



# SERVICE MANUAL

VHF/UHF FM TRANSCEIVER

## IC-207H

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## INTRODUCTION

This service manual describes the latest service information for the **IC-207H** VHF/UHF FM TRANSCEIVER at the time of publication.

MODEL	VERSION	SYMBOL
IC-207H	Europe	EUR
	Italy	ITA
	U.S.A	USA
	Asia	SEA

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

## 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.



## ORDERING PARTS

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

- 10-digit order numbers
- Component part number and name
- Equipment model name and unit name
- Quantity required

### <SAMPLE ORDER>

115000760 IC SC-1091 IC-207H MAIN UNIT 5 pieces  
8810009020 Screw FH M2.6 x 5 ZK IC-207H Bottom cover 10 pieces

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

## 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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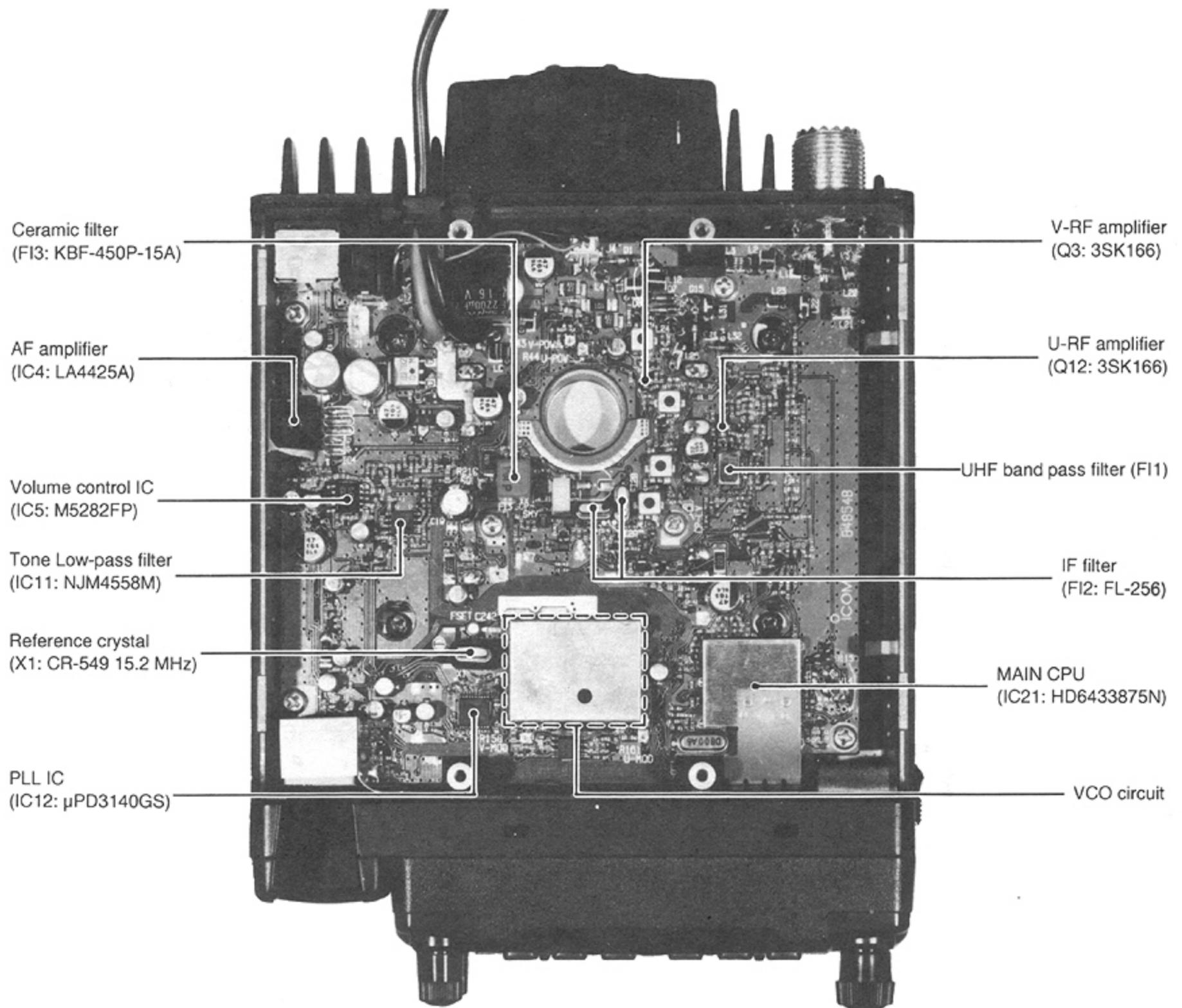
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## SECTION 1 SPECIFICATIONS

		144 MHz band	430 (440) MHz band	
<b>GENERAL</b>	Frequency coverage	U.S.A	Tx: 140 MHz–150 MHz* <sup>1</sup> Rx: 118 MHz–174 MHz* <sup>1</sup>	440 MHz–450 MHz
		Europe	144 MHz–146 MHz	430 MHz–440 MHz
		S.E. Asia	Tx: 140 MHz–150 MHz* <sup>1</sup> Rx: 136 MHz–174 MHz* <sup>1</sup>	430 MHz–440 MHz
		Italy	Tx: 144 MHz–148 MHz* <sup>1</sup> Rx: 136 MHz–174 MHz* <sup>1</sup>	Tx: 430 MHz–440 MHz Rx: 400 MHz–479 MHz* <sup>2</sup>
	Guaranteed frequency range: * <sup>1</sup> 144 MHz–148 MHz, * <sup>2</sup> 430 MHz–440 MHz			
Mode		FM (F3E), AM (USA Rx only, 118–136 MHz)		
Frequency stability		±10 ppm (–10 °C to +60 °C; +14 °F to +140 °F)		
Tuning steps		5, 10, 12.5, 15, 20, 25, 30, 50 kHz or 1 MHz		
External DC power		13.8 V DC ±15 %		
Current drain (at 13.8 V)	Tx	High power	12.0 A	11.0 A
		Mid-High power	7.0 A	6.5 A
		Mid-Low power	5.5 A	5.5 A
		Low power	4.5 A	4.5 A
	Rx	Maximum audio	1.0 A	
		Squelch closed	0.8 A	
Usable temperature range		–10 °C to +60 °C (+14 °F to +140 °F)		
Dimensions (Projections not included)		140 (W) × 40 (H) × 185.4 (D) mm 5 1/2 (W) × 1 5/8 (H) × 7 5/16 (D) in		
Antenna connector		SO-239 (50 Ω)		
Weight		1.17 kg; 2.58 lbs		
<b>TRANSMITTER</b>	RF output power (at 13.8 V DC)	High : 50 W Mid-High : 20 W Mid-Low : 10 W Low : 5 W	High : 35 W Mid-High : 20 W Mid-Low : 10 W Low : 5 W	
	Modulation system	Variable reactance frequency modulation		
	Max. frequency deviation	±5.0 kHz		
	Spurious emissions	Less than –60 dB		
Microphone connector		8-pin modular plug (600 Ω)		
<b>RECEIVER</b>	Receive system	Double-conversion superheterodyne		
	Intermediate frequencies	1st : 46.05 MHz 2nd : 450 kHz		
	Sensitivity	Less than 0.18 μV at 12 dB SINAD (typ.)		
	Squelch sensitivity	Less than 0.13 μV		
	Selectivity	More than 12 kHz/ –6 dB Less than 30 kHz/ –60 dB		
	Spurious and image rejection ratio	More than 60 dB		
	Audio output power (at 13.8 V)	More than 2.0 W at 10 % distortion with an 8 Ω load		
External speaker connector		2-conductor 3.5 mm (1/8") (8 Ω)		

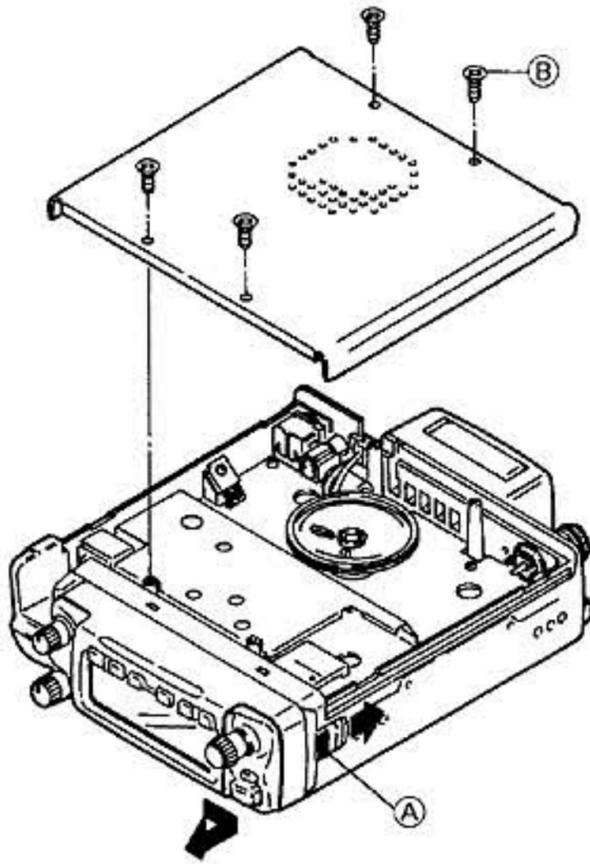
All stated specifications are subject to change without notice or obligation.

## SECTION 2    INSIDE VIEW

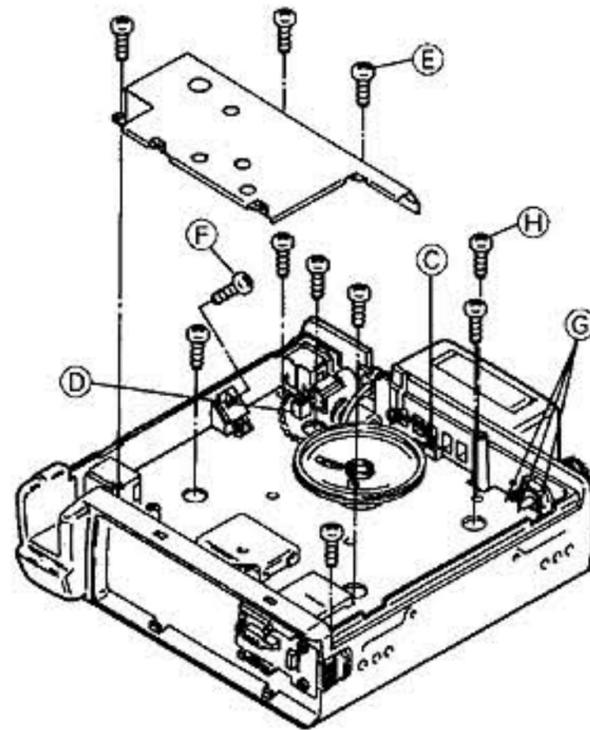


## SECTION 3 DISASSEMBLY INSTRUCTIONS

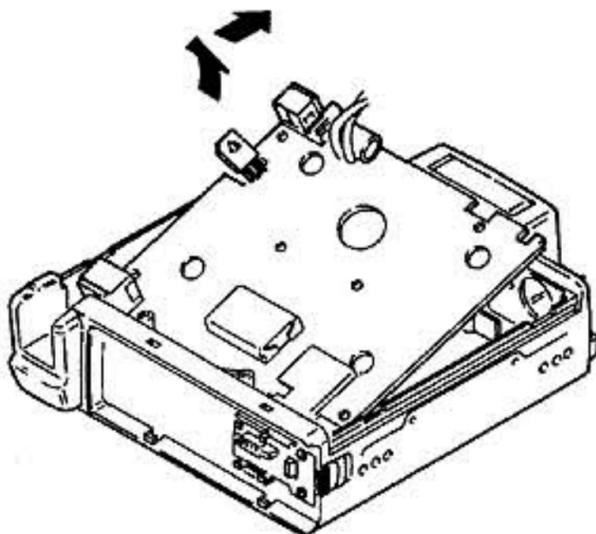
- ① Push the release button (A), then detach the control panel.
- ② Unscrew 4 screws (B) from bottom cover.  
 ⚠WARNING! NEVER attempt to open the cover using your finger nails, this may result in injury.



- ③ Disconnect the connector (C) from J4.
- ④ Disconnect the connector (D) from J1 and remove the speaker.
- ⑤ Unscrew 3 screws (E) and remove the shield case.
- ⑥ Unscrew 1 screw (F) from IC4.
- ⑦ Unsolder 3 points (G) from the antenna connector.
- ⑧ Unscrew 7 screws (H).



- ⑨ Remove the MAIN unit from the chassis.



## SECTION 4 CIRCUIT DESCRIPTION

### 4-1 RECEIVER CIRCUITS

#### 4-1-1 DUPLEXER CIRCUIT

The transceiver has a duplexer (low-pass and high-pass filters) on the first stage from the antenna connector to separate the signals into VHF and UHF signals. The low-pass filter (L1–L3, C1–C3) is for VHF signals and the high-pass filter (L20, L21, C75–C77) is for UHF signals. The separated signals are applied to each RF circuit.

#### 4-1-2 VHF ANTENNA SWITCHING CIRCUIT

The antenna switching circuit functions as a low-pass filter while receiving. However, its impedance becomes very high while transmitting by turning ON diodes (D7, D8). Thus transmit signals are blocked from entering the receiver circuits. The antenna switching circuit employs a  $1/4 \lambda$  type diode switching system. The passed signals are then applied to the RF amplifier circuit.

#### 4-1-3 VHF SQUELCH ATTENUATOR CIRCUIT

The current flow of the antenna switching circuit (D7, D8) is controlled by the [SQL] control via Q111. When the [SQL] control is rotated clockwise deeper than 12 o'clock, the current of D7 and D8 is increased. In this case, D7 and D8 act as an attenuator (max. 10 dB).

#### 4-1-4 VHF RF CIRCUIT

The RF circuit amplifies signals within the range of frequency coverage and filters out-of-band signals.

The signal from the antenna switching circuit passes through a tunable bandpass filter (D10, L14, L15) where the object signals are led to the RF amplifier circuit (Q3).

The amplified signals at Q3 are then applied to the 3-stage tunable bandpass filter (D11–D13, D127, L16–L18) to suppress unwanted signals. The filtered signals are then applied to the 1st mixer circuit (Q4).

D10–D13 employ varactor diodes, that are controlled by the PLL lock voltage, to track the band pass filters. The PLL lock voltage is amplified at the DC-amplifier circuit (IC29, D129) and then applied to these diodes.

#### 4-1-5 VHF 1ST MIXER CIRCUIT

The 1st mixer circuit converts the received signals to a fixed frequency of the 1st IF signal with a 1st LO (V-VCO output) frequency. By changing the PLL frequency, only the desired frequency will be passed through a pair of crystal filters at the next stage of the mixer.

The signals from the RF circuit are mixed with the 1st LO signal at the 1st mixer circuit (Q4) to produce a 46.05 MHz 1st IF signal.

#### 4-1-6 1ST IF CIRCUIT

The 1st IF signal from either the VHF or UHF 1st mixer circuit is applied to a pair of crystal filters (FI2) to suppress out-of-band signals via a matching circuit (L38, C129). The filtered signal is amplified at the IF amplifier (Q54) and is then applied to the 2nd mixer circuit (IC10).

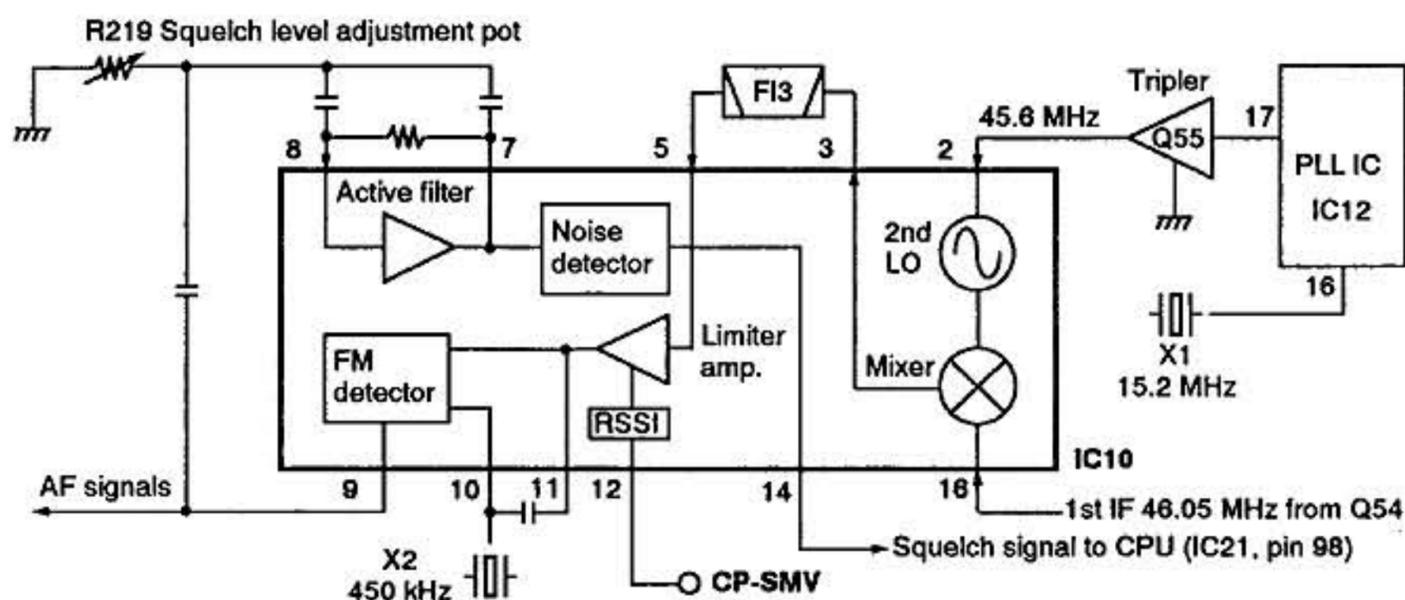
#### 4-1-7 2ND IF AND DEMODULATOR CIRCUITS

The 2nd mixer circuit converts the 1st IF signal to a 2nd IF signal. A double superheterodyne system (which converts receive signals twice) improves the image rejection ratio and obtains stable receiver gain.

The FM IF IC (IC10) contains the 2nd local oscillator, 2nd mixer, limiter amplifier, quadrature detector, and s-meter detector circuits, etc.

The 1st IF signal from Q54 is applied to the 2nd mixer section of IC10 (pin 16), and is mixed with the 45.6 MHz 2nd LO signal generated by the tripler circuit (Q55) to produce the 450 kHz 2nd IF signal.

### 2ND MIXER AND DEMODULATOR CIRCUITS



The 2nd IF signal from IC10 (pin 3) is passed through the ceramic filter (F13), where unwanted signals are suppressed, and is then applied to the 2nd IF and limiter amplifiers in IC10 (pin 5). The signal is applied to the FM detector section in IC10 for demodulation into AF signals.

The FM detector circuit employs a quadrature detection method (linear phase detection), which uses a ceramic discriminator (X2) for phase delay to obtain a non-adjusting circuit. The detected signal from IC10 (pin 9) is applied to the AF circuit and DIN connector (J3, pin 4) for data operation through the DATAOUT line.

#### 4-1-8 AF AMPLIFIER CIRCUIT

The AF amplifier circuit amplifies the detected signals to drive a speaker. The AF circuit includes an AF mute circuit for the squelch.

AF signals from IC10 (pin 9) pass through the squelch mute switch (Q58), and are then applied to the active filter (Q57, Q56) which functions as a high-pass filter to subaudible tone signals for tone squelch operation.

The filtered signals pass through the volume control IC (IC5) and are then applied to the AF power amplifier (IC4, pin 1) via the AF mute switch (Q22). The amplified signals from IC4 (pin 4) drive the internal speaker (SP1) when no plug is connected to the [EXT EP] jack (J2).

#### 4-1-9 SQUELCH CIRCUIT

A noise squelch circuit cuts out AF signals when no RF signal is received. By detecting noise components in the AF signal, the squelch circuit switches the squelch mute and AF mute switches.

Some of the noise components in the AF signals from IC10 (pin 9) are passed through the active filter (IC10, pins 8, 7), and then applied to the noise detector section. The variable resistor (R219) adjusts the input level of the active filter, and the level is used for squelch threshold reference. The detected noise signals are applied to the CPU (IC1, pin 98) via the SQLS line.

The [SQL] (CONTROL unit; R39) controls the input level of the sub-CPU (CONTROL unit; IC1, pin 8) in DC voltage. The sub-CPU reads the angle of the [SQL] rotation, then sends the squelch data to the CPU incorporated in the RDATA line. The CPU then controls the squelch mute (Q58) and AF mute (Q22) switches via the DMUT and AMUT lines, respectively.

#### 4-1-10 UHF RF AND UHF 1ST MIXER CIRCUITS

The UHF RF signals are passed through part of a duplexer (high-pass filter; L20, L21, C75–C77). The signals are again passed through the low-pass filter (L22, L23, C78), antenna switching circuit (D15, D21–D23), and then amplified at the RF amplifier (Q12). A bandpass filter (F11) is used at the next stage of the RF amplifier. The RF switch (D24, D25) turns on the UHF RF circuit when a UHF signal is received.

The filtered signals from the bandpass filter (F11) are mixed with a 1st LO signal at the mixer circuit (Q13) to produce a 46.05 MHz 1st IF signal. The 1st LO signal is the PLL output frequency which comes from the U-VCO circuit (Q33, Q34).

## 4-2 TRANSMITTER CIRCUITS

### 4-2-1 MICROPHONE AMPLIFIER CIRCUIT

The microphone amplifier circuit amplifies audio signals from the microphone or the DIN connector to a level needed at the modulation circuit. The microphone amplifier circuit is commonly used for both the VHF and UHF bands.

The AF signals from the microphone are adjusted to match impedance at the MIC sensitivity switching circuit (IC28, D123). The adjusted AF signals (or 1200 bps packet signals from the DIN connector) pass through the MIC mute switch (Q75) and are then amplified at the microphone amplifier (Q72). The amplified signals are applied to the IDC amplifier (IC14b, pin 6) to control the maximum deviation. The output signals from the IDC amplifier (IC14b, pin 7) are passed through the splatter filter (IC14a, pin 3, 1) and then applied to each VCO circuit via the deviation adjustment pot.

The 9600 bps packet signals from the DIN connector (J3, pin 1) pass through the modulation switch (Q76, Q77) and are then applied to the buffer amplifier (IC13b). The amplified signals are then applied to the VCO circuit.

