



SERVICE MANUAL

UHF FM REPEATER

IC-FR4000

INTRODUCTION

This service manual describes the latest service information for the **IC-FR4000** UHF FM REPEATER.

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

VERSION NO.	VERSION
#13	100 V-120 V
#23	220 V-240 V



DANGER

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

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

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

ORDERING PARTS

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

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

<SAMPLE ORDER>

1110003780 S.IC NJM2902V IC-FR4000 LOGIC UNIT 1 piece
8930056450 2368 6-key IC-FR4000 CHASSIS 5 pieces

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

REPAIR NOTES

1. Make sure a problem is internal before disassembling the repeater.
2. **DO NOT** open the repeater until the repeater is disconnected from AC outlet.
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 repeater is defective.
6. **DO NOT** transmit power into a signal generator or a sweep generator.
7. **ALWAYS** connect a 40 dB or 50 dB attenuator between the repeater and a deviation meter or spectrum analyser when using such test equipment.
8. **READ** the instructions of test equipment thoroughly before connecting equipment to the repeater.

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SECTION 1 SPECIFICATIONS

■ GENERAL

• Frequency range	: 450–480 MHz
• Type of emission	: 16K0F3E / 8K50F3E
• Frequency resolution	: 25 or 12.5 kHz
• Number of channels	: Max. 32 channel
• Antenna connector	: N-type × 2 (50 Ω)
• Power supply requirement	: 100–120 V AC [120V VERSION] 220–240 V AC [220V VERSION] 13.6 V (negative ground)
• Current drain (at 13.6 V)	: Less than 20 A (TX) Less than 1A (RX standby) Less than 2A (RX max power)
• Operating temperature range	: –30°C to +60°C (–22°F to +140°F)
• Dimensions (projections not included)	: 410 (W) × 110 (H) × 360 (D) mm 16.1 (W) × 4.3 (H) × 14.1 (D) inch
• Weight	: 12 kg (26.5 lb)

■ TRANSMITTER

• Output power	: 50 W
• Modulation system	: Variable reactance frequency modulation
• Max. frequency deviation	: ±5.0 kHz (Wide) / ±2.5 kHz (Narrow)
• Spurious emissions	: –70 dBc typical
• Adjacent channel power	: More than 70 dB (Wide) More than 60 dB (Narrow)
• Input impedance	: 600 Ω

■ RECEIVER

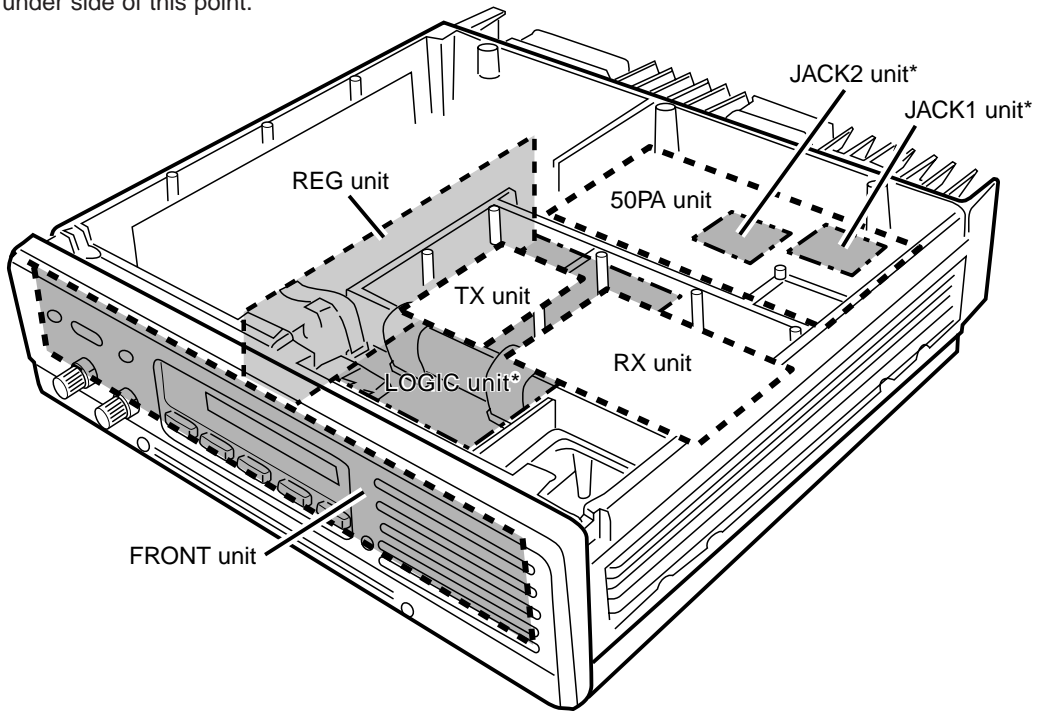
• Receiving system	: Double conversion superheterodyne system
• Intermediate frequency	: 1st; 70 MHz 2nd; 455 kHz
• Sensitivity (12 dB SINAD)	: 0.5 μV; 12 dB SINAD
• Adjacent channel selectivity	: More than 70 dB (Wide) More than 60 dB (Narrow)
• Spurious response	: More than 70 dB
• Intermodulation	: More than 70 dB
• Audio output power	: 2.5 W at 10% distortion with an 4 Ω load
• Audio output impedance	: 4 Ω

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

SECTION 2 INSIDE VIEWS

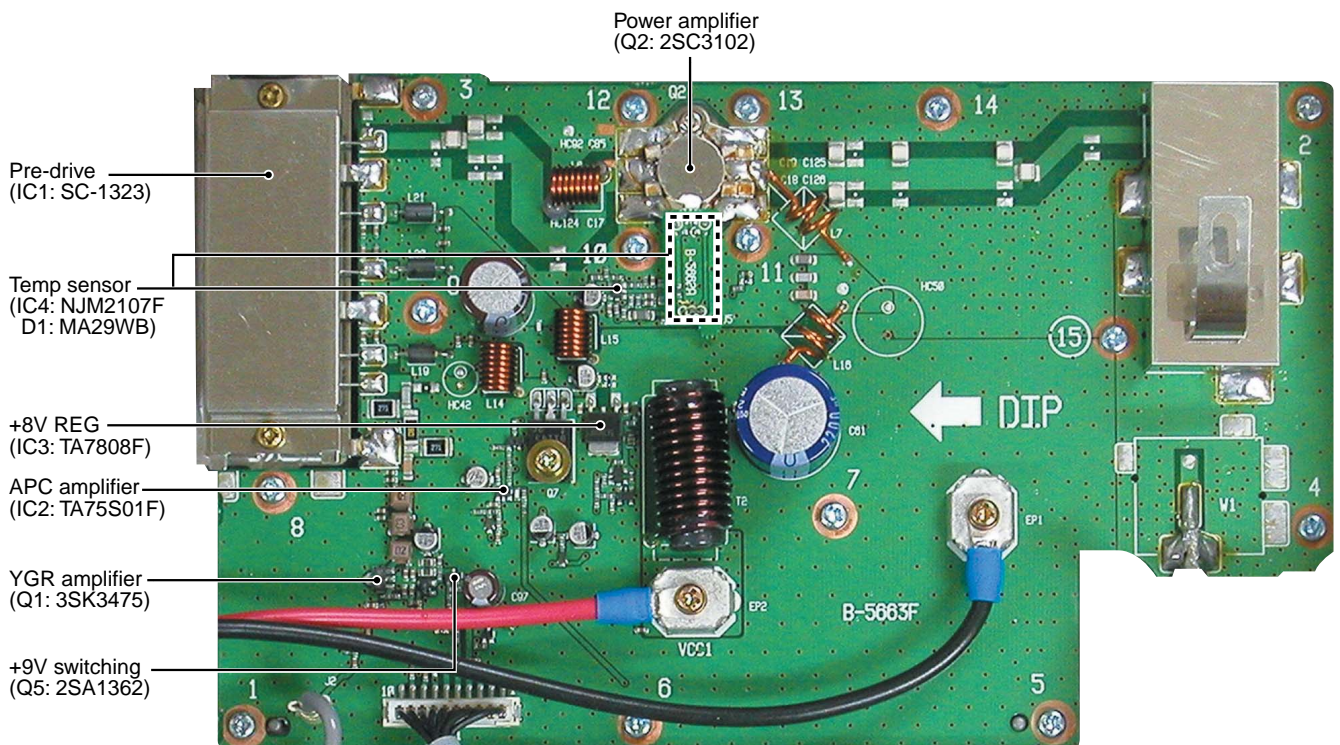
• BOARD LAYOUT

*: Located under side of this point.



• 50PA UNIT

Top view



• LOGIC UNIT

Top view

OFF-HOOK CTRL
(IC47: LC73701M,
IC50: TC4W53)

CTCSS decoder
(IC29: FX805)

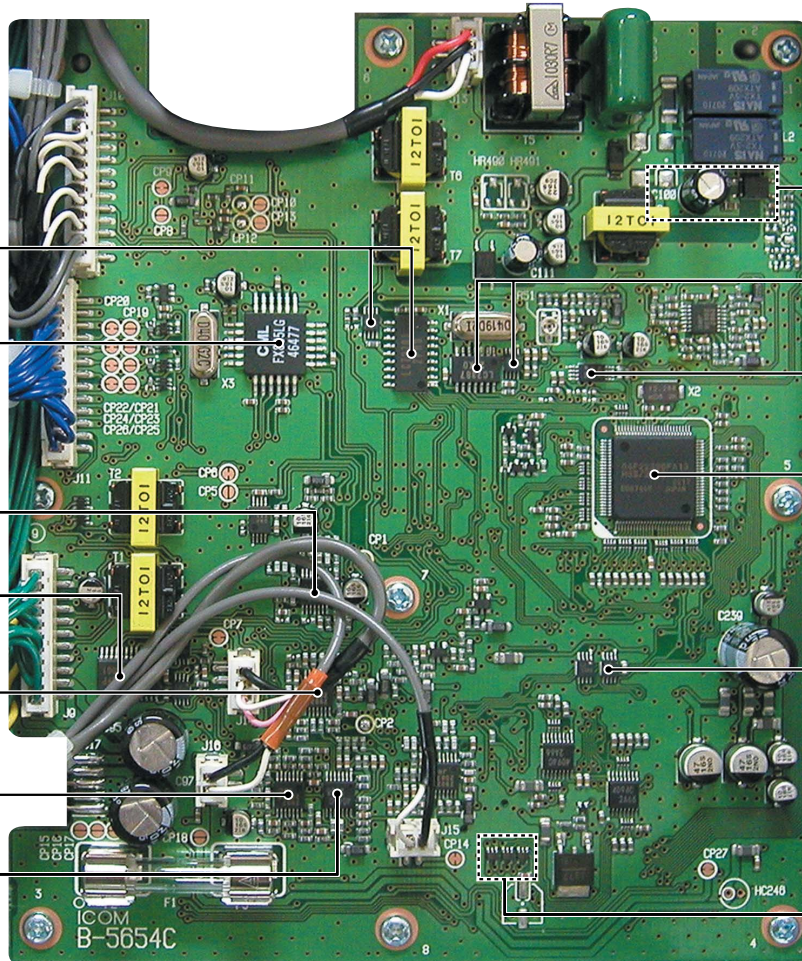
Splatter filter
(IC4: NJM2902V)

D/A converter
(IC25: M62364)

Mic mix amplifier
(IC2: NJM2902V)

Mic amplifier
(IC1: NJM2902V)

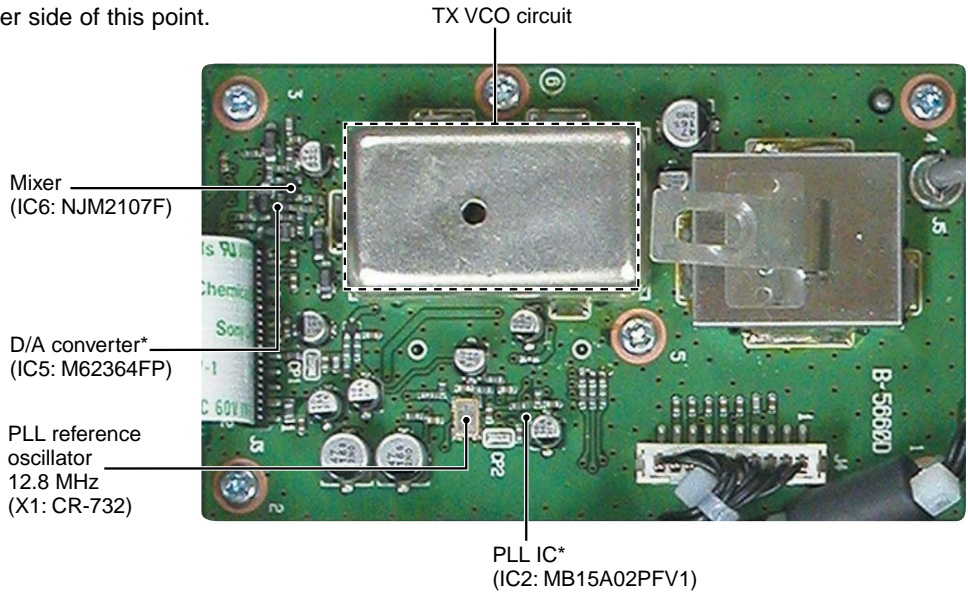
Mic mute
(IC13: BU4066)



• TX UNIT

Top view

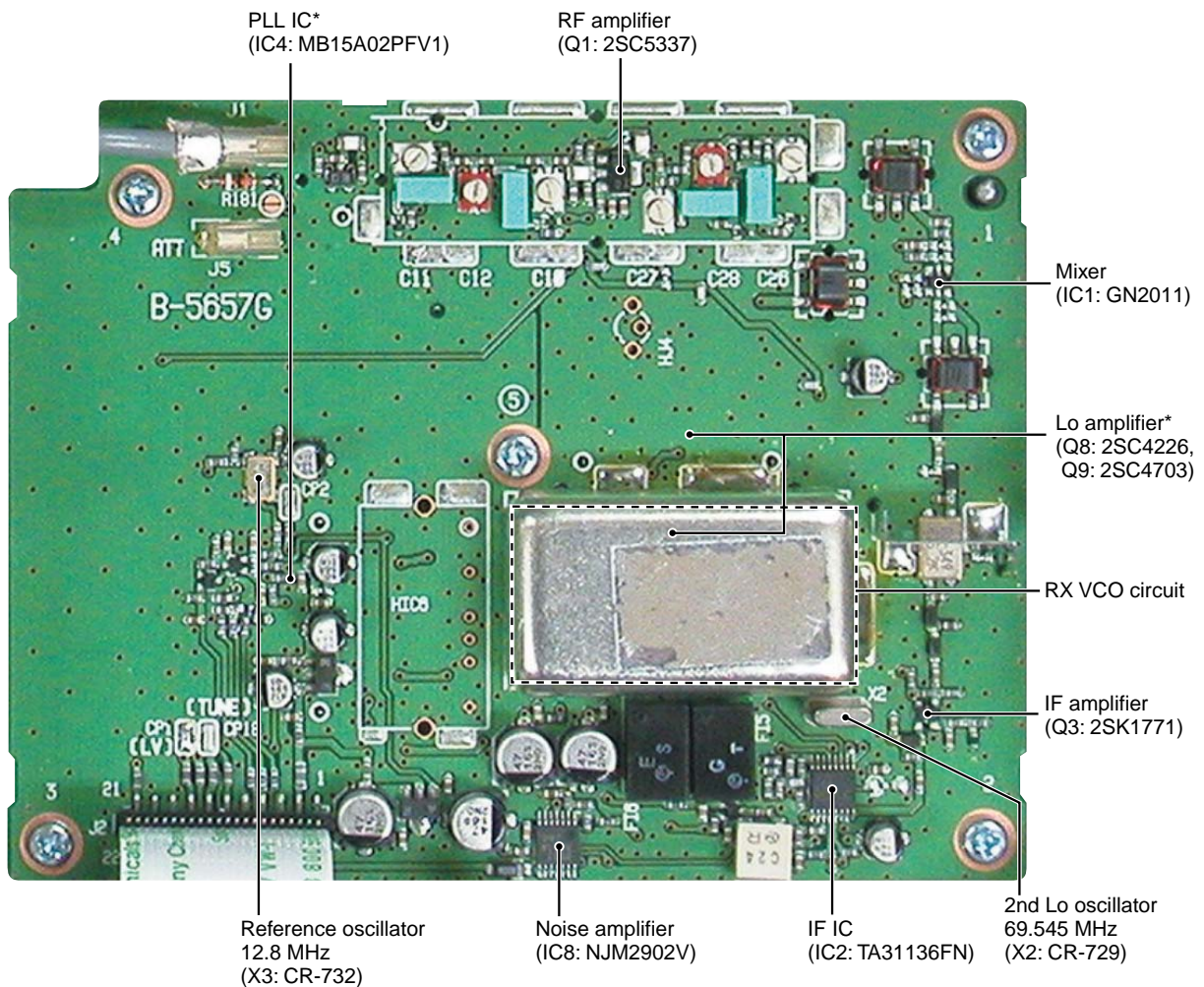
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• RX UNIT

Top view

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SECTION 3 CIRCUIT DESCRIPTION

3-1 RECEIVER CIRCUITS

3-1-1 RF CIRCUIT (RX UNIT)

Received signals from the RX antenna connector enter the RX unit J1 and pass through a tuned bandpass filter (D3, D4, L1–L3, L32, C2, C5–C8, C10–C12, C14, C205, C206, C210,) which is controlled by the D/a converter IC (LOGIC unit; IC25). The filtered signals are applied to an PRE-amplifier (Q1). The amplified signal are applied to a bandpass filter (D6, D7, L6, L7, C21, C22, C24, C, 26–C28, C30, C207, C208) and are then applied to the 1st mixer circuit.

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

The 1st mixer circuit converts the received signals to a fixed frequency of the 1st IF signal with the PLL output frequency. By changing the PLL frequency, only the desired frequency will pass through a crystal filter at the next stage of the 1st mixer.

The filtered signals are applied to the 1st mixer circuit (L8, L9, L10, IC1), and are then mixed with the 1st LO signal from the PLL circuit to produce a 70MHz 1st IF signal.

The 1st IF signal passes through a MCF (Monolithic Crystal Filter; F11) to suppress out-of-band signals. The filtered signal is applied to the 2nd mixer circuit (IC2, pin 16) via the buffer amplifier (Q3).

3-1-3 2ND IF AND DEMODULATOR CIRCUITS (RX UNIT)

The 2nd mixer circuit converts the 1st IF signal to a 2nd IF signal. A double-conversion superheterodyne system improves the image rejection ratio and obtains stable receiver gain.

The amplified signal is applied to the 2nd mixer section of the FM IF IC (IC2, pin 16), and is then mixed with the 2nd LO signal for conversion to a 455 kHz 2nd IF signal.

The 455 kHz 2nd IF signal is applied to a ceramic bandpass filter (narrow; F15, wide; F16) where unwanted signals are

suppressed, and are then applied to a limiter amplifier section in the system IC (IC2, pin 5).

IC2 contains the 2nd mixer, limiter amplifier, quadrature detector, active filter and noise amplifier circuits, etc. The local oscillator section and X2 generate 69.545 MHz for the 2nd LO signal.

The 2nd IF signal is then amplified at the limiter amplifier section (IC2, pin 5) and applied to the quadrature detector section (IC2, pins 10, 11 and X1) to demodulate the 2nd IF signal into AF signals.

The AF signals are output from pin 9 (IC2) and are then applied to the AF amplifier circuit on the LOGIC unit.

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

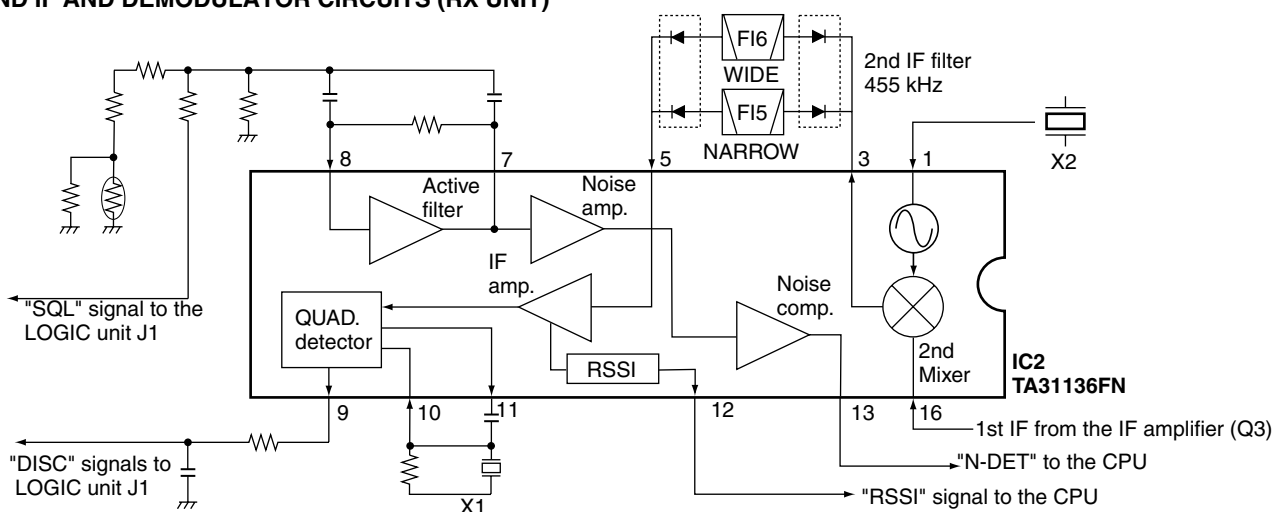
The AF amplifier circuit amplifies the demodulated AF signals to drive a speaker.

The AF signals from the FM IF IC (RX unit; IC2, pin 9) is applied to the buffer amplifier (IC9). The amplified signals passes through the high-pass filter (IC9, pins 5, 7, 12, 14) which removes CTCSS or DTCS signals.

The filtered AF signals are output from pin 7 (IC9) and are applied to the de-emphasis circuit (IC9, pins 1, 2) with frequency characteristics of -6 dB/octave, and then passed through the low-pass filter (IC10, pins 1, 3, 5, 7). The filtered signal is applied to the volume control (VR unit; R1) to control the audio level.

The output AF signals from the volume control (VR unit; R1) pass through the analog switch (IC16; pins 1, 7) and are then applied to the AF power amplifier (IC17) to drive the speaker.

• 2ND IF AND DEMODULATOR CIRCUITS (RX UNIT)



3-1-6 RECEIVER MUTE CIRCUITS (LOGIC UNIT)

• NOISE SQUELCH

The noise squelch circuit cuts out AF signals when no RF signals are received. By detecting noise components in the AF signals, the squelch circuit switches the AF mute switch.

Some noise components in the AF signals from the FM IF IC (RX unit; IC2, pin 9) are passed through the SQL level controller (VR unit; R2). The level controlled signals are applied to the active filter section in the FM IF IC (RX unit; IC2, pin 8). Noise components about 10 kHz are amplified and output from pin 7 (RX unit; IC2).

The filtered signals are converted to the pulse-type signals at the noise detector section and output from pin 13 (RX unit; IC2).

The NDET signal from the FM IF IC (RX unit; IC2) is applied to the CPU (IC33, pin 40). The CPU analyzes the noise condition and controls the AF mute signal via "AFMUTE1" line (IC40, pin 4) to the AF mute switch (IC16).

• CTCSS AND DTCS

The tone squelch circuit detects AF signals and opens the squelch only when receiving a signal containing a matching subaudible tone (CTCSS or DTCS).

The CTCSS signal passes through the low-pass filter circuit (IC8) and is then applied to the CTCSS decoder IC (IC29). The detected signal is applied to the CPU (IC 33) via the serial signal line.

The DTCS signal passes through the low-pass filter circuit (IC12), and is then applied to the DTCS decoder which is inside the CPU (IC33, pin 52) via the "DTCSI" line.

The 2/5TONE signals are pass through the low-pass filter circuit (IC12), and are then applied to the 2/5TONE decoder which is inside the CPU (IC33 pin 51) via "25T1" line.

The DTMF signal passes through the DTMF switch IC (IC30), and is then applied to the DTMF decoder which is inside the CPU (IC33, pins 82, 85, 86).

The DTMF switch (IC30) selects the signal from telephone line or RX unit.

3-2 TRANSMITTER CIRCUITS

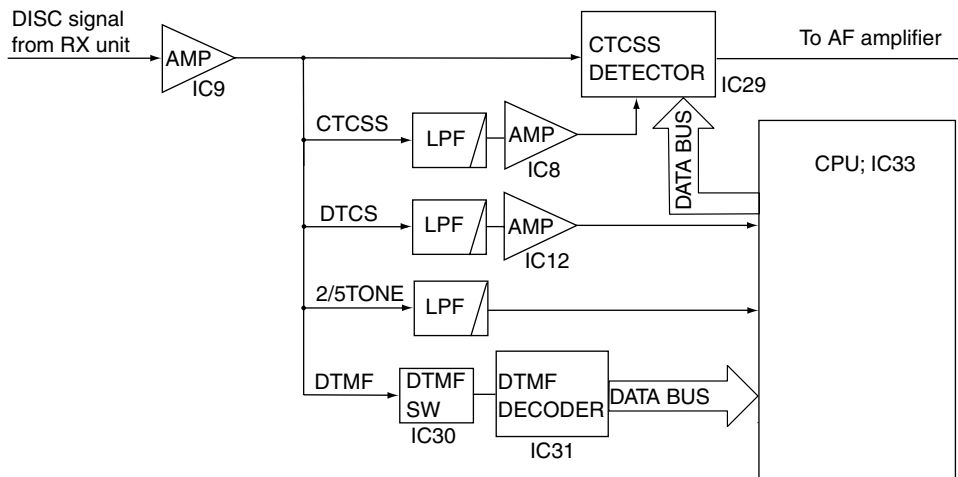
3-2-1 AF AMPLIFIER CIRCUIT (LOGIC UNIT)

• IN CASE OF THE AF SIGNAL FROM THE MIC JACK

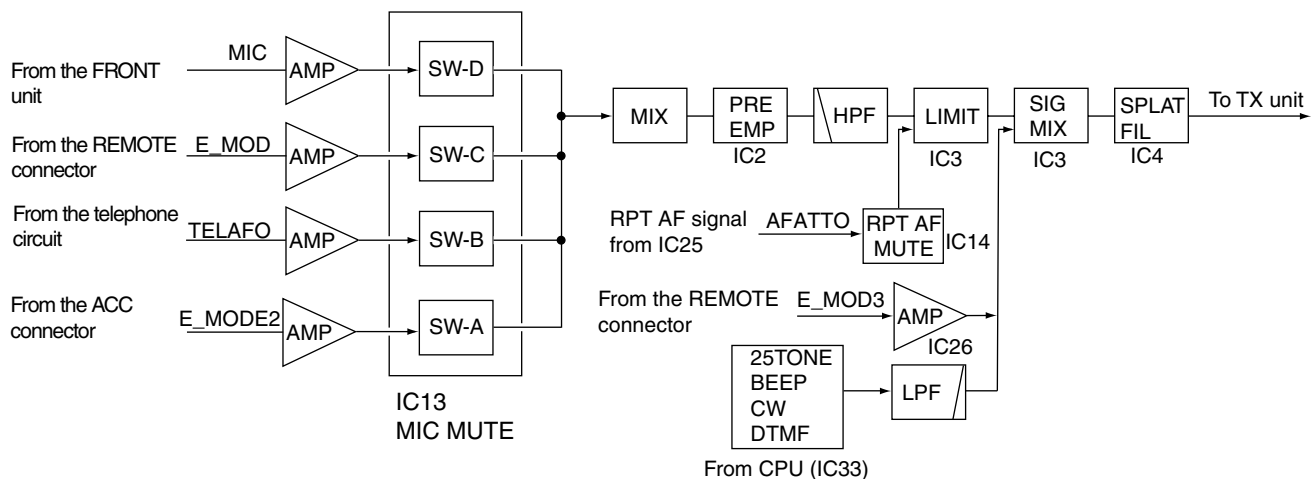
The AF signals (MIC) from the MIC jack (FRONT unit; J7) are amplified at the AF amplifier (IC1). The amplified signals are mixed with the "E_MOD", "E_MOD2" and "TELAFO" signals from IC1. The mixed signals pass through the high-pass filter (IC2) via the pre-emphasis circuit (IC2).

The filtered signals are applied to the limiter amplifier, and are then mixed with the DTMF signal from the CPU (IC33, pin 43) via TX-signal filter (IC3). The mixed signal applied to the splatter filter (IC4).

• TONE SIGNALS CIRCUITS (LOGIC UNIT)



• AF AMPLIFIER CIRCUITS (LOGIC UNIT)



• IN CASE OF THE AF SIGNAL FROM THE ANTENNA CONNECTOR

The AF signals (received signals) from the antenna connector (RX unit; J1) are applied to the buffer amplifier (IC9), CTCSS detector (IC29) and AF amplifier (IC6). The amplified signals are applied to the expander IC (IC25) to adjust to a level needed. The adjusted signals pass through the RPT AF mute switch (IC14), and are applied to the limiter amplifier (IC3).

• IN CASE OF THE 2/5TONE SIGNALS

The 2/5TONE signal from the CPU (IC33, pin 43) are applied to the mixer amplifier (IC3) via TX signal filter circuit (IC3).

• IN CASE OF THE DTMF SIGNALS

The DTMF from dialler IC (IC47, pin 14) are applied to the mixer amplifier (IC3) via the TX signal filter circuit (IC3).

• IN CASE OF THE CTCSS AND DTCS SIGNALS

The CTCSS and DTCS signals from the CPU (IC33, pin 44) are applied to the TX-tone filter (IC4, pins 12, 14). The filtered signal are applied to the converter IC (TX unit; IC5) to adjust tone level, and are then mixed with AF signal at the mixer amplifier IC (TX unit; IC6).

3-2-2 MODULATION CIRCUIT (TX UNIT)

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

The filtered signals from the LOGIC unit are applied to the D/A converter (IC5, pin 4) to adjust AF level. The adjusted signals are applied to the mixer amplifier IC (IC6, pin 1) with the CTCSS/DTCS signals.

The CTCSS/DTCS signals from the CPU (LOGIC unit; IC33, pin 44) are pass through the TX-tone filter (LOGIC unit; IC4) and are then applied to the D/A converter (IC5 pin9) to adjust tone level.

The mixed signals are applied to the TX VCO circuit to modulate the oscillated signal (TVCO unit; D5). The TVCO output is amplified at the buffer amplifiers (Q1, Q2) and is then applied to the drive amplifier circuit.

3-2-3 DRIVE AMPLIFIER CIRCUIT (PA UNIT)

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

The RF signal from the TX unit pass through the attenuater circuit (R12–R14), the low-pass filter circuit (L1, L13, C3, C4,) and is then applied to the YGR amplifier (Q1). The amplified signal passes through the low-pass filter circuit (L4, L5, C8, C9, C56, C66), the attenuater circuit (R3–R5) and is then applied to the pre-drive amplifier IC1.

3-2-4 POWER AMPLIFIER CIRCUIT (PA UNIT)

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

The RF signal from the pre-drive amplifier (IC1) is applied to the power amplifier (Q2) to obtain 50 W of RF power.

The amplified signal is passed through the low-pass filter circuit (L8–L10, C24–C26, C30–C32) and APC detector (R8, R9, R25, R26, R29, R30, C88, C89, D2, D4), and are then applied to the antenna connector.

Control voltage for the pre-drive amplifier (IC1, pin 2) comes from the APC amplifier (IC6, IC7, D10) to obtain stable output power. The transmit mute switch (Q3, Q5, Q8, Q9, D11) controls YGR amplifier and pre-drive amplifier when transmit mute is necessary.

