] |
| S23 | 2230000600 | Switch | SPPQ19178A [10 (4)] |
| S24 | 2230000600 | Switch | SPPQ19178A [14 (5)] |
| S25 | 2230000600 | Switch | SPPQ19178A [18 (6)] |
| S26 | 2230000600 | Switch | SPPQ19178A [21 (7)] |
| S27 | 2230000600 | Switch | SPPQ19178A [24.5 (8)] |
| S28 | 2230000600 | Switch | SPPQ19178A [28 (9)] |
| S29 | 2230000600 | Switch | SPPQ19178A [29 (10)] |
| S30 | 2230000600 | Switch | SPPQ19178A [GENE (·)] |
| S31 | 2230000600 | Switch | SPPQ19178A [ENT] |
| S32 | 2230000600 | Switch | SPPQ19178A [DOWN] |
| S33 | 2230000600 | Switch | SPPQ19178A [UP] |
| S34 | 2230000550 | Switch | SPPH23079A [LOCK] |
| S35 | 2220000050 | Switch | SSSS21148A |
| S36 | 6190000180 | Switch | SCS-06A |
| S37 | 6190000180 | Switch | SCS-06A |
| S38 | 2230000550 | Switch | SPPH23079A [IF SHIFT] |
| S39 | 2230000550 | Switch | SPPH23079A [CW 250 Hz] |
| S40 | 2230000550 | Switch | SPPH23079A [NOTCH] |
| S41 | 2220000360 | Switch | ESD-1111212 [TS] |
| S42 | 7600000090 | Encoder | EC24B50B000MB [RIT] |
| S43 | 2260000880 | Switch | SRBM1L038A [M-CH] |
| EP1 | 0910020572 | P.C. Board | B 1999B (MATRIX) |

[DDS UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|----------------|------------------------|
| IC1 | 1140000500 | IC | SC1051 |
| IC2 | 1130002600 | IC | SC1052 |
| IC3 | 1130002610 | IC | SC1053 |
| IC4 | 1130002461 | IC | TC74HCT374AF |
| IC5 | 1130002461 | IC | TC74HCT374AF |
| X1 | 6050003230 | Crystal | CR-180 |
| L1 | 6200000040 | Coil | LQN 5N 331K |
| L2 | 6200000040 | Coil | LQN 5N 331K |
| L3 | 6200000040 | Coil | LQN 5N 331K |
| R1 | 7030000740 | Resistor | MCR10EZHZ 1 MΩ (105) |
| R2 | 7030000360 | Resistor | MCR10EZHZ 680 Ω (681) |
| R3 | 7030000420 | Resistor | MCR10EZHZ 2.2 kΩ (222) |
| R4 | 7410000320 | Resistor Array | GF 5096 |
| R5 | 7030000500 | Resistor | MCR10EZHZ 10 kΩ (103) |
| R6 | 7030000500 | Resistor | MCR10EZHZ 10 kΩ (103) |
| R7 | 7030000500 | Resistor | MCR10EZHZ 10 kΩ (103) |
| C1 | 4610000520 | Trimmer | TZB04N100BA006 |
| C2 | 4030000950 | Ceramic | GRM40 CH 330J 50PT |
| C3 | 4030001150 | Ceramic | GRM40 F 104Z 25PT |
| C7 | 4030000720 | Ceramic | GRM40 SL 680J 50PT |
| C8 | 4030000560 | Ceramic | GRM40 SL 020C 50PT |
| C9 | 4030000750 | Ceramic | GRM40 SL 121J 50PT |
| C10 | 4030000610 | Ceramic | GRM40 SL 070D 50PT |
| C11 | 4030000750 | Ceramic | GRM40 SL 121J 50PT |
| C12 | 4030000640 | Ceramic | GRM40 SL 120J 50PT |
| C13 | 4030000720 | Ceramic | GRM40 SL 680J 50PT |
| C14 | 4030001150 | Ceramic | GRM40 F 104Z 25PT |
| C15 | 4030001150 | Ceramic | GRM40 F 104Z 25PT |
| C16 | 4030001150 | Ceramic | GRM40 F 104Z 25PT |
| C17 | 4030001150 | Ceramic | GRM40 F 104Z 25PT |
| C18 | 4030002430 | Ceramic | GRM40 TH 220J 50PT |
| C19 | 4030001100 | Ceramic | GRM40 B 102K 50PT |
| C20 | 4030001100 | Ceramic | GRM40 B 102K 50PT |
| EP1 | 0910022511 | P.C. Board | B 2203A (DDS) |

[PLL UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|------------|
| IC1 | 1130002960 | IC | TC9181P |
| IC2 | 1130004120 | IC | TD6102P |
| IC3 | 1110001320 | IC | μPC1037HA |
| IC4 | 1110001320 | IC | μPC1037HA |
| IC5 | 1120000100 | IC | M74LS90P |
| IC6 | 1120000410 | IC | SN74LS390N |
| IC7 | 1180000160 | IC | μA78M05UC |
| IC8 | 1180000640 | IC | MC7808CT |
| Q1 | 1590000340 | Transistor | RN1202 |
| Q2 | 1590000340 | Transistor | RN1202 |
| Q3 | 1590000340 | Transistor | RN1202 |
| Q4 | 1590000340 | Transistor | RN1202 |
| Q5 | 1530000940 | Transistor | 2SC1571G |
| Q6 | 1530000940 | Transistor | 2SC1571G |
| Q7 | 1530000940 | Transistor | 2SC1571G |
| Q8 | 1560000090 | FET | 2SK192A-GR |
| Q9 | 1560000090 | FET | 2SK192A-GR |
| Q10 | 1560000090 | FET | 2SK192A-GR |
| Q11 | 1560000090 | FET | 2SK192A-GR |

[PLL UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|---------------|
| Q12 | 1530000150 | Transistor | 2SC2668-O |
| Q13 | 1530000150 | Transistor | 2SC2668-O |
| Q14 | 1530000150 | Transistor | 2SC2668-O |
| Q15 | 1530000150 | Transistor | 2SC2668-O |
| Q16 | 1530000150 | Transistor | 2SC2668-O |
| Q17 | 1530000150 | Transistor | 2SC2668-O |
| Q18 | 1530000150 | Transistor | 2SC2668-O |
| Q19 | 1530000150 | Transistor | 2SC2668-O |
| Q20 | 1590000350 | Transistor | RN1204 |
| Q22 | 1530000150 | Transistor | 2SC2668-O |
| Q23 | 1530000150 | Transistor | 2SC2668-O |
| Q24 | 1590000340 | Transistor | RN1202 |
| Q25 | 1590000360 | Transistor | RN2202 |
| Q26 | 1590000340 | Transistor | RN1202 |
| Q27 | 1590000340 | Transistor | RN1202 |
| Q28 | 1530000591 | Transistor | 2SC2785 EL |
| Q29 | 1590000340 | Transistor | RN1202 |
| Q30 | 1590000340 | Transistor | RN1202 |
| Q31 | 1590000340 | Transistor | RN1202 |
| Q32 | 1530000591 | Transistor | 2SC2785 EL |
| Q33 | 1530000150 | Transistor | 2SC2668-O |
| Q201 | 1560000090 | FET | 2SK192A-GR |
| Q202 | 1530000150 | Transistor | 2SC2668-O |
| Q203 | 1530000150 | Transistor | 2SC2668-O |
| Q204 | 1530000150 | Transistor | 2SC2668-O |
| Q205 | 1530000150 | Transistor | 2SC2668-O |
| | | | |
| D1 | 1710000050 | Diode | 1SS53 |
| D2 | 1710000050 | Diode | 1SS53 |
| D3 | 1710000050 | Diode | 1SS53 |
| D4 | 1710000050 | Diode | 1SS53 |
| D5 | 1710000050 | Diode | 1SS53 |
| D6 | 1720000120 | Varicap | FC52M |
| D7 | 1720000050 | Varicap | 1SV50E |
| D8 | 1720000050 | Varicap | 1SV50E |
| D9 | 1720000050 | Varicap | 1SV50E |
| D10 | 1710000050 | Diode | 1SS53 |
| D11 | 1710000050 | Diode | 1SS53 |
| D12 | 1710000050 | Diode | 1SS53 |
| D13 | 1710000050 | Diode | 1SS53 |
| D14 | 1710000050 | Diode | 1SS53 |
| D15 | 1710000050 | Diode | 1SS53 |
| D16 | 1720000050 | Varicap | 1SV50E |
| D17 | 1730000100 | Zener | RD5.1E B2 |
| D18 | 1710000050 | Diode | 1SS53 |
| D19 | 1710000050 | Diode | 1SS53 |
| D20 | 1730000100 | Zener | RD5.1E B2 |
| D21 | 1710000580 | Diode | 1SS265 |
| D201 | 1720000120 | Varicap | FC52M |
| D202 | 1790000070 | Diode | 1SS237 |
| D203 | 1730000100 | Zener | RD5.1E B2 |
| | | | |
| X1 | 6050005710 | Crystal | CR-275 |
| | | | |
| L1 | 6140000580 | Coil | LR-79 |
| L2 | 6140000580 | Coil | LR-79 |
| L3 | 6140000580 | Coil | LR-79 |
| L4 | 6140000580 | Coil | LR-79 |
| L5 | 6130002110 | Coil | LB-206 |
| L6 | 6170000230 | Coil | LW-25 |
| L7 | 6130000990 | Coil | LB-135 |
| L8 | 6170000230 | Coil | LW-25 |
| L9 | 6130000990 | Coil | LB-135 |
| L10 | 6170000230 | Coil | LW-25 |
| L11 | 6130000990 | Coil | LB-135 |
| L12 | 6170000230 | Coil | LW-25 |
| L13 | 6110001610 | Coil | LA-244 |
| L14 | 6110001620 | Coil | LA-245 |
| L15 | 6110001700 | Coil | LA-256 |
| L18 | 6180000900 | Coil | LAL 03NA 101K |
| L19 | 6180000690 | Coil | LAL 03NA R22M |
| L20 | 6180000700 | Coil | LAL 03NA R27M |

[PLL UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|-----------------|
| L21 | 6180000700 | Coil | LAL 03NA R27M |
| L22 | 6180000900 | Coil | LAL 03NA 101K |
| L23 | 6180000730 | Coil | LAL 03NA R47M |
| L24 | 6180000750 | Coil | LAL 03NA R68M |
| L25 | 6180000750 | Coil | LAL 03NA R68M |
| L26 | 6180000730 | Coil | LAL 03NA R47M |
| L27 | 6180000730 | Coil | LAL 03NA R47M |
| L28 | 6180000740 | Coil | LAL 03NA R56M |
| L29 | 6180000750 | Coil | LAL 03NA R68M |
| L30 | 6180000770 | Coil | LAL 03NA 1R0M |
| L32 | 6180000710 | Coil | LAL 03NA R33M |
| L33 | 6180000720 | Coil | LAL 03NA R39M |
| L34 | 6180000720 | Coil | LAL 03NA R39M |
| L35 | 6180000750 | Coil | LAL 03NA R68M |
| L36 | 6180000740 | Coil | LAL 03NA R56M |
| L37 | 6180002540 | Coil | LAL 02NA 470K |
| L38 | 6180000900 | Coil | LAL 03NA 101K |
| L39 | 6180000900 | Coil | LAL 03NA 101K |
| L40 | 6180000750 | Coil | LAL 03NA R68M |
| L41 | 6180000900 | Coil | LAL 03NA 101K |
| L42 | 6180000900 | Coil | LAL 03NA 101K |
| L43 | 6180000900 | Coil | LAL 03NA 101K |
| L44 | 6170000180 | Coil | LW-19 |
| L45 | 6150000760 | Coil | LS-94 |
| L46 | 6150000990 | Coil | LS-114 |
| L47 | 6150000990 | Coil | LS-114 |
| L48 | 6150002520 | Coil | LS-276 |
| L49 | 6150002520 | Coil | LS-276 |
| L50 | 6150000990 | Coil | LS-114 |
| L51 | 6150000990 | Coil | LS-114 |
| L52 | 6910000670 | Coil | BT01RN1-A61-001 |
| L53 | 6910000670 | Coil | BT01RN1-A61-001 |
| L54 | 6910000670 | Coil | BT01RN1-A61-001 |
| L55 | 6180000900 | Coil | LAL 03NA 101K |
| L56 | 6180002270 | Coil | LAL 03NA 470K |
| L57 | 6180000900 | Coil | LAL 03NA 101K |
| L58 | 6180000900 | Coil | LAL 03NA 101K |
| L59 | 6180000810 | Coil | LAL 03NA 2R2M |
| L60 | 6180001510 | Coil | LAL 02NA 101K |
| L201 | 6140000580 | Coil | LR-79 |
| L202 | 6150003100 | Coil | LS-316 |
| L203 | 6180000850 | Coil | LAL 03NA 4R7K |
| L204 | 6180000850 | Coil | LAL 03NA 4R7K |
| L205 | 6180000900 | Coil | LAL 03NA 101K |
| L206 | 6180000900 | Coil | LAL 03NA 101K |
| | | | |
| R1 | 7010003550 | Resistor | ELR20J 15 kΩ |
| R2 | 7010004070 | Resistor | R20J 100 Ω |
| R3 | 7010003440 | Resistor | ELR20J 2.2 kΩ |
| R4 | 7010004490 | Resistor | R20J 220 kΩ |
| R5 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R6 | 7010001190 | Resistor | R25J 2.2 kΩ |
| R7 | 7010003660 | Resistor | ELR20J 100 kΩ |
| R8 | 7010003660 | Resistor | ELR20J 100 kΩ |
| R9 | 7010004450 | Resistor | R20J 100 kΩ |
| R10 | 7010003660 | Resistor | ELR20J 100 kΩ |
| R11 | 7010004450 | Resistor | R20J 100 kΩ |
| R12 | 7010003660 | Resistor | ELR20J 100 kΩ |
| R13 | 7010003660 | Resistor | ELR20J 100 kΩ |
| R14 | 7010003660 | Resistor | ELR20J 100 kΩ |
| R15 | 7010003300 | Resistor | ELR20J 150 Ω |
| R16 | 7010004250 | Resistor | R20J 3.3 kΩ |
| R17 | 7010003300 | Resistor | ELR20J 150 Ω |
| R18 | 7010003460 | Resistor | ELR20J 3.3 kΩ |
| R19 | 7010003300 | Resistor | ELR20J 150 Ω |
| R20 | 7010003460 | Resistor | ELR20J 3.3 kΩ |
| R21 | 7010004090 | Resistor | R20J 150 Ω |
| R22 | 7010004250 | Resistor | R20J 3.3 kΩ |
| R23 | 7010004110 | Resistor | R20J 220 Ω |
| R24 | 7010004010 | Resistor | R20J 33 Ω |
| R25 | 7010003320 | Resistor | ELR20J 220 Ω |
| R26 | 7010003480 | Resistor | ELR20J 4.7 kΩ |
| R27 | 7010003340 | Resistor | ELR20J 330 Ω |
| R28 | 7010004070 | Resistor | R20J 100 Ω |

[PLL UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|----------------|---------------|
| R29 | 7010003320 | Resistor | ELR20J 220 Ω |
| R30 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R31 | 7010003360 | Resistor | ELR20J 470 Ω |
| R32 | 7010004070 | Resistor | R20J 100 Ω |
| R33 | 7010004370 | Resistor | R20J 22 kΩ |
| R34 | 7010003280 | Resistor | ELR20J 100 Ω |
| R37 | 7010003440 | Resistor | ELR20J 2.2 kΩ |
| R38 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R39 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R40 | 7010004190 | Resistor | R20J 1 kΩ |
| R41 | 7010004070 | Resistor | R20J 100 Ω |
| R42 | 7010003390 | Resistor | ELR20J 820 Ω |
| R43 | 7010003580 | Resistor | ELR20J 22 kΩ |
| R44 | 7010003490 | Resistor | ELR20J 5.6 kΩ |
| R45 | 7010003320 | Resistor | ELR20J 220 Ω |
| R46 | 7010003480 | Resistor | ELR20J 4.7 kΩ |
| R47 | 7010003280 | Resistor | ELR20J 100 Ω |
| R48 | 7010003280 | Resistor | ELR20J 100 Ω |
| R49 | 7010003280 | Resistor | ELR20J 100 Ω |
| R50 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R51 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R52 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R53 | 7010003320 | Resistor | ELR20J 220 Ω |
| R54 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R55 | 7010003320 | Resistor | ELR20J 220 Ω |
| R56 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R57 | 7010003320 | Resistor | ELR20J 220 Ω |
| R58 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R59 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R60 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R61 | 7010003440 | Resistor | ELR20J 2.2 kΩ |
| R62 | 7010003240 | Resistor | ELR20J 47 Ω |
| R63 | 7010003320 | Resistor | ELR20J 220 Ω |
| R64 | 7010004370 | Resistor | R20J 22 kΩ |
| R65 | 7010003360 | Resistor | ELR20J 470 Ω |
| R66 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R67 | 7010003280 | Resistor | ELR20J 100 Ω |
| R68 | 7010003280 | Resistor | ELR20J 100 Ω |
| R69 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R70 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R71 | 7010003320 | Resistor | ELR20J 220 Ω |
| R72 | 7410000080 | Resistor Array | RMX- 4 473K |
| R73 | 7010004190 | Resistor | R20J 1 kΩ |
| R74 | 7010004190 | Resistor | R20J 1 kΩ |
| R75 | 7010004190 | Resistor | R20J 1 kΩ |
| R76 | 7010004070 | Resistor | R20J 100 Ω |
| R77 | 7010004320 | Resistor | R20J 10 kΩ |
| R78 | 7010003320 | Resistor | ELR20J 220 Ω |
| R79 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R80 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R81 | 7010004230 | Resistor | R20J 2.2 kΩ |
| R82 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R83 | 7010004270 | Resistor | R20J 4.7 kΩ |
| R84 | 7010003360 | Resistor | ELR20J 470 Ω |
| R85 | 7010003240 | Resistor | ELR20J 47 Ω |
| R86 | 7010003240 | Resistor | ELR20J 47 Ω |
| R87 | 7010003420 | Resistor | ELR20J 1.5 kΩ |
| R88 | 7010003550 | Resistor | ELR20J 15 kΩ |
| R89 | 7010000050 | Resistor | ELR25J 2.2 Ω |
| R90 | 7010003480 | Resistor | ELR20J 4.7 kΩ |
| R91 | 7010003440 | Resistor | ELR20J 2.2 kΩ |
| R93 | 7010003620 | Resistor | ELR20J 47 kΩ |
| R94 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R95 | 7010001110 | Resistor | R25J 470 Ω |
| R96 | 7010003280 | Resistor | ELR20J 100 Ω |
| R97 | 7010003580 | Resistor | ELR20J 22 kΩ |
| R98 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R99 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R100 | 7010001030 | Resistor | R25J 100 Ω |
| R101 | 7010004370 | Resistor | R20J 22 kΩ |
| R102 | 7010004070 | Resistor | R20J 100 Ω |
| R103 | 7010003340 | Resistor | ELR20J 330 Ω |
| R104 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R105 | 7010004030 | Resistor | R20J 47 Ω |
| R106 | 7010003250 | Resistor | ELR20J 56 Ω |

[PLL UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|---------------|-------------------|
| R107 | 7010001030 | Resistor | R25J 100 Ω |
| R108 | 7010003280 | Resistor | ELR20J 100 Ω |
| R109 | 7010003580 | Resistor | ELR20J 22 kΩ |
| R110 | 7010003320 | Resistor | ELR20J 220 Ω |
| R111 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R112 | 7010003320 | Resistor | ELR20J 220 Ω |
| R113 | 7010003320 | Resistor | ELR20J 220 Ω |
| R114 | 7010003320 | Resistor | ELR20J 220 Ω |
| R116 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R117 | 7010003280 | Resistor | ELR20J 100 Ω |
| R118 | 7010004270 | Resistor | R20J 4.7 kΩ |
| R120 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R121 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R122 | 7010003360 | Resistor | ELR20J 470 Ω |
| R123 | 7010003280 | Resistor | ELR20J 100 Ω |
| R124 | 7010003300 | Resistor | ELR20J 150 Ω |
| R125 | 7010003260 | Resistor | ELR20J 68 Ω |
| R126 | 7010004150 | Resistor | R20J 470 Ω |
| R127 | 7010003480 | Resistor | ELR20J 4.7 kΩ |
| R128 | 7010003480 | Resistor | ELR20J 4.7 kΩ |
| R201 | 7010001230 | Resistor | R25J 4.7 kΩ |
| R202 | 7010003280 | Resistor | ELR20J 100 Ω |
| R203 | 7010003280 | Resistor | ELR20J 100 Ω |
| R204 | 7010003660 | Resistor | ELR20J 100 kΩ |
| R207 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R208 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R209 | 7010003340 | Resistor | ELR20J 330 Ω |
| R210 | 7010004110 | Resistor | R20J 220 Ω |
| R211 | 7010003320 | Resistor | ELR20J 220 Ω |
| R212 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R213 | 7010001030 | Resistor | R25J 100 Ω |
| R214 | 7010003580 | Resistor | ELR20J 22 kΩ |
| R215 | 7010003360 | Resistor | ELR20J 470 Ω |
| R216 | 7010003280 | Resistor | ELR20J 100 Ω |
| R217 | 7010003440 | Resistor | ELR20J 2.2 kΩ |
| R218 | 7010003280 | Resistor | ELR20J 100 Ω |
| R219 | 7010003480 | Resistor | ELR20J 4.7 kΩ |
| R220 | 7010003440 | Resistor | ELR20J 2.2 kΩ |
| R221 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R222 | 7010004070 | Resistor | R20J 100 Ω |
| R223 | 7010004190 | Resistor | R20J 1 kΩ |
| R224 | 7010003550 | Resistor | ELR20J 15 kΩ |
| R225 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R226 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R227 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R228 | 7010003530 | Resistor | ELR20J 10 kΩ |
| C1 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C2 | 4550000360 | Tantalum | DN 1V R47M |
| C3 | 4550000360 | Tantalum | DN 1V R47M |
| C4 | 4510001100 | Electrolytic | 16 MS7 10 μF |
| C5 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C6 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C7 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C8 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C9 | 4010000840 | Ceramic | DD105 CH 390J 50V |
| C10 | 4010000700 | Ceramic | DD104 CH 100D 50V |
| C11 | 4610001130 | Trimmer | CVSSA1001 |
| C12 | 4010000880 | Ceramic | DD106 CH 560J 50V |
| C13 | 4010000720 | Ceramic | DD104 CH 120J 50V |
| C14 | 4010000720 | Ceramic | DD104 CH 120J 50V |
| C15 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C16 | 4010000020 | Ceramic | DD104 SL 010C 50V |
| C17 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C18 | 4010000900 | Ceramic | DD107 CH 680J 50V |
| C19 | 4010000720 | Ceramic | DD104 CH 120J 50V |
| C20 | 4610001130 | Trimmer | CVSSA1001 |
| C21 | 4010000860 | Ceramic | DD106 CH 470J 50V |
| C22 | 4010000720 | Ceramic | DD104 CH 120J 50V |
| C23 | 4010000720 | Ceramic | DD104 CH 120J 50V |
| C24 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C25 | 4010000020 | Ceramic | DD104 SL 010C 50V |
| C26 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C27 | 4010000870 | Ceramic | DD106 CH 510J 50V |

[PLL UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|---------------|-------------------|
| C28 | 4010000680 | Ceramic | DD104 CH 080D 50V |
| C29 | 4610001000 | Trimmer | CVSSA0701 |
| C30 | 4010000860 | Ceramic | DD106 CH 470J 50V |
| C31 | 4010000720 | Ceramic | DD104 CH 120J 50V |
| C32 | 4010000680 | Ceramic | DD104 CH 080D 50V |
| C33 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C34 | 4010000020 | Ceramic | DD104 SL 010C 50V |
| C35 | 4010000850 | Ceramic | DD106 CH 430J 50V |
| C36 | 4010000650 | Ceramic | DD104 CH 050C 50V |
| C37 | 4610001000 | Trimmer | CVSSA0701 |
| C38 | 4010000820 | Ceramic | DD105 CH 330J 50V |
| C39 | 4010000720 | Ceramic | DD104 CH 120J 50V |
| C40 | 4010000650 | Ceramic | DD104 CH 050C 50V |
| C41 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C42 | 4010000020 | Ceramic | DD104 SL 010C 50V |
| C43 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C44 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C45 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C46 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C47 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C48 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C49 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C50 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C51 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C52 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C53 | 4010000180 | Ceramic | DD104 SL 220J 50V |
| C54 | 4010000150 | Ceramic | DD104 SL 150J 50V |
| C55 | 4010000260 | Ceramic | DD104 SL 470J 50V |
| C56 | 4010000070 | Ceramic | DD104 SL 050C 50V |
| C57 | 4010000210 | Ceramic | DD104 SL 300J 50V |
| C58 | 4010000280 | Ceramic | DD104 SL 560J 50V |
| C59 | 4010000360 | Ceramic | DD106 SL 181J 50V |
| C60 | 4010000280 | Ceramic | DD104 SL 560J 50V |
| C61 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C62 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C63 | 4510001100 | Electrolytic | 16 MS7 10 µF |
| C64 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C65 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C66 | 4010000310 | Ceramic | DD104 SL 750J 50V |
| C67 | 4010000220 | Ceramic | DD104 SL 330J 50V |
| C68 | 4010000340 | Ceramic | DD105 SL 121J 50V |
| C69 | 4010000160 | Ceramic | DD104 SL 180J 50V |
| C70 | 4010000350 | Ceramic | DD106 SL 151J 50V |
| C71 | 4010000080 | Ceramic | DD104 SL 060D 50V |
| C72 | 4010000330 | Ceramic | DD105 SL 101J 50V |
| C73 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C74 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C75 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C76 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C77 | 4010000240 | Ceramic | DD104 SL 390J 50V |
| C78 | 4010000230 | Ceramic | DD104 SL 360J 50V |
| C79 | 4010000320 | Ceramic | DD104 SL 820J 50V |
| C80 | 4010000160 | Ceramic | DD104 SL 180J 50V |
| C81 | 4010000330 | Ceramic | DD105 SL 101J 50V |
| C82 | 4010000080 | Ceramic | DD104 SL 060D 50V |
| C83 | 4010000290 | Ceramic | DD104 SL 620J 50V |
| C84 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C85 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C86 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C88 | 4010000270 | Ceramic | DD104 SL 510J 50V |
| C89 | 4010000180 | Ceramic | DD104 SL 220J 50V |
| C90 | 4010000280 | Ceramic | DD104 SL 560J 50V |
| C91 | 4010000140 | Ceramic | DD104 SL 120J 50V |
| C92 | 4010000230 | Ceramic | DD104 SL 360J 50V |
| C93 | 4010000320 | Ceramic | DD104 SL 820J 50V |
| C94 | 4040000450 | Barrier Layer | RAU 08SA 681K |
| C95 | 4010000270 | Ceramic | DD104 SL 510J 50V |
| C96 | 4010000380 | Ceramic | DD107 SL 221J 50V |
| C97 | 4010000330 | Ceramic | DD105 SL 101J 50V |
| C100 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C101 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C104 | 4010000240 | Ceramic | DD104 SL 390J 50V |
| C105 | 4010000160 | Ceramic | DD104 SL 180J 50V |
| C106 | 4010000250 | Ceramic | DD104 SL 430J 50V |
| C107 | 4010000120 | Ceramic | DD104 SL 100D 50V |

[PLL UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|---------------|-------------------|
| C108 | 4010000200 | Ceramic | DD104 SL 270J 50V |
| C109 | 4010000310 | Ceramic | DD104 SL 750J 50V |
| C110 | 4010000350 | Ceramic | DD106 SL 151J 50V |
| C111 | 4010000240 | Ceramic | DD104 SL 390J 50V |
| C112 | 4010000430 | Ceramic | DD109 SL 471J 50V |
| C113 | 4010000290 | Ceramic | DD104 SL 620J 50V |
| C116 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C117 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C118 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C119 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C120 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C121 | 4040000150 | Barrier Layer | UAT 05X 472K |
| C122 | 4510001100 | Electrolytic | 16 MS7 10 µF |
| C123 | 4510001100 | Electrolytic | 16 MS7 10 µF |
| C124 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C125 | 4010000260 | Ceramic | DD104 SL 470J 50V |
| C126 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C127 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C128 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C129 | 4010000100 | Ceramic | DD104 SL 080D 50V |
| C130 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C131 | 4010000260 | Ceramic | DD104 SL 470J 50V |
| C132 | 4510001100 | Electrolytic | 16 MS7 10 µF |
| C133 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C134 | 4040000150 | Barrier Layer | UAT 05X 472K |
| C135 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C136 | 4010000120 | Ceramic | DD104 SL 100D 50V |
| C137 | 4510002810 | Electrolytic | 16 SS 47 µF |
| C138 | 4010000920 | Ceramic | DD107 CH 820J 50V |
| C139 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C140 | 4010000920 | Ceramic | DD107 CH 820J 50V |
| C141 | 4510001100 | Electrolytic | 16 MS7 10 µF |
| C142 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C143 | 4010000260 | Ceramic | DD104 SL 470J 50V |
| C144 | 4550000340 | Tantalum | DN 1C 100M |
| C145 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C146 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C147 | 4010000120 | Ceramic | DD104 SL 100D 50V |
| C148 | 4510001100 | Electrolytic | 16 MS7 10 µF |
| C149 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C150 | 4010000330 | Ceramic | DD105 SL 101J 50V |
| C151 | 4010000330 | Ceramic | DD105 SL 101J 50V |
| C152 | 4010000120 | Ceramic | DD104 SL 100D 50V |
| C153 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C154 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C155 | 4010000100 | Ceramic | DD104 SL 080D 50V |
| C156 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C157 | 4010000020 | Ceramic | DD104 SL 010C 50V |
| C158 | 4010000100 | Ceramic | DD104 SL 080D 50V |
| C159 | 4010000330 | Ceramic | DD105 SL 101J 50V |
| C160 | 4010000260 | Ceramic | DD104 SL 470J 50V |
| C161 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C162 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C163 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C164 | 4010000120 | Ceramic | DD104 SL 100D 50V |
| C165 | 4010000020 | Ceramic | DD104 SL 010C 50V |
| C166 | 4010000120 | Ceramic | DD104 SL 100D 50V |
| C167 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C168 | 4010000330 | Ceramic | DD105 SL 101J 50V |
| C169 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C170 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C171 | 4010000100 | Ceramic | DD104 SL 080D 50V |
| C172 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C173 | 4010000020 | Ceramic | DD104 SL 010C 50V |
| C174 | 4010000120 | Ceramic | DD104 SL 100D 50V |
| C175 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C176 | 4040000150 | Barrier Layer | UAT 05X 472K |
| C177 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C178 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C179 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C180 | 4510002810 | Electrolytic | 16 SS 47 µF |
| C181 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C182 | 4510002810 | Electrolytic | 16 SS 47 µF |
| C183 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C184 | 4510002810 | Electrolytic | 16 SS 47 µF |

[PLL UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|---------------|--------------------|
| C185 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C186 | 4510002810 | Electrolytic | 16 SS 47 μ F |
| C187 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C188 | 4510003040 | Electrolytic | 16 SS 100 μ F |
| C189 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C190 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C191 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C192 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C193 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C194 | 4550000340 | Tantalum | DN 1C 100M |
| C195 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C197 | 4510001970 | Electrolytic | 50 MS7 0R1 μ F |
| C201 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C202 | 4010000780 | Ceramic | DD104 CH 220J 50V |
| C203 | 4010000890 | Ceramic | DD106 CH 620J 50V |
| C204 | 4010000900 | Ceramic | DD107 CH 680J 50V |
| C205 | 4010000740 | Ceramic | DD104 CH 150J 50V |
| C206 | 4010000720 | Ceramic | DD104 CH 120J 50V |
| C207 | 4510001100 | Electrolytic | 16 MS7 10 μ F |
| C209 | 4010000020 | Ceramic | DD104 SL 010C 50V |
| C210 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C211 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C212 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C213 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C214 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C215 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C216 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C217 | 4010000380 | Ceramic | DD107 SL 221J 50V |
| C218 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C219 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C220 | 4040000150 | Barrier Layer | UAT 05X 472K |
| C221 | 4510001100 | Electrolytic | 16 MS7 10 μ F |
| C222 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C223 | 4040000150 | Barrier Layer | UAT 05X 472K |
| C224 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C225 | 4550000350 | Tantalum | DN 1V 010M |
| C226 | 4610000780 | Trimmer | CV38D 2001 |
| EP1 | 0910021363 | P.C. Board | B 2016C (PLL) |
| EP2 | 6910000630 | Bead core | FSOH070RN |
| EP3 | 6910000630 | Bead core | FSOH070RN |

[LOGIC UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|-----------------|
| IC1 | 1140001220 | IC | HD64180R1P6 |
| IC2 | 1140000940 | IC | TMP82C255AN-2-Z |
| IC3 | 1140000940 | IC | TMP82C255AN-2-Z |
| IC4 | 1130003771 | IC | HM6264ALP15SL |
| IC5 | 1130004310 | IC | SC1112 |
| IC6 | 1130003530 | IC | μ PD74HC42C |
| IC7 | 1130000770 | IC | μ PD4028BC |
| IC8 | 1130001030 | IC | μ PD4528BC |
| IC9 | 1130002060 | IC | μ PD4024BC |
| IC10 | 1130002060 | IC | μ PD4024BC |
| IC11 | 1130000620 | IC | μ PD4011BC |
| IC12 | 1130000620 | IC | μ PD4011BC |
| IC13 | 1130000620 | IC | μ PD4011BC |
| IC14 | 1130000600 | IC | μ PD4001BC |
| IC15 | 1130000620 | IC | μ PD4011BC |
| IC16 | 1130000670 | IC | μ PD4071BC |
| IC17 | 1130000600 | IC | μ PD4001BC |
| IC18 | 1130003620 | IC | μ PD74HC32C |
| IC19 | 1130003720 | IC | μ PD74HC00C |
| IC20 | 1130000620 | IC | μ PD4011BC |
| IC21 | 1110001680 | IC | S-8054ALB |
| IC22 | 1180000270 | IC | NJM78M05A |
| IC23 | 1160000010 | IC | DAN401 |

[LOGIC UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|-----------------------|
| IC24 | 1160000010 | IC | DAN401 |
| Q1 | 1530000110 | Transistor | 2SC2458-GR |
| Q2 | 1510000080 | Transistor | 2SA1048-GR |
| Q3 | 1590000350 | Transistor | RN1204 |
| Q4 | 1530000110 | Transistor | 2SC2458-GR |
| Q5 | 1530000110 | Transistor | 2SC2458-GR |
| Q6 | 1530000110 | Transistor | 2SC2458-GR |
| Q7 | 1590000350 | Transistor | RN1204 |
| Q8 | 1590000350 | Transistor | RN1204 |
| D1 | 1710000050 | Diode | 1SS53 |
| D2 | 1710000160 | Diode | 1SS133 |
| D3 | 1710000160 | Diode | 1SS133 |
| D4 | 1710000160 | Diode | 1SS133 |
| D5 | 1710000160 | Diode | 1SS133 |
| D6 | 1710000160 | Diode | 1SS133 |
| D7 | 1710000160 | Diode | 1SS133 |
| D8 | 1710000160 | Diode | 1SS133 |
| D9 | 1710000160 | Diode | 1SS133 |
| X1 | 6050005760 | Crystal | CR-276 |
| L1 | 6910000670 | Coil | BT01RN1-A61-001 |
| L2 | 6910000670 | Coil | BT01RN1-A61-001 |
| L3 | 6180000990 | Coil | LAL 04NA 101K |
| L4 | 6180000990 | Coil | LAL 03NA 101K |
| R1 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R2 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R3 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R4 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R5 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R6 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R7 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R8 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R9 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R10 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R11 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R12 | 7010003360 | Resistor | ELR20J 470 Ω |
| R13 | 7010003360 | Resistor | ELR20J 470 Ω |
| R14 | 7010003360 | Resistor | ELR20J 470 Ω |
| R15 | 7010003360 | Resistor | ELR20J 470 Ω |
| R16 | 7010003360 | Resistor | ELR20J 470 Ω |
| R17 | 7010003360 | Resistor | ELR20J 470 Ω |
| R18 | 7010003360 | Resistor | ELR20J 470 Ω |
| R19 | 7010003360 | Resistor | ELR20J 470 Ω |
| R20 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R21 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R22 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R23 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R24 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R26 | 7010003620 | Resistor | ELR20J 47 k Ω |
| R27 | 7010004190 | Resistor | R20J 1 k Ω |
| R28 | 7010003620 | Resistor | ELR20J 47 k Ω |
| R29 | 7010003530 | Resistor | ELR20J 10 k Ω |
| R30 | 7010003480 | Resistor | ELR20J 4.7 k Ω |
| R31 | 7010003530 | Resistor | ELR20J 10 k Ω |
| R32 | 7010003530 | Resistor | ELR20J 10 k Ω |
| R33 | 7010004320 | Resistor | R20J 10 k Ω |
| R34 | 7010003620 | Resistor | ELR20J 47 k Ω |
| R35 | 7010003620 | Resistor | ELR20J 47 k Ω |
| R36 | 7010003660 | Resistor | ELR20J 100 k Ω |
| R37 | 7010004320 | Resistor | R20J 10 k Ω |
| R38 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R39 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R40 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R41 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R42 | 7010003400 | Resistor | ELR20J 1 k Ω |
| R43 | 7010003400 | Resistor | ELR20J 1 k Ω |

[LOGIC UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION |
|----------|------------|------------------------------|
| R44 | 7010003400 | Resistor ELR20J 1 kΩ |
| R45 | 7010003400 | Resistor ELR20J 1 kΩ |
| R46 | 7010003400 | Resistor ELR20J 1 kΩ |
| R47 | 7010003400 | Resistor ELR20J 1 kΩ |
| R48 | 7010003400 | Resistor ELR20J 1 kΩ |
| R49 | 7010003400 | Resistor ELR20J 1 kΩ |
| R50 | 7010003400 | Resistor ELR20J 1 kΩ |
| R51 | 7010003400 | Resistor ELR20J 1 kΩ |
| R52 | 7010003400 | Resistor ELR20J 1 kΩ |
| R53 | 7010003400 | Resistor ELR20J 1 kΩ |
| R54 | 7010003400 | Resistor ELR20J 1 kΩ |
| R55 | 7010003400 | Resistor ELR20J 1 kΩ |
| R56 | 7010003400 | Resistor ELR20J 1 kΩ |
| R57 | 7010003400 | Resistor ELR20J 1 kΩ |
| R58 | 7010003400 | Resistor ELR20J 1 kΩ |
| R59 | 7010003400 | Resistor ELR20J 1 kΩ |
| R60 | 7010003400 | Resistor ELR20J 1 kΩ |
| R61 | 7010003400 | Resistor ELR20J 1 kΩ |
| R62 | 7010003400 | Resistor ELR20J 1 kΩ |
| R63 | 7010003760 | Resistor ELR20J 680 kΩ |
| R64 | 7010003620 | Resistor ELR20J 47 kΩ |
| R65 | 7010003400 | Resistor ELR20J 1 kΩ |
| R66 | 7010003400 | Resistor ELR20J 1 kΩ |
| R67 | 7010003400 | Resistor ELR20J 1 kΩ |
| R68 | 7010003400 | Resistor ELR20J 1 kΩ |
| R69 | 7010003400 | Resistor ELR20J 1 kΩ |
| R70 | 7010003400 | Resistor ELR20J 1 kΩ |
| R71 | 7010003400 | Resistor ELR20J 1 kΩ |
| R72 | 7410000080 | Resistor Array RMX- 4 473K |
| R73 | 7010003620 | Resistor ELR20J 47 kΩ |
| R74 | 7010003620 | Resistor ELR20J 47 kΩ |
| R75 | 7010003620 | Resistor ELR20J 47 kΩ |
| R76 | 7410000150 | Resistor Array RMX- 6 473K |
| R77 | 7010003620 | Resistor ELR20J 47 kΩ |
| R78 | 7010003620 | Resistor ELR20J 47 kΩ |
| R79 | 7010003620 | Resistor ELR20J 47 kΩ |
| R80 | 7010004610 | Resistor R20J 3.3 MΩ |
| R81 | 7010003310 | Resistor ELR20J 180 Ω |
| R82 | 7010003310 | Resistor ELR20J 180 Ω |
| R83 | 7010003400 | Resistor ELR20J 1 kΩ |
| R84 | 7010003400 | Resistor ELR20J 1 kΩ |
| R85 | 7010003400 | Resistor ELR20J 1 kΩ |
| R86 | 7010004190 | Resistor R20J 1 kΩ |
| R87 | 7010003400 | Resistor ELR20J 1 kΩ |
| R88 | 7010003400 | Resistor ELR20J 1 kΩ |
| R89 | 7010004190 | Resistor R20J 1 kΩ |
| R90 | 7010003400 | Resistor ELR20J 1 kΩ |
| R91 | 7010003400 | Resistor ELR20J 1 kΩ |
| R92 | 7010003400 | Resistor ELR20J 1 kΩ |
| R93 | 7010003400 | Resistor ELR20J 1 kΩ |
| R94 | 7010003480 | Resistor ELR20J 4.7 kΩ |
| R95 | 7010003610 | Resistor ELR20J 39 kΩ |
| R96 | 7410000220 | Resistor Array RMX- 8 473K |
| R97 | 7010003620 | Resistor ELR20J 47 kΩ |
| R98 | 7010003620 | Resistor ELR20J 47 kΩ |
| R99 | 7010003360 | Resistor ELR20J 470 Ω |
| R100 | 7010003360 | Resistor ELR20J 470 Ω |
| R101 | 7010003360 | Resistor ELR20J 470 Ω |
| R102 | 7010003360 | Resistor ELR20J 470 Ω |
| C1 | 4530000250 | Capacitor Array B8XC0112-32N |
| C2 | 4530000050 | Capacitor Array B5RC0126-32N |
| C3 | 4530000250 | Capacitor Array B8XC0112-32N |
| C4 | 4530000050 | Capacitor Array B5RC0126-32N |
| C5 | 4010000520 | Ceramic DD108 B 472K 50V |
| C6 | 4010000520 | Ceramic DD108 B 472K 50V |
| C7 | 4040000260 | Barrier Layer UZE 08X 104M |
| C8 | 4010000260 | Ceramic DD104 SL 470J 50V |
| C9 | 4040000260 | Barrier Layer UZE 08X 104M |
| C10 | 4010000520 | Ceramic DD108 B 472K 50V |
| C11 | 4010000520 | Ceramic DD108 B 472K 50V |
| C12 | 4010000520 | Ceramic DD108 B 472K 50V |
| C13 | 4010000170 | Ceramic DD104 SL 200J 50V |
| C14 | 4010000170 | Ceramic DD104 SL 200J 50V |

[LOGIC UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION |
|----------|------------|------------------------------|
| C15 | 4040000260 | Barrier Layer UZE 08X 104M |
| C16 | 4040000260 | Barrier Layer UZE 08X 104M |
| C17 | 4040000260 | Barrier Layer UZE 08X 104M |
| C18 | 4530000250 | Capacitor Array B8XC0112-32N |
| C19 | 4040000260 | Barrier Layer UZE 08X 104M |
| C20 | 4040000260 | Barrier Layer UZE 08X 104M |
| C21 | 4010000520 | Ceramic DD108 B 472K 50V |
| C22 | 4010000520 | Ceramic DD108 B 472K 50V |
| C23 | 4010000520 | Ceramic DD108 B 472K 50V |
| C24 | 4040000260 | Barrier Layer UZE 08X 104M |
| C25 | 4510002720 | Electrolytic 10 SS 47 μF |
| C26 | 4510002640 | Electrolytic 25 SS 47 μF |
| C27 | 4040000260 | Barrier Layer UZE 08X 104M |
| C28 | 4040000260 | Barrier Layer UZE 08X 104M |
| C29 | 4040000260 | Barrier Layer UZE 08X 104M |
| C30 | 4040000260 | Barrier Layer UZE 08X 104M |
| C31 | 4530000030 | Capacitor Array B5RC0124-32N |
| C32 | 4010000520 | Ceramic DD108 B 472K 50V |
| C33 | 4040000260 | Barrier Layer UZE 08X 104M |
| C34 | 4040000260 | Barrier Layer UZE 08X 104M |
| C35 | 4010000520 | Ceramic DD108 B 472K 50V |
| C36 | 4040000260 | Barrier Layer UZE 08X 104M |
| C37 | 4040000260 | Barrier Layer UZE 08X 104M |
| C38 | 4530000250 | Capacitor Array B8XC0112-32N |
| C39 | 4040000260 | Barrier Layer UZE 08X 104M |
| C40 | 4040000260 | Barrier Layer UZE 08X 104M |
| C41 | 4040000260 | Barrier Layer UZE 08X 104M |
| C42 | 4040000260 | Barrier Layer UZE 08X 104M |
| C43 | 4040000260 | Barrier Layer UZE 08X 104M |
| C44 | 4040000260 | Barrier Layer UZE 08X 104M |
| C45 | 4040000260 | Barrier Layer UZE 08X 104M |
| C46 | 4010000500 | Ceramic DD104 B 102K 50V |
| C47 | 4010000500 | Ceramic DD104 B 102K 50V |
| C48 | 4010000500 | Ceramic DD104 B 102K 50V |
| C49 | 4010000500 | Ceramic DD104 B 102K 50V |
| C50 | 4010000500 | Ceramic DD104 B 102K 50V |
| C51 | 4010000500 | Ceramic DD104 B 102K 50V |
| C52 | 4010000500 | Ceramic DD104 B 102K 50V |
| C53 | 4010000500 | Ceramic DD104 B 102K 50V |
| C54 | 4040000260 | Barrier Layer UZE 08X 104M |
| C55 | 4510002930 | Electrolytic 50 SS R47 μF |
| C56 | 4010000330 | Ceramic DD105 SL 101J 50V |
| C57 | 4310000120 | Mylar F2D 50V 473K |
| C58 | 4040000260 | Barrier Layer UZE 08X 104M |
| C59 | 4010000330 | Ceramic DD105 SL 101J 50V |
| C60 | 4530000270 | Capacitor Array B8XC0114-32N |
| C61 | 4310000040 | Mylar F2D 50V 154K |
| C62 | 4040000260 | Barrier Layer UZE 08X 104M |
| C63 | 4010000520 | Ceramic DD108 B 472K 50V |
| C64 | 4010000330 | Ceramic DD105 SL 101J 50V |
| C65 | 4010000330 | Ceramic DD105 SL 101J 50V |
| C66 | 4010000330 | Ceramic DD105 SL 101J 50V |
| C67 | 4020000270 | Cylinder EP125 Y 223N |
| C68 | 4510003040 | Electrolytic 16 SS 100 μF |
| SO1 | 2610000200 | Socket ICC05-028 360T |
| BT1 | 3020000020 | Lithium Battery BR2032-1T2 |
| EP1 | 0910020533 | P.C. Board B 1994C (LOGIC) |
| EP2 | 6910000630 | Bead core FSOH070RN |

[RF UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|-----------|
| IC1 | 1110000290 | IC | BA618 |
| IC2 | 1110000290 | IC | BA618 |
| Q1 | 1530000440 | Transistor | 2SC945 P |
| Q2 | 1530000810 | Transistor | 2SC2053 |
| Q3 | 1510000070 | Transistor | 2SA1048-Y |
| Q5 | 1530000180 | Transistor | 2SC2878-B |
| Q6 | 1560000130 | FET | 2SK125 |
| Q7 | 1560000130 | FET | 2SK125 |
| Q8 | 1580000110 | FET | 3SK74 M |
| Q9 | 1560000130 | FET | 2SK125 |
| Q10 | 1560000130 | FET | 2SK125 |
| Q11 | 1580000110 | FET | 3SK74 M |
| Q12 | 1580000100 | FET | 3SK74 K |
| Q13 | 1580000100 | FET | 3SK74 K |
| Q14 | 1530000810 | Transistor | 2SC2053 |
| Q15 | 1530000180 | Transistor | 2SC2878-B |
| Q16 | 1590000340 | Transistor | RN1202 |
| Q17 | 1530000440 | Transistor | 2SC945 P |
| Q18 | 1590000340 | Transistor | RN1202 |
| Q19 | 1590000340 | Transistor | RN1202 |
| Q20 | 1540000070 | Transistor | 2SD468C |
| Q21 | 1590000350 | Transistor | RN1204 |
| D1 | 1710000040 | Diode | 1S953 |
| D2 | 1710000040 | Diode | 1S953 |
| D3 | 1710000050 | Diode | 1SS53 |
| D4 | 1710000050 | Diode | 1SS53 |
| D5 | 1710000350 | Diode | 1N4002 |
| D6 | 1710000350 | Diode | 1N4002 |
| D7 | 1710000050 | Diode | 1SS53 |
| D9 | 1710000050 | Diode | 1SS53 |
| D10 | 1710000270 | Diode | MI204 |
| D11 | 1710000270 | Diode | MI204 |
| D12 | 1710000050 | Diode | 1SS53 |
| D13 | 1710000050 | Diode | 1SS53 |
| D14 | 1710000050 | Diode | 1SS53 |
| D15 | 1710000050 | Diode | 1SS53 |
| D16 | 1710000580 | Diode | 1SS265 |
| D17 | 1710000050 | Diode | 1SS53 |
| D18 | 1710000050 | Diode | 1SS53 |
| D19 | 1710000050 | Diode | 1SS53 |
| D20 | 1710000050 | Diode | 1SS53 |
| D21 | 1710000050 | Diode | 1SS53 |
| D22 | 1710000050 | Diode | 1SS53 |
| D23 | 1710000050 | Diode | 1SS53 |
| D24 | 1710000050 | Diode | 1SS53 |
| D25 | 1710000050 | Diode | 1SS53 |
| D26 | 1710000050 | Diode | 1SS53 |
| D27 | 1710000050 | Diode | 1SS53 |
| D28 | 1710000050 | Diode | 1SS53 |
| D29 | 1710000050 | Diode | 1SS53 |
| D30 | 1710000050 | Diode | 1SS53 |
| D31 | 1710000050 | Diode | 1SS53 |
| D32 | 1710000050 | Diode | 1SS53 |
| D33 | 1710000050 | Diode | 1SS53 |
| D34 | 1710000050 | Diode | 1SS53 |
| D35 | 1710000050 | Diode | 1SS53 |
| D36 | 1710000050 | Diode | 1SS53 |
| D37 | 1710000050 | Diode | 1SS53 |
| D38 | 1710000050 | Diode | 1SS53 |
| D39 | 1710000050 | Diode | 1SS53 |
| D40 | 1710000050 | Diode | 1SS53 |
| D41 | 1710000270 | Diode | MI204 |
| D42 | 1710000270 | Diode | MI204 |
| D43 | 1710000270 | Diode | MI204 |
| D44 | 1710000270 | Diode | MI204 |
| D45 | 1710000050 | Diode | 1SS53 |
| D46 | 1710000060 | Diode | 1SS55 |
| D47 | 1710000270 | Diode | MI204 |
| D48 | 1710000050 | Diode | 1SS53 |
| D49 | 1710000050 | Diode | 1SS53 |
| D50 | 1710000050 | Diode | 1SS53 |

[RF UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|-----------------|
| D51 | 1730000210 | Zener | RD9.1E B3 |
| D52 | 1710000050 | Diode | 1SS53 |
| D53 | 1710000050 | Diode | 1SS53 |
| D54 | 1710000050 | Diode | 1SS53 |
| FI1 | 2010001010 | Monolithic | 69M15B (FL-120) |
| L1 | 6180000990 | Coil | LAL 04NA 101K |
| L2 | 6180000990 | Coil | LAL 04NA 101K |
| L3 | 6180000990 | Coil | LAL 04NA 101K |
| L4 | 6180001000 | Coil | LAL 04NA 102K |
| L5 | 6180001000 | Coil | LAL 04NA 102K |
| L6 | 6180001140 | Coil | FL 5H 102K |
| L7 | 6180001140 | Coil | FL 5H 102K |
| L8 | 6180000990 | Coil | LAL 04NA 101K |
| L9 | 6180000990 | Coil | LAL 04NA 101K |
| L10 | 6180000990 | Coil | LAL 04NA 101K |
| L11 | 6180000990 | Coil | LAL 04NA 101K |
| L12 | 6180000030 | Coil | LB4-R15J |
| L13 | 6180000100 | Coil | LB4-R50J |
| L14 | 6180001120 | Coil | FL 5H 101K |
| L15 | 6140001260 | Coil | LR-151 |
| L16 | 6140001460 | Coil | LR-170 |
| L17 | 6150003400 | Coil | LS-365 |
| L18 | 6150002430 | Coil | LS-254 |
| L19 | 6150002430 | Coil | LS-254 |
| L20 | 6150002430 | Coil | LS-254 |
| L21 | 6150001770 | Coil | LS-198 |
| L22 | 6140001500 | Coil | LR-171 |
| L23 | 6110001790 | Coil | LA-268 |
| L24 | 6110001720 | Coil | LA-258 |
| L25 | 6180001450 | Coil | RFC S4 102K |
| L29 | 6110000670 | Coil | LA-96 |
| L30 | 6130000690 | Coil | LB-86A |
| L31 | 6150000990 | Coil | LS-114 |
| L32 | 6150000990 | Coil | LS-114 |
| L33 | 6150001770 | Coil | LS-198 |
| L34 | 6140000540 | Coil | LR-75A |
| L35 | 6180001140 | Coil | FL 5H 102K |
| L36 | 6180001000 | Coil | LAL 04NA 102K |
| L37 | 6180001140 | Coil | FL 5H 102K |
| L38 | 6180001140 | Coil | FL 5H 102K |
| L39 | 6180001140 | Coil | FL 5H 102K |
| L40 | 6180001140 | Coil | FL 5H 102K |
| L41 | 6140001060 | Coil | LR-130 |
| L42 | 6140001050 | Coil | LR-129 |
| L43 | 6180001140 | Coil | FL 5H 102K |
| L44 | 6180000060 | Coil | LB4-R34J |
| L45 | 6180000070 | Coil | LB4-R36J |
| L46 | 6180000050 | Coil | LB4-R30J |
| L47 | 6180000070 | Coil | LB4-R36J |
| L48 | 6180001120 | Coil | FL 5H 101K |
| L49 | 6180000090 | Coil | LB4-R45J |
| L50 | 6180000100 | Coil | LB4-R50J |
| L51 | 6180000100 | Coil | LB4-R50J |
| L52 | 6180000110 | Coil | LB4-R54J |
| L53 | 6180001120 | Coil | FL 5H 101K |
| L54 | 6180000110 | Coil | LB4-R54J |
| L55 | 6180000120 | Coil | LB4-R65J |
| L56 | 6180000120 | Coil | LB4-R65J |
| L57 | 6180000140 | Coil | LB4-R83J |
| L58 | 6180001120 | Coil | FL 5H 101K |
| L59 | 6180000130 | Coil | LB4-R70J |
| L60 | 6180000140 | Coil | LB4-R83J |
| L61 | 6180002000 | Coil | EL0606SKI-1R0K |
| L62 | 6180002000 | Coil | EL0606SKI-1R0K |
| L63 | 6180001120 | Coil | FL 5H 101K |
| L64 | 6180002000 | Coil | EL0606SKI-1R0K |
| L65 | 6180002010 | Coil | EL0606SKI-1R2K |
| L66 | 6180002010 | Coil | EL0606SKI-1R2K |
| L67 | 6180002010 | Coil | EL0606SKI-1R2K |
| L68 | 6180001120 | Coil | FL 5H 101K |
| L69 | 6180002020 | Coil | EL0606SKI-1R5K |

