



SERVICE MANUAL

MF/HF MARINE TRANSCEIVER

IC-M710

GMDSS SET

(GM-110DSC, AT-130/E, PS-66)



TOTAL CONTENTS

- | | |
|-------------------|--------------------------|
| 1. IC-M710 | MF/HF MARINE TRANSCEIVER |
| 2. GM-110DSC | DSC TERMINAL UNIT |
| 3. AT-130/AT-130E | AUTOMATIC ANTENNA TUNNER |
| 4. PS-66 | DC-DC CONVERTOR |

IC-M710

MF/HF MARINE TRANSCEIVER

INTRODUCTION

This service manual describes the latest service information for the **IC-M710 HF MARINE TRANSCEIVER** at the time of publication.

5 versions of the **IC-M710** have been designed. This service manual covers each version.

	VERSION
IC-M710	US GMDSS
	Eur GMDSS

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

ORDERING PARTS

Be sure to include the following four 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>

1110003140 IC LA1150N IC-M710 MAIN UNIT 5 pieces
8810008560 Screw PH M3 x 8 SUS ZK IC-M710 Rear panel 10 pieces

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

DANGER

NEVER connect the transceiver to an AC outlet or to a DC power supply that uses more than 16 V. This will ruin the transceiver.

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.

REPAIR NOTES

1. Make sure a problem is internal before disassembling the transceiver.
2. **DO NOT** open the transceiver until the transceiver is disconnected from its 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 50 dB to 60 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.

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SECTION 1 SPECIFICATIONS

■ GENERAL

- Frequency coverage : Receive 0.5000–29.9999 MHz
Transmit 1.6000–2.9999 MHz 4.0000–4.9999 MHz
6.0000–6.9999 MHz 8.0000–8.9999 MHz
12.0000–13.9999 MHz 16.0000–17.9999 MHz
18.0000–19.9999 MHz 22.0000–22.9999 MHz
25.0000–27.50000 MHz
- Mode : J3E (USB), H3E, J2B (AFSK), F1B (FSK), R3E
(Available modes differ depending on versions.)
- Number of channels : 1136 channels (max.)
[160 (user programmable), 242 (ITU SSB duplex), 72 (ITU SSB simplex),
662 (ITU FSK duplex)]
- Antenna impedance : 50 Ω (nominal)
- Usable temperature range : -30°C to $+60^{\circ}\text{C}$; -22°F to $+140^{\circ}\text{F}$
- Frequency stability : ± 10 Hz (-30°C to $+60^{\circ}\text{C}$; -22°F to $+140^{\circ}\text{F}$)
- Power supply requirement : 13.6 V DC $\pm 15\%$ Negative ground (U.S.A. version)
13.6 V DC $\pm 15\%$ Floating ground (Europe version)
- Current drain (at 13.8 V DC) : Transmit (max. output power) 30 A
Receive (max. audio output) 2.5 A (U.S.A. version)
3.0 A (Europe version)
- Dimensions (projections not included) : 291.4(W) \times 116.4(H) \times 315(D) mm; 11(W) \times 4¹⁹/₃₂(H) \times 12¹³/₃₂(D) in
- Weight (with ant., battery case and cells) : 7.9 kg; 17 lb 7 oz (U.S.A. version)
8.1 kg; 17 lb 14 oz (Europe version)

■ TRANSMITTER

- Output power (at 13.8 V DC) : 125 W PEP
(85 W PEP for MF and 25 MHz bands)
- Spurious emissions : -65 dB (U.S.A. version)
 -60 dB (Europe version)
- Carrier suppressions : 40 dB
- Unwanted sideband suppression : 55 dB
- Microphone impedance : 600 Ω

■ RECEIVER

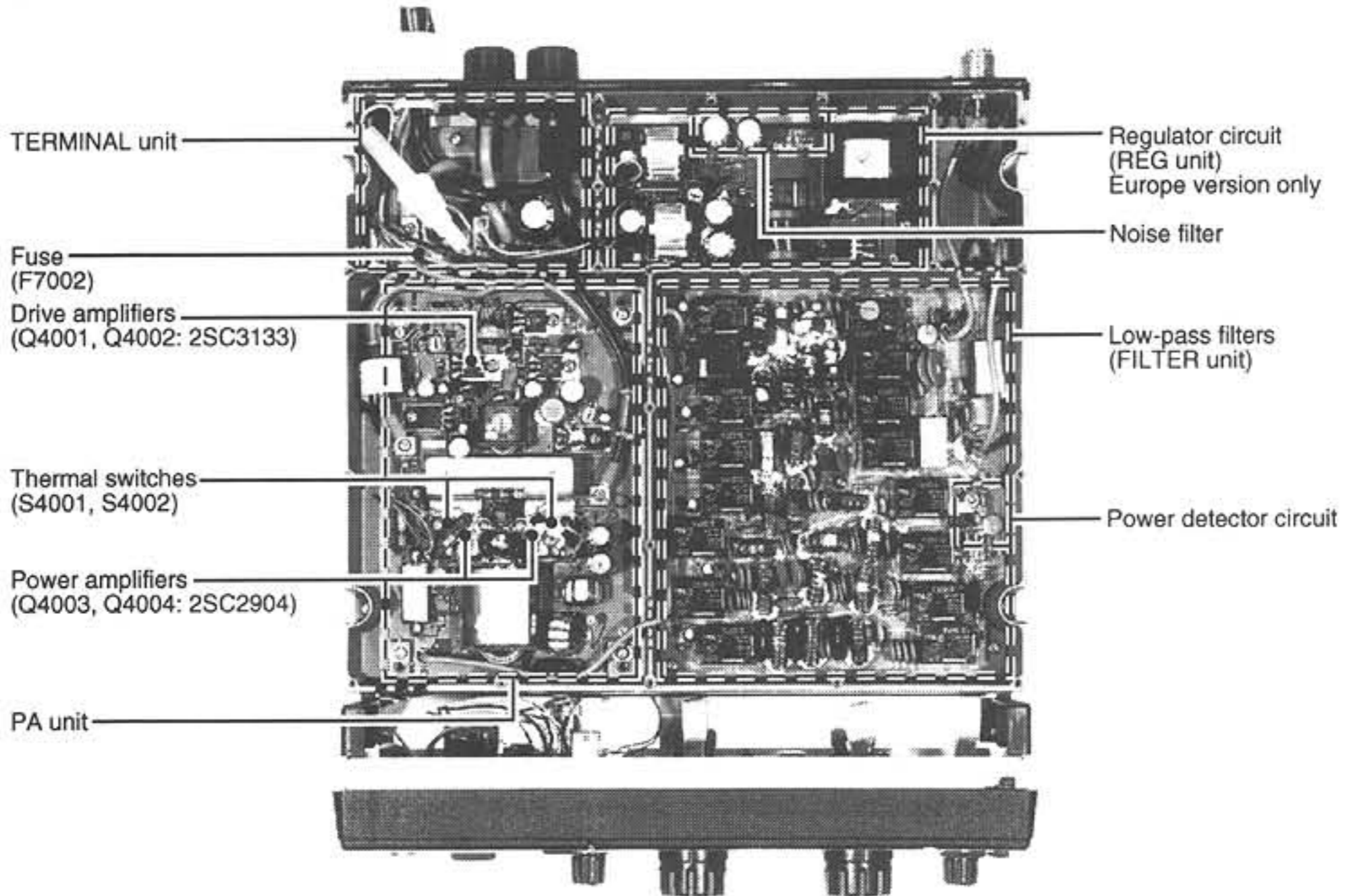
- Sensitivity :
J3E, R3E, J2B, F1B, A1A (for 12dB SINAD) 0.5 μV (1.8000–29.9999 MHz)
1.0 μV (1.6000–1.7999 MHz)
6.3 μV (0.5000–1.5999 MHz)
H3E (for 10dB S/N) 3.2 μV (1.8000–29.9999 MHz)
6.3 μV (1.6000–1.7999 MHz)
32 μV (0.5000–1.5999 MHz)
- Spurious response rejection : 70 dB (1.600000–29.9999 MHz)
- Audio output power : 4.5 W (at 10% distortion with a 4 Ω load)
- Audio impedance : 4 to 8 Ω
- Clarity variable range : ± 150 Hz

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

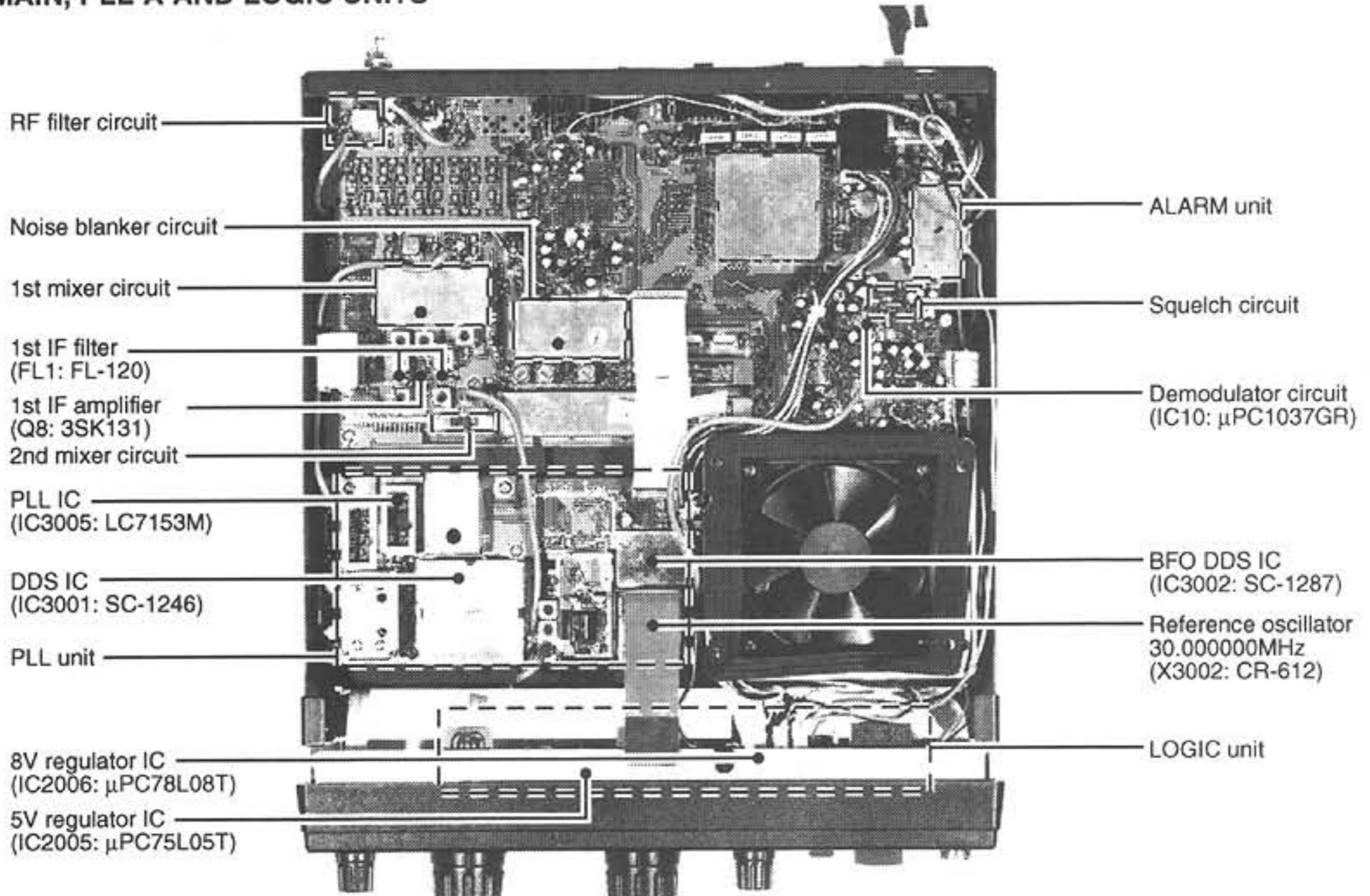
SECTION 2

INSIDE VIEWS

•PA, FILTER AND TERMINAL UNITS



•MAIN, PLL-A AND LOGIC UNITS



SECTION 3 CIRCUIT DESCRIPTION

3-1 RECEIVER CIRCUITS

3-1-1 RF FILTER CIRCUIT (MAIN UNIT)

Received signals from the antenna connector pass through the transmit/receive switching relay (FILTER unit RL4317) and are then applied to the MAIN unit (via J2).

The signals pass through the protection relay (RL2), 1.6 MHz cut off high-pass filter (C4-C8, L2-L4) and are then applied to one of nine bandpass filters (incl. one low-pass filter for below 2.0 MHz). These filters are selected by the filter control signals (B0-B8) as described in the table below.

The filtered signals pass through the 30 MHz cut-off low-pass filter (L71, L72, C130-C134) and are then applied to the 1st mixer circuit (Q6, Q7).

• RF FILTERS USED

Frequency (MHz)	Control signal	Entrance coil	Frequency (MHz)	Control signal	Entrance coil
0.5-1.999	B0	L49	10-13.999	B5	L28
2-2.999	B1	L8	14-17.999	B6	L33
3-4.999	B2	L13	18-19.999	B7	L38
5-6.999	B3	L18	20-21.999	B8	L43
7-9.999	B4	L23	22-23.999		
			24-29.999		

3-1-2 1ST MIXER AND IF CIRCUITS (MAIN UNIT)

The 1st mixer circuit converts the received signals into a fixed frequency, 69.0115 MHz 1st IF signal using the PLL output frequency. By changing the PLL frequency, only the desired frequency will be picked up at the pair of crystal filters (F11a, F11b) at the next stage.

The IF amplifier (Q8) and resonator circuits are designed between the filter pair. The PLL output signal (1LO) enters the MAIN unit via J3 and is amplified at Q5 and then applied to the 1st mixer (Q7, Q8)

3-1-3 2ND MIXER AND CIRCUITS (MAIN UNIT)

The 1st IF signal from the Crystal filter (F11b) is converted again into a 9.0115 MHz 2nd IF signal at the 2nd mixer circuit (D52, L66, L67). The 60 MHz 2nd local signal (2LO) enters the MAIN unit from the PLL unit via J4 to be applied to the 2nd mixer.

The 2nd IF signal is passed through the noise blanker gate (D15, D16) and amplified at the 2nd IF amplifier (Q16) and then applied to one of the 9 MHz IF filters as described below. The passed signal is amplified at the two stage 2nd IF amplifiers (Q32, Q33) and is applied to a demodulator circuit (D39 for H3E or IC10 for J3E and others).

• 2ND IF FILTERS USED

MODE	Used filter	Control signal
J3E, R3E, FSK	F12	SEL8: low, H3E8: low
H3E	F13/F14	SEL8: low, H3E8: high
FSK narrow	F15	SEL8: high, H3E8: low

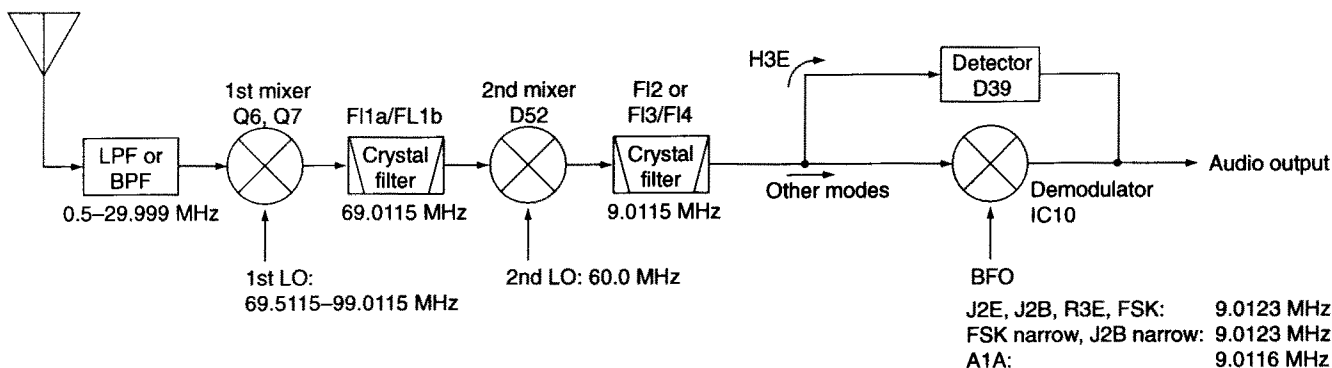
3-1-4 NOISE BLANKER CIRCUIT (MAIN UNIT)

The noise blanker circuit cuts off the IF circuit line at the moment of receiving a pulse-type noise.

A portion of the 2nd IF signal between resonator circuits (L83, L84 after stage of the 2nd mixer, D52) is amplified at the noise amplifiers (Q9, IC8, Q11). The signal is then detected at the noise detector (D17) to convert the noise components to DC voltages.

The signals are then applied to the noise blanker switch (Q13, Q14). At the moment the detected voltage exceeds the Q13's threshold level, Q14 outputs a blanking signal to close the noise blanker gate (D15, D16) by applying reverse-biased voltage. Q15 turns the noise blanker circuit ON and OFF.

• RECEIVE FREQUENCY CONSTRUCTION



The detected voltage is also applied to the noise blanker AGC circuit (Q12, Q10) and is then fed back to the noise amplifier (IC8) as a bias voltage. The noise AGC circuit prevents closure of the noise blanker gate for long periods by non-pulse-type noise. The time constant of the noise blanker AGC circuit is determined by R58 and C114.

3-1-5 DEMODULATOR CIRCUIT (MAN UNIT)

This circuit mixes the 2nd IF and BFO signals to pick up the AF components (except H3E mode). The 2nd IF signal from Q33 is applied to the balanced mixer (IC10 pin 6). The 9.0106–9.013 MHz BFO signal from the PLL unit is also applied to IC10 (pin 8). AF signals are output from pin 3 and are then applied to the AF circuits.

3-1-6 H3E DETECTOR CIRCUIT (MAIN UNIT)

The 2nd IF signal from Q33 is applied to the AM detector circuit (D39) to be demodulated into AF signals. The detected signals are amplified at Q45 and then applied to the AF circuits.

3-1-7 AGC CIRCUIT (MAIN UNIT)

The AGC (Automatic Gain Control) circuit reduces IF amplifier gain to prevent the receiver circuit from distorting and to keep the audio output at a constant level.

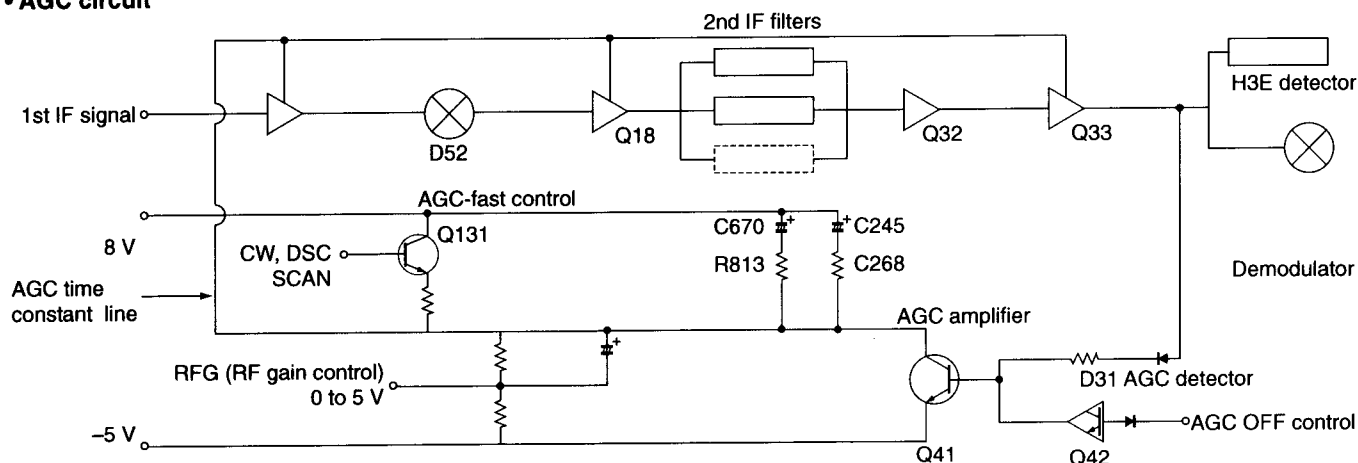
A portion of the IF signals from the 2nd IF amplifier (Q33) is detected at the AGC detector circuit (D31) and is then applied to the AGC amplifier (Q41) to control the AGC time constant line. The reference voltage of the AGC line is controlled by the "RFG" line which comes from the CPU for the RF gain setting.

When receiving a strong signal, the detected voltage increases and the voltage of the AGC line is decreased by Q41 via the -5 V voltage line. The AGC line is used for the bias voltage of the IF amplifiers (Q8, Q16, Q32, Q33), so that these amplifiers reduce gain.

When the strong signal disappears, the AGC line voltage is released by C245/R268 and C670/R813.

The AGC switch (Q42, D38) turns the AGC circuit OFF when the AGC OFF function activates. The AGC-fast switch (Q131) sets the AGC line as fast-release during scanning and DSC operation.

• AGC circuit



3-1-8 S-METER CIRCUIT (MAIN UNIT)

The S-meter indicates the AGC level on the display, since the AGC level varies with the received signal strength.

The AGC bias voltage (AGC time constant line) from Q41 is inverted and amplified at IC19b. The amplified signal is applied to the CPU via the "RSM" line.

3-1-9 AF AMPLIFIER CIRCUITS (MAIN AND LOGIC UNITS)

AF signals from the demodulator or H3E detector circuit pass through the active low-pass filter (IC20b) and squelch gate (IC12a), and are then applied to the electronic volume control (IC36). The CPU (pin 37) outputs the volume control signal (1 to 5 V) according to the [VOLUME] control setting.

The AF output signals from IC36 (pin 9) are applied to the LOGIC unit via J23. The signals are amplified at the AF power amplifier (IC2007) and then applied to the internal speaker via the microphone connector (pins 3 and 4) and external [SP] jack via the MAIN unit.

The speaker switch relay (RL2001) is connected to the (-) terminal of the internal speaker for the [SPEAKER] switch function.

3-1-10 SQUELCH CIRCUIT (MAIN UNIT)

The transceiver has two squelch circuits, voice activated squelch for J3E/H3E and S-meter squelch for FSK.

(1) AF ACTIVATED SQUELCH

A portion of the AF signal from the active low-pass filter (IC20b) is amplified at the limiter amplifier (IC20a) and is then applied to the one-shot multi-vibrator (IC22c, IC22d). The one shot multi vibrator functions as an F-V converter which generates a signal only when audio signals are received.

The output signals pass through the NOR gate (IC22b) and then the 3 Hz low-pass filter (IC21a) to remove the remaining noise components. The filtered signal is applied to the window comparator (IC21b). The NOR gate (IC22b) deactivates the audio activated squelch during FSK/J2B mode operation.

The comparator outputs "High" when the integrated signals exceed the reference voltage. C269, R310 and R780 are used as a time constant circuit. The resulting signal output from IC22a is inverted at Q46 and is then applied to the CPU as the "SQL S" signal. The CPU controls the squelch gate (IC12a) when the "SQLS" signal is received.

(2) S-METER SQUELCH

The S-meter signal from IC19B is applied to the squelch comparator (IC19a) to close or open the squelch circuit. The reference voltage is adjusted by R257 and then applied to the (-) terminal of the comparator (IC19a). When the S-meter signal exceeds the reference voltage, the comparator outputs "High" to the CPU via IC22a and Q46 in the same manner as the voice activated squelch circuit.

3-2 TRANSMITTER CIRCUITS

3-2-1 MICROPHONE AMPLIFIER CIRCUIT (LOGIC UNIT)

The AF signals from the [MICROPHONE] connector are amplified at the AF amplifier (IC2008a) and are applied to the balanced modulator (MAIN unit; IC9) via the AF switch (IC38b). The microphone AGC circuit (D2008, D2009, Q2009) controls the amplifier gain to prevent signal distortion.

External modulation inputs from the ACC, NBDP, DSC sockets or a 2-tone emergency signal from the CPU are applied to the balanced modulator directly via AF switches (IC37-IC39).

3-2-2 MODULATION CIRCUIT (MAIN UNIT)

(1) J3E AND J2B MODES

The balanced modulator is used for J3E and J2B modes to add the audio signal to the BFO frequency and outputs the IF signal while suppressing the BFO signal.

The AF signals from the microphone amplifier or external audio from the modulation terminals are applied to the balanced modulator (IC9 pin 6). The BFO signal from the PLL-A unit is applied to IC9 (pin 8) as a carrier signal. A double sideband signal is output from IC9 (pin 3) and is then applied to the 9 MHz filter (FI2) to create an SSB signal.

R238 and R239 adjust the balanced level of IC9 for maximum carrier suppression. In J2B mode, the BFO frequency is shifted 1.7 kHz to set the transmit frequency the same as the displayed frequency.

The SSB signal from FI2 is amplified at the 9 MHz amplifiers (Q17-Q19) and is then applied to the mixer circuit (D52). The switching diode (D19) is turned ON when R8 voltage disappears.

(2) H3E AND R3E MODES

An SSB signal is applied to the IF amplifier (Q18) in the same manner as with J3E/J2B mode. The BFO signal from the PLL-A unit is amplified at Q30 and is then applied to the IF amplifier (Q18) as a carrier signal to be added to an SSB signal. R211 and R212 adjust the carrier levels in H3E and R3E modes, respectively.

(3) FSK MODES

The FSK8 voltage is applied to the balanced modulator (IC9 pin 6) to upset the balance and create a carrier signal.

In FSK mode, BFO frequency is shifted in the PLL-A unit to create the mark and space frequencies.

3-2-3 1ST MIXER CIRCUIT (MAIN UNIT)

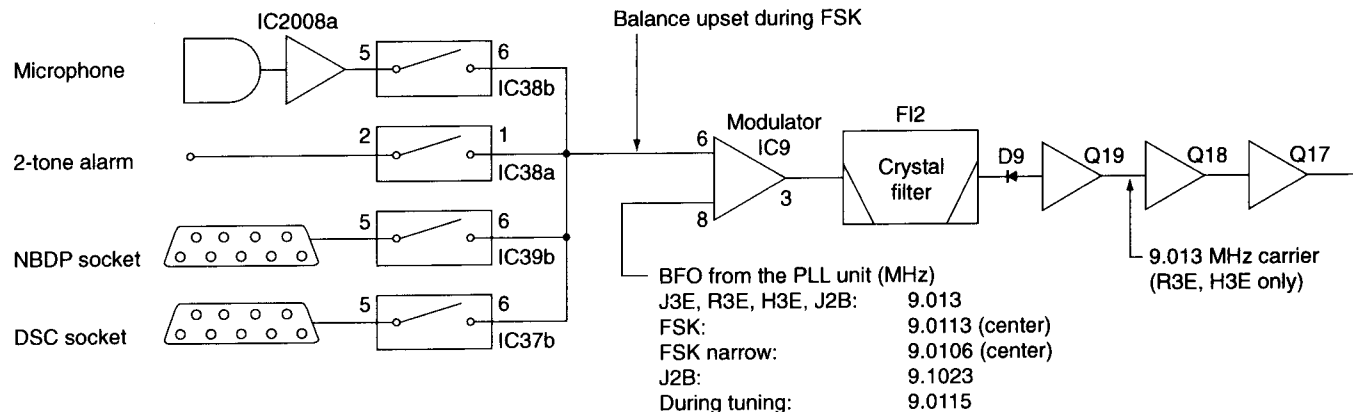
The amplified signal from the IF amplifier (Q17) is mixed with a 60 MHz LO signal at the 1st mixer circuit (D52) to produce a 69.0115 MHz IF signal. The mixer is commonly used with the receiver 2nd mixer.

The 69.0115 MHz IF signal passes through the filter (FI1b) and is then applied to the 2nd mixer circuit.

3-2-4 2ND MIXER CIRCUIT (MAIN UNIT)

The filtered signal is mixed with a PLL output frequency (1LO: 69.5155-99.0155 MHz) at the 2nd mixer circuit (Q3, Q4) to produce an RF signal which is the same frequency as the displayed one.

• MODULATOR CIRCUIT



3-2-5 RF FILTER CIRCUIT (MAIN UNIT)

The RF signal passes through the low-pass filter (L55, L56, C89–C93) and is then amplified at the RF amplifier (Q2).

The amplified signal is applied to one of nine RF filters. These RF filters are commonly used with the receiver circuit which consists of eight high-pass filters and one low-pass filter. The filtered signal is amplified at Q1 and is then applied to the PA unit via J1.

3-2-6 POWER AMPLIFIER CIRCUIT (PA AND FILTER UNITS)

This circuit provides a stable 150 W (at 13.6 V DC) of output power. The RF signal from the MAIN unit is amplified at the pre-driver (Q4003, Q4004).

The driver and power amplifiers from class AB push-pull circuits. Bias voltage to these transistors is produced by diodes (D4001–D4003) which have temperature junctions with the transistors.

The amplified signal is then applied to one of eight low-pass filters to suppress high harmonic components. The filtered signal passes through the power detector circuit (L4341) and transmit/receive switching relay (RL4317) and is then applied to the antenna connector.

• LOW-PASS FILTERS USED

Frequency (MHz)	Control signal	Entrance coil	Frequency (MHz)	Control signal	Entrance coil
0.5–1.999	L0	RL4301	10–13.999	L5	RL4311
2–2.999	L1	RL4303	14–17.999	L6	RL4313
3–4.999	L2	RR4305	18–19.999		
5–6.999	L3	RL4307	20–21.999	L7	RL4315
7–9.999	L4	RL4309	22–23.999		
			24–29.999		

3-2-7 ALC CIRCUIT

The transceiver has two ALC (Auto level Control) loops for constant output power over all marine bands and for high power setting.

(1) IF ALC CIRCUIT (MAIN UNIT)

A portion of the IF signals from Q17 is applied to the IF ALC circuit. The signal is amplified at Q126 and then detected at the ALC detector (D46). The detected signal is amplified at the ALC detector (IC17b) and is then applied to the comparator (IC17a).

The reference voltage for the comparator is set by R184. The antenna tuning control voltage (TUN8) is also affected by the reference voltage to decrease the IF signal level.

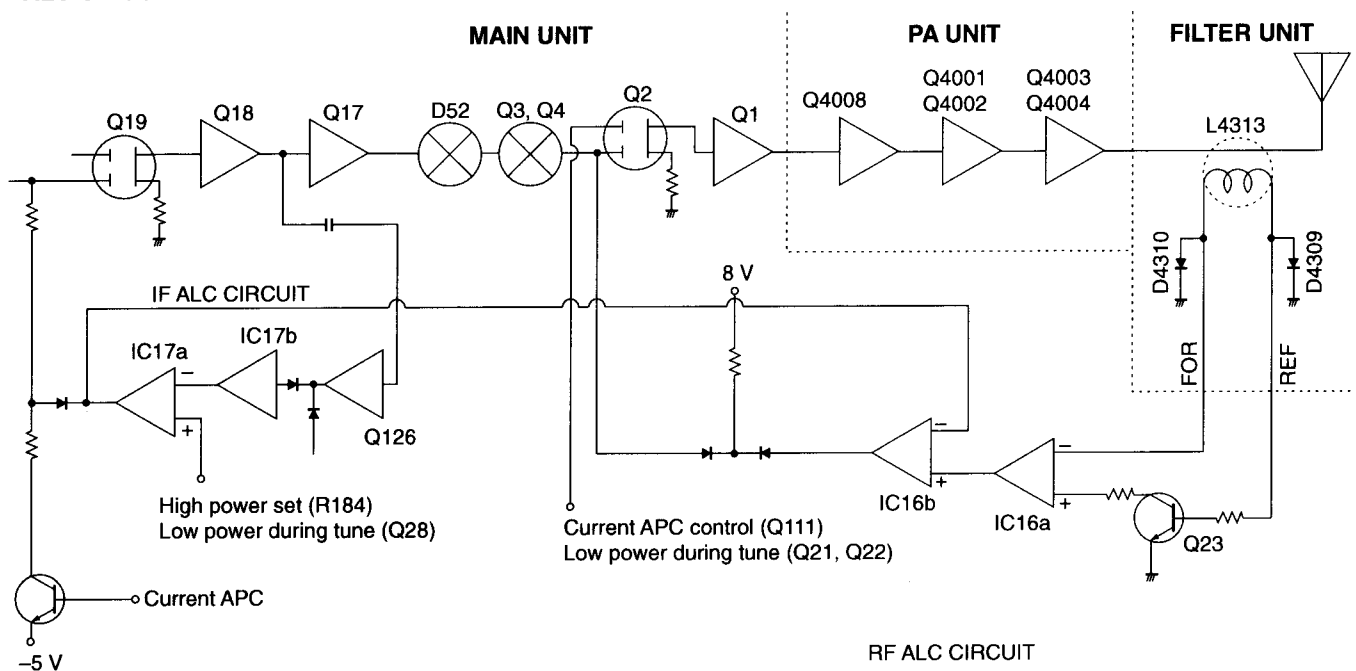
The comparator output controls the gate bias of the IF amplifier (Q19), so that the IF signal level is determined by the reference voltage of the comparator (IC17a).

(2) RF ALC CIRCUIT (FILTER AND MAIN UNITS)

The RF output power level is detected at D4309 of the power detector circuit (L4341, D4309, D4310) in the FILTER unit. The detected signal ("FOR" signal) is applied to the RF ALC amplifier (IC16a) in the MAIN unit.

The amplified signal enters the transmit gain controller (IC16b) which functions as an inversion amplifier. The gain controller decrease the gain of the IF amplifier (Q2) to constant output power from different amplifier gains which are occurred by their frequency characteristics.

• ALC CIRCUIT



3-2-8 APC CIRCUIT

The APC (Auto Power Control) circuit protects the power amplifiers on the PA unit from high SWR and excessive current.

(1) SWR APC (FILTER AND MAIN UNITS)

The reflected wave signal appears and increases on the antenna connector. When the antenna is mismatched, D4310 of the power detector circuit (D4309, D4310, L4341) in the FILTER unit detects the signal and applies it at the APC amplifier (Q23) in the MAIN unit. The output signal decreases the bias voltage of the RF ALC amplifier to reduce the output power.

(2) CURRENT APC (PA AND MAIN UNITS)

The power transistor current is detected from the different voltages between both terminals of a 0.012 Ω resistor (R4026) on the PA unit. The detected voltage is applied to the differential amplifier (IC4002b). When the current of the final transistors is more than 30 A, the detected voltage is applied to the IC APC amplifier (Q111) in the MAIN unit to reduce the gate-2 voltage of the IF amplifier (Q2) and thus reduce the output power.

3-2-9 TEMPERATURE DETECTION (PA UNIT)

Thermal switches (S4001, S4002) protect the final transistors from excessive temperatures. When the temperature exceeds 50 $^{\circ}\text{C}$, S4002 is turned ON to start the cooling fan. When the temperature exceeds 110 $^{\circ}\text{C}$, S4001 is turned ON to control the "POC2" line and sets the power to 60 W.

3-2-10 RF METER CIRCUIT (MAIN UNIT)

The output of the ALC amplifier (IC16a) is applied to the CPU (pin 31) to indicate the transmit power level on the display.

for antenna current meter indication, the "ANTC" signal from an optional AT-130E is applied to the CPU (pin 32).

3-3 PLL CIRCUIT

3-3-1 GENERAL

The PLL-A unit generates a 1st LO frequency (69.5155–99.0115 MHz), 2nd LO frequency (60 MHz) and a BFO frequency (9.01–9.013 MHz) for the MAIN unit. The 1st LO PLL adopts a mixerless dual loop PLL system. The BFO uses a DDS and a 2nd LO as a fixed frequency double that the crystal oscillator.

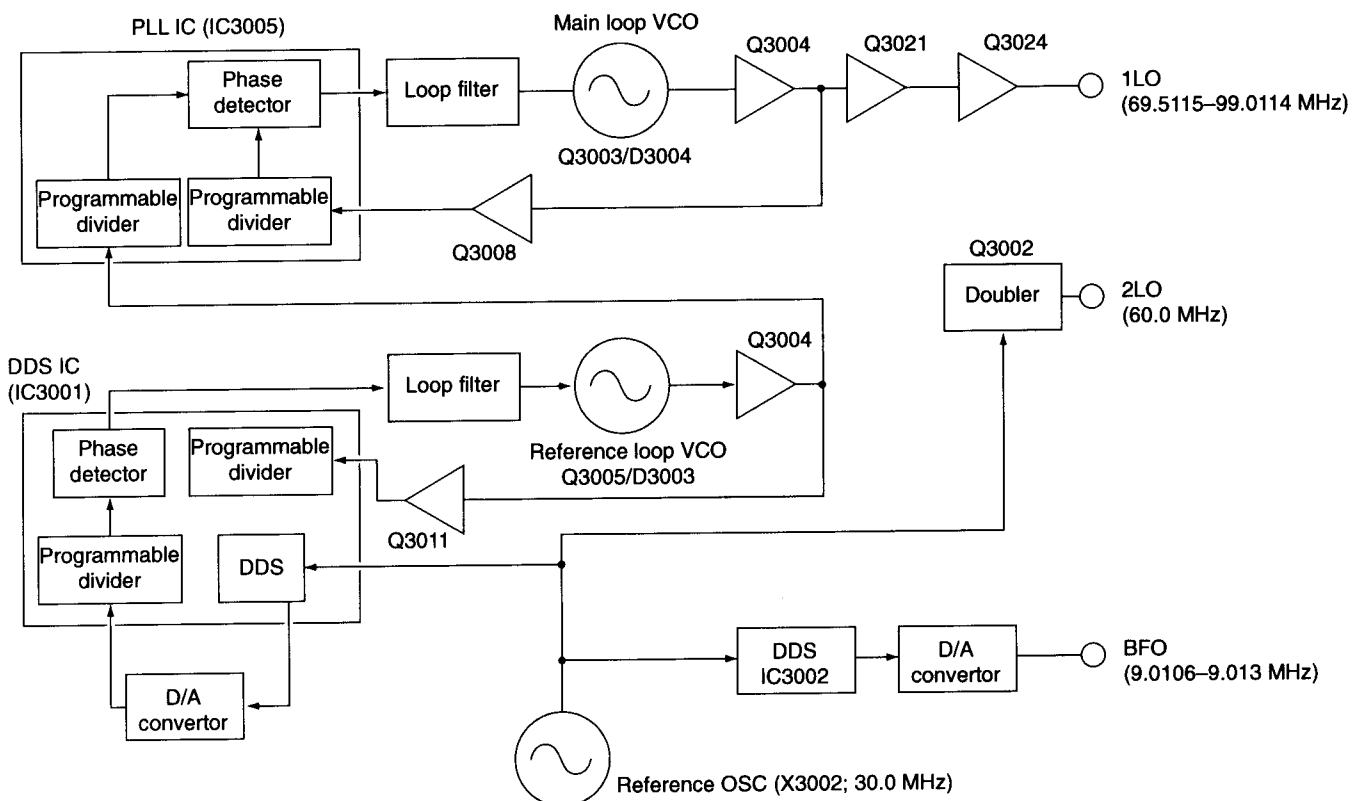
3-3-2 1ST LO PLL (PLL-A UNIT)

The 1st LO PLL contains a main loop and reference loop as a dual loop system. The reference loop generates a 10.65 to 10.75 MHz frequency using a DDS circuit, and the main loop generates a 69.5115 to 99.0115 MHz frequency using the reference loop frequency.

(1) REFERENCE LOOP PLL

The oscillated signal at the reference VCO (Q3005, D3003) is amplified at the buffer amplifiers (Q3006, Q3011) and is then applied to the DDS IC (IC3001, pin 46). The signal is then divided and detected on phase with the DDS generated frequency.

• PLL CIRCUIT



The detected signal output from IC3001 (pin 56) is converted into a DC voltage (lock voltage) at the loop filter (R3018, R3019, C3044) and then fed back to the varactor diode (D3003) in the VCO circuit.

(2) MAIN LOOP PLL

The oscillated signal at the main loop VCO (Q3003, D3004) is amplified at the buffer amplifiers (Q3004, Q3008) and is then applied to the PLL IC (IC3005, pin 14). The signal is then divided and detected on phase with the reference loop output frequency.

The detected signal output from IC3005 (pins 9, 10) is converted into a DC voltage (lock voltage) at the loop filter and then fed back to the varactor diode (D3004) in the VCO circuit.

The oscillated signal is amplified at the buffer amplifiers (Q3004, Q3021, Q3024) and then applied to the MAIN unit as a 1st LO signal.

3-3-3 2ND LO AND REFERENCE OSCILLATOR CIRCUITS

The reference oscillator (X3002) generates 30.0 MHz frequency used for the both DDS ICs as a system clock and for the LO output. The oscillated signal is doubled at Q3002 and picked up the 60 MHz frequency at the resonator circuit (L3004, L3005). The 60 MHz signal is applied to the MAIN unit as a 2nd LO signal.

3-3-4 BFO CIRCUIT

The DDS IC (IC3002) generates a 10-bit digital signal using the 30 MHz system clock. The digital signal is converted to an analog wave signal at the D/A converter (R3120–R3139). The analog wave is passed through the low-pass filter (L3037, L3038, C3154–C3158) and is then applied to the MAIN unit as the BFO signal.

3-4 DC-DC CONVERTER CIRCUIT (REG UNIT; Europe version only)

The IC-M710 Europe version employs a floating grounding system which is not connected between the transceiver's ground and (–) terminal of the power supply. The PA unit has separate grounding from the other units to obtain floating.

The 13.6 V DC from the DC power connector passes through the noise filter (L8001, C8001–C8005) and is then applied to the switching transformer (T8001). The MOS FET (Q8001) is turn ON and OFF by D8003 and Q8003 respectively.

IC8001 is a switching control IC which contains a 5 V reference voltage regulator (pins 12, 14), two error amplifiers (pins 1, 2, 3, 15, 16), a saw tooth oscillator (pins 4, 5, 6) and a comparator. The switching frequency is determined by R8008 and C8007 and is set at 36 kHz.

AC voltages appear on the secondary terminals of T8001 and are rectified by D8002. The rectified DC voltages are passed through the noise filter (L8003, C8009, C8010) and are then applied to the MAIN unit as a 13.6 V DC voltage line.

3-5 PORT ALLOCATIONS

3-5-1 CPU (LOGIC unit; IC1)

Pin number	Port name	Description
1	RES	Input port for the CPU reset signal. When receiving a "LOW" pulse, the CPU is reset.
10	RXDO	Data input port from the sub CPU in the FRONT unit.
11	TXDO	Data output port to the sub CPU in the FRONT unit.
16	NSEN	Input port for the NBDP equipment.
21	ASEN	Outputs a "SEND" control signal for the ACC socket.
22	CSEN	Outputs a "SEND" control signal for T8 and R8 voltage line control. Low : for transmit.
23	ALMS	Outputs an alarm control signal to activate the 2-tone emergency alarm encoder. High : alarm on
24	ALMC	Outputs a tone switching signal for the 2-tone emergency alarm encoder. High : high tone
25	SCL	Outputs a clock signal to the EEPROM (IC134).
26	SDA	Data bus line for the EEPROM (IC134).
27	SCL	Outputs a clock signal to the EEPROM (IC135).
28	SDA	Data bus line for the EEPROM (IC135).
30	RSM	Input port for the S-meter indication.
31	MFOR	Input port for the RF-meter indication for U.S.A version.
32	ANTC	Input port for the antenna current meter indication for the Europe version. The ANTC signal can be received when an optional AT-130E is connected.
33	SQLS	Input port for the squelch detected signal. High : when squelch opens.
34	TRC	Input port for the transmit/receive switching signal.
36	RFG	Outputs RF gain control signal to the AGC circuit.
37	AFG	Outputs AF gain control signal to the electronic volume control (IC36).
39	STAT	Outputs the "tuner start" pulse to an optional AT-130E.
40	BEEP	Outputs a beep signal (1 kHz or 500 Hz).
41	STB1	Outputs a strobe signal to the main loop PLL IC (IC3005).

3-5-2 OUTPUT EXPANDER (MAIN unit; IC7)

Pin number	Port name	Description
42	STB2	Outputs a strobe signal to the reference loop DDS IC (IC3001).
48	STB3	Outputs a strobe signal to the BFO PLL IC (IC3002).
49	DATA	Outputs data to PLL and DDS ICs.
50	CK	Outputs a clock signal to PLL and DDS ICs.
51	SQL C	Outputs an AF mute signal for squelch function . High : squelch closed.
52	NBS	Outputs an external NBDP equipment control signal. Low : during NBDP data output
53	AGCS	Outputs a "noise blanker" signal. High : noise blanker is on
54	NMS	Outputs an AGC-OFF signal. Low : during NBDP data output.
55	P20	Outputs a strobe signal for an initial matrix.
57-60	P17-P14	Input ports for an initial matrix.
61-64	PD-PA	Output band signals for RF LPF and BPF selection.
65-67	J2B, R3E, H3E	Outputs mode signals.
68	KEY	Input port for an optional AT-130/E. Low : during tuning.
70	TUNE	Outputs an antenna tuner tuning control signal for transceiver's power/mode control.
71	FSEL	Outputs a narrow filter selection signal. Low : for an optional narrow filter selection.
72	PROG	Outputs a program scan control signal for "AGC fast" and "audio squelch" deactivation.

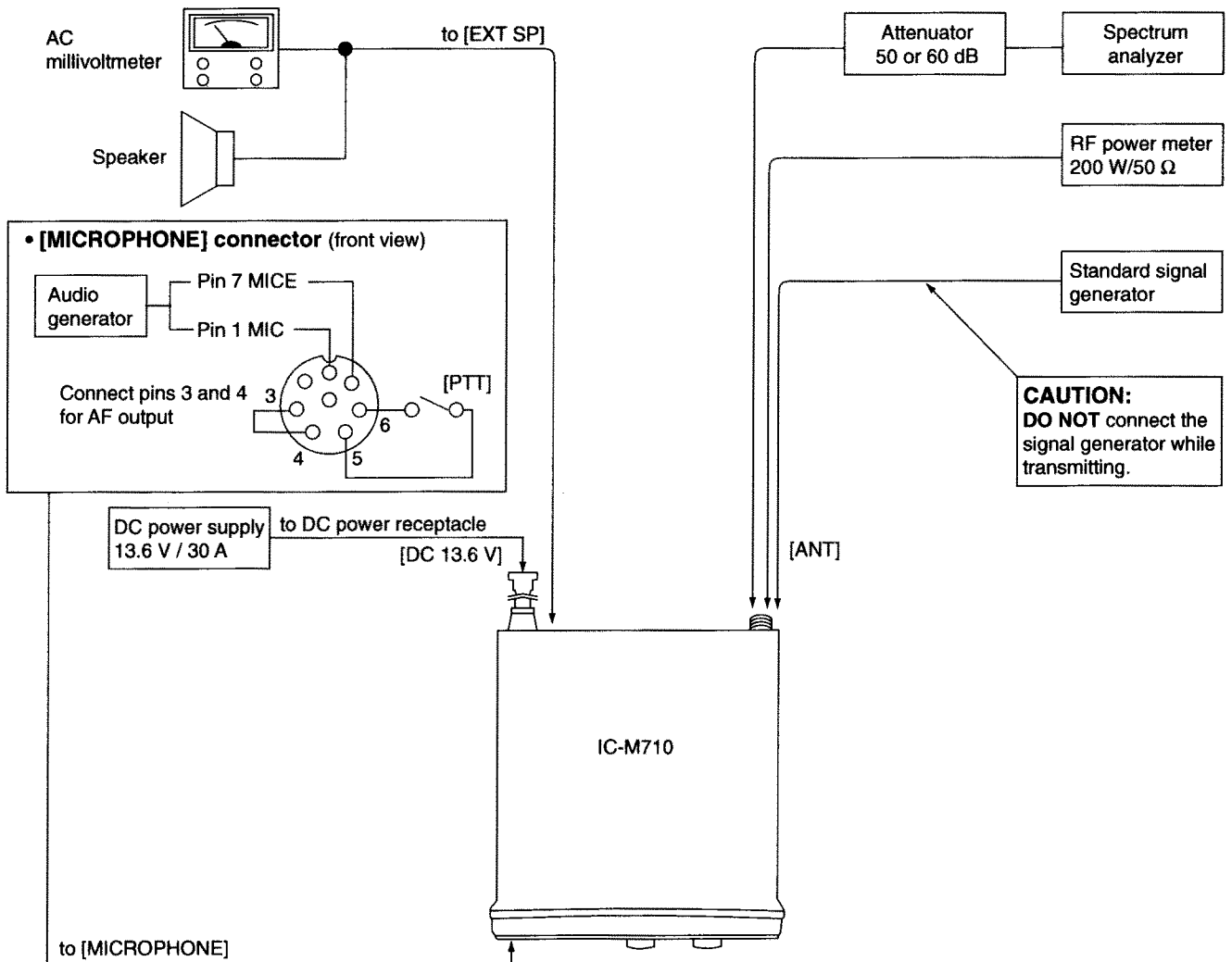
SECTION 4 ADJUSTMENT PROCEDURES

4-1 PREPARATION BEFORE SARVICING

■ REQUIRED TEST EQUIPMENT

EQUIPMENT	GRADE AND RANGE	EQUIPMENT	GRADE AND RANGE
DC power supply	Output voltage : 13.6 V DC Current capacity : 30 A or more	Audio generator	Frequency range : 300–3000 Hz Measuring range : 1–500 mV
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	Standard signal generator (SSG)	Frequency range : 0.1–30 MHz Output level : 0.1 μV–32 mV (–127 to –17 dBm)
Frequency counter	Frequency range : 0.1–100 MHz Frequency accuracy : ±1 ppm or better Sensitivity : 100 mV or better	Oscilloscope	Frequency range : DC–100 MHz Measuring range : 0.01–10 V
RF voltmeter	Frequency range : 0.1–100 MHz Measuring range : 0.01–10 V	AC millivoltmeter	Measuring range : 10 mV–10 V
DC voltmeter	Input impedance : 50 kΩ/V DC or better	External speaker	Input impedance : 4 Ω Capacity : 6 W or more
Spectrum analyzer	Frequency minimum : At least 90 MHz Spectrum bandwidth : 100 kHz or more	Attenuator	Power attenuation : 50 or 60 dB Capacity : 150 W or more
		DC ammeter	Measurement capability: 1 A / 3 A / 50 A

■ CONNECTIONS



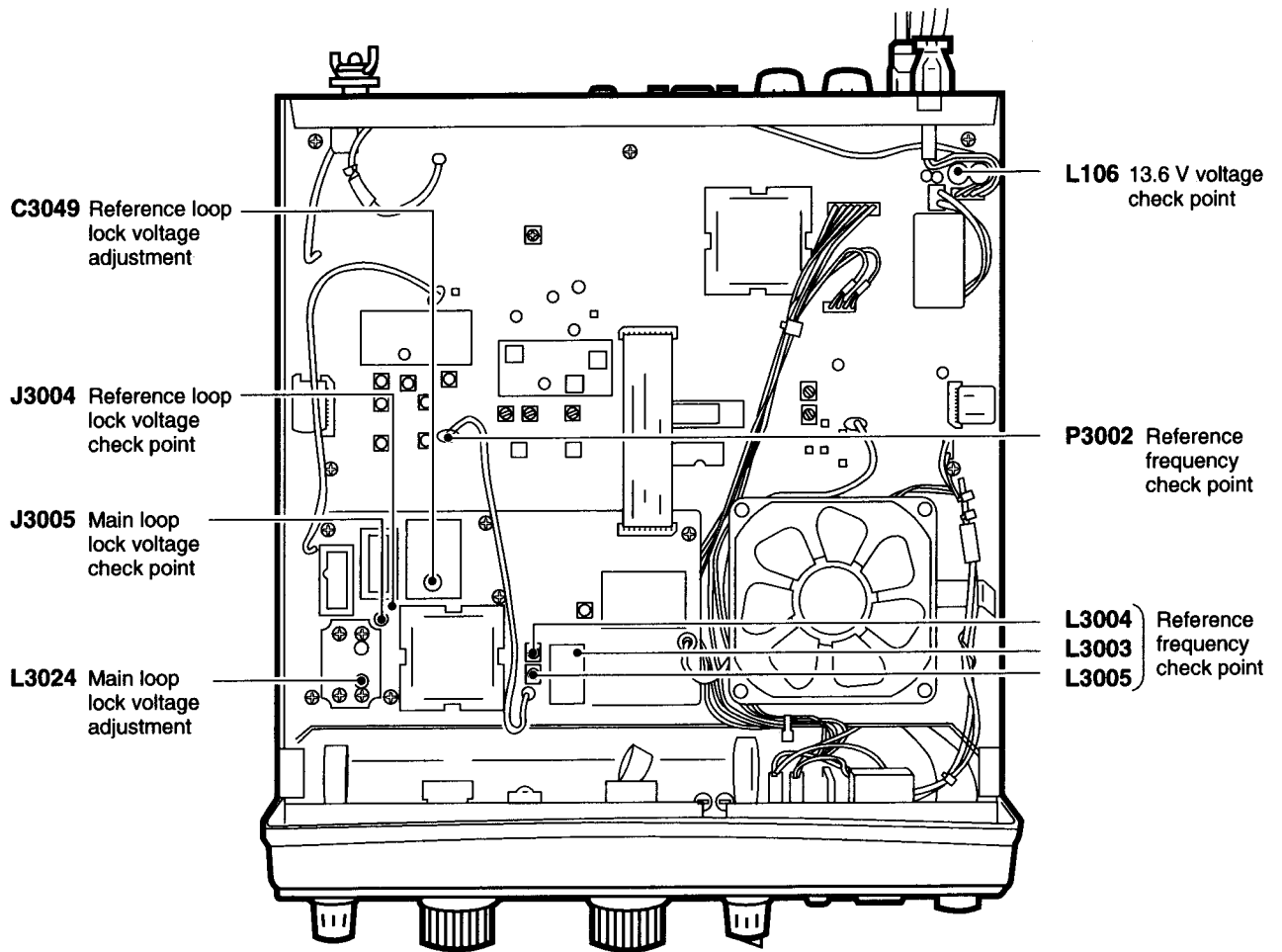
4-2 PLL ADJUSTMENTS

ADJUSTMENT	ADJUSTMENT CONDITION	MEASUREMENT		VALUE	ADJUSTMENT POINT	
		UNIT	LOCATION		UNIT	ADJUST
REFERENCE LOOP LOCK VOLTAGE	1 • Display frequency : 7.9999 MHz • Mode : J3E • Receiving	PLL-A	Connect a digital multimeter or oscilloscope to check point J3004.	3.2 V	PLL-A	C3049
	2 • Display frequency : 0.0300 MHz			More than 1.5 V		Verify
MAIN LOOP LOCK VOLTAGE	1 • Display frequency : 0.5000 MHz • Receiving	PLL-A	Connect a digital multimeter or oscilloscope to check point J3005.	4.0 V	PLL-A	L3024
	2 • Display frequency : 29.9999 MHz			More than 1.0 V		Verify
REFERENCE FREQUENCY	1 • Wait for 5 min. after power ON. • Terminate P3002 to ground with a 50 Ω resistor. • Receiving	PLL-A	Connect an RF voltmeter to check point P3002.	Maximum level (More than +2 dBm)	PLL-A	L3004, L3005
			2	Connect a frequency counter to check point P3002.		60.000000 MHz

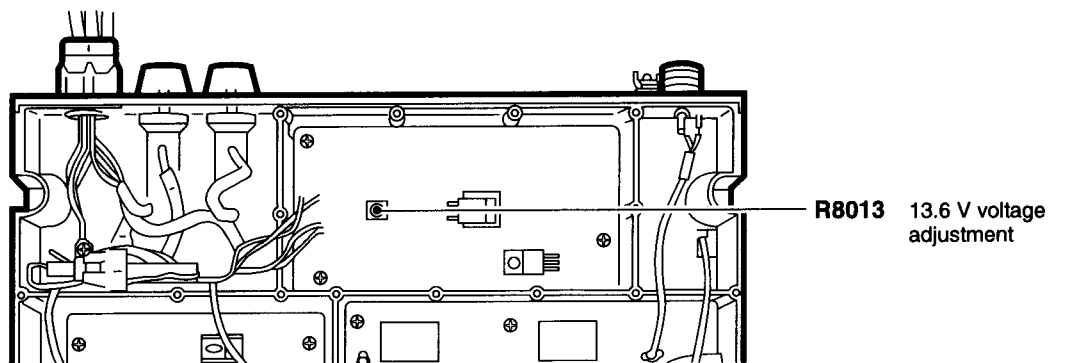
4-3 POWER VOLTAGE ADJUSTMENT—Europe version only

ADJUSTMENT	ADJUSTMENT CONDITION	MEASUREMENT		VALUE	ADJUSTMENT POINT	
		UNIT	LOCATION		UNIT	ADJUST
13.6 V VOLTAGE	1 • Turn power ON.	MAIN	Connect a DC voltmeter to L106.	13.6 V	REG	R8013

• MAIN AND PLL UNITS



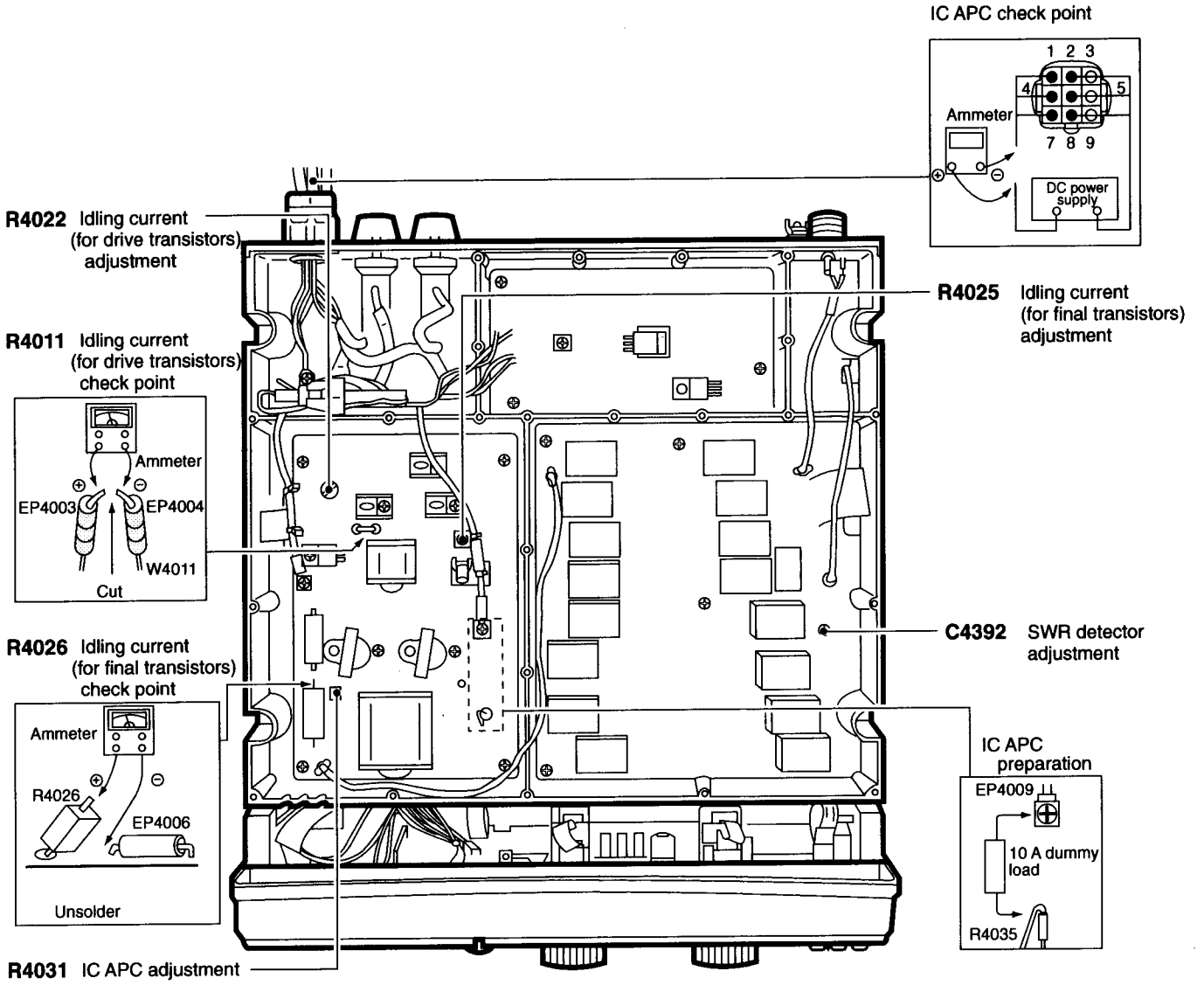
• REG UNIT (Europe version only)



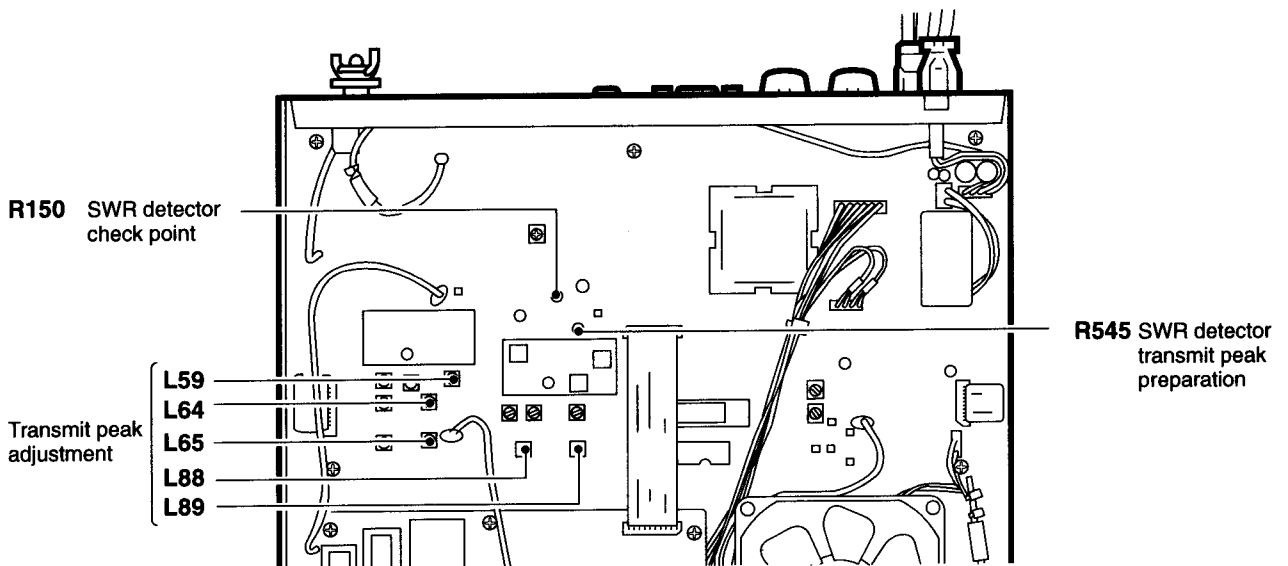
4-4 TRANSMITTER ADJUSTMENTS

ADJUSTMENT	ADJUSTMENT CONDITION	MEASUREMENT		VALUE	ADJUSTMENT POINT		
		UNIT	LOCATION		UNIT	ADJUST	
IDLING CURRENT (For drive transistors)	1	<ul style="list-style-type: none"> • Display frequency : 12.2300 MHz • mode : J3E • Apply no audio signal to the [MICROPHONE] connector. • Transmitting 	PA	Cut the lead wire (W4011) and connect a DC ammeter to the cut points.	100 mA	PA	R4022
	After adjustment, re-solder the lead wire (W4011).						
(For final transistors)	2	<ul style="list-style-type: none"> • Display frequency : 12.2300 MHz • mode : J3E • Apply no audio signal to the [MICROPHONE] connector. • Transmitting 	PA	Unsolder R4026 and connect the DC ammeter to the unsoldered points.	500 mA	PA	R4025
	After adjustment, re-solder R4026.						
IC APC	1	<ul style="list-style-type: none"> • Display frequency : 22.0000 MHz • Mode : J3E • Preset R4031 on the PA unit to the maximum counterclockwise position. • Connect a dummy load (10 A) between lead of R4035 (power line) and EP4009 (power ground) on the PA unit. • Connect an audio generator to the [MICROPHONE] connector and set as: Frequency : 1.5 kHz Level : 100 mV rms • Connect an RF power meter to the [ANT] connector. • Transmitting 	Rear Panel	Connect a DC ammeter between the DC power supply and DC power receptacle (DC input +).	30 A	PA	R4031
	After adjustment, remove the dummy load.						
SWR DETECTOR	1	<ul style="list-style-type: none"> • Display frequency : 22.0000 MHz • Mode : J3E • Ground the lead of R545 on the MAIN unit with a wire. 	Rear Panel	Connect an RF power meter to the [ANT] connector.	140 W	Audio generator	Output level
	2	<ul style="list-style-type: none"> • Connect an audio generator to the [MICROPHONE] connector and set as: Frequency : 1.5 kHz • Transmitting 	MAIN	Connect a DC voltmeter to R150.	Minimum level	FILTER	C4392
After adjustment, remove the wire from R545.							
TRANSMIT PEAK	1	<ul style="list-style-type: none"> • Display frequency : 12.2300 MHz • Mode : J3E • Ground the lead of R545 on the MAIN unit with a wire. • Connect an audio generator to the [MICROPHONE] connector and set as: Frequency : 1.5 kHz Level : 3 mV • Transmitting 	Rear Panel	Connect an RF power meter to the [ANT] connector.	Maximum output power	MAIN	Adjust in sequence L89, L88, L65, L64, L59
	After adjustment, remove the wire from R545.						

• PA AND FILTER UNITS



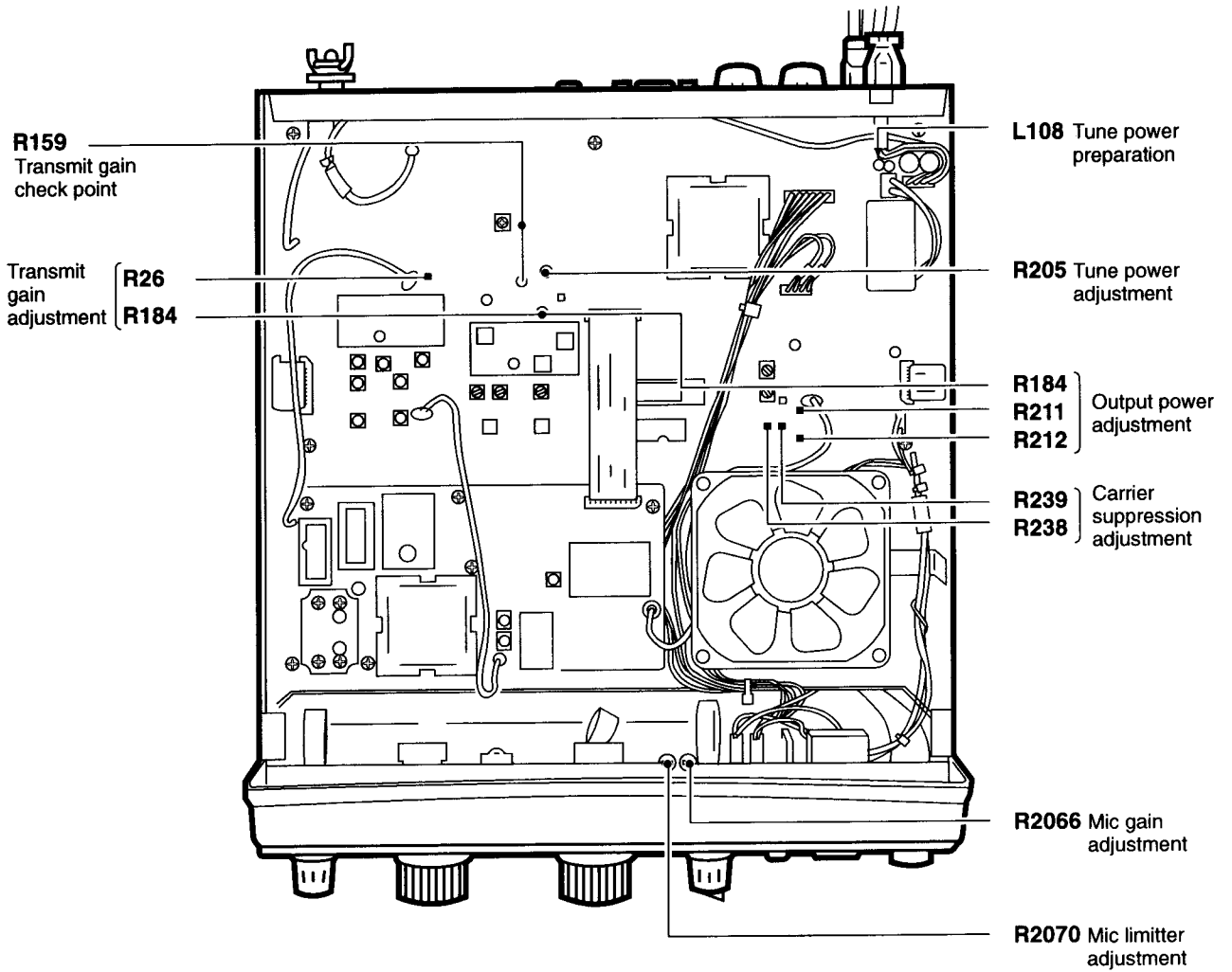
• MAIN UNIT



TRANSMITTER ADJUSTMENTS (continued)

ADJUSTMENT	ADJUSTMENT CONDITION	MEASUREMENT		VALUE	ADJUSTMENT POINT	
		UNIT	LOCATION		UNIT	ADJUST
TRANSMIT GAIN	1 • Display frequency : 12.2300 MHz • mode : FSK • Transmitting	Rear Panel	Connect an RF power meter to the [ANT] connector.	140 W	MAIN	R184
	2 • Display frequency : 16.3650 MHz • Transmitting	MAIN	Connect a digital multimeter to R159.	0.5 V		R26
OUTPUT POWER	1 • Display frequency : 12.2300 MHz • Mode : H3E • Apply no audio signal to the [MICROPHONE] connector. • Transmitting	Rear Panel	Connect an RF power meter to the [ANT] connector.	45 W	MAIN	R211
	2 • Mode : R3E • Transmitting			2.0 W		R212
	3 • Mode : FSK • Transmitting			130 W		R184
CARRIER SUPPRESSION	1 • Display frequency : 12.2300 MHz • Mode : J3E • Apply no audio signal to the [MICROPHONE] connector. • Transmitting	Rear Panel	Connect a spectrum analyzer or RF voltmeter to the [ANT] connector via an attenuator.	Minimum carrier level (Less than -40 dB)	MAIN	Adjust alternately R238, R239
TUNE POWER	1 • Ground the lead of L108 (KEY line) on the MAIN unit with a wire. • Transmitting	Rear Panel	Connect an RF power meter to the [ANT] connector.	10 W	MAIN	R205
POWER METER	1 • While pushing the [SQL] and [TX] switches, turn power ON. • Display frequency : 12.2300 MHz • Mode : J3E • Connect an audio generator to the [MICROPHONE] connector and set as:	Rear Panel	Connect an RF power meter to the [ANT] connector.	120 W	Audio generator	Output level
	2 Frequency : 1.5 kHz Level : 100 mV • Transmitting			Push the [DIMMER] switch.	Font Panel	[DIMMER]
MIC LIMITER	1 • Display frequency : 12.2300 MHz • Mode : J3E • Disconnect BFO plug (J5) on the MAIN unit. • Connect an audio generator to the [MICROPHONE] connector and set as: Frequency : 1.5 kHz Level : 150 mV • Transmitting	MAIN	Connect an oscilloscope to R243.	75 mV PEP	LOGIC	R2070
MIC GAIN	1 • Display frequency : 12.2300 MHz • Mode : J3E • Connect an audio generator to the [MICROPHONE] connector and set as: Frequency : 1.5 kHz Level : 10 mV • Transmitting	Rear Panel	Connect an RF power meter to the [ANT] connector.	100 W	LOGIC	R2066

• MAIN AND LOGIC UNITS

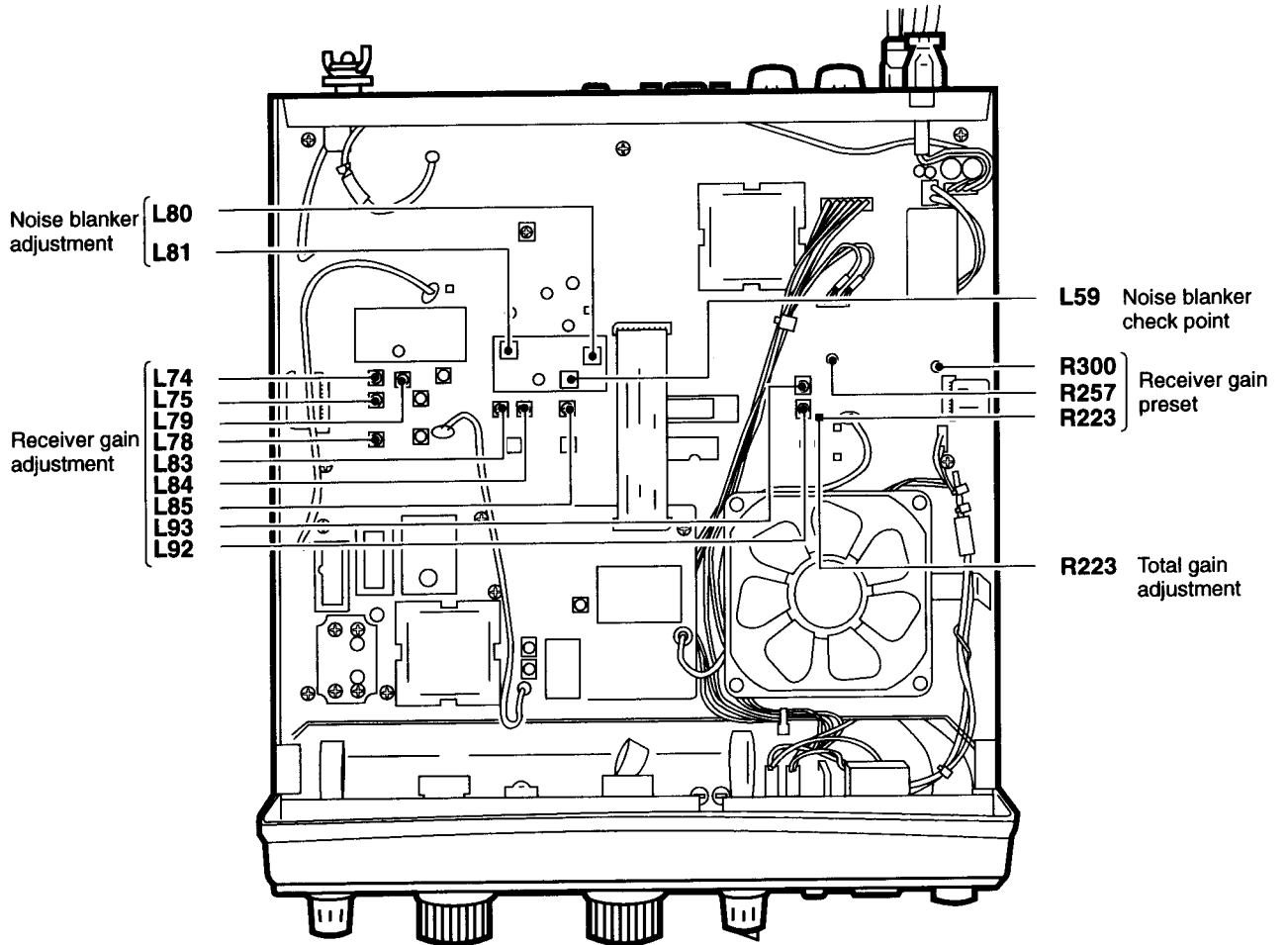


4-5 RECEIVER ADJUSTMENTS

ADJUSTMENT	ADJUSTMENT CONDITION	MEASUREMENT		VALUE	ADJUSTMENT POINT	
		UNIT	LOCATION		UNIT	ADJUST
RECEIVER GAIN	1 <ul style="list-style-type: none"> • Display frequency : 12.2300 MHz • Mode : J3E • Noise blanker : OFF • Squelch : OFF • Speaker : OFF • AGC : ON • RF gain : 9 • R232 (MAIN unit) : Max. clockwise • R257 (MAIN unit) : Center • R300 (MAIN unit) : Center • Connect a standard signal generator to the [ANT] connector and set as: <ul style="list-style-type: none"> Frequency : 12.2315 MHz Level : 0.5 μV* (-113 dBm) modulation : OFF • Receiving 	Rear Panel	Connect an AC millivoltmeter to the [EXT SP] jack with a 4 Ω dummy load.	Maximum output level	MAIN	Adjust in sequence L74, L75, L78, L79, L83, L84, L85, L92, L93
CLARITY	1 <ul style="list-style-type: none"> • While pushing the [SQL] and [CE] switches, turn power ON. 	Set the [CLARITY] control to the center position and push the [DIMMER] switch.			Front Panel	[CLARITY]
TOTAL GAIN	1 <ul style="list-style-type: none"> • Display frequency : 12.2300 MHz • Mode : J3E • Connect a standard signal generator to the [ANT] connector and set as: <ul style="list-style-type: none"> Frequency : 12.2315 MHz Level : 0.32 mV* (-57 dBm) modulation : OFF • Receiving 	Rear Panel	Connect an AC millivoltmeter to the [EXT SP] jack with a 4 Ω dummy load.	1.0 V	Front Panel	[VOLUME]
	2 <ul style="list-style-type: none"> • Set the signal generator to OFF (no output). 			-30 dB (32 mV)	MAIN	[R223]
S-METER	1 <ul style="list-style-type: none"> • While pushing the [SQL] and [RX] switch, turn power ON. • Display frequency : 12.2300 MHz • Mode : J3E 	Function display	S/R/F meter	Push the [DIMMER] switch.	Font Panel	[DIMMER]
	2 <ul style="list-style-type: none"> • Connect a standard signal generator to the [ANT] connector and set as: <ul style="list-style-type: none"> Frequency : 12.2315 MHz Level : 1 mV* (-47 dBm) • Receiving 			7th dot just appears while pushing the [DIMMER].		Verify
NOISE BLANKER	1 <ul style="list-style-type: none"> • Display frequency : 12.2300 MHz • Mode : J3E • Connect a standard signal generator to the [ANT] connector and set as: <ul style="list-style-type: none"> Frequency : 12.2315 MHz Level : 3.2 μV* (-97 dBm) Add the following signal into the signal generator output. 	MAIN	Connect an oscilloscope to R59.	Adjust the maximum noise wave displayed on the oscilloscope.	MAIN	L80, L81
	<ul style="list-style-type: none"> • Receiving 					

*This output level of the standard signal generator (SSG) is indicated as SSG's open circuit.