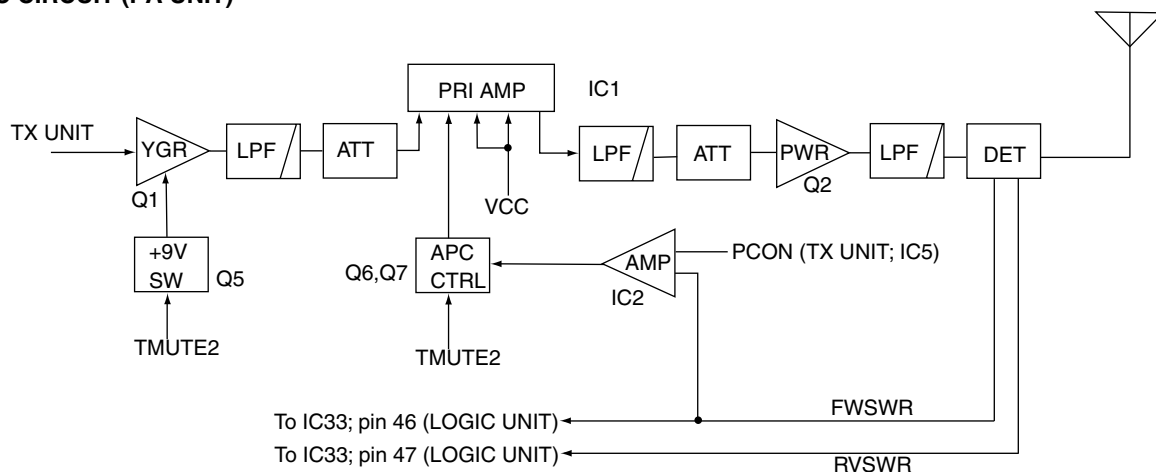
3-2-5 APC CIRCUIT (PA UNIT)

The APC circuit protects the power amplifier from a mismatched output load and stabilizes the output power.

The APC detector circuit detects forward signals and reflection signals at D2 and D4 respectively. The combined voltage become minimum level when the antenna impedance is matched at 50 Ω, and the voltage is increased when it is mismatched.

The detected voltage is applied to the APC amplifier (IC2, pin 3), and the power setting “PCON” signal from the D/A converter (TX unit; IC5), controlled by the CPU (LOGIC unit; IC33), is applied to APC amplifier (IC2, pin 1) for reference. When antenna impedance is mismatched, the detected voltage exceeds the power setting voltage. Then the output voltage of the APC amplifier (IC2, pin 4) controls the input cur-

• APC CIRCUIT (PA UNIT)



rent of the drive amplifier (IC1, pin 2) to reduce the output power.

3-3 PLL CIRCUITS

3-3-1 GENERAL

Each receiver and transmitter circuit has an independent PLL circuit for controlling frequencies. All PLL circuits are shielded and installed on the RX and TX units.

PLL circuits steadily oscillate the transmit frequency and the receive local frequency. The PLL output frequency is controlled by divided ratio (N-data) of the programmable divider.

3-3-2 RECEIVER PLL CIRCUIT (RX UNIT)

The PLL IC (IC4) which includes in the prescaler, the programmable counter and the phase comparator generates the 1st LO frequency with the VCO circuit (RVCO unit; Q1, D1–D4). The PLL IC sets the divided ratio which bases on N-data from the CPU (LOGIC unit; IC33) to control the programmable counter. The PLL IC compares a phases of the VCO signal with the reference oscillator frequency, and is then applied to the VCO circuit (RVCO unit; Q1, D1–D4).

3-3-3 RECEIVER REFERENCE OSCILLATOR CIRCUIT (RX UNIT)

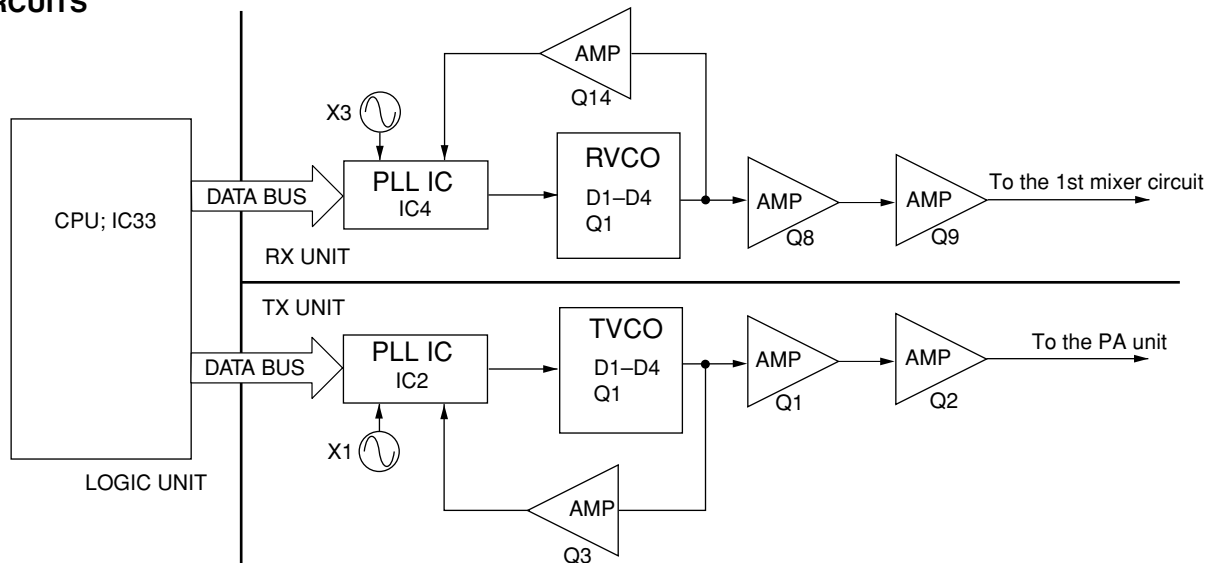
The 12.8 MHz reference frequency is produced by the oscillator (X3). The frequency is adjusted by the D/A converter IC (LOGIC unit; IC25). The reference frequency is applied to the PLL IC (IC4, pin 1).

3-3-4 RECEIVER VCO CIRCUIT (RVCO UNIT)

The VCO circuit (D1–D4, Q1) generates the receive frequency. The signal is applied to the buffer amplifier (Q2), and is applied to the PLL IC (RX unit; IC4). The signal is amplified at the buffer amplifiers (RX unit; Q8, Q9), and is then applied to the 1st mixer circuit (RX unit; IC1) as 1st LO signal.

A part of the signal is applied to the PLL IC (IC4) via the

• PLL CIRCUITS



amplifier (Q14) as RX PLL lock voltage.

3-3-5 TRANSMITTER PLL CIRCUIT (TX UNIT)

The PLL IC (IC2) which includes in the prescaler, the programmable counter and the phase comparator. The PLL IC sets the divided ratio which bases on N-data from the CPU (LOGIC unit; IC33) to control the programmable counter. The PLL IC compares a phases of the VCO signal with the reference oscillator frequency, and is then applied to the VCO circuit (TVCO unit; Q1,D1–D4).

3-3-6 TRANSMITTER REFERENCE OSCILLATOR CIRCUIT (TX UNIT)

The 12.8 MHz reference frequency is produced by the oscillator (X1). The frequency is adjusted by the D/A converter IC (IC5, pin 14). The reference frequency is applied to the PLL IC (IC2, pin 1).

3-3-7 TRANSMITTER VCO CIRCUIT (TVCO UNIT)

The VCO circuit (Q1, D1–D4) generates the transmit frequency. The signal is applied to the buffer amplifier (Q2) and is then applied to the PLL IC (TX unit; IC2) and buffer amplifier (TX unit; Q1, Q2). The amplified signal is applied to the PA unit.

A part of the signal is applied to the PLL IC (IC4) via the amplifier (Q3) as TX PLL lock voltage.

3-4 OTHER CIRCUIT

3-4-1 TELEPHONE IF CIRCUIT (LOGIC UNIT)

The signals from the telephone line (FRONT, J13) are applied to the ringer detect circuit (C100, C103, C375, R131, D1, D5, R143, R145, IC48). The detected signals are applied to the CPU (IC33, pin 73) via "RING" line. The "HOOKC" signal from the CPU (IC33, pin 72) and the "DP" signal from IC47 are applied to the hook switch (RL1, RL2) to off-hook.

Received AF signals from the RX unit pass through the high-pass filter, de-emphasis and low-pass filter circuits. The filtered AF signal are amplified at IC7 and are then applied to the network IC (IC46, pin 16) via T6. The output signal from IC46 are applied to the J13 (FRONT unit).

AF signals from J13 (FRONT unit) are applied to the network IC (IC46). The output signals from IC46 (pins 8, 9) are applied the AF amplifier IC (IC1, pin 2) via T8. The signals pass through the MIC mute switch, the MIC mixer amplifier, the pre-emphasis circuit, the high-pass filter, limiter amplifier circuit, S-mixer circuit, and splatter filter circuit. The filtered signals are applied to the TX unit.

After off-hook condition, DTMF signal from telephone line is applied to the decoder IC (IC31) to decode the DTMF signal. The DTMF signal is applied to the CPU (IC33) via serial signal line.

The end signal is detected at IC45 and then is applied to the CPU (IC33). The "HOOKC" signal from the CPU (IC33, pin 72) and the "DP" signal from IC47 are applied to the hook switch (RL1, RL2) to on-hook.

3-4-2 EEPROM CIRCUIT (LOGIC UNIT)

The detector IC (IC34) detects power supply ON-OFF voltage. The signal from IC34 is applied to IC33 (CPU). IC35, IC36 are reset signal circuit which stabilizes to memory for the EEPROM (IC37).

EEPROM (IC37) memories clone data and adjust setting condition data.

3-4-3 TEMPERATURE DETECT CIRCUIT (LOGIC UNIT)

The temperature detect circuit protects the power amplifier and power supply circuit from high temperature and stabilizes the output power.

Inside temperature of the PA unit is detected at D1 (VARISTOR unit) and is then applied to the amplifier (PA unit; IC4). The amplified signal is applied to the CPU (IC33) to analyze the temperature via IC32.

Inside temperature of the REG unit is detected at D6 (REG unit) and is then applied to the amplifier (REG unit; IC9). The amplified signal applied to the CPU (IC33) to analyze the temperature via IC32.

IC32 selects "PATEMP" or "REGTEMP" signals from the PA or REG unit.

3-5 POWER SUPPLY CIRCUITS

3-5-1 LOGIC AND REG UNITS VOLTAGE LINES

Line	Description
PS 15V	The voltage from the DC power unit (CHASSIS; EP1).
VCC1	The same voltage as the PS 15V line which is controlled by the power switch.
M9V	Common 9 V for converted from the VCC1 line by the M9V regulator circuit (REG unit; IC1, Q8, Q9). The voltage is applied to the TX and RX units.
L9V	Common 9 V converted from the VCC1 line by the L9V regulator circuit (REG unit; IC2).
A5V	Common 5 V converted from the L9V line by the A5V regulator circuit (REG unit; IC3).
L5V	Common 5 V converted from the L9V line by the L5V regulator circuit (LOGIC unit; IC38, Q48, D43).
C5V	Common 5 V converted from the L9V line by the C5V regulator circuit (LOGIC unit; IC38, Q45, D13).
TEL5V	Common 5 V converted from the M9V line by the TEL5V regulator circuit (LOGIC unit; IC11).

3-5-1 RX UNIT VOLTAGE LINES

Line	Description
+5V	Common 5 V converted from the M9V line by the +5V regulator circuit (RX unit; IC3).
+6V	Common 6 V converted from the M9V line by the +6V regulator circuit (RX unit; IC7).
R5V	Receive 5 V converted from the R9V line by the R5V regulator circuit (RX unit; IC6).
R9V	Receive 9 V controlled by the R9V regulator circuit (RX unit; Q15) using "R9C" signal from IC39 (LOGIC unit).
V9V	The same voltage as the M9V.

3-5-2 TX UNIT VOLTAGE LINES

Line	Description
T5V	Transmit 5 V converted from the M9V line by the T5V regulator circuit (TX unit; IC1).
T6V	Transmit 6 V converted from the M9V line by the T6V regulator circuit (TX unit; IC4).
V9V	Common 9 V converted from the M9V line by the V9V regulator circuit (TX unit; Q6).

3-6 PORT ALLOCATIONS

3-6-1 EXPANDER IC (LOGIC UNIT; IC39)

Pin number	Port name	Description
4	BASL	Outputs the control signal for "BASE" LED on the FRONT unit.
5	RMTL	Outputs the control signal for "REMOTE" LED on the FRONT unit.
6	BUSYL	Outputs the control signal for "BUSY" LED on the FRONT unit.
7	TXL	Outputs the control signal for "TX" LED on the FRONT unit.
12	D5C	Outputs the control signal for the D5V on the FRONT unit.
13	PROGL	Outputs the control signal for "P" LED on the FRONT unit.
14	DCL	Outputs the control signal for "DC" LED on the FRONT unit.

3-6-2 EXPANDER IC (LOGIC UNIT; IC40)

Pin number	Port name	Description
4	AFMUTE1	Outputs the speaker mute signal for the received AF.
5	AFMUTE2	Outputs the speaker mute signal for the received 2/5TONE and DTMF signals.
6	MICMUTE1	Outputs the MIC mute signal for the hand microphone.
7	MICMUTE2	Outputs the MIC mute signal for the REMOTE connector.
11	TELBMR	Outputs the pulse control signal for the telephone dialer IC
12	TELMUTE2	Outputs the MOD mute signal for AF signal from the telephone line.
13	TELMUTE1	Outputs the telephone mute signal for the received AF signal.
14	MICMUTE3	Outputs the MIC mute signal for the ACC connector.

3-6-3 EXPANDER IC (LOGIC UNIT; IC41)

Pin number	Port name	Description
5	R/BSW	Outputs the switch control signal for the received AF signal to the microphone amplifier.
6	W/NS	Outputs the control signal for narrow/wide bands.
7	R9C	Outputs the control signal for the +9V regulator on the RX unit.
12	M9C	Outputs the control signal for the M9V regulator on the Rx unit and TX unit.
13 14	OPT1 OPT3	Output the detection signals whether optional boards are installed or not.

3-6-4 D/A CONVERTER IC (LOGIC UNIT; IC25)

Pin number	Port name	Description
6	DA2STB	Input port for the strobe signal.
7	SCK	Input port for the clock signal.
8	SDTO	Outputs the serial data to the CPU (LOGIC unit; IC33).
9	AFFTTI	Input port for the received AF signal.
10	AFATTO	Outputs the adjusted AF signal for the repeater output.
14	RVCON	Outputs the adjustment signal for the PLL reference frequency on the RX unit.
15	TUNE	Outputs the BPF tuning signal to the RX unit.

3-6-5 D/A CONVERTER IC (TX UNIT; IC5)

Pin number	Port name	Description
1	ETONE	Input port for the TONE signal from the ACC connector.
2	ETONEO	Outputs the adjusted external TONE signal.
3	TXAFO	Outputs the TX AF signal to the TX modulation.
4	TXAF	Input port for the AF signal.
6	DA1STB	Input port for the strobe signal.
7	SCK	Input port for the clock signal.
8	SDTO	Outputs the serial data signal to the CPU (LOGIC unit; IC33).
9	TONE	Input port for the TONE signal.
10	TONEO	Outputs the adjusted TONE signal.
11	PCON	Outputs the TX power control signal.
14	TVCON	Outputs the adjustment signal for the TX unit PLL reference frequency.
15	MODC	Outputs the control signal for modulation balance.
21	MIXO	Input port for the mixed signal with the external signal, TX AF signal and internal signals.
22	REFMOD	Outputs the adjustment signal for TONE balance.
23	MOD	Outputs the adjusted AF signal for the TX modulation.
24	MIXO	Input port for the mixed signal with the ETONE, TX AF and TONE signals.

3-6-6 CPU (LOGIC UNIT; IC33)

Pin number	Port name	Description
1	RPLSTB	Outputs the strobe signal for the PLL IC on the RX unit.
2	TPLSTB	Outputs the strobe signal for the PLL IC on the TX unit.
3	TUNLK	Input port for the unlock signal from the PLL IC on the TX unit.
4	TMUTE	Outputs the TX mute signal for the TX unit.
5	TMUTE2	Outputs the TX mute signal for the PA unit.
8	M_PTT	Input port for the PTT switch signal from the microphone.
9	SPMUTE	Input port for the [SPMUTE] switch.
10	REMOTE	Input port for the [REMOTE] switch.
11	R/B	Input port for the [R/B] switch.
13	MBEEP	Outputs the BEEP signal for modulation.
15	MONI	Input port for the [MONI] switch.
16	CHUP	Input port for the [CHUP] switch.
17	CHDN	Input port for the [CHDN] switch.
18	DISP	Input port for the [DISP] switch.
19	PROG	Input port for the [PROG] switch.
26	COAXSW	Outputs the antenna switching signal.
27	CWO	Outputs the CW signal for transmit.
28	KBEEP	Outputs the beep audio signals to the speaker.
29	M/SO	Outputs the master/slave switching signal.
30	M/SI	Input port for the master/slave switching signal.
33	E_PTT	Input port for the PTT signal form the REMOTE connector.
34	E_PT2	Input port for PTT signal from the ACC connector.
35-39	D0-D4	Input port for the memory channel control signal.
40	NDET	Input port for the noise signal from the FM IF IC (RX unit; IC2).
41	SW	Outputs the temperature or PLL lock voltage switching signal.
43	2/5DTMF0	Outputs the 2/5 TONE and DTMF signals.
44	CTDTO	Outputs the CTCSS/DTCS signals.
45	PSD	Input port for the detection signal from the REG unit.
46	FWSWR	Input port for FW SWR signal from the PA unit.

CPU-Continued

Pin number	Port name	Description
47	RVSWR	Input port for the RV SWR signal from the PA unit.
48	TEMP	Input port for the temperature signals of PA and REG units.
49	T/RLV	Input port for the VCO lock voltage of the TX and RX units.
50	RSSI	Input port for the RSSI signal from the FM IF IC (RX unit; IC2).
51	25TI	Input port for the 2/5TONE signals.
52	DTCS	Input port for the DTCS signal.
68	TEL-BUSY	Input port for the busy signal from the pulse tone dialler IC (LOGIC unit; IC47).
69	MCK	Outputs the serial clock signal for the EEPROM (LOGIC unit; IC37).
70	MDT	I/O port for the serial data signal from/to the EEPROM (LOGIC unit; IC37).
71	TELSTB	Outputs strobe signal for the pulse tone dialler IC (LOGIC unit; IC47).
72	HOOKC	Outputs the ON/OFF HOOK control signal for the telephone line.
73	RING	Input port for the ringer detecting signal from the telephone line.
74	SHIFT	Outputs the control signal for the clock shift circuit.
75	INT	Input port for the power supply detection signal.
76	TXDTO	Outputs the serial data signal to the ACC connector.
77	RXDTO	Input port for serial data signal from the ACC connector.
78	DTSEL1	Outputs the control signal for the DTMF SW IC (LOGIC unit; IC50).
79	TXD1	Outputs the clone data signal.
80	RXD1	Input port for the clone data signal.
81	DTSEL2	Outputs the control signal for the DTMF SW IC (LOGIC unit; IC30).
82	DTSTD	Input port for the TONE detecting signal from the DTMF decoder IC (LOGIC unit; IC31).
85	DTMFD	Input port for the data decoding signal from the DTMF decoder IC (LOGIC unit; IC31).
86	DTACK	Outputs the clock signal for the DTMF decoder IC (LOGIC unit; IC31).
87	ONHOOK	Input port for the detection signal of the ON-HOOK signal.
88	IOE	Outputs the control signal for the port expander IC (LOGIC unit; IC39–IC41).

CPU-Continued

Pin number	Port name	Description
89	PE3STB	Outputs the strobe signal for the port expander IC (LOGIC unit; IC41).
90	PE2STB	Outputs the strobe signal for the port expander IC (LOGIC unit; IC40).
91	PE1STB	Outputs the strobe signal for the port expander IC (LOGIC unit; IC39).
95	D2STB	Outputs the strobe signal for the D/A converter IC (LOGIC unit; IC25).
96	D1STB	Outputs the strobe signal for the D/A converter IC (TX unit; IC5).
97	SDTO	Outputs the serial data signal for the PLL IC (RX unit; IC4, TX unit; IC2), dialer IC (LOGIC unit; IC47), port expander IC (LOGIC unit; IC39–IC41) and optional boards.
98	SCK	Outputs the clock signal for the PLL IC (RX unit; IC4, TX unit; IC2), dialer IC (LOGIC unit; IC47), port expander IC (LOGIC unit; IC39–IC41) and optional boards.
99	RUNLK	Input port for the unlock signal from the PLL IC (RX unit; IC4) on the RX unit.
100	C/DSW	Outputs the control signal for the CTCSS/DTCS filter (LOGIC unit; IC4).

SECTION 4 ADJUSTMENT PROCEDURES

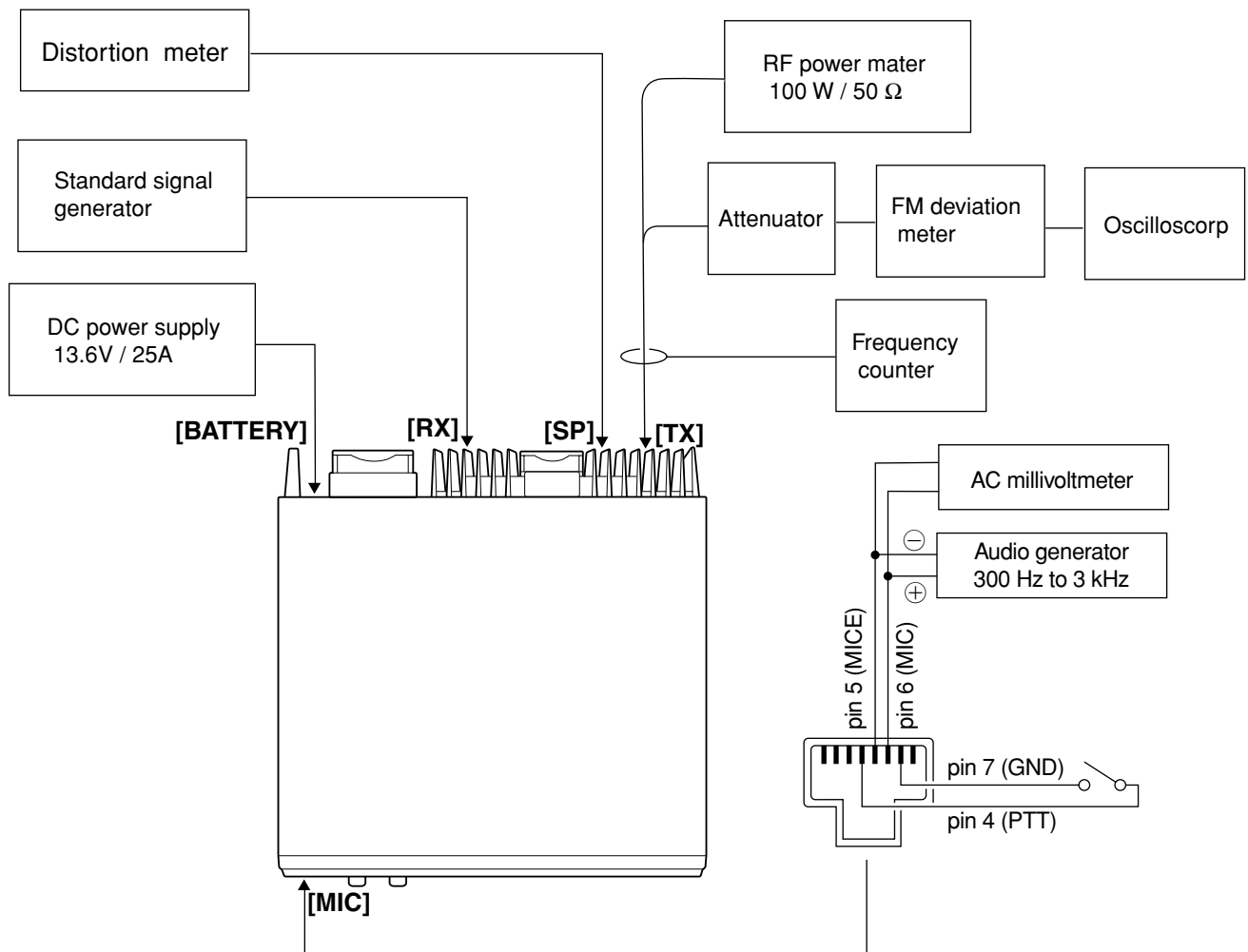
4-1 PREPARATION

When adjusting the contents on page 4-7, a JIG CABLE is required.
Some adjustments must be performed on the "ADJUSTMENT MODE". Refer to the next page in detail.

■ REQUIRED TEST EQUIPMENT

EQUIPMENT	GRADE AND RANGE	EQUIPMENT	GRADE AND RANGE
DC power supply	Output voltage : 13.6 V DC Current capacity : 25 A or more	Audio generator	Frequency range : 300–3000 Hz Output level : 1–500 mV
RF power meter (terminated type)	Measuring range : 1–100 W Frequency range : 300–600 MHz Impedance : 50 Ω SWR : Less than 1.2 : 1	Attenuator	Power attenuation : 40 or 50 dB Capacity : 100 W or more
Frequency counter	Frequency range : 0.1–600 MHz Frequency accuracy : ±1 ppm or better Sensitivity : 100 mV or better	Standard signal generator (SSG)	Frequency range : 120–600 MHz Output level : 0.1 μV–32 mV (–127 to –17 dBm)
FM deviation meter	Frequency range : DC–600 MHz Measuring range : 0 to ±5 kHz	AC millivoltmeter	Measuring range : 10 mV–10 V
Digital multimeter	Input impedance : 10 MΩ/V DC or better	Oscilloscope	Frequency range : DC–20 MHz Measuring range : 0.01–20 V
		FM deviation meter	Frequency range : 30–600 MHz Measuring range : 10 mV–10 V

• CONNECTION

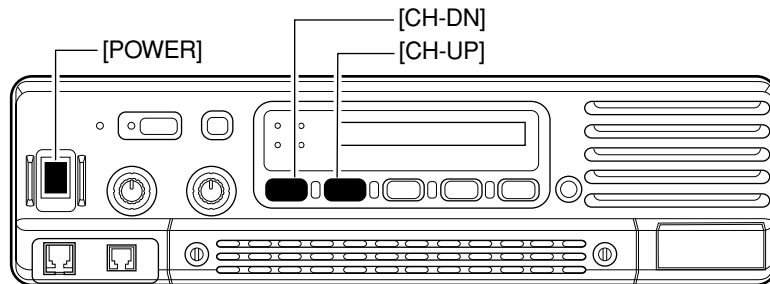


■ ENTERING THE ADJUSTMENT MODE

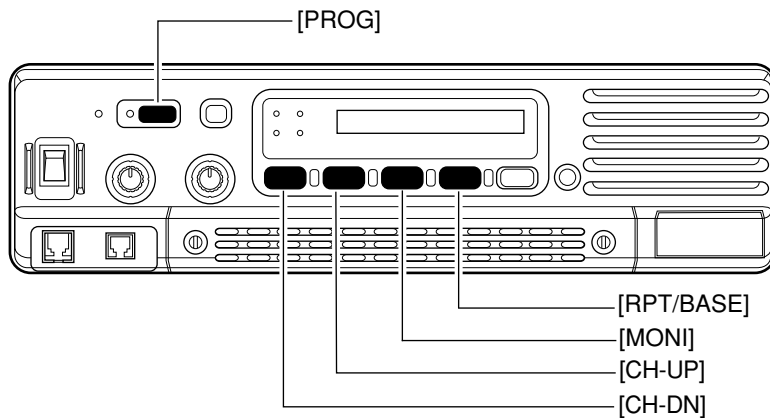
- ① Turn the power OFF.
- ② Push and hold [CH-DN] and [CH-UP] buttons, then turn the power ON, keep on pushing [CH-DN] and [CH-UP] buttons until sounds 1 beep audio.
- ③ Push [CH-DN] button, then sounds 2 beep audio.

■ EXITING THE ADJUSTMENT MODE

- ① Turn the power OFF.
- ② Push and hold [CH-UP] button, then turn the power ON, keep pushing [CH-UP] button until sounds 2 beep audio.
- ③ Push the [CH-UP] button, then sounds 1 beep audio.



■ OPERATING IN THE ADJUSTMENT MODE

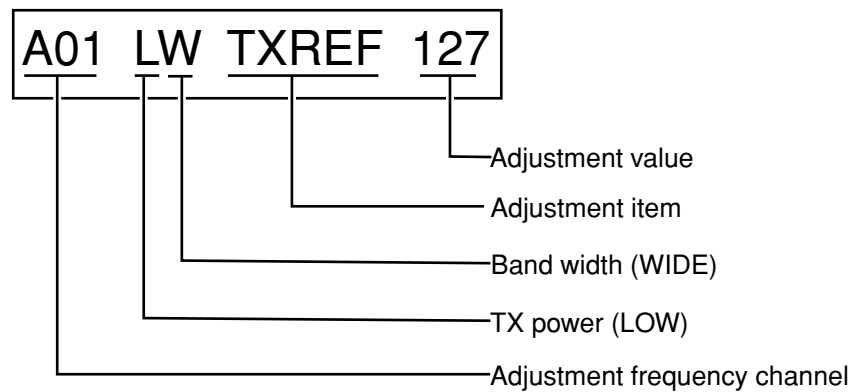


- Change the adjustment frequency channel (+1). : Push the [CH-UP] button.
- Change the adjustment frequency channel (-1). : Push the [CH-DN] button.
- Change the next adjustment item. : Push the [PROG] button.
- Adjust the specified value (+1). : Push the [RPT/BASE] button.
- Adjust the specified value (-1). : Push the [MONI] button.