[RF UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|----------------|---------------------|
| L70 | 6180002020 | Coil | EL0606SKI-1R5K |
| L71 | 6180002030 | Coil | EL0606SKI-1R8K |
| L72 | 6180002030 | Coil | EL0606SKI-1R8K |
| L73 | 6180001120 | Coil | FL 5H 101K |
| L74 | 6180002030 | Coil | EL0606SKI-1R8K |
| L75 | 6180002030 | Coil | EL0606SKI-1R8K |
| L76 | 6180002040 | Coil | EL0606SKI-2R2K |
| L77 | 6180002050 | Coil | EL0606SKI-2R7K |
| L78 | 6180001120 | Coil | FL 5H 101K |
| L79 | 6180002050 | Coil | EL0606SKI-2R7K |
| L80 | 6180002060 | Coil | EL0606SKI-3R3K |
| L81 | 6180002060 | Coil | EL0606SKI-3R3K |
| L82 | 6180000210 | Coil | LB4-4R3J |
| L83 | 6180001140 | Coil | FL 5H 102K |
| L84 | 6180000190 | Coil | LB4-3R6J |
| L85 | 6180000210 | Coil | LB4-4R3J |
| L86 | 6180000220 | Coil | LB4-5R1J |
| L87 | 6180000240 | Coil | LB4-6R2J |
| L88 | 6180001140 | Coil | FL 5H 102K |
| L89 | 6180001140 | Coil | FL 5H 102K |
| L90 | 6180000240 | Coil | LB4-6R2J |
| L91 | 6180000220 | Coil | LB4-5R1J |
| L92 | 6180001140 | Coil | FL 5H 102K |
| L93 | 6180001810 | Coil | FL 5H 220K |
| L94 | 6180001810 | Coil | FL 5H 220K |
| L95 | 6180001450 | Coil | RFC S4 102K |
| L96 | 6140000080 | Coil | LR-20 |
| L97 | 6180001140 | Coil | FL 5H 102K |
| L98 | 6180001120 | Coil | FL 5H 101K |
| L99 | 6180001140 | Coil | FL 5H 102K |
| L100 | 6180001140 | Coil | FL 5H 102K |
| L101 | 6180000850 | Coil | LAL 03NA 4R7K |
| L102 | 6180002060 | Coil | EL0606SKI-3R3K |
| L103 | 6180001450 | Coil | RFC S4 102K |
| L104 | 6910000670 | Coil | BT01RN1-A61-001 |
| L105 | 6910000670 | Coil | BT01RN1-A61-001 |
| L106 | 6180000880 | Coil | LAL 03NA 100K |
| L107 | 6180000880 | Coil | LAL 03NA 100K |
| R1 | 7010003870 | Resistor | R20J 2.2 Ω |
| R2 | 7010004320 | Resistor | R20J 10 kΩ |
| R3 | 7010000500 | Resistor | ELR25J 10 kΩ |
| R4 | 7010000500 | Resistor | ELR25J 10 kΩ |
| R5 | 7010000500 | Resistor | ELR25J 10 kΩ |
| R6 | 7010000500 | Resistor | ELR25J 10 kΩ |
| R7 | 7010000500 | Resistor | ELR25J 10 kΩ |
| R8 | 7010001280 | Resistor | R25J 10 kΩ |
| R9 | 7010000570 | Resistor | ELR25J 33 kΩ |
| R10 | 7010000570 | Resistor | ELR25J 33 kΩ |
| R11 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R12 | 7010001280 | Resistor | R25J 10 kΩ |
| R13 | 7010003080 | Resistor | ELR20J 2.2 Ω |
| R14 | 7410000110 | Resistor Array | RMX- 6 103K |
| R15 | 7010000330 | Resistor | ELR25J 470 Ω |
| R16 | 7010000350 | Resistor | ELR25J 680 Ω |
| R17 | 7010000490 | Resistor | ELR25J 8.2 kΩ |
| R18 | 7010000340 | Resistor | ELR25J 560 Ω |
| R19 | 7010000250 | Resistor | ELR25J 100 Ω |
| R20 | 7010000370 | Resistor | ELR25J 1 kΩ |
| R21 | 7010000190 | Resistor | ELR25J 33 Ω |
| R22 | 7010000290 | Resistor | ELR25J 220 Ω |
| R23 | 7010000250 | Resistor | ELR25J 100 Ω |
| R24 | 7310000720 | Trimmer | RH0651CJ3J0CA (222) |
| R25 | 7010000310 | Resistor | ELR25J 330 Ω |
| R26 | 7010000550 | Resistor | ELR25J 22 kΩ |
| R27 | 7010000210 | Resistor | ELR25J 47 Ω |
| R28 | 7010000210 | Resistor | ELR25J 47 Ω |
| R29 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R30 | 7010000250 | Resistor | ELR25J 100 Ω |
| R31 | 7010000320 | Resistor | ELR25J 390 Ω |
| R32 | 7010000210 | Resistor | ELR25J 47 Ω |
| R33 | 7010000250 | Resistor | ELR25J 100 Ω |
| R34 | 7010000580 | Resistor | ELR25J 39 kΩ |
| R35 | 7010000290 | Resistor | ELR25J 220 Ω |

[RF UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|---------------|
| R36 | 7010000410 | Resistor | ELR25J 2.2 kΩ |
| R37 | 7010000170 | Resistor | ELR25J 22 Ω |
| R38 | 7010000170 | Resistor | ELR25J 22 Ω |
| R39 | 7010001030 | Resistor | R25J 100 Ω |
| R40 | 7010000250 | Resistor | ELR25J 100 Ω |
| R41 | 7010003340 | Resistor | ELR20J 330 Ω |
| R42 | 7010004260 | Resistor | R20J 3.9 kΩ |
| R43 | 7010003250 | Resistor | ELR20J 56 Ω |
| R44 | 7010000710 | Resistor | ELR25J 470 kΩ |
| R45 | 7010000990 | Resistor | R25J 47 Ω |
| R46 | 7010004160 | Resistor | R20J 560 Ω |
| R47 | 7010004160 | Resistor | R20J 560 Ω |
| R48 | 7010001070 | Resistor | R25J 220 Ω |
| R49 | 7010003300 | Resistor | ELR20J 150 Ω |
| R53 | 7010000410 | Resistor | ELR25J 2.2 kΩ |
| R54 | 7010003280 | Resistor | ELR20J 100 Ω |
| R55 | 7010000630 | Resistor | ELR25J 100 kΩ |
| R56 | 7010000500 | Resistor | ELR25J 10 kΩ |
| R57 | 7010000360 | Resistor | ELR25J 820 Ω |
| R58 | 7010000250 | Resistor | ELR25J 100 Ω |
| R59 | 7010004210 | Resistor | R20J 1.5 kΩ |
| R60 | 7010000250 | Resistor | ELR25J 100 Ω |
| R61 | 7010000270 | Resistor | ELR25J 150 Ω |
| R62 | 7010000500 | Resistor | ELR25J 10 kΩ |
| R63 | 7010004940 | Resistor | ELR25J 68 Ω |
| R64 | 7010004940 | Resistor | ELR25J 68 Ω |
| R65 | 7010000210 | Resistor | ELR25J 47 Ω |
| R66 | 7010000250 | Resistor | ELR25J 100 Ω |
| R67 | 7010003280 | Resistor | ELR20J 100 Ω |
| R68 | 7010004070 | Resistor | R20J 100 Ω |
| R69 | 7010001030 | Resistor | R25J 100 Ω |
| R70 | 7010001030 | Resistor | R25J 100 Ω |
| R71 | 7010001030 | Resistor | R25J 100 Ω |
| R72 | 7010001030 | Resistor | R25J 100 Ω |
| R73 | 7010001030 | Resistor | R25J 100 Ω |
| R74 | 7010001030 | Resistor | R25J 100 Ω |
| R75 | 7010001030 | Resistor | R25J 100 Ω |
| R76 | 7010001030 | Resistor | R25J 100 Ω |
| R77 | 7010001030 | Resistor | R25J 100 Ω |
| R78 | 7010001030 | Resistor | R25J 100 Ω |
| R79 | 7010000330 | Resistor | ELR25J 470 Ω |
| R80 | 7010000240 | Resistor | ELR25J 82 Ω |
| R81 | 7010000380 | Resistor | ELR25J 1.2 kΩ |
| R82 | 7010000450 | Resistor | ELR25J 4.7 kΩ |
| R83 | 7010000250 | Resistor | ELR25J 100 Ω |
| R84 | 7010003320 | Resistor | ELR20J 220 Ω |
| R85 | 7010000090 | Resistor | ELR25J 4.7 Ω |
| R87 | 7010000500 | Resistor | ELR25J 10 kΩ |
| R88 | 7010001070 | Resistor | R25J 220 Ω |
| R89 | 7010000410 | Resistor | ELR25J 2.2 kΩ |
| R90 | 7010000450 | Resistor | ELR25J 4.7 kΩ |
| R91 | 7010000330 | Resistor | ELR25J 470 Ω |
| R92 | 7010000220 | Resistor | ELR25J 56 Ω |
| R93 | 7010003360 | Resistor | ELR20J 470 Ω |
| R94 | 7010003520 | Resistor | ELR20J 8.2 kΩ |
| R95 | 7010000410 | Resistor | ELR25J 2.2 kΩ |
| R96 | 7010003480 | Resistor | ELR20J 4.7 kΩ |
| R97 | 7010004150 | Resistor | R20J 470 Ω |
| R100 | 7010003350 | Resistor | ELR20J 390 Ω |
| R101 | 7010000450 | Resistor | ELR25J 4.7 kΩ |
| R102 | 7010001230 | Resistor | R25J 4.7 kΩ |
| R104 | 7010000240 | Resistor | ELR25J 82 Ω |
| R105 | 7010001190 | Resistor | R25J 2.2 kΩ |
| R106 | 7010000410 | Resistor | ELR25J 2.2 kΩ |
| R108 | 7010000960 | Resistor | R25J 27 Ω |
| R109 | 7010000190 | Resistor | ELR25J 33 Ω |
| R110 | 7010000180 | Resistor | ELR25J 27 Ω |
| R111 | 7010003390 | Resistor | ELR20J 820 Ω |
| R113 | 7010001030 | Resistor | R25J 100 Ω |
| R115 | 7010000590 | Resistor | ELR25J 47 kΩ |
| R116 | 7010000730 | Resistor | ELR25J 680 kΩ |
| R117 | 7010001280 | Resistor | R25J 10 kΩ |
| R118 | 7010003550 | Resistor | ELR20J 15 kΩ |
| R119 | 7010000520 | Resistor | ELR25J 15 kΩ |
| R120 | 7010003440 | Resistor | ELR20J 2.2 kΩ |

[RF UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION |
|----------|------------|------------------------------|
| R121 | 7010003460 | Resistor ELR20J 3.3 kΩ |
| R122 | 7010001150 | Resistor R25J 1 kΩ |
| R123 | 7510000110 | Thermistor ERT-D2FGL251S |
| R124 | 7010000500 | Resistor ELR25J 10 kΩ |
| R125 | 7310001840 | Trimmer RH0421CS3J08A (472) |
| C1 | 4530000350 | Capacitor Array B8ZC0111-32N |
| C2 | 4530000350 | Capacitor Array B8ZC0111-32N |
| C3 | 4040000250 | Barrier Layer UAT 08X 473M |
| C6 | 4530000350 | Capacitor Array B8ZC0111-32N |
| C7 | 4530000350 | Capacitor Array B8ZC0111-32N |
| C11 | 4010000240 | Ceramic DD104 SL 390J 50V |
| C12 | 4010000240 | Ceramic DD104 SL 390J 50V |
| C13 | 4010000380 | Ceramic DD107 SL 221J 50V |
| C14 | 4010000500 | Ceramic DD104 B 102K 50V |
| C15 | 4040000250 | Barrier Layer UAT 08X 473M |
| C16 | 4510001170 | Electrolytic 50 MS7 2R2 μF |
| C17 | 4010000500 | Ceramic DD104 B 102K 50V |
| C18 | 4010000100 | Ceramic DD104 SL 080D 50V |
| C19 | 4010000070 | Ceramic DD104 SL 050C 50V |
| C20 | 4010000150 | Ceramic DD104 SL 150J 50V |
| C21 | 4010000020 | Ceramic DD104 SL 010C 50V |
| C22 | 4010000120 | Ceramic DD104 SL 100D 50V |
| C23 | 4040000250 | Barrier Layer UAT 08X 473M |
| C24 | 4040000260 | Barrier Layer UZE 08X 104M |
| C25 | 4040000260 | Barrier Layer UZE 08X 104M |
| C26 | 4040000250 | Barrier Layer UAT 08X 473M |
| C27 | 4040000250 | Barrier Layer UAT 08X 473M |
| C28 | 4040000250 | Barrier Layer UAT 08X 473M |
| C29 | 4040000250 | Barrier Layer UAT 08X 473M |
| C30 | 4510001170 | Electrolytic 50 MS7 2R2 μF |
| C31 | 4040000250 | Barrier Layer UAT 08X 473M |
| C32 | 4010000380 | Ceramic DD107 SL 221J 50V |
| C33 | 4040000250 | Barrier Layer UAT 08X 473M |
| C34 | 4040000250 | Barrier Layer UAT 08X 473M |
| C35 | 4040000250 | Barrier Layer UAT 08X 473M |
| C36 | 4040000250 | Barrier Layer UAT 08X 473M |
| C37 | 4040000250 | Barrier Layer UAT 08X 473M |
| C38 | 4040000250 | Barrier Layer UAT 08X 473M |
| C39 | 4040000250 | Barrier Layer UAT 08X 473M |
| C40 | 4040000250 | Barrier Layer UAT 08X 473M |
| C41 | 4010000040 | Ceramic DD104 SL 020C 50V |
| C43 | 4010000520 | Ceramic DD108 B 472K 50V |
| C44 | 4010000520 | Ceramic DD108 B 472K 50V |
| C45 | 4040000260 | Barrier Layer UZE 08X 104M |
| C47 | 4010000500 | Ceramic DD104 B 102K 50V |
| C48 | 4010000050 | Ceramic DD104 SL 030C 50V |
| C49 | 4010000120 | Ceramic DD104 SL 100D 50V |
| C50 | 4010000100 | Ceramic DD104 SL 080D 50V |
| C51 | 4040000260 | Barrier Layer UZE 08X 104M |
| C52 | 4010000100 | Ceramic DD104 SL 080D 50V |
| C54 | 4040000250 | Barrier Layer UAT 08X 473M |
| C55 | 4510002940 | Electrolytic 50 SS 1 μF |
| C56 | 4010000320 | Ceramic DD104 SL 820J 50V |
| C57 | 4010000350 | Ceramic DD106 SL 151J 50V |
| C58 | 4010000120 | Ceramic DD104 SL 100D 50V |
| C59 | 4010000210 | Ceramic DD104 SL 300J 50V |
| C64 | 4010000200 | Ceramic DD104 SL 270J 50V |
| C65 | 4010000320 | Ceramic DD104 SL 820J 50V |
| C66 | 4010000190 | Ceramic DD104 SL 240J 50V |
| C67 | 4010000190 | Ceramic DD104 SL 240J 50V |
| C68 | 4010000240 | Ceramic DD104 SL 390J 50V |
| C69 | 4010000520 | Ceramic DD108 B 472K 50V |
| C70 | 4010000080 | Ceramic DD104 SL 060D 50V |
| C71 | 4040000260 | Barrier Layer UZE 08X 104M |
| C72 | 4010000500 | Ceramic DD104 B 102K 50V |
| C73 | 4010000520 | Ceramic DD108 B 472K 50V |
| C74 | 4010000520 | Ceramic DD108 B 472K 50V |
| C75 | 4010000520 | Ceramic DD108 B 472K 50V |
| C76 | 4010003320 | Ceramic DD104 UJ 080D 50V |
| C77 | 4010000150 | Ceramic DD104 SL 150J 50V |
| C78 | 4010000050 | Ceramic DD104 SL 030C 50V |
| C79 | 4040000250 | Barrier Layer UAT 08X 473M |
| C80 | 4040000250 | Barrier Layer UAT 08X 473M |

[RF UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION |
|----------|------------|-----------------------------|
| C81 | 4040000250 | Barrier Layer UAT 08X 473M |
| C82 | 4040000250 | Barrier Layer UAT 08X 473M |
| C84 | 4040000250 | Barrier Layer UAT 08X 473M |
| C85 | 4010000330 | Ceramic DD105 SL 101J 50V |
| C86 | 4040000460 | Barrier Layer RAU 08SA 821K |
| C87 | 4010000390 | Ceramic DD107 SL 271J 50V |
| C88 | 4010000260 | Ceramic DD104 SL 470J 50V |
| C89 | 4010000260 | Ceramic DD104 SL 470J 50V |
| C90 | 4010000330 | Ceramic DD105 SL 101J 50V |
| C91 | 4010000210 | Ceramic DD104 SL 300J 50V |
| C92 | 4040000250 | Barrier Layer UAT 08X 473M |
| C93 | 4040000250 | Barrier Layer UAT 08X 473M |
| C94 | 4010000350 | Ceramic DD106 SL 151J 50V |
| C95 | 4040000280 | Barrier Layer UAT 04V 122K |
| C96 | 4010000400 | Ceramic DD107 SL 301J 50V |
| C97 | 4010000330 | Ceramic DD105 SL 101J 50V |
| C98 | 4010000190 | Ceramic DD104 SL 240J 50V |
| C99 | 4010000380 | Ceramic DD107 SL 221J 50V |
| C100 | 4040000250 | Barrier Layer UAT 08X 473M |
| C101 | 4040000250 | Barrier Layer UAT 08X 473M |
| C102 | 4010000370 | Ceramic DD106 SL 201J 50V |
| C103 | 4040000300 | Barrier Layer UAT 04V 182K |
| C104 | 4010000400 | Ceramic DD107 SL 301J 50V |
| C105 | 4010000390 | Ceramic DD107 SL 271J 50V |
| C106 | 4010000240 | Ceramic DD104 SL 390J 50V |
| C107 | 4010000420 | Ceramic DD108 SL 391J 50V |
| C108 | 4040000250 | Barrier Layer UAT 08X 473M |
| C109 | 4040000250 | Barrier Layer UAT 08X 473M |
| C110 | 4010000400 | Ceramic DD107 SL 301J 50V |
| C111 | 4040000310 | Barrier Layer UAT 04V 222K |
| C112 | 4010000410 | Ceramic DD107 SL 331J 50V |
| C113 | 4010000350 | Ceramic DD106 SL 151J 50V |
| C114 | 4010000270 | Ceramic DD104 SL 510J 50V |
| C115 | 4010000420 | Ceramic DD108 SL 391J 50V |
| C116 | 4040000250 | Barrier Layer UAT 08X 473M |
| C117 | 4040000250 | Barrier Layer UAT 08X 473M |
| C118 | 4010000420 | Ceramic DD108 SL 391J 50V |
| C119 | 4040000320 | Barrier Layer UAT 05V 272K |
| C120 | 4010000430 | Ceramic DD109 SL 471J 50V |
| C121 | 4010000440 | Ceramic DD109 SL 511J 50V |
| C122 | 4010000310 | Ceramic DD104 SL 750J 50V |
| C123 | 4040000440 | Barrier Layer RAU 06SA 561K |
| C124 | 4040000250 | Barrier Layer UAT 08X 473M |
| C125 | 4040000250 | Barrier Layer UAT 08X 473M |
| C126 | 4040000440 | Barrier Layer RAU 06SA 561K |
| C127 | 4040000360 | Barrier Layer UAT 06V 562K |
| C128 | 4040000270 | Barrier Layer UAT 04V 102K |
| C129 | 4040000450 | Barrier Layer RAU 08SA 681K |
| C130 | 4010000320 | Ceramic DD104 SL 820J 50V |
| C131 | 4040000450 | Barrier Layer RAU 08SA 681K |
| C132 | 4040000250 | Barrier Layer UAT 08X 473M |
| C133 | 4040000250 | Barrier Layer UAT 08X 473M |
| C134 | 4040000270 | Barrier Layer UAT 04V 102K |
| C135 | 4040000370 | Barrier Layer UAT 06V 682K |
| C136 | 4040000280 | Barrier Layer UAT 04V 122K |
| C137 | 4040000270 | Barrier Layer UAT 04V 102K |
| C138 | 4010000350 | Ceramic DD106 SL 151J 50V |
| C139 | 4040000290 | Barrier Layer UAT 04V 152K |
| C140 | 4040000250 | Barrier Layer UAT 08X 473M |
| C141 | 4040000250 | Barrier Layer UAT 08X 473M |
| C142 | 4040000280 | Barrier Layer UAT 04V 122K |
| C143 | 4040000390 | Barrier Layer UAT 06V 103K |
| C144 | 4040000300 | Barrier Layer UAT 04V 182K |
| C145 | 4040000290 | Barrier Layer UAT 04V 152K |
| C146 | 4010000370 | Ceramic DD106 SL 201J 50V |
| C147 | 4040000290 | Barrier Layer UAT 04V 152K |
| C148 | 4040000250 | Barrier Layer UAT 08X 473M |
| C149 | 4040000250 | Barrier Layer UAT 08X 473M |
| C150 | 4040000290 | Barrier Layer UAT 04V 152K |
| C151 | 4040000400 | Barrier Layer UAT 08V 123K |
| C152 | 4040000350 | Barrier Layer UAT 05V 472K |
| C153 | 4040000290 | Barrier Layer UAT 04V 152K |
| C154 | 4010000390 | Ceramic DD107 SL 271J 50V |
| C155 | 4040000310 | Barrier Layer UAT 04V 222K |
| C156 | 4040000250 | Barrier Layer UAT 08X 473M |

[RF UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|---------------|-------------------|
| C157 | 404000260 | Barrier Layer | UZE 08X 104M |
| C158 | 404000250 | Barrier Layer | UAT 08X 473M |
| C159 | 404000330 | Barrier Layer | UAT 05V 332K |
| C160 | 4010000420 | Ceramic | DD108 SL 391J 50V |
| C161 | 4040000330 | Barrier Layer | UAT 05V 332K |
| C162 | 4510001740 | Electrolytic | 50 RBP 1 µF |
| C163 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C164 | 4040000370 | Barrier Layer | UAT 06V 682K |
| C165 | 4040000270 | Barrier Layer | UAT 04V 102K |
| C166 | 4040000380 | Barrier Layer | UAT 06V 822K |
| C167 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C168 | 4510002780 | Electrolytic | 16 SS 10 µF |
| C169 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C170 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C171 | 4040000290 | Barrier Layer | UAT 04V 152K |
| C172 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C173 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C174 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C175 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C176 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C177 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C178 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C179 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C180 | 4040000300 | Barrier Layer | UAT 04V 182K |
| C181 | 4040000290 | Barrier Layer | UAT 04V 152K |
| C182 | 4040000350 | Barrier Layer | UAT 05V 472K |
| C183 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C184 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C185 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C186 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C189 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C190 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C191 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C192 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C193 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C195 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C196 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C198 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C199 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C203 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C204 | 4550000010 | Tantalum | DN 1C 4R7M |
| C205 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C206 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C207 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C208 | 4510001160 | Electrolytic | 50 MS7 1 µF |
| C209 | 4040000250 | Barrier Layer | UAT 08X 473M |
| RL1 | 6330000070 | Relay | FBR21D12-P |
| EP1 | 0910009417 | P.C. Board | B 701G (RF) |
| EP8 | 6910000630 | Bead core | FSOH070RN |
| EP9 | 6910000630 | Bead core | FSOH070RN |
| EP14 | 6910000630 | Bead core | FSOH070RN |

[MAIN UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|-----------|
| IC1 | 1180000300 | IC | µA7808UC |
| IC2 | 1130000620 | IC | µPD4011BC |
| IC3 | 1130000620 | IC | µPD4011BC |
| IC4 | 1110001320 | IC | µPC1037HA |
| IC5 | 1110001320 | IC | µPC1037HA |
| IC6 | 1110000540 | IC | NJM4558D |
| IC7 | 1110000890 | IC | µPC1241H |
| IC8 | 1110000330 | IC | M5218L |
| IC9 | 1110000330 | IC | M5218L |
| IC10 | 1110000330 | IC | M5218L |

[MAIN UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|------------|
| IC11 | 1120000970 | IC | M54562P |
| IC12 | 1130001090 | IC | µPD4051BC |
| IC13 | 1130001000 | IC | µPD4066BC |
| IC14 | 1110000330 | IC | M5218L |
| IC15 | 1130001000 | IC | µPD4066BC |
| IC16 | 1110000540 | IC | NJM4558D |
| IC17 | 1790000050 | IC | ND487C1-3R |
| IC18 | 1110001320 | IC | µPC1037HA |
| IC19 | 1110001320 | IC | µPC1037HA |
| IC20 | 1110001310 | IC | µPC577HA |
| IC21 | 1110001320 | IC | µPC1037HA |
| Q1 | 1590000350 | Transistor | RN1204 |
| Q2 | 1540000070 | Transistor | 2SD468C |
| Q3 | 1590000340 | Transistor | RN1202 |
| Q4 | 1530000110 | Transistor | 2SC2458-GR |
| Q5 | 1590000340 | Transistor | RN1202 |
| Q6 | 1530000110 | Transistor | 2SC2458-GR |
| Q7 | 1540000060 | Transistor | 2SD880-Y |
| Q8 | 1530000110 | Transistor | 2SC2458-GR |
| Q9 | 1540000070 | Transistor | 2SD468C |
| Q10 | 1530000940 | Transistor | 2SC1571G |
| Q11 | 1530000110 | Transistor | 2SC2458-GR |
| Q12 | 1590000350 | Transistor | RN1204 |
| Q13 | 1530000591 | Transistor | 2SC2785 EL |
| Q14 | 1530000591 | Transistor | 2SC2785 EL |
| Q15 | 1590000350 | Transistor | RN1204 |
| Q16 | 1590000350 | Transistor | RN1204 |
| Q17 | 1530000110 | Transistor | 2SC2458-GR |
| Q18 | 1590000310 | FET | 2SJ105-GR |
| Q19 | 1560000100 | FET | 2SK241-Y |
| Q20 | 1590000350 | Transistor | RN1204 |
| Q21 | 1590000310 | FET | 2SJ105-GR |
| Q22 | 1530000110 | Transistor | 2SC2458-GR |
| Q23 | 1590000350 | Transistor | RN1204 |
| Q24 | 1590000350 | Transistor | RN1204 |
| Q25 | 1590000360 | Transistor | RN2202 |
| Q26 | 1530000180 | Transistor | 2SC2878-B |
| Q27 | 1510000080 | Transistor | 2SA1048-GR |
| Q29 | 1510000080 | Transistor | 2SA1048-GR |
| Q30 | 1590000350 | Transistor | RN1204 |
| Q31 | 1530000591 | Transistor | 2SC2785 EL |
| Q32 | 1530000110 | Transistor | 2SC2458-GR |
| Q33 | 1580000110 | FET | 3SK74 M |
| Q34 | 1560000100 | FET | 2SK241-Y |
| Q35 | 1530000591 | Transistor | 2SC2785 EL |
| Q36 | 1590000350 | Transistor | RN1204 |
| Q37 | 1530000110 | Transistor | 2SC2458-GR |
| Q38 | 1590000350 | Transistor | RN1204 |
| Q39 | 1590000360 | Transistor | RN2202 |
| Q40 | 1590000360 | Transistor | RN2202 |
| Q41 | 1590000360 | Transistor | RN2202 |
| Q42 | 1590000360 | Transistor | RN2202 |
| Q43 | 1590000350 | Transistor | RN1204 |
| Q44 | 1590000350 | Transistor | RN1204 |
| Q45 | 1590000350 | Transistor | RN1204 |
| Q46 | 1530000591 | Transistor | 2SC2785 EL |
| Q47 | 1530000591 | Transistor | 2SC2785 EL |
| Q48 | 1590000310 | FET | 2SJ105-GR |
| Q49 | 1530000110 | Transistor | 2SC2458-GR |
| Q50 | 1590000340 | Transistor | RN1202 |
| Q51 | 1590000360 | Transistor | RN2202 |
| Q52 | 1530000110 | Transistor | 2SC2458-GR |
| Q53 | 1530000110 | Transistor | 2SC2458-GR |
| Q54 | 1590000350 | Transistor | RN1204 |
| Q55 | 1580000110 | FET | 3SK74 M |
| Q56 | 1580000110 | FET | 3SK74 M |
| Q57 | 1530000591 | Transistor | 2SC2785 EL |
| Q58 | 1530000110 | Transistor | 2SC2458-GR |
| Q59 | 1530000180 | Transistor | 2SC2878-B |
| Q60 | 1510000080 | Transistor | 2SA1048-GR |
| Q61 | 1530000180 | Transistor | 2SC2878-B |
| Q62 | 1580000110 | FET | 3SK74 M |
| Q63 | 1530000150 | Transistor | 2SC2668-O |

[MAIN UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|-------------|
| Q64 | 1530000591 | Transistor | 2SC2785 EL |
| Q65 | 1580000110 | FET | 3SK74 M |
| Q66 | 1590000340 | Transistor | RN1202 |
| Q67 | 1530000591 | Transistor | 2SC2785 EL |
| Q68 | 1530000110 | Transistor | 2SC2458-GR |
| Q69 | 1530000591 | Transistor | 2SC2785 EL |
| Q70 | 1530000591 | Transistor | 2SC2785 EL |
| Q71 | 1580000110 | FET | 3SK74 M |
| Q72 | 1530000591 | Transistor | 2SC2785 EL |
| Q73 | 1530000591 | Transistor | 2SC2785 EL |
| Q74 | 1510000080 | Transistor | 2SA1048-GR |
| Q76 | 1510000080 | Transistor | 2SA1048-GR |
| Q77 | 1530000110 | Transistor | 2SC2458-GR |
| Q78 | 1590000350 | Transistor | RN1204 |
| Q79 | 1590000360 | Transistor | RN2202 |
| Q80 | 1590000350 | Transistor | RN1204 |
| Q81 | 1590000360 | Transistor | RN2202 |
| Q82 | 1590000340 | Transistor | RN1202 |
| Q83 | 1530000110 | Transistor | 2SC2458-GR |
| Q84 | 1530000591 | Transistor | 2SC2785 EL |
| Q85 | 1580000110 | FET | 3SK74 M |
| Q86 | 1590000340 | Transistor | RN1202 |
| Q87 | 1530000110 | Transistor | 2SC2458-GR |
| Q88 | 1590000340 | Transistor | RN1202 |
| Q89 | 1590000340 | Transistor | RN1202 |
| Q90 | 1590000340 | Transistor | RN1202 |
| Q91 | 1530000110 | Transistor | 2SC2458-GR |
| D1 | 1730000120 | Zener | RD6.2E B2 |
| D2 | 1710000160 | Diode | 1SS133 |
| D3 | 1710000160 | Diode | 1SS133 |
| D4 | 1710000160 | Diode | 1SS133 |
| D5 | 1710000160 | Diode | 1SS133 |
| D6 | 1710000160 | Diode | 1SS133 |
| D7 | 1710000160 | Diode | 1SS133 |
| D8 | 1710000160 | Diode | 1SS133 |
| D9 | 1710000160 | Diode | 1SS133 |
| D10 | 1710000160 | Diode | 1SS133 |
| D11 | 1710000580 | Diode | 1SS265 |
| D13 | 1710000580 | Diode | 1SS265 |
| D14 | 1710000580 | Diode | 1SS265 |
| D15 | 1710000580 | Diode | 1SS265 |
| D16 | 1710000580 | Diode | 1SS265 |
| D17 | 1710000580 | Diode | 1SS265 |
| D18 | 1710000580 | Diode | 1SS265 |
| D19 | 1720000060 | Varicap | 1SV50 (1) E |
| D20 | 1710000160 | Diode | 1SS133 |
| D21 | 1710000040 | Diode | 1S953 |
| D22 | 1710000160 | Diode | 1SS133 |
| D23 | 1710000580 | Diode | 1SS265 |
| D24 | 1710000580 | Diode | 1SS265 |
| D25 | 1790000070 | Diode | 1SS237 |
| D26 | 1790000070 | Diode | 1SS237 |
| D27 | 1710000160 | Diode | 1SS133 |
| D28 | 1710000160 | Diode | 1SS133 |
| D29 | 1710000160 | Diode | 1SS133 |
| D30 | 1710000580 | Diode | 1SS265 |
| D31 | 1720000060 | Varicap | 1SV50 (1) E |
| D32 | 1710000160 | Diode | 1SS133 |
| D33 | 1710000580 | Diode | 1SS265 |
| D34 | 1710000160 | Diode | 1SS133 |
| D35 | 1710000160 | Diode | 1SS133 |
| D36 | 1710000160 | Diode | 1SS133 |
| D37 | 1710000160 | Diode | 1SS133 |
| D38 | 1710000160 | Diode | 1SS133 |
| D39 | 1710000160 | Diode | 1SS133 |
| D40 | 1710000160 | Diode | 1SS133 |
| D41 | 1710000160 | Diode | 1SS133 |
| D42 | 1710000160 | Diode | 1SS133 |
| D43 | 1710000160 | Diode | 1SS133 |
| D44 | 1710000160 | Diode | 1SS133 |
| D45 | 1710000160 | Diode | 1SS133 |
| D46 | 1710000160 | Diode | 1SS133 |
| D47 | 1710000160 | Diode | 1SS133 |

[MAIN UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|-------------|
| D48 | 1710000160 | Diode | 1SS133 |
| D49 | 1710000160 | Diode | 1SS133 |
| D50 | 1710000160 | Diode | 1SS133 |
| D51 | 1710000160 | Diode | 1SS133 |
| D52 | 1710000160 | Diode | 1SS133 |
| D53 | 1710000160 | Diode | 1SS133 |
| D54 | 1710000160 | Diode | 1SS133 |
| D55 | 1710000160 | Diode | 1SS133 |
| D56 | 1710000160 | Diode | 1SS133 |
| D57 | 1710000160 | Diode | 1SS133 |
| D58 | 1710000160 | Diode | 1SS133 |
| D59 | 1710000160 | Diode | 1SS133 |
| D60 | 1710000160 | Diode | 1SS133 |
| D61 | 1710000160 | Diode | 1SS133 |
| D63 | 1710000160 | Diode | 1SS133 |
| D64 | 1710000160 | Diode | 1SS133 |
| D65 | 1730000110 | Zener | RD5.6E B2 |
| D66 | 1710000160 | Diode | 1SS133 |
| D67 | 1710000160 | Diode | 1SS133 |
| D68 | 1710000160 | Diode | 1SS133 |
| D69 | 1710000160 | Diode | 1SS133 |
| D70 | 1720000060 | Varicap | 1SV50 (1) E |
| D71 | 1710000160 | Diode | 1SS133 |
| D72 | 1710000160 | Diode | 1SS133 |
| D73 | 1710000160 | Diode | 1SS133 |
| D74 | 1790000070 | Diode | 1SS237 |
| D75 | 1790000070 | Diode | 1SS237 |
| D76 | 1730000060 | Zener | RD3.6E B1 |
| D77 | 1710000160 | Diode | 1SS133 |
| D78 | 1710000160 | Diode | 1SS133 |
| D79 | 1710000160 | Diode | 1SS133 |
| D80 | 1710000160 | Diode | 1SS133 |
| D81 | 1710000160 | Diode | 1SS133 |
| D82 | 1730000340 | Zener | MZ304B |
| D83 | 1710000330 | Diode | 1K60 |
| D84 | 1710000330 | Diode | 1K60 |
| D85 | 1710000270 | Diode | MI204 |
| D86 | 1710000050 | Diode | 1SS53 |
| D87 | 1710000050 | Diode | 1SS53 |
| D88 | 1710000050 | Diode | 1SS53 |
| D89 | 1710000050 | Diode | 1SS53 |
| D90 | 1710000050 | Diode | 1SS53 |
| D91 | 1710000050 | Diode | 1SS53 |
| D92 | 1710000580 | Diode | 1SS265 |
| D93 | 1710000580 | Diode | 1SS265 |
| D94 | 1710000050 | Diode | 1SS53 |
| D95 | 1710000050 | Diode | 1SS53 |
| D96 | 1710000050 | Diode | 1SS53 |
| D97 | 1710000050 | Diode | 1SS53 |
| D98 | 1710000050 | Diode | 1SS53 |
| D99 | 1710000050 | Diode | 1SS53 |
| D100 | 1710000050 | Diode | 1SS53 |
| D101 | 1710000050 | Diode | 1SS53 |
| D102 | 1710000050 | Diode | 1SS53 |
| D103 | 1710000050 | Diode | 1SS53 |
| D104 | 1710000050 | Diode | 1SS53 |
| D105 | 1710000050 | Diode | 1SS53 |
| D106 | 1710000050 | Diode | 1SS53 |
| D107 | 1710000050 | Diode | 1SS53 |
| D108 | 1710000050 | Diode | 1SS53 |
| D109 | 1710000050 | Diode | 1SS53 |
| D110 | 1710000050 | Diode | 1SS53 |
| D111 | 1710000050 | Diode | 1SS53 |
| D112 | 1710000050 | Diode | 1SS53 |
| D113 | 1710000050 | Diode | 1SS53 |
| D114 | 1710000050 | Diode | 1SS53 |
| D115 | 1710000050 | Diode | 1SS53 |
| D116 | 1710000050 | Diode | 1SS53 |
| D117 | 1710000050 | Diode | 1SS53 |
| D118 | 1710000160 | Diode | 1SS133 |
| D119 | 1710000330 | Diode | 1K60 |
| D120 | 1710000160 | Diode | 1SS133 |
| D121 | 1710000160 | Diode | 1SS133 |
| D122 | 1710000050 | Diode | 1SS53 |
| D123 | 1710000580 | Diode | 1SS265 |

[MAIN UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|---------------|------------------|
| D124 | 1710000580 | Diode | 1SS265 |
| D125 | 1710000580 | Diode | 1SS265 |
| D126 | 1710000580 | Diode | 1SS265 |
| D127 | 1710000580 | Diode | 1SS265 |
| D128 | 1710000580 | Diode | 1SS265 |
| D129 | 1710000580 | Diode | 1SS265 |
| D130 | 1710000580 | Diode | 1SS265 |
| D131 | 1710000580 | Diode | 1SS265 |
| D132 | 1710000580 | Diode | 1SS265 |
| D133 | 1710000580 | Diode | 1SS265 |
| D134 | 1710000580 | Diode | 1SS265 |
| D135 | 1710000580 | Diode | 1SS265 |
| D136 | 1710000580 | Diode | 1SS265 |
| D137 | 1710000580 | Diode | 1SS265 |
| D138 | 1710000580 | Diode | 1SS265 |
| D139 | 1710000580 | Diode | 1SS265 |
| D140 | 1710000580 | Diode | 1SS265 |
| D141 | 1720000050 | Varicap | 1SV50E |
| D142 | 1720000110 | Varicap | FC51M |
| D143 | 1710000330 | Diode | 1K60 |
| D144 | 1710000330 | Diode | 1K60 |
| D145 | 1710000160 | Diode | 1SS133 |
| D146 | 1710000160 | Diode | 1SS133 |
| D147 | 1710000160 | Diode | 1SS133 |
| D148 | 1710000160 | Diode | 1SS133 |
| D149 | 1790000070 | Diode | 1SS237 |
| D150 | 1790000070 | Diode | 1SS237 |
| D151 | 1710000330 | Diode | 1K60 |
| D152 | 1710000160 | Diode | 1SS133 |
| D153 | 1710000160 | Diode | 1SS133 |
| D154 | 1710000160 | Diode | 1SS133 |
| D155 | 1790000070 | Diode | 1SS237 |
| D156 | 1710000050 | Diode | 1SS53 |
| D157 | 1710000160 | Diode | 1SS133 |
| D158 | 1710000160 | Diode | 1SS133 |
| D159 | 1710000050 | Diode | 1SS53 |
| FI1 | 2010000630 | Monolithic | 9M20A (FL-87) |
| FI2 | 2010000270 | Monolithic | 9M15A (FL-23) |
| FI3 | 2010000320 | Monolithic | 9M22D2 (FL-30) |
| FI4 | optional | Crystal | M09F05A (FL-32A) |
| FI5 | 2010000840 | Crystal | X00F27A (FL-96) |
| FI6 | optional | Crystal | X00F05A (FL-52A) |
| FI7 | 2020000150 | Ceramic | CFW455HT |
| FI8 | 2020000120 | Ceramic | CFW455E |
| FI9 | 2010000270 | Monolithic | 9M15A (FL-23) |
| X1 | 6050003020 | Crystal | CR-168 |
| X2 | 6050003030 | Crystal | CR-169 |
| X3 | 6050000280 | Crystal | HC-12/U 9.0105 |
| X4 | 6050003020 | Crystal | CR-168 |
| X5 | 6050001340 | Crystal | CR-1 |
| X6 | 6050003020 | Crystal | CR-168 |
| X7 | 2020000200 | Discriminator | CFY455S |
| L1 | 6910000670 | Coil | BT01RN1-A61-001 |
| L2 | 6910000670 | Coil | BT01RN1-A61-001 |
| L3 | 6180000900 | Coil | LAL 03NA 101K |
| L4 | 6180000900 | Coil | LAL 03NA 101K |
| L5 | 6150000750 | Coil | LS-93A |
| L6 | 6180000900 | Coil | LAL 03NA 101K |
| L7 | 6180000880 | Coil | LAL 03NA 100K |
| L8 | 6170000140 | Coil | LW-15 |
| L9 | 6180000900 | Coil | LAL 03NA 101K |
| L10 | 6150001200 | Coil | LS-133 |
| L11 | 6180000950 | Coil | LAL 03NA 150K |
| L12 | 6150001470 | Coil | LS-163 |
| L13 | 6150001470 | Coil | LS-163 |
| L14 | 6150001470 | Coil | LS-163 |
| L15 | 6180000900 | Coil | LAL 03NA 101K |
| L16 | 6150002820 | Coil | LS-292 |
| L17 | 6180000960 | Coil | LAL 03NA 102K |

[MAIN UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|---------------|
| L18 | 6180000900 | Coil | LAL 03NA 101K |
| L19 | 6180000900 | Coil | LAL 03NA 101K |
| L20 | 6180000900 | Coil | LAL 03NA 101K |
| L21 | 6150001590 | Coil | LS-175 |
| L22 | 6150001590 | Coil | LS-175 |
| L23 | 6150001590 | Coil | LS-175 |
| L24 | 6180000900 | Coil | LAL 03NA 101K |
| L25 | 6180000780 | Coil | LAL 03NA 1R2M |
| L26 | 6150002180 | Coil | LS-226 |
| L27 | 6150000700 | Coil | LS-90A |
| L28 | 6150000700 | Coil | LS-90A |
| L29 | 6150001590 | Coil | LS-175 |
| L30 | 6180000880 | Coil | LAL 03NA 100K |
| L31 | 6110001630 | Coil | LA-246 |
| L32 | 6110001560 | Coil | LA-236 |
| L33 | 6180000760 | Coil | LAL 03NA R82M |
| L34 | 6140000930 | Coil | LR-116 |
| L35 | 6140000930 | Coil | LR-116 |
| L36 | 6180000790 | Coil | LAL 03NA 1R5M |
| L37 | 6150000990 | Coil | LS-114 |
| L38 | 6150000990 | Coil | LS-114 |
| L39 | 6180000960 | Coil | LAL 03NA 102K |
| L40 | 6150002290 | Coil | LS-240 |
| L41 | 6150001320 | Coil | LS-146 |
| L42 | 6180000960 | Coil | LAL 03NA 102K |
| L43 | 6150001320 | Coil | LS-146 |
| L44 | 6150002400 | Coil | LS-251A |
| L45 | 6180000960 | Coil | LAL 03NA 102K |
| L46 | 6150001590 | Coil | LS-175 |
| L47 | 6150002540 | Coil | LS-282 |
| L48 | 6150001590 | Coil | LS-175 |
| L49 | 6180000900 | Coil | LAL 03NA 101K |
| L50 | 6150001590 | Coil | LS-175 |
| L51 | 6150001080 | Coil | LS-122 |
| L52 | 6150000160 | Coil | LS-16 |
| L53 | 6180000960 | Coil | LAL 03NA 102K |
| L54 | 6180000900 | Coil | LAL 03NA 101K |
| L55 | 6150002480 | Coil | LS-266 |
| L56 | 6180000900 | Coil | LAL 03NA 101K |
| L57 | 6180000900 | Coil | LAL 03NA 101K |
| L58 | 6180000900 | Coil | LAL 03NA 101K |
| L59 | 6180000900 | Coil | LAL 03NA 101K |
| L60 | 6180000900 | Coil | LAL 03NA 101K |
| L61 | 6180000900 | Coil | LAL 03NA 101K |
| L62 | 6180000900 | Coil | LAL 03NA 101K |
| L63 | 6180000900 | Coil | LAL 03NA 101K |
| L64 | 6180000900 | Coil | LAL 03NA 101K |
| L65 | 6180000900 | Coil | LAL 03NA 101K |
| L66 | 6180000900 | Coil | LAL 03NA 101K |
| L67 | 6180000940 | Coil | LAL 03NA 270K |
| R1 | 7010004070 | Resistor | R20J 100 Ω |
| R2 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R3 | 7010003660 | Resistor | ELR20J 100 kΩ |
| R4 | 7010004270 | Resistor | R20J 4.7 kΩ |
| R5 | 7010004260 | Resistor | R20J 3.9 kΩ |
| R6 | 7010003610 | Resistor | ELR20J 39 kΩ |
| R7 | 7010003550 | Resistor | ELR20J 15 kΩ |
| R8 | 7010003480 | Resistor | ELR20J 4.7 kΩ |
| R9 | 7010004320 | Resistor | R20J 10 kΩ |
| R10 | 7010003620 | Resistor | ELR20J 47 kΩ |
| R11 | 7010003680 | Resistor | ELR20J 150 kΩ |
| R12 | 7010003580 | Resistor | ELR20J 22 kΩ |
| R13 | 7010004490 | Resistor | R20J 220 kΩ |
| R14 | 7010003480 | Resistor | ELR20J 4.7 kΩ |
| R15 | 7010004410 | Resistor | R20J 47 kΩ |
| R16 | 7010001230 | Resistor | R25J 4.7 kΩ |
| R17 | 7010004190 | Resistor | R20J 1 kΩ |
| R18 | 7010000130 | Resistor | ELR25J 10 Ω |
| R19 | 7010001230 | Resistor | R25J 4.7 kΩ |
| R20 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R21 | 7010000130 | Resistor | ELR25J 10 Ω |
| R22 | 7010003360 | Resistor | ELR20J 470 Ω |
| R23 | 7010003280 | Resistor | ELR20J 100 Ω |

[MAIN UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION |
|----------|------------|-----------------------------|
| R24 | 7010003280 | Resistor ELR20J 100 Ω |
| R25 | 7010003620 | Resistor ELR20J 47 kΩ |
| R26 | 7010003610 | Resistor ELR20J 39 kΩ |
| R27 | 7010003440 | Resistor ELR20J 2.2 kΩ |
| R28 | 7010003400 | Resistor ELR20J 1 kΩ |
| R29 | 7010004230 | Resistor R20J 2.2 kΩ |
| R30 | 7010004200 | Resistor R20J 1.2 kΩ |
| R31 | 7010003440 | Resistor ELR20J 2.2 kΩ |
| R32 | 7310000750 | Trimmer RH0651C14J2WA (103) |
| R33 | 7010004490 | Resistor R20J 220 kΩ |
| R34 | 7310000750 | Trimmer RH0651C14J2WA (103) |
| R35 | 7010004450 | Resistor R20J 100 kΩ |
| R36 | 7010004490 | Resistor R20J 220 kΩ |
| R37 | 7310000820 | Trimmer RH0651C16J0RA (105) |
| R38 | 7010003440 | Resistor ELR20J 2.2 kΩ |
| R39 | 7010003480 | Resistor ELR20J 4.7 kΩ |
| R40 | 7010001150 | Resistor R25J 1 kΩ |
| R42 | 7010003560 | Resistor ELR20J 18 kΩ |
| R43 | 7310000740 | Trimmer RH0651CS3J2KA (472) |
| R44 | 7010003810 | Resistor ELR20J 2.2 MΩ |
| R45 | 7010003540 | Resistor ELR20J 12 kΩ |
| R46 | 7010001030 | Resistor R25J 100 Ω |
| R47 | 7010001230 | Resistor R25J 4.7 kΩ |
| R48 | 7010004190 | Resistor R20J 1 kΩ |
| R49 | 7010003580 | Resistor ELR20J 22 kΩ |
| R50 | 7010003620 | Resistor ELR20J 47 kΩ |
| R51 | 7010004070 | Resistor R20J 100 Ω |
| R52 | 7010004070 | Resistor R20J 100 Ω |
| R53 | 7010003360 | Resistor ELR20J 470 Ω |
| R54 | 7010004370 | Resistor R20J 22 kΩ |
| R55 | 7010003580 | Resistor ELR20J 22 kΩ |
| R56 | 7010003530 | Resistor ELR20J 10 kΩ |
| R57 | 7010004070 | Resistor R20J 100 Ω |
| R58 | 7010001190 | Resistor R25J 2.2 kΩ |
| R59 | 7010001190 | Resistor R25J 2.2 kΩ |
| R60 | 7010004230 | Resistor R20J 2.2 kΩ |
| R61 | 7010004190 | Resistor R20J 1 kΩ |
| R62 | 7010004200 | Resistor R20J 1.2 kΩ |
| R63 | 7010003400 | Resistor ELR20J 1 kΩ |
| R64 | 7010003410 | Resistor ELR20J 1.2 kΩ |
| R65 | 7010003620 | Resistor ELR20J 47 kΩ |
| R66 | 7010003400 | Resistor ELR20J 1 kΩ |
| R67 | 7010004130 | Resistor R20J 330 Ω |
| R68 | 7010003520 | Resistor ELR20J 8.2 kΩ |
| R69 | 7310000740 | Trimmer RH0651CS3J2KA (472) |
| R70 | 7010003480 | Resistor ELR20J 4.7 kΩ |
| R71 | 7010003480 | Resistor ELR20J 4.7 kΩ |
| R72 | 7010003180 | Resistor ELR20J 15 Ω |
| R73 | 7010003350 | Resistor ELR20J 390 Ω |
| R74 | 7010003580 | Resistor ELR20J 22 kΩ |
| R75 | 7010003400 | Resistor ELR20J 1 kΩ |
| R76 | 7010003660 | Resistor ELR20J 100 kΩ |
| R77 | 7010003710 | Resistor ELR20J 270 kΩ |
| R78 | 7010003480 | Resistor ELR20J 4.7 kΩ |
| R80 | 7010003680 | Resistor ELR20J 150 kΩ |
| R81 | 7010004450 | Resistor R20J 100 kΩ |
| R82 | 7010004110 | Resistor R20J 220 Ω |
| R83 | 7010003280 | Resistor ELR20J 100 Ω |
| R84 | 7010003580 | Resistor ELR20J 22 kΩ |
| R85 | 7010003490 | Resistor ELR20J 5.6 kΩ |
| R86 | 7010003620 | Resistor ELR20J 47 kΩ |
| R87 | 7010003320 | Resistor ELR20J 220 Ω |
| R88 | 7010003450 | Resistor ELR20J 2.7 kΩ |
| R89 | 7010003450 | Resistor ELR20J 2.7 kΩ |
| R90 | 7010003530 | Resistor ELR20J 10 kΩ |
| R91 | 7010003780 | Resistor ELR20J 1 MΩ |
| R92 | 7310000740 | Trimmer RH0651CS3J2KA (472) |
| R93 | 7010004430 | Resistor R20J 68 kΩ |
| R94 | 7010004070 | Resistor R20J 100 Ω |
| R95 | 7010004070 | Resistor R20J 100 Ω |
| R96 | 7010003440 | Resistor ELR20J 2.2 kΩ |
| R97 | 7010004280 | Resistor R20J 5.6 kΩ |
| R98 | 7010003530 | Resistor ELR20J 10 kΩ |
| R99 | 7010003460 | Resistor ELR20J 3.3 kΩ |
| R100 | 7010004280 | Resistor R20J 5.6 kΩ |

[MAIN UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION |
|----------|------------|-----------------------------|
| R101 | 7010003530 | Resistor ELR20J 10 kΩ |
| R102 | 7010003580 | Resistor ELR20J 22 kΩ |
| R103 | 7010003580 | Resistor ELR20J 22 kΩ |
| R104 | 7010003690 | Resistor ELR20J 180 kΩ |
| R105 | 7010003280 | Resistor ELR20J 100 Ω |
| R106 | 7010004190 | Resistor R20J 1 kΩ |
| R107 | 7010003040 | Resistor ELR20J 1 Ω |
| R108 | 7010000010 | Resistor ELR25J 1 Ω |
| R109 | 7080000350 | Resistor CRB25FX 68 kΩ |
| R110 | 7080000320 | Resistor CRB25FX 33 kΩ |
| R111 | 7310001090 | Trimmer RH0621C13J1TA (102) |
| R112 | 7080000320 | Resistor CRB25FX 33 kΩ |
| R113 | 7080000350 | Resistor CRB25FX 68 kΩ |
| R114 | 7080000630 | Resistor CRB25FX 1 MΩ |
| R115 | 7310000750 | Trimmer RH0651C14J2WA (103) |
| R116 | 7010004190 | Resistor R20J 1 kΩ |
| R117 | 7310000750 | Trimmer RH0651C14J2WA (103) |
| R118 | 7010003580 | Resistor ELR20J 22 kΩ |
| R119 | 7010003580 | Resistor ELR20J 22 kΩ |
| R120 | 7010004270 | Resistor R20J 4.7 kΩ |
| R121 | 7010004420 | Resistor R20J 56 kΩ |
| R122 | 7010003620 | Resistor ELR20J 47 kΩ |
| R123 | 7310000750 | Trimmer RH0651C14J2WA (103) |
| R124 | 7010003740 | Resistor ELR20J 470 kΩ |
| R125 | 7010003700 | Resistor ELR20J 220 kΩ |
| R126 | 7010004470 | Resistor R20J 150 kΩ |
| R127 | 7010004420 | Resistor R20J 56 kΩ |
| R128 | 7010003490 | Resistor ELR20J 5.6 kΩ |
| R129 | 7010003700 | Resistor ELR20J 220 kΩ |
| R130 | 7010003700 | Resistor ELR20J 220 kΩ |
| R131 | 7010003700 | Resistor ELR20J 220 kΩ |
| R132 | 7010003660 | Resistor ELR20J 100 kΩ |
| R133 | 7010004560 | Resistor R20J 820 kΩ |
| R134 | 7010004570 | Resistor R20J 1 MΩ |
| R135 | 7010003820 | Resistor ELR20J 3.3 MΩ |
| R136 | 7310000780 | Trimmer RH0651CS4J25A (473) |
| R137 | 7010003550 | Resistor ELR20J 15 kΩ |
| R138 | 7310000780 | Trimmer RH0651CS4J25A (473) |
| R139 | 7010003390 | Resistor ELR20J 820 Ω |
| R141 | 7310000760 | Trimmer RH0651CJ4J01A (223) |
| R142 | 7010001510 | Resistor R25J 680 kΩ |
| R143 | 7010003700 | Resistor ELR20J 220 kΩ |
| R144 | 7010003800 | Resistor ELR20J 1.8 MΩ |
| R145 | 7010004230 | Resistor R20J 2.2 kΩ |
| R146 | 7010003300 | Resistor ELR20J 150 Ω |
| R147 | 7010004320 | Resistor R20J 10 kΩ |
| R148 | 7010004320 | Resistor R20J 10 kΩ |
| R149 | 7010003280 | Resistor ELR20J 100 Ω |
| R150 | 7010004270 | Resistor R20J 4.7 kΩ |
| R151 | 7010004160 | Resistor R20J 560 Ω |
| R153 | 7010004390 | Resistor R20J 33 kΩ |
| R154 | 7010003580 | Resistor ELR20J 22 kΩ |
| R155 | 7010003600 | Resistor ELR20J 33 kΩ |
| R156 | 7510000120 | Thermistor ERT-D2FGL332S |
| R157 | 7010003530 | Resistor ELR20J 10 kΩ |
| R158 | 7010003490 | Resistor ELR20J 5.6 kΩ |
| R159 | 7010003470 | Resistor ELR20J 3.9 kΩ |
| R160 | 7010003740 | Resistor ELR20J 470 kΩ |
| R161 | 7010003530 | Resistor ELR20J 10 kΩ |
| R162 | 7010003580 | Resistor ELR20J 22 kΩ |
| R163 | 7310000740 | Trimmer RH0651CS3J2KA (472) |
| R164 | 7010003320 | Resistor ELR20J 220 Ω |
| R165 | 7010004110 | Resistor R20J 220 Ω |
| R166 | 7010004230 | Resistor R20J 2.2 kΩ |
| R167 | 7010003720 | Resistor ELR20J 330 kΩ |
| R168 | 7010004230 | Resistor R20J 2.2 kΩ |
| R169 | 7010004270 | Resistor R20J 4.7 kΩ |
| R170 | 7010004110 | Resistor R20J 220 Ω |
| R171 | 7310000710 | Trimmer RH0651C13J1YA (102) |
| R172 | 7010004110 | Resistor R20J 220 Ω |
| R173 | 7010004190 | Resistor R20J 1 kΩ |
| R174 | 7010003250 | Resistor ELR20J 56 Ω |
| R175 | 7010003470 | Resistor ELR20J 3.9 kΩ |
| R176 | 7010004220 | Resistor R20J 1.8 kΩ |
| R178 | 7010003470 | Resistor ELR20J 3.9 kΩ |