• MAIN UNIT



SECTION 5 PARTS LIST

[FRONT UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
S2801	2260002270	SWITCH	JPZ2120-0101 (TV-3)
SP2801	2510000870	SPEAKER	77F60N
W2807	8900005860	CABLE	OPC-522
W2808	8900005860	CABLE	OPC-522
W2809	8900005870	CABLE	OPC-524
W2810	8900005860	CABLE	OPC-522
W2811	8900005860	CABLE	OPC-522
WS1	8600034320	M.OTHER	P2801FR
WS2	8600034330	M.OTHER	P2802FR

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC2001	1140005460	S.IC	HD6433834A38F
IC2002	1140005130	S.IC	HD66100F
IC2003	1110003930	S.IC	S-8054ALB-LM
IC2005	1180001480	S.IC	μPC78L05T
IC2006	1180001490	S.IC	μPC78L08T
IC2007	1110003950	IC	μPC1241H
IC2008	1110003910	S.IC	NJM4558M (T1)
IC2009	1110000420	S.IC	TA78L05F
Q2002	1530003410	S.TRANSISTOR	2SC1623 L6
Q2003	1520000700	S.TRANSISTOR	2SB798-T2 DL
Q2004	1520000700	S.TRANSISTOR	2SB798-T2 DL
Q2005	1530003410	S.TRANSISTOR	2SC1623 L6
Q2006	1530003410	S.TRANSISTOR	2SC1623 L6
Q2007	1590002250	S.TRANSISTOR	DTC114EK T147
Q2008	1590002250	S.TRANSISTOR	DTC114EK T147
Q2009	1530003410	S.TRANSISTOR	2SC1623 L6
Q2010	1540000540	S.TRANSISTOR	2SD1448-Z-T1
D2001	1750000500	S.DIODE	1SS184 (TE85R)
D2002	1730002400	S.ZENER	RD11M-T2B1
D2003	1750000500	S.DIODE	1SS184 (TE85R)
D2004	1750000500	S.DIODE	1SS184 (TE85R)
D2005	1750000500	S.DIODE	1SS184 (TE85R)
D2006	1750000500	S.DIODE	1SS184 (TE85R)
D2007	1750000500	S.DIODE	1SS184 (TE85R)
D2008	1750000500	S.DIODE	1SS184 (TE85R)
D2009	1750000500	S.DIODE	1SS184 (TE85R)
D2010	1750000500	S.DIODE	1SS184 (TE85R)
X2001	6050009510	XTAL	CR-513
L2002	6910009430	COIL	BL01RN1-A62-001
L2003	6910009430	COIL	BL01RN1-A62-001
L2004	6200004840	S.COIL	NL322522T-101J
L2005	6910009430	COIL	BL01RN1-A62-001
L2006	6200004840	S.COIL	NL322522T-101J
L2007	6200004840	S.COIL	NL322522T-101J
L2008	6200004840	S.COIL	NL322522T-101J
L2009	6200004840	S.COIL	NL322522T-101J
R2001	7030006810	S.RESISTOR	RK73K2AJ 22 kΩ
R2002	7030006810	S.RESISTOR	RK73K2AJ 22 kΩ
R2003	7030006780	S.RESISTOR	RK73K2AJ 10 kΩ
R2004	7030006660	S.RESISTOR	RK73K2AJ 220 Ω
R2005	7030006660	S.RESISTOR	RK73K2AJ 220 Ω

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R2006	7030006690	S.RESISTOR	RK73K2AJ 1 kΩ
R2007	7030006690	S.RESISTOR	RK73K2AJ 1 kΩ
R2009	7030006830	S.RESISTOR	RK73K2AJ 47 kΩ
R2011	7030006830	S.RESISTOR	RK73K2AJ 47 kΩ
R2012	7030006890	S.RESISTOR	RK73K2AJ 1 MΩ
R2013	7030006830	S.RESISTOR	RK73K2AJ 47 kΩ
R2014	7030006830	S.RESISTOR	RK73K2AJ 47 kΩ
R2015	7030006690	S.RESISTOR	RK73K2AJ 1 kΩ
R2016	7030006690	S.RESISTOR	RK73K2AJ 1 kΩ
R2017	7030006860	S.RESISTOR	RK73K2AJ 100 kΩ
R2018	7030006690	S.RESISTOR	RK73K2AJ 1 kΩ
R2019	7030006880	S.RESISTOR	RK73K2AJ 470 kΩ
R2020	7030006870	S.RESISTOR	RK73K2AJ 220 kΩ
R2021	7030006870	S.RESISTOR	RK73K2AJ 220 kΩ
R2022	7030006860	S.RESISTOR	RK73K2AJ 100 kΩ
R2039	7030006830	S.RESISTOR	RK73K2AJ 47 kΩ
R2040	7030006820	S.RESISTOR	RK73K2AJ 33 kΩ
R2041	7030006750	S.RESISTOR	RK73K2AJ 4.7 kΩ
R2042	7030006830	S.RESISTOR	RK73K2AJ 47 kΩ
R2043	7030006790	S.RESISTOR	RK73K2AJ 15 kΩ
R2044	7030006780	S.RESISTOR	RK73K2AJ 10 kΩ
R2045	7030006780	S.RESISTOR	RK73K2AJ 10 kΩ
R2046	7030006780	S.RESISTOR	RK73K2AJ 10 kΩ
R2047	7030007030	S.RESISTOR	RK73K2AJ 5.6 kΩ
R2048	7030006690	S.RESISTOR	RK73K2AJ 1 kΩ
R2049	7030006830	S.RESISTOR	RK73K2AJ 47 kΩ
R2054	7010006680	RESISTOR	RD16X J 47 Ω
R2055	7030006780	S.RESISTOR	RK73K2AJ 10 kΩ
R2056	7010006840	S.RESISTOR	RK73M2AJ 1 Ω
R2057	7030006690	S.RESISTOR	RK73K2AJ 1 kΩ
R2058	7010006670	RESISTOR	RD16X J 3.3 Ω
R2059	7030006750	S.RESISTOR	RK73K2AJ 4.7 kΩ
R2060	7030006640	S.RESISTOR	RK73K2AJ 100 Ω
R2061	7030006640	S.RESISTOR	RK73K2AJ 100 Ω
R2062	7030006730	S.RESISTOR	RK73K2AJ 3.3 kΩ
R2063	7030006660	S.RESISTOR	RK73K2AJ 220 Ω
R2064	7030006850	S.RESISTOR	RK73K2AJ 82 kΩ
R2065	7030006860	S.RESISTOR	RK73K2AJ 100 kΩ
R2066	7310004240	TRIMMER	KVSF639A 10 kΩ
R2067	7030006810	S.RESISTOR	RK73K2AJ 22 kΩ
R2068	7030006840	S.RESISTOR	RK73K2AJ 68 kΩ
R2069	7030006690	S.RESISTOR	RK73K2AJ 1 kΩ
R2070	7310004230	TRIMMER	KVSF639A 100 kΩ
R2071	7030006750	S.RESISTOR	RK73K2AJ 4.7 kΩ
R2072	7030006680	S.RESISTOR	RK73K2AJ 680 Ω
R2073	7030006670	S.RESISTOR	RK73K2AJ 470 Ω
R2074	7030006630	S.RESISTOR	RK73K2AJ 47 Ω
R2077	7030006800	S.RESISTOR	RK73K2AJ 18 kΩ
R2078	7030006780	S.RESISTOR	RK73K2AJ 10 kΩ
R2079	7030006800	S.RESISTOR	RK73K2AJ 18 kΩ
R2080	7030006780	S.RESISTOR	RK73K2AJ 10 kΩ
R2081	7030006800	S.RESISTOR	RK73K2AJ 18 kΩ
R2082	7030006780	S.RESISTOR	RK73K2AJ 10 kΩ
R2083	7030006800	S.RESISTOR	RK73K2AJ 18 kΩ
R2084	7030006800	S.RESISTOR	RK73K2AJ 18 kΩ
R2085	7010006870	RESISTOR	RD16S J 47 kΩ
C2001	4030011450	S.CERAMIC	GRM40 B 104K 50PT
C2002	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C2003	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C2004	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C2005	4030011490	S.CERAMIC	GRM40 CH 120J 50PT
C2006	4030011490	S.CERAMIC	GRM40 CH 120J 50PT
C2007	4030011430	S.CERAMIC	GRM40 B 103K 50PT
C2008	4510006460	ELECTROLYTIC	QYX1H22AJ TP
C2009	4030011430	S.CERAMIC	GRM40 B 103K 50PT
C2012	4510006480	ELECTROLYTIC	UVX1E4R7M DA
C2013	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C2014	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C2015	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C2016	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C2017	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C2018	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C2019	4030011420	S.CERAMIC	GRM40 B 472K 50PT

S.=Surface mount

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C2020	4510006570	ELECTROLYTIC	UVR1C102M PA
C2021	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C2022	4510006630	ELECTROLYTIC	UPF1C471M PH
C2023	4030011450	S.CERAMIC	GRM40 B 104K 50PT
C2024	4510006530	ELECTROLYTIC	UVX1C470M DA
C2025	4510006540	ELECTROLYTIC	UVR1C101M DA
C2026	4510006530	ELECTROLYTIC	UVX1C470M DA
C2027	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C2028	4510006520	ELECTROLYTIC	UVX1E220M DA
C2029	4510006520	ELECTROLYTIC	UVX1E220M DA
C2030	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C2031	4510006470	ELECTROLYTIC	UVX1H2R2M DA
C2032	4510006490	ELECTROLYTIC	UVX1H010M DA
C2033	4510006490	ELECTROLYTIC	UVX1H010M DA
C2034	4510006480	ELECTROLYTIC	UVX1E4R7M DA
C2035	4510006480	ELECTROLYTIC	UVX1E4R7M DA
C2036	4510006530	ELECTROLYTIC	UVX1C470M DA
C2037	4510006480	ELECTROLYTIC	UVX1E4R7M DA
C2038	4510006500	ELECTROLYTIC	UVX1C100M DA
C2039	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C2040	4510006530	ELECTROLYTIC	UVX1C470M DA
C2041	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C2042	4510006530	ELECTROLYTIC	UVX1C470M DA
C2043	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C2044	4510006500	ELECTROLYTIC	UVX1C100M DA
C2046	4510006540	ELECTROLYTIC	UVR1C101M DA
C2047	4510006550	ELECTROLYTIC	UVR1C471M PA
C2048	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C2049	4030011450	S.CERAMIC	GRM40 B 104K 50PT
C2050	4030011450	S.CERAMIC	GRM40 B 104K 50PT
RL2001	6330001260	RELAY	AG 201344 (DS1E-B-DC12V)
DS2001	5080000360	LAMP	HRT-3290A-F
DS2002	5080000360	LAMP	HRT-3290A-F
DS2003	5080000360	LAMP	HRT-3290A-F
DS2004	5010000180	LCD	DLC-7978P
S2003	2260002260	SWITCH	SW-158
S2004	2260002260	SWITCH	SW-158
S2005	2260002260	SWITCH	SW-158
S2006	2260002260	SWITCH	SW-158
S2007	2260002260	SWITCH	SW-158
S2008	2260002260	SWITCH	SW-158
S2009	2260002260	SWITCH	SW-158
S2010	2260002260	SWITCH	SW-158
S2011	2260002260	SWITCH	SW-158
S2012	2260002260	SWITCH	SW-158
S2013	2260002260	SWITCH	SW-158
S2014	2260002260	SWITCH	SW-158
S2015	2260002260	SWITCH	SW-158
S2016	2260002260	SWITCH	SW-158
S2017	2260002260	SWITCH	SW-158
S2018	2260002260	SWITCH	SW-158
S2019	2260002260	SWITCH	SW-158
S2020	2260002260	SWITCH	SW-158
S2021	2260002260	SWITCH	SW-158
S2022	2260002260	SWITCH	SW-158
S2023	2260002260	SWITCH	SW-158
S2024	2260002260	SWITCH	SW-158
S2025	2260002260	SWITCH	SW-158
S2026	2260002260	SWITCH	SW-158
S2027	2260002260	SWITCH	SW-158
J2007	6510018670	CONNECTOR	B03B-EH-S
J2008	6510018730	CONNECTOR	10FE-BT
J2009	6510018720	CONNECTOR	06FE-BT
J2010	6510018720	CONNECTOR	06FE-BT
J2011	6510018720	CONNECTOR	06FE-BT
J2012	6510018720	CONNECTOR	06FE-BT
J2013	6510018710	CONNECTOR	RTB-1.5-2F
J2014	6510018710	CONNECTOR	RTB-1.5-2F
W2012	7030007010	S.JUMPER	MCR10EZHZ JPW
W2013	7030007010	S.JUMPER	MCR10EZHZ JPW

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
WS1	8600034340	M.OTHER	P2002*J2002LO
WS2	8600034350	M.OTHER	P2003*J2003LO
EP2001	0910045063	PCB	B 4252C

[SENSOR1 UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
S2601	2250000280	ENCODER	SRB18100 25KC
J2601	6510018720	CONNECTOR	06FE-BT
EP2601	0910044811	PCB	B 4366A

[SENSOR2 UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
S2701	2250000280	ENCODER	SRB18100 25KC
J2701	6510018720	CONNECTOR	06FE-BT
EP2701	0910044811	PCB	B 4366A

[MIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
J2301	6510009210	CONNECTOR	14RS-8H-MI-AU (F)
J2302	6510018730	CONNECTOR	10FE-BT
EP2301	0910044821	PCB	B 4503A

[VR1 UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R2401	7210002750	VARIABLE	TP96N937-15F-10KB-1540
J2401	6510018720	CONNECTOR	06FE-BT
EP2401	0910044832	PCB	B 4367B

[VR2 UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R2501	7210002760	VARIABLE	TP96N944-15F-10KB-1632
J2501	6510018720	CONNECTOR	06FE-BT
EP2501	0910044842	PCB	B 4508B

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC4	1160000130	S.IC	TD62783AF (TP1)
IC5	1160000130	S.IC	TD62783AF (TP1)
IC6	1160000130	S.IC	TD62783AF (TP1)
IC8	11100003140	IC	LA1150N
IC9	11100003350	S.IC	μPC1037GR-E1 (MS)
IC10	11100003350	S.IC	μPC1037GR-E1 (MS)
IC11	11300001910	S.IC	μPD4011BG-T1
IC12	11400003830	S.IC	TC4W66F (TE12L)
IC16	1110000960	S.IC	NJM4558M (T1)
IC17	1110000960	S.IC	NJM4558M (T1)
IC18	1110000960	S.IC	NJM4558M (T1)
IC19	1110000960	S.IC	NJM4558M (T1)
IC20	1110000960	S.IC	NJM4558M (T1)
IC21	1110000960	S.IC	NJM4558M (T1)
IC22	11300001230	S.IC	μPD4001BG-T1
IC23	11100001400	S.IC	μPC1555G2-T1
IC24	11800001250	S.IC	TA7808F (TE16L)
IC27	11700000280	S.IC	TLP121 (GB)
IC31	11300002370	S.IC	μPD4028BG-T1
IC32	11300003760	S.IC	TC4S81F (TE85R)
IC33	11300003760	S.IC	TC4S81F (TE85R)
IC34	11300001880	S.IC	μPD4069UBG-T1
IC35	11300001920	S.IC	μPD4071BG-T1
IC36	11100003300	S.IC	M5282FP 70CD
IC37	11400003830	S.IC	TC4W66F (TE12L)
IC38	11400003830	S.IC	TC4W66F (TE12L)
IC39	11400003830	S.IC	TC4W66F (TE12L)
IC131	11800000420	S.IC	TA78L05F (TE12R)
IC132	11400005470	S.IC	HD6433378A52F
IC133	11100001550	S.IC	S-8054ALB-LM-T1
IC134	11400004620	S.IC	X24C16S8-2.7T6
IC135	11400004620	S.IC	X24C16S8-2.7T6
Q1	15300003150	S.TRANSISTOR	2SC4673D-TD
Q2	15800000620	S.FET	3SK131-T2 MAS
Q3	15800000620	S.FET	3SK131-T2 MAS
Q4	15800000620	S.FET	3SK131-T2 MAS
Q5	15300003150	S.TRANSISTOR	2SC4673D-TD
Q6	15600000720	S.FET	2SK2171-4-TD
Q7	15600000720	S.FET	2SK2171-4-TD
Q8	15800000620	S.FET	3SK131-T2 MAS
Q9	15600000330	S.FET	2SK210-GR (TE85R)
Q10	15100000770	S.TRANSISTOR	2SA1586-GR (TE85R)
Q11	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q12	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q13	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q14	15900001330	S.TRANSISTOR	DTA114EUA T106
Q15	15900000680	S.TRANSISTOR	DTC114EUA T106
Q16	15800000620	S.FET	3SK131-T2 MAS
Q17	15400000440	S.TRANSISTOR	2SD1619-T-TD
Q18	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q19	15800000620	S.FET	3SK131-T2 MAS
Q20	15900000680	S.TRANSISTOR	DTC114EUA T106
Q21	15900000680	S.TRANSISTOR	DTC114EUA T106
Q22	15900000680	S.TRANSISTOR	DTC114EUA T106
Q23	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q24	15900000680	S.TRANSISTOR	DTC114EUA T106
Q25	15900000680	S.TRANSISTOR	DTC114EUA T106
Q26	15100000770	S.TRANSISTOR	2SA1586-GR (TE85R)
Q27	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q28	15900000680	S.TRANSISTOR	DTC114EUA T106
Q30	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q31	15300003090	S.TRANSISTOR	2SC4213-B (TE85R)
Q32	15800000620	S.FET	3SK131-T2 MAS
Q33	15800000620	S.FET	3SK131-T2 MAS
Q34	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q35	15900000680	S.TRANSISTOR	DTC114EUA T106
Q36	15900001330	S.TRANSISTOR	DTA114EUA T106
Q40	15900000680	S.TRANSISTOR	DTC114EUA T106
Q41	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q42	15900000680	S.TRANSISTOR	DTC114EUA T106
Q43	15900000680	S.TRANSISTOR	DTC114EUA T106
Q44	15900001330	S.TRANSISTOR	DTA114EUA T106
Q45	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q46	15900000680	S.TRANSISTOR	DTC114EUA T106
Q52	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q54	15400000440	S.TRANSISTOR	2SD1619-T-TD
Q55	15900000680	S.TRANSISTOR	DTC114EUA T106
Q56	15900000680	S.TRANSISTOR	DTC114EUA T106
Q57	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q58	15300003300	S.TRANSISTOR	2SC3647S-TD

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
Q59	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q60	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q61	15400000440	S.TRANSISTOR	2SD1619-T-TD
Q62	15400000440	S.TRANSISTOR	2SD1619-T-TD
Q64	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q65	15900000680	S.TRANSISTOR	DTC114EUA T106
Q69	15900000680	S.TRANSISTOR	DTC114EUA T106
Q70	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q71	15900001330	S.TRANSISTOR	DTA114EUA T106
Q72	15900000680	S.TRANSISTOR	DTC114EUA T106
Q74	15900001330	S.TRANSISTOR	DTA114EUA T106
Q78	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q79	15900000680	S.TRANSISTOR	DTC114EUA T106
Q80	15900000680	S.TRANSISTOR	DTC114EUA T106
Q82	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q83	15900000680	S.TRANSISTOR	DTC114EUA T106
Q84	15900000680	S.TRANSISTOR	DTC114EUA T106
Q101	15100000770	S.TRANSISTOR	2SA1586-GR (TE85R)
Q102	15900000680	S.TRANSISTOR	DTC114EUA T106
Q103	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q104	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q106	15100000770	S.TRANSISTOR	2SA1586-GR (TE85R)
Q111	15100000770	S.TRANSISTOR	2SA1586-GR (TE85R)
Q112	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q113	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q114	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q115	15900000680	S.TRANSISTOR	DTC114EUA T106
Q118	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q119	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q121	15900000680	S.TRANSISTOR	DTC114EUA T106
Q122	15900000680	S.TRANSISTOR	DTC114EUA T106
Q123	15900000680	S.TRANSISTOR	DTC114EUA T106
Q124	15900000680	S.TRANSISTOR	DTC114EUA T106
Q125	15900000680	S.TRANSISTOR	DTC114EUA T106
Q126	15600000330	S.FET	2SK210-GR (TE85R)
Q128	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q129	15900000680	S.TRANSISTOR	DTC114EUA T106
Q130	15900001330	S.TRANSISTOR	DTA114EUA T106
Q131	15300002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q132	15900000680	S.TRANSISTOR	DTC114EUA T106
D1	17900000450	S.DIODE	MA862 (TX)
D2	17900000450	S.DIODE	MA862 (TX)
D3	17900000620	S.DIODE	MA77 (TX)
D4	17900000620	S.DIODE	MA77 (TX)
D5	17900000450	S.DIODE	MA862 (TX)
D6	17900000450	S.DIODE	MA862 (TX)
D7	17900000450	S.DIODE	MA862 (TX)
D8	17900000450	S.DIODE	MA862 (TX)
D9	17900000450	S.DIODE	MA862 (TX)
D10	17900000450	S.DIODE	MA862 (TX)
D11	17900000450	S.DIODE	MA862 (TX)
D12	17900000450	S.DIODE	MA862 (TX)
D13	17900000450	S.DIODE	MA862 (TX)
D14	17900000450	S.DIODE	MA862 (TX)
D15	17900000450	S.DIODE	MA862 (TX)
D16	17900000450	S.DIODE	MA862 (TX)
D17	17900000690	S.DIODE	HSM88ASR-TR
D18	17900000620	S.DIODE	MA77 (TX)
D19	17100000270	DIODE	M1204
D20	17500000270	S.DIODE	1SS301 (TE85R)
D21	17900000450	S.DIODE	MA862 (TX)
D22	17900000450	S.DIODE	MA862 (TX)
D23	17900000450	S.DIODE	MA862 (TX)
D24	17900000450	S.DIODE	MA862 (TX)
D25	17900000450	S.DIODE	MA862 (TX)
D26	17900000450	S.DIODE	MA862 (TX)
D27	17500000270	S.DIODE	1SS301 (TE85R)
D28	17500000270	S.DIODE	1SS301 (TE85R)
D30	17900000450	S.DIODE	MA862 (TX)
D31	17900000690	S.DIODE	HSM88ASR-TR
D32	17500000270	S.DIODE	1SS301 (TE85R)
D33	17900000450	S.DIODE	MA862 (TX)
D34	17500000270	S.DIODE	1SS301 (TE85R)
D35	17500000270	S.DIODE	1SS301 (TE85R)
D36	17500000270	S.DIODE	1SS301 (TE85R)
D37	17500000270	S.DIODE	1SS301 (TE85R)
D38	17300000120	ZENER	RD6.2E B2
D39	17900000690	S.DIODE	HSM88ASR-TR
D40	17500000300	S.DIODE	1SS302 (TE85R)
D41	17500000270	S.DIODE	1SS301 (TE85R)

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
D42	1750000270	S.DIODE	1SS301 (TE85R)
D43	1750000270	S.DIODE	1SS301 (TE85R)
D45	1750000270	S.DIODE	1SS301 (TE85R)
D46	1790000690	S.DIODE	HSM88ASR-TR
D47	1750000270	S.DIODE	1SS301 (TE85R)
D48	1750000270	S.DIODE	1SS301 (TE85R)
D49	1790000450	S.DIODE	MA862 (TX)
D50	1750000270	S.DIODE	1SS301 (TE85R)
D51	1790000450	S.DIODE	MA862 (TX)
D52	1790000890	S.DIODE	ND433G
D53	1750000270	S.DIODE	1SS301 (TE85R)
D59	1750000270	S.DIODE	1SS301 (TE85R)
D60	1750000270	S.DIODE	1SS301 (TE85R)
D61	1750000270	S.DIODE	1SS301 (TE85R)
D62	1750000270	S.DIODE	1SS301 (TE85R)
D63	1750000270	S.DIODE	1SS301 (TE85R)
D65	1750000270	S.DIODE	1SS301 (TE85R)
D66	1750000270	S.DIODE	1SS301 (TE85R)
D68	1750000270	S.DIODE	1SS301 (TE85R)
D69	1750000300	S.DIODE	1SS302 (TE85R)
D70	1750000300	S.DIODE	1SS302 (TE85R)
D73	1730000210	ZENER	RD9.1E B3
D74	1730000100	ZENER	RD5.1E B2
D75	1750000300	S.DIODE	1SS302 (TE85R)
D76	1750000300	S.DIODE	1SS302 (TE85R)
D79	1750000270	S.DIODE	1SS301 (TE85R)
D88	1790000690	S.DIODE	HSM88ASR-TR
D89	1750000270	S.DIODE	1SS301 (TE85R)
D90	1750000270	S.DIODE	1SS301 (TE85R)
D97	1750000270	S.DIODE	1SS301 (TE85R)
D98	1750000270	S.DIODE	1SS301 (TE85R)
D99	1790000450	S.DIODE	MA862 (TX)
D100	1750000300	S.DIODE	1SS302 (TE85R)
D101	1750000300	S.DIODE	1SS302 (TE85R)
D102	1750000270	S.DIODE	1SS301 (TE85R)
D103	1750000270	S.DIODE	1SS301 (TE85R)
D201	1710000160	DIODE	1SS133
D202	1710000160	DIODE	1SS133
D203	1710000160	DIODE	1SS133
D204	1710000160	DIODE	1SS133
D205	1710000160	DIODE	1SS133
D206	1710000160	DIODE	1SS133
D207	1710000160	DIODE	1SS133
D209	1750000270	S.DIODE	1SS301 (TE85R)
D210	1750000270	S.DIODE	1SS301 (TE85R)
D211	1750000270	S.DIODE	1SS301 (TE85R)
D212	1750000270	S.DIODE	1SS301 (TE85R)
D213	1750000300	S.DIODE	1SS302 (TE85R)
D214	1750000300	S.DIODE	1SS302 (TE85R)
D215	1750000300	S.DIODE	1SS302 (TE85R)
D216	1750000270	S.DIODE	1SS301 (TE85R)
D217	1750000270	S.DIODE	1SS301 (TE85R)
D218	1750000300	S.DIODE	1SS302 (TE85R)
D220	1730000250	ZENER	RD12E B2
D222	1750000270	S.DIODE	1SS301 (TE85R)
D223	1750000270	S.DIODE	1SS301 (TE85R)
D224	1730000500	ZENER	RD13E B2
D225	1750000270	S.DIODE	1SS301 (TE85R)
D226	1750000270	S.DIODE	1SS301 (TE85R)
D227	1750000270	S.DIODE	1SS301 (TE85R)
D228	1750000270	S.DIODE	1SS301 (TE85R)
FI1	2010001010	FILTER	69M15B (FL-120)
FI2	2010000320	FILTER	9M22D2 (FL-30)
	2010000600	FILTER	9M26F (FL-80)
FI3	2010000950	FILTER	9M 6A1 (FL-116)
FI4	2010000950	FILTER	9M 6A1 (FL-116)
FI5	2010001860	FILTER	FL-232 (9.010600 MHz)
X2	6050008160	S.XTAL	CR-410 (9.8304 MHz)
L1	6140000060	COIL	LR-18
L2	6180002480	COIL	LAL 03NA 820K
L3	6200002960	S.COIL	NL322522T-4R7J-3
L4	6200003100	S.COIL	NL322522T-3R9J-3
L7	6200003260	S.COIL	NL322522T-101J
L8	6200002960	S.COIL	NL322522T-4R7J-3
L9	6200003320	S.COIL	NL322522T-3R3J-3
L10	6200003100	S.COIL	NL322522T-3R9J-3

[EUR]

[USA]
[EUR]

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
L11	6200001850	S.COIL	NL322522T-5R6J
L12	6200003260	S.COIL	NL322522T-101J
L13	6200002990	S.COIL	NL322522T-2R2J-3
L14	6200002990	S.COIL	NL322522T-2R2J-3
L15	6200002990	S.COIL	NL322522T-2R2J-3
L16	6200003080	S.COIL	NL322522T-1R8J-3
L17	6200003260	S.COIL	NL322522T-101J
L18	6200003070	S.COIL	NL322522T-1R5J-3
L19	6200003070	S.COIL	NL322522T-1R5J-3
L20	6200003080	S.COIL	NL322522T-1R8J-3
L21	6200003060	S.COIL	NL322522T-1R2J-3
L22	6200003260	S.COIL	NL322522T-101J
L23	6200001720	S.COIL	NL322522T-1R0J
L24	6200001720	S.COIL	NL322522T-1R0J
L25	6200001720	S.COIL	NL322522T-1R0J
L26	6200003050	S.COIL	NL322522T-R82J-3
L27	6200003260	S.COIL	NL322522T-101J
L28	6200002980	S.COIL	NL322522T-R56J-3
L29	6200002980	S.COIL	NL322522T-R56J-3
L30	6200003040	S.COIL	NL322522T-R68J-3
L31	6200003040	S.COIL	NL322522T-R68J-3
L32	6200003260	S.COIL	NL322522T-101J
L33	6200003020	S.COIL	NL322522T-R33J-3
L34	6200003030	S.COIL	NL322522T-R47J-3
L35	6200003030	S.COIL	NL322522T-R47J-3
L36	6200003030	S.COIL	NL322522T-R47J-3
L37	6200003260	S.COIL	NL322522T-101J
L38	6200003010	S.COIL	NL322522T-R27J-3
L39	6200003250	S.COIL	NL322522T-R39J-3
L40	6200003250	S.COIL	NL322522T-R39J-3
L41	6200002980	S.COIL	NL322522T-R56J-3
L42	6200003260	S.COIL	NL322522T-101J
L43	6200003020	S.COIL	NL322522T-R33J-3
L44	6200003010	S.COIL	NL322522T-R27J-3
L45	6200003010	S.COIL	NL322522T-R27J-3
L46	6200003020	S.COIL	NL322522T-R33J-3
L49	6200001850	S.COIL	NL322522T-5R6J
L50	6200002960	S.COIL	NL322522T-4R7J-3
L51	6180001710	COIL	LAL 03NA 561K
L52	6140002060	COIL	LR-225
L53	6180001710	COIL	LAL 03NA 561K
L54	6200003260	S.COIL	NL322522T-101J
L55	6200001720	S.COIL	NL322522T-1R0J
L56	6200003040	S.COIL	NL322522T-R68J-3
L57	6200003260	S.COIL	NL322522T-101J
L58	6140002220	COIL	LR-270
L59	6150004270	COIL	LS-483A
L60	6140000930	COIL	LR-116
L61	6200001830	S.COIL	NL322522T-100J
L62	6200003020	S.COIL	NL322522T-R33J-3
L63	6200003000	S.COIL	NL322522T-R22J-3
L64	6150004280	COIL	LS-484B (C-14927)
L65	6150004280	COIL	LS-484B (C-14927)
L66	6140002060	COIL	LR-225
L67	6140002060	COIL	LR-225
L69	6200003060	S.COIL	NL322522T-1R2J-3
L70	6200003060	S.COIL	NL322522T-1R2J-3
L71	6200003000	S.COIL	NL322522T-R22J-3
L72	6200003010	S.COIL	NL322522T-R27J-3
L73	6140000930	COIL	LR-116
L74	6150004270	COIL	LS-483A
L75	6150002430	COIL	LS-254
L76	6110001620	COIL	LA-245
L77	6200001830	S.COIL	NL322522T-100J
L78	6150004280	COIL	LS-484B
L79	6150004250	COIL	LS-471A
L80	6150004050	COIL	LS-466
L81	6150004050	COIL	LS-466
L82	6200003260	S.COIL	NL322522T-101J
L83	6150004310	COIL	LS-487A
L84	6150004290	COIL	LS-485A
L85	6150004290	COIL	LS-485A
L86	6200001830	S.COIL	NL322522T-100J
L87	6140001600	COIL	LR-178
L88	6150001590	COIL	LS-175
L89	6150001590	COIL	LS-175
L90	6200003140	S.COIL	NL322522T-150J
L91	6200003140	S.COIL	NL322522T-150J
L92	6150004430	COIL	LS-501
L93	6150004300	COIL	LS-486A
L94	2040000490	COIL	EXC-ELDR25C
L95	6180000960	COIL	LAL 03NA 102K

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
L96	6180000960	COIL	LAL 03NA 102K
L100	6200003090	S.COIL	NL322522T-2R7J-3
L101	2040000490	COIL	EXC-ELDR25C
L102	2040000490	COIL	EXC-ELDR25C
L103	2040000490	COIL	EXC-ELDR25C
L104	2040000490	COIL	EXC-ELDR25C
L105	6910003570	COIL	2943-666663
L106	6910003570	COIL	2943-666663
L107	6180001710	COIL	LAL 03NA 561K
L108	6180001710	COIL	LAL 03NA 561K
L115	6200003260	S.COIL	NL322522T-101J
L116	6200003260	S.COIL	NL322522T-101J
L117	6180001710	COIL	LAL 03NA 561K
L118	6180001710	COIL	LAL 03NA 561K
L119	6180001710	COIL	LAL 03NA 561K
L120	6180001710	COIL	LAL 03NA 561K
L121	6180001710	COIL	LAL 03NA 561K
L122	6180001710	COIL	LAL 03NA 561K
L123	6200003020	S.COIL	NL322522T-R33J-3
L124	6200003000	S.COIL	NL322522T-R22J-3
L125	6200003260	S.COIL	NL322522T-101J
L126	6180000990	COIL	LAL 04NA 101K
L127	6200003260	S.COIL	NL322522T-101J
L129	6180000900	COIL	LAL 03NA 101K
L130	6180000900	COIL	LAL 03NA 101K
L131	6180000900	COIL	LAL 03NA 101K
L132	6200003260	S.COIL	NL322522T-101J
L133	2040000490	COIL	EXC-ELDR25C
L134	2040000490	COIL	EXC-ELDR25C
L135	2040000490	COIL	EXC-ELDR25C
L136	2040000490	COIL	EXC-ELDR25C
L137	6200001720	S.COIL	NL322522T-1R0J
L138	2040000490	COIL	EXC-ELDR25C
L139	6200001830	S.COIL	NL322522T-100J
L140	6200003260	S.COIL	NL322522T-101J
L141	2040000490	COIL	EXC-ELDR25C
L142	6180000900	COIL	LAL 03NA 101K
L143	2040000490	COIL	EXC-ELDR25C
T1	5920000570	TRANSFOM	12T01
T2	5920000570	TRANSFOM	12T01
T3	5920000570	TRANSFOM	12T01
T4	5920000570	TRANSFOM	12T01
R1	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R2	7010003180	RESISTOR	ELR20J 15 Ω
R3	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R4	7010003200	RESISTOR	ELR20J 22 Ω
R5	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R6	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R7	7010003390	RESISTOR	ELR20J 820 Ω
R8	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R9	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R10	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R11	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R12	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R13	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R14	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R15	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R16	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R17	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R18	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R19	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R20	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R21	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R22	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R23	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R24	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R25	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R26	7310002670	S.TRIMMER	RV-143 (RH03A3AS2) 471
R27	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R28	7010003350	RESISTOR	ELR20J 390 Ω
R29	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R32	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R33	7010003230	RESISTOR	ELR20J 39 Ω
R34	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R35	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R36	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R37	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R38	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R39	7010003180	RESISTOR	ELR20J 15 Ω
R41	7010003240	RESISTOR	ELR20J 47 Ω
R43	7030003530	S.RESISTOR	ERJ3GEYJ 562 V (5.6 kΩ)
R44	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R45	7030003460	S.RESISTOR	ERJ3GEYJ 152 V (1.5 kΩ)
R46	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R47	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R48	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R49	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R50	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R51	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R52	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R53	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R54	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R55	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R56	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R57	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R58	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R59	7010004450	RESISTOR	R20J 100 kΩ
R60	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R61	7030003540	S.RESISTOR	ERJ3GEYJ 682 V (6.8 kΩ)
R62	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R63	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R64	7030006520	S.RESISTOR	RR0816P-561-D (560 Ω)
R65	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R66	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R67	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R68	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R69	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R70	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R71	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R72	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R73	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R74	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R75	7010003200	RESISTOR	ELR20J 22 Ω
R76	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R77	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R79	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R80	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R81	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R82	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R83	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R84	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R85	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R86	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R87	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R88	7030003630	S.RESISTOR	ERJ3GEYJ 393 V (39 kΩ)
R89	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R90	7510000290	THERMISTOR	ERT-D2ZGL 301S
R91	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R92	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R94	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R95	7010003170	RESISTOR	ELR20J 12 Ω
R96	7010003170	RESISTOR	ELR20J 12 Ω
R97	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R98	7010003200	RESISTOR	ELR20J 22 Ω
R99	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R100	7030003530	S.RESISTOR	ERJ3GEYJ 562 V (5.6 kΩ)
R101	7010003200	RESISTOR	ELR20J 22 Ω
R102	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R103	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R104	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R105	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R106	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R107	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R108	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R109	7030003460	S.RESISTOR	ERJ3GEYJ 152 V (1.5 kΩ)
R110	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R111	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R112	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R113	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R114	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R116	7030003460	S.RESISTOR	ERJ3GEYJ 152 V (1.5 kΩ)
R117	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R118	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R119	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R120	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R121	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R122	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R123	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R124	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R125	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R126	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R127	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R128	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R129	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R130	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R131	7010003380	RESISTOR	ELR20J 680 Ω
R132	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R133	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R134	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R135	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R136	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R138	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R139	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R140	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R143	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R149	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R150	7010004270	RESISTOR	R20J 4.7 kΩ
R157	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R158	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R159	7010004340	RESISTOR	R20J 15 kΩ
R161	7030003840	S.RESISTOR	ERJ3GEYJ 225 V (2.2 MΩ)
R162	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R163	7030003840	S.RESISTOR	ERJ3GEYJ 225 V (2.2 MΩ)
R164	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R165	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R166	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R167	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R168	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R169	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R170	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R171	7010003550	RESISTOR	ELR20J 15 kΩ
R172	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R173	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R174	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R175	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R176	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R177	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R183	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R184	7310002740	S.TRIMMER	RV-150 (RH03A3A14X0FC) 103
R185	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R186	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R187	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R188	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R189	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R190	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R191	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R192	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R193	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R194	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R195	7030003840	S.RESISTOR	ERJ3GEYJ 225 V (2.2 MΩ)
R196	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R197	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R198	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R199	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R200	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R201	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R202	7030003590	S.RESISTOR	ERJ3GEYJ 183 V (18 kΩ)
R204	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R205	7310000750	TRIMMER	RH0651C14J2WA (103)
R207	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R208	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R209	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R210	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)
R211	7310002670	S.TRIMMER	RV-143 (RH03A3AS2) 471
R212	7310002630	S.TRIMMER	RV-139 (RH03A3A12) 101
R213	7510000240	THERMISTOR	ERT-D2ZGL 332S
R214	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R215	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R216	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R217	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R218	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R219	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R220	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R221	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R222	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R223	7310002720	S.TRIMMER	RV-148 (RH03A3AS3X0DA) 472
R224	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R225	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R226	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R227	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R228	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R229	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R230	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R231	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R232	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R233	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R234	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R235	7030003420	S.RESISTOR	ERJ3GEYJ 681 V (680 Ω)
	7030003410	S.RESISTOR	ERJ3GEYJ 561 V (560 Ω)
R236	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R237	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R238	7310002740	S.TRIMMER	RV-150 (RH03A3A14X0FC) 103
R239	7310002740	S.TRIMMER	RV-150 (RH03A3A14X0FC) 103
R240	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R241	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R242	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R243	7010004190	RESISTOR	R20J 1 kΩ
R244	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R245	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R246	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R247	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R254	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R255	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R256	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R257	7310000750	TRIMMER	RH0651C14J2WA (103)
R258	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R259	7030003840	S.RESISTOR	ERJ3GEYJ 225 V (2.2 MΩ)
R261	7030003840	S.RESISTOR	ERJ3GEYJ 225 V (2.2 MΩ)
R262	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R263	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R264	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R265	7030003710	S.RESISTOR	ERJ3GEYJ 184 V (180 kΩ)
R266	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R267	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R268	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R269	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R270	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R271	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R272	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R273	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R274	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R275	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R276	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R277	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R278	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R279	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R280	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R281	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R282	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R283	7030003460	S.RESISTOR	ERJ3GEYJ 152 V (1.5 kΩ)
R284	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R285	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R286	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R287	7030003650	S.RESISTOR	ERJ3GEYJ 563 V (56 kΩ)
R288	7010003300	RESISTOR	ELR20J 150 Ω
R290	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R291	7030006520	S.RESISTOR	RR0816P-561-D (560 Ω)
R292	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R293	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R294	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R295	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R296	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R297	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R298	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R299	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R300	7310000750	TRIMMER	RH0651C14J2WA (103)
R301	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R302	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R303	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R304	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R305	7030003840	S.RESISTOR	ERJ3GEYJ 225 V (2.2 MΩ)
R306	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R307	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R308	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R310	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R324	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R325	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R328	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R329	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R333	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R334	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R335	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R336	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R337	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)

[USA]
[EUR]

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION
R338	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R339	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R340	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R342	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R344	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R345	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R346	7030003400	S.RESISTOR ERJ3GEYJ 471 V (470 Ω)
R348	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R349	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R350	7030003400	S.RESISTOR ERJ3GEYJ 471 V (470 Ω)
R352	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R353	7030003400	S.RESISTOR ERJ3GEYJ 471 V (470 Ω)
R354	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R362	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R363	7030003500	S.RESISTOR ERJ3GEYJ 332 V (3.3 kΩ)
R364	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R365	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R369	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R370	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R371	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R372	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R373	7030003760	S.RESISTOR ERJ3GEYJ 474 V (470 kΩ)
R374	7030003760	S.RESISTOR ERJ3GEYJ 474 V (470 kΩ)
R375	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R376	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R377	7010000090	RESISTOR ELR25J 4.7 Ω
R378	7010004190	RESISTOR R20J 1 kΩ
R379	7010000090	RESISTOR ELR25J 4.7 Ω
R380	7010004190	RESISTOR R20J 1 kΩ
R381	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R382	7030003720	S.RESISTOR ERJ3GEYJ 224 V (220 kΩ)
R385	7030003360	S.RESISTOR ERJ3GEYJ 221 V (220 Ω)
R386	7030003530	S.RESISTOR ERJ3GEYJ 562 V (5.6 kΩ)
R387	7030003530	S.RESISTOR ERJ3GEYJ 562 V (5.6 kΩ)
R388	7030003530	S.RESISTOR ERJ3GEYJ 562 V (5.6 kΩ)
R389	7030003590	S.RESISTOR ERJ3GEYJ 183 V (18 kΩ)
R390	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R391	7030003500	S.RESISTOR ERJ3GEYJ 332 V (3.3 kΩ)
R392	7030003380	S.RESISTOR ERJ3GEYJ 331 V (330 Ω)
R393	7010004690	RESISTOR R50XJ 47 Ω
R394	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 Ω)
R395	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R396	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R403	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R404	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R411	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R412	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R413	7010003280	RESISTOR ELR20J 100 Ω
R414	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R415	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R416	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R448	7030003380	S.RESISTOR ERJ3GEYJ 331 V (330 Ω)
R449	7010003180	RESISTOR ELR20J 15 Ω
R450	7030003380	S.RESISTOR ERJ3GEYJ 331 V (330 Ω)
R465	7010003200	RESISTOR ELR20J 22 Ω
R466	7010003200	RESISTOR ELR20J 22 Ω
R467	7010003200	RESISTOR ELR20J 22 Ω
R468	7010003200	RESISTOR ELR20J 22 Ω
R469	7010003200	RESISTOR ELR20J 22 Ω
R470	7010003200	RESISTOR ELR20J 22 Ω
R471	7010003200	RESISTOR ELR20J 22 Ω
R472	7010003200	RESISTOR ELR20J 22 Ω
R481	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R484	7010003120	RESISTOR ELR20J 4.7 Ω
R493	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R494	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R501	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R502	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R503	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R504	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R505	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R506	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R510	7030003540	S.RESISTOR ERJ3GEYJ 682 V (6.8 kΩ)
R514	7010000290	RESISTOR ELR25J 220 Ω
R515	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R517	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R518	7030003400	S.RESISTOR ERJ3GEYJ 471 V (470 Ω)
R519	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R520	7030003380	S.RESISTOR ERJ3GEYJ 331 V (330 Ω)
R521	7010003180	RESISTOR ELR20J 15 Ω
R522	7030003380	S.RESISTOR ERJ3GEYJ 331 V (330 Ω)
R523	7010004690	RESISTOR R50XJ 47 Ω

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION
R525	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R526	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R527	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R528	7030003580	S.RESISTOR ERJ3GEYJ 153 V (15 kΩ)
R529	7070000280	RESISTOR CRH100X R-02J 2.2 Ω
R533	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R534	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R535	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R536	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R537	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R538	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R539	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R540	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R541	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R542	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R543	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R544	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R545	7010004450	RESISTOR R20J 100 kΩ
R601	7030003400	S.RESISTOR ERJ3GEYJ 471 V (470 Ω)
R602	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R603	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R604	7030003760	S.RESISTOR ERJ3GEYJ 474 V (470 kΩ)
R605	7030003720	S.RESISTOR ERJ3GEYJ 224 V (220 kΩ)
R606	7030003720	S.RESISTOR ERJ3GEYJ 224 V (220 kΩ)
R607	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R608	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R609	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R610	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R611	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R612	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R633	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R634	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R635	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R636	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R637	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R638	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R639	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R640	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R641	7030003500	S.RESISTOR ERJ3GEYJ 332 V (3.3 kΩ)
R642	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R646	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R647	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R648	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R650	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R651	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R652	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R653	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R654	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R655	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R657	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R658	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R659	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R663	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R664	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R670	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R671	7030003540	S.RESISTOR ERJ3GEYJ 682 V (6.8 kΩ)
R672	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R673	7030003590	S.RESISTOR ERJ3GEYJ 183 V (18 kΩ)
R674	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R675	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R676	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R677	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R678	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R679	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R680	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R681	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R682	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R683	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R684	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R690	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R691	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R692	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R693	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R694	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R695	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R696	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R697	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R698	7010003380	RESISTOR ELR20J 680 Ω
R699	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R700	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R701	7010003830	RESISTOR R20J 1 Ω
R702	7030003400	S.RESISTOR ERJ3GEYJ 471 V (470 Ω)

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R703	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R704	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R705	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R706	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R707	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R708	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R709	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R714	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R715	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R716	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R717	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R718	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R719	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R720	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R721	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R722	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R723	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R724	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R725	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R726	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R728	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R729	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R730	7010003170	RESISTOR	ELR20J 12 Ω
R731	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R732	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R733	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R734	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R735	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R736	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R738	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R739	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R740	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R741	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R742	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R743	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R744	7030006520	S.RESISTOR	RR0816P-561-D (560 Ω)
R745	7030006520	S.RESISTOR	RR0816P-561-D (560 Ω)
R746	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R747	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R748	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R749	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R750	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R751	7030006520	S.RESISTOR	RR0816P-561-D (560 Ω)
R752	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R753	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R754	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R755	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R756	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R757	7030006520	S.RESISTOR	RR0816P-561-D (560 Ω)
R760	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R761	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R763	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R764	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R765	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R766	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R771	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R772	7030003530	S.RESISTOR	ERJ3GEYJ 562 V (5.6 kΩ)
R773	7030003530	S.RESISTOR	ERJ3GEYJ 562 V (5.6 kΩ)
R774	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R777	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R778	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R779	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R780	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R781	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R782	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R783	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R784	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R785	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R786	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R787	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R788	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R789	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)
R790	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R791	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R792	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R793	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R794	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R796	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R797	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R798	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R799	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R800	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R801	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R802	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R803	7510000540	THERMISTOR	ERT-D2ZGL 171S
R804	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R805	7030003670	S.RESISTOR	ERJ3GEYJ 823 V (82 kΩ)
R806	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R807	7510000300	THERMISTOR	ERT-D2ZGL 601S
R808	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R809	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R810	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R811	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R812	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R813	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R820	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R821	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
C2	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C3	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C4	4030006870	S.CERAMIC	C1608 JB 1H 222K-T-A
C5	4030006900	S.CERAMIC	C1608 JB 1E 103K-T-A
C6	4030010020	S.CERAMIC	C1608 JB 1H 122K-T-A
C7	4030008860	S.CERAMIC	C1608 JB 1C 153K-T-A
C8	4030006870	S.CERAMIC	C1608 JB 1H 222K-T-A
C9	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C10	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C11	4030006870	S.CERAMIC	C1608 JB 1H 222K-T-A
C12	4030006810	S.CERAMIC	C1608 SL 1H 271J-T-A
C13	4030009970	S.CERAMIC	C1608 JB 1H 182K-T-A
C14	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C15	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C16	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C17	4030009980	S.CERAMIC	C1608 JB 1H 152K-T-A
C18	4030010750	S.CERAMIC	C1608 CH 1H 201J-T-A
C19	4030009980	S.CERAMIC	C1608 JB 1H 152K-T-A
C20	4030008470	S.CERAMIC	C1608 JB 1H 272K-T-A
C21	4030008850	S.CERAMIC	C1608 JB 1C 123K-T-A
C22	4030009980	S.CERAMIC	C1608 JB 1H 152K-T-A
C23	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C24	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C25	4030010040	S.CERAMIC	C1608 JB 1H 561K-T-A
C26	4030007140	S.CERAMIC	C1608 CH 1H 121J-T-A
C27	4030010040	S.CERAMIC	C1608 JB 1H 561K-T-A
C28	4030009980	S.CERAMIC	C1608 JB 1H 152K-T-A
C29	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C30	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C31	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C32	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C33	4030010040	S.CERAMIC	C1608 JB 1H 561K-T-A
C34	4030007130	S.CERAMIC	C1608 CH 1H 101J-T-A
C35	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A
C36	4030010040	S.CERAMIC	C1608 JB 1H 561K-T-A
C37	4030009970	S.CERAMIC	C1608 JB 1H 182K-T-A
C38	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A
C39	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C40	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C41	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A
C42	4030007100	S.CERAMIC	C1608 CH 1H 560J-T-A
C43	4030006830	S.CERAMIC	C1608 SL 1H 331J-T-A
C44	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A
C45	4030006870	S.CERAMIC	C1608 JB 1H 222K-T-A
C46	4030006830	S.CERAMIC	C1608 SL 1H 331J-T-A
C47	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C48	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C49	4030006830	S.CERAMIC	C1608 SL 1H 331J-T-A
C50	4030007080	S.CERAMIC	C1608 CH 1H 390J-T-A
C51	4030007150	S.CERAMIC	C1608 CH 1H 151J-T-A
C52	4030006810	S.CERAMIC	C1608 SL 1H 271J-T-A
C53	4030006870	S.CERAMIC	C1608 JB 1H 222K-T-A
C54	4030007170	S.CERAMIC	C1608 CH 1H 221J-T-A
C55	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C56	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C57	4030011280	S.CERAMIC	C1608 CH 1H 271J-T-A
C58	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C59	4030007170	S.CERAMIC	C1608 CH 1H 221J-T-A
C60	4030006810	S.CERAMIC	C1608 SL 1H 271J-T-A
C61	4030009980	S.CERAMIC	C1608 JB 1H 152K-T-A
C62	4030007160	S.CERAMIC	C1608 CH 1H 181J-T-A
C63	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C64	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C65	4030007160	S.CERAMIC	C1608 CH 1H 181J-T-A
C66	4030007030	S.CERAMIC	C1608 CH 1H 150J-T-A

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C67	4030007130	S.CERAMIC C1608 CH 1H 101J-T-A
C68	4030007160	S.CERAMIC C1608 CH 1H 181J-T-A
C69	4030009980	S.CERAMIC C1608 JB 1H 152K-T-A
C70	4030007150	S.CERAMIC C1608 CH 1H 151J-T-A
C71	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C72	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C73	4030007150	S.CERAMIC C1608 CH 1H 151J-T-A
C74	4030007040	S.CERAMIC C1608 CH 1H 180J-T-A
C75	4030007130	S.CERAMIC C1608 CH 1H 101J-T-A
C76	4030007150	S.CERAMIC C1608 CH 1H 151J-T-A
C77	4030006860	S.CERAMIC C1608 JB 1H 102K-T-A
C78	4030007130	S.CERAMIC C1608 CH 1H 101J-T-A
C79	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C80	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C81	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C82	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C83	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C84	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C85	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C86	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C87	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C88	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C89	4030007030	S.CERAMIC C1608 CH 1H 150J-T-A
C90	4030006960	S.CERAMIC C1608 CH 1H 050C-T-A
C91	4030007080	S.CERAMIC C1608 CH 1H 390J-T-A
C92	4030007040	S.CERAMIC C1608 CH 1H 180J-T-A
C93	4030007050	S.CERAMIC C1608 CH 1H 220J-T-A
C94	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C95	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C96	4030006960	S.CERAMIC C1608 CH 1H 050C-T-A
C98	4030006860	S.CERAMIC C1608 JB 1H 102K-T-A
C99	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C100	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C101	4030007090	S.CERAMIC C1608 CH 1H 470J-T-A
C102	4030007090	S.CERAMIC C1608 CH 1H 470J-T-A
C103	4030007170	S.CERAMIC C1608 CH 1H 221J-T-A
C104	4030006930	S.CERAMIC C1608 CH 1H 020C-T-A
C106	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C107	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C108	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C109	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C110	4510005260	ELECTROLYTIC 25 MV 10 HW
C111	4030006860	S.CERAMIC C1608 JB 1H 102K-T-A
C112	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C113	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C114	4510005260	ELECTROLYTIC 25 MV 10 HW
C115	4030007140	S.CERAMIC C1608 CH 1H 121J-T-A
C116	4030007050	S.CERAMIC C1608 CH 1H 220J-T-A
C117	4510003910	ELECTROLYTIC 16 MV 47 HW
C118	4510005260	ELECTROLYTIC 25 MV 10 HW
C119	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C120	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C121	4030007030	S.CERAMIC C1608 CH 1H 150J-T-A
C122	4030007030	S.CERAMIC C1608 CH 1H 150J-T-A
C123	4030007040	S.CERAMIC C1608 CH 1H 180J-T-A
C125	4030006810	S.CERAMIC C1608 SL 1H 271J-T-A
C126	4030007100	S.CERAMIC C1608 CH 1H 560J-T-A
C127	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C128	4030006830	S.CERAMIC C1608 SL 1H 331J-T-A
C129	4030006830	S.CERAMIC C1608 SL 1H 331J-T-A
C130	4030007120	S.CERAMIC C1608 CH 1H 820J-T-A
C131	4030007030	S.CERAMIC C1608 CH 1H 150J-T-A
C132	4030007150	S.CERAMIC C1608 CH 1H 151J-T-A
C133	4030007010	S.CERAMIC C1608 CH 1H 100D-T-A
C134	4030007120	S.CERAMIC C1608 CH 1H 820J-T-A
C135	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C136	4030007010	S.CERAMIC C1608 CH 1H 100D-T-A
C137	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C138	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C139	4030007000	S.CERAMIC C1608 CH 1H 090D-T-A
C140	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C141	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C142	4030007030	S.CERAMIC C1608 CH 1H 150J-T-A
C143	4030006960	S.CERAMIC C1608 CH 1H 050C-T-A
C144	4030006860	S.CERAMIC C1608 JB 1H 102K-T-A
C145	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C146	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C147	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C148	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C149	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C150	4030006990	S.CERAMIC C1608 CH 1H 080D-T-A
C151	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C152	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C153	4030006930	S.CERAMIC C1608 CH 1H 020C-T-A
C154	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C155	4030006860	S.CERAMIC C1608 JB 1H 102K-T-A
C156	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C157	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C158	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C159	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C160	4030008920	S.CERAMIC C1608 CH 1H 472K-T-A
C161	4030006850	S.CERAMIC C1608 JB 1H 471K-T-A
C162	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C163	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C164	4510004490	ELECTROLYTIC 25 MV 22 HW
C165	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C166	4510004490	ELECTROLYTIC 25 MV 22 HW
C167	4030007010	S.CERAMIC C1608 CH 1H 100D-T-A
C168	4510003970	ELECTROLYTIC 50 MV 2R2 HW
C169	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C170	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C171	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C172	4030008930	S.CERAMIC C2012 JB 1C 563K-T-A
C173	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C174	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C175	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C176	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C177	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C178	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C179	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C180	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C181	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C182	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C183	4030007030	S.CERAMIC C1608 CH 1H 150J-T-A
C184	4030006990	S.CERAMIC C1608 CH 1H 080D-T-A
C185	4030007030	S.CERAMIC C1608 CH 1H 150J-T-A
C186	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C187	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C188	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C189	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C190	4030006900	S.CERAMIC C1608 JB 1E 103K-T-A
C191	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C192	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C193	4510005260	ELECTROLYTIC 25 MV 10 HW
C194	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C195	4030006900	S.CERAMIC C1608 JB 1E 103K-T-A
C196	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C197	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C198	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C199	4510003910	ELECTROLYTIC 16 MV 47 HW
C200	4030006830	S.CERAMIC C1608 SL 1H 331J-T-A
C201	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C202	4030007090	S.CERAMIC C1608 CH 1H 470J-T-A
C203	4030007050	S.CERAMIC C1608 CH 1H 220J-T-A
C204	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C205	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C206	4510003910	ELECTROLYTIC 16 MV 47 HW
C207	4510003950	ELECTROLYTIC 50 MV R47 HW
C208	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C209	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C210	4510003910	ELECTROLYTIC 16 MV 47 HW
C211	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C212	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C213	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C214	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C215	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C216	4030007090	S.CERAMIC C1608 CH 1H 470J-T-A
C217	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C218	4510004490	ELECTROLYTIC 25 MV 22 HW
C222	4030007170	S.CERAMIC C1608 CH 1H 221J-T-A
C225	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C226	4510004490	ELECTROLYTIC 25 MV 22 HW
C228	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C229	4030006850	S.CERAMIC C1608 JB 1H 471K-T-A
C230	4510005260	ELECTROLYTIC 25 MV 10 HW
C231	4510005260	ELECTROLYTIC 25 MV 10 HW
C232	4030006860	S.CERAMIC C1608 JB 1H 102K-T-A
C233	4510003950	ELECTROLYTIC 50 MV R47 HW
C234	4510005260	ELECTROLYTIC 25 MV 10 HW
C235	4510005260	ELECTROLYTIC 25 MV 10 HW
C236	4510005260	ELECTROLYTIC 25 MV 10 HW
C237	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C238	4030007130	S.CERAMIC C1608 CH 1H 101J-T-A
C239	4030007150	S.CERAMIC C1608 CH 1H 151J-T-A

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C240	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C241	4030007150	S.CERAMIC	C1608 CH 1H 151J-T-A
C242	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C243	4510004490	ELECTROLYTIC	25 MV 22 HW
C244	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C245	4510003970	ELECTROLYTIC	50 MV 2R2 HW
C246	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C247	4030006830	S.CERAMIC	C1608 SL 1H 331J-T-A
C248	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C249	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C250	4510003910	ELECTROLYTIC	16 MV 47 HW
C251	4510004490	ELECTROLYTIC	25 MV 22 HW
C252	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C253	4030008930	S.CERAMIC	C2012 JB 1C 563K-T-A
C254	4510004950	ELECTROLYTIC	50 MV R47 SWNP
C256	4030009980	S.CERAMIC	C1608 JB 1H 152K-T-A
C257	4310000610	MYLAR	50 F2D 472J
C258	4510003940	ELECTROLYTIC	25 MV 4R7 HW
C259	4030007170	S.CERAMIC	C1608 CH 1H 221J-T-A
C260	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C261	4510003910	ELECTROLYTIC	16 MV 47 HW
C262	4310000360	MYLAR	50 F2D 103J
C263	4510004990	ELECTROLYTIC	16 MV 100 HC
C264	4310000360	MYLAR	50 F2D 103J
C265	4510004910	ELECTROLYTIC	16 MV 10 SWNP
C266	4510003940	ELECTROLYTIC	25 MV 4R7 HW
C267	4510003950	ELECTROLYTIC	50 MV R47 HW
C268	4510003910	ELECTROLYTIC	16 MV 47 HW
C269	4510003970	ELECTROLYTIC	50 MV 2R2 HW
C270	4510003940	ELECTROLYTIC	25 MV 4R7 HW
C271	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C275	4510003910	ELECTROLYTIC	16 MV 47 HW
C276	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C277	4510003940	ELECTROLYTIC	25 MV 4R7 HW
C278	4510005250	ELECTROLYTIC	50 MV 2R2 SWNP
C279	4510005250	ELECTROLYTIC	50 MV 2R2 SWNP
C280	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C281	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C282	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C283	4030006900	S.CERAMIC	C1608 JB 1E 103K-T-A
C284	4030006900	S.CERAMIC	C1608 JB 1E 103K-T-A
C285	4510003950	ELECTROLYTIC	50 MV R47 HW
C286	4510003950	ELECTROLYTIC	50 MV R47 HW
C287	4510005260	ELECTROLYTIC	25 MV 10 HW
C288	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C289	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C290	4510005260	ELECTROLYTIC	25 MV 10 HW
C293	4510005260	ELECTROLYTIC	25 MV 10 HW
C294	4310000380	MYLAR	50 F2D 153J
C295	4310000380	MYLAR	50 F2D 153J
C296	4310000380	MYLAR	50 F2D 153J
C297	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C298	4510005260	ELECTROLYTIC	25 MV 10 HW
C299	4510003790	ELECTROLYTIC	16 MV 10 SW
C300	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C301	4510003790	ELECTROLYTIC	16 MV 10 SW
C302	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C303	4510003850	ELECTROLYTIC	50 MV 2R2 SW
C304	4510003840	ELECTROLYTIC	50 MV 1 SW
C305	4550000340	TANTALUM	DN 1C 100M
C306	4030006900	S.CERAMIC	C1608 JB 1E 103K-T-A
C307	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C317	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C319	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C320	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C321	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C322	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C323	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C324	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C325	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C326	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C343	4510003940	ELECTROLYTIC	25 MV 4R7 HW
C361	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C362	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C363	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C364	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C374	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C387	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C397	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C398	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C401	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C403	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C408	4030007130	S.CERAMIC	C1608 CH 1H 101J-T-A
C409	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C410	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C411	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C412	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C413	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C414	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C416	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C417	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C418	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C419	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C420	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C421	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C434	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C435	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C436	4510003970	ELECTROLYTIC	50 MV 2R2 HW
C437	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C438	4030007030	S.CERAMIC	C1608 CH 1H 150J-T-A
C439	4030007010	S.CERAMIC	C1608 CH 1H 100D-T-A
C444	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C448	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C449	4510003940	ELECTROLYTIC	25 MV 4R7 HW
C450	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C451	4510003940	ELECTROLYTIC	25 MV 4R7 HW
C452	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C454	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C455	4510004590	ELECTROLYTIC	16 MV 470 HC
C456	4030007010	S.CERAMIC	C1608 CH 1H 100D-T-A
C457	4030006920	S.CERAMIC	C1608 CH 1H 010C-T-A
C458	4030007010	S.CERAMIC	C1608 CH 1H 100D-T-A
C459	4030006970	S.CERAMIC	C1608 CH 1H 060D-T-A
C460	4030006920	S.CERAMIC	C1608 CH 1H 010C-T-A
C461	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C462	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C463	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C464	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C501	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C502	4510004470	ELECTROLYTIC	FYLOH 473Z
C503	4510005260	ELECTROLYTIC	25 MV 10 HW
C504	4510003820	ELECTROLYTIC	50 MV R22 SWB
C507	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C508	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C509	4030007020	S.CERAMIC	C1608 CH 1H 120J-T-A
C510	4030007020	S.CERAMIC	C1608 CH 1H 120J-T-A
C511	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C512	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C513	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C514	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C515	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C516	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C517	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C518	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C519	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C520	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C521	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C522	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C523	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C524	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C525	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C526	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C527	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C528	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C531	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C532	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C533	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C534	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C535	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C538	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C539	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C542	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C543	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C544	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C546	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C547	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C548	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C550	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C551	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C555	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C558	4510003910	ELECTROLYTIC	16 MV 47 HW
C559	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C560	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C561	4030007130	S.CERAMIC	C1608 CH 1H 101J-T-A

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C562	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C564	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C565	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C568	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C569	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C571	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C572	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C573	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C574	4030007130	S.CERAMIC C1608 CH 1H 101J-T-A
C579	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C581	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C582	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C583	4030006860	S.CERAMIC C1608 JB 1H 102K-T-A
C584	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C585	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C593	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C594	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C595	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C597	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C598	4510003950	ELECTROLYTIC 50 MV R47 HW
C599	4510005000	ELECTROLYTIC 16 MV 220 HC
C600	4510004910	ELECTROLYTIC 16 MV 10 SWNP
C601	4510004910	ELECTROLYTIC 16 MV 10 SWNP
C602	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C603	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C604	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C605	4510004490	ELECTROLYTIC 25 MV 22 HW
C606	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C607	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C608	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C609	4510004490	ELECTROLYTIC 25 MV 22 HW
C610	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C611	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C613	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C614	4510003960	ELECTROLYTIC 50 MV 1 HW
C616	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C618	4030007030	S.CERAMIC C1608 CH 1H 150J-T-A
C620	4030006920	S.CERAMIC C1608 CH 1H 010C-T-A
C622	4030006850	S.CERAMIC C1608 JB 1H 471K-T-A
C623	4030009980	S.CERAMIC C1608 JB 1H 152K-T-A
C624	4030007140	S.CERAMIC C1608 CH 1H 121J-T-A
C625	4030006870	S.CERAMIC C1608 JB 1H 222K-T-A
C626	4030007130	S.CERAMIC C1608 CH 1H 101J-T-A
C627	4030006810	S.CERAMIC C1608 SL 1H 271J-T-A
C628	4030007030	S.CERAMIC C1608 CH 1H 150J-T-A
C629	4030008850	S.CERAMIC C1608 JB 1C 123K-T-A
C631	4510003940	ELECTROLYTIC 25 MV 4R7 HW
C632	4510005260	ELECTROLYTIC 25 MV 10 HW
C633	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C634	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C635	4510004140	ELECTROLYTIC 50 MV 10 HW
C637	4030006860	S.CERAMIC C1608 JB 1H 102K-T-A
C639	4030009980	S.CERAMIC C1608 JB 1H 152K-T-A
C640	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C641	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C642	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C643	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C644	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C645	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C646	4030006860	S.CERAMIC C1608 JB 1H 102K-T-A
C647	4030006850	S.CERAMIC C1608 JB 1H 471K-T-A
C648	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C649	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C650	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C651	4030007050	S.CERAMIC C1608 CH 1H 220J-T-A
C652	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C653	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C654	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C655	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C656	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C657	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C658	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C659	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C660	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C661	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C662	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C663	4030007050	S.CERAMIC C1608 CH 1H 220J-T-A
C664	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C665	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C666	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C667	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C668	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C669	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C670	4510004140	ELECTROLYTIC 50 MV 10 HW
C671	4510004990	ELECTROLYTIC 16 MV 100 HC
C672	4510004990	ELECTROLYTIC 16 MV 100 HC
C673	4510004990	ELECTROLYTIC 16 MV 100 HC
C674	4510003840	ELECTROLYTIC 50 MV 1 SW
C675	4010006900	CERAMIC HE80SJ YB 472K 50V [EUR]
C676	4010006900	CERAMIC HE80SJ YB 472K 50V [EUR]
C677	4010006900	CERAMIC HE80SJ YB 472K 50V [EUR]
C678	4010006900	CERAMIC HE80SJ YB 472K 50V [EUR]
C679	4010006900	CERAMIC HE80SJ YB 472K 50V [EUR]
C680	4010006900	CERAMIC HE80SJ YB 472K 50V [EUR]
C681	4010006900	CERAMIC HE80SJ YB 472K 50V [EUR]
RL2	6330000110	RELAY FBR22D12-P
S9	2220000520	SWITCH ESD-11V120
S11	2220000520	SWITCH ESD-11V120
J1	6510017150	CONNECTOR TMP-S01X-C1
J2	6510017150	CONNECTOR TMP-S01X-C1
J3	6510007020	CONNECTOR TMP-J01X-V6
J4	6510007020	CONNECTOR TMP-J01X-V6
J5	6510007020	CONNECTOR TMP-J01X-V6
J6	6450001240	CONNECTOR HLJ4306-01-3000
J7	6450001440	CONNECTOR HSJ1403-01-010
J9	6510017660	CONNECTOR 52045-1645
J11	6510017990	CONNECTOR DELC-J9SAF-20L9
J13	6450001590	CONNECTOR TCS5073-17-4151
J15	6510003400	CONNECTOR B04B-EH-S
J16	6510003430	CONNECTOR B07B-EH-S
J19	6510017660	CONNECTOR 52045-1645
J20	6510003390	CONNECTOR B03B-EH-S
J22	6510017650	CONNECTOR 52045-1045
J23	6510003400	CONNECTOR B04B-EH-S
J29	6510018150	S.CONNECTOR 4-175638-0
J30	6510017950	S.CONNECTOR 4-175638-4
J31	6510017990	CONNECTOR DELC-J9SAF-20L
J32	6510010020	CONNECTOR RTB-1.5-2F
W1	7120000020	JUMPER JPW 02H
W5	7030003860	S.JUMPER ERJ3GE JPW V
W6	7030003860	S.JUMPER ERJ3GE JPW V
W7	7030003860	S.JUMPER ERJ3GE JPW V
W8	7030003860	S.JUMPER ERJ3GE JPW V
W9	7030003860	S.JUMPER ERJ3GE JPW V
W10	7030003860	S.JUMPER ERJ3GE JPW V [USA]
W17	7030003860	S.JUMPER ERJ3GE JPW V
W18	7030003860	S.JUMPER ERJ3GE JPW V
W23	7030003860	S.JUMPER ERJ3GE JPW V
W24	7030003860	S.JUMPER ERJ3GE JPW V
W25	7030003860	S.JUMPER ERJ3GE JPW V
W27	7030003860	S.JUMPER ERJ3GE JPW V
W30	7030003860	S.JUMPER ERJ3GE JPW V
W31	7030003860	S.JUMPER ERJ3GE JPW V [EUR]
EP1	0910049851	PCB B 4248K

S.=Surface mount

[PLL-A UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC3001	1140003641	S.IC	SC-1246
IC3002	1140004550	S.IC	SC1287
IC3003	1180001070	S.IC	TA7805F (TE16L)
IC3004	1130004830	S.IC	TC7SU04F (TE85R)
IC3005	1130007660	S.IC	LC7153M-TLM
IC3006	1130004830	S.IC	TC7SU04F (TE85R)
IC3008	1130004830	S.IC	TC7SU04F (TE85R)
Q3001	1530002600	S.TRANSISTOR	2SC4215-O (TE85R)
Q3002	1530002600	S.TRANSISTOR	2SC4215-O (TE85R)
Q3003	1560000720	S.FET	2SK2171-4-TD
Q3004	1530002600	S.TRANSISTOR	2SC4215-O (TE85R)
Q3005	1560000330	S.FET	2SK210-GR (TE85R)
Q3006	1530002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q3007	1530002600	S.TRANSISTOR	2SC4215-O (TE85R)
Q3008	1530002600	S.TRANSISTOR	2SC4215-O (TE85R)
Q3009	1530002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q3010	1530002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q3011	1530002600	S.TRANSISTOR	2SC4215-O (TE85R)
Q3021	1530002600	S.TRANSISTOR	2SC4215-O (TE85R)
Q3022	1590001330	S.TRANSISTOR	DTA114EUA T106
Q3024	1530002600	S.TRANSISTOR	2SC4215-O (TE85R)
Q3025	1530002690	S.TRANSISTOR	2SC4116-GR (TE85R)
D3001	1750000270	S.DIODE	1SS301 (TE85R)
D3002	1750000270	S.DIODE	1SS301 (TE85R)
D3003	1790000540	S.VARICAP	MA338 (TX)
D3004	1720000540	S.VARICAP	HVM17-01TR
D3005	1750000070	S.DIODE	1SS226 (TE85R)
D3006	1790000620	S.DIODE	MA77 (TX)
D3015	1790000490	S.DIODE	HSM88AS-TR
D3016	1790000490	S.DIODE	HSM88AS-TR
FI3001	2020001140	S.CERAMIC	SFCEA10.7MA-5-A
X3002	6050009380	XTAL	CR-512 (30.000 MHz)
L3001	6200001830	S.COIL	NL322522T-100J
L3002	6170000230	COIL	LW-25
L3003	6150004370	COIL	LS-472C
L3004	6150004250	COIL	LS-471A
L3005	6150004250	COIL	LS-471A
L3007	6200003260	S.COIL	NL322522T-101J
L3008	6180001220	COIL	LAL 04NA 100K
L3009	6200003260	S.COIL	NL322522T-101J
L3010	6200003100	S.COIL	NL322522T-3R9J-3
L3011	6200003260	S.COIL	NL322522T-101J
L3012	6200003260	S.COIL	NL322522T-101J
L3013	6130001850	COIL	LB-185
L3015	6200001830	S.COIL	NL322522T-100J
L3016	6200003260	S.COIL	NL322522T-101J
L3017	6200001830	S.COIL	NL322522T-100J
L3019	6200001830	S.COIL	NL322522T-100J
L3020	6170000180	COIL	LW-19
L3021	6170000230	COIL	LW-25
L3022	6200003260	S.COIL	NL322522T-101J
L3023	6200003260	S.COIL	NL322522T-101J
L3024	6190001090	COIL	MC138-E544EN-110164
L3026	6200003260	S.COIL	NL322522T-101J
L3028	6200003260	S.COIL	NL322522T-101J
L3035	6200003430	S.COIL	NL322522T-R10J
L3036	6200003430	S.COIL	NL322522T-R10J
L3037	6200003120	S.COIL	NL322522T-8R2J
L3038	6200001830	S.COIL	NL322522T-100J
L3040	6200003320	S.COIL	NL322522T-3R3J-3
L3041	2040000490	COIL	EXC-ELDR25C
L3042	2040000490	COIL	EXC-ELDR25C
L3043	6200003420	S.COIL	NL322522T-R15J-3
L3044	6200003430	S.COIL	NL322522T-R10J
L3045	6180000880	COIL	LAL 03NA 100K
L3046	6200001830	S.COIL	NL322522T-100J
L3047	6200001830	S.COIL	NL322522T-100J
R3001	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R3002	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R3003	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)