■ ADJUSTMENT MODE CH LIST

CH	RX	TX	LCD DISPLAY	BAND	W/N	ADJUSTMENT
A01	479.275	450.275	A01 LW TXREF ***	H	W	TVCO/RVCO adjustment. Reference frequency adjustment.
A03	465.075	465.275	A03 LW MRTUN ***	M	W	RX sensitivity adjustment.
A05	450.075	450.275	A05 LW RPTSQL***	L	W	RPT SQL adjustment.
A06	450.075	450.275	A06 HW POWER ***	M	W	TX power adjustment.
A07	465.075	465.275	A07 LW M DEV ***	M	W	TX modulation adjustment.
A08	450.075	450.275	A08 LW LMODC ***	L	W	TX modulation adjustment.
A09	479.925	479.725	A09 LW HMODC ***	H	W	TX modulation adjustment.
A10	465.075	465.275	A10 LW CTCDEV***	M	W	CTCSS modulation adjustment
A11	450.075	465.275	A11 LW DTCADJ***	M	W	DTCS modulation adjustment.
A12	465.075	465.275	A12 LN CTCDEV***	M	N	CTCSS modulation adjustment. (NARROW)
A13	460.275	465.275	A13 LW RPTAF ***	M	W	RPT modulation adjustment. (WIDE)
A14	465.075	465.275	A14 LN RPTAF ***.	M	N	RPT modulation adjustment. (NARROW)

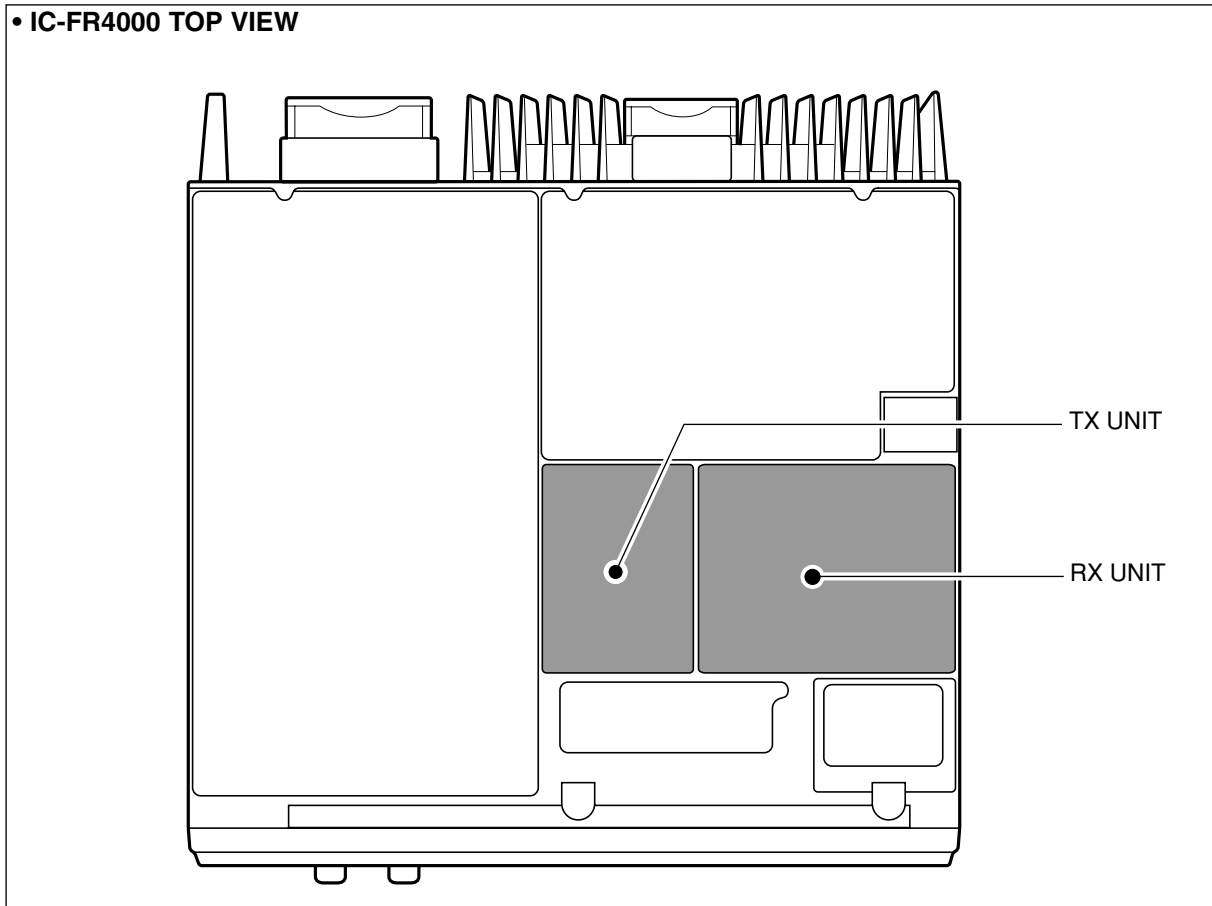
■ LCD DISPLAY IN THE ADJUSTMENT MODE



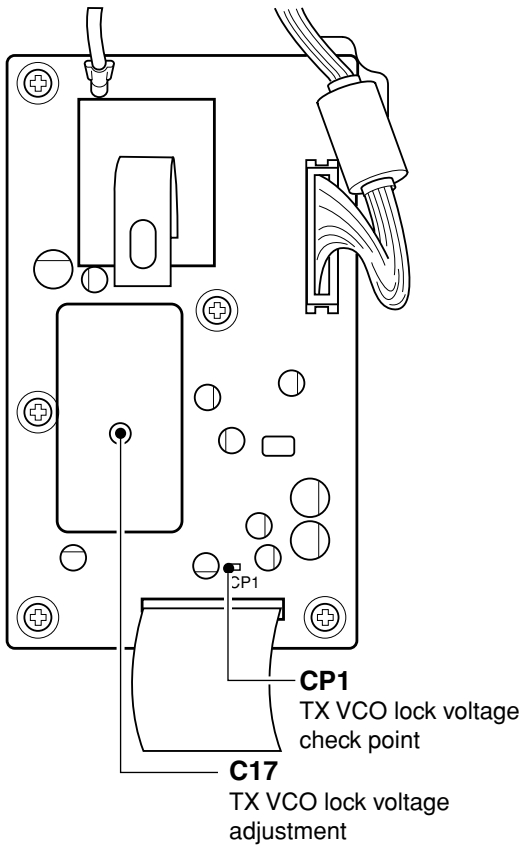
4-2 PLL ADJUSTMENT

ADJUSTMENT	ADJUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT	
		UNIT	LOCATION		UNIT	ADJUST
TX VCO LOCK VOLTAGE	1 • LCD display : A01 LW TXREF • Receiving	TX	Connect a digital multi meter or oscilloscope to check point CP1.	1.0 V	TVCO	C17
RX VCO LOCK VOLTAGE	1 • LCD display : A01 LW TXREF • Receiving	RX	Connect a digital multi meter or oscilloscope to check point CP1.	4.3 V	RVCO	C17
REFERENCE FREQUENCY	1 • Wait for 5 minutes after power ON. • LCD display : A01 LW TXREF • Connect an RF power meter or 50 Ω dummy load to the TX antenna connector. • Transmitting	REAR panel	Loosely couple a frequency counter to the TX antenna connector.	450.2750 MHz	FRONT	[PRT/BASE] / [MONI]
	2 • LCD display : A01 LW RXREF • Receiving	RX	Connect a frequency counter to check point HJ4.	409.9250 MHz	FRONT	[PRT/BASE] / [MONI]

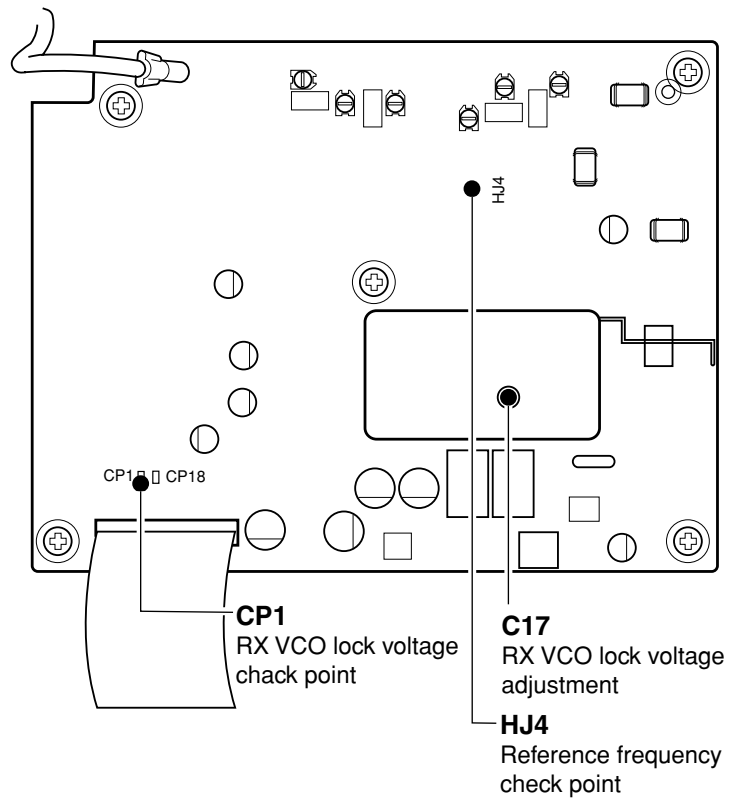
• IC-FR4000 TOP VIEW



• TX UNIT TOP VIEW



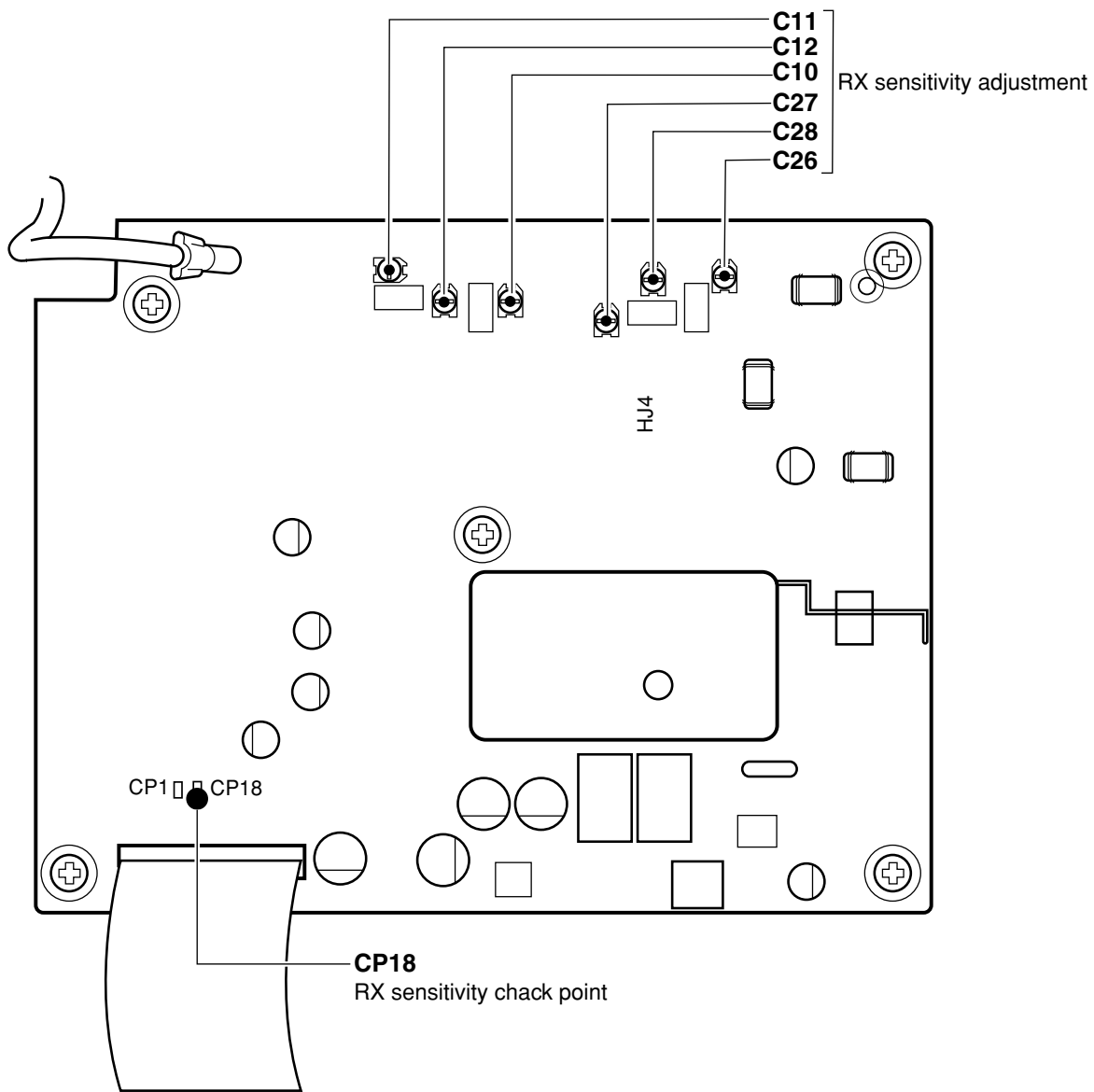
• RX UNIT TOP VIEW



4-3 RX ADJUSTMENT

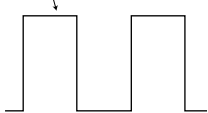
ADJUSTMENT	ADJUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT	
		UNIT	LOCATION		UNIT	ADJUST
RX SENSITIVITY	<ul style="list-style-type: none"> LCD display : A03 LW MRTUN Connect a standard signal generator to the RX antenna connector and set as: <ul style="list-style-type: none"> Frequency : 465.075 MHz Level : 10 μV* (-87 dBm) Modulation : 1 kHz Deviation : \pm3 kHz Receiving 	RX	Connect a digital multi meter or oscilloscope to check point CP18.	Maximum voltage	RX	C11 C12 C10 C27 C28 C26

• RX UNIT TOP VIEW



4-4 SOFTWARE ADJUSTMENT

Select an operation using [CH-UP] / [CH-DN] keys, then set specified value using [RPT/BASE] / [MONI] keys on the FRONT PANEL.

ADJUSTMENT	ADJUSTMENT CONDITION	MEASUREMENT		VALUE
		UNIT	LOCATION	
OUTPUT POWER [Power (Hi)]	1 <ul style="list-style-type: none"> • LCD display : A06 HW POWER • Operating freq. : 465.2750 MHz • Connect the RF power meter to the TX antenna connector. • Transmitting 	Rear panel	Connect an RF power meter to the TX antenna connector.	50.0 W
[Power (LOW)]	2 <ul style="list-style-type: none"> • LCD display : A06 LW M POWER • Operating freq. : 465.2750 MHz • Transmitting 			10.0 W
FM DEVIATION	<ul style="list-style-type: none"> • LCD display : A07 LW M DEV • Operating freq. : 465.2750 MHz • IF bandwidth : Wide • Connect an audio generator to the [MIC] jack through the JIG cable and set as: 1.0 kHz/40 mVrms • Set an FM deviation meter as: HPF : OFF LPF : 20 kHz De-emphasis: OFF Detector : (P-P)/2 • Transmitting 	Rear panel	Connect an FM deviation meter to the TX antenna connector through the attenuator.	±4.5 kHz
CTCSS DEVIATION [WIDE]	1 <ul style="list-style-type: none"> • LCD display : A10 LW CTCDEV • Operating freq. : 465.2750 MHz • Set the FM deviation meter as: HPF : OFF LPF : 20 kHz De-emphasis: OFF Detector : (P-P)/2 • No audio applied to the [MIC] connector. • Transmitting 	Rear panel	Connect an FM deviation meter to the TX antenna connector through the attenuator.	±0.7 kHz
[NARROW]	2 <ul style="list-style-type: none"> • LCD display : A12 LN CTCDEV • Operating freq : 465.2750 MHz • No audio applied to the [MIC] connector. • Transmitting 			±0.35 kHz
MODULATION BALANCE [DTCS]	<ul style="list-style-type: none"> • LCD display : A11 LW DTCADJ • Operating freq. : 465.2750 MHz • No audio applied to the [MIC] connector. • Transmitting. 	Rear panel	Connect an FM deviation meter with an oscilloscope to the TX antenna connector through an attenuator.	Set to square wave form 
REPEATER DEVIATION [WIDE]	1 <ul style="list-style-type: none"> • LCD display : A13 LW RPTAF • Operating freq : 460.2750 MHz (RX) 465.2750 MHz (TX) • Connect a standard signal generator to the RX antenna connector and set as: Level : 1 mV* (-47 dBm) Modulation : 1 kHz Deviation : ±3 kHz • Transmitting 	Rear panel	Connect an FM deviation meter to the TX antenna connector through the attenuator.	±3.0 kHz
[NARROW]	2 <ul style="list-style-type: none"> • LCD display : A14 LN RPTAF • Operating freq : 460.2750 MHz (RX) 465.2750 MHz (TX) • Transmitting 			±1.5 kHz

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

SECTION 5 PARTS LIST

[REG UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC1	1180001320	IC	NJM7809FA
IC2	1180002290	S.IC	NJM7809DL1A-TE
IC3	1180001860	S.IC	TA78M05F (TE16L)
IC4	1180002480	S.REG	TA78DL12AF (TE16L)
IC6	1180001540	S.IC	TA78L08F (TE12R)
IC7	1110002860	S.IC	TA75S393F (TE85R)
IC8	1110002860	S.IC	TA75S393F (TE85R)
IC9	1110002400	S.IC	NJM2107F-TE1
IC11	1110002750	S.IC	TA75S01F (TE85R)
Q1	1590003110	FET	2SJ533
Q4	1590003110	FET	2SJ533
Q5	1540000550	S.TRANSISTOR	2SD1664 T100Q
Q7	1590001940	S.TRANSISTOR	DTC144EE TL
Q8	1590003030	S.FET	2SJ553STR
Q9	1590001940	S.TRANSISTOR	DTC144EE TL
D2	1750000550	S.DIODE	1SS355 TE-17
D3	1790000700	DIODE	DSA3A1
D4	1710001170	DIODE	FCH30A03L
D6	1790000720	DIODE	MA29W-B
D7	1710001170	DIODE	FCH30A03L
D8	1730002340	S.ZENER	MA8047-M (TX)
R3	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R14	7100000830	RESISTOR	SSG 3.3 Ω
R16	7030003240	S.RESISTOR	ERJ3GEYJ 220 V (22 Ω)
R17	7030003240	S.RESISTOR	ERJ3GEYJ 220 V (22 Ω)
R18	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R19	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R21	7030010410	S.RESISTOR	ERJ1TYJ 220U (22 Ω)
R23	7030003570	S.RESISTOR	ERJ3GEYJ 123 V (12 kΩ)
R24	7030003510	S.RESISTOR	ERJ3GEYJ 392 V (3.9 kΩ)
R24	7030003550	S.RESISTOR	ERJ3GEYJ 822 V (8.2 kΩ)
R27	7030003420	S.RESISTOR	ERJ3GEYJ 681 V (680 Ω)
R30	7030003450	S.RESISTOR	ERJ3GEYJ 122 V (1.2 kΩ)
R31	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R32	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R33	7030003510	S.RESISTOR	ERJ3GEYJ 392 V (3.9 kΩ)
R34	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R35	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R36	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R37	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R38	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R39	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R40	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R41	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R42	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R58	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R59	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R60	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R61	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R62	7030010510	S.RESISTOR	ERJ1TYJ 8R2U (8.2 Ω)
R64	7030003240	S.RESISTOR	ERJ3GEYJ 220 V (22 Ω)
R65	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R66	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R67	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R68	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
C4	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C5	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C6	4510007690	ELECTROLYTIC	LXZ25VB2200
C7	4510007690	ELECTROLYTIC	LXZ25VB2200
C9	4510007690	ELECTROLYTIC	LXZ25VB2200
C11	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C15	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C17	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C19	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C20	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C22	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C23	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C24	4550006770	S.TANTALUM	TEMSVD2 1C 476M-12R

[REG UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C25	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C26	4510007660	ELECTROLYTIC	LXZ25VB100
C27	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C28	4510007650	S.ELECTROLYTIC	EEVHB1C470P
C29	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C31	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C33	4030006900	S.CERAMIC	C1608 JB 1H 103K-T
C34	4510007570	S.ELECTROLYTIC	EEVHB1C220UR
C35	4030006900	S.CERAMIC	C1608 JB 1H 103K-T
C36	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C37	4510007660	ELECTROLYTIC	LXZ25VB100
C38	4510007660	ELECTROLYTIC	LXZ25VB100
C41	4510007570	S.ELECTROLYTIC	EEVHB1C220UR
C42	4030006900	S.CERAMIC	C1608 JB 1H 103K-T
C43	4030006900	S.CERAMIC	C1608 JB 1H 103K-T
C45	4030006900	S.CERAMIC	C1608 JB 1H 103K-T
C47	4510007660	ELECTROLYTIC	LXZ25VB100
C48	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C49	4510007570	S.ELECTROLYTIC	EEVHB1C220UR
C50	4030006900	S.CERAMIC	C1608 JB 1H 103K-T
C51	4030006900	S.CERAMIC	C1608 JB 1H 103K-T
C52	4030017490	S.CERAMIC	C1608 JB 1A 105K-T
RL2	6330001680	RELAY	ACB32101
J13	6510018970	S.CONNECTOR	B4B-PH-SM3-TB
J14	6510022620	S.CONNECTOR	10FMN-BMTR-A-TBT
J16	6510018960	S.CONNECTOR	B2B-PH-SM3-TB
J17	6510018960	S.CONNECTOR	B2B-PH-SM3-TB
J18	6510018960	S.CONNECTOR	B2B-PH-SM3-TB
F1	5220000300	HOLDER	1A5600
F2	5220000300	HOLDER	1A5600
F3	5210000850	FUSE	ATC-20
F4	5220000300	HOLDER	1A5600
F5	5220000300	HOLDER	1A5600
F6	5210000850	FUSE	ATC-20
W1	7120000490	JUMPER	ERD25T0
W2	7120000490	JUMPER	ERD25T0
W3	7120000490	JUMPER	ERD25T0
W4	7120000490	JUMPER	ERD25T0
EP1	6910056075	PCB	B 5651E
EP2	6910012350	S.BEAD	MMZ1608Y 102BT
EP3	6910011340	TERMINAL	OT-010 M3
EP4	6910011340	TERMINAL	OT-010 M3
EP5	6910011340	TERMINAL	OT-010 M3
EP6	6910011340	TERMINAL	OT-010 M3
EP7	6910011340	TERMINAL	OT-010 M3
EP8	6910011340	TERMINAL	OT-010 M3
EP9	6910011340	TERMINAL	OT-010 M3
EP10	6910011340	TERMINAL	OT-010 M3

S.=Surface mount

[FRONT UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
Q1	1530002060	S.TRANSISTOR	2SC4081 T106 R
D1	1750000930	S.DIODE	NNCD8.2C-T1
D2	1750000930	S.DIODE	NNCD8.2C-T1
D3	1750000930	S.DIODE	NNCD8.2C-T1
L1	6200001620	S.COIL	ELJFC 1R0K-F
R1	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R2	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R3	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R8	7030001150	S.RESISTOR	MCR50JZHJ 150 Ω (151)
R9	7030001150	S.RESISTOR	MCR50JZHJ 150 Ω (151)
R10	7030001160	S.RESISTOR	MCR50JZHJ 180 Ω (181)
R11	7030001150	S.RESISTOR	MCR50JZHJ 150 Ω (151)
R12	7030001150	S.RESISTOR	MCR50JZHJ 150 Ω (151)
R13	7030001150	S.RESISTOR	MCR50JZHJ 150 Ω (151)
R15	7030003460	S.RESISTOR	ERJ3GEYJ 152 V (1.5 kΩ)
R17	7030008220	S.RESISTOR	MCR100JZHJ 47 Ω (470)
R18	7030008220	S.RESISTOR	MCR100JZHJ 47 Ω (470)
R19	7540000240	S.ABSORBER	KU10R29N-4063
R21	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R22	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R23	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R24	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R26	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R27	7030010910	S.RESISTOR	ERJ1TYJ 150U (15 Ω)
R28	7030010910	S.RESISTOR	ERJ1TYJ 150U (15 Ω)
C1	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C2	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C3	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C4	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C5	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C12	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C13	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C14	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C15	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C16	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C17	4030017200	S.CERAMIC	GRM31BR32J102KY01L
C18	4030017200	S.CERAMIC	GRM31BR32J102KY01L
J1	6510022620	S.CONNECTOR	10FMN-BMTTR-A-TBT
J2	6510022580	S.CONNECTOR	24FMN-BMTTR-A-TBT
J3	6510021600	S.CONNECTOR	S2B-PH-SM3-TB
J4	6510022910	CONNECTOR	IMS9201B-1-16Z012Z
J6	6510022790	CONNECTOR	95003-2641
J7	6450001470	CONNECTOR	95003-2881
J8	6510023250	S.CONNECTOR	S3B-PH-SM3-TB
J9	6510021600	S.CONNECTOR	S2B-PH-SM3-TB
DS1	5040001820	LED	BG3889S
DS2	5040001820	LED	BG3889S
DS3	5040001330	LED	BR3889S
DS4	5040001820	LED	BG3889S
DS5	5040001820	LED	BG3889S
DS6	5040001820	LED	BG3889S
DS7	5030002190	LCD	MSC-C161UYLT-4W
S1	2260001680	S.SWITCH	SKQDPB
S2	2260001680	S.SWITCH	SKQDPB
S3	2260001680	S.SWITCH	SKQDPB
S4	2260001680	S.SWITCH	SKQDPB
S5	2260001680	S.SWITCH	SKQDPB
S6	2260001680	S.SWITCH	SKQDPB
S7	2260001680	S.SWITCH	SKQDPB
S8	2260001680	S.SWITCH	SKQDPB
EP1	0910056085	PCB	B 5652E
EP2	6910014560	SPACER	LM-15
EP3	6910014550	SPACER	LM-13
EP4	6910014540	SPACER	LM-10
EP5	6910014540	SPACER	LM-10
EP6	6910014540	SPACER	LM-10

[FRONT UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
EP7	6910014540	SPACER	LM-10

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC1	1110003780	S.IC	NJM2902V-TE1
IC2	1110003780	S.IC	NJM2902V-TE1
IC3	1110003780	S.IC	NJM2902V-TE1
IC4	1110003780	S.IC	NJM2902V-TE1
IC6	1110002400	S.IC	NJM2107F-TE1
IC7	1110003780	S.IC	NJM2902V-TE1
IC8	1110003780	S.IC	NJM2902V-TE1
IC9	1110003780	S.IC	NJM2902V-TE1
IC10	1110003780	S.IC	NJM2902V-TE1
IC11	1180000420	S.IC	TA78L05F (TE12R)
IC12	1110003780	S.IC	NJM2902V-TE1
IC13	1130008090	S.IC	BU4066BCFV-E1
IC14	1130004200	S.IC	TC4S66F (TE85R)
IC16	1130006220	S.IC	TC4W53FU (TE12L)
IC17	1110003090	IC	LA4425A
IC20	1130006220	S.IC	TC4W53FU (TE12L)
IC21	1130006220	S.IC	TC4W53FU (TE12L)
IC25	1190001350	S.IC	M62364FP 600D
IC26	1110003800	S.IC	NJM2904V-TE1
IC28	1110002400	S.IC	NJM2107F-TE1
IC29	1190001720	S.IC	FX805LG
IC30	1130006220	S.IC	TC4W53FU (TE12L)
IC31	1130007400	S.IC	LC7387M-TRM
IC32	1130006220	S.IC	TC4W53FU (TE12L)
IC33	1140010140	S.IC	HD64F2238BFA13
IC34	1110005710	S.IC	S-80842CLUA-B63-T2
IC35	1130009320	S.IC	BU4011BFV-E2
IC36	1130009320	S.IC	BU4011BFV-E2
IC37	1140008650	S.IC	HN58X2464TI
IC38	1180002250	S.IC	S-812C50AMC-C3E-T2
IC39	1130007570	S.IC	BU4094BCFV-E2
IC40	1130007570	S.IC	BU4094BCFV-E2
IC41	1130007570	S.IC	BU4094BCFV-E2
IC42	1170000280	S.IC	TLP121 (GB-TPL)
IC43	1170000280	S.IC	TLP121 (GB-TPL)
IC44	1120002830	S.IC	NJM2125F-TE1
IC45	1110005000	S.IC	LMC567CM
IC46	1190001740	S.IC	BA6566F-E2
IC47	1190001730	S.IC	LC73701M-TLM
IC48	1170000280	S.IC	TLP121 (GB-TPL)
IC49	1170000280	S.IC	TLP121 (GB-TPL)
IC50	1130006220	S.IC	TC4W53FU (TE12L)
IC51	1110002400	S.IC	NJM2107F-TE1
IC52	1110005690	S.IC	NJM2520V-TE1
IC53	1130006220	S.IC	TC4W53FU (TE12L)
Q1	1590001400	S.TRANSISTOR	XP1214 (TX)
Q2	1530002060	S.TRANSISTOR	2SC4081 T106 R
Q3	1590001940	S.TRANSISTOR	DTC144EE TL
Q4	1530002060	S.TRANSISTOR	2SC4081 T106 R
Q5	1510000510	S.TRANSISTOR	2SA1576A T106R
Q6	1530002060	S.TRANSISTOR	2SC4081 T106 R
Q7	1590001400	S.TRANSISTOR	XP1214 (TX)
Q8	1590003210	S.TRANSISTOR	XP1111 (TX)
Q9	1590003210	S.TRANSISTOR	XP1111 (TX)
Q10	1590003210	S.TRANSISTOR	XP1111 (TX)
Q11	1590003210	S.TRANSISTOR	XP1111 (TX)
Q17	1590001940	S.TRANSISTOR	DTC144EE TL
Q18	1590002010	S.TRANSISTOR	XP1114 (TX)
Q19	1590002010	S.TRANSISTOR	XP1114 (TX)
Q20	1590002010	S.TRANSISTOR	XP1114 (TX)
Q24	1550000020	S.FET	2SJ377 (TE16R)
Q25	1530002060	S.TRANSISTOR	2SC4081 T106 R
Q26	1590001960	S.TRANSISTOR	XP4311 (TX)
Q27	1590001960	S.TRANSISTOR	XP4311 (TX)
Q28	1590001960	S.TRANSISTOR	XP4311 (TX)
Q29	1590001960	S.TRANSISTOR	XP4311 (TX)
Q37	1590001940	S.TRANSISTOR	DTC144EE TL
Q38	1590001400	S.TRANSISTOR	XP1214 (TX)
Q40	1590001940	S.TRANSISTOR	DTC144EE TL

S.=Surface mount

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
Q44	1590002430	S.TRANSISTOR	DTA144EE TL
Q45	1510000590	S.TRANSISTOR	2SA1362-Y (TE85L)
Q48	1160000150	S.TRANSISTOR	IMZ4 T108
Q49	1590001960	S.TRANSISTOR	XP4311 (TX)
Q50	1590001960	S.TRANSISTOR	XP4311 (TX)
D1	1730002650	S.ZENER	PTZ TE25 36B
D4	1710001180	S.BRIDGE	D1UBA80-4062
D5	1710001180	S.BRIDGE	D1UBA80-4062
D6	1790001250	S.DIODE	MA2S111-(TX)
D7	1790001250	S.DIODE	MA2S111-(TX)
D8	1790001250	S.DIODE	MA2S111-(TX)
D9	1790001250	S.DIODE	MA2S111-(TX)
D10	1790001250	S.DIODE	MA2S111-(TX)
D11	1790001250	S.DIODE	MA2S111-(TX)
D12	1790001250	S.DIODE	MA2S111-(TX)
D13	1790000670	S.DIODE	SB07-03C-TB
D14	1790001260	S.DIODE	MA2S077-(TX)
D15	1790001250	S.DIODE	MA2S111-(TX)
D16	1790001250	S.DIODE	MA2S111-(TX)
D17	1790001250	S.DIODE	MA2S111-(TX)
D18	1790001250	S.DIODE	MA2S111-(TX)
D19	1790001250	S.DIODE	MA2S111-(TX)
D20	1790001250	S.DIODE	MA2S111-(TX)
D21	1790001250	S.DIODE	MA2S111-(TX)
D22	1790001250	S.DIODE	MA2S111-(TX)
D23	1790001250	S.DIODE	MA2S111-(TX)
D24	1790001250	S.DIODE	MA2S111-(TX)
D25	1790001250	S.DIODE	MA2S111-(TX)
D26	1790001250	S.DIODE	MA2S111-(TX)
D27	1790001250	S.DIODE	MA2S111-(TX)
D28	1750000550	S.DIODE	1SS355 TE-17
D29	1750000550	S.DIODE	1SS355 TE-17
D33	1790001250	S.DIODE	MA2S111-(TX)
D38	1730002640	S.ZENER	PTZ TE25 13B
D43	1790001250	S.DIODE	MA2S111-(TX)
D44	1790001250	S.DIODE	MA2S111-(TX)
D45	1790001250	S.DIODE	MA2S111-(TX)
D46	1790001250	S.DIODE	MA2S111-(TX)
X1	6050011490	S.XTAL	CR-733 (4.194304 MHz)
X2	6050011000	S.XTAL	CR-681 (12.288 MHz)
X3	6050009300	S.XTAL	CR-505 (4 MHz)
L1	6200009790	S.COIL	BLM31PG121SN1
L2	6200009790	S.COIL	BLM31PG121SN1
L3	6200009790	S.COIL	BLM31PG121SN1
L4	6200009790	S.COIL	BLM31PG121SN1
L5	6200009790	S.COIL	BLM31PG121SN1
L6	6200009790	S.COIL	BLM31PG121SN1
L7	6200009790	S.COIL	BLM31PG121SN1
L8	6200009790	S.COIL	BLM31PG121SN1
L9	6200009790	S.COIL	BLM31PG121SN1
L10	6200009790	S.COIL	BLM31PG121SN1
L11	6200009790	S.COIL	BLM31PG121SN1
R2	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R3	7030003750	S.RESISTOR	ERJ3GEYJ 394 V (390 kΩ)
R5	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R6	7030003710	S.RESISTOR	ERJ3GEYJ 184 V (180 kΩ)
R7	7310004790	S.TRIMMER	EVM-3YSX50 B14 (103)
R8	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R9	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R10	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R12	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R13	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R14	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R15	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R16	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R17	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R18	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R19	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R22	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R23	7030003740	S.RESISTOR	ERJ3GEYJ 334 V (330 kΩ)
R24	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R25	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R26	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R27	7030003530	S.RESISTOR	ERJ3GEYJ 562 V (5.6 kΩ)