[MAIN UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION |
|----------|------------|-----------------------------|
| R180 | 7010001220 | Resistor R25J 3.9 kΩ |
| R181 | 7010003470 | Resistor ELR20J 3.9 kΩ |
| R182 | 7010003160 | Resistor ELR20J 10 Ω |
| R183 | 7010001150 | Resistor R25J 1 kΩ |
| R184 | 7010004110 | Resistor R20J 220 Ω |
| R185 | 7010003620 | Resistor ELR20J 47 kΩ |
| R186 | 7010004130 | Resistor R20J 330 Ω |
| R187 | 7010004110 | Resistor R20J 220 Ω |
| R188 | 7010003620 | Resistor ELR20J 47 kΩ |
| R189 | 7010003600 | Resistor ELR20J 33 kΩ |
| R190 | 7010004320 | Resistor R20J 10 kΩ |
| R191 | 7010003530 | Resistor ELR20J 10 kΩ |
| R192 | 7010003480 | Resistor ELR20J 4.7 kΩ |
| R193 | 7010004410 | Resistor R20J 47 kΩ |
| R194 | 7010003480 | Resistor ELR20J 4.7 kΩ |
| R195 | 7010003480 | Resistor ELR20J 4.7 kΩ |
| R196 | 7010003600 | Resistor ELR20J 33 kΩ |
| R197 | 7010003550 | Resistor ELR20J 15 kΩ |
| R198 | 7410000080 | Resistor Array RMX- 4 473K |
| R199 | 7010003480 | Resistor ELR20J 4.7 kΩ |
| R200 | 7010004110 | Resistor R20J 220 Ω |
| R201 | 7310000740 | Trimmer RH0651CS3J2KA (472) |
| R202 | 7010004230 | Resistor R20J 2.2 kΩ |
| R203 | 7010003660 | Resistor ELR20J 100 kΩ |
| R204 | 7310000790 | Trimmer RH0651C15J1UA (104) |
| R205 | 7010004420 | Resistor R20J 56 kΩ |
| R206 | 7010004450 | Resistor R20J 100 kΩ |
| R207 | 7010003280 | Resistor ELR20J 100 Ω |
| R208 | 7010004410 | Resistor R20J 47 kΩ |
| R209 | 7010004320 | Resistor R20J 10 kΩ |
| R210 | 7010003580 | Resistor ELR20J 22 kΩ |
| R211 | 7010003600 | Resistor ELR20J 33 kΩ |
| R212 | 7010003440 | Resistor ELR20J 2.2 kΩ |
| R213 | 7010004090 | Resistor R20J 150 Ω |
| R214 | 7010003620 | Resistor ELR20J 47 kΩ |
| R215 | 7010003620 | Resistor ELR20J 47 kΩ |
| R216 | 7010003440 | Resistor ELR20J 2.2 kΩ |
| R217 | 7010004090 | Resistor R20J 150 Ω |
| R218 | 7010003670 | Resistor ELR20J 120 kΩ |
| R219 | 7310001720 | Trimmer RH0421C15J06A (104) |
| R220 | 7010004450 | Resistor R20J 100 kΩ |
| R221 | 7010004450 | Resistor R20J 100 kΩ |
| R222 | 7010003690 | Resistor ELR20J 180 kΩ |
| R223 | 7310000770 | Trimmer RH0651CN4J0TA (333) |
| R224 | 7310000750 | Trimmer RH0651C14J2WA (103) |
| R225 | 7010003630 | Resistor ELR20J 56 kΩ |
| R226 | 7010003700 | Resistor ELR20J 220 kΩ |
| R228 | 7010001280 | Resistor R25J 10 kΩ |
| R229 | 7010003620 | Resistor ELR20J 47 kΩ |
| R230 | 7010004080 | Resistor R20J 120 Ω |
| R231 | 7010004090 | Resistor R20J 150 Ω |
| R233 | 7010003630 | Resistor ELR20J 56 kΩ |
| R234 | 7010003480 | Resistor ELR20J 4.7 kΩ |
| R235 | 7010003400 | Resistor ELR20J 1 kΩ |
| R236 | 7010003580 | Resistor ELR20J 22 kΩ |
| R237 | 7010003480 | Resistor ELR20J 4.7 kΩ |
| R238 | 7010003360 | Resistor ELR20J 470 Ω |
| R239 | 7010003530 | Resistor ELR20J 10 kΩ |
| R240 | 7010003590 | Resistor ELR20J 27 kΩ |
| R241 | 7010004450 | Resistor R20J 100 kΩ |
| R242 | 7010003660 | Resistor ELR20J 100 kΩ |
| R243 | 7010004410 | Resistor R20J 47 kΩ |
| R244 | 7010004450 | Resistor R20J 100 kΩ |
| R245 | 7010003620 | Resistor ELR20J 47 kΩ |
| R246 | 7010004450 | Resistor R20J 100 kΩ |
| R247 | 7010004410 | Resistor R20J 47 kΩ |
| R248 | 7010004450 | Resistor R20J 100 kΩ |
| R249 | 7010004190 | Resistor R20J 1 kΩ |
| R250 | 7010003240 | Resistor ELR20J 47 Ω |
| R251 | 7010004450 | Resistor R20J 100 kΩ |
| R252 | 7010004190 | Resistor R20J 1 kΩ |
| R253 | 7010004090 | Resistor R20J 150 Ω |
| R254 | 7010004070 | Resistor R20J 100 Ω |
| R255 | 7010003530 | Resistor ELR20J 10 kΩ |
| R256 | 7010004090 | Resistor R20J 150 Ω |

[MAIN UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION |
|----------|------------|------------------------|
| R258 | 7010003480 | Resistor ELR20J 4.7 kΩ |
| R259 | 7010004090 | Resistor R20J 150 Ω |
| R260 | 7010003620 | Resistor ELR20J 47 kΩ |
| R261 | 7010004410 | Resistor R20J 47 kΩ |
| R262 | 7010003360 | Resistor ELR20J 470 Ω |
| R263 | 7010004090 | Resistor R20J 150 Ω |
| R264 | 7010001240 | Resistor R25J 5.6 kΩ |
| R265 | 7010003680 | Resistor ELR20J 150 kΩ |
| R266 | 7010003630 | Resistor ELR20J 56 kΩ |
| R267 | 7010003630 | Resistor ELR20J 56 kΩ |
| R268 | 7010004410 | Resistor R20J 47 kΩ |
| R269 | 7010003440 | Resistor ELR20J 2.2 kΩ |
| R270 | 7010003490 | Resistor ELR20J 5.6 kΩ |
| R271 | 7010004230 | Resistor R20J 2.2 kΩ |
| R272 | 7010004200 | Resistor R20J 1.2 kΩ |
| R273 | 7010003640 | Resistor ELR20J 68 kΩ |
| R274 | 7010003360 | Resistor ELR20J 470 Ω |
| R275 | 7010004320 | Resistor R20J 10 kΩ |
| R276 | 7010004320 | Resistor R20J 10 kΩ |
| R277 | 7010004370 | Resistor R20J 22 kΩ |
| R278 | 7010004320 | Resistor R20J 10 kΩ |
| R279 | 7010004300 | Resistor R20J 6.8 kΩ |
| R280 | 7010004130 | Resistor R20J 330 Ω |
| R281 | 7010003400 | Resistor ELR20J 1 kΩ |
| R282 | 7010003480 | Resistor ELR20J 4.7 kΩ |
| R283 | 7010004230 | Resistor R20J 2.2 kΩ |
| R284 | 7010003440 | Resistor ELR20J 2.2 kΩ |
| R285 | 7010003320 | Resistor ELR20J 220 Ω |
| R286 | 7010003400 | Resistor ELR20J 1 kΩ |
| R287 | 7010004490 | Resistor R20J 220 kΩ |
| R288 | 7010003240 | Resistor ELR20J 47 Ω |
| R289 | 7010003530 | Resistor ELR20J 10 kΩ |
| R290 | 7010003530 | Resistor ELR20J 10 kΩ |
| R291 | 7010003340 | Resistor ELR20J 330 Ω |
| R292 | 7010003320 | Resistor ELR20J 220 Ω |
| R293 | 7010003490 | Resistor ELR20J 5.6 kΩ |
| R294 | 7010003250 | Resistor ELR20J 56 Ω |
| R295 | 7010003330 | Resistor ELR20J 270 Ω |
| R296 | 7010003980 | Resistor R20J 18 Ω |
| R297 | 7010001080 | Resistor R25J 270 Ω |
| R298 | 7010004150 | Resistor R20J 470 Ω |
| R299 | 7010004160 | Resistor R20J 560 Ω |
| R300 | 7010003580 | Resistor ELR20J 22 kΩ |
| R301 | 7010003580 | Resistor ELR20J 22 kΩ |
| R302 | 7010003490 | Resistor ELR20J 5.6 kΩ |
| R303 | 7010004210 | Resistor R20J 1.5 kΩ |
| R304 | 7010004280 | Resistor R20J 5.6 kΩ |
| R305 | 7010004180 | Resistor R20J 820 Ω |
| R306 | 7010004210 | Resistor R20J 1.5 kΩ |
| R307 | 7010004110 | Resistor R20J 220 Ω |
| R308 | 7010003490 | Resistor ELR20J 5.6 kΩ |
| R309 | 7010004210 | Resistor R20J 1.5 kΩ |
| R310 | 7010001030 | Resistor R25J 100 Ω |
| R311 | 7010003420 | Resistor ELR20J 1.5 kΩ |
| R312 | 7010004110 | Resistor R20J 220 Ω |
| R313 | 7010003490 | Resistor ELR20J 5.6 kΩ |
| R314 | 7010004210 | Resistor R20J 1.5 kΩ |
| R315 | 7010004070 | Resistor R20J 100 Ω |
| R316 | 7010003420 | Resistor ELR20J 1.5 kΩ |
| R317 | 7010004110 | Resistor R20J 220 Ω |
| R318 | 7010004280 | Resistor R20J 5.6 kΩ |
| R319 | 7010004210 | Resistor R20J 1.5 kΩ |
| R320 | 7010004070 | Resistor R20J 100 Ω |
| R321 | 7010003420 | Resistor ELR20J 1.5 kΩ |
| R322 | 7010001070 | Resistor R25J 220 Ω |
| R323 | 7010003490 | Resistor ELR20J 5.6 kΩ |
| R324 | 7010004210 | Resistor R20J 1.5 kΩ |
| R325 | 7010001030 | Resistor R25J 100 Ω |
| R326 | 7010004210 | Resistor R20J 1.5 kΩ |
| R327 | 7010004110 | Resistor R20J 220 Ω |
| R328 | 7010004270 | Resistor R20J 4.7 kΩ |
| R329 | 7010004270 | Resistor R20J 4.7 kΩ |
| R330 | 7010004070 | Resistor R20J 100 Ω |
| R331 | 7010003490 | Resistor ELR20J 5.6 kΩ |
| R332 | 7010003400 | Resistor ELR20J 1 kΩ |

[MAIN UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION |
|----------|------------|-----------------------------|
| R333 | 7010003420 | Resistor ELR20J 1.5 kΩ |
| R334 | 7010003440 | Resistor ELR20J 2.2 kΩ |
| R335 | 7010004320 | Resistor R20J 10 kΩ |
| R336 | 7510000060 | Thermistor 112-503-2AI |
| R337 | 7010003580 | Resistor ELR20J 22 kΩ |
| R338 | 7010003560 | Resistor ELR20J 18 kΩ |
| R339 | 7010003580 | Resistor ELR20J 22 kΩ |
| R340 | 7010003660 | Resistor ELR20J 100 kΩ |
| R341 | 7010003240 | Resistor ELR20J 47 Ω |
| R342 | 7010004130 | Resistor R20J 330 Ω |
| R343 | 7010004110 | Resistor R20J 220 Ω |
| R345 | 7010003480 | Resistor ELR20J 4.7 kΩ |
| R346 | 7010003510 | Resistor ELR20J 6.8 kΩ |
| R347 | 7010003410 | Resistor ELR20J 1.2 kΩ |
| R348 | 7010003620 | Resistor ELR20J 47 kΩ |
| R349 | 7010003530 | Resistor ELR20J 10 kΩ |
| R350 | 7010004130 | Resistor R20J 330 Ω |
| R351 | 7010004070 | Resistor R20J 100 Ω |
| R352 | 7010004030 | Resistor R20J 47 Ω |
| R353 | 7310000750 | Trimmer RH0651C14J2WA (103) |
| R354 | 7010003440 | Resistor ELR20J 2.2 kΩ |
| R355 | 7010003320 | Resistor ELR20J 220 Ω |
| R356 | 7310000760 | Trimmer RH0651CJ4J01A (223) |
| R357 | 7010003560 | Resistor ELR20J 18 kΩ |
| R358 | 7010003480 | Resistor ELR20J 4.7 kΩ |
| R359 | 7010003480 | Resistor ELR20J 4.7 kΩ |
| R360 | 7010004320 | Resistor R20J 10 kΩ |
| R361 | 7010003580 | Resistor ELR20J 22 kΩ |
| R362 | 7010004190 | Resistor R20J 1 kΩ |
| R363 | 7010001030 | Resistor R25J 100 Ω |
| R364 | 7010001030 | Resistor R25J 100 Ω |
| R365 | 7010004300 | Resistor R20J 6.8 kΩ |
| R366 | 7010001030 | Resistor R25J 100 Ω |
| R367 | 7010004300 | Resistor R20J 6.8 kΩ |
| R368 | 7010001030 | Resistor R25J 100 Ω |
| R369 | 7010003510 | Resistor ELR20J 6.8 kΩ |
| R370 | 7010001030 | Resistor R25J 100 Ω |
| R371 | 7010004300 | Resistor R20J 6.8 kΩ |
| R372 | 7010001030 | Resistor R25J 100 Ω |
| R373 | 7010004300 | Resistor R20J 6.8 kΩ |
| R374 | 7010001030 | Resistor R25J 100 Ω |
| R375 | 7010004300 | Resistor R20J 6.8 kΩ |
| R376 | 7010001030 | Resistor R25J 100 Ω |
| R377 | 7010003510 | Resistor ELR20J 6.8 kΩ |
| R378 | 7010004070 | Resistor R20J 100 Ω |
| R379 | 7010004070 | Resistor R20J 100 Ω |
| R380 | 7010004070 | Resistor R20J 100 Ω |
| R381 | 7010003510 | Resistor ELR20J 6.8 kΩ |
| R382 | 7010001230 | Resistor R25J 4.7 kΩ |
| R383 | 7010004270 | Resistor R20J 4.7 kΩ |
| R384 | 7010004300 | Resistor R20J 6.8 kΩ |
| R385 | 7010004070 | Resistor R20J 100 Ω |
| R386 | 7010004300 | Resistor R20J 6.8 kΩ |
| R387 | 7010004070 | Resistor R20J 100 Ω |
| R389 | 7010004260 | Resistor R20J 3.9 kΩ |
| R390 | 7010004190 | Resistor R20J 1 kΩ |
| R391 | 7310000750 | Trimmer RH0651C14J2WA (103) |
| R392 | 7010004490 | Resistor R20J 220 kΩ |
| R393 | 7010003440 | Resistor ELR20J 2.2 kΩ |
| R394 | 7010003480 | Resistor ELR20J 4.7 kΩ |
| R395 | 7010004270 | Resistor R20J 4.7 kΩ |
| R396 | 7010004320 | Resistor R20J 10 kΩ |
| R397 | 7010003440 | Resistor ELR20J 2.2 kΩ |
| R398 | 7010004450 | Resistor R20J 100 kΩ |
| R399 | 7010001400 | Resistor R25J 100 kΩ |
| R400 | 7010003450 | Resistor ELR20J 2.7 kΩ |
| R401 | 7010003460 | Resistor ELR20J 3.3 kΩ |
| R402 | 7010004320 | Resistor R20J 10 kΩ |
| R403 | 7010003660 | Resistor ELR20J 100 kΩ |
| R404 | 7010004110 | Resistor R20J 220 Ω |
| R405 | 7010003450 | Resistor ELR20J 2.7 kΩ |
| R406 | 7010003510 | Resistor ELR20J 6.8 kΩ |
| R407 | 7010003530 | Resistor ELR20J 10 kΩ |
| R408 | 7010004070 | Resistor R20J 100 Ω |
| R409 | 7010003240 | Resistor ELR20J 47 Ω |

[MAIN UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION |
|----------|------------|-----------------------------|
| R410 | 7010003340 | Resistor ELR20J 330 Ω |
| R411 | 7010001070 | Resistor R25J 220 Ω |
| R412 | 7010004300 | Resistor R20J 6.8 kΩ |
| R413 | 7510000150 | Thermistor ERT-D2FHL462S |
| R414 | 7310000750 | Trimmer RH0651C14J2WA (103) |
| R415 | 7010003400 | Resistor ELR20J 1 kΩ |
| R416 | 7010003670 | Resistor ELR20J 120 kΩ |
| R417 | 7010003310 | Resistor ELR20J 180 Ω |
| R418 | 7010004190 | Resistor R20J 1 kΩ |
| R420 | 7010003440 | Resistor ELR20J 2.2 kΩ |
| R421 | 7010004070 | Resistor R20J 100 Ω |
| R422 | 7010004070 | Resistor R20J 100 Ω |
| R424 | 7010004320 | Resistor R20J 10 kΩ |
| R425 | 7010003530 | Resistor ELR20J 10 kΩ |
| R426 | 7010003480 | Resistor ELR20J 4.7 kΩ |
| R427 | 7010003400 | Resistor ELR20J 1 kΩ |
| R429 | 7010001300 | Resistor R25J 15 kΩ |
| R430 | 7010004280 | Resistor R20J 5.6 kΩ |
| R431 | 7010003610 | Resistor ELR20J 39 kΩ |
| R432 | 7010003280 | Resistor ELR20J 100 Ω |
| R433 | 7010004270 | Resistor R20J 4.7 kΩ |
| R434 | 7010003400 | Resistor ELR20J 1 kΩ |
| R435 | 7310000710 | Trimmer RH0651C13J1YA (102) |
| R437 | 7010003370 | Resistor ELR20J 560 Ω |
| R438 | 7010003780 | Resistor ELR20J 1 MΩ |
| R439 | 7010003780 | Resistor ELR20J 1 MΩ |
| R440 | 7010003400 | Resistor ELR20J 1 kΩ |
| R441 | 7010004450 | Resistor R20J 100 kΩ |
| R443 | 7010003480 | Resistor ELR20J 4.7 kΩ |
| R444 | 7010004320 | Resistor R20J 10 kΩ |
| R445 | 7010003620 | Resistor ELR20J 47 kΩ |
| R446 | 7010001280 | Resistor R25J 10 kΩ |
| R447 | 7010003400 | Resistor ELR20J 1 kΩ |
| R448 | 7010003700 | Resistor ELR20J 220 kΩ |
| R449 | 7010004190 | Resistor R20J 1 kΩ |
| R450 | 7010004320 | Resistor R20J 10 kΩ |
| R451 | 7010003680 | Resistor ELR20J 150 kΩ |
| R452 | 7010001070 | Resistor R25J 220 Ω |
| R453 | 7010003580 | Resistor ELR20J 22 kΩ |
| R454 | 7010003580 | Resistor ELR20J 22 kΩ |
| R455 | 7010004070 | Resistor R20J 100 Ω |
| R456 | 7010003400 | Resistor ELR20J 1 kΩ |
| R457 | 7010001030 | Resistor R25J 100 Ω |
| R458 | 7010004110 | Resistor R20J 220 Ω |
| R459 | 7010001210 | Resistor R25J 3.3 kΩ |
| R461 | 7010001070 | Resistor R25J 220 Ω |
| R462 | 7010003340 | Resistor ELR20J 330 Ω |
| R463 | 7010003530 | Resistor ELR20J 10 kΩ |
| R464 | 7010003510 | Resistor ELR20J 6.8 kΩ |
| R465 | 7010003240 | Resistor ELR20J 47 Ω |
| R466 | 7010004070 | Resistor R20J 100 Ω |
| R467 | 7010001280 | Resistor R25J 10 kΩ |
| R468 | 7010003530 | Resistor ELR20J 10 kΩ |
| R469 | 7010003630 | Resistor ELR20J 56 kΩ |
| R470 | 7010004410 | Resistor R20J 47 kΩ |
| R471 | 7010003480 | Resistor ELR20J 4.7 kΩ |
| R472 | 7010004270 | Resistor R20J 4.7 kΩ |
| R473 | 7010004300 | Resistor R20J 6.8 kΩ |
| R474 | 7010004300 | Resistor R20J 6.8 kΩ |
| R475 | 7010003510 | Resistor ELR20J 6.8 kΩ |
| R476 | 7010004300 | Resistor R20J 6.8 kΩ |
| R477 | 7010004300 | Resistor R20J 6.8 kΩ |
| R478 | 7010003280 | Resistor ELR20J 100 Ω |
| R479 | 7010004250 | Resistor R20J 3.3 kΩ |
| R480 | 7010003660 | Resistor ELR20J 100 kΩ |
| R481 | 7010004270 | Resistor R20J 4.7 kΩ |
| R482 | 7080000630 | Resistor CRB25FX 1 MΩ |
| R483 | 7010003530 | Resistor ELR20J 10 kΩ |
| R484 | 7010001030 | Resistor R25J 100 Ω |
| R485 | 7010004050 | Resistor R20J 68 Ω |
| R486 | 7010001030 | Resistor R25J 100 Ω |
| R487 | 7010003250 | Resistor ELR20J 56 Ω |
| R488 | 7010003250 | Resistor ELR20J 56 Ω |
| R489 | 7010004250 | Resistor R20J 3.3 kΩ |
| R490 | 7010004270 | Resistor R20J 4.7 kΩ |

[MAIN UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|---------------|-------------------|
| R491 | 7010001070 | Resistor | R25J 220 Ω |
| R492 | 7010001070 | Resistor | R25J 220 Ω |
| C2 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C3 | 4510002840 | Electrolytic | 25 SS 10 μF |
| C4 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C5 | 4510001100 | Electrolytic | 16 MS7 10 μF |
| C6 | 4510001100 | Electrolytic | 16 MS7 10 μF |
| C7 | 4510001150 | Electrolytic | 50 MS7 R47 μF |
| C8 | 4550000320 | Tantalum | DN 1V 0R1M |
| C9 | 4550000360 | Tantalum | DN 1V R47M |
| C10 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C11 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C12 | 4310000040 | Mylar | F2D 50V 154K |
| C13 | 4310000030 | Mylar | F2D 50V 104K |
| C14 | 4310000120 | Mylar | F2D 50V 473K |
| C15 | 4510001160 | Electrolytic | 50 MS7 1 μF |
| C16 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C17 | 4510001160 | Electrolytic | 50 MS7 1 μF |
| C18 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C19 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C20 | 4510001100 | Electrolytic | 16 MS7 10 μF |
| C22 | 4310000020 | Mylar | F2D 50V 103K |
| C23 | 4510001760 | Electrolytic | 25 RBP 4.7 μF |
| C24 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C25 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C26 | 4510003040 | Electrolytic | 16 SS 100 μF |
| C27 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C28 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C29 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C30 | 4510001150 | Electrolytic | 50 MS7 R47 μF |
| C31 | 4510001100 | Electrolytic | 16 MS7 10 μF |
| C32 | 4510001100 | Electrolytic | 16 MS7 10 μF |
| C33 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C34 | 4020000100 | Cylinder | UP125 SL 220J |
| C35 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C36 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C37 | 4010000070 | Ceramic | DD104 SL 050C 50V |
| C38 | 4020000130 | Cylinder | UP125 SL 560J |
| C39 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C40 | 4010001020 | Ceramic | DD111 CH 221J 50V |
| C41 | 4010001020 | Ceramic | DD111 CH 221J 50V |
| C42 | 4610001200 | Trimmer | CVSSE3001 |
| C43 | 4010000840 | Ceramic | DD105 CH 390J 50V |
| C44 | 4040000150 | Barrier Layer | UAT 05X 472K |
| C45 | 4610001200 | Trimmer | CVSSE3001 |
| C46 | 4010000820 | Ceramic | DD105 CH 330J 50V |
| C47 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C48 | 4010000780 | Ceramic | DD104 CH 220J 50V |
| C49 | 4010000820 | Ceramic | DD105 CH 330J 50V |
| C50 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C51 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C52 | 4010001020 | Ceramic | DD111 CH 221J 50V |
| C53 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C54 | 4510001100 | Electrolytic | 16 MS7 10 μF |
| C55 | 4310000060 | Mylar | F2D 50V 223K |
| C56 | 4310000060 | Mylar | F2D 50V 223K |
| C57 | 4310000060 | Mylar | F2D 50V 223K |
| C58 | 4550000340 | Tantalum | DN 1C 100M |
| C59 | 4510001970 | Electrolytic | 50 MS7 0R1 μF |
| C60 | 4510001140 | Electrolytic | 50 MS7 R22 μF |
| C61 | 4010000150 | Ceramic | DD104 SL 150J 50V |
| C63 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C64 | 4550000340 | Tantalum | DN 1C 100M |
| C65 | 4510001150 | Electrolytic | 50 MS7 R47 μF |
| C66 | 4510001100 | Electrolytic | 16 MS7 10 μF |
| C67 | 4040000150 | Barrier Layer | UAT 05X 472K |
| C68 | 4310000110 | Mylar | F2D 50V 472K |
| C69 | 4310000110 | Mylar | F2D 50V 472K |
| C70 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C71 | 4510001140 | Electrolytic | 50 MS7 R22 μF |
| C72 | 4310000010 | Mylar | F2D 50V 102K |
| C73 | 4010000460 | Ceramic | DD104 B 471K 50V |

[MAIN UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-----------------|------------------------------|
| C74 | 4510001170 | Electrolytic | 50 MS7 2R2 μF |
| C75 | 4510001170 | Electrolytic | 50 MS7 2R2 μF |
| C76 | 4510001100 | Electrolytic | 16 MS7 10 μF |
| C77 | 4510001100 | Electrolytic | 16 MS7 10 μF |
| C79 | 4510002810 | Electrolytic | 16 SS 47 μF |
| C80 | 4510000310 | Electrolytic | 16 MS16 1000 μF (12.5X16) |
| C81 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C82 | 4510002810 | Electrolytic | 16 SS 47 μF |
| C83 | 4510002870 | Electrolytic | 25 SS 100 μF |
| C84 | 4510002380 | Electrolytic | 16 SS 470 μF (10X12.5) |
| C85 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C86 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C87 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C88 | 4010000330 | Ceramic | DD105 SL 101J 50V |
| C89 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C90 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C91 | 4510001750 | Electrolytic | 50 RBP 2.2 μF |
| C92 | 4510001160 | Electrolytic | 50 MS7 1 μF |
| C93 | 4510001100 | Electrolytic | 16 MS7 10 μF |
| C94 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C95 | 4550000390 | Tantalum | DN 1V R22M |
| C96 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C97 | 4010000940 | Ceramic | DD107 CH 101J 50V |
| C98 | 4010000940 | Ceramic | DD107 CH 101J 50V |
| C99 | 4010000670 | Ceramic | DD104 CH 070D 50V |
| C100 | 4010000700 | Ceramic | DD104 CH 100D 50V |
| C101 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C102 | 4510001100 | Electrolytic | 16 MS7 10 μF |
| C103 | 4510001100 | Electrolytic | 16 MS7 10 μF |
| C104 | 4510001100 | Electrolytic | 16 MS7 10 μF |
| C105 | 4040000150 | Barrier Layer | UAT 05X 472K |
| C106 | 4530000350 | Capacitor Array | B8ZC0111-32N |
| C107 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C108 | 4550000410 | Tantalum | DN 1V 4R7M |
| C109 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C110 | 4010000010 | Ceramic | DD104 SL 0R5C 50V |
| C111 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C112 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C113 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C114 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C115 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C116 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C117 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C118 | 4010000150 | Ceramic | DD104 SL 150J 50V |
| C119 | 4010000180 | Ceramic | DD104 SL 220J 50V |
| C120 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C121 | 4010000940 | Ceramic | DD107 CH 101J 50V |
| C122 | 4010000940 | Ceramic | DD107 CH 101J 50V |
| C123 | 4610001200 | Trimmer | CVSSE3001 |
| C124 | 4010000780 | Ceramic | DD104 CH 220J 50V |
| C125 | 4610001130 | Trimmer | CVSSA1001 |
| C126 | 4010000700 | Ceramic | DD104 CH 100D 50V |
| C127 | 4010000780 | Ceramic | DD104 CH 220J 50V |
| C128 | 4610001000 | Trimmer | CVSSA0701 |
| C129 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C130 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C131 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C132 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C133 | 4010001020 | Ceramic | DD111 CH 221J 50V |
| C134 | 4010000940 | Ceramic | DD107 CH 101J 50V |
| C135 | 4010000940 | Ceramic | DD107 CH 101J 50V |
| C136 | 4010000100 | Ceramic | DD104 SL 080D 50V |
| C137 | 4010000040 | Ceramic | DD104 SL 020C 50V |
| C138 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C139 | 4010000330 | Ceramic | DD105 SL 101J 50V |
| C140 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C141 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C142 | 4510001150 | Electrolytic | 50 MS7 R47 μF |
| C143 | 4510001180 | Electrolytic | 50 MS7 3R3 μF |
| C144 | 4510001120 | Electrolytic | 25 MS7 4R7 μF |
| C145 | 4550000410 | Tantalum | DN 1V 4R7M |
| C146 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C147 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C148 | 4040000250 | Barrier Layer | UAT 08X 473M |

[MAIN UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION |
|----------|------------|----------------------------|
| C149 | 4550002460 | Tantalum DN 1V 3R3M |
| C150 | 4010000520 | Ceramic DD108 B 472K 50V |
| C151 | 4510001100 | Electrolytic 16 MS7 10 µF |
| C152 | 4510001140 | Electrolytic 50 MS7 R22 µF |
| C153 | 4510001970 | Electrolytic 50 MS7 0R1 µF |
| C154 | 4040000260 | Barrier Layer UZE 08X 104M |
| C155 | 4040000260 | Barrier Layer UZE 08X 104M |
| C156 | 4040000260 | Barrier Layer UZE 08X 104M |
| C157 | 4040000250 | Barrier Layer UAT 08X 473M |
| C158 | 4010000520 | Ceramic DD108 B 472K 50V |
| C159 | 4010000520 | Ceramic DD108 B 472K 50V |
| C160 | 4010000330 | Ceramic DD105 SL 101J 50V |
| C161 | 4010000520 | Ceramic DD108 B 472K 50V |
| C162 | 4010000520 | Ceramic DD108 B 472K 50V |
| C163 | 4010000520 | Ceramic DD108 B 472K 50V |
| C164 | 4550000390 | Tantalum DN 1V R22M |
| C165 | 4510001170 | Electrolytic 50 MS7 2R2 µF |
| C166 | 4010000520 | Ceramic DD108 B 472K 50V |
| C167 | 4010000520 | Ceramic DD108 B 472K 50V |
| C168 | 4020000210 | Cylinder UP125 B 102K |
| C169 | 4010000410 | Ceramic DD107 SL 331J 50V |
| C170 | 4310000020 | Mylar F2D 50V 103K |
| C171 | 4040000150 | Barrier Layer UAT 05X 472K |
| C172 | 4510001100 | Electrolytic 16 MS7 10 µF |
| C173 | 4510001120 | Electrolytic 25 MS7 4R7 µF |
| C174 | 4310000020 | Mylar F2D 50V 103K |
| C175 | 4510001150 | Electrolytic 50 MS7 R47 µF |
| C176 | 4510002790 | Electrolytic 16 SS 22 µF |
| C177 | 4010000410 | Ceramic DD107 SL 331J 50V |
| C179 | 4010000430 | Ceramic DD109 SL 471J 50V |
| C180 | 4010000520 | Ceramic DD108 B 472K 50V |
| C181 | 4020000040 | Cylinder UP125 SL 3R3K |
| C182 | 4040000250 | Barrier Layer UAT 08X 473M |
| C183 | 4010000500 | Ceramic DD104 B 102K 50V |
| C184 | 4040000260 | Barrier Layer UZE 08X 104M |
| C185 | 4010000520 | Ceramic DD108 B 472K 50V |
| C187 | 4010000520 | Ceramic DD108 B 472K 50V |
| C188 | 4010000500 | Ceramic DD104 B 102K 50V |
| C189 | 4010000200 | Ceramic DD104 SL 270J 50V |
| C190 | 4010000250 | Ceramic DD104 SL 430J 50V |
| C191 | 4010000140 | Ceramic DD104 SL 120J 50V |
| C192 | 4010000300 | Ceramic DD104 SL 680J 50V |
| C193 | 4010000240 | Ceramic DD104 SL 390J 50V |
| C194 | 4010000200 | Ceramic DD104 SL 270J 50V |
| C195 | 4040000150 | Barrier Layer UAT 05X 472K |
| C196 | 4010000380 | Ceramic DD107 SL 221J 50V |
| C197 | 4020000500 | Cylinder UP050 SL 8R2K |
| C198 | 4020000360 | Cylinder UP050 SL 2R2K |
| C199 | 4020000500 | Cylinder UP050 SL 8R2K |
| C200 | 4040000150 | Barrier Layer UAT 05X 472K |
| C201 | 4010000520 | Ceramic DD108 B 472K 50V |
| C202 | 4010000500 | Ceramic DD104 B 102K 50V |
| C203 | 4010000520 | Ceramic DD108 B 472K 50V |
| C204 | 4010000520 | Ceramic DD108 B 472K 50V |
| C205 | 4010000520 | Ceramic DD108 B 472K 50V |
| C206 | 4010000520 | Ceramic DD108 B 472K 50V |
| C207 | 4010000520 | Ceramic DD108 B 472K 50V |
| C208 | 4010000520 | Ceramic DD108 B 472K 50V |
| C209 | 4010000520 | Ceramic DD108 B 472K 50V |
| C210 | 4010000520 | Ceramic DD108 B 472K 50V |
| C211 | 4010000520 | Ceramic DD108 B 472K 50V |
| C212 | 4010000520 | Ceramic DD108 B 472K 50V |
| C213 | 4010000520 | Ceramic DD108 B 472K 50V |
| C214 | 4010000520 | Ceramic DD108 B 472K 50V |
| C215 | 4040000260 | Barrier Layer UZE 08X 104M |
| C216 | 4010000520 | Ceramic DD108 B 472K 50V |
| C217 | 4040000260 | Barrier Layer UZE 08X 104M |
| C218 | 4040000260 | Barrier Layer UZE 08X 104M |
| C219 | 4040000260 | Barrier Layer UZE 08X 104M |
| C220 | 4040000260 | Barrier Layer UZE 08X 104M |
| C221 | 4040000260 | Barrier Layer UZE 08X 104M |
| C222 | 4040000260 | Barrier Layer UZE 08X 104M |
| C223 | 4010000520 | Ceramic DD108 B 472K 50V |
| C224 | 4510001160 | Electrolytic 50 MS7 1 µF |
| C225 | 4010000520 | Ceramic DD108 B 472K 50V |

[MAIN UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION |
|----------|------------|----------------------------|
| C226 | 4040000260 | Barrier Layer UZE 08X 104M |
| C227 | 4040000260 | Barrier Layer UZE 08X 104M |
| C228 | 4010000380 | Ceramic DD107 SL 221J 50V |
| C229 | 4010000520 | Ceramic DD108 B 472K 50V |
| C230 | 4510001100 | Electrolytic 16 MS7 10 µF |
| C231 | 4510001970 | Electrolytic 50 MS7 0R1 µF |
| C232 | 4010000520 | Ceramic DD108 B 472K 50V |
| C233 | 4010000500 | Ceramic DD104 B 102K 50V |
| C234 | 4040000260 | Barrier Layer UZE 08X 104M |
| C235 | 4010000420 | Ceramic DD108 SL 391J 50V |
| C236 | 4020000250 | Cylinder UP125 X 472M |
| C237 | 4040000260 | Barrier Layer UZE 08X 104M |
| C238 | 4040000260 | Barrier Layer UZE 08X 104M |
| C239 | 4040000260 | Barrier Layer UZE 08X 104M |
| C240 | 4040000260 | Barrier Layer UZE 08X 104M |
| C241 | 4040000260 | Barrier Layer UZE 08X 104M |
| C242 | 4040000260 | Barrier Layer UZE 08X 104M |
| C243 | 4040000260 | Barrier Layer UZE 08X 104M |
| C244 | 4040000260 | Barrier Layer UZE 08X 104M |
| C245 | 4040000260 | Barrier Layer UZE 08X 104M |
| C246 | 4040000260 | Barrier Layer UZE 08X 104M |
| C247 | 4040000260 | Barrier Layer UZE 08X 104M |
| C248 | 4040000260 | Barrier Layer UZE 08X 104M |
| C249 | 4510001100 | Electrolytic 16 MS7 10 µF |
| C250 | 4010000520 | Ceramic DD108 B 472K 50V |
| C251 | 4040000260 | Barrier Layer UZE 08X 104M |
| C252 | 4010000520 | Ceramic DD108 B 472K 50V |
| C253 | 4040000150 | Barrier Layer UAT 05X 472K |
| C254 | 4010000520 | Ceramic DD108 B 472K 50V |
| C255 | 4010000520 | Ceramic DD108 B 472K 50V |
| C256 | 4010000640 | Ceramic DD104 CH 040C 50V |
| C257 | 4610001000 | Trimmer CVSSA0701 |
| C258 | 4010000650 | Ceramic DD104 CH 050C 50V |
| C259 | 4040000150 | Barrier Layer UAT 05X 472K |
| C260 | 4010000520 | Ceramic DD108 B 472K 50V |
| C261 | 4040000150 | Barrier Layer UAT 05X 472K |
| C262 | 4040000260 | Barrier Layer UZE 08X 104M |
| C263 | 4010000520 | Ceramic DD108 B 472K 50V |
| C264 | 4040000150 | Barrier Layer UAT 05X 472K |
| C265 | 4020000250 | Cylinder UP125 X 472M |
| C266 | 4040000260 | Barrier Layer UZE 08X 104M |
| C267 | 4040000260 | Barrier Layer UZE 08X 104M |
| C268 | 4040000260 | Barrier Layer UZE 08X 104M |
| C269 | 4040000260 | Barrier Layer UZE 08X 104M |
| C270 | 4040000260 | Barrier Layer UZE 08X 104M |
| C271 | 4040000260 | Barrier Layer UZE 08X 104M |
| C272 | 4040000260 | Barrier Layer UZE 08X 104M |
| C273 | 4510001120 | Electrolytic 25 MS7 4R7 µF |
| C274 | 4010000520 | Ceramic DD108 B 472K 50V |
| C275 | 4010000520 | Ceramic DD108 B 472K 50V |
| C276 | 4310000020 | Mylar F2D 50V 103K |
| C277 | 4310000120 | Mylar F2D 50V 473K |
| C279 | 4310000120 | Mylar F2D 50V 473K |
| C280 | 4040000260 | Barrier Layer UZE 08X 104M |
| C281 | 4510001950 | Electrolytic 50 MS7 R33 µF |
| C282 | 4510002940 | Electrolytic 50 SS 1 µF |
| C283 | 4040000260 | Barrier Layer UZE 08X 104M |
| C284 | 4510001120 | Electrolytic 25 MS7 4R7 µF |
| C285 | 4510001100 | Electrolytic 16 MS7 10 µF |
| C286 | 4010000520 | Ceramic DD108 B 472K 50V |
| C287 | 4510001100 | Electrolytic 16 MS7 10 µF |
| C288 | 4510001970 | Electrolytic 50 MS7 0R1 µF |
| C289 | 4310000060 | Mylar F2D 50V 223K |
| C290 | 4310000010 | Mylar F2D 50V 102K |
| C291 | 4010000410 | Ceramic DD107 SL 331J 50V |
| C292 | 4010000520 | Ceramic DD108 B 472K 50V |
| C293 | 4010000520 | Ceramic DD108 B 472K 50V |
| C294 | 4010000520 | Ceramic DD108 B 472K 50V |
| C295 | 4020000100 | Cylinder UP125 SL 220J |
| C296 | 4010000150 | Ceramic DD104 SL 150J 50V |
| C297 | 4010000320 | Ceramic DD104 SL 820J 50V |
| C298 | 4010000520 | Ceramic DD108 B 472K 50V |
| C299 | 4510001100 | Electrolytic 16 MS7 10 µF |
| C300 | 4510001140 | Electrolytic 50 MS7 R22 µF |
| C301 | 4510001150 | Electrolytic 50 MS7 R47 µF |

[MAIN UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|---------------|--|
| C302 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C303 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C304 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C305 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C306 | 4010000340 | Ceramic | DD105 SL 121J 50V |
| C307 | 4610001200 | Trimmer | CVSSE3001 |
| C308 | 4010000120 | Ceramic | DD104 SL 100D 50V |
| C309 | 4010000070 | Ceramic | DD104 SL 050C 50V |
| C310 | 4550000350 | Tantalum | DN 1V 010M |
| C311 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C312 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C313 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C314 | 4510001760 | Electrolytic | 25 RBP 4.7 μF |
| C315 | 4020000470 | Cylinder | UP050 SL 4R7K |
| C316 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C317 | 4010000380 | Ceramic | DD107 SL 221J 50V |
| C318 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C319 | 4010000700 | Ceramic | DD104 CH 100D 50V |
| C320 | 4040000150 | Barrier Layer | UAT 05X 472K |
| CP1 | 6910001040 | | IPS-1136 |
| S1 | 2220000360 | Switch | ESD-1111212 (RF power selector) |
| S2 | 2220000360 | Switch | ESD-1111212 (RTTY shift width selector) |
| S3 | 2220000360 | Switch | ESD-1111212 (RTTY polarity selector) |
| S4 | 2220000150 | Switch | EVQRBAL 10 (CW narrow filter) |
| S5 | 2220000150 | Switch | EVQRBAL 10 (AM filter) |
| S7 | 2220000150 | Switch | EVQRBAL 10 (CW narrow filter) |
| SO5 | 6510004550 | Socket | 380598-2 |
| SO6 | 6510004550 | Socket | 380598-2 |
| SO7 | 6510004550 | Socket | 380598-2 |
| SO8 | 6510004550 | Socket | 380598-2 |
| SO9 | 6510006640 | Socket | 50864-1 |
| SO10 | 6510006640 | Socket | 50864-1 |
| SO11 | 6510006640 | Socket | 50864-1 |
| SO12 | 6510006640 | Socket | 50864-1 |
| SO13 | 6510006640 | Socket | 50864-1 |
| SO14 | 6510006640 | Socket | 50864-1 |
| SO15 | 6510006640 | Socket | 50864-1 |
| SO16 | 6510006640 | Socket | 50864-1 |
| EP1 | 0910021694 | P.C. Board | B 2015D (MAIN) |
| EP8 | 6910000630 | Bead core | FSOH070RN |

[IDC UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|------------------------|
| IC1 | 1110000960 | IC | NJM4558M (T1) |
| R2 | 7030000470 | Resistor | MCR10EZHZ 5.6 kΩ (562) |
| R4 | 7030000610 | Resistor | MCR10EZHZ 82 kΩ (823) |
| R5 | 7030000610 | Resistor | MCR10EZHZ 82 kΩ (823) |
| R6 | 7030000610 | Resistor | MCR10EZHZ 82 kΩ (823) |
| R7 | 7030000500 | Resistor | MCR10EZHZ 10 kΩ (103) |
| R8 | 7030000430 | Resistor | MCR10EZHZ 2.7 kΩ (272) |
| R9 | 7030000380 | Resistor | MCR10EZHZ 1 kΩ (102) |

[IDC UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|----------------------|
| C1 | 4550000460 | Tantalum | TESVA 1C 105M1-8L |
| C2 | 4030003400 | Ceramic | GRM40 SL 102J 50PT |
| C3 | 4030003390 | Ceramic | GRM42-6 SL 222J 50PT |
| C4 | 4030000750 | Ceramic | GRM40 SL 121J 50PT |
| EP1 | 0910016114 | P.C. Board | B 1328D (IDC) |

[VOX UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|------------------------|
| IC1 | 1110000960 | IC | NJM4558M (T1) |
| IC2 | 1120000430 | IC | LA6393M-TP-T1 |
| Q1 | 1590000420 | Transistor | RN1404 |
| Q2 | 1590000420 | Transistor | RN1404 |
| Q3 | 1590000410 | Transistor | RN2404 |
| Q4 | 1590000410 | Transistor | RN2404 |
| D1 | 1750000050 | Diode | 1SS193 (TE85R) |
| D2 | 1750000050 | Diode | 1SS193 (TE85R) |
| D3 | 1750000070 | Diode | 1SS226 (TE85R) |
| D4 | 1750000050 | Diode | 1SS193 (TE85R) |
| D5 | 1750000050 | Diode | 1SS193 (TE85R) |
| R1 | 7030000460 | Resistor | MCR10EZHZ 4.7 kΩ (472) |
| R2 | 7030000620 | Resistor | MCR10EZHZ 100 kΩ (104) |
| R3 | 7030000580 | Resistor | MCR10EZHZ 47 kΩ (473) |
| R4 | 7030000580 | Resistor | MCR10EZHZ 47 kΩ (473) |
| R5 | 7030000580 | Resistor | MCR10EZHZ 47 kΩ (473) |
| R6 | 7030000540 | Resistor | MCR10EZHZ 22 kΩ (223) |
| R7 | 7030000500 | Resistor | MCR10EZHZ 10 kΩ (103) |
| R8 | 7030000380 | Resistor | MCR10EZHZ 1 kΩ (102) |
| R9 | 7030000580 | Resistor | MCR10EZHZ 47 kΩ (473) |
| R10 | 7030000500 | Resistor | MCR10EZHZ 10 kΩ (103) |
| R11 | 7030000460 | Resistor | MCR10EZHZ 4.7 kΩ (472) |
| R12 | 7030000580 | Resistor | MCR10EZHZ 47 kΩ (473) |
| R13 | 7030000580 | Resistor | MCR10EZHZ 47 kΩ (473) |
| R14 | 7030000580 | Resistor | MCR10EZHZ 47 kΩ (473) |
| R15 | 7030000500 | Resistor | MCR10EZHZ 10 kΩ (103) |
| R16 | 7030000500 | Resistor | MCR10EZHZ 10 kΩ (103) |
| R17 | 7030000500 | Resistor | MCR10EZHZ 10 kΩ (103) |
| R18 | 7030000380 | Resistor | MCR10EZHZ 1 kΩ (102) |
| R19 | 7030000380 | Resistor | MCR10EZHZ 1 kΩ (102) |
| R20 | 7030000470 | Resistor | MCR10EZHZ 5.6 kΩ (562) |
| R21 | 7030000420 | Resistor | MCR10EZHZ 2.2 kΩ (222) |
| C1 | 4030001150 | Ceramic | GRM40 F 104Z 25PT |
| C2 | 4550000460 | Tantalum | TESVA 1C 105M1-8L |
| C3 | 4030001150 | Ceramic | GRM40 F 104Z 25PT |
| C4 | 4030001150 | Ceramic | GRM40 F 104Z 25PT |
| C5 | 4550000460 | Tantalum | TESVA 1C 105M1-8L |
| EP1 | 0910016121 | P.C. Board | B 1333A (VOX) |

[PA UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------------|-----------------|
| IC401 | 1140000400 | IC | μPD7564CS-031 |
| Q101 | 1530000790 | Transistor | 2SC1971 |
| Q102 | 1530000190 | Transistor | 2SC3133 |
| Q103 | 1530000190 | Transistor | 2SC3133 |
| Q104 | 1530000200 | Transistor | 2SC2904 |
| Q105 | 1530000200 | Transistor | 2SC2904 |
| Q106 | 1540000060 | Transistor | 2SD880-Y |
| Q107 | 1530000070 | Transistor | 2SC2120-Y |
| Q201 | 1520000060 | Transistor | 2SB562C |
| Q202 | 1540000070 | Transistor | 2SD468C |
| Q203 | 1590000340 | Transistor | RN1202 |
| Q204 | 1590000340 | Transistor | RN1202 |
| Q401 | 1590000340 | Transistor | RN1202 |
| D101 | 1790000010 | Diode | MV5 |
| D102 | 1790000010 | Diode | MV5 |
| D109 | 1790000010 | Diode | MV5 |
| D201 | 1710000590 | Diode | GM-3B |
| D202 | 1710000050 | Diode | 1SS53 |
| D203 | 1710000050 | Diode | 1SS53 |
| D204 | 1710000050 | Diode | 1SS53 |
| D401 | 1730000100 | Zener | RD5.1E B2 |
| X401 | 6060000160 | Ceramic resonator | CSB500E |
| L101 | 6140001170 | Coil | LR-142 |
| L102 | 6180001200 | Coil | FL 4H 1R2M |
| L103 | 6180001200 | Coil | FL 4H 1R2M |
| L104 | 6140001180 | Coil | LR-143 |
| L106 | 6910000670 | Coil | BT01RN1-A61-001 |
| L108 | 6910000670 | Coil | BT01RN1-A61-001 |
| L109 | 6140000610 | Coil | LR-83 |
| L110 | 6140001190 | Coil | LR-144 |
| L111 | 6140001210 | Coil | LR-146 |
| L112 | 6180001120 | Coil | FL 5H 101K |
| L114 | 6910000670 | Coil | BT01RN1-A61-001 |
| L116 | 6910000670 | Coil | BT01RN1-A61-001 |
| L119 | 6180001120 | Coil | FL 5H 101K |
| L120 | 6180000990 | Coil | LAL 04NA 101K |
| L121 | 6170000210 | Coil | LW-22 |
| L122 | 6180001220 | Coil | LAL 04NA 100K |
| L201 | 6180001180 | Coil | FL 9H 471K |
| L202 | 6180001180 | Coil | FL 9H 471K |
| L203 | 6110001780 | Coil | LA-267 |
| L204 | 6110001780 | Coil | LA-267 |
| L205 | 6180001120 | Coil | FL 5H 101K |
| L206 | 6180000990 | Coil | LAL 04NA 101K |
| L207 | 6180000990 | Coil | LAL 04NA 101K |
| L301 | 6910000670 | Coil | BT01RN1-A61-001 |
| L302 | 6910000670 | Coil | BT01RN1-A61-001 |
| L303 | 6180000960 | Coil | LAL 03NA 102K |
| L304 | 6910000670 | Coil | BT01RN1-A61-001 |
| L305 | 6910000670 | Coil | BT01RN1-A61-001 |
| L306 | 6910000670 | Coil | BT01RN1-A61-001 |
| L307 | 6910000670 | Coil | BT01RN1-A61-001 |
| L308 | 6910000670 | Coil | BT01RN1-A61-001 |
| L309 | 6910000670 | Coil | BT01RN1-A61-001 |
| L310 | 6910000670 | Coil | BT01RN1-A61-001 |
| L311 | 6910000670 | Coil | BT01RN1-A61-001 |
| L312 | 6910000670 | Coil | BT01RN1-A61-001 |
| L313 | 6910000670 | Coil | BT01RN1-A61-001 |
| L314 | 6910000670 | Coil | BT01RN1-A61-001 |
| L401 | 6910000670 | Coil | BT01RN1-A61-001 |
| R101 | 7010001070 | Resistor | R25J 220 Ω |
| R102 | 7010001030 | Resistor | R25J 100 Ω |
| R103 | 7010001110 | Resistor | R25J 470 Ω |
| R104 | 7010000830 | Resistor | R25J 2.2 Ω |
| R105 | 7010000870 | Resistor | R25J 4.7 Ω |

[PA UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|---------------|--------------------------|
| R106 | 7010004940 | Resistor | ELR25J 68 Ω |
| R107 | 7010000170 | Resistor | ELR25J 22 Ω |
| R108 | 7010000170 | Resistor | ELR25J 22 Ω |
| R109 | 7010004940 | Resistor | ELR25J 68 Ω |
| R110 | 7080000650 | Resistor | RSS1P 3R3 Ω |
| R111 | 7080000650 | Resistor | RSS1P 3R3 Ω |
| R112 | 7080000650 | Resistor | RSS1P 3R3 Ω |
| R113 | 7080000650 | Resistor | RSS1P 3R3 Ω |
| R114 | 7010004650 | Resistor | R50XJ 10 Ω |
| R115 | 7010004650 | Resistor | R50XJ 10 Ω |
| R116 | 7080000650 | Resistor | RSS1P 3R3 Ω |
| R117 | 7080000650 | Resistor | RSS1P 3R3 Ω |
| R118 | 7010001340 | Resistor | R25J 33 kΩ |
| R119 | 7010001150 | Resistor | R25J 1 kΩ |
| R120 | 7100000510 | Resistor | CP-5AJ 0.012 Ω |
| R121 | 7010001150 | Resistor | R25J 1 kΩ |
| R122 | 7070000250 | Resistor | CRH200 R-02J 4.7 Ω (4R7) |
| R123 | 7310000710 | Trimmer | RH0651C13J1YA (102) |
| R124 | 7010004720 | Resistor | R50XJ 100 Ω |
| R125 | 7100000010 | Resistor | SRW1P 0R1 Ω (0R1) |
| R127 | 7310000680 | Trimmer | RH0651C12J04A (101) |
| R128 | 7010004700 | Resistor | R50XJ 68 Ω |
| R129 | 7010000130 | Resistor | ELR25J 10 Ω |
| R130 | 7010000040 | Resistor | ELR25J 1.8 Ω |
| R131 | 7010000170 | Resistor | ELR25J 22 Ω |
| R132 | 7010004720 | Resistor | R50XJ 100 Ω |
| R133 | 7010000410 | Resistor | ELR25J 2.2 kΩ |
| R134 | 7010004730 | Resistor | R50XJ 120 Ω |
| R146 | 7080000680 | Resistor | RSF1B 220 ΩJ |
| R148 | 7010004650 | Resistor | R50XJ 10 Ω |
| R149 | 7080000690 | Resistor | RSF2B 15 ΩJ |
| R201 | 7100000540 | Resistor | CP-5AJ 68 Ω |
| R202 | 7010004320 | Resistor | R20J 10 kΩ |
| R203 | 7010004190 | Resistor | R20J 1 kΩ |
| R204 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R205 | 7070000540 | Resistor | CRH200 R-02J 27 Ω (270) |
| R206 | 7540000010 | Absorber | DSA-301LA |
| R207 | 7010004190 | Resistor | R20J 1 kΩ |
| R208 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R209 | 7010004130 | Resistor | R20J 330 Ω |
| R210 | 7010004270 | Resistor | R20J 4.7 kΩ |
| R211 | 7010003280 | Resistor | ELR20J 100 Ω |
| R212 | 7010003260 | Resistor | ELR20J 68 Ω |
| R213 | 7010004390 | Resistor | R20J 33 kΩ |
| R214 | 7010004130 | Resistor | R20J 330 Ω |
| R215 | 7010003600 | Resistor | ELR20J 33 kΩ |
| R401 | 7010004270 | Resistor | R20J 4.7 kΩ |
| R402 | 7010004270 | Resistor | R20J 4.7 kΩ |
| R403 | 7010004190 | Resistor | R20J 1 kΩ |
| R404 | 7010004370 | Resistor | R20J 22 kΩ |
| R405 | 7010003360 | Resistor | ELR20J 470 Ω |
| R406 | 7010004250 | Resistor | R20J 3.3 kΩ |
| R407 | 7010003510 | Resistor | ELR20J 6.8 kΩ |
| C1 | 4550000010 | Tantalum | DN 1C 4R7M |
| C2 | 4550000010 | Tantalum | DN 1C 4R7M |
| C3 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C4 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C5 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C6 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C7 | 4050000050 | Feed through | TF318-452E102GMV |
| C8 | 4050000050 | Feed through | TF318-452E102GMV |
| C9 | 4050000050 | Feed through | TF318-452E102GMV |
| C10 | 4050000050 | Feed through | TF318-452E102GMV |
| C101 | 4010000510 | Ceramic | DD106 B 222K 50V |
| C102 | 4040000280 | Barrier Layer | UAT 04V 122K |
| C103 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C104 | 4310000020 | Mylar | F2D 50V 103K |
| C105 | 4310000020 | Mylar | F2D 50V 103K |
| C106 | 4020000150 | Cylinder | UP125 SL 101J |
| C107 | 4030001330 | Ceramic | GR43 CH 471K |
| C108 | 4030001370 | Ceramic | GR44 CH 682K |
| C109 | 4030001370 | Ceramic | GR44 CH 682K |
| C110 | 4040000440 | Barrier Layer | RAU 06SA 561K |