When 9600 bps packet signals are over-modulated, the 9600 bps limiter (IC13a) outputs a low level signal from pin 1 and the output signal is applied to the CPU (IC 21, pin 13) to stop transmission.

### 4-2-2 VHF MODULATION CIRCUIT

The modulation circuit modulates the VCO oscillating signal (RF signal) using the microphone audio signals.

Audio signals from IC14a pass through the frequency deviation control (R158), are then applied to the modulation circuit (D31) via the V-MOD mute switch (Q39) to change the reactance of D31, and modulate the oscillated signal at the V-VCO circuit (Q30, Q31). The VCO output is buffer-amplified at Q29 and Q27, and is then applied to the band switching circuit (D30).

### 4-2-3 VHF DRIVE AMPLIFIER CIRCUIT

The drive amplifier circuit amplifies the VCO oscillating signal to a level needed at the power amplifier.

The signals from the band switch (D30) pass through the low-pass filter (L49, C188, C189) and T/R switch (D6), and are then applied to the attenuator (R12–R14). The transmit signal from the attenuator is amplified at the pre-drive (Q2) and drive (Q1) amplifiers to obtain an approximate 26 dBm signal level. The amplified signal is then applied to the RF power amplifier (IC1).

#### 4-2-4 VHF POWER AMPLIFIER CIRCUIT

The power amplifier circuit amplifies the driver signal to an output power level.

IC1 is a power module which has amplification output capabilities of about 60 W. The RF signal from the drive amplifier (Q1) is applied to IC1 (pin 1). The amplified signal from the power amplifier (IC1, pin 4) is passed through the antenna switching circuit (D1) and is then applied to the antenna connector via a low-pass filter (L1-L3, C1-C3).

#### 4-2-5 APC CIRCUIT

The APC circuit protects the power module (IC1: VHF, IC3: UHF) and drive amplifier (Q1: VHF, Q9: UHF) from a mismatched output load and stabilizes transmit output power.

The APC detector circuit (D2 and D3: VHF, D16 and D17: UHF) detects forward signals and rectified signals respectively. The combined voltage is at a minimum level when the antenna is matched at 50  $\Omega$  and increases when it is mismatched. The combined voltage is applied to the APC amplifier (IC2, pin 3) and compared with a reference voltage which is supplied from the CPU (IC21, pins 68-75) as the POWC signal.

The output voltage from the APC amplifier (IC2, pin 4) is applied to the APC control circuit (Q6-Q8) to control the bias voltage of the PA module (IC1: VHF, IC3: UHF) and drive amplifier (Q1: VHF, Q9: UHF).

#### 4-2-6 UHF MODULATION CIRCUIT

The modulation circuit modulates the VCO oscillating signal (RF signal) using the microphone audio signals.

Audio signals from IC14a pass through the frequency deviation control (R161), are then applied to the modulation circuit (D126) via the U-MOD mute switch (Q40) to change the reactance of D126, and modulate the oscillated signal at the U-VCO circuit (Q34, Q35). The VCO output is buffer-amplified at Q33 and Q27, and is then applied to the V/UHF switching circuit (D30).

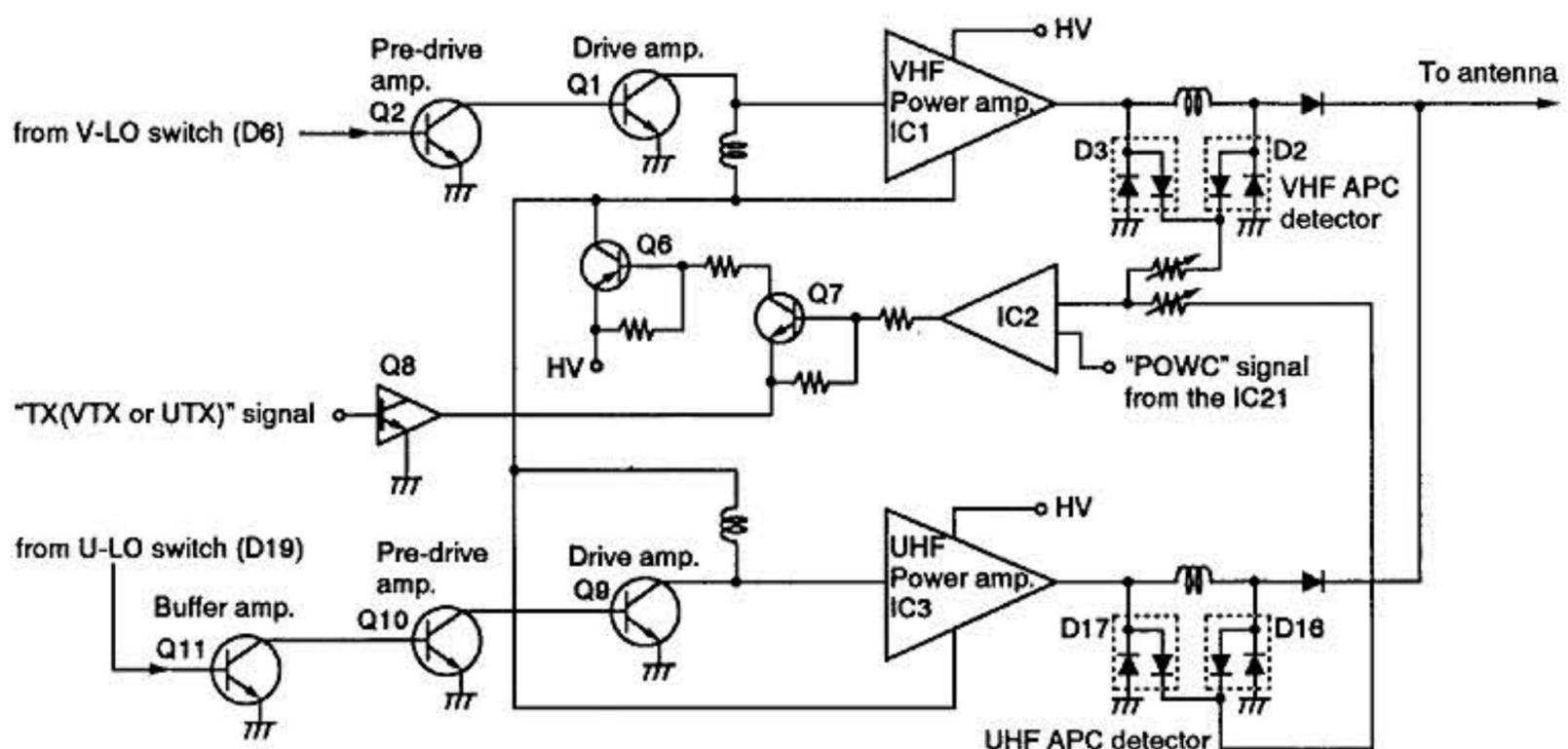
#### 4-2-7 UHF DRIVE AND POWER AMPLIFIER CIRCUITS

The switched signal from the band switch (D30) is amplified at the buffer, pre-drive and the drive amplifiers (Q11, Q10, Q9) after being passed through the low-pass filter (L61, C111, C112) and T/R switch (D19). Then the amplified signal is applied to the UHF power amplifier circuit.

The drivers (Q9, Q10) obtain an approximate 26 dBm signal level.

The amplified signal from the drive amplifier (Q9) is applied to pin 5 of the power amplifier which has amplification output capabilities of about 40 W. The power amplified signal is output from pin 1 and then applied to the antenna connector via the antenna switching circuit (D15) and bandpass filter (L20-L23, C75-C78).

#### APC CIRCUIT



### 4-3 PLL CIRCUITS

#### 4-3-1 GENERAL

A PLL circuit provides stable oscillation of the transmit frequency and the receive local frequency. The PLL circuit compares the phase of the divided VCO frequency to the reference frequency. The PLL output frequency is controlled by a crystal oscillator and the divided ratio of the programmable divider. IC12 is a dual PLL IC which controls VCO circuits for both VHF and UHF.

#### 4-3-2 VHF LOOP

The generated signal at the V-VCO (Q30, Q31, D31) enters the PLL IC (IC12, pin 2) via buffer-amplifiers (Q29, Q28), is divided at the programmable divider section and is then applied to the phase detector section.

The phase detector compares the input signal with a reference frequency, and then outputs the out-of-phase signal (pulse-type signals) from pin 8.

The pulse-type signal is converted into DC voltage (lock voltage) at the loop filter (R172, R178, C252), and then applied to the V-VCO to stabilize the oscillated frequency.

The lock voltage is also applied to the RX tunable bandpass filter as the tuning signal via the DC amplifier circuit (IC29, D129).

#### 4-3-3 UHF LOOP

The generated signal at the U-VCO (Q34, Q35, D33) enters the PLL IC (IC12, pin 2) via buffer-amplifiers (Q33, Q28), is divided at the programmable divider section and is then applied to the phase detector section.

The phase detector compares the input signal with a reference frequency, and then outputs the out-of-phase signal (pulse-type signals) from pin 8.

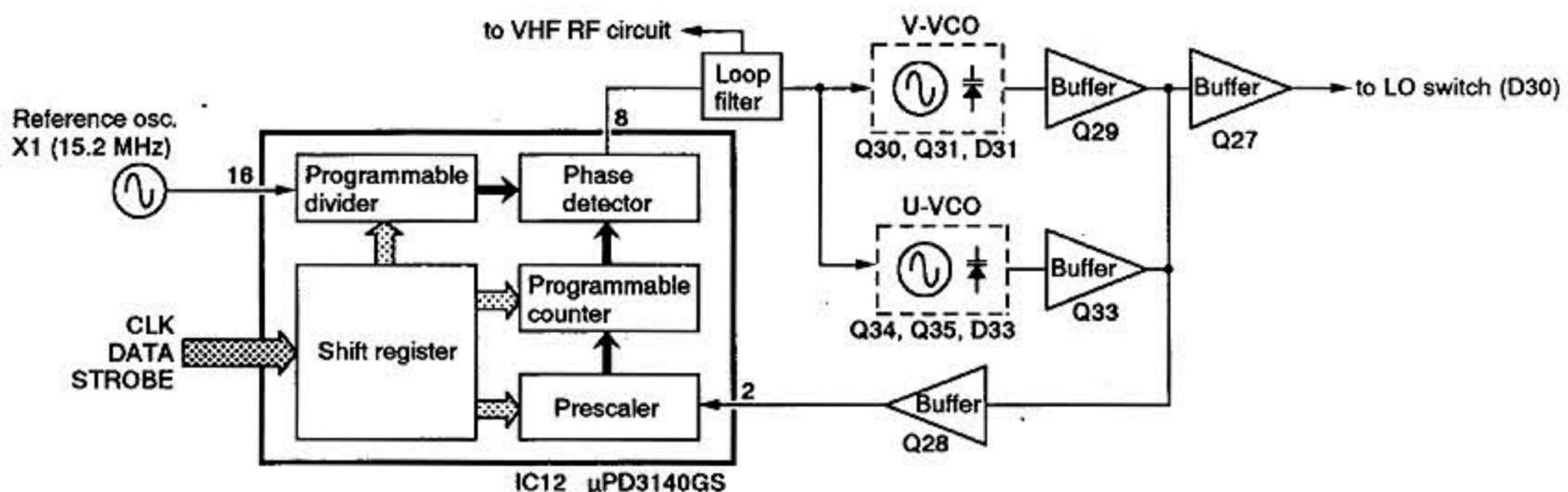
The pulse-type signal is converted into DC voltage (lock voltage) at the loop filter (R172, R178, C252), and then applied to the U-VCO to stabilize the oscillated frequency.

### 4-4 POWER SUPPLY CIRCUITS

#### 4-4-1 VOLTAGE LINE

Line	Description
HV	The 13.8 V external DC power from the power connector.
13.8 V	The same voltage as the HV line which is controlled by the power switching circuit (Q25, Q26). When the [PWR] switch is pushed, the CPU outputs the control signal to the power switching circuit to turn the circuit ON.
8 V	Common 8 V converted from the 13.8 V line at the 8 V regulator circuit (IC8).
6 V	Common 6 V converted from the 13.8 V line at the 6 V regulator circuit (IC7, D29).
CPU5V	Common 5 V for the CPU produced at the CPU5V regulator circuit (IC6). The circuit outputs the voltage regardless of the power ON/OFF condition.
PLL5V	Common 5 V for PLL circuits produced from the CPU5V at the PLL 5V regulator circuit (Q45, Q46) using a control signal from the 8 V line.
VT8V	8 V for VHF transmitter circuits converted from the 8 V line at the VT8V regulator circuit (Q37, Q38).
UT8V	8 V for UHF transmitter circuits converted from the 8 V line at the UT8V regulator circuit (Q52, Q53).
RX8V	8 V for common receiver circuits produced from the 4R8V and 1R8V line at the RX8V switching circuit (D41).

#### PLL CIRCUIT



## 4-5 PORT ALLOCATIONS

### 4-5-1 CPU (MAIN unit IC21)

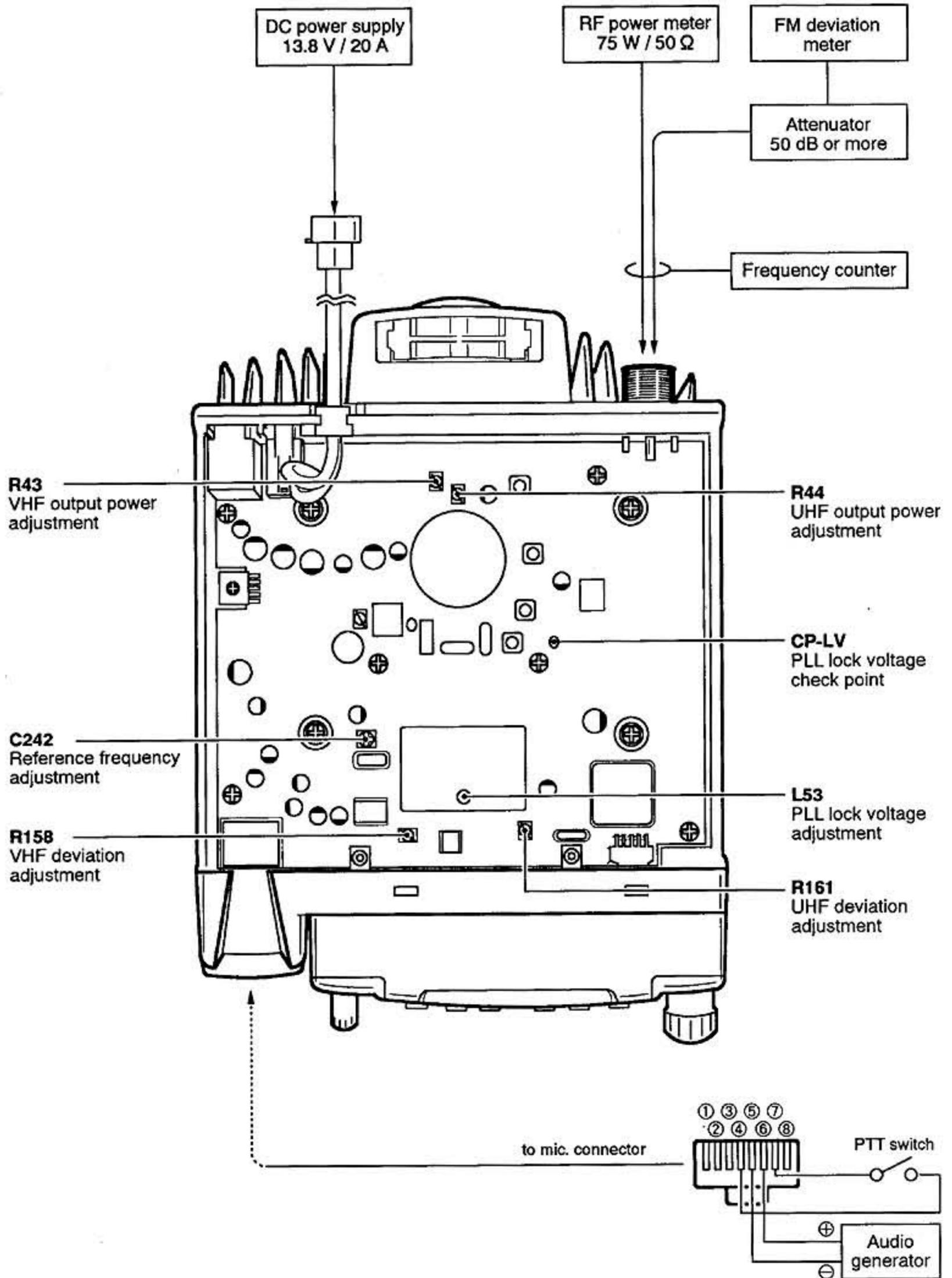
Pin number	Port name	Description
1	TONEIN	Input port for CTCSS decoded signals.
9	RES	Input port for the reset circuit signals.
12	FANC	Outputs cooling fan control signal. High: Fan activates
13	LIMIT	Input port to detect over modulation for packet transmission. Low: Over modulation
16	RDATA	Input port for serial signal from the sub-CPU (CONTROL unit, IC1).
17	TDATA	Output port for serial signal from the sub-CPU (CONTROL unit, IC1).
22	EXTMIC	Input port to detect optional wireless microphone (HM-90) connection. Low: HM-90 is connected
23	MICIN	Input port for microphone serial signal via the buffer-amp.
24	PTTP	Input port for packet PTT signal. High: Packet PTT switch is ON
25	E-TONE	Outputs 1750 Hz Europe tone signal.
26	PTTM	Input port for PTT switch.
33-35	ISTB2-ISTB0	Output port for initial matrix.
36-39	INI0-INI3	Input ports for initial matrix.
40	STBPL	Outputs strobe signals for PLL circuit.
41	SCK	Outputs clock to PLL.
42	SDATA	Outputs data signal to PLL.
43	UNLK	Input port for PLL unlock signal. High: PLL unlock
44	ESI	Input port for serial signal from EEPROM IC (IC25).
45	ESO	Output port for serial signal to EEPROM IC (IC25).
46	ECK	Outputs clock signal for the EEPROM IC (IC25).
48	AMUT	Outputs AF mute switch (Q22) control signal. High: During squelched
49	DMUT	Outputs squelch mute switch (Q58) control signal. High: During squelched

Pin number	Port name	Description
50	MMUT	Outputs MIC mute switch control signal. High: Microphone audio is muted
51	DTMUT	Outputs DTMF mute signal. High: DTMF signals are muted
52	UTX	Output UT8V regulator (Q52, Q53) control signal. High: While transmitting on UHF band
53	VTX	Output VT8V regulator (Q38, Q37) control signal. High: While transmitting on VHF band
54	1RX	Outputs 1RX-BIAS selector (Q64, Q68) control signal. High: During RX on VHF band.
56	4RX	Outputs 4RX-BIAS selector (Q65, Q68) control signal. High: During RX on UHF band.
59	PCTRL	Outputs power switching circuit control signal. High: While turning power ON
60	VCOS	Outputs shift signal for V-VCO circuit.
61	UVCOV	Outputs U-VCO 8 V switch (Q41, Q43) control signal.
62	VVCOV	Outputs V-VCO 8 V switch (Q42, Q43) control signal.
64-67	ATTC0-ATTC3	Output squelch attenuator control signal.
68-75	LPOC0-LPOC7	Output port for output power control signal.
77-84	VOLC0-VOLC7	Output volume level signals.
90	CTCSS	Outputs CTCSS tone signals.
91	DTMFE	Output port : DTMF signals while transmitting. : Beep audio signals while receiving.
98	SQLS	Input port for noise signals.
99	SMET	Input port for S-meter level signal.
100	MU/D	Input port for up/down signal from a microphone. 0 V: [UP] 0.45 V: [DN]