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R28	7030003420	S.RESISTOR	ERJ3GEYJ 681 V (680 Ω)
R29	7030003510	S.RESISTOR	ERJ3GEYJ 392 V (3.9 kΩ)
R30	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R31	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R32	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R33	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R34	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R35	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R36	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R37	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R40	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R48	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R50	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R51	7310004790	S.TRIMMER	EVM-3YSX50 B14 (103)
R52	7030003670	S.RESISTOR	ERJ3GEYJ 125 V (82 kΩ)
R53	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R54	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R55	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R56	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R57	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R58	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R59	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R60	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R61	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R62	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R63	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R64	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R65	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R66	7030003550	S.RESISTOR	ERJ3GEYJ 822 V (8.2 kΩ)
R67	7030003530	S.RESISTOR	ERJ3GEYJ 562 V (5.6 kΩ)
R68	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R69	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R70	7030003490	S.RESISTOR	ERJ3GEYJ 272 V (2.7 kΩ)
R71	7030003410	S.RESISTOR	ERJ3GEYJ 561 V (560 Ω)
R72	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R74	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R75	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R77	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R78	7030003660	S.RESISTOR	ERJ3GEYJ 683 V (68 kΩ)
R79	7030003660	S.RESISTOR	ERJ3GEYJ 683 V (68 kΩ)
R80	7030003660	S.RESISTOR	ERJ3GEYJ 683 V (68 kΩ)
R81	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R82	7030003660	S.RESISTOR	ERJ3GEYJ 683 V (68 kΩ)
R83	7030003660	S.RESISTOR	ERJ3GEYJ 683 V (68 kΩ)
R84	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R85	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R86	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R87	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R88	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R89	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R90	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R91	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R92	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R94	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R95	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R96	7030003690	S.RESISTOR	ERJ3GEYJ 124 V (120 kΩ)
R97	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R98	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R99	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R100	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R101	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R102	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R103	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R104	7030003750	S.RESISTOR	ERJ3GEYJ 394 V (390 kΩ)
R105	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R106	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R107	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R108	7030003710	S.RESISTOR	ERJ3GEYJ 184 V (180 kΩ)
R109	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R112	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R113	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R114	7030003630	S.RESISTOR	ERJ3GEYJ 393 V (39 kΩ)
R115	7030003670	S.RESISTOR	ERJ3GEYJ 823 V (82 kΩ)
R116	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R117	7030003700	S.RESISTOR	ERJ3GEYJ 154 V (150 kΩ)
R118	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R119	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R121	7030003700	S.RESISTOR	ERJ3GEYJ 154 V (150 kΩ)
R122	7030003630	S.RESISTOR	ERJ3GEYJ 393 V (39 kΩ)
R123	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R124	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R127	7030003530	S.RESISTOR	ERJ3GEYJ 562 V (5.6 kΩ)

S.=Surface mount

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION
R128	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R129	7030006480	S.RESISTOR MCR100JZHJ 10 Ω (100)
R130	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R131	7030001430	S.RESISTOR MCR50JZHJ 27 kΩ
R137	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R138	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R139	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R140	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R141	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R143	7030000410	S.RESISTOR MCR10EZHZ 1.8 kΩ
R144	7030000480	S.RESISTOR MCR10EZHZ 6.8 kΩ
R145	7030000410	S.RESISTOR MCR10EZHZ 1.8 kΩ
R148	7030003760	S.RESISTOR ERJ3GEYJ 474 V (470 kΩ)
R149	7030003450	S.RESISTOR ERJ3GEYJ 122 V (1.2 kΩ)
R150	7030003450	S.RESISTOR ERJ3GEYJ 122 V (1.2 kΩ)
R151	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 kΩ)
R153	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R154	7030008350	S.RESISTOR ERJ12YJ390U
R155	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R158	7030003460	S.RESISTOR ERJ3GEYJ 152 V (1.5 kΩ)
R159	7030003460	S.RESISTOR ERJ3GEYJ 152 V (1.5 kΩ)
R160	7030003460	S.RESISTOR ERJ3GEYJ 152 V (1.5 kΩ)
R162	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R163	7030003800	S.RESISTOR ERJ3GEYJ 105 V (1 MΩ)
R164	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R165	7030003690	S.RESISTOR ERJ3GEYJ 124 V (120 kΩ)
R166	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R168	7030003400	S.RESISTOR ERJ3GEYJ 471 V (470 Ω)
R169	7030003690	S.RESISTOR ERJ3GEYJ 124 V (120 kΩ)
R170	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R171	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R172	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R175	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R177	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R179	7030003700	S.RESISTOR ERJ3GEYJ 154 V (150 kΩ)
R182	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R183	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R184	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R185	7030003570	S.RESISTOR ERJ3GEYJ 123 V (12 kΩ)
R186	7030003570	S.RESISTOR ERJ3GEYJ 123 V (12 kΩ)
R187	7030003490	S.RESISTOR ERJ3GEYJ 272 V (2.7 kΩ)
R188	7030003490	S.RESISTOR ERJ3GEYJ 272 V (2.7 kΩ)
R189	7410001130	S.ARRAY EXB28V102JX
R190	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R191	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R192	7030003750	S.RESISTOR ERJ3GEYJ 394 V (390 kΩ)
R193	7030003760	S.RESISTOR ERJ3GEYJ 474 V (470 kΩ)
R194	7030003750	S.RESISTOR ERJ3GEYJ 394 V (390 kΩ)
R195	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R196	7410001150	S.ARRAY EXB28V471JX
R197	7410001150	S.ARRAY EXB28V471JX
R198	7410001130	S.ARRAY EXB28V102JX
R199	7410001130	S.ARRAY EXB28V102JX
R200	7410001150	S.ARRAY EXB28V471JX
R201	7410001130	S.ARRAY EXB28V102JX
R202	7410001150	S.ARRAY EXB28V471JX
R203	7410001130	S.ARRAY EXB28V102JX
R204	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R205	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R206	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R207	7030003420	S.RESISTOR ERJ3GEYJ 681 V (680 Ω)
R208	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R209	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R210	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R211	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R212	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R213	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R214	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R215	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R216	7410001130	S.ARRAY EXB28V102JX
R217	7410001130	S.ARRAY EXB28V102JX
R218	7410001130	S.ARRAY EXB28V102JX
R219	7410001130	S.ARRAY EXB28V102JX
R220	7410001130	S.ARRAY EXB28V102JX
R221	7410001150	S.ARRAY EXB28V471JX
R222	7410001130	S.ARRAY EXB28V102JX
R223	7410001130	S.ARRAY EXB28V102JX
R224	7410001130	S.ARRAY EXB28V102JX
R225	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R227	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R228	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R229	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION
R230	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R231	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R232	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R233	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R234	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R235	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R236	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R237	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R238	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R239	7410001130	S.ARRAY EXB28V102JX
R240	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R241	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R242	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R243	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R245	7030003570	S.RESISTOR ERJ3GEYJ 123 V (12 kΩ)
R246	7410001140	S.ARRAY EXB28V104JX
R247	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R250	7410001140	S.ARRAY EXB28V104JX
R251	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R256	7030003240	S.RESISTOR ERJ3GEYJ 220 V (22 Ω)
R257	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R258	7030003650	S.RESISTOR ERJ3GEYJ 563 V (56 kΩ)
R259	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R260	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R261	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R262	7030001210	S.RESISTOR MCR50JZHJ 470 Ω (471)
R263	7030003410	S.RESISTOR ERJ3GEYJ 561 V (560 Ω)
R264	7030003410	S.RESISTOR ERJ3GEYJ 561 V (560 Ω)
R265	7030003450	S.RESISTOR ERJ3GEYJ 122 V (1.2 kΩ)
R266	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R268	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R269	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R275	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R276	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R277	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R278	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R279	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R280	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R281	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R282	7030003740	S.RESISTOR ERJ3GEYJ 334 V (330 kΩ)
R283	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R284	7030003700	S.RESISTOR ERJ3GEYJ 154 V (150 kΩ)
R285	7030003700	S.RESISTOR ERJ3GEYJ 154 V (150 kΩ)
R289	7030003660	S.RESISTOR ERJ3GEYJ 683 V (68 kΩ)
R290	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R291	7030003660	S.RESISTOR ERJ3GEYJ 683 V (68 kΩ)
R292	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R293	7030003670	S.RESISTOR ERJ3GEYJ 823 V (82 kΩ)
R294	7030003670	S.RESISTOR ERJ3GEYJ 823 V (82 kΩ)
R295	7030003650	S.RESISTOR ERJ3GEYJ 563 V (56 kΩ)
R297	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R300	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R304	7030003800	S.RESISTOR ERJ3GEYJ 105 V (1 MΩ)
R305	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R306	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R307	7030003410	S.RESISTOR ERJ3GEYJ 561 V (560 Ω)
R312	7030003540	S.RESISTOR ERJ3GEYJ 682 V (6.8 kΩ)
R313	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R314	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R315	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R316	7030003540	S.RESISTOR ERJ3GEYJ 682 V (6.8 kΩ)
R317	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R318	7030003470	S.RESISTOR ERJ3GEYJ 182 V (1.8 kΩ)
R320	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R321	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R322	7030003540	S.RESISTOR ERJ3GEYJ 682 V (6.8 kΩ)
R323	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R325	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R326	7030003540	S.RESISTOR ERJ3GEYJ 682 V (6.8 kΩ)
R327	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R328	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R329	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R330	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R331	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R332	7030003540	S.RESISTOR ERJ3GEYJ 682 V (6.8 kΩ)
R334	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R335	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R336	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R337	7030003540	S.RESISTOR ERJ3GEYJ 682 V (6.8 kΩ)
R338	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R339	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R340	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)

S.=Surface mount

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION
R341	7030003510	S.RESISTOR ERJ3GEYJ 392 V (3.9 kΩ)
R342	7030003510	S.RESISTOR ERJ3GEYJ 392 V (3.9 kΩ)
R345	7030003500	S.RESISTOR ERJ3GEYJ 332 V (3.3 kΩ)
R346	7030003450	S.RESISTOR ERJ3GEYJ 122 V (1.2 kΩ)
R347	7030003540	S.RESISTOR ERJ3GEYJ 682 V (6.8 kΩ)
R348	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R349	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R350	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R351	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R352	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R353	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R355	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R356	7030003540	S.RESISTOR ERJ3GEYJ 682 V (6.8 kΩ)
R358	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R359	7030003410	S.RESISTOR ERJ3GEYJ 561 V (560 Ω)
R367	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R368	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R369	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R370	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R371	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R372	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R373	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R375	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R376	7030003540	S.RESISTOR ERJ3GEYJ 682 V (6.8 kΩ)
R382	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R385	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R386	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R387	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R389	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R390	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R391	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R392	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R396	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R397	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R398	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R399	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R403	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R404	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R405	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R407	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R408	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R409	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R411	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R412	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R414	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R415	7030003410	S.RESISTOR ERJ3GEYJ 561 V (560 Ω)
R417	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R435	7030003540	S.RESISTOR ERJ3GEYJ 682 V (6.8 kΩ)
R436	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R438	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R441	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R442	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R443	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R450	7030000330	S.RESISTOR MCR10EZJH 390 Ω (391)
R451	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R452	7030004040	S.RESISTOR ERJ3GEYJ 4R7 V (4.7 Ω)
R453	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R457	7030003410	S.RESISTOR ERJ3GEYJ 561 V (560 Ω)
R460	7030000330	S.RESISTOR MCR10EZJH 390 Ω (391)
R461	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R462	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R463	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 Ω)
R464	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R466	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R469	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R470	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R471	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R472	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R473	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R474	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R475	7030003740	S.RESISTOR ERJ3GEYJ 334 V (330 kΩ)
R476	7030003540	S.RESISTOR ERJ3GEYJ 682 V (6.8 kΩ)
R477	7030003500	S.RESISTOR ERJ3GEYJ 332 V (3.3 kΩ)
R478	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R479	7030003540	S.RESISTOR ERJ3GEYJ 682 V (6.8 kΩ)
R480	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R481	7030003660	S.RESISTOR ERJ3GEYJ 683 V (68 kΩ)
R486	7030001230	S.RESISTOR MCR50JZHJ 680 Ω (681)
R487	7030003410	S.RESISTOR ERJ3GEYJ 561 V (560 Ω)
R488	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R489	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R492	7030003470	S.RESISTOR ERJ3GEYJ 182 V (1.8 kΩ)

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION
R493	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R494	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R495	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R496	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R497	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R498	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R500	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R501	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R503	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R504	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R505	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R506	7030003410	S.RESISTOR ERJ3GEYJ 561 V (560 Ω)
R508	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R509	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R510	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R511	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R512	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R519	7030003700	S.RESISTOR ERJ3GEYJ 154 V (150 kΩ)
R520	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R521	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R522	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R523	7030006480	S.RESISTOR MCR100JZHJ 10 Ω (100)
R524	7030003410	S.RESISTOR ERJ3GEYJ 561 V (560 Ω)
R525	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R526	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
C1	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C2	4030006870	S.CERAMIC C1608 JB 1H 222K-T
C3	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C4	4550006480	S.TANTALUM TEMSVA 1C 475M-8L
C5	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C6	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C7	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C8	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C9	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C10	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C11	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C12	4030017800	S.CERAMIC C1608 CH 1H 561J-T
C13	4030007120	S.CERAMIC C1608 CH 1H 820J-T
C14	4030007170	S.CERAMIC C1608 CH 1H 221J-T
C15	4030017870	S.CERAMIC C1608 CH 1H 681J-T
C16	4030007110	S.CERAMIC C1608 CH 1H 680J-T
C17	4030017870	S.CERAMIC C1608 CH 1H 681J-T
C18	4030007140	S.CERAMIC C1608 CH 1H 121J-T
C20	4030010760	S.CERAMIC C1608 CH 1H 331J-T
C23	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C24	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C25	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C26	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C27	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C28	4550006250	S.TANTALUM TEMSVA 1A 106M-8L
C30	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C31	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C32	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C33	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C34	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C36	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C37	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C38	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C39	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C40	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C42	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C43	4030006870	S.CERAMIC C1608 JB 1H 222K-T
C44	4030007080	S.CERAMIC C1608 CH 1H 390J-T
C45	4030017800	S.CERAMIC C1608 CH 1H 561J-T
C46	4030007130	S.CERAMIC C1608 CH 1H 101J-T
C47	4030009490	S.CERAMIC C1608 JB 1H 821K-T
C48	4030007170	S.CERAMIC C1608 CH 1H 221J-T
C49	4030007170	S.CERAMIC C1608 CH 1H 221J-T
C50	4030007150	S.CERAMIC C1608 CH 1H 151J-T
C51	4030007030	S.CERAMIC C1608 CH 1H 150J-T
C52	4030007150	S.CERAMIC C1608 CH 1H 151J-T
C53	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C54	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C56	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C58	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C59	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C60	4030008860	S.CERAMIC C1608 JB 1H 153K-T
C61	4030008860	S.CERAMIC C1608 JB 1H 153K-T
C62	4030006880	S.CERAMIC C1608 JB 1H 472K-T
C63	4030010770	S.CERAMIC C1608 JB 1H 392K-T

S.=Surface mount

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C64	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C66	4030008850	S.CERAMIC C1608 JB 1H 123K-T
C67	4030010760	S.CERAMIC C1608 CH 1H 331J-T
C68	4030007170	S.CERAMIC C1608 CH 1H 221J-T
C70	4030009980	S.CERAMIC C1608 JB 1H 152K-T
C71	4030008900	S.CERAMIC C1608 JB 1H 333K-T
C72	4030007100	S.CERAMIC C1608 CH 1H 560J-T
C74	4550006480	S.TANTALUM TEMSVA 1C 475M-8L
C76	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C77	4030009490	S.CERAMIC C1608 JB 1H 821K-T
C78	4030007150	S.CERAMIC C1608 CH 1H 151J-T
C80	4030008920	S.CERAMIC C1608 JB 1H 473K-T
C83	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C84	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C85	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C86	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C87	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C88	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C89	4030008870	S.CERAMIC C1608 JB 1H 183K-T
C90	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C91	4030009490	S.CERAMIC C1608 JB 1H 821K-T
C92	4030008650	S.CERAMIC C1608 JB 1H 332K-T
C93	4030012610	S.CERAMIC C2012 JB 1C 474K-T
C94	4550006250	S.TANTALUM TEMSVA 1A 106M-8L
C95	4510004510	ELECTROLYTIC 25 MV 470 HC
C96	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C97	4510004510	ELECTROLYTIC 25 MV 470 HC
C98	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C99	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C100	4510007040	ELECTROLYTIC 50 MV 10 HWN
C103	4030017200	S.CERAMIC GRM31BR32J102KY01L
C106	4030008900	S.CERAMIC C1608 JB 1H 333K-T
C107	4510005310	S.ELECTROLYTIC ECEV1CA220SR
C108	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C109	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C110	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C111	4510005280	ELECTROLYTIC 6.3 MV 220 HC
C112	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C113	4030007170	S.CERAMIC C1608 CH 1H 221J-T
C114	4550006250	S.TANTALUM TEMSVA 1A 106M-8L
C115	4550003250	S.TANTALUM TEMSVA 1V 474M-8L
C116	4030010760	S.CERAMIC C1608 CH 1H 331J-T
C117	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C118	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C123	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C124	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C125	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C126	4550006250	S.TANTALUM TEMSVA 1A 106M-8L
C127	4030008880	S.CERAMIC C1608 JB 1H 223K-T
C128	4030006900	S.CERAMIC C1608 JB 1H 103K-T
C129	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C130	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C131	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C132	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C133	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C134	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C135	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C136	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C137	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C138	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C139	4030007050	S.CERAMIC C1608 CH 1H 220J-T
C140	4030007030	S.CERAMIC C1608 CH 1H 150J-T
C141	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C142	4030006900	S.CERAMIC C1608 JB 1H 103K-T
C143	4030006900	S.CERAMIC C1608 JB 1H 103K-T
C144	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C145	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C146	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C147	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C148	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C149	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C150	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C151	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C152	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C153	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C154	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C155	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C156	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C157	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C158	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C159	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C160	4030007090	S.CERAMIC C1608 CH 1H 470J-T

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C161	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C162	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C163	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C164	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C165	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C166	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C167	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C168	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C169	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C170	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C171	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C172	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C173	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C174	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C176	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C177	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C178	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C179	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C180	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C181	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C182	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C184	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C185	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C186	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C187	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C188	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C189	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C190	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C191	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C192	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C193	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C194	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C195	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C197	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C198	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C199	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C200	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C201	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C202	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C203	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C204	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C205	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C206	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C207	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C208	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C209	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C210	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C211	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C212	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C213	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C214	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C215	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C216	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C217	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C218	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C219	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C220	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C221	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C223	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C224	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C225	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C226	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C227	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C228	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C229	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C230	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C231	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C232	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C233	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C234	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C235	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C236	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C237	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C238	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C239	4510004510	ELECTROLYTIC 25 MV 470 HC
C240	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C241	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C242	4030007080	S.CERAMIC C1608 CH 1H 390J-T
C244	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C247	4510004640	S.ELECTROLYTIC ECEV1CA470SP
C248	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C249	4510004640	S.ELECTROLYTIC ECEV1CA470SP

S.=Surface mount

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C250	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C251	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C252	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C253	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C254	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C255	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C260	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C261	4550002960	S.TANTALUM TESVA 1C 155M1-8L
C262	4030007070	S.CERAMIC C1608 CH 1H 330J-T
C263	4030007070	S.CERAMIC C1608 CH 1H 330J-T
C264	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C265	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C266	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C270	4030008880	S.CERAMIC C1608 JB 1H 223K-T
C271	4030008920	S.CERAMIC C1608 JB 1H 473K-T
C272	4030010020	S.CERAMIC C1608 JB 1H 122K-T
C273	4030009980	S.CERAMIC C1608 JB 1H 152K-T
C274	4030008900	S.CERAMIC C1608 JB 1H 333K-T
C275	4030008900	S.CERAMIC C1608 JB 1H 333K-T
C276	4030010020	S.CERAMIC C1608 JB 1H 122K-T
C277	4030006900	S.CERAMIC C1608 JB 1H 103K-T
C282	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C283	4550006250	S.TANTALUM TEMSVA 1A 106M-8L
C287	4550006250	S.TANTALUM TEMSVA 1A 106M-8L
C288	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C289	4550006250	S.TANTALUM TEMSVA 1A 106M-8L
C290	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C292	4550006250	S.TANTALUM TEMSVA 1A 106M-8L
C294	4550006250	S.TANTALUM TEMSVA 1A 106M-8L
C295	4550006250	S.TANTALUM TEMSVA 1A 106M-8L
C296	4550006250	S.TANTALUM TEMSVA 1A 106M-8L
C297	4550006250	S.TANTALUM TEMSVA 1A 106M-8L
C301	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C302	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C303	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C307	4030007050	S.CERAMIC C1608 CH 1H 220J-T
C308	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C310	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C311	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C312	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C313	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C316	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C322	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C323	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C325	4550006250	S.TANTALUM TEMSVA 1A 106M-8L
C326	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C328	4550006250	S.TANTALUM TEMSVA 1A 106M-8L
C329	4550006250	S.TANTALUM TEMSVA 1A 106M-8L
C330	4550006250	S.TANTALUM TEMSVA 1A 106M-8L
C332	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C335	4550006480	S.TANTALUM TEMSVA 1C 475M-8L
C337	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C339	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C340	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C341	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C342	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C343	4030006900	S.CERAMIC C1608 JB 1H 103K-T
C345	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C346	4030006900	S.CERAMIC C1608 JB 1H 103K-T
C347	4550000530	S.TANTALUM TESVA 1V 104M1-8L
C361	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C362	4030007050	S.CERAMIC C1608 CH 1H 220J-T
C363	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C364	4030007050	S.CERAMIC C1608 CH 1H 220J-T
C366	4030007050	S.CERAMIC C1608 CH 1H 220J-T
C371	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C372	4030007110	S.CERAMIC C1608 CH 1H 680J-T
C373	4030008870	S.CERAMIC C1608 JB 1H 183K-T
C375	4310000900	MYLAR 250 MMW 105K-EF
C380	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C382	4030007050	S.CERAMIC C1608 CH 1H 220J-T
C383	4030007050	S.CERAMIC C1608 CH 1H 220J-T
C384	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C386	4550006480	S.TANTALUM TEMSVA 1C 475M-8L
C388	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C389	4030006900	S.CERAMIC C1608 JB 1H 103K-T
C390	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C395	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C396	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C397	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C398	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C399	4030011600	S.CERAMIC C1608 JB 1E 104K-T

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C407	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C408	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C409	4030006870	S.CERAMIC C1608 JB 1H 222K-T
C411	4030007130	S.CERAMIC C1608 CH 1H 101J-T
C412	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C413	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C414	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C415	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C416	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C417	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C418	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C419	4340000060	S.MYLAR ECH-U 1C103JB5
C420	4550006250	S.TANTALUM TEMSVA 1A 106M-8L
C421	4030007050	S.CERAMIC C1608 CH 1H 220J-T
C422	4030007050	S.CERAMIC C1608 CH 1H 220J-T
C423	4030007050	S.CERAMIC C1608 CH 1H 220J-T
C424	4030007050	S.CERAMIC C1608 CH 1H 220J-T
C425	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C426	4550006250	S.TANTALUM TEMSVA 1A 106M-8L
C427	4030007170	S.CERAMIC C1608 CH 1H 221J-T
C428	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C429	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C430	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C431	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C432	4030007050	S.CERAMIC C1608 CH 1H 220J-T
C433	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C434	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C435	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C436	4030007090	S.CERAMIC C1608 CH 1H 470J-T
C437	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C438	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C439	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C440	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C441	4030018060	S.CERAMIC C5750 JB 2E 474KT
C442	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C443	4030006900	S.CERAMIC C1608 JB 1H 103K-T
C447	4030017490	S.CERAMIC C1608 JB 1A 105K-T
C448	4550002980	S.TANTALUM TEMSVA 1C 225M-8L
C449	4550000460	S.TANTALUM TESVA 1C 105M1-8L
C450	4030011600	S.CERAMIC C1608 JB 1E 104K-T
C451	4550006250	S.TANTALUM TEMSVA 1A 106M-8L
C452	4030017490	S.CERAMIC C1608 JB 1A 105K-T
RL1	6330001640	RELAY ATX209
RL2	6330001640	RELAY ATX209
J1	6510022590	S.CONNECTOR 22FMN-BMTRR-A-TBT
J2	6510022590	S.CONNECTOR 22FMN-BMTRR-A-TBT
J3	6510022580	S.CONNECTOR 24FMN-BMTRR-A-TBT
J4	6510022620	S.CONNECTOR 10FMN-BMTRR-A-TBT
J5	6510018970	S.CONNECTOR B4B-PH-SM3-TB
J6	6510022620	S.CONNECTOR 10FMN-BMTRR-A-TBT
J7	6510018430	S.CONNECTOR AXN330C038P
J8	6510018430	S.CONNECTOR AXN330C038P
J9	6510020050	S.CONNECTOR B11B-PH-SM3-TB
J10	6510018940	S.CONNECTOR B13B-PH-SM3-TB
J11	6510018940	S.CONNECTOR B13B-PH-SM3-TB
J12	6510021440	S.CONNECTOR B6B-ZR-SM3-TF
J13	6510022190	S.CONNECTOR B3B-PH-SM3-TB
J14	6510022190	S.CONNECTOR B3B-PH-SM3-TB
J15	6510018960	S.CONNECTOR B2B-PH-SM3-TB
J16	6510018960	S.CONNECTOR B2B-PH-SM3-TB
F1	5210000030	FUSE FGB 1A (FGB0 125V)
F2	5220000020	HOLDER S-N5051
F3	5220000020	HOLDER S-N5051
T1	5920000570	TRANSFORMER 12T01
T2	5920000570	TRANSFORMER 12T01
T5	5920000860	TRANSFORMER PLA10AS1030R7R2
T6	5920000570	TRANSFORMER 12T01
T7	5920000570	TRANSFORMER 12T01
T8	5920000570	TRANSFORMER 12T01
W1	7030003860	S.JUMPER ERJ3GE JPW V
W2	7030003860	S.JUMPER ERJ3GE JPW V
W3	8900008940	CABLE OPC-886 (P=1 N=10 L=75)

S.=Surface mount

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
W4	8900009230	CABLE	OPC-908 (P=1 N=10 L=60)
W5	8900008740	CABLE	OPC-867 (P=1 N=24 L=60)
W7	7030003860	S.JUMPER	ERJ3GE JPW V
W8	7030007150	S.JUMPER	MCR50JZHJ JPW
W10	8900009270	CABLE	OPC-912 (P=1 N=22 L=70)
W11	8900009270	CABLE	OPC-912 (P=1 N=22 L=70)
W12	7030003860	S.JUMPER	ERJ3GE JPW V
W13	7030003860	S.JUMPER	ERJ3GE JPW V
W14	7030003860	S.JUMPER	ERJ3GE JPW V
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
EP1	0910056104	PCB	B 5654D
EP2	6910014900	BEAD	FRC-50-12-6.5
EP3	6910014890	E.OTHER	FRC-WC1

[RX UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC1	1190000450	S.IC	GN2011-Q (TX)
IC2	1110003490	S.IC	TA31136FN (D,EL)
IC3	1180000420	S.IC	TA78L05F (TE12R)
IC4	1140005990	S.IC	MB15A02PFV1-G-BND-ER
IC5	1110002750	S.IC	TA75S01F (TE85R)
IC6	1180000420	S.IC	TA78L05F (TE12R)
IC7	1180000430	S.IC	TA78L06F (TE12L)
Q1	1530003820	S.TRANSISTOR	2SC5337QS-T1
Q3	1560000670	S.FET	2SK1771 (TE85R)
Q6	1530001950	S.TRANSISTOR	2SC2712-GR (TE85R)
Q7	1530001950	S.TRANSISTOR	2SC2712-GR (TE85R)
Q8	1530002920	S.TRANSISTOR	2SC4226-T1 R25
Q9	1530003270	S.TRANSISTOR	2SC4703-T2 SF
Q14	1530002920	S.TRANSISTOR	2SC4226-T1 R25
Q15	1520000270	S.TRANSISTOR	2SB1182 TL Q
Q16	1530002060	S.TRANSISTOR	2SC4081 T106 R
Q18	1560000540	S.FET	2SK880-Y (TE85R)
Q19	1590000440	S.TRANSISTOR	DTA143ZUA T106
Q20	1510000510	S.TRANSISTOR	2SA1576A T106R
Q21	1530002060	S.TRANSISTOR	2SC4081 T106 R
D1	1750000070	S.DIODE	1SS226 (TE85R)
D3	1720000640	S.VARICAP	1SV284 (TPH3)
D4	1720000640	S.VARICAP	1SV284 (TPH3)
D6	1720000640	S.VARICAP	1SV284 (TPH3)
D7	1720000640	S.VARICAP	1SV284 (TPH3)
D15	1750000140	S.DIODE	1SS268 (TE85R)
D16	1750000140	S.DIODE	1SS268 (TE85R)
FI1	2030000201	S.MONOLITH	FL-349A (70.00 MHz)
FI5	2020001030	CERAMIC	CFWLA455KGFA-B0
FI6	2020001040	CERAMIC	CFWLA455KEFA-B0
X1	6070000150	S.DISCRIMINATOR	CDBC455KCAY24-R0
X2	6050011470	XTAL	CR-729 (69.545 MHz)
X3	6050011480	S.XTAL	CR-732 (12.800 MHz)
L1	6200007670	S.COIL	LQW2BHN10NJ01L
L2	6200010290	S.COIL	C6328A-22NG-A
L3	6200010290	S.COIL	C6328A-22NG-A
L4	6200007700	S.COIL	LQW2BHN22NJ01L
L6	6200010290	S.COIL	C6328A-22NG-A
L7	6200010290	S.COIL	C6328A-22NG-A
L8	6200010490	S.COIL	458DB-1011=P3
L9	6200010490	S.COIL	458DB-1011=P3
L10	6200010490	S.COIL	458DB-1011=P3
L11	6200008730	S.COIL	ELJND R10J 0.1U
L14	6200005510	S.COIL	ELJND R27J-F
L20	6200010300	S.COIL	ELJND R68JF 0.68U
L21	6200007230	S.COIL	LQW2BHN15NJ01L
L22	6200007710	S.COIL	LQW2BHN27NJ01L
L23	6200007680	S.COIL	LQW2BHN12NJ01L
L24	6200007680	S.COIL	LQW2BHN12NJ01L
L25	6200007230	S.COIL	LQW2BHN15NJ01L
L27	6200007230	S.COIL	LQW2BHN15NJ01L
L29	6200007230	S.COIL	LQW2BHN15NJ01L
L30	6200007230	S.COIL	LQW2BHN15NJ01L
L31	6200010300	S.COIL	ELJND R68JF 0.68U
L32	6200007670	S.COIL	LQW2BHN10NJ01L
L33	6200007340	S.COIL	ELJND R22J 0.22U
L35	6200007820	S.COIL	ELJND R33J 0.33U
L39	6200007680	S.COIL	LQW2BHN12NJ01L
L40	6200010300	S.COIL	ELJND R68JF 0.68U
L41	6200009940	S.COIL	BLM21PG221SN1
L42	6910011690	S.COIL	ACB1608M-600-T
L43	6910011690	S.COIL	ACB1608M-600-T
L44	6910011690	S.COIL	ACB1608M-600-T
L45	6910011690	S.COIL	ACB1608M-600-T
L46	6910011690	S.COIL	ACB1608M-600-T
L47	6910011690	S.COIL	ACB1608M-600-T
L48	6910011690	S.COIL	ACB1608M-600-T
L49	6910011690	S.COIL	ACB1608M-600-T
L50	6910011690	S.COIL	ACB1608M-600-T
L51	6910011690	S.COIL	ACB1608M-600-T
L52	6200007680	S.COIL	LQW2BHN12NJ01L
L53	6200007680	S.COIL	LQW2BHN12NJ01L