[PA UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-----------------|---------------------------|
| C112 | 4030001330 | Ceramic | GR43 CH 471K |
| C113 | 4320000450 | Dip Mica | DM19C 821J5 |
| C114 | 4030001340 | Ceramic | GR44 CH 102K |
| C116 | 4010000590 | Ceramic | DD110 F 473Z 50V |
| C117 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C118 | 4510000310 | Electrolytic | 16 MS16 1000 µF (12.5X16) |
| C119 | 4030001420 | Ceramic | GR44 Y5V 684Z |
| C120 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C121 | 4510002720 | Electrolytic | 10 SS 47 µF |
| C122 | 4510002780 | Electrolytic | 16 SS 10 µF |
| C123 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C124 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C125 | 4510002380 | Electrolytic | 16 SS 470 µF (10X12.5) |
| C126 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C127 | 4510002780 | Electrolytic | 16 SS 10 µF |
| C128 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C129 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C130 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C131 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C132 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C133 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C153 | 4010004080 | Ceramic | DD12 SL 271K 500V |
| C154 | 4010004080 | Ceramic | DD12 SL 271K 500V |
| C158 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C201 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C202 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C203 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C204 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C205 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C206 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C207 | 4010004210 | Ceramic | DD63 YZ 203Z 500V |
| C208 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C209 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C210 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C211 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C212 | 4010000150 | Ceramic | DD104 SL 150J 50V |
| C213 | 4010000150 | Ceramic | DD104 SL 150J 50V |
| C214 | 4010000330 | Ceramic | DD105 SL 101J 50V |
| C215 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C216 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C217 | 4010004210 | Ceramic | DD63 YZ 203Z 500V |
| C218 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C219 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C220 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C301 | 4530000150 | Capacitor Array | B7ZC0711-32N |
| C302 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C303 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C304 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C305 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C306 | 4010000410 | Ceramic | DD107 SL 331J 50V |
| C307 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C308 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C309 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C401 | 4310000120 | Mylar | F2D 50V 473K |
| C402 | 4310000110 | Mylar | F2D 50V 472K |
| C403 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C404 | 4510001100 | Electrolytic | 16 MS7 10 µF |
| C405 | 4010000330 | Ceramic | DD105 SL 101J 50V |
| C406 | 4010000330 | Ceramic | DD105 SL 101J 50V |
| C407 | 4510001170 | Electrolytic | 50 MS7 2R2 µF |
| C408 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C409 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C410 | 4010000520 | Ceramic | DD108 B 472K 50V |
| RL201 | 6330000520 | Relay | UPM-12905Y |
| RL202 | 6330000070 | Relay | FBR21D12-P |
| RL203 | 6330000620 | Relay | SY-12 |
| F1 | 5220000110 | Holder | TFH-S30 |
| F2 | 5210000060 | Fuse | FGB 5A |
| F3 | 5220000110 | Holder | TFH-S30 |
| F4 | 5210000040 | Fuse | FGB 2A |

[PA UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|-------------------------|
| F5 | 5220000050 | Holder | FH-032C |
| F6 | 5210000070 | Fuse | FGB 10A (U.S.A.) |
| | 5210000060 | Fuse | FGB 5A (Other versions) |
| S101 | 6910000040 | Thermostat | OHD 90M |
| S102 | 6910000030 | Thermostat | OHD 50M |
| MF1 | 2710000050 | Fan Motor | M6B12U22 |
| EP1 | 6910000640 | Bead core | FSOH090RN |
| EP7 | 6910000600 | Bead core | FSOH050RN |
| EP101 | 0910005804 | P.C. Board | B 702D (PA) |
| EP103 | 6910000600 | Bead core | FSOH050RN |
| EP109 | 6910000600 | Bead core | FSOH050RN |
| EP110 | 6910000600 | Bead core | FSOH050RN |
| EP111 | 6910000600 | Bead core | FSOH050RN |
| EP114 | 6910000630 | Bead core | FSOH070RN |
| EP201 | 6910000630 | Bead core | FSOH070RN |
| EP203 | 0910021182 | P.C. Board | B 2019B (ANT SW) |
| EP301 | 0910021193 | P.C. Board | B 2020C (ACC) |
| EP401 | 0910021172 | P.C. Board | B 2018B (KEYER) |

[TUNER UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|--------------|
| IC101 | 1140000980 | IC | µPD7533C-077 |
| IC102 | 1110001791 | IC | TA7279P |
| IC103 | 1110001870 | IC | NJM2902N |
| IC104 | 1180000060 | IC | NJM78L05A |
| IC105 | 1120000970 | IC | M54562P |
| IC108 | 1130001100 | IC | µPD4063BC |
| IC109 | 1130000620 | IC | µPD4011BC |
| IC110 | 1130000620 | IC | µPD4011BC |
| IC111 | 1120000970 | IC | M54562P |
| IC112 | 1160000010 | IC | DAN401 |
| IC113 | 1160000010 | IC | DAN401 |
| IC201 | 1120000290 | IC | SN74S132N |
| IC202 | 1120001640 | IC | SN74S32N |
| IC203 | 1120000500 | IC | SN74S112N |
| IC204 | 1180000010 | IC | TA78L005AP |
| Q101 | 1520000060 | Transistor | 2SB562C |
| Q102 | 1590000340 | Transistor | RN1202 |
| Q103 | 1590000340 | Transistor | RN1202 |
| Q104 | 1590000340 | Transistor | RN1202 |
| Q105 | 1510000080 | Transistor | 2SA1048-GR |
| Q106 | 1530000110 | Transistor | 2SC2458-GR |
| Q107 | 1590000350 | Transistor | RN1204 |
| Q108 | 1520000060 | Transistor | 2SB562C |
| Q109 | 1520000060 | Transistor | 2SB562C |
| Q110 | 1590000340 | Transistor | RN1202 |
| Q201 | 1530000690 | Transistor | 2SC1740 S |
| Q202 | 1530000690 | Transistor | 2SC1740 S |
| Q203 | 1560000040 | FET | 2SK30ATM-Y |
| D1 | 1710000350 | Diode | 1N4002 |
| D2 | 1710000350 | Diode | 1N4002 |
| D101 | 1710000030 | Diode | 1S1555 |
| D102 | 1710000030 | Diode | 1S1555 |
| D103 | 1710000030 | Diode | 1S1555 |
| D104 | 1710000030 | Diode | 1S1555 |
| D105 | 1710000030 | Diode | 1S1555 |
| D106 | 1710000030 | Diode | 1S1555 |
| D107 | 1710000030 | Diode | 1S1555 |

[TUNER UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------------|--------------------------|
| D109 | 1710000030 | Diode | 1S1555 |
| D110 | 1710000030 | Diode | 1S1555 |
| D111 | 1710000030 | Diode | 1S1555 |
| D112 | 1710000030 | Diode | 1S1555 |
| D113 | 1710000030 | Diode | 1S1555 |
| D114 | 1710000030 | Diode | 1S1555 |
| D115 | 1710000030 | Diode | 1S1555 |
| D116 | 1710000030 | Diode | 1S1555 |
| D117 | 1710000030 | Diode | 1S1555 |
| D118 | 1710000030 | Diode | 1S1555 |
| D119 | 1730000190 | Zener | RD8.2E B3 |
| D120 | 1710000030 | Diode | 1S1555 |
| D121 | 1710000030 | Diode | 1S1555 |
| D122 | 1710000030 | Diode | 1S1555 |
| D123 | 1710000030 | Diode | 1S1555 |
| D124 | 1710000030 | Diode | 1S1555 |
| D125 | 1710000030 | Diode | 1S1555 |
| D126 | 1710000030 | Diode | 1S1555 |
| D127 | 1710000030 | Diode | 1S1555 |
| D128 | 1710000030 | Diode | 1S1555 |
| D129 | 1710000030 | Diode | 1S1555 |
| D130 | 1710000030 | Diode | 1S1555 |
| D131 | 1710000030 | Diode | 1S1555 |
| D132 | 1730000100 | Zener | RD5.1E B2 |
| D133 | 1730000210 | Zener | RD9.1E B3 |
| D201 | 1710000330 | Diode | 1K60 |
| D202 | 1710000330 | Diode | 1K60 |
| D203 | 1710000330 | Diode | 1K60 |
| D204 | 1710000330 | Diode | 1K60 |
| X101 | 6060000160 | Ceramic resonator | CSB500E |
| L1 | 6110001220 | Coil | LA-162 |
| L2 | 6140001830 | Coil | LR-219 |
| L3 | 6180000990 | Coil | LAL 04NA 101K |
| L101 | 6180000990 | Coil | LAL 04NA 101K |
| L102 | 6180000990 | Coil | LAL 04NA 101K |
| L103 | 6180000990 | Coil | LAL 04NA 101K |
| L104 | 6180000990 | Coil | LAL 04NA 101K |
| L105 | 6180000990 | Coil | LAL 04NA 101K |
| L106 | 6180000990 | Coil | LAL 04NA 101K |
| L107 | 6180000990 | Coil | LAL 04NA 101K |
| L108 | 6180000990 | Coil | LAL 04NA 101K |
| L109 | 6180000990 | Coil | LAL 04NA 101K |
| L110 | 6180000900 | Coil | LAL 03NA 101K |
| L111 | 6910000670 | Coil | BT01RN1-A61-001 |
| L112 | 6180000990 | Coil | LAL 04NA 101K |
| L113 | 6180000990 | Coil | LAL 04NA 101K |
| L114 | 6180000990 | Coil | LAL 04NA 101K |
| L115 | 6180000990 | Coil | LAL 04NA 101K |
| L116 | 6180000990 | Coil | LAL 04NA 101K |
| L117 | 6180000990 | Coil | LAL 04NA 101K |
| L118 | 6180000990 | Coil | LAL 04NA 101K |
| L119 | 6180000990 | Coil | LAL 04NA 101K |
| L120 | 6180000900 | Coil | LAL 03NA 101K |
| L201 | 6140001030 | Coil | LR-127A |
| L202 | 6180000450 | Coil | RFC L6 222K |
| L204 | 6180001120 | Coil | FL 5H 101K |
| L205 | 6170000330 | Coil | LW-18A |
| L206 | 6170000330 | Coil | LW-18A |
| R1 | 7070000550 | Resistor | CRH200 R-02J 10 kΩ (103) |
| R3 | 7010001150 | Resistor | R25J 1 kΩ |
| R4 | 7310001050 | Trimmer | EVH60AF15B14 |
| R5 | 7310001050 | Trimmer | EVH60AF15B14 |
| R101 | 7080000420 | Resistor | CRB25FX 100 kΩ |
| R102 | 7080000630 | Resistor | CRB25FX 1 MΩ |
| R103 | 7010004450 | Resistor | R20J 100 kΩ |
| R104 | 7080000420 | Resistor | CRB25FX 100 kΩ |
| R105 | 7310001710 | Trimmer | RH0421C14J0KA (103) |
| R106 | 7080000420 | Resistor | CRB25FX 100 kΩ |
| R107 | 7080001100 | Resistor | CRB25FX 680 kΩ |

[TUNER UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|----------------|---------------------|
| R108 | 7010004450 | Resistor | R20J 100 kΩ |
| R109 | 7080000420 | Resistor | CRB25FX 100 kΩ |
| R110 | 7310001710 | Trimmer | RH0421C14J0KA (103) |
| R111 | 7010004230 | Resistor | R20J 2.2 kΩ |
| R112 | 7010003510 | Resistor | ELR20J 6.8 kΩ |
| R113 | 7010004230 | Resistor | R20J 2.2 kΩ |
| R114 | 7010004070 | Resistor | R20J 100 Ω |
| R115 | 7010004070 | Resistor | R20J 100 Ω |
| R116 | 7010004070 | Resistor | R20J 100 Ω |
| R117 | 7010004070 | Resistor | R20J 100 Ω |
| R118 | 7010004070 | Resistor | R20J 100 Ω |
| R119 | 7010004070 | Resistor | R20J 100 Ω |
| R120 | 7010004070 | Resistor | R20J 100 Ω |
| R121 | 7010004070 | Resistor | R20J 100 Ω |
| R122 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R123 | 7010004320 | Resistor | R20J 10 kΩ |
| R124 | 7010004190 | Resistor | R20J 1 kΩ |
| R125 | 7010004190 | Resistor | R20J 1 kΩ |
| R126 | 7010004190 | Resistor | R20J 1 kΩ |
| R127 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R128 | 7010004320 | Resistor | R20J 10 kΩ |
| R129 | 7010004390 | Resistor | R20J 33 kΩ |
| R130 | 7010004410 | Resistor | R20J 47 kΩ |
| R131 | 7410000160 | Resistor Array | RMX- 7 473K |
| R132 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R133 | 7010004320 | Resistor | R20J 10 kΩ |
| R134 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R135 | 7010004410 | Resistor | R20J 47 kΩ |
| R136 | 7010004320 | Resistor | R20J 10 kΩ |
| R137 | 7010004270 | Resistor | R20J 4.7 kΩ |
| R138 | 7310000640 | Trimmer | RH0621CJ3J1GA (222) |
| R139 | 7010004200 | Resistor | R20J 1.2 kΩ |
| R142 | 7010004550 | Resistor | R20J 680 kΩ |
| R143 | 7010004550 | Resistor | R20J 680 kΩ |
| R144 | 7010004410 | Resistor | R20J 47 kΩ |
| R145 | 7010004410 | Resistor | R20J 47 kΩ |
| R147 | 7010003620 | Resistor | ELR20J 47 kΩ |
| R148 | 7010003620 | Resistor | ELR20J 47 kΩ |
| R149 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R150 | 7010003530 | Resistor | ELR20J 10 kΩ |
| R151 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R152 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R153 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R154 | 7010003400 | Resistor | ELR20J 1 kΩ |
| R155 | 7010004190 | Resistor | R20J 1 kΩ |
| R156 | 7010004190 | Resistor | R20J 1 kΩ |
| R157 | 7010004190 | Resistor | R20J 1 kΩ |
| R158 | 7080000210 | Resistor | CRB25FX 750 Ω |
| R159 | 7080000240 | Resistor | CRB25FX 1.8 kΩ |
| R160 | 7080000250 | Resistor | CRB25FX 3.3 kΩ |
| R161 | 7080000270 | Resistor | CRB25FX 5.6 kΩ |
| R162 | 7080000290 | Resistor | CRB25FX 10 kΩ |
| R163 | 7010003480 | Resistor | ELR20J 4.7 kΩ |
| R164 | 7010004410 | Resistor | R20J 47 kΩ |
| R165 | 7010004410 | Resistor | R20J 47 kΩ |
| R166 | 7010004370 | Resistor | R20J 22 kΩ |
| R167 | 7010004320 | Resistor | R20J 10 kΩ |
| R168 | 7010003620 | Resistor | ELR20J 47 kΩ |
| R169 | 7010004410 | Resistor | R20J 47 kΩ |
| R170 | 7010003620 | Resistor | ELR20J 47 kΩ |
| R171 | 7010000310 | Resistor | ELR25J 330 Ω |
| R172 | 7010003630 | Resistor | ELR20J 56 kΩ |
| R173 | 7010004410 | Resistor | R20J 47 kΩ |
| R201 | 7010004680 | Resistor | R50XJ 33 Ω |
| R202 | 7010000500 | Resistor | ELR25J 10 kΩ |
| R203 | 7010000500 | Resistor | ELR25J 10 kΩ |
| R204 | 7010001150 | Resistor | R25J 1 kΩ |
| R205 | 7010000200 | Resistor | ELR25J 39 Ω |
| R206 | 7010000520 | Resistor | ELR25J 15 kΩ |
| R207 | 7010000510 | Resistor | ELR25J 12 kΩ |
| R208 | 7010000270 | Resistor | ELR25J 150 Ω |
| R209 | 7010000520 | Resistor | ELR25J 15 kΩ |
| R210 | 7010000510 | Resistor | ELR25J 12 kΩ |
| R212 | 7010001190 | Resistor | R25J 2.2 kΩ |
| R213 | 7010000410 | Resistor | ELR25J 2.2 kΩ |

[TUNER UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|--------------------|--------------------|
| R214 | 7010001150 | Resistor | R25J 1 kΩ |
| R215 | 7010000750 | Resistor | ELR25J 1 MΩ |
| R216 | 7010000500 | Resistor | ELR25J 10 kΩ |
| R217 | 7010000450 | Resistor | ELR25J 4.7 kΩ |
| C1 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C2 | 4010004270 | Ceramic | DE1107 SL 121J 3KV |
| C3 | 4010004270 | Ceramic | DE1107 SL 121J 3KV |
| C4 | 4010004250 | Ceramic | DE1007 SL 101J 3KV |
| C5 | 4010004250 | Ceramic | DE1007 SL 101J 3KV |
| C15 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C16 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C17 | 4620000030 | Variable Capacitor | UV44 200PF |
| C18 | 4620000030 | Variable Capacitor | UV44 200PF |
| C101 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C102 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C103 | 4010000380 | Ceramic | DD107 SL 221J 50V |
| C104 | 4010000380 | Ceramic | DD107 SL 221J 50V |
| C105 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C106 | 4530000270 | Capacitor Array | B8XC0114-32N |
| C107 | 4530000270 | Capacitor Array | B8XC0114-32N |
| C108 | 4530000030 | Capacitor Array | B5RC0124-32N |
| C109 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C110 | 4510002640 | Electrolytic | 25 SS 47 μF |
| C111 | 4510002640 | Electrolytic | 25 SS 47 μF |
| C112 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C113 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C114 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C115 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C116 | 4510002640 | Electrolytic | 25 SS 47 μF |
| C117 | 4510001120 | Electrolytic | 25 MS7 4R7 μF |
| C118 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C119 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C120 | 4010000380 | Ceramic | DD107 SL 221J 50V |
| C121 | 4010000380 | Ceramic | DD107 SL 221J 50V |
| C122 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C123 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C124 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C125 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C126 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C127 | 4510002950 | Electrolytic | 50 SS 2R2 μF |
| C128 | 4010000460 | Ceramic | DD104 B 471K 50V |
| C129 | 4010000460 | Ceramic | DD104 B 471K 50V |
| C130 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C131 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C132 | 4040000350 | Barrier Layer | UAT 05V 472K |
| C133 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C134 | 4040000260 | Barrier Layer | UZE 08X 104M |
| C135 | 4510002830 | Electrolytic | 25 SS 4R7 μF |
| C136 | 4530000350 | Capacitor Array | B8ZC0111-32N |
| C137 | 4510002830 | Electrolytic | 25 SS 4R7 μF |
| C138 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C139 | 4510001180 | Electrolytic | 50 MS7 3R3 μF |
| C201 | 4010004310 | Ceramic | DE0705 SL 100D 1KV |
| C203 | 4010003860 | Ceramic | DD06 SL 100D 500V |
| C204 | 4010000410 | Ceramic | DD107 SL 331J 50V |
| C205 | 4610000480 | Trimmer | BW 3P 210P |
| C206 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C207 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C208 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C209 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C210 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C211 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C212 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C213 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C214 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C215 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C216 | 4510002840 | Electrolytic | 25 SS 10 μF |
| C217 | 4510002840 | Electrolytic | 25 SS 10 μF |
| C218 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C222 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C223 | 4010000500 | Ceramic | DD104 B 102K 50V |

[TUNER UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-----------------|-----------------|
| RL1 | 6330000120 | Relay | FBR323D012 |
| RL2 | 6330000120 | Relay | FBR323D012 |
| RL3 | 6330000830 | Relay | JY-12H-K-DW |
| RL7 | 6330000080 | Relay | FBR313D012-22 |
| RL8 | 6330000080 | Relay | FBR313D012-22 |
| RL9 | 6330000080 | Relay | FBR313D012-22 |
| RL10 | 6330000080 | Relay | FBR313D012-22 |
| RL11 | 6330000080 | Relay | FBR313D012-22 |
| RL12 | 6330000100 | Relay | FBR311D012 |
| RL13 | 6330000490 | Relay | LY2-0 DC12V |
| MF1 | 8930000880 | Motor | HMK2601-01-030 |
| MF2 | 8930000880 | Motor | HMK2601-01-030 |
| BT101 | 3020000020 | Lithium Battery | BR2032-1T2 |
| EP1 | 0910011602 | P.C. Board | B 1028B (RELAY) |
| EP2 | 6910000630 | Bead core | FSOH070RN |
| EP3 | 6910000630 | Bead core | FSOH070RN |
| EP101 | 0910021162 | P.C. Board | B 2017B (TUC) |
| EP102 | 6910000600 | Bead core | FSOH050RN |
| EP201 | 0910022021 | P.C. Board | B 2159A (T DET) |

[FILTER UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|---------------|
| D1 | 1710000330 | Diode | 1K60 |
| D2 | 1710000330 | Diode | 1K60 |
| D3 | 1710000350 | Diode | 1N4002 |
| D4 | 1710000350 | Diode | 1N4002 |
| D5 | 1710000350 | Diode | 1N4002 |
| D6 | 1710000350 | Diode | 1N4002 |
| D7 | 1710000350 | Diode | 1N4002 |
| D8 | 1710000350 | Diode | 1N4002 |
| D9 | 1710000350 | Diode | 1N4002 |
| L2 | 6140000270 | Coil | LR-47 |
| L3 | 6140000270 | Coil | LR-47 |
| L5 | 6140001130 | Coil | LR-138 |
| L6 | 6140001140 | Coil | LR-139 |
| L7 | 6140001150 | Coil | LR-140 |
| L8 | 6140001160 | Coil | LR-141 |
| L9 | 6140001160 | Coil | LR-141 |
| L10 | 6140000680 | Coil | LR-90 |
| L11 | 6140000690 | Coil | LR-91 |
| L12 | 6140000330 | Coil | LR-53 |
| L13 | 6140000340 | Coil | LR-54 |
| L14 | 6110001260 | Coil | LA-166 |
| L15 | 6110001250 | Coil | LA-165 |
| L16 | 6110001280 | Coil | LA-168 |
| L17 | 6110001270 | Coil | LA-167 |
| L18 | 6140000100 | Coil | LR-22A |
| L19 | 6180000450 | Coil | RFC L6 222K |
| L20 | 6180000990 | Coil | LAL 04NA 101K |
| L21 | 6180001120 | Coil | FL 5H 101K |
| L22 | 6180001120 | Coil | FL 5H 101K |
| L23 | 6180001120 | Coil | FL 5H 101K |
| L24 | 6180001120 | Coil | FL 5H 101K |
| L25 | 6180001120 | Coil | FL 5H 101K |
| L26 | 6180001120 | Coil | FL 5H 101K |
| L27 | 6180001120 | Coil | FL 5H 101K |
| L28 | 6180001100 | Coil | FL 4H 100K |
| L29 | 6180001100 | Coil | FL 4H 100K |
| L30 | 6180001100 | Coil | FL 4H 100K |

[FILTER UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|---------------|-------------------|
| L31 | 6180001100 | Coil | FL 4H 100K |
| L32 | 6180001100 | Coil | FL 4H 100K |
| L33 | 6180001100 | Coil | FL 4H 100K |
| L34 | 6110001700 | Coil | LA-256 |
| L35 | 6140001110 | Coil | LR-136 |
| R1 | 7010004700 | Resistor | R50XJ 68 Ω |
| R2 | 7010001240 | Resistor | R25J 5.6 kΩ |
| R3 | 7010001240 | Resistor | R25J 5.6 kΩ |
| R4 | 7010000600 | Resistor | ELR25J 56 kΩ |
| R5 | 7010000600 | Resistor | ELR25J 56 kΩ |
| R7 | 7010004690 | Resistor | R50XJ 47 Ω |
| C1 | 4320000310 | Dip Mica | DM20C 182J5 |
| C2 | 4320000200 | Dip Mica | DM19C 471J5 |
| C3 | 4320000320 | Dip Mica | DM20C 222J5 |
| C4 | 4010004030 | Ceramic | DD10 SL 121K 500V |
| C5 | 4320000280 | Dip Mica | DM20C 122J5 |
| C6 | 4320000210 | Dip Mica | DM19C 561J5 |
| C7 | 4010004070 | Ceramic | DD12 SL 221K 500V |
| C8 | 4320000280 | Dip Mica | DM20C 122J5 |
| C9 | 4010003990 | Ceramic | DD09 SL 680K 500V |
| C10 | 4320000220 | Dip Mica | DM19C 681J5 |
| C11 | 4320000200 | Dip Mica | DM19C 471J5 |
| C12 | 4010004030 | Ceramic | DD10 SL 121K 500V |
| C13 | 4320000210 | Dip Mica | DM19C 561J5 |
| C14 | 4010003990 | Ceramic | DD09 SL 680K 500V |
| C15 | 4010004080 | Ceramic | DD12 SL 271K 500V |
| C16 | 4010004070 | Ceramic | DD12 SL 221K 500V |
| C17 | 4010003960 | Ceramic | DD06 SL 390K 500V |
| C18 | 4320000200 | Dip Mica | DM19C 471J5 |
| C19 | 4010003990 | Ceramic | DD09 SL 680K 500V |
| C20 | 4010004070 | Ceramic | DD12 SL 221K 500V |
| C21 | 4010004050 | Ceramic | DD12 SL 181K 500V |
| C22 | 4010003890 | Ceramic | DD06 SL 180K 500V |
| C23 | 4010004100 | Ceramic | DD14 SL 331K 500V |
| C24 | 4010004030 | Ceramic | DD10 SL 121K 500V |
| C25 | 4010004050 | Ceramic | DD12 SL 181K 500V |
| C26 | 4010003990 | Ceramic | DD09 SL 680K 500V |
| C27 | 4010003860 | Ceramic | DD06 SL 100D 500V |
| C28 | 4010004070 | Ceramic | DD12 SL 221K 500V |
| C29 | 4010003970 | Ceramic | DD07 SL 470K 500V |
| C30 | 4010004010 | Ceramic | DD09 SL 101K 500V |
| C31 | 4010004000 | Ceramic | DD09 SL 820K 500V |
| C32 | 4010003860 | Ceramic | DD06 SL 100D 500V |
| C33 | 4010004000 | Ceramic | DD09 SL 820K 500V |
| C34 | 4010003950 | Ceramic | DD06 SL 330K 500V |
| C35 | 4010003990 | Ceramic | DD09 SL 680K 500V |
| C36 | 4610000240 | Trimmer | ECV1ZW 20X40 |
| C37 | 4010000350 | Ceramic | DD106 SL 151J 50V |
| C38 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C39 | 4010000500 | Ceramic | DD104 B 102K 50V |
| C40 | 4010004000 | Ceramic | DD09 SL 820K 500V |
| C41 | 4010004030 | Ceramic | DD10 SL 121K 500V |
| C42 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C43 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C44 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C45 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C46 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C47 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C48 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C49 | 4040000250 | Barrier Layer | UAT 08X 473M |
| C50 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C51 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C52 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C53 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C54 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C55 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C56 | 4010004100 | Ceramic | DD14 SL 331K 500V |
| C57 | 4010004010 | Ceramic | DD09 SL 101K 500V |
| RL1 | 6330000080 | Relay | FBR313D012-22 |

[FILTER UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|-----------------|
| RL2 | 6330000080 | Relay | FBR313D012-22 |
| RL3 | 6330000080 | Relay | FBR313D012-22 |
| RL4 | 6330000080 | Relay | FBR313D012-22 |
| RL5 | 6330000080 | Relay | FBR313D012-22 |
| RL6 | 6330000080 | Relay | FBR313D012-22 |
| RL7 | 6330000080 | Relay | FBR313D012-22 |
| RL8 | 6330000080 | Relay | FBR313D012-22 |
| RL9 | 6330000080 | Relay | FBR313D012-22 |
| RL10 | 6330000080 | Relay | FBR313D012-22 |
| RL11 | 6330000080 | Relay | FBR313D012-22 |
| RL12 | 6330000080 | Relay | FBR313D012-22 |
| RL13 | 6330000080 | Relay | FBR313D012-22 |
| RL14 | 6330000100 | Relay | FBR311D012 |
| EP1 | 0910011649 | P.C. Board | B 703I (FILTER) |
| EP5 | 6910000630 | Bead core | FSOH070RN |

[REG UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------------|-----------------------------|
| IC1 | 1710000320 | Photo Interrupter | N110 |
| IC2 | 1110000190 | IC | μPC1042C |
| Q1 | 1510000050 | Transistor | 2SA1015-Y |
| Q2 | 1530002160 | Transistor | 2SC3162 (U.S.A. only) |
| | 1530002300 | Transistor | 2SC4051 |
| Q3 | 1530002160 | Transistor | 2SC3162 (U.S.A. only) |
| | 1530002300 | Transistor | 2SC4051 |
| Q4 | 1530000750 | Transistor | 2SC2307 |
| Q5 | 1530000750 | Transistor | 2SC2307 |
| D1 | 1790000190 | Diode | KBPC806 |
| D2 | 1710000350 | Diode | 1N4002 |
| D3 | 1710000350 | Diode | 1N4002 |
| D4 | 1710000200 | Diode | 40F2R15 |
| L2 | 6140000460 | Coil | LR-66 |
| L3 | 6140000470 | Coil | LR-67 |
| L4 | 6180000280 | Coil | LB4-102J |
| L5 | 6140000450 | Coil | LR-65A |
| L6 | 5920000080 | Coil | TC-2A |
| R1 | 7010004800 | Resistor | R50XJ 68 kΩ |
| R2 | 7010004800 | Resistor | R50XJ 68 kΩ |
| R3 | 7010004810 | Resistor | R50XJ 150 kΩ |
| R4 | 7010001380 | Resistor | R25J 68 kΩ |
| R5 | 7100000120 | Resistor | SRW2P 3 Ω (3R0) |
| R6 | 7010000190 | Resistor | ELR25J 33 Ω |
| R7 | 7010001210 | Resistor | R25J 3.3 kΩ |
| R9 | 7010000500 | Resistor | ELR25J 10 kΩ |
| R10 | 7010000450 | Resistor | ELR25J 4.7 kΩ |
| R11 | 7010000330 | Resistor | ELR25J 470 Ω |
| R12 | 7010004800 | Resistor | R50XJ 68 kΩ |
| R13 | 7010004800 | Resistor | R50XJ 68 kΩ |
| R14 | 7310000970 | Trimmer | EVN5AC A00B14 (10 kΩ) |
| R15 | 7010000520 | Resistor | ELR25J 15 kΩ |
| R16 | 7010000450 | Resistor | ELR25J 4.7 kΩ |
| R17 | 7010000450 | Resistor | ELR25J 4.7 kΩ |
| R18 | 7010000450 | Resistor | ELR25J 4.7 kΩ |
| R19 | 7310000990 | Trimmer | EVN5AC A00BQ4 (47 kΩ) |
| R20 | 7010000500 | Resistor | ELR25J 10 kΩ |
| R21 | 7010000480 | Resistor | ELR25J 6.8 kΩ (U.S.A. only) |

[REG UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|--------------|--------------------------------|
| R21 | 7010003510 | Resistor | ELR20J 6.8 kΩ |
| R22 | 7010000440 | Resistor | ELR25J 3.9 kΩ (U.S.A. only) |
| R23 | 7010003700 | Resistor | ELR20J 220 kΩ |
| R23 | 7010000670 | Resistor | ELR25J 220 kΩ (U.S.A. only) |
| R24 | 7010000500 | Resistor | ELR25J 10 kΩ |
| R25 | 7010000330 | Resistor | ELR25J 470 Ω |
| R26 | 8930003890 | Resistor | 0.001 5 W |
| R27 | 7010000520 | Resistor | ELR25J 15 kΩ |
| R28 | 7010000090 | Resistor | ELR25J 4.7 Ω |
| R29 | 7010000090 | Resistor | ELR25J 4.7 Ω |
| R30 | 7010000870 | Resistor | R25J 4.7 Ω |
| R31 | 7010000870 | Resistor | R25J 4.7 Ω |
| R32 | 7010000950 | Resistor | R25J 22 Ω |
| R33 | 7010000950 | Resistor | R25J 22 Ω |
| R34 | 7080000100 | Resistor | RSF3B 100 ΩJ |
| R35 | 7070000260 | Resistor | CRH200 R-02J 22 Ω (220) |
| R36 | 7070000240 | Resistor | CRH100X R-02J 3.9 Ω (3R9) |
| R37 | 7540000030 | Absorber | ERZC07DK431 |
| C1 | 4010004240 | Ceramic | DE7100 F 222M VA1-KC |
| C2 | 4010004240 | Ceramic | DE7100 F 222M VA1-KC |
| C3 | 4010004130 | Ceramic | DD09 B 222K 500V |
| C4 | 4010004130 | Ceramic | DD09 B 222K 500V |
| C5 | 4010004130 | Ceramic | DD09 B 222K 500V |
| C6 | 4010004130 | Ceramic | DD09 B 222K 500V |
| C7 | 4510000350 | Electrolytic | CS042DRT681 (HPF200 680 μF) |
| C8 | 4510000350 | Electrolytic | CS042DRT681 (HPF200 680 μF) |
| C9 | 4510002780 | Electrolytic | 16 SS 10 μF |
| C10 | 4010000530 | Ceramic | DD112 B 103K 50V |
| C11 | 4010000530 | Ceramic | DD112 B 103K 50V |
| C12 | 4510000660 | Electrolytic | 25 MS 470 μF |
| C13 | 4030001210 | Ceramic | C5650 Y5V 1H 684Z |
| C14 | 4510000570 | Electrolytic | 16 MS 2200 μF |
| C15 | 4010004440 | Ceramic | DE7090 B 102K VA1-KC |
| C16 | 4010004440 | Ceramic | DE7090 B 102K VA1-KC |
| C17 | 4010004210 | Ceramic | DD63 YZ 203Z 500V |
| C18 | 4510000080 | Electrolytic | 250 RHJ 33 μF |
| C19 | 4510000080 | Electrolytic | 250 RHJ 33 μF |
| C20 | 4010004240 | Ceramic | DE7100 F 222M VA1-KC |
| C21 | 4010000520 | Ceramic | DD108 B 472K 50V |
| C22 | 4310000010 | Mylar | F2D 50V 102K |
| C23 | 4510003050 | Electrolytic | TMG 2G 335K (DC400V 3.3 μF) |
| C24 | 4010004130 | Ceramic | DD09 B 222K 500V |
| C25 | 4010004130 | Ceramic | DD09 B 222K 500V |
| C26 | 4010004130 | Ceramic | DD09 B 222K 500V |
| C27 | 4010004470 | Ceramic | DD12 B 472K 500V |
| C28 | 4010004210 | Ceramic | DD63 YZ 203Z 500V |
| C29 | 4010000410 | Ceramic | DD107 SL 331J 50V |
| C30 | 4510000090 | Electrolytic | ECEA16Z470 |
| C31 | 4510000090 | Electrolytic | ECEA16Z470 |
| C32 | 4510000090 | Electrolytic | ECEA16Z470 |
| C33 | 4510000090 | Electrolytic | ECEA16Z470 |
| C34 | 4510002840 | Electrolytic | 25 SS 10 μF |
| C35 | 4010004650 | Ceramic | DD410 SR 224M 12V |
| C36 | 4010004650 | Ceramic | DD410 SR 224M 12V |
| C37 | 4310000060 | Mylar | F2D 50V 223K |
| RL1 | 6330000200 | Relay | VS-12TBN-E |
| T1 | 5910000110 | Transformer | TP-22 |
| T2 | 5910000160 | Transformer | TP-27 |
| T3 | 5920000120 | Transformer | TI-5 |

[REG UNIT]

| REF. NO. | ORDER NO. | DESCRIPTION | |
|----------|------------|-------------|--------------|
| EP1 | 0910005212 | P.C. Board | B 609B (REG) |
| EP8 | 6910000640 | Bead core | FSOH090RN |
| EP9 | 6910000640 | Bead core | FSOH090RN |

SECTION 6 ADJUSTMENT PROCEDURES

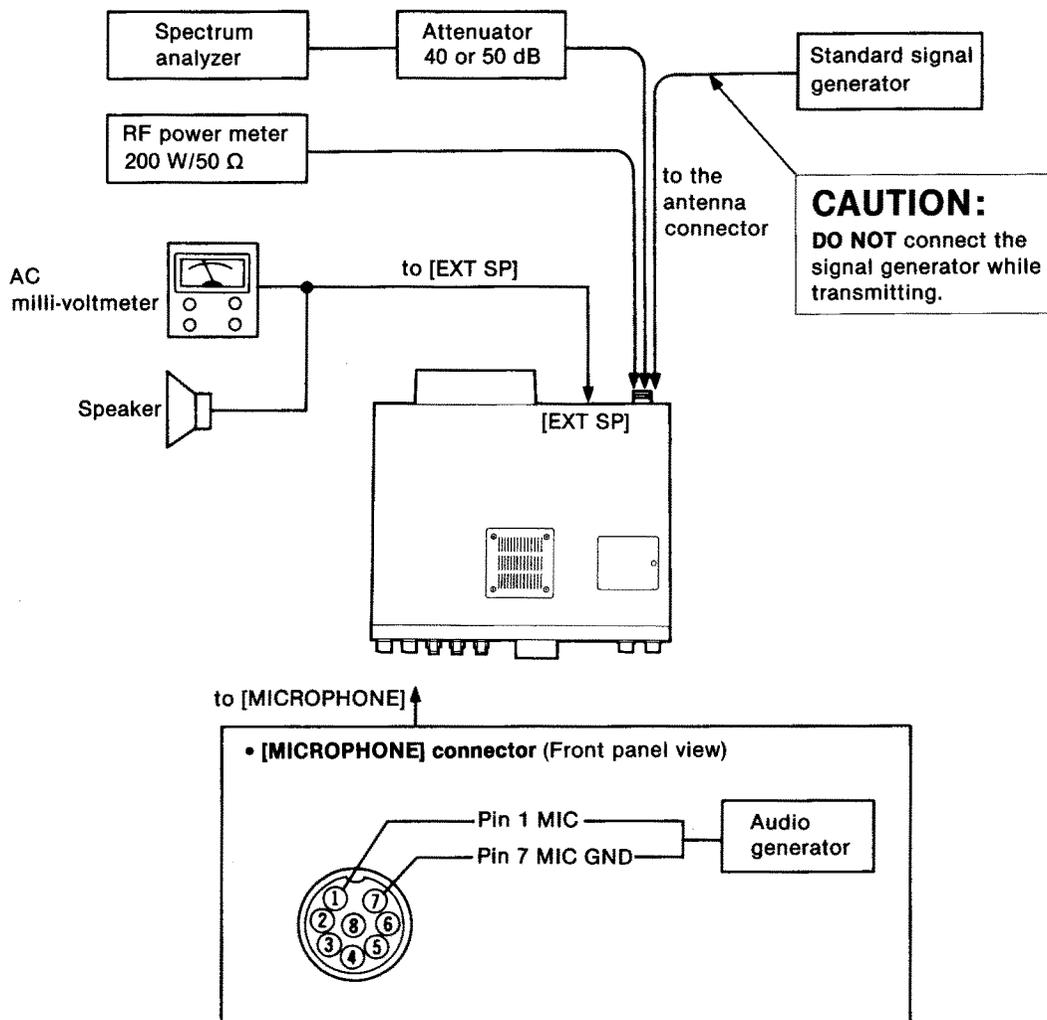
6-1 PREPARATION BEFORE SERVICING

REQUIRED TEST EQUIPMENT

| EQUIPMENT | GRADE AND RANGE | EQUIPMENT | GRADE AND RANGE |
|----------------------------------|---|----------------------|--|
| RF power meter (terminated type) | Measuring range : 10~200 W Frequency range : 1.8~30 MHz Impedance : 50 Ω SWR : Less than 1.2 : 1 | AC milli-voltmeter | Measuring range : 10 mV~10 V |
| Frequency counter | Frequency range : 0.1~100 MHz Frequency accuracy : ±1 ppm or better Sensitivity : 100 mV or better | External speaker | Impedance : 8 Ω |
| RF voltmeter | Frequency range : 0.1~100 MHz Measuring range : 0.01~10 V | Ammeter | Measurement capability: 1 A and 30 A |
| Oscilloscope | Frequency range : DC~20 MHz Measuring range : 0.01~10 V | Audio generator | Frequency range : 300~3000 Hz Output level : 1~500 mV |
| Standard signal generator (SSG) | Frequency range : 0.1~30 MHz Output level : -127~-17 dBm (0.1 μV~32 mV) | Attenuator | Power attenuation : 40 or 50 dB Capacity : 150 W or more |
| DC voltmeter | Input impedance : 50 kΩ/DC or better | Spectrum analyzer | Frequency minimum : At least 90 MHz Spectrum bandwidth : ±100 kHz or more |
| | | Digital DC voltmeter | Input impedance : 10 MΩ/DC or better |
| | | FM deviation meter | Frequency minimum : 30 MHz Measuring range : 0~±10 kHz |

CW: Clockwise
CCW: Counterclockwise

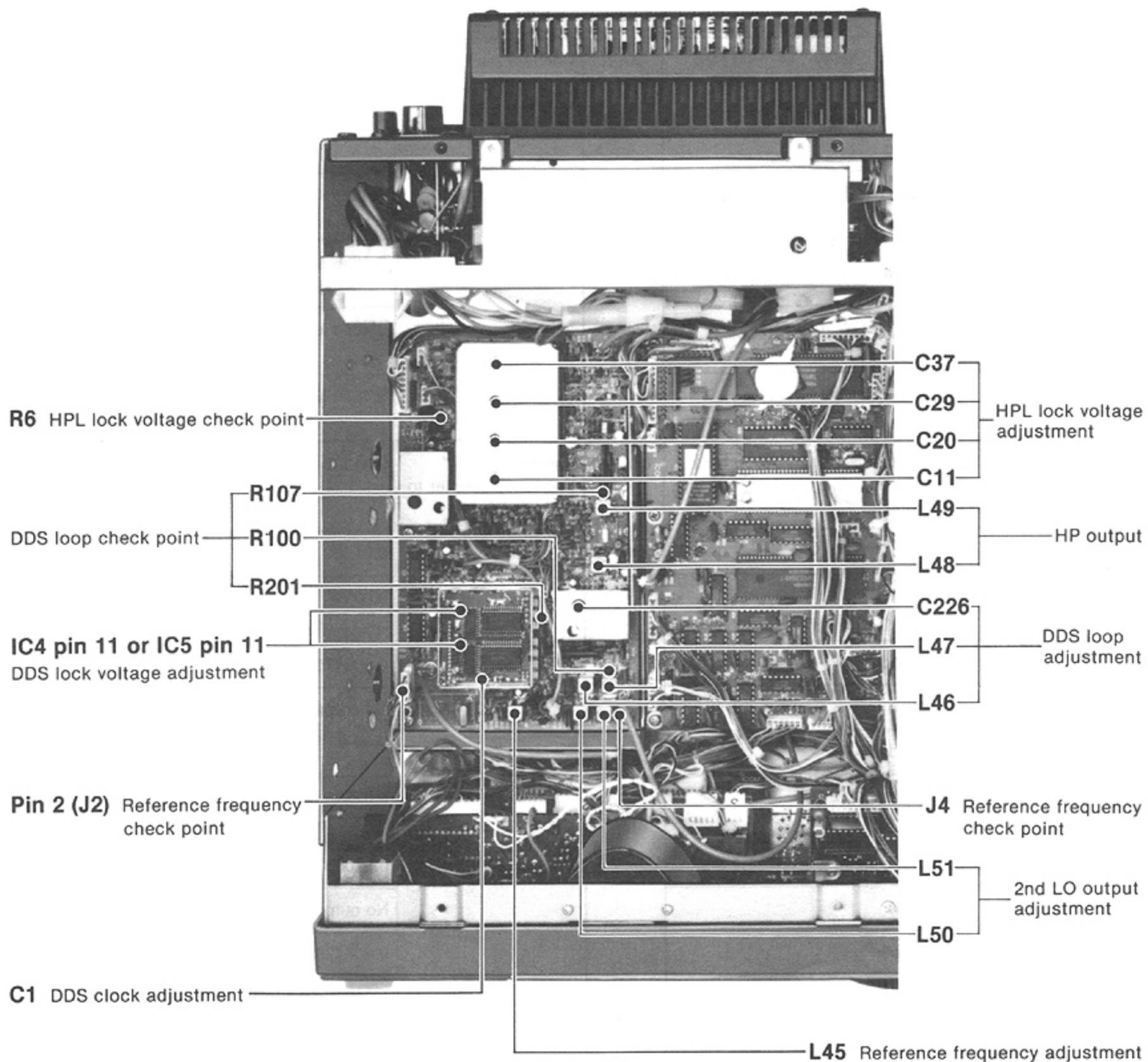
CONNECTION



6-2 PLL ADJUSTMENT

| ADJUSTMENT | ADJUSTMENT CONDITIONS | MEASUREMENT | | VALUE | ADJUSTMENT POINT | | |
|---------------------|-----------------------|---|----------|--|-------------------|-------------|----------------------|
| | | UNIT | LOCATION | | UNIT | ADJUST | |
| DDS CLOCK | 1 | • Frequency display : 14.10000 MHz • USB mode • Receiving | DDS | Connect the frequency counter to IC4 pin 11 or IC5 pin 11. | 5.24288 MHz | DDS | C1 |
| DDS LOOP | 1 | • Frequency display : 8.00000 MHz • LSB mode • Receiving | PLL | Connect the RF voltmeter to R100. | Maximum waveform | PLL | L46, L47 |
| | 2 | | | Connect the oscilloscope to R201. | 1.1 V DC | | C226 |
| HPL LOCK VOLTAGE | 1 | • Frequency display : 7.99999 MHz • LSB mode | PLL | Connect the oscilloscope to R6. | 6.5 V DC | PLL | C11 |
| | 2 | • Frequency display : 14.99999 MHz | | | | | C20 |
| | 3 | • Frequency display : 21.99999 MHz | | | | | C29 |
| | 4 | • Frequency display : 29.99999 MHz | | | | | C37 |
| | 5 | • Frequency display : 0.03000 MHz | | | More than 2 V DC | | Verify |
| | 6 | • Frequency display : 8.00000 MHz | | | | | |
| | 7 | • Frequency display : 15.00000 MHz | | | | | |
| | 8 | • Frequency display : 22.00000 MHz | | | | | |
| HPL OUTPUT | 1 | • Frequency display : 8.00000 MHz • LSB mode • Receiving | PLL | Connect the RF voltmeter to R107. | Maximum level | PLL | L48, L49 |
| REFERENCE FREQUENCY | 1 | • Frequency display : 8.00000 MHz • LSB mode • Receiving | PLL | Connect the DC voltmeter to J2 pin 2. | 3 V | HATCH COVER | [CALIBRATOR] control |
| | 2 | | | Connect the frequency counter to J4. | 60.00000 MHz | PLL | L45 |
| 2nd LO OUTPUT | 1 | • Frequency display : 8.00000 MHz • LSB mode • Receiving | PLL | Terminate P4 to ground with a 50 Ω resistor. Connect the RF voltmeter to P4. | More than -10 dBm | PLL | L50, L51 |

PLL UNIT



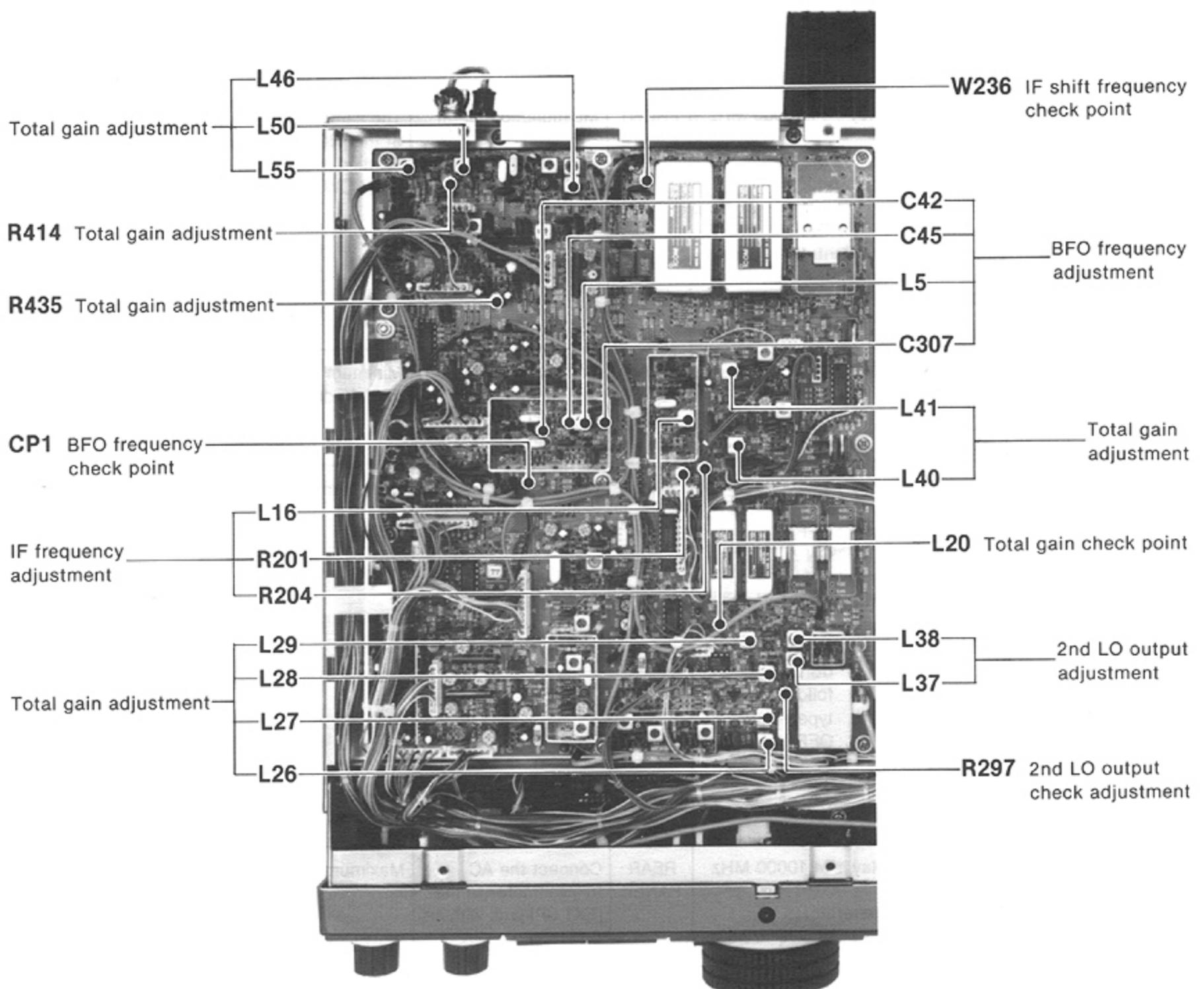
6-3 RECEIVER ADJUSTMENT

| ADJUSTMENT | ADJUSTMENT CONDITIONS | MEASUREMENT | | VALUE | ADJUSTMENT POINT | |
|--|---|-------------|--|--------------------------|------------------|----------|
| | | UNIT | LOCATION | | UNIT | ADJUST |
| 2nd LO OUTPUT | 1 <ul style="list-style-type: none"> • Frequency display : 8.00000 MHz • USB mode | MAIN | Connect the RF voltmeter to R297. | Maximum level (+1~7 dBm) | MAIN | L37, L38 |
| IF SHIFT FREQUENCY | 1 <ul style="list-style-type: none"> • Frequency display : 14.1000 MHz • USB mode • [IF SHIFT] switch : ON • [IF SHIFT] control : Center • Receiving | MAIN | Connect the frequency counter to W236. | 9.4665 MHz | MAIN | L16 |
| | 2 <ul style="list-style-type: none"> • [IF SHIFT] switch : OFF | | | 9.4665 MHz | | R201 |
| | 3 <ul style="list-style-type: none"> • CW NARROW mode | | | 9.4656 MHz | | R204 |
| | 4 <ul style="list-style-type: none"> • RTTY NARROW mode | | | 9.4656 MHz ± 30 Hz | | Verify |
| | 5 <ul style="list-style-type: none"> • FM or AM mode | | | 9.4650 MHz ± 300 Hz | | Verify |
| BFO FREQUENCY | 1 <ul style="list-style-type: none"> • Frequency display : 14.1000 MHz • USB mode • Receiving | MAIN | Connect the frequency counter to CP1. | 9.01300 MHz | MAIN | C42 |
| | 2 <ul style="list-style-type: none"> • LSB mode | | | 9.01000 MHz | | C45 |
| | 3 <ul style="list-style-type: none"> • CW mode • [CW PITCH] control: Center | | | 9.00990 MHz | | C307 |
| | 4 <ul style="list-style-type: none"> • RTTY mode | | | 9.008475 MHz | | L5 |
| | 5 <ul style="list-style-type: none"> • AM mode | | | No output | | Verify |
| | 6 <ul style="list-style-type: none"> • FM mode | | | | | |
| | 7 <ul style="list-style-type: none"> • USB mode • Transmitting | | | 9.01300 MHz | | Verify |
| | 8 <ul style="list-style-type: none"> • LSB mode | | | 9.01000 MHz | | |
| | 9 <ul style="list-style-type: none"> • CW mode | | | No output | | |
| | 10 <ul style="list-style-type: none"> • RTTY mode | | | 9.008475 MHz | | |
| | 11 <ul style="list-style-type: none"> • AM mode | | | 9.01000 MHz | | |
| | 12 <ul style="list-style-type: none"> • FM mode | | | No output | | |
| NOTE: Repeat adjustments 1 through 12 several times. | | | | | | |
| TOTAL GAIN | 1 <ul style="list-style-type: none"> • Frequency display : 14.10000 MHz • USB mode • R414 : Max. CW • [RF] control : Max. CW • [PRE/ATT] switch : OFF • [CW 250 Hz] switch: OFF • [NOTCH] switch : OFF • [IF SHIFT] control : Center • [RX TONE] control : Center • [SQL] control : Max. CCW • [AGC] switch : FAST • [RIT] switch : OFF • [NB] switch : OFF • Receiving | MAIN | Connect the digital DC voltmeter to L20. | 3.9 V | MAIN | R435 |

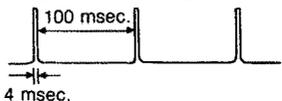
RECEIVER ADJUSTMENT (CONTINUED)

| ADJUSTMENT | ADJUSTMENT CONDITIONS | MEASUREMENT | | VALUE | ADJUSTMENT POINT | |
|------------|---|-------------|---|----------|--|---|
| | | UNIT | LOCATION | | UNIT | ADJUST |
| 2 | <ul style="list-style-type: none"> Set the signal generator; <ul style="list-style-type: none"> Level : 50 μV (-73 dBm) Mod. : OFF | FRONT PANEL | Multifunction meter | Maximum | MAIN | L26, L27, L28, L29, L40, L41, L46, L50, L55 |
| | | REAR PANEL | Connect the AC millivoltmeter to the [EXT SP] jack with an 8 Ω load. | 2.5 Vrms | FRONT PANEL | [AF] control |
| | | 4 | <ul style="list-style-type: none"> Apply no signal to the antenna connector. | | Adjust R414 to a point where the noise level is 30 dB down from 2.5 V. | MAIN |