[PLL-A UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R3005	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R3006	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R3007	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R3008	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R3009	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R3010	7080000820	RESISTOR	ERG1SJ 220 (22 Ω)
R3011	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R3012	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R3014	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R3017	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R3018	7030003430	S.RESISTOR	ERJ3GEYJ 821 V (820 Ω)
R3019	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)
R3020	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R3021	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R3022	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R3023	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R3024	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R3025	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R3026	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R3027	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R3028	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R3029	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R3030	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R3031	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R3032	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R3033	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R3034	7030005380	S.RESISTOR	RR0816P-102-B (1 kΩ)
R3035	7030005370	S.RESISTOR	RR0816P-202-B (2 kΩ)
R3036	7030005380	S.RESISTOR	RR0816P-102-B (1 kΩ)
R3037	7030005370	S.RESISTOR	RR0816P-202-B (2 kΩ)
R3038	7030005380	S.RESISTOR	RR0816P-102-B (1 kΩ)
R3039	7030005370	S.RESISTOR	RR0816P-202-B (2 kΩ)
R3040	7030005380	S.RESISTOR	RR0816P-102-B (1 kΩ)
R3041	7030005370	S.RESISTOR	RR0816P-202-B (2 kΩ)
R3042	7030005380	S.RESISTOR	RR0816P-102-B (1 kΩ)
R3043	7030005370	S.RESISTOR	RR0816P-202-B (2 kΩ)
R3044	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R3045	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R3046	7030003570	S.RESISTOR	ERJ3GEYJ 123 V (12 kΩ)
R3048	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R3050	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R3052	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)
R3053	7030003270	S.RESISTOR	ERJ3GEYJ 390 V (39 Ω)
R3054	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)
R3055	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R3056	7030003650	S.RESISTOR	ERJ3GEYJ 563 V (56 kΩ)
R3057	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R3060	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R3061	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R3062	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R3063	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)
R3064	7030003690	S.RESISTOR	ERJ3GEYJ 124 V (120 kΩ)
R3065	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R3066	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R3067	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R3068	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R3069	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R3070	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R3071	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R3072	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R3073	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R3074	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R3077	7030003430	S.RESISTOR	ERJ3GEYJ 821 V (820 Ω)
R3079	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R3080	7030003650	S.RESISTOR	ERJ3GEYJ 563 V (56 kΩ)
R3081	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R3082	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R3083	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R3084	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R3085	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R3086	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R3087	7030003240	S.RESISTOR	ERJ3GEYJ 220 V (22 Ω)
R3089	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R3090	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R3091	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R3092	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R3093	7030003630	S.RESISTOR	ERJ3GEYJ 393 V (39 kΩ)
R3094	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R3095	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R3096	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R3097	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R3098	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)

S.=Surface mount

[PLL-A UNIT]

REF NO.	ORDER NO.	DESCRIPTION
R3099	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R3100	7030003350	S.RESISTOR ERJ3GEYJ 181 V (180 Ω)
R3103	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 Ω)
R3104	7030003400	S.RESISTOR ERJ3GEYJ 471 V (470 Ω)
R3105	7030003430	S.RESISTOR ERJ3GEYJ 821 V (820 Ω)
R3120	7030005400	S.RESISTOR RR0816P-202-D (2 kΩ)
R3121	7030005400	S.RESISTOR RR0816P-202-D (2 kΩ)
R3122	7030005390	S.RESISTOR RR0816P-102-D (1 kΩ)
R3123	7030005400	S.RESISTOR RR0816P-202-D (2 kΩ)
R3124	7030005390	S.RESISTOR RR0816P-102-D (1 kΩ)
R3125	7030005400	S.RESISTOR RR0816P-202-D (2 kΩ)
R3126	7030005390	S.RESISTOR RR0816P-102-D (1 kΩ)
R3127	7030005400	S.RESISTOR RR0816P-202-D (2 kΩ)
R3128	7030005390	S.RESISTOR RR0816P-102-D (1 kΩ)
R3129	7030005400	S.RESISTOR RR0816P-202-D (2 kΩ)
R3130	7030005390	S.RESISTOR RR0816P-102-D (1 kΩ)
R3131	7030005400	S.RESISTOR RR0816P-202-D (2 kΩ)
R3132	7030005390	S.RESISTOR RR0816P-102-D (1 kΩ)
R3133	7030005400	S.RESISTOR RR0816P-202-D (2 kΩ)
R3134	7030005380	S.RESISTOR RR0816P-102-B (1 kΩ)
R3135	7030005370	S.RESISTOR RR0816P-202-B (2 kΩ)
R3136	7030005380	S.RESISTOR RR0816P-102-B (1 kΩ)
R3137	7030005370	S.RESISTOR RR0816P-202-B (2 kΩ)
R3138	7030005380	S.RESISTOR RR0816P-102-B (1 kΩ)
R3139	7030005370	S.RESISTOR RR0816P-202-B (2 kΩ)
R3140	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R3141	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R3142	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R3143	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R3144	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R3145	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R3146	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R3147	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R3148	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R3168	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R3173	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R3174	7030003380	S.RESISTOR ERJ3GEYJ 331 V (330 Ω)
R3176	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R3177	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R3178	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R3179	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R3180	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R3181	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R3183	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R3184	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R3186	7030003460	S.RESISTOR ERJ3GEYJ 152 V (1.5 kΩ)
R3187	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R3188	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R3189	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R3190	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R3191	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R3193	7030003430	S.RESISTOR ERJ3GEYJ 821 V (820 Ω)
R3194	7030003460	S.RESISTOR ERJ3GEYJ 152 V (1.5 kΩ)
R3195	7030003380	S.RESISTOR ERJ3GEYJ 331 V (330 Ω)
R3196	7030003400	S.RESISTOR ERJ3GEYJ 471 V (470 Ω)
R3197	7030003490	S.RESISTOR ERJ3GEYJ 272 V (2.7 kΩ)
R3198	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R3199	7030003360	S.RESISTOR ERJ3GEYJ 221 V (220 Ω)
R3200	7030003460	S.RESISTOR ERJ3GEYJ 152 V (1.5 kΩ)
C3001	4030007090	S.CERAMIC C1608 CH 1H 470J-T-A
C3002	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3003	4030007850	S.CERAMIC C1608 SH 1H 820J-T-A
C3004	4030007870	S.CERAMIC C1608 SH 1H 121J-T-A
C3005	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3006	4510005600	S.ELECTROLYTICCEVEV1CS100SR
C3007	4030006880	S.CERAMIC C1608 JB 1H 102K-T-A
C3008	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3009	4030007030	S.CERAMIC C1608 CH 1H 150J-T-A
C3010	4030006910	S.CERAMIC C1608 CH 1H 0P5C-T-A
C3011	4030007030	S.CERAMIC C1608 CH 1H 150J-T-A
C3012	4510004630	S.ELECTROLYTICCEVEV1CA100SR
C3013	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3014	4030006880	S.CERAMIC C1608 JB 1H 102K-T-A
C3015	4510005600	S.ELECTROLYTICCEVEV1CS100SR
C3016	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3017	4510004630	S.ELECTROLYTICCEVEV1CA100SR
C3018	4510004640	S.ELECTROLYTICCEVEV1CA470SP
C3019	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3020	4030006880	S.CERAMIC C1608 JB 1H 102K-T-A
C3021	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A

[PLL-A UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C3023	4510004640	S.ELECTROLYTICCEVEV1CA470SP
C3024	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3025	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3026	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3027	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3030	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3031	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C3032	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C3033	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3034	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3035	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3036	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3037	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3038	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3039	4030010000	S.CERAMIC C1608 CH 1H 510J-T-A
C3040	4030006960	S.CERAMIC C1608 CH 1H 050C-T-A
C3041	4030010000	S.CERAMIC C1608 JB 1H 510J-T-A
C3042	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3043	4030006880	S.CERAMIC C1608 JB 1H 102K-T-A
C3044	4550000730	S.TANTALUM TESVA OJ 225M1-8L
C3045	4030007010	S.CERAMIC C1608 CH 1H 100D-T-A
C3046	4030007080	S.CERAMIC C1608 CH 1H 390J-T-A
C3047	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3048	4030011570	S.CERAMIC CM105 CH 101G 50AT
C3049	4610001270	S.TRIMMER ECR-JA010 A12W
C3050	4030007150	S.CERAMIC C1608 CH 1H 151J-T-A
C3052	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3053	4510005600	S.ELECTROLYTICCEVEV1CS100SR
C3054	4030007150	S.CERAMIC C1608 CH 1H 151J-T-A
C3055	4030007150	S.CERAMIC C1608 CH 1H 151J-T-A
C3056	4030007010	S.CERAMIC C1608 CH 1H 100D-T-A
C3059	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3060	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3061	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3062	4510005600	S.ELECTROLYTICCEVEV1CS100SR
C3063	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3064	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3065	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3066	4030006880	S.CERAMIC C1608 JB 1H 102K-T-A
C3067	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3068	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3069	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3070	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3071	4030007130	S.CERAMIC C1608 CH 1H 101J-T-A
C3072	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3073	4510005600	S.ELECTROLYTICCEVEV1CS100SR
C3077	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3083	4030006880	S.CERAMIC C1608 JB 1H 102K-T-A
C3084	4550003250	S.TANTALUM TEMSVA 1V 474M-8L
C3085	4550006050	S.TANTALUM TEMSVA OJ 106M8L
C3086	4340000100	S.MYLAR ECHU 1C 473JB5
C3087	4510005600	S.ELECTROLYTICCEVEV1CS100SR
C3088	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C3089	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3090	4030006880	S.CERAMIC C1608 JB 1H 102K-T-A
C3091	4030007130	S.CERAMIC C1608 CH 1H 101J-T-A
C3092	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3093	4510004590	ELECTROLYTIC 16 MV 470 HC
C3094	4030006880	S.CERAMIC C1608 JB 1H 102K-T-A
C3095	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C3096	4510004590	ELECTROLYTIC 16 MV 470 HC
C3097	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3098	4030006920	S.CERAMIC C1608 CH 1H 010C-T-A
C3099	4030006880	S.CERAMIC C1608 JB 1H 102K-T-A
C3100	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3101	4030006930	S.CERAMIC C1608 CH 1H 020C-T-A
C3102	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3105	4030006880	S.CERAMIC C1608 JB 1H 102K-T-A
C3106	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3107	4030006880	S.CERAMIC C1608 JB 1H 102K-T-A
C3108	4030006880	S.CERAMIC C1608 JB 1H 102K-T-A
C3109	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3110	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3111	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3114	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3124	4030007090	S.CERAMIC C1608 CH 1H 470J-T-A
C3125	4030006880	S.CERAMIC C1608 JB 1H 102K-T-A
C3129	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3130	4030007110	S.CERAMIC C1608 CH 1H 680J-T-A
C3132	4030006960	S.CERAMIC C1608 CH 1H 050C-T-A
C3133	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C3135	4030007060	S.CERAMIC C1608 CH 1H 270J-T-A

S.=Surface mount

[PLL-A UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C3136	4030007020	S.CERAMIC	C1608 CH 1H 120J-T-A
C3137	4030007060	S.CERAMIC	C1608 CH 1H 270J-T-A
C3138	4030006980	S.CERAMIC	C1608 CH 1H 070D-T-A
C3139	4030007040	S.CERAMIC	C1608 CH 1H 180J-T-A
C3141	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C3142	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C3143	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C3144	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C3145	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C3154	4030007040	S.CERAMIC	C1608 CH 1H 180J-T-A
C3155	4030007000	S.CERAMIC	C1608 CH 1H 090D-T-A
C3156	4030007060	S.CERAMIC	C1608 CH 1H 270J-T-A
C3157	4030006960	S.CERAMIC	C1608 CH 1H 050C-T-A
C3158	4030008560	S.CERAMIC	C1608 CH 1H 300J-T-A
C3161	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C3164	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C3165	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C3170	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C3171	4030011280	S.CERAMIC	C1608 CH 1H 271J-T-A
C3173	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C3174	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C3175	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C3177	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C3178	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C3179	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C3180	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C3181	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C3182	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C3183	4030007130	S.CERAMIC	C1608 CH 1H 101J-T-A
C3184	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C3185	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
J3001	6510007900	CONNECTOR	TBP-P01X-A1
J3002	6510007900	CONNECTOR	TBP-P01X-A1
J3003	6510007900	CONNECTOR	TBP-P01X-A1
J3004	6510003080	CONNECTOR	RT01T-1.0B
J3005	6510003080	CONNECTOR	RT01T-1.0B
J3007	6510017660	CONNECTOR	52045-1645
J3008	6510009890	CONNECTOR	PD054-04M
P3001	6510003240	CONNECTOR	TMP-P01X-A1
P3002	6510003240	CONNECTOR	TMP-P01X-A1
P3003	6510003240	CONNECTOR	TMP-P01X-A1
P3005	6510003640	CONNECTOR	EHR04
W3002	9086700300	WIRE	08
W3004	9086700300	WIRE	08
W3006	9086700300	WIRE	08
W3007	7030003860	S.JUMPER	ERJ3GE JPW V
WS1	8970022070	M.OTHER	1.5D COAXIAL (3)/PL
EP3001	0910044664	PCB	B 4249D

[PA UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC4001	1110003940	IC	TA7808S
IC4002	1110003910	S.IC	NJM4558M (T1)
IC4003	1170000300	S.IC	PS2701-1
IC4004	1170000300	S.IC	PS2701-1
Q4001	1530003400	TRANSISTOR	2SC3133
Q4002	1530003400	TRANSISTOR	2SC3133
Q4003	1530003390	TRANSISTOR	2SC2904
Q4004	1530003390	TRANSISTOR	2SC2904
Q4005	1510000940	S.TRANSISTOR	2SA1037K WT T147 R
Q4006	1540000530	TRANSISTOR	2SD1585K
Q4007	1530003410	S.TRANSISTOR	2SC1623 L6
Q4008	1530003380	TRANSISTOR	2SC1971

[PA UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
D4001	1790001390	VARISTOR	MA29B
D4002	1790001390	VARISTOR	MA29B
D4003	1790001390	VARISTOR	MA29B
D4004	1710000810	S.DIODE	DF30SC4M-4062
L4001	6140002350	COIL	LR-274
L4003	6140002780	COIL	LR-315
L4004	6140002980	COIL	LR-143
L4005	2040000900	COIL	EXC-ELDR25C
L4006	6140002220	COIL	LR-270
L4007	2040000900	COIL	EXC-ELDR25C
L4009	6140000610	COIL	LR-83
L4009	6140002970	COIL	LR-83
L4010	6140002990	COIL	LR-148
L4011	2040000900	COIL	EXC-ELDR25C
L4012	6170000140	COIL	LW-15
L4013	6140002780	COIL	LR-315
L4014	6200004840	S.COIL	NL322522T-101J
L4016	6180003060	COIL	LAL 04NA 100K
L4018	2040000900	COIL	EXC-ELDR25C
L4020	6200004840	S.COIL	NL322522T-101J
L4021	6200004840	S.COIL	NL322522T-101J
L4022	6200004840	S.COIL	NL322522T-101J
L4023	6180003060	COIL	LAL 04NA 100K
R4004	7010006830	RESISTOR	RD25XJ 47 Ω
R4005	7010006830	RESISTOR	RD25XJ 47 Ω
R4006	7030006990	S.RESISTOR	RK73K3AJ 68 Ω
R4007	7030006990	S.RESISTOR	RK73K3AJ 68 Ω
R4008	7070000800	RESISTOR	RSSX1 J 3.3 Ω
R4009	7070000800	RESISTOR	RSSX1 J 3.3 Ω
R4010	7070000800	RESISTOR	RSSX1 J 3.3 Ω
R4011	7070000800	RESISTOR	RSSX1 J 3.3 Ω
R4012	7070000800	RESISTOR	RSSX1 J 3.3 Ω
R4013	7070000800	RESISTOR	RSSX1 J 3.3 Ω
R4014	7010006820	RESISTOR	RD50SS J 10 Ω
R4015	7010006820	RESISTOR	RD50SS J 10 Ω
R4016	7070000790	RESISTOR	RSSX1 J 2.2 Ω
R4017	7070000790	RESISTOR	RSSX1 J 2.2 Ω
R4018	7030006750	S.RESISTOR	RK73K2AJ 4.7 kΩ
R4019	7030006750	S.RESISTOR	RK73K2AJ 4.7 kΩ
R4020	7010006810	RESISTOR	RD50SS J 150 Ω
R4022	7310004210	TRIMMER	KVSF687A 100 Ω
R4023	7070000810	RESISTOR	RSS1 J 10 Ω
R4024	7030006650	S.RESISTOR	RK73K2AJ 180 Ω
R4025	7310004220	TRIMMER	KVSF637A 470 Ω
R4026	7100000640	RESISTOR	5 SI 0.012 Ω (J)
R4027	7030006840	S.RESISTOR	RK73K2AJ 68 kΩ
R4028	7030006840	S.RESISTOR	RK73K2AJ 68 kΩ
R4029	7030006820	S.RESISTOR	RK73K2AJ 33 kΩ
R4030	7030006820	S.RESISTOR	RK73K2AJ 33 kΩ
R4031	7310004200	TRIMMER	KVSF637A 4.7 kΩ
R4032	7030006890	S.RESISTOR	RK73K2AJ 1M Ω
R4033	7030006780	S.RESISTOR	RK73K2AJ 10 kΩ
R4034	7010006800	RESISTOR	RD25XJ 270 Ω
R4035	7070000780	RESISTOR	RSSX2 J 4.7 Ω
R4036	7010006790	RESISTOR	RD25XJ 470 Ω
R4039	7010006780	RESISTOR	RD25XJ 4.7 Ω
R4040	7030007000	S.RESISTOR	RK73K3AJ 100 Ω
R4044	7010006790	RESISTOR	RD25XJ 470 Ω
R4045	7030007020	S.RESISTOR	RK73M2AJ 10 Ω
R4046	7030006650	S.RESISTOR	RK73K2AJ 180 Ω
R4047	7010006770	RESISTOR	RD25XJ 2.2 Ω
R4048	7010006760	RESISTOR	RD25XJ 2.7 Ω
R4049	7010006850	RESISTOR	RD25XJ 180 Ω
R4050	7010006750	RESISTOR	RD25XJ 2.2 kΩ
R4051	7030006670	S.RESISTOR	RK73K2AJ 470 Ω
R4052	7030007040	S.RESISTOR	RK73M2AJ 12 Ω
R4053	7030006670	S.RESISTOR	RK73K2AJ 470 Ω
C4003	4010007940	CERAMIC	HM11SJ SL 301J 500V
C4004	4010007940	CERAMIC	HM11SJ SL 301J 500V
C4006	4310000360	MYLAR	50 F2D 103J
C4007	4310000360	MYLAR	50 F2D 103J
C4008	4030011390	S.CERAMIC	GRM40 CH 331J 50PT
C4010	4030011470	S.CERAMIC	GR44 CH 682K
C4011	4030011470	S.CERAMIC	GR44 CH 682K
C4012	4010007970	CERAMIC	HM13SJ SL 471J 500V
C4013	4030011460	S.CERAMIC	GR111 CH 102K 50PB

S.=Surface mount

[PA UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C4014	4030011460	S.CERAMIC	GR111 CH 102K 50PB
C4015	4030011470	S.CERAMIC	GR44 CH 682K
C4016	4030011470	S.CERAMIC	GR44 CH 682K
C4018	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C4019	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C4020	4510006530	ELECTROLYTIC	UVX1C470M DA
C4021	4510006540	ELECTROLYTIC	UVR1C101M DA
C4022	4030011440	S.CERAMIC	GRM40 B 473K 50PT
C4023	4510006560	ELECTROLYTIC	UVR1E471M PA
C4024	4030011440	S.CERAMIC	GRM40 B 473K 50PT
C4026	4510006510	ELECTROLYTIC	UVX1E100M DA
C4027	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C4028	4510006570	ELECTROLYTIC	UVR1C102M PA
C4029	4030011440	S.CERAMIC	GRM40 B 473K 50PT
C4030	4030011440	S.CERAMIC	GRM40 B 473K 50PT
C4031	4030011440	S.CERAMIC	GRM40 B 473K 50PT
C4032	4030011370	S.CERAMIC	GRM40 CH 101J 50PT
C4033	4030011480	S.CERAMIC	GR44 Y5V 684Z
C4034	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C4035	4510006580	ELECTROLYTIC	UVR1E102M PA
C4036	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C4038	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C4041	4030011450	S.CERAMIC	GRM40 B 104K 50PT
C4042	4030011450	S.CERAMIC	GRM40 B 104K 50PT
C4043	4030011450	S.CERAMIC	GRM40 B 104K 50PT
C4044	4030011450	S.CERAMIC	GRM40 B 104K 50PT
C4045	4320001020	DIP MICA	KD20C 472J5
C4046	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C4047	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C4048	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C4050	4510006580	ELECTROLYTIC	UVR1E102M PA
C4051	4510006550	ELECTROLYTIC	UVR1C471M PA
C4052	4510006510	ELECTROLYTIC	UVX1E100M DA
C4053	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C4054	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C4055	4030011460	S.CERAMIC	GR111 CH 102K 50PB
C4056	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C4057	4320001040	DIP MICA	KD20C 681J5
C4059	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C4063	4510006550	ELECTROLYTIC	UVR1C471M PA
C4064	4030011380	S.CERAMIC	GRM40 CH 221J 50PT
C4065	4040000710	BARRIERLAYR	UAT 08X 473K
C4066	4040000710	BARRIERLAYR	UAT 08X 473K
C4067	4040000710	BARRIERLAYR	UAT 08X 473K
C4068	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C4069	4030011440	S.CERAMIC	GRM40 B 473K 50PT
C4070	4030011500	S.CERAMIC	GRM40 B 102K 50PT
C4071	4030011360	S.CERAMIC	GRM40 CH 330J 50PT
C4072	4030011450	S.CERAMIC	GRM40 B 104K 50PT
C4073	4030011450	S.CERAMIC	GRM40 B 104K 50PT
C4074	4030011450	S.CERAMIC	GRM40 B 104K 50PT
C4075	4030011450	S.CERAMIC	GRM40 B 104K 50PT
C4076	4030011450	S.CERAMIC	GRM40 B 104K 50PT
C4077	4030011500	S.CERAMIC	GRM40 B 102K 50PT
C4078	4030011450	S.CERAMIC	GRM40 B 104K 50PT
C4079	4030011370	S.CERAMIC	GRM40 CH 101J 50PT
S4001	6910009320	THERMAL	OHD-3 110M
S4002	6910009310	THERMAL	OHD-3 50M
J4002	6510018760	CONNECTOR	TMP-J01X-V6
J4003	6510018730	CONNECTOR	10FE-BT
J4004	6510018700	CONNECTOR	RT01T-1.0B
J4005	6510018700	CONNECTOR	RT01T-1.0B
W4001	6910009340	JUMPER	JPW-02A
W4002	6910009340	JUMPER	JPW-02A
W4003	6910009340	JUMPER	JPW-02A
W4004	6910009340	JUMPER	JPW-02A
WS1	8970021930	M.OTHER	J LEAD SET (1)/PA150
WS2	8970021940	M.OTHER	1.5D COAXIAL (1)/PA150
EP4001	0910045044	PCB	B 4250D
EP4003	6910009350	BEAD	FSOH050RN01
EP4004	6910009350	BEAD	FSOH050RN01
EP4006	6910009360	BEAD	FSOH070RN

[PA UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
EP4008	6510018840	TERMINAL	F4053A
EP4009	6510018840	TERMINAL	F4053A
EP4010	9001602001	TUBE	0.7(d) L=10 mm
EP4011	9001602001	TUBE	0.7(d) L=10 mm
EP4012	9034701901	TUBE	0.7(d) L=20 mm

[FILTER UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
Q4301	1590002240	TRANSISTOR	DTC114ES TP
D4301	1710000820	DIODE	1SS133 T77
D4302	1710000820	DIODE	1SS133 T77
D4303	1710000820	DIODE	1SS133 T77
D4304	1710000820	DIODE	1SS133 T77
D4305	1710000820	DIODE	1SS133 T77
D4306	1710000820	DIODE	1SS133 T77
D4307	1710000820	DIODE	1SS133 T77
D4308	1710000820	DIODE	1SS133 T77
D4309	1790001380	DIODE	1SS237
D4310	1790001380	DIODE	1SS237
D4311	1710000820	DIODE	1SS133 T77
L4301	6180003050	COIL	LAL 03NA 101K
L4302	6140002950	COIL	LR-226
L4303	6140002960	COIL	LR-227
L4304	6180003050	COIL	LAL 03NA 101K
L4305	6180003050	COIL	LAL 03NA 101K
L4306	6140002900	COIL	LR-263
L4307	6140002820	COIL	LR-235
L4308	6140002830	COIL	LR-236
L4309	6180003050	COIL	LAL 03NA 101K
L4310	6180003050	COIL	LAL 03NA 101K
L4311	6140002850	COIL	LR-238
L4312	6140002820	COIL	LR-235
L4313	6140002820	COIL	LR-235
L4314	6180003050	COIL	LAL 03NA 101K
L4315	6180003050	COIL	LAL 03NA 101K
L4316	6140002840	COIL	LR-237
L4317	6140002900	COIL	LR-263
L4318	6140002900	COIL	LR-263
L4319	6180003050	COIL	LAL 03NA 101K
L4320	6180003050	COIL	LAL 03NA 101K
L4321	6140002860	COIL	LR-241
L4322	6140002840	COIL	LR-237
L4323	6140002840	COIL	LR-237
L4324	6180003050	COIL	LAL 03NA 101K
L4325	6180003050	COIL	LAL 03NA 101K
L4327	6140002880	COIL	LR-243
L4328	6140002870	COIL	LR-242
L4329	6140002870	COIL	LR-242
L4330	6180003050	COIL	LAL 03NA 101K
L4331	6180003050	COIL	LAL 03NA 101K
L4332	6140002870	COIL	LR-242
L4333	6140002870	COIL	LR-242
L4334	6180003050	COIL	LAL 03NA 101K
L4335	6180003050	COIL	LAL 03NA 101K
L4336	6140002890	COIL	LR-262
L4337	6140002890	COIL	LR-262
L4338	6180003050	COIL	LAL 03NA 101K
L4339	6180003050	COIL	LAL 03NA 101K
L4340	6180003050	COIL	LAL 03NA 101K
L4341	6140002530	COIL	LR-291
L4342	6140001460	COIL	LR-170
L4343	6180003050	COIL	LAL 03NA 101K
L4344	6180003050	COIL	LAL 03NA 101K
L4345	6140002830	COIL	LR-236
R4301	7010006650	RESISTOR	RD16S J 22 kΩ
R4302	7010006710	RESISTOR	RD16X J 100 kΩ
R4303	7010006640	RESISTOR	RD16S J 10 kΩ
R4304	7010006710	RESISTOR	RD16X J 100 kΩ
R4305	7010006700	RESISTOR	RD16X J 22 kΩ
R4306	7010006640	RESISTOR	RD16S J 10 kΩ

S.=Surface mount

[FILTER UNIT]

REF NO.	ORDER NO.	DESCRIPTION
R4307	7010006740	RESISTOR RD50SS J 68 Ω
R4308	7010006730	RESISTOR RD25S J 10 Ω
R4309	7540000110	ABSORBER SRYH-350L
R4312	7010006630	RESISTOR RD16S J 4.7 kΩ
R4313	7010006690	RESISTOR RD16X J 4.7 kΩ
R4314	7010006720	RESISTOR RD16X J 1M Ω
C4301	4040000700	BARRIERLAYR UZE 08X 104M
C4302	4320000990	DIP MICA KD20C 102J5
C4303	4010007970	CERAMIC HM13SJ SL 471J 500V
C4304	4010007970	CERAMIC HM13SJ SL 471J 500V
C4305	4320001000	DIP MICA KD20C 222J5
C4306	4010007940	CERAMIC HM11SJ SL 301J 500V
C4307	4010007930	CERAMIC HM95SJ SL 271J 500V
C4308	4320001010	DIP MICA KD20C 272J5
C4309	4010007890	CERAMIC HM95SJ SL 181J 500V
C4310	4010007750	CERAMIC HM60SJ CH 100D 500V
C4311	4010007960	CERAMIC HM11SJ SL 391J 500V
C4312	4010007960	CERAMIC HM11SJ SL 391J 500V
C4313	4010007950	CERAMIC HM11SJ SL 331J 500V
C4314	4010007960	CERAMIC HM11SJ SL 391J 500V
C4315	4040000700	BARRIERLAYR UZE 08X 104M
C4316	4040000700	BARRIERLAYR UZE 08X 104M
C4317	4010007780	CERAMIC HM60SJ SL 300J 500V
C4318	4010007950	CERAMIC HM11SJ SL 331J 500V
C4319	4010007970	CERAMIC HM13SJ SL 471J 500V
C4320	4010007950	CERAMIC HM11SJ SL 331J 500V
C4321	4010007930	CERAMIC HM95SJ SL 271J 500V
C4322	4010007930	CERAMIC HM95SJ SL 271J 500V
C4323	4010007930	CERAMIC HM95SJ SL 271J 500V
C4324	4010007970	CERAMIC HM13SJ SL 471J 500V
C4325	4010007970	CERAMIC HM13SJ SL 471J 500V
C4326	4010007970	CERAMIC HM13SJ SL 471J 500V
C4327	4010007930	CERAMIC HM95SJ SL 271J 500V
C4328	4010007950	CERAMIC HM11SJ SL 331J 500V
C4329	4010007950	CERAMIC HM11SJ SL 331J 500V
C4330	4010007970	CERAMIC HM13SJ SL 471J 500V
C4331	4010007960	CERAMIC HM11SJ SL 391J 500V
C4332	4010007950	CERAMIC HM11SJ SL 331J 500V
C4333	4010007870	CERAMIC HM74SJ SL 121J 500V
C4334	4010007870	CERAMIC HM74SJ SL 121J 500V
C4335	4010007960	CERAMIC HM11SJ SL 391J 500V
C4336	4010007960	CERAMIC HM11SJ SL 391J 500V
C4337	4010007820	CERAMIC HM60SJ SL 680J 500V
C4338	4040000700	BARRIERLAYR UZE 08X 104M
C4339	4010007660	CERAMIC HE80SJ YB 472K 50V
C4340	4010007910	CERAMIC HM95SJ SL 221J 500V
C4341	4010007950	CERAMIC HM11SJ SL 331J 500V
C4342	4010007950	CERAMIC HM11SJ SL 331J 500V
C4343	4010007960	CERAMIC HM11SJ SL 391J 500V
C4344	4010007990	CERAMIC HM74SJ SL 151J 500V
C4345	4010007950	CERAMIC HM11SJ SL 331J 500V
C4346	4010007970	CERAMIC HM13SJ SL 471J 500V
C4347	4010007850	CERAMIC HM60SJ SL 101J 500V
C4348	4010007940	CERAMIC HM11SJ SL 301J 500V
C4349	4010007660	CERAMIC HE80SJ YB 472K 50V
C4350	4010007660	CERAMIC HE80SJ YB 472K 50V
C4351	4010007890	CERAMIC HM95SJ SL 181J 500V
C4352	4010007950	CERAMIC HM11SJ SL 331J 500V
C4353	4010007870	CERAMIC HM74SJ SL 121J 500V
C4354	4010007930	CERAMIC HM95SJ SL 271J 500V
C4355	4010007940	CERAMIC HM11SJ SL 301J 500V
C4356	4010007810	CERAMIC HM60SJ SL 560J 500V
C4357	4010007740	CERAMIC HM60SJ SL 050C 500V
C4358	4010007940	CERAMIC HM11SJ SL 301J 500V
C4359	4010007660	CERAMIC HE80SJ YB 472K 50V
C4360	4010007660	CERAMIC HE80SJ YB 472K 50V
C4361	4010007960	CERAMIC HM11SJ SL 391J 500V
C4362	4010007870	CERAMIC HM74SJ SL 121J 500V
C4363	4010007960	CERAMIC HM11SJ SL 391J 500V
C4364	4010007840	CERAMIC HM60SJ SL 820J 500V
C4365	4010007910	CERAMIC HM95SJ SL 221J 500V
C4366	4010007660	CERAMIC HE80SJ YB 472K 50V
C4367	4010007660	CERAMIC HE80SJ YB 472K 50V
C4368	4010007930	CERAMIC HM95SJ SL 271J 500V
C4369	4010007850	CERAMIC HM60SJ SL 101J 500V
C4370	4010007950	CERAMIC HM11SJ SL 331J 500V
C4371	4010007820	CERAMIC HM60SJ SL 680J 500V
C4372	4010007840	CERAMIC HM60SJ SL 820J 500V
C4373	4010007660	CERAMIC HE80SJ YB 472K 50V
C4374	4010007660	CERAMIC HE80SJ YB 472K 50V

[FILTER UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C4377	4010007910	CERAMIC HM95SJ SL 221J 500V
C4378	4010007800	CERAMIC HM60SJ SL 470J 500V
C4379	4010007870	CERAMIC HM74SJ SL 121J 500V
C4380	4010007660	CERAMIC HE80SJ YB 472K 50V
C4381	4010007660	CERAMIC HE80SJ YB 472K 50V
C4382	4010007990	CERAMIC HM74SJ SL 151J 500V
C4384	4010007940	CERAMIC HM11SJ SL 301J 500V
C4385	4010007800	CERAMIC HM60SJ SL 470J 500V
C4386	4010007990	CERAMIC HM74SJ SL 151J 500V
C4387	4010007660	CERAMIC HE80SJ YB 472K 50V
C4388	4010007710	CERAMIC HE40SJ YB 471K 50V
C4389	4010007710	CERAMIC HE40SJ YB 471K 50V
C4390	4010007700	CERAMIC HE90SJ SL 471J 50V
C4391	4010007700	CERAMIC HE90SJ SL 471J 50V
C4392	4610002040	TRIMMER ECR-HA030E41
C4393	4010007690	CERAMIC HE60SJ SL 181J 50V
C4394	4010007660	CERAMIC HE80SJ YB 472K 50V
C4395	4010007660	CERAMIC HE80SJ YB 472K 50V
C4396	4010007660	CERAMIC HE80SJ YB 472K 50V
C4398	4010007730	CERAMIC HM17SJ YB 103K 500V
C4399	4010007730	CERAMIC HM17SJ YB 103K 500V
C4400	4010007680	CERAMIC HE50SJ SL 101J 50V
C4401	4010007670	CERAMIC HE40SJ SL 180J 50V
C4402	4010007680	CERAMIC HE50SJ SL 101J 50V
C4404	4010007660	CERAMIC HE80SJ YB 472K 50V
C4406	4040000710	BARRIERLAYR UAT 08X 473K
C4407	4510006510	ELECTROLYTIC UVX1E100M DA
C4408	4010007800	CERAMIC HM60SJ SL 470J 500V
C4409	4010007750	CERAMIC HM60SJ CH 100D 500V
C4410	4010007870	CERAMIC HM74SJ SL 121J 500V
C4411	4010007750	CERAMIC HM60SJ CH 100D 500V
C4412	4010007840	CERAMIC HM60SJ SL 820J 500V
C4413	4010007810	CERAMIC HM60SJ SL 560J 500V
C4414	4010007750	CERAMIC HM60SJ CH 100D 500V
C4415	4010007850	CERAMIC HM60SJ SL 101J 500V
C4416	4010007660	CERAMIC HE80SJ YB 472K 50V
C4417	4010007850	CERAMIC HM60SJ SL 101J 500V
C4420	4010007840	CERAMIC HM60SJ SL 820J 500V
C4321	4010007760	CERAMIC HM60SJ SL 220J 500V
C4422	4510006490	ELECTROLYTIC UVX1H010M DA
C4423	4510006490	ELECTROLYTIC UVX1H010M DA
C4424	4510006490	ELECTROLYTIC UVX1H010M DA
C4425	4510006490	ELECTROLYTIC UVX1H010M DA
C4426	4510006490	ELECTROLYTIC UVX1H010M DA
C4427	4510006490	ELECTROLYTIC UVX1H010M DA
C4428	4510006490	ELECTROLYTIC UVX1H010M DA
C4429	4010008460	CERAMIC 18P 500V HM
C4430	4010007660	CERAMIC HE80SJ YB 472K 50V
C4431	4010007750	CERAMIC HM60SJ CH 100D 500V
RL4301	6330001280	RELAY AJS1345
RL4302	6330001280	RELAY AJS1345
RL4303	6330001280	RELAY AJS1345
RL4304	6330001280	RELAY AJS1345
RL4305	6330001280	RELAY AJS1345
RL4306	6330001280	RELAY AJS1345
RL4307	6330001280	RELAY AJS1345
RL4308	6330001280	RELAY AJS1345
RL4309	6330001280	RELAY AJS1345
RL4310	6330001280	RELAY AJS1345
RL4311	6330001280	RELAY AJS1345
RL4312	6330001280	RELAY AJS1345
RL4313	6330001280	RELAY AJS1345
RL4314	6330001280	RELAY AJS1345
RL4315	6330001280	RELAY AJS1345
RL4316	6330001280	RELAY AJS1345
RL4317	6330001270	RELAY AGP 2013 (DSP1-DC12V)
J4303	6510018740	CONNECTOR 16FE-BT-M
J4304	6510018760	CONNECTOR TMP-J01X-V6
W4301	6910009420	JUMPER IPS-1041-2
W4312	6910009410	JUMPER IPS-1041-4
W4313	6910009410	JUMPER IPS-1041-4
W4314	6910009410	JUMPER IPS-1041-4
W4319	6910009340	JUMPER JPW-02A
W4320	6910009410	JUMPER IPS-1041-4
W4321	6910009410	JUMPER IPS-1041-4
W4329	6910009330	JUMPER JPW-01 R-01

S.=Surface mount

[FILTER UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
WS1	8970021920	M.OTHER	1.5D COAXIAL (2)/FI
EP4301	0910045053	PCB	B 4251C

[CHASSIS PARTS]

REF NO.	ORDER NO.	DESCRIPTION	
F4601	5220000280	HOLDER	FH-052S
F4602	5220000280	HOLDER	FH-052S
F4603	5210000500	FUSE	FGB 30A
F4604	5210000500	FUSE	FGB 30A
J4601	6510018780	CONNECTOR	MR-DS 01
W4603	8900005900	CABLE	OPC-569
W4604	8900005880	CABLE	OPC-564
W4605	8900005890	CABLE	OPC-565
WS1	8970021910	M.OTHER	1.5D COAXIAL (1)/PA
EP4603	6910009370	SHEET	P101 KD
EP4604	6910009370	SHEET	P101 KD
EP4605	6910009370	SHEET	P101 KD
EP4607	6910009380	PLATE	B312D [EUR]
EP4608	6910009380	PLATE	B312D [EUR]
EP4609	6910009380	PLATE	B312D
EP4611	8930024970	SHEET	1241 INSULATION SHEET [EUR]
EP4612	8930024970	SHEET	1241 INSULATION SHEET [EUR]

[TERMINAL UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C7001	4510006610	ELECTROLYTIC	UVR1C472M HA
C7002	4010007660	CERAMIC	HE80SJ YB 472K 50V
C7003	4010007980	CERAMIC	HE60SJ YB 222K 50V
C7004	4010007980	CERAMIC	HE60SJ YB 222K 50V
C7005	4010007660	CERAMIC	HE80SJ YB 472K 50V
C7006	4010007660	CERAMIC	HE80SJ YB 472K 50V
J7001	6510018710	CONNECTOR	RTB-1.5-2F
WS1	8970021950	M.OTHER	J LEAD SET (4)/TE
WS2	8970021960	M.OTHER	J BOARD SET (2)/TE
EP7001	0910044563	PCB	B 4421C
EP7003	6510018840	TERMINAL	F4053A
EP7004	6510018840	TERMINAL	F4053A
EP7009	6910009550	BEAD	FSOH090RN

[ALARM UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC5001	1130007800	S.IC	S-7116AF-TF
Q5001	1530002690	S.TRANSISTOR	2SC4116-GR (TE85R)
X5001	6060000150	S.CERAMIC	CSAC3.58MGC300CD
X5002	6060000150	S.CERAMIC	CSAC3.58MGC300CD
R5001	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R5002	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R5003	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R5004	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R5005	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R5006	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R5007	7030003710	S.RESISTOR	ERJ3GEYJ 184 V (180 kΩ)
R5008	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R5009	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R5010	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
C5001	4550006140	S.TANTALUM	ECST1EY474R
C5002	4550006210	S.TANTALUM	ECST1CX106R
C5004	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C5005	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C5006	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C5007	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C5008	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A
J5001	6510018160	S.CONNECTOR	4-175643-0
J5002	6510018170	S.CONNECTOR	4-175643-4
EP5001	910045601	PCB	B 4368A

[REG UNIT]—Europe version only

REF NO.	ORDER NO.	DESCRIPTION	
IC8001	1110003920	S.IC	μPC494GS
IC8002	1110003900	S.IC	μPC10937
IC8003	1170000300	S.IC	PS2701-1
Q8001	1560000860	S.FET	2SK2286
Q8003	1510000950	S.TRANSISTOR	2SA1213-Y
D8002	1790001370	DIODE	SF10SC6
D8003	1790001380	DIODE	1SS237
L8001	5920000450	COIL	FK-080E-1020
L8003	5920000450	COIL	FK-080E-1020
T8001	5920000440	TRANSFOM	TO-25
T8002	5920000610	TRANSFOM	TC-4
R8001	7030006720	S.RESISTOR	RK73K2AJ 2.7 kΩ
R8002	7030006750	S.RESISTOR	RK73K2AJ 4.7 kΩ
R8003	7030006770	S.RESISTOR	RK73K2AJ 8.2 kΩ
R8004	7030006700	S.RESISTOR	RK73K2AJ 1.2 kΩ
R8005	7030006750	S.RESISTOR	RK73K2AJ 4.7 kΩ
R8006	7030006750	S.RESISTOR	RK73K2AJ 4.7 kΩ
R8007	7030006760	S.RESISTOR	RK73K2AJ 6.8 kΩ
R8008	7030006730	S.RESISTOR	RK73K2AJ 3.3 kΩ
R8009	7030006940	S.RESISTOR	RK73K2HJ 47 Ω
R8010	7030006980	S.RESISTOR	RK73K2HJ 470 Ω
R8011	7030006750	S.RESISTOR	RK73K2AJ 4.7 kΩ
R8012	7030006640	S.RESISTOR	RK73K2AJ 100 Ω
R8013	7310004190	TRIMMER	KVSF637A 1 kΩ
R8014	7030006740	S.RESISTOR	RK73K2AJ 3.9 kΩ
R8015	7030006690	S.RESISTOR	RK73K2AJ 1 kΩ
R8016	7030006620	S.RESISTOR	RK73K2AJ 33 Ω

S.=Surface mount

[REG UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R8019	7030006670	S.RESISTOR	RK73K2AJ 470 Ω
R8020	7030006690	S.RESISTOR	RK73K2AJ 1 kΩ
C8001	4510006550	ELECTROLYTIC	UVR1C471M PA
C8002	4030011440	S.CERAMIC	GRM40 B 473K 50PT
C8004	4510006590	ELECTROLYTIC	UPF1E102M RH
C8005	4510006590	ELECTROLYTIC	UPF1E102M RH
C8006	4510006500	ELECTROLYTIC	UVX1C100M DA
C8007	4310000950	MYLAR	QYX1H103J TP
C8008	4030011420	S.CERAMIC	GRM40 B 472K 50PT
C8009	4510006590	ELECTROLYTIC	UPF1E102M RH
C8010	4510006590	ELECTROLYTIC	UPF1E102M RH
C8011	4560000140	CERAMIC	D67X5T 1E 684M51
C8012	4030011410	S.CERAMIC	GRM40 B 222K 50PT
C8013	4510006600	ELECTROLYTIC	UVR1C222M HA
C8014	4560000140	CERAMIC	D67X5T 1E 684M51
C8015	4560000140	CERAMIC	D67X5T 1E 684M51
WS1	8600034380	M.OTHER	P8001RE
WS2	8600034390	M.OTHER	P8002RE
EP8001	0910045072	PCB	B 4420B

S.=Surface mount

SECTION 6 MECHANICAL PARTS AND DISASSEMBLY

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	851000230	220 shield case.	1
MP2	851000241	220 shield case cover-1	1
MP3	8510002200	VCO case	1
MP4	851000230	220 shield case	1
MP5	8510008300	963 DDS shield case	1
MP6	8510008310	963 DDS shield cover	1
MP8	8510001060	Shield case	1
MP9	8510001740	Shield case upper cover	1
MP10	8930011830	9M filter fitting	1
MP11	8510004640	220 shield plate (C)	1
MP12	8930005440	Insulation plate (E)	1
MP13	8510004640	220 shield plate (C)	1
MP14	8930005440	Insulation plate (E)	1
MP15	8510000241	220 shield case cover-1	1

[CHASSIS PARTS]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
W1003	8900005330	Flat cable OPC-526 (N: 16, L: 100)	1
W1012	8900005680	Cable OPC-567 [TUNER] (incl. nut)	1
MF1001	2710000570	Fan VFA-8018-BH10-1000	1
MP1003	8010016210	1632 main chassis (A)	1
MP1004	8930035801	Rubber foot (J)-1	4
MP1005	8850001410	Flat washer M5 SUS	3
MP1006	8850001480	Spring washer M5 sus	1
MP1007	8830001030	Nut M5 SUS	1
MP1008	8830001080	Wing nut M5 SUS	1
MP1010	8810008720	Screw PH BT M2 x 6 Ni	7
MP1011	8810008720	Screw PH BT M3 x 6 Ni	7
MP1015	8810008940	Screw PH BT M4 x 12 Ni	4
MP1018	8110005560	1632 G-cover	1
MP1020	8210012440	1632 G-rear panel	1
MP1022	8930036380	1632 G-rear seal	1
MP1024	8930036840	1632 G-connector plate	1
MP1026	8930035740	Seal	1
MP1027	8930035760	Seal	1
MP1028	8930035730	Plate	1
MP1029	8810008560	Screw PH M3 x 8 SUS ZK	1
MP1030	8810008560	Screw PH M3 x 8 SUS ZK	4
MP1031	8810008910	Screw PH M4 x 25 Ni	4
MP1038	8810008560	Screw PH M3 x 8 SUS ZK	9
MP1040	8810008890	Screw FH M3 x 6 Ni	4
MP1043	8810008560	Screw PH M3 x 8 SUS ZK	4
MP1044	8930037050	Sheet	4
MP1045	8930037030	1562 stand-off	4
MP1046	8930036390	1562 CA-plate	2
MP1047	8810008800	Screw PH UNC No. 4 x 4 SUS	4
MP1050	8930037900	Sheet BB	1
MP1051	8930037910	Sheet BC	4

[LOGIC UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
DS2004	5010000180	LCD DLC-7978P (HTN transparent)	1
MP2001	8410002000	1632 heat sink plate	1
MP2002	8930035620	1632 LCD holder	1
MP2003	8930036280	1632 LCD lower filter	1
MP2004	8930036310	1632 LCD upper filter	1
MP2006	8810008890	Screw FH M3 x 6 Ni	1
MP2007	8830001060	Nut M3 Ni	1
MP2008	8930036570	1632 lamp rubber	3

[MIC UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
J2301	6510009210	Connector 14RS-8H-MI-AU (F) [MICROPHONE] (incl. nut, washer)	1

[VR1 UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
R2401	7210002750	Variable resistor TP96N937-15F-10KB-1540 [VOLUME] (incl. nut, washer)	1

[VR2 UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
R2501	7210002760	Variable resistor TP96N944-15F-10KB-1632 [CLARITY] (incl. nut, washer)	1

[SENSOR1 UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
S2601	2250000280	Encoder SRB18100 25KC [GROUP] (incl. nut, washer)	1

[SENSOR2 UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
S2701	2250000280	Encoder SRB18100 25KC [CHANNEL] (incl. nut, washer)	1

[FRONT PARTS]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
S2801	2260002270	Switch JPZ2120-0101 (TV-3) [POWER]	1
W2807	8900005860	Flat cable OPC-522 (N: 6, L: 100)	1
W2808	8900005860	Flat cable OPC-522 (N: 6, L: 100)	1
W2809	8900005870	Flat cable OPC-524 (N: 10, L: 150)	1
W2810	8900005860	Flat cable OPC-522 (N: 6, L: 100)	1
W2811	8900005860	Flat cable OPC-522 (N: 6, L: 100)	1
MP2801	8210012190	1632 front panel	1
MP2802	8310035580	1632 window plate	1
MP2803	8930035591	1632 3-key-1	1
MP2804	8930035600	1632 4-key	1
MP2805	8930035610	1632 14-key	1
MP2806	8930035640	1632 power key	1
MP2807	8930035650	1632 1-key	1
MP2808	8930035660	1632 2-key	1
MP2809	8610009750	Knob N232	2
MP2810	8610009760	Knob N233	2
MP2812	8930035580	1632 sensor seal	2
MP2813	8930035570	1632 knob plate	1
MP2814	8930035671	1632 SP net-1	1
MP2816	8930035630	1632 front seal	1
MP2817	8930034950	O-ring SO-008-17	2
MP2818	8010016023	1632 sub chassis-3	1
MP2819	8810008900	Screw PH M3 x 6 Ni	4
MP2820	8810008550	Screw PH BT M3 x 8 Ni	7
MP2821	8930036350	1632 T-key	1
MP2822	8930036320	1632 key spacer	1
MP2823	8810008890	Screw FH M3 x 6 Ni	2

[FRONT PARTS]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP2824	8610009240	Knob spring No. 7800P	2
MP2825	8930032370	Shaft tape (A)	2
MP2831	8930045080	1632 clip	1
SP2801	2510000441	Speaker F77G08-62051	1

[PLL-A UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP3001	8510009220	1386 shield case	1
MP3002	8510009860	1632 shield cover	1
MP3003	8510008300	963 DDS shield case	1
MP3004	8510008310	963 DDS shield cover	1
MP3005	8510000230	220 shield case	1
MP3006	8510000881	194 VCO case -1	1
MP3007	8510006510	194 VCO case cover (E)	1
MP3008	8510005330	Coil case	1
MP3010	8810008860	Setscrew A 2.6 x 5	4
MP3011	8510002200	VCO case	1
MP3012	8510006941	DTMF shield case -1	1
MP3013	8510002200	VCO case	1
MP3014	8510000210	194 shield plate	1
MP3015	8930005570	Insulation plate (U)	1

[PA UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP4001	8860000110	Ground lug B3 (M4) BS AG	1
MP4002	8860000110	Ground lug B3 (M4) BS AG	1

[FILTER UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP4301	8930014140	Ground spring (D)	1

[PA PARTS]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
F4601	5220000280	Fuse holder FH-052S (incl. nut, washer)	1
F4602	5220000280	Fuse holder FH-052S (incl. nut, washer)	1
F4603	5210000500	Fuse FGB 30 A	1
F4604	5210000500	Fuse FGB 30 A	1
J4601	6510018780	Connector MR-DS 01 [ANTENNA]	1
W4603	8900005900	Cable OPC-569 [DC POWER]	1
W4604	8900005880	Flat cable OPC-564 (N: 16, L: 220)	1
W4605	8900005890	Flat cable OPC-564 (N: 10, L: 220)	1
EP4603	6910009370	P101 KD insulation sheet (Eur only)	1
EP4604	6910009370	P101 KD insulation sheet (Eur only)	1
EP4605	6910009370	P101 KD insulation sheet	1
EP4607	6910009380	B312D insulation bushing (Eur only)	1
EP4608	6910009380	B312D insulation bushing (Eur only)	1
EP4609	6910009380	B312D insulation bushing	1
EP4611	8930037020	Insulation sheet (Eur only)	1
EP4612	8930037020	Insulation sheet (Eur only)	1
MP4601	8810008630	Screw PH BT M3 x 6 NI-ZU	4
MP4602	8810008630	Screw PH BT M3 x 6 NI-ZU (Eur only)	3
MP4603	8810008630	Screw PH BT M3 x 6 NI-ZU	4
MP4604	8810008630	Screw PH BT M3 x 6 NI-ZU	8
MP4605	8810009400	Screw PH M3 x 8 SUS ZK	2
MP4608	8410002180	1632 heat sink (B)-1	1
MP4609	8110005391	1632 PA cover -1	1
MP4610	8930035790	1632 ANT plate	1
MP4611	8810008630	Screw PH BT M3 x 6 NI-ZU	25

[PA PARTS]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP4612	8810008900	Screw PH M3 x 6 NI	1
MP4613	8810008900	Screw PH M3 x 6 NI	1
MP4614	8810008900	Screw PH M3 x 6 NI	1
MP4615	8810008900	Screw PH M3 x 6 NI	1
MP4616	8810008900	Screw PH M3 x 6 NI	1
MP4617	8810008880	Setscrew H 2.6 x 16 NI	1
MP4618	8810008880	Setscrew H 2.6 x 16 NI	1
MP4619	8810008880	Setscrew H 2.6 x 16 NI	1
MP4620	8810008880	Setscrew H 2.6 x 16 NI	1
MP4623	8810008900	Screw PH M3 x 6 NI (Eur only)	1
MP4628	8930020810	Insulation washer (M)	4
MP4629	8930034300	1542 ANT seal	1
MP4630	8930035770	Seal	1
MP4631	8810008900	Screw PH M3 x 6 NI	2
MP4632	8810008900	Screw PH M3 x 6 NI	2
MP4633	8930045030	1632 F-cover	2
MP4635	8930015750	Sheet (S)	1
MP4636	8930037870	1632 PA-A sheet	4
MP4637	8930037880	1632 PA-B sheet T	4
MP4639	8930038720	1632 REG sponge (Eur only)	1
MP4640	8930038730	1632 REG plate (Eur only)	1
MP4641	8410002200	1632 PA heat sink	1
MP4642	8930045040	1632 PA angle	1
MP4643	8810009730	Screw PH BT M3 x 8 NI	2
MP4645	8930043580	1981 A-sheet (C)	1
MP4646	8930046110	1632 sheet	1

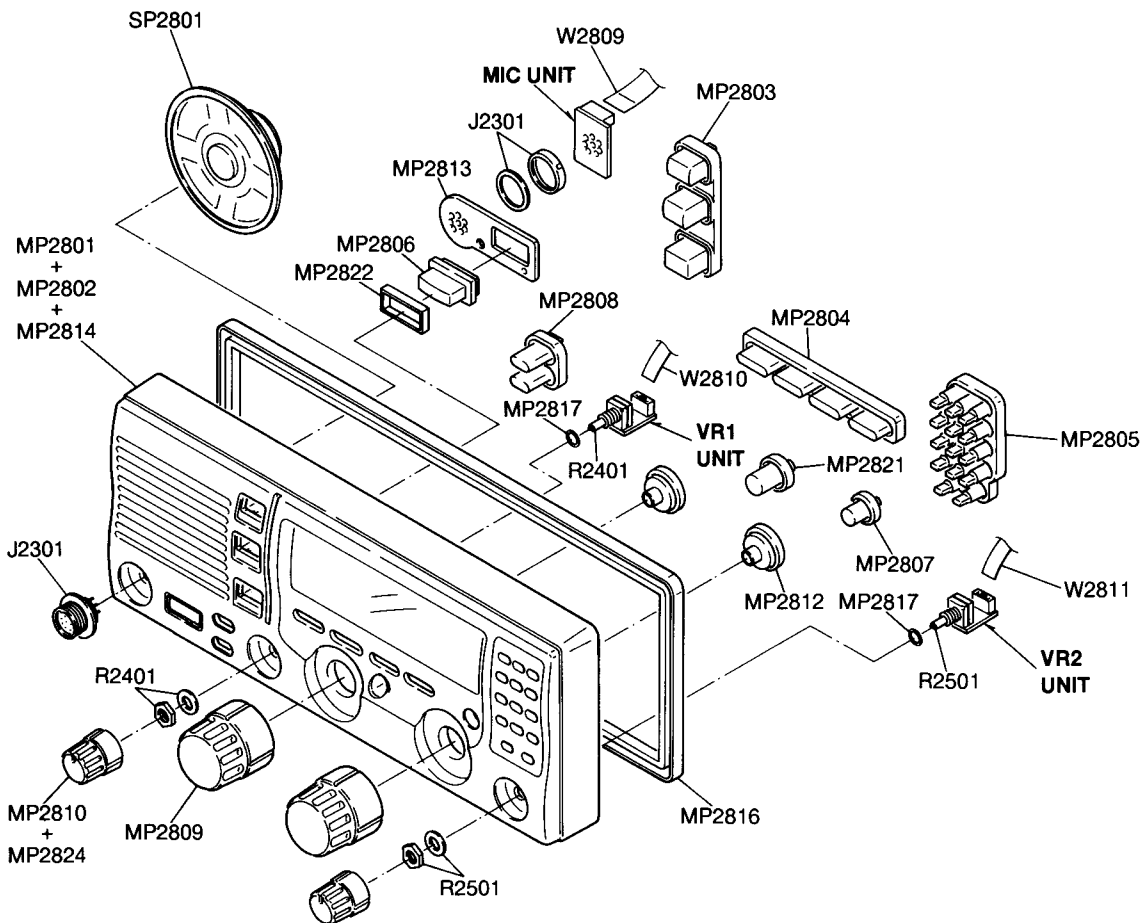
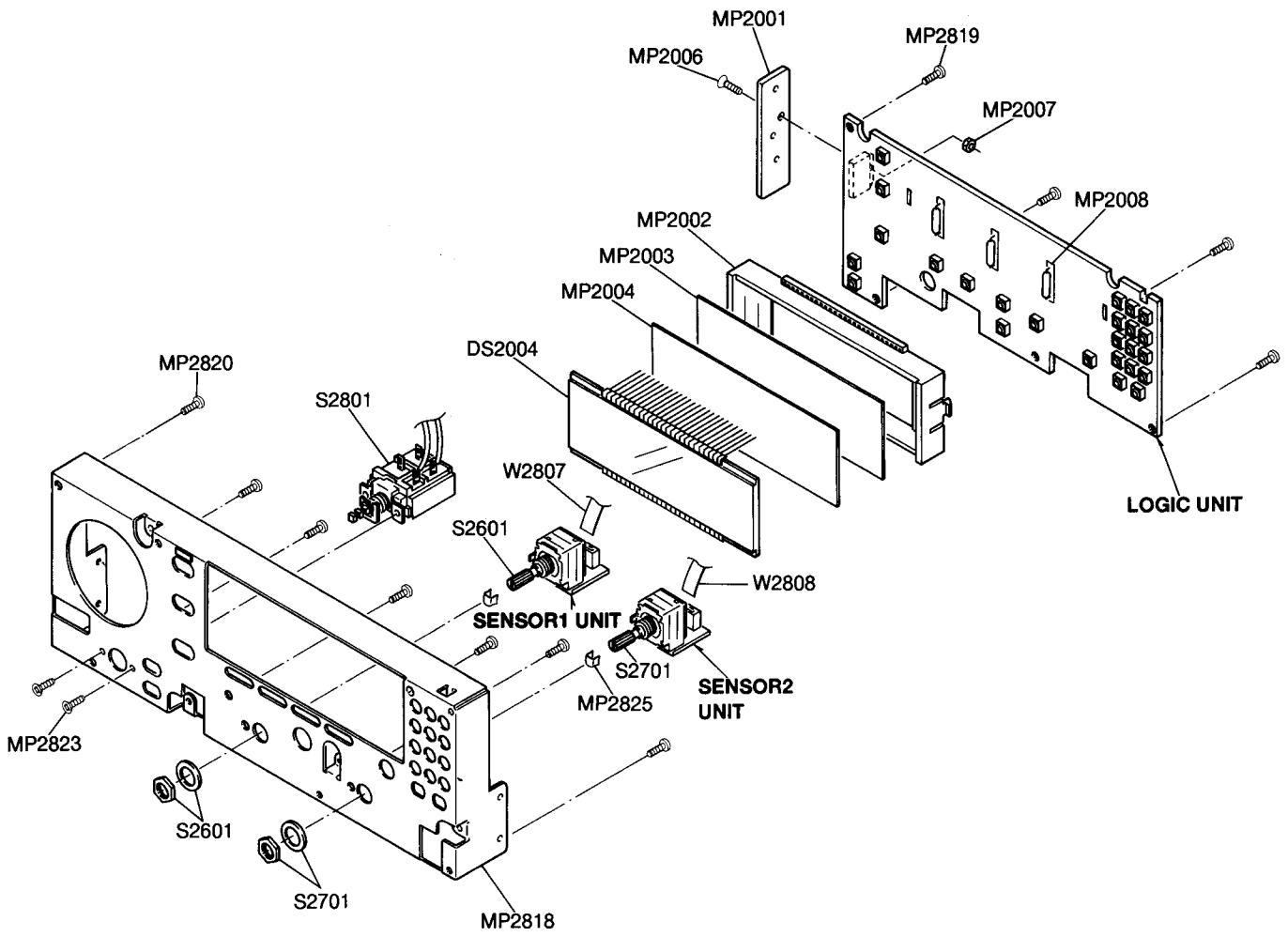
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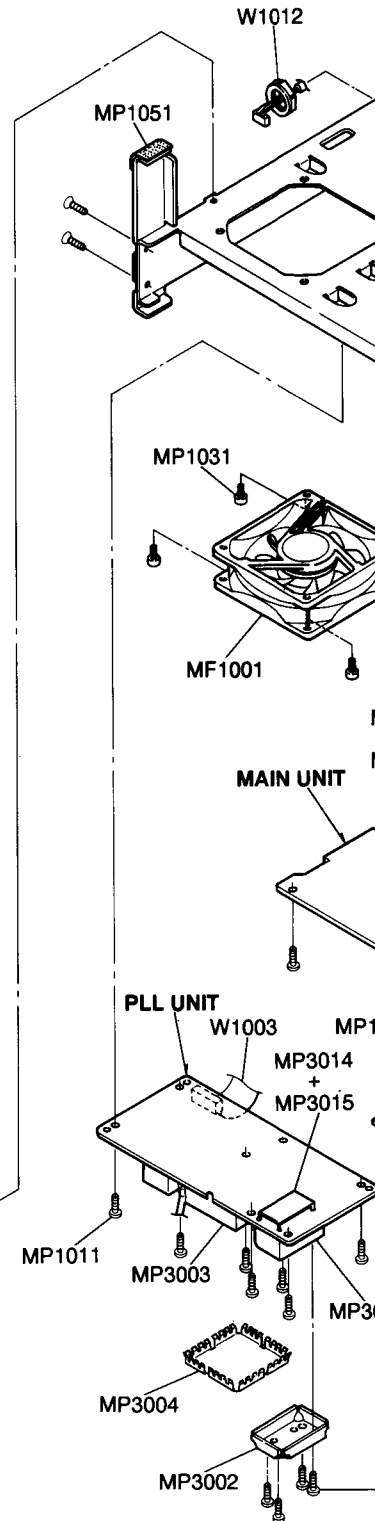
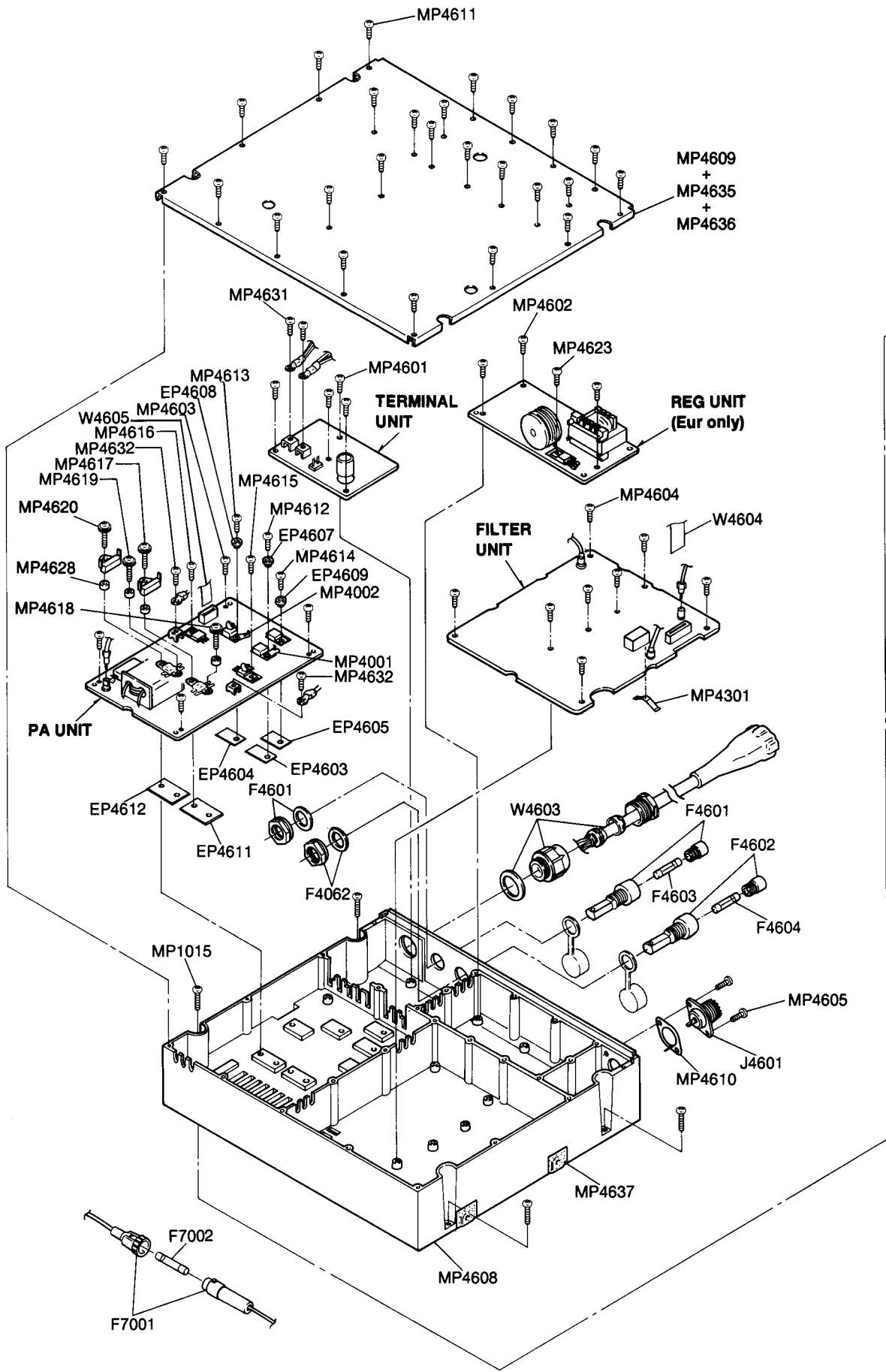
REF. NO.	ORDER NO.	DESCRIPTION	QTY.
F7001	5220000290	Fuse holder TFH-S30r	1
F7002	5210000490	Fuse FGB 5 A	1

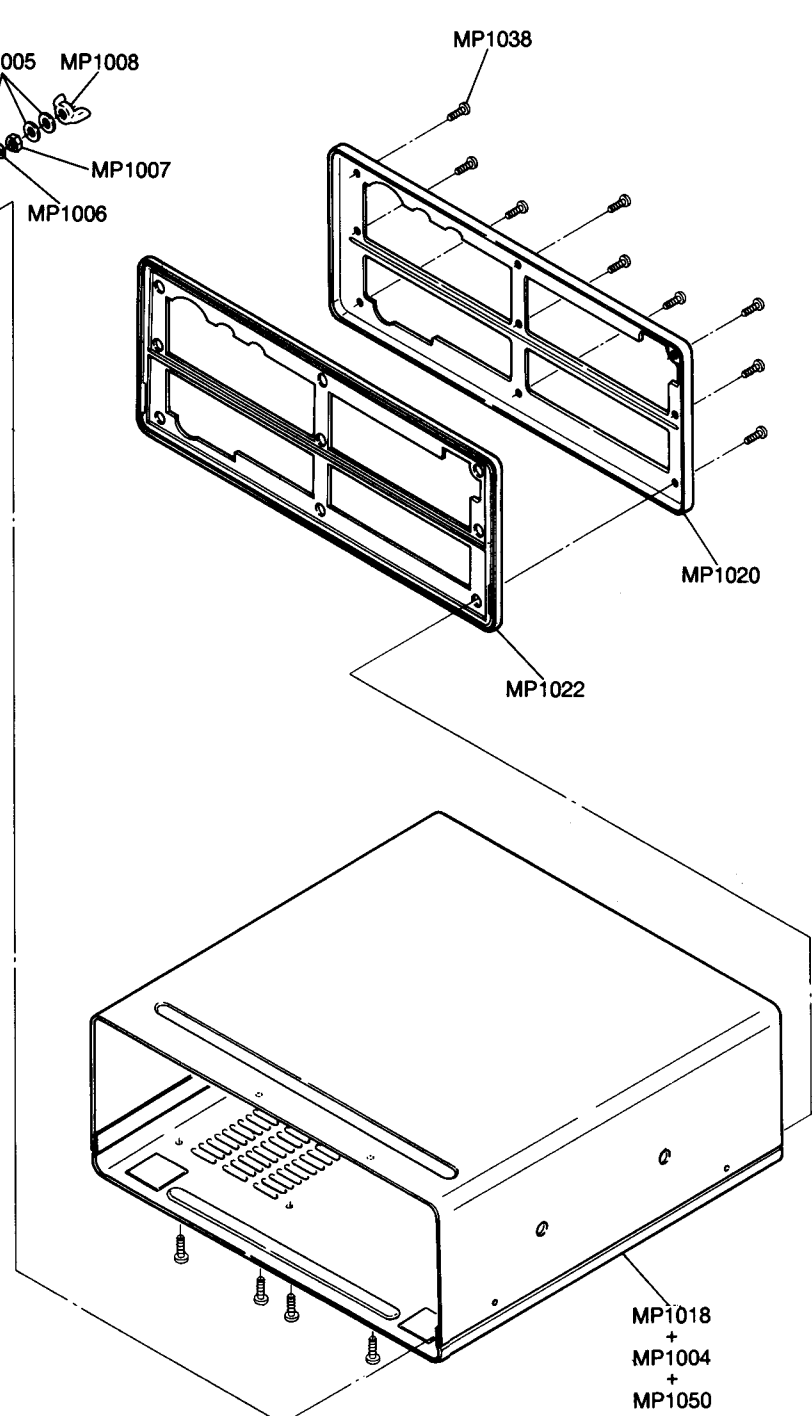
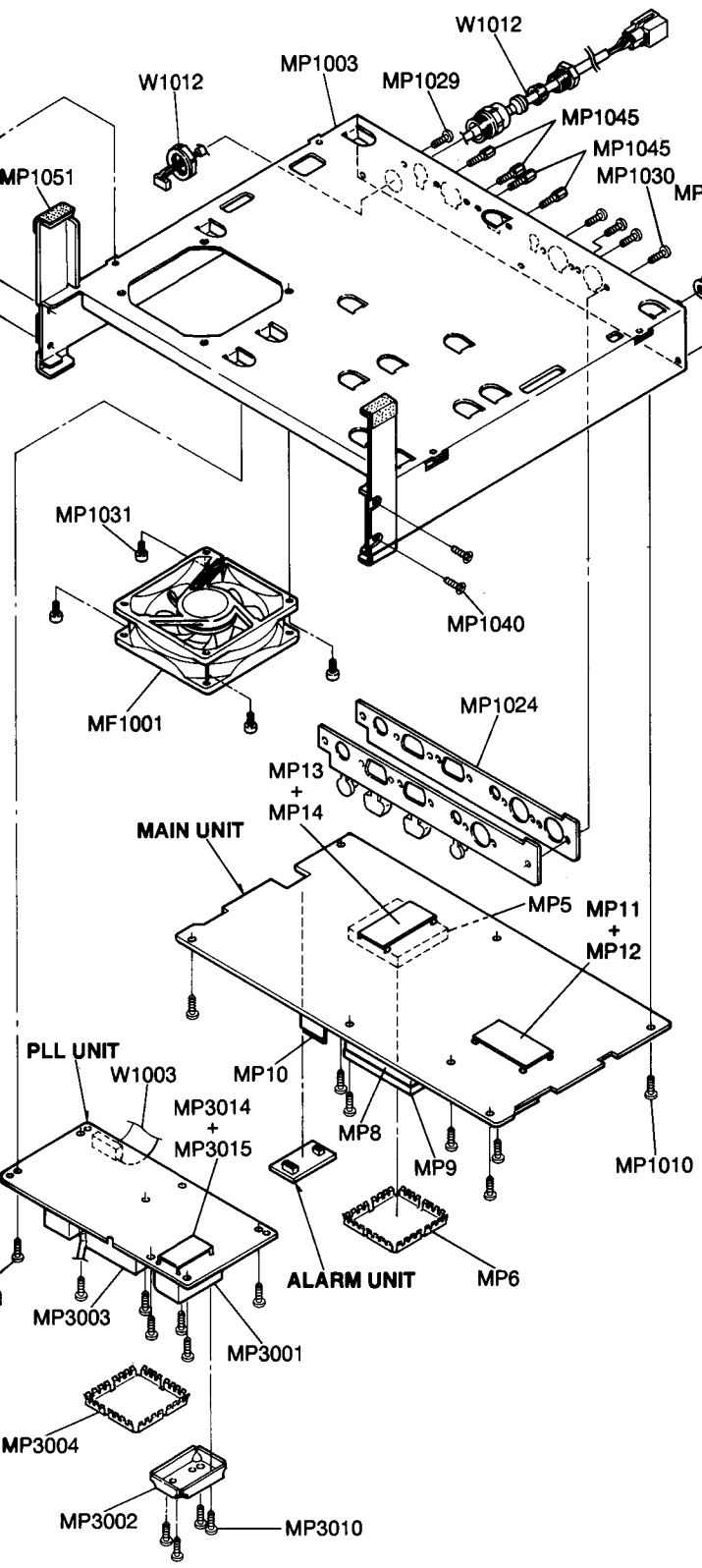
[UNPACKING]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
F1201	5210000090	Spare fuse FGB 30 A	2
F1202	5210000060	Spare fuse FGB 5 A	2
J1201	6450001270	DIN connector TCP0577-71-5201	1
J1202	6450001280	DIN connector TCP0587-71-5401	1
J1203	5610000040	Speaker plug AP321	1
P1201	5610000150	Tuner connector CL07A04M	1
P1202	5610000160	Pin for tuner connector 215001-2M	4
W1201	8900005690	DC power cable OPC-568	1
EP1202	6910009540	Insulation sheet WS07MF-0A	4
EP1204	6910009390	DIN connector cover TCP9426-01-010	2
MC1201	7700001980	Microphone EM-101	1
MP1203	8850001410	Flat washer M5 SUS	4
MP1207	8830001070	Nut M6 SUS	8
MP1208	8850001490	Spring washer M6 SUS	4
MP1211	8010016140	1632 mounting bracket	1
MP1212	8810008920	Screw PH A0 M6 x 30 SUS	4
MP1214	8810008510	Screw PH A M3.5 x 30 SUS	2
MP1215	8850001500	Flat washer M6 (7 x 19 x 1.0) SUS	8
MP1216	8820000170	Bracket knob (A) M5 x 10 SUS	4
MP1217	8930036560	1632 cushion rubber	4
MP1218	8950004140	1632 MIC hanger	1
MP1219	8810008840	Allen bolt M6 x 50 SUS	4

Screw abbreviations BT, A0, A: Self-tapping
 PH: Pan head FH: Flat head
 NI: Nickel SUS: Stainless
 ZK: Black








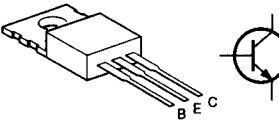
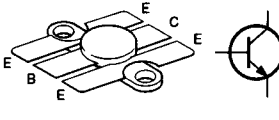
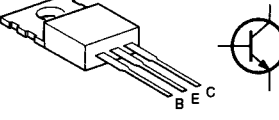





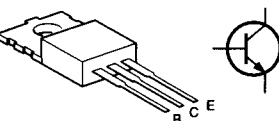

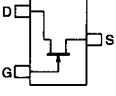
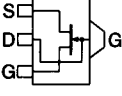
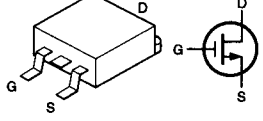
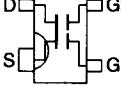








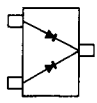
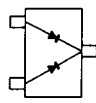
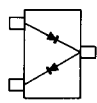

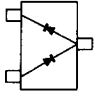
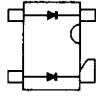
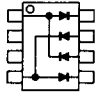
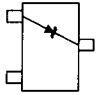
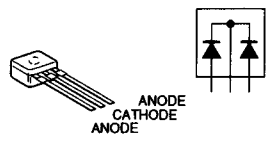
SECTION 7

SEMI-CONDUCTOR INFORMATION

• TRANSISTOR AND FET'S

<p>2SA1037K R (Symbol: FR)</p> 	<p>2SA1213 Y (Symbol: NY)</p> 	<p>2SA1586 GR (Symbol: SG)</p> 	<p>2SB798 DL (Symbol: DL)</p> 
<p>2SC1623 (Symbol: No Symbol)</p> 	<p>2SC1971 (Symbol: 43F)</p> 	<p>2SC2904</p> 	<p>2SC3133</p> 
<p>2SC3647S (Symbol: CC)</p> 	<p>2SC4116 GR (Symbol: LG)</p> 	<p>2SC4213 B (Symbol: AB)</p> 	<p>2SC4673D (Symbol: CO)</p> 
<p>2SD1448 Z (Symbol: 46)</p> 	<p>2SD1585K</p> 	<p>2SD1619 T (Symbol: DB)</p> 	<p>2SK210 GR (Symbol: YG)</p> 
<p>2SK2171 4 (Symbol: No Symbol)</p> 	<p>2SK2286</p> 	<p>3SK131 MAS (Symbol: VIT)</p> 	<p>DTA114EU (Symbol: 14)</p> 
<p>DTC114EK (Symbol: 24)</p> 	<p>DTC114ES (Symbol: E.SK)</p> 	<p>DTC114EU (Symbol: 24)</p> 	

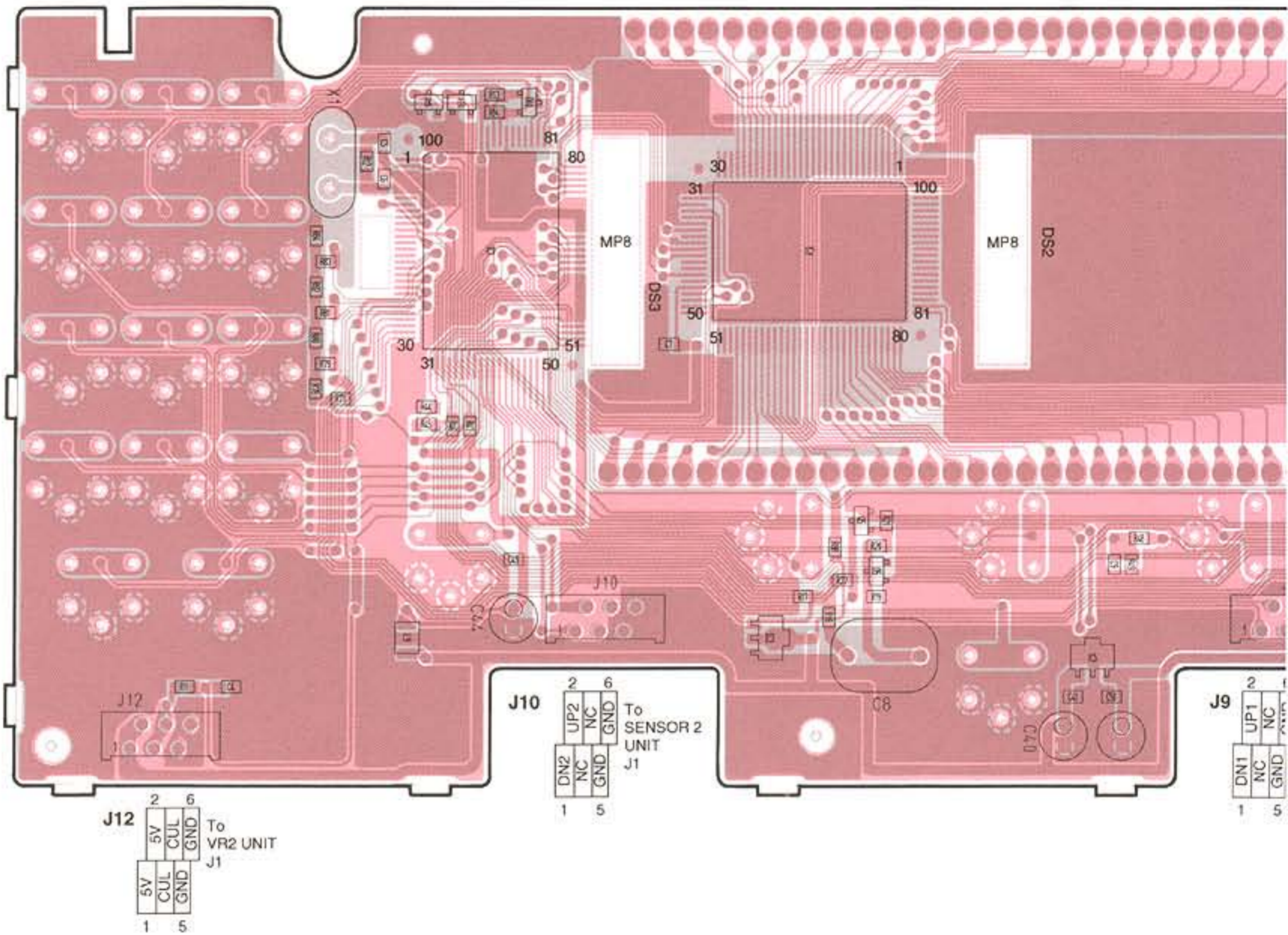
• DIODES

<p>1SS184 (Symbol: B3)</p> 	<p>1SS301 (Symbol: B3)</p> 	<p>1SS302 (Symbol: C3)</p> 	<p>DF30</p> 
<p>HSM88ASR (Symbol: C3)</p> 	<p>MA862 (Symbol: M11)</p> 	<p>ND433G (Symbol: 433)</p> 	<p>RD11M T2B1 (Symbol: 111)</p> 
<p>SF10SC6 (Symbol: B3)</p> 			

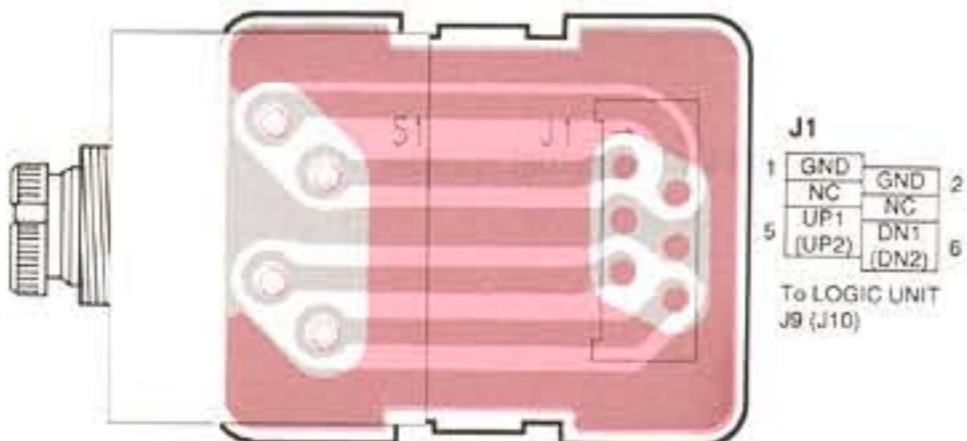
SECTION 8 BOARD LAYOUTS

8-1 LOGIC UNIT

● LOGIC UNIT (TOP VIEW)

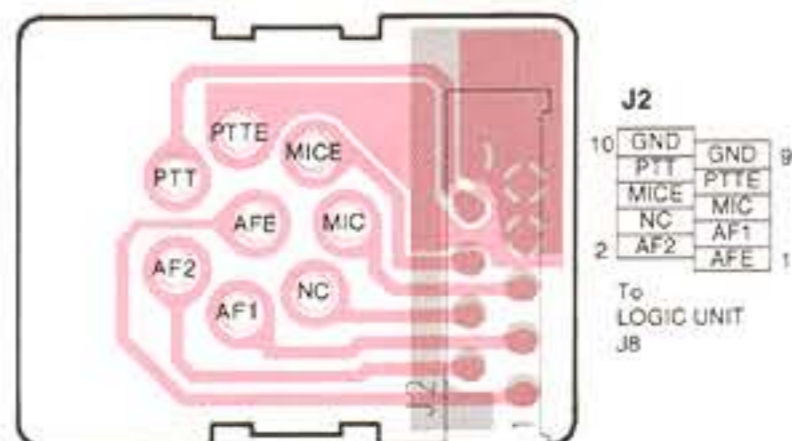


● SENSOR 1/2 UNITS



NOTE: Add "2600" to each indicated part number on the SENSOR1 unit for the actual number.
NOTE: Add "2700" to each indicated part number on the SENSOR2 unit for the actual number.