S.=Surface mount

[RX UNIT]

REF NO.	ORDER NO.	DESCRIPTION
R1	7030003670	S.RESISTOR ERJ3GEYJ 823 V (82 kΩ)
R2	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R3	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R4	7030003500	S.RESISTOR ERJ3GEYJ 332 V (3.3 kΩ)
R5	7030003500	S.RESISTOR ERJ3GEYJ 332 V (3.3 kΩ)
R6	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 Ω)
R9	7030000140	S.RESISTOR MCR10EZJH 10 Ω (100)
R10	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R11	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R14	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R15	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R19	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R25	7030003550	S.RESISTOR ERJ3GEYJ 822 V (8.2 kΩ)
R26	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R35	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R36	7030003420	S.RESISTOR ERJ3GEYJ 681 V (680 Ω)
R37	7030003330	S.RESISTOR ERJ3GEYJ 121 V (120 Ω)
R39	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R40	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R41	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R42	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R43	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R44	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R45	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R48	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 Ω)
R49	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R50	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R52	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R53	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R54	7030003780	S.RESISTOR ERJ3GEYJ 684 V (680 kΩ)
R55	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R56	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R57	7510001670	S.THRMISTOR NTCG16 4BH 103KT
R58	7030003500	S.RESISTOR ERJ3GEYJ 332 V (3.3 kΩ)
R60	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R61	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R62	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R63	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R64	7030003230	S.RESISTOR ERJ3GEYJ 180 V (18 Ω)
R65	7030003230	S.RESISTOR ERJ3GEYJ 180 V (18 Ω)
R66	7030003230	S.RESISTOR ERJ3GEYJ 180 V (18 Ω)
R67	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 Ω)
R68	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R69	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R70	7030003300	S.RESISTOR ERJ3GEYJ 680 V (68 Ω)
R71	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R72	7030000140	S.RESISTOR MCR10EZJH 10 Ω (100)
R73	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R74	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R75	7030003300	S.RESISTOR ERJ3GEYJ 680 V (68 Ω)
R76	7030003340	S.RESISTOR ERJ3GEYJ 151 V (150 Ω)
R77	7030006060	S.RESISTOR ERJ12YJ100U (10 Ω)
R81	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R84	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R85	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R86	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R87	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R88	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 Ω)
R92	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R93	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 Ω)
R112	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R115	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R116	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R117	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R118	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R119	7030003300	S.RESISTOR ERJ3GEYJ 680 V (68 Ω)
R120	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R121	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R122	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R123	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R126	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R127	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R134	7030003800	S.RESISTOR ERJ3GEYJ 105 V (1 MΩ)
R135	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R136	7030003300	S.RESISTOR ERJ3GEYJ 680 V (68 Ω)
R137	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R138	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R139	7030003600	S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)
R140	7030003500	S.RESISTOR ERJ3GEYJ 332 V (3.3 kΩ)
R148	7030003480	S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)
R149	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R153	7030003470	S.RESISTOR ERJ3GEYJ 182 V (1.8 kΩ)

[RX UNIT]

REF NO.	ORDER NO.	DESCRIPTION
R155	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R156	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R157	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R158	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R159	7030003440	S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)
R160	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R163	7030003340	S.RESISTOR ERJ3GEYJ 151 V (150 Ω)
R164	7030003270	S.RESISTOR ERJ3GEYJ 390 V (39 Ω)
R165	7030003340	S.RESISTOR ERJ3GEYJ 151 V (150 Ω)
R166	7030003280	S.RESISTOR ERJ3GEYJ 470 V (47 Ω)
R167	7030003750	S.RESISTOR ERJ3GEYJ 394 V (390 kΩ)
R168	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R169	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R170	7030003520	S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)
R171	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R172	7030003640	S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)
R173	7030003620	S.RESISTOR ERJ3GEYJ 333 V (33 kΩ)
R174	7030003680	S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)
R175	7030003530	S.RESISTOR ERJ3GEYJ 562 V (5.6 kΩ)
R176	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R177	7030003560	S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)
R178	7030003320	S.RESISTOR ERJ3GEYJ 101 V (100 Ω)
R179	7030003790	S.RESISTOR ERJ3GEYJ 824 V (820 kΩ)
R180	7030003770	S.RESISTOR SAJ05C 564 V (560 kΩ)
R181	7540000250	ABSORBER ERJ3GEYJ 100 V (10 Ω)
R182	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R183	7030003530	S.RESISTOR ERJ3GEYJ 562 V (5.6 kΩ)
R184	7030003530	S.RESISTOR ERJ3GEYJ 562 V (5.6 kΩ)
R185	7030003530	S.RESISTOR ERJ3GEYJ 562 V (5.6 kΩ)
R186	7030003200	S.RESISTOR ERJ3GEYJ 100 V (10 Ω)
R187	7510001560	S.THERMISTOR NTCG16 4BH 102KT
C1	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C2	4030009910	S.CERAMIC C1608 CH 1H 040B-T
C4	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C5	4030009910	S.CERAMIC C1608 CH 1H 040B-T
C6	4030009910	S.CERAMIC C1608 CH 1H 040B-T
C7	4030009910	S.CERAMIC C1608 CH 1H 040B-T
C8	4030009910	S.CERAMIC C1608 CH 1H 040B-T
C10	4610001590	S.TRIMMER TZC3R100A110R00
C11	4610001590	S.TRIMMER TZC3R100A110R00
C12	4610001970	S.TRIMMER TZC3P200A110R00
C13	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C14	4030007000	S.CERAMIC C1608 CH 1H 090D-T
C18	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C19	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C20	4030007100	S.CERAMIC C1608 CH 1H 560J-T
C21	4030009910	S.CERAMIC C1608 CH 1H 040B-T
C22	4030009910	S.CERAMIC C1608 CH 1H 040B-T
C23	4030009920	S.CERAMIC C1608 CH 1H 050B-T
C24	4030009910	S.CERAMIC C1608 CH 1H 040B-T
C26	4610001590	S.TRIMMER TZC3R100A110R00
C27	4610001590	S.TRIMMER TZC3R100A110R00
C28	4610001970	S.TRIMMER TZC3P200A110R00
C29	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C30	4030009910	S.CERAMIC C1608 CH 1H 040B-T
C31	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C32	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C33	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C34	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C35	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C39	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C40	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C41	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C42	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C43	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C44	4030006900	S.CERAMIC C1608 JB 1H 103K-T
C46	4030007040	S.CERAMIC C1608 CH 1H 180J-T
C47	4030007040	S.CERAMIC C1608 CH 1H 180J-T
C48	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C50	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C51	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C52	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C53	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C55	4030007010	S.CERAMIC C1608 CH 1H 100D-T
C56	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C57	4510004640	S.ELECTROLYTIC ECEV1CA470SP
C58	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C59	4030006860	S.CERAMIC C1608 JB 1H 102K-T
C60	4510004640	S.ELECTROLYTIC ECEV1CA470SP
C62	4030007120	S.CERAMIC C1608 CH 1H 820J-T

S.=Surface mount

[RX UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C64	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C65	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C67	4510004630	S.ELECTROLYTIC	ECEV1CA100SR
C68	4550000460	S.TANTALUM	TESVA 1C 105M1-8L
C69	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C70	4030011600	S.CERAMIC	C1608 JB 1E 104K-T
C71	4030007160	S.CERAMIC	C1608 CH 1H 181J-T
C72	4030007160	S.CERAMIC	C1608 CH 1H 181J-T
C73	4030011600	S.CERAMIC	C1608 JB 1E 104K-T
C74	4030011600	S.CERAMIC	C1608 JB 1E 104K-T
C75	4030011600	S.CERAMIC	C1608 JB 1E 104K-T
C76	4030011600	S.CERAMIC	C1608 JB 1E 104K-T
C77	4030011600	S.CERAMIC	C1608 JB 1E 104K-T
C78	4030011600	S.CERAMIC	C1608 JB 1E 104K-T
C79	4030007010	S.CERAMIC	C1608 CH 1H 100D-T
C80	4030007010	S.CERAMIC	C1608 CH 1H 100D-T
C81	4030007010	S.CERAMIC	C1608 CH 1H 100D-T
C82	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C83	4510004630	S.ELECTROLYTIC	ECEV1CA100SR
C84	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C85	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C86	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C87	4510004630	S.ELECTROLYTIC	ECEV1CA100SR
C102	4510004640	S.ELECTROLYTIC	ECEV1CA470SP
C103	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C104	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C105	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C106	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C108	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C109	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C110	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C112	4030007050	S.CERAMIC	C1608 CH 1H 220J-T
C113	4030007050	S.CERAMIC	C1608 CH 1H 220J-T
C114	4030007020	S.CERAMIC	C1608 CH 1H 120J-T
C115	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C116	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C117	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C118	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C119	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C120	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C121	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C122	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C123	4030006980	S.CERAMIC	C1608 CH 1H 070D-T
C124	4030009910	S.CERAMIC	C1608 CH 1H 040B-T
C126	4030011770	S.CERAMIC	C1608 CH 1H 060B-T
C131	4030006900	S.CERAMIC	C1608 JB 1H 103K-T
C132	4030007070	S.CERAMIC	C1608 CH 1H 330J-T
C133	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C134	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C135	4030006980	S.CERAMIC	C1608 CH 1H 070D-T
C137	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C138	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C140	4510004640	S.ELECTROLYTIC	ECEV1CA470SP
C141	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C142	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C143	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C146	4510004630	S.ELECTROLYTIC	ECEV1CA100SR
C151	4030007010	S.CERAMIC	C1608 CH 1H 100D-T
C152	4030006850	S.CERAMIC	C1608 JB 1H 471K-T
C153	4030009920	S.CERAMIC	C1608 CH 1H 050B-T
C158	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C159	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C165	4030006900	S.CERAMIC	C1608 JB 1H 103K-T
C166	4030008880	S.CERAMIC	C1608 JB 1H 223K-T
C167	4550002980	S.TANTALUM	TEMSVA 1C 225M-8L
C173	4550006250	S.TANTALUM	TEMSVA 1A 106M-8L
C175	4550006350	S.TANTALUM	TEMSVB2 1A 226M-8L
C177	4030011600	S.CERAMIC	C1608 JB 1E 104K-T
C180	4030006900	S.CERAMIC	C1608 JB 1H 103K-T
C181	4030011600	S.CERAMIC	C1608 JB 1E 104K-T
C182	4030011770	S.CERAMIC	C1608 CH 1H 060B-T
C183	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C184	4030007020	S.CERAMIC	C1608 CH 1H 120J-T
C186	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C187	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C188	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C191	4030007010	S.CERAMIC	C1608 CH 1H 100D-T
C192	4030009920	S.CERAMIC	C1608 CH 1H 050B-T
C193	4030011600	S.CERAMIC	C1608 JB 1E 104K-T
C194	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C195	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C196	4550000530	S.TANTALUM	TESVA 1V 104M1-8L

[RX UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C199	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C200	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C201	4550006250	S.TANTALUM	TEMSVA 1A 106M-8L
C202	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C203	4030011600	S.CERAMIC	C1608 JB 1E 104K-T
C204	4550006250	S.TANTALUM	TEMSVA 1A 106M-8L
C205	4030009910	S.CERAMIC	C1608 CH 1H 040B-T
C206	4030009910	S.CERAMIC	C1608 CH 1H 040B-T
C207	4030009910	S.CERAMIC	C1608 CH 1H 040B-T
C208	4030009910	S.CERAMIC	C1608 CH 1H 040B-T
C210	4030006980	S.CERAMIC	C1608 CH 1H 070D-T
C211	4030006850	S.CERAMIC	C1608 JB 1H 471K-T
C212	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C213	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C214	4030007020	S.CERAMIC	C1608 CH 1H 120J-T
C215	4030007020	S.CERAMIC	C1608 CH 1H 120J-T
C216	4030007020	S.CERAMIC	C1608 CH 1H 120J-T
C217	4030007020	S.CERAMIC	C1608 CH 1H 120J-T
C220	4030008650	S.CERAMIC	C1608 JB 1H 332K-T
J1	6510018450	CONNECTOR	TMP-S01X-B1
J2	6510022590	S.CONNECTOR	22FMN-BMTR-A-TBT
J5	6510018450	CONNECTOR	TMP-S01X-B1
W1	7030003860	S.JUMPER	ERJ3GE JPW V
W2	7030003860	S.JUMPER	ERJ3GE JPW V
W3	7030003860	S.JUMPER	ERJ3GE JPW V
W4	7030003860	S.JUMPER	ERJ3GE JPW V
W6	7030003860	S.JUMPER	ERJ3GE JPW V
W7	7030003860	S.JUMPER	ERJ3GE JPW V
W8	7030003860	S.JUMPER	ERJ3GE JPW V
W12	7030003860	S.JUMPER	ERJ3GE JPW V
W13	7030003860	S.JUMPER	ERJ3GE JPW V
W14	7030003860	S.JUMPER	ERJ3GE JPW V
EP1	0910056138	PCB	B 5657H

S.=Surface mount

[RVCO UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
Q1	1560001280	S.FET	2SK508 K53 T1B
Q2	1530002920	S.TRANSISTOR	2SC4226-T1 R25
D1	1720000640	S.VARICAP	1SV284 (TPH3)
D2	1720000640	S.VARICAP	1SV284 (TPH3)
D3	1720000640	S.VARICAP	1SV284 (TPH3)
D4	1720000640	S.VARICAP	1SV284 (TPH3)
L1	6200007120	S.COIL	ELJND 1R0J 1U
L2	6200008730	S.COIL	ELJND R10J 0.1U
L3	6200010290	S.COIL	C6328A-22NG-A
L4	6200008730	S.COIL	ELJND R10J 0.1U
L5	6200007210	S.COIL	ELJND 10NKF
L6	6200005700	S.COIL	ELJRE 22NG-F
L9	6200005740	S.COIL	ELJRE 47NG-F
R1	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R2	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R3	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R4	7030003550	S.RESISTOR	ERJ3GEYJ 822 V (8.2 kΩ)
R5	7030003350	S.RESISTOR	ERJ3GEYJ 181 V (180 Ω)
R6	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R13	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
C1	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C2	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C3	4550006770	S.TANTALUM	TEMSVD2 1C 476M-12R
C4	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C5	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C7	4030006980	S.CERAMIC	C1608 CH 1H 070D-T
C8	4030009920	S.CERAMIC	C1608 CH 1H 050B-T
C9	4030007010	S.CERAMIC	C1608 CH 1H 100D-T
C10	4030009500	S.CERAMIC	C1608 CH 1H 0R5B-T
C11	4030009920	S.CERAMIC	C1608 CH 1H 050B-T
C13	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C14	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C16	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C17	4610001920	S.TRIMMER	TZC32060A110R00
C22	4030009510	S.CERAMIC	C1608 CH 1H 010B-T
C27	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
J1	6510022900	CONNECTOR	IMSA9201B-1-06Z198-T
EP1	0910056143	PCB	B 5658C

[TX UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC1	1180000420	S.IC	TA78L05F (TE12R)
IC2	1140005990	S.IC	MB15A02PFV1-G-BND-ER
IC3	1110002400	S.IC	NJM2107F-TE1
IC4	1180000430	S.IC	TA78L06F (TE12L)
IC5	1190001350	S.IC	M62364FP 600D
IC6	1110002400	S.IC	NJM2107F-TE1
Q1	1530000371	S.TRANSISTOR	2SC3356-T1B R25
Q2	1530003270	S.TRANSISTOR	2SC4703-T2 SF
Q3	1530002920	S.TRANSISTOR	2SC4226-T1 R25
Q5	1530001950	S.TRANSISTOR	2SC2712-GR (TE85R)
Q6	1530002050	S.TRANSISTOR	2SC3661-TB
Q7	1510000510	S.TRANSISTOR	2SA1576A T106R
Q9	1530001950	S.TRANSISTOR	2SC2712-GR (TE85R)
Q10	1560000540	S.FET	2SK880-Y (TE85R)
D1	1790001620	S.DIODE	1SV308 (TPL3)
D3	1710000840	S.DIODE	1SR154-400 TE25
D4	1790001250	S.DIODE	MA2S111-(TX)
X1	6050011480	S.XTAL	CR-732 (12.800 MHz)
L1	6200007690	S.COIL	LQW2BHN18NJ01L
L2	6200007710	S.COIL	LQW2BHN27NJ01L
L3	6200007230	S.COIL	LQW2BHN15NJ01L
L8	6200008730	S.COIL	ELJND R10J 0.1U
L9	6200008730	S.COIL	ELJND R10J 0.1U
L10	6200007690	S.COIL	LQW2BHN18NJ01L
L11	6200007710	S.COIL	LQW2BHN27NJ01L
L14	6200007670	S.COIL	LQW2BHN10NJ01L
L15	6200007700	S.COIL	LQW2BHN22NJ01L
L16	6200007700	S.COIL	LQW2BHN22NJ01L
L17	6910011690	S.COIL	ACB1608M-600-T
L18	6910011690	S.COIL	ACB1608M-600-T
L19	6910011690	S.COIL	ACB1608M-600-T
L20	6910011690	S.COIL	ACB1608M-600-T
L21	6910011690	S.COIL	ACB1608M-600-T
L22	6910011690	S.COIL	ACB1608M-600-T
L23	6910011690	S.COIL	ACB1608M-600-T
L24	6910011690	S.COIL	ACB1608M-600-T
L25	6910011690	S.COIL	ACB1608M-600-T
L26	6910011690	S.COIL	ACB1608M-600-T
L27	6200009940	S.COIL	BLM21PG221SN1
L28	6200009940	S.COIL	BLM21PG221SN1
L29	6910011690	S.COIL	ACB1608M-600-T
L30	6910011690	S.COIL	ACB1608M-600-T
R1	7030003230	S.RESISTOR	ERJ3GEYJ 180 V (18 Ω)
R2	7030003230	S.RESISTOR	ERJ3GEYJ 180 V (18 Ω)
R3	7030003230	S.RESISTOR	ERJ3GEYJ 180 V (18 Ω)
R4	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R5	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R6	7030003300	S.RESISTOR	ERJ3GEYJ 680 V (68 Ω)
R8	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R9	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R10	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R11	7030004040	S.RESISTOR	ERJ3GEYJ 4R7 V (4.7 Ω)
R16	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R17	7030003330	S.RESISTOR	ERJ3GEYJ 121 V (120 Ω)
R18	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R19	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R20	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R21	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R23	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R24	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R25	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R26	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R27	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R29	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R31	7030003470	S.RESISTOR	ERJ3GEYJ 182 V (1.8 kΩ)
R33	7030003460	S.RESISTOR	ERJ3GEYJ 152 V (1.5 kΩ)
R36	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R37	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R38	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R39	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R41	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R42	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)

S.=Surface mount

[TX UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R45	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R50	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R51	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R52	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R53	7030003300	S.RESISTOR	ERJ3GEYJ 680 V (68 Ω)
R54	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R55	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R56	7030003240	S.RESISTOR	ERJ3GEYJ 220 V (22 Ω)
R57	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R61	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R64	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R66	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R67	7030003770	S.RESISTOR	ERJ3GEYJ 564 V (560 kΩ)
R68	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R69	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R70	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R71	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R76	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R77	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R78	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R79	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R80	7030003540	S.RESISTOR	ERJ3GEYJ 682 V (6.8 kΩ)
R81	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R83	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R84	7030003540	S.RESISTOR	ERJ3GEYJ 682 V (6.8 kΩ)
R85	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R86	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R87	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R88	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R90	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R91	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R92	7030004040	S.RESISTOR	ERJ3GEYJ 4R7 V (4.7 Ω)
R93	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R94	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R95	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R96	7030003530	S.RESISTOR	ERJ3GEYJ 562 V (5.6 kΩ)
R97	7030003530	S.RESISTOR	ERJ3GEYJ 562 V (5.6 kΩ)
R98	7030003530	S.RESISTOR	ERJ3GEYJ 562 V (5.6 kΩ)
R99	7030003530	S.RESISTOR	ERJ3GEYJ 562 V (5.6 kΩ)
C1	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C2	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C3	4030006980	S.CERAMIC	C1608 CH 1H 070D-T
C4	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C5	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C6	4030006990	S.CERAMIC	C1608 CH 1H 080D-T
C8	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C9	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C10	4030007010	S.CERAMIC	C1608 CH 1H 100D-T
C15	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C16	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C17	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C18	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C19	4030006980	S.CERAMIC	C1608 CH 1H 070D-T
C20	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C21	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C22	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C24	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C26	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C27	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C28	4510004640	S.ELECTROLYTIC	ECEV1CA470SP
C29	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C32	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C33	4510004640	S.ELECTROLYTIC	ECEV1CA470SP
C34	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C35	4030006870	S.CERAMIC	C1608 JB 1H 222K-T
C36	4550006390	S.TANTALUM	TEMSVA 1C 335M-8L
C37	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C38	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C39	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C40	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C41	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C42	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C43	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C44	4510004630	S.ELECTROLYTIC	ECEV1CA100SR
C45	4030007010	S.CERAMIC	C1608 CH 1H 100D-T
C46	4030007010	S.CERAMIC	C1608 CH 1H 100D-T
C47	4030007010	S.CERAMIC	C1608 CH 1H 100D-T
C48	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C49	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C50	4510004630	S.ELECTROLYTIC	ECEV1CA100SR

[TX UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C51	4550006250	S.TANTALUM	TEMSVA 1A 106M-8L
C52	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C56	4510004630	S.ELECTROLYTIC	ECEV1CA100SR
C57	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C58	4030011600	S.CERAMIC	C1608 JB 1E 104K-T
C59	4030008920	S.CERAMIC	C1608 JB 1H 473K-T
C60	4510004630	S.ELECTROLYTIC	ECEV1CA100SR
C61	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C65	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C67	4550002980	S.TANTALUM	TEMSVA 1C 225M-8L
C68	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C69	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C72	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C73	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C74	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C75	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C76	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C77	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C78	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C79	4030006850	S.CERAMIC	C1608 JB 1H 471K-T
C80	4030011600	S.CERAMIC	C1608 JB 1E 104K-T
C82	4550006250	S.TANTALUM	TEMSVA 1A 106M-8L
C85	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C89	4030009920	S.CERAMIC	C1608 CH 1H 050B-T
C90	4030007010	S.CERAMIC	C1608 CH 1H 100D-T
C91	4030009920	S.CERAMIC	C1608 CH 1H 050B-T
C92	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C93	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C96	4510004630	S.ELECTROLYTIC	ECEV1CA100SR
C97	4510004630	S.ELECTROLYTIC	ECEV1CA100SR
C98	4510004640	S.ELECTROLYTIC	ECEV1CA470SP
C99	4550000460	S.TANTALUM	TESVA 1C 105M1-8L
C100	4510004630	S.ELECTROLYTIC	ECEV1CA100SR
C103	4030006900	S.CERAMIC	C1608 JB 1H 103K-T
C104	4030011600	S.CERAMIC	C1608 JB 1E 104K-T
C105	4510004630	S.ELECTROLYTIC	ECEV1CA100SR
C107	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C108	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C109	4550006250	S.TANTALUM	TEMSVA 1A 106M-8L
C110	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C111	4030011600	S.CERAMIC	C1608 JB 1E 104K-T
C112	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C113	4550006250	S.TANTALUM	TEMSVA 1A 106M-8L
C114	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C115	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C116	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C117	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C118	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C119	4550000460	S.TANTALUM	TESVA 1C 105M1-8L
C120	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C121	4030007000	S.CERAMIC	C1608 CH 1H 090D-T
C122	4550006250	S.TANTALUM	TEMSVA 1A 106M-8L
J3	6510022590	S.CONNECTOR	22FMN-BMTR-A-TBT
J4	6510022800	S.CONNECTOR	B10B-PH-SM3-TB
W1	9018970060	WIRE	62/99/070/C24/C31
W2	7030003860	S.JUMPER	ERJ3GE JPW V
W3	7030003860	S.JUMPER	ERJ3GE JPW V
W4	7030003860	S.JUMPER	ERJ3GE JPW V
W5	7030003860	S.JUMPER	ERJ3GE JPW V
WS1	8970024070		FX2368 1.5D COAXIAL TUBE (1)/TX
EP1	0910056155	PCB	B 5660E

S.=Surface mount

[TVCO UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
Q1	1530000371	S.TRANSISTOR	2SC3356-T1B R25
Q2	1530002920	S.TRANSISTOR	2SC4226-T1 R25
D1	1720000640	S.VARICAP	1SV284 (TPH3)
D2	1720000640	S.VARICAP	1SV284 (TPH3)
D3	1720000640	S.VARICAP	1SV284 (TPH3)
D4	1720000640	S.VARICAP	1SV284 (TPH3)
D5	1720000640	S.VARICAP	1SV284 (TPH3)
L1	6200003960	S.COIL	MLF1608A 1R0K-T
L2	6200003960	S.COIL	MLF1608A 1R0K-T
L3	6200010280	S.COIL	C3328A-14NG-A
L4	6200007000	S.COIL	ELJRE 82NG-F
L5	6200005700	S.COIL	ELJRE 22NG-F
L6	6200007000	S.COIL	ELJRE 82NG-F
L7	6200005740	S.COIL	ELJRE 47NG-F
R1	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R2	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R3	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R4	7030003550	S.RESISTOR	ERJ3GEYJ 822 V (8.2 kΩ)
R5	7030003350	S.RESISTOR	ERJ3GEYJ 181 V (180 Ω)
R6	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R7	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R8	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R12	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R13	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R14	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R15	7030003540	S.RESISTOR	ERJ3GEYJ 682 V (6.8 kΩ)
C1	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C2	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C3	4550006770	S.TANTALUM	TEMSVD2 1C 476M-12R
C4	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C5	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C6	4030009510	S.CERAMIC	C1608 CH 1H 010B-T
C7	4030009550	S.CERAMIC	C1608 CH 1H 2R5B-T
C8	4030007000	S.CERAMIC	C1608 CH 1H 090D-T
C9	4030007010	S.CERAMIC	C1608 CH 1H 100D-T
C10	4030009510	S.CERAMIC	C1608 CH 1H 010B-T
C11	4030007000	S.CERAMIC	C1608 CH 1H 090D-T
C12	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C13	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C14	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C15	4030009510	S.CERAMIC	C1608 CH 1H 010B-T
C16	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C17	4610001920	S.TRIMMER	TZC3Z060A110R00
C18	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C22	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C23	4030009520	S.CERAMIC	C1608 CH 1H 020B-T
C24	4030009530	S.CERAMIC	C1608 CH 1H 030B-T
C25	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C26	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C27	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C28	4030009510	S.CERAMIC	C1608 CH 1H 010B-T
C29	4030009500	S.CERAMIC	C1608 CH 1H 0R5B-T
J1	6910008020	CONNECTOR	IPS-1323
J2	6910008020	CONNECTOR	IPS-1323
J3	6910008020	CONNECTOR	IPS-1323
J4	6910008020	CONNECTOR	IPS-1323
J5	6910008020	CONNECTOR	IPS-1323
J6	6910008020	CONNECTOR	IPS-1323
EP1	0910056167	PCB	B 5661G

[50PA UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC1	1150001680	IC	S-AU27AM (ICOM) / SC-1323
IC2	1110002750	S.IC	TA75S01F (TE85R)
IC3	1180001250	S.IC	TA7808F (TE16L)
IC4	1110002400	S.IC	NJM2107F-TE1
IC5	1180000420	S.IC	TA78L05F (TE12R)
IC6	1130004200	S.IC	TC4S66F (TE85R)
IC7	1110006060	S.IC	S-80820CNMC-B8F-T2
Q1	1560001160	S.FET	2SK3475 (TE12L)
Q2	1530000920	TRANSISTOR	2SC3102
Q3	1590000430	S.TRANSISTOR	DTC144EUA T106
Q5	1510000590	S.TRANSISTOR	2SA1362-Y (TE85L)
Q6	1530001940	S.TRANSISTOR	2SC2712-BL (TE85R)
Q7	1520000410	TRANSISTOR	2SB1143 T
Q8	1590000680	S.TRANSISTOR	DTC114EUA T106
Q9	1590000680	S.TRANSISTOR	DTC114EUA T106
D1	1750000200	S.DIODE	1SS319 (TE85R)
D2	1720000360	S.DIODE	HSU88TRF
D4	1720000360	S.DIODE	HSU88TRF
D5	1730002340	S.ZENER	MA8047-M (TX)
D6	1730002340	S.ZENER	MA8047-M (TX)
D7	1730000900	S.ZENER	RD12M-T1B1
D8	1790000620	S.DIODE	MA77 (TX)
D9	1790000620	S.DIODE	MA77 (TX)
D10	1790000620	S.DIODE	MA77 (TX)
D11	1720000360	S.DIODE	HSU88TRF
L1	6200005640	S.COIL	ELJRE 6N8Z-F
L2	6200004480	S.COIL	MLF1608D R82K-T
L3	6200005800	S.COIL	33CS-Y655LY-02M=P3
L4	6200005780	S.COIL	33CS-Y655LY-03K=P3
L5	6200005790	S.COIL	33CS-Y655LY-01M=P3
L6	6110003690	COIL	LA-572
L7	6110003650	COIL	LA-562
L8	6110003620	COIL	LA-559
L9	6110003630	COIL	LA-560
L10	6110003620	COIL	LA-559
L13	6200005650	S.COIL	ELJRE 8N2Z-F
L14	6110003661	COIL	LA-563A
L15	6110003661	COIL	LA-563A
L16	6110003640	COIL	LA-561
L17	6200009790	S.COIL	BLM31PG121SN1
L18	6200009790	S.COIL	BLM31PG121SN1
L19	6910000670	COIL	BL01RN1A1D2B (BL01RN1-A62)
L20	6910000670	COIL	BL01RN1A1D2B (BL01RN1-A62)
L21	6910000670	COIL	BL01RN1A1D2B (BL01RN1-A62)
R1	7030003460	S.RESISTOR	ERJ3GEYJ 152 V (1.5 kΩ)
R2	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R3	7030006250	S.RESISTOR	ERJ12YJ271U (270 Ω)
R4	7030001040	S.RESISTOR	MCR50JZHJ 18 Ω (180)
R5	7030006250	S.RESISTOR	ERJ12YJ271U (270 Ω)
R6	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R7	7030000180	S.RESISTOR	MCR10EZJH 22 Ω (220)
R8	7030003310	S.RESISTOR	ERJ3GEYJ 820 V (82 Ω)
R9	7030003310	S.RESISTOR	ERJ3GEYJ 820 V (82 Ω)
R12	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R13	7030003230	S.RESISTOR	ERJ3GEYJ 180 V (18 Ω)
R14	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R15	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R16	7030003660	S.RESISTOR	ERJ3GEYJ 683 V (68 kΩ)
R17	7030003460	S.RESISTOR	ERJ3GEYJ 152 V (1.5 kΩ)
R19	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R20	7030003510	S.RESISTOR	ERJ3GEYJ 392 V (3.9 kΩ)
R24	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R25	7030003570	S.RESISTOR	ERJ3GEYJ 123 V (12 kΩ)
R26	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R28	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R29	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R30	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R32	7030003710	S.RESISTOR	ERJ3GEYJ 184 V (180 kΩ)
R33	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R34	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R35	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R39	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R43	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R44	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)