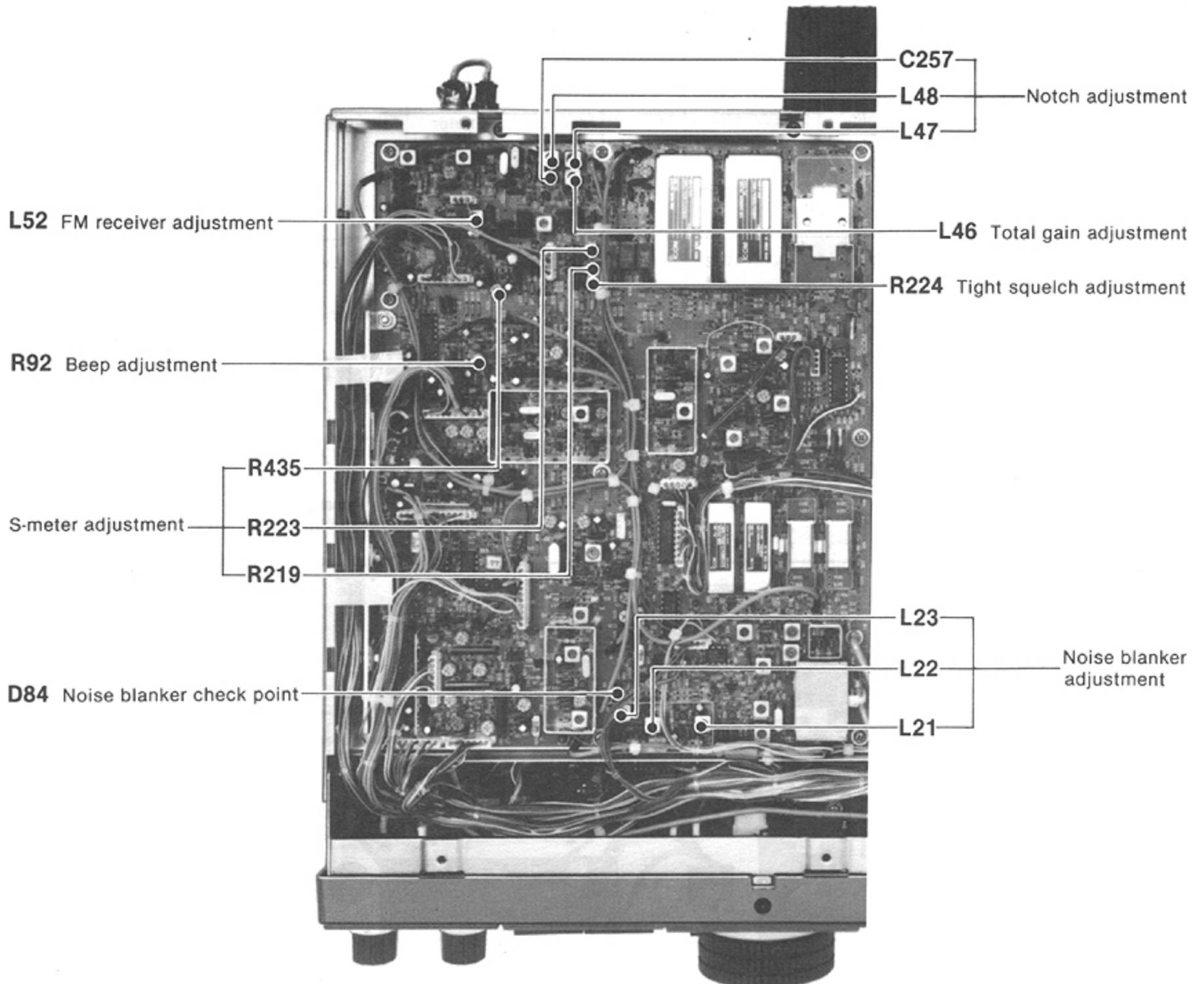
MAIN UNIT



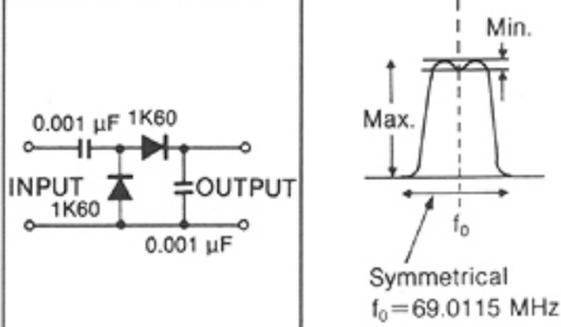
RECEIVER ADJUSTMENT (CONTINUED)

| ADJUSTMENT | ADJUSTMENT CONDITIONS | MEASUREMENT | | VALUE | ADJUSTMENT POINT | | |
|---------------|-----------------------|---|-------------|---|--|--------|---------------|
| | | UNIT | LOCATION | | UNIT | ADJUST | |
| S-METER | 1 | <ul style="list-style-type: none"> • Frequency display : 14.10000 MHz • Set the signal generator; Level : OFF | FRONT PANEL | Multifunction meter (S scale) | S0 | MAIN | R219 |
| | 2 | <ul style="list-style-type: none"> • Set the signal generator; Level : 16 mV (-23 dBm) Mod. : OFF | | Multifunction meter (S scale) | S9+50 | | R223 |
| | 3 | <ul style="list-style-type: none"> • Set the signal generator; Level : 50 μV (-73 dBm) Mod. : OFF | | Multifunction meter (S scale) | S9 | | R435 |
| TIGHT SQUELCH | 1 | <ul style="list-style-type: none"> • Frequency display : 14.10000 MHz • [PRE/ATT] switch : OFF • [SQL] control : Max. CW • Set the signal generator; Level : 16 mV (-23 dBm) Mod. : OFF | FRONT PANEL | [RECEIVE] indicator | Adjust R224 to the point where the squelch opens. | MAIN | R224 |
| NOTCH | 1 | <ul style="list-style-type: none"> • Frequency display : 14.10000 MHz • USB mode • [NOTCH] switch : ON • Set the signal generator; Level : 50 μV (-73 dBm) Mod. : OFF • Adjust the tuning control to receive 1.5 kHz beat signal. • [NOTCH] control : Max. CW and CCW | FRONT PANEL | Multifunction meter | The same meter level at the [NOTCH] control rotation in max. CW and CCW. | MAIN | L48 |
| | 2 | <ul style="list-style-type: none"> • [NOTCH] control : Center | REAR PANEL | Connect the AC millivoltmeter to the [EXT SP] jack with an 8 Ω load. | Minimum level (More than 45 dB down) | MAIN | L47, C257 |
| NOISE BLANKER | 1 | <ul style="list-style-type: none"> • Frequency display : 14.10000 MHz • USB mode • [PRE/ATT] switch : OFF • [NB] switch : ON • [NB WIDE] switch : ON • [NB LEVEL] control: Max. CW • Set the signal generator; Level : 10 μV (-87 dBm) included following pulse-type noise. Mod. : OFF  | MAIN | Connect the oscilloscope to D84. | Maximum waveform | MAIN | L21, L22, L23 |
| FM RECEIVER | 1 | <ul style="list-style-type: none"> • Frequency display : 14.10000 MHz • FM mode • Set the signal generator; Level : 50 μV (-73 dBm) Mod. : 1 kHz Dev. : \pm3.5 kHz | REAR PANEL | Connect the AC millivoltmeter to the [EXT SP] jack with an 8 Ω load. | Maximum level | MAIN | L52 |
| BEEP | 1 | <ul style="list-style-type: none"> • Receiving | | | Center | MAIN | R92 |

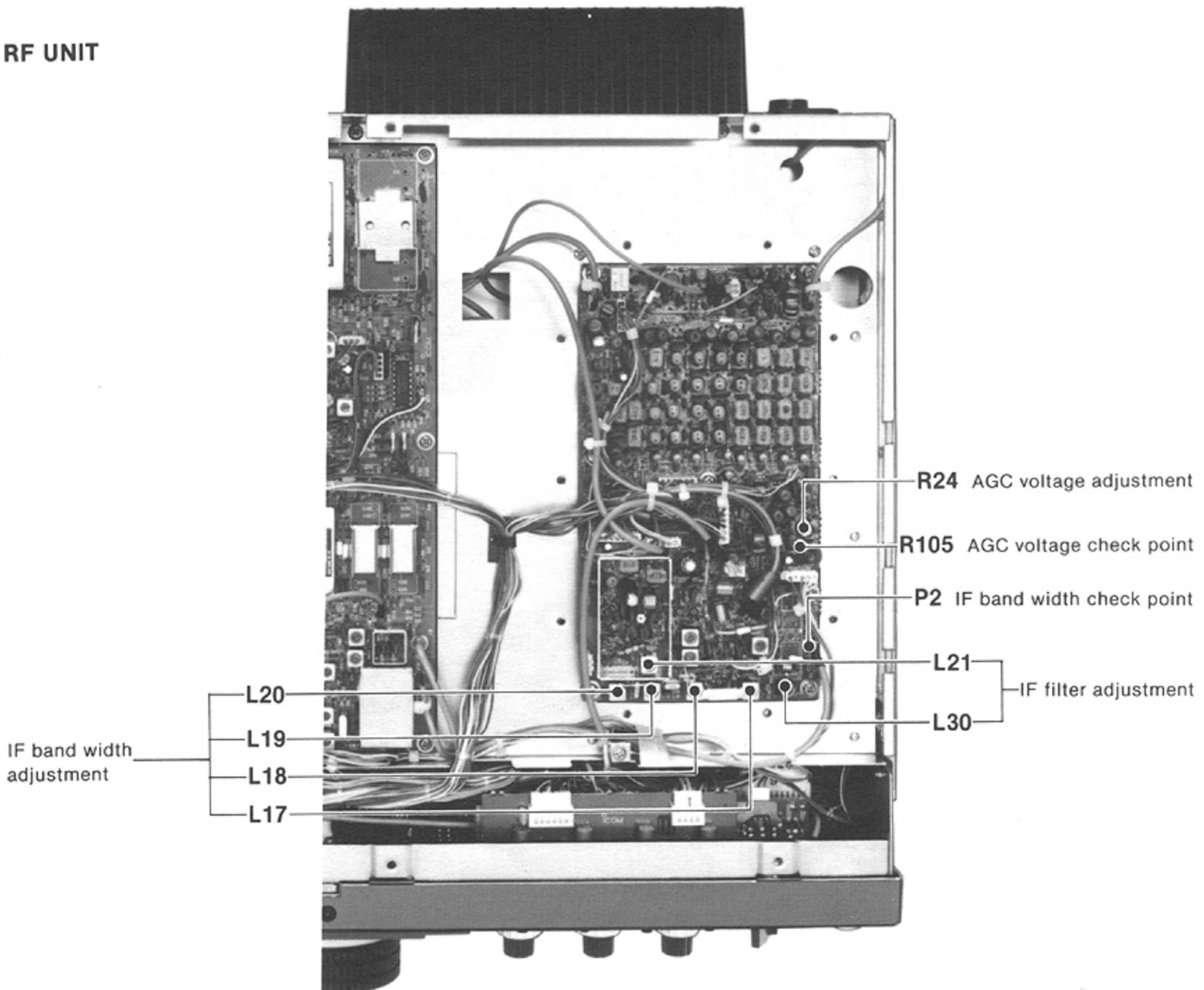
MAIN UNIT



RECEIVER ADJUSTMENT (CONTINUED)

| ADJUSTMENT | ADJUSTMENT CONDITIONS | MEASUREMENT | | VALUE | ADJUSTMENT POINT | |
|---------------|---|-------------|--|---|------------------|------------------------------|
| | | UNIT | LOCATION | | UNIT | ADJUST |
| AGC VOLTAGE | 1 <ul style="list-style-type: none"> • Frequency display : 14.10000 MHz • USB mode | RF | Connect the DC voltmeter to the terminal of R105. | 2.5 V | RF | R24 |
| IF FILTER | 1 <ul style="list-style-type: none"> • Frequency display : 14.10000 MHz • USB mode • Set the signal generator; <ul style="list-style-type: none"> Level : 50 μV (-73 dBm) Mod. : OFF | FRONT PANEL | Multifunction meter | Maximum level | RF | L30, L17, L18, L19, L20, L21 |
| IF BAND WIDTH | 1 <ul style="list-style-type: none"> • Frequency display : 14.10000 MHz • [AGC] switch : OFF • Set the RF sweep generator; <ul style="list-style-type: none"> Center frequency : 14.1 MHz Sweep band width: ± 10 MHz | RF | Connect the oscilloscope to P2 through the detector. | IF band width as follows  | RF | L17, L18, L19, L20 |

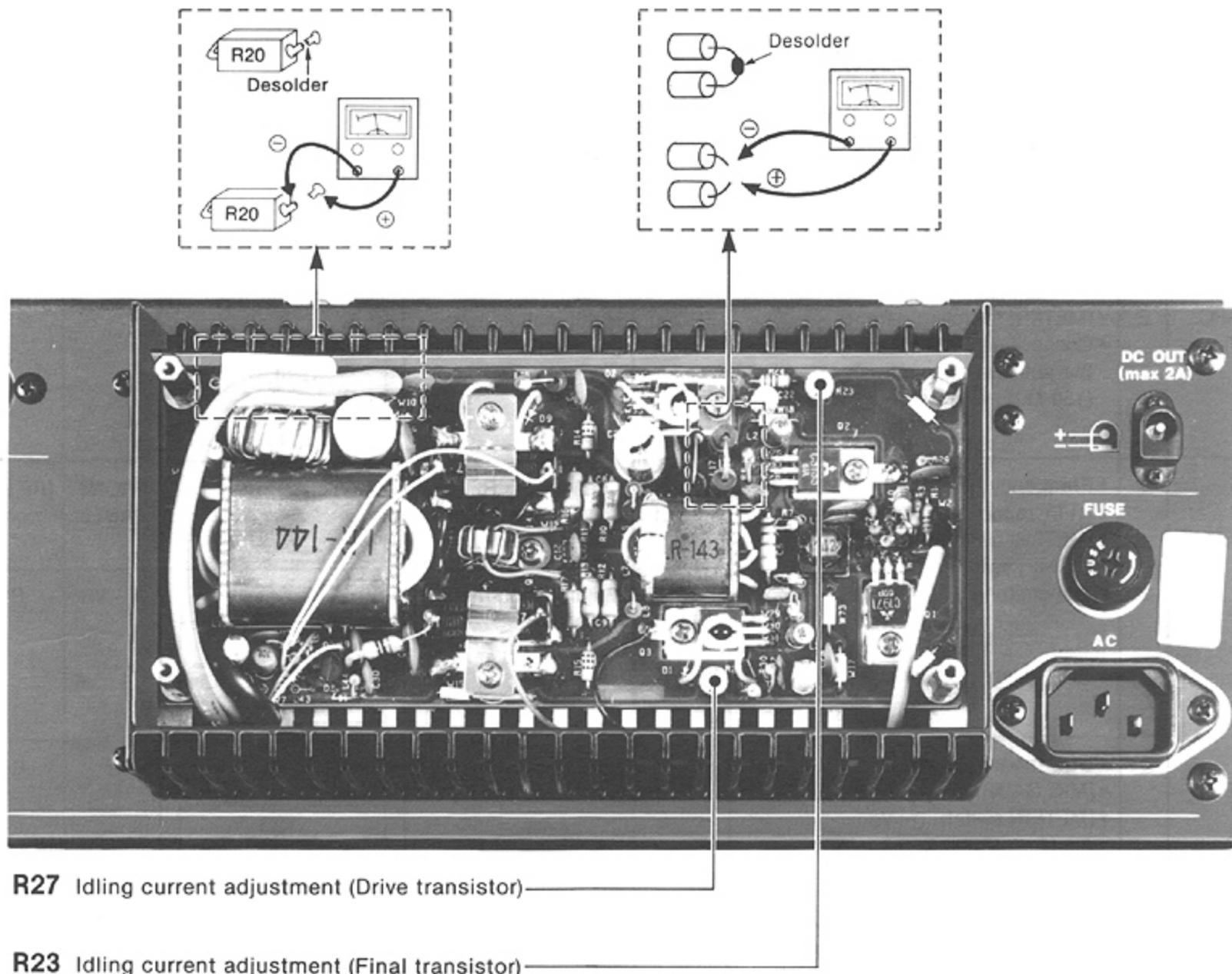
RF UNIT



6-4 TRANSMITTER ADJUSTMENT

| ADJUSTMENT | ADJUSTMENT CONDITIONS | MEASUREMENT | | VALUE | ADJUSTMENT POINT | |
|---|---|-------------|---|--------|------------------|--------|
| | | UNIT | LOCATION | | UNIT | ADJUST |
| IDLING CURRENT For drive transistors | <ul style="list-style-type: none"> • Frequency display : 14.10000 MHz • USB mode • [MIC GAIN] control : Max. CCW • Apply no AF signal to the mic connector. • Transmitting | PA | Desolder the center of W35 and connect the ammeter. | 100 mA | PA | R27 |
| | | | Desolder R20 and connect the ammeter. | | | |
| For final transistors | 2 | | | | | |
| NOTE: Resolder after making adjustments in steps 1 and 2. | | | | | | |

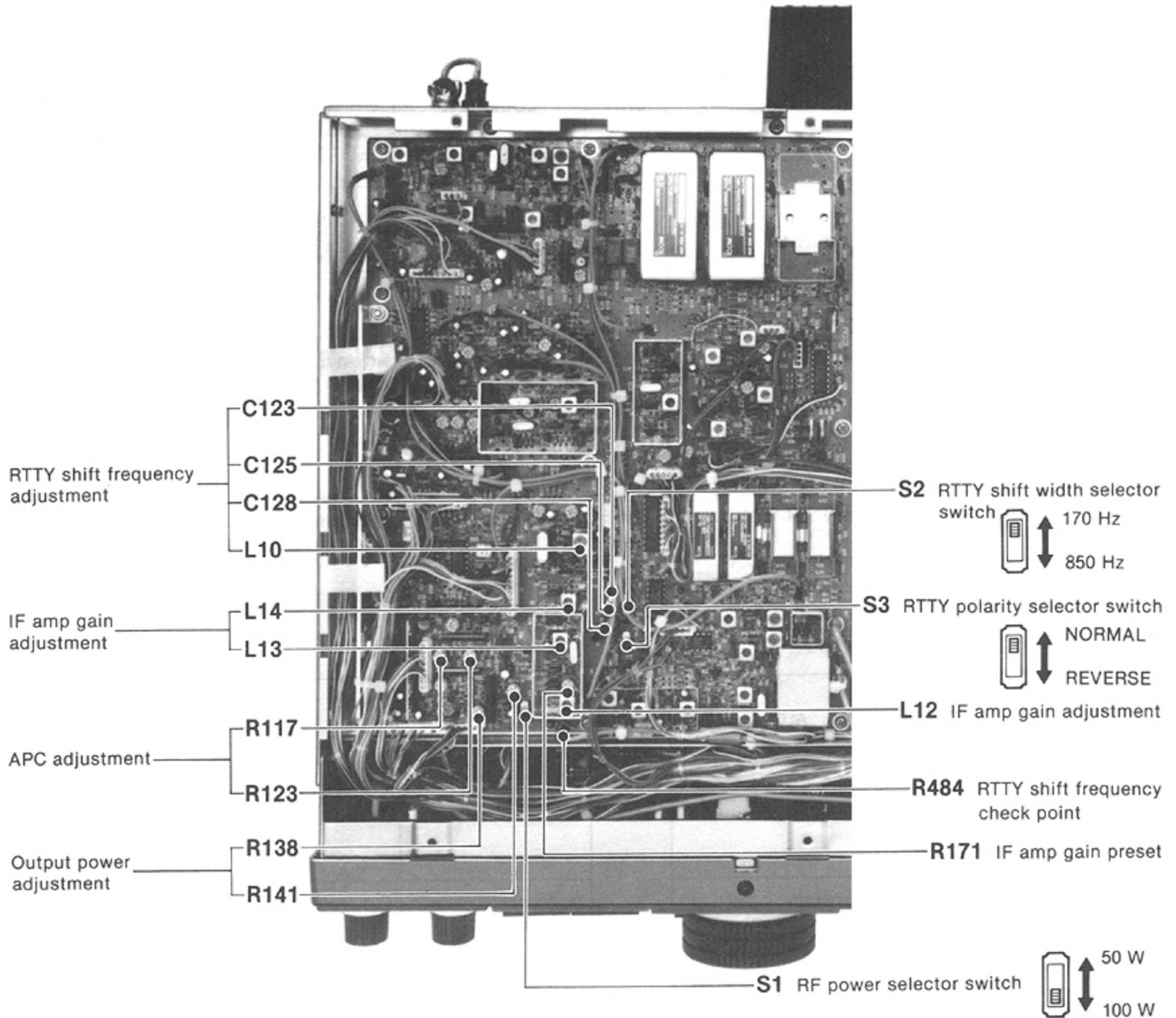
PA UNIT



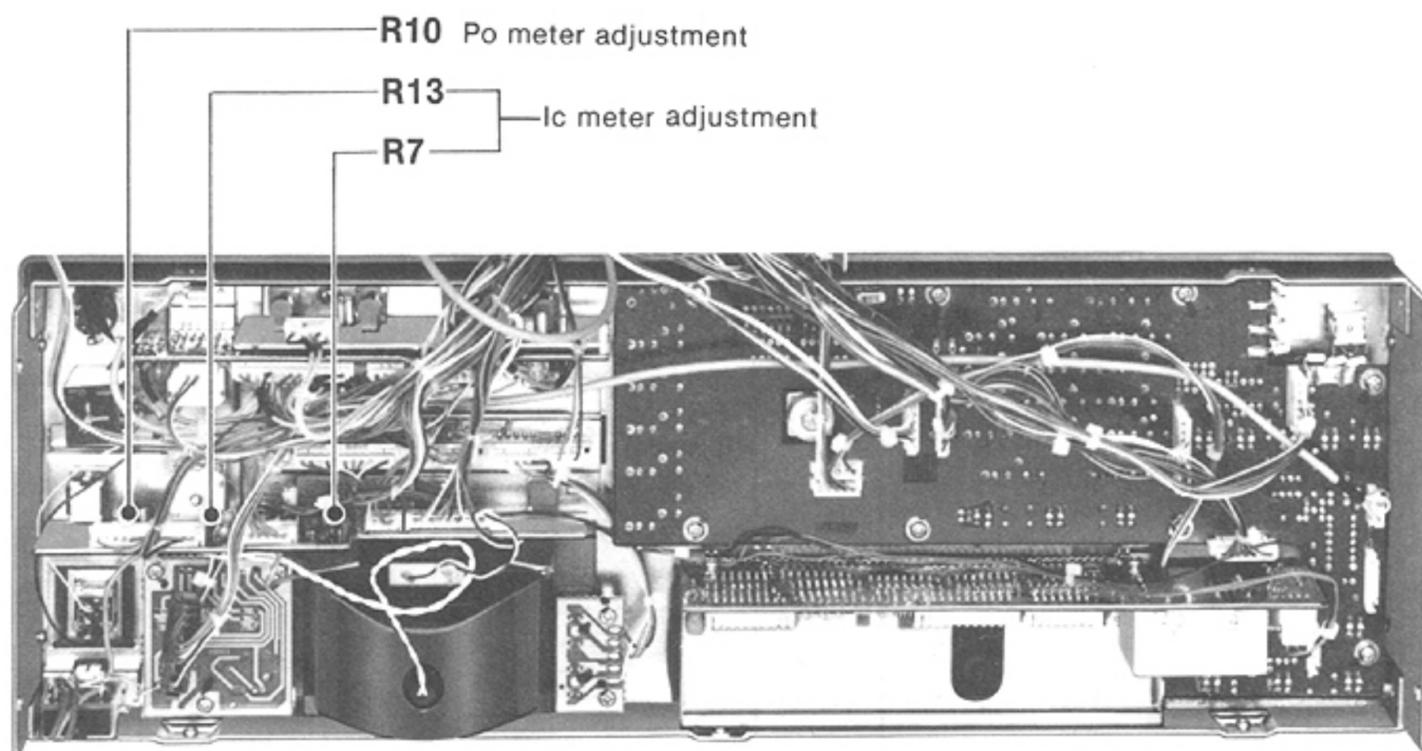
TRANSMITTER ADJUSTMENT (CONTINUED)

| ADJUSTMENT | ADJUSTMENT CONDITIONS | MEASUREMENT | | VALUE | ADJUSTMENT POINT | |
|----------------------|--|-------------|--|------------------------------|------------------|------------------|
| | | UNIT | LOCATION | | UNIT | ADJUST |
| IF AMP GAIN | 1 <ul style="list-style-type: none"> • Frequency display : 14.10000 MHz • RTTY mode • R171 : Max. CCW • Transmitting | MAIN | Connect the RF voltmeter to R484. | Maximum level (30~80 mVp-p.) | MAIN | L12, L13, L14 |
| RTTY SHIFT FREQUENCY | 1 <ul style="list-style-type: none"> • Frequency display : 14.10000 MHz • RTTY mode • S2 : 850 Hz • S3 : NORMAL • Transmitting | MAIN | Connect the frequency counter to R484. | 9.01145 MHz | MAIN | C123 |
| | 2 <ul style="list-style-type: none"> • S2 : 170 Hz | | | 9.01077 MHz | | C125 |
| | 3 <ul style="list-style-type: none"> • S3 : REVERSE | | | 9.0106 MHz | | C128 |
| | 4 <ul style="list-style-type: none"> • FM mode | | | 9.0100 MHz | | L10 |
| OUTPUT POWER | 1 <ul style="list-style-type: none"> • Frequency display : 14.10000 MHz • RTTY mode • R117 : Max. CCW • R123 : Max. CCW • S1 : 100 W • Transmitting | REAR PANEL | Connect the RF power meter to the antenna connector. | 100 W | MAIN | R138 |
| | 2 <ul style="list-style-type: none"> • S1 : 50 W | | | 50 W | | R141 |
| APC | 1 <ul style="list-style-type: none"> • Frequency display : 14.10000 MHz • RTTY mode • R123 : Max. CCW • R117 : Max. CW • Remove all connections from the antenna connector. • [RF PWR] control : Max. CW • Transmitting | REAR PANEL | Connect the ammeter to the AC power supply and IC-765. | 22 A | MAIN | R117 |
| (SWR APC METER) | 2 <ul style="list-style-type: none"> • [METER] switch : Po • Connect an SWR3 dummy load to the antenna connector. (150 Ω dummy load) | FRONT PANEL | Multifunction meter (Po scale) | 50 % | | R123 |
| METER Po METER | 1 <ul style="list-style-type: none"> • Frequency display : 14.10000 MHz • RTTY mode • [METER] switch : Po • [COMP] switch : OFF | REAR PANEL | Connect the RF power meter to the antenna connector. | 100 W | FRONT PANEL | [RF PWR] control |
| | 2 <ul style="list-style-type: none"> • Transmitting | FRONT PANEL | Multifunction meter (Po scale) | 100 % | | NB VR |
| Vc METER | 3 <ul style="list-style-type: none"> • USB mode • [MIC GAIN] control: Max. CCW • [METER] switch : Vc • Apply no signal to the mic connector. • Transmitting | FRONT PANEL | Multifunction meter (Vc scale) | 13.8 V | NB VR | R13 |
| SWR METER | 4 <ul style="list-style-type: none"> • Frequency display : 14.10000 MHz • RTTY mode • [METER] switch : SWR • Connect an SWR3 dummy load to the antenna connector. (150 Ω dummy load) • Transmitting | | Multifunction meter (SWR scale) | SWR3 | | R7 |

MAIN UNIT



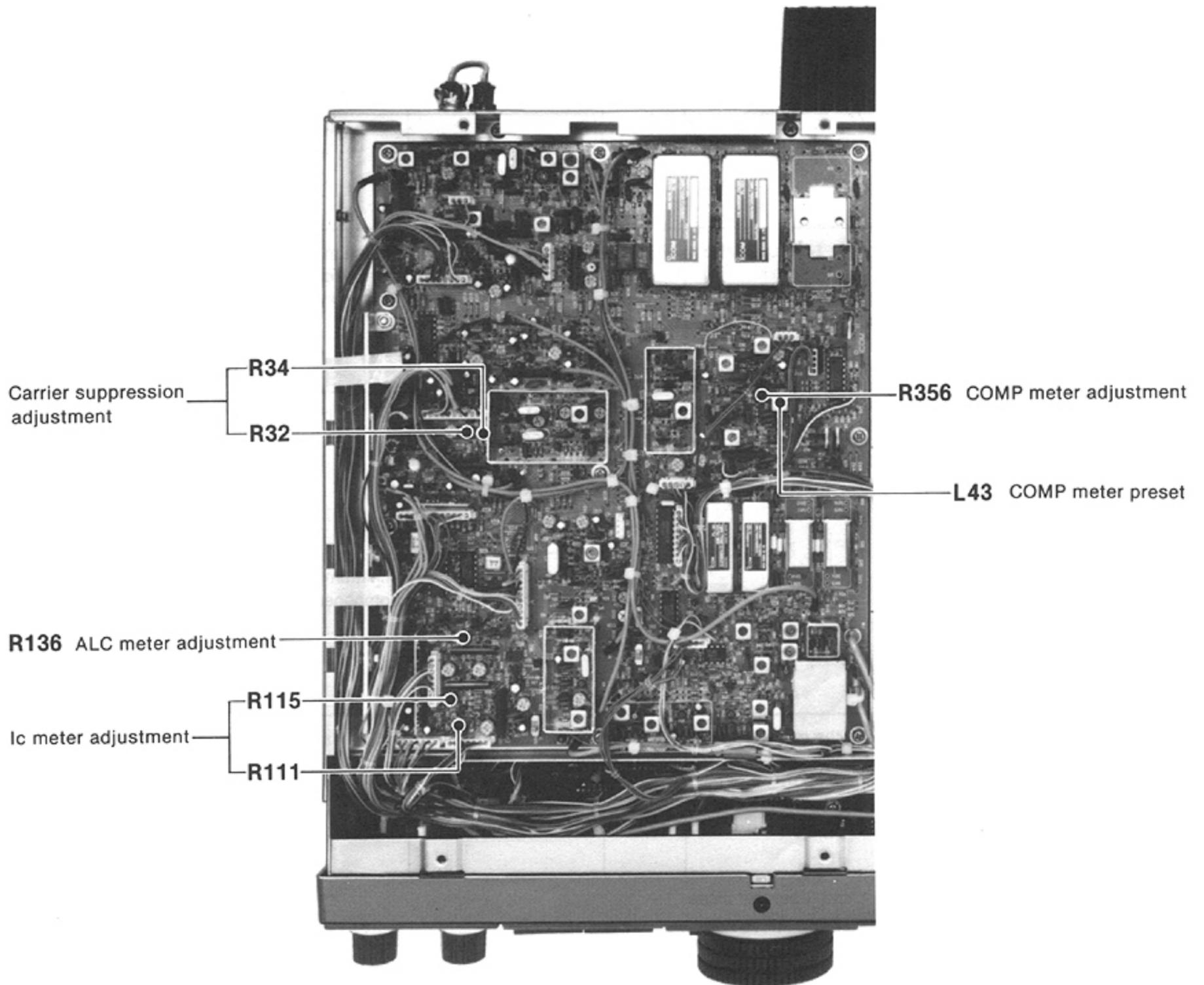
NB VR UNIT



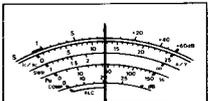
TRANSMITTER ADJUSTMENT (CONTINUED)

| ADJUSTMENT | ADJUSTMENT CONDITIONS | MEASUREMENT | | VALUE | ADJUSTMENT POINT | |
|------------------------|--|----------------|---|---|------------------|-----------------------------------|
| | | UNIT | LOCATION | | UNIT | ADJUST |
| METER Ic METER | 5 <ul style="list-style-type: none"> • CW mode • [METER] switch : Ic • Transmitting | FRONT PANEL | Multifunction meter (Ic scale) | 1 A | MAIN | R111 |
| | 6 <ul style="list-style-type: none"> • RTTY mode • [RF PWR] control : Max. CW • Transmitting | | Multifunction meter (Ic scale) | Adjust to total current minus 4.5 A. | | R115 |
| CARRIER SUPPRESSION | 1 <ul style="list-style-type: none"> • Frequency display : 14.10000 MHz • USB mode • [MIC GAIN] control : Max. CCW • [COMP] switch : ON • Transmitting | REAR PANEL | Connect the spectrum analyzer to the antenna connector via an attenuator. | Minimum carrier level (Less than -40 dB) | MAIN | R32, R34 Alternately adjust |
| ALC METER | 1 <ul style="list-style-type: none"> • USB mode • [METER] switch : ALC • Set the audio generator; 3 mV/1.5 kHz • Transmitting | FRONT PANEL | Multifunction meter (Ic scale) | 2 A | FRONT PANEL | [MIC GAIN] control |
| | <ul style="list-style-type: none"> • Set the audio generator; 10 mV/1.5 kHz (10 dB up) | | Multifunction meter (ALC scale) | Full scale in the ALC zone. | MAIN | R136 |
| COMP METER | 1 <ul style="list-style-type: none"> • USB mode • [COMP] switch : ON • [METER] switch : COMP • L43 : Max. CCW • Input 2 audio signals into the mic connector: 1.1 kHz/3 mV 1.7 kHz/3 mV • Transmitting | FRONT PANEL | Multifunction meter (COMP scale) | 25 dB | FRONT PANEL | [MIC GAIN] control |
| | 2 <ul style="list-style-type: none"> • [METER] switch : ALC | | Multifunction meter (Ic scale) | 9 A | MAIN | R356 |

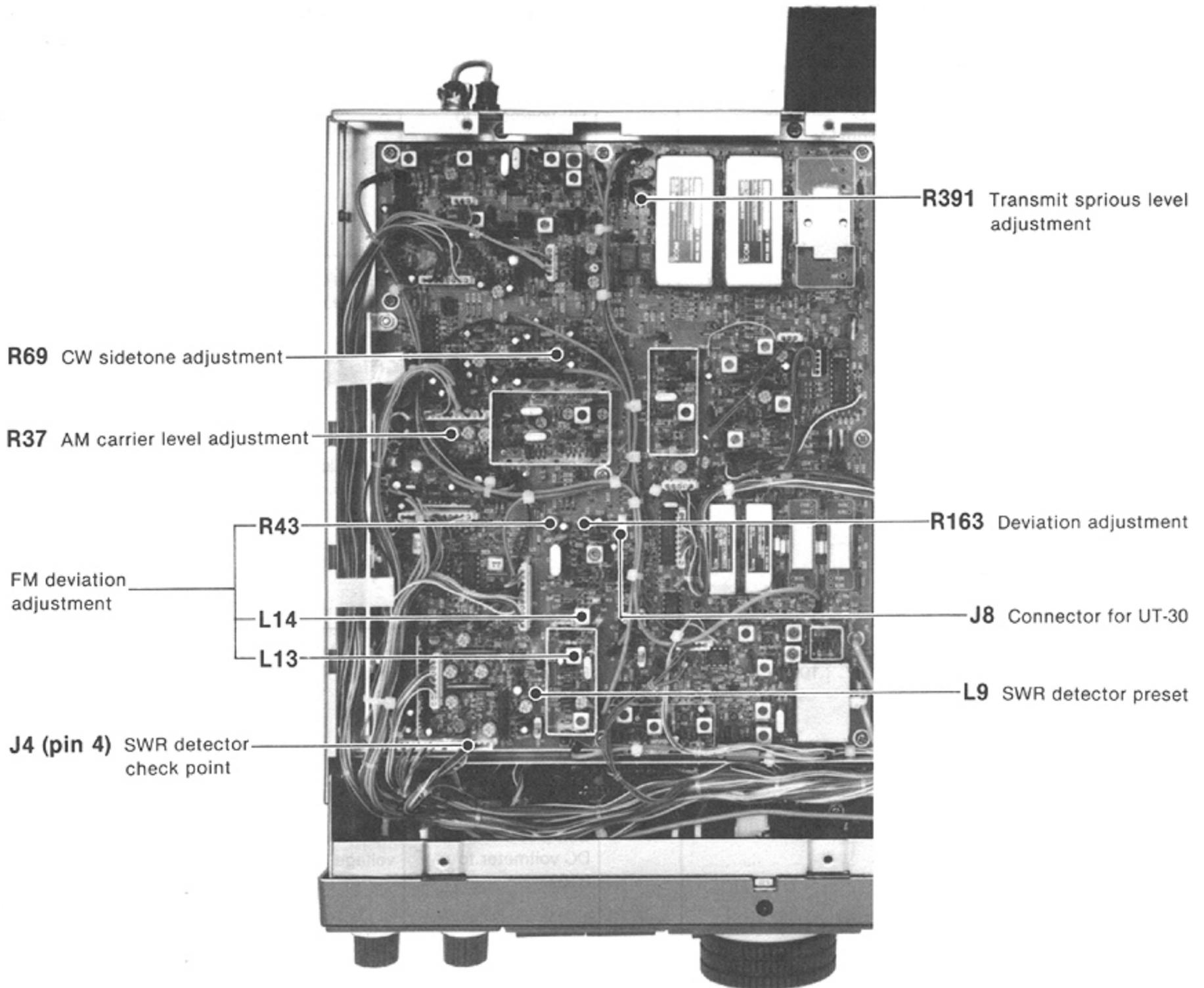
MAIN UNIT



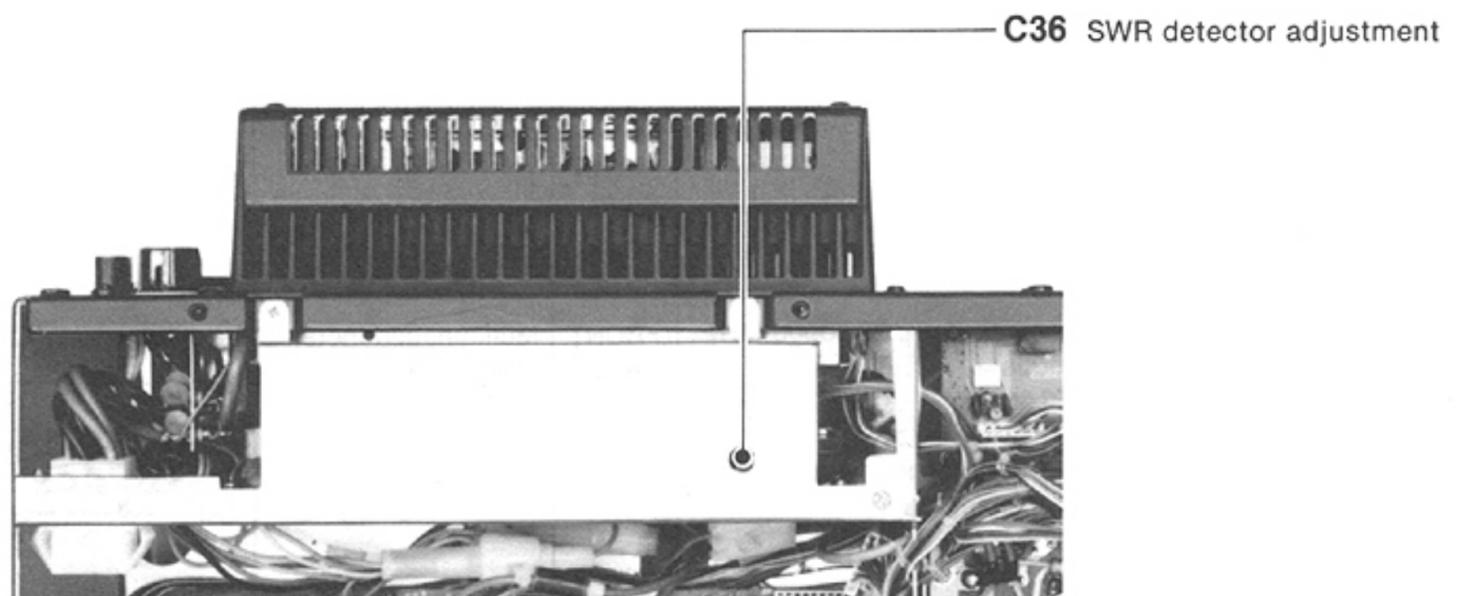
TRANSMITTER ADJUSTMENT (CONTINUED)

| ADJUSTMENT | ADJUSTMENT CONDITIONS | MEASUREMENT | | VALUE | ADJUSTMENT POINT | | |
|---|---|-------------|---|---|-------------------------|-----------------------|----------|
| | | UNIT | LOCATION | | UNIT | ADJUST | |
| AM CARRIER LEVEL | 1 <ul style="list-style-type: none"> • Frequency display : 14.10000 MHz • AM mode • [METER] switch : ALC • Transmitting | FRONT PANEL | Multifunction meter (ALC scale) | Full scale in the ALC zone.  | MAIN | R37 | |
| TRANSMIT SPURIOUS LEVEL | 1 <ul style="list-style-type: none"> • Frequency display : 14.10000 MHz • USB mode • Set the audio generator; 10 mV/1.5 kHz • Transmitting | REAR PANEL | Connect the spectrum analyzer to the antenna connector via the attenuator. | Minimum spurious level of carrier frequency - 455 kHz. | MAIN | R391 | |
| DEVIATION | 1 <ul style="list-style-type: none"> • FM mode • [MIC GAIN] control : Max. CW • Set the audio generator; 10mV/1.0kHz • Transmitting | | Connect the deviation meter to the antenna connector via the attenuator. | ±4.7 kHz | | R43 | |
| | | | 2 | Connect the oscilloscope to the antenna connector. | | Minimum AM component. | L13, L14 |
| | | | 3 <ul style="list-style-type: none"> • Apply no signal to the mic connector. • Connect UT-30 (option) to J8 on the MAIN UNIT. • Push the [FM/TONE] switch. | Connect the deviation meter to the antenna connector via the attenuator. | | ±500 Hz | R163 |
| NOTE: Repeat steps 1 and 3 several times. | | | | | | | |
| CW SIDETONE | 1 <ul style="list-style-type: none"> • CW mode • Connect a key to the [KEY] jack. • [MONITOR GAIN] control : Center • Key down • Transmitting | REAR PANEL | Connect the frequency counter to the [EXT SP] jack. | 700 Hz | MAIN | R69 | |
| SWR DETECTOR | 1 <ul style="list-style-type: none"> • Frequency display : 14.17500 MHz • SSB mode • Set the audio generator; 1.5 kHz • Ground L9 to the chassis. • Transmitting | REAR PANEL | Connect the RF power meter to the antenna connector. | 100 W | Applied AF signal level | | |
| | | MAIN | Connect the DC voltmeter to pin 4 (J4). | Minimum voltage. | FILTER | C36 | |
| NOTE: After completing the adjustment, return L9 to its original condition. | | | | | | | |

MAIN UNIT



FILTER UNIT

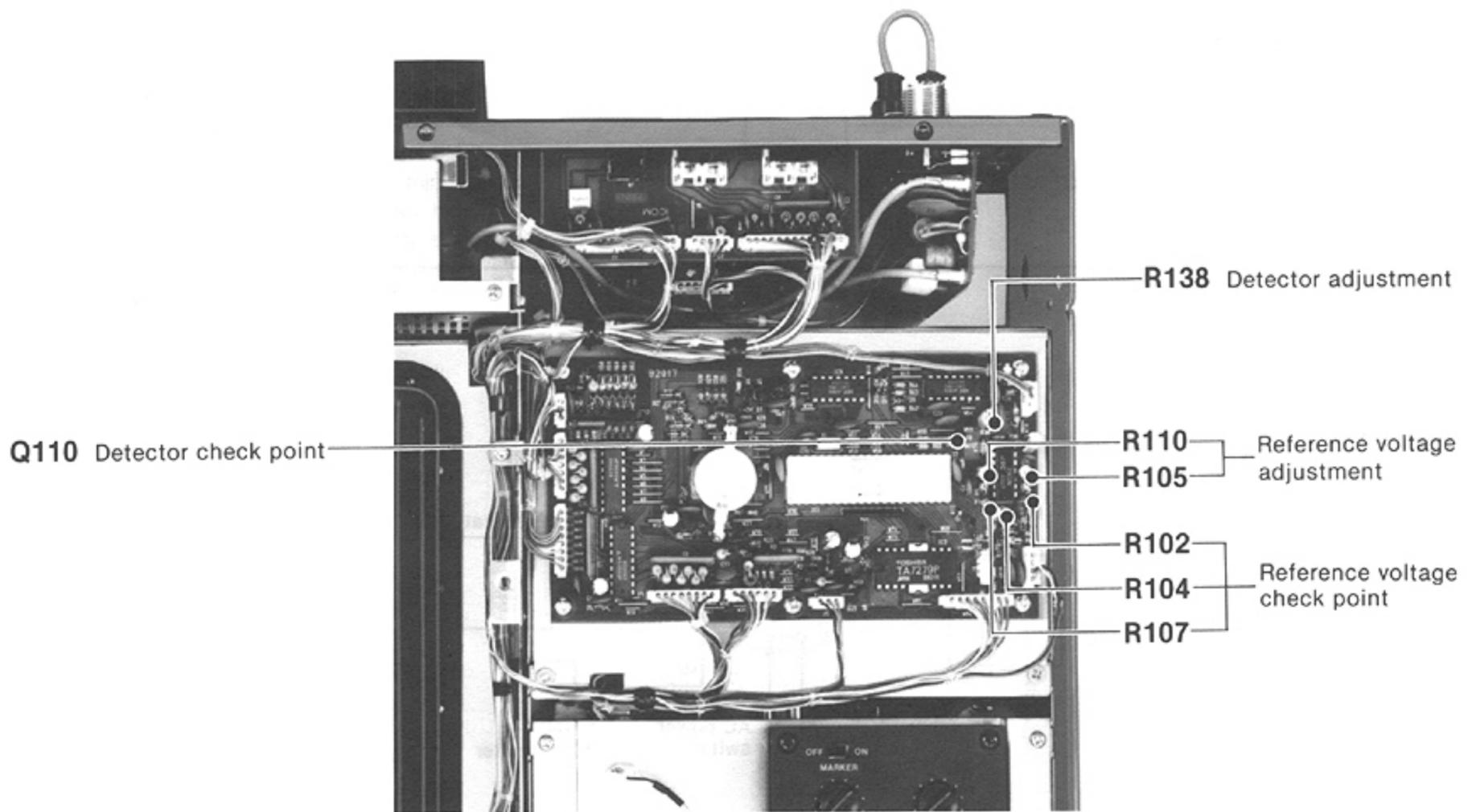


6-5 TUNER UNIT ADJUSTMENT

| ADJUSTMENT | ADJUSTMENT CONDITIONS | MEASUREMENT | | VALUE | ADJUSTMENT POINT | | |
|--|---|--|---|---|--|--|--------|
| | | UNIT | LOCATION | | UNIT | ADJUST | |
| REFERENCE VOLTAGE | <ul style="list-style-type: none"> • Frequency display : 7.10000 MHz • LSB mode • Apply no AF signal to the mic connector. • Connect the RF power meter to the antenna connector. • Transmitting | TUC | Connect the digital DC voltmeter to R104. | 4.6 V~5.0 V | TUC | Verify | |
| | | | Connect the digital DC voltmeter to R102. | | | Half value of R104 voltage. (Step 1 above) | R105 |
| | | | Connect the digital DC voltmeter to R107. | | | Half value of R104 voltage. (Step 1 above) | R110 |
| | 4 | <ul style="list-style-type: none"> • RTTY mode • Output power : 100 W • Transmitting | TUC | Connect the digital DC voltmeter to R102. | Half value of R104 voltage. (Step 1 above) | TDET | C5 |
| | 5 | Connect the digital DC voltmeter to R107. | | Half value of R104 voltage. (Step 1 above) | | | |
| NOTE: Repeat the adjustment several times. | | | | | | | |
| DETECTOR | 1 | <ul style="list-style-type: none"> • Frequency display : 28.00000 MHz • RTTY mode • [TUNER] switch : OFF • Output power : 100 W • Connect an SWR3 dummy road to the antenna connector. (150 Ω dummy load) • Transmitting | TUC | Connect the DC voltmeter to collector of Q110. (IC101 pin 31) | Adjust R138 volume to the point where the voltage is just changed from 5 V to 0 V. | TUC | R138 |
| | 2 | <ul style="list-style-type: none"> • Frequency display : 28.00000 MHz • RTTY mode • [TUNER] switch : ON • [METER] switch : SWR • Connect a 50 Ω dummy road to the antenna connector. • Transmitting | FRONT PANEL | Multifunction meter (SWR scale) | Less than SWR 1.2 | | Verify |

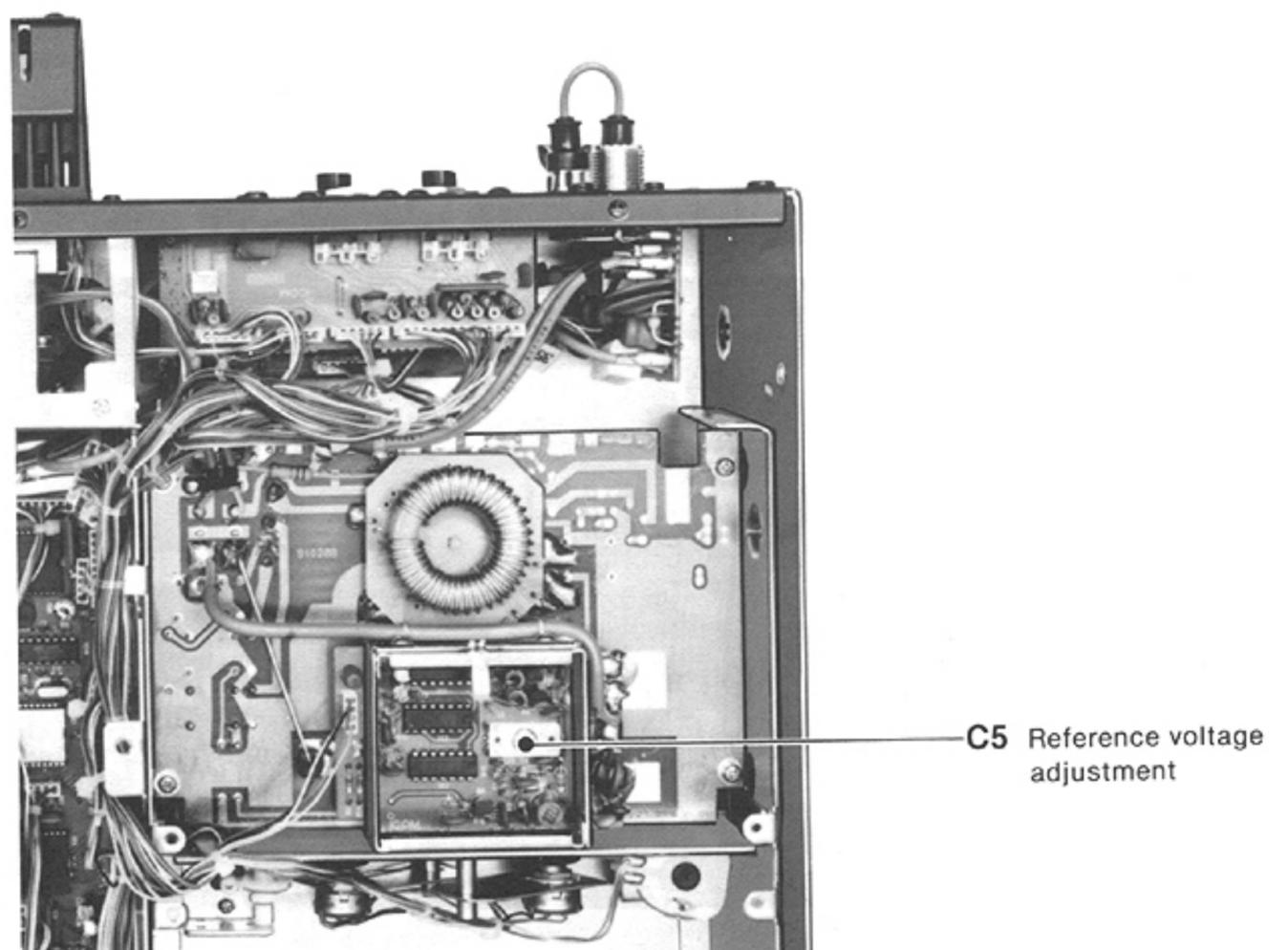


TUC UNIT



TDET UNIT

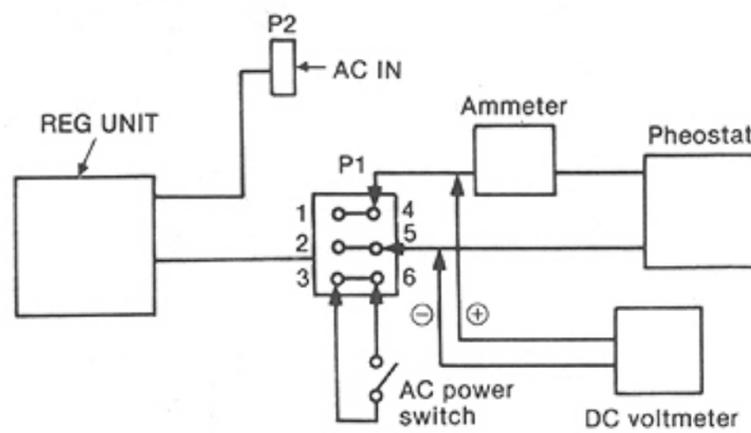
(located under the TUC UNIT)



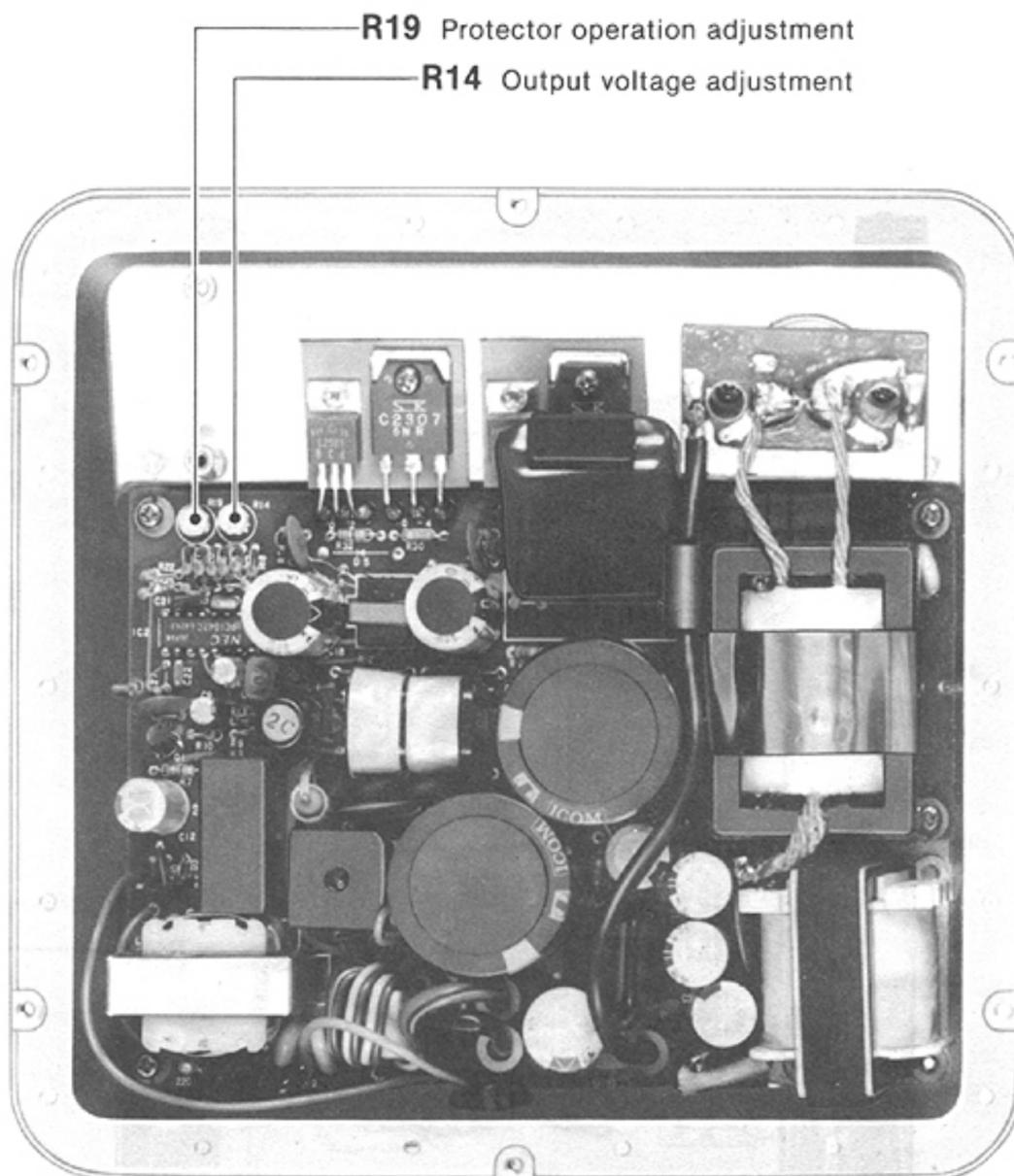
6-6 REG UNIT ADJUSTMENT

| ADJUSTMENT | ADJUSTMENT CONDITIONS | MEASUREMENT | | VALUE | ADJUSTMENT POINT | |
|---------------------|--|-------------|--|--|------------------|--------|
| | | UNIT | LOCATION | | UNIT | ADJUST |
| OUTPUT VOLTAGE | 1 • Rheostat : 1.38 Ω • AC power switch : ON | REG | Connect a DC voltmeter as shown below. | 13.8 V | REG | R14 |
| PROTECTOR OPERATION | 2 • Rheostat : 0.55 Ω • AC power switch : ON | | | Adjust R19 volume to the point where the output voltage just before drops. | | R19 |