● MIC UNIT



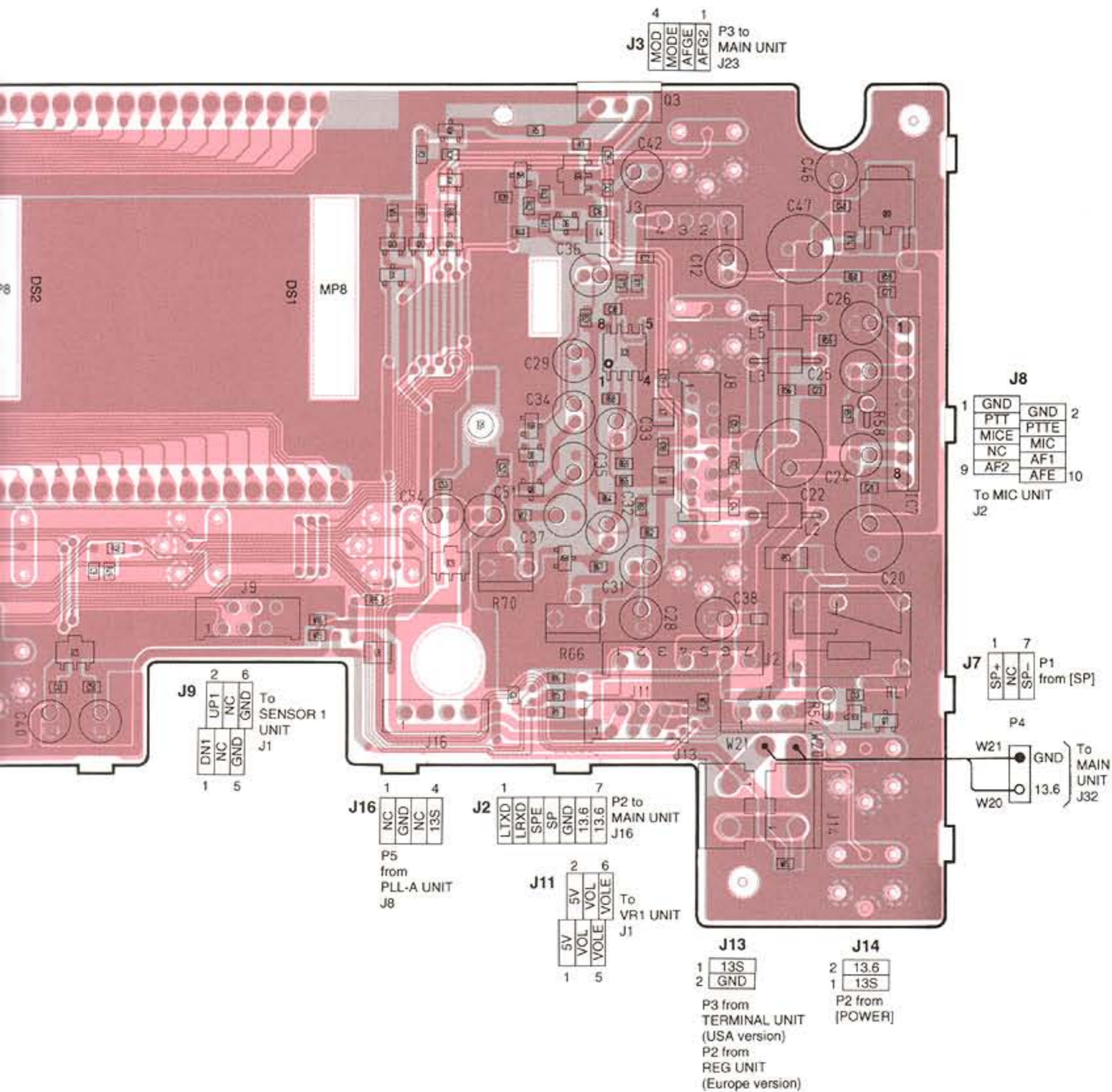
NOTE: Add "2300" to each indicated part number on the unit for the actual number.

● VR



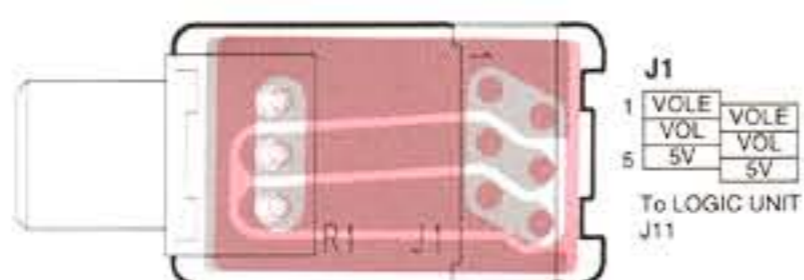
NOTE:

The combination of this page and the next page show the unit layout in the same configuration as the actual P. C. Board.



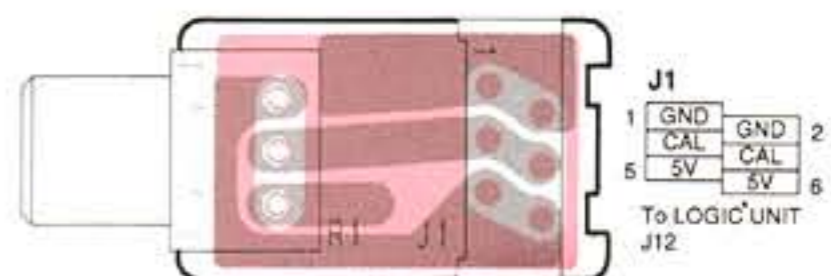
NOTE: Add "2000" to each indicated part number on the unit for the actual number.

● VR1 UNIT



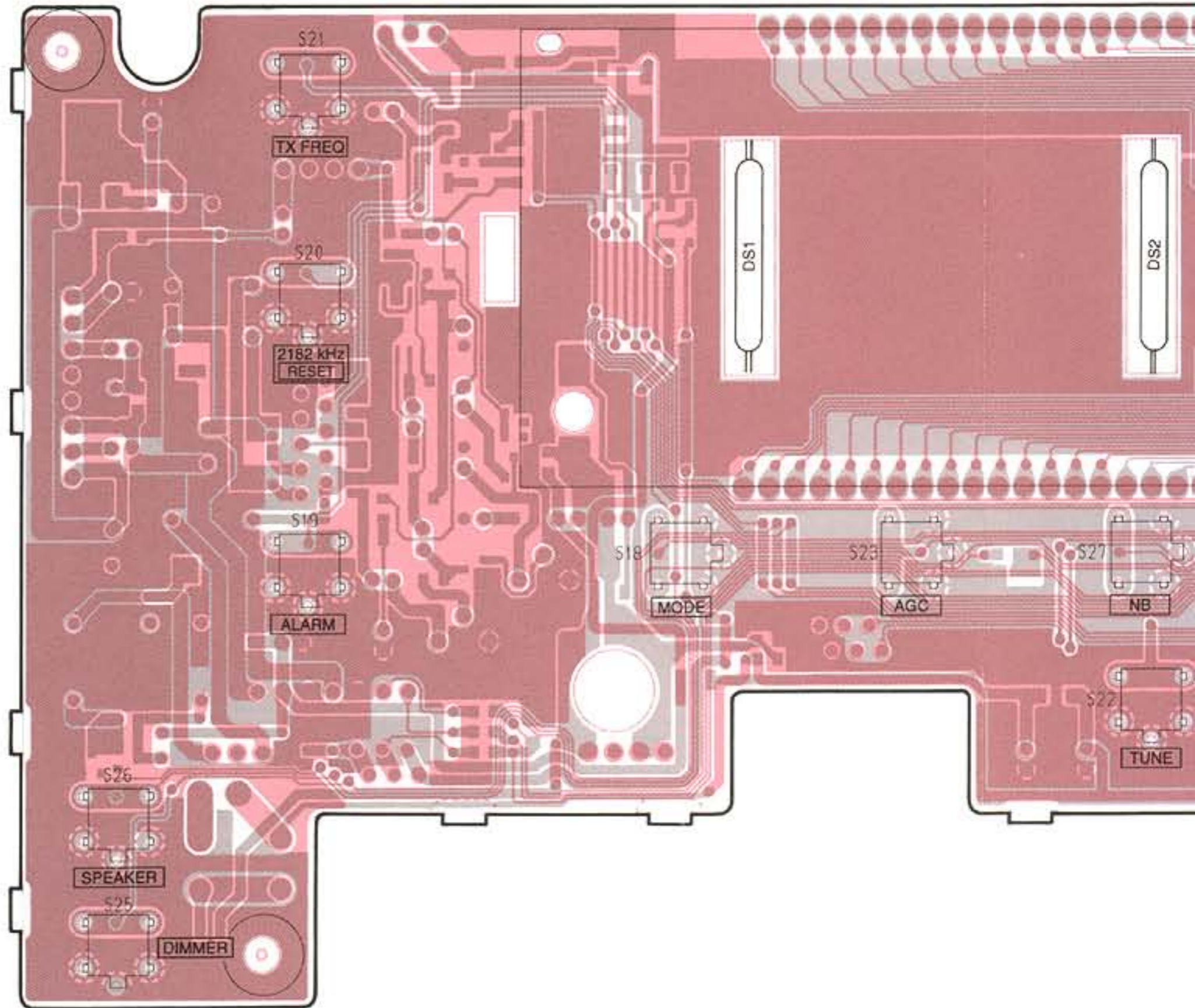
NOTE: Add "2400" to each indicated part number on the unit for the actual number.

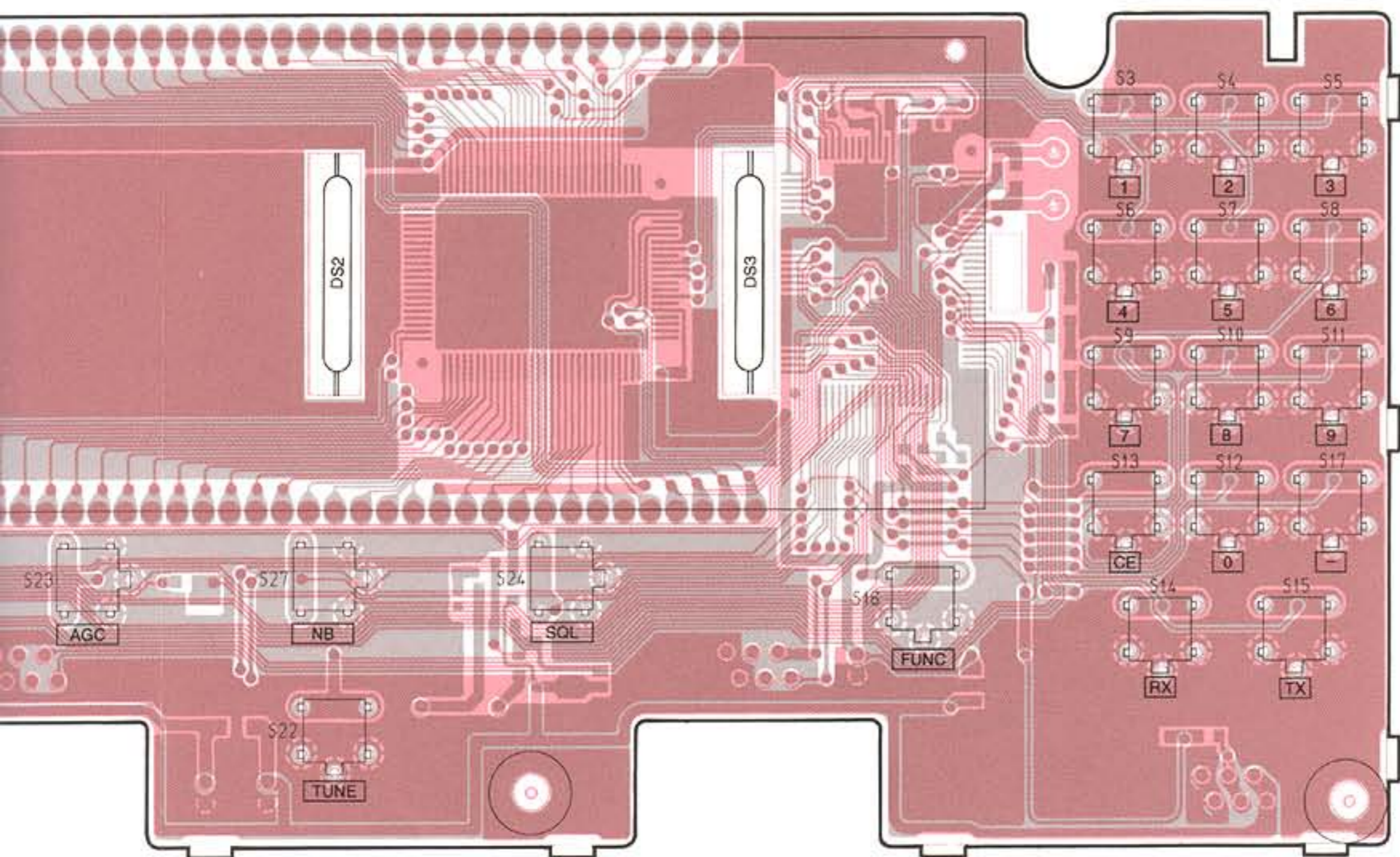
● VR2 UNIT



NOTE: Add "2500" to each indicated part number on the unit for the actual number.

● LOGIC UNIT (BOTTOM VIEW)

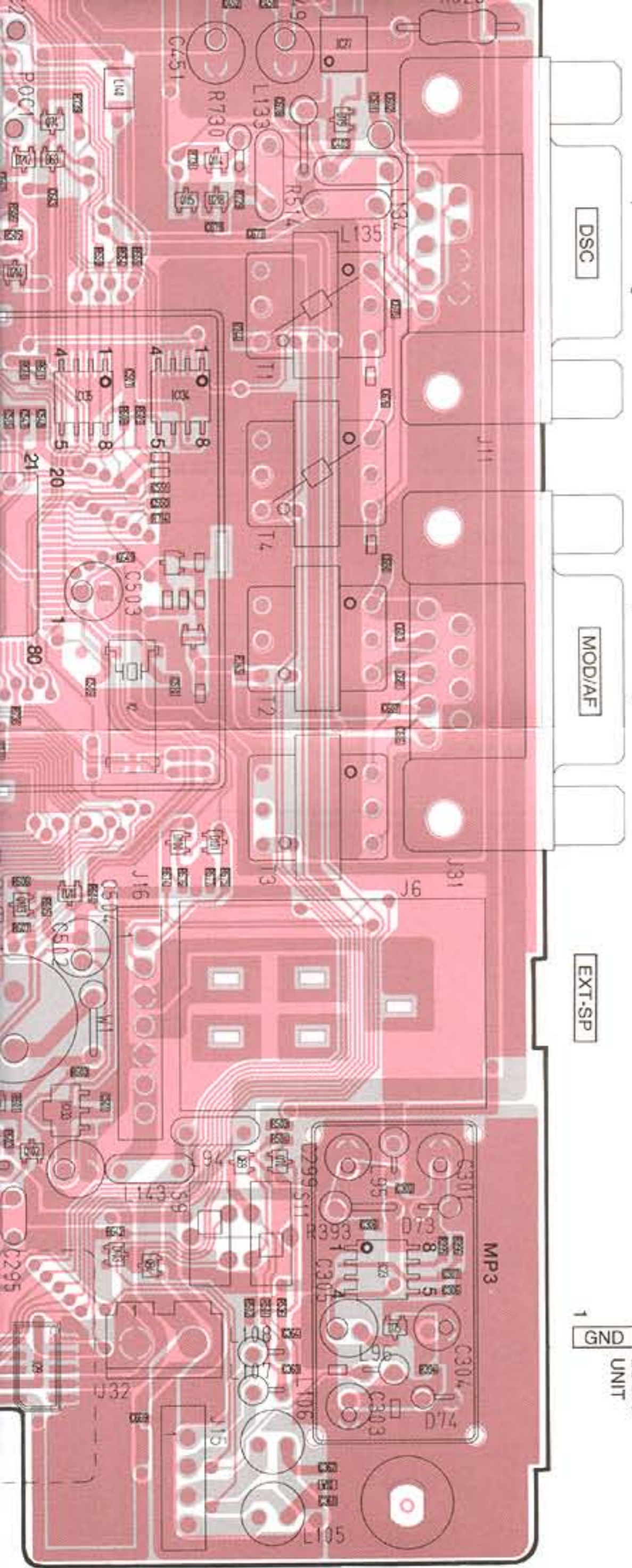
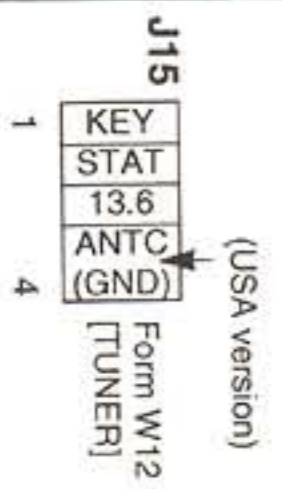
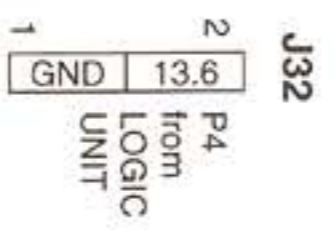
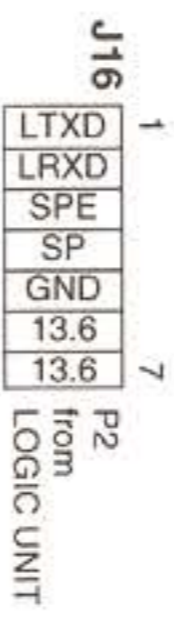
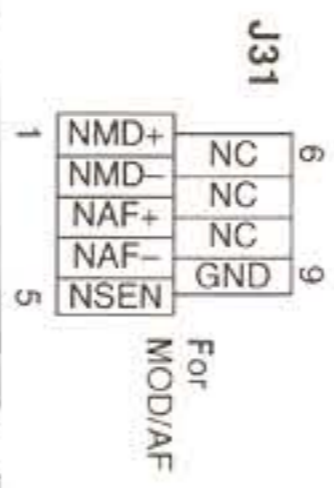
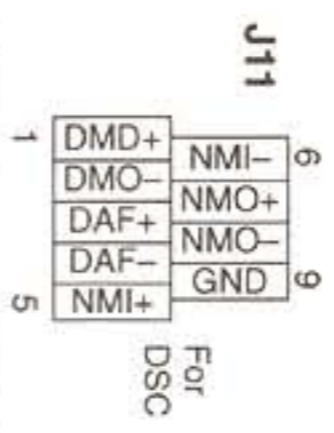
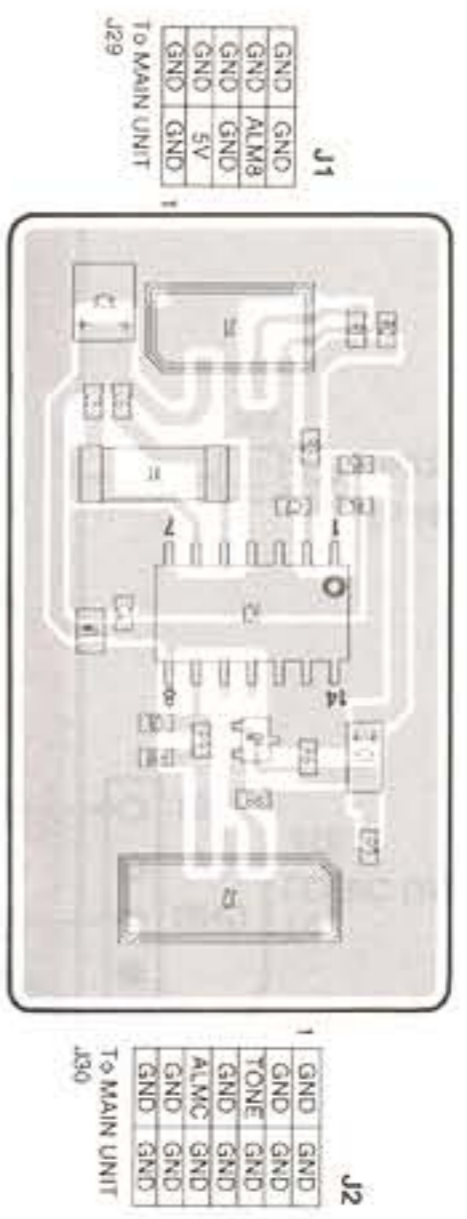


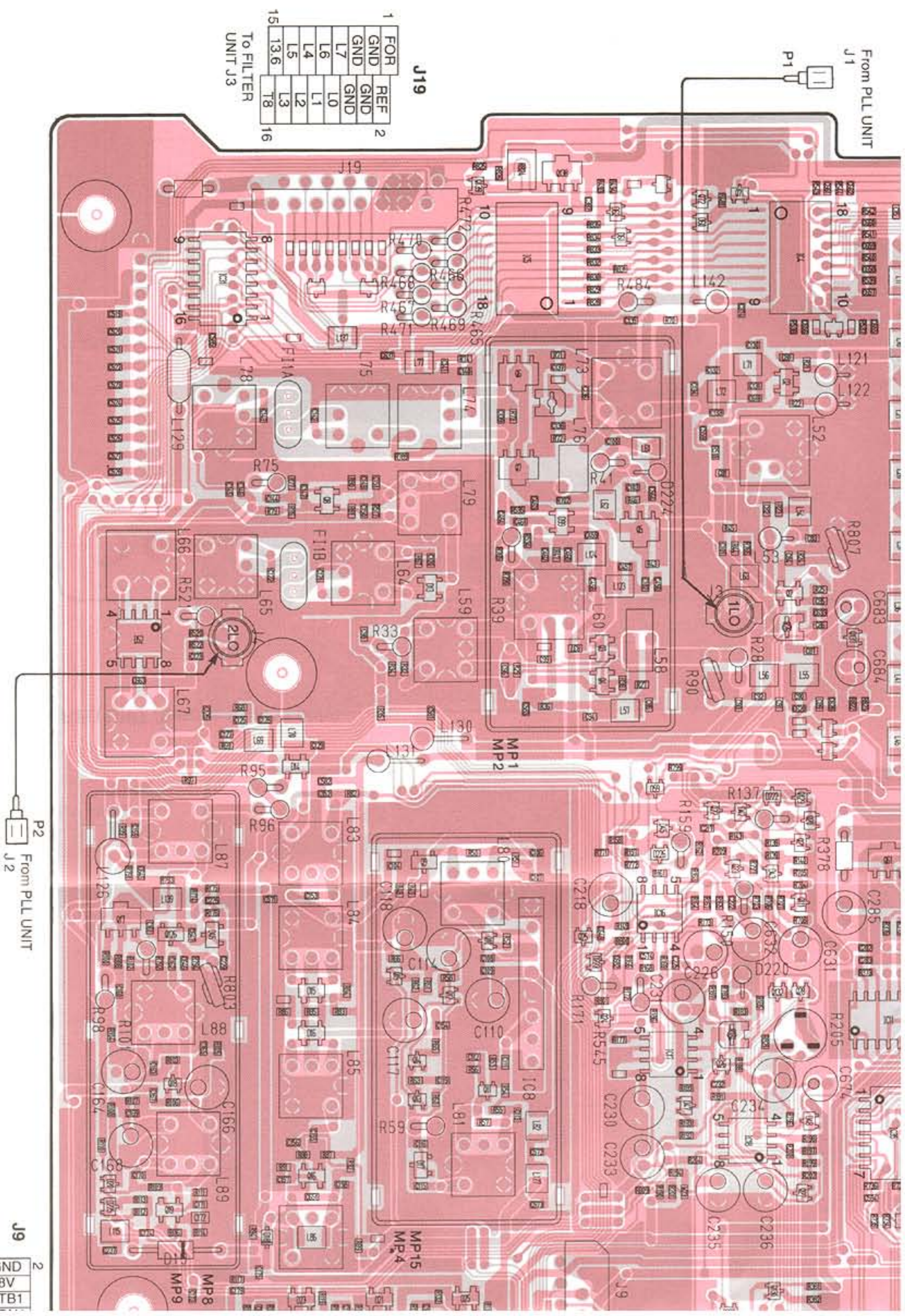


NOTE: Add "2000" to each indicated part number on the unit for the actual number.

● ALARM UNIT

NOTE: Add "5000" to each indicated part number on the ALARM unit for the actual number.





J19

1	FOR	REF	2
	GND	GND	
	GND	GND	
	GND	GND	
15	L7	L0	16
	L6	L1	
	L4	L2	
	L5	L3	
	L3.6	L8	

To FILTER UNIT J3

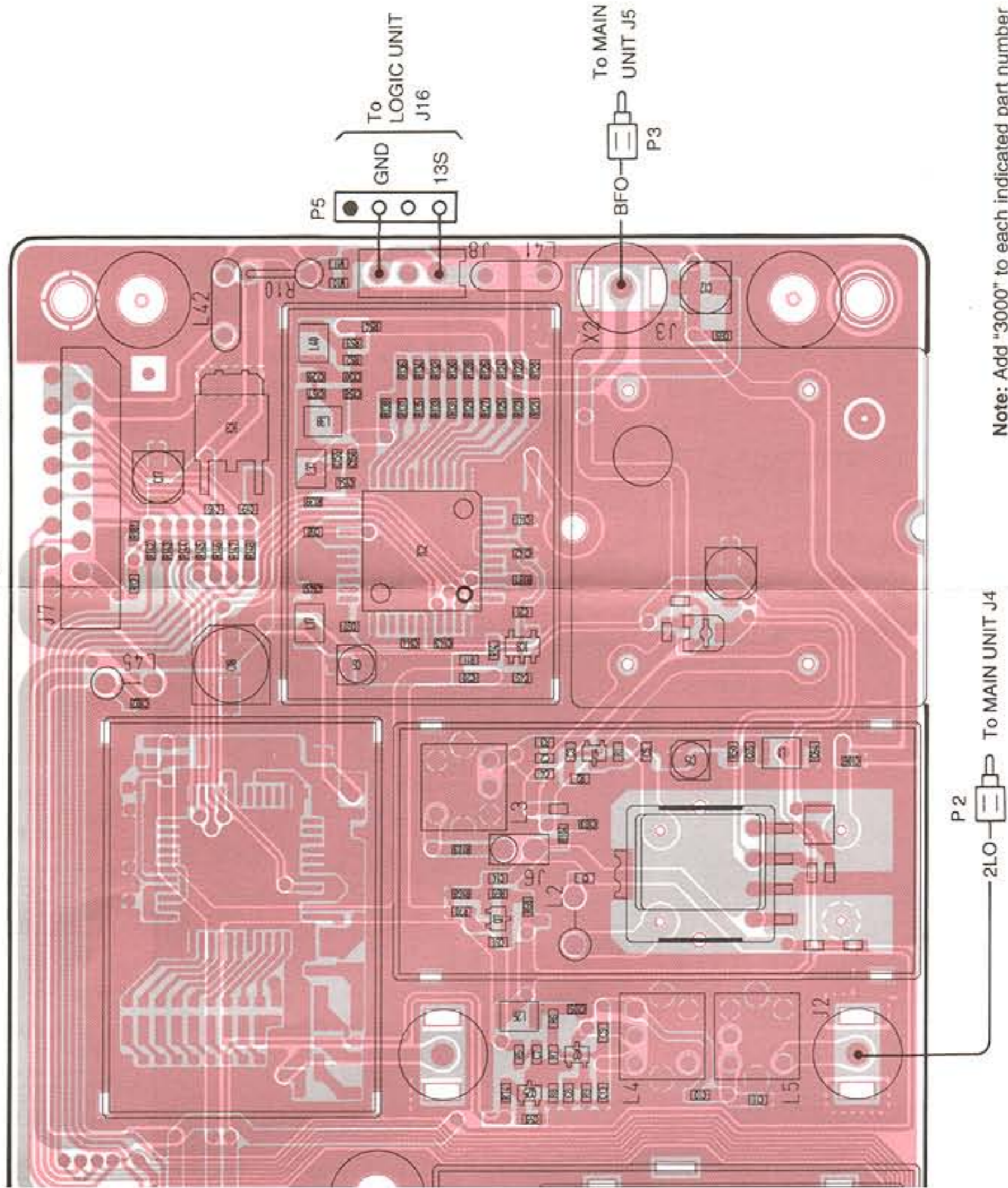
J9

1	GND	2
	PFSK	8V
	STB2	STB1
	CON2	

J7

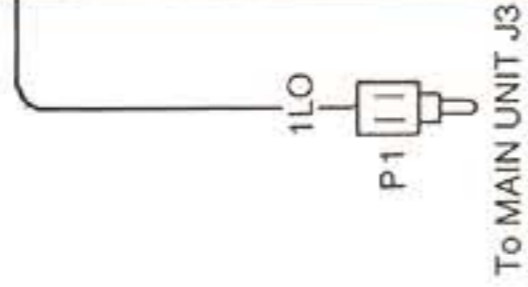
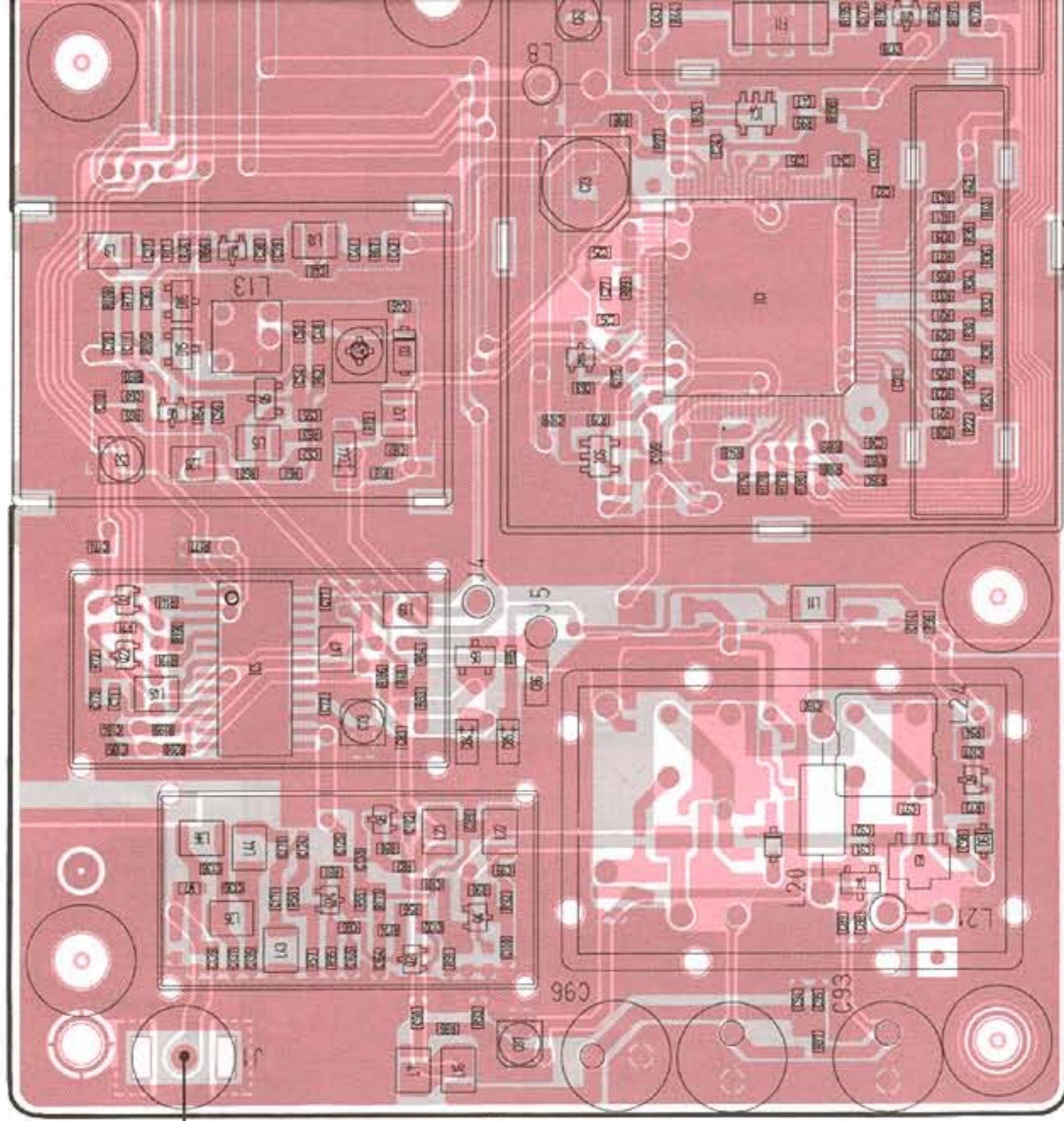
1	13.6	13.6	2
	13.6	CK	
	DATA	STB3	
	DRST	CON0	
	CON1	CON0	
	STB1	STB2	
	8V	PFSK	
15	GND	GND	16

To MAIN UNIT
J9



Note: Add "3000" to each indicated part number on the unit for the actual number.

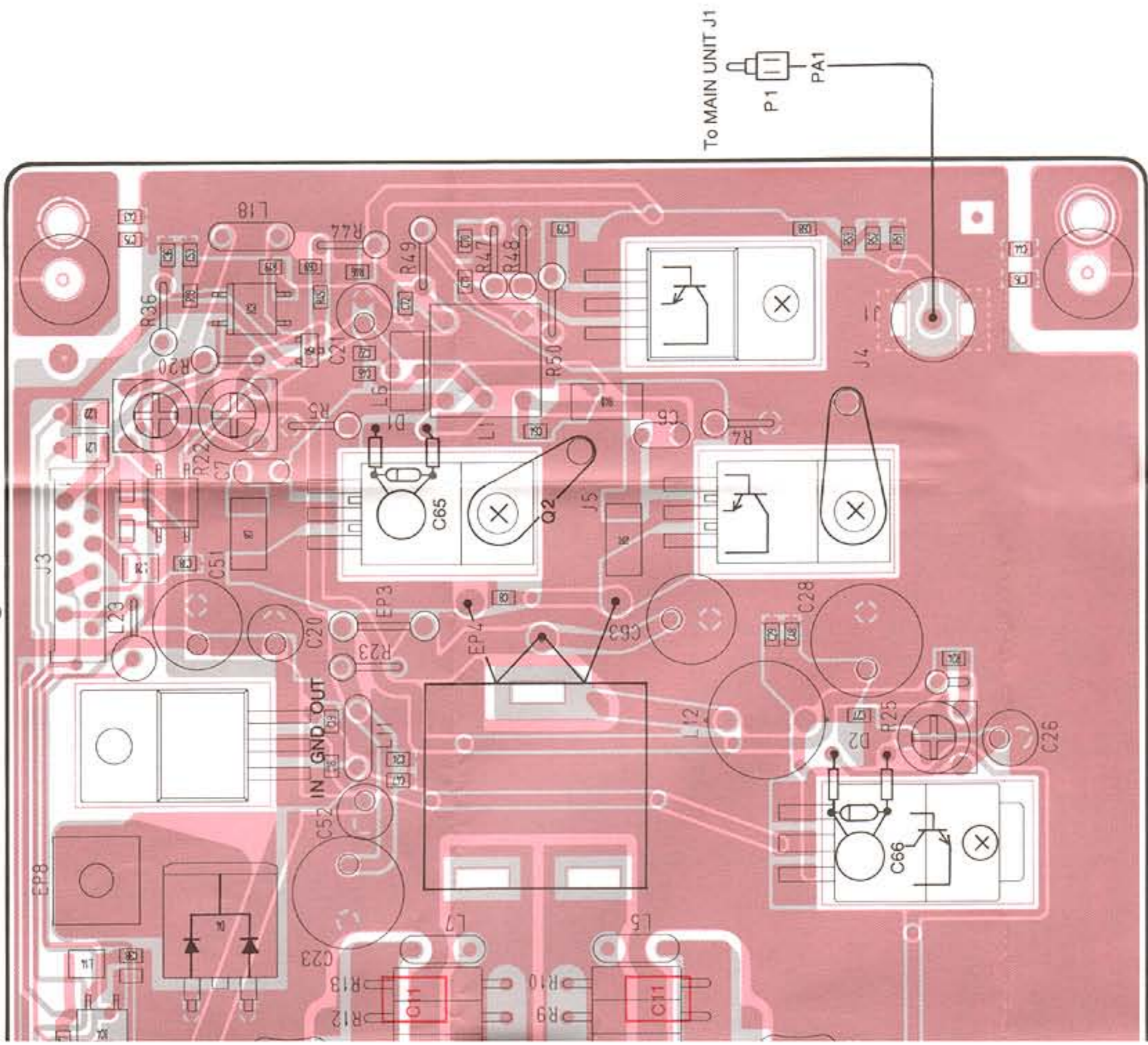
● PLL-A UNIT



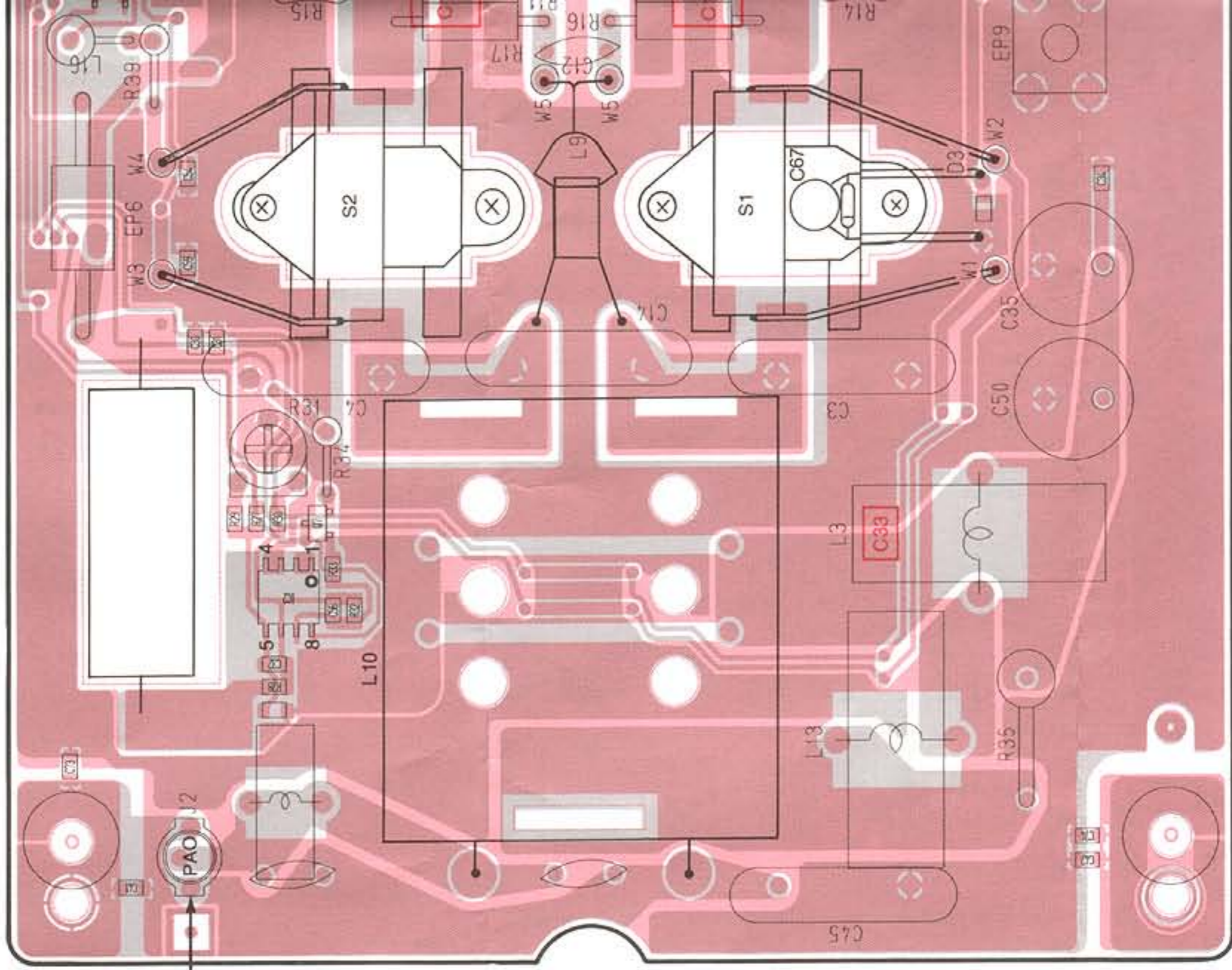
J3

1	HTP	ICA	2
	GND	GND	
	GND	13.6	
9	13.6	HL	
	THS	T8	10

To MAIN UNIT
J22



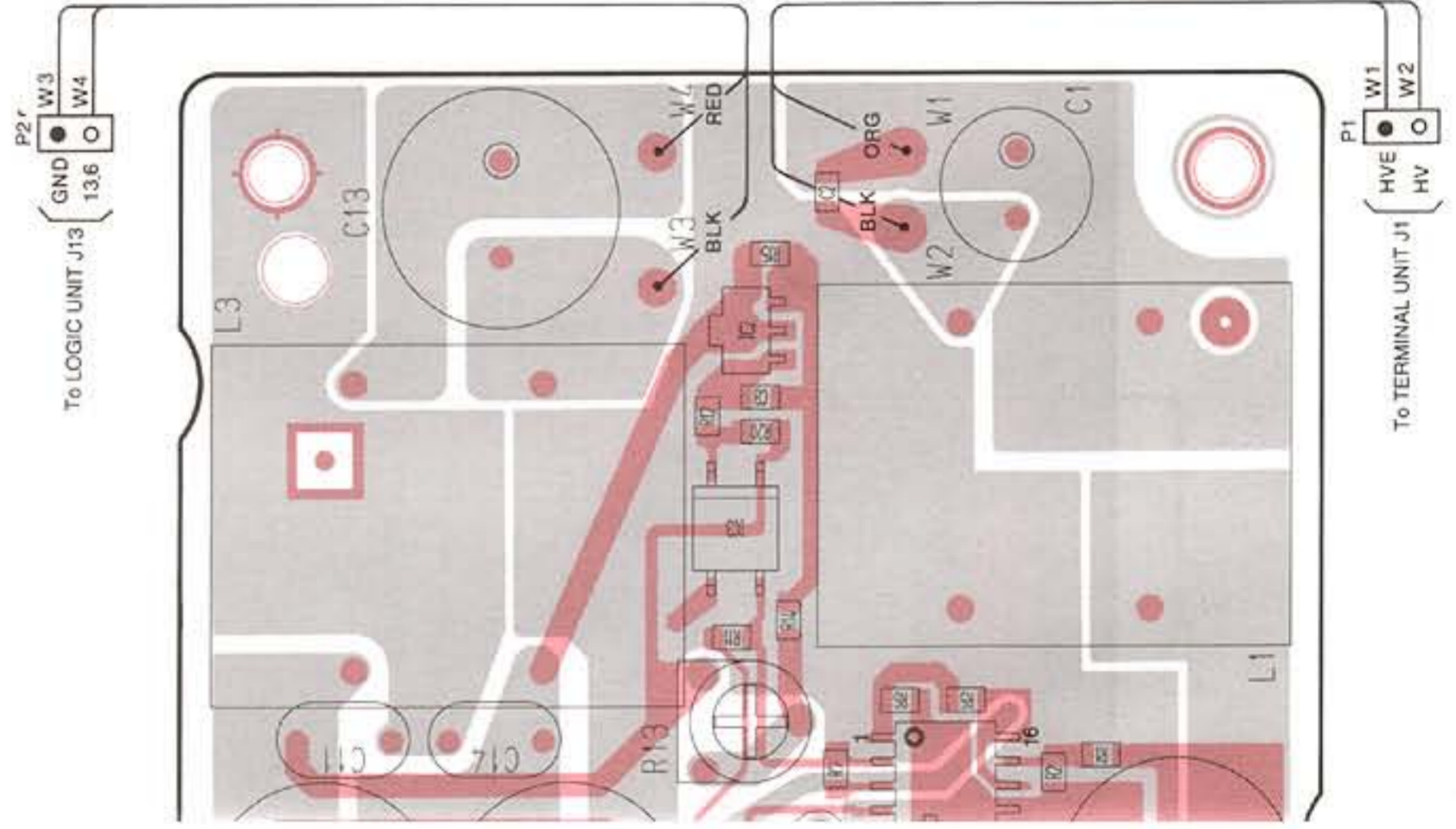
Note: Add "4000" to each indicated part number



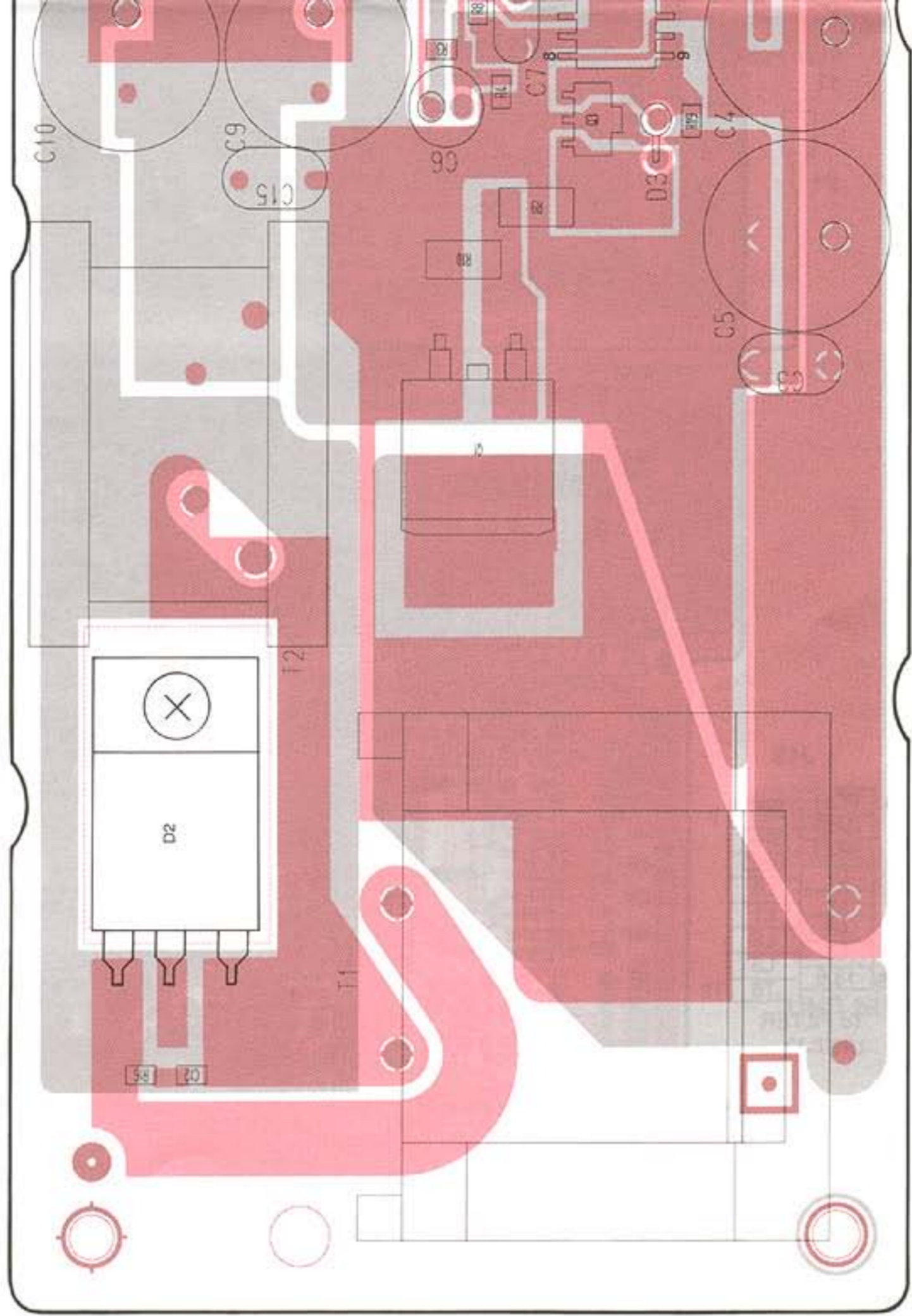
From FILTER UNIT J 1
 P1

● PA UNIT

Note: Add "4000" to each indicated part number on the unit for the actual number.



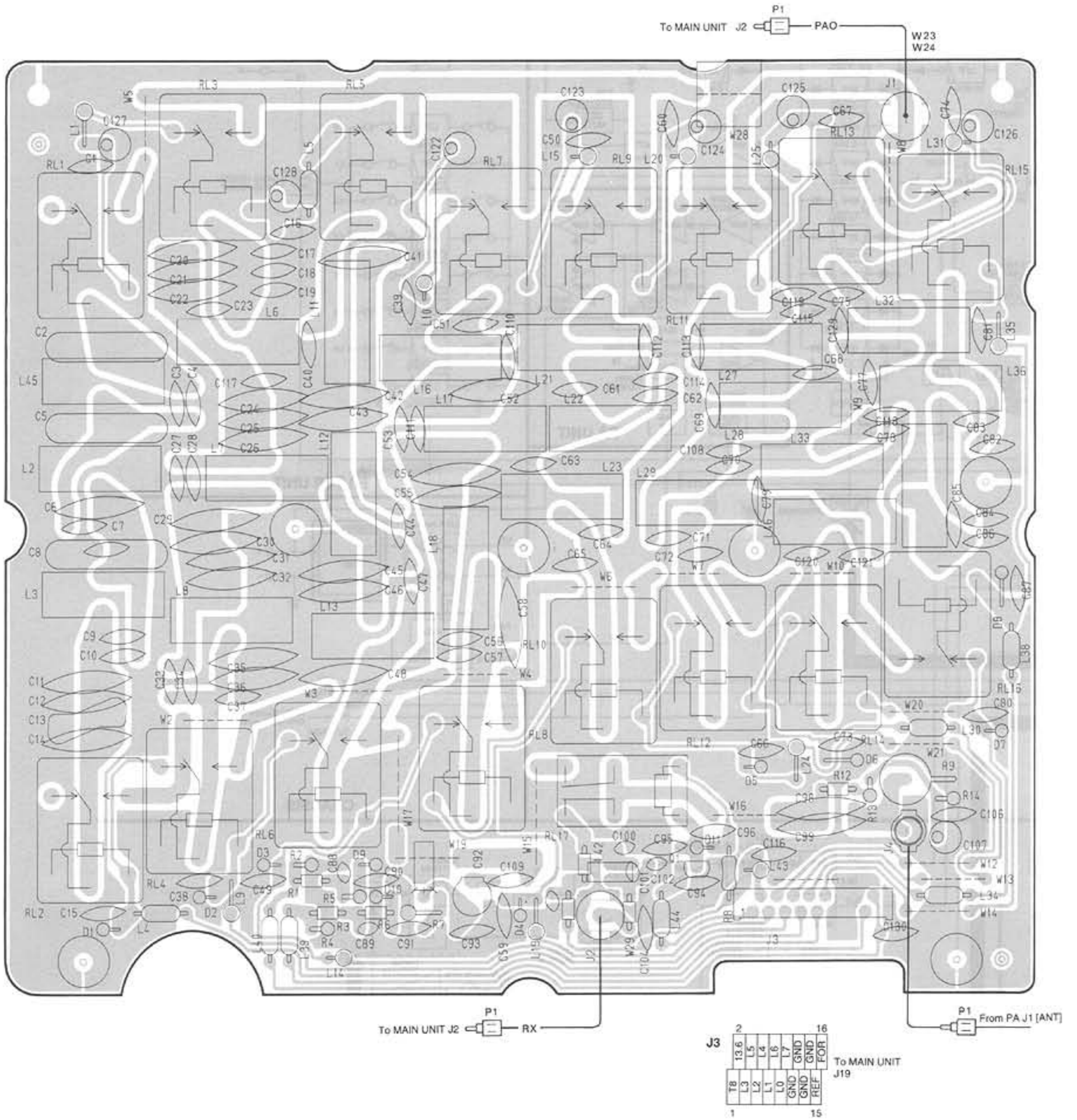
● REG UNIT (Europe version only)



Note: Add "8000" to each indicated part number on the unit for the actual number.

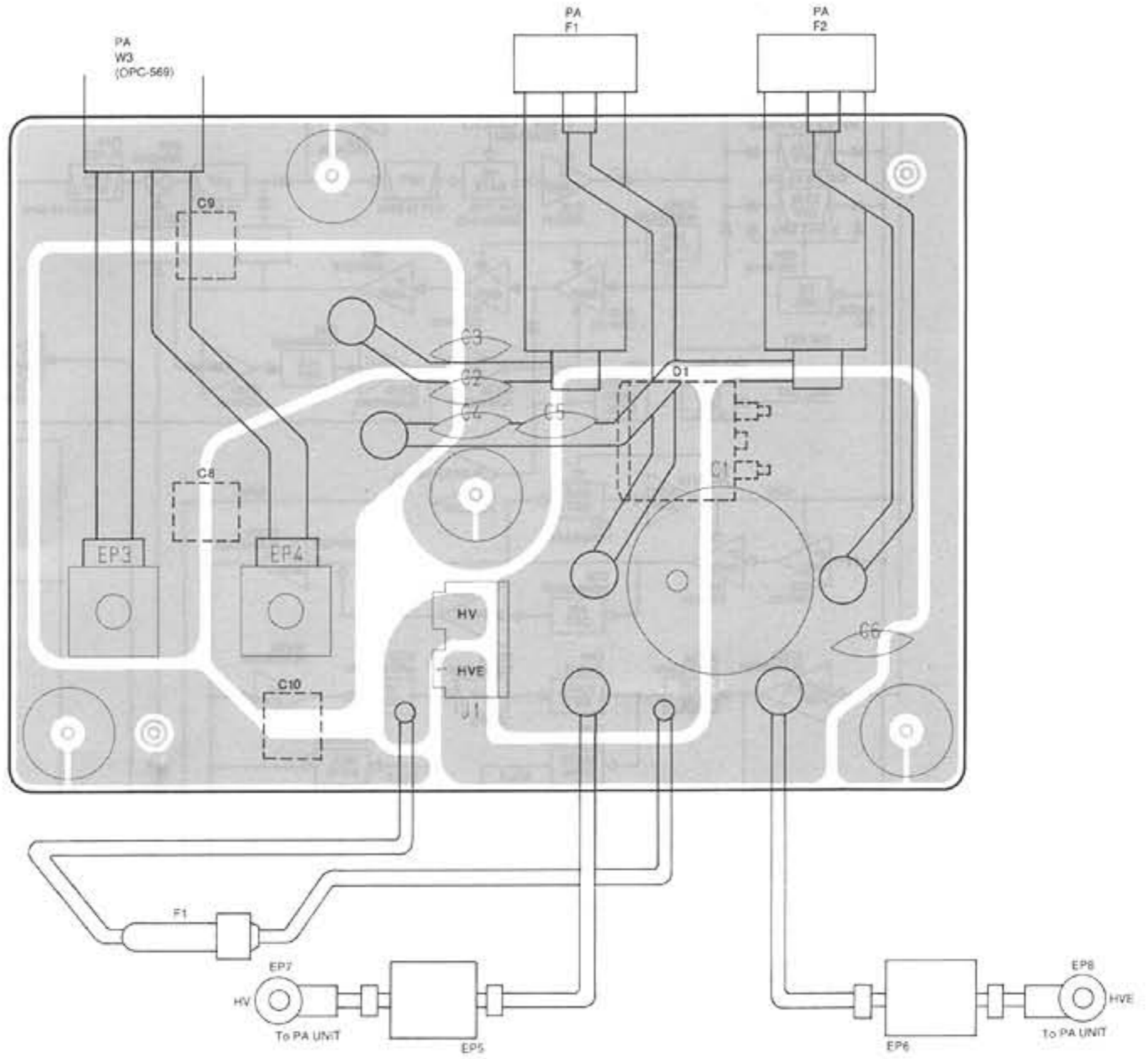
8-4 FILTER AND TERMINAL UNITS

● FILTER UNIT

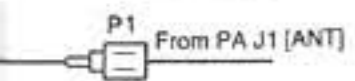


NOTE: Add "4300" to each indicated part number on the unit for the actual number.

● TERMINAL UNIT

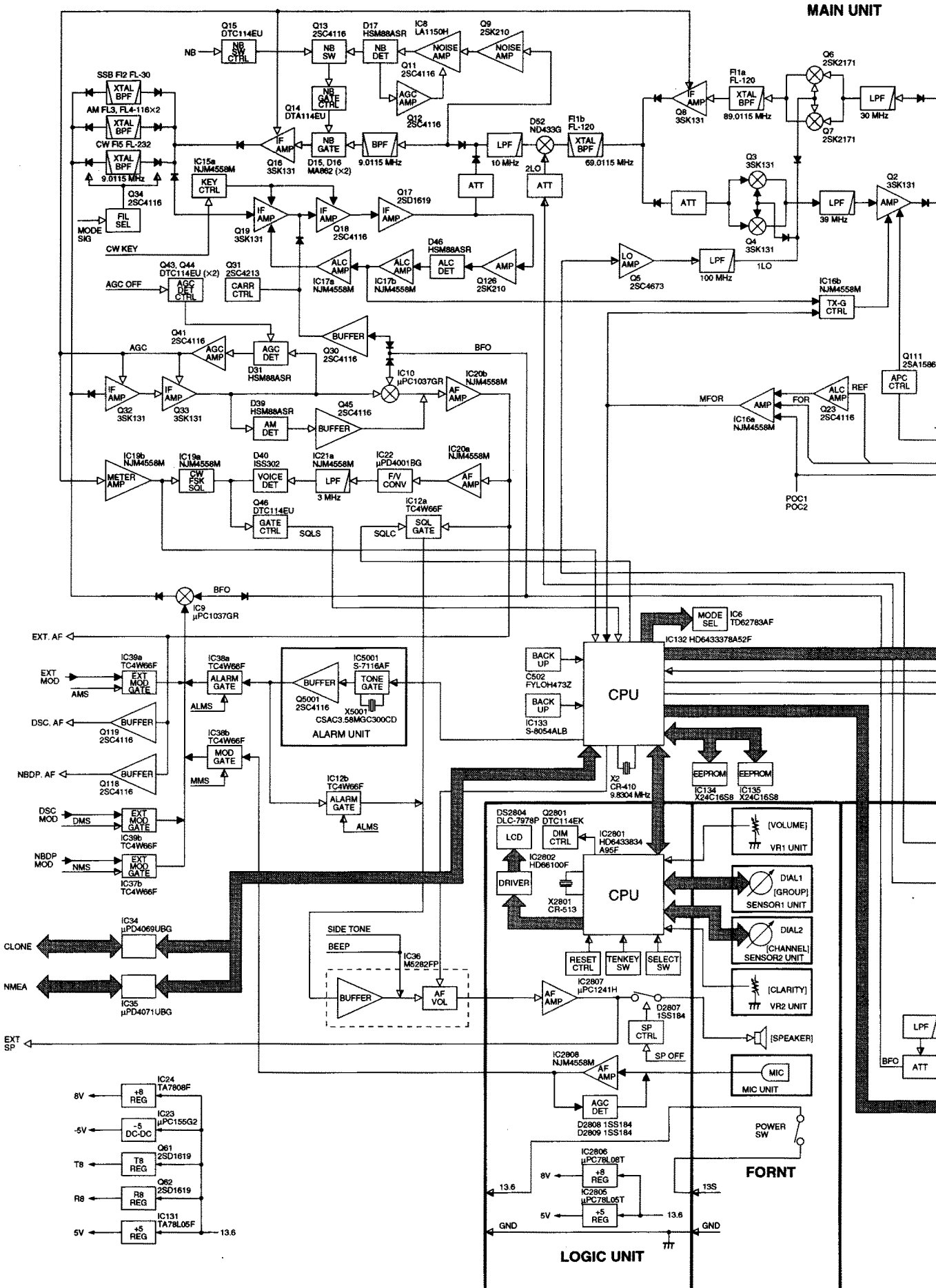


NOTE: Add "7000" to each indicated part number on the unit for the actual number.

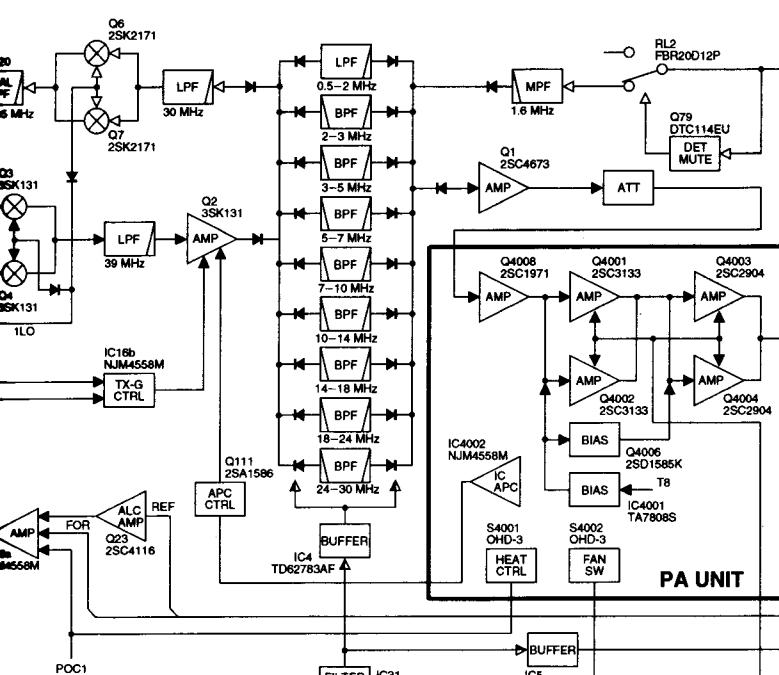


ual number.