## SECTION 5 ADJUSTMENT PROCEDURES

### 5-1 PLL AND TRANSMITTER ADJUSTMENTS

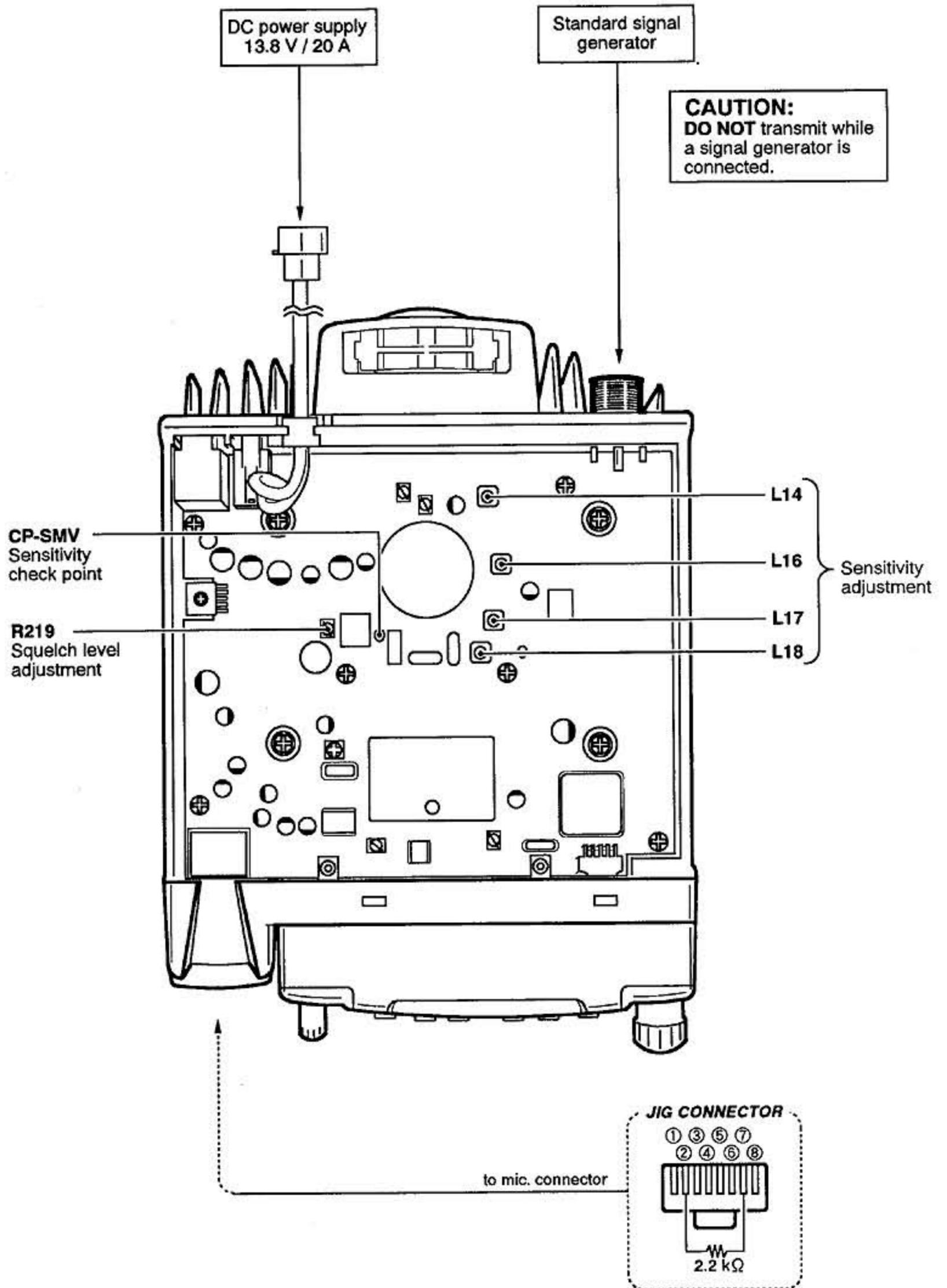
ADJUSTMENT	ADJUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT		
		UNIT	LOCATION		UNIT	ADJUST	
PLL LOCK VOLTAGE	1 <ul style="list-style-type: none"> <li>Operating frequency: 145.000 MHz</li> <li>Receiving</li> </ul>	MAIN	Connect a digital multi-meter or an oscilloscope to the CP-LV.	2.5V	MAIN	L53	
PLL REFERENCE FREQUENCY	1 <ul style="list-style-type: none"> <li>Operating frequency: 440.000 MHz</li> <li>Simplex</li> <li>Transmitting</li> </ul>	Rear panel	Loosely couple a frequency counter to the antenna connector.	440.0000 MHz	MAIN	C242	
VHF OUTPUT POWER	1 <ul style="list-style-type: none"> <li>Operating frequency: 146.000 MHz (USA, SEA versions) 145.000 MHz (All other versions)</li> <li>[High/Low] switch: High</li> <li>Simplex</li> <li>Transmitting</li> </ul>	Rear panel	Connect an RF power meter to the antenna connector.	50 W	MAIN	R43	
	2 <ul style="list-style-type: none"> <li>[High/Low] switch: Low</li> </ul>			5 W			Verify
	3 <ul style="list-style-type: none"> <li>[High/Low] switch: Mid-Low</li> </ul>			10 W			
	4 <ul style="list-style-type: none"> <li>[High/Low] switch: Mid-High</li> </ul>			20 W			
UHF OUTPUT POWER	1 <ul style="list-style-type: none"> <li>Operating frequency: 445.000 MHz (USA version only) 435.000 MHz (All other versions)</li> <li>[High/Low] switch: High</li> <li>Simplex</li> <li>Transmitting</li> </ul>	Rear panel	Connect an RF power meter to the antenna connector.	35 W	MAIN	R44	
	2 <ul style="list-style-type: none"> <li>[High/Low] switch: Low</li> </ul>			5 W			Verify
	3 <ul style="list-style-type: none"> <li>[High/Low] switch: Mid-Low</li> </ul>			10 W			
	4 <ul style="list-style-type: none"> <li>[High/Low] switch: Mid-High</li> </ul>			20 W			
FREQUENCY DEVIATION	1 <ul style="list-style-type: none"> <li>Operating frequency: 146.000 MHz (USA, SEA versions) 145.000 MHz (All other versions)</li> <li>Connect an audio generator to the microphone connector and set as; 20 mV/1.0 kHz</li> <li>Set an FM deviation meter as; <ul style="list-style-type: none"> <li>HPF : 50 Hz</li> <li>LPF : 20 kHz</li> <li>De-emphasis : OFF</li> <li>Detector : (P - P)/2</li> </ul> </li> <li>CTCSS tone: OFF</li> <li>Simplex</li> <li>Transmitting</li> </ul>	Rear panel	Connect an FM deviation meter to the antenna connector through an attenuator.	±4.8 kHz	MAIN	R158	
	2 <ul style="list-style-type: none"> <li>Operating frequency: 445.000 MHz (USA version only) 435.000 MHz (All other versions)</li> </ul>					R161	



## 5-2 RECEIVER ADJUSTMENT

ADJUSTMENT	ADJUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT	
		UNIT	LOCATION		UNIT	ADJUST
VHF SENSITIVITY	1 <ul style="list-style-type: none"> <li>• Operating frequency: 145.000 MHz</li> <li>• Connect an SSG to the antenna connector and set as; <ul style="list-style-type: none"> <li>Level : 1 mV* (-47 dBm)</li> <li>Mod. : 1.0 kHz (<math>\pm 3.5</math> kHz Dev.)</li> </ul> </li> <li>• Receiving</li> </ul>	MAIN	Connect a DC volt meter to the CP-SMV.	Maximum DC voltage	MAIN	Adjust in sequence L14, L16 L17, L18
SQUELCH LEVEL	1 <ul style="list-style-type: none"> <li>• Operating frequency: <ul style="list-style-type: none"> <li>146.000 MHz (USA, SEA versions)</li> <li>145.000 MHz (All other versions)</li> </ul> </li> <li>• Squelch level : 7 (Use HM-98)</li> <li>• R219 : Max. clockwise</li> <li>• Connect an SSG to the antenna connector and set as; <ul style="list-style-type: none"> <li>Level : 0.079<math>\mu</math>V* (-129 dBm)</li> <li>Mod. : 1.0 kHz (<math>\pm 3.5</math> kHz Dev.)</li> </ul> </li> <li>• Receiving</li> </ul>	Speaker		At the point where the AF signal just appears.	MAIN	R219
S-METER	1 <ul style="list-style-type: none"> <li>• Connect a JIG to the microphone connector then turn ON the power.</li> <li>• Operating frequency: <ul style="list-style-type: none"> <li>146.000 MHz (USA, SEA versions)</li> <li>145.000 MHz (All other versions)</li> </ul> </li> <li>• Connect an SSG to the antenna connector and set as; <ul style="list-style-type: none"> <li>Level : 1.0 <math>\mu</math>V* (-107 dBm)</li> <li>Mod. : 1.0 kHz (<math>\pm 3.5</math> kHz Dev.)</li> </ul> </li> <li>• Receiving</li> </ul>	Front panel		Push and hold the [S. MW] key, or push the [MW] key of the HM-98. <ul style="list-style-type: none"> <li>• Verify that S-meter shows S3 (4 dots).</li> </ul>		
	2 <ul style="list-style-type: none"> <li>• Operating frequency: <ul style="list-style-type: none"> <li>445.000 MHz (USA version only)</li> <li>435.000 MHz (All other versions)</li> </ul> </li> <li>• Connect an SSG to the antenna connector and set as; <ul style="list-style-type: none"> <li>Level : 1.0 <math>\mu</math>V* (-107 dBm)</li> <li>Mod. : 1.0 kHz (<math>\pm 3.5</math> kHz Dev.)</li> </ul> </li> <li>• Receiving</li> </ul>					

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



## SECTION 6 PARTS LIST

## [CONTROL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
IC1	1140006530	S.IC	M38222M2-122HP
IC2	1110003500	S.IC	S-80742SL-A6-T1
IC3	1130005720	S.IC	TC7W04F (TE12L)
IC4	1180000420	S.IC	TA78L05F (TE12R)
Q1	1530002060	S.TRANSISTOR	2SC4081 T107 R
Q2	1520000270	S.TRANSISTOR	2SB1182 TL Q
Q3	1530002060	S.TRANSISTOR	2SC4081 T107 R
Q4	1510000620	S.TRANSISTOR	2SA1576 T107 S
Q5	1530002060	S.TRANSISTOR	2SC4081 T107 R
D1	1750000550	S.DIODE	1SS355 TE-17
D2	1750000550	S.DIODE	1SS355 TE-17
X1	6060000810	S.CERAMIC	EFOS4914E3
R1	7030000060	S.RESISTOR	MCR10EZHZ 2.2 $\Omega$ (2R2)
R2	7030000060	S.RESISTOR	MCR10EZHZ 2.2 $\Omega$ (2R2)
R3	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 k $\Omega$ )
R4	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 k $\Omega$ )
R5	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 k $\Omega$ )
R6	7030000360	S.RESISTOR	MCR10EZHZ 680 $\Omega$ (681)
R7	7030000320	S.RESISTOR	MCR10EZHZ 330 $\Omega$ (331)
R8	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 k $\Omega$ )
R9	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 k $\Omega$ )
R10	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 k $\Omega$ )
R11	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 k $\Omega$ )
R12	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 k $\Omega$ )
R13	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 k $\Omega$ )
R14	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 k $\Omega$ )
R15	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 k $\Omega$ )
R16	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 k $\Omega$ )
R17	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 k $\Omega$ )
R18	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 k $\Omega$ )
R19	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 k $\Omega$ )
R20	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 k $\Omega$ )
R21	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 k $\Omega$ )
R22	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 k $\Omega$ )
R23	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 k $\Omega$ )
R24	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 k $\Omega$ )
R25	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 k $\Omega$ )
R26	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 k $\Omega$ )
R27	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 k $\Omega$ )
R28	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 k $\Omega$ )
R29	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 k $\Omega$ )
R30	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 k $\Omega$ )
R31	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 k $\Omega$ )
R32	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 k $\Omega$ )
R33	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 k $\Omega$ )
R34	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 k $\Omega$ )
R35	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 k $\Omega$ )
R36	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 k $\Omega$ )
R37	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 k $\Omega$ )
R38	7210002920	VARIABLE	EVU-F2AF20B55 (560K)
R40	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 k $\Omega$ )
R41	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 k $\Omega$ )
R43	7210002920	VARIABLE	EVU-F2AF20B55 (560K)
R44	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 k $\Omega$ )
C1	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C2	4510004630	S.ELECTROLYTIC	ECEV1CA100SR
C3	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C4	4030009000	S.CERAMIC	C2012 JB 1C 224K-T-A
C5	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C6	4510004630	S.ELECTROLYTIC	ECEV1CA100SR

## [CONTROL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C7	4510004630	S.ELECTROLYTIC	ECEV1CA100SR
C8	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C9	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C10	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C11	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C12	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C13	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C14	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C15	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C16	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C17	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C18	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C19	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C20	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C21	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C22	4030006860	S.CERAMIC	C1608 JB 1H 472K-T-A
C23	4030006860	S.CERAMIC	C1608 JB 1H 472K-T-A
DS1	5080000330	LAMP	HRS-7219A-RE
DS2	5080000330	LAMP	HRS-7219A-RE
DS3	5030001470	LCD	LD-HU4649E
S1	2250000370	ENCODER	EVQ-VENF0124B
S2	2260001890	S.SWITCH	SKQDPA
S3	2260001890	S.SWITCH	SKQDPA
S4	2260001890	S.SWITCH	SKQDPA
S5	2260001890	S.SWITCH	SKQDPA
S6	2260001890	S.SWITCH	SKQDPA
S7	2260001890	S.SWITCH	SKQDPA
S8	2260001890	S.SWITCH	SKQDPA
S9	2260001890	S.SWITCH	SKQDPA
S10	2260001890	S.SWITCH	SKQDPA
J1	6510019310	CONNECTOR	1729 FRONT CONNECTOR
W2	7030003880	S.JUMPER	ERJ3GE JPW V
EP1	0910047622	PCB	B 4853B
EP2	8930041630	LCD CONTACT	SRCN-1893-SP-N-W

S.=Surface mount

## [MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION
IC1	1150000780	IC SC-1091
IC2	1110002750	S.IC TA75S01F (TE85R)
IC3	1150001620	IC SC-1318
IC4	1110003090	IC LA4425A
IC5	1110003300	S.IC M5282FP 70CD
IC6	1180001070	S.IC TA7805F(TE18L)
IC7	1180000420	S.IC TA78L05F (TE12R)
IC8	1180001250	S.IC TA7808F(TE18L)
IC9	1110001971	S.IC $\mu$ PC1678G-T1
IC10	1110003490	S.IC TA31136FN(D)
IC11	1110000960	S.IC NJM4558M(T1)
IC12	1130007610	S.IC $\mu$ PD3140GS-E1 (DS8)
IC13	1110000980	S.IC NJM4558M(T1)
IC14	1110000980	S.IC NJM4558M(T1)
IC21	1140006430	S.IC HD8433875NA39H
IC22	1130006550	S.IC TC7S08FU (TE85R)
IC23	1110002750	S.IC TA75S01F (TE85R)
IC24	1130007110	S.IC TC7W04FU(TE12L)
IC26	1180000340	S.IC X25180S(5V)
IC27	1110003500	S.IC S-80742SL-A8-T1
IC28	1130007020	S.IC TC7S08FU(TE85R)
IC29	1130008560	S.IC TC75S51F (TE85L)
Q1	1530002340	S.TRANSISTOR 2SC2954-T2B
Q2	1530002680	S.TRANSISTOR 2SC3357-T2
Q3	1580000490	S.FET 3SK186-2-T7
Q4	1580000480	S.FET 3SK184-S (TX)
Q5	1590000430	S.TRANSISTOR DTC144EU T107
Q6	1510000980	S.TRANSISTOR 2SA1870 TLE
Q7	1530002280	S.TRANSISTOR 2SC4081 T107 S
Q8	1590001320	S.TRANSISTOR DTC143ZU T107
Q9	1530002340	S.TRANSISTOR 2SC2954-T2B
Q10	1530002680	S.TRANSISTOR 2SC3357-T2
Q11	1530002920	S.TRANSISTOR 2SC4228-T2 R25
Q12	1580000490	S.FET 3SK186-2-T7
Q13	1580000480	S.FET 3SK184-S (TX)
Q14	1590000430	S.TRANSISTOR DTC144EU T107
Q15	1530002920	S.TRANSISTOR 2SC4228-T2 R25
Q16	1530002920	S.TRANSISTOR 2SC4228-T2 R25
Q17	1530002060	S.TRANSISTOR 2SC4081 T107 R
Q18	1530002920	S.TRANSISTOR 2SC4228-T2 R25
Q19	1580000480	S.FET 3SK184-S (TX)
Q20	1590000430	S.TRANSISTOR DTC144EU T107
Q21	1530002920	S.TRANSISTOR 2SC4228-T2 R25
Q22	1530003090	S.TRANSISTOR 2SC4213-B (TE85R)
Q23	1520000200	S.TRANSISTOR 2SB798-T2 DK
Q24	1530002060	S.TRANSISTOR 2SC4081 T107 R
Q25	1520000270	S.TRANSISTOR 2SB1182 TL Q
Q26	1590002110	S.TRANSISTOR DTC143XU T107
Q27	1530002920	S.TRANSISTOR 2SC4228-T2 R25
Q28	1530002900	S.TRANSISTOR 2SC4228-T2 R45
Q29	1530002920	S.TRANSISTOR 2SC4228-T2 R25
Q30	1530002920	S.TRANSISTOR 2SC4228-T2 R25
Q31	1530002920	S.TRANSISTOR 2SC4228-T2 R25
Q32	1590000430	S.TRANSISTOR DTC144EU T107
Q33	1530002920	S.TRANSISTOR 2SC4228-T2 R25
Q34	1530002920	S.TRANSISTOR 2SC4228-T2 R25
Q35	1530002920	S.TRANSISTOR 2SC4228-T2 R25
Q37	1510000580	S.TRANSISTOR 2SA1382-GR (TE85R)
Q38	1530002080	S.TRANSISTOR 2SC4081 T107 R
Q39	1530003090	S.TRANSISTOR 2SC4213-B (TE85R)
Q40	1530003090	S.TRANSISTOR 2SC4213-B (TE85R)
Q41	1590001040	S.TRANSISTOR DTA113ZU T107
Q42	1590001040	S.TRANSISTOR DTA113ZU T107
Q43	1590002270	S.TRANSISTOR UMG9N TL
Q44	1530002060	S.TRANSISTOR 2SC4081 T107 R
Q45	1590000980	S.TRANSISTOR DTB123EK T147
Q46	1590000430	S.TRANSISTOR DTC144EU T107
Q48	1530002850	S.TRANSISTOR 2SC4116-BL (TE85R)
Q52	1510000580	S.TRANSISTOR 2SA1382-GR (TE85R)
Q53	1530002060	S.TRANSISTOR 2SC4081 T107 R
Q54	1530002900	S.TRANSISTOR 2SC4228-T2 R45
Q55	1530002380	S.TRANSISTOR 2SC4215-Y (TE85R)
Q56	1530002060	S.TRANSISTOR 2SC4081 T107 R
Q57	1530002060	S.TRANSISTOR 2SC4081 T107 R

## [MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION
Q58	1590001450	S.FET 2SJ144-GR (TE85R)
Q59	1530002060	S.TRANSISTOR 2SC4081 T107 R
Q60	1580000530	S.FET 2SK880-GR (TE85R)
Q61	1580000530	S.FET 2SK880-GR (TE85R)
Q62	1590001450	S.FET 2SJ144-GR (TE85R)
Q63	1590002410	S.TRANSISTOR UMH2N TN
Q64	1590000980	S.TRANSISTOR DTB123EK T147
Q65	1590000980	S.TRANSISTOR DTB123EK T147
Q66	1590000980	S.TRANSISTOR DTB123EK T147
Q67	1590000980	S.TRANSISTOR DTB123EK T147
Q68	1590002270	S.TRANSISTOR UMG9N TL
Q69	1590002270	S.TRANSISTOR UMG9N TL
Q70	1530002060	S.TRANSISTOR 2SC4081 T107 R
Q71	1530002060	S.TRANSISTOR 2SC4081 T107 R
Q72	1530002060	S.TRANSISTOR 2SC4081 T107 R
Q73	1590001450	S.FET 2SJ144-GR (TE85R)
Q75	1590001450	S.FET 2SJ144-GR (TE85R)
Q76	1590001450	S.FET 2SJ144-GR (TE85R)
Q77	1590000430	S.TRANSISTOR DTC144EU T107
Q79	1590000430	S.TRANSISTOR DTC144EU T107
Q101	1540000250	S.TRANSISTOR 2SD999-T2 CK
Q102	1590002420	S.TRANSISTOR UMD3N TL
Q103	1530002060	S.TRANSISTOR 2SC4081 T107 R
Q104	1530002060	S.TRANSISTOR 2SC4081 T107 R
Q105	1510000780	S.TRANSISTOR 2SA1586-Y (TE85R)
Q108	1530002060	S.TRANSISTOR 2SC4081 T107 R
Q109	1530002060	S.TRANSISTOR 2SC4081 T107 R
Q111	1530002060	S.TRANSISTOR 2SC4081 T107 R
D1	1710000310	DIODE MI407
D2	1790000980	S.DIODE MA742(TX)
D3	1790000980	S.DIODE MA742(TX)
D4	1750000370	S.DIODE DA221 TL
D5	1750000550	S.DIODE 1SS355 TE-17
D6	1790000450	S.DIODE MA862(TX)
D7	1710000290	DIODE MI308
D8	1710000290	DIODE MI308
D9	1750000550	S.DIODE 1SS355 TE-17
D10	1720000370	S.VARICAP HVU350TRF
D11	1720000370	S.VARICAP HVU350TRF
D12	1720000370	S.VARICAP HVU350TRF
D13	1720000370	S.VARICAP HVU350TRF
D14	1750000550	S.DIODE 1SS355 TE-17
D15	1710000310	DIODE MI407
D16	1790000980	S.DIODE MA742(TX)
D17	1790000980	S.DIODE MA742(TX)
D18	1750000370	S.DIODE DA221 TL
D19	1790000820	S.DIODE MA77(TW)
D20	1790000450	S.DIODE MA862(TX)
D21	1710000730	S.DIODE MI809-T11
D22	1710000290	DIODE MI308
D23	1750000550	S.DIODE 1SS355 TE-17
D24	1790000450	S.DIODE MA862(TX)
D25	1790000450	S.DIODE MA862(TX)
D26	1790001010	S.ZENER MA8043-L(TX)
D27	1730000520	ZENER RD20E B2
D28	1790000700	DIODE DSA3A1
D29	1750000550	S.DIODE 1SS355 TE-17
D30	1790000450	S.DIODE MA862(TX)
D31	1720000370	S.VARICAP HVU350TRF
D32	1790000820	S.DIODE MA77(TW)
D33	1720000640	S.VARICAP 1SV284 (TPH3)
D35	1750000550	S.DIODE 1SS355 TE-17
D36	1160000080	S.DIODE DAN202U T107
D37	1790000880	S.DIODE MA133(TX)
D38	1730002340	S.ZENER MA8047-M(TX)
D39	1790000980	S.DIODE MA742(TX)
D40	1790001520	S.ZENER MA8075-L(TX)
D41	1160000080	S.DIODE DAN202U T107
D42	1160000080	S.DIODE DAN202U T107
D43	1790000980	S.DIODE MA742(TX)
D44	1790000660	S.DIODE MA728(TW)
D45	1160000080	S.DIODE DAN202U T107
D101	1730002280	S.ZENER MA8091-M(TX)
D102	1730002280	S.ZENER MA8091-M(TX)