CONNECTION



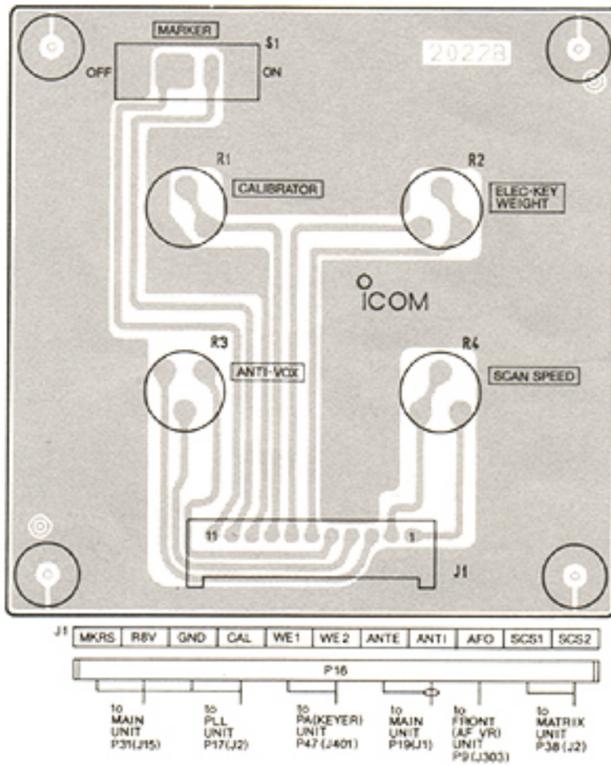
REG UNIT



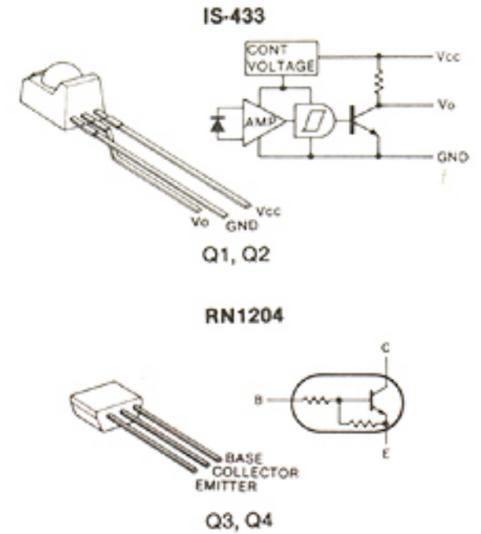
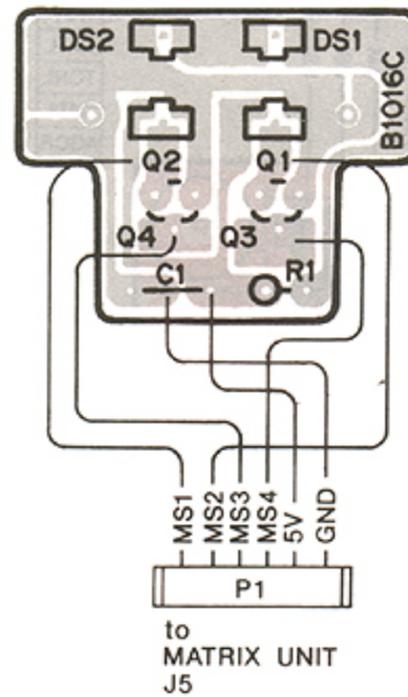
SECTION 7 BOARD LAYOUT

7-1 DISPLAY, MKR SW AND SENSOR UNITS

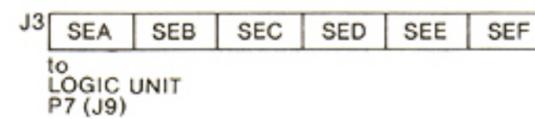
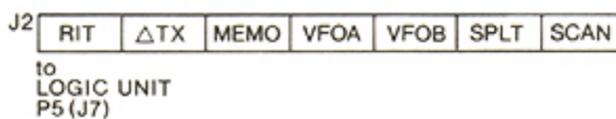
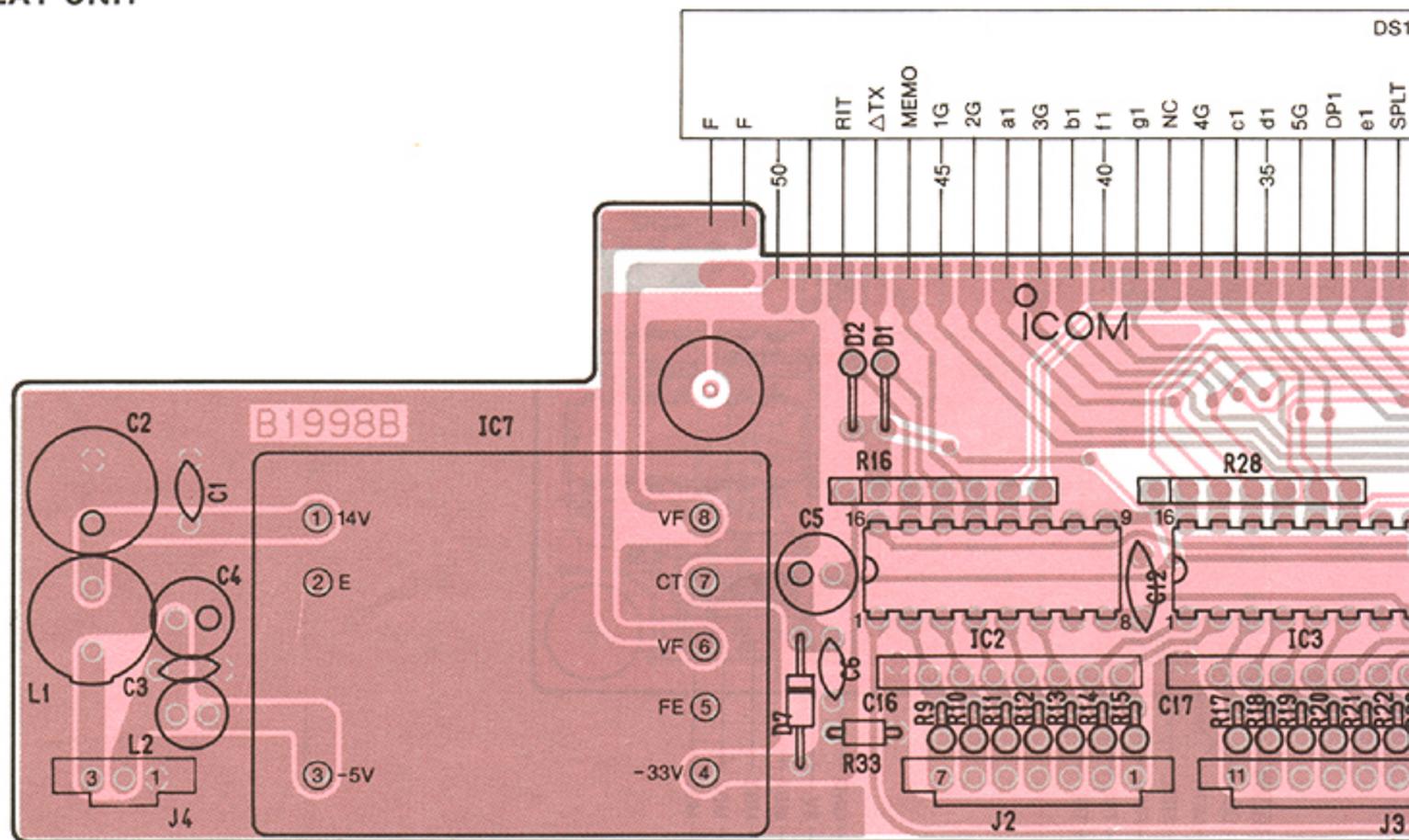
• MKR SW UNIT



• SENSOR UNIT



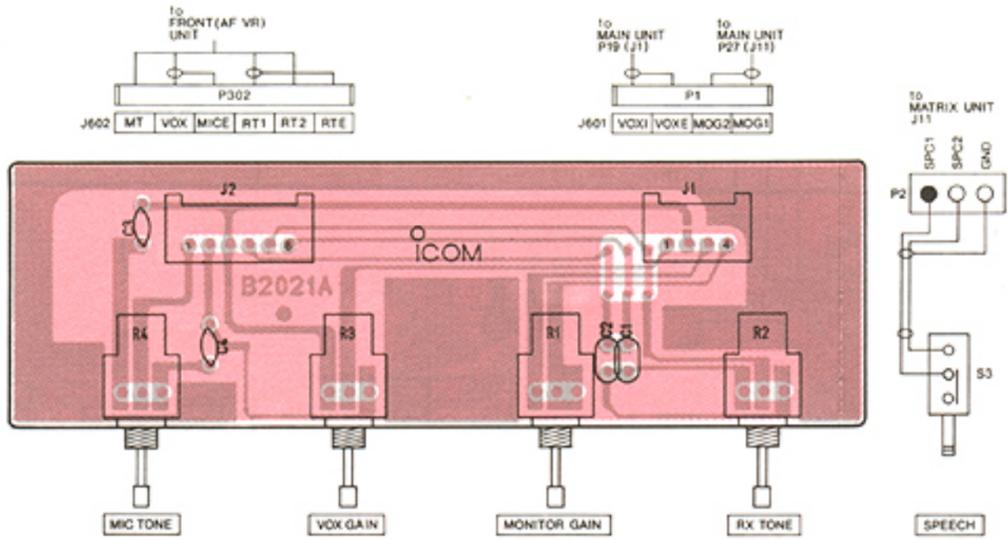
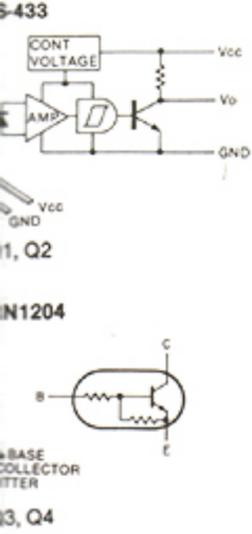
• DISPLAY UNIT



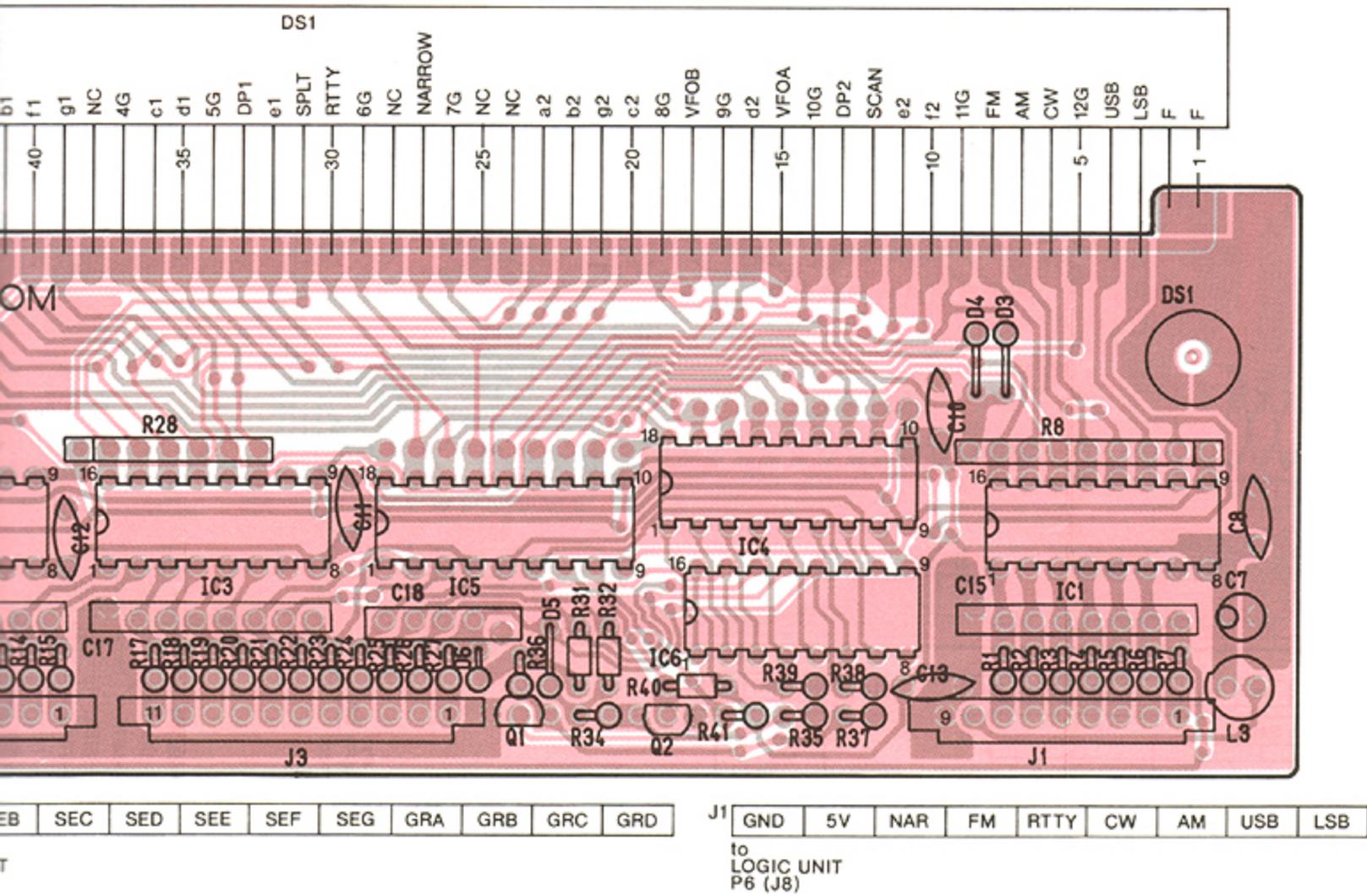
2SC2458-GR



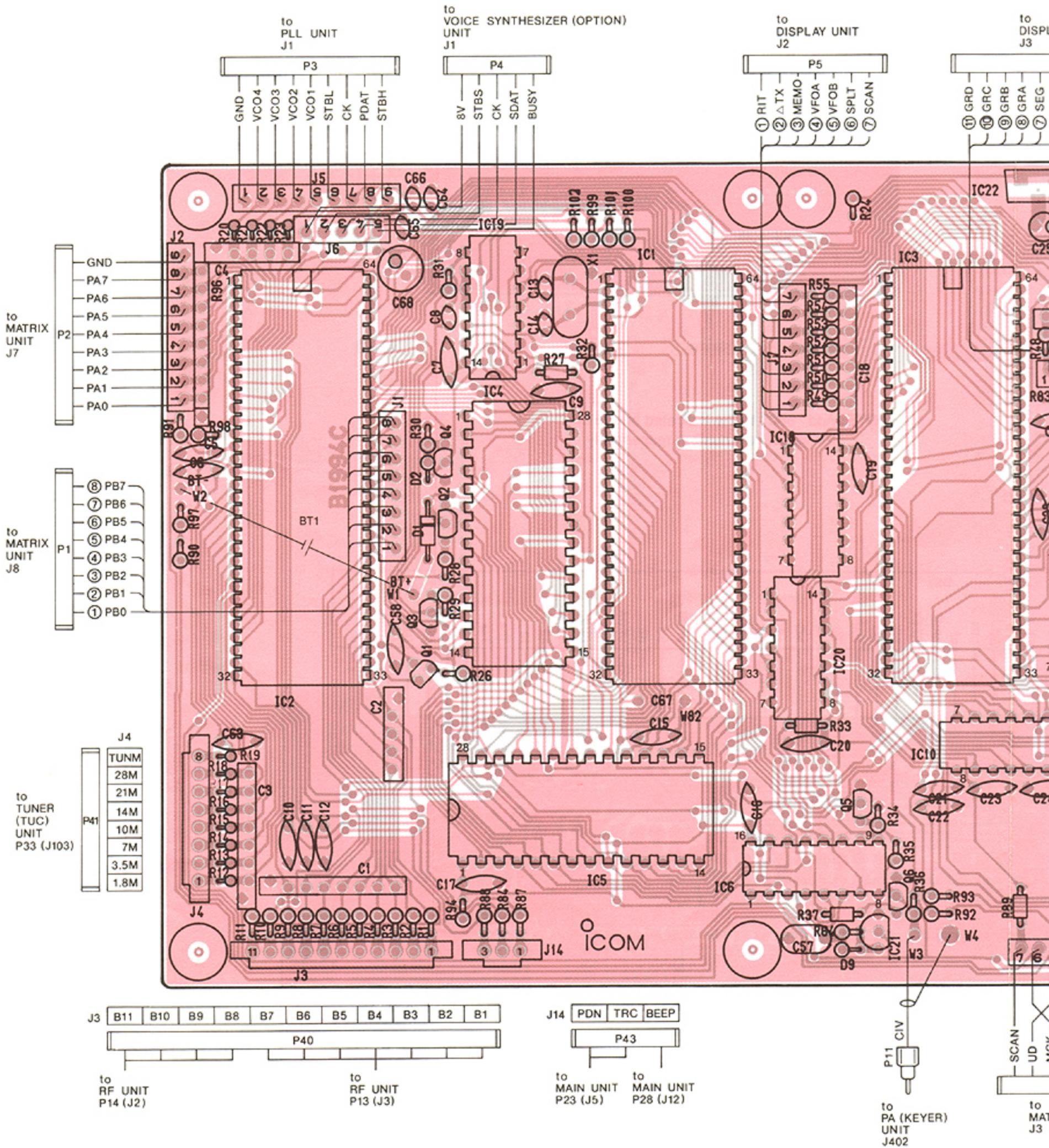
• FRONT (TONEC) UNIT

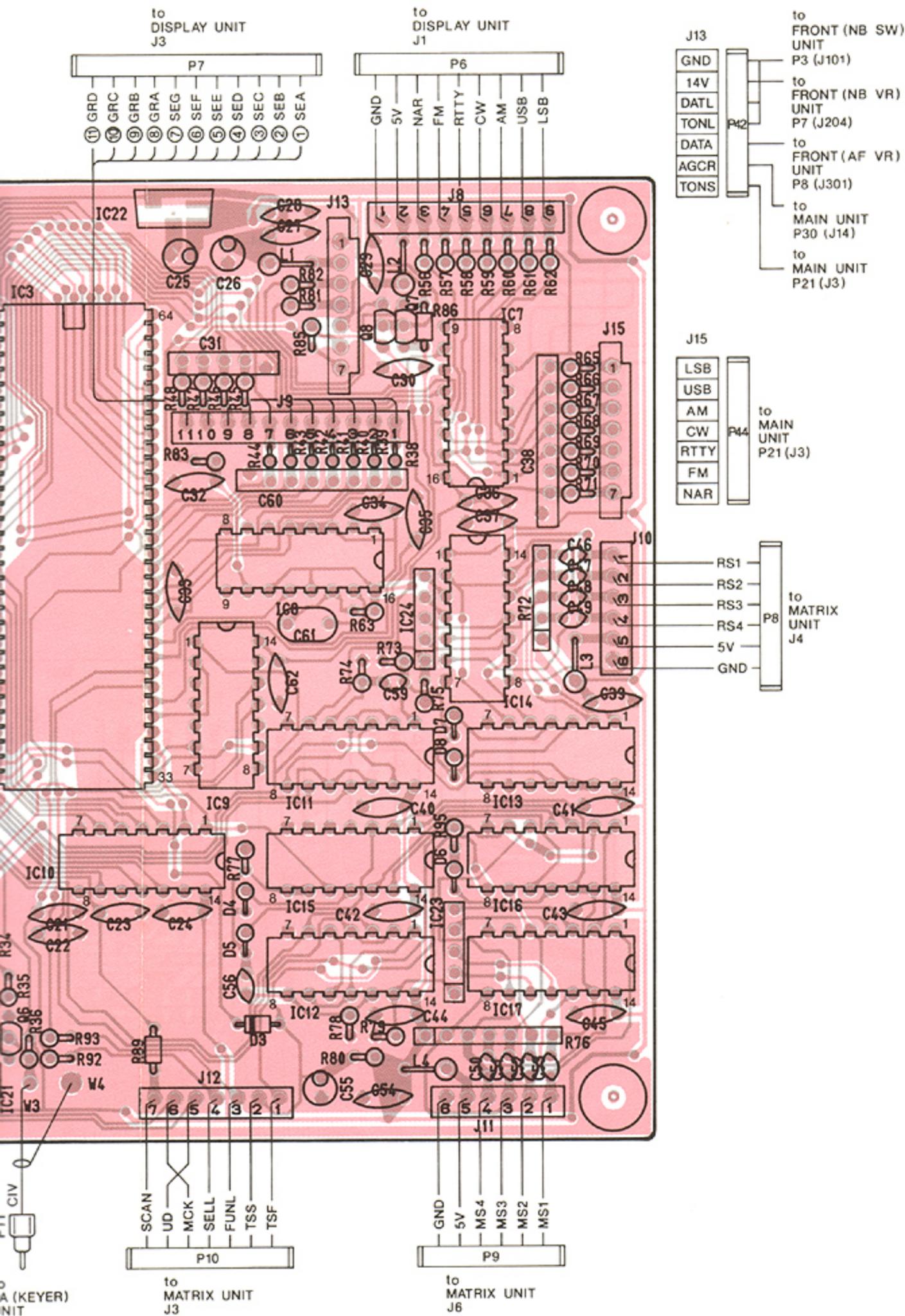


NOTE: Add "600" to the indicated on the unit for actual part number respectively.



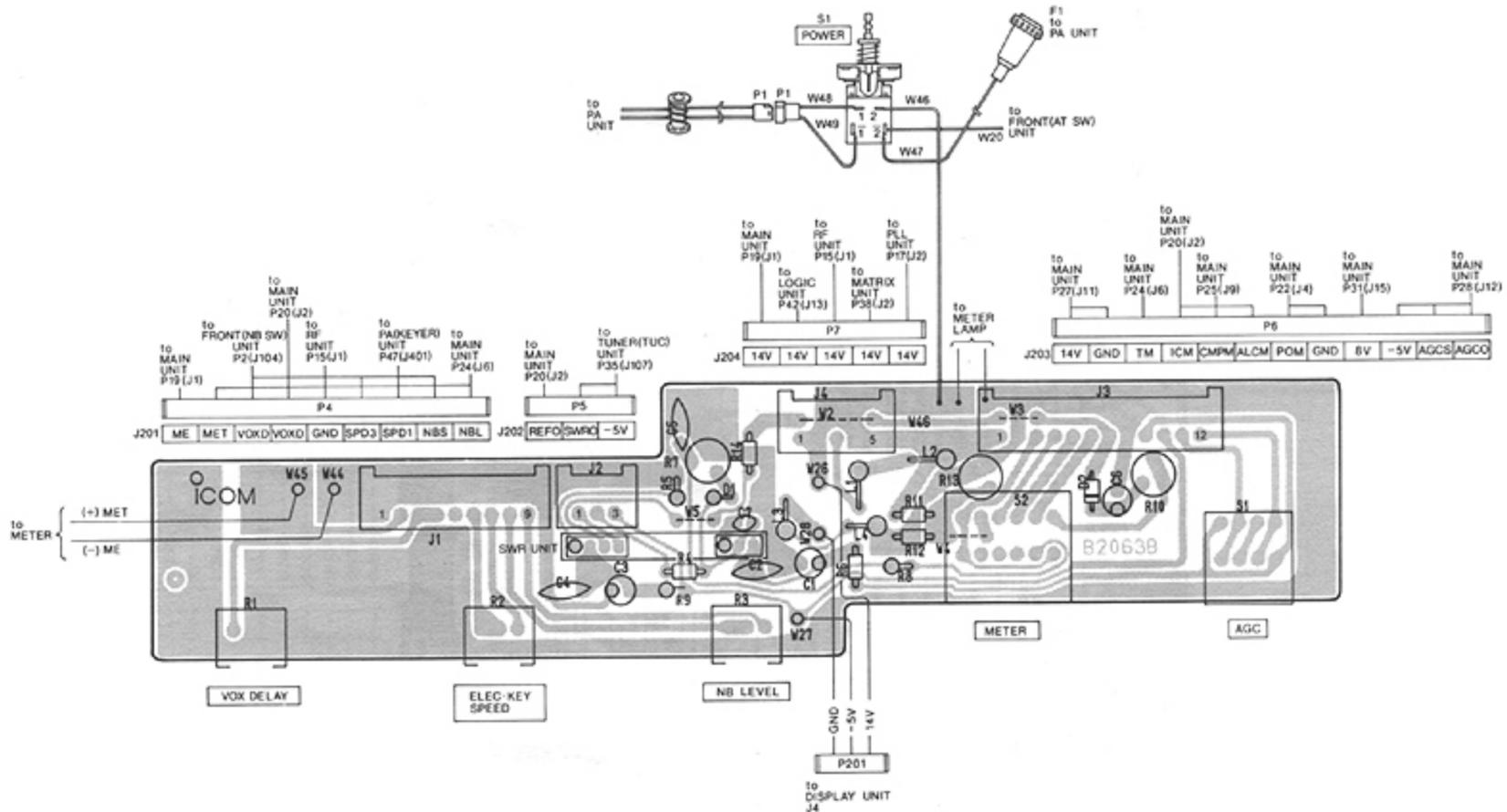
7-2 LOGIC UNIT





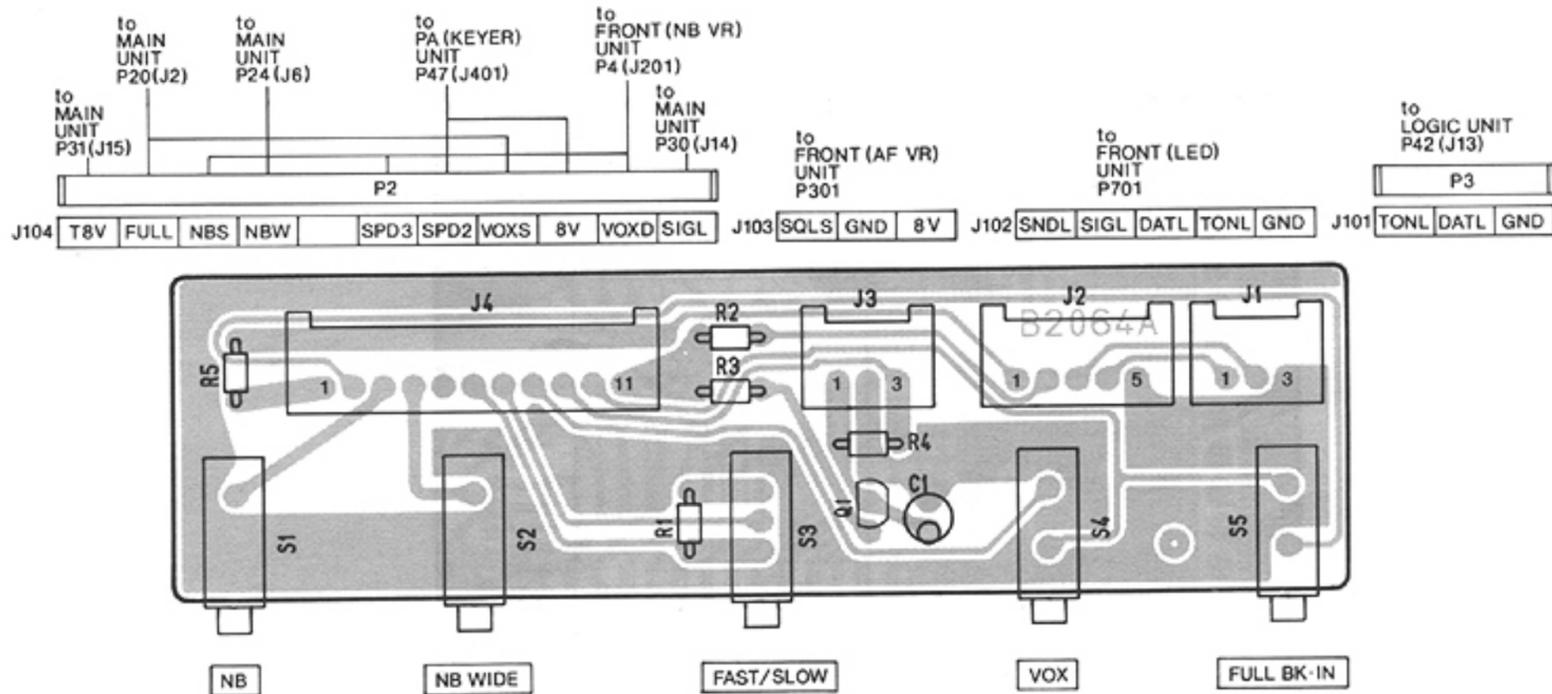
7-3 FRONT UNIT

• FRONT (NB VR) UNIT

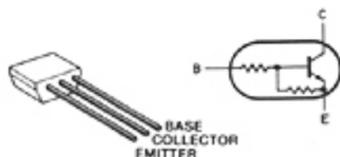


NOTE: Add "200" to the indicated on the unit for actual part number respectively.

• FRONT (NB SW) UNIT



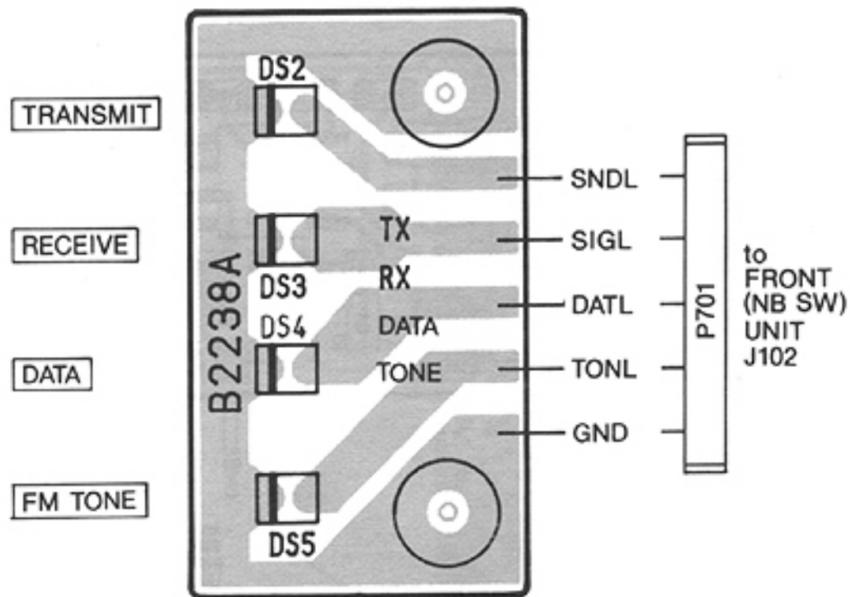
RN1202



Q101

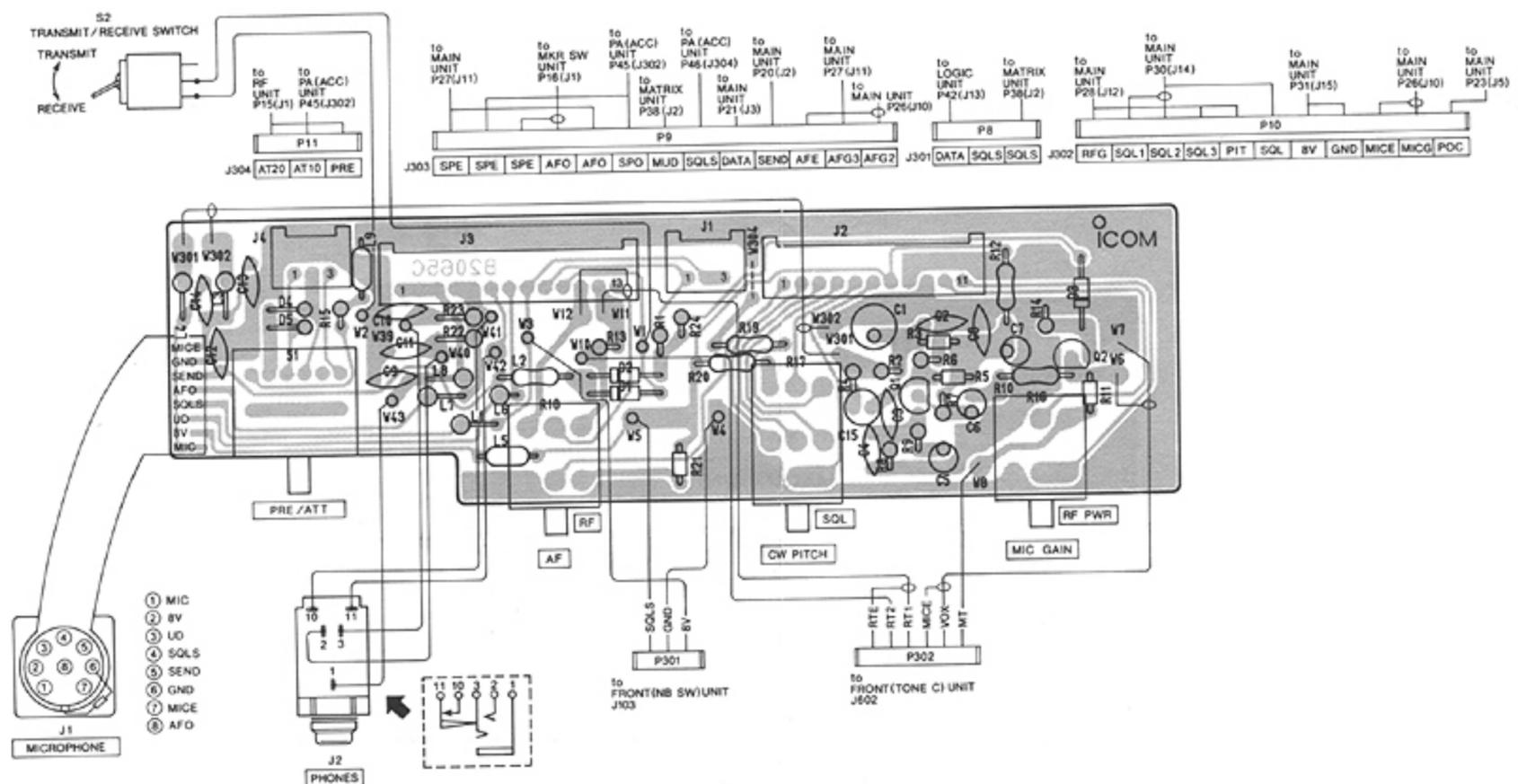
NOTE: Add "100" to the indicated on the unit for actual part number respectively.

• FRONT (LED) UNIT

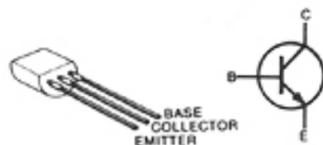


NOTE: Add "700" to the indicated on the unit for actual part number respectively.

• FRONT (AF VR) UNIT

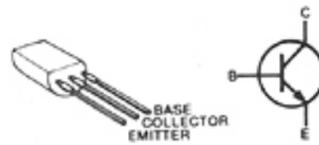


2SC1571G



Q301

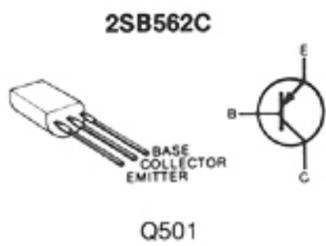
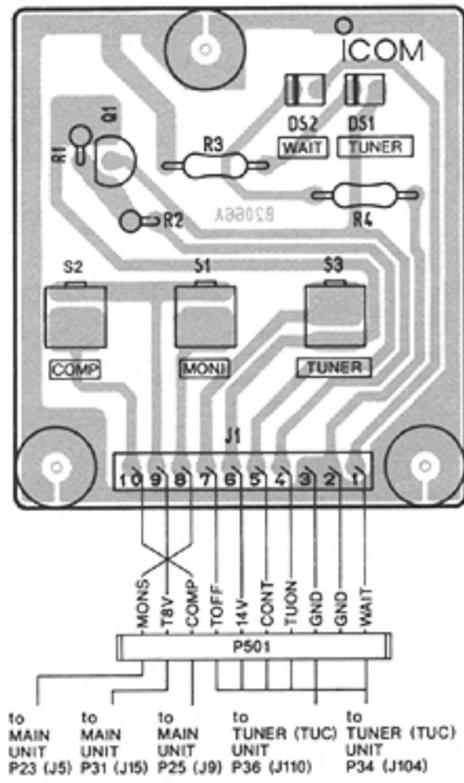
2SC2878 B



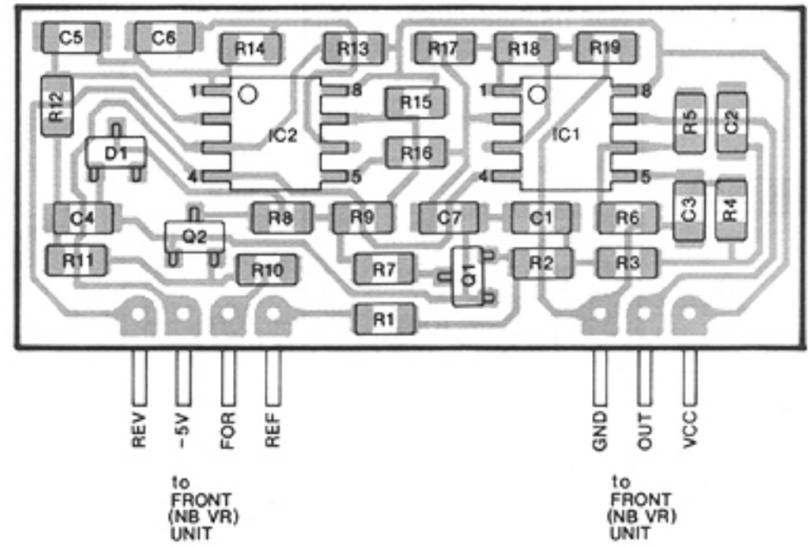
Q302

NOTE: Add "300" to the indicated on the unit for actual part number respectively.

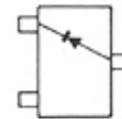
• FRONT (AT SW) UNIT



• FRONT (SWR) MODULE



1SS187
(Symbol: D3)



D1

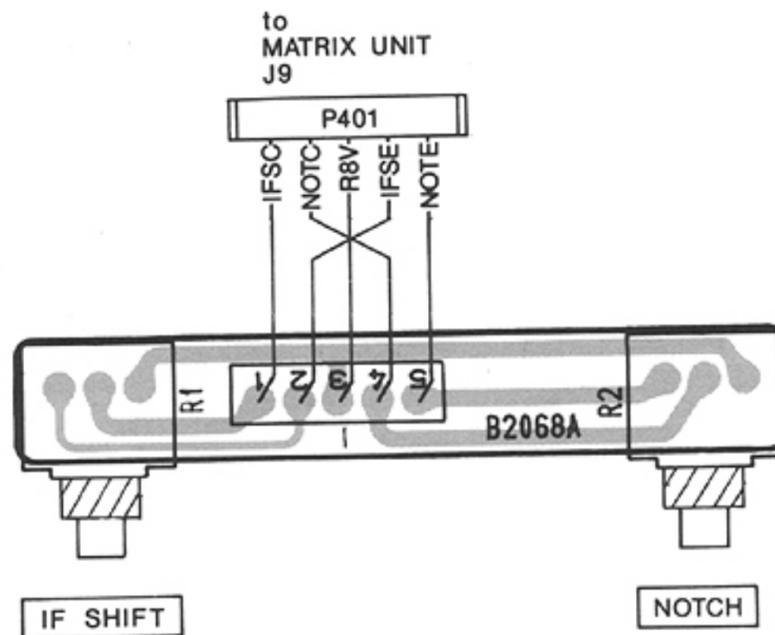
2SK209 Y
(Symbol: XY)



Q1, Q2

NOTE: Add "500" to the indicated on the unit for actual part number respectively.

• FRONT (NOTCH) UNIT

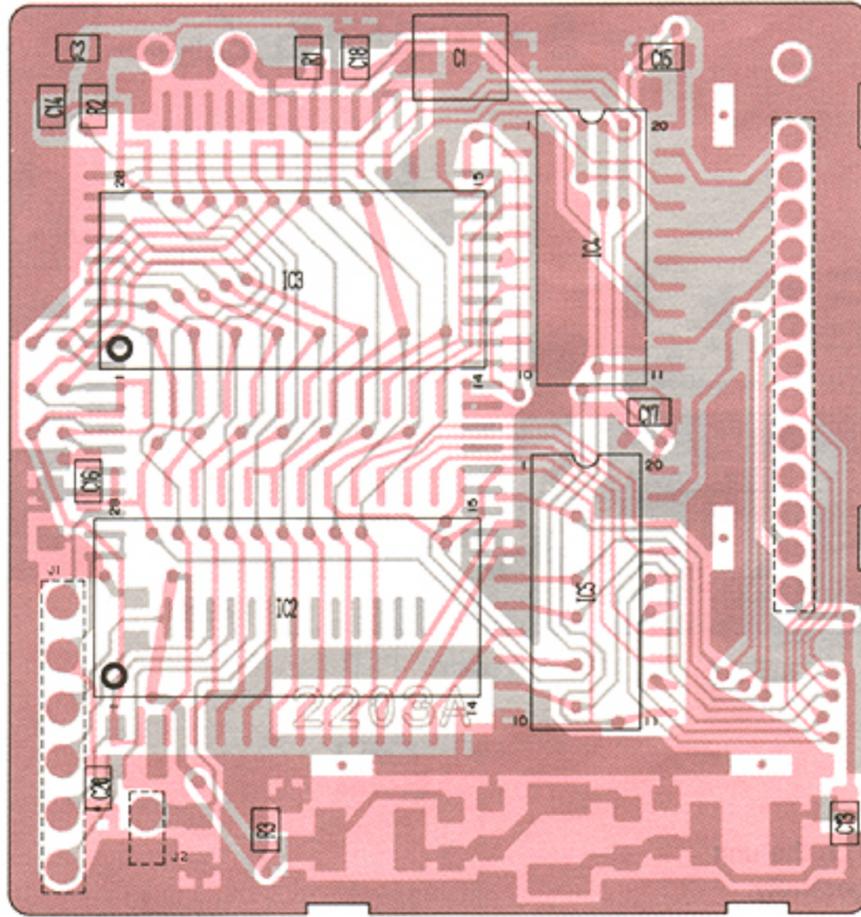


NOTE: Add "400" to the indicated on the unit for actual part number respectively.

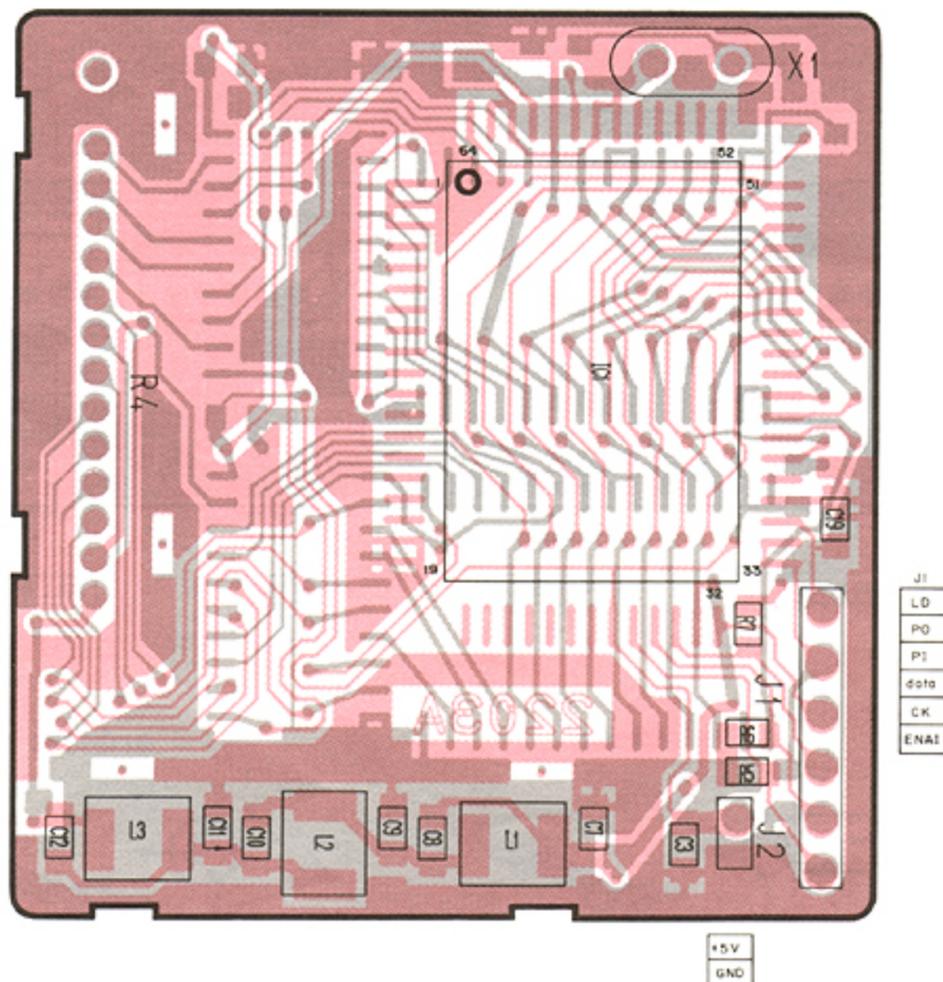
7-4 PLL AND DDS UNITS

- DDS UNIT

COMPONENT SIDE

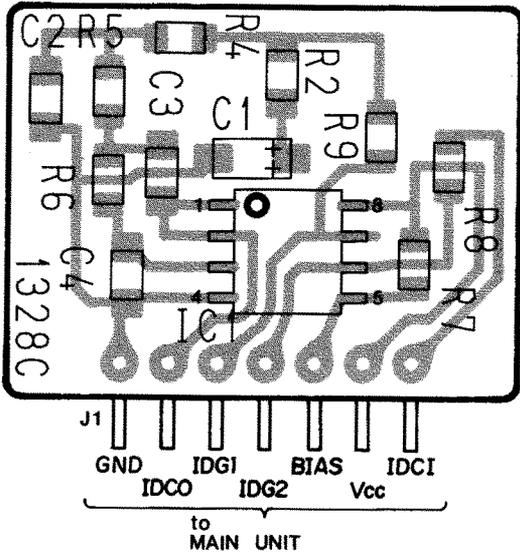


FOIL SIDE

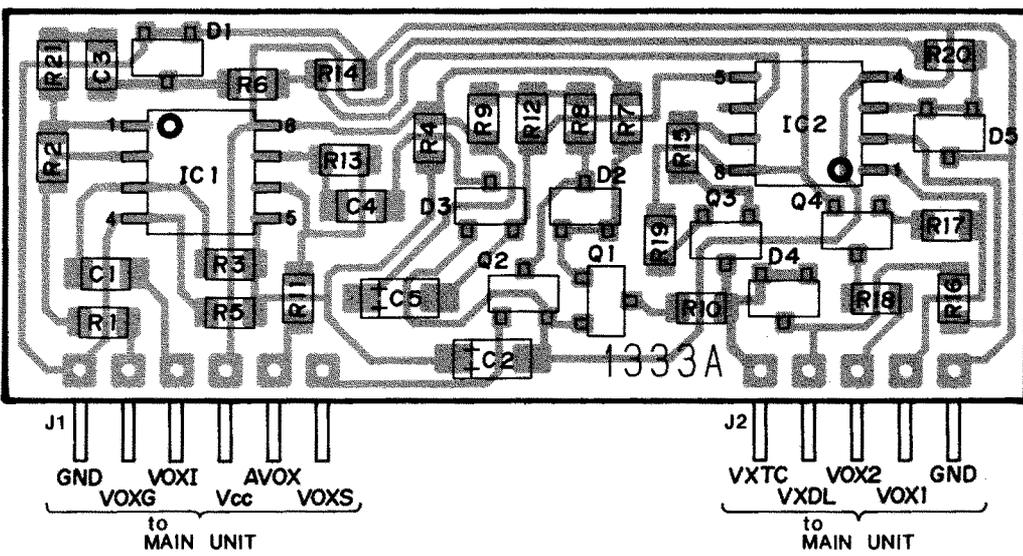


7-5 MAIN UNIT

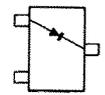
• IDC UNIT



• VOX UNIT

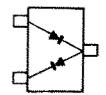


1SS193
(Symbol: F3)



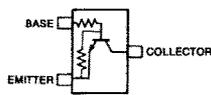
D1, D2, D4, D5

1SS226
(Symbol: C3)



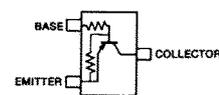
D3

RN1404
(Symbol: XD)



Q1, Q2

RN2404
(Symbol: YD)



Q3, Q4

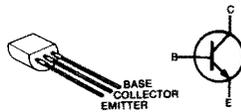
• MAIN UNIT

2SA1048 GR



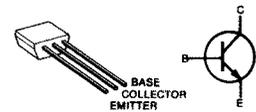
Q27, Q29, Q60, Q74, Q76

2SC1571G



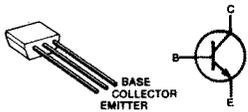
Q10

2SC2458 GR



Q11, Q17, Q22, Q32, Q37, Q4, Q49, Q52, Q53, Q58, Q6, Q68, Q77, Q8, Q83, Q87, Q91

2SC2668 O



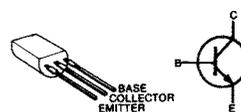
Q63

2SC2785 EL



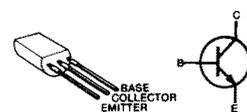
Q13, Q14, Q31, Q35, Q46, Q47, Q57, Q64, Q67, Q69, Q70, Q72, Q73, Q84

2SC2878 B



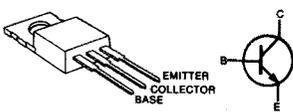
Q26, Q59, Q61

2SD468C



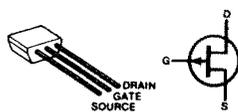
Q2, Q9

2SD880 Y



Q7

2SJ105 GR



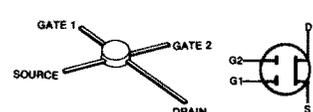
Q18, Q21, Q48

2SK241 Y



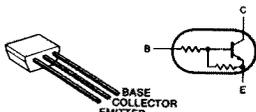
Q19, Q34

3SK74 M



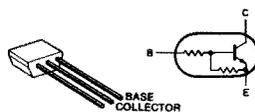
Q33, Q55, Q56, Q62, Q65, Q71, Q85

RN1202



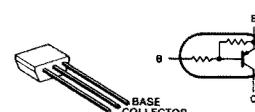
Q3, Q5, Q50, Q66, Q82, Q86, Q88, Q89, Q90

RN1204



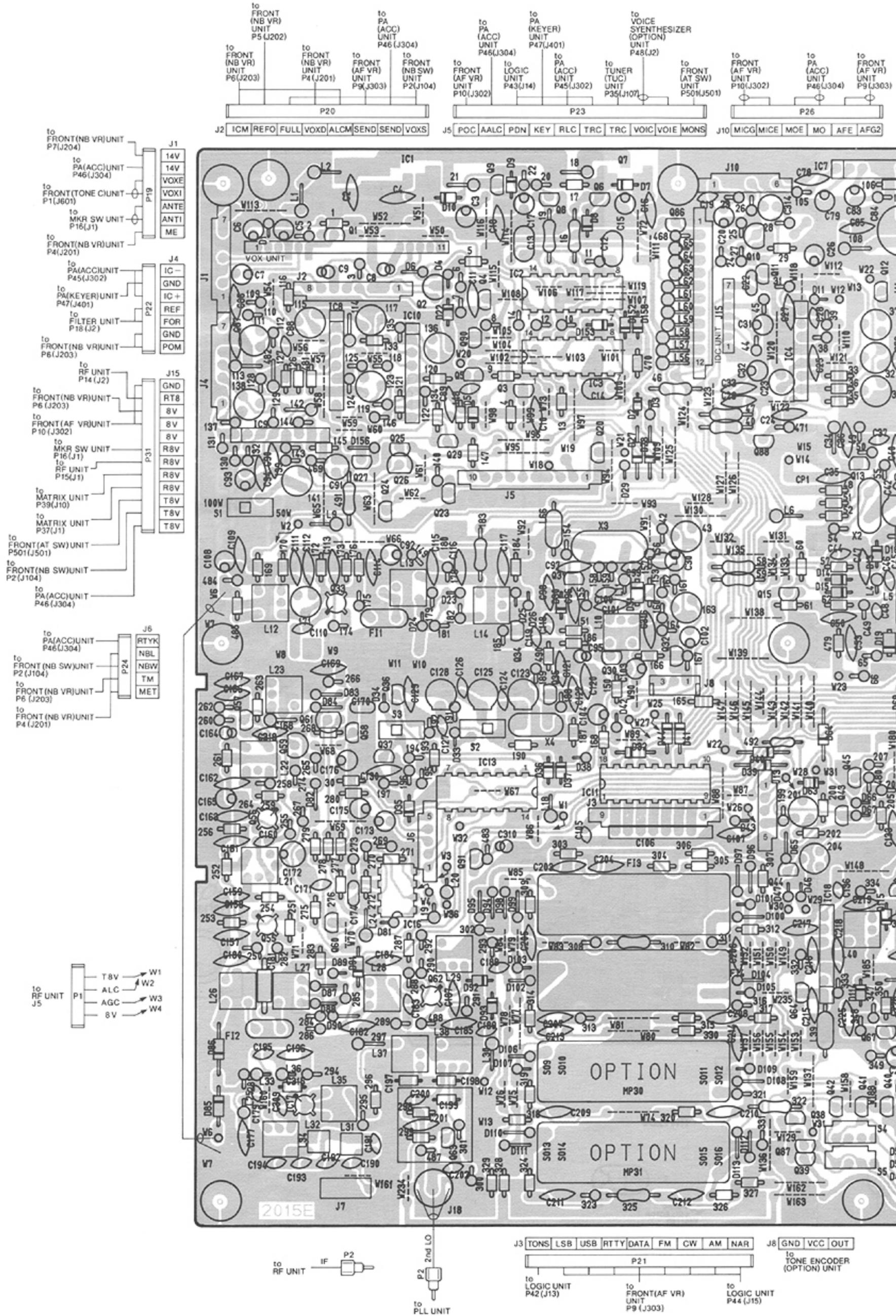
Q1, Q12, Q15, Q16, Q20, Q23, Q24, Q30, Q36, Q38, Q43, Q44, Q45, Q54, Q78, Q80