SECTION 9 BLOCK DIAGRAM

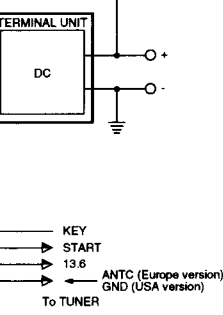
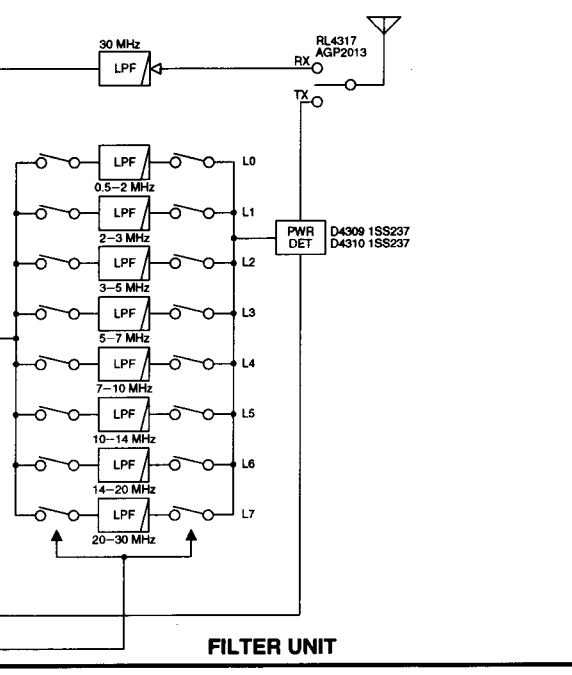


MAIN UNIT

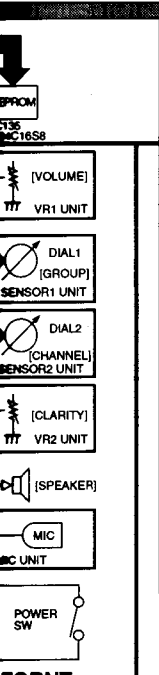


PA UNIT

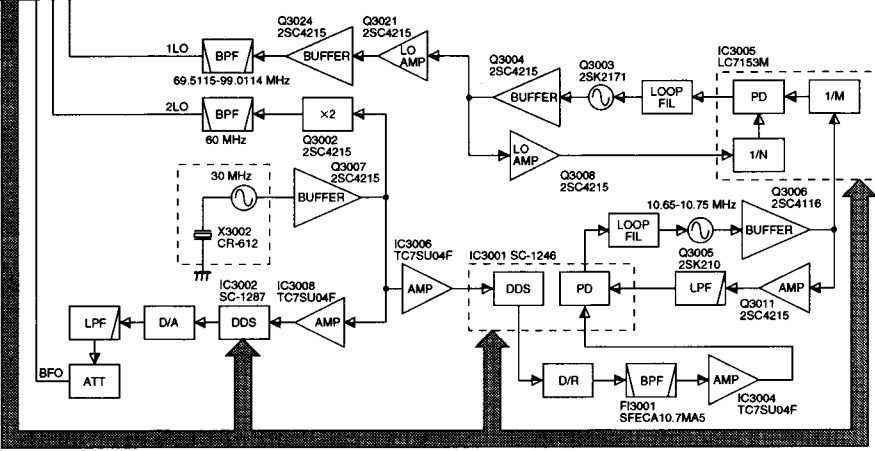
FILTER UNIT



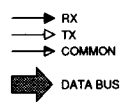
CHASSIS



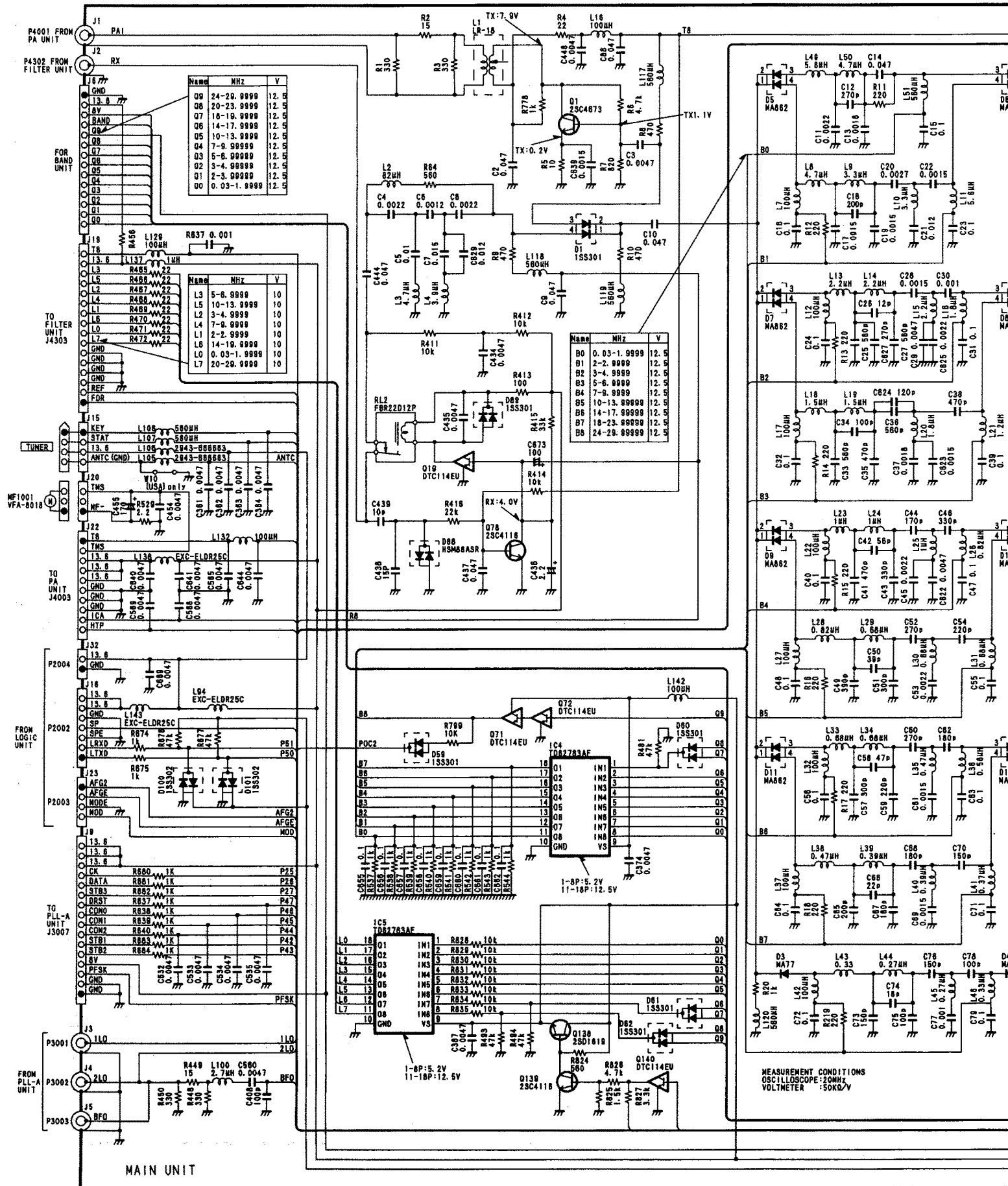
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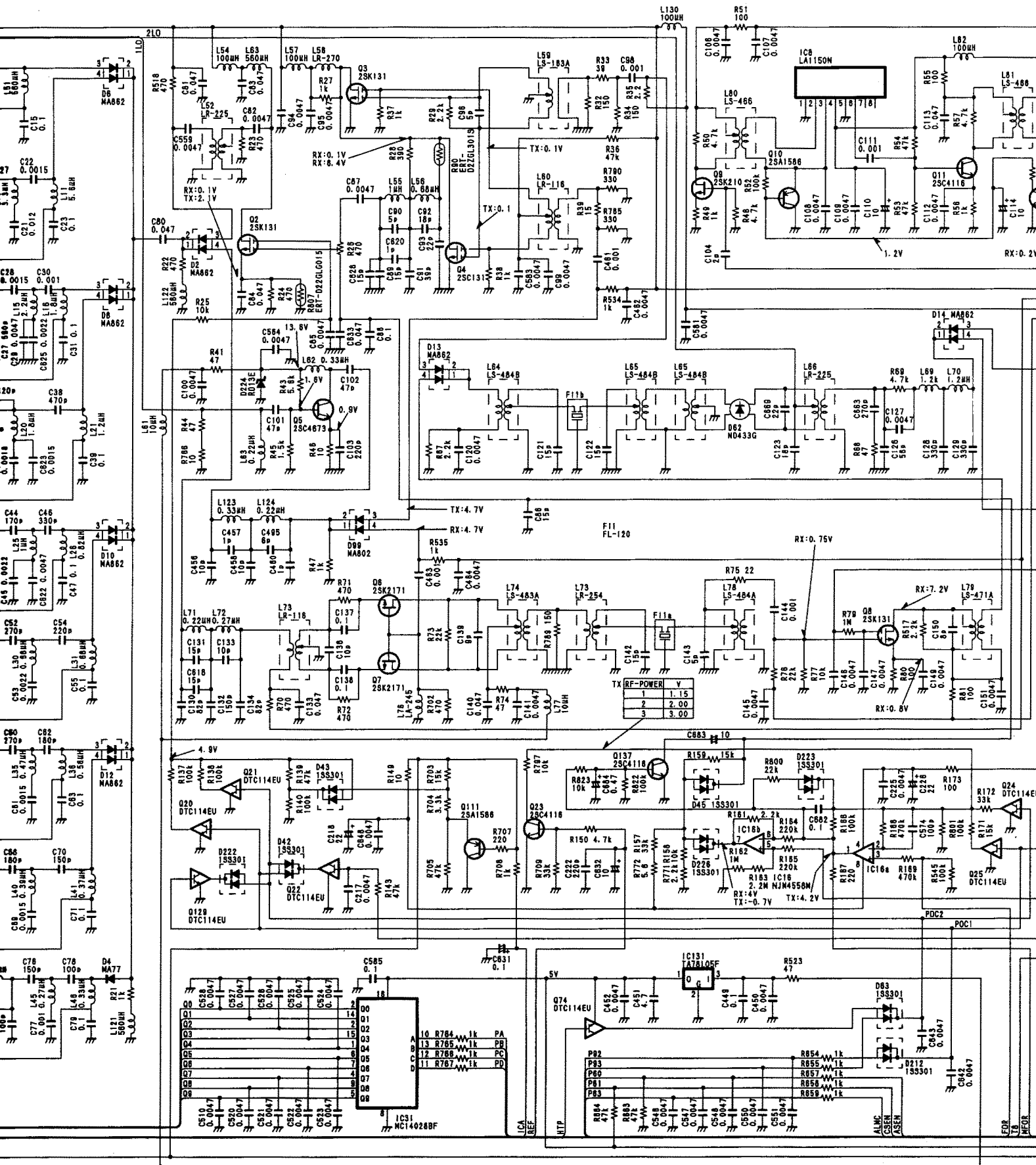


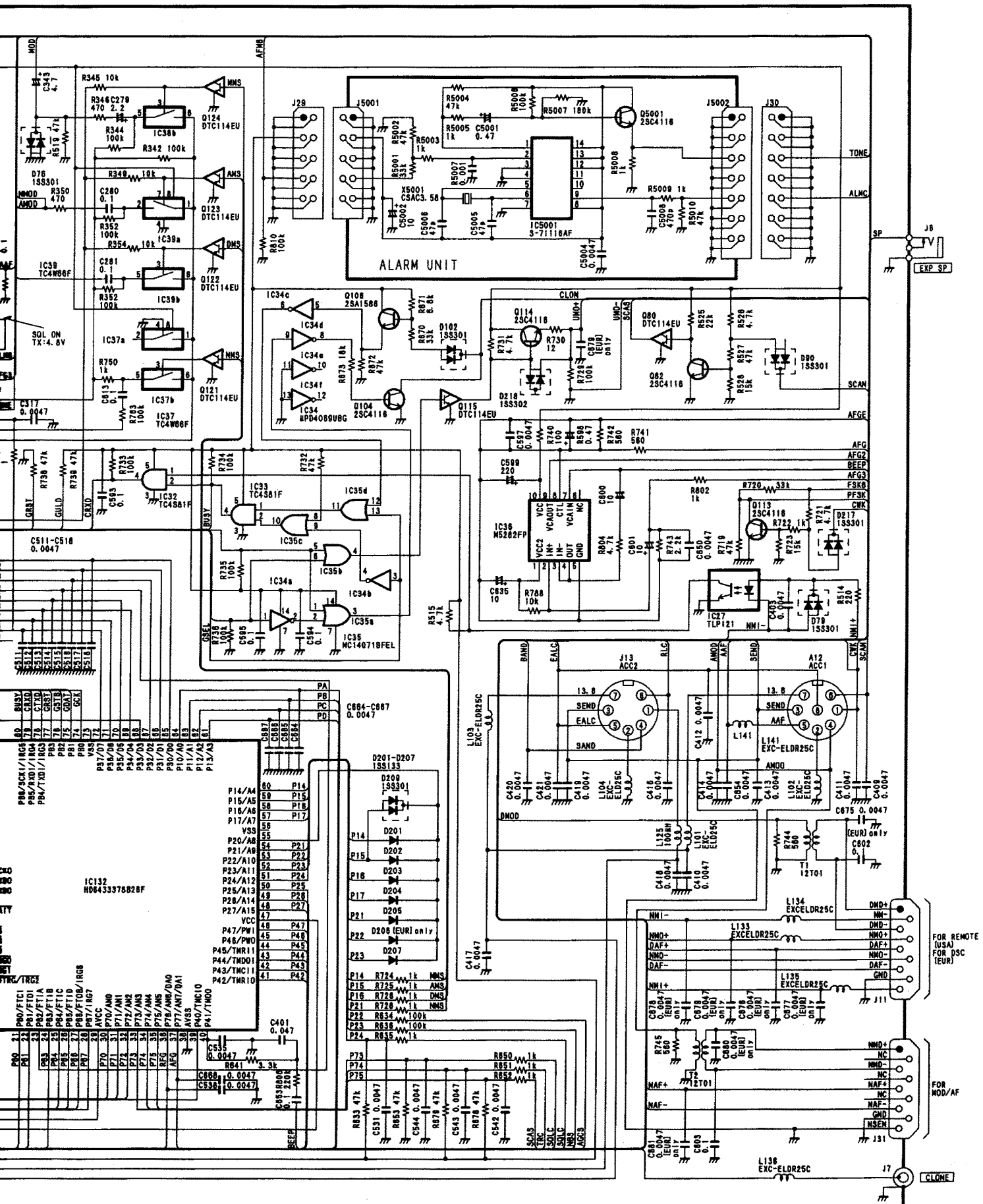
PLL-A UNIT



SECTION 10 VOLTAGE DIAGRAM





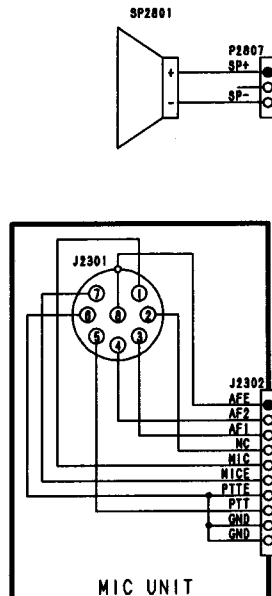
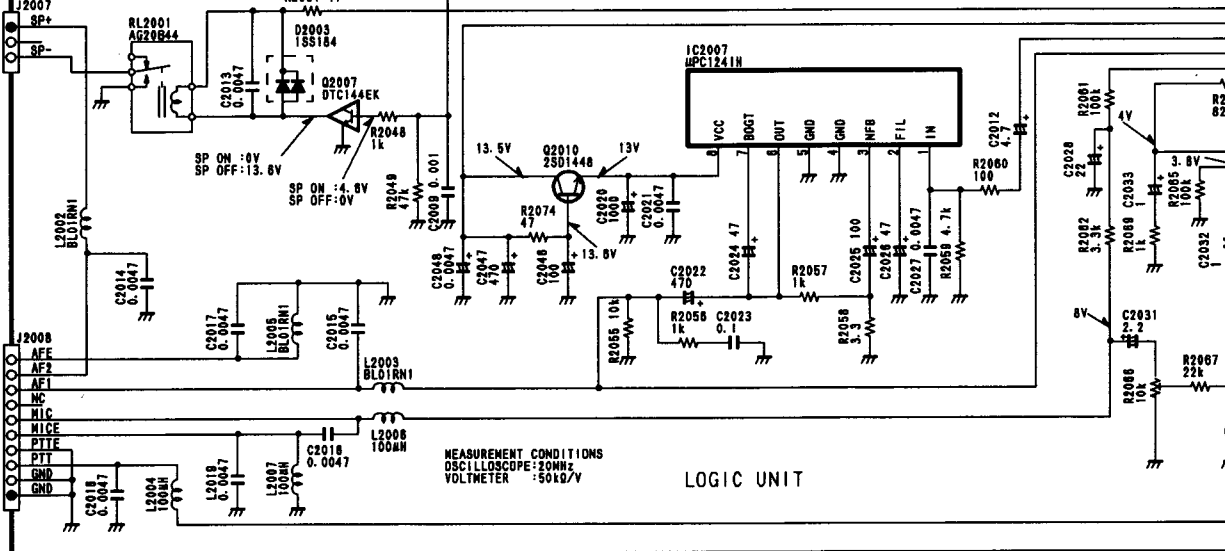
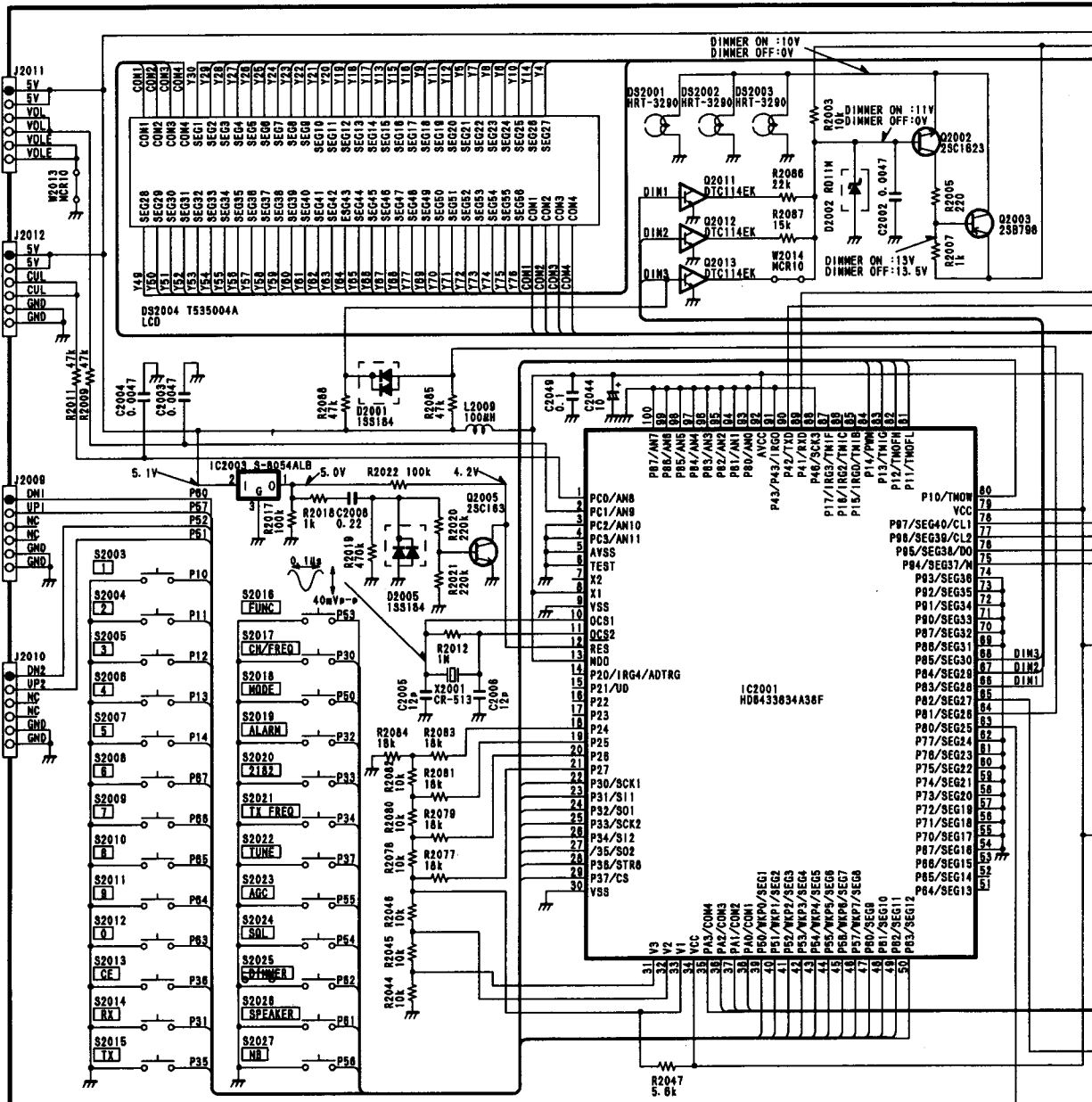
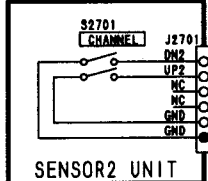
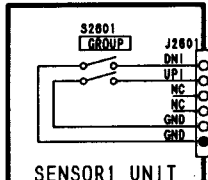
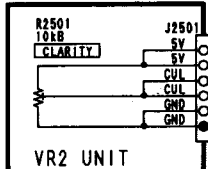
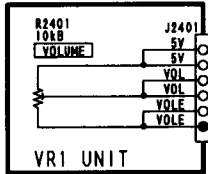


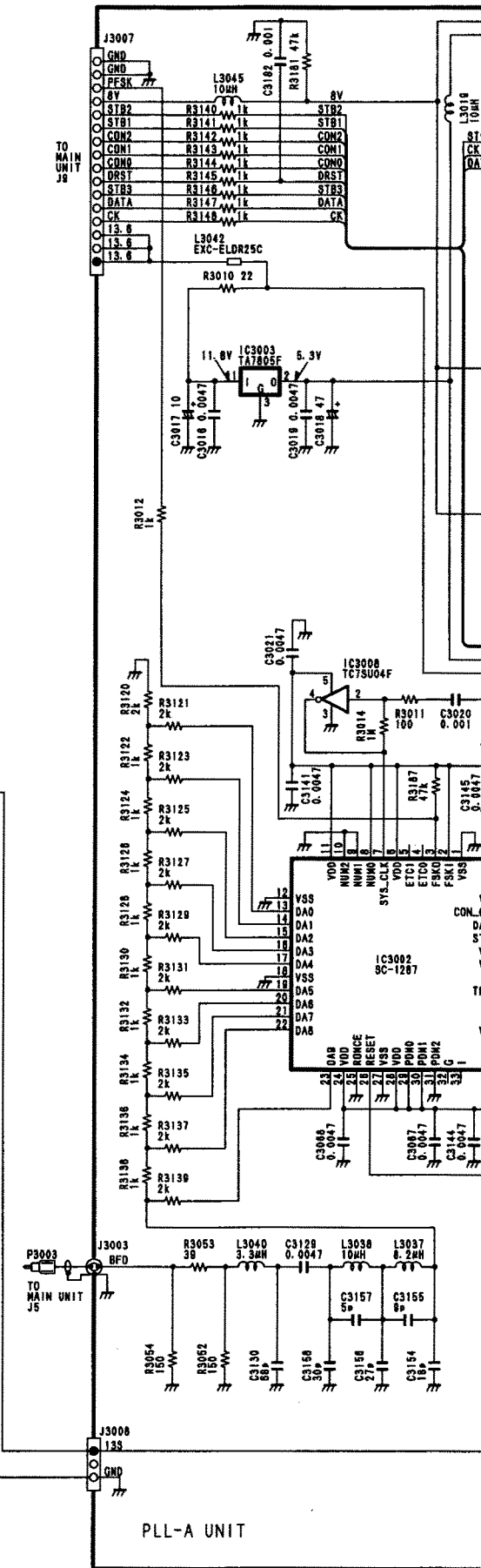
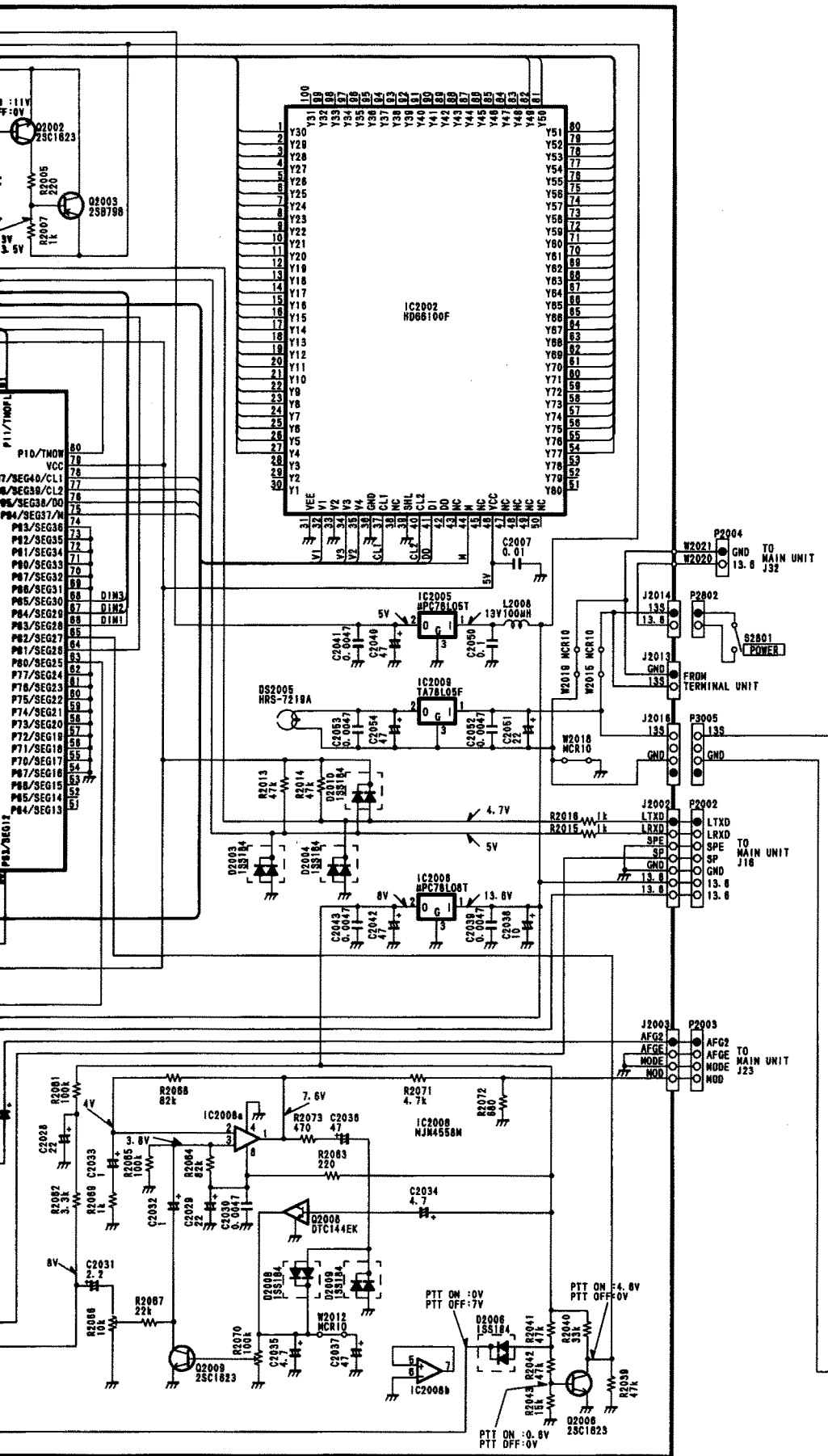
P14/A4	60	P14
P15/A5	59	P15
P16/A6	58	P16
P17/A7	57	P17
VSS	56	
P20/A8	55	P20
P21/A9	54	P21
P22/A10	53	P22
P23/A11	52	P23
P24/A12	51	P24
P25/A13	50	P25
P26/A14	49	P26
P27/A15	48	P27
VCC	47	
P47/PW1	46	P47
P48/PW0	45	P48
P49/TWR11	44	P49
P43/TWR01	43	P43
P44/TWR02	42	P44
P42/TWR10	41	P42

P14	R724	1k	NMS
P15	R725	1k	AMS
P16	R726	1k	DMS
P21	R728	1k	NMS
P22	R634	100k	
P23	R638	100k	
P24	R635	1k	
P73	R833	47k	
P74	C531	0.0047	
P75	R853	47k	
	C544	0.0047	
	R878	47k	
	C543	0.0047	
	R878	47k	
	C542	0.0047	
	R850	1k	
	R851	1k	
	R852	1k	

FOR REMOTE (USA)
FOR DSC (EUR)

FOR MOD/AF





GM-110DSC

DSC TERMINAL UNIT

INTRODUCTION

This service manual describes the latest service information for the **GM-110DSC DSC TERMINAL UNIT** at the time of publication.

	VERSION.	VERSION.
GM-110DSC	U.S.A.	USA
	Europe	EUR

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

ORDERING PARTS

Be sure to include the following four 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>

1130007700 S.IC BU4094BCF GM-110DSC PLL UNIT 5 pieces
8810009030 Screw OH M3 x 8 ZK GM-110DSC Top cover 10 pieces

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

DANGER

NEVER connect the terminal unit to an AC outlet or to a DC power supply that uses more than 16 V. This will ruin the terminal unit.

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

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

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

REPAIR NOTES

1. Make sure a problem is internal before disassembling the terminal unit.
2. **DO NOT** open the terminal unit until the terminal unit is disconnected from its 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 terminal unit is defective.
6. **READ** the instructions of test equipment thoroughly before connecting equipment to the terminal unit.

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SECTION 1 SPECIFICATIONS

■ GENERAL

- Antenna impedance : 50 Ω (SO-239)
- Frequency stability : ± 10 Hz (measured on detected audio frequency)
- Number of memory channels :
 - Command memory 9 channels
 - Frequency memory 35 channels
 - Address ID memory 100 channels
- Power supply requirement :
 - U.S.A. version : 13.6 V DC (negative ground)
 - Europe version : 13.6 V DC (floating ground)
- Current drain (at 13.6 V DC) :
 - Receive audio max. 1.5 A
 - Receive standby 1 A
 - At power ON 3 A (max.)
- Usable temperature range : -15°C to $+60^{\circ}\text{C}$
 $+5^{\circ}\text{F}$ to $+140^{\circ}\text{F}$
- Dimensions (projections not included) : 150(W) \times 49.5(H) \times 180(D) mm;
5²⁹/₃₂(W) \times 1¹⁵/₁₆(H) \times 7³/₃₂(D) inch
- Weight :
 - Terminal unit 1.6 kg (3.5 lb)
 - DC-DC converter 1.0 kg (Europe version only)

■ RECEIVER

- Receive system : Single conversion superheterodyne
- Intermediate frequency : 9.0106 MHz
- Sensitivity (typical) : 0.5 μV for symbol error rate $\leq 10^{10^{-2}}$
- Selectivity : Less than ± 500 Hz/ -40 dB
- Spurious response : More than 70 dB
- Intermodulation rejection : More than 70 dB
- Audio output power (at 13.6 V DC) : More than 1.5W at 10 % distortion with an 8 Ω load
- External speaker connector : 2-conductor 6.35 mm ($1/4$ ") / 8 Ω

■ EXTERNAL CONNECTION

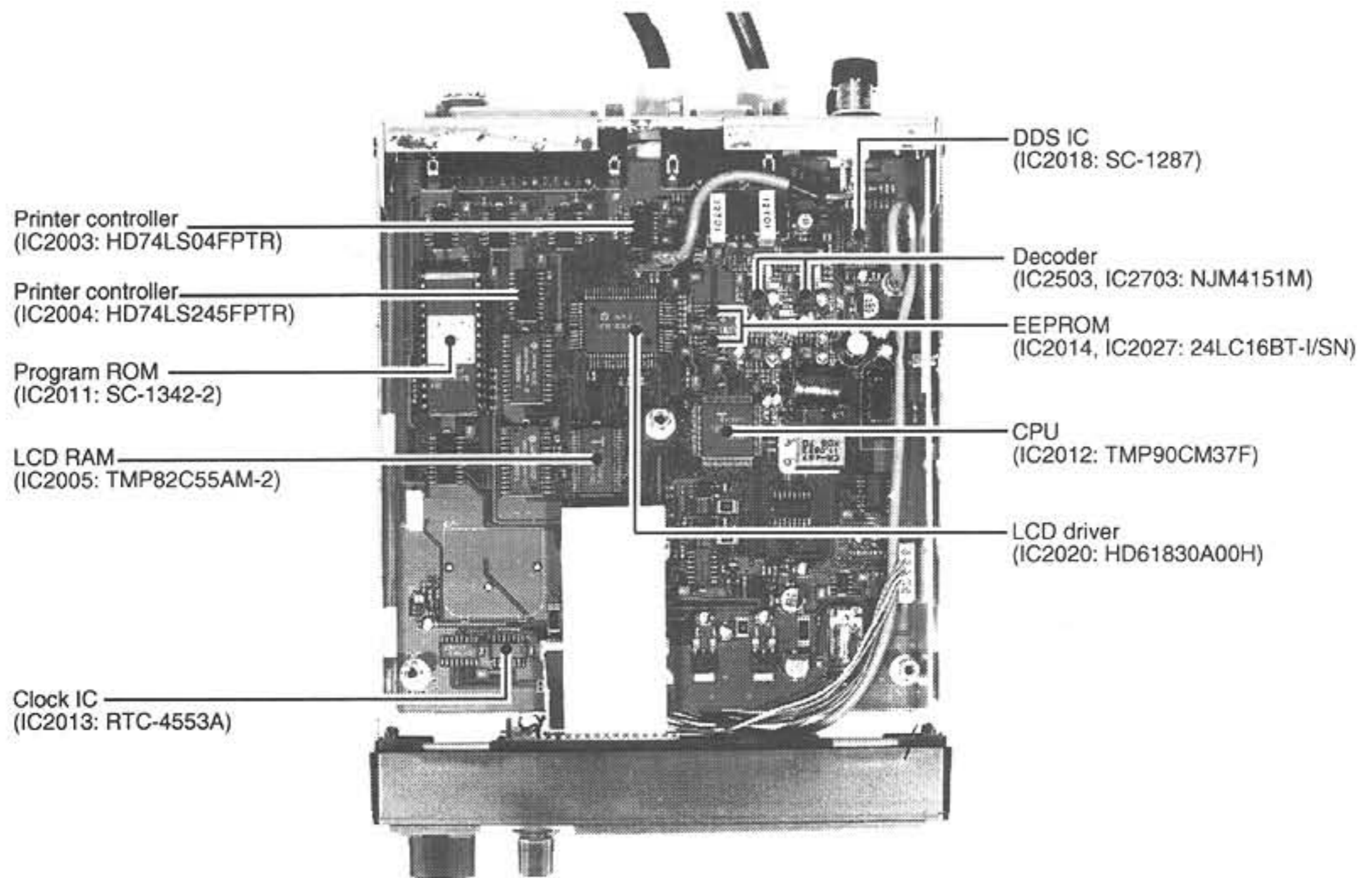
- NMEA connector : BNC (NMEA 0183 ver 1.5 or 2.0; command GGA or GLL is acceptable)
- Printer socket : D-sub 25 (IBM[®] centronics or compatible system)
- External distress switch box : RC-18 (attached)

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

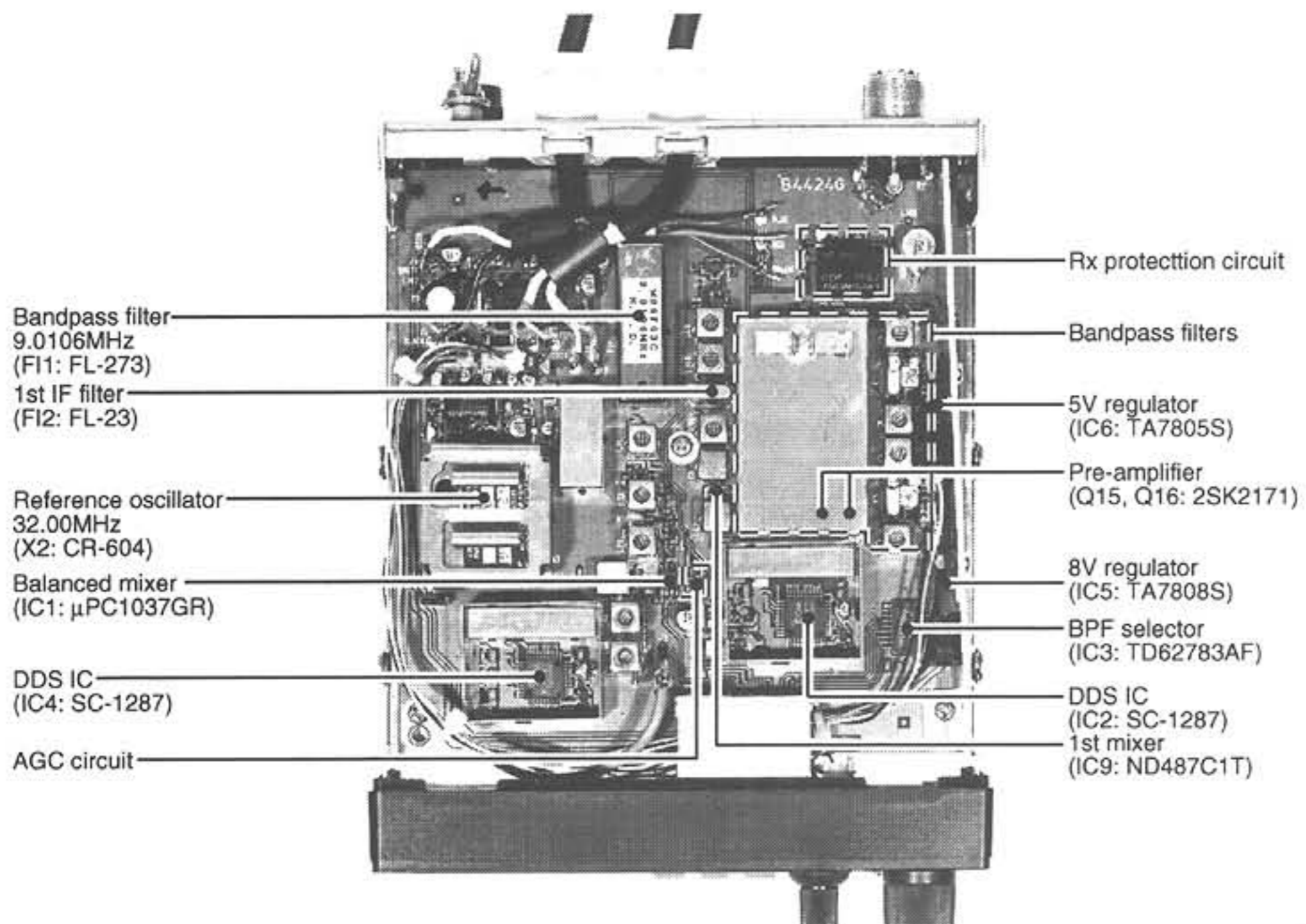
SECTION 2

INSIDE VIEWS

• LOGIC UNITS



• MAIN UNITS



SECTION 3 CIRCUIT DESCRIPTION

3-1 RECEIVER CIRCUITS

3-1-1 RF PROTECTION CIRCUIT (MAIN UNIT)

The RF protection circuit protects RF circuits when very strong RF signals are received.

A portion of the RF signals from the antenna connector are detected at D13 via C72 and C73. The detected RF signals are converted to DC voltage by R3 and C74, and then applied to Q1 to control the RF switch (RL1) via Q2.

3-1-2 BANDPASS FILTER AND RF CIRCUITS (MAIN UNIT)

The RF signals from the RF protection circuit are applied to one of 3 bandpass filters, depending on the receive frequencies, via the switching diodes (D1, D3). The filtered signals are passed through the switching diodes (D2, D4) and then applied to the RF amplifier circuit (Q15, Q16).

The RF amplifier circuit amplifies the filtered signals from the switching diodes (D2, D4), and are then applied to the 1st mixer circuit (IC9). The RF amplifier circuit uses low-noise junction FETs (Q15, Q16) to provide 10 dB gain.

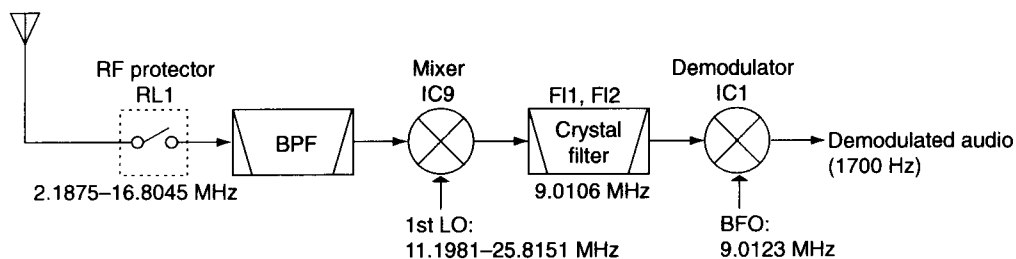
Bandpass filters correspond to the BPF switching voltage (B1-B3) based on the CPU via the filter selector (IC3).

• BANDPASS FILTERS USED

Frequency	Control signal	Entrance coil
2.1875 MHz 4.2075 MHz 6.3120 MHz	B1	L3
8.4145 MHz	B2	L52
12.5577 MHz 16.8045 MHz	B3	L13

The bandpass filter for 8.4145 MHz also consists of a notch filter circuit (X1, X3, R134, R136, C212, C217). The notch filter circuit suppresses the 9.0106 MHz 1st LO signal to improve the IF image rejection ratio.

• RECEIVER FREQUENCY CONSTRUCTION



3-1-3 MIXER AND IF CIRCUITS (MAIN UNIT)

The mixer circuit converts the received signals to a fixed frequency, 9.0106 MHz 1st IF signal, with a 1st LO frequency. By changing the 1st LO frequency, only the desired frequency will be picked up at the crystal filters (FI2) at the next stage.

The IF signal from FI2 is amplified at the IF amplifier (Q3). The signal is again applied and then passed through to the other filter (FI1) and then amplified at Q4.

These IF amplifiers provide up to 20 dB gain at each stage. AGC voltage is applied to these amplifiers to improve saturation characteristics.

The signal is again amplified at Q5 to the level needed at the demodulator circuit and then applied to the buffer amplifier (Q6). The amplified signal is applied to the demodulator circuit (IC1).

3-1-4 DEMODULATOR CIRCUIT (MAIN UNIT)

This circuit mixes the IF and BFO signals to pick up the AF components.

The IF signal from Q6 is applied to the balanced mixer (IC1, pin 6). The 9.0123 MHz BFO signal comes from the DDS circuit (IC4). The demodulated signals are output from pin 3 and are then applied to the amplifiers (LOGIC unit IC-501, IC-502) via the analog switch (LOGIC unit, IC-25). The amplified signal is applied to the F/V converter (IC-503), then converted to DC voltage (3 V at 1615 Hz and 5 V at 1785 Hz).

The converted voltage is amplified at IC-504, fed to the C-MOS level (Q501, Q502), and then the waveform is corrected at IC-35. The signal is finally inverted by IC-36 and applied to the CPU.

3-1-5 AF POWER AMPLIFIER CIRCUIT (LOGIC UNIT)

The alarm or beep tone signals are passed through the AF volume control (VR board, R1) then applied to the AF power amplifier (IC2, pin 1) via the AF drive amplifier (Q5).

The amplified signals are output from pin 6 and are applied to the internal speaker and external speaker jack.

The AF amplifier circuit also amplifies demodulated audio signals when a unit is set to adjustment mode.

3-1-6 AGC CIRCUIT (MAIN UNIT)

The AGC (automatic gain control) circuit reduces IF amplifier gain to prevent the receiver from distorting.

A portion of the IF signal from Q6 is rectified at D16 and C99. The rectified signal is amplified at the DC amplifier (Q7) and then applied to the IF amplifiers (Q3, Q4).

When a strong signal is received, the rectified voltage increases and the voltage of the AGC line is decreased by Q7 via the -5 V voltage line. The AGC line is used for the bias voltage of the IF amplifiers (Q3, Q4), so that these amplifiers reduce the gain.

3-1-7 REFERENCE OSCILLATOR CIRCUIT (MAIN UNIT)

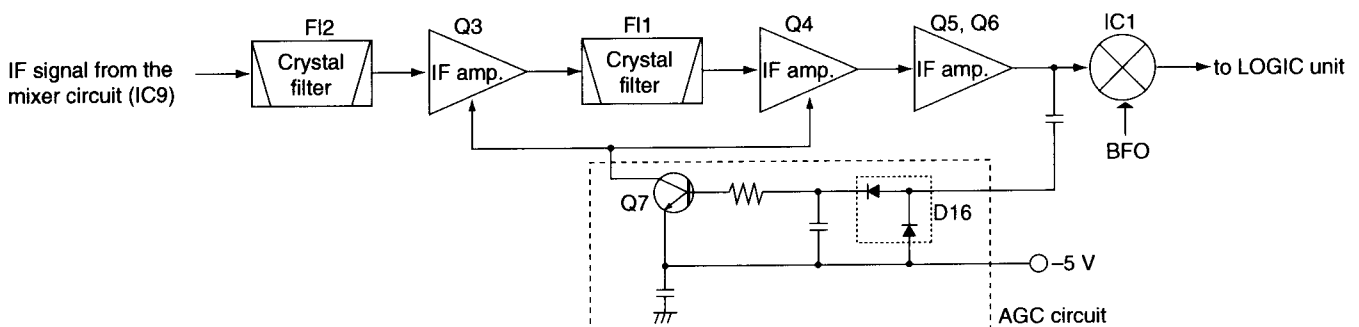
The reference oscillator circuit consists of X2, Q23, IC15A and an oscillating 32.00 MHz signal. The oscillating signal is doubled to a 64.00 MHz signal at the multiply circuit (Q10, L84, L85), and is then applied to buffer amplifiers (IC12, IC13, LOGIC unit IC11). Then the amplified signal is applied to each DDS circuit as system clock signals.

3-1-8 1ST LO AND BFO CIRCUITS (MAIN UNIT)

The 1st LO and BFO (beat frequency oscillator) signals are oscillated at different DDS circuits.

The 1st LO signal is oscillated at the DDS circuits (IC2). The DDS circuit generates a 9.0106 MHz higher frequency than the wanted RF signal from a clock signal and frequency data. The generated digital sine-wave signal is converted to an analog sine-wave at the D/A converter (R33–R52), and then applied to the low-pass filter (L76, L77, C112–C116) to suppress any unwanted higher signals. The filtered signal is amplified at the LO amplifiers (Q8, Q17) and is then applied to the mixer circuit (IC9).

• AGC CIRCUIT



The BFO signal is oscillated at another one of the DDS circuits (IC4). This DDS circuit oscillates a 9.0123 MHz signal. The BFO signal is passed through the low-pass filter (L89, L90, C146–C150), and then applied to the demodulator circuit (IC1).

3-1-9 DECODER FUNCTION FOR EXTERNAL INPUT (LOGIC UNIT)

Demodulated signals from another receiver or transceiver are passed through the analog switch (IC25) via J7 (DAF + line) and are then applied to the decoder circuit (IC701, IC702, IC703, IC704). The applied signals are converted to digital signals (1/0) then applied to the CPU (IC12, pin 77) via the trigger circuit (IC31, pins 2, 4).

3-2 DC-DC CONVERTER CIRCUIT (REG UNIT; Europe version only)

The GM-110 DSC Europe version employs a floating ground system which is not connected between the unit's ground and the negative terminal of the power supply.

The 13.6 V DC from the DC power connector passes through the noise filter (L7001, C7001–C7005) and is then applied to the switching transformer (T7001). The MOS-FETs (Q7001, Q7002) are turned ON and OFF by D7003 and Q7003, respectively.

IC7001 is a switching control IC which contains a 5 V reference voltage regulator (pin 12, 14), two error amplifiers (pins 1, 2, 3, 15, 16), a saw tooth oscillator (pins 4, 5, 6) and a comparator. The switching frequency is determined by R7008 and C7007 and is set at 25 kHz.

AC voltages appear on the secondary terminal of T7001 and are rectified by D7002. The rectified DC voltages are passed through the noise filter (L7003, C7009, C7010) and are then applied to the MAIN unit as a 13.6 V DC voltage line.

3-3 POWER SUPPLY CIRCUITS

Line	Description
13.6 V	The voltage from the external power supply through the relay (RL2).
8 V	Common 8 V converted from the 13.6 V line at the 8 V regulator circuits (MAIN unit; IC5, LOGIC unit; IC15).
5 V	Common 5 V converted from the 13.6 V line at the 5 V regulator circuits (MAIN unit; IC6, LOGIC unit; IC16).
-5 V	Common -5 V converted from the 13.6 V line at the -5 V DC-DC converter circuit (IC7, D20). The voltage supplies the AGC and analog switch circuits, etc.

3-4 PORT ALLOCATIONS

3-4-1 CPU (LOGIC UNIT, IC12)

Pin number	Port name	Description
1	SCLB	Outputs clock signal for the EEPROM (IC27).
7	P60	Input port for the [8] key. Low: When [8] is pushed.
8	P61	Input port for the [9] key. Low: When [9] is pushed.
9	P62	Input port for the [CLR] key. Low: When [CLR] is pushed.
10	P63	Input port for the [ENT] key. Low: When [ENT] is pushed.
11	P64	Input port for the [CALL] key. Low: When [CALL] is pushed.
12	P65	Input port for the [TEST] key. Low: When [CTL OFF] is pushed.
13	P66	Input port for the [EMER] key. Low: When [EMERGENCY] is pushed.
16	NMEA12	Input port for NMEA data from the connected transceiver via the trigger circuit (IC28, IC17b).
17	NMEAO	Output port for NMEA data to the connected transceiver.

CPU (LOGIC UNIT, IC12)

Pin number	Port name	Description
18	NMEA11 /CL1	Input port for: NMEA data from the connected navigation system. Cloning data during cloning mode.
19	STB	Outputs strobe signals for DDS circuits.
20	CLO	Output port for clone data.
27	SOUT	Input port for serial data.
28	CLK	Outputs serial clock signal.
29	DATA	Outputs serial data.
30	RES	Outputs reset signal.
31	RDAT	Input port for decoded DSC signals from the decoder circuit (IC22).
32	UP	Input pulse signals from the [DIAL] (DISP unit, S1).
52	FSK0	Output port for DSC encode data. High: 1615 Hz Low: 1785 Hz
53	FSK1	Outputs control signal for DSC encode data. High: Inhibits output.
58	LRS	Outputs register select signal for the LCD controller (IC19). High: instruction register is selected. Low: data register is selected.
62	SDA	Data bus line for the EEPROM (IC14).
64-71	DB0-DB7	Data bus line for the LCD controller (IC20).
72	SDAB	Data bus line for the EEPROM (IC27).
73	EXSTB	Outputs strobe signals for output expander IC (IC26).
74	TONE	Output port for beep audio signals.
76	SECK	Input pulse signals from the [DIAL] (DISP unit, S1).
77	DDAT	Input port for the decoded DSC signal.
80	SCL	Outputs clock signal for the EEPROM (IC27).

3-4-2 I/O EXPANDER (LOGIC UNIT IC5)

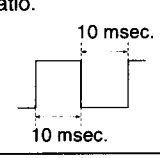
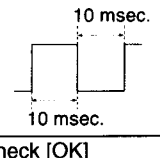
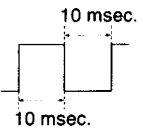
Pin number	Port name	Description
1-4	PDAT4- PDAT1	Output ports for printer data.
16	TSTB	Outputs strobe signal for DSC encoder circuit (DDS).
17	PSTB	Outputs strobe signals for printer.
18	PB0	Input port for the [0] key. Low: When [0] is pushed.
19	PB1	Input port for the [1] key. Low: When [1] is pushed.
20	PB2	Input port for the [2] key. Low: When [2] is pushed.
21	PB3	Input port for the [3] key. Low: When [3] is pushed.
22	PB4	Input port for the [4] key. Low: When [4] is pushed.
23	PB5	Input port for the [5] key. Low: When [5] is pushed.
24	PB6	Input port for the [6] key. Low: When [6] is pushed.
25	PB7	Input port for the [7] key. Low: When [7] is pushed.
37-40	PDAT8- PDAT5	Output ports for printer data.

3-4-3 OUTPUT EXPANDER (LOGIC UNIT IC26)

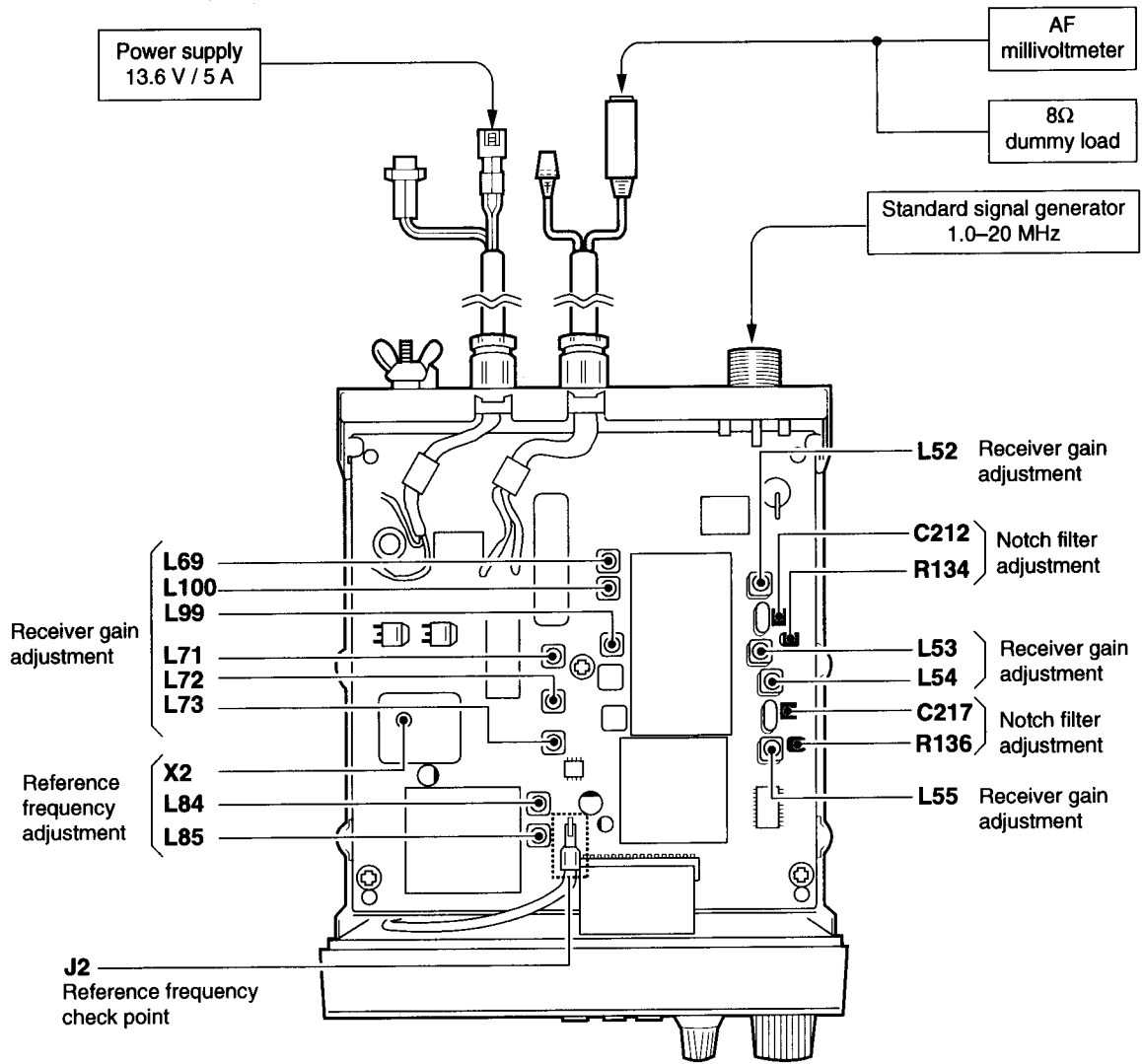
Pin number	Port name	Description
4	B1	Outputs BPF select signal. High: BPF for 2, 4 and 6 MHz band is selected.
5	B2	Outputs BPF select signal. High: BPF for 8 MHz band is selected.
6	B3	Outputs BPF select signal. High: BPF for 12 and 16 MHz band is selected.
11	CLONE	Output port for cloning enable signal.
12	ADJ	Outputs select signal of AF power amplifier input to the relay (RL1). High: In adjustment mode. (Demodulated audio signals are selected.) Low: Normal. (Beep audio signals are selected.)
13	DIM	Outputs dimmer control signal. High: When LCD backlight lights.
14	TEST	Outputs self-check signals for DDS circuits.

SECTION 4 ADJUSTMENT PROCEDURES

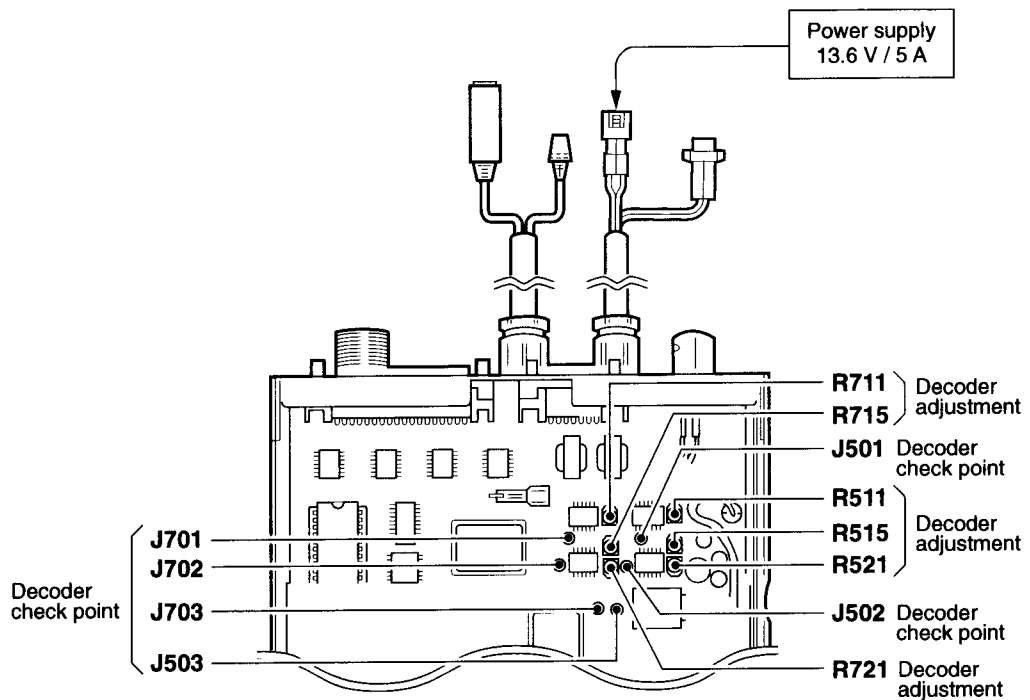
4-1 REFERENCE AND RECEIVER ADJUSTMENTS

ADJUSTMENT	ADJUSTMENT CONDITION	MEASUREMENT		VALUE	ADJUSTMENT POINT	
		UNIT	LOCATION		UNIT	ADJUST
REFERENCE FREQUENCY	1 <ul style="list-style-type: none"> • Turn ON the power while pushing and holding the [CTRL] and [CALL] keys. • Wait for 5 min. after power ON. • Displayed frequency: any 	MAIN	Connect a frequency counter to the J2 (MAIN unit).	64.000000 MHz	MAIN	X2
	2 <ul style="list-style-type: none"> • Displayed frequency: any 	MAIN	Connect an RF voltmeter to the J2 (MAIN unit).	Maximum level (more than 0 dBm)	MAIN	Adjust in sequence L84, L85
RECEIVER GAIN	1 <ul style="list-style-type: none"> • Displayed frequency: 8414.5 kHz • Connect an SSG to the antenna connector and set as: <ul style="list-style-type: none"> Frequency : 8.4145 MHz Level : 1 μV* (-107 dBm) Modulation : OFF • Receiving 	Rear Panel	Connect an AC millivoltmeter with an 8 Ω load to external [SP] jack	Maximum audio output level.	MAIN	Adjust in sequence L52, L53, L54, L55, L99, L100, L69, L71, L72, L73
NOTCH FILTER	1 <ul style="list-style-type: none"> • Displayed frequency • Set an SSG as: <ul style="list-style-type: none"> Frequency : 9.01056 MHz Level : 32 mV* (-17 dBm) Modulation : OFF • Receiving 	Rear Panel	Connect an AC millivoltmeter with an 8 Ω load to external [SP] jack	Minimum audio output level.	MAIN	C212, Adjust R134 at 3 c'clock.
	2 <ul style="list-style-type: none"> • Set an SSG as: <ul style="list-style-type: none"> Frequency : 9.01064 MHz Level : 32 mV* (-17 dBm) Modulation : OFF • Receiving 					C217, Adjust R136 at 3 c'clock.
DECORDER (External unit)	1 <ul style="list-style-type: none"> • Select "Decode" with [SEL] key. • Select "H/L" with [MENU] key, then select "TX" with [CALL] key. 	LOGIC	Connect a digital multimeter to J501.	4.1 V	LOGIC	R511
			Connect a digital multimeter to J502.	4.0 V		R515
			Connect an oscilloscope to the J503 (LOGIC unit).	Set square wave to 50 % duty ratio.		
	4 <ul style="list-style-type: none"> • Select "TX" with [CALL] key. 		Connect a digital multimeter to J701.	4.1 V		R711
			Connect a digital multimeter to J702.	4.0 V		R715
			Connect an oscilloscope to the J703 (LOGIC unit).	Set square wave to 50 % duty ratio.		
SELF CHECK	3 <ul style="list-style-type: none"> • RESET the transceiver while pushing [CLR] and [ENT] keys. 	Front Panel	Select [SELF TEST] and push [ENT].	Self check [OK]	Front Panel	Verify

• MAIN UNIT



• LOGIC UNIT



SECTION 5 PARTS LIST

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC1	1110003350	S.IC	μPC1037GR-E1
IC2	1140004550	S.IC	SC1287
IC3	1160000130	S.IC	TD62783AF (TP1)
IC4	1140004550	S.IC	SC1287
IC5	1110002030	IC	TA7808S
IC6	1110002020	IC	TA7805S
IC7	1110001400	S.IC	μPC1555G2-T1
IC9	1110003280	S.IC	ND487C1T-E3
IC10	1130001240	S.IC	μPD4013BG-T1
IC12	1130003830	S.IC	TC7S04F (TE85R)
IC13	1130003830	S.IC	TC7S04F (TE85R)
IC14	1180000420	S.IC	TA78L05F (TE12R)
IC15	1110000960	S.IC	NJM4558M (T1)
Q1	1530002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q2	1590001330	S.TRANSISTOR	DTA114EU AT106
Q3	1580000620	S.FET	3SK131-T2 MAS
Q4	1580000620	S.FET	3SK131-T2 MAS
Q5	1560000560	S.FET	2SK882-GR (TE85L)
Q6	1530002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q7	1530002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q8	1530002560	S.TRANSISTOR	2SC4403-3-TL
Q10	1530002560	S.TRANSISTOR	2SC4403-3-TL
Q12	1530002800	S.TRANSISTOR	2SC2873-Y (TE12RC)
Q13	1590000680	S.TRANSISTOR	DTC114EU AT106
Q14	1590000680	S.TRANSISTOR	DTC114EU AT106
Q15	1560000720	S.FET	2SK2171-4-TD
Q16	1560000720	S.FET	2SK2171-4-TD
Q17	1530003150	S.TRANSISTOR	2SC4673D-TD
Q23	1590000680	S.TRANSISTOR	DTC114EU AT106
D1	1790000450	S.DIODE	MA862 (TX)
D2	1790000450	S.DIODE	MA862 (TX)
D3	1790000450	S.DIODE	MA862 (TX)
D4	1790000450	S.DIODE	MA862 (TX)
D7	1730000880	S.ZENER	RD11M-T2B2
D8	1790000620	S.DIODE	MA77 (TW)
D9	1750000270	S.DIODE	1SS301 (TE85R)
D10	1790000620	S.DIODE	MA77 (TW)
D11	1750000270	S.DIODE	1SS301 (TE85R)
D12	1790000700	DIODE	DSA3A1
D13	1750000230	S.DIODE	1SS315 TPH-3
D14	1790000620	S.DIODE	MA77 (TW)
D16	1790000690	S.DIODE	HSM88ASR-TR
D17	1750000270	S.DIODE	1SS301 (TE85R)
D18	1730000880	S.ZENER	RD11M-T2B2
D19	1790000690	S.DIODE	HSM88ASR-TR
D20	1730000030	S.ZENER	RD5.6M B2
D23	1750000270	S.DIODE	1SS301 (TE85R)
F11	2010002220	XTAL	FL-273 (9.0106 MHz)
F12	2010000270	FILTER	FL-23
X1	6050003020	XTAL	CR-168
X2	6050010320	XTAL	CR-604 (32.000 MHz)
X3	6050003020	XTAL	CR-168
L1	6200003260	S.COIL	NL 322522T-101J
L2	6200003260	S.COIL	NL 322522T-101J
L3	6200002990	S.COIL	NL 322522T-2R2J-3
L4	6200003090	S.COIL	NL 322522T-2R7J-3
L5	6200003080	S.COIL	NL 322522T-1R8J-3
L6	6200003150	S.COIL	NL 322522T-180J
L7	6200003090	S.COIL	NL 322522T-2R7J-3
L8	6200002990	S.COIL	NL 322522T-2R2J-3
L9	6200001710	S.COIL	NL 322522T-220J
L10	6200003320	S.COIL	NL 322522T-3R3J-3
L11	6200003260	S.COIL	NL 322522T-101J
L12	6200003260	S.COIL	NL 322522T-101J
L13	6200003070	S.COIL	NL 322522T-1R5J-3
L14	6200003000	S.COIL	NL 322522T-R22J-3

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
L15	6200003080	S.COIL	NL 322522T-1R8J-3
L16	6200003060	S.COIL	NL 322522T-1R2J-3
L17	6180002960	S.COIL	NL 322522T-R18J-3
L18	6200003070	S.COIL	NL 322522T-1R5J-3
L19	6200003080	S.COIL	NL 322522T-1R8J-3
L20	6200003000	S.COIL	NL 322522T-R22J-3
L21	6200003260	S.COIL	NL 322522T-101J
L52	6150001590	COIL	LS-175
L53	6150001590	COIL	LS-175
L54	6150001590	COIL	LS-175
L55	6150001590	COIL	LS-175
L59	6200003070	S.COIL	NL 322522T-1R5J-3
L62	6200003070	S.COIL	NL 322522T-1R5J-3
L64	6200003260	S.COIL	NL 322522T-101J
L65	6200003260	S.COIL	NL 322522T-101J
L66	6200003260	S.COIL	NL 322522T-101J
L67	6140002060	COIL	LR-225
L68	6140002060	COIL	LR-225
L69	6150001640	COIL	LS-180B
L70	6200003140	S.COIL	NL 322522T-150J
L71	6150001590	COIL	LS-175
L72	6150001470	COIL	LS-163
L73	6150001590	COIL	LS-175
L74	6200001830	S.COIL	NL 322522T-100J
L75	6200002960	S.COIL	NL 322522T-4R7J-3
L76	6200003110	S.COIL	NL 322522T-6R8J
L77	6200003110	S.COIL	NL 322522T-6R8J
L79	6200003260	S.COIL	NL 322522T-101J
L80	6170000230	COIL	LW-25
L81	2040000490	COIL	EXC-ELDR25C
L82	6150000760	COIL	LS-94
L83	6200003260	S.COIL	NL 322522T-101J
L84	6150000990	COIL	LS-114
L85	6150000990	COIL	LS-114
L87	6200001830	S.COIL	NL 322522T-100J
L88	6200001830	S.COIL	NL 322522T-100J
L89	6200003140	S.COIL	NL 322522T-150J
L90	6200003140	S.COIL	NL 322522T-150J
L91	6200003140	S.COIL	NL 322522T-150J
L92	6200001830	S.COIL	NL 322522T-100J
L93	6200003060	S.COIL	NL 322522T-1R2J-3
L95	6200003040	S.COIL	NL 322522T-R68J-3
L96	6200003040	S.COIL	NL 322522T-R68J-3
L97	6140000640	COIL	LR-86
L98	6140001540	COIL	LR-169
L99	6150001640	COIL	LS-180B
L100	6150001640	COIL	LS-180B
L101	6200003330	S.COIL	NL 322522T-1R0J-3
L102	6910003570	COIL	2943-666663
L103	6140001460	COIL	LR-170
L104	6200003260	S.COIL	NL 322522T-101J
L105	6200002990	S.COIL	NL 322522T-2R2J-3
L106	6200002990	S.COIL	NL 322522T-2R2J-3
R1	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R2	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R3	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R4	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R5	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R6	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R7	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R8	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R10	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R11	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R12	7030003420	S.RESISTOR	ERJ3GEYJ 681 V (680 Ω)
R13	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R14	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R15	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R16	7510000090	THERMISTOR	ERT-D2FGL 202S
R18	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R19	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R20	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R21	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R22	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R23	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R24	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R25	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R26	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R27	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R28	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R29	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R30	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R31	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R32	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R33	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R34	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R35	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R36	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R37	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R38	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R39	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R40	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R41	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R42	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R43	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R44	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R45	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R46	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R47	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R48	7030005370	S.RESISTOR	RR0816P-202-B (2 kΩ)
R49	7030005380	S.RESISTOR	RR0816P-102-B (1 kΩ)
R50	7030005370	S.RESISTOR	RR0816P-202-B (2 kΩ)
R51	7030005380	S.RESISTOR	RR0816P-102-B (1 kΩ)
R52	7030005370	S.RESISTOR	RR0816P-202-B (2 kΩ)
R53	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R54	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R55	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R57	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R58	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R59	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R60	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R61	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R62	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R63	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R64	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R65	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)
R70	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R71	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R72	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R73	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R74	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R75	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R76	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R77	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R78	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R79	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R80	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R81	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R82	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R83	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)
R84	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R85	7030005370	S.RESISTOR	RR0816P-202-B (2 kΩ)
R86	7030005380	S.RESISTOR	RR0816P-102-B (1 kΩ)
R87	7030005370	S.RESISTOR	RR0816P-202-B (2 kΩ)
R88	7030005380	S.RESISTOR	RR0816P-102-B (1 kΩ)
R89	7030005370	S.RESISTOR	RR0816P-202-B (2 kΩ)
R90	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R91	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R92	7030006060	S.RESISTOR	ERJ12YJ100H (10 Ω)
R93	7030006080	S.RESISTOR	ERJ12YJ220H (22 Ω)
R94	7030006220	S.RESISTOR	ERJ12YJ470H (47 Ω)
R95	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R96	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R97	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R100	7540000100	ABSORBER	SRYPH-350L
R104	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R105	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R106	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R107	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R108	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R109	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R110	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R111	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R112	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R113	7030003700	S.RESISTOR	ERJ3GEYJ 154 V (150 kΩ)
R114	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R115	7030003780	S.RESISTOR	ERJ3GEYJ 684 V (680 kΩ)

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R116	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R117	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R118	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R120	7030003550	S.RESISTOR	ERJ3GEYJ 822 V (8.2 kΩ)
R121	7030003450	S.RESISTOR	ERJ3GEYJ 122 V (1.2 kΩ)
R122	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R123	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R125	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R126	7030003240	S.RESISTOR	ERJ3GEYJ 220 V (22 Ω)
R130	7030003450	S.RESISTOR	ERJ3GEYJ 122 V (1.2 kΩ)
R131	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R132	7030004040	S.RESISTOR	ERJ3GEYJ 4R7 V (4.7 Ω)
R133	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R134	7310002740	S.TRIMMER	RV-150
R135	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R136	7310002740	S.TRIMMER	RV-150
R152	7030008060	S.RESISTOR	RR0816P-222-D (2.2KΩ)
R153	7030008060	S.RESISTOR	RR0816P-222-D (2.2KΩ)
R154	7030005350	S.RESISTOR	RR0816P-182-D (1.8 kΩ)
R155	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
C1	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C2	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C3	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C4	4030009490	S.CERAMIC	C1608 JB 1H 821K-T-A
C5	4030010020	S.CERAMIC	C1608 JB 1H 122K-T-A
C6	4030007170	S.CERAMIC	C1608 CH 1H 221J-T-A
C7	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C8	4030010020	S.CERAMIC	C1608 JB 1H 122K-T-A
C9	4030007130	S.CERAMIC	C1608 CH 1H 101J-T-A
C10	4030009580	S.CERAMIC	C1608 JB 1H 681K-T-A
C11	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C12	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C13	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C14	4030007120	S.CERAMIC	C1608 CH 1H 820J-T-A
C15	4030010150	S.CERAMIC	C1608 SL 1H 561J-T-A
C16	4030007110	S.CERAMIC	C1608 CH 1H 680J-T-A
C17	4030007130	S.CERAMIC	C1608 CH 1H 101J-T-A
C18	4030009580	S.CERAMIC	C1608 JB 1H 681K-T-A
C19	4030007120	S.CERAMIC	C1608 CH 1H 820J-T-A
C20	4030007110	S.CERAMIC	C1608 CH 1H 680J-T-A
C21	4030010150	S.CERAMIC	C1608 SL 1H 561J-T-A
C22	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C23	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C53	4030007070	S.CERAMIC	C1608 CH 1H 330J-T-A
C55	4030007070	S.CERAMIC	C1608 CH 1H 330J-T-A
C57	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C62	4030010030	S.CERAMIC	C1608 SL 1H 511J-T-A
C64	4030007100	S.CERAMIC	C1608 CH 1H 560J-T-A
C65	4030010150	S.CERAMIC	C1608 SL 1H 561J-T-A
C67	4030007060	S.CERAMIC	C1608 CH 1H 270J-T-A
C68	4030011330	S.CERAMIC	C1608 CH 1H 391J-T-A
C69	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C70	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C71	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C72	4030007010	S.CERAMIC	C1608 CH 1H 100D-T-A
C73	4030007030	S.CERAMIC	C1608 CH 1H 150J-T-A
C74	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C75	4510006130	S.ELECTROLYTIC	ECEV1VS2R2SR
C76	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C77	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C78	4030007110	S.CERAMIC	C1608 CH 1H 680J-T-A
C79	4030007130	S.CERAMIC	C1608 CH 1H 101J-T-A
C80	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C81	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C82	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C83	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C86	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C87	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C88	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C89	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C90	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C91	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C92	4030007170	S.CERAMIC	C1608 CH 1H 221J-T-A
C93	4030006880	S.CERAMIC	C1608 CH 1H 472K-T-A
C94	4030007150	S.CERAMIC	C1608 CH 1H 151J-T-A
C95	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C96	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C97	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C98	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C99	4030007130	S.CERAMIC	C1608 CH 1H 101J-T-A

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C100	4510004640	S.ELECTROLYTIC ECEV1CA470SP
C101	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C102	4510004440	S.ELECTROLYTIC ECEV1HA010SR
C103	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C104	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C105	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C106	4510005600	S.ELECTROLYTIC ECEV1CS100SR
C107	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C108	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C109	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C112	4030007000	S.CERAMIC C1608 CH 1H 090D-T-A
C113	4030006920	S.CERAMIC C1608 CH 1H 010C-T-A
C114	4030006980	S.CERAMIC C1608 CH 1H 070D-T-A
C115	4030006910	S.CERAMIC C1608 CH 1H 0R5C-T-A
C116	4030006950	S.CERAMIC C1608 CH 1H 040C-T-A
C117	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C118	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C120	4030007020	S.CERAMIC C1608 CH 1H 120J-T-A
C128	4030006860	S.CERAMIC C1608 JB 1H 102K-T-A
C129	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C130	4030007170	S.CERAMIC C1608 CH 1H 221J-T-A
C131	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C132	4030007010	S.CERAMIC C1608 CH 1H 100D-T-A
C133	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C134	4030006920	S.CERAMIC C1608 CH 1H 010C-T-A
C135	4030007010	S.CERAMIC C1608 CH 1H 100D-T-A
C138	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C139	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C140	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C141	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C142	4510005600	S.ELECTROLYTIC ECEV1CS100SR
C143	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C144	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C145	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C146	4030007010	S.CERAMIC C1608 CH 1H 100D-T-A
C147	4030006920	S.CERAMIC C1608 CH 1H 010C-T-A
C148	4030007040	S.CERAMIC C1608 CH 1H 180J-T-A
C149	4030006930	S.CERAMIC C1608 CH 1H 020C-T-A
C150	4030007030	S.CERAMIC C1608 CH 1H 150J-T-A
C151	4030006860	S.CERAMIC C1608 JB 1H 102K-T-A
C152	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C153	4510005600	S.ELECTROLYTIC ECEV1CS100SR
C154	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C155	4510005600	S.ELECTROLYTIC ECEV1CS100SR
C156	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C157	4510005600	S.ELECTROLYTIC ECEV1CS100SR
C158	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C159	4510005600	S.ELECTROLYTIC ECEV1CS100SR
C160	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C161	4510005600	S.ELECTROLYTIC ECEV1CS100SR
C162	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C163	4510005600	S.ELECTROLYTIC ECEV1CS100SR
C164	4030006860	S.CERAMIC C1608 JB 1H 102K-T-A
C165	4030006900	S.CERAMIC C1608 JB 1E 103K-T-A
C166	4510004990	ELECTROLYTIC 16 MV 100 HC
C167	4510006120	S.ELECTROLYTIC ECEV1ES4R7SR
C168	4510005600	S.ELECTROLYTIC ECEV1CS100SR
C172	4030010110	S.CERAMIC C1608 SL 1H 471J-T-A
C173	4030010110	S.CERAMIC C1608 SL 1H 471J-T-A
C177	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C178	4030007040	S.CERAMIC C1608 CH 1H 180J-T-A
C179	4030007040	S.CERAMIC C1608 CH 1H 180J-T-A
C180	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C181	4510005600	S.ELECTROLYTIC ECEV1CS100SR
C182	4510005310	S.ELECTROLYTIC ECEV1CA220SR
C183	4510004440	S.ELECTROLYTIC ECEV1HA010SR
C184	4510006120	S.ELECTROLYTIC ECEV1ES4R7SR
C185	4510005600	S.ELECTROLYTIC ECEV1CS100SR
C186	4030006860	S.CERAMIC C1608 JB 1H 102K-T-A
C187	4510005600	S.ELECTROLYTIC ECEV1CS100SR
C188	4510005310	S.ELECTROLYTIC ECEV1CA220SR
C189	4030007170	S.CERAMIC C1608 CH 1H 221J-T-A
C190	4030006830	S.CERAMIC C1608 SL 1H 331J-T-A
C191	4030007170	S.CERAMIC C1608 CH 1H 221J-T-A
C192	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C193	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C194	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C195	4030007130	S.CERAMIC C1608 CH 1H 101J-T-A
C196	4030007130	S.CERAMIC C1608 CH 1H 101J-T-A
C197	4510004510	ELECTROLYTIC 25 MV 470 HC
C198	4030007170	S.CERAMIC C1608 CH 1H 221J-T-A
C199	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C200	4030008920	S.CERAMIC C1608 JB 1C 473K-T-A
C201	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C202	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C204	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C205	4030009990	S.CERAMIC C1608 CH 1H 200J-T-A
C208	4030007090	S.CERAMIC C1608 CH 1H 470J-T-A
C209	4030007070	S.CERAMIC C1608 CH 1H 330J-T-A
C210	4030007070	S.CERAMIC C1608 CH 1H 330J-T-A
C211	4030007090	S.CERAMIC C1608 CH 1H 470J-T-A
C212	4610001270	S.TRIMMER ECR-JA010 A12W
C213	4030007100	S.CERAMIC C1608 CH 1H 560J-T-A
C214	4030007100	S.CERAMIC C1608 CH 1H 560J-T-A
C215	4030007070	S.CERAMIC C1608 CH 1H 330J-T-A
C216	4030007070	S.CERAMIC C1608 CH 1H 330J-T-A
C217	4610001270	S.TRIMMER ECR-JA010 A12W
C218	4030007100	S.CERAMIC C1608 CH 1H 560J-T-A
C219	4030007100	S.CERAMIC C1608 CH 1H 560J-T-A
C220	4560000070	CERAMIC D33Y5V 1H 473Z21
C221	4560000070	CERAMIC D33Y5V 1H 473Z21
C224	4510005600	S.ELECTROLYTIC ECEV1CS100SR
C225	4030011600	S.CERAMIC C1608 JB 1C 104KT-N
C226	4030011600	S.CERAMIC C1608 JB 1C 104KT-N
C227	4510004870	S.ELECTROLYTIC ECEV1CA330P
C228	4030011600	S.CERAMIC C1608 JB 1C 104KT-N
C229	4030011600	S.CERAMIC C1608 JB 1C 104KT-N
C230	4030011600	S.CERAMIC C1608 JB 1C 104KT-N
C231	4510005600	S.ELECTROLYTIC ECEV1CS100SR
C232	4030011600	S.CERAMIC C1608 JB 1C 104KT-N
RL1	6330000180	RELAY MZ-12HG
RL2	6330000940	RELAY G6EK-134P-1-US DC9V
RL3	6330001320	RELAY AHY103
J1	6510018050	CONNECTOR 52045-2445
J2	6510003250	CONNECTOR TMP-J01X-A2
J3	6510003100	CONNECTOR RT01T-1.3B
J5	6510003100	CONNECTOR RT01T-1.3B
J6	6510003100	CONNECTOR RT01T-1.3B
W1	7120000380	JUMPER JPW 01 R-01
W2	7120000380	JUMPER JPW 01 R-01
W3	7120000010	JUMPER JPW 02A
W4	7120000010	JUMPER JPW 02A
W5	7030003860	S.JUMPER ERJ3GE JPW V
W6	7030003860	S.JUMPER ERJ3GE JPW V
W7	7030003860	S.JUMPER ERJ3GE JPW V
WS1	8600035970	M.OTHER P01xJ09MA
WS2	8600035980	M.OTHER P02xJ10MA
EP1	0910047089	PCB B 4424I
EP2	6910002160	CASE BM7 SHILD CAN
EP4	9029405901	TUBE IRRAX 0.8(d) L=5 mm