S.=Surface mount

## [MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
D103	1750000550	S.DIODE	1SS355 TE-17
D104	1750000550	S.DIODE	1SS355 TE-17
D105	1750000550	S.DIODE	1SS355 TE-17
D106	1750000550	S.DIODE	1SS355 TE-17
D108	1750000180	S.DIODE	DA114 T107 [EUR], [ITA]
D109	1160000080	S.DIODE	DAN202U T107 [SEA]
	1750000180	S.DIODE	DA114 T107 except [SEA]
D110	1750000550	S.DIODE	1SS355 TE-17 except [EUR]
D111	1750000550	S.DIODE	1SS355 TE-17 [ITA], [SEA]
D112	1750000550	S.DIODE	1SS355 TE-17 [USA], [SEA]
D115	1710000600	DIODE	1SS254 [EUR]
D117	1750000550	S.DIODE	1SS355 TE-17 except [ITA]
D118	1750000550	S.DIODE	1SS355 TE-17 except [ITA]
D119	1750000550	S.DIODE	1SS355 TE-17 except [USA]
D120	1750000550	S.DIODE	1SS355 TE-17
D121	1750000550	S.DIODE	1SS355 TE-17
D123	1750000550	S.DIODE	1SS355 TE-17
D126	1720000640	S.VARICAP	1SV284 (TPH3)
D127	1750000550	S.DIODE	1SS355 TE-17
D128	1750000550	S.DIODE	1SS355 TE-17
D129	1790000980	S.DIODE	MA742(TX)
FI1	2040001020	S.SAW	EFCH445MWNP1 [USA]
	2040001000	S.SAW	EFCH435MWNP1 except [USA]
FI2	2010002040	MONOLITHIC CERAMIC	FL-258 (46.05 MHz)
FI3	2020001150		KBF-450P-15A
X1	6050009820	XTAL	CR-549 (15.2 MHz)
X2	6070000200	DISCRIMINATOR	CDB450C24
X11	6050009800	S.XTAL	SMD-49 (8.000 MHz)
L1	6110002150	COIL	LA-385
L2	6110001550	COIL	LA-235
L3	6110001810	COIL	LA-244
L4	6170000230	COIL	LW-25
L5	6110001550	COIL	LA-235
L6	6110001550	COIL	LA-235
L7	6200005740	S.COIL	ELJRE 47NG-F
L8	6200003410	S.COIL	LL2012-F68NK
L9	6200005710	S.COIL	ELJRE 27NG-F
L10	6200003410	S.COIL	LL2012-F68NK
L11	6200005690	S.COIL	ELJRE 18NG-F
L12	6110001570	COIL	LA-237
L13	6110001560	COIL	LA-236
L14	6150004360	S.COIL	LS-491
L15	6200004800	S.COIL	MLF1608D R15K-T
L16	6150004360	S.COIL	LS-491
L17	6150004360	S.COIL	LS-491
L18	6150004360	S.COIL	LS-491
L19	6200004800	S.COIL	MLF1608D R15K-T
L20	6110001520	COIL	LA-232
L21	6110001590	COIL	LA-242
L22	6110001520	COIL	LA-232
L23	6110002130	COIL	LA-383
L24	6170000230	COIL	LW-25
L25	6110001520	COIL	LA-232 [USA]
	6110001590	COIL	LA-242 except [USA]
L26	6200005680	S.COIL	ELJRE 15NG-F
L27	6200005700	S.COIL	ELJRE 22NG-F
L28	6200005700	S.COIL	ELJRE 22NG-F
L29	6200005660	S.COIL	ELJRE 10NG-F
L30	6200005720	S.COIL	ELJRE 33NG-F
L31	6110001520	COIL	LA-232
L32	6110001520	COIL	LA-232
L35	6200005740	S.COIL	ELJRE 47NG-F
L36	6200005710	S.COIL	ELJRE 27NG-F
L37	6200005690	S.COIL	ELJRE 18NG-F [SEA]
	6200006980	S.COIL	ELJRE R10G-F except [SEA]
L38	6200003960	S.COIL	MLF1608A 1R0K-T
L39	6200005740	S.COIL	ELJRE 47NG-F
L40	6200005850	S.COIL	ELJRE 8N2Z-F
L41	6200005850	S.COIL	ELJRE 8N2Z-F

## [MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
L42	6200005680	S.COIL	ELJRE 15NG-F
L43	6200005850	S.COIL	ELJRE 8N2Z-F
L44	6200005850	S.COIL	ELJRE 8N2Z-F
L45	6200005680	S.COIL	ELJRE 15NG-F
L46	6200005670	S.COIL	ELJRE 12NG-F
L47	6200005660	S.COIL	ELJRE 10NG-F
L48	6200005660	S.COIL	ELJRE 10NG-F
L49	6200005740	S.COIL	ELJRE 47NG-F
L50	6200003540	S.COIL	MLF1608D R22K-T
L51	6200005720	S.COIL	ELJRE 33NG-F
L52	6200003540	S.COIL	MLF1608D R22K-T
L53	6130002420	S.COIL	LB-270
L54	6200004480	S.COIL	MLF1608D R82K-T
L55	6200005710	S.COIL	ELJRE 27NG-F
L56	6200002320	S.COIL	LQN 1A 8N8J04
L57	6200004480	S.COIL	MLF1608D R82K-T
L58	6200002850	S.COIL	NL 252018T-R82J
L59	6200002850	S.COIL	NL 252018T-R82J
L60	6200002090	S.COIL	ELJFB 681K-F
L61	6200005690	S.COIL	ELJRE 18NG-F [SEA]
	6200005700	S.COIL	ELJRE 22NG-F except [SEA]
L101	6200005950	S.COIL	LQH 3N 2R2M04 (Q20)
L102	6200004920	S.COIL	MLF1608A 2R2K-T
L103	6200004920	S.COIL	MLF1608A 2R2K-T
L104	6200004920	S.COIL	MLF1608A 2R2K-T
L105	6200005950	S.COIL	LQH 3N 2R2M04 (Q20)
L106	6200004920	S.COIL	MLF1608A 2R2K-T
L107	6200001520	S.COIL	MLF2012D R82K-T
L108	6200004920	S.COIL	MLF1608A 2R2K-T
L110	6200005740	S.COIL	ELJRE 47NG-F
L111	6200002850	S.COIL	NL 252018T-R18J
L112	6200002850	S.COIL	NL 252018T-R82J
L113	6200000050	S.COIL	LQH 3N R39M 04
L114	6200005190	S.COIL	MLF1608D R56K-T
L115	6200005700	S.COIL	ELJRE 22NG-F
L121	6200005690	S.COIL	ELJRE 18NG-F except [SEA]
L122	6200005690	S.COIL	ELJRE 18NG-F except [SEA]
R1	7030001130	S.RESISTOR	MCR50JZHJ 100 Ω (101)
R2	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R3	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R4	7030001050	S.RESISTOR	MCR50JZHJ 22 Ω (220)
R5	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R6	7030003430	S.RESISTOR	ERJ3GEYJ 821 V (820 Ω)
R7	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R8	7030000180	S.RESISTOR	MCR10EZHZJ 22 Ω (220)
R9	7030000180	S.RESISTOR	MCR10EZHZJ 22 Ω (220)
R10	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R11	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R12	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)
R13	7030003270	S.RESISTOR	ERJ3GEYJ 390 V (39 Ω)
R14	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)
R15	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R16	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R17	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R18	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R19	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R21	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R22	7030003240	S.RESISTOR	ERJ3GEYJ 220 V (22 Ω)
R24	7030003350	S.RESISTOR	ERJ3GEYJ 181 V (180 Ω)
R25	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R26	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R27	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R28	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R29	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R30	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R31	7030003420	S.RESISTOR	ERJ3GEYJ 681 V (680 Ω)
R32	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R33	7030001190	S.RESISTOR	MCR50JZHJ 330 Ω (331)
R34	7030003650	S.RESISTOR	ERJ3GEYJ 563 V (56 kΩ)
R35	7030003610	S.RESISTOR	ERJ3GEYJ 273 V (27 kΩ)
R36	7030003610	S.RESISTOR	ERJ3GEYJ 273 V (27 kΩ)
R37	7030003790	S.RESISTOR	ERJ3GEYJ 824 V (820 kΩ)
R38	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R39	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)

S.=Surface mount

## [MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION
R40	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R41	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R42	7030003630	S.RESISTOR ERJ3GEYJ 393 V (39 kΩ)
R43	7310003580	S.TRIMMER EVM-1XSX50 B15 (104)
R44	7310003580	S.TRIMMER EVM-1XSX50 B15 (104)
R45	7030003590	S.RESISTOR ERJ3GEYJ 183 V (18 kΩ)
R46	7030001130	S.RESISTOR MCR50JZHJ 100 Ω (101)
R47	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R48	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R49	7030001050	S.RESISTOR MCR50JZHJ 22 Ω (220)
R50	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R51	7030003430	S.RESISTOR ERJ3GEYJ 821 V (820 Ω)
R52	7030003420	S.RESISTOR ERJ3GEYJ 681 V (680 Ω)
R53	7030000180	S.RESISTOR MCR10EZHJ 22 Ω (220)
R54	7030000180	S.RESISTOR MCR10EZHJ 22 Ω (220)
R55	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R56	7030003420	S.RESISTOR ERJ3GEYJ 681 V (680 Ω)
R57	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 Ω)
R58	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R59	7030003420	S.RESISTOR ERJ3GEYJ 681 V (680 Ω)
R60	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R61	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R62	7030003370	S.RESISTOR ERJ3GEYJ 271 V (270 Ω)
R63	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R64	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R65	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R66	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R68	7030003630	S.RESISTOR ERJ3GEYJ 393 V (39 kΩ)
R69	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R70	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R71	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R72	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R73	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R74	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R75	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R76	7030003580	S.RESISTOR ERJ3GEYJ 153 V (15 kΩ)
R78	7030003330	S.RESISTOR ERJ3GEYJ 121 V (120 Ω)
R79	7030003240	S.RESISTOR ERJ3GEYJ 220 V (22 Ω)
R80	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R82	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R83	7030003430	S.RESISTOR ERJ3GEYJ 821 V (820 Ω)
R84	7030003350	S.RESISTOR ERJ3GEYJ 181 V (180 Ω)
R85	7030003400	S.RESISTOR ERJ3GEYJ 471 V (470 Ω)
R86	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R87	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R88	7030003370	S.RESISTOR ERJ3GEYJ 271 V (270 Ω)
R89	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R90	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R91	7030003780	S.RESISTOR ERJ3GEYJ 684 V (680 kΩ)
R92	7030003500	S.RESISTOR ERJ3GEYJ 332 V (3.3 kΩ)
R93	7030003630	S.RESISTOR ERJ3GEYJ 393 V (39 kΩ)
R94	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R95	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R96	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 Ω)
R97	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 Ω)
R98	7030003380	S.RESISTOR ERJ3GEYJ 221 V (220 Ω)
R99	7030003270	S.RESISTOR ERJ3GEYJ 390 V (39 Ω)
R100	7030003580	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R101	7030003480	S.RESISTOR ERJ3GEYJ 152 V (1.5 kΩ)
R102	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R103	7030000100	S.RESISTOR MCR10EZHJ 4.7 Ω (4R7)
R105	7030003580	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R106	7030003580	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R107	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R108	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R109	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R110	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R111	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R112	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R113	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R114	7030003580	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R115	7030000340	S.RESISTOR MCR10EZHJ 470 Ω (471)
R116	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 Ω)
R117	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 Ω)
R118	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R119	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 Ω)

## [MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION
R120	7030003380	S.RESISTOR ERJ3GEYJ 331 V (330 Ω)
	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 Ω) [SEA] except [SEA]
R121	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R123	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R124	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R125	7030003690	S.RESISTOR ERJ3GEYJ 124 V (120 kΩ)
R126	7030003490	S.RESISTOR ERJ3GEYJ 272 V (2.7 kΩ)
R127	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R128	7030003400	S.RESISTOR ERJ3GEYJ 471 V (470 Ω)
R129	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R130	7030003400	S.RESISTOR ERJ3GEYJ 471 V (470 Ω)
R131	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R132	7030003380	S.RESISTOR ERJ3GEYJ 221 V (220 Ω)
R133	7030003690	S.RESISTOR ERJ3GEYJ 124 V (120 kΩ)
R134	7030003530	S.RESISTOR ERJ3GEYJ 562 V (5.6 kΩ)
R135	7030003580	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R136	7030003580	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R137	7030003580	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R138	7030003220	S.RESISTOR ERJ3GEYJ 150 V (15 Ω)
R139	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 Ω)
R140	7030003690	S.RESISTOR ERJ3GEYJ 124 V (120 kΩ)
R141	7030003490	S.RESISTOR ERJ3GEYJ 272 V (2.7 kΩ)
R142	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 Ω)
R143	7030003380	S.RESISTOR ERJ3GEYJ 331 V (330 Ω)
R144	7030003590	S.RESISTOR ERJ3GEYJ 183 V (18 kΩ)
R145	7030003380	S.RESISTOR ERJ3GEYJ 331 V (330 Ω)
R146	7030003590	S.RESISTOR ERJ3GEYJ 183 V (18 kΩ)
R149	7030003540	S.RESISTOR ERJ3GEYJ 682 V (6.8 kΩ)
R153	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R154	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R155	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R156	7030003580	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R157	7030003670	S.RESISTOR ERJ3GEYJ 823 V (82 kΩ)
R158	7310003580	S.TRIMMER EVM-1XSX50 B15 (104)
R159	7030003580	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R160	7030003670	S.RESISTOR ERJ3GEYJ 823 V (82 kΩ)
R161	7310003580	S.TRIMMER EVM-1XSX50 B15 (104)
R162	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R164	7030003640	S.RESISTOR ERJ3GEYJ 225 V (2.2 MΩ)
R167	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R168	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R169	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 Ω)
R170	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R171	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R172	7030003380	S.RESISTOR ERJ3GEYJ 331 V (330 Ω)
R178	7030003490	S.RESISTOR ERJ3GEYJ 272 V (2.7 kΩ)
R179	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R180	7030003580	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R181	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R182	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R184	7030003410	S.RESISTOR ERJ3GEYJ 561 V (560 Ω)
R185	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R187	7030003370	S.RESISTOR ERJ3GEYJ 271 V (270 Ω)
R188	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R190	7030003240	S.RESISTOR ERJ3GEYJ 220 V (22 Ω)
R191	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R192	7030003240	S.RESISTOR ERJ3GEYJ 220 V (22 Ω)
R193	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R194	7030003380	S.RESISTOR ERJ3GEYJ 331 V (330 Ω)
R195	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R196	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R197	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R198	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R199	7030003760	S.RESISTOR ERJ3GEYJ 474 V (470 kΩ)
R200	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R201	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R202	7030003380	S.RESISTOR ERJ3GEYJ 331 V (330 Ω)
R203	7030003780	S.RESISTOR ERJ3GEYJ 474 V (470 kΩ)
R204	7030003630	S.RESISTOR ERJ3GEYJ 393 V (39 kΩ)
R205	7030003800	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R206	7030003570	S.RESISTOR ERJ3GEYJ 123 V (12 kΩ)
R207	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R208	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R209	7030003580	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)

S.=Surface mount

## [MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION
R210	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R211	7030003840	S.RESISTOR ERJ3GEYJ 225 V (2.2 MΩ)
R212	7030003840	S.RESISTOR ERJ3GEYJ 225 V (2.2 MΩ)
R213	7030003840	S.RESISTOR ERJ3GEYJ 225 V (2.2 MΩ)
R214	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R215	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R216	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R217	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R218	7030000140	S.RESISTOR MCR10EZHJ 10 Ω (100)
R219	7310003610	S.TRIMMER EVM-1XSX50 B14 (103)
R220	7030003500	S.RESISTOR ERJ3GEYJ 332 V (3.3 kΩ)
R221	7030003700	S.RESISTOR ERJ3GEYJ 154 V (150 kΩ)
R222	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R223	7030003580	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R224	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R225	7030003400	S.RESISTOR ERJ3GEYJ 471 V (470 Ω)
R227	7030003460	S.RESISTOR ERJ3GEYJ 152 V (1.5 kΩ)
R228	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R229	7030003800	S.RESISTOR ERJ3GEYJ 105 V (1 MΩ)
R230	7030003760	S.RESISTOR ERJ3GEYJ 474 V (470 kΩ)
R231	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R232	7030003760	S.RESISTOR ERJ3GEYJ 474 V (470 kΩ)
R233	7030003690	S.RESISTOR ERJ3GEYJ 124 V (120 kΩ)
R234	7030003670	S.RESISTOR ERJ3GEYJ 823 V (82 kΩ)
R235	7030003670	S.RESISTOR ERJ3GEYJ 823 V (82 kΩ)
R236	7030003670	S.RESISTOR ERJ3GEYJ 823 V (82 kΩ)
R237	7030003800	S.RESISTOR ERJ3GEYJ 105 V (1 MΩ)
R238	7030003760	S.RESISTOR ERJ3GEYJ 474 V (470 kΩ)
R239	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R240	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R241	7030003800	S.RESISTOR ERJ3GEYJ 105 V (1 MΩ)
R242	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R243	7510000920	S.THERMISTOR NTCCF2012 4CH 104KC-T
R244	7030003720	S.RESISTOR ERJ3GEYJ 224 V (220 kΩ)
R245	7030003760	S.RESISTOR ERJ3GEYJ 474 V (470 kΩ)
R247	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R248	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R249	7030003670	S.RESISTOR ERJ3GEYJ 823 V (82 kΩ)
R250	7030003670	S.RESISTOR ERJ3GEYJ 823 V (82 kΩ)
R251	7030003670	S.RESISTOR ERJ3GEYJ 823 V (82 kΩ)
R252	7030003790	S.RESISTOR ERJ3GEYJ 824 V (820 kΩ)
R253	7030003770	S.RESISTOR ERJ3GEYJ 564 V (560 kΩ)
R254	7030003720	S.RESISTOR ERJ3GEYJ 224 V (220 kΩ)
R255	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R256	7030003590	S.RESISTOR ERJ3GEYJ 183 V (18 kΩ)
R257	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R258	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R259	7030003790	S.RESISTOR ERJ3GEYJ 824 V (820 kΩ)
R260	7030003750	S.RESISTOR ERJ3GEYJ 394 V (390 kΩ)
R261	7030003390	S.RESISTOR ERJ3GEYJ 391 V (390 Ω)
R262	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R263	7030003420	S.RESISTOR ERJ3GEYJ 681 V (680 Ω)
R264	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 Ω)
R265	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R266	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R267	7030003380	S.RESISTOR ERJ3GEYJ 331 V (330 Ω)
R268	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R270	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R271	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R272	7030003510	S.RESISTOR ERJ3GEYJ 392 V (3.9 kΩ)
R273	7030003510	S.RESISTOR ERJ3GEYJ 392 V (3.9 kΩ)
R274	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R275	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R276	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R277	7030003670	S.RESISTOR ERJ3GEYJ 823 V (82 kΩ)
R278	7030003670	S.RESISTOR ERJ3GEYJ 823 V (82 kΩ)
R279	7030003670	S.RESISTOR ERJ3GEYJ 823 V (82 kΩ)
R280	7030003690	S.RESISTOR ERJ3GEYJ 124 V (120 kΩ)
R281	7030003790	S.RESISTOR ERJ3GEYJ 824 V (820 kΩ)
R282	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R283	7030003670	S.RESISTOR ERJ3GEYJ 823 V (82 kΩ)
R284	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R285	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R286	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R287	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R288	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)

## [MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION
R289	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R290	7030003800	S.RESISTOR ERJ3GEYJ 105 V (1 MΩ)
R291	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R293	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R294	7030003630	S.RESISTOR ERJ3GEYJ 393 V (39 kΩ)
R295	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R296	7030003760	S.RESISTOR ERJ3GEYJ 474 V (470 kΩ)
R297	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R298	7030003730	S.RESISTOR ERJ3GEYJ 274 V (270 kΩ)
R300	7030003580	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R303	7030003820	S.RESISTOR ERJ3GEYJ 155 V (1.5 MΩ)
R401	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R402	7030003580	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R404	7030003740	S.RESISTOR ERJ3GEYJ 334 V (330 kΩ)
R405	7030003710	S.RESISTOR ERJ3GEYJ 184 V (180 kΩ)
R406	7030003870	S.RESISTOR ERJ3GEYJ 823 V (82 kΩ)
R407	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R408	7030003800	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R409	7030003580	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R410	7030003530	S.RESISTOR ERJ3GEYJ 562 V (5.6 kΩ)
R411	7030003490	S.RESISTOR ERJ3GEYJ 272 V (2.7 kΩ)
R412	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R414	7030003810	S.RESISTOR ERJ3GEYJ 125 V (1.2 MΩ)
R415	7030003780	S.RESISTOR ERJ3GEYJ 684 V (680 kΩ)
R416	7030003740	S.RESISTOR ERJ3GEYJ 334 V (330 kΩ)
R417	7030003700	S.RESISTOR ERJ3GEYJ 154 V (150 kΩ)
R418	7030003870	S.RESISTOR ERJ3GEYJ 823 V (82 kΩ)
R419	7030003630	S.RESISTOR ERJ3GEYJ 393 V (39 kΩ)
R420	7030003800	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R421	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R422	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R424	7030003670	S.RESISTOR ERJ3GEYJ 823 V (82 kΩ)
R425	7030003630	S.RESISTOR ERJ3GEYJ 393 V (39 kΩ)
R426	7030003800	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R427	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R428	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R431	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R432	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R433	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R434	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R435	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R436	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R437	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R438	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R439	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R440	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R443	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R444	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R445	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R446	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R447	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R448	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R449	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R450	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R451	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R452	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R454	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R455	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R456	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R457	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R458	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R459	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R460	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R461	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R462	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R463	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R464	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R465	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R466	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R467	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R468	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R469	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R470	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R471	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R472	7030003690	S.RESISTOR ERJ3GEYJ 124 V (120 kΩ)
R473	7030003750	S.RESISTOR ERJ3GEYJ 394 V (390 kΩ)

S.=Surface mount

## [MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION
R474	7030003580	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R475	7030003780	S.RESISTOR ERJ3GEYJ 474 V (470 kΩ)
R476	7030000020	S.RESISTOR MCR10EZJH 1 Ω (010)
R477	7030001040	S.RESISTOR MCR50JZHJ 18 Ω (180)
R478	7030003390	S.RESISTOR ERJ3GEYJ 391 V (390 Ω)
R479	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R480	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R481	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R482	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R483	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R484	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R485	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R486	7030000020	S.RESISTOR MCR10EZJH 1 Ω (010)
R487	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R488	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R489	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R490	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R491	7030003500	S.RESISTOR ERJ3GEYJ 332 V (3.3 kΩ)
R492	7030003780	S.RESISTOR ERJ3GEYJ 474 V (470 kΩ)
R497	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R498	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R499	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R501	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R502	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R503	7030003780	S.RESISTOR ERJ3GEYJ 474 V (470 kΩ)
R504	7030003720	S.RESISTOR ERJ3GEYJ 224 V (220 kΩ)
R505	7030003720	S.RESISTOR ERJ3GEYJ 224 V (220 kΩ)
R508	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R507	7030003780	S.RESISTOR ERJ3GEYJ 474 V (470 kΩ)
R508	7030003780	S.RESISTOR ERJ3GEYJ 474 V (470 kΩ)
R510	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R511	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R512	7030003580	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R513	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R514	7030003800	S.RESISTOR ERJ3GEYJ 105 V (1 MΩ)
R516	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R517	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R518	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R519	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R520	7030003450	S.RESISTOR ERJ3GEYJ 122 V (1.2 kΩ)
R521	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R522	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R523	7030003580	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R524	7030003370	S.RESISTOR ERJ3GEYJ 271 V (270 Ω)
R530	7030003720	S.RESISTOR ERJ3GEYJ 224 V (220 kΩ)
R532	7030003700	S.RESISTOR ERJ3GEYJ 154 V (150 kΩ)
R533	7030003700	S.RESISTOR ERJ3GEYJ 154 V (150 kΩ)
R534	7030003390	S.RESISTOR ERJ3GEYJ 391 V (390 Ω)
R535	7030000280	S.RESISTOR MCR10EZJH 150 Ω (151)
R536	7030003580	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R537	7030003500	S.RESISTOR ERJ3GEYJ 332 V (3.3 kΩ)
R538	7030003580	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R539	7030003690	S.RESISTOR ERJ3GEYJ 124 V (120 kΩ)
R540	7030003780	S.RESISTOR ERJ3GEYJ 474 V (470 kΩ)
R541	7030003840	S.RESISTOR ERJ3GEYJ 225 V (2.2 MΩ)
R542	7510000420	S.THERMISTOR TN20-3W472LT
R543	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R544	7030000280	S.RESISTOR MCR10EZJH 150 Ω (151)
R546	7030003420	S.RESISTOR ERJ3GEYJ 881 V (880 Ω)
C1	4030011190	S.CERAMIC GRM42-6 CH 270J 500PT
C2	4030011200	S.CERAMIC GRM42-6 CH 300J 500PT
C3	4030011180	S.CERAMIC GRM42-6 CH 220J 500PT
C4	4030011280	S.CERAMIC GRM42-6 W5R 102K 500PT
C5	4030011140	S.CERAMIC GRM42-6 CH 120J 500PT
C6	4030011250	S.CERAMIC GRM42-6 W5R 471K 500PT
C7	4030011020	S.CERAMIC GRM42-6 CK 010C 500PT
C8	4030011200	S.CERAMIC GRM42-6 CH 300J 500PT
C9	4030011020	S.CERAMIC GRM42-6 CK 010C 500PT
C10	4030011120	S.CERAMIC GRM42-6 CH 100D 500PT
C11	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C12	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C13	4030011020	S.CERAMIC GRM42-6 CK 010C 500PT
C14	4030011140	S.CERAMIC GRM42-6 CH 120J 500PT
C15	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A