S.=Surface mount

[50PA UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R45	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R46	7030000180	S.RESISTOR	MCR10EZHZ 22 Ω (220)
R47	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R48	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R50	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R51	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R52	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R53	7030003450	S.RESISTOR	ERJ3GEYJ 122 V (1.2 kΩ)
R54	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R55	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R56	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R57	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R58	7030003660	S.RESISTOR	ERJ3GEYJ 683 V (68 kΩ)
R59	7030003630	S.RESISTOR	ERJ3GEYJ 393 V (39 kΩ)
R60	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R61	7510001660	S.THRMISTOR	NTCG16 4LH 473KT
R62	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R63	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R64	7030003700	S.RESISTOR	ERJ3GEYJ 154 V (150 kΩ)
R66	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R67	7030003660	S.RESISTOR	ERJ3GEYJ 683 V (68 kΩ)
R68	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R69	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
C1	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C2	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C3	4030007010	S.CERAMIC	C1608 CH 1H 100D-T
C4	4030007040	S.CERAMIC	C1608 CH 1H 180J-T
C5	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C6	4030006850	S.CERAMIC	C1608 JB 1H 471K-T
C7	4030017200	S.CERAMIC	GRM31BR32J102KY01L
C8	4030009520	S.CERAMIC	C1608 CH 1H 020B-T
C9	4030009520	S.CERAMIC	C1608 CH 1H 020B-T
C10	4030017190	S.CERAMIC	GRM31AR32J471KW01D
C14	4030017890	S.CERAMIC	ERF22X 6C2H 101J D01L
C17	4030018290	S.CERAMIC	ERF22X 6C2H 390J D01L
C18	4030018050	S.CERAMIC	ERF22X 6C2H 270J D01L
C19	4030018050	S.CERAMIC	ERF22X 6C2H 270J D01L
C20	4030018170	S.CERAMIC	ERF22X 6C2H 4R0C D01L
C21	4030018430	S.CERAMIC	ERF22X 6C2H 6R0D D01L
C24	4030018030	S.CERAMIC	ERF22X 6C2H 3R0C D01L
C25	4030018030	S.CERAMIC	ERF22X 6C2H 3R0C D01L
C26	4030018460	S.CERAMIC	ERF22X 6C2H 100J D01L
C30	4030018460	S.CERAMIC	ERF22X 6C2H 100J D01L
C31	4030018030	S.CERAMIC	ERF22X 6C2H 3R0C D01L
C32	4030018030	S.CERAMIC	ERF22X 6C2H 3R0C D01L
C38	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C39	4030006850	S.CERAMIC	C1608 JB 1H 471K-T
C40	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C41	4510007670	S.ELECTROLYTIC	EEVHB1C100R
C43	4030006850	S.CERAMIC	C1608 JB 1H 471K-T
C44	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C45	4030006850	S.CERAMIC	C1608 JB 1H 471K-T
C46	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C47	4510007960	ELECTROLYTIC	KMY25VB1000
C48	4030017190	S.CERAMIC	GRM31AR32J471KW01D
C49	4030017200	S.CERAMIC	GRM31BR32J102KY01L
C55	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C56	4030009520	S.CERAMIC	C1608 CH 1H 020B-T
C57	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C58	4030011600	S.CERAMIC	C1608 JB 1E 104K-T
C59	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C60	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C61	4510007690	ELECTROLYTIC	LXZ25VB2200
C62	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C64	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C66	4030009520	S.CERAMIC	C1608 CH 1H 020B-T
C68	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C69	4510007570	S.ELECTROLYTIC	EEVHB1C220UR
C70	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C71	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C72	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C73	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C74	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C75	4030006850	S.CERAMIC	C1608 JB 1H 471K-T
C76	4030006850	S.CERAMIC	C1608 JB 1H 471K-T
C80	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C81	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C83	4030007130	S.CERAMIC	C1608 CH 1H 101J-T
C85	4030018290	S.CERAMIC	ERF22X 6C2H 390J D01L
C86	4030018450	S.CERAMIC	ERF22X 6C2H 8R0D D01L

[50PA UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C87	4030018430	S.CERAMIC	ERF22X 6C2H 6R0D D01L
C88	4030009500	S.CERAMIC	C1608 CH 1H 0R5B-T
C89	4030009530	S.CERAMIC	C1608 CH 1H 030B-T
C90	4030006850	S.CERAMIC	C1608 JB 1H 471K-T
C91	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C93	4030006850	S.CERAMIC	C1608 JB 1H 471K-T
C94	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C95	4030006850	S.CERAMIC	C1608 JB 1H 471K-T
C96	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C97	4510007940	ELECTROLYTIC	KMY25VB100
C98	4030011730	S.CERAMIC	GRM31M2C2H101JV01L
C99	4510007570	S.ELECTROLYTIC	EEVHB1C220UR
C100	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C101	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C102	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C103	4030011600	S.CERAMIC	C1608 JB 1E 104K-T
C104	4510007570	S.ELECTROLYTIC	EEVHB1C220UR
C105	4030006850	S.CERAMIC	C1608 JB 1H 471K-T
C106	4030006850	S.CERAMIC	C1608 JB 1H 471K-T
C107	4030006900	S.CERAMIC	C1608 JB 1H 103K-T
C108	4030006900	S.CERAMIC	C1608 JB 1H 103K-T
C109	4510007670	S.ELECTROLYTIC	EEVHB1C100R
C110	4510007670	S.ELECTROLYTIC	EEVHB1C100R
C111	4030006860	S.CERAMIC	C1608 JB 1H 102K-T
C112	4030017890	S.CERAMIC	ERF22X 6C2H 101J D01L
C113	4550006250	S.TANTALUM	TEMSVA 1A 106M-8L
C119	4030018170	S.CERAMIC	ERF22X 6C2H 4R0C D01L
C125	4030018470	S.CERAMIC	ERF22X 6C2H 220J D01L
C126	4030018470	S.CERAMIC	ERF22X 6C2H 220J D01L
C134	4030017490	S.CERAMIC	C1608 JB 1A 105K-T
J1	6510022800	S.CONNECTOR	B10B-PH-SM3-TB
J2	6510007020	CONNECTOR	TMP-J01X-V6
J5	6510021390	CONNECTOR	IMSA-9230B-1-03Z024-T
T2	5910000920	TRANSFORMER	CD-C-L030H-6R0
W2	7030003860	S.JUMPER	ERJ3GE JPW V
W3	7030003860	S.JUMPER	ERJ3GE JPW V
W4	7030003860	S.JUMPER	ERJ3GE JPW V
W5	7030003860	S.JUMPER	ERJ3GE JPW V
W6	7030003860	S.JUMPER	ERJ3GE JPW V
W10	7030003860	S.JUMPER	ERJ3GE JPW V
EP1	6910014490	TERMINAL	OP-100 M3
EP2	6910014490	TERMINAL	OP-100 M3
EP3	0910056177	PCB	B 5663G

[VARISTOR UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
D1	1790000720	DIODE	MA29W-B
EP1	6910012350	S.BEAD	MMZ1608Y 102BT
EP2	0910056182	PCB	B 5662B

S.=Surface mount

[VR UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R1	7210003110	VARIABLE	RK0971110 10KA
R2	7210003120	VARIABLE	RK0971110 10KB
J1	6510018950	S.CONNECTOR	B7B-PH-SM3-TB
EP1	0910056093	PCB	B 5653C

[JACK2 UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
D1	1750000930	S.DIODE	NNCD8.2C-T1
D2	1750000930	S.DIODE	NNCD8.2C-T1
D3	1750000930	S.DIODE	NNCD8.2C-T1
D4	1750000930	S.DIODE	NNCD8.2C-T1
D5	1750000930	S.DIODE	NNCD8.2C-T1
D6	1750000930	S.DIODE	NNCD8.2C-T1
D11	1750000930	S.DIODE	NNCD8.2C-T1
D12	1750000930	S.DIODE	NNCD8.2C-T1
D13	1750000930	S.DIODE	NNCD8.2C-T1
D14	1750000930	S.DIODE	NNCD8.2C-T1
D15	1750000930	S.DIODE	NNCD8.2C-T1
D16	1750000930	S.DIODE	NNCD8.2C-T1
D17	1750000930	S.DIODE	NNCD8.2C-T1
D18	1750000930	S.DIODE	NNCD8.2C-T1
D19	1750000930	S.DIODE	NNCD8.2C-T1
D20	1750000930	S.DIODE	NNCD8.2C-T1
D21	1750000930	S.DIODE	NNCD8.2C-T1
D22	1750000930	S.DIODE	NNCD8.2C-T1
D23	1750000930	S.DIODE	NNCD8.2C-T1

[JACK1 UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
L1	6200009940	S.COIL	BLM21PG221SN1
L2	6200009940	S.COIL	BLM21PG221SN1
L3	6200009940	S.COIL	BLM21PG221SN1
L4	6200009940	S.COIL	BLM21PG221SN1
L5	6200009940	S.COIL	BLM21PG221SN1
L6	6200009940	S.COIL	BLM21PG221SN1
L7	6200009940	S.COIL	BLM21PG221SN1
L8	6200009940	S.COIL	BLM21PG221SN1
R1	7540000210	S.ABSORBER	KU15N14-4063
R2	7540000210	S.ABSORBER	KU15N14-4063
R3	7540000210	S.ABSORBER	KU15N14-4063
R4	7540000210	S.ABSORBER	KU15N14-4063
R5	7540000210	S.ABSORBER	KU15N14-4063
R6	7540000210	S.ABSORBER	KU15N14-4063
R7	7540000210	S.ABSORBER	KU15N14-4063
R8	7540000210	S.ABSORBER	KU15N14-4063
R9	7540000210	S.ABSORBER	KU15N14-4063
R10	7540000210	S.ABSORBER	KU15N14-4063
C1	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C2	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C3	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C4	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C5	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C6	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C7	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C8	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C9	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C10	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
J1	6450001650	CONNECTOR	HSJ0836-01-500
J2	6510016170	CONNECTOR	52018-8835
J3	6510022730	S.CONNECTOR	S13B-PH-SM3-TB
EP1	0910056113	PCB	B 5655C

L1	6200009940	S.COIL	BLM21PG221SN1
L2	6200009940	S.COIL	BLM21PG221SN1
L3	6200009940	S.COIL	BLM21PG221SN1
L4	6200009940	S.COIL	BLM21PG221SN1
L5	6200009940	S.COIL	BLM21PG221SN1
L6	6200009940	S.COIL	BLM21PG221SN1
L11	6200009940	S.COIL	BLM21PG221SN1
L12	6200009940	S.COIL	BLM21PG221SN1
L13	6200009940	S.COIL	BLM21PG221SN1
L14	6200009940	S.COIL	BLM21PG221SN1
L15	6200009940	S.COIL	BLM21PG221SN1
L16	6200009940	S.COIL	BLM21PG221SN1
L17	6200009940	S.COIL	BLM21PG221SN1
L18	6200009940	S.COIL	BLM21PG221SN1
L19	6200009940	S.COIL	BLM21PG221SN1
L20	6200009940	S.COIL	BLM21PG221SN1
L21	6200009940	S.COIL	BLM21PG221SN1
L22	6200009940	S.COIL	BLM21PG221SN1
L23	6200009940	S.COIL	BLM21PG221SN1
C1	4030007090	S.CERAMIC	C1608 CH 1H 470J-T
C2	4030007090	S.CERAMIC	C1608 CH 1H 470J-T
C3	4030007090	S.CERAMIC	C1608 CH 1H 470J-T
C4	4030007090	S.CERAMIC	C1608 CH 1H 470J-T
C5	4030007090	S.CERAMIC	C1608 CH 1H 470J-T
C6	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C8	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C11	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C12	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C13	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C14	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C15	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C16	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C17	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C18	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C19	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C20	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C21	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C22	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
C23	4030007170	S.CERAMIC	C1608 CH 1H 221J-T
J1	6510023290	CONNECTOR	DBR61-25K1200-B
J2	6510022730	S.CONNECTOR	S13B-PH-SM3-TB
J3	6510022730	S.CONNECTOR	S13B-PH-SM3-TB
EP1	0910056124	PCB	B 5656D

S.=Surface mount

[CHASSIS UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
J1	6510022970	CONNECTOR	N-PA-JJ (NI)
SP1	2510001200	SPEAKER	C057FA510-10
MF1	2710000750	FAN	FBA08A12LZ
MF2	2710000740	FAN	FBA06A12L
W1	8900011510	CABLE	OPC-1048 (AC INPUT CABLE)
W2	8900011520	CABLE	OPC-1049 (POWER SW CABLE)
W3	8900011530	CABLE	OPC-1050 (BACKUP DC CABLE)
W4	8900011540	CABLE	OPC-1052 (PS OUTPUT CABLE)
W5	8900011550	CABLE	OPC-1053 (REG-LOGIC CABLE)
W6	8900011560	CABLE	OPC-1054 (PA-TX CABLE)
W7	8900011570	CABLE	OPC-1055 (LOGIC-JACK2 CABLEA)
W8	8900011580	CABLE	OPC-1056 (LOGIC-JACK2 CABLEB)
W9	8900011590	CABLE	OPC-1057 (LOGIC-JACK1 CABLE)
W10	8900011600	CABLE	OPC-1058 (REG-PA CABLE RED)
W11	8900011610	CABLE	OPC-1059 (REG-PA CABLE BLK)
W12	8900011620	CABLE	OPC-1065 (RX-ANT CABLE)
W13	8900011631	CABLE	OPC-1066 A(TX-ANT CABLE)
W14	8900011660	CABLE	OPC-1178 (PA-FAN CABLE)
W15	8900011660	CABLE	OPC-1178 (PA-FAN CABLE)
W16	8900011680	CABLE	OPC-1183 (LOGIC-VR CABLE)
W17	8900011690	CABLE	OPC-1184 (LOGIC-FRONT CABLE)
WS1	8600036930		SX2368 P01CH
EP1	6910014470	UNIT BOARD	FP2152A [100V VERSION]
	6910014480	UNIT BOARD	FP2153A [220V VERSION]
EP4	6910008330	E.OTHER	G80-18
EP5	8930030420	COVER	FG60B

S.=Surface mount

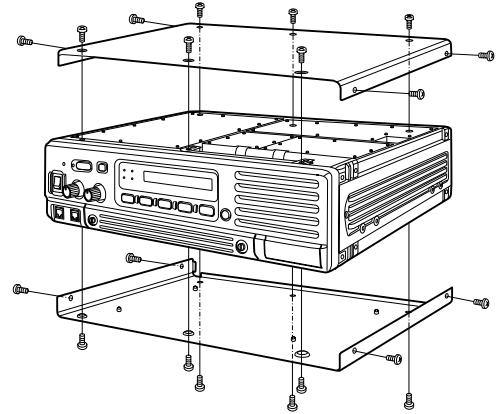
SECTION 6 OPTION UNIT INSTALLATION

■ Opening the repeater's case

Follow the case and cover opening procedures shown here when an optional unit is installed or adjust the internal units, etc.

CAUTION: DISCONNECT the AC power cable and/or DC power cable from the repeater. Otherwise, there is danger of electric shock and/or equipment damage.

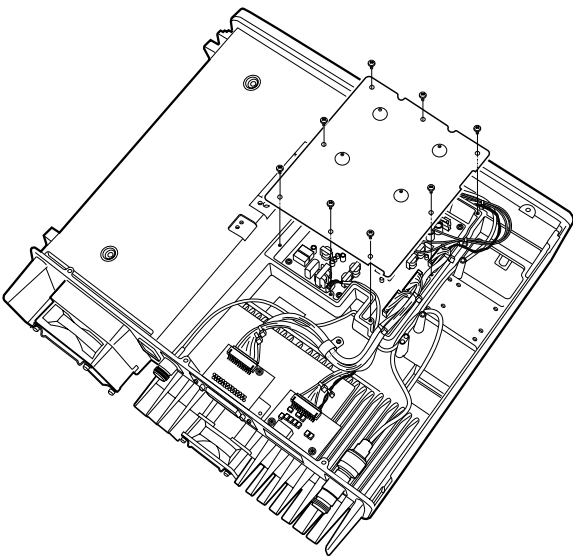
- ① Remove 6 screws from the top of the repeater and 4 screws from the sides, then lift up the top cover.
- ② Turn the repeater upside down.
- ③ Remove 6 screws from the bottom of the repeater, and 4 screws from the sides, then lift up the bottom cover.



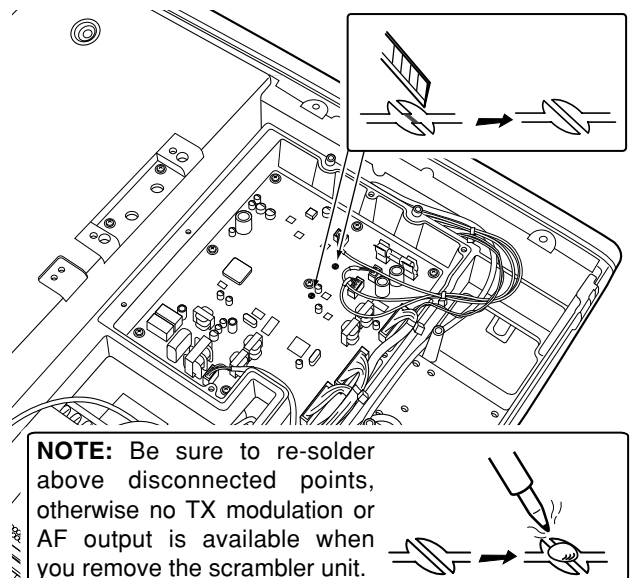
■ Voice scrambler unit installation

The UT-109 (#01)/UT-110 (#01) provides high performance private communication for base operating mode. In order to receive or send scrambled transmissions, the UT-109 (#01)/UT-110 (#01) must be installed and to activate the scrambler function.

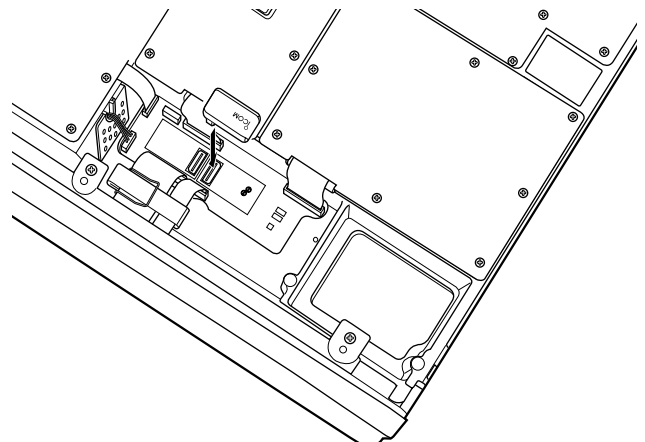
- ① Remove the top and bottom covers as shown above.
- ② Remove 8 screws from the LOGIC shielding plate, then remove the plate.



- ③ Cut the pattern on the PCB at the RX AF circuit (CP1) and TX mic circuit (CP2) on the LOGIC unit as shown at right.



- ④ Turn the repeater upside down, then install the scrambler unit as shown below.



- ⑤ Return the LOGIC shielding plate, top and bottom covers to their original positions.

SECTION 7 MECHANICAL PARTS AND DISASSEMBLY

[CHASSIS PARTS]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
W2	8900011520	OPC-1049 (Power SW cable)	1
W7	8900011570	OPC-1055 (LOGIC-JACK2 cable A)	1
W8	8900011580	OPC-1056 (LOGIC-JACK2 cable B)	1
W9	8900011590	OPC-1057 (LOGIC-JACK1 cable)	1
W16	8900011680	OPC-1183 (LOGIC-VR cable)	1
W17	8900011690	OPC-1184 (LOGIC-FRONT cable)	1
MP1	8210018430	2368 front panel assembly	1
MP2	8310052480	2368 Window plate	1
MP3	8930056450	2368 6-key	1
MP4	8930056440	2368 2-key	1
MP5	8210018300	2368 sub panel	1
MP6	8930058000	2368 filter net	1
MP8	8930059660	2368 A-sponge	1
MP9	8930059670	2368 B-sponge	1
MP10	8930059650	2368 front sheet	1
MP11	8860001290	Grip ring NO.3	2
MP12	8820001230	2368 screw	2
MP14	8610009760	Knob N233	1
MP15	8610009760	Knob N233	1
MP16	8010018550	2368 sub chassis	1
MP17	8010018540	2368 chassis	1
MP19	8110007480	2368 L-cover	1
MP20	8930057680	Rubber stand (O)	4
MP25	8110007640	2368 LOGIC shield cover	1
MP26	8930056620	2368 D-sub plate	1
MP27	8930059060	2368 Fin cover Y656	1
MP37	8950003170	Nylon clip SL-8N	1
MP56	8810007230	Set screw H M3 × 8	2
MP57	8810007230	Set screw H M3 × 8	1
MP65	8810008450	Bind screw M4 × 8 ZK	10
MP66	8810005710	Screw PH B0 M2 × 6 ZK	4
MP67	8810005710	Screw PH B0 M2 × 6 ZK	2
MP68	8810009650	Screw FH BT M3 × 8 NI-ZU	6
MP69	8810008660	Screw PH BT M3 × 8 NI-ZU	8
MP77	8810008660	Screw PH BT M3 × 8 NI-ZU	8
MP82	8810008660	Screw PH BT M3 × 8 NI-ZU	4
MP84	8810008660	Screw PH BT M3 × 8 NI-ZU	7
MP85	8810008660	Screw PH BT M3 × 8 NI-ZU	9
MP86	8810008660	Screw PH BT M3 × 8 NI-ZU	2
MP87	8810008660	Screw PH BT M3 × 8 NI-ZU	1
MP91	8810008660	Screw PH BT M3 × 8 NI-ZU	2
MP92	8810008660	Screw PH BT M3 × 8 NI-ZU	1
MP101	8930018620	Himelon sheet Y	4
MP102	8930047050	Himelon sheet BU	1
MP106	8930007510	Knob spring NO.7800	1
MP107	8930007510	Knob spring NO.7800	1
SP1	2510001200	Speaker C057FA510-10	1

[FRONT UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
EP2	6910014560	Spacer LM-15	1
EP3	6910014550	Spacer LM-13	1
EP4	6910014540	Spacer LM-10	1
EP5	6910014540	Spacer LM-10	1
EP6	6910014540	Spacer LM-10	1
EP7	6910014540	Spacer LM-10	1

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
F1	5210000030	Fuse FGB 1A (FGB0 125V)	1
F2	5220000020	Fuse holder S-N5051	1
F3	5220000020	Fuse holder S-N5051	1
W3	8900008940	Cable OPC-886 (P=1 N=10 L=75)	1
W4	8900009230	Cable OPC-908 (P=1 N=10 L=60)	1
W5	8900008740	Cable OPC-867 (P=1 N=24 L=60)	1
W10	8900009270	Cable OPC-912 (P=1 N=22 L=70)	1
W11	8900009270	Cable OPC-912 (P=1 N=22 L=70)	1

[JACK2 UNIT]

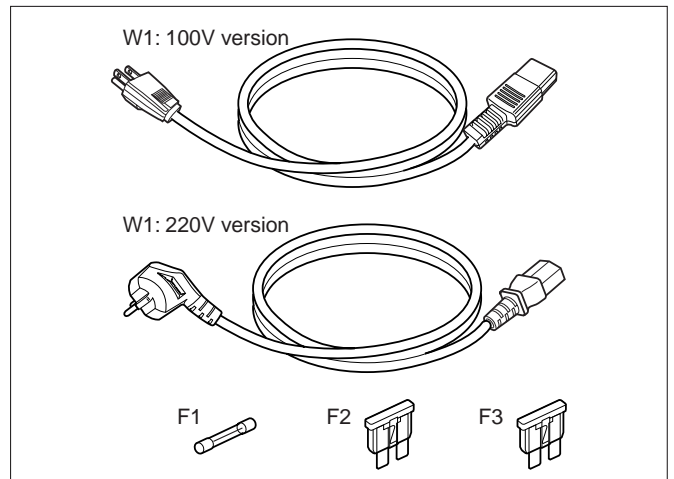
REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6510023290	Connector DBR61-25K1200-B	1

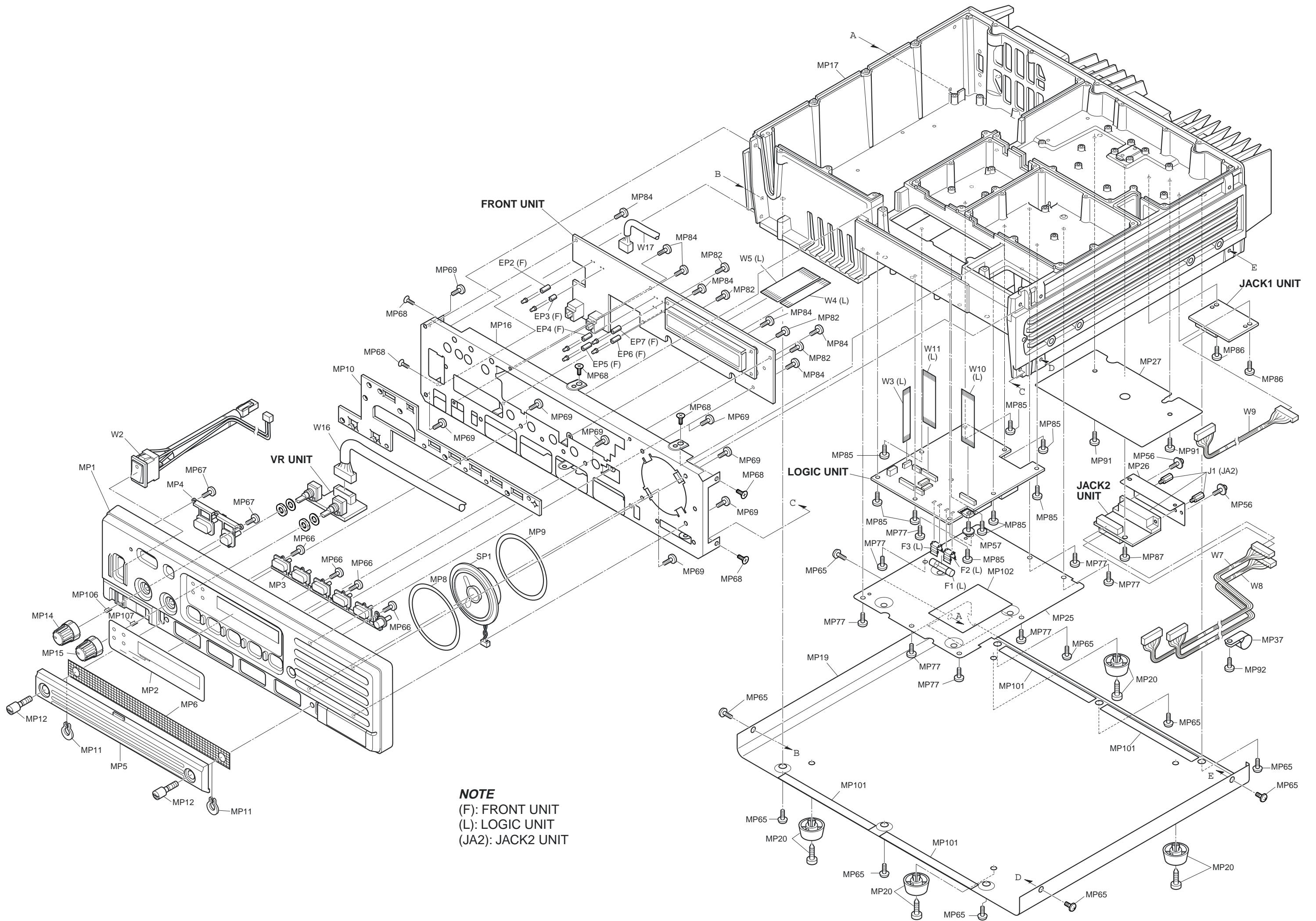
Screw abbreviations

B0, BT: Self-tapping PH: Pan head
 NI-ZU: Nickel-Zinc ZK: Black

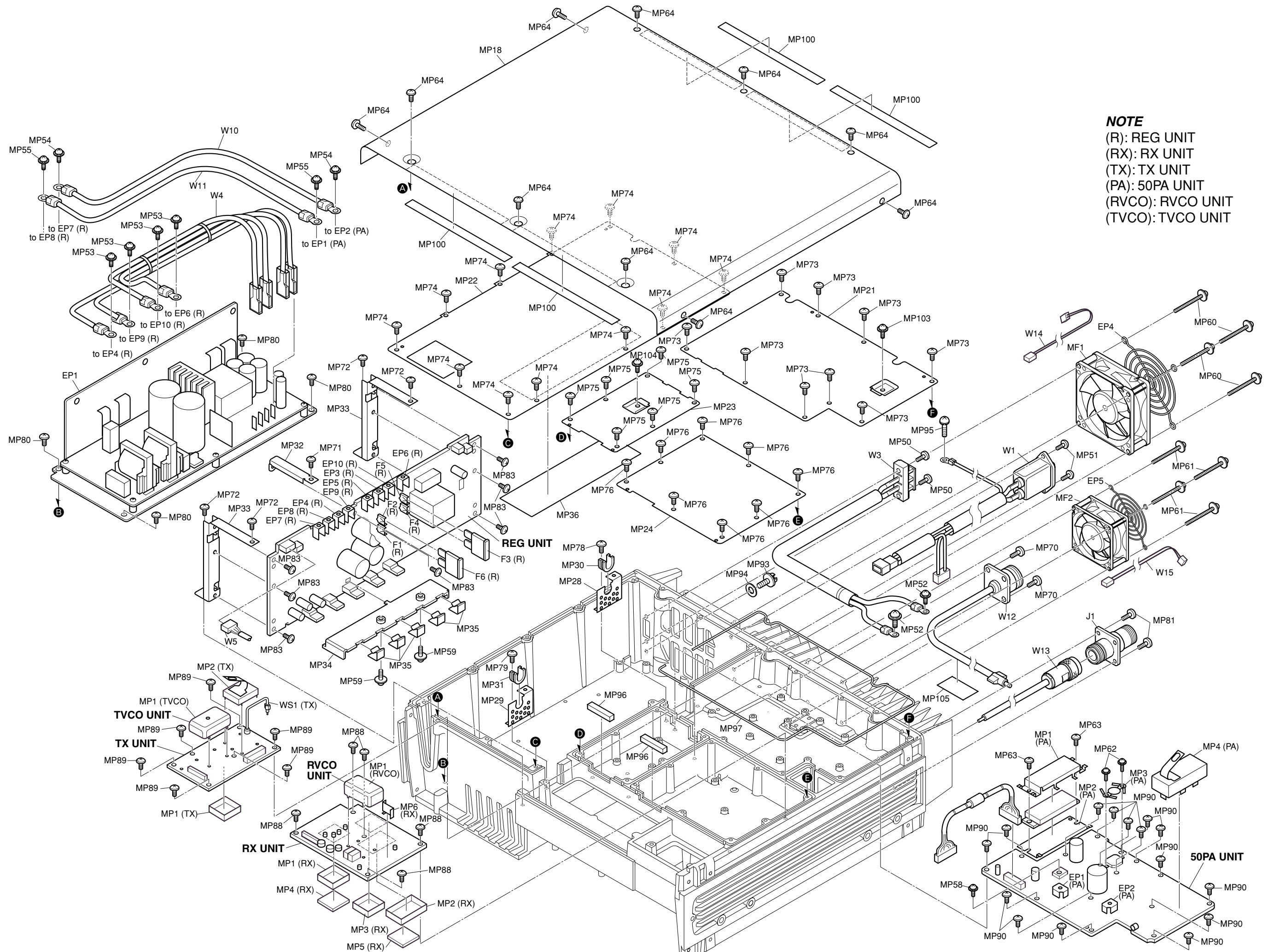
[ACCESSORIES]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
F1	5210000030	Fuse FGB 1A (FGB0 125V)	1
F2	5210000850	Fuse ATC-20	1
F3	5210000850	Fuse ATC-20	1
W1	8900005130	Cable OPC-492 (220V version)	1
	8900005250	Cable OPC-510 (100V version)	1