S.=Surface mount

[LOGIC UNIT]

REF NO.	ORDER NO.		DESCRIPTION
IC2001	1110001550	S.IC	S-8054ALB-LM-T1
IC2002	1110000890	IC	µPC1241H
IC2003	1120002460	S.IC	HD74LS04FPTR
IC2004	1120002470	S.IC	HD74LS245FPTR
IC2005	1140001640	S.IC	TMP82C55AM-2
IC2006	1130004921	S.IC	TC74HC04AF(TP1)
IC2007	1130006080	S.IC	TC74HC02AF (TP1)
IC2008	1130006010	S.IC	HM6264ALFP-L
IC2009	1130006880	S.IC	TC74HC373AF(TP1)
IC2010	1130005240	S.IC	TC74HC00AF
IC2011	1140005782	IC	SC-1342-2
IC2012	1140004800	S.IC	TMP90CM37F
IC2013	1130007450	S.IC	RTC-4553A
IC2014	1130007290	S.IC	24LC16BT-I/SN
IC2015	1180001250	S.IC	TA7808F(TE16L)
IC2016	1180001070	S.IC	TA7805F(TE16L)
IC2017	1130002670	S.IC	µPD4093BG-E1
IC2018	1140004550	S.IC	M65343FP/SC1287
IC2019	1130006010	S.IC	HM6264ALFP-L
IC2020	1130007750	S.IC	HD61830A00H
IC2025	1130005970	S.IC	TC74HC4053AF
IC2026	1130000830	S.IC	µPD4094BG-T1
IC2027	1130007290	S.IC	24LC16BT-I/SN
IC2028	1170000280	S.IC	TLP121 (GB)
IC2029	1170000280	S.IC	TLP121 (GB)
IC2030	1130006680	S.IC	TC7S02F (TE85R)
IC2031	1130005820	S.IC	TC4S584F(TE85R)
IC2032	1130003830	S.IC	TC7S04F (TE85R)
IC2033	1130006110	S.IC	TC74HC367AF (TP1)
IC2034	1130005640	S.IC	TC4W53F (TE12L)
IC2035	1130005820	S.IC	TC4S584F(TE85R)
IC2036	1130003830	S.IC	TC7S04F (TE85R)
IC2037	1180000420	S.IC	TA78L05F (TE12R)
IC2501	1130003830	S.IC	TC7S04F (TE85R)
IC2502	1130003830	S.IC	TC7S04F (TE85R)
IC2503	1190000730	S.IC	NJM4151M-TE3
IC2504	1110001220	S.IC	BA4558F T1
IC2701	1130003830	S.IC	TC7S04F (TE85R)
IC2702	1130003830	S.IC	TC7S04F (TE85R)
IC2703	1190000730	S.IC	NJM4151M-TE3
IC2704	1110001220	S.IC	BA4558F T1
Q2001	1530002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q2002	1510000770	S.TRANSISTOR	2SA1586-GR (TE85R)
Q2003	1530002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q2004	1590000680	S.TRANSISTOR	DTC114EU AT106
Q2005	1530002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q2006	1530002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q2007	1590000680	S.TRANSISTOR	DTC114EU AT106
Q2008	1510000770	S.TRANSISTOR	2SA1586-GR (TE85R)
Q2009	1530002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q2010	1590000680	S.TRANSISTOR	DTC114EU AT106
Q2011	1590001330	S.TRANSISTOR	DTA114EU AT106
Q2501	1590000680	S.TRANSISTOR	DTC114EU AT106
Q2502	1590000680	S.TRANSISTOR	DTC114EU AT106
Q2701	1590000680	S.TRANSISTOR	DTC114EU AT106
Q2702	1590000680	S.TRANSISTOR	DTC114EU AT106
D2001	1750000270	S.DIODE	1SS301 (TE85R)
D2002	1750000270	S.DIODE	1SS301 (TE85R)
D2003	1750000270	S.DIODE	1SS301 (TE85R)
D2004	1750000290	S.DIODE	1SS300 (TE85R)
D2005	1750000270	S.DIODE	1SS301 (TE85R)
D2006	1750000300	S.DIODE	1SS302 (TE85R)
D2007	1750000270	S.DIODE	1SS301 (TE85R)
D2008	1750000270	S.DIODE	1SS301 (TE85R)
D2009	1750000270	S.DIODE	1SS301 (TE85R)
D2010	1750000300	S.DIODE	1SS302 (TE85R)
X2001	6050009030	XTAL	CR-487
L2001	6200001830	S.COIL	NL 322522T-100J
L2002	6200001830	S.COIL	NL 322522T-100J
L2003	6200001830	S.COIL	NL 322522T-100J
L2004	6200001830	S.COIL	NL 322522T-100J
L2005	6200001830	S.COIL	NL 322522T-100J
L2006	6200001830	S.COIL	NL 322522T-100J
L2007	6200001830	S.COIL	NL 322522T-100J

[LOGIC UNIT]

REF NO.	ORDER NO.		DESCRIPTION
L2008	6200001830	S.COIL	NL 322522T-100J
L2009	6200001830	S.COIL	NL 322522T-100J
L2010	6200001830	S.COIL	NL 322522T-100J
L2011	6200001830	S.COIL	NL 322522T-100J
L2012	6200001830	S.COIL	NL 322522T-100J
L2013	6200001830	S.COIL	NL 322522T-100J
L2014	6200001830	S.COIL	NL 322522T-100J
L2015	6200001830	S.COIL	NL 322522T-100J
L2016	6170000140	COIL	LW-15
L2017	6200001830	S.COIL	NL 322522T-100J
L2023	6200003120	S.COIL	NL 322522T-8R2J
L2024	6200003120	S.COIL	NL 322522T-8R2J
L2025	6200001850	S.COIL	NL 322522T-5R6J
L2026	6200001830	S.COIL	NL 322522T-100J
L2027	6200001830	S.COIL	NL 322522T-100J
L2028	6200001830	S.COIL	NL 322522T-100J
L2029	6200001830	S.COIL	NL 322522T-100J
L2030	6200001830	S.COIL	NL 322522T-100J
L2031	6200001830	S.COIL	NL 322522T-100J
L2032	6200001830	S.COIL	NL 322522T-100J
L2033	6200001830	S.COIL	NL 322522T-100J
L2034	6200001830	S.COIL	NL 322522T-100J
L2035	6200001830	S.COIL	NL 322522T-100J
L2036	6200001830	S.COIL	NL 322522T-100J
L2037	6200001830	S.COIL	NL 322522T-100J
L2038	6200001830	S.COIL	NL 322522T-100J
L2501	6200001830	S.COIL	NL 322522T-100J
L2502	6200001830	S.COIL	NL 322522T-100J
L2701	6200001830	S.COIL	NL 322522T-100J
L2702	6200001830	S.COIL	NL 322522T-100J
T2001	5920000570	TRANSFOM	12T01
T2002	5920000570	TRANSFOM	12T01
R2001	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R2002	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R2005	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R2006	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R2007	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R2008	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R2009	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R2010	7030003410	S.RESISTOR	ERJ3GEYJ 561 V (560 Ω)
R2011	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2012	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2013	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R2014	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R2015	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R2016	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2017	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2018	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2019	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2020	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2021	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2022	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2023	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2024	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2025	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2026	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2027	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2028	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2029	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2030	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2031	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2032	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2033	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2034	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2035	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R2036	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R2037	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R2038	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R2039	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R2040	7030004050	S.RESISTOR	ERJ3GEYJ 1R0 V (1 Ω)
R2041	7030006270	S.RESISTOR	ERJ12YJ221H (220 Ω)
R2042	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R2043	7030003210	S.RESISTOR	ERJ3GEYJ 120 V (12 Ω)
R2044	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R2045	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R2046	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R2047	7030003540	S.RESISTOR	ERJ3GEYJ 682 V (6.8 kΩ)
R2048	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)

S.=Surface mount

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION
R2049	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2050	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2051	7030003580	S.RESISTOR ERJ3GEYJ 153 V (15 kΩ)
R2053	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2054	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2055	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2056	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2057	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2058	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2059	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2060	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2061	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2062	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2063	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2064	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2065	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2066	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2067	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2068	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2069	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2070	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2071	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2072	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2073	7030005670	S.RESISTOR RR0816R-393-D (39 kΩ)
R2074	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2075	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2076	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2077	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2080	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2087	7030006060	S.RESISTOR ERJ12YJ100H (10 Ω)
R2088	7030006080	S.RESISTOR ERJ1WYJ220H (22 Ω)
R2090	7030005400	S.RESISTOR RR0816P-202-D (2 kΩ)
R2091	7030005400	S.RESISTOR RR0816P-202-D (2 kΩ)
R2092	7030005390	S.RESISTOR RR0816P-102-D (1 kΩ)
R2093	7030005400	S.RESISTOR RR0816P-202-D (2 kΩ)
R2094	7030005390	S.RESISTOR RR0816P-102-D (1 kΩ)
R2095	7030005400	S.RESISTOR RR0816P-202-D (2 kΩ)
R2096	7030005390	S.RESISTOR RR0816P-102-D (1 kΩ)
R2097	7030005400	S.RESISTOR RR0816P-202-D (2 kΩ)
R2098	7030005390	S.RESISTOR RR0816P-102-D (1 kΩ)
R2099	7030005400	S.RESISTOR RR0816P-202-D (2 kΩ)
R2100	7030005390	S.RESISTOR RR0816P-102-D (1 kΩ)
R2101	7030005400	S.RESISTOR RR0816P-202-D (2 kΩ)
R2102	7030005390	S.RESISTOR RR0816P-102-D (1 kΩ)
R2103	7030005400	S.RESISTOR RR0816P-202-D (2 kΩ)
R2104	7030005390	S.RESISTOR RR0816P-102-D (1 kΩ)
R2105	7030005370	S.RESISTOR RR0816P-202-B (2 kΩ)
R2106	7030005380	S.RESISTOR RR0816P-102-B (1 kΩ)
R2107	7030005370	S.RESISTOR RR0816P-202-B (2 kΩ)
R2108	7030005380	S.RESISTOR RR0816P-102-B (1 kΩ)
R2109	7030005370	S.RESISTOR RR0816P-202-B (2 kΩ)
R2111	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R2112	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R2113	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2126	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2127	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R2128	7030006270	S.RESISTOR ERJ12YJ221H (220 Ω)
R2129	7030003720	S.RESISTOR ERJ3GEYJ 224 V (220 kΩ)
R2130	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2131	7030003800	S.RESISTOR ERJ3GEYJ 105 V (10 kΩ)
R2132	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R2133	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2134	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R2135	7030006080	S.RESISTOR ERJ1WYJ 220H (22 Ω)
R2501	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R2502	7030003840	S.RESISTOR ERJ3GEYJ 225 V (2.2 MΩ)
R2503	7030003360	S.RESISTOR ERJ3GEYJ 221 V (220 Ω)
R2504	7030003840	S.RESISTOR ERJ3GEYJ 225 V (2.2 MΩ)
R2505	7030003530	S.RESISTOR ERJ3GEYJ 562 V (5.6 kΩ)
R2506	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R2507	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R2508	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R2509	7030005450	S.RESISTOR RR0816P-153-D (15 kΩ)
R2510	7030006560	S.RESISTOR RR0816P-223-D (22 kΩ)
R2511	7310002720	S.TRIMMER RV-148
R2512	7030005730	S.RESISTOR RR0816R-823-D (82 kΩ)
R2513	7030005680	S.RESISTOR RR0816R-473-D (47 kΩ)
R2514	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R2515	7310002740	S.TRIMMER RV-150
R2516	7510000530	THERMISTOR ERT-D2FHL 103S
R2517	7030005670	S.RESISTOR RR0816R-393-D (39 kΩ)
R2518	7030005680	S.RESISTOR RR0816R-473-D (47 kΩ)

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION
R2519	7030008140	S.RESISTOR RR0816P-224-D (220 kΩ)
R2520	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2521	7310002740	S.TRIMMER RV-150
R2522	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2523	7030003800	S.RESISTOR ERJ3GEYJ 105 V (10 kΩ)
R2524	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R2525	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R2526	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R2701	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R2702	7030003840	S.RESISTOR ERJ3GEYJ 225 V (2.2 MΩ)
R2703	7030003360	S.RESISTOR ERJ3GEYJ 221 V (220 Ω)
R2704	7030003840	S.RESISTOR ERJ3GEYJ 225 V (2.2 MΩ)
R2705	7030003530	S.RESISTOR ERJ3GEYJ 562 V (5.6 kΩ)
R2706	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R2707	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R2708	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R2709	7030005450	S.RESISTOR RR0816P-153-D (15 kΩ)
R2710	7030006560	S.RESISTOR RR0816P-223-D (22 kΩ)
R2711	7310002720	S.TRIMMER RV-148
R2712	7030005730	S.RESISTOR RR0816R-823-D (82 kΩ)
R2713	7030005680	S.RESISTOR RR0816R-473-D (47 kΩ)
R2714	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R2715	7310002740	S.TRIMMER RV-150
R2716	7510000530	THERMISTOR ERT-D2FHL 103S
R2717	7030005670	S.RESISTOR RR0816R-393-D (39 kΩ)
R2718	7030005680	S.RESISTOR RR0816R-473-D (47 kΩ)
R2719	7030008140	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R2720	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2721	7310002740	S.TRIMMER RV-150
R2722	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R2723	7030003800	S.RESISTOR ERJ3GEYJ 105 V (10 kΩ)
R2724	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R2725	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R2726	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
C2001	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2002	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2003	4550003220	S.TANTALUM TEMSVA 1E 105M-8L
C2004	4510004990	ELECTROLYTIC 16 MV 100 HC
C2005	4510004590	ELECTROLYTIC 16 MV 470 HC
C2006	4030006860	S.CERAMIC C1608 JB 1H 102K-T-A
C2007	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2008	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2009	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2010	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2011	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2012	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2013	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2014	4030007100	S.CERAMIC C1608 CH 1H 560J-T-A
C2015	4030007100	S.CERAMIC C1608 CH 1H 560J-T-A
C2016	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2017	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2018	4510005600	S.ELECTROLYTIC ECEV1CS100SR
C2019	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2020	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2021	4510005600	S.ELECTROLYTIC ECEV1CS100SR
C2022	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2023	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2024	4510005600	S.ELECTROLYTIC ECEV1CS100SR
C2025	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2026	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2027	4510006220	S.ELECTROLYTIC ECEV1CA101UP
C2028	4030006900	S.CERAMIC C1608 JB 1E 103K-T-A
C2029	4510006150	S.ELECTROLYTIC ECEV1HSR22SR
C2030	4510004590	ELECTROLYTIC 16 MV 470 HC
C2031	4510006150	S.ELECTROLYTIC ECEV1HSR22SR
C2032	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C2033	4510004640	S.ELECTROLYTIC ECEV1CA470SP
C2034	4510004990	ELECTROLYTIC 16 MV 100 HC
C2035	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2036	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2037	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2038	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2039	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2040	4030007030	S.CERAMIC C1608 CH 1H 150J-T-A
C2041	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2042	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2043	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2044	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C2045	4340000110	S.MYLAR ECH-U 1C273JB5
C2046	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A

S.=Surface mount

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C2047	4340000110	S.MYLAR	ECH-U 1C273JB5
C2048	4340000120	S.MYLAR	ECH-U 1C 682JB5
C2049	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C2050	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C2051	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C2052	4340000110	S.MYLAR	ECH-U 1C273JB5
C2053	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C2054	4340000110	S.MYLAR	ECH-U 1C273JB5
C2055	4340000120	S.MYLAR	ECH-U 1C 682JB5
C2062	4510006220	S.ELECTROLYTIC	ECEV1CA101UP
C2063	4510005600	S.ELECTROLYTIC	ECEV1CS100SR
C2065	4510005600	S.ELECTROLYTIC	ECEV1CS100SR
C2066	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C2067	4030006960	S.CERAMIC	C1608 CH 1H 050C-T-A
C2068	4030007000	S.CERAMIC	C1608 CH 1H 090D-T-A
C2069	4030006990	S.CERAMIC	C1608 CH 1H 080D-T-A
C2070	4510005830	S.ELECTROLYTIC	ECEV1HAN010R
C2073	4030006920	S.CERAMIC	C1608 CH 1H 010C-T-A
C2074	4030006910	S.CERAMIC	C1608 CH 1H 0R5C-T-A
C2075	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C2076	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C2077	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C2078	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C2079	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C2080	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C2081	4550003220	S.TANTALUM	TEMSVA 1E 105M-8L
C2083	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C2084	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C2085	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C2086	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C2087	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C2088	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C2089	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C2090	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C2091	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C2092	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C2093	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C2094	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C2095	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C2096	4030007130	S.CERAMIC	C1608 CH 1H 101J-T-A
C2097	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C2098	4030007070	S.CERAMIC	C1608 CH 1H 330J-T-A
C2099	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C2100	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C2101	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C2102	4510005750	S.ELECTROLYTIC	ECEV1EA220SP
C2103	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C2104	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C2105	4510004640	S.ELECTROLYTIC	ECEV1CA470SP
C2106	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C2501	4030006900	S.CERAMIC	C1608 JB 1E 103K-T-A
C2502	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C2503	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
RL2001	6330000800	RELAY	G5A-237P DC12V
J2001	6510018050	CONNECTOR	52045-2445
J2002	6510003390	CONNECTOR	B03B-EH-S
J2003	6510003410	CONNECTOR	B05B-EH-S
J2004	6510017670	CONNECTOR	52045-2045
J2005	6510017650	CONNECTOR	52045-1045
J2007	6510017990	CONNECTOR	DELC-J9SAF-20L9
J2008	6510018000	CONNECTOR	DBLC-J25SAF-20L9
J2009	6510003250	CONNECTOR	TMP-J01X-A2
J2011	2610000200	CONNECTOR	ICC05-028 360T
J2501	6910001040	CONNECTOR	IPS-1136
J2502	6910001040	CONNECTOR	IPS-1136
J2503	6910001040	CONNECTOR	IPS-1136
J2701	6910001040	CONNECTOR	IPS-1136
J2702	6910001040	CONNECTOR	IPS-1136
J2703	6910001040	CONNECTOR	IPS-1136
W2001	7030003860	S.JUMPER	ERJ3GE JPW V
W2002	7030003860	S.JUMPER	ERJ3GE JPW V
W2003	7030003860	S.JUMPER	ERJ3GE JPW V
W2004	7030003860	S.JUMPER	ERJ3GE JPW V

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
EP2001	0910047077	PCB	B 4423G
EP2501	9029405901	TUBE	IRRAX 0.8(d) L=5 mm
EP2701	9029405901	TUBE	IRRAX 0.8(d) L=5 mm

[DISP UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC3001	1130007730	S.IC	HD44100H
IC3002	1130007740	S.IC	HD61200
IC3003	1110000960	S.IC	NJM4558M(T1)
IC3004	1110003870	S.IC	NJM2058M-T1
IC3005	1130007250	S.IC	TC4S30F(TE85R)
Q3002	1520000560	S.TRANSISTOR	2SB1123T-TD
Q3003	1560000870	S.FET	2SK515-T1B (X33)
R3001	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R3002	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R3004	7510000140	THERMISTOR	ERT-D2FHL 802S
R3005	7030005320	S.RESISTOR	RR0816P-103-D (10 kΩ)
R3006	7030005330	S.RESISTOR	RR0816P-562-D (5.6 kΩ)
R3007	7030005340	S.RESISTOR	RR0816P-332-D (3.3 kΩ)
R3008	7030005340	S.RESISTOR	RR0816P-332-D (3.3 kΩ)
R3009	7030005340	S.RESISTOR	RR0816P-332-D (3.3 kΩ)
R3010	7030005340	S.RESISTOR	RR0816P-332-D (3.3 kΩ)
R3011	7030005340	S.RESISTOR	RR0816P-332-D (3.3 kΩ)
R3012	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R3013	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R3014	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R3015	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R3016	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R3017	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R3018	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R3019	7030003490	S.RESISTOR	ERJ3GEYJ 272 V (2.7 kΩ)
R3020	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R3021	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R3022	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R3023	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R3024	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R3025	7030003400	S.RESISTOR	ERJ3GEYJ 107 V (470 Ω)
C3001	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
DS3001	5030001530	LCD	T535003A
DS3002	5080000150	LAMP	HRS-7219A
DS3003	5080000150	LAMP	HRS-7219A
DS3004	5080000150	LAMP	HRS-7219A
S3001	2250000310	ENCODER	RH90N945E20-14F-1562
S3002	2260001860	SWITCH	SW-148 (SKHHBW)
J3001	6510019030	CONNECTOR	52080-1010
J3002	6510019040	CONNECTOR	52080-2010
J3003	6510007260	CONNECTOR	5124-15BHPB
EP3001	0910047067	PCB	B 4422G
EP3002	89300037450	LCD CONTACT	SRCN-1562 ZNN
EP3003	9021201001	TUBE	IRRAX 0.7(d) L=7 mm
EP3004	9019501150	TUBE	6.0(d) L=10 mm

S.=Surface mount

[VR UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R3401	7210002700	VARIABLE	RV-299
WS1	8600034820	M.OTHER	P3401xJ3401x3402VR
EP3401	0910047090	PCB	B 4557

[SW UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
J3601	6510010860	CONNECTOR	3022-15B
EP3601	0910047272	PCB	B 2461B

[FRONT UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
W3801	8900005350	CABLE	OPC-523
W3802	8900005390	CABLE	OPC-527

[REG UNIT] — Europe version only

REF NO.	ORDER NO.	DESCRIPTION	
IC7001	1110001950	IC	μPC494C
IC7002	1110002260	IC	μPC1093J
IC7003	1170000190	IC	TLP521-1(BL)
Q7001	1560000580	FET	2SK811
Q7002	1560000580	FET	2SK811
Q7003	1510000410	TRANSISTOR	2SA933S S
D7001	1790000700	DIODE	DSA3A1
D7002	1790000270	DIODE	ESAC85-009
D7003	1790000070	DIODE	1SS237
L7001	5920000450	COIL	FK-080E-1020
L7003	5920000450	COIL	FK-080E-1020
T7001	5920000440	TRANSFOM	TO-25
R7001	7010001200	RESISTOR	R25XJ 2.7 kΩ
R7002	7010003480	RESISTOR	ELR20J 4.7 kΩ
R7003	7010003520	RESISTOR	ELR20J 8.2 kΩ
R7004	7010003410	RESISTOR	ELR20J 1.2 kΩ
R7005	7010003480	RESISTOR	ELR20J 4.7 kΩ
R7006	7010003480	RESISTOR	ELR20J 4.7 kΩ
R7007	7010003510	RESISTOR	ELR20J 6.8 kΩ
R7008	7010003460	RESISTOR	ELR20J 3.3 kΩ
R7009	7010004690	RESISTOR	R50XJ 47 Ω
R7010	7010004780	RESISTOR	R50XJ 470 Ω
R7011	7010003480	RESISTOR	ELR20J 4.7 kΩ
R7012	7010003300	RESISTOR	ELR20J 150 Ω
R7013	7310000710	TRIMMER	RH0651C13J1YA (102)
R7014	7010003470	RESISTOR	ELR20J 3.9 kΩ
R7015	7010003400	RESISTOR	ELR20J 1 kΩ
R7016	7010003220	RESISTOR	ELR20J 33 Ω
R7017	7010004690	RESISTOR	R50XJ 47 Ω
R7018	7010004780	RESISTOR	R50XJ 470 Ω
R7019	7010003360	RESISTOR	ELR20J 470 Ω
R7020	7010003400	RESISTOR	ELR20J 1 kΩ

[REG UNIT] — Europe version only

REF NO.	ORDER NO.	DESCRIPTION	
C7001	4510002380	ELECTROLYTIC	16 SS 470UF)
C7002	4040000690	BARRIERLAYR	UAT 08X 473K
C7003	4560000050	CERAMIC	D67X5T 1E 684M51
C7004	4510000130	ELECTROLYTIC	ECEA1CG102S
C7005	4510000130	ELECTROLYTIC	ECEA1CG102S
C7006	4510001100	ELECTROLYTIC	16 MS7 10UF
C7007	4310000360	MYLAR	50 F2D 103J
C7008	4010000520	CERAMIC	DD107-601 B 472K 50V
C7009	4510000130	ELECTROLYTIC	ECEA1CG102S
C7010	4510000130	ELECTROLYTIC	ECEA1CG102S
C7011	4560000050	CERAMIC	D67X5T 1E 684M51
C7012	4010006890	CERAMIC	HE60SJ YB 222K 50V
C7013	4510003090	ELECTROLYTIC	16 SS 2200UF
C7014	4560000050	CERAMIC	D67X5T 1E 684M51
C7015	4560000050	CERAMIC	D67X5T 1E 684M51
J7001	6510003100	CONNECTOR	RT01T-1.3B
J7002	6510003100	CONNECTOR	RT01T-1.3B
J7003	6510003100	CONNECTOR	RT01T-1.3B
J7004	6510003100	CONNECTOR	RT01T-1.3B
J7005	6510003100	CONNECTOR	RT01T-1.3B
J7006	6510003100	CONNECTOR	RT01T-1.3B
J7007	6510003100	CONNECTOR	RT01T-1.3B
J7008	6510003100	CONNECTOR	RT01T-1.3B
J7009	6510003100	CONNECTOR	RT01T-1.3B
W7005	6910001020	JUMPER	IPS-1041-2
W7006	7120000010	JUMPER	JPW 02A
W7007	6910001030	JUMPER	IPS-1041-4
W7009	6910001030	JUMPER	IPS-1041-4
W7010	8900006360	CABLE	OPC-615
WS1	8600034830	M.OTHER	P7001RE
WS2	8600034840	M.OTHER	P7002RE
EP7001	0910028424	PCB	B 2865D
EP7002	6910000340	SHEET	P101 KD

S.=Surface mount

SECTION 6 MECHANICAL PARTS AND DISASSEMBLY

[CHASSIS PARTS]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
J1001	6510000410	Connector MR-DS-E 02	1
J1002	6510011420	Connector 31-10	1
S1001	2230001000	Switch EHM-5S04CK1P1	1
W1003	8900006590	Cable OPC-638	1
W1004	8900007690	Cable OPC-729	1
W1005	8900006020	Cable OPC-573	1
W1009	8900007700	Cable OPC-736	1
MP1001	8110005490	1562 cover	1
MP1002	8210011730	1562 back panel	1
MP1003	8930035460	1562 back A seal	1
MP1004	8930035480	1562 back plate	1
MP1005	8930035450	1562 front seal	1
MP1007	8930012070	Waterproof cap	1
MP1008	8010016000	Chassis (A)	1
MP1009	8930035490	1562 SP plate	1
MP1010	8930000470	Spacer (S)	3
MP1011	8930017620	PCB spacer (H)	3
MP1012	8930035471	1562 back B seal -1	1
MP1013	8930019020	ANT seal	1
MP1014	8930037350	833 SP holder (B)	1
MP1016	8930000100	Stand-off (F)	3
MP1017	8810009020	Screw FH M2.6 x 5 ZK	4
MP1018	8810009060	Screw FH M3 x 6 ZK	4
MP1019	8810000580	Screw PH M3 x 6 SUS	6
MP1020	8810009020	Screw FH M2.6 x 5 ZK	2
MP1021	8810000580	Screw PH M3 x 6 SUS	3
MP1022	8810000580	Screw PH M3 x 6 SUS	3
MP1023	8810003960	Set screw A M2.6 x 5	4
MP1024	8810003960	Set screw A M2.6 x 5	6
MP1026	8810000580	Screw PH M3 x 6 SUS	2
MP1027	8930036390	1562 CA-plate	1
MP1028	8930036400	1562 CB-plate	1
MP1029	8930036270	1562 side seal	4
MP1030	8930037030	1562 stand-off	4
MP1031	8810008800	Screw PH UNC No. 4 x 4 SUS	4
MP1032	8830000370	Wing nut M5 SUS	1
MP1033	8830000250	Nut M5 SUS	1
MP1034	8850000180	Flat washer M5 SUS	2
MP1035	8850000500	Spring washer M5 SUS	1
MP1036	8850001620	Icom washer (X)	4
MP1037	8930036900	1562 A-sheet	2
MP1038	8930036910	1562 B-sheet	2
MP1039	8930037300	Cap 025-5060-000	1
MP1040	8930037290	Cap 025-5057-000	1
MP1041	8930037280	M-cap	1
MP1042	8010016050	1562 sub chassis	1
MP1043	8930007580	Stand SJ-5018 (rubber foot E)	4
MP1044	8810008980	Hex bolt M4 x 8 SUS (+)	4
MP1045	8930018050	LCD cover	1
MP1048	8930028840	Sponge (DF)	1
MP1049	8930028840	Sponge (DF)	1
MP1050	8510010610	1562 LOGIC cover	1
MP1051	8510010621	1562 MAIN cover -1	1
MP1052	8930040580	Sealing washer (K)	4
MP1053	8810009420	Screw PH No. 0 M2 x 3 SUS	4
MP1054	8930040270	Embossed tape (H)	2
MP1055	8510011150	1562 D-plate	1
MP1057	8110006140	1815 cover (A)	1
MP1058	8510011270	1815 case	1
MP1059	8930043740	1815 rubber	1
MP1060	6910011020	EH-1080	1
MP1061	6910011030	EH-1092K	2
SP1001	2510000470	Speaker EAS-6P100SA	1

[FRONT PARTS]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
W3801	8900005350	Cable OPC-523 (N: 10, L: 100)	1
W3802	8900005390	Cable OPC-527 (N: 20, L: 100)	1
MP3801	8210012091	Front panel A-1 with window plate [EUR]	1
	8210014741	Front panel A with window plate B [USA]	1
MP3802	8210012080	10-key (A)	1
MP3804	8610006470	Knob N151	1
MP3805	8610006480	Knob N152	1
MP3806	8930034270	1562 EMER button [EUR]	1
	8930043710	1562 EMER button (A) [USA]	1
MP3807	8830000550	VR nut (E)	1
MP3808	8930035700	1562 VR rubber	1
MP3811	8930037940	1562 S-plate	1
MP3812	8930038610	1562 SW-U rubber	1
MP3813	8810005900	Screw PH B0 No. 0-3 M1.4 x 3.5 NI [EUR]	1
	8810009480	Screw PH C0 No. 0-3 M1.4 x 3.5 (PS) [USA]	5

[LOGIC UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP2001	8410001500	Main heat sink	1
MP2002	8810003160	Set screw A M3 x 6	1
MP2003	8830000100	Nut M3	1

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8510001080	Shield case (A)	1
MP2	8510001101	Shield case (A) cover (A)-1	1
MP3	8510002690	PA shield case (B)	1
MP4	8510004360	PA shield case (B) cover (A)	1
MP5	8510005330	Coil case	1
MP6	8510002690	PA shield case (B)	1
MP7	8510004360	PA shield case (B) cover (A)	1
MP8	8510005330	Coil case	1
MP9	8510002020	MIX shield case	1
MP10	8930014140	Ground spring (D)	1
MP11	8930014140	Ground spring (D)	1
MP12	8930014140	Ground spring (D)	1
MP13	8930001160	Ground spring	1
MP14	8930014140	Ground spring (D)	1
MP16	8410002190	1562 heat sink	1
	8410002190	1562 heat sink	1
MP17	8810008680	Screw PH M3 x 8 NI	2
MP18	8830000100	Nut M3	2
MP19	8510011650	1562 crystal cover	1

[DISP UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
DS3001	5030001210	LCD T535003 [EUR]	1
	5030001530	LCD T535003A [USA]	1
EP3002	8930037450	LCD contact SRCN-1562 ZNN	2
MP3001	8010009710	851 reflector	1
MP3002	8930018360	LCD filter	1
MP3003	8930017850	LCD holder	1

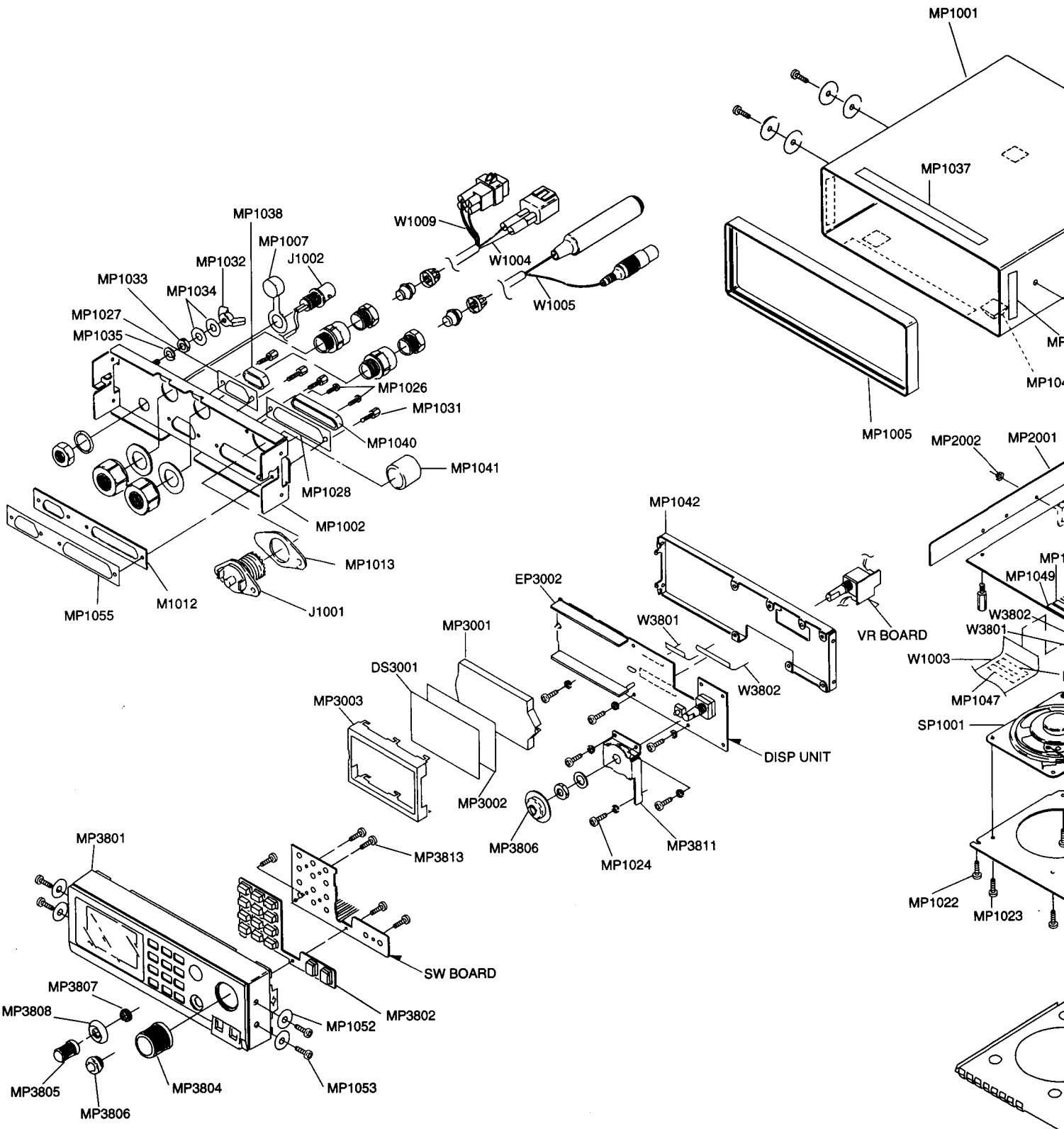
[REG UNIT] (Europe version only)

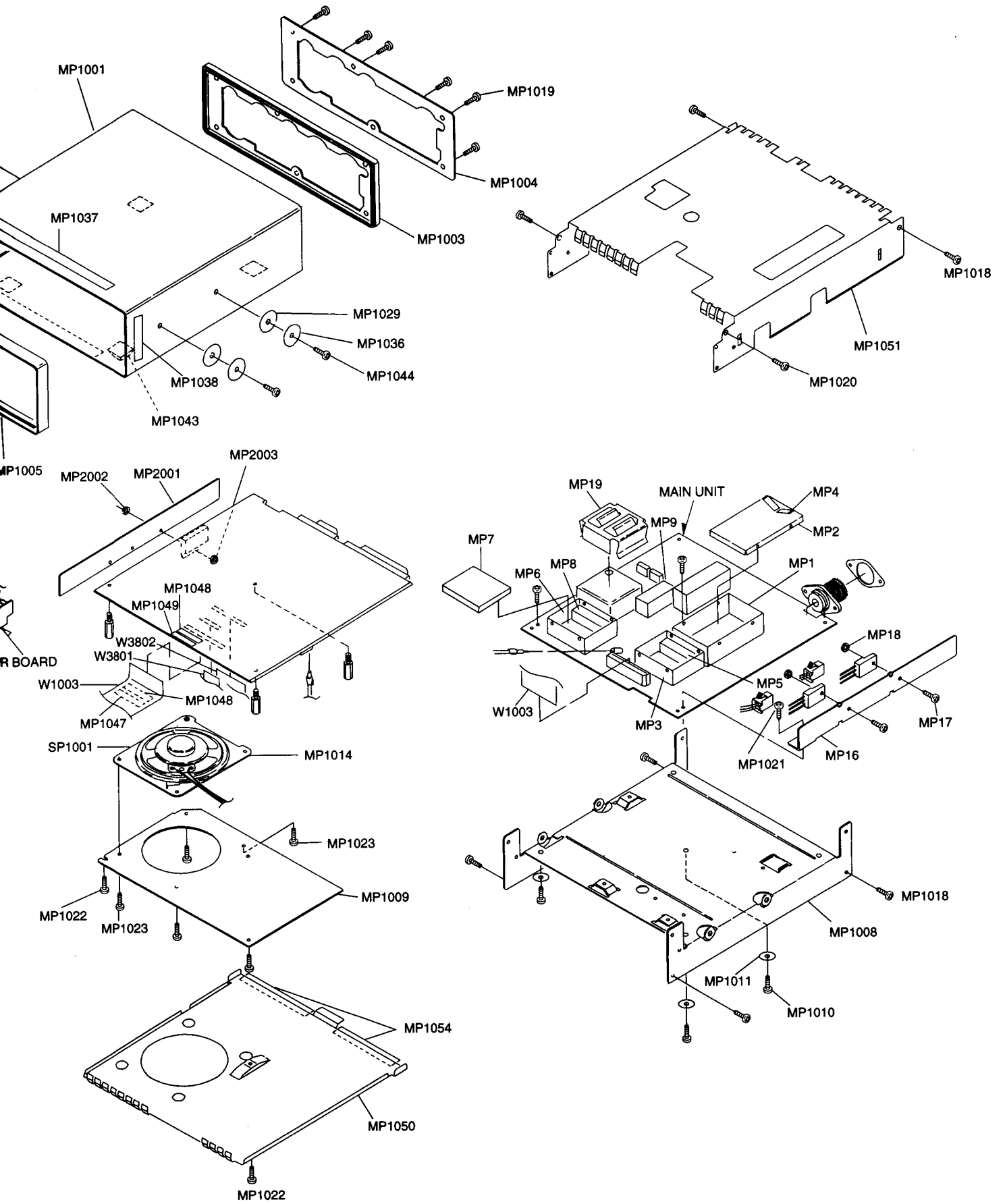
REF. NO.	ORDER NO.	DESCRIPTION	QTY.
W7010	8900006360	Cable OPC-615	1
EP7002	6910000340	Mylar sheet	1
MP7001	8010005120	Case (C)	1
MP7002	8010005130	Case (D)	1
MP7003	8930006660	Screw spacer (P)	3
MP7004	8810004710	Set screw A M3 x 4	1
MP7005	8810004280	Screw PH M3 x 5 ZK	3
MP7006	8810009070	Screw PH M2.6 x 8 ZK	1
MP7007	8810009070	Screw PH M2.6 x 8 ZK	1
MP7008	8850000830	Insulation washer (H)	1
MP7009	8830000180	Nut M2.6 NI BS	1
MP7010	8830000180	Nut M2.6 NI BS	1
MP7011	8810008660	Screw PH BT M3 x 8 NI-ZU	14
MP7012	8930001510	Sponge (V)	1
MP7013	8810009070	Screw PH M2.6 x 8 ZK	1
MP7014	8830000180	Nut M2.6 NI BS	1
MP7015	8930038070	1562 L angle	1
MP7016	8930038080	1562 R angle	1
MP7017	8010016480	1562 REG case	1

[UNPACKING]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
F4001	5210000050	Spare fuse FGB 3A	2
J4001	5610000040	Connector AP321	1
P4001	5610000130	Connector 25K0256-00	1
P4002	5610000140	Connector 01K0403-20	1
W4001	8900006000	Cable OPC-571	1
W4002	8900005970	Cable OPC-530	1
W4003	8900006370	Cable OPC-616	1
MP4001	8010016730	150 mounting bracket	1
MP4002	8930008050	Mounting felt	2
MP4003	8810000700	Screw PH M5 x 20 SUS	4
MP4004	8830000250	Nut M5 SUS	4
MP4005	8850000180	Flat washer M5 SUS	8
MP4006	8810001490	Screw PH A M5 x 20 SUS	4
MP4007	8850000500	Spring washer M5 SUS	4
MP4008	8810005050	Screw PH A M4 x 20 SUS	2

Screw abbreviations A, B0, BT: Self-tapping PH: Pan head FH: Flat head
 BS: Brass NI: Nickel NI-ZU: Nickel-Zinc
 SUS: Stainless ZK: Black


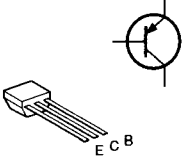





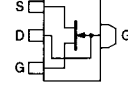

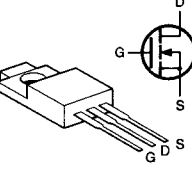
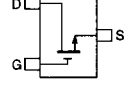
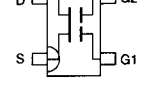













SECTION 7

SEMI-CONDUCTOR INFORMATION

• TRANSISTOR AND FET'S

<p>2SA1586 GR (Symbol: SG)</p> 	<p>2SA933S</p> 	<p>2SB1123T (Symbol: BF)</p> 	<p>2SC2873 Y (Symbol: M)</p> 
<p>2SC4116 GR (Symbol: LG)</p> 	<p>2SC4403 3 (Symbol: LY3)</p> 	<p>2SC4673D (Symbol: CO)</p> 	<p>2SK2171 4 (Symbol: No Symbol)</p> 
<p>2SK515 (Symbol: X33)</p> 	<p>2SK811</p> 	<p>2SK882 GR (Symbol: TG)</p> 	<p>3SK131 MAS (Symbol: VIT)</p> 
<p>DTA114EU (Symbol: 14)</p> 	<p>DTC114EU (Symbol: 24)</p> 		

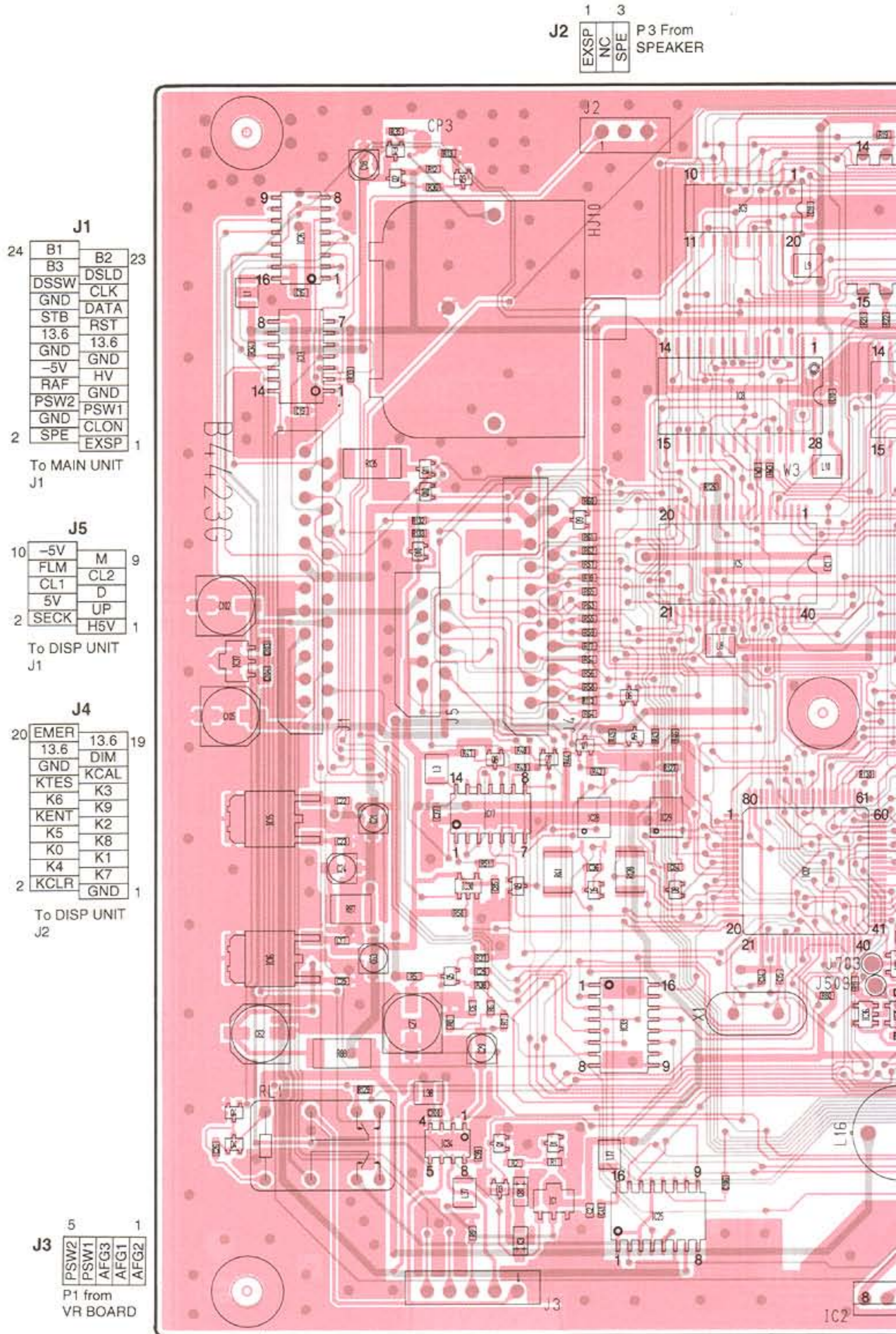
• DIODES

<p>1SS300 (Symbol: A3)</p> 	<p>1SS301 (Symbol: B3)</p> 	<p>1SS302 (Symbol: C3)</p> 	<p>ESAC85-009</p> 
<p>HSM88ASR (Symbol: C3)</p> 	<p>MA862 (Symbol: M11)</p> 	<p>RD11M T2B2/RD5.1M T2B2/RD5.6M T2B2/RD9.1M T2B3 (Symbol: 112/512/562/913)</p> 	

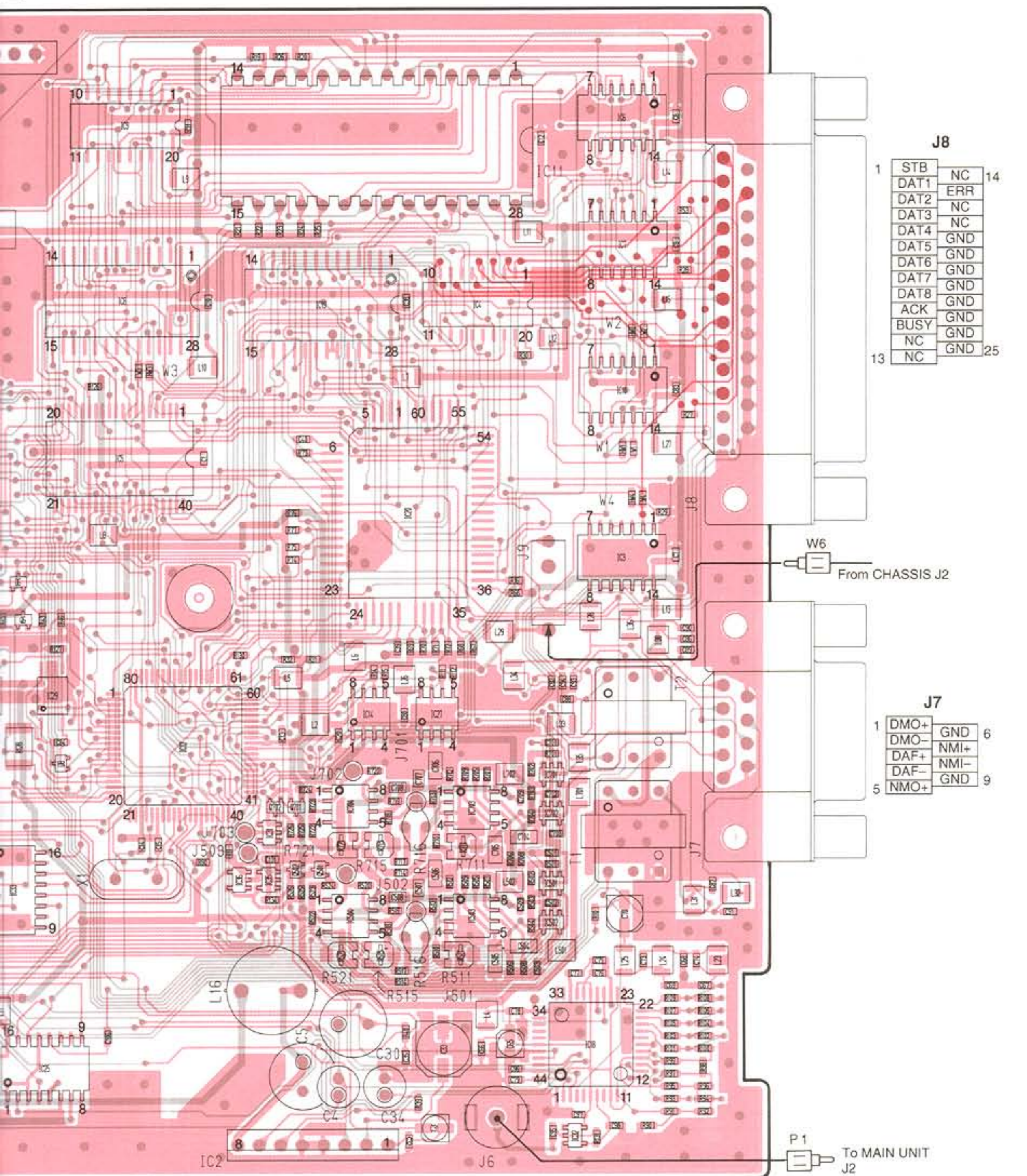
SECTION 8

BOARD LAYOUTS

8-1 LOGIC UNIT



SPE P3 From SPEAKER



J8

1	STB	NC	14
	DAT1	ERR	
	DAT2	NC	
	DAT3	NC	
	DAT4	NC	
	DAT5	GND	
	DAT6	GND	
	DAT7	GND	
	DAT8	GND	
	ACK	GND	
	BUSY	GND	
	NC	GND	
13	NC	GND	25

J7

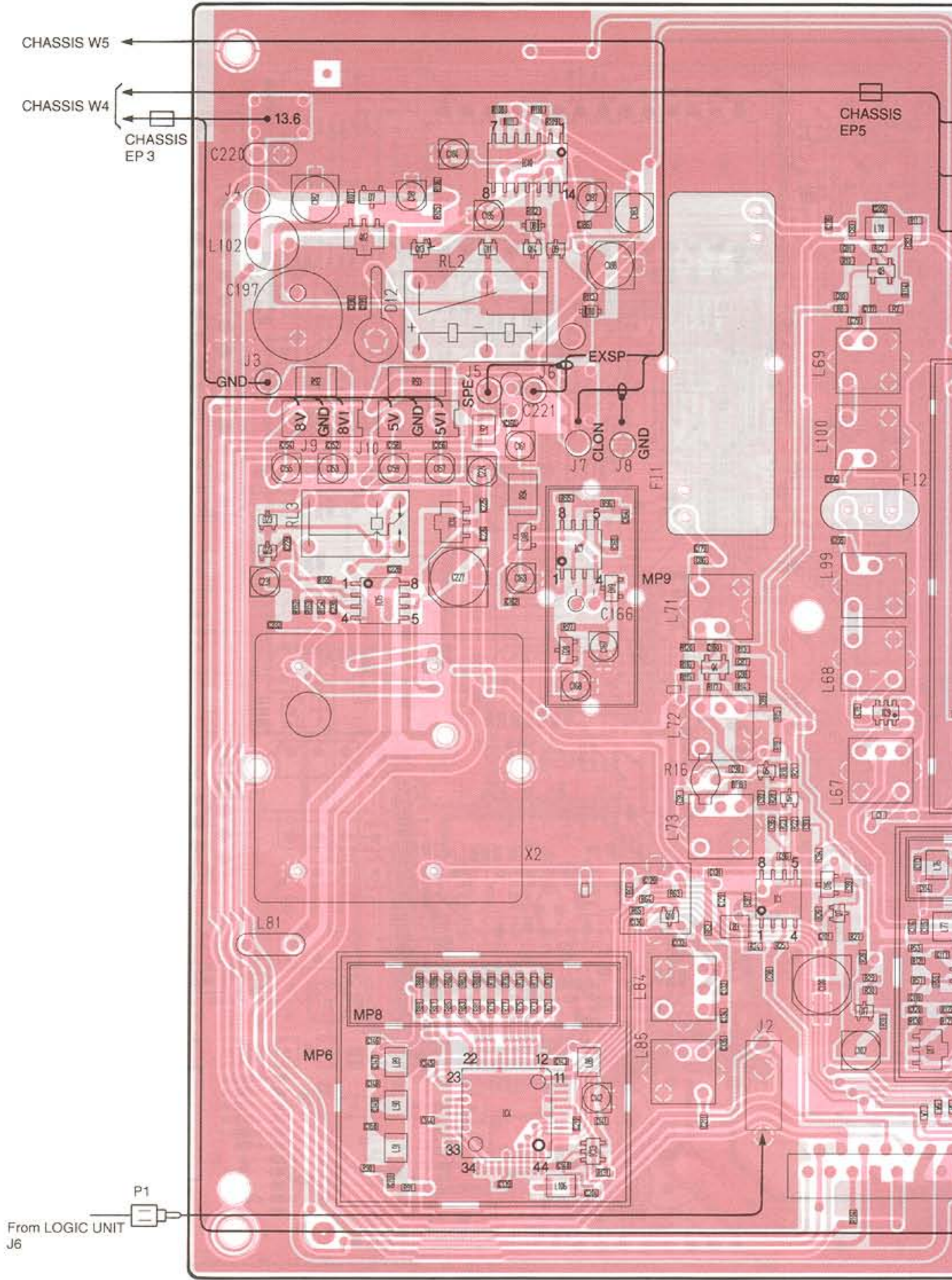
1	DMO+	GND	6
	DMO-	NMI+	
	DAF+	NMI-	
	DAF-	GND	9
5	NMO+		

W6 From CHASSIS J2

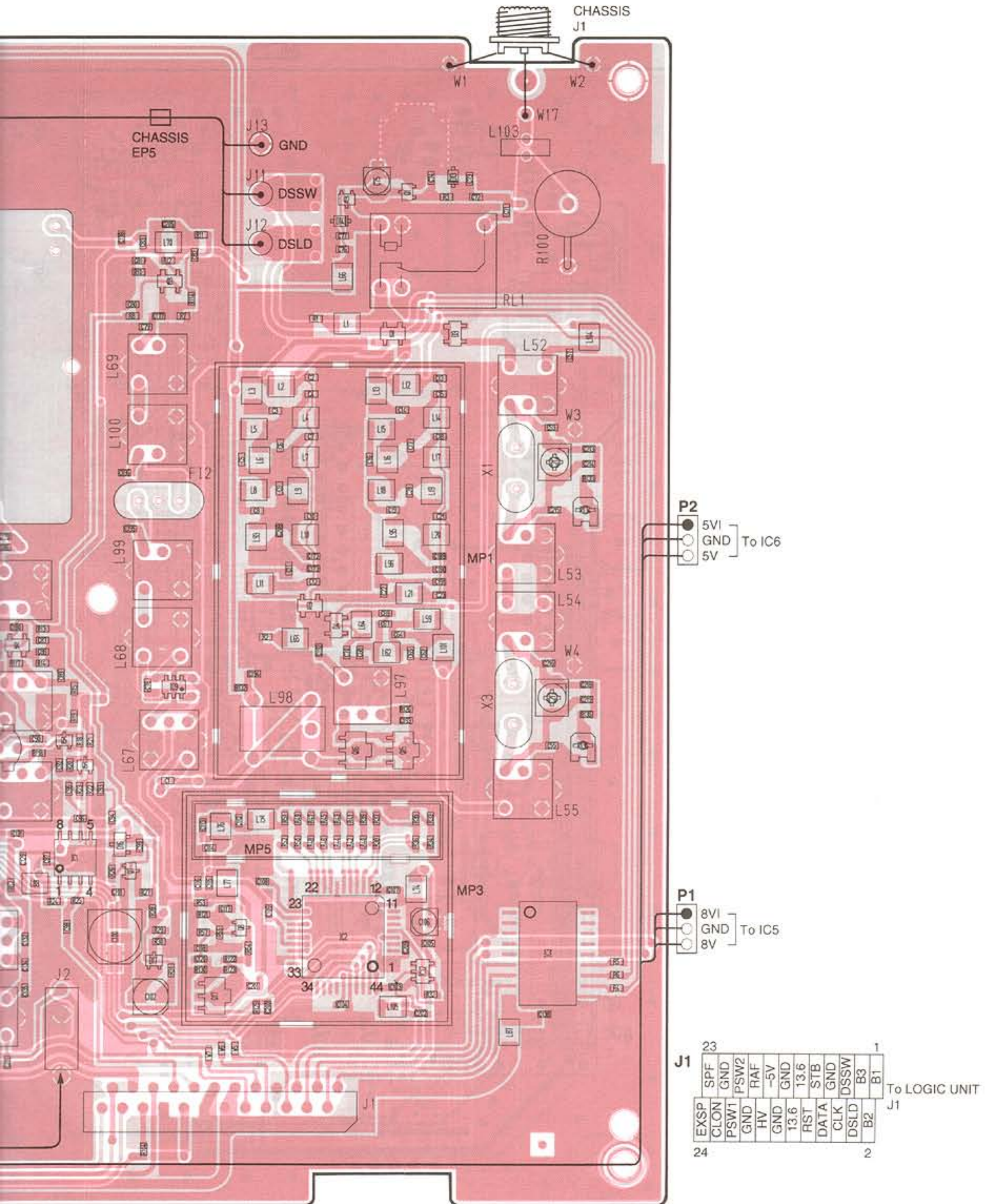
P1 To MAIN UNIT J2

Note: Add "2000" to each indicated part number on the unit for the actual number.

8-2 MAIN UNIT

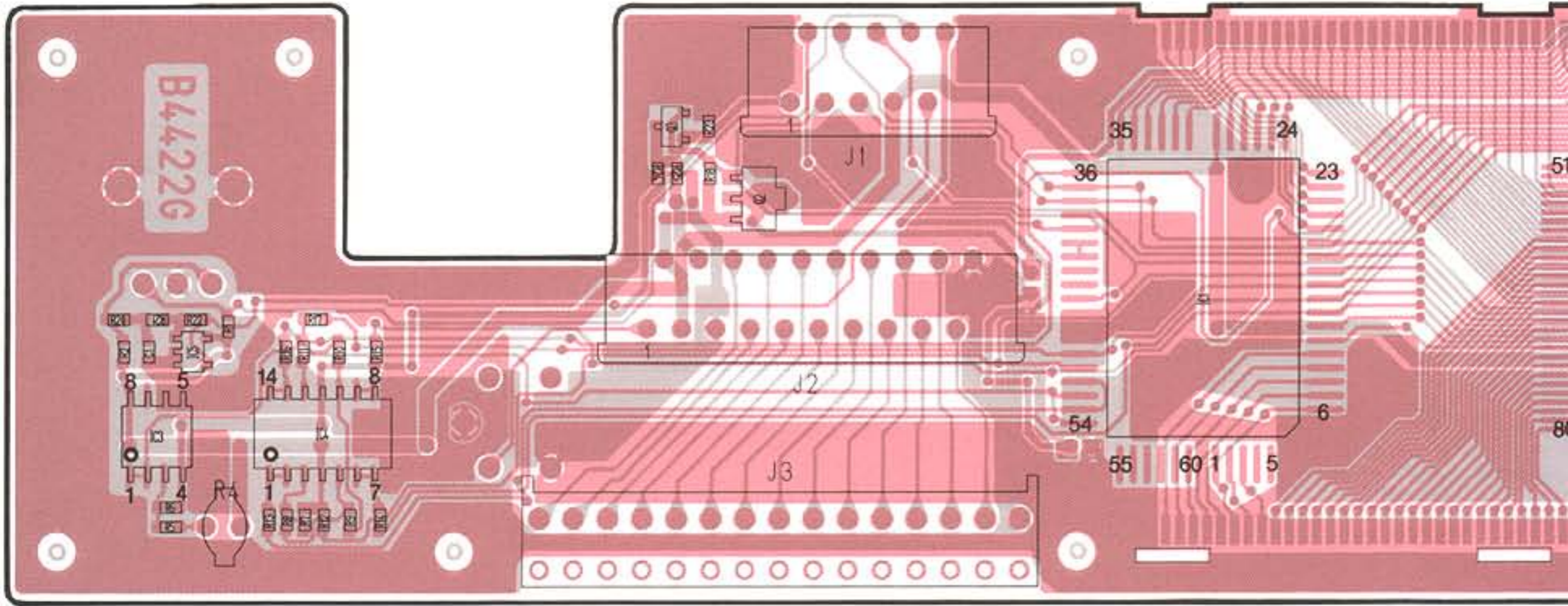
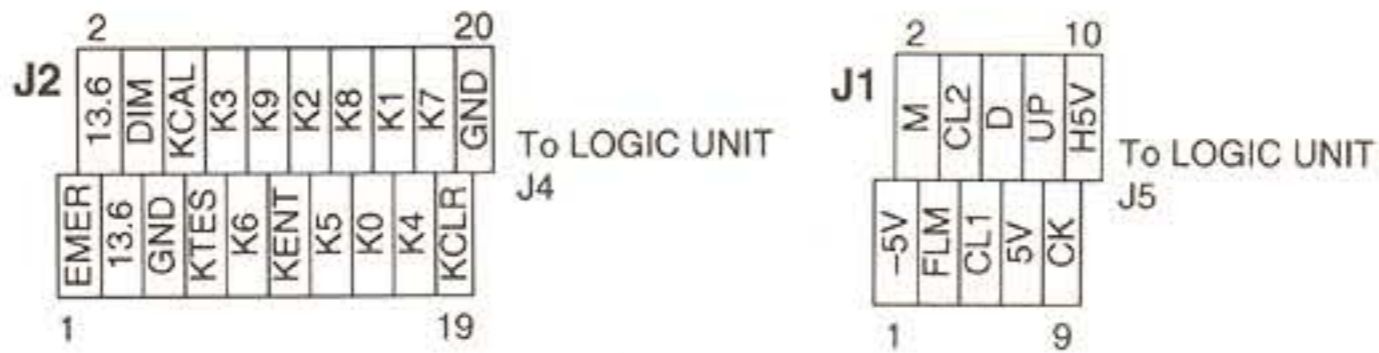


Note: Add "1000" to each indicated part number on the unit for the actual number.



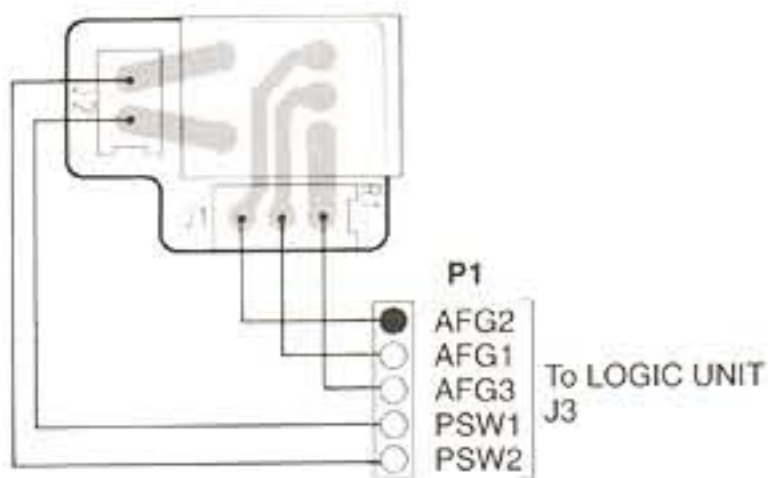
8-3 DISP, SW AND REG UNITS

● DISP BOARD



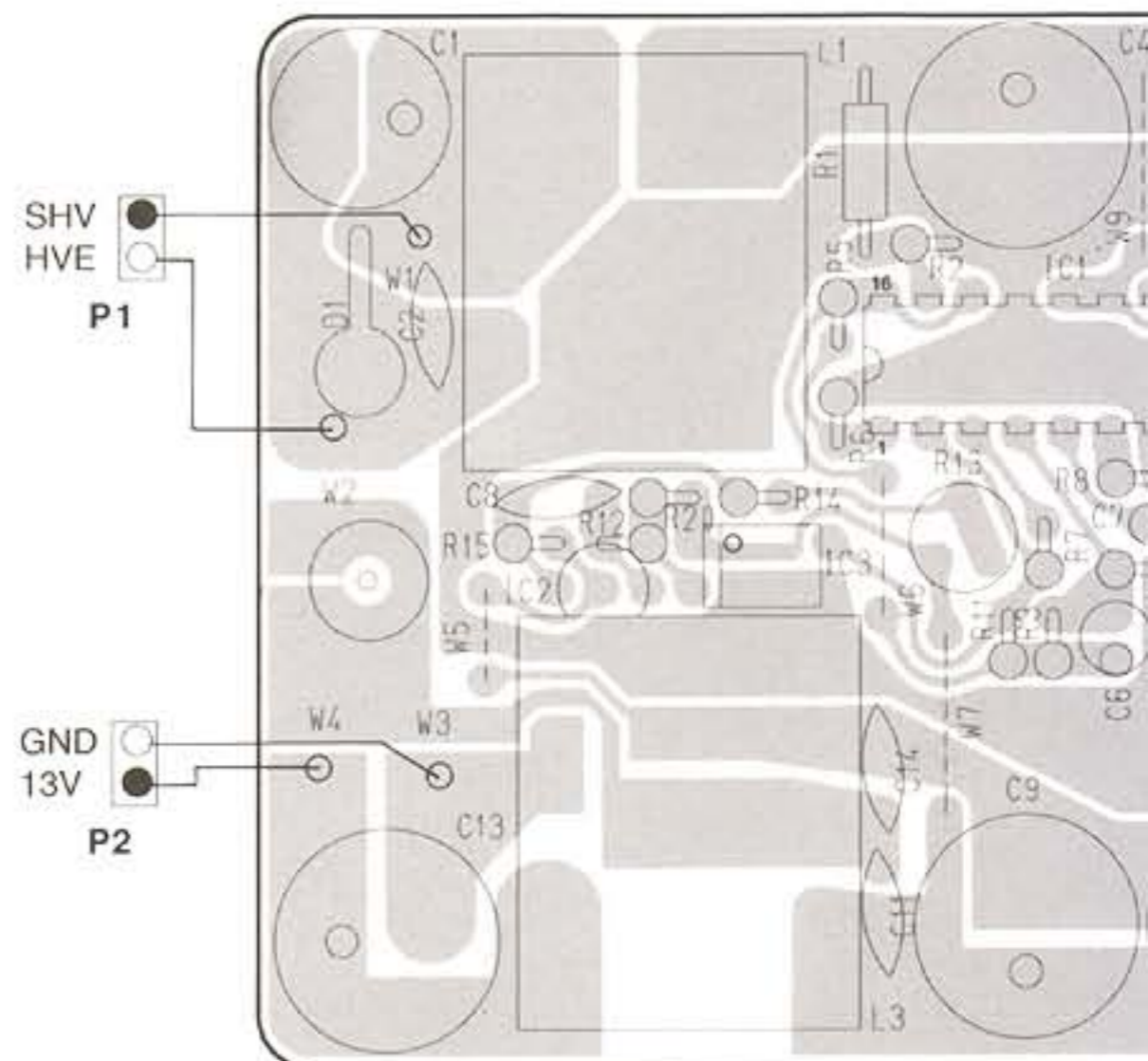
Note: Add "3000" to each indicated part number on the unit for the actual number.

● VR BOARD

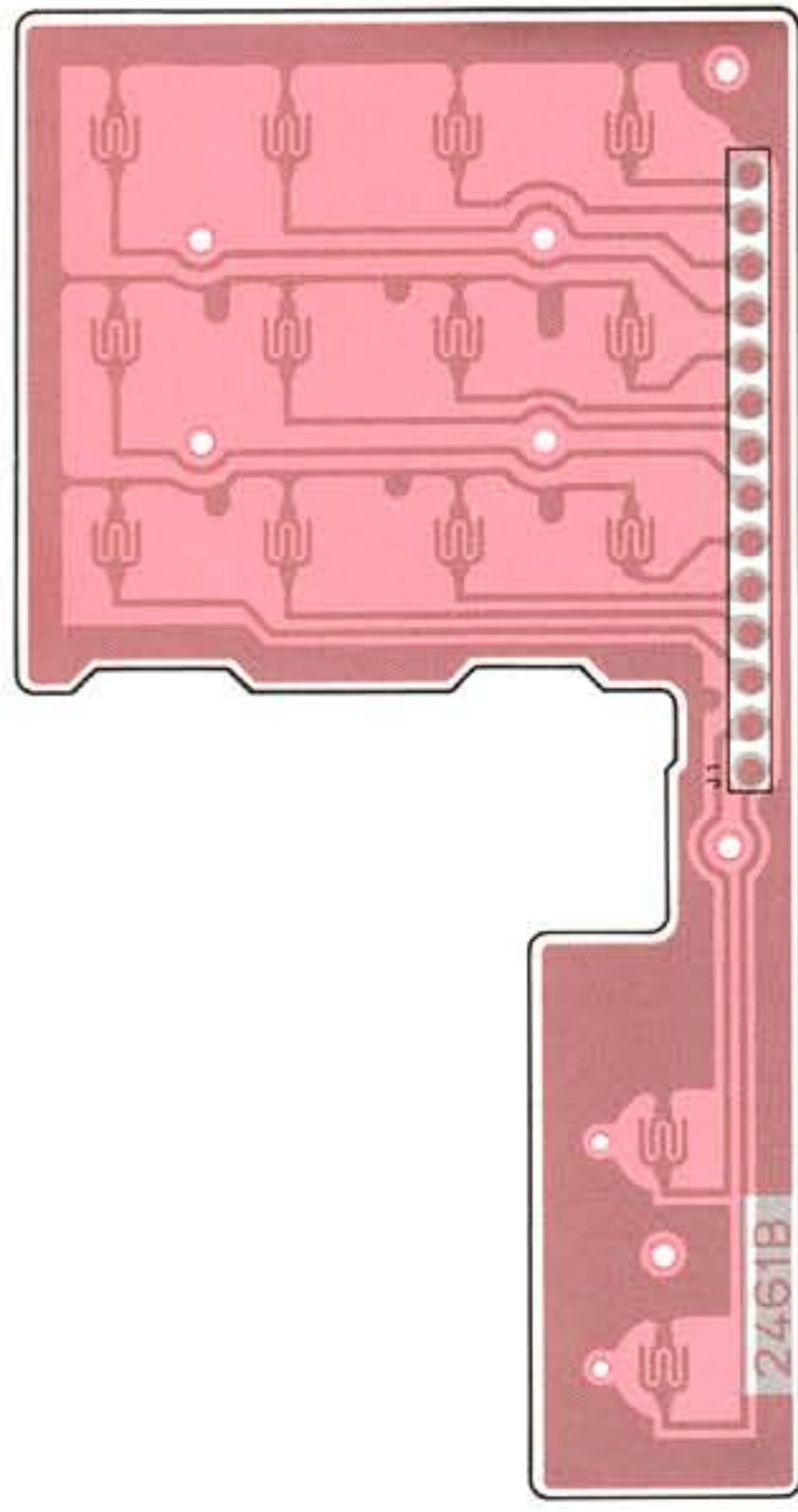
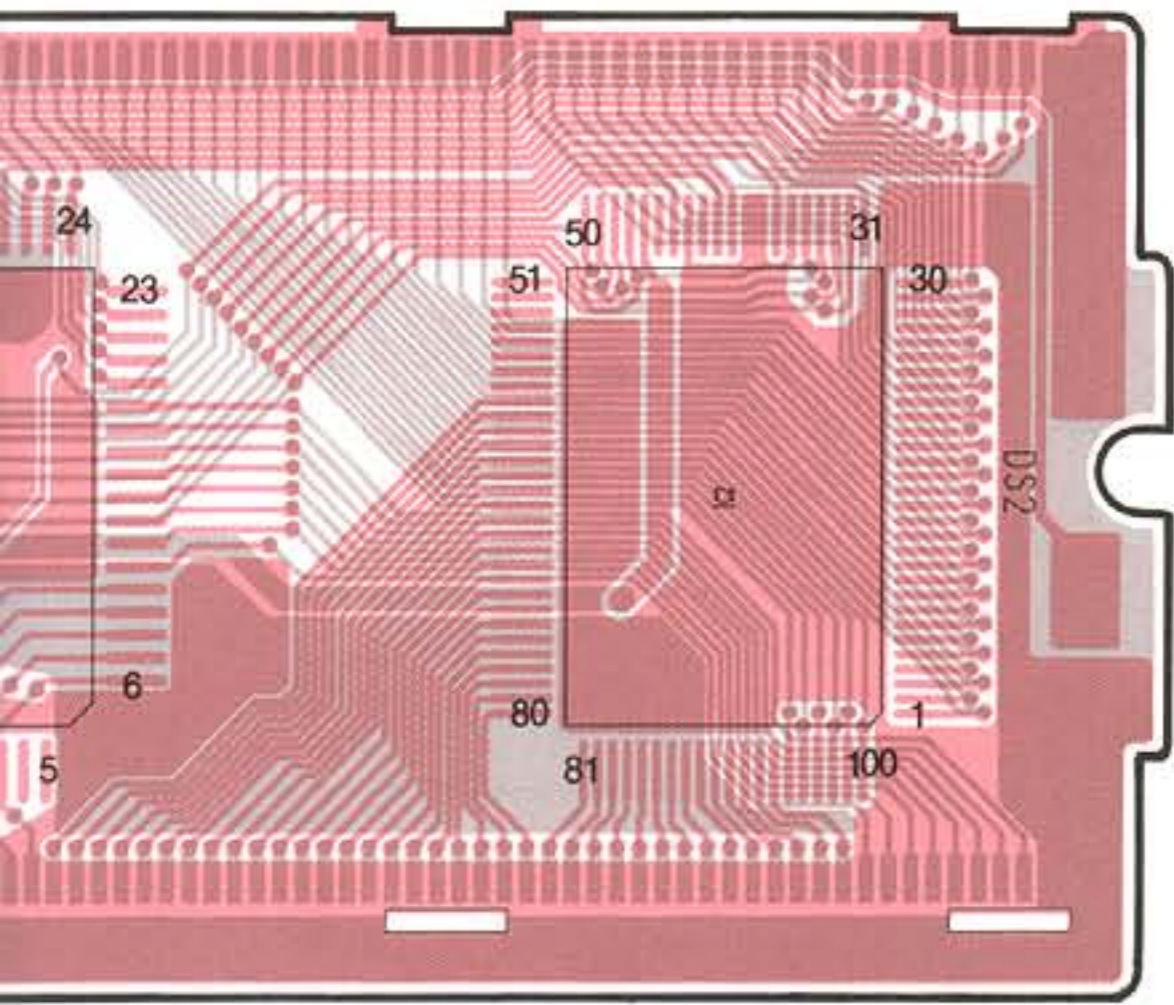


Note: Add "3400" to each indicated part number on the unit for the actual number.