## [MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION
C16	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C17	4030011170	S.CERAMIC GRM42-6 CH 180J 500PT
C18	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C19	4510008920	ELECTROLYTIC 25 MV 220 CG
C20	4030007040	S.CERAMIC C1608 CH 1H 180J-T-A
C21	4030007040	S.CERAMIC C1608 CH 1H 180J-T-A
C22	4030007050	S.CERAMIC C1608 CH 1H 220J-T-A
C23	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C24	4510004830	S.ELECTROLYTIC ECEV1CA100SR
C25	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C26	4030007020	S.CERAMIC C1608 CH 1H 120J-T-A
C27	4030007010	S.CERAMIC C1608 CH 1H 100D-T-A
C28	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C29	4030008930	S.CERAMIC C1608 CH 1H 020C-T-A
C30	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C31	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C32	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C33	4030007060	S.CERAMIC C1608 CH 1H 270J-T-A
C34	4030007030	S.CERAMIC C1608 CH 1H 150J-T-A
C36	4030008930	S.CERAMIC C1608 CH 1H 020C-T-A
C37	4030008950	S.CERAMIC C1608 CH 1H 040C-T-A
C38	4030008950	S.CERAMIC C1608 CH 1H 040C-T-A
C39	4030007020	S.CERAMIC C1608 CH 1H 120J-T-A
C40	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C41	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C42	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C43	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C44	4030008950	S.CERAMIC C1608 CH 1H 040C-T-A
C46	4030007150	S.CERAMIC C1608 CH 1H 151J-T-A
C47	4030009570	S.CERAMIC C1608 CH 1H 0R3B-T-A
C48	4030007130	S.CERAMIC C1608 CH 1H 101J-T-A
C49	4030007150	S.CERAMIC C1608 CH 1H 151J-T-A
C50	4030009570	S.CERAMIC C1608 CH 1H 0R3B-T-A
C52	4030011280	S.CERAMIC C1608 CH 1H 271J-T-A
C53	4030008950	S.CERAMIC C1608 CH 1H 040C-T-A
C54	4030008900	S.CERAMIC C1608 JB 1E 103K-T-A
C55	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C56	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C57	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C58	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C60	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C61	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C62	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C63	4510004830	S.ELECTROLYTIC ECEV1CA100SR
C64	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C68	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C69	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C70	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C71	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C72	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C73	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C74	4550008350	S.TANTALUM TEMSVB2 1A 226M-8L
C75	4030011090	S.CERAMIC GRM42-6 CH 070D 500PT
C76	4030011060	S.CERAMIC GRM42-6 CH 040C 500PT
C77	4030011100	S.CERAMIC GRM42-6 CH 080D 500PT
C78	4030011080	S.CERAMIC GRM42-6 CH 080D 500PT
C80	4030011250	S.CERAMIC GRM42-6 W5R 471K 500PT
C81	4030011090	S.CERAMIC GRM42-6 CH 070D 500PT
C82	4030011250	S.CERAMIC GRM42-6 W5R 471K 500PT
C83	4030011020	S.CERAMIC GRM42-6 CK 010C 500PT
C84	4030011120	S.CERAMIC GRM42-6 CH 100D 500PT
		[USA]
	4030011130	S.CERAMIC GRM42-6 CH 110J 500PT
		except [USA]
C85	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C86	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C87	4030011020	S.CERAMIC GRM42-6 CK 010C 500PT
C88	4030011150	S.CERAMIC GRM42-6 CH 130J 500PT
C89	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C90	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C91	4030011060	S.CERAMIC GRM42-6 CH 040C 500PT
		[USA]
	4030011070	S.CERAMIC GRM42-6 CH 050C 500PT
		except [USA]
C92	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A
C93	4030008880	S.CERAMIC C1608 JB 1H 102K-T-A

S.=Surface mount

## [MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION
C94	4550008350	S.TANTALUM TEMSVB2 1A 226M-8L
C95	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C97	4030008930	S.CERAMIC C1608 CH 1H 020C-T-A
C98	4030008930	S.CERAMIC C1608 CH 1H 020C-T-A
C99	4030008980	S.CERAMIC C1608 CH 1H 050C-T-A
C100	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C102	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C103	4030008980	S.CERAMIC C1608 CH 1H 070D-T-A
C104	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C105	4030008930	S.CERAMIC C1608 CH 1H 020C-T-A
C106	4030010780	S.CERAMIC C1608 CH 1H 1R5C-T-A
C107	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C108	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C109	4030007010	S.CERAMIC C1608 CH 1H 100D-T-A
C110	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C111	4030007010	S.CERAMIC C1608 CH 1H 100D-T-A
C112	4030007010	S.CERAMIC C1608 CH 1H 100D-T-A
		[SEA]
	4030006980	S.CERAMIC C1608 CH 1H 070D-T-A
		except [SEA]
C113	4030007030	S.CERAMIC C1608 CH 1H 150J-T-A
C114	4030008860	S.CERAMIC C1608 CH 1H 050C-T-A
C115	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C116	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C117	4030007040	S.CERAMIC C1608 CH 1H 180J-T-A
C119	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C120	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C121	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C122	4030008930	S.CERAMIC C1608 CH 1H 020C-T-A
C123	4030008950	S.CERAMIC C1608 CH 1H 040C-T-A
C124	4030008940	S.CERAMIC C1608 CH 1H 030C-T-A
C125	4030008970	S.CERAMIC C1608 CH 1H 060D-T-A
		[SEA]
	4030008950	S.CERAMIC C1608 CH 1H 040C-T-A
		except [SEA]
C126	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C127	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C128	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C129	4030007020	S.CERAMIC C1608 CH 1H 120J-T-A
C130	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C131	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C132	4030007040	S.CERAMIC C1608 CH 1H 180J-T-A
C133	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C134	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C135	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C136	4030009550	S.CERAMIC C1608 CH 1H 2R5B-T-A
C137	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C138	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C139	4030010780	S.CERAMIC C1608 CH 1H 1R5C-T-A
C140	4030010780	S.CERAMIC C1608 CH 1H 1R5C-T-A
C141	4030008930	S.CERAMIC C1608 CH 1H 020C-T-A
C142	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C143	4030008940	S.CERAMIC C1608 CH 1H 030C-T-A
C144	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C145	4030008930	S.CERAMIC C1608 CH 1H 020C-T-A
C146	4030007050	S.CERAMIC C1608 CH 1H 220J-T-A
C147	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C148	4030008860	S.CERAMIC C2012 JF 1C 105Z-T-A
C149	4030008930	S.CERAMIC C1608 CH 1H 020C-T-A
C150	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C151	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C152	4030008980	S.CERAMIC C1608 CH 1H 050C-T-A
C153	4030008980	S.CERAMIC C1608 CH 1H 050C-T-A
C154	4030008930	S.CERAMIC C1608 CH 1H 020C-T-A
C155	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C156	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C157	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C158	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C159	4030008990	S.CERAMIC C1608 CH 1H 080D-T-A
C160	4030008930	S.CERAMIC C1608 CH 1H 020C-T-A
		[SEA]
	4030008980	S.CERAMIC C1608 CH 1H 070D-T-A
		except [SEA]
C161	4510008260	S.ELECTROLYTIC ECEV1AA471UP
C162	4030008760	S.CERAMIC C2012 X7R 1C 104K-T-A
C163	4510008250	S.ELECTROLYTIC ECEV1CA331UP

## [MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION
C164	4510005810	S.ELECTROLYTIC ECEV1HAR47R
C165	4510004440	S.ELECTROLYTIC ECEV1HA010SR
C166	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C167	4030008830	S.CERAMIC C1608 JF 1C 104Z-T-A
C168	4030008850	S.CERAMIC C1608 JB 1H 471K-T-A
C169	4030008830	S.CERAMIC C1608 JF 1C 104Z-T-A
C171	4510006020	ELECTROLYTIC 16 MV 2200 HC
C172	4030008830	S.CERAMIC C1608 JF 1C 104Z-T-A
C173	4510004840	S.ELECTROLYTIC ECEV1CA470SP
C174	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C175	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C176	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C177	4510004840	S.ELECTROLYTIC ECEV1CA470SP
C178	4510004830	S.ELECTROLYTIC ECEV1CA100SR
C179	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C180	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C181	4510004840	S.ELECTROLYTIC ECEV1CA470SP
C182	4510004830	S.ELECTROLYTIC ECEV1CA100SR
C183	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C184	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C185	4510004840	S.ELECTROLYTIC ECEV1CA470SP
C186	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C187	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C188	4030007050	S.CERAMIC C1608 CH 1H 220J-T-A
C189	4030007030	S.CERAMIC C1608 CH 1H 150J-T-A
C190	4030008960	S.CERAMIC C1608 CH 1H 050C-T-A
		[SEA]
	4030008940	S.CERAMIC C1608 CH 1H 030C-T-A
		except [SEA]
C191	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C192	4030008960	S.CERAMIC C1608 CH 1H 050C-T-A
C193	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C194	4030008970	S.CERAMIC C1608 CH 1H 060D-T-A
C195	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C196	4030007050	S.CERAMIC C1608 CH 1H 220J-T-A
		[SEA]
	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
		except [SEA]
C197	4030007060	S.CERAMIC C1608 CH 1H 270J-T-A
C198	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C199	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C200	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C201	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C202	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C203	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C204	4030009570	S.CERAMIC C1608 CH 1H 0R3B-T-A
C205	4030009570	S.CERAMIC C1608 CH 1H 0R3B-T-A
C206	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C207	4030007170	S.CERAMIC C1608 CH 1H 221J-T-A
C208	4030007150	S.CERAMIC C1608 CH 1H 151J-T-A
C209	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C210	4550000530	S.TANTALUM TESVA 1V 104M1-8L
C211	4030008990	S.CERAMIC C1608 CH 1H 080D-T-A
C212	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C213	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C214	4030008970	S.CERAMIC C1608 CH 1H 060D-T-A
		[SEA]
	4030008940	S.CERAMIC C1608 CH 1H 030C-T-A
		except [SEA]
C215	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C216	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C217	4030008950	S.CERAMIC C1608 CH 1H 040C-T-A
C218	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C219	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C220	4030007090	S.CERAMIC C1608 CH 1H 470J-T-A
C221	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C222	4030009570	S.CERAMIC C1608 CH 1H 0R3B-T-A
C223	4030009570	S.CERAMIC C1608 CH 1H 0R3B-T-A
C225	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C226	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C227	4550000530	S.TANTALUM TESVA 1V 104M1-8L
C231	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C232	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C233	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C234	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A
C235	4030008860	S.CERAMIC C1608 JB 1H 102K-T-A

S.=Surface mount

## [MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION
C236	4030008880	S.CERAMIC C2012 JF 1C 105Z-T-A
C237	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C238	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C239	4030008880	S.CERAMIC C2012 JF 1C 105Z-T-A
C240	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C241	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C242	4610001980	S.TRIMMER CTZ3E-30C-W1
C243	4030001820	S.CERAMIC GRM40 RH 220J 50PT
C244	4030001800	S.CERAMIC GRM40 RH 150J 50PT
C245	4030001830	S.CERAMIC GRM40 RH 330J 50PT
C246	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C247	4030006930	S.CERAMIC C1808 CH 1H 020C-T-A
C248	4030008900	S.CERAMIC C1808 JB 1E 103K-T-A
C249	4030007070	S.CERAMIC C1808 CH 1H 330J-T-A
C252	4550002890	S.TANTALUM TESVA 1A 225M1-8L
C254	4550000530	S.TANTALUM TESVA 1V 104M1-8L
C255	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C258	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C259	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C260	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C262	4030007020	S.CERAMIC C1808 CH 1H 120J-T-A
C264	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C265	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C266	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C267	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C268	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C269	4030008920	S.CERAMIC C1808 CH 1H 010C-T-A
C270	4030007000	S.CERAMIC C1808 CH 1H 090D-T-A
C271	4030009530	S.CERAMIC C1808 CH 1H 030B-T-A
C272	4030007030	S.CERAMIC C1808 CH 1H 150J-T-A
C273	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C274	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C275	4030007020	S.CERAMIC C1808 CH 1H 120J-T-A
C277	4030008880	S.CERAMIC C2012 JF 1C 105Z-T-A
C278	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C279	4030008770	S.CERAMIC C1808 JB 1H 562K-T-A
C280	4030008770	S.CERAMIC C1808 JB 1H 562K-T-A
C281	4030008880	S.CERAMIC C1808 JB 1C 153K-T-A
C282	4030008900	S.CERAMIC C1808 JB 1C 333K-T-A
C283	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C284	4030008880	S.CERAMIC C1808 JB 1C 153K-T-A
C285	4030008900	S.CERAMIC C1808 JB 1E 103K-T-A
C286	4030008880	S.CERAMIC C2012 JF 1C 105Z-T-A
C287	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C289	4030008630	S.CERAMIC C1808 JF 1C 104Z-T-A
C290	4030008630	S.CERAMIC C1808 JF 1C 104Z-T-A
C291	4030008900	S.CERAMIC C1808 JB 1E 103K-T-A
C292	4030007160	S.CERAMIC C1808 CH 1H 181J-T-A
C293	4030008900	S.CERAMIC C1808 JB 1E 103K-T-A
C294	4030008900	S.CERAMIC C1808 JB 1E 103K-T-A
C295	4030008630	S.CERAMIC C1808 JF 1C 104Z-T-A
C296	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C298	4030007170	S.CERAMIC C1808 CH 1H 221J-T-A
C299	4030007170	S.CERAMIC C1808 CH 1H 221J-T-A
C300	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C301	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C302	4030008880	S.CERAMIC C2012 JF 1C 105Z-T-A
C303	4030007140	S.CERAMIC C1808 CH 1H 121J-T-A
C304	4030005110	S.CERAMIC C2012 JB 1E 473K-T-A
C305	4030008630	S.CERAMIC C1808 JF 1C 104Z-T-A
C306	4030007130	S.CERAMIC C1808 CH 1H 101J-T-A
C307	4030008900	S.CERAMIC C1808 JB 1E 103K-T-A
C308	4030008630	S.CERAMIC C1808 JF 1C 104Z-T-A
C309	4030008630	S.CERAMIC C1808 JF 1C 104Z-T-A
C310	4030008630	S.CERAMIC C1808 JF 1C 104Z-T-A
C311	4030009980	S.CERAMIC C1808 JB 1H 152K-T-A
C312	4030008910	S.CERAMIC C1808 JB 1C 393K-T-A
C313	4030008830	S.CERAMIC C1808 JF 1C 104Z-T-A
C314	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C315	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C316	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C317	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C318	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C319	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C320	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C321	4030008830	S.CERAMIC C1808 JF 1C 104Z-T-A

## [MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION
C322	4030008630	S.CERAMIC C1808 JF 1C 104Z-T-A
C323	4030008880	S.CERAMIC C2012 JF 1C 105Z-T-A
C324	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C325	4030007130	S.CERAMIC C1808 CH 1H 101J-T-A
C328	4030007120	S.CERAMIC C1808 CH 1H 820J-T-A
C327	4030008470	S.CERAMIC C1808 JB 1H 272K-T-A
C328	4030008490	S.CERAMIC C1808 JB 1H 821K-T-A
C329	4030008680	S.CERAMIC C2012 JF 1C 105Z-T-A
C330	4030008630	S.CERAMIC C1808 JF 1C 104Z-T-A
C331	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C332	4030007020	S.CERAMIC C1808 CH 1H 120J-T-A
C333	4030008900	S.CERAMIC C1808 JB 1C 333K-T-A
C334	4030008630	S.CERAMIC C1808 JF 1C 104Z-T-A
C335	4510004440	S.ELECTROLYTIC ECEV1HA010SR
C336	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C337	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C338	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C339	4030008630	S.CERAMIC C1808 JF 1C 104Z-T-A
C340	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C341	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C342	4030008880	S.CERAMIC C2012 JF 1C 105Z-T-A
C343	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C344	4030008630	S.CERAMIC C1808 JF 1C 104Z-T-A
C345	4030008630	S.CERAMIC C1808 JF 1C 104Z-T-A
C346	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C347	4030008630	S.CERAMIC C1808 JF 1C 104Z-T-A
C348	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C350	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C351	4030008630	S.CERAMIC C1808 JF 1C 104Z-T-A
C352	4030008880	S.CERAMIC C2012 JF 1C 105Z-T-A
C353	4030008880	S.CERAMIC C2012 JF 1C 105Z-T-A
C355	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C356	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C357	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C358	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C359	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C380	4030008980	S.CERAMIC C1808 JB 1H 102K-T-A
C401	4030008900	S.CERAMIC C1808 JB 1E 103K-T-A
C402	4030008630	S.CERAMIC C1808 JF 1C 104Z-T-A
C403	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C404	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C406	4030007090	S.CERAMIC C1808 CH 1H 470J-T-A
C407	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C408	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C409	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C410	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C411	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C412	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C413	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C414	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C415	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C416	4030007090	S.CERAMIC C1808 CH 1H 470J-T-A
C417	4030007090	S.CERAMIC C1808 CH 1H 470J-T-A
C418	4030007090	S.CERAMIC C1808 CH 1H 470J-T-A
C422	4030007050	S.CERAMIC C1808 CH 1H 220J-T-A
C423	4030007050	S.CERAMIC C1808 CH 1H 220J-T-A
C424	4030008880	S.CERAMIC C1808 JF 1C 224Z-T-A
C425	4030008900	S.CERAMIC C1808 JB 1E 103K-T-A
C426	4030008900	S.CERAMIC C1808 JB 1E 103K-T-A
C428	4030008900	S.CERAMIC C1808 JB 1E 103K-T-A
C429	4030008900	S.CERAMIC C1808 JB 1E 103K-T-A
C430	4030008900	S.CERAMIC C1808 JB 1E 103K-T-A
C432	4030008900	S.CERAMIC C1808 JB 1E 103K-T-A
C433	4030008630	S.CERAMIC C1808 JF 1C 104Z-T-A
C434	4030008930	S.CERAMIC C1808 CH 1H 020C-T-A
C435	4030008880	S.CERAMIC C2012 JF 1C 105Z-T-A
C437	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C438	4030008880	S.CERAMIC C1808 JB 1H 102K-T-A
C439	4030007090	S.CERAMIC C1808 CH 1H 470J-T-A
C440	4030008980	S.CERAMIC C1808 CH 1H 050C-T-A
C441	4030007110	S.CERAMIC C1808 CH 1H 680J-T-A
C442	4030007110	S.CERAMIC C1808 CH 1H 680J-T-A
C443	4030008630	S.CERAMIC C1808 JF 1C 104Z-T-A
C444	4030008630	S.CERAMIC C1808 JF 1C 104Z-T-A
C445	4030008630	S.CERAMIC C1808 JF 1C 104Z-T-A
C446	4030010780	S.CERAMIC C1808 CH 1H 1R5C-T-A