NOTE
 (F): FRONT UNIT
 (L): LOGIC UNIT
 (JA2): JACK2 UNIT



NOTE
 (R): REG UNIT
 (RX): RX UNIT
 (TX): TX UNIT
 (PA): 50PA UNIT
 (RVCO): RVCO UNIT
 (TVCO): TVCO UNIT

[CHASSIS PARTS]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6510022970	Connector N-PA-JJ(NI)	1
W1	8900011510	OPC-1048 (AC input cable)	1
W2	8900011520	OPC-1049 (Power SW cable)	1
W3	8900011530	OPC-1050 (Back up DC cable)	1
W4	8900011540	OPC-1052 (PS output cable)	1
W5	8900011550	OPC-1053 (REG-LOGIC cable)	1
W6	8900011560	OPC-1054 (PA-TX cable)	1
W10	8900011600	OPC-1058 (REG-PA cable red)	1
W11	8900011610	OPC-1059 (REG-PA cable black)	1
W12	8900011620	OPC-1065 (RX-ANT cable)	1
W13	8900011631	OPC-1066A (TX-ANT cable)	1
W14	8900011660	OPC-1178 (PA-FAN cable)	1
W15	8900011660	OPC-1178 (PA-FAN cable)	1
EP1	6910014470	Unit board FP2152A (100V version)	1
	6910014480	Unit board FP2153A (220V version)	1
EP4	6910008330	E.other G80-18 (Fin gured)	1
EP5	8930030420	Cover FG60B	1
MF1	2710000750	Fan FBA08A12LZ (with Lib)	1
MF2	2710000740	Fan FBA06A12L (with Lib)	1
MP18	8110007490	2368 U-cover	1
MP21	8510013760	2368 PA shield cover	1
MP22	8510013770	2368 REG shield cover	1
MP23	8510013790	2368 TX shield cover	1
MP24	8510013780	2368 RX shield cover	1
MP28	8510013810	2368 KC plate Y599	1
MP29	8510013810	2368 KC plate Y599	1
MP30	8010004340	Edging rubber FX452	1
MP31	8010004340	Edging rubber FX452	1
MP32	8930056650	2368 PCB angle Y600	1
MP33	8930056660	2368 REG PCB angle	2
MP34	8410002510	2368 REG heat sink	1
MP35	8930035230	1546 TR-A clip	5
MP36	8930005460	Isolating sheet G	1
MP50	8810000420	Screw PH M4 × 18	2
MP51	8810009030	Screw FH M3 × 8 ZK	2
MP52	8810007230	Set screw H M3 × 8	2
MP53	8810007230	Set screw H M3 × 8	4
MP54	8810007230	Set screw H M3 × 8	2
MP55	8810007230	Set screw H M3 × 8	2
MP58	8810003380	Set screw C M3 × 10	1
MP59	8810003380	Set screw C M3 × 10	2
MP60	8810010130	Set screw (C) 3 × 35	4
MP61	8810010130	Set screw (C) 3 × 35	4
MP62	8810009040	Set screw H M2.6 × 10 NI	2
MP63	8810004830	Screw PH M3 × 10 surface BS	2
MP64	8810008450	Bind screw M4 × 8 ZK	10
MP70	8810008660	Screw PH BT M3 × 8 NI-ZU	2
MP71	8810008660	Screw PH BT M3 × 8 NI-ZU	1
MP72	8810008660	Screw PH BT M3 × 8 NI-ZU	4
MP73	8810008660	Screw PH BT M3 × 8 NI-ZU	9
MP74	8810008660	Screw PH BT M3 × 8 NI-ZU	12
MP75	8810008660	Screw PH BT M3 × 8 NI-ZU	6
MP76	8810008660	Screw PH BT M3 × 8 NI-ZU	8
MP78	8810008660	Screw PH BT M3 × 8 NI-ZU	1
MP79	8810008660	Screw PH BT M3 × 8 NI-ZU	1
MP80	8810008660	Screw PH BT M3 × 8 NI-ZU	4
MP81	8810008660	Screw PH BT M3 × 8 NI-ZU	2
MP83	8810008660	Screw PH BT M3 × 8 NI-ZU	7
MP88	8810008660	Screw PH BT M3 × 8 NI-ZU	5
MP89	8810008660	Screw PH BT M3 × 8 NI-ZU	6
MP90	8810008660	Screw PH BT M3 × 8 NI-ZU	15
MP93	8820000530	Flange volt M4 × 8 NI	1
MP94	8850000140	Flat washer M4 NI BS	1
MP95	8810003860	Set screw A M4 × 8	1
MP96	8930059330	Shield sponge (W)	2
MP97	8930059340	2368 A-shield line	1
MP100	8930018620	Himelon sheet Y	4
MP103	8810003360	Set screw C M3 × 6	1
MP104	8810003360	Set screw C M3 × 6	1
MP105	8930007100	Aluminum sheet C	1

[RX UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8510015120	2368 A-case	1
MP2	8510015130	2368 B-case	1
MP3	8510015140	2368 E-case	1
MP4	8930059680	Sponge (HD)	1
MP5	8930059680	Sponge (HD)	1

[TX UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8510015120	2368 A-case	1
MP2	8510015240	2368 TX shield case assembly	1
WS1	8970024070	FX2368 1.5D coaxial cable (1) / TX	1

[RVCO UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8510014700	2368 RVCO case	1

[TVCO UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8510014690	2368 TVCO case	1

[REG UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
F1	5220000300	Fuse holder 1A5600	1
F2	5220000300	Fuse holder 1A5600	1
F3	5210000850	Fuse ATC-20	1
F4	5220000300	Fuse holder 1A5600	1
F5	5220000300	Fuse holder 1A5600	1
F6	5210000850	Fuse ATC-20	1
EP3	6910011340	Terminal OT-010 M3	1
EP4	6910011340	Terminal OT-010 M3	1
EP5	6910011340	Terminal OT-010 M3	1
EP6	6910011340	Terminal OT-010 M3	1
EP7	6910011340	Terminal OT-010 M3	1
EP8	6910011340	Terminal OT-010 M3	1
EP9	6910011340	Terminal OT-010 M3	1
EP10	6910011340	Terminal OT-010 M3	1

[50PA UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
EP1	6910014490	Terminal OP-100 M3	1
EP2	6910014490	Terminal OP-100 M3	1
MP1	8930056630	2368 Module holder Y602	1
MP2	8930056640	2368 module plate Y601	1
MP3	8860001130	2177 Rug plate Y430	1
MP4	8510015230	2368 PA shield case assembly	1

Screw abbreviations

B0, BT: Self-tapping PH: Pan head
 NI-ZU: Nickel-Zinc ZK: Black

SECTION 8 SEMI-CONDUCTOR INFORMATION

8 - 1 TRANSISTORS AND FETS

<p>2SA1362-Y (Symbol: AEY)</p>	<p>2SA1576A T106R (Symbol: FR)</p>	<p>2SB1143 T (Symbol: B1143)</p>	<p>2SB1182 TL Q (Symbol: B1182, Q)</p>	<p>2SC2712-BL/GR (Symbol: BL/LG)</p>
<p>2SC3102 (Symbol: None)</p>	<p>2SC3356-T1B R25 (Symbol: R25)</p>	<p>2SC3661-TB (Symbol: FY)</p>	<p>2SC4081 T106 R (Symbol: BR)</p>	<p>2SC4226-T1 R25 (Symbol: R25)</p>
<p>2SC4703-T2 SF (Symbol: SE)</p>	<p>2SC5337QS-T1 (Symbol: QS)</p>	<p>2SD1664 T100Q (Symbol: DAQ)</p>	<p>2SJ377 (TE16R) (Symbol: J377)</p>	<p>2SJ533 (Symbol: J533)</p>
<p>2SJ553STR (Symbol: J553)</p>	<p>2SK1771 (TE85R) (Symbol: UB)</p>	<p>2SK3475 (TE12L) (Symbol: WB)</p>	<p>2SK508 K53 T1B (Symbol: K53)</p>	<p>2SK880Y (Symbol: XY)</p>
<p>DTA143ZUA T106 (Symbol: 113)</p>	<p>DTA144EE TL (Symbol: 16)</p>	<p>DTC114EUA T106 (Symbol: 26)</p>	<p>DTC144EE TL (Symbol: 26)</p>	<p>IMZ4 T108 (Symbol: Z4)</p>
<p>XP1111 (TX) (Symbol: 9S)</p>	<p>XP1114(TX) (Symbol: 7Q)</p>	<p>XP1214(TX) (Symbol: 9H)</p>	<p>XP4311 (TX) (Symbol: 3X)</p>	

8 - 2 DIODES

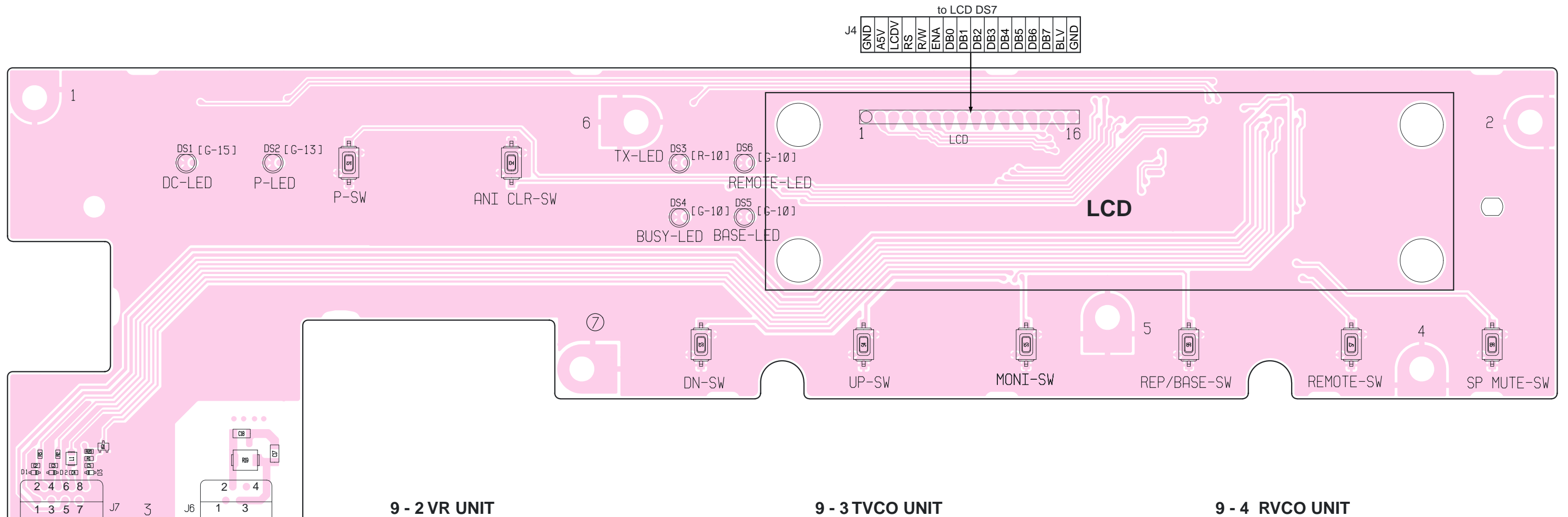
<p>1SR154-400 TE25 (Symbol: 14)</p>	<p>1SS226 (TE85R) (Symbol: C3)</p>	<p>1SS268 (TE85R) (Symbol: BF)</p>	<p>1SS319 (TE85R) (Symbol: A4)</p>	<p>1SS355 TE-17 (Symbol: A)</p>
<p>1SV284 (TPH3) (Symbol: TL)</p>	<p>1SV308 (TPL3) (Symbol: TX)</p>	<p>D1UBA80-4062 (Symbol: UA80)</p>	<p>DSA3A1 (Symbol: None)</p>	<p>FCH30A03L (Symbol: FCH30A03L)</p>
<p>HSU88TRF (Symbol: 9)</p>	<p>MA29W-B (Symbol: Blown line)</p>	<p>MA2S077-(TX) (Symbol: S)</p>	<p>MA2S111-(TX) (Symbol: A)</p>	<p>MA77(TX) (Symbol: 4B)</p>
<p>MA8047-M(TX) (Symbol: 4-7)</p>	<p>NNCD8.2C-T1 (Symbol: None)</p>	<p>PTZ TE25 13B (Symbol: 13B)</p>	<p>RD12M-T1B1 (Symbol: 121)</p>	<p>SB07-03C-TB (Symbol: J)</p>

SECTION 9 BOARD LAYOUTS

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

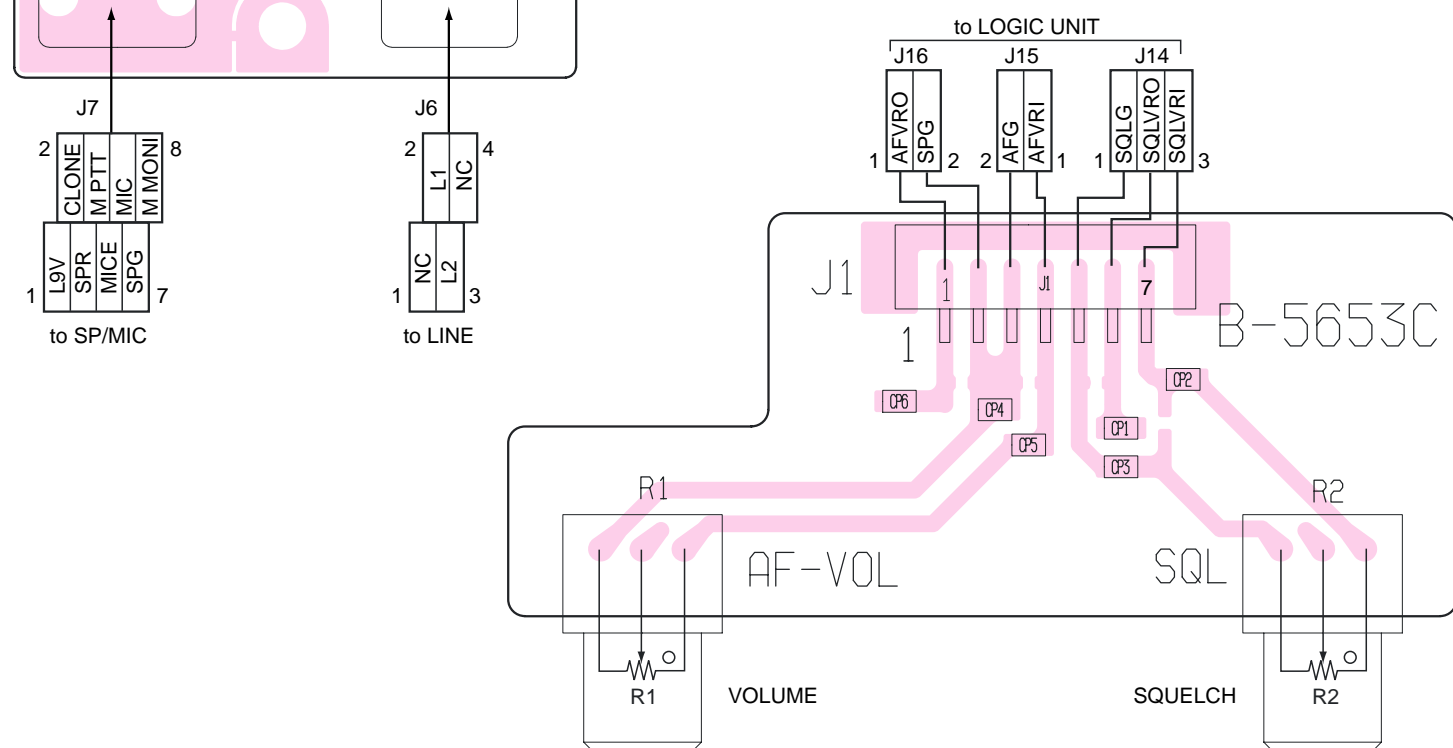
9 - 1 FRONT UNIT

• TOP VIEW



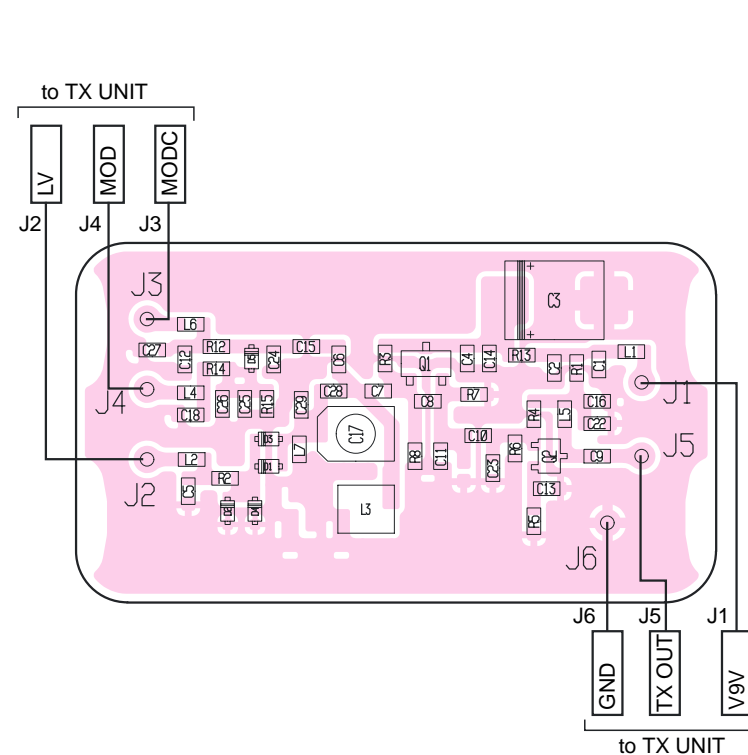
9 - 2 VR UNIT

• TOP VIEW



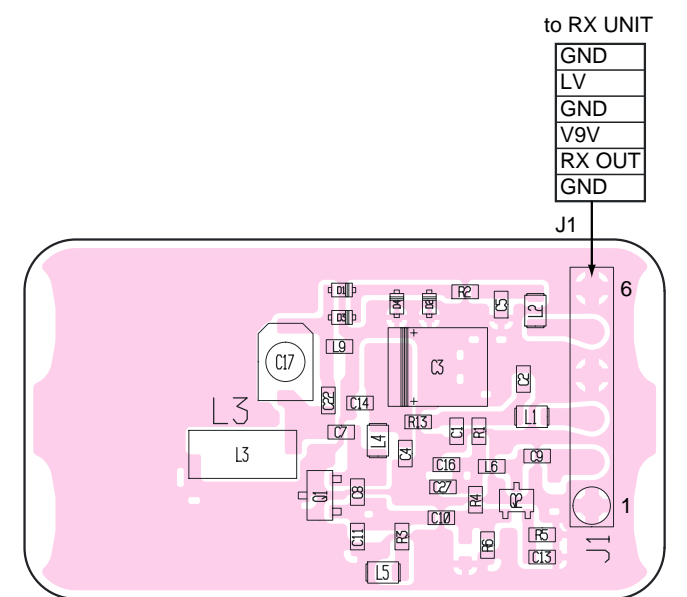
9 - 3 TVCO UNIT

• TOP VIEW



9 - 4 RVCO UNIT

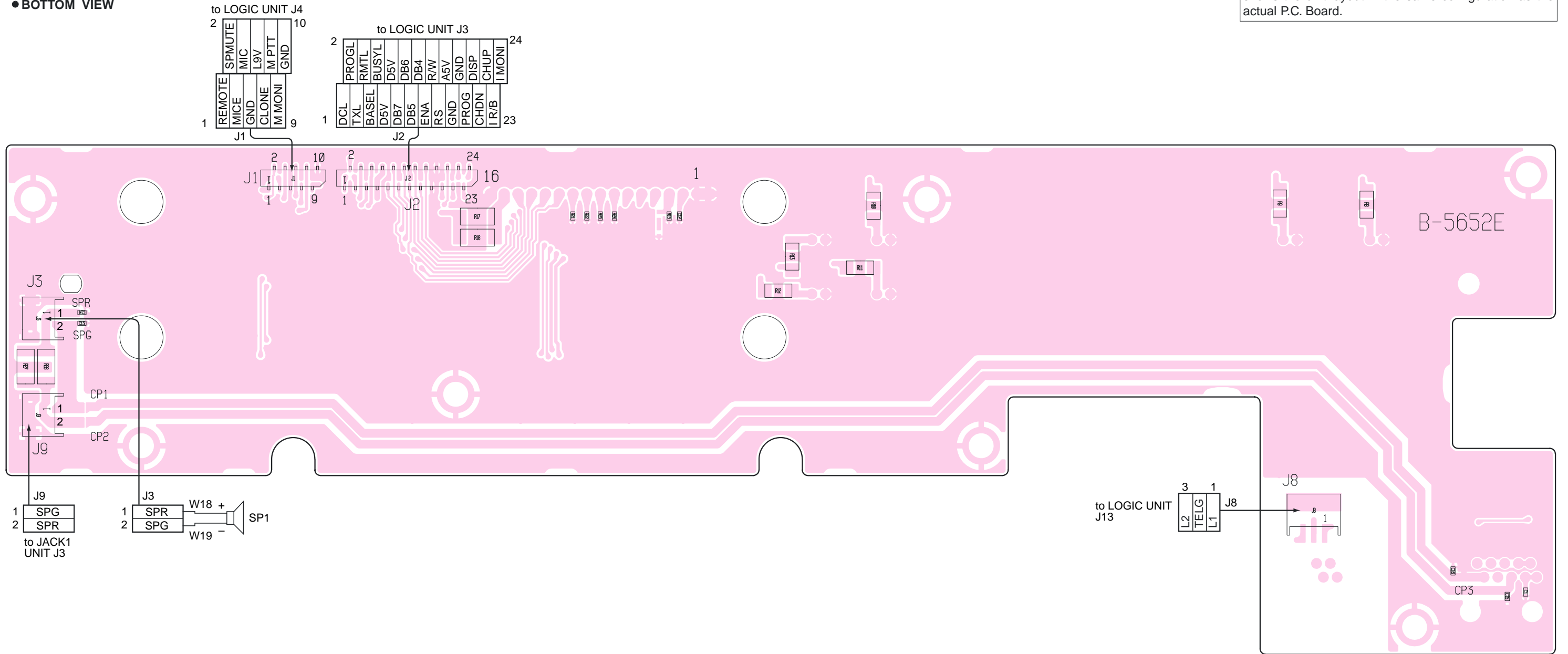
• TOP VIEW



FRONT UNIT

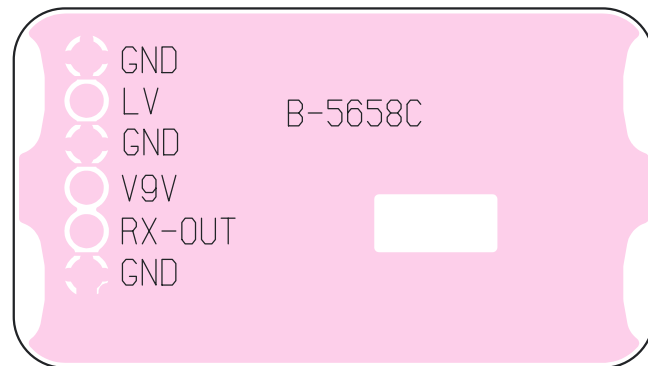
● BOTTOM VIEW

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



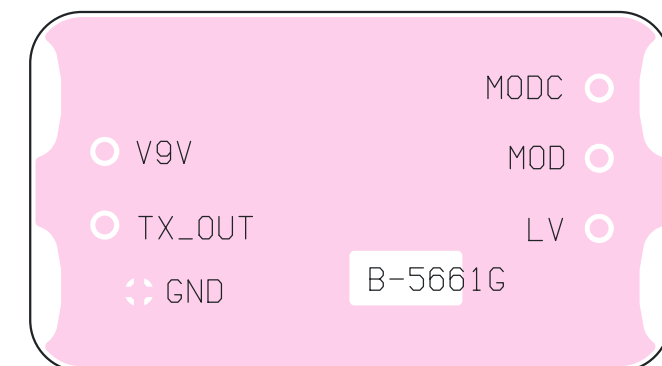
RVCO UNIT

● BOTTOM VIEW



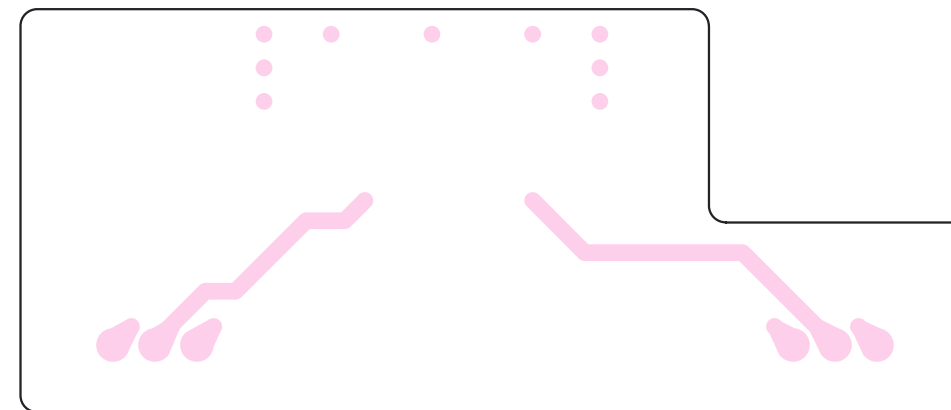
TVCO UNIT

● BOTTOM VIEW



VR UNIT

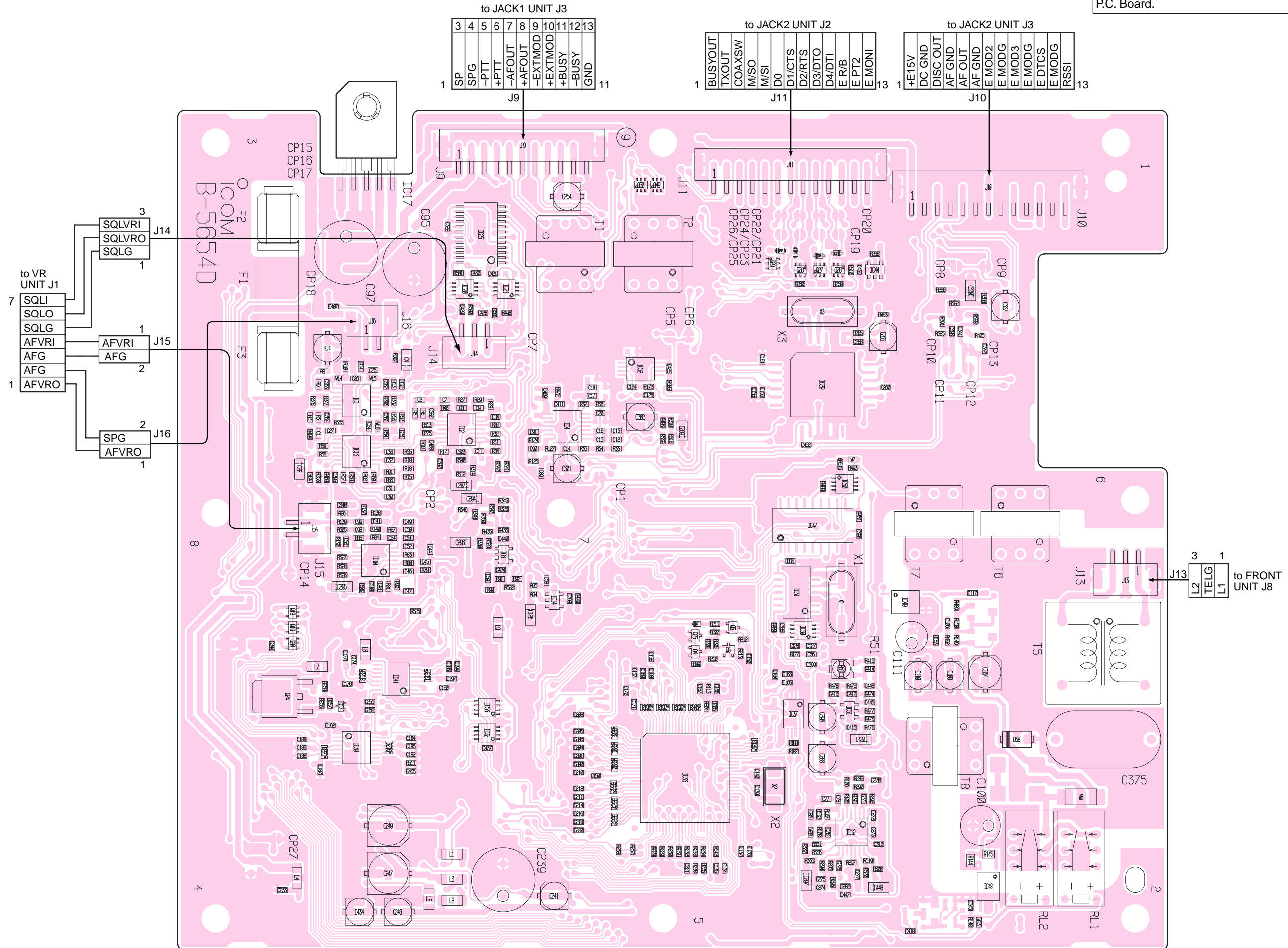
● BOTTOM VIEW



9 - 5 LOGIC UNIT

● TOP VIEW

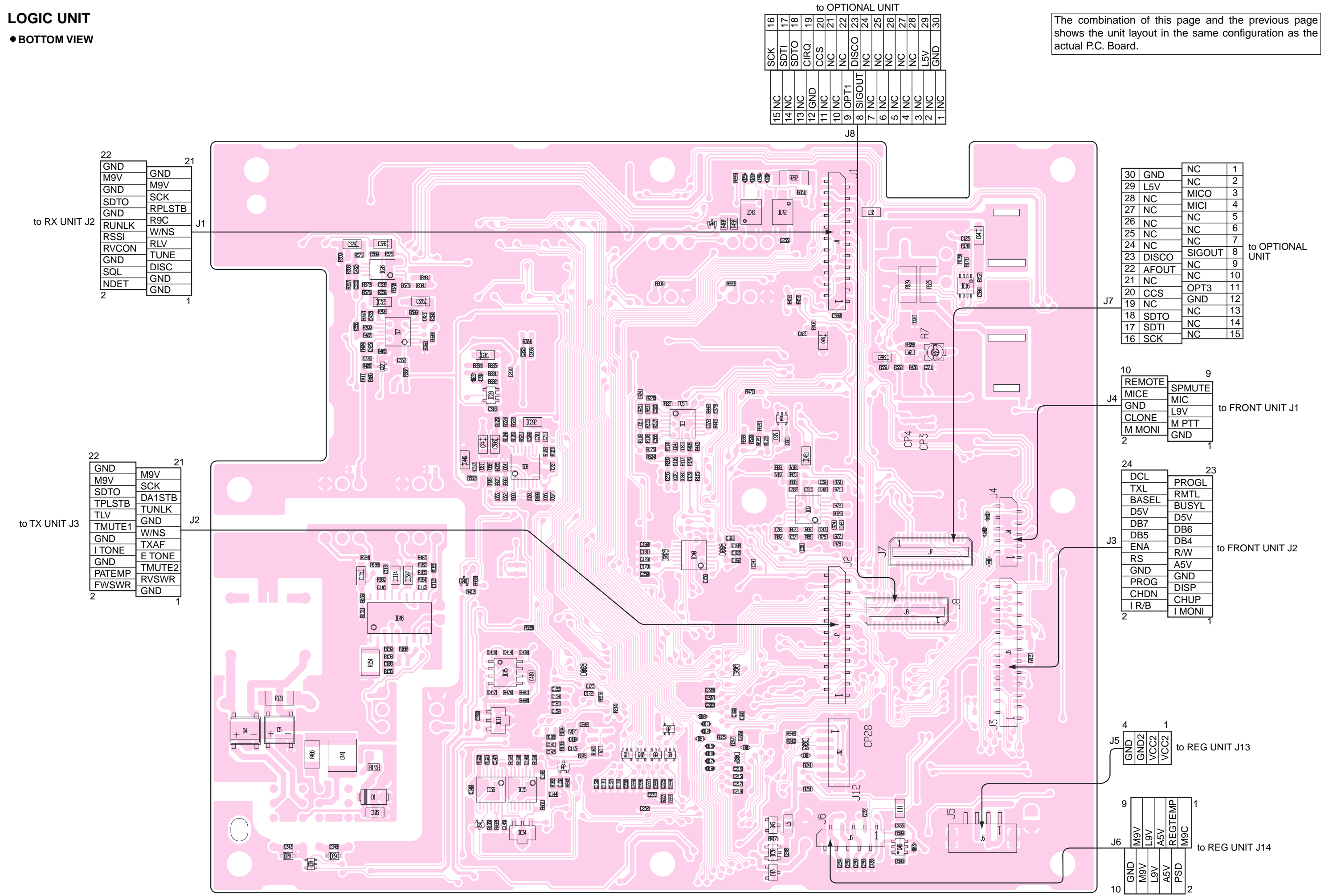
The combination of this page and the next page shows the unit layout in the same configuration as the actual P.C. Board.