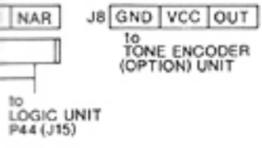
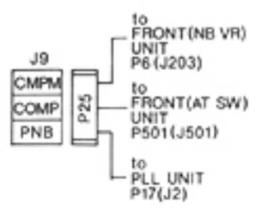
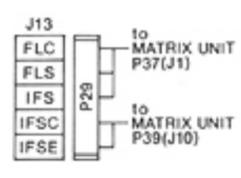
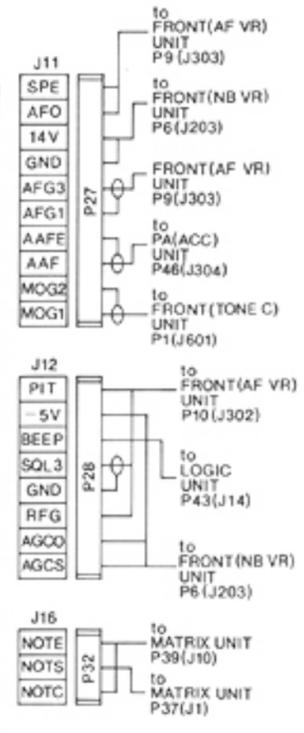
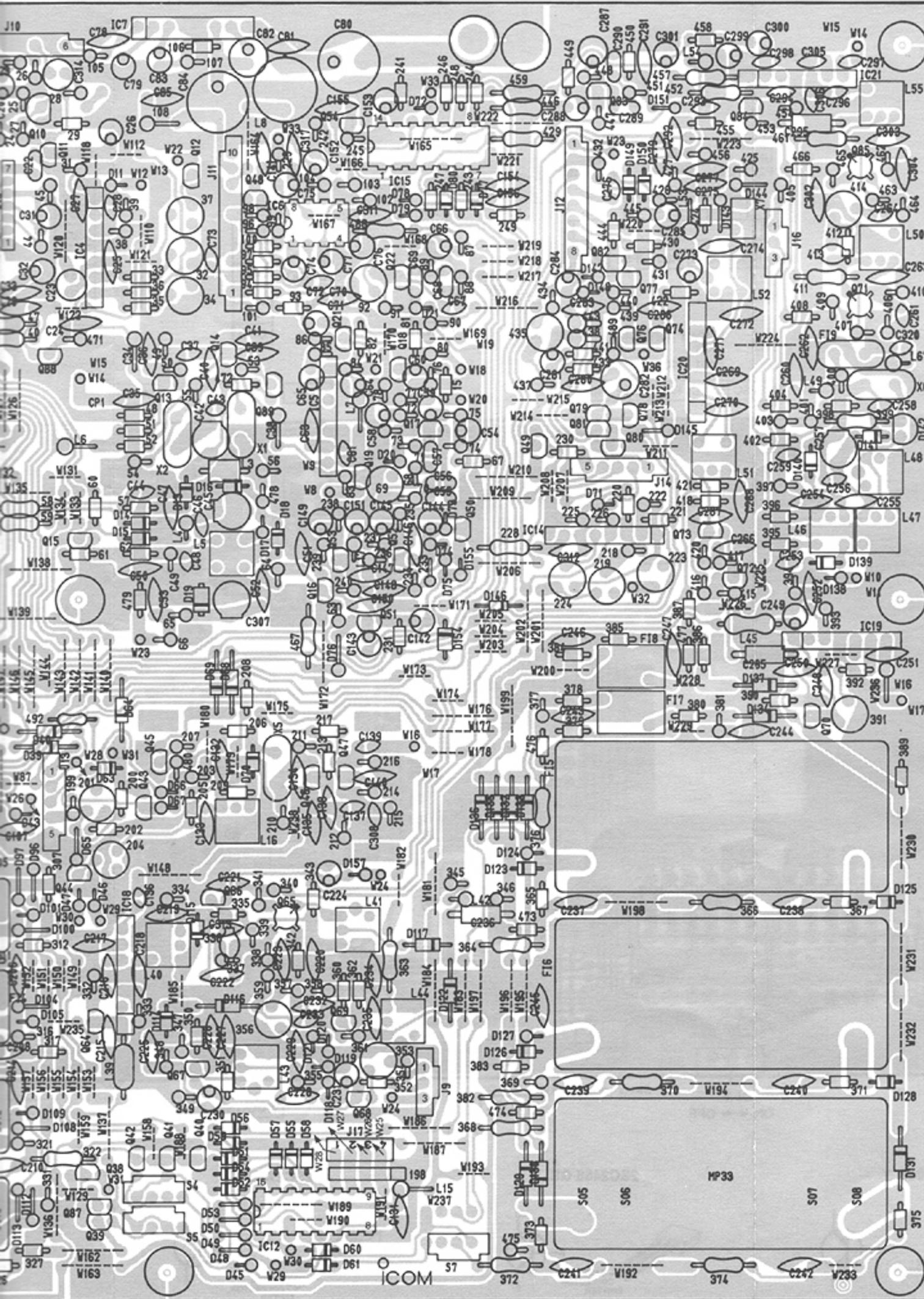
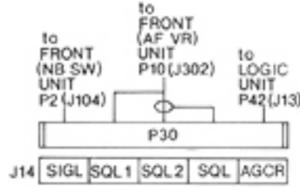
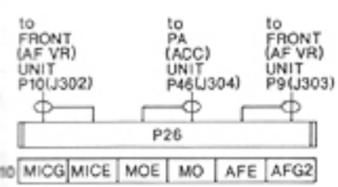
RN2202



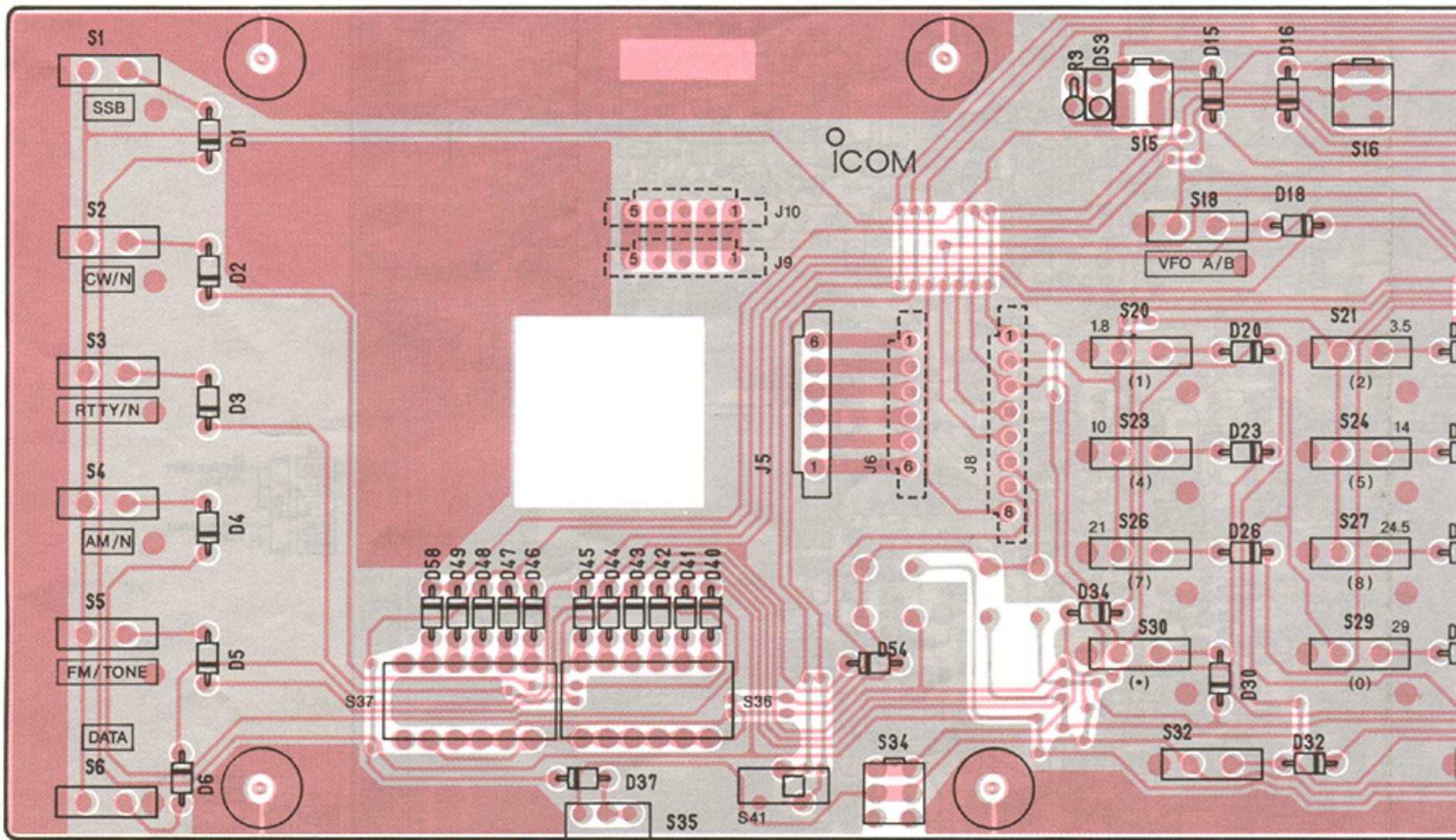
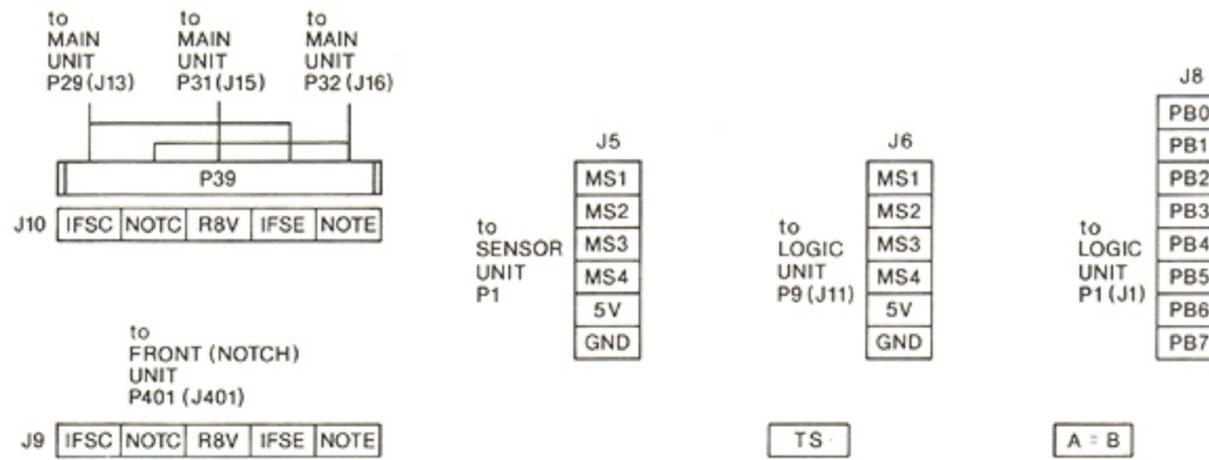
Q25, Q39, Q40, Q41, Q42, Q51, Q79, Q81

• MAIN UNIT

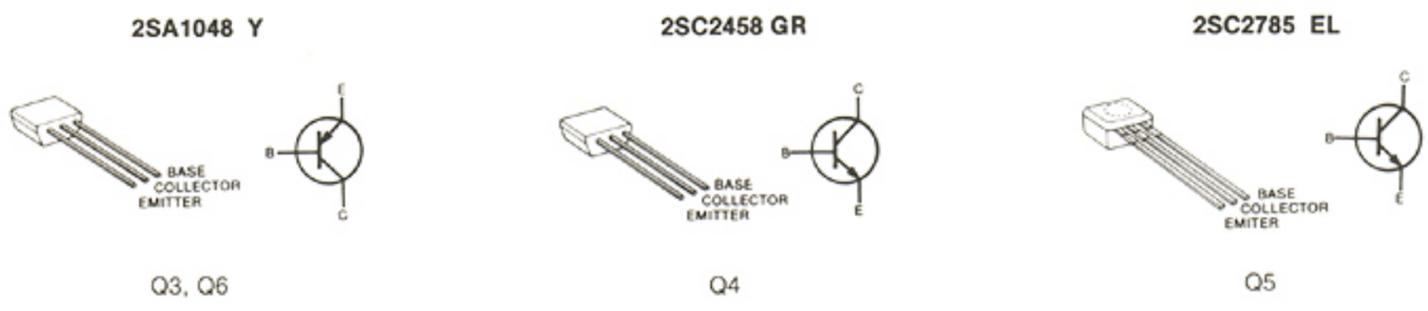


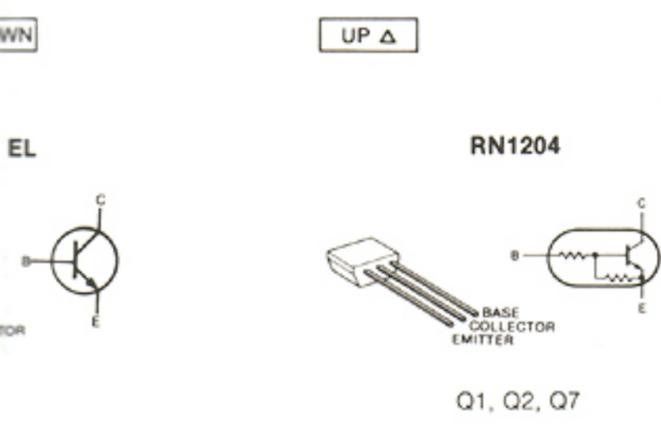
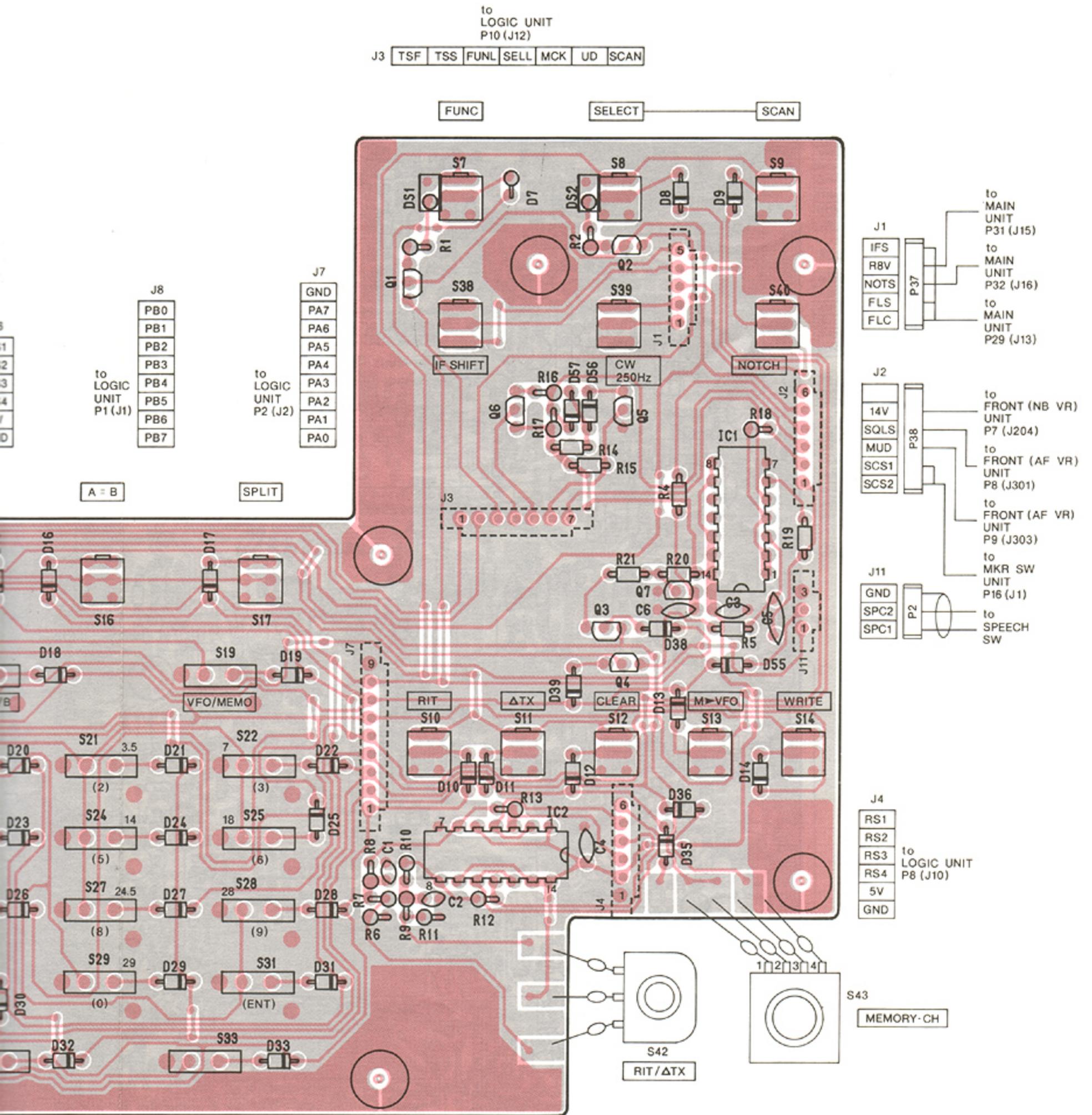


7-6 MATRIX UNIT

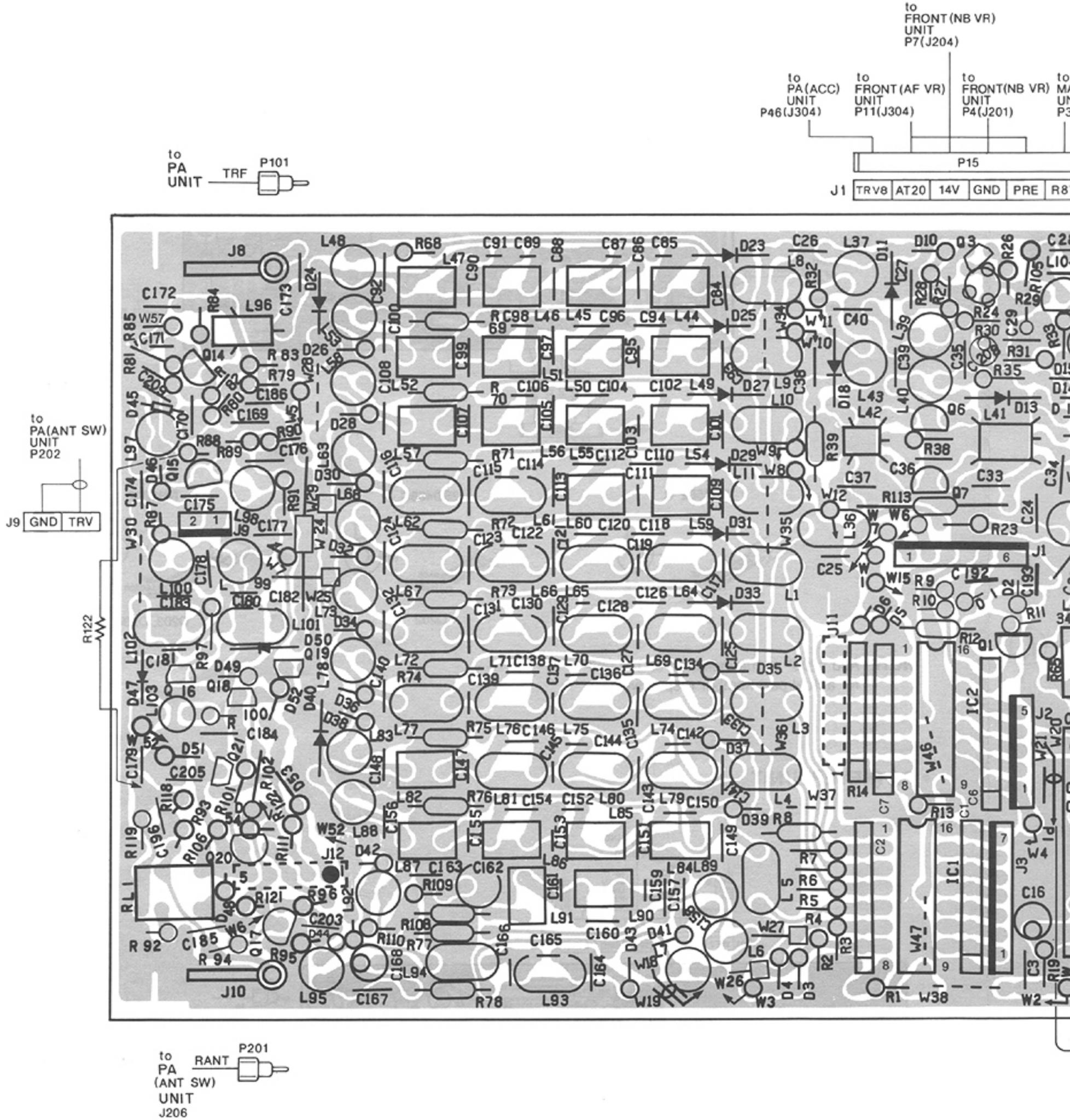


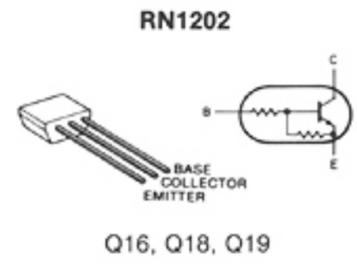
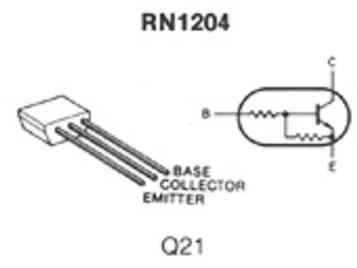
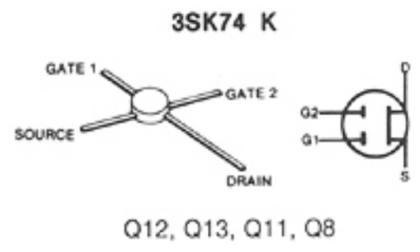
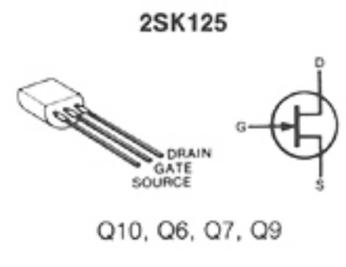
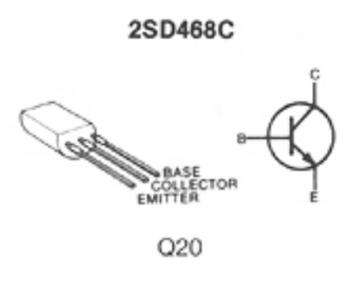
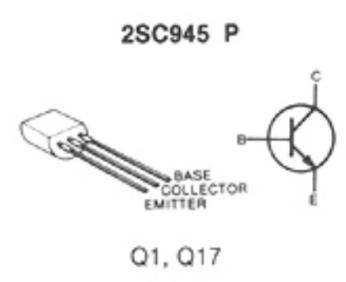
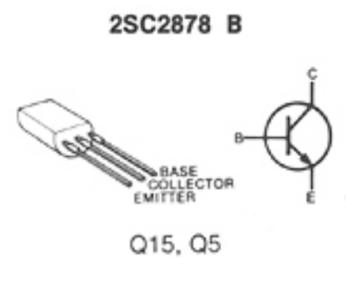
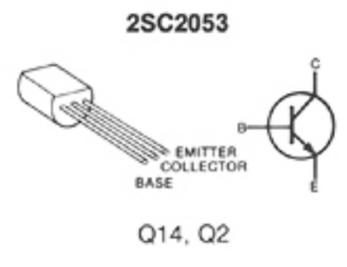
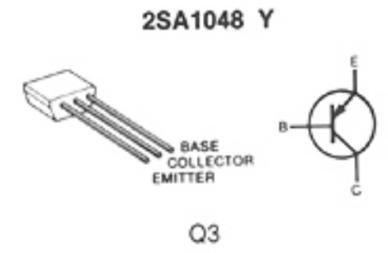
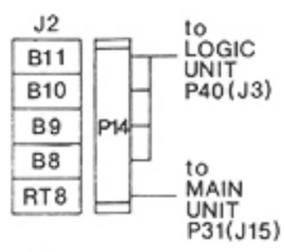
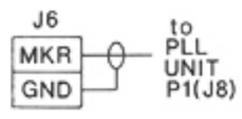
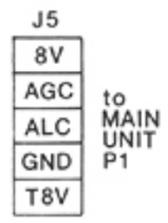
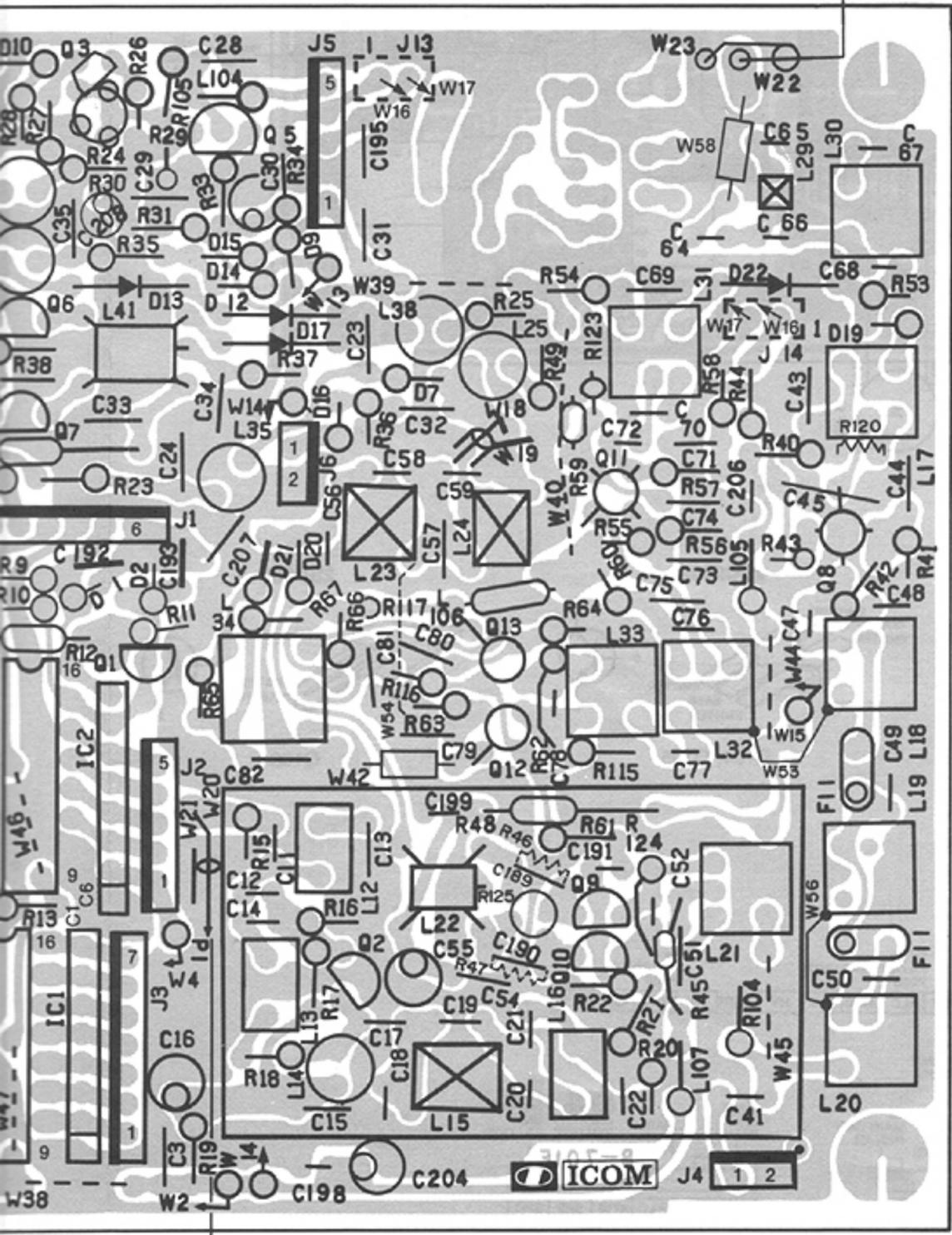
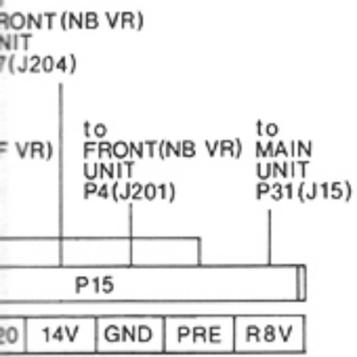
CI-V ON ↔ OFF 5KHz ↔ 2.5KHz LOCK ▽ DOWN



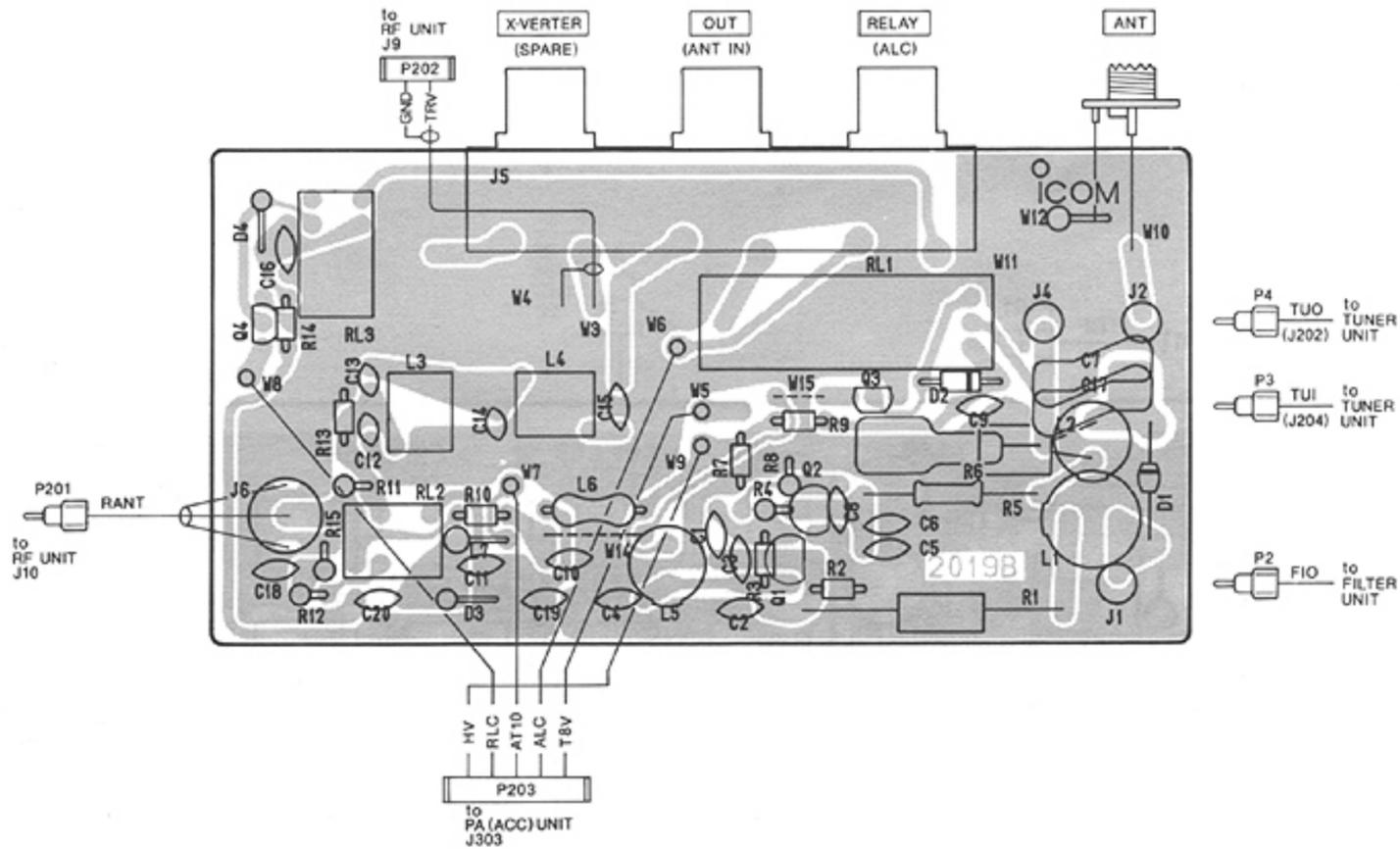


7-7 RF UNIT

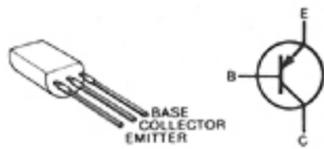




• PA (ANT SW) UNIT

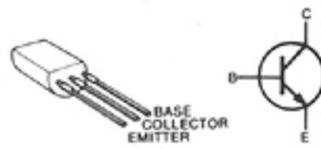


2SB562 C



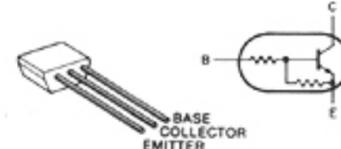
Q201

2SD468C



Q202

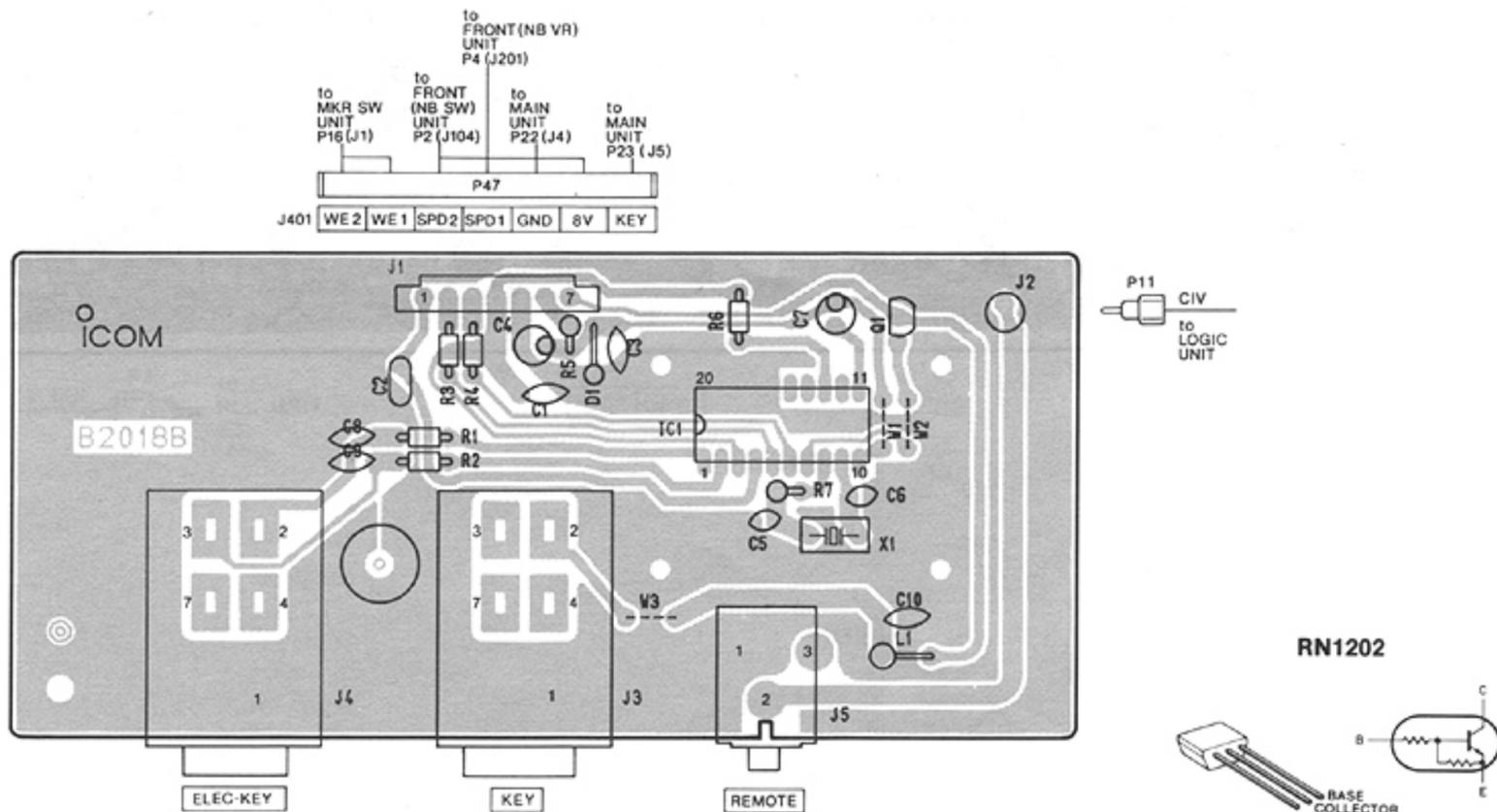
RN1202



Q203, Q204

NOTE: Add "200" to the indicated on the unit for actual part number respectively.

• PA (KEYER) UNIT



RN1202

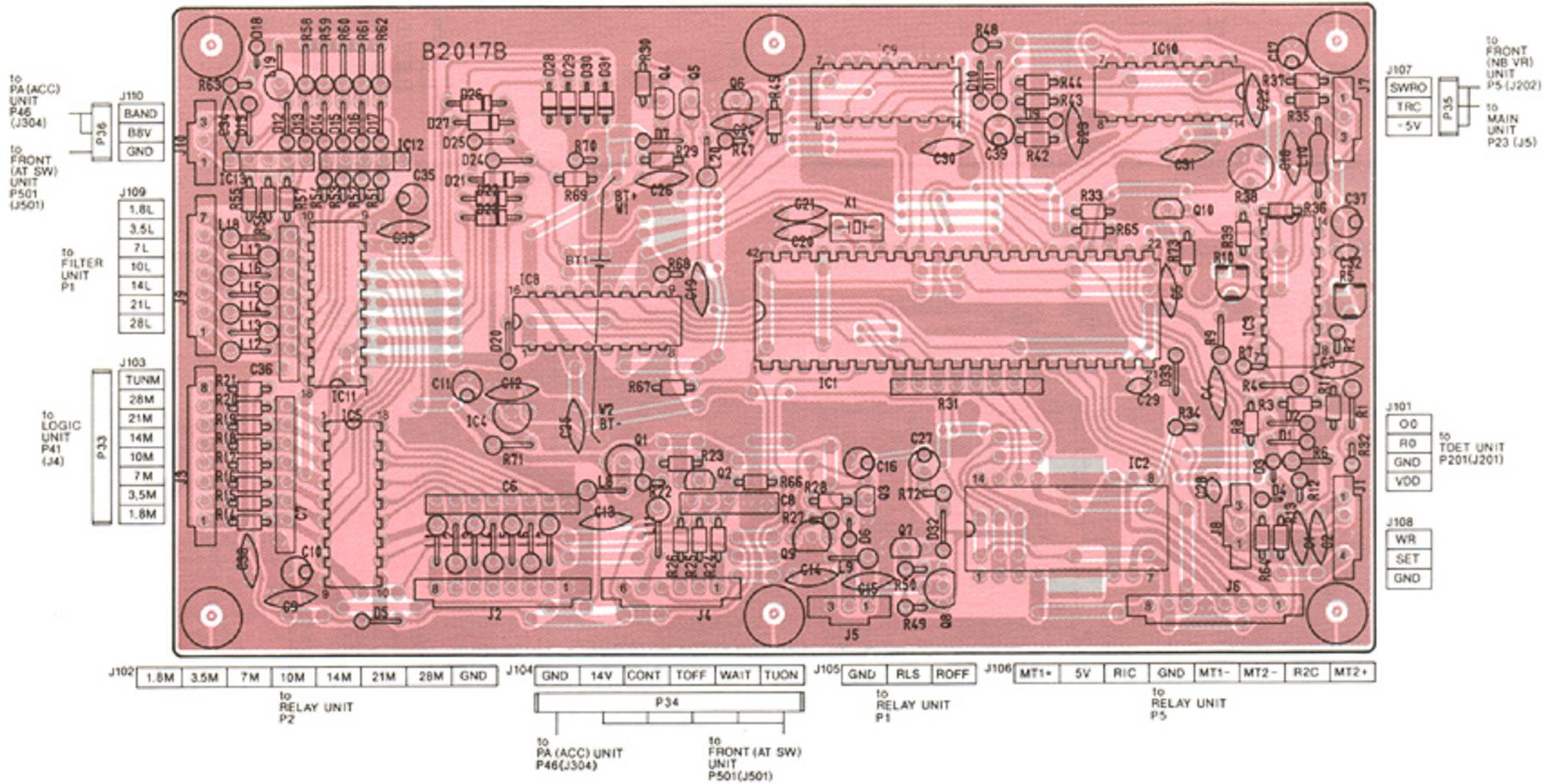


Q401

NOTE: Add "400" to the indicated on the unit for actual part number respectively.

7-9 TUNER UNIT

• TUNER (TUC) UNIT

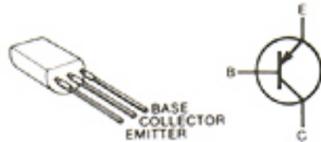


2SA1048 GR



Q105

2SB562 C



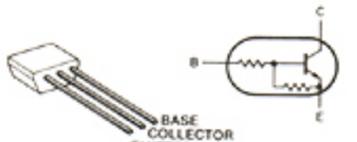
Q101, Q108, Q109

2SC2458 GR



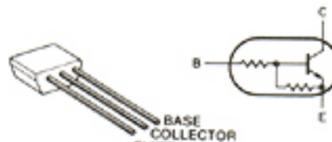
Q106

RN1202



Q102, Q103, Q104, Q110

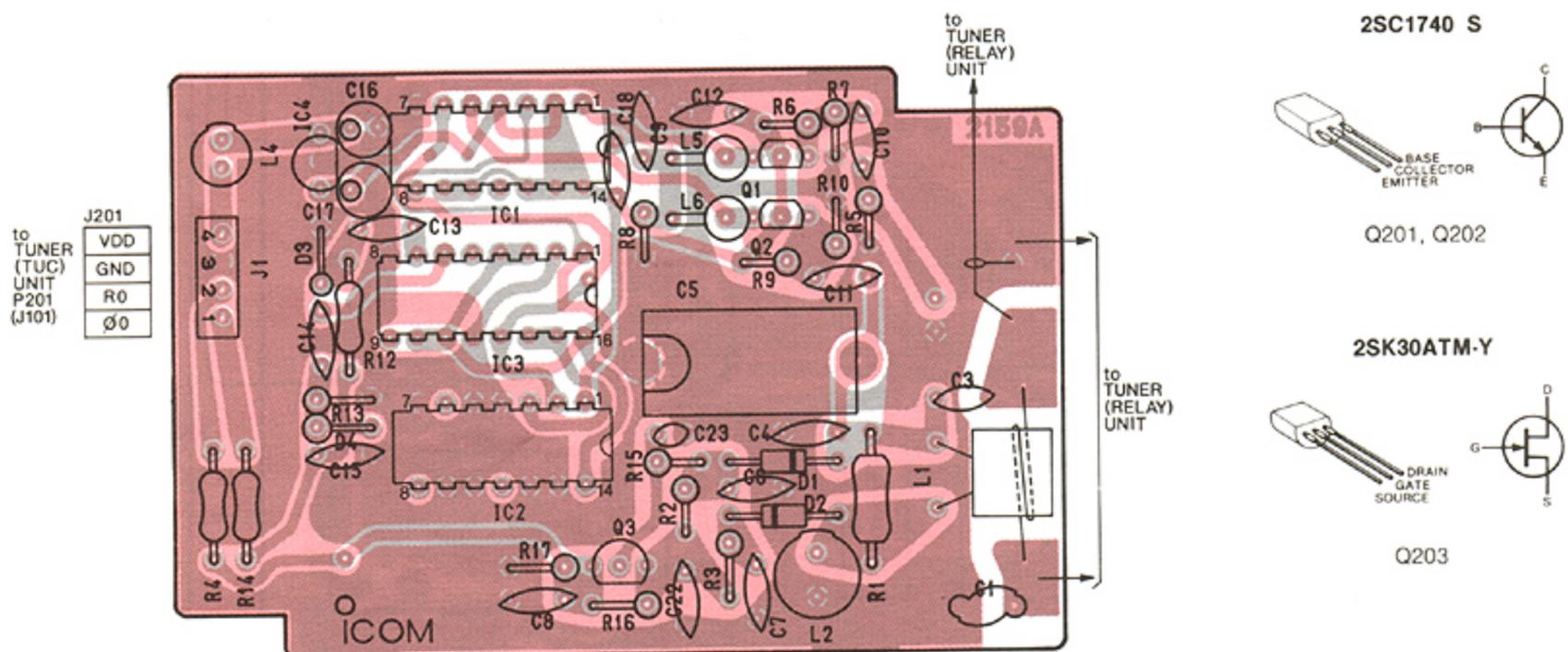
RN1204



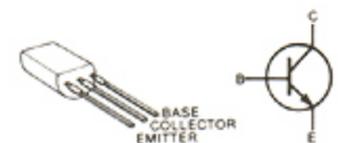
Q107

NOTE: Add "100" to the indicated on the unit for actual part number respectively.

• TUNER (T DET) UNIT

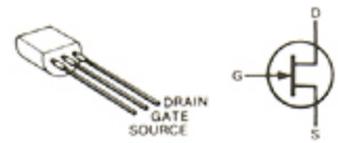


2SC1740 S



Q201, Q202

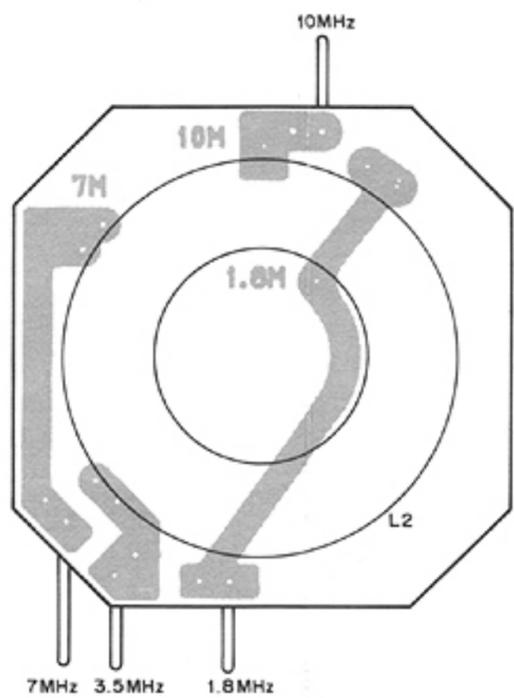
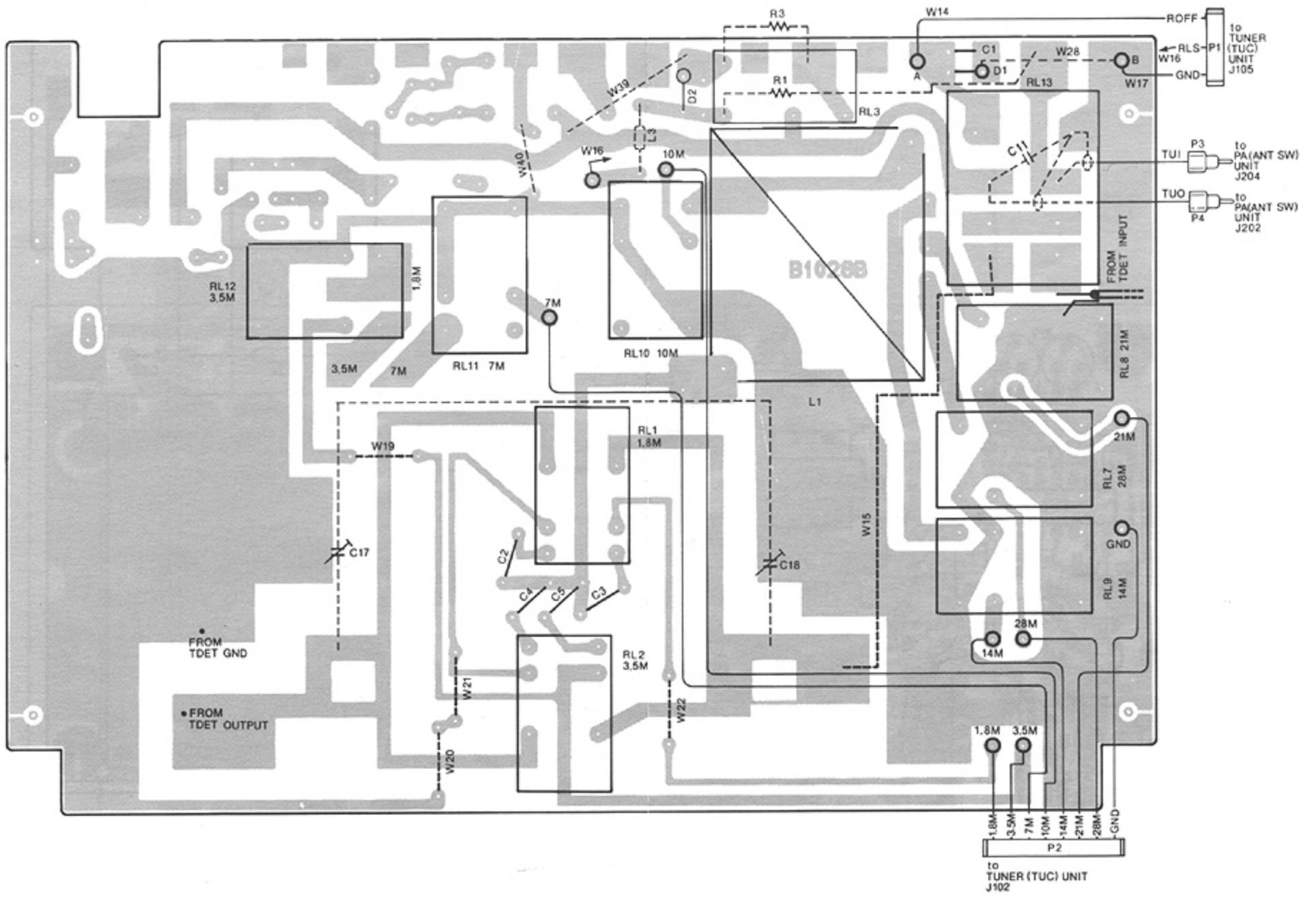
2SK30ATM-Y



Q203

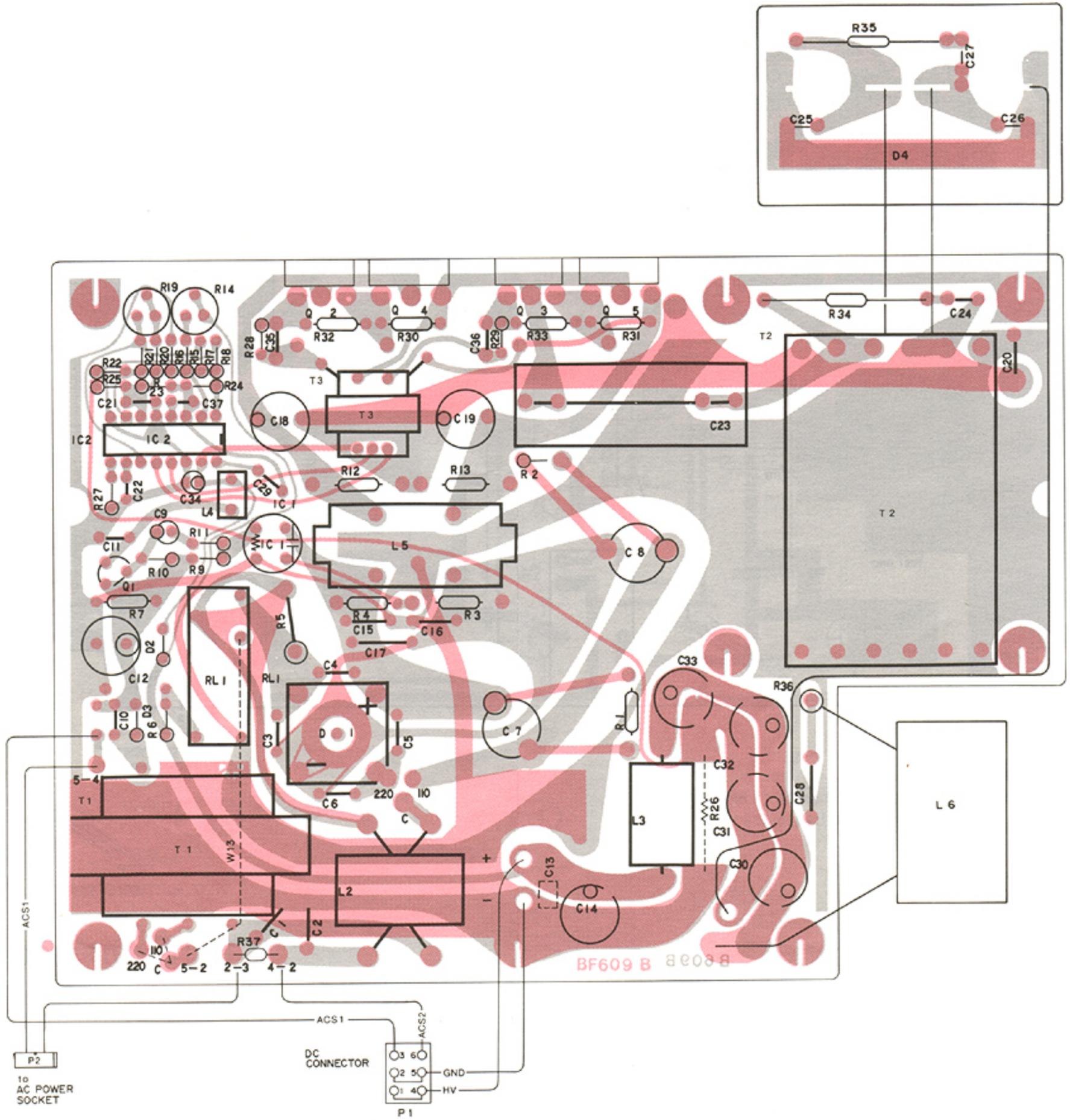
NOTE: Add "200" to the indicated on the unit for actual part number respectively.