S.=Surface mount

## [MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C447	4030007010	S.CERAMIC	C1608 CH 1H 100D-T-A
C489	4030011080	S.CERAMIC	GRM42-6 CH 080D 500PT
C490	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C491	4510005310	S.ELECTROLYTIC	ECEV1CA220SR
C492	4550002890	S.TANTALUM	TESVA 1A 225M1-8L
C493	4030008860	S.CERAMIC	C1608 JB 1H 102K-T-A
C494	4550002890	S.TANTALUM	TESVA 1A 225M1-8L
C495	4030009570	S.CERAMIC	C1608 CH 1H 0R3B-T-A
C496	4030008860	S.CERAMIC	C1608 JB 1H 102K-T-A
C497	4030008860	S.CERAMIC	C1608 JB 1H 102K-T-A
C498	4030008860	S.CERAMIC	C1608 JB 1H 102K-T-A
C499	4030008860	S.CERAMIC	C1608 JB 1H 102K-T-A
C500	4030011080	S.CERAMIC	GRM42-6 CH 080D 500PT
C501	4030008860	S.CERAMIC	C1608 JB 1H 102K-T-A
C502	4030008860	S.CERAMIC	C1608 JB 1H 102K-T-A
C503	4030008860	S.CERAMIC	C1608 JB 1H 102K-T-A
C504	4030008860	S.CERAMIC	C1608 JB 1H 102K-T-A
C505	4030008860	S.CERAMIC	C1608 JB 1H 102K-T-A
C506	4030008860	S.CERAMIC	C2012 JF 1C 105Z-T-A
C507	4030008860	S.CERAMIC	C1608 JB 1H 102K-T-A
C508	4030008980	S.CERAMIC	C1608 CH 1H 070D-T-A
C509	4030008560	S.CERAMIC	C1608 CH 1H 300J-T-A
C510	4030008860	S.CERAMIC	C1608 JB 1H 102K-T-A
C512	4510004640	S.ELECTROLYTIC	ECEV1CA470SP
C513	4030010780	S.CERAMIC	C1608 CH 1H 1R5C-T-A
C517	4030007170	S.CERAMIC	C1608 CH 1H 221J-T-A
C518	4030007170	S.CERAMIC	C1608 CH 1H 221J-T-A
C521	4030006990	S.CERAMIC	C1608 CH 1H 080D-T-A except [SEA]
C522	4030007030	S.CERAMIC	C1608 CH 1H 150J-T-A except [SEA]
C523	4030007000	S.CERAMIC	C1608 CH 1H 090D-T-A except [SEA]
C526	4030008880	S.CERAMIC	C1608 CH 1H 070D-T-A except [SEA]
C527	4030006870	S.CERAMIC	C1608 JB 1H 222K-T-A except [SEA]
J1	8510014790	CONNECTOR	53253-0210
J2	8450001440	CONNECTOR	HSJ1403-01-010
J3	8450001840	CONNECTOR	TCS7588-43-201
J4	8510014960	S.CONNECTOR	B2B-ZR-SM3-TF
J11	8510016480	CONNECTOR	52018-8845
J12	8510019321	CONNECTOR	1726 REAR CONNECTOR-1
W1	7120000470	JUMPER	ERDS2T0
W2	7120000470	JUMPER	ERDS2T0
W3	7120000470	JUMPER	ERDS2T0
W4	8900004880	CABLE	OPC-465
W5	7030003860	S.JUMPER	ERJ3GE JPW V
W6	7030003860	S.JUMPER	ERJ3GE JPW V
W7	7030003860	S.JUMPER	ERJ3GE JPW V
W9	7030000010	S.JUMPER	MCR10EZHZ JPW (000)
W14	7120000470	JUMPER	ERDS2T0 except [EUR]
W15	7030003860	S.JUMPER	ERJ3GE JPW V
W16	7030003860	S.JUMPER	ERJ3GE JPW V
W17	7030003860	S.JUMPER	ERJ3GE JPW V
W18	7030003860	S.JUMPER	ERJ3GE JPW V
W19	7030003860	S.JUMPER	ERJ3GE JPW V
W20	7030003860	S.JUMPER	ERJ3GE JPW V
W21	7030003860	S.JUMPER	ERJ3GE JPW V
W22	7030003860	S.JUMPER	ERJ3GE JPW V
W23	7030003860	S.JUMPER	ERJ3GE JPW V
W24	7030003860	S.JUMPER	ERJ3GE JPW V
W29	7030003860	S.JUMPER	ERJ3GE JPW V
W30	7030003860	S.JUMPER	ERJ3GE JPW V
W31	7030003860	S.JUMPER	ERJ3GE JPW V
W32	7030000010	S.JUMPER	MCR10EZHZ JPW (000)
W33	7030000010	S.JUMPER	MCR10EZHZ JPW (000)
W34	7030003860	S.JUMPER	ERJ3GE JPW V
W36	7030003860	S.JUMPER	ERJ3GE JPW V
W37	7030000010	S.JUMPER	MCR10EZHZ JPW (000)
W38	7030000010	S.JUMPER	MCR10EZHZ JPW (000)
W39	7030000010	S.JUMPER	MCR10EZHZ JPW (000)

## [MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
W40	7030000010	S.JUMPER	MCR10EZHZ JPW (000)
W41	7030003860	S.JUMPER	ERJ3GE JPW V
W42	7030003860	S.JUMPER	ERJ3GE JPW V
W43	7030003860	S.JUMPER	ERJ3GE JPW V
W44	7030003860	S.JUMPER	ERJ3GE JPW V [SEA]
W45	7030003860	S.JUMPER	ERJ3GE JPW V [SEA]
EPI	0910047635	PCB	B 4854E

S.=Surface mount

## SECTION 7 MECHANICAL PARTS

### [CONTROL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6510019310	1729 front connector	1
R39	7210002920	EVU-F2AF20B55 (560K) [SQL]	1
R43	7210002920	EVU-F2AF20B55 (560K) [VOL]	1
S1	2250000370	Encoder EVQ-VENF0124B	1
DS3	5030001470	LCD LD-HU4649E	1
EP2	8930041630	LCD CONTACT SRCN-1893-SP-N-W	1
MP1	8210014720	1893 front panel (A)	1
MP2	8210014160	1893 rear panel [SEA]	1
	8210014830	1893 rear panel (A) expect [SEA]	1
MP3	8930041850	1893 LCD filter	1
MP4	8210014170	1893 reflector	1
MP5	8930041530	1893 A-key	1
MP6	8930041540	1893 B-key	1
MP7	8610010311	Knob K224-1	1
MP8	8930006440	Spring (F)	1
MP9	8610010320	Knob K225	6
MP10	8930041880	1893 key sponge	1
MP11	8610010330	Knob N257	1
MP13	8610010340	Knob N258	1
MP15	8610010350	Knob N259	1
MP17	8810008990	PH BT M2 X10 ZK	3
MP18	8810008990	PH BT M2 X10 ZK	2
MP20	8510011220	1893 LCD plate	1
MP21	8930043831	Insulation sheet (FF)-1	3

### [MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
J3	6450001840	Connector TCS7568-43-201	1
J12	6510019321	1729 rear connector-1	1
MP1	8510009720	1647 VCO case	1
MP2	8930037120	1647 M-holder	2
MP3	8930038170	1647 spacer	1
MP4	8510011290	1893 A-CPU plate	1
MP5	8510011310	1893 A-shield plate	1
MP6	8510011300	1893 modular plate expect [SEA]	1

### [UNPACKING]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
F1	5210000080	Fuse FGB 20A	1
W1	Optional product	Cable OPC-346	1
MC1	Optional product	Microphone HM-98 expect [SEA]	1
	Optional product	Microphone HM-96 [SEA]	
MP1	8010016380	1542 MOBIL BRACKET (B)	1
MP3	8820000530	Flange volt M4 X 8 NI	4
MP4	8810000470	PH M5 X12 (+-)	4
MP5	8810000950	PH A M5 X16	4
MP6	8850000150	Flat washer M 5 NI BS	4
MP7	8850000390	Spring washer M 5	4
MP8	8830000120	Nut M 5	4

### [CHASSIS PART]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6510004880	Connector MR-DSE-01	1
MF1	2710000590	Fan MF40D-12H-001	1
SP1	2510000820	Speaker VS-57-0814	1
MP1	8010016782	1893 chassis-2	1
MP2	8930041571	1893 SP rubber-1	1
MP3	8930041551	1893 OPC plate-1	1
MP4	8930041560	1893 release button	1
MP5	8810009140	PH M2.6 X 6 ZK	1
MP6	8810008630	PH BT M3 X 6 NI-ZU	2
MP7	8810008660	PH BT M3 X 8 NI-ZU	4
MP8	8810008660	PH BT M3 X 8 NI-ZU	6
MP9	8810009020	FH M2.6 X 5 ZK	4
MP10	8110005750	1729 fan cover	1
MP11	8810009110	PH 0 M2.6 X16 ZK	4
MP12	8810009140	PH M2.6 X 6 ZK	3
MP13	8110005960	1893 cover	1
MP17	8930041870	Spring (AC)	1
MP18	8930039610	Thermally sheet (C)	1
MP19	8930039610	Thermally sheet (C)	1
MP20	8930039610	Thermally sheet (C)	1
MP21	8930043010	1893 sheet	1
MP22	8930043020	Rubber sheet (AC)	1
MP24	8510011200	1893 shield cover	1
MP26	8930043840	1893 A-sheet	1

### Screw abbreviations

BT: Self-tapping

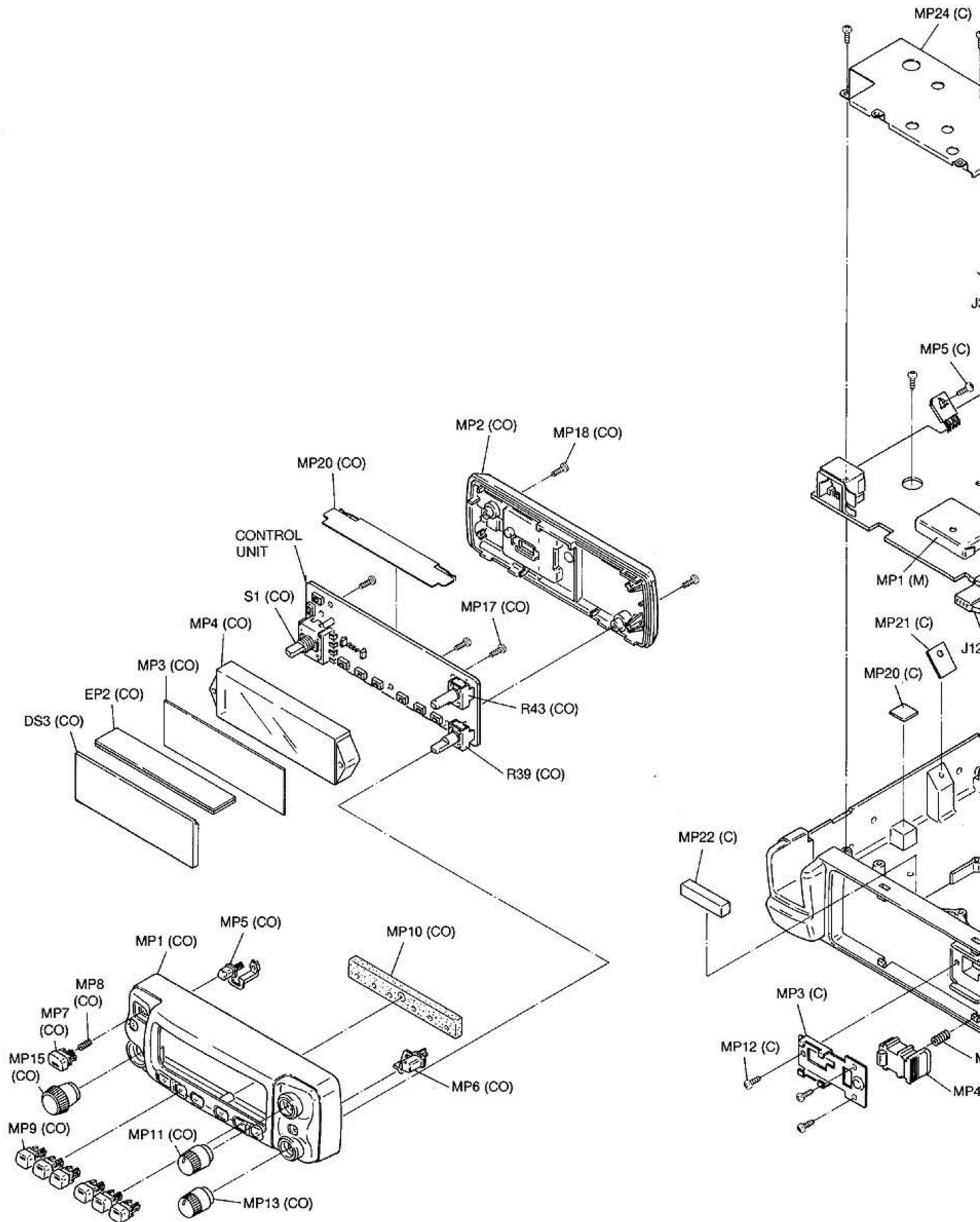
PH: Pan head

FH: Flat head

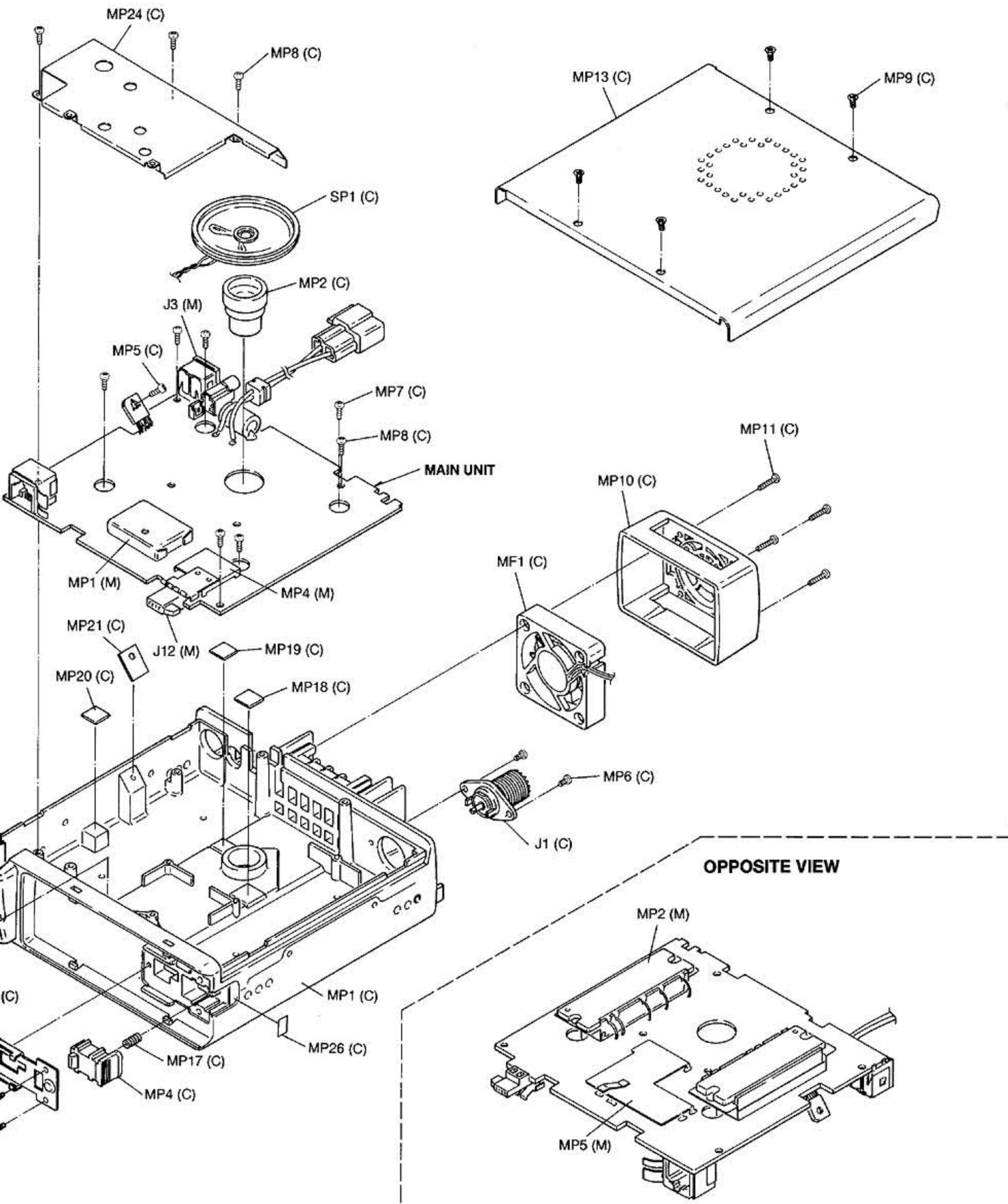
ZK: Black

NI-ZK: Nickel-Zinc

BS: Brass



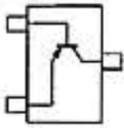
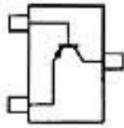
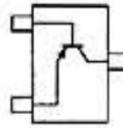
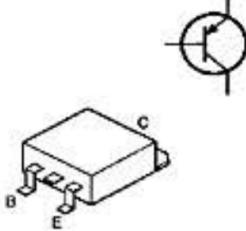
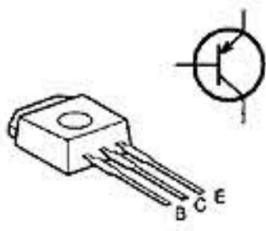
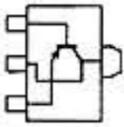
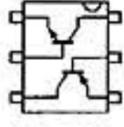
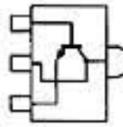
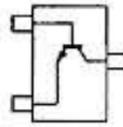
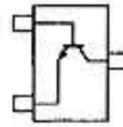
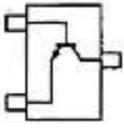
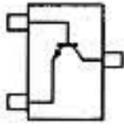
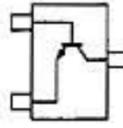
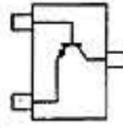
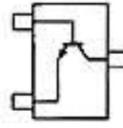
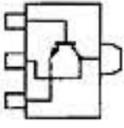
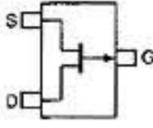
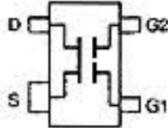
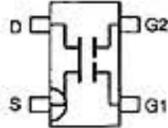
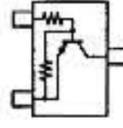
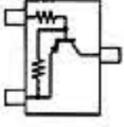
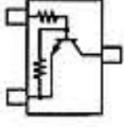
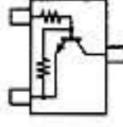
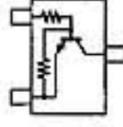
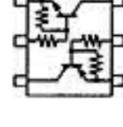
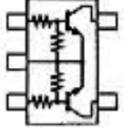
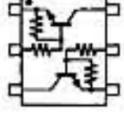
Unit abbreviations: (CO)  
(M)



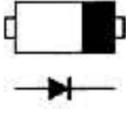
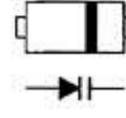
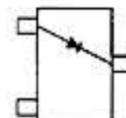
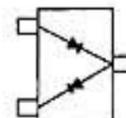
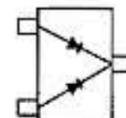
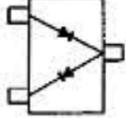
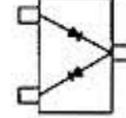
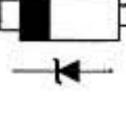
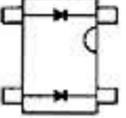
Unit abbreviations: (CO): CONTROL UNIT (C): CHASSIS PART (M) : MAIN UNIT

# SECTION 8 SEMI-CONDUCTOR INFORMATION

## • TRANSISTOR AND FET'S

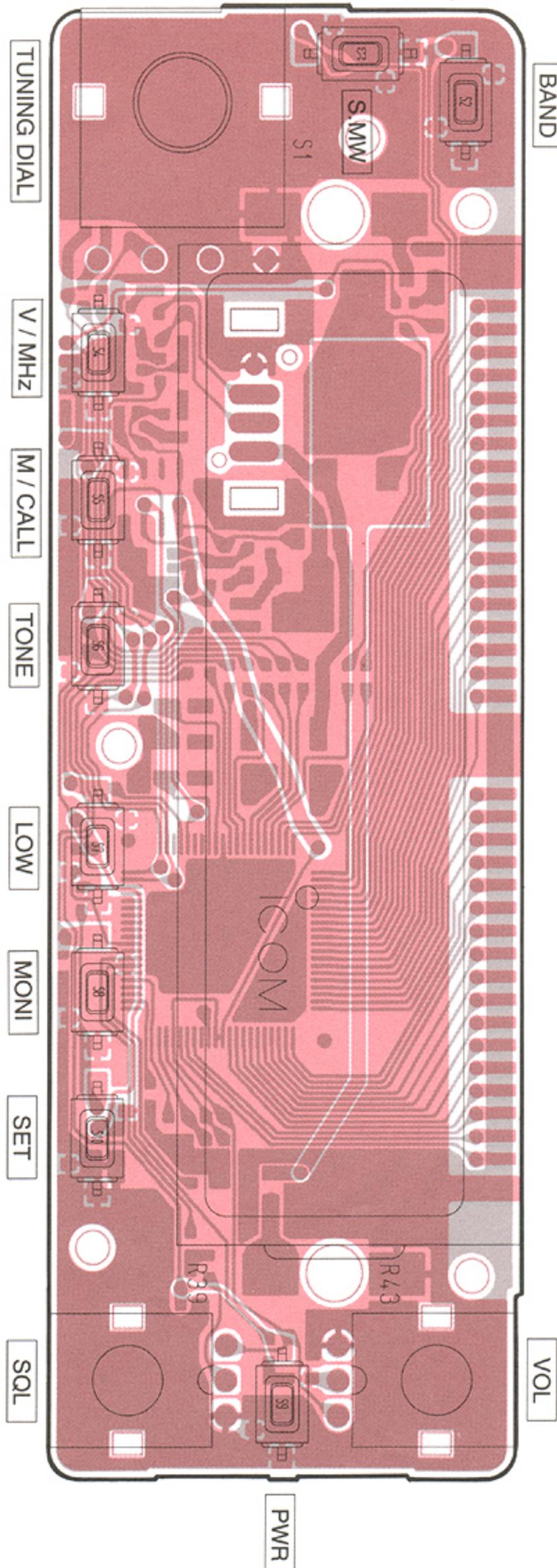
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<p><b>2SB798 DK</b> (Symbol: DK)</p> 	<p><b>2SC2954</b> (Symbol: QK)</p> 	<p><b>2SC3357</b> (Symbol: RK)</p> 	<p><b>2SC4081 R</b> (Symbol: BR)</p> 	<p><b>2SC4081 S</b> (Symbol: BS)</p> 
<p><b>2SC4116 BL</b> (Symbol: LL)</p> 	<p><b>2SC4213 B</b> (Symbol: AB)</p> 	<p><b>2SC4215 Y</b> (Symbol: QY)</p> 	<p><b>2SC4226 R25</b> (Symbol: R25)</p> 	<p><b>2SC4228 T2</b> (Symbol: R45)</p> 
<p><b>2SD999 CK</b> (Symbol: CK)</p> 	<p><b>2SJ144 GR</b> (Symbol: VG)</p> 	<p><b>3SK166 2</b> (Symbol: K)</p> 	<p><b>3SK184 S</b> (Symbol: 3R)</p> 	<p><b>DTA113ZU</b> (Symbol: 111)</p> 
<p><b>DTB123EK</b> (Symbol: F12)</p> 	<p><b>DTC143XU T107</b> (Symbol: 43)</p> 	<p><b>DTC143ZU</b> (Symbol: 123)</p> 	<p><b>DTC144EU</b> (Symbol: 26)</p> 	<p><b>UMD3N TL</b> (Symbol: D3)</p> 
<p><b>UMG9N TL</b> (Symbol: G9)</p> 	<p><b>UMH2N TN</b> (Symbol: H2)</p> 			