● REG UNIT



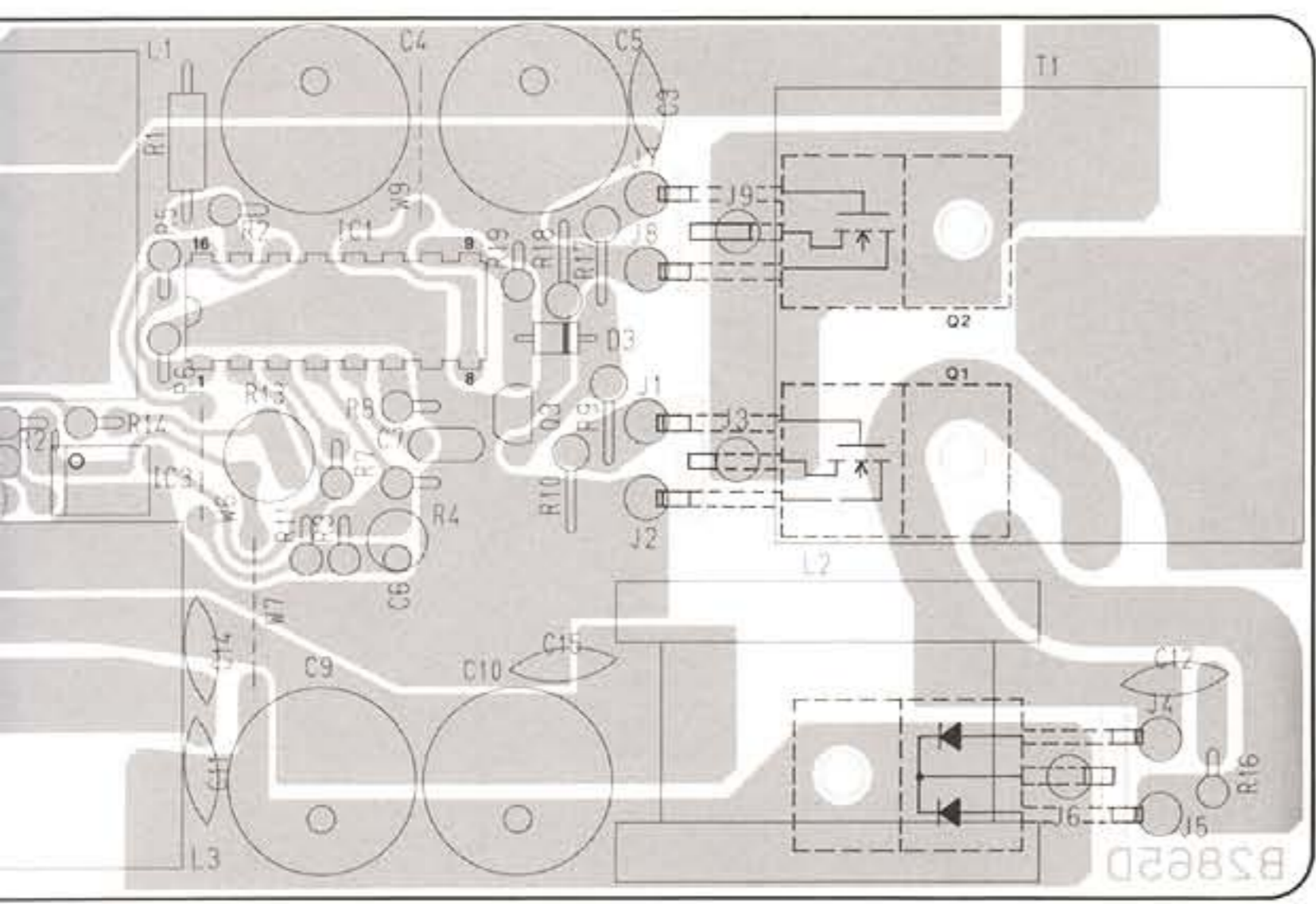
● SW BOARD



15	J1
	GND
	KCLR
	K7
	K4
	K1
	K0
	K8
	K5
	K2
	KENT
	K9
	K6
	K3
	KTES
1	KCAL

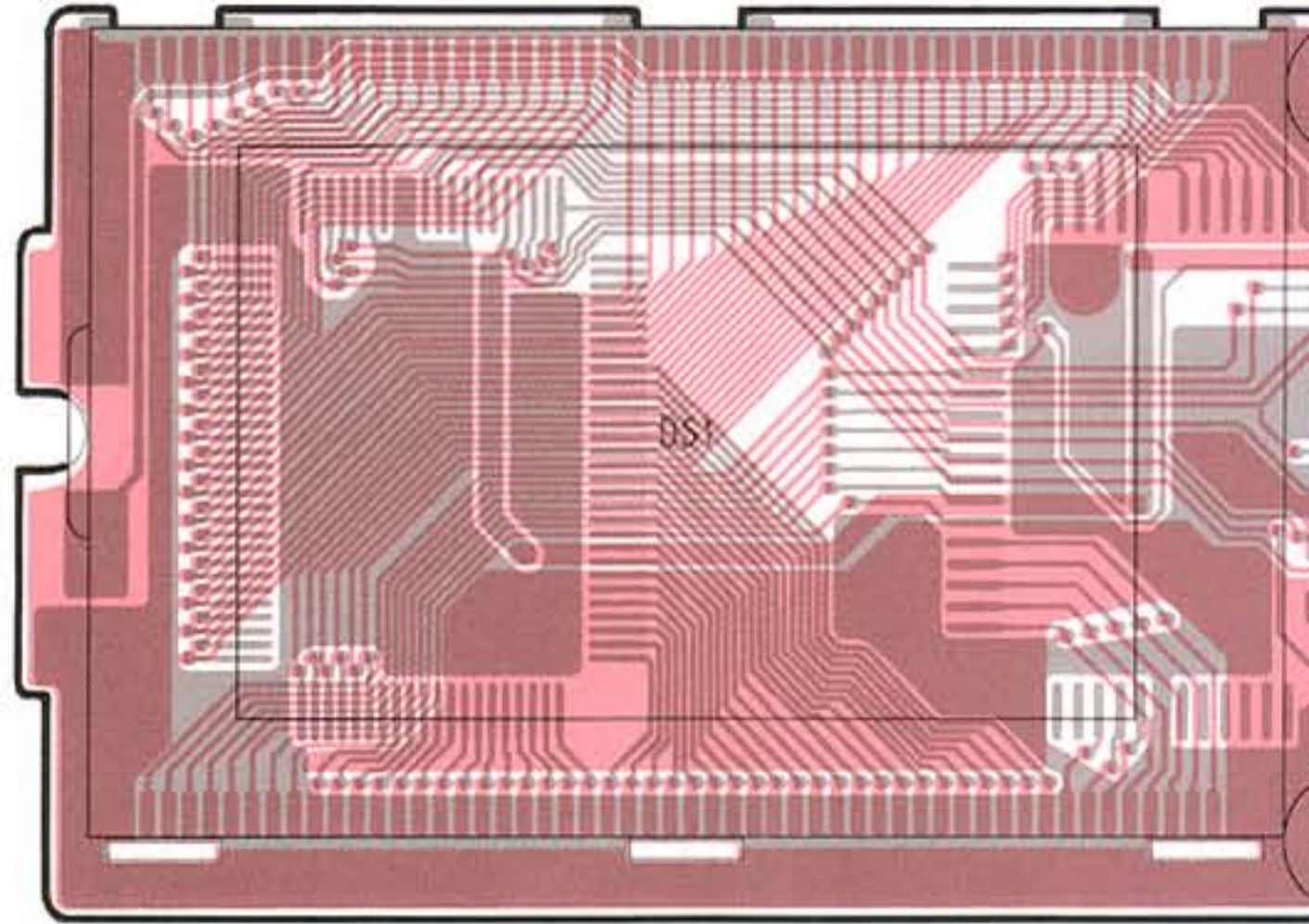
To DISP UNIT
J3

Note: Add "3600" to each indicated part number on the unit for the actual number.

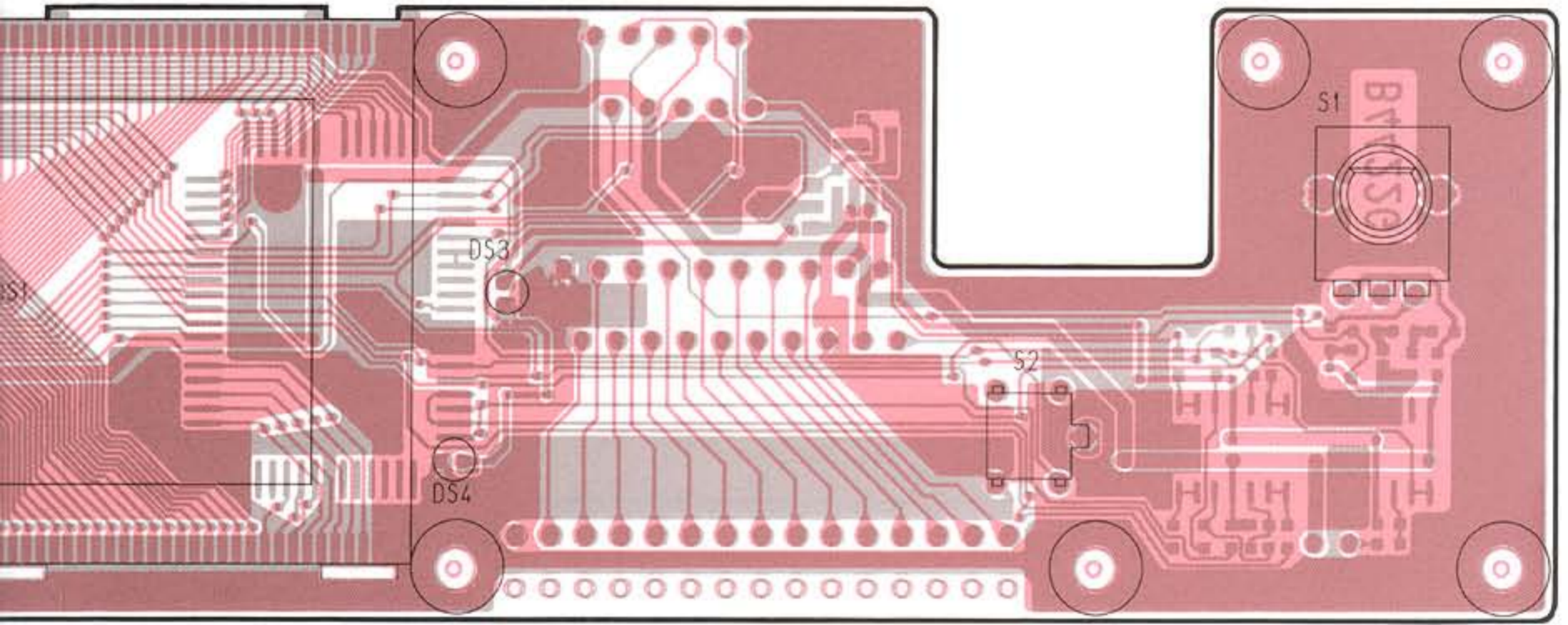


Note: Add "7000" to each indicated part number on the unit for the actual number.

● DISP BOARD

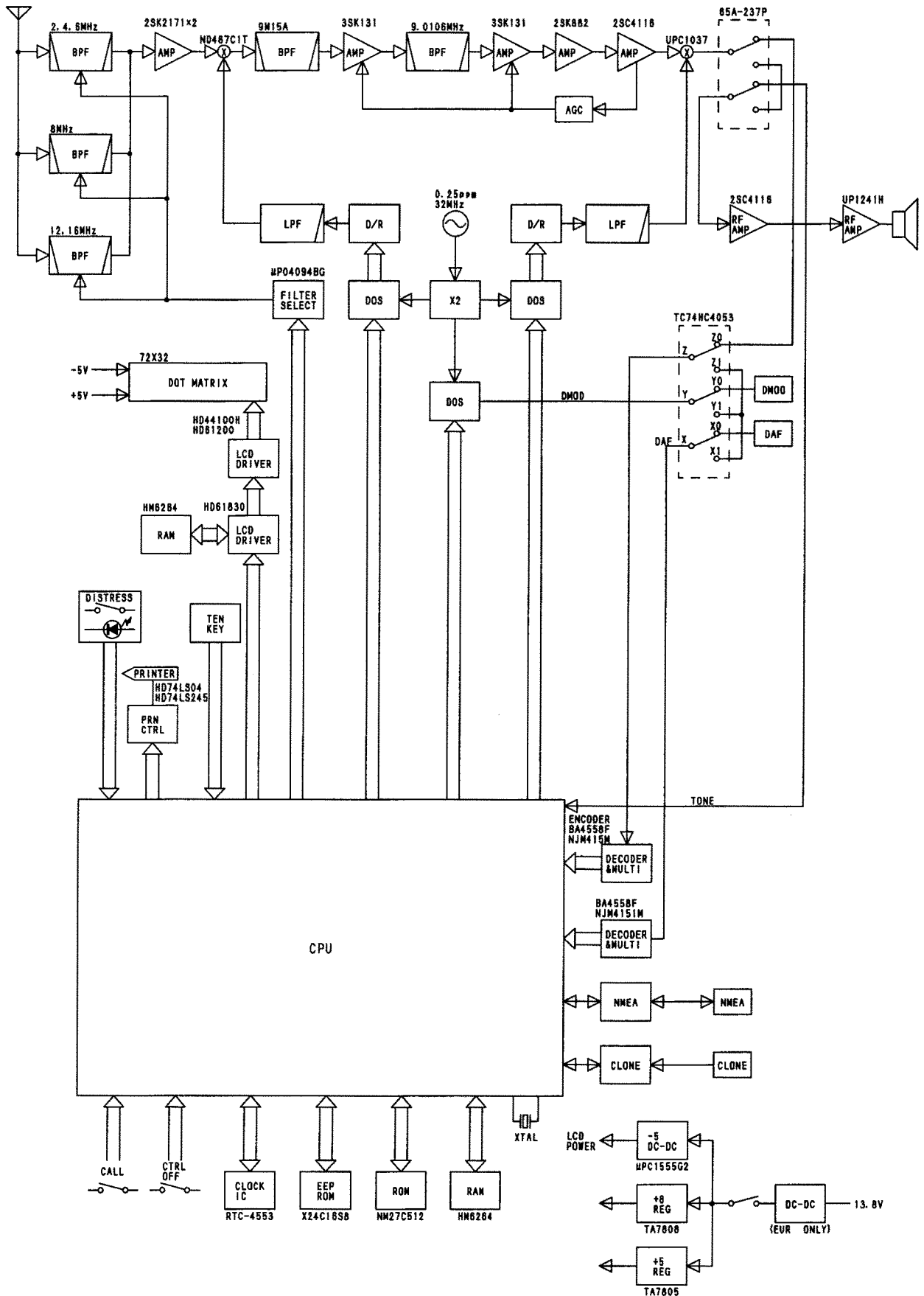


Note: Add "7000" to each indicated part number on the unit for the actual number.

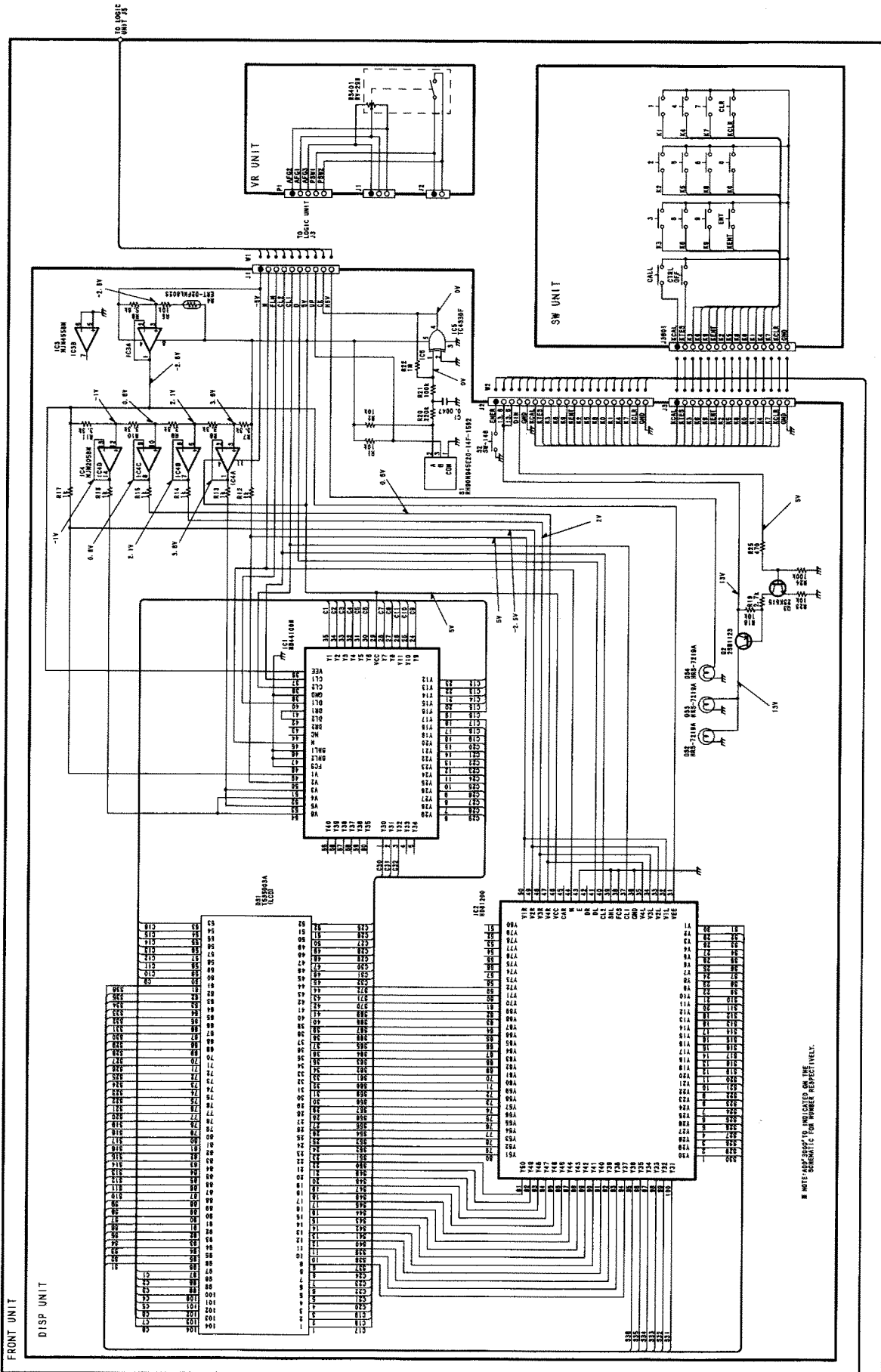


er on the unit for the actual number.

SECTION 9 BLOCK DIAGRAM

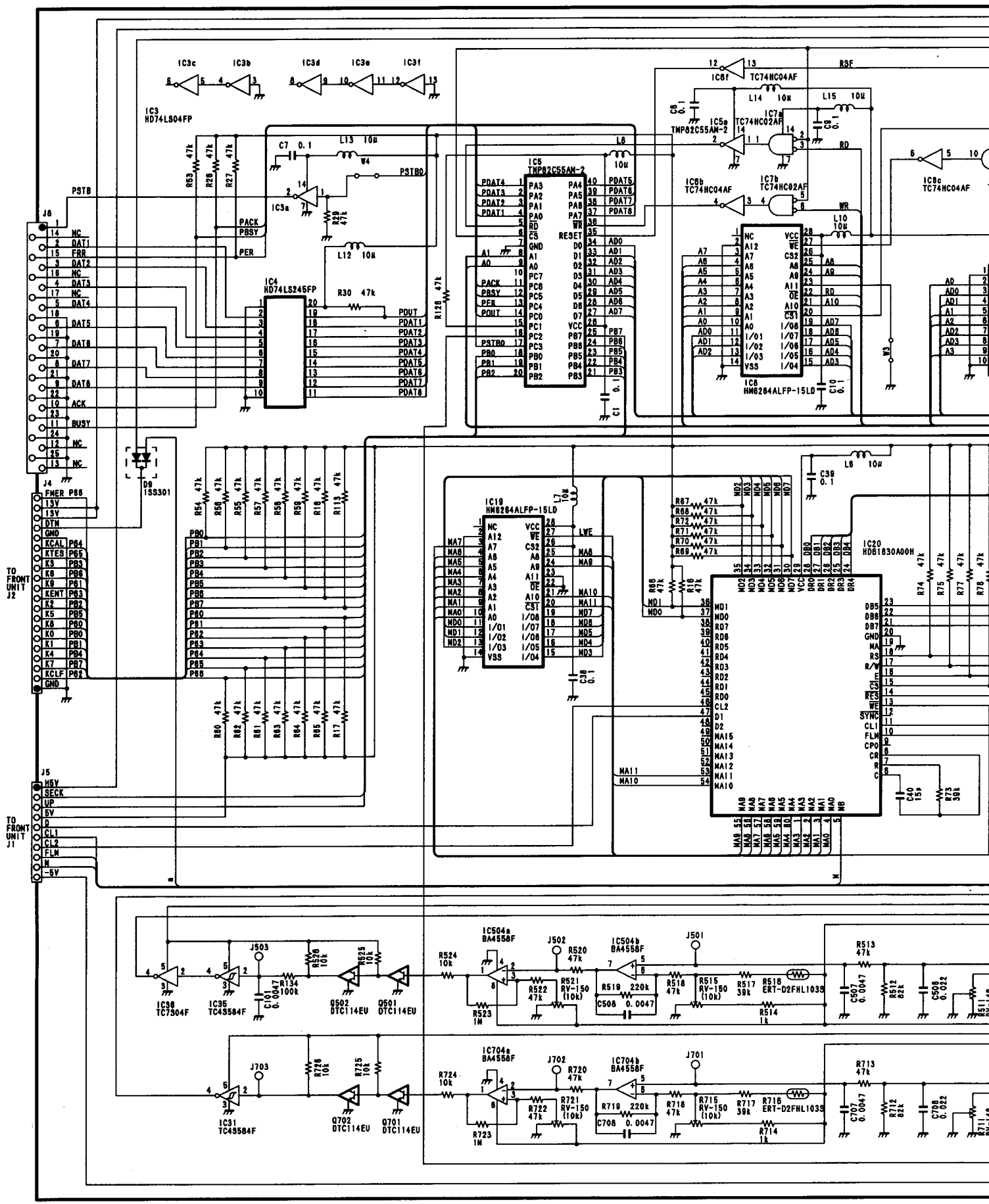


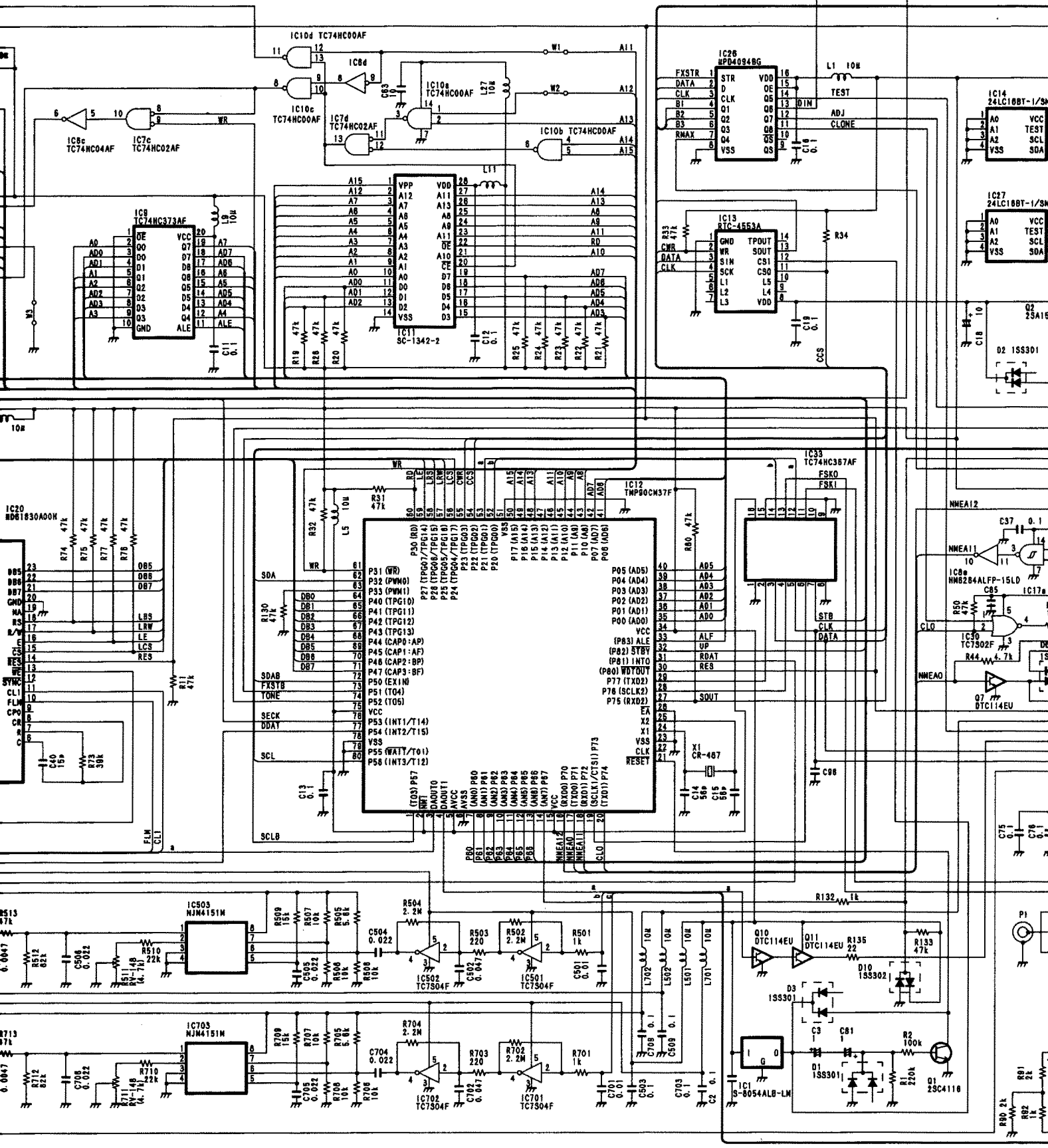
SECTION 10 VOLTAGE DIAGRAM

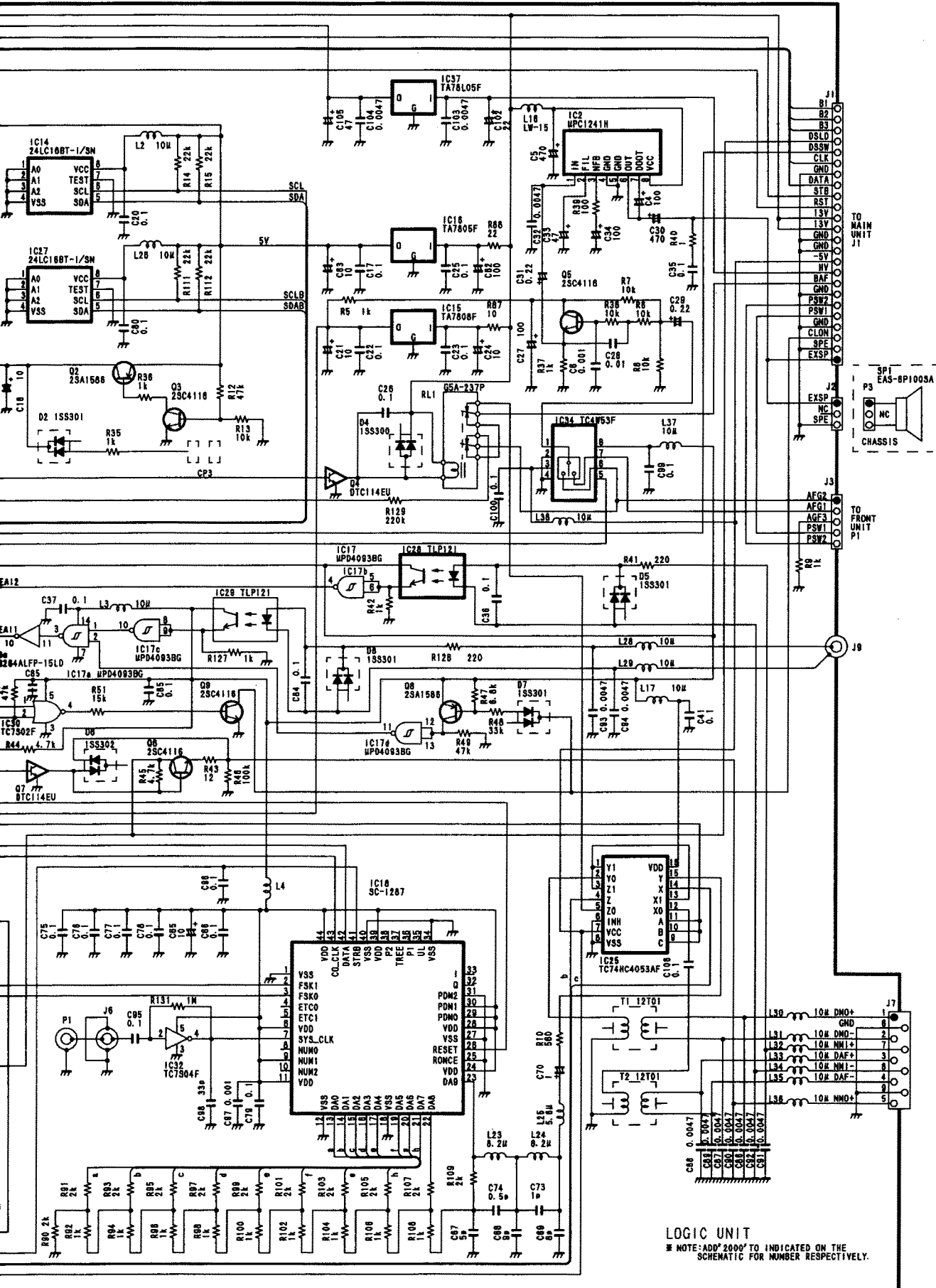


NOTE: AMP SYMBOL INDICATED ON THE SCHEMATIC FOR NUMBER RESPECTIVELY.

● LOGIC UNIT

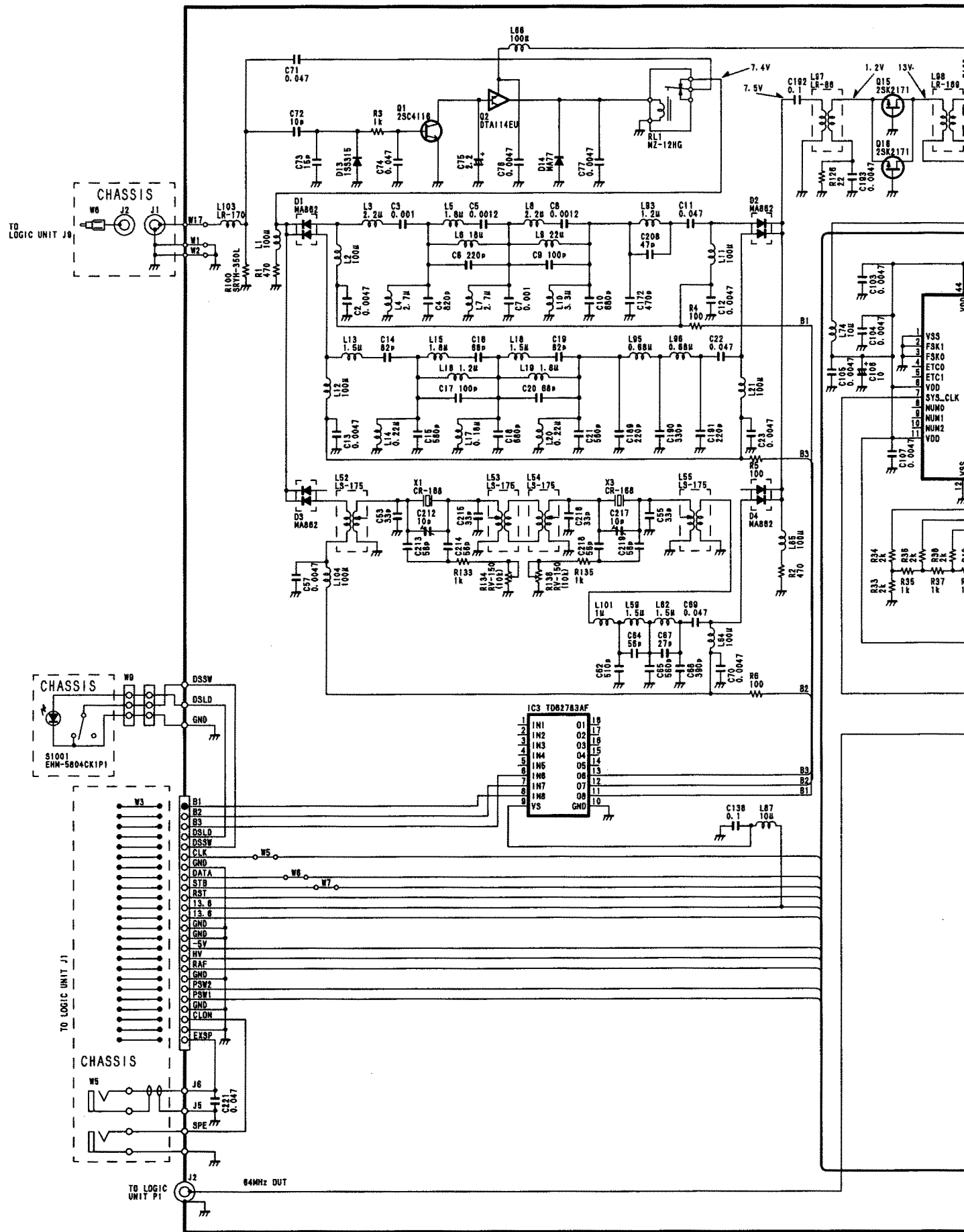


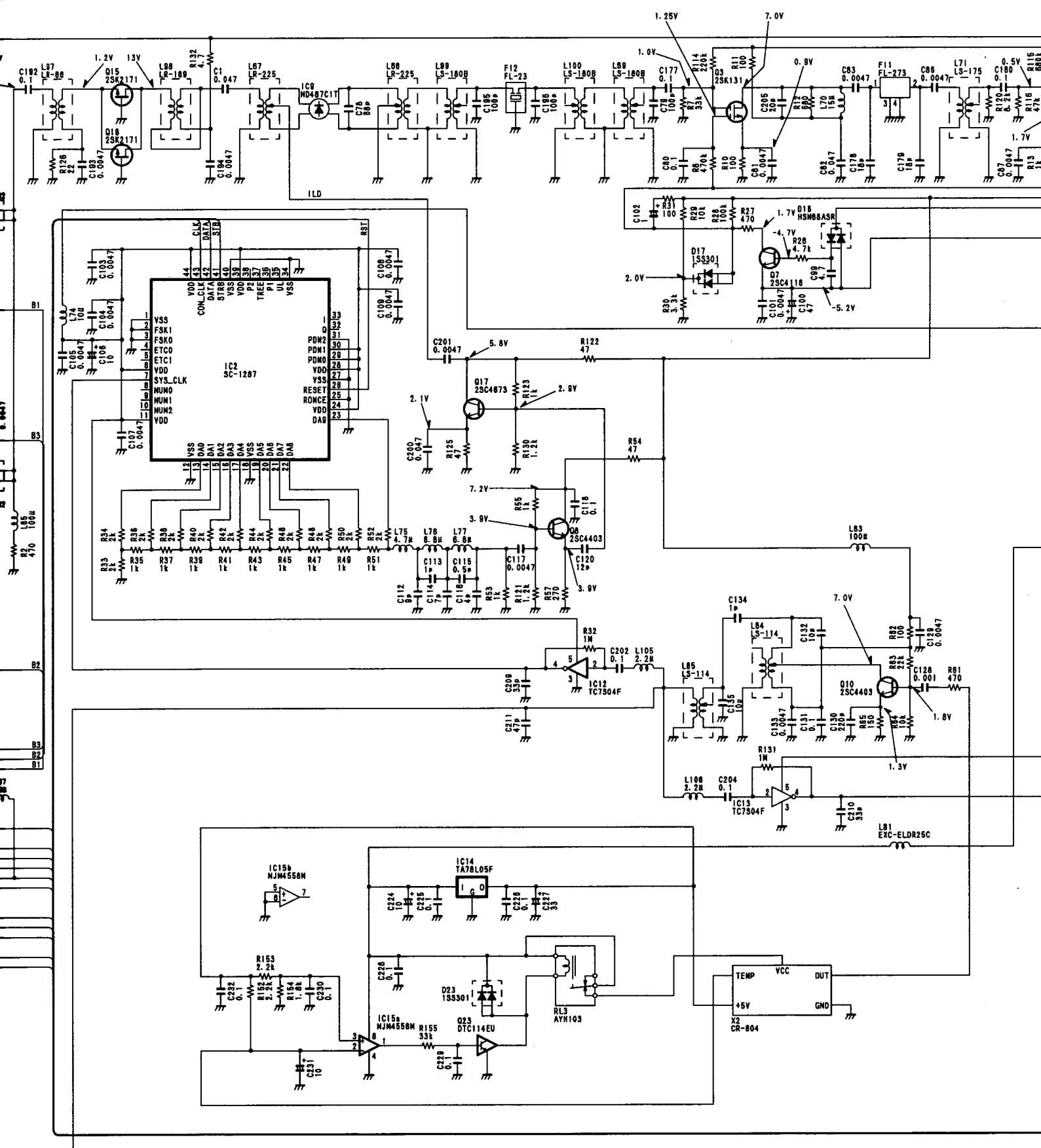


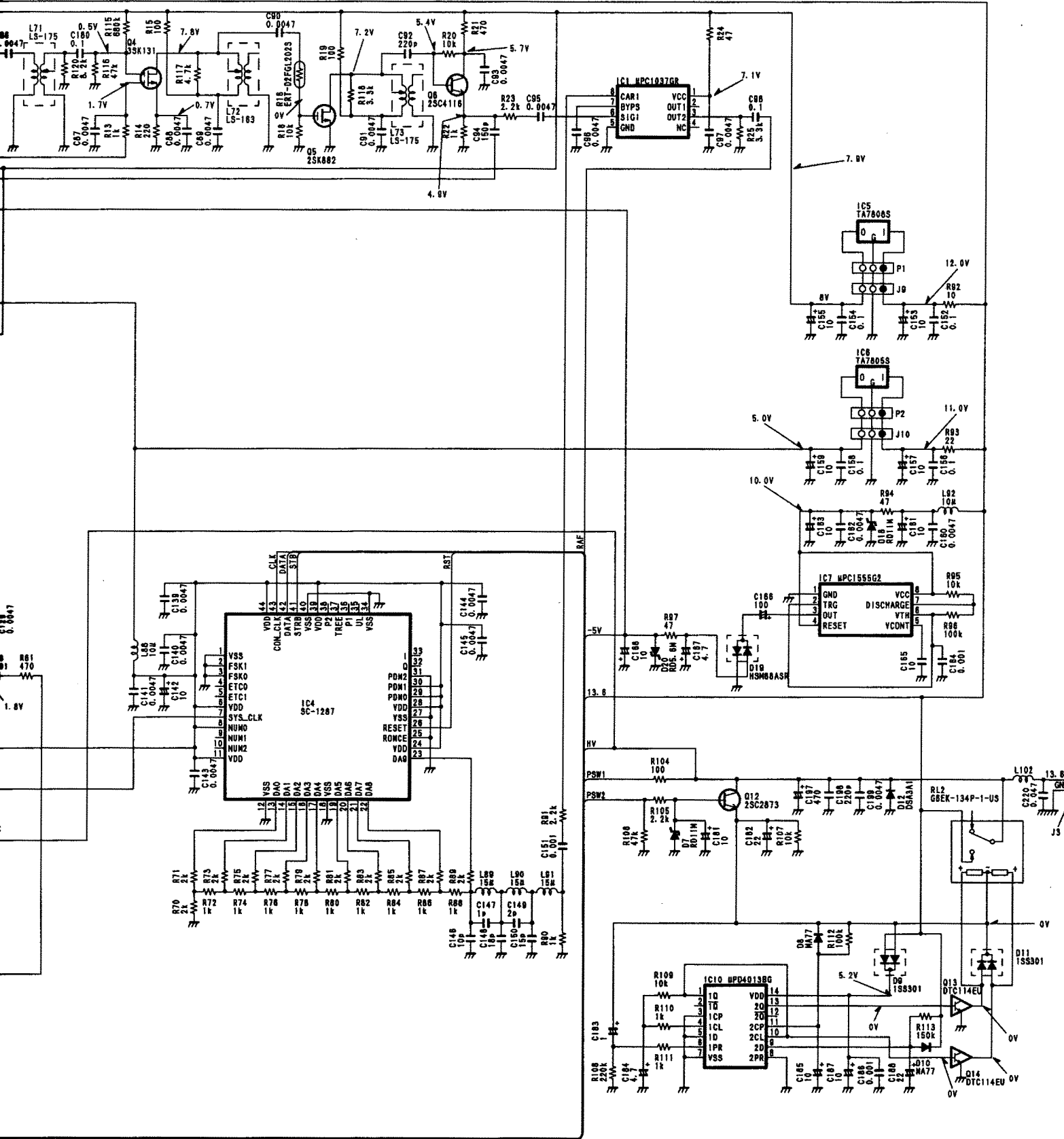


LOGIC UNIT
 * NOTE: ADD 2000 TO INDICATED ON THE SCHEMATIC FOR NUMBER RESPECTIVELY.

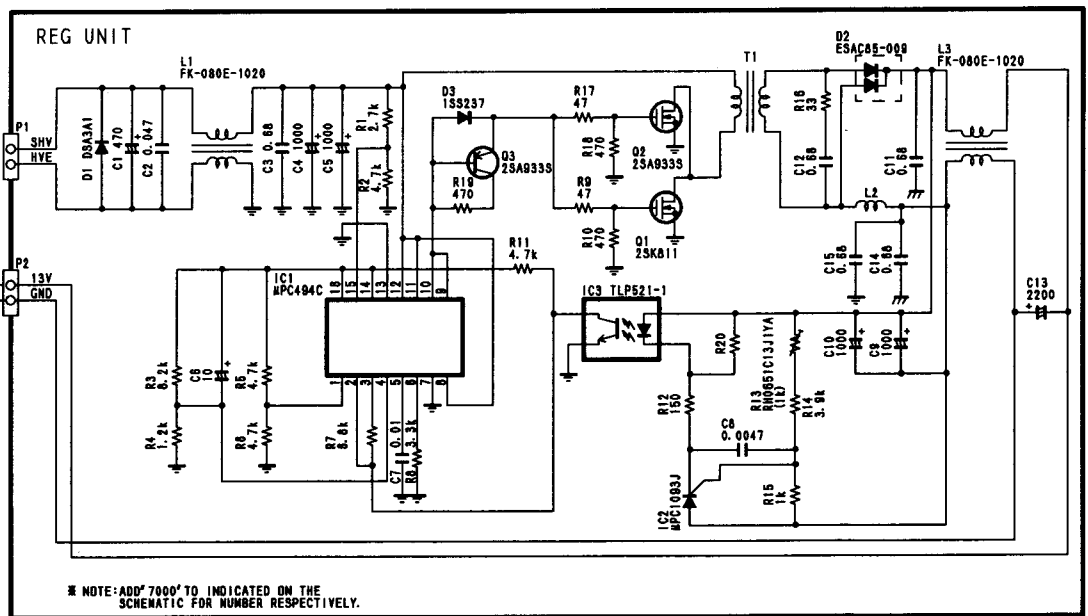
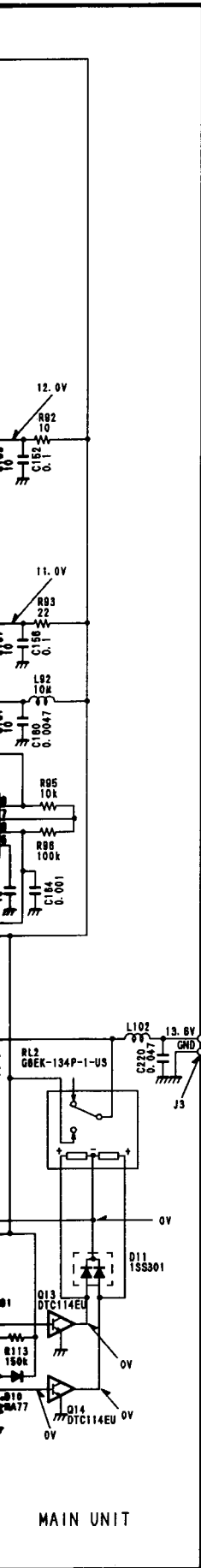
● MAIN UNIT







MAIN UNIT



AT-130

AT-130E

HF AUTOMATIC ANTENNA TUNER

INTRODUCTION

This service manual describes the latest service information for the **AT-130/AT-130E** AUTOMATIC ANTENNA TUNER at the time of publication.

MODEL	VERSION	SYMBOL
AT-130	U.S.A.	USA
AT-130E	Europe	EUR

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

ORDERING PARTS

Be sure to include the following four 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>

1110003140 IC LA1150N AT-130 MAIN UNIT 5 pieces
8810008560 Screw PH M3 x 8 SUS ZK AT-130 Rear panel 10 pieces

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

DANGER

NEVER connect the antenna tuner to an AC outlet or to a DC power supply that uses more than 16 V. This will ruin the antenna tuner.

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

DO NOT reverse the polarities of the power supply when connecting the antenna tuner.

REPAIR NOTES

1. Make sure a problem is internal before disassembling the antenna tuner.
2. **DO NOT** open the antenna tuner until the antenna tuner is disconnected from its 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 antenna tuner is defective.
6. **READ** the instructions of test equipment thoroughly before connecting equipment to the antenna tuner.

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SECTION 8 VOLTAGE DIAGRAM

SECTION 1 SPECIFICATIONS

• Number of memory channels		: 45
• Frequency range		: 1.6 MHz to 30 MHz with a 7 m (23 ft) or longer antenna element
• Power capability		: 150 W PEP 100 W continuous
• Input impedance		: 50 Ω
• Automatic tuning power		: 5 to 15 W
• Automatic tuning time		:
General		Approx. 2 to 3 sec. (max. 15 sec.)
Returning to a memorized frequency		Approx. 1 sec.
• Automatic tuning accuracy (VSWR)		: Less than 2.0 : 1 (after tuning; except for multiples of $\frac{1}{2} \lambda$)
• Antenna required		: Marconi-type with suitable RF ground (More than 7 m (23 ft) is suggested)
• Power supply required		: DC 13.6 V \pm 15 % (supplied from HF transceiver)
• Current drain		: Less than 2 A
• Usable temperature range		: -30°C to $+60^{\circ}\text{C}$; -22°F to $+140^{\circ}\text{F}$
• Dimensions (projections not included)		: 230(W) \times 80(H) \times 340(D) mm 9 $\frac{3}{32}$ (W) \times 3 $\frac{3}{32}$ (H) \times 13 $\frac{13}{32}$ (D) in
• Case construction		: Weatherproof
• Weight		:
	AT-130	2.5 kg; 5 lb 8 oz
	AT-130E	2.7 kg; 6 lb
• Control cable		: AWG 14 \times 4 conductors

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

SECTION 2 CIRCUIT DESCRIPTION

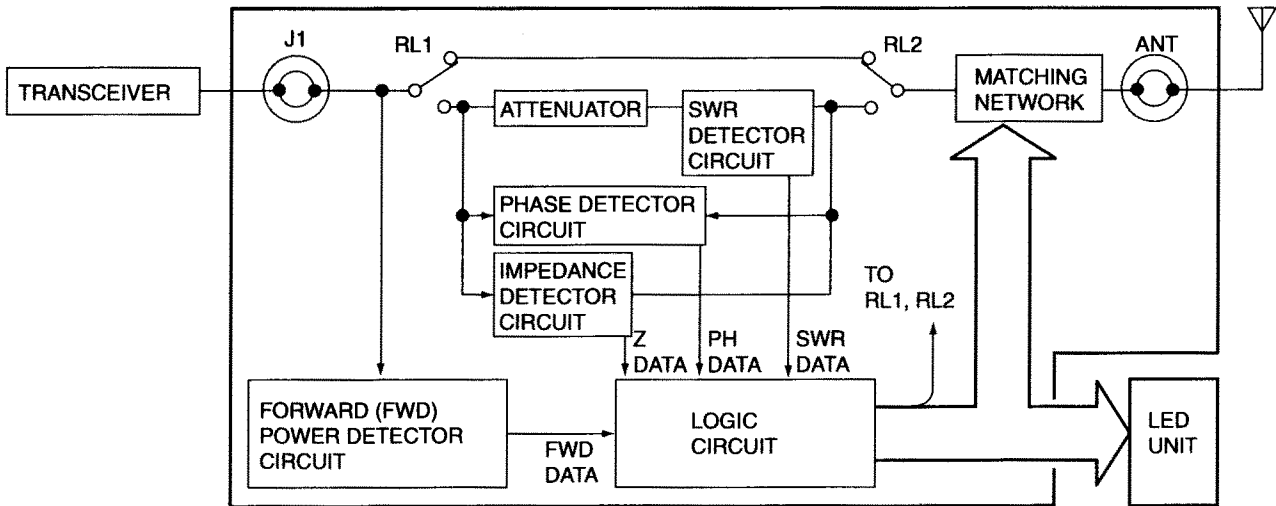
3-1 GENERAL

An 8-bit microprocessor controls the AT-130. The tuner matches the antenna system to the transceiver by using four kinds of detector circuits. These circuits are:

- (1) FORWARD POWER DETECTOR
- (2) SWR DETECTOR
- (3) PHASE DETECTOR
- (4) IMPEDANCE DETECTOR

Detailed descriptions of each circuit follows.

• General

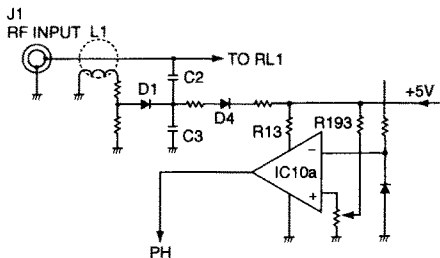


3-2 FORWARD (FWD) POWER DETECTOR CIRCUIT

This circuit ensures the input power from the transceiver is low enough to be handled by the attenuator within the tuner.

On the TUNER UNIT, L1 and D1 detects the RF input current. C2 and C3 divide the detected voltage and feed it to IC10a.

• Forward power detector circuit



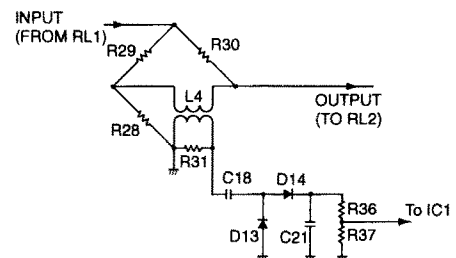
3-3 SWR DETECTOR CIRCUIT

The reflected power from the antenna system provides a detection voltage.

The voltage doubler, consisting of D13 and D14, rectifies this voltage and passes through the voltage divider formed by R36 and R37.

These SWR data from voltage divider feed into IC1, The CPU. The CPU controls the setting of the coils and capacitors in the matching network.

• SWR detector circuit

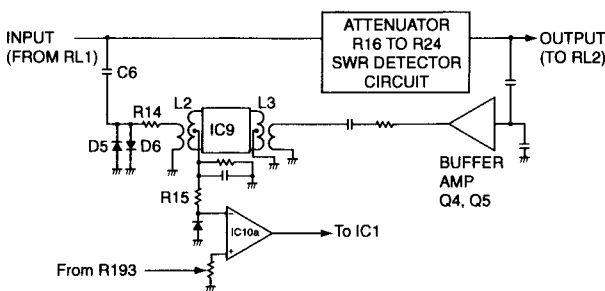


3-4 PHASE DETECTOR CIRCUIT

This circuit consists of L2, L3 and IC9. The phase detector's purpose is to detect reactance components and provide a pure resistance.

The output of IC9 is a reference voltage of approximately 4 V when the load of L3 is a pure resistance with no reactance. An inductive load produces an output voltage from IC9 which is lower than the reference voltage, whereas, a capacitive load produces an output voltage higher than the reference voltage. IC10a amplifies the output voltage and passes it to comparator IC10a.

• Phase detector circuit



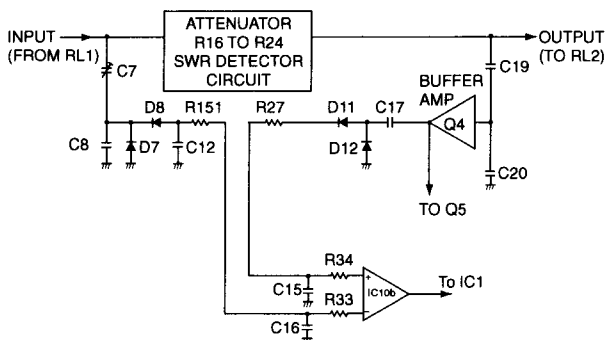
3-5 IMPEDANCE DETECTOR CIRCUIT

The tuner uses an attenuator to reduce the transmit power to a very low level. The low power minimizes the risk of interference to other stations while matching an antenna to the transmitter.

The VSWR at the input terminal is usually close to 1:1 even with a large change of impedance at the attenuator output due to the 16 dB of isolation between the input and the matching network.

The circuit uses the constant voltage at D7 and D8 on The TUNER unit as a reference. If the impedance of the attenuator output is higher than 50 Ω, the detected voltage by D11 and D12 is HIGH. If the impedance is lower than 50 Ω, the voltage is LOW. Both the reference and detected voltages feed to comparator IC10b.

• Impedance detector circuit



3-6 LOGIC CIRCUIT

IC1, The CPU, controls the antenna matching network. The CPU receives +5V through IC8 when DC power is applied to the tuner. This voltage initializes the CPU. The stored program in the Read Only Memory (ROM) IC12 sets each relay to the initial condition.

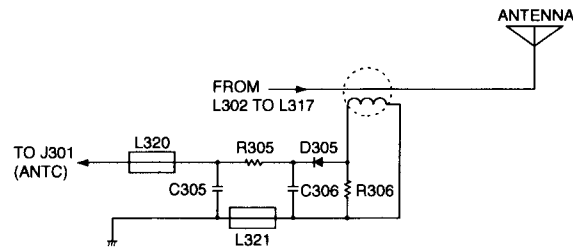
The tuning program begins only if the START line is at LOW level. RL1 and RL2 activate when RF power at the input antenna connector from the transceiver is present at an appropriate level (See Section 6-2).

The data from the previously described detectors (input RF power, reflected RF power, phase difference, impedance difference) feed into the CPU. The coil data then passes to IC4, the capacitor data to IC3 and the control data to IC2 according to the tuning program.

3-8 ANTENNA CURRENT DETECTOR CIRCUIT (MANUAL UNIT — Europe version only)

On the MANUAL UNIT, L319 detects the antenna current. D305 rectifies the detected voltage and feed it to J301 through low-pass filter comprising R305, C305 and C306.

• Antenna current detector circuit



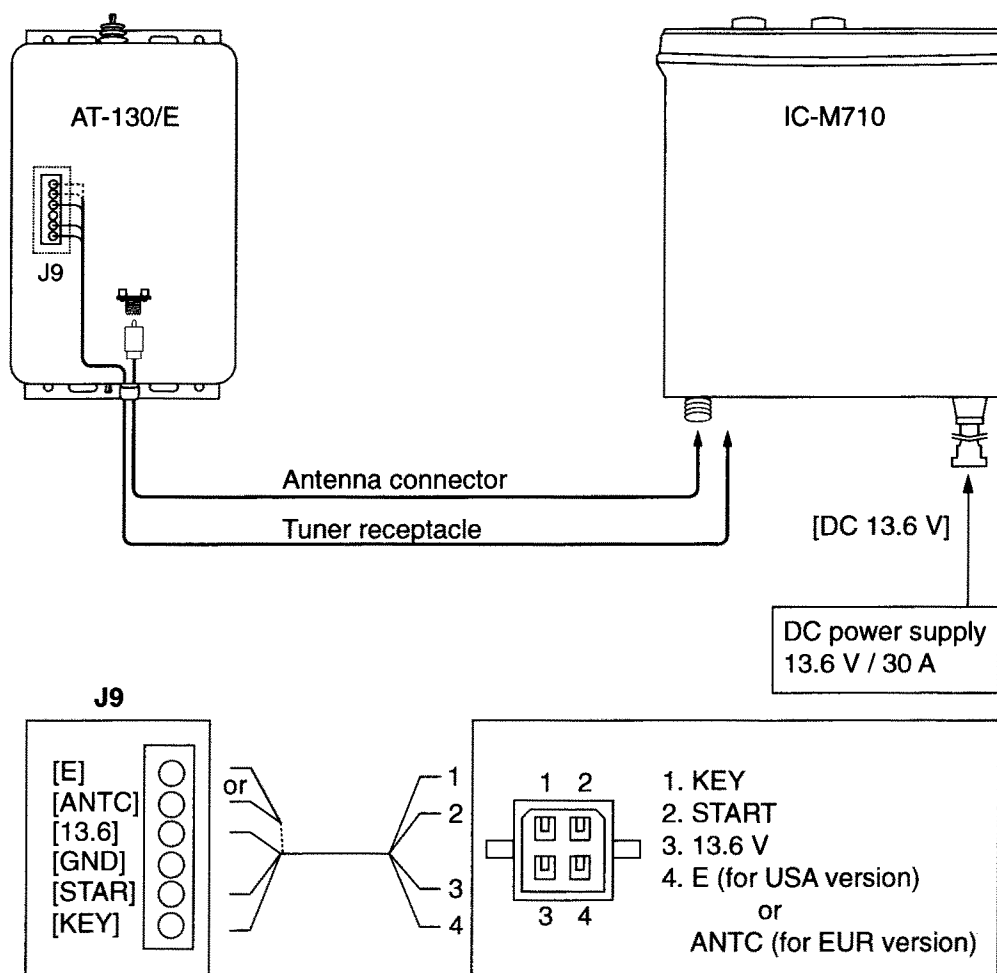
SECTION 3 ADJUSTMENT PROCEDURES

3-1 PREPARATION

■ REQUIRED TEST EQUIPMENT

EQUIPMENT	GRADE AND RANGE
DC power supply	Output voltage : 13.6 V DC Current capacity : 10 A or more
Oscilloscope	Frequency range : DC-20 MHz Measuring range : 0.01-10 V
Transceiver	: IC-M710

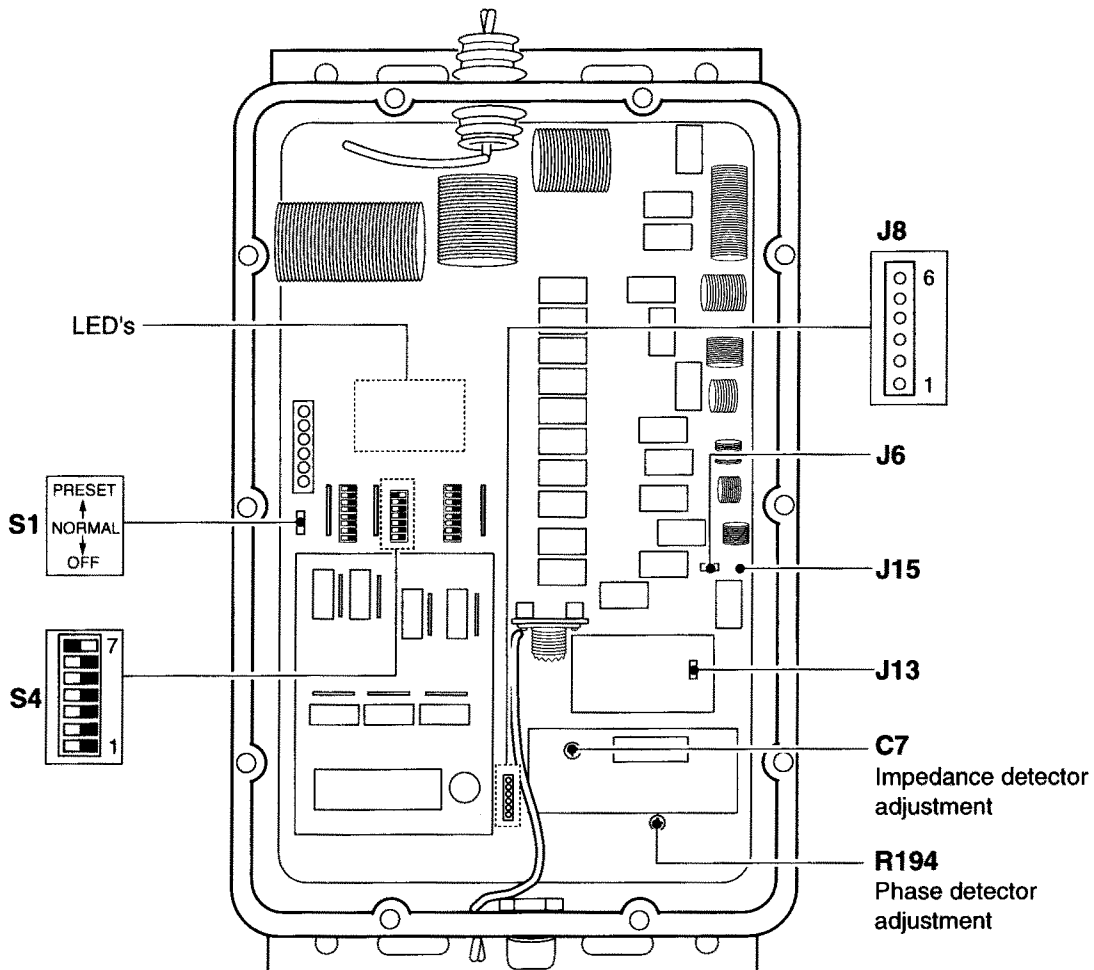
■ CONNECTIONS



3-2 ANTENNA TUNER ADJUSTMENT

ADJUSTMENT	ADJUSTMENT CONDITION	MEASUREMENT		VALUE	ADJUSTMENT POINT	
		UNIT	LOCATION		UNIT	ADJUST
PHASE DETECTOR CIRCUIT	1 <ul style="list-style-type: none"> • S1 : PRESET • S4-7 : OFF • Short pins of J13. • Disconnect P6 from J6. • Ground J15 with a jumper wire. • TRANSCIEIVER Display freq. : 1.6 MHz Output power : 10 W (carrer only) Transmitting 	TUNER	Connect an oscilloscope to the check point pin 2 of J8.	5 V (Tune R194 just before drope.)	TUNER	R56
IMPEDANCE DETECTOR CIRCUIT	2 • Same as above		Connect an oscilloscope to check point pin 3 of J8.	5 V (Tune C7 just before drope.)		C7
FORWARD DETECTOR CIRCUIT	3 • Same as above		Connect an oscilloscope to check point pin 1 of J8.	1.4 – 2.4 V		Verify
SWR DETECTOR CIRCUIT	4 • Same as above		Connect an oscilloscope to check point pin 4 of J8.	0 – 0.1 V		Verify

NOTE: • After adjustment, remove the jumper wires from J15 and ground.
 • After adjustment, Disconnect pins of J13.
 • After adjustment, reconnect P6 to J6 and set S1 to [NORMAL] position.