LOGIC UNIT

● BOTTOM VIEW

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



to OPTIONAL UNIT

16	SCK
17	SDTI
18	SDTO
19	CIRQ
20	CCS
21	NC
22	NC
23	DISCO
24	SIGOUT
25	NC
26	NC
27	NC
28	NC
29	L5V
30	GND

to RX UNIT J2

22	GND	21	GND
21	M9V	20	M9V
20	GND	19	SCK
19	SDTO	18	RPLSTB
18	GND	17	R9C
17	RUNLK	16	W/NS
16	RSSI	15	RLV
15	RVCON	14	TUNE
14	GND	13	DISC
13	SQL	12	GND
12	NDET	11	GND
11	GND	10	GND
10	GND	9	GND
9	GND	8	GND
8	GND	7	GND
7	GND	6	GND
6	GND	5	GND
5	GND	4	GND
4	GND	3	GND
3	GND	2	GND
2	GND	1	GND

to TX UNIT J3

22	GND	21	M9V
21	M9V	20	SCK
20	SDTO	19	DA1STB
19	TPNSTB	18	TUNLK
18	TLV	17	GND
17	TMUTE1	16	W/NS
16	GND	15	TXAF
15	I TONE	14	E TONE
14	GND	13	TMUTE2
13	PATEMP	12	RVSWR
12	FWSWR	11	GND
11	GND	10	GND
10	GND	9	GND
9	GND	8	GND
8	GND	7	GND
7	GND	6	GND
6	GND	5	GND
5	GND	4	GND
4	GND	3	GND
3	GND	2	GND
2	GND	1	GND

30	GND	NC	1
29	L5V	NC	2
28	NC	MICO	3
27	NC	MICI	4
26	NC	NC	5
25	NC	NC	6
24	NC	NC	7
23	DISCO	SIGOUT	8
22	AFOUT	NC	9
21	NC	NC	10
20	CCS	OPT3	11
19	NC	GND	12
18	SDTO	NC	13
17	SDTI	NC	14
16	SCK	NC	15

10	REMOTE	9	SPMUTE
9	MICE	8	MIC
8	GND	7	L9V
7	CLONE	6	M PTT
6	M MONI	5	GND
5	GND	4	GND
4	GND	3	GND
3	GND	2	GND
2	GND	1	GND

24	DCL	23	PROGL
23	TXL	22	RMTL
22	BASEL	21	BUSYL
21	D5V	20	D5V
20	DB7	19	DB6
19	DB5	18	DB4
18	ENA	17	R/W
17	RS	16	A5V
16	GND	15	GND
15	PROG	14	DISP
14	CHDN	13	CHUP
13	I R/B	12	I MONI
12	GND	11	GND
11	GND	10	GND
10	GND	9	GND
9	GND	8	GND
8	GND	7	GND
7	GND	6	GND
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5	GND	4	GND
4	GND	3	GND
3	GND	2	GND
2	GND	1	GND

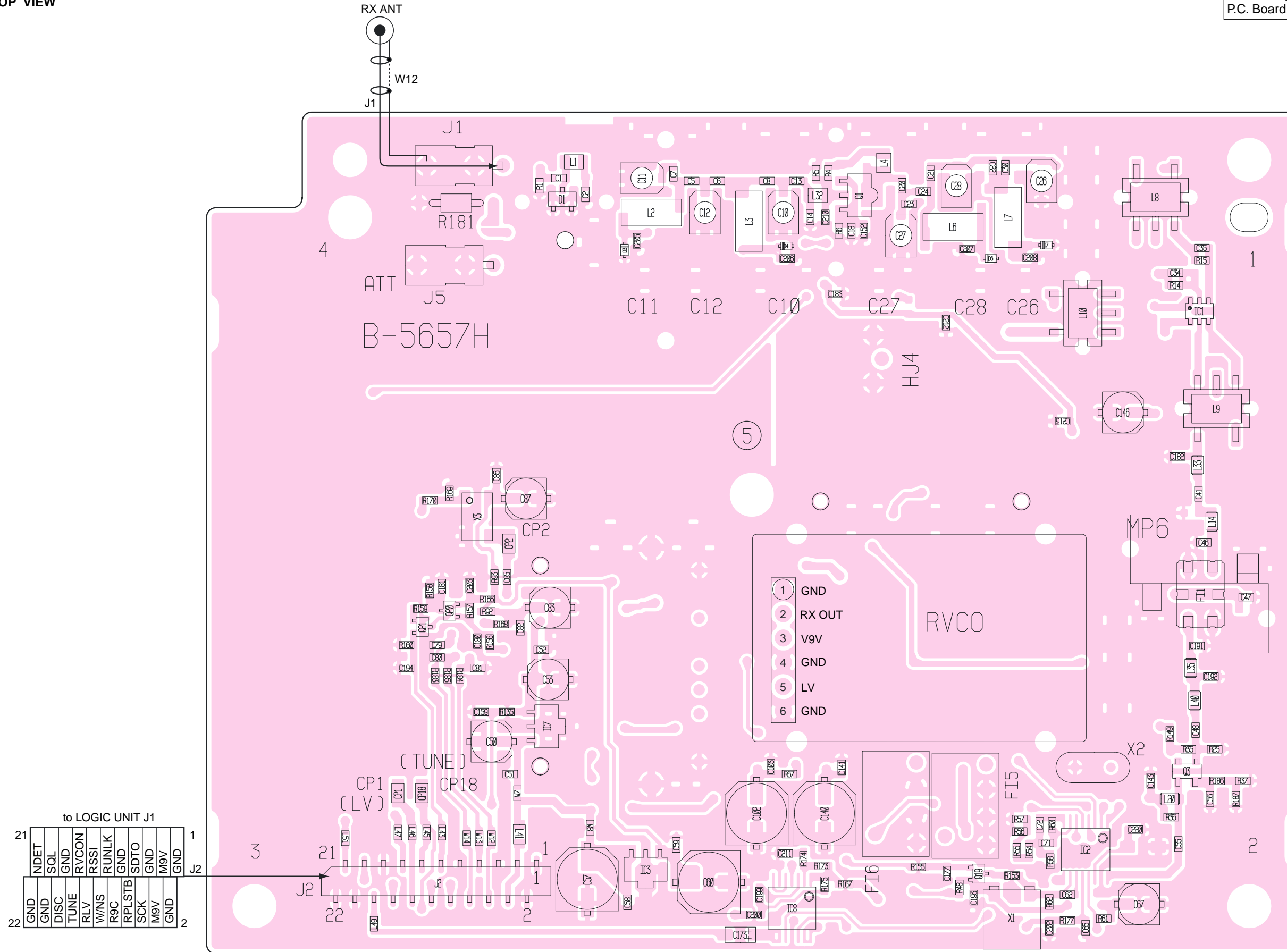
4	GND	1	VCC2
3	GND2	2	VCC2
2	GND2	1	VCC2

9	M9V	1	REGTEMP
8	L9V	2	M9C
7	A5V	3	PSD
6	GND	4	GND
5	M9V	5	GND
4	L9V	6	GND
3	A5V	7	GND
2	GND	8	GND
1	GND	9	GND

9 - 6 RX UNIT

● TOP VIEW

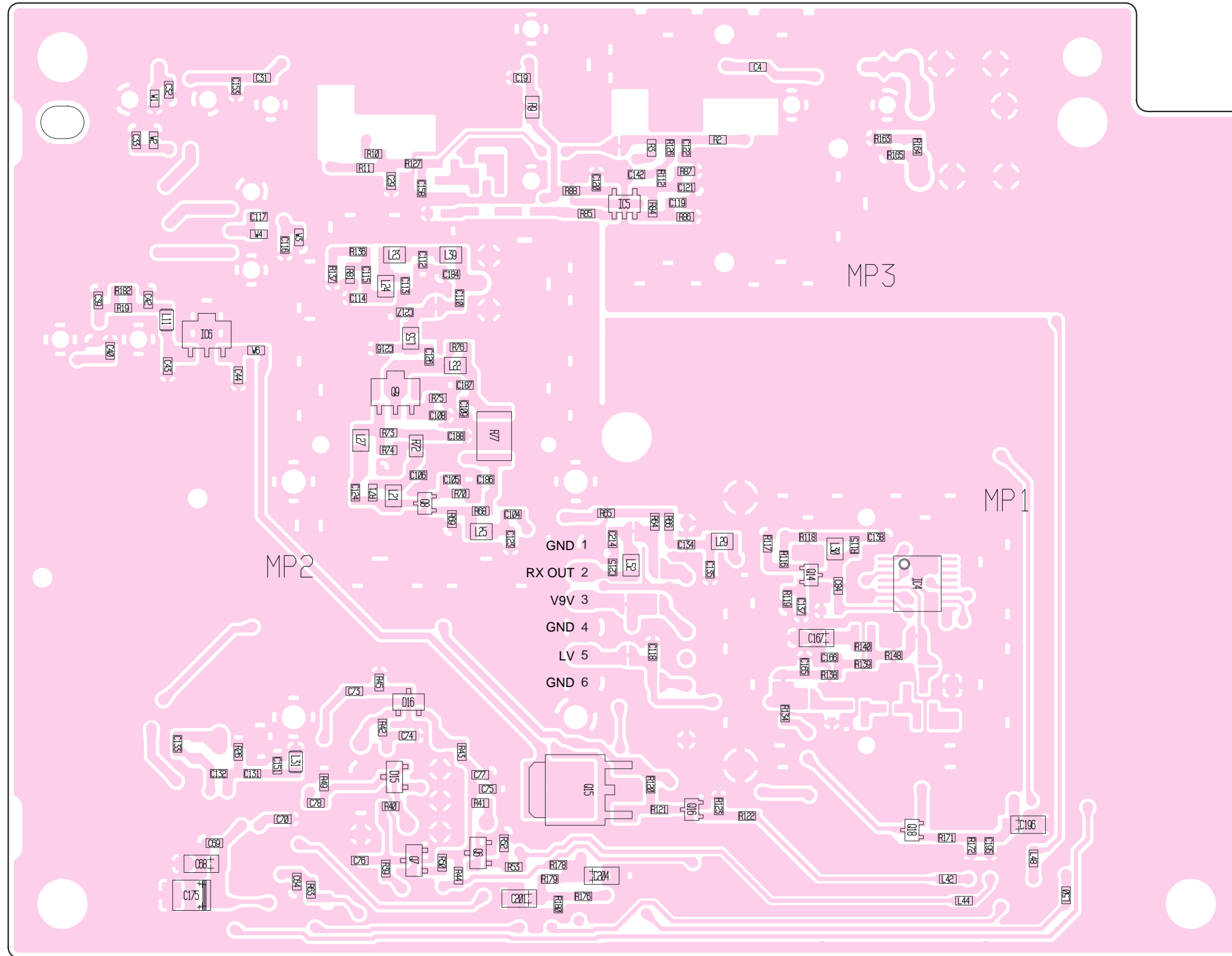
The combination of this page and the next page shows the unit layout in the same configuration as the actual P.C. Board.



RX UNIT

● BOTTOM VIEW

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

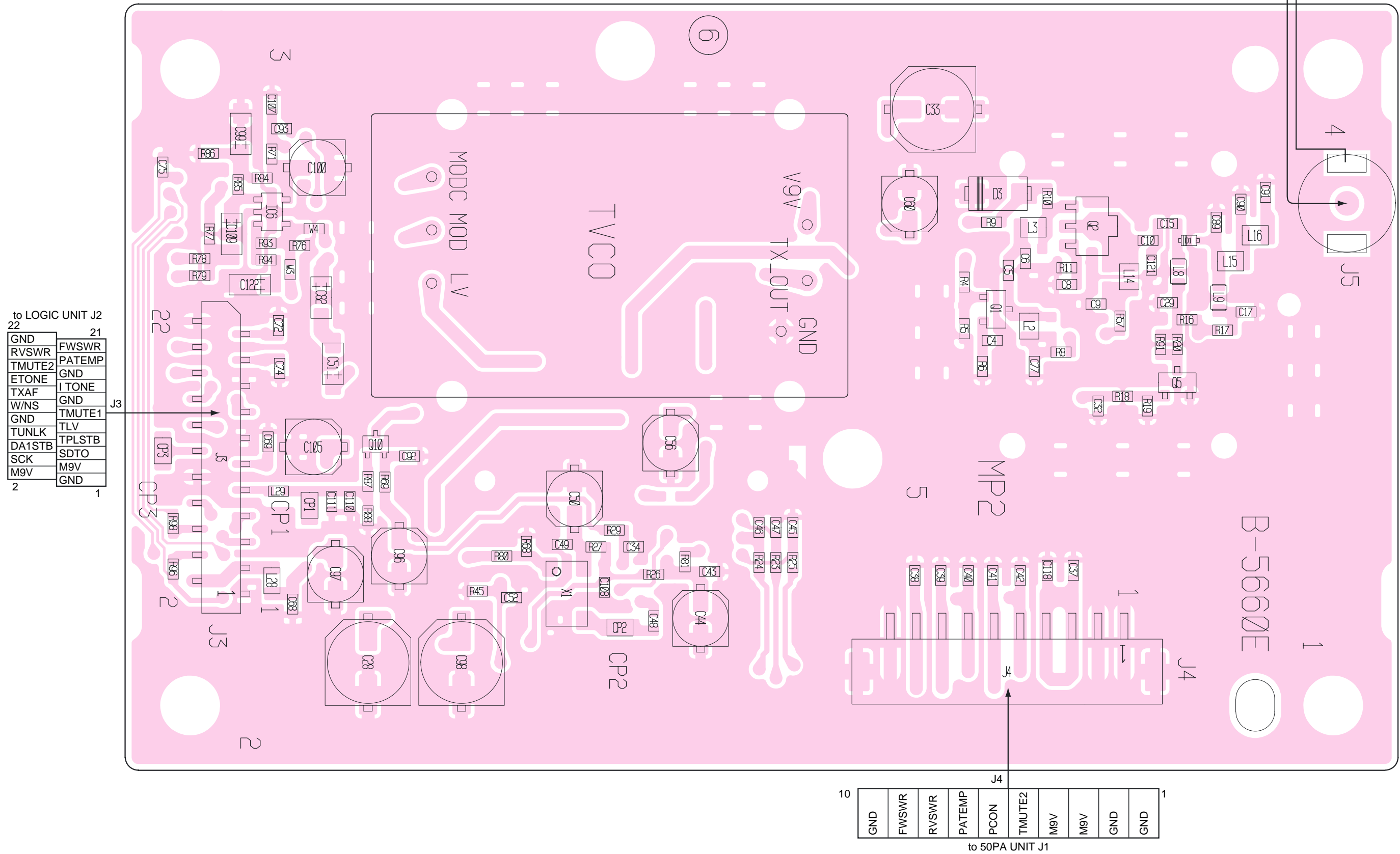


9 - 7 TX UNIT

• TOP VIEW

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

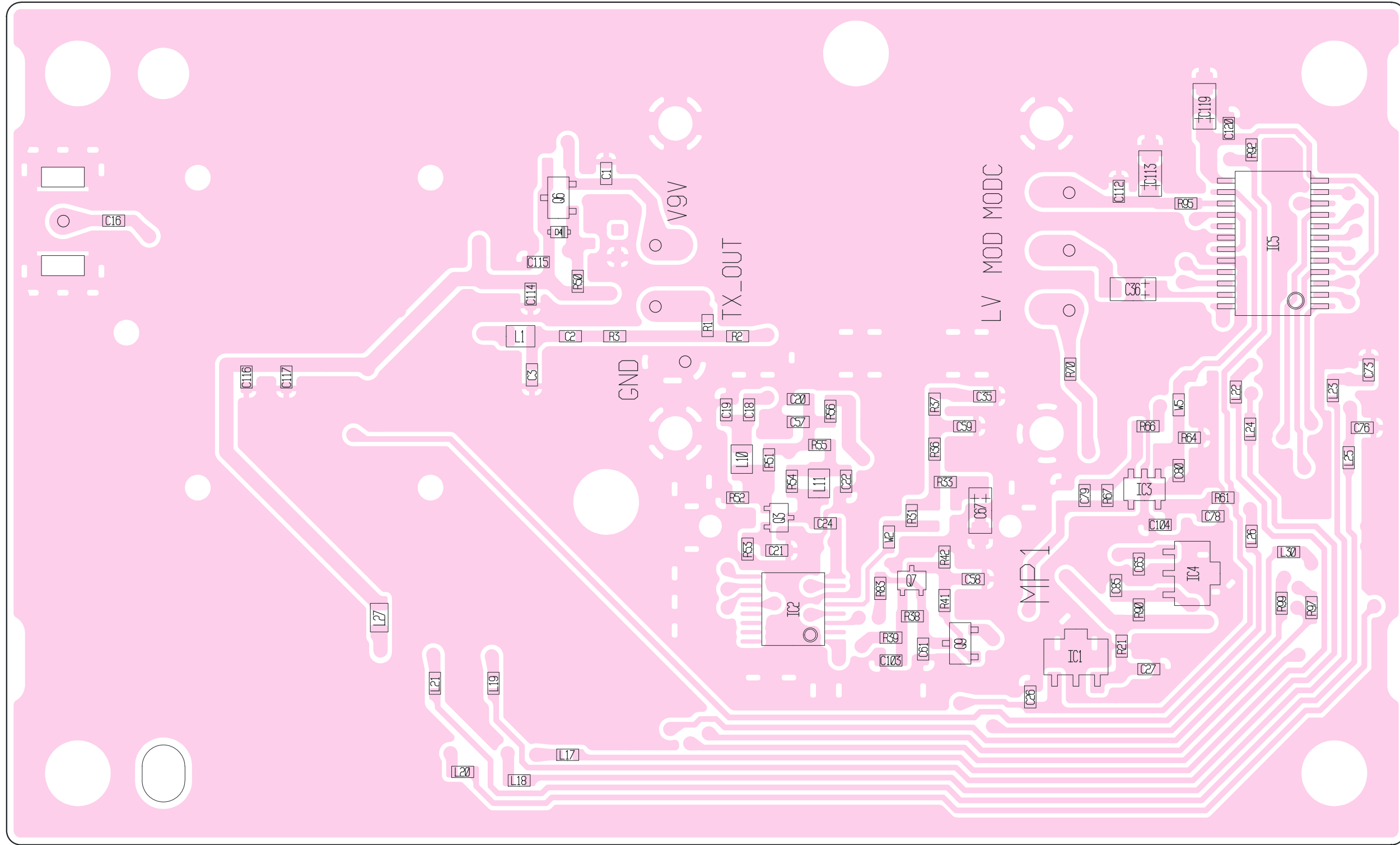
to 50PA UNIT
J2



TX UNIT

● BOTTOM VIEW

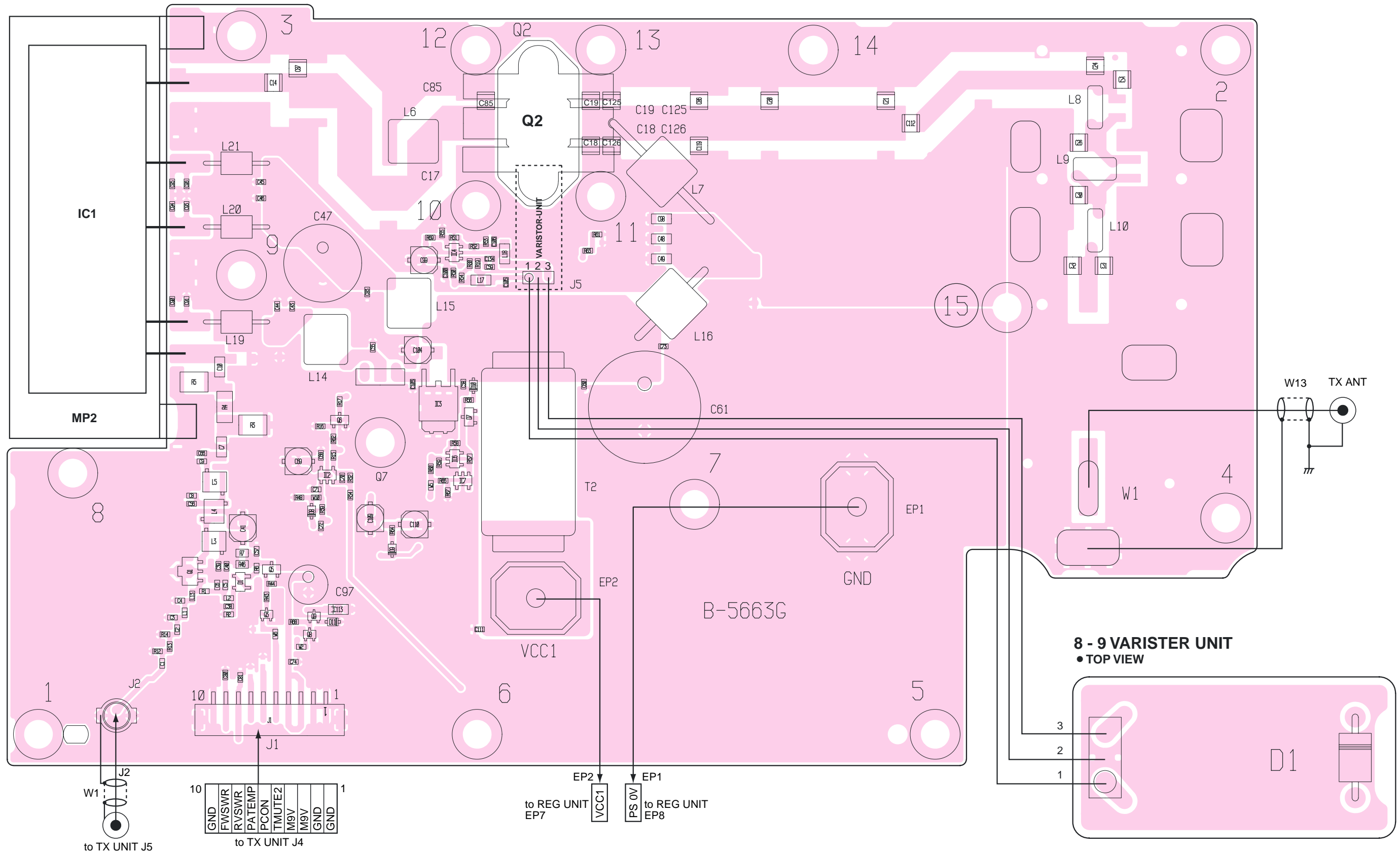
The combination of this page and the previous page shows the unit layout in the same configuration as the actual P.C. Board.



9 - 8 50PA UNIT

• TOP VIEW

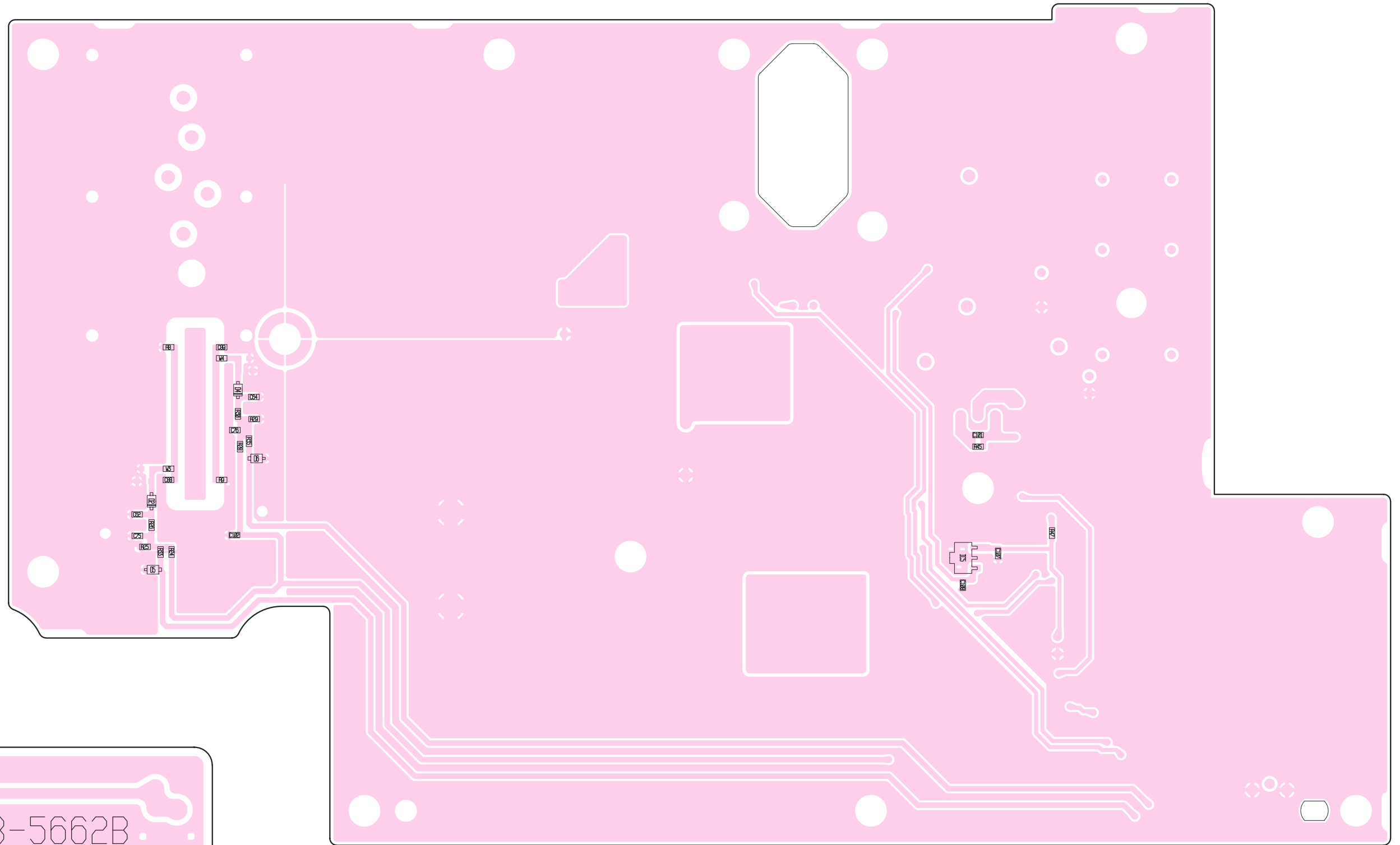
The combination of this page and the next page shows the unit layout in the same configuration as the actual P.C. Board.



50PA UNIT

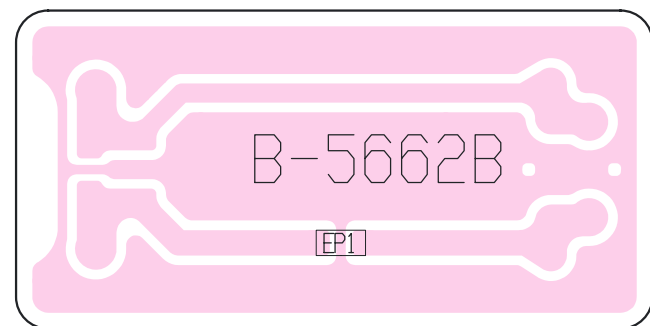
● **BOTTOM VIEW**

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



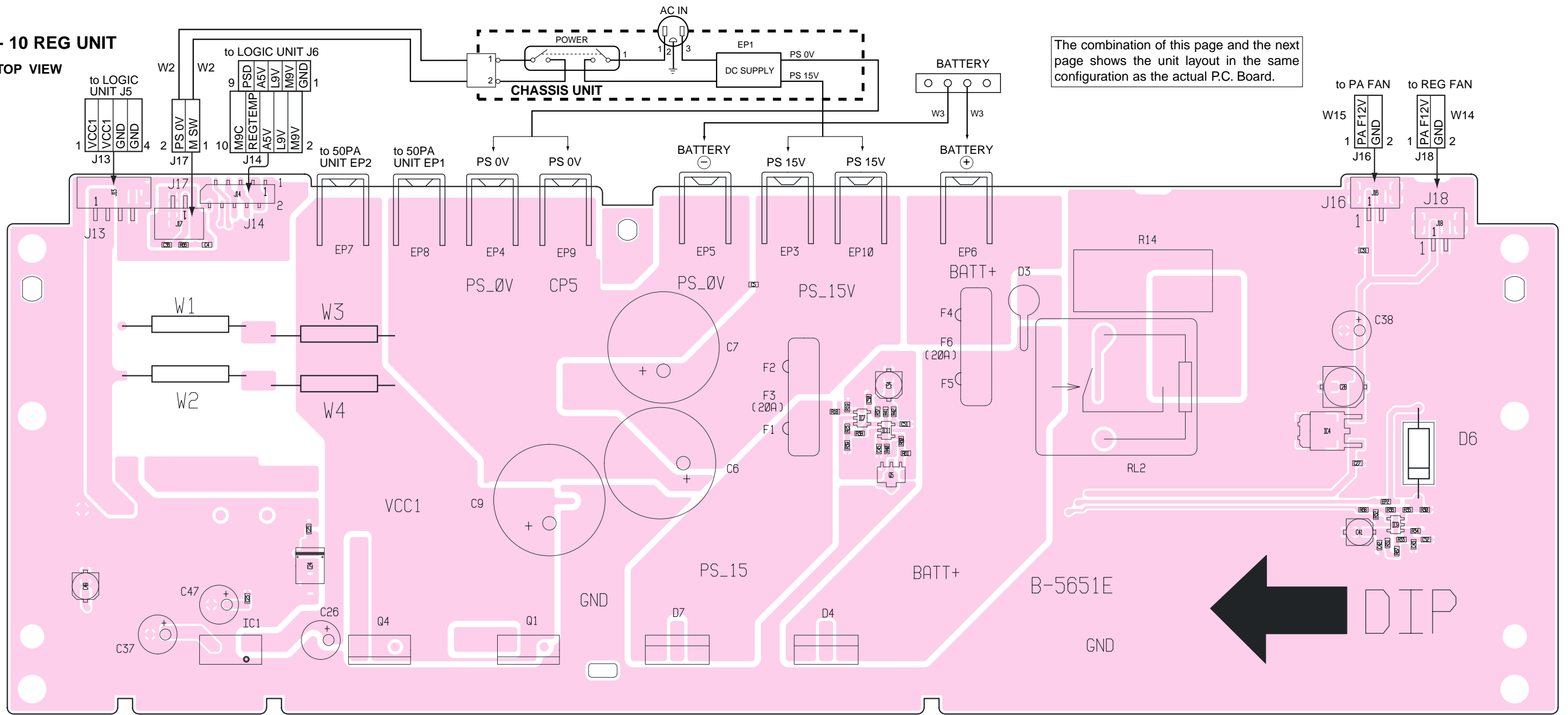
VARISTER UNIT

● **BOTTOM VIEW**



9 - 10 REG UNIT