## • DIODES

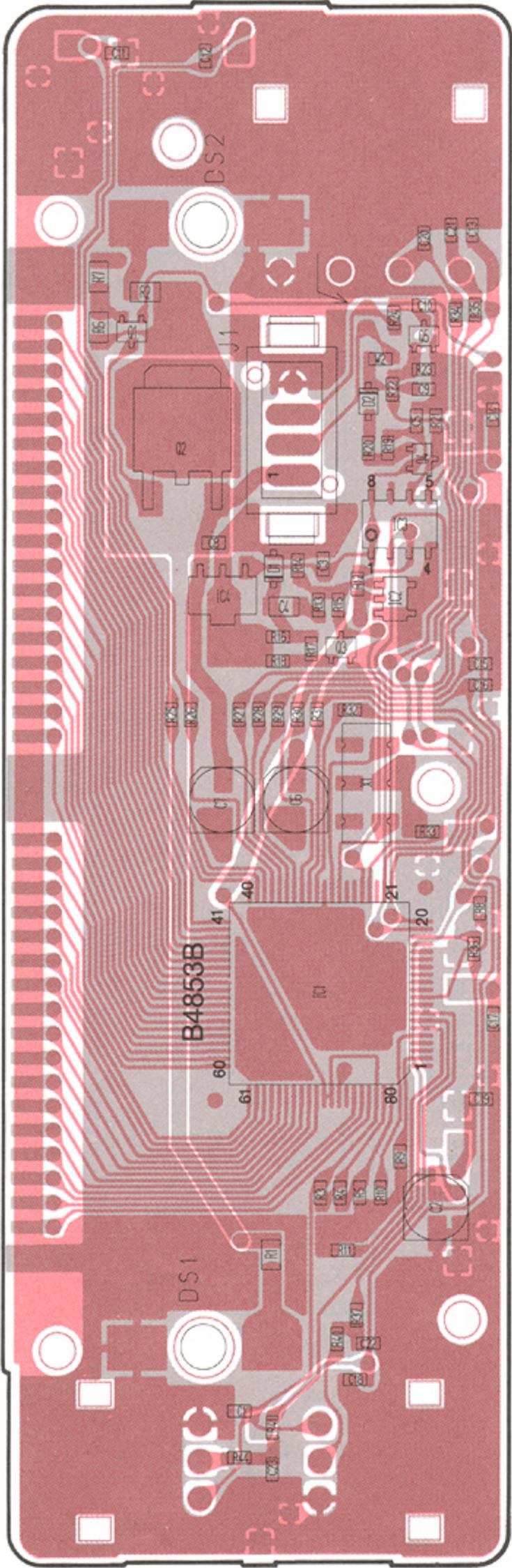
<p><b>1SS355</b> (Symbol: A)</p> 	<p><b>1SV284 (TPH3)</b> (Symbol: TL)</p> 	<p><b>DA114</b> (Symbol: AV)</p> 	<p><b>DA221</b> (Symbol: K)</p> 	<p><b>DAN202U</b> (Symbol: N)</p> 
<p><b>MA133</b> (Symbol: MP)</p> 	<p><b>MA742</b> (Symbol: M1U)</p> 	<p><b>MA8075 L (TX)</b> (Symbol: 7_5)</p> 	<p><b>MA862</b> (Symbol: M1I)</p> 	

# SECTION 9 BOARD LAYOUTS

● TOP VIEW



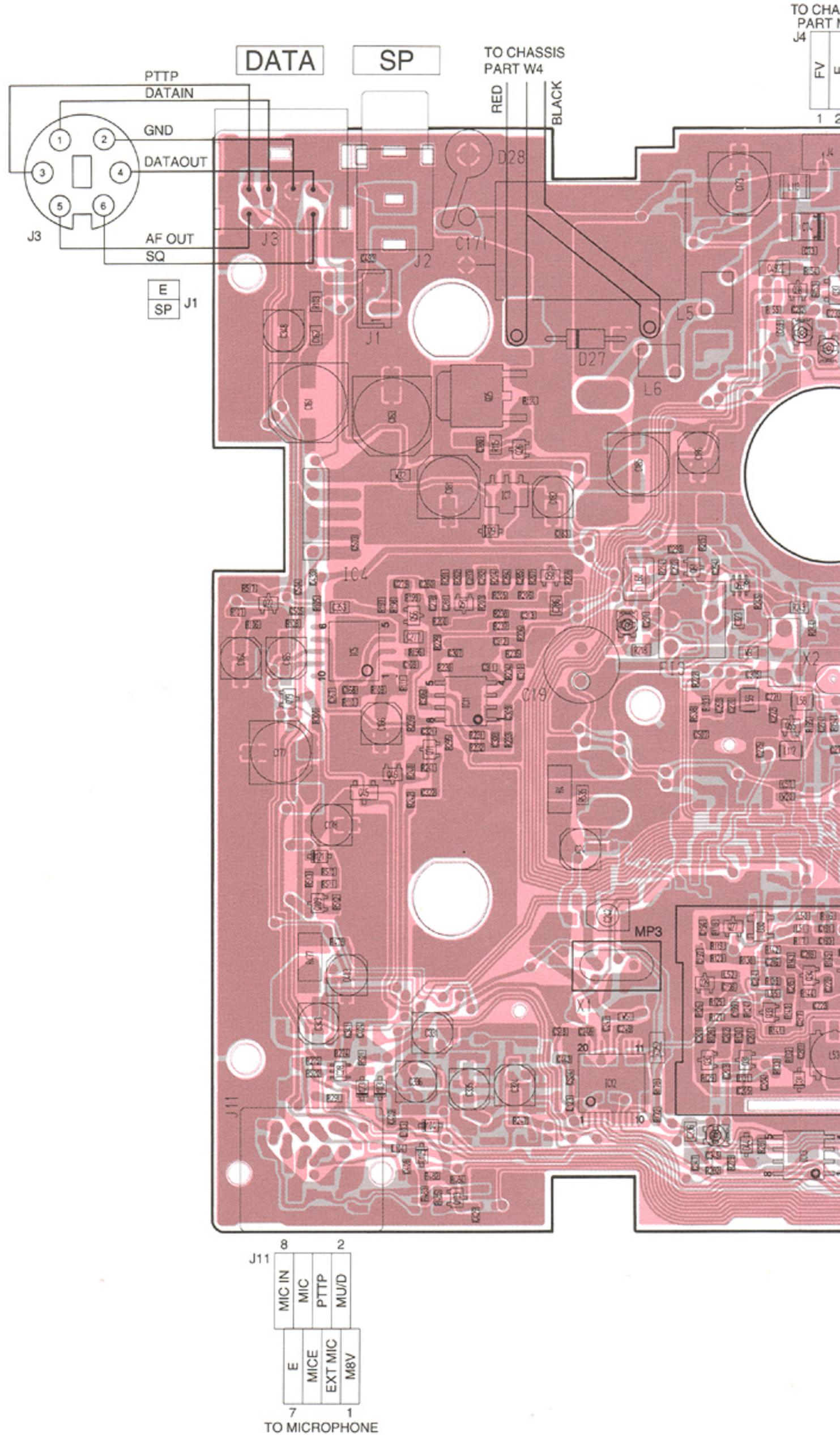
● BOTTOM VIEW



J1		
4	GND	TO MAIN UNIT J12
	RDATA	
	TDATA	
1	HV	

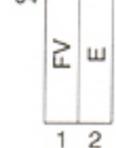
# 9-2 MAIN UNIT

## ● TOP VIEW



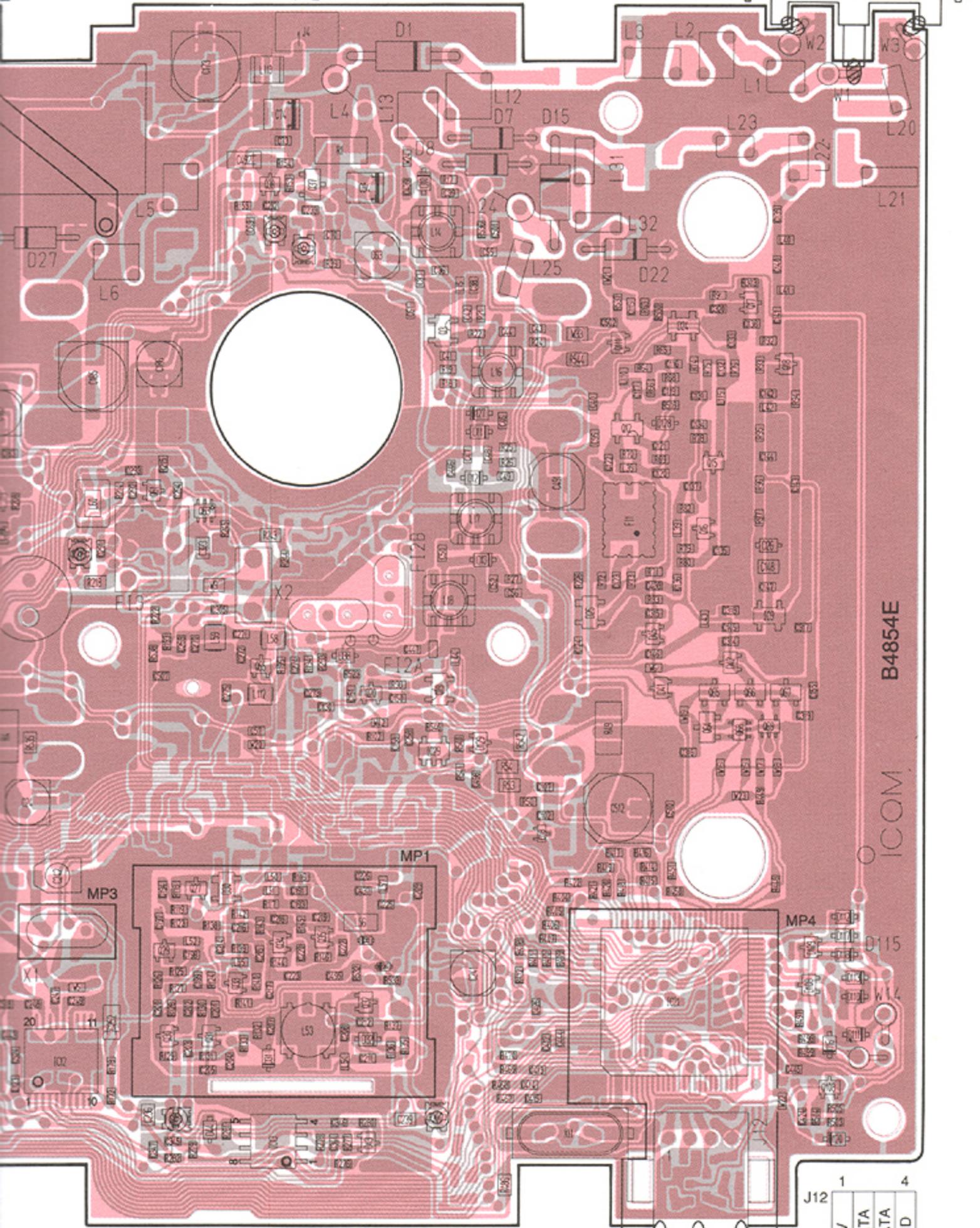
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TO CHASSIS  
PART MF1