• TUNER (RELAY) UNIT



7-10 REG AND FILTER UNITS

• REG UNIT



2SA1015 Y



Q1

2SC2307



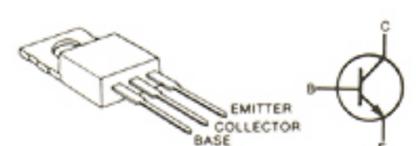
Q4, Q5

2SC3162 (U.S.A. Only)



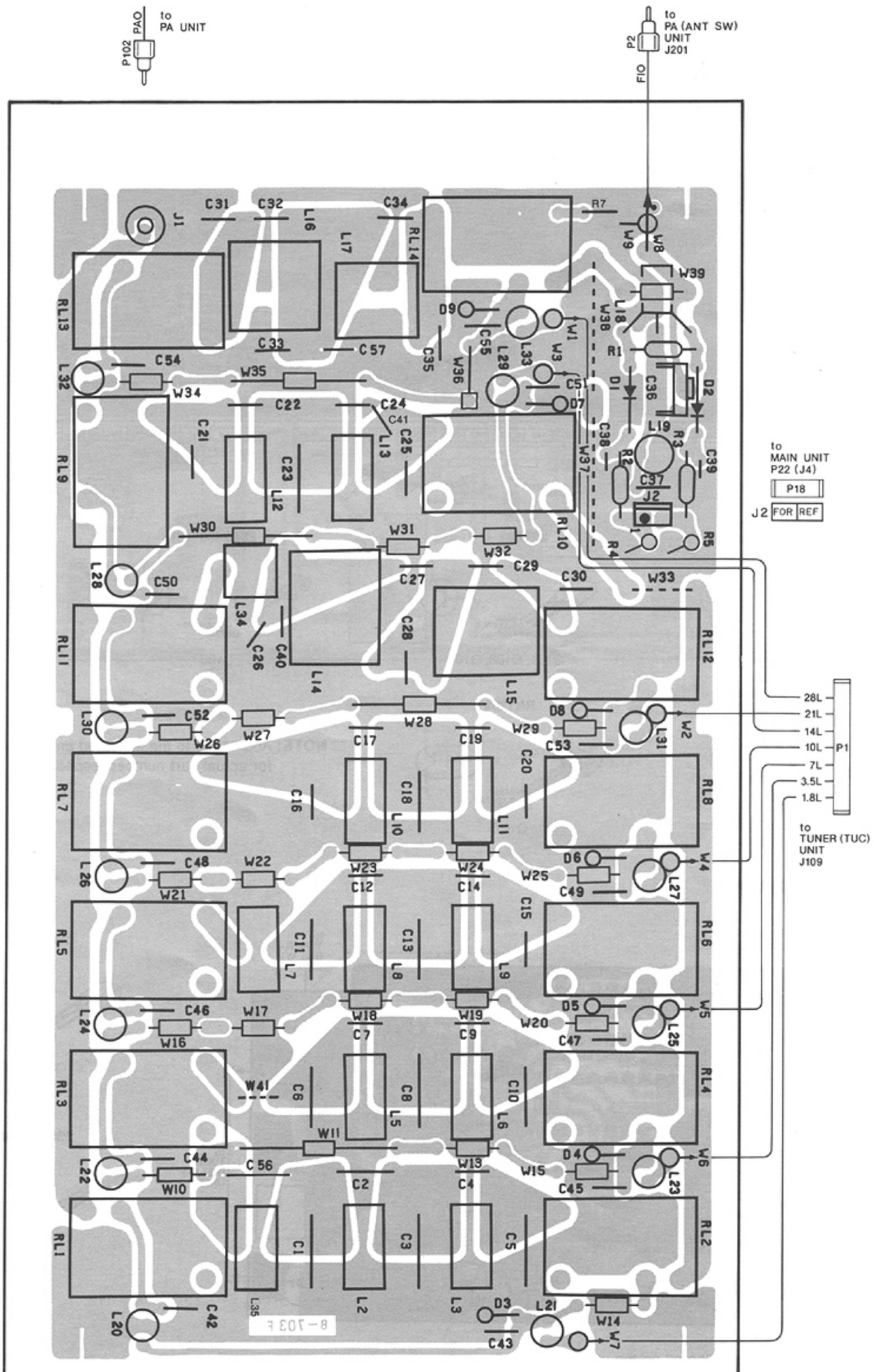
Q2, Q3

2SC4051

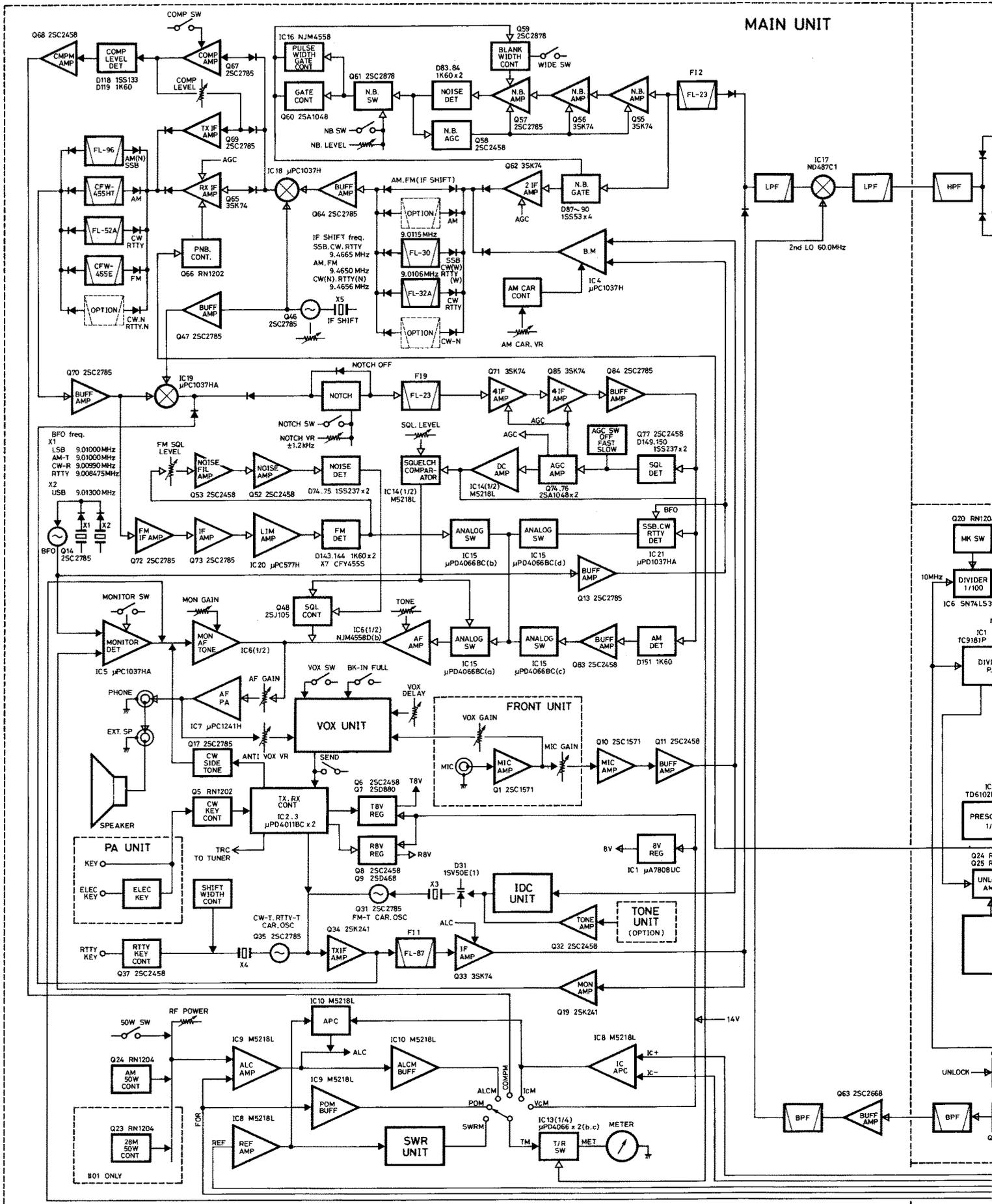


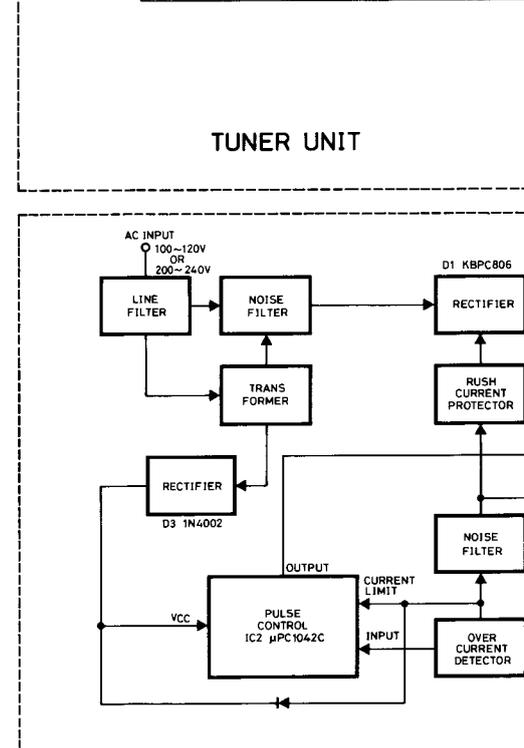
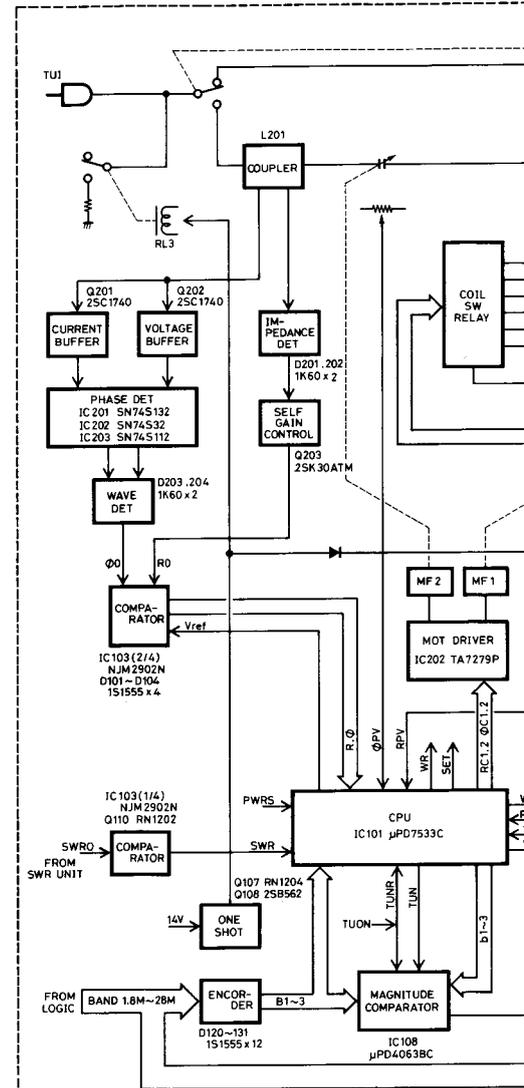
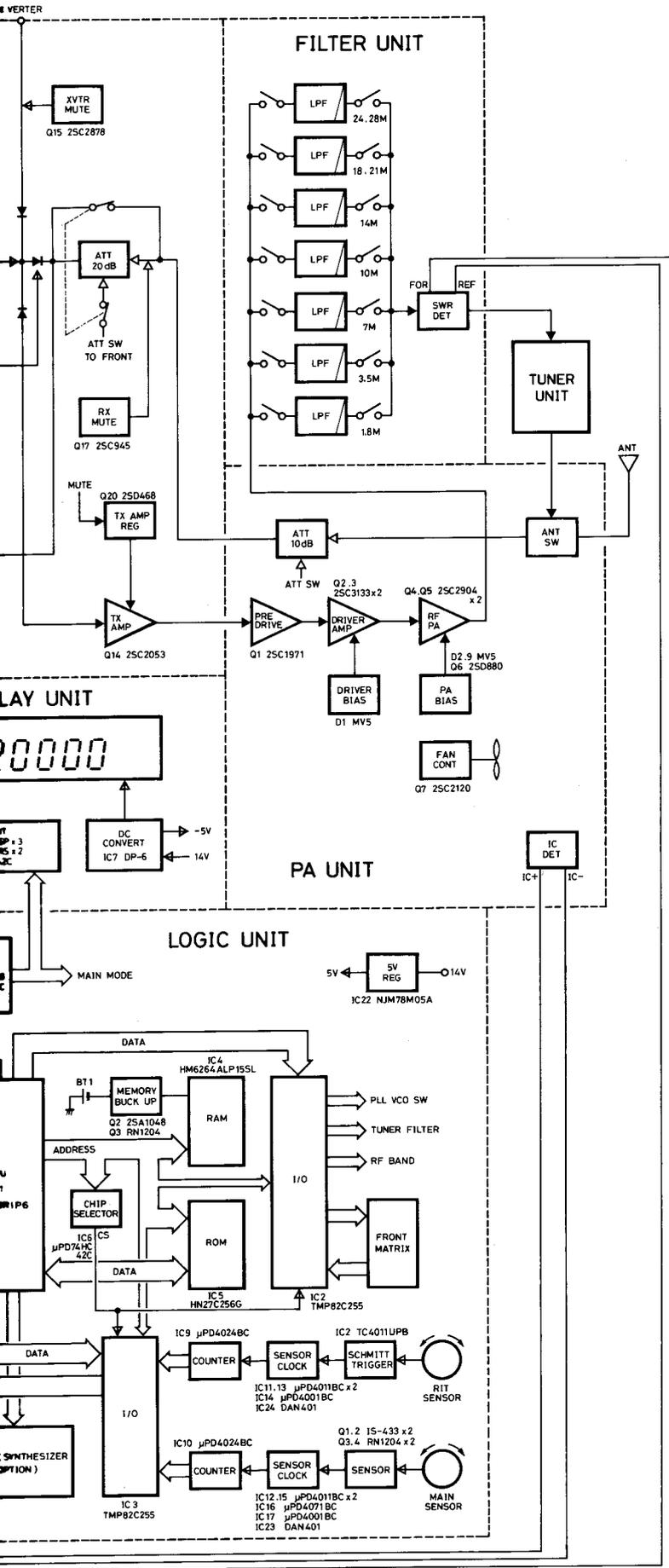
Q2, Q3

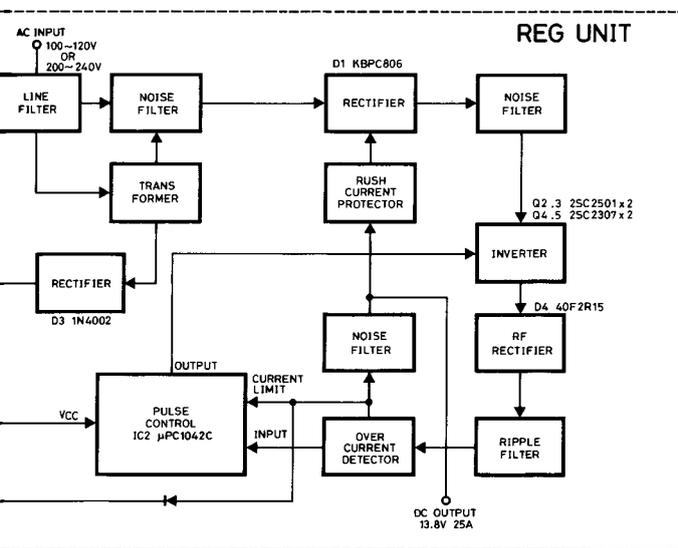
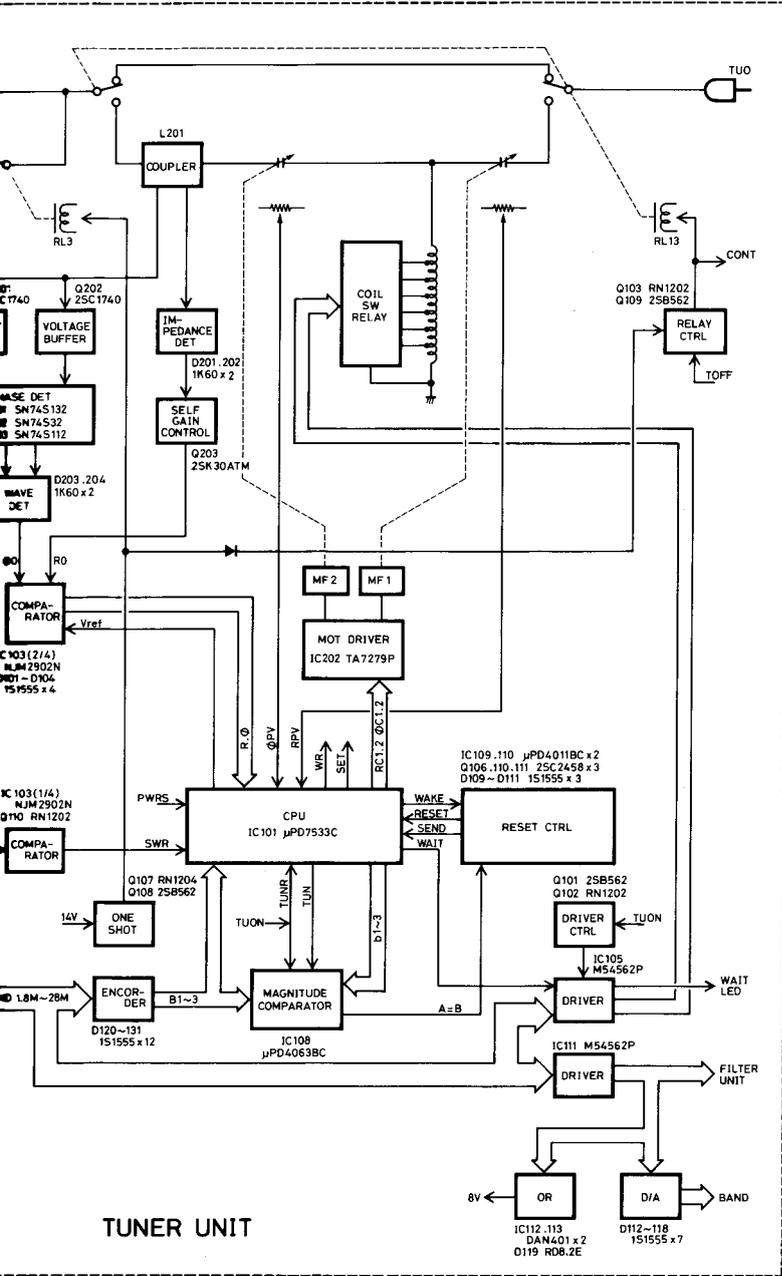
• FILTER UNIT



SECTION 8 BLOCK DIAGRAM

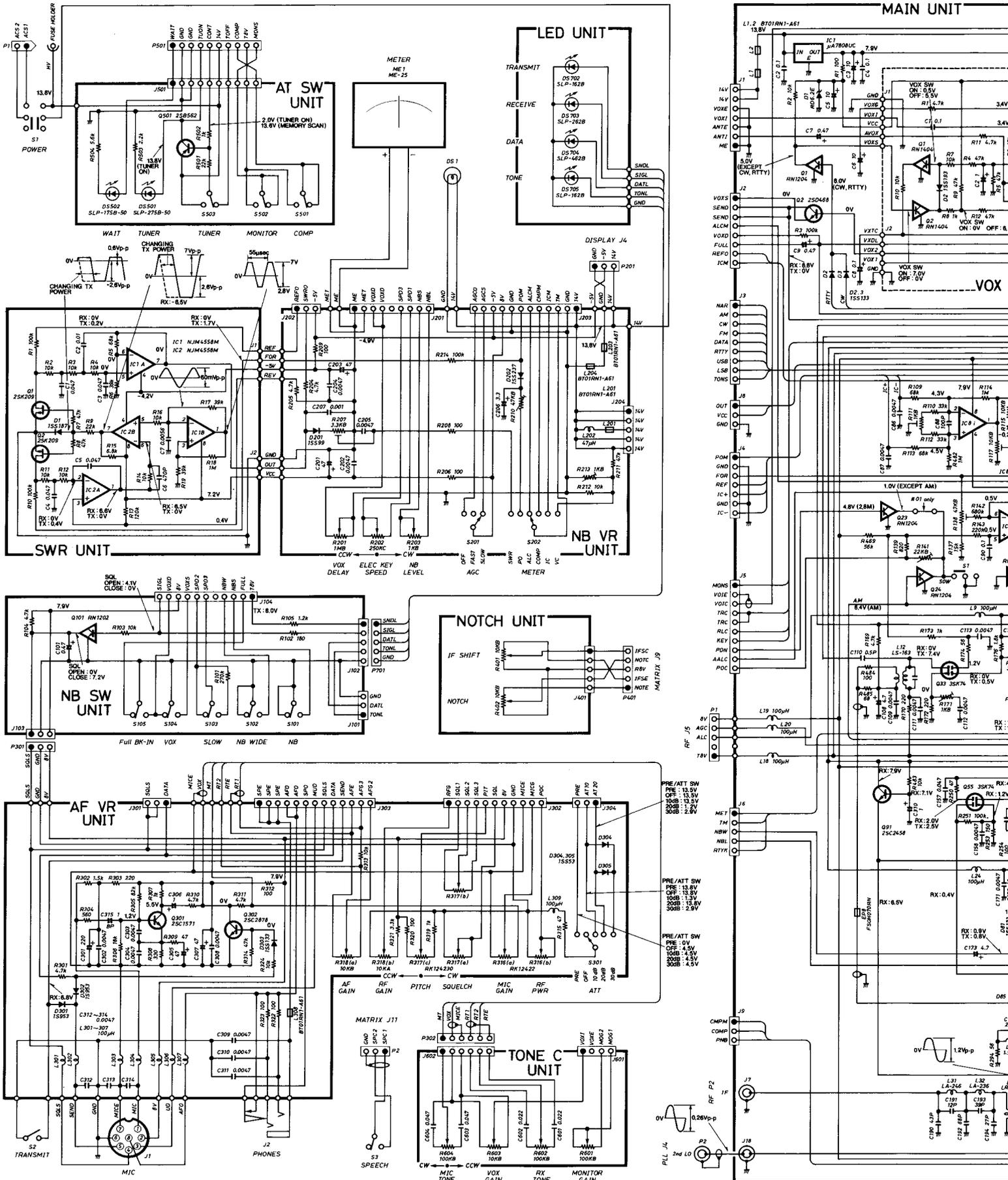




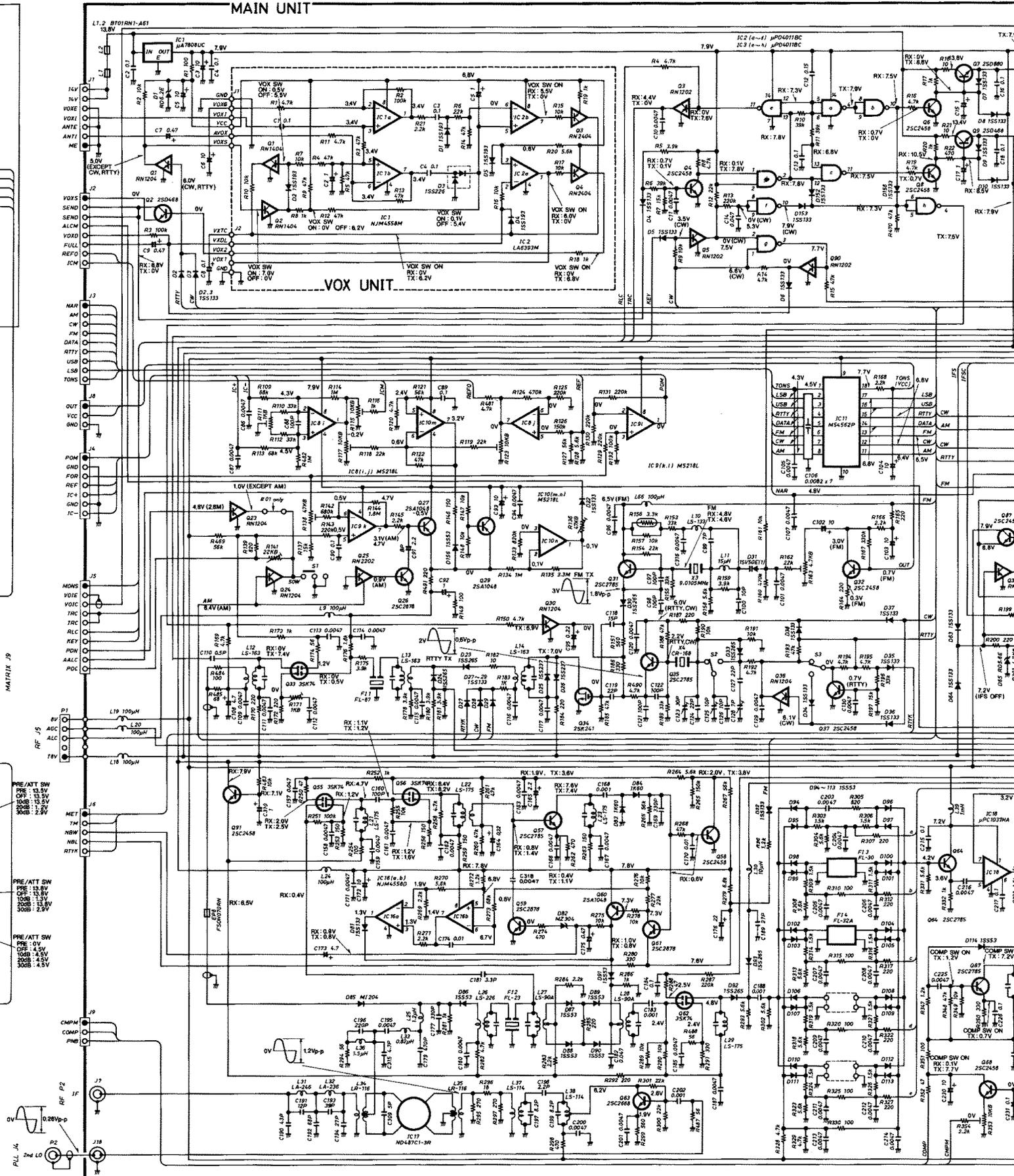


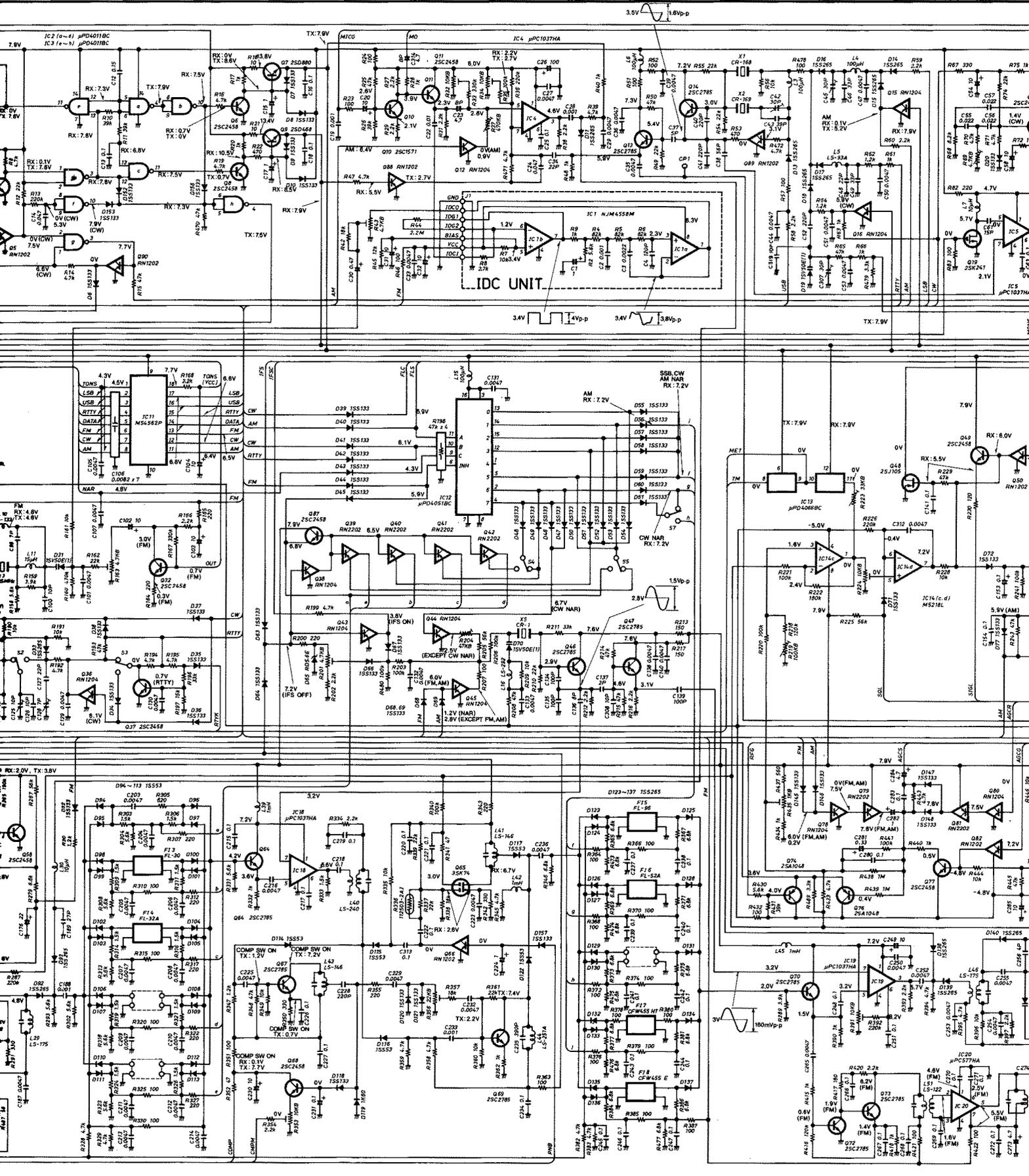
SECTION 9 VOLTAGE DIAGRAMS

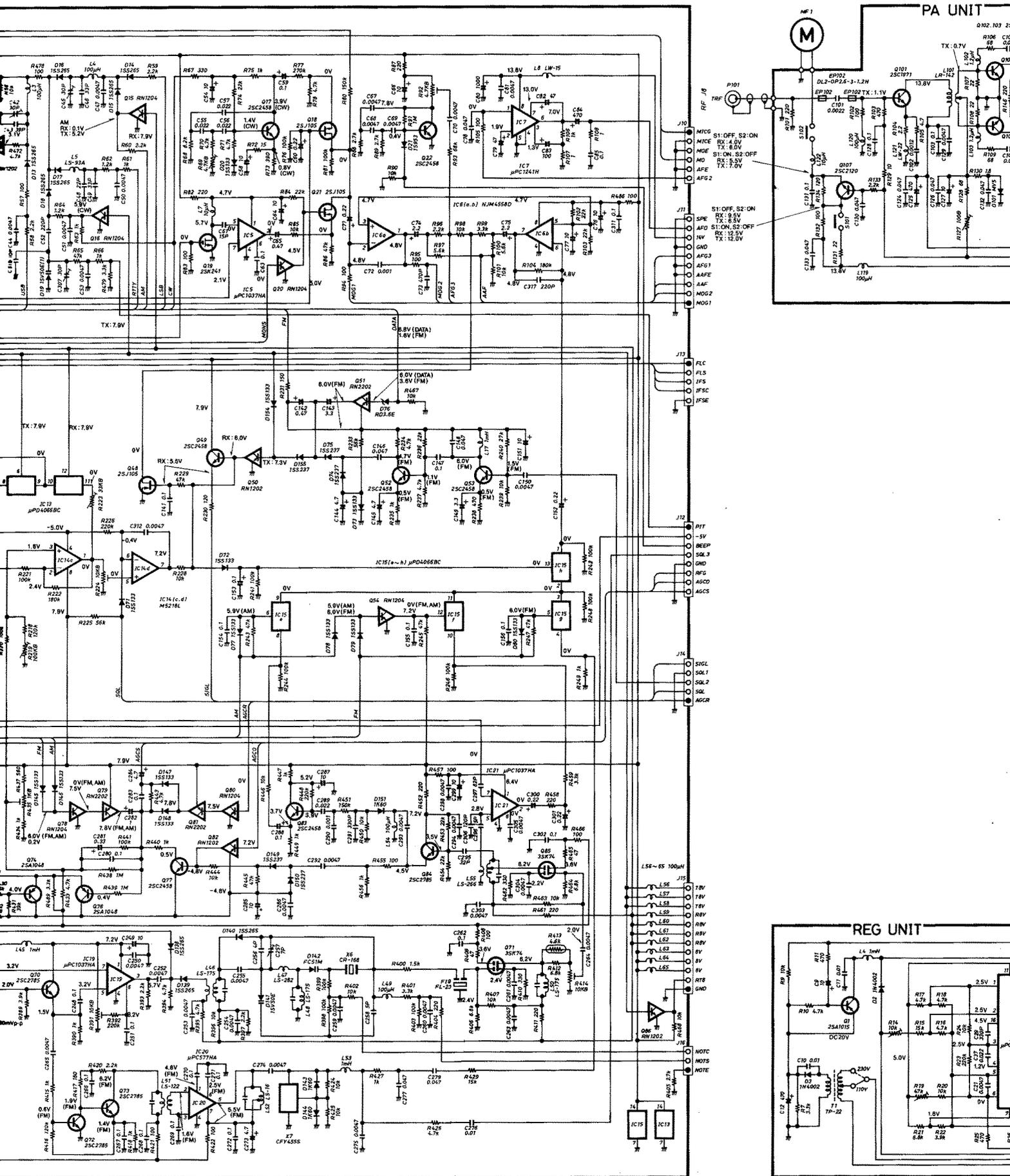
FRONT, MAIN AND PA UNITS



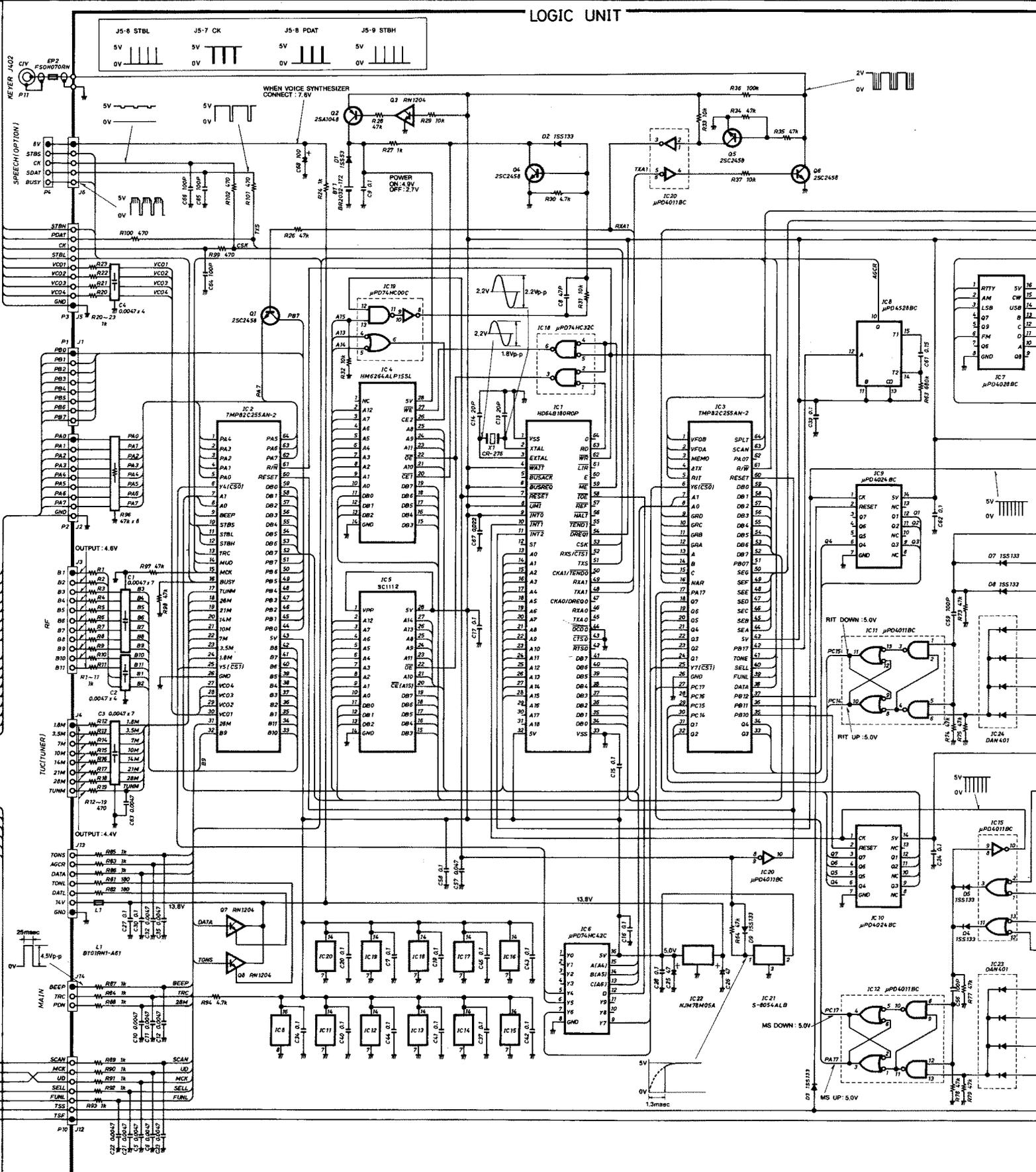
MAIN UNIT

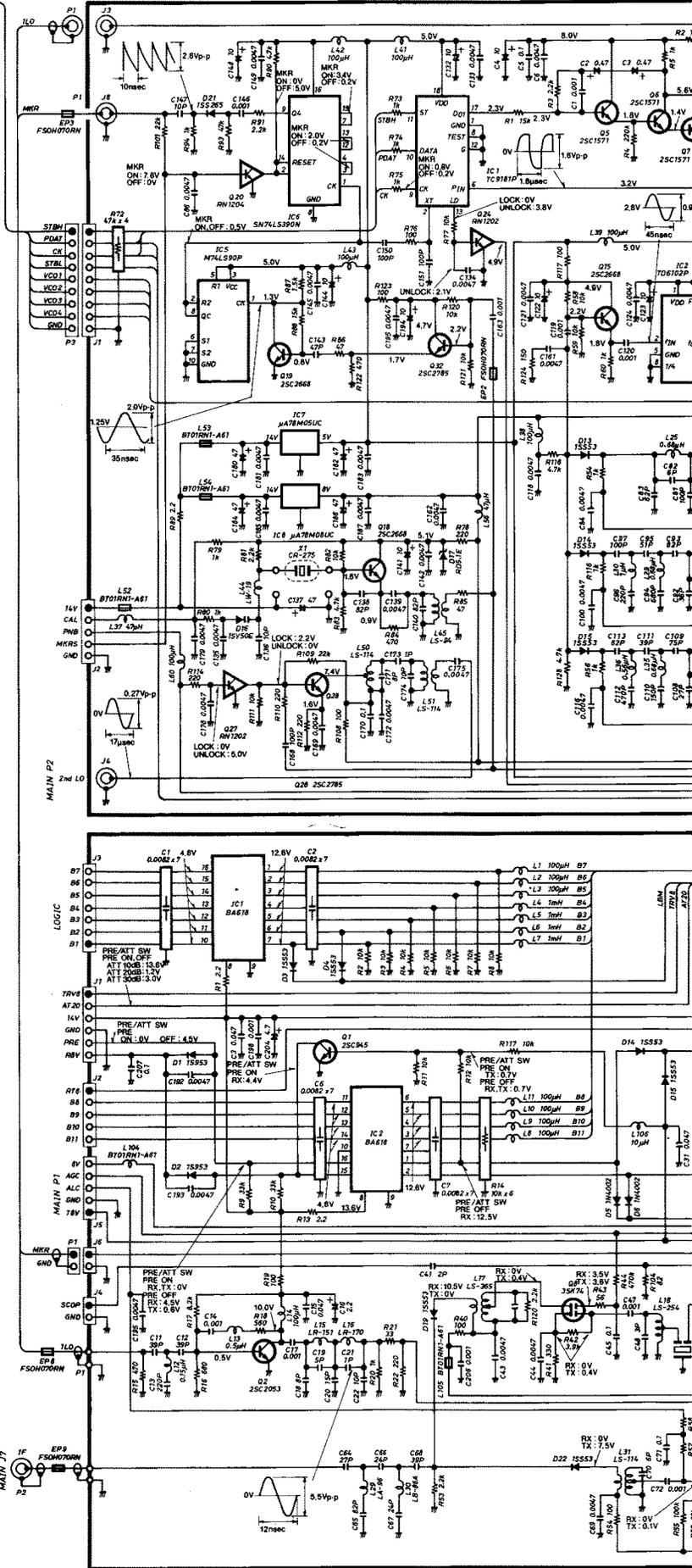
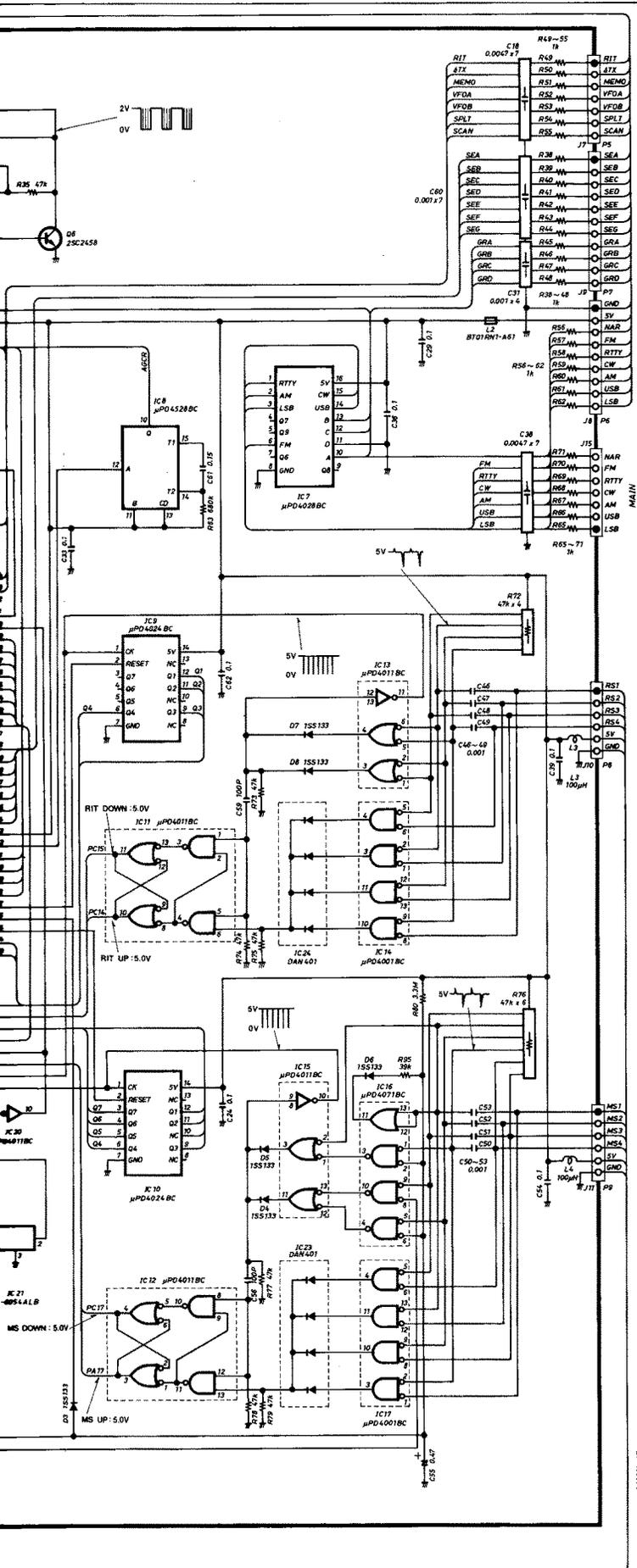




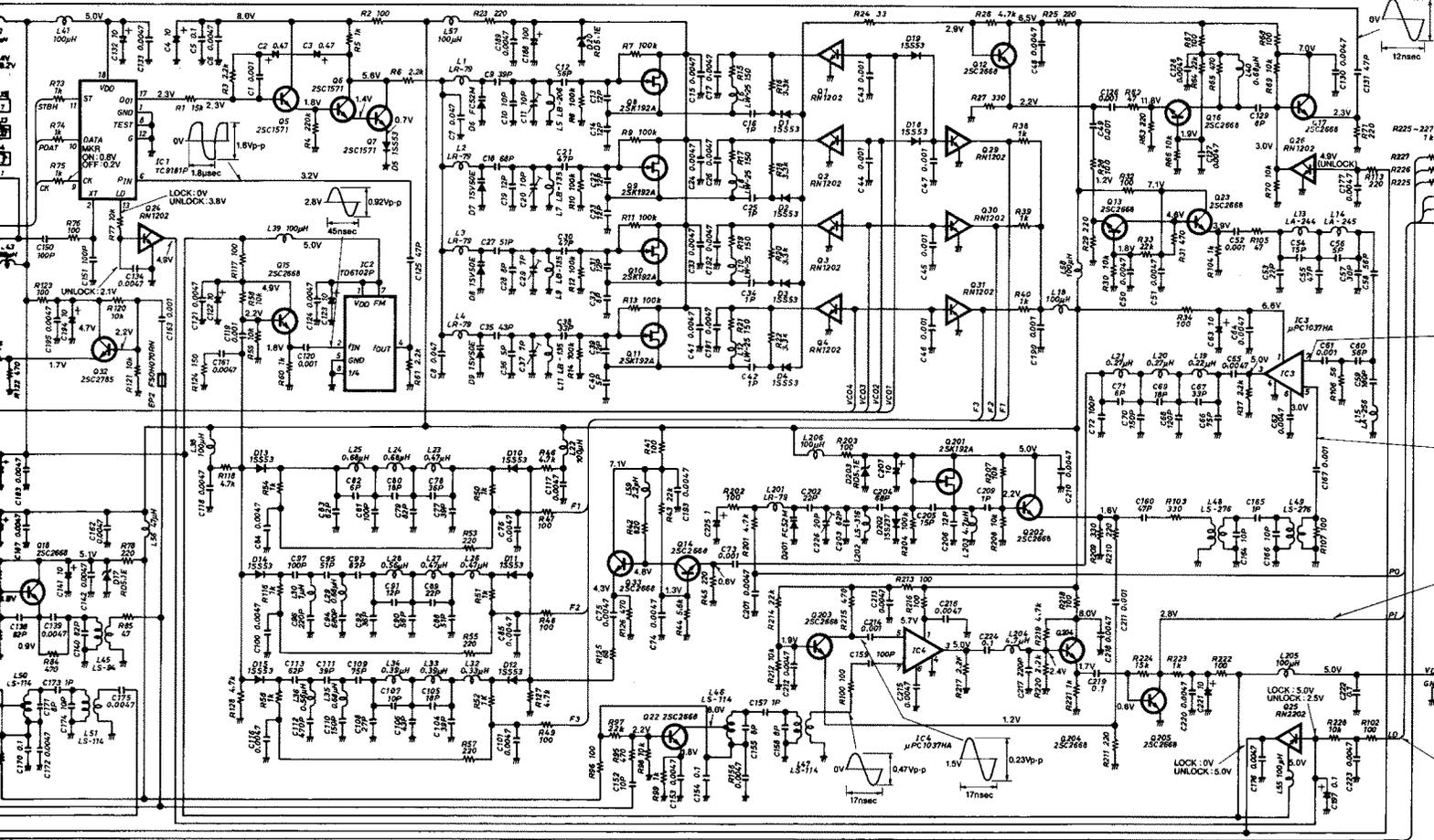


LOGIC UNIT

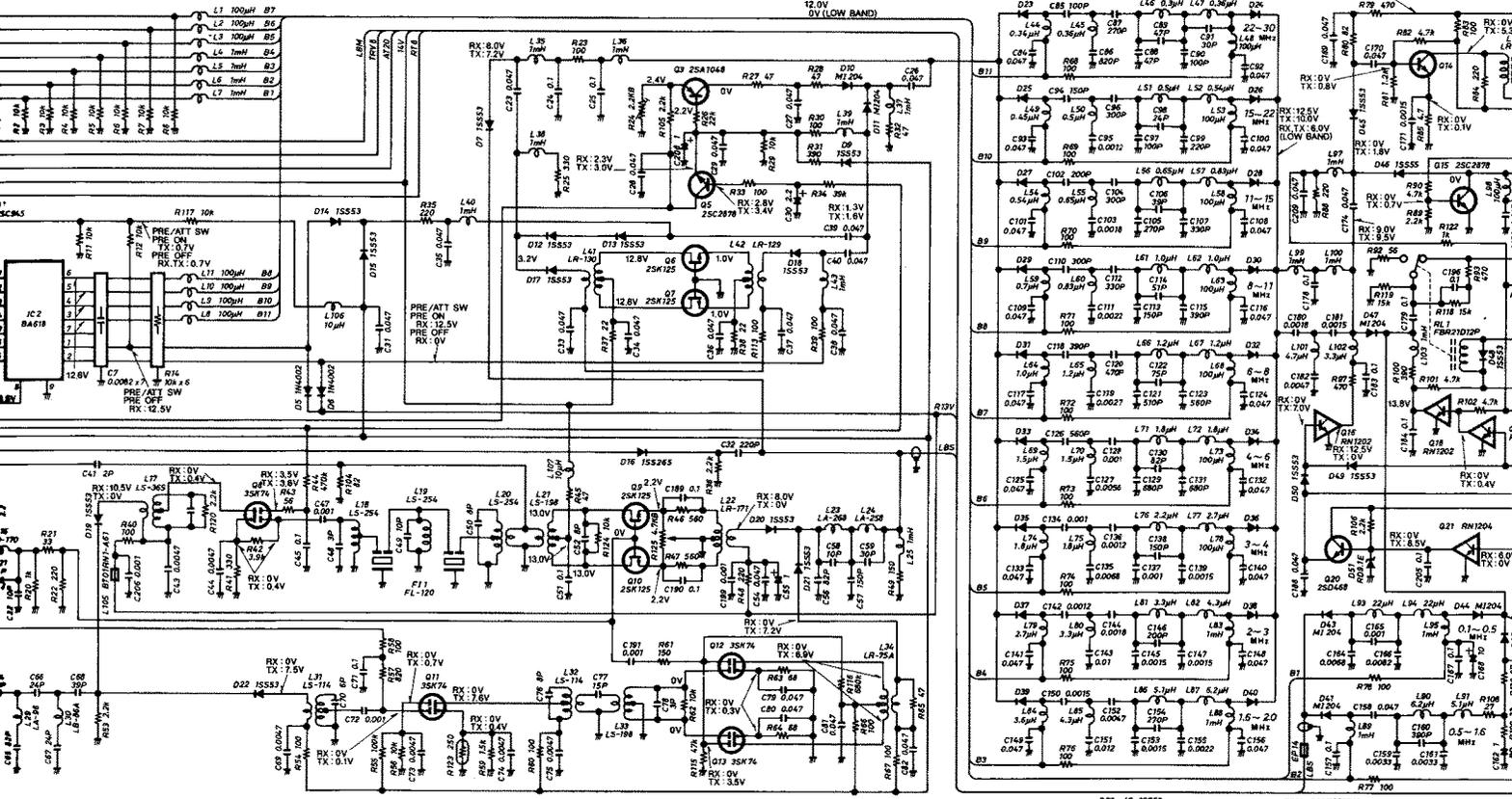


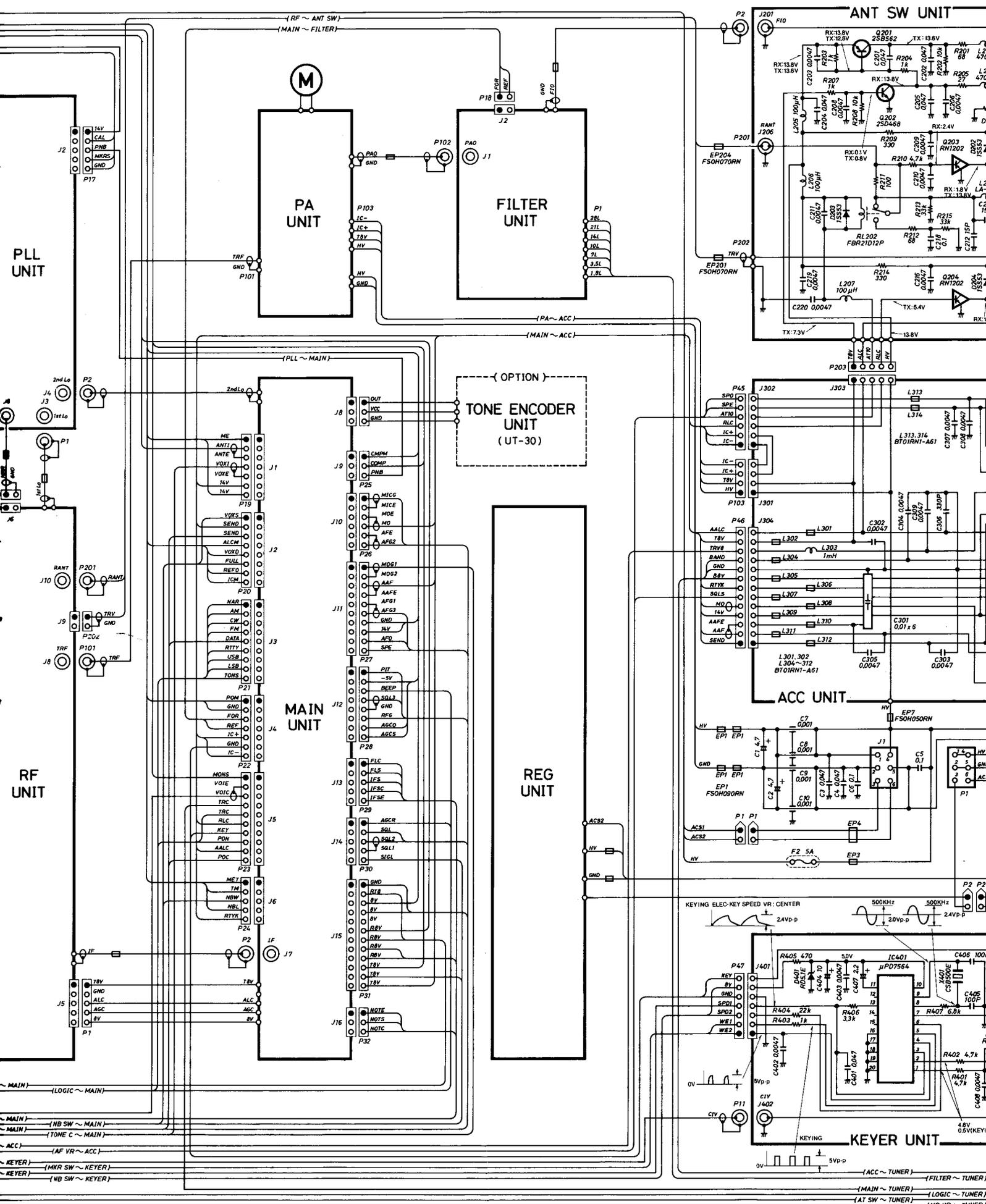


PLL UNIT



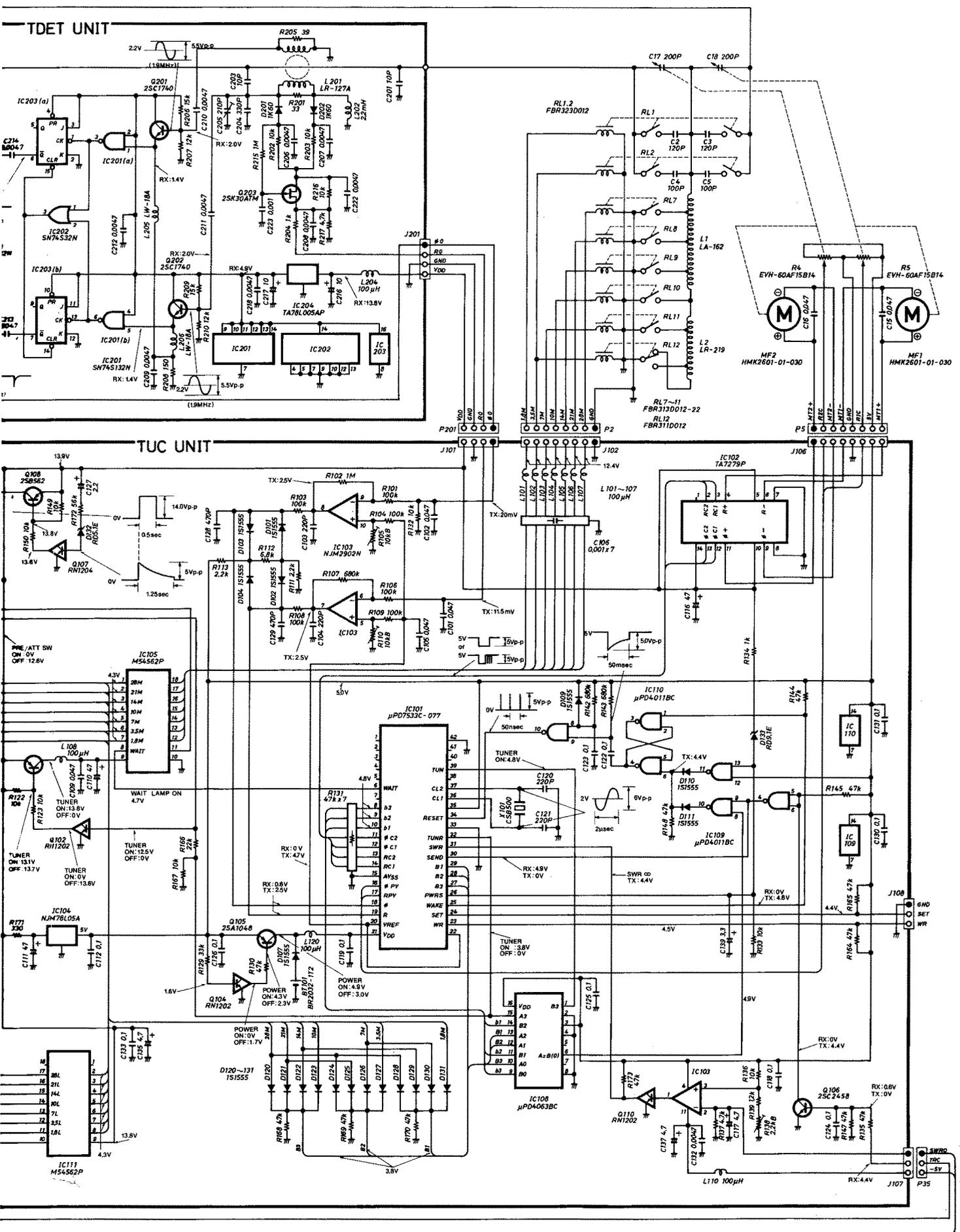
RF UNIT





~ MAIN) (LOGIC ~ MAIN)
~ MAIN) (NB SW ~ MAIN)
~ MAIN) (TONE C ~ MAIN)
~ ACC) (AF VR ~ ACC)
~ KEYS) (MKR SW ~ KEYS)
~ KEYS) (NB SW ~ KEYS)

(MAIN ~ TUNER) (LOGIC ~ TUNER)
(AT SW ~ TUNER) (NB VR ~ TUNER)



Icom Inc.

6-9-16, Kamihigashi, Hirano-ku, Osaka 547, Japan

Phone: 06 793 5302

Fax : 06 793 0013

Telex : 05277822 ICOMTR J

Icom America Inc.

<Corporate Headquarters>

2380 116th Avenue N.E., Bellevue, WA 98004, U.S.A.

Phone : (206) 454-8155

Fax : (206) 454-1509

Telex : 152210 ICOM AMER BVUE

<Customer Service>

Phone : (206) 454-7619

<Regional Customer Service Center>

18102 Sky Park South, Suite 52-B, Irvine, CA 92714, U.S.A.

Phone : (714) 852-8026

Fax : (714) 852-8716

Icom Canada

A Division of Icom America Inc.

3071 #5 Road, Unit 9, Richmond, B.C., V6X 2T4, Canada

Phone : (604) 273-7400

Fax : (604) 273-1900

Icom (Europe) GmbH

Communication Equipment

Himmelgeister Str. 100, 40225 Düsseldorf 1, Germany

Phone : 0211 346047

Fax : 0211 333639

Icom (Australia) Pty. Ltd.

A.C.N 006 092 575

7 Duke Street, Windsor, Victoria, 3181, Australia

Phone : 03 529 7582

Fax : 03 529 8485

Icom (UK) Ltd.

Unit 9, Sea St., Herne Bay, Kent, CT6 8LD, U.K.

Phone : 0227 741741

Fax : 0227 741742

Telex : 965179 ICOM G

Icom France S.a

Zac de la Plaine, Rue Brindejonc des Moulinais

BP 5804, 31505 Toulouse Cedex, France

Phone : 61. 36. 03. 03

Fax : 61. 34. 05. 91

Telex : 521515 ICOM FRA

Count on us!

ManualsPlus.com