SECTION 4 PARTS LIST

[TUNER UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC1	1140003000	IC	μPD78212CW-613
IC2	1130006930	IC	TC74HC574AP
IC3	1130006930	IC	TC74HC574AP
IC4	1130006930	IC	TC74HC574AP
IC5	1130005200	IC	TC74HC393AP
IC6	1130000050	IC	TC4013BP (NEW)
IC7	1110003160	IC	S-80741AL
IC8	1110002020	IC	TA7805S
IC9	1790000060	IC	ND487C2-3R
IC10	1110000060	IC	TA75393S
IC11	1160000100	IC	UPA2004C
IC12	1160000100	IC	UPA2004C
IC13	1160000100	IC	UPA2004C
IC14	1160000100	IC	UPA2004C
Q1	1560000110	FET	2SK241-GR
Q2	1530000150	TRANSISTOR	2SC2668-O
Q3	1590000350	TRANSISTOR	RN1204
Q4	1530000110	TRANSISTOR	2SC2458-GR
Q5	1530000110	TRANSISTOR	2SC2458-GR
Q7	1510000080	TRANSISTOR	2SA1048-GR
Q8	1530000110	TRANSISTOR	2SC2458-GR
Q9	1590000350	TRANSISTOR	RN1204
Q10	1530000110	TRANSISTOR	2SC2458-GR
Q11	1530000110	TRANSISTOR	2SC2458-GR
D1	1710000330	DIODE	1K60
D2	1710000580	DIODE	1SS265
D3	1710000580	DIODE	1SS265
D4	1710000160	DIODE	1SS133
D5	1710000330	DIODE	1K60
D6	1710000330	DIODE	1K60
D7	1710000330	DIODE	1K60
D8	1710000330	DIODE	1K60
D9	1710000160	DIODE	1SS133
D10	1710000160	DIODE	1SS133
D11	1710000330	DIODE	1K60
D12	1710000330	DIODE	1K60
D13	1710000330	DIODE	1K60
D14	1710000330	DIODE	1K60
D15	1710000160	DIODE	1SS133
D16	1710000060	DIODE	1SS55
D17	1710000060	DIODE	1SS55
D18	1710000350	DIODE	1N4002
D19	1710000350	DIODE	1N4002
D20	1710000350	DIODE	1N4002
D21	1710000160	DIODE	1SS133
D22	1710000160	DIODE	1SS133
D24	1710000040	DIODE	1S953
D25	1730000170	ZENER	RD8.2E B1
D26	1710000040	DIODE	1S953
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
D50	1710000160	DIODE	1SS133
D51	1710000160	DIODE	1SS133

[TUNER UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
D52	1710000060	DIODE	1SS55
D52	1710000060	DIODE	1SS55
D53	1710000060	DIODE	1SS55
D54	1710000060	DIODE	1SS55
D55	1710000060	DIODE	1SS55
D56	1710000060	DIODE	1SS55
D57	1710000060	DIODE	1SS55
D58	1710000060	DIODE	1SS55
D59	1710000060	DIODE	1SS55
D60	1710000060	DIODE	1SS55
D61	1710000060	DIODE	1SS55
D62	1710000060	DIODE	1SS55
D63	1710000060	DIODE	1SS55
D64	1710000060	DIODE	1SS55
D65	1710000060	DIODE	1SS55
D66	1710000060	DIODE	1SS55
D67	1710000060	DIODE	1SS55
D68	1710000060	DIODE	1SS55
D69	1710000060	DIODE	1SS55
D70	1710000060	DIODE	1SS55
D71	1710000060	DIODE	1SS55
D72	1710000060	DIODE	1SS55
D73	1710000060	DIODE	1SS55
D74	1710000060	DIODE	1SS55
D75	1710000060	DIODE	1SS55
D76	1710000060	DIODE	1SS55
D77	1710001460	DIODE	1SS165
D78	1710000160	DIODE	1SS133
D79	1710000160	DIODE	1SS133
D80	1790001460	DIODE	1SS165
X1	6050006930	XTAL	RF-4A3 FAT (9.8304 MHz)
L1	6140000100	COIL	LR-22A
L2	6140000930	COIL	LR-116
L3	6140000930	COIL	LR-116
L4	6140000070	COIL	LR-19
L5	6180000450	COIL	RFC L6 222K
L6	6110002750	COIL	LA-459
L7	6110002760	COIL	LA-460
L8	6110002770	COIL	LA-461
L9	6110002780	COIL	LA-462
L10	6110002790	COIL	LA-463
L11	6110002800	COIL	LA-464
L12	6110002810	COIL	LA-465
L13	6110002820	COIL	LA-466
L14	6110002830	COIL	LA-467
L15	6110002840	COIL	LA-468
L16	6110002850	COIL	LA-469
L17	6110002860	COIL	LA-470
L18	6180000900	COIL	LAL 03NA 101K
L19	6910000670	COIL	BL01RN1-A62-001 [EUR] only
L20	6910000670	COIL	BL01RN1-A62-001
L22	6910000670	COIL	BL01RN1-A62-001
L23	6910000670	COIL	BL01RN1-A62-001
L24	6180000900	COIL	LAL 03NA 101K
L25	6180000900	COIL	LAL 03NA 101K
L26	6910000670	COIL	BL01RN1-A62-001
L27	6910000670	COIL	BL01RN1-A62-001
L28	6180000900	COIL	LAL 03NA 101K
L29	6180000900	COIL	LAL 03NA 101K
L30	6910000670	COIL	BL01RN1-A62-001
L31	6180001220	COIL	LAL 04NA 100K
L32	6180000880	COIL	LAL 03NA 100K
L33	6180002270	COIL	LAL 03NA 470K
R1	7010004190	RESISTOR	R20J 1 kΩ
R2	7010004670	RESISTOR	R50XJ 22 Ω
R3	7010004670	RESISTOR	R50XJ 22 Ω
R4	7010003340	RESISTOR	ELR20J 330 Ω
R5	7010003740	RESISTOR	ELR20J 470 kΩ
R6	7010003240	RESISTOR	ELR20J 47 Ω
R8	7010004320	RESISTOR	R20J 10 kΩ

S.=Surface mount

[TUNER UNIT]

REF NO.	ORDER NO.	DESCRIPTION
R9	7010004230	RESISTOR R20J 2.2 kΩ
R10	7010004410	RESISTOR R20J 47 kΩ
R11	7010003440	RESISTOR ELR20J 2.2 kΩ
R12	7010003480	RESISTOR ELR20J 4.7 kΩ
R13	7010000290	RESISTOR ELR25J 220 Ω
R14	7010003950	RESISTOR R20J 10 Ω
R15	7010004320	RESISTOR R20J 10 kΩ
R16	7070000731	RESISTOR ERG2SJ 331 (330 Ω)
R17	7070000731	RESISTOR ERG2SJ 331 (330 Ω)
R18	7070000721	RESISTOR ERG2SJ 271 (270 Ω)
R19	7070000291	RESISTOR ERG2SJ 221 (220 Ω)
R20	7070000291	RESISTOR ERG2SJ 221 (220 Ω)
R21	7070000291	RESISTOR ERG2SJ 221 (220 Ω)
R22	7070000300	RESISTOR CRH100X R-02J 330 Ω
R23	7070000300	RESISTOR CRH100X R-02J 330 Ω
R24	7070000711	RESISTOR ERG1SJ 271 (270 Ω)
R25	7010004410	RESISTOR R20J 47 kΩ
R26	7010004410	RESISTOR R20J 47 kΩ
R27	7010003440	RESISTOR ELR20J 2.2 kΩ
R28	7010004690	RESISTOR R50XJ 47 Ω
R29	7010004690	RESISTOR R50XJ 47 Ω
R30	7010004690	RESISTOR R50XJ 47 Ω
R31	7010004690	RESISTOR R50XJ 47 Ω
R32	7010004030	RESISTOR R20J 47 Ω
R33	7010004490	RESISTOR R20J 220 kΩ
R34	7010004490	RESISTOR R20J 220 kΩ
R35	7010004420	RESISTOR R20J 56 kΩ
R36	7010004230	RESISTOR R20J 2.2 kΩ
R37	7010004410	RESISTOR R20J 47 kΩ
R38	7010004190	RESISTOR R20J 1 kΩ
R39	7010004320	RESISTOR R20J 10 kΩ
R40	7010004320	RESISTOR R20J 10 kΩ
R41	7010004320	RESISTOR R20J 10 kΩ
R42	7010003400	RESISTOR ELR20J 1 kΩ
R43	7010001020	RESISTOR R25XJ 82 Ω
R44	7010004110	RESISTOR R20J 220 Ω
R45	7540000010	ABSORBER DSA-301LA
R46	7010000590	RESISTOR ELR25J 47 kΩ
R47	7010003200	RESISTOR ELR20J 22 Ω
R49	7010000160	RESISTOR ELR25J 18 Ω
R51	7010004940	RESISTOR ELR25J 68 Ω
R52	7010001010	RESISTOR R25XJ 68 Ω
R53	7010004400	RESISTOR R20J 39 kΩ
R54	7010003380	RESISTOR ELR20J 680 Ω
R55	7100000150	RESISTOR SRW2P 22 Ω (220)
R56	7010003580	RESISTOR ELR20J 22 kΩ
R57	7010004450	RESISTOR R20J 100 kΩ
R58	7010004250	RESISTOR R20J 3.3 kΩ
R59	7010003550	RESISTOR ELR20J 15 kΩ
R60	7010004230	RESISTOR R20J 2.2 kΩ
R61	7010003490	RESISTOR ELR20J 5.6 kΩ
R62	7010004110	RESISTOR R20J 220 Ω
R63	7010003390	RESISTOR ELR20J 820 Ω
R64	7010003620	RESISTOR ELR20J 47 kΩ
R66	7010003660	RESISTOR ELR20J 100 kΩ
R67	7010004410	RESISTOR R20J 47 kΩ
R68	7080001191	RESISTOR RN14K2E 390 kΩ (F)
R70	7410000080	ARRAY RMX- 4 473K
R71	7010003400	RESISTOR ELR20J 1 kΩ
R72	7010004190	RESISTOR R20J 1 kΩ
R73	7010004190	RESISTOR R20J 1 kΩ
R74	7010004190	RESISTOR R20J 1 kΩ
R75	7010003320	RESISTOR ELR20J 220 Ω
R76	7010003660	RESISTOR ELR20J 100 kΩ
R77	7010003700	RESISTOR ELR20J 220 kΩ
R78	7080000410	RESISTOR CRB25FX 480 kΩ
R79	7410000220	ARRAY RMX- 8 473K
R80	7410000220	ARRAY RMX- 8 473K
R81	7410000220	ARRAY RMX- 8 473K
R82	7010003620	RESISTOR ELR20J 47 kΩ
R83	7410000200	ARRAY RMX- 8 222K
R84	7010004150	RESISTOR R20J 470 Ω
R85	7010004150	RESISTOR R20J 470 Ω
R86	7010004150	RESISTOR R20J 470 Ω
R87	7010004150	RESISTOR R20J 470 Ω
R88	7010004150	RESISTOR R20J 470 Ω
R89	7010004150	RESISTOR R20J 470 Ω
R90	7010004150	RESISTOR R20J 470 Ω
R91	7410000200	ARRAY RMX- 8 222K
R92	7010004150	RESISTOR R20J 470 Ω
R93	7010004150	RESISTOR R20J 470 Ω
R94	7010004150	RESISTOR R20J 470 Ω

[TUNER UNIT]

REF NO.	ORDER NO.	DESCRIPTION
R95	7010004150	RESISTOR R20J 470 Ω
R96	7010004150	RESISTOR R20J 470 Ω
R97	7010004150	RESISTOR R20J 470 Ω
R98	7010004150	RESISTOR R20J 470 Ω
R99	7010004150	RESISTOR R20J 470 Ω
R100	7410000200	ARRAY RMX- 8 222K
R101	7010004150	RESISTOR R20J 470 Ω
R102	7010004150	RESISTOR R20J 470 Ω
R103	7010004150	RESISTOR R20J 470 Ω
R104	7010004150	RESISTOR R20J 470 Ω
R105	7010004150	RESISTOR R20J 470 Ω
R106	7010004150	RESISTOR R20J 470 Ω
R107	7010004150	RESISTOR R20J 470 Ω
R108	7010004150	RESISTOR R20J 470 Ω
R109	7010003990	RESISTOR R20J 22 Ω
R111	7010003990	RESISTOR R20J 22 Ω
R113	7010003990	RESISTOR R20J 22 Ω
R115	7010003990	RESISTOR R20J 22 Ω
R117	7010003990	RESISTOR R20J 22 Ω
R119	7010003990	RESISTOR R20J 22 Ω
R121	7010003990	RESISTOR R20J 22 Ω
R123	7010003990	RESISTOR R20J 22 Ω
R125	7010003990	RESISTOR R20J 22 Ω
R127	7010003990	RESISTOR R20J 22 Ω
R129	7010003990	RESISTOR R20J 22 Ω
R131	7010003990	RESISTOR R20J 22 Ω
R133	7010003200	RESISTOR ELR20J 22 Ω
R135	7010003990	RESISTOR R20J 22 Ω
R137	7010003990	RESISTOR R20J 22 Ω
R139	7010003990	RESISTOR R20J 22 Ω
R141	7010003990	RESISTOR R20J 22 Ω
R143	7010003990	RESISTOR R20J 22 Ω
R145	7010003990	RESISTOR R20J 22 Ω
R147	7010003990	RESISTOR R20J 22 Ω
R149	7010004150	RESISTOR R20J 470 Ω
R150	7010003480	RESISTOR ELR20J 4.7 kΩ
R151	7010003440	RESISTOR ELR20J 2.2 kΩ
R152	7010000940	RESISTOR R25XJ 18 Ω
R154	7010000940	RESISTOR R25XJ 18 Ω
R156	7010003620	RESISTOR ELR20J 47 kΩ
R157	7080001191	RESISTOR RN14K2E 390 kΩ (F)
R158	7010003450	RESISTOR ELR20J 2.7 kΩ
R159	7010003530	RESISTOR ELR20J 10 kΩ
R160	7010003360	RESISTOR ELR20J 470 Ω
R161	7010003620	RESISTOR ELR20J 47 kΩ
R162	7010003620	RESISTOR ELR20J 47 kΩ
R163	7010004450	RESISTOR R20J 100 kΩ
R164	7010004450	RESISTOR R20J 100 kΩ
R165	7010000940	RESISTOR R25XJ 18 Ω
R167	7010003410	RESISTOR ELR20J 1.2 kΩ
R168	7010003410	RESISTOR ELR20J 1.2 kΩ
R169	7010003410	RESISTOR ELR20J 1.2 kΩ
R170	7010003410	RESISTOR ELR20J 1.2 kΩ
R171	7010003410	RESISTOR ELR20J 1.2 kΩ
R172	7010003410	RESISTOR ELR20J 1.2 kΩ
R173	7010003410	RESISTOR ELR20J 1.2 kΩ
R174	7010003410	RESISTOR ELR20J 1.2 kΩ
R175	7010003410	RESISTOR ELR20J 1.2 kΩ
R176	7010003410	RESISTOR ELR20J 1.2 kΩ
R177	7010003410	RESISTOR ELR20J 1.2 kΩ
R178	7010003410	RESISTOR ELR20J 1.2 kΩ
R179	7010003410	RESISTOR ELR20J 1.2 kΩ
R180	7010003410	RESISTOR ELR20J 1.2 kΩ
R181	7010003410	RESISTOR ELR20J 1.2 kΩ
R182	7010003410	RESISTOR ELR20J 1.2 kΩ
R183	7010003410	RESISTOR ELR20J 1.2 kΩ
R184	7010003410	RESISTOR ELR20J 1.2 kΩ
R185	7010003410	RESISTOR ELR20J 1.2 kΩ
R186	7010003410	RESISTOR ELR20J 1.2 kΩ
R187	7010003410	RESISTOR ELR20J 1.2 kΩ
R188	7010003410	RESISTOR ELR20J 1.2 kΩ
R189	7010003410	RESISTOR ELR20J 1.2 kΩ
R190	7010001030	RESISTOR R25XJ 100 Ω
R191	7010001190	RESISTOR R25XJ 2.2 kΩ
R192	7010003520	RESISTOR ELR20J 8.2 kΩ
R193	7010003720	RESISTOR ELR20J 330 kΩ
R194	7310000660	TRIMMER RH0621C14J19A (103)
R195	7010003400	RESISTOR ELR20J 1 kΩ
R196	7010003490	RESISTOR ELR20J 5.6 kΩ
R197	7010005220	RESISTOR ELR20J 10M Ω
R198	7010004420	RESISTOR R20J 56 kΩ
R200	7010003660	RESISTOR ELR20J 100 kΩ

S.=Surface mount

[TUNER UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R201	7010004190	RESISTOR	R20J 1 kΩ
R202	7010003700	RESISTOR	ELR20J 220 kΩ
R203	7010003620	RESISTOR	ELR20J 47 kΩ
R204	7010004410	RESISTOR	R20J 47 kΩ
R205	7410000350	ARRAY	RMX- 3 104K
R206	7410000350	ARRAY	RMX- 3 104K
R207	7410000350	ARRAY	RMX- 3 104K
R208	7410000350	ARRAY	RMX- 3 104K
R209	7410000350	ARRAY	RMX- 3 104K
C1	4040000250	BARRIERLAYR	UAT 08X 473M
C2	4010003860	CERAMIC	DD06 SL 100D 500V
C3	4010000380	CERAMIC	DD106-601 SL 221J 50V
C4	4010000410	CERAMIC	DD107 SL 331J 50V
C5	4040000250	BARRIERLAYR	UAT 08X 473M
C6	4010003910	CERAMIC	DD06 SL 220K 500V
C7	4610001430	TRIMMER	ECV-1ZW 10X32E
C8	4010000360	CERAMIC	DD106 SL 181J 50V
C9	4510004130	ELECTROLYTIC	16 MV 33 HW
C10	4010000520	CERAMIC	DD107-601 B 472K 50V
C11	4040000250	BARRIERLAYR	UAT 08X 473M
C12	4010000410	CERAMIC	DD107 SL 331J 50V
C13	4010000410	CERAMIC	DD107 SL 331J 50V
C14	4040000250	BARRIERLAYR	UAT 08X 473M
C15	4040000150	BARRIERLAYR	UAT 05X 472K
C16	4010000520	CERAMIC	DD107-601 B 472K 50V
C17	4040000260	BARRIERLAYR	UZE 08X 104M
C18	4040000250	BARRIERLAYR	UAT 08X 473M
C19	4020000080	CYLINDER	UP125 SL 100J
C20	4010000210	CERAMIC	DD104 SL 300J 50V
C21	4010000410	CERAMIC	DD107 SL 331J 50V
C22	4010000520	CERAMIC	DD107-601 B 472K 50V
C23	4040000250	BARRIERLAYR	UAT 08X 473M
C24	4320000660	DIP MICA	KD20C 122J5
C25	4320000660	DIP MICA	KD20C 122J5
C26	4320000660	DIP MICA	KD20C 122J5
C28	4010004740	CERAMIC	DE1207 SL 271J 2KV
C29	4010004750	CERAMIC	DE1510 SL 331J 2KV
C30	4010004280	CERAMIC	DE1207 SL 151J 3KV
C31	4010004280	CERAMIC	DE1207 SL 151J 3KV
C32	4010004280	CERAMIC	DE1207 SL 151J 3KV
C34	4010000520	CERAMIC	DD107-601 B 472K 50V
C35	4010004280	CERAMIC	DE1207 SL 151J 3KV
C36	4010004280	CERAMIC	DE1207 SL 151J 3KV
C37	4010004790	CERAMIC	DE1210 SL 680J 6KV
C38	4010004260	CERAMIC	DE0907 SL 820J 3KV
C39	4010004770	CERAMIC	DE0910 SL 390J 6KV
C40	4010004770	CERAMIC	DE0910 SL 390J 6KV
C41	4010005040	CERAMIC	DE0707 SL 180J 3KV
C42	4010005040	CERAMIC	DE0707 SL 180J 3KV
C43	4010000520	CERAMIC	DD107-601 B 472K 50V
C44	4010004810	CERAMIC	DE1310 SL 101J 6KV
C45	4010004810	CERAMIC	DE1310 SL 101J 6KV
C46	4010004810	CERAMIC	DE1310 SL 101J 6KV
C47	4010004810	CERAMIC	DE1310 SL 101J 6KV
C48	4010000520	CERAMIC	DD107-601 B 472K 50V
C50	4040000260	BARRIERLAYR	UZE 08X 104M
C52	4010000520	CERAMIC	DD107-601 B 472K 50V
C53	4510003900	ELECTROLYTIC	16 MV 22 HW
C54	4010000520	CERAMIC	DD107-601 B 472K 50V
C55	4010000520	CERAMIC	DD107-601 B 472K 50V
C56	4510003910	ELECTROLYTIC	16 MV 47 HW
C57	4010000520	CERAMIC	DD107-601 B 472K 50V
C58	4010000520	CERAMIC	DD107-601 B 472K 50V
C59	4040000250	BARRIERLAYR	UAT 08X 473M
C60	4510004590	ELECTROLYTIC	16 MV 470 HC
C61	4010000520	CERAMIC	DD107-601 B 472K 50V
C62	4010000520	CERAMIC	DD107-601 B 472K 50V
C64	4010000520	CERAMIC	DD107-601 B 472K 50V
C65	4010000520	CERAMIC	DD107-601 B 472K 50V
C66	4010000520	CERAMIC	DD107-601 B 472K 50V
C68	4040000150	BARRIERLAYR	UAT 05X 472K
C69	4010000500	CERAMIC	DD104 B 102K 50V
C70	4010000520	CERAMIC	DD107-601 B 472K 50V
C71	4010000520	CERAMIC	DD107-601 B 472K 50V
C72	4040000150	BARRIERLAYR	UAT 05X 472K
C73	4040000150	BARRIERLAYR	UAT 05X 472K
C74	4010000520	CERAMIC	DD107-601 B 472K 50V
C75	4310000520	MYLAR	50 F2D 224J
C76	4010000520	CERAMIC	DD107-601 B 472K 50V
C77	4010000520	CERAMIC	DD107-601 B 472K 50V

[TUNER UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C78	4010000430	CERAMIC	DD108-601 SL 471J 50V
C79	4010000460	CERAMIC	DD104 B 471K 50V
C81	4040000150	BARRIERLAYR	UAT 05X 472K
C82	4550000340	TANTALUM	DN 1C 100M
C83	45100005460	ELECTROLYTIC	FYDOH 474Z
C84	4310000520	MYLAR	50 F2D 224J
C85	4310000520	MYLAR	50 F2D 224J
C86	4010000500	CERAMIC	DD104 B 102K 50V
C87	4010000810	CERAMIC	DD104 CH 300J 50V
C88	4010000810	CERAMIC	DD104 CH 300J 50V
C89	4040000150	BARRIERLAYR	UAT 05X 472K
C90	4530000250	ARRAY	B8XC0112-32N
C91	4010000520	CERAMIC	DD107-601 B 472K 50V
C92	4040000150	BARRIERLAYR	UAT 05X 472K
C93	4530000250	ARRAY	B8XC0112-32N
C94	4010000520	CERAMIC	DD107-601 B 472K 50V
C95	4010000520	CERAMIC	DD107-601 B 472K 50V
C96	4530000250	ARRAY	B8XC0112-32N
C98	4010000520	CERAMIC	DD107-601 B 472K 50V
C100	4010000520	CERAMIC	DD107-601 B 472K 50V
C102	4010000520	CERAMIC	DD107-601 B 472K 50V
C104	4010000520	CERAMIC	DD107-601 B 472K 50V
C106	4010000520	CERAMIC	DD107-601 B 472K 50V
C108	4010000520	CERAMIC	DD107-601 B 472K 50V
C110	4010000520	CERAMIC	DD107-601 B 472K 50V
C112	4010000520	CERAMIC	DD107-601 B 472K 50V
C114	4010000520	CERAMIC	DD107-601 B 472K 50V
C116	4010000520	CERAMIC	DD107-601 B 472K 50V
C118	4010000520	CERAMIC	DD107-601 B 472K 50V
C120	4010000520	CERAMIC	DD107-601 B 472K 50V
C122	4010000520	CERAMIC	DD107-601 B 472K 50V
C124	4010000520	CERAMIC	DD107-601 B 472K 50V
C126	4010000520	CERAMIC	DD107-601 B 472K 50V
C128	4010000520	CERAMIC	DD107-601 B 472K 50V
C130	4010000520	CERAMIC	DD107-601 B 472K 50V
C132	4010000520	CERAMIC	DD107-601 B 472K 50V
C134	4010000520	CERAMIC	DD107-601 B 472K 50V
C136	4010000520	CERAMIC	DD107-601 B 472K 50V
C137	4530000250	ARRAY	B8XC0112-32N
C138	4530000250	ARRAY	B8XC0112-32N
C139	4530000250	ARRAY	B8XC0112-32N
C140	4530000250	ARRAY	B8XC0112-32N
C141	4530000250	ARRAY	B8XC0112-32N
C142	4530000250	ARRAY	B8XC0112-32N
C144	4530000050	ARRAY	B5RC0126-33N
C147	4010000520	CERAMIC	DD107-601 B 472K 50V
C148	4040000150	BARRIERLAYR	UAT 05X 472K
C150	4010000520	CERAMIC	DD107-601 B 472K 50V
C152	4010000520	CERAMIC	DD107-601 B 472K 50V
C153	4010000520	CERAMIC	DD107-601 B 472K 50V
C155	4010000520	CERAMIC	DD107-601 B 472K 50V
C156	4040000150	BARRIERLAYR	UAT 05X 472K
C162	4010003910	CERAMIC	DD06 SL 220K 500V [USA]
	4010003860	CERAMIC	DD06 SL 100D 500V [EUR]
C163	4040000150	BARRIERLAYR	UAT 05X 472K
C164	4010000520	CERAMIC	DD107-601 B 472K 50V
C165	4010000520	CERAMIC	DD107-601 B 472K 50V
C166	4530000250	ARRAY	B8XC0112-32N
C167	4530000250	ARRAY	B8XC0112-32N
C168	4530000250	ARRAY	B8XC0112-32N
C169	4010000520	CERAMIC	DD107-601 B 472K 50V
C170	4040000150	BARRIERLAYR	UAT 05X 472K
C171	4010000520	CERAMIC	DD107-601 B 472K 50V
C172	4010000520	CERAMIC	DD107-601 B 472K 50V
C173	4010000520	CERAMIC	DD107-601 B 472K 50V
C174	4040000250	BARRIERLAYR	UAT 08X 473M
C175	4040000150	BARRIERLAYR	UAT 05X 472K
C176	4010000520	CERAMIC	DD107-601 B 472K 50V
C177	4040000150	BARRIERLAYR	UAT 05X 472K
C178	4010000520	CERAMIC	DD107-601 B 472K 50V
C179	4010000520	CERAMIC	DD107-601 B 472K 50V
C181	4040000150	BARRIERLAYR	UAT 05X 472K
C182	4010003930	CERAMIC	DD06 SL 270K 500V [EUR] only
RL1	6330001070	RELAY	AJQ1341 B01
RL2	6330001070	RELAY	AJQ1341 B01
RL3	6330001060	RELAY	APQ 3311
RL4	6330000570	RELAY	AR-39251
RL5	6330001060	RELAY	APQ 3311
RL6	6330001060	RELAY	APQ 3311

S.=Surface mount

[TUNER UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
RL7	6330001060	RELAY	APQ 3311
RL8	6330001060	RELAY	APQ 3311
RL9	6330001060	RELAY	APQ 3311
RL10	6330001060	RELAY	APQ 3311
RL11	6330001060	RELAY	APQ 3311
RL12	6330001060	RELAY	APQ 3311
RL13	6330001060	RELAY	APQ 3311
RL14	6330001060	RELAY	APQ 3311
RL15	6330001060	RELAY	APQ 3311
RL16	6330001060	RELAY	APQ 3311
RL17	6330001060	RELAY	APQ 3311
RL18	6330001060	RELAY	APQ 3311
RL19	6330001060	RELAY	APQ 3311
RL20	6330001060	RELAY	APQ 3311
RL21	6330001060	RELAY	APQ 3311
RL22	6330001060	RELAY	APQ 3311
RL23	6330001060	RELAY	APQ 3311
RL24	6330001060	RELAY	APQ 3311
RL25	6330000570	RELAY	AR-39251
RL26	6330000570	RELAY	AR-39251
RL27	6330000570	RELAY	AR-39251
DS1	5040002400	LED	EL202HD
DS2	5040002400	LED	EL202HD
DS3	5040002400	LED	EL202HD
DS4	5040002400	LED	EL202HD
DS5	5040002400	LED	EL202HD
DS6	5040002400	LED	EL202HD
DS7	5040002400	LED	EL202HD
DS8	5040002400	LED	EL202HD
DS9	5040002400	LED	EL202HD
DS10	5040002400	LED	EL202HD
DS11	5040002400	LED	EL202HD
DS12	5040002400	LED	EL202HD
DS13	5040002400	LED	EL202HD
DS14	5040002400	LED	EL202HD
DS15	5040002400	LED	EL202HD
DS16	5040002400	LED	EL202HD
DS17	5040002400	LED	EL202HD
DS18	5040002400	LED	EL202HD
DS19	5040002400	LED	EL202HD
DS20	5040002400	LED	EL202HD
DS21	5040002400	LED	EL202HD
DS22	5040002400	LED	EL202HD
DS23	5040002400	LED	EL202HD
DS24	5040002400	LED	EL202HD
S1	2260000200	SWITCH	MS621C
S2	2260000580	SWITCH	SKHLAD035A
S3	2260000830	SWITCH	SSGM18049A
S4	2260000610	SWITCH	SSGM17012A
S5	2260000830	SWITCH	SSGM18049A
J1	6510000130	CONNECTOR	FM MDR MI
J4	6910003140	CONNECTOR	IMSA-9202B-1-02T
J5	6910003140	CONNECTOR	IMSA-9202B-1-02T
J6	6910003140	CONNECTOR	IMSA-9202B-1-02T
J8	6510002280	CONNECTOR	TL25P06V1
J9	6510015150	CONNECTOR	ML-800S1V-6P
J13	6910003140	CONNECTOR	IMSA-9202B-1-02T
J15	6510003100	CONNECTOR	RT01T-1.3B
J16	6510003100	CONNECTOR	RT01T-1.3B
P4	6910003120	CONNECTOR	IMSA-9206H-T
P5	6910003120	CONNECTOR	IMSA-9206H-T
P6	6910003120	CONNECTOR	IMSA-9206H-T
W1	7120000010	JUMPER	JPW 02A
W2	6910001030	JUMPER	IPS-1041-4
W3	6910001030	JUMPER	IPS-1041-4
W4	6910001030	JUMPER	IPS-1041-4
W5	6910001020	JUMPER	IPS-1041-2
W6	6910001030	JUMPER	IPS-1041-4
W7	6910001030	JUMPER	IPS-1041-4
W8	6910001020	JUMPER	IPS-1041-2
W9	6910001020	JUMPER	IPS-1041-2
W10	6910001020	JUMPER	IPS-1041-2

[TUNER UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
W11	6910001020	JUMPER	IPS-1041-2
W12	6910001030	JUMPER	IPS-1041-4
W13	6910001030	JUMPER	IPS-1041-4
W16	6910001020	JUMPER	IPS-1041-2
W36	6910001030	JUMPER	IPS-1041-4
W42	6910001030	JUMPER	IPS-1041-4
W49	6910001030	JUMPER	IPS-1041-4
W50	6910001030	JUMPER	IPS-1041-4
W51	6910001030	JUMPER	IPS-1041-4
W52	6910001030	JUMPER	IPS-1041-4
W53	6910001030	JUMPER	IPS-1041-4
W54	6910001030	JUMPER	IPS-1041-4
W55	6910001030	JUMPER	IPS-1041-4
W56	6910001030	JUMPER	IPS-1041-4
W57	6910001030	JUMPER	IPS-1041-4
W58	6910001030	JUMPER	IPS-1041-4
W59	6910001030	JUMPER	IPS-1041-4
W60	6910001030	JUMPER	IPS-1041-4
W70	6910001030	JUMPER	IPS-1041-4
W71	6910001030	JUMPER	IPS-1041-4
W72	6910001020	JUMPER	IPS-1041-2
W73	6910001030	JUMPER	IPS-1041-4
W74	6910001030	JUMPER	IPS-1041-4
W75	6910001030	JUMPER	IPS-1041-4
W76	6910001020	JUMPER	IPS-1041-2
W77	7120000010	JUMPER	JPW 02A
W78	6910001030	JUMPER	IPS-1041-4
W79	6910001020	JUMPER	IPS-1041-2
W80	6910001030	JUMPER	IPS-1041-4
W81	6910001030	JUMPER	IPS-1041-4
W82	6910001020	JUMPER	IPS-1041-2
W83	6910001020	JUMPER	IPS-1041-2
W84	6910001020	JUMPER	IPS-1041-2
W85	6910001030	JUMPER	IPS-1041-4
W87	6910001030	JUMPER	IPS-1041-4
W88	6910001030	JUMPER	IPS-1041-4
W89	6910001030	JUMPER	IPS-1041-4
W90	6910001020	JUMPER	IPS-1041-2
W91	6910001030	JUMPER	IPS-1041-4
W92	6910001020	JUMPER	IPS-1041-2
W93	6910001030	JUMPER	IPS-1041-4
W94	6910001030	JUMPER	IPS-1041-4
W95	6910001030	JUMPER	IPS-1041-4
W96	7120000010	JUMPER	JPW 02A
W97	7120000010	JUMPER	JPW 02A
W98	6910001030	JUMPER	IPS-1041-4
W99	6910001020	JUMPER	IPS-1041-2
W100	6910001020	JUMPER	IPS-1041-2
W102	6910001030	JUMPER	IPS-1041-4
W104	6910001020	JUMPER	IPS-1041-2
W105	6910001020	JUMPER	IPS-1041-2
W106	6910001020	JUMPER	IPS-1041-2
W107	6910001020	JUMPER	IPS-1041-2
W108	6910001030	JUMPER	IPS-1041-4
W109	6910001020	JUMPER	IPS-1041-2
W110	6910001030	JUMPER	IPS-1041-4
W111	6910001020	JUMPER	IPS-1041-2
W112	6910001030	JUMPER	IPS-1041-4
W113	6910001030	JUMPER	IPS-1041-4
W114	6910001020	JUMPER	IPS-1041-2
W115	6910001030	JUMPER	IPS-1041-4
W116	6910001020	JUMPER	IPS-1041-2
W117	6910001020	JUMPER	IPS-1041-2
W120	6910001030	JUMPER	IPS-1041-4
W121	7120000010	JUMPER	JPW 02A
W122	6910001030	JUMPER	IPS-1041-4
W123	6910001030	JUMPER	IPS-1041-4
W124	6910001020	JUMPER	IPS-1041-2
W125	6910001030	JUMPER	IPS-1041-4
W126	6910001030	JUMPER	IPS-1041-4
W127	6910001030	JUMPER	IPS-1041-4
W128	6910001030	JUMPER	IPS-1041-4
W129	6910001030	JUMPER	IPS-1041-4
W130	6910001030	JUMPER	IPS-1041-4
W131	6910001020	JUMPER	IPS-1041-2
W132	6910001030	JUMPER	IPS-1041-4
W133	6910001030	JUMPER	IPS-1041-4
W134	6910001030	JUMPER	IPS-1041-4
W135	6910001030	JUMPER	IPS-1041-4
W136	6910001030	JUMPER	IPS-1041-4
W137	6910001020	JUMPER	IPS-1041-2
W138	6910001020	JUMPER	IPS-1041-2

S.=Surface mount

[TUNER UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
W139	6910001020	JUMPER	IPS-1041-2
W140	6910001020	JUMPER	IPS-1041-2
W141	6910001020	JUMPER	IPS-1041-2
W142	6910001030	JUMPER	IPS-1041-4
W144	6910001020	JUMPER	IPS-1041-2
W145	6910001030	JUMPER	IPS-1041-4
W146	6910001030	JUMPER	IPS-1041-4
W147	6910001020	JUMPER	IPS-1041-2
W148	6910001020	JUMPER	IPS-1041-2
W149	6910001030	JUMPER	IPS-1041-4
W150	6910001030	JUMPER	IPS-1041-4
W151	6910001030	JUMPER	IPS-1041-4
W152	7120000010	JUMPER	JPW 02A
W157	6910001030	JUMPER	IPS-1041-4
W158	7120000010	JUMPER	JPW 02A
W160	6910001020	JUMPER	IPS-1041-2
W161	6910001030	JUMPER	IPS-1041-4
W162	6910001020	JUMPER	IPS-1041-2
W163	6910001020	JUMPER	IPS-1041-2
W164	6910001030	JUMPER	IPS-1041-4
W165	6910001020	JUMPER	IPS-1041-2
W168	6910001020	JUMPER	IPS-1041-2
WS1	8970020241	M.OTHER	1 (10)/TU
WS2	8600030510	M.OTHER	J03TU [USA]
	8970020250	M.OTHER	(3)/TU [EUR]
WS3	8600030520	M.OTHER	J02TU [USA]
	8600030510	M.OTHER	J03TU [EUR]
WS4	8970020260	M.OTHER	(2)/TU [USA]
	8600030520	M.OTHER	J02TU [EUR]
WS5	8600030530	M.OTHER	P01TU [EUR] only
EP1	0910037483	PCB	B 3678C
EP2	9030602001	TUBE	IRRAX 1(d) L=10 mm
EP3	9029403902	TUBE	IRRAX 1(d) L=5 mm
EP4	0910037981	PCB	B 3758A

[MANUAL UNIT] — Europe version only

REF NO.	ORDER NO.	DESCRIPTION	
C301	4010000520	CERAMIC	DD107-601 B 472K 50V
C302	4010000520	CERAMIC	DD107-601 B 472K 50V
C303	4010000520	CERAMIC	DD107-601 B 472K 50V
C304	4010000520	CERAMIC	DD107-601 B 472K 50V
C305	4010000520	CERAMIC	DD107-601 B 472K 50V
C306	4010000420	CERAMIC	DD107-601 SL 391J 50V
C308	4610000470	TRIMMER	E 43 B 720P
C309	4320000280	DIP MICA	DM20C 122J5
C310	4320000210	DIP MICA	DM19C 561J5
C311	4320000270	DIP MICA	DM20C 102J5
C312	4010004260	CERAMIC	DE0907 SL 820J 3KV
C313	4010004260	CERAMIC	DE0907 SL 820J 3KV
C314	4010004260	CERAMIC	DE0907 SL 820J 3KV
C315	4010004250	CERAMIC	DE1007 SL 101J 3KV
C316	4010004250	CERAMIC	DE1007 SL 101J 3KV
C317	4010004250	CERAMIC	DE1007 SL 101J 3KV
RL301	6330000840	RELAY	G2R-1 DC12V
RL302	6330000840	RELAY	G2R-1 DC12V
RL303	6330000840	RELAY	G2R-1 DC12V
RL304	6330000570	RELAY	AR-39251
J301	6510002250	CONNECTOR	TL25P03V1
J302	6910003160	CONNECTOR	IMSA-9202B-2-08T
J303	6510003100	CONNECTOR	RT01T-1.3B
J304	6510003100	CONNECTOR	RT01T-1.3B
J305	6510003100	CONNECTOR	RT01T-1.3B
J307	6510006600	CONNECTOR	RT01N-2.3A
J308	6510006600	CONNECTOR	RT01N-2.3A
J309	6510006600	CONNECTOR	RT01N-2.3A
J310	6510006600	CONNECTOR	RT01N-2.3A
J311	6510006600	CONNECTOR	RT01N-2.3A
J312	6510006600	CONNECTOR	RT01N-2.3A
J313	6510006600	CONNECTOR	RT01N-2.3A
J314	6510006600	CONNECTOR	RT01N-2.3A
J315	6510006600	CONNECTOR	RT01N-2.3A
J316	6510006600	CONNECTOR	RT01N-2.3A
J317	6510006600	CONNECTOR	RT01N-2.3A
J318	6510006600	CONNECTOR	RT01N-2.3A
J319	6510006600	CONNECTOR	RT01N-2.3A
J320	6510006600	CONNECTOR	RT01N-2.3A
J321	6510006600	CONNECTOR	RT01N-2.3A
J322	6510006600	CONNECTOR	RT01N-2.3A
J323	6510006600	CONNECTOR	RT01N-2.3A
P301	6910003120	CONNECTOR	IMSA-9206H-T
P302	6910003120	CONNECTOR	IMSA-9206H-T
P303	6910003120	CONNECTOR	IMSA-9206H-T
P304	6910003120	CONNECTOR	IMSA-9206H-T
WS1	8970020270	M.OTHER	(3)/MN
WS2	8600030540	M.OTHER	P305MN
EP301	0910015132	PCB	B 1238B
R301	7010001000	RESISTOR	R25XJ 56 Ω
R302	7010001000	RESISTOR	R25XJ 56 Ω
R303	7010001000	RESISTOR	R25XJ 56 Ω
R304	7010000940	RESISTOR	R25XJ 18 Ω
R305	7010001340	RESISTOR	R25XJ 33 kΩ
R306	7070000340	RESISTOR	CRH100X R-02J 33 Ω

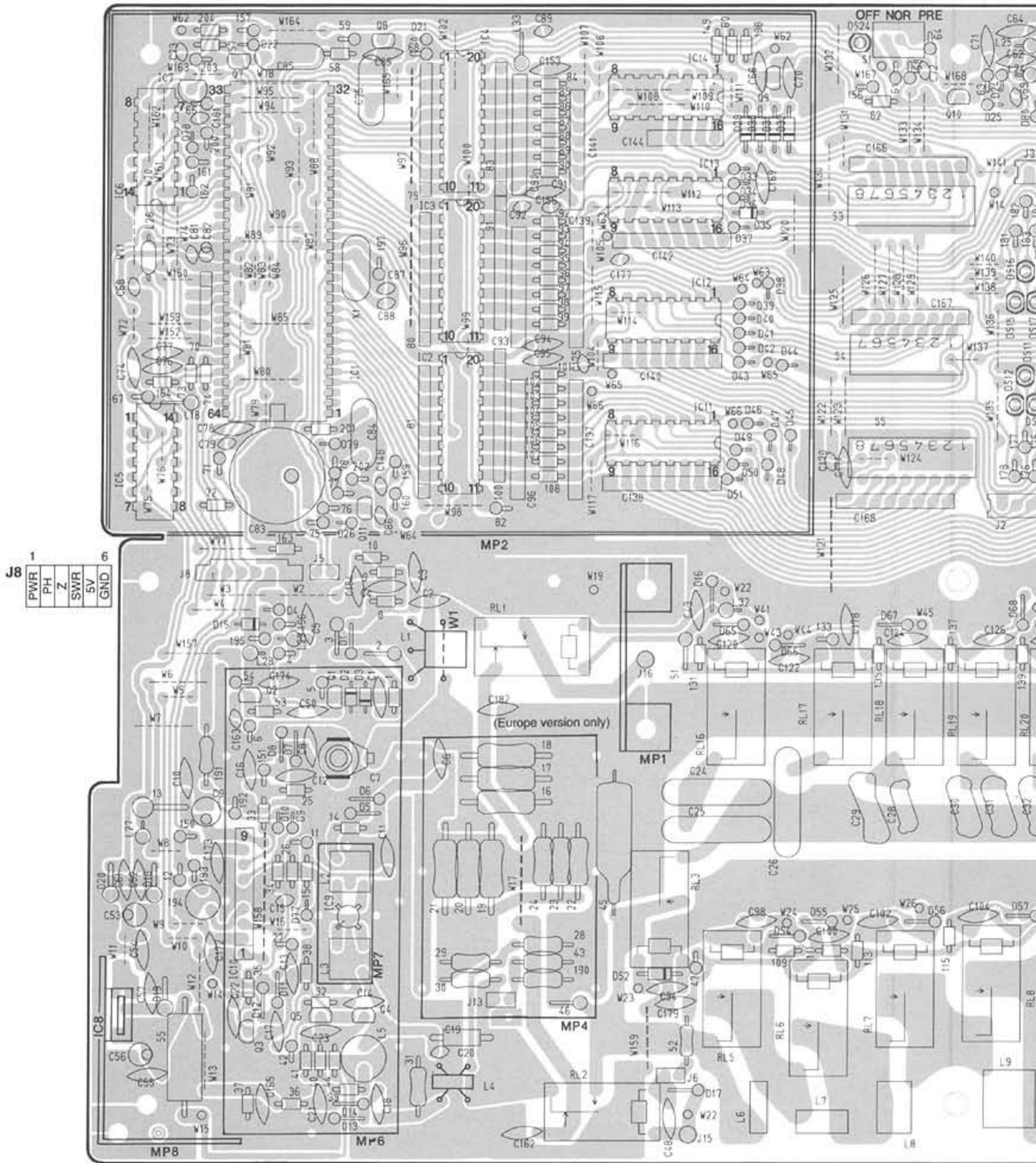
[MANUAL UNIT] — Europe version only

REF NO.	ORDER NO.	DESCRIPTION	
D301	1710000030	DIODE	1S1555
D302	1710000030	DIODE	1S1555
D303	1710000030	DIODE	1S1555
D304	1710000030	DIODE	1S1555
D305	1710000330	DIODE	1K60
L302	6110002870	COIL	LA-473
L303	6110002870	COIL	LA-473
L304	6110002870	COIL	LA-473
L305	6110002870	COIL	LA-473
L306	6110002870	COIL	LA-473
L307	6110002870	COIL	LA-473
L308	6110002870	COIL	LA-473
L309	6110002870	COIL	LA-473
L310	6110002870	COIL	LA-473
L311	6110002870	COIL	LA-473
L312	6110002870	COIL	LA-473
L313	6110002870	COIL	LA-473
L314	6110002870	COIL	LA-473
L315	6110002870	COIL	LA-473
L316	6110002870	COIL	LA-473
L317	6110002880	COIL	LA-474
L319	6140001550	COIL	LR-174
L320	6910000670	COIL	BL01RN1-A62-001
L321	6910000670	COIL	BL01RN1-A62-001

S.=Surface mount

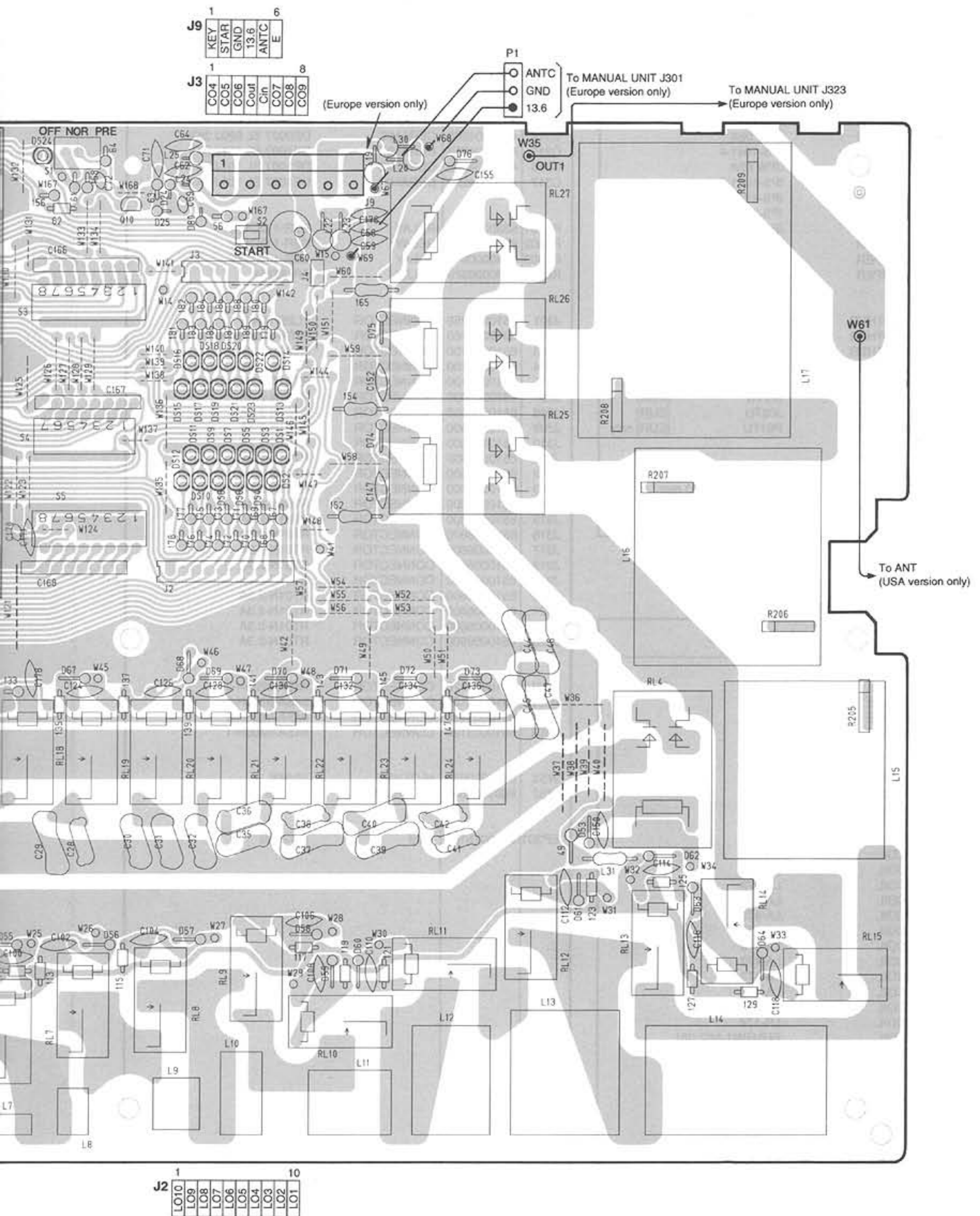
SECTION 5 BOARD LAYOUTS

5-1 TUNER UNIT



J9
J3

J2
LO10
LO9

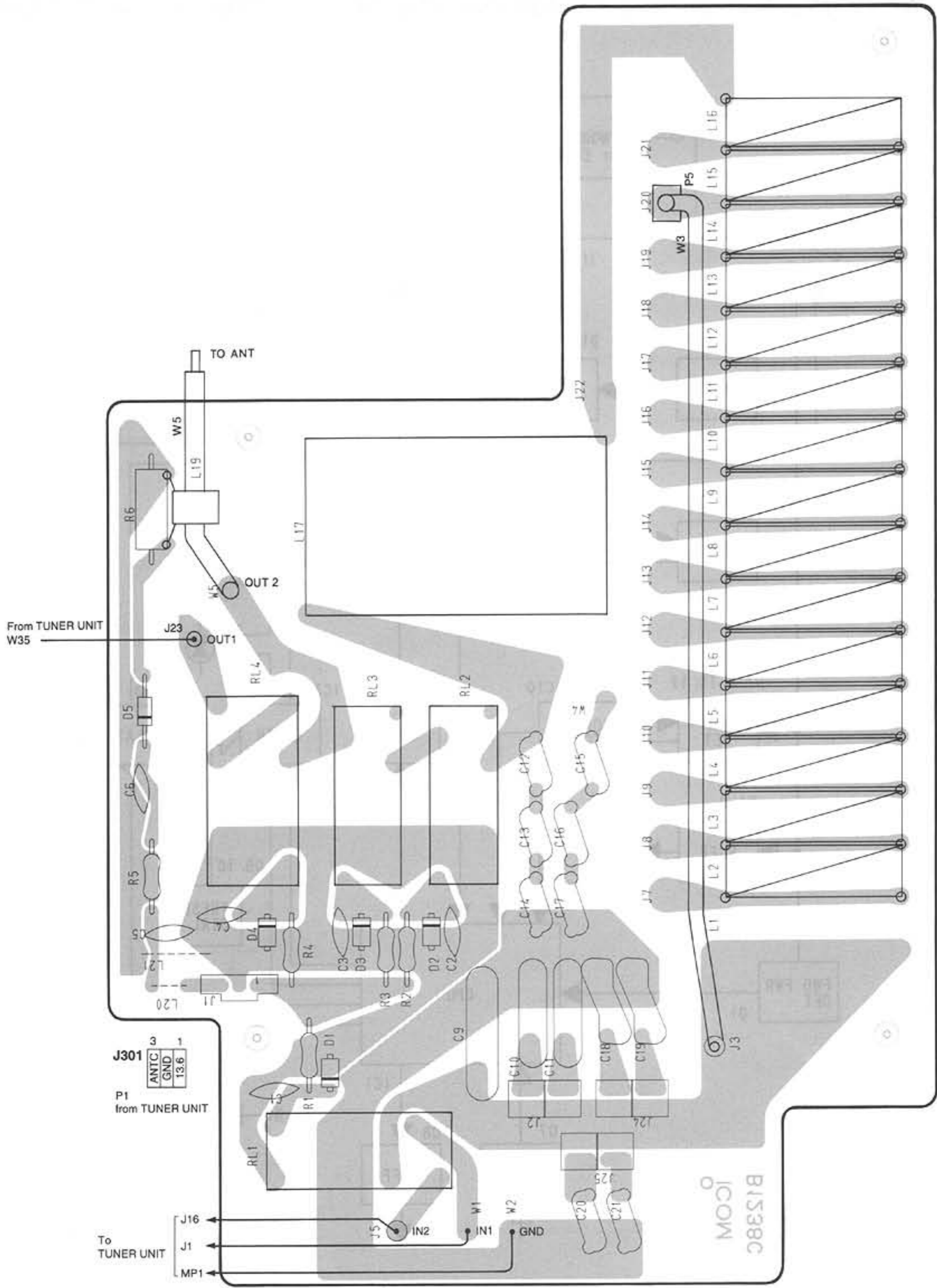


1	6
J9	KEY
	STAR
	GND
	13.6
	ANTC
	E

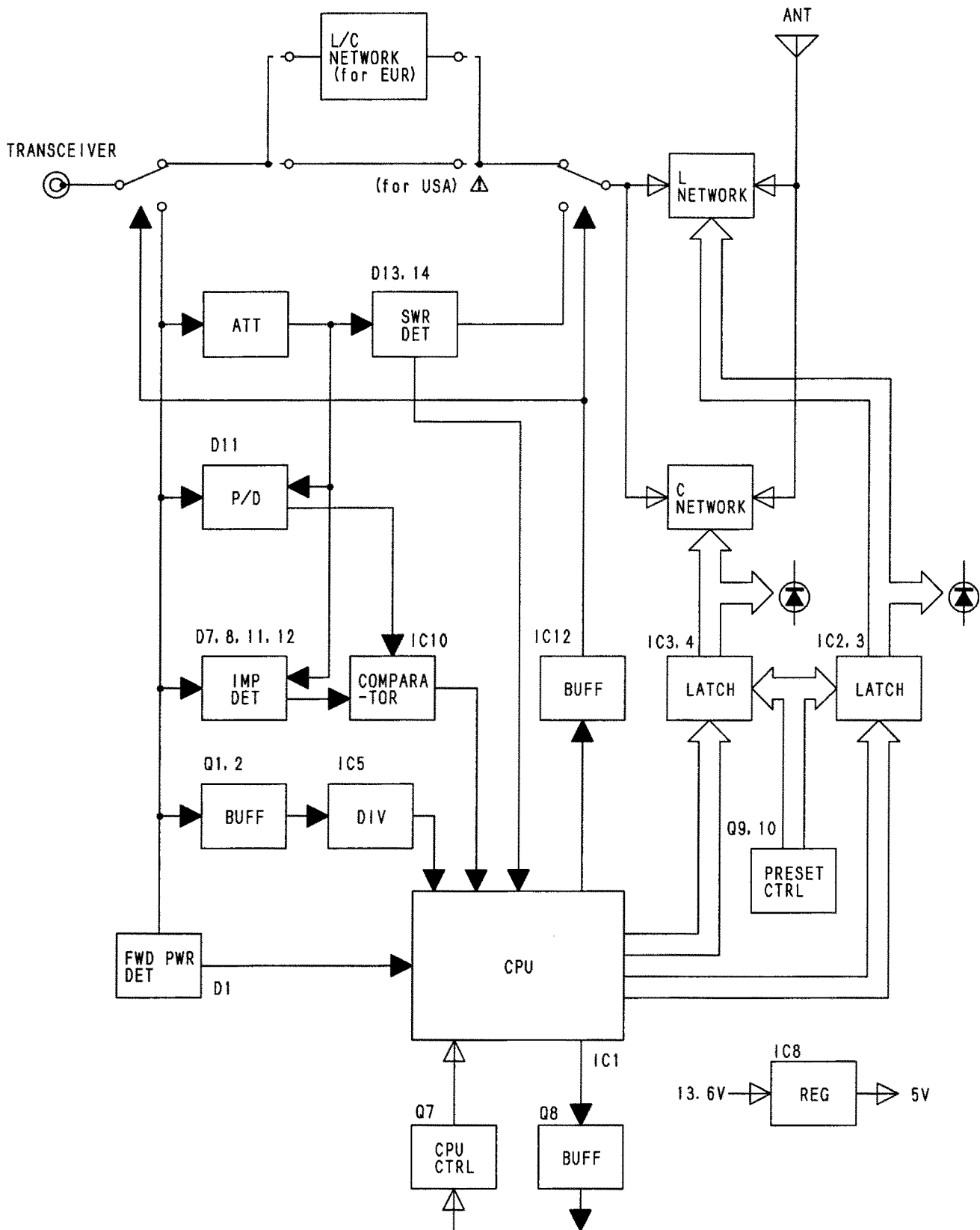
1	8
J3	CO4
	CO5
	CO6
	COut
	Cin
	CO7
	CO8
	CO9

1	10
J2	LO10
	LO9
	LO8
	LO7
	LO6
	LO5
	LO4
	LO3
	LO2
	LO1

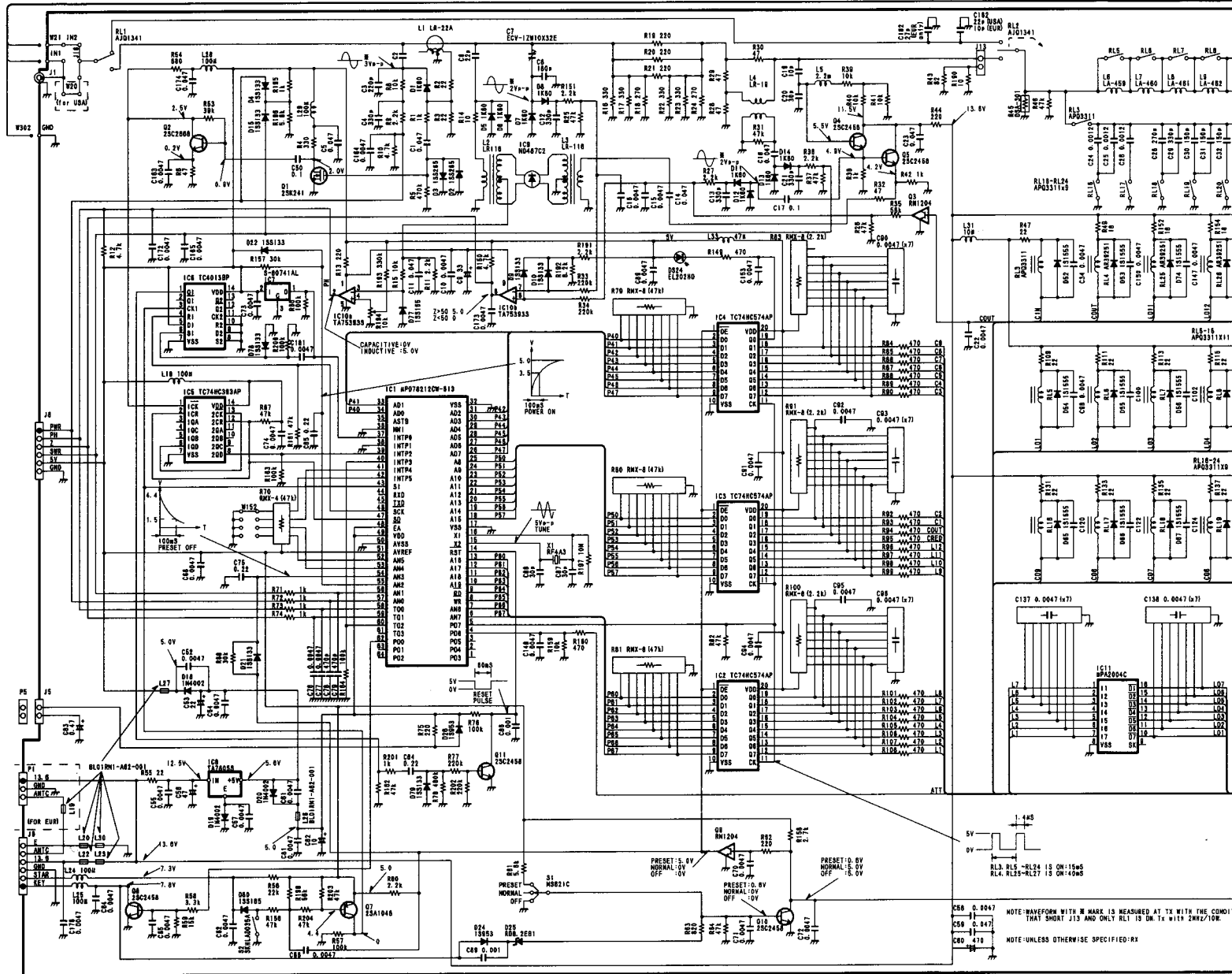
5-2 MANUAL UNIT



SECTION 6 BLOCK DIAGRAM



SECTION 7 VOLTAGE DIAGRAM



PS-66

DC-DC CONVERTOR

INTRODUCTION

This service manual describes the latest service information for the **PS-66** DC-DC convertor at the time of publication.

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

ORDERING PARTS

Be sure to include the following four 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>

1110003140 IC LA1150N PS-66 MAIN UNIT 5 pieces
8810008560 Screw PH M3 x 8 SUS ZK PS-66 CHASSIS 10 pieces

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

DANGER

NEVER connect the DC-DC convertor to an AC outlet or to a DC power supply that uses more than 32 V. This will ruin the DC-DC convertor.

DO NOT expose the DC-DC convertor to rain, snow or any liquids.

REPAIR NOTES

1. Make sure a problem is internal before disassembling the DC-DC convertor.
2. **DO NOT** open the DC-DC convertor until the DC-DC convertor is disconnected from its 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 DC-DC convertor is defective.
6. **READ** the instructions of test equipment thoroughly before connecting equipment to the transceiver.

TABLE OF CONTENTS

SECTION 1	SPECIFICATIONS
SECTION 2	PARTS LIST
SECTION 3	BLOCK DIAGRAM
SECTION 4	VOLTAGE DIAGRAM

SECTION 1 SPECIFICATIONS

• Input voltage	: 19 – 32 V DC
• Output voltage	: 13.6 V DC
• Maximum current capacity	: 30 A
• Usable temperature range	: -30°C to +60°C -22°F to +140°F
• Dimensions (projections not included)	: 240(W) × 140(H) × 322(D) mm 7½(W) × 4¾(H) × 10¼(D) in
• Weight	: 7 kg 15 lb. 7oz

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

SECTION 2 PARTS LIST

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC1	1110001410	IC	TL494CN
IC2	1170000120	IC	TLP531 GR
IC3	1170000130	IC	TLP541G
IC4	1110000070	IC	µPC358C
IC5	1180000330	IC	TA78L012AP
Q1	1510000560	TRANSISTOR	2SA817 Y
Q2	1510000560	TRANSISTOR	2SA817 Y
Q3	1560000370	FET	2SK564
Q4	1560000370	FET	2SK564
Q5	1560000370	FET	2SK564
Q6	1560000370	FET	2SK564
D1	1710000530	DIODE	S3V-10
D2	1710000350	DIODE	1N4002
D3	1710000540	DIODE	1S1588
D4	1710000540	DIODE	1S1588
D5	1710000510	DIODE	ERG75-01
D6	1710000510	DIODE	ERG75-01
D7	6910002110	DB-9 G	
D8	1710000540	DIODE	1S1588
D9	1710000540	DIODE	1S1588
D10	1710000540	DIODE	1S1588
D11	1710000540	DIODE	1S1588
D12	1730000100	ZENER	RD5.1E B2
D13	1730000100	ZENER	RD5.1E B2
D15	1730000310	ZENER	RD15E B2
D16	1730000310	ZENER	RD15E B2
D17	1730000310	ZENER	RD15E B2
D18	1730000310	ZENER	RD15E B2
L2	6140001620	COIL	LR-177A
L5	5920000270	TRANSFOM	K27031C-V
L8	6180001850	COIL	FL 9H 331K
L9	6180001850	COIL	FL 9H 331K
T1	5920000260	TRANSFOM	24V-3
R1	7010001030	RESISTOR	R25XJ 100 Ω
R2	7010001340	RESISTOR	R25XJ 33 kΩ
R3	7010005050	RESISTOR	R25XJ 13 kΩ
R4	7010005060	RESISTOR	R25XJ 5.1 kΩ
R5	7010001330	RESISTOR	R25XJ 27 kΩ
R6	7010001150	RESISTOR	R25XJ 1 kΩ
R7	7010001200	RESISTOR	R25XJ 2.7 kΩ
R8	7010001190	RESISTOR	R25XJ 2.2 kΩ
R9	7010001140	RESISTOR	R25XJ 820 Ω
R10	7010001230	RESISTOR	R25XJ 4.7 kΩ
R11	7010001130	RESISTOR	R25XJ 680 Ω
R12	7010001230	RESISTOR	R25XJ 4.7 kΩ
R13	7010001230	RESISTOR	R25XJ 4.7 kΩ
R14	7010001160	RESISTOR	R25XJ 1.2 kΩ
R15	7010001190	RESISTOR	R25XJ 2.2 kΩ
R16	7010001110	RESISTOR	R25XJ 470 Ω
R17	7010001340	RESISTOR	R25XJ 33 kΩ
R18	7010001070	RESISTOR	R25XJ 220 Ω
R19	7010001240	RESISTOR	R25XJ 5.6 kΩ
R20	7010001210	RESISTOR	R25XJ 3.3 kΩ
R21	7010001150	RESISTOR	R25XJ 1 kΩ
R22	7010001150	RESISTOR	R25XJ 1 kΩ
R23	7010001020	RESISTOR	R25XJ 82 Ω
R24	7010001020	RESISTOR	R25XJ 82 Ω
R26	7010001020	RESISTOR	R25XJ 82 Ω
R27	7010001020	RESISTOR	R25XJ 82 Ω
R29	7070000310	RESISTOR	CRH100X R-02J 10 Ω
R30	7070000310	RESISTOR	CRH100X R-02J 10 Ω
R31	7070000310	RESISTOR	CRH100X R-02J 10 Ω
R32	7070000310	RESISTOR	CRH100X R-02J 10 Ω
R33	7070000270	RESISTOR	CRH100X R-02J 100 Ω
R34	8930011190	TERMINAL	TERMINAL C (RA-2)
R35	7010001140	RESISTOR	R25XJ 820 Ω

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R36	7070000270	RESISTOR	CRH100X R-02J 100 Ω
R37	7070000270	RESISTOR	CRH100X R-02J 100 Ω
R38	7070000270	RESISTOR	CRH100X R-02J 100 Ω
R39	7070000270	RESISTOR	CRH100X R-02J 100 Ω
R40	7070000270	RESISTOR	CRH100X R-02J 100 Ω
R41	7010001340	RESISTOR	R25XJ 33 kΩ
R42	7010001240	RESISTOR	R25XJ 5.6 kΩ
R43	7010001450	RESISTOR	R25XJ 220 kΩ
R44	7010001490	RESISTOR	R25XJ 470 kΩ
R45	7310001610	TRIMMER	GF06X B1K
R46	7310001620	TRIMMER	GF06X B500
R47	7010004490	RESISTOR	R20J 220 kΩ
C1	4310000320	MYLAR	50 F2D 474K
C2	4310000320	MYLAR	50 F2D 474K
C3	4510002070	ELECTROLYTIC	50 MS 470 µF
C4	4510002070	ELECTROLYTIC	50 MS 470 µF
C5	4510002070	ELECTROLYTIC	50 MS 470 µF
C6	4310000320	MYLAR	50 F2D 474K
C7	4310000120	MYLAR	50 F2D 473K
C8	4310000120	MYLAR	50 F2D 473K
C9	4510002070	ELECTROLYTIC	50 MS 470 µF
C12	4310000670	MYLAR	630 MMW 103K
C13	4310000670	MYLAR	630 MMW 103K
C14	4310000670	MYLAR	630 MMW 103K
C15	4310000670	MYLAR	630 MMW 103K
C16	4510002610	ELECTROLYTIC	ECEA1VF471
C17	4510002610	ELECTROLYTIC	ECEA1VF471
C18	4510002610	ELECTROLYTIC	ECEA1VF471
C19	4510002610	ELECTROLYTIC	ECEA1VF471
C22	4310000670	MYLAR	630 MMW 103K
C23	4310000670	MYLAR	630 MMW 103K
C24	4310000670	MYLAR	630 MMW 103K
C25	4310000670	MYLAR	630 MMW 103K
C26	4310000670	MYLAR	630 MMW 103K
C27	4510002620	ELECTROLYTIC	ECEM1ER153ER
C28	4510002070	ELECTROLYTIC	50 MS 470 µF
C29	4510002070	ELECTROLYTIC	50 MS 470 µF
C30	4310000320	MYLAR	50 F2D 474K
C31	4510002070	ELECTROLYTIC	50 MS 470 µF
C32	4310000320	MYLAR	50 F2D 474K
C33	4310000670	MYLAR	630 MMW 103K
C35	4510002630	ELECTROLYTIC	50 SS 47 µF
C36	4310000020	MYLAR	50 F2D 103K
C37	4310000030	MYLAR	50 F2D 104K
C38	4310000030	MYLAR	50 F2D 104K
C39	4310000020	MYLAR	50 F2D 103K
C40	4310000020	MYLAR	50 F2D 103K
C41	4510001100	ELECTROLYTIC	16 MS7 10 µF
C42	4510001100	ELECTROLYTIC	16 MS7 10 µF
C43	4310000120	MYLAR	50 F2D 473K
C44	4310000030	MYLAR	50 F2D 104K
C45	4510001160	ELECTROLYTIC	50 MS7 1 µF
C46	4510002640	ELECTROLYTIC	25 SS 47 µF
C47	4510000390	ELECTROLYTIC	35 SS 470 µF (10x20)
C49	4510000370	ELECTROLYTIC	400 MMW 474K
C50	4310000030	MYLAR	50 F2D 104K
C51	4510000340	ELECTROLYTIC	35 MS 470 µF
C52	4310000320	MYLAR	50 F2D 474K
C53	4310000320	MYLAR	50 F2D 474K
RL1	6330000600	RELAY	VF-12HN
F1	5220000120	HOLDER	S-N1301
F2	5210000060	FUSE	FGB 5A
S1	2260000710	SWITCH	VLK01-11
J1	6510006800	CONNECTOR	5273-02A
J2	6510006810	CONNECTOR	5273-03A
J3	6510006820	CONNECTOR	5273-04A

S.=Surface mount

[MAIN UNIT]

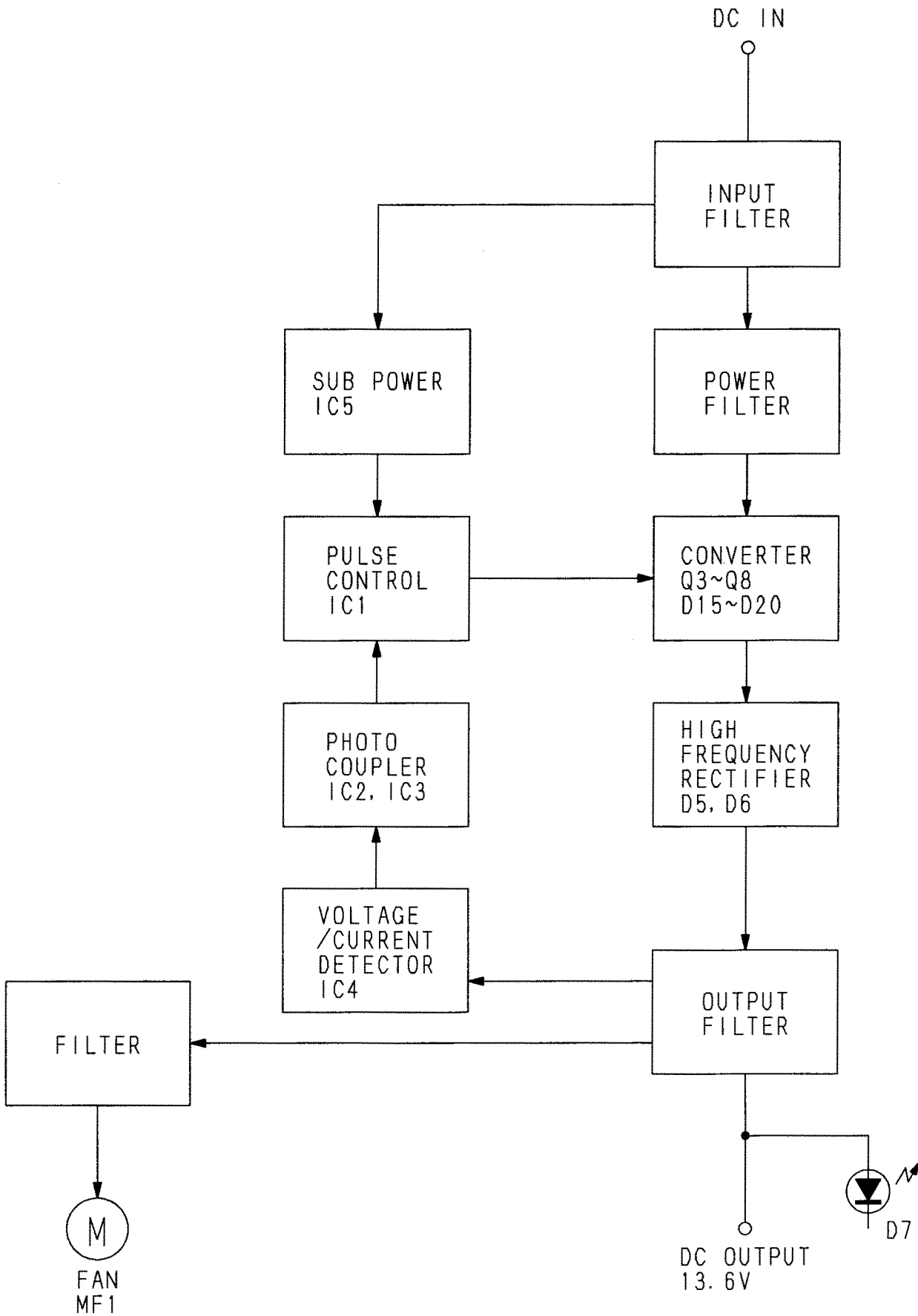
REF NO.	ORDER NO.	DESCRIPTION	
J5	6510006720	CONNECTOR	T-9 50A7 (RED)
J6	6510006730	CONNECTOR	T-9 50A7 (BLACK)
J7	6510006720	CONNECTOR	T-9 50A7 (RED)
J8	6510006730	CONNECTOR	T-9 50A7 (BLACK)
J9	6510006740	CONNECTOR	T-10
W50	6910001030	JUMPER	IPS-1041-4
W51	6910001030	JUMPER	IPS-1041-4
W52	6910001030	JUMPER	IPS-1041-4
W53	6910001030	JUMPER	IPS-1041-4
W54	6910001030	JUMPER	IPS-1041-4
W55	6910001030	JUMPER	IPS-1041-4
W56	6910001030	JUMPER	IPS-1041-4
WS2	8970013220	WIRE	EX433 J LEAD SET (15)/MA
WS3	8970013230	WIRE	EX433 J BOARD SET (11)/MA
WS7	8600015660	HARNESS	J04MA
WS8	8600015670	HARNESS	P04MA
WS9	8600012120	HARNESS	P01MA
WS10	8600012130	HARNESS	P02MA
WS11	8600012140	HARNESS	P03MA
EP1	8930011240	RUBBER	TC-30A
EP2	8930011250	SHEET	TO-3P (NEW TC)
EP3	8930011170	TERMINAL	TERMINAL A
EP4	8930011180	TERMINAL	TERMINAL B
EP6	8930011200	TERMINAL	TERMINAL D
EP7	8930011210	TERMINAL	TERMINAL E
EP8	8930011220	TERMINAL	TERMINAL F
EP9	8930011230	TERMINAL	TERMINAL G
EP10	6510006970	CONNECTOR	250L 3.2(d)
EP11	8810004820	SCREW	M3 x 6 BS
EP12	6510006830	CONNECTOR	1.25-3
EP16	0910015601	PCB	B 1469A
EP17	0910015611	PCB	B 1470A
EP18	0910015621	PCB	B 1471A
EP19	0910015580	PCB	B 1467
EP20	0910015591	PCB	B 1468A
EP21	8950000310	M.OTHER	XT-1178A
EP22	8950000300	M.OTHER	B-72Q
EP23	6910002100	SCREEN	TR16 x 8 x 16 D12A
EP24	6910002090	SCREEN	TR23 x 11 x 14 3A6
EP27	6510003070	TERMINAL	R5.5-8
EP28	8810003130	SCREW	A M2.6x6
EP29	8830000180	SCREW	M 2.6 NI BS
EP30	9045102901	TUBE	IRRAX 0.7(d) L=3 mm
EP31	8860000080	SCREW	A 4 (M3) AG BS
EP32	8860000130	SCREW	B 5 (M3) AG BS
EP33	9026995012	TUBE	1.2(d) L=20 mm
EP34	6510000520	CONNECTOR	L-3552-1L4P
EP35	8860000120	SCREW	B 4 (M3) AG BS
EP36	6510006870	TERMINAL	5.5-S8

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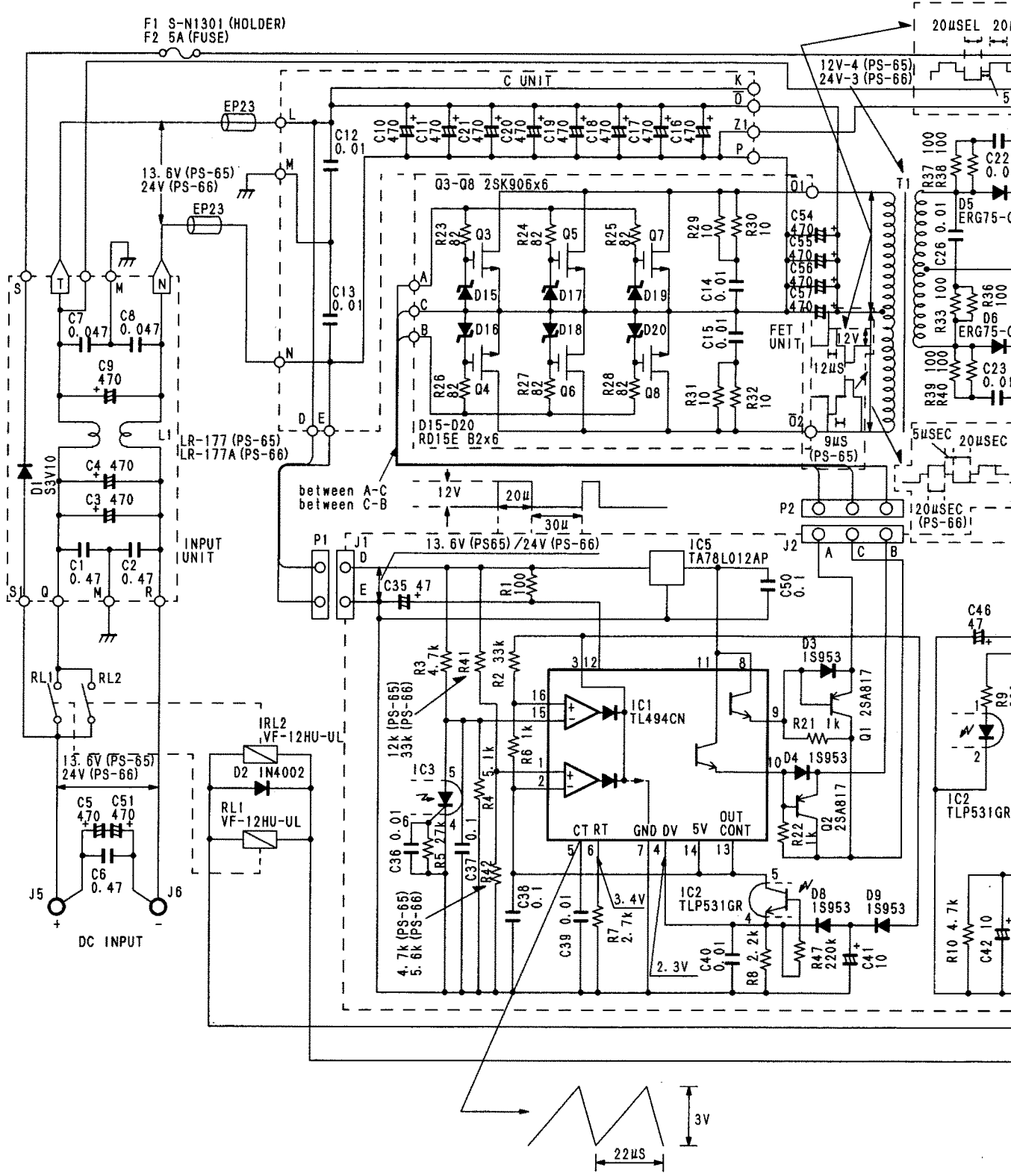
REF NO.	ORDER NO.	DESCRIPTION	
EP1	8900001800	CABLE	OPC-180
EP2	5210000060	FUSE	FGB 5A

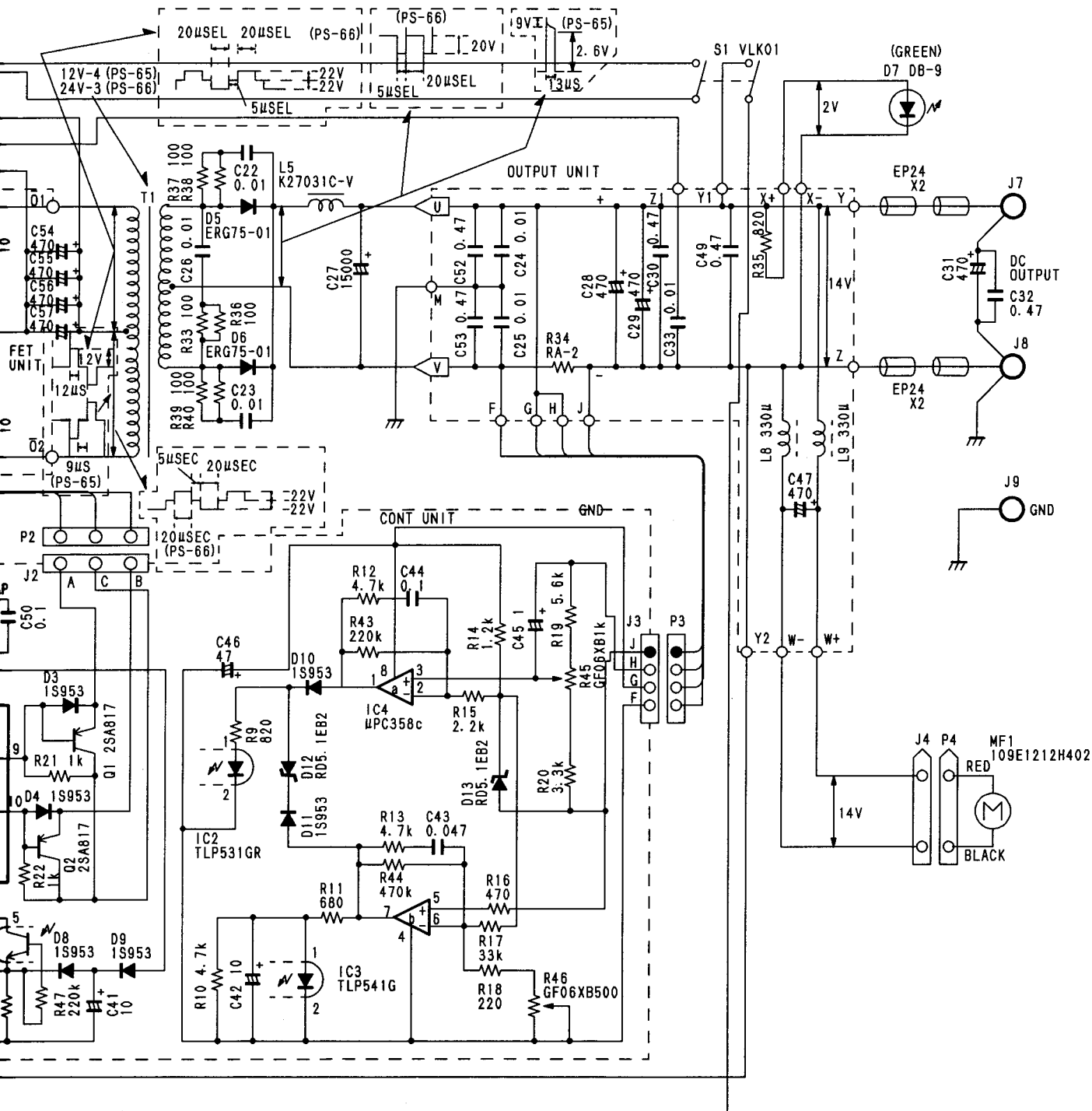
S.=Surface mount

SECTION 3 BLOCK DIAGRAM



SECTION 4 VOLTAGE DIAGRAM





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