ANT

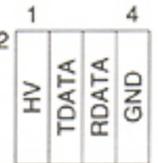
J1



B4854E

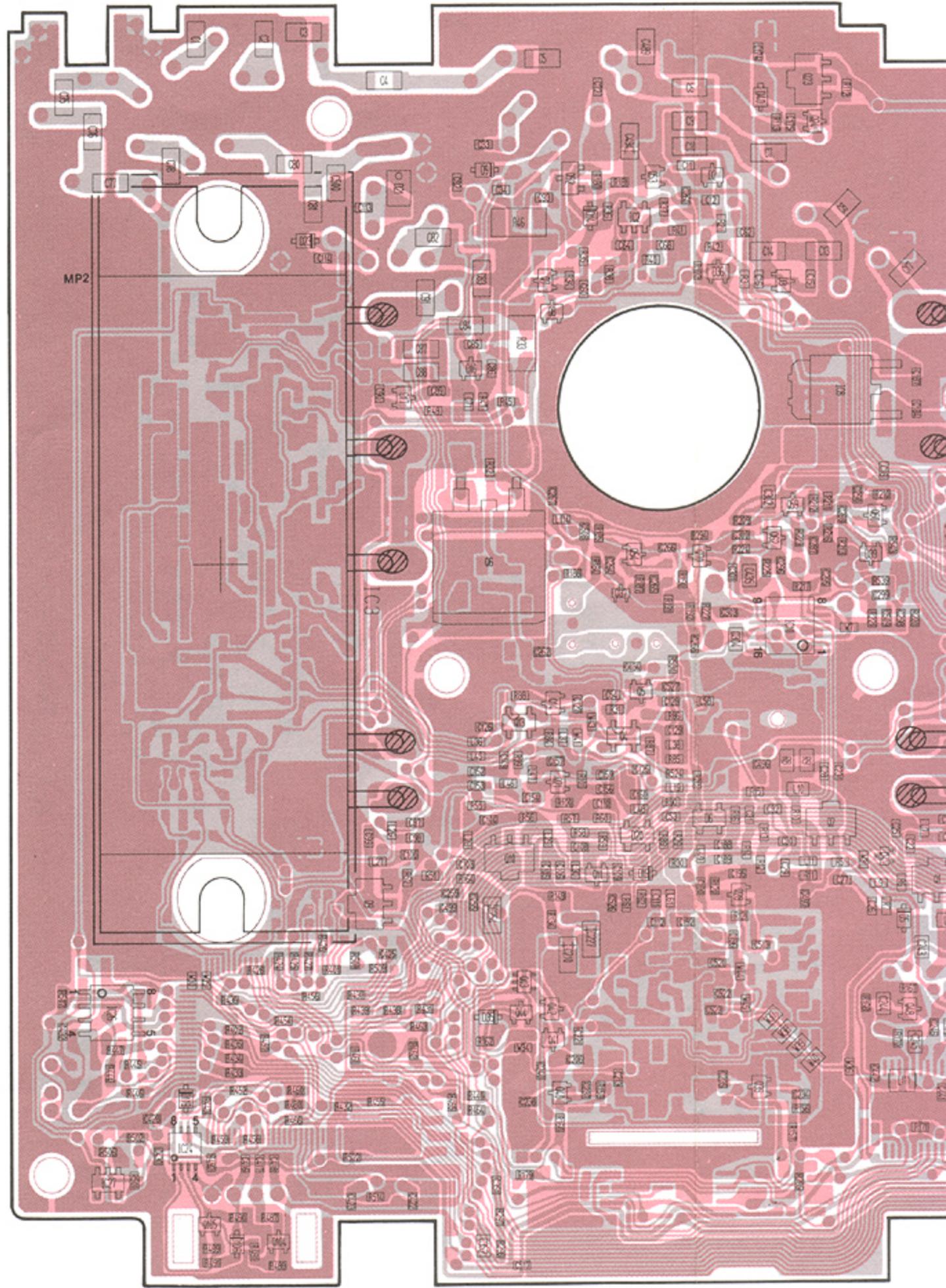
ICOM

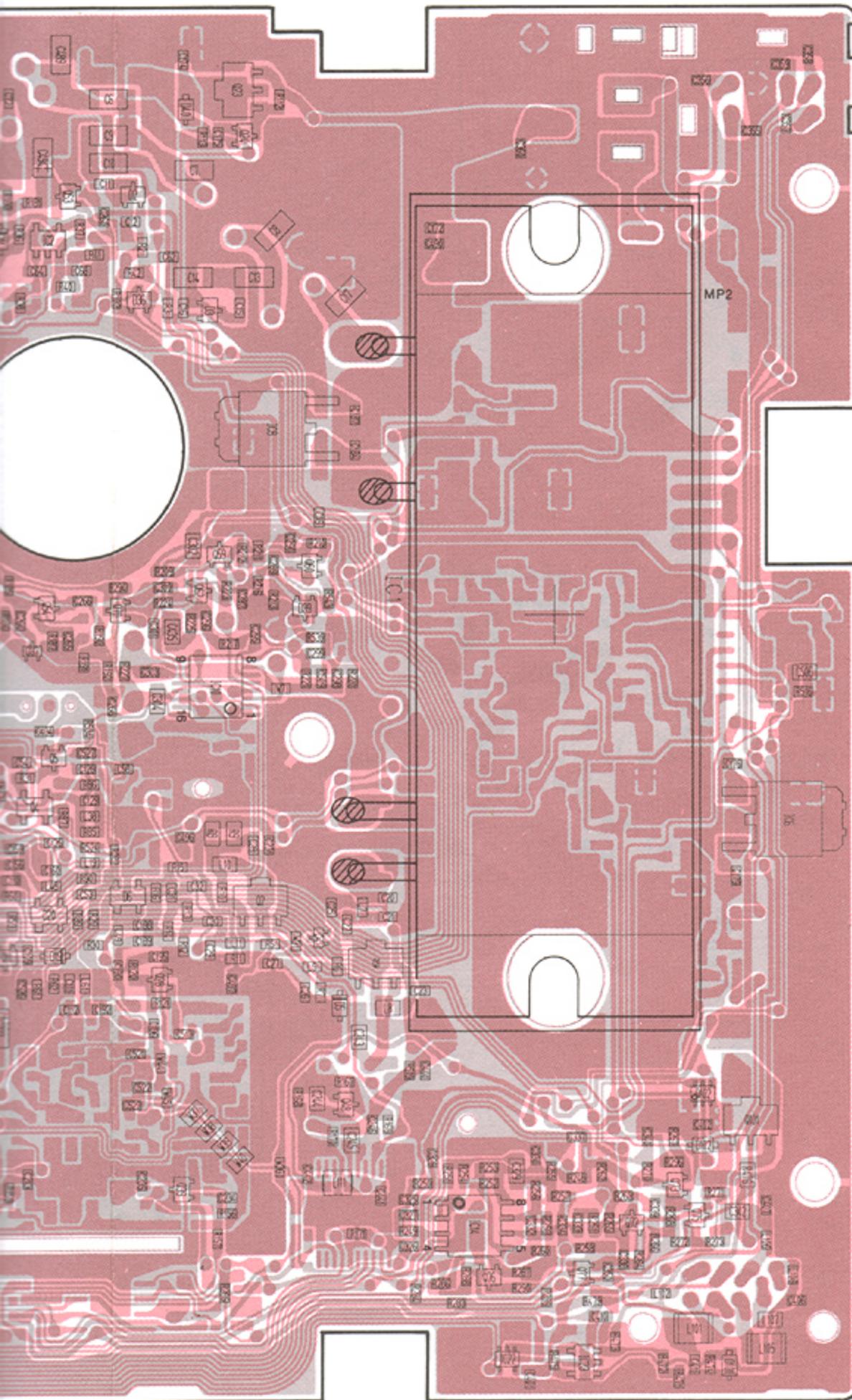
J12



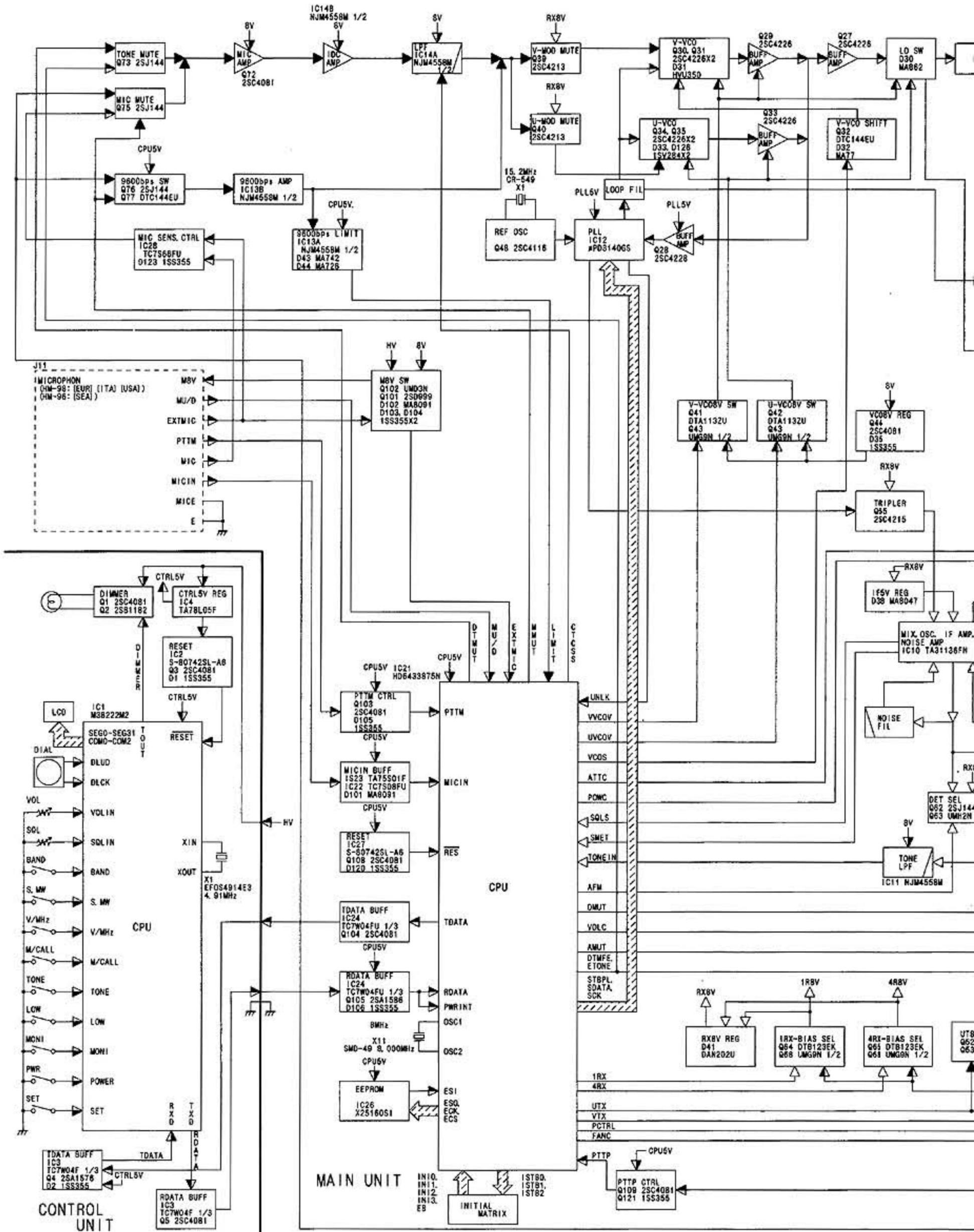
TO CONTROL  
UNIT J1

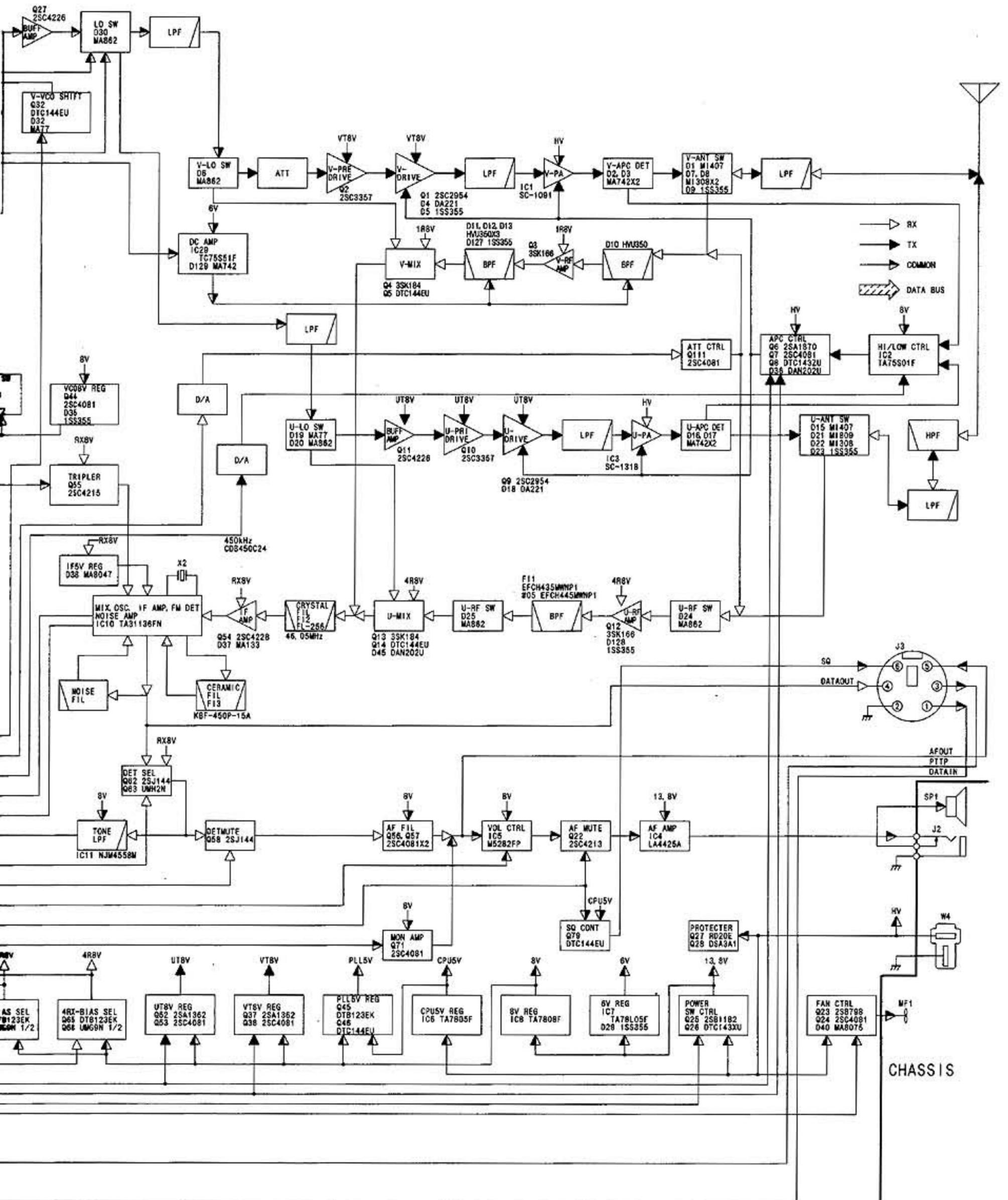
● BOTTOM VIEW





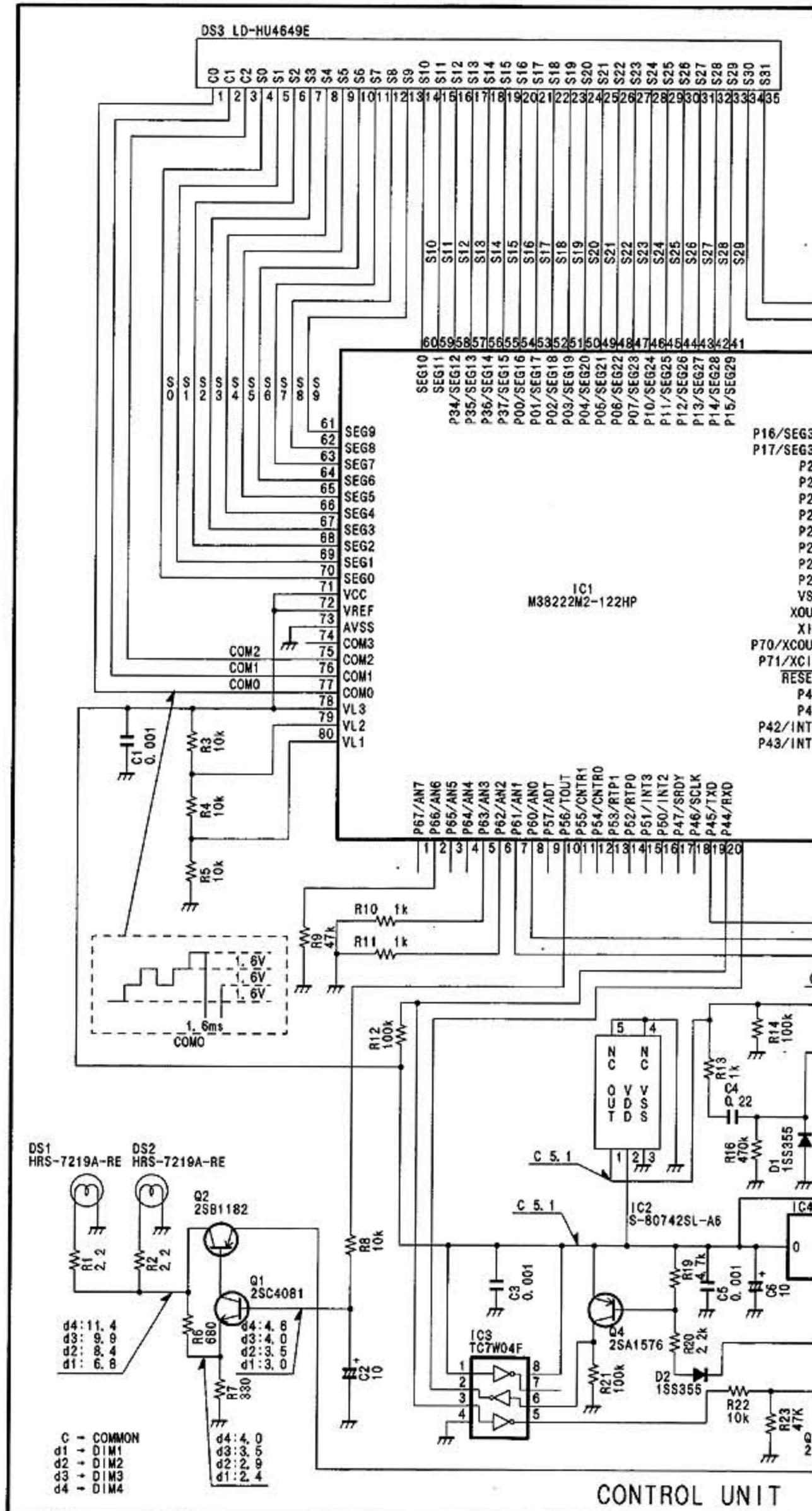
# SECTION 10 BLOCK DIAGRAM

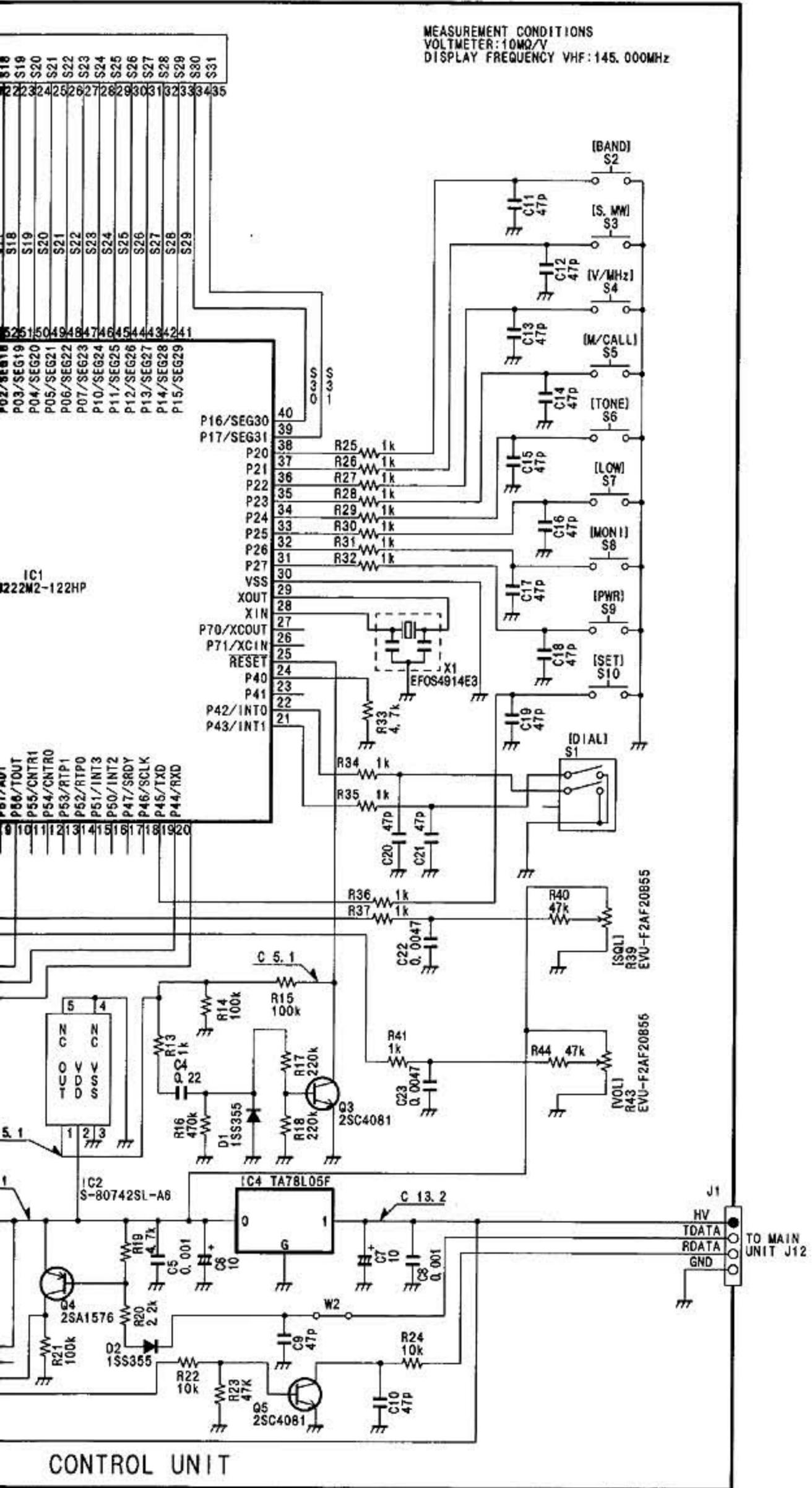




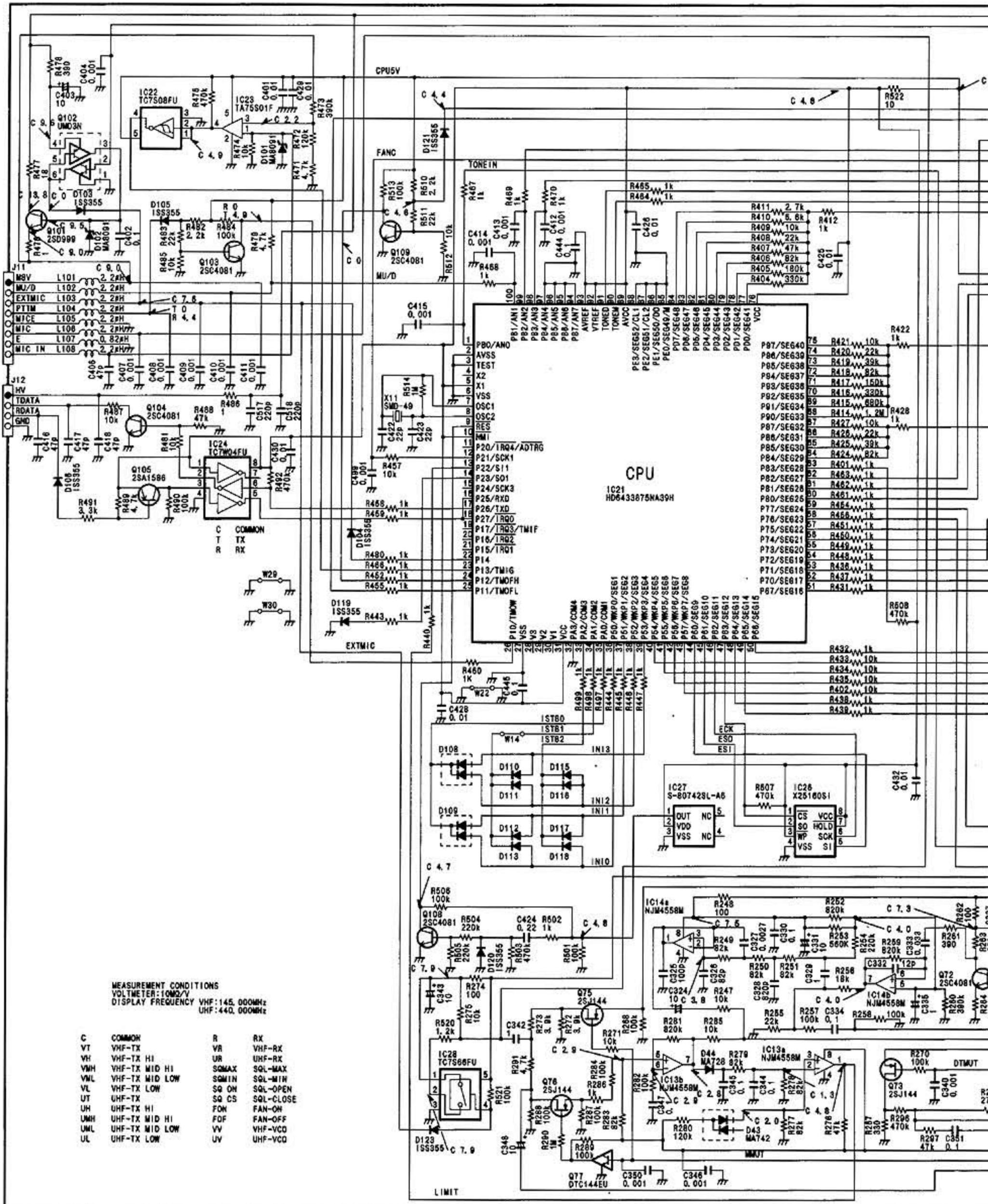
# SECTION 11 VOLTAGE DIAGRAM

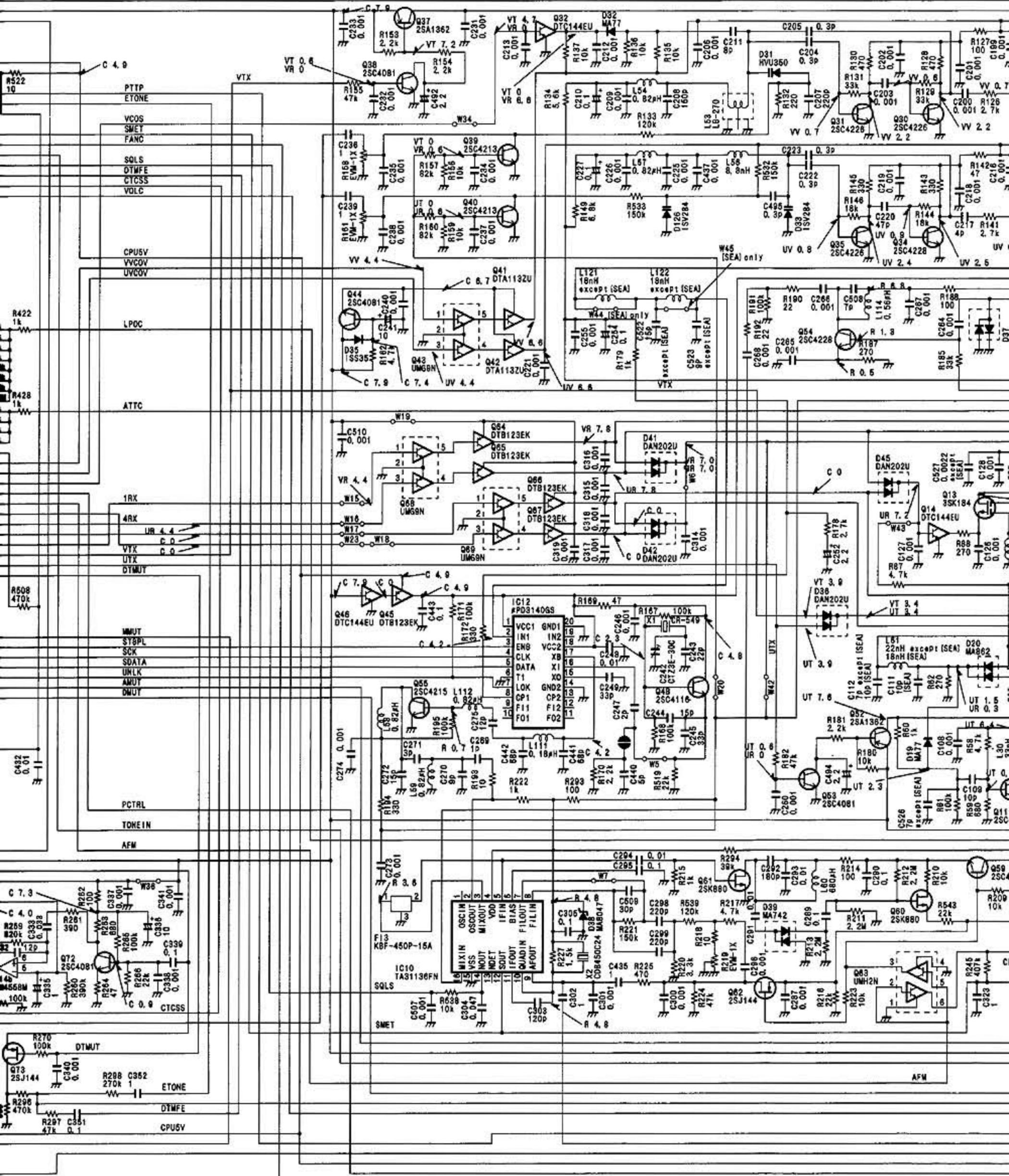
## 11-1 CONTROL UNIT



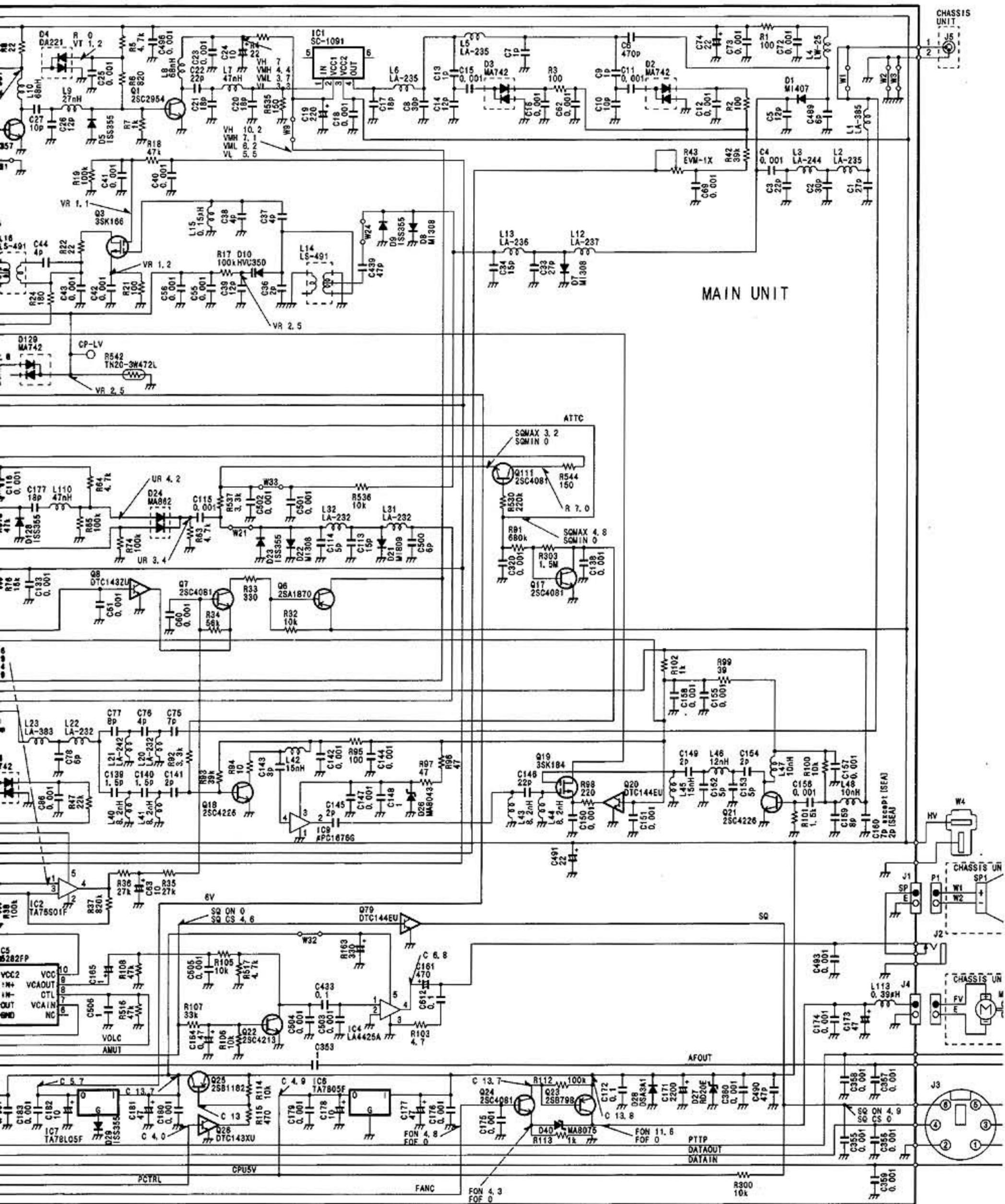


# 11-2 MAIN UNIT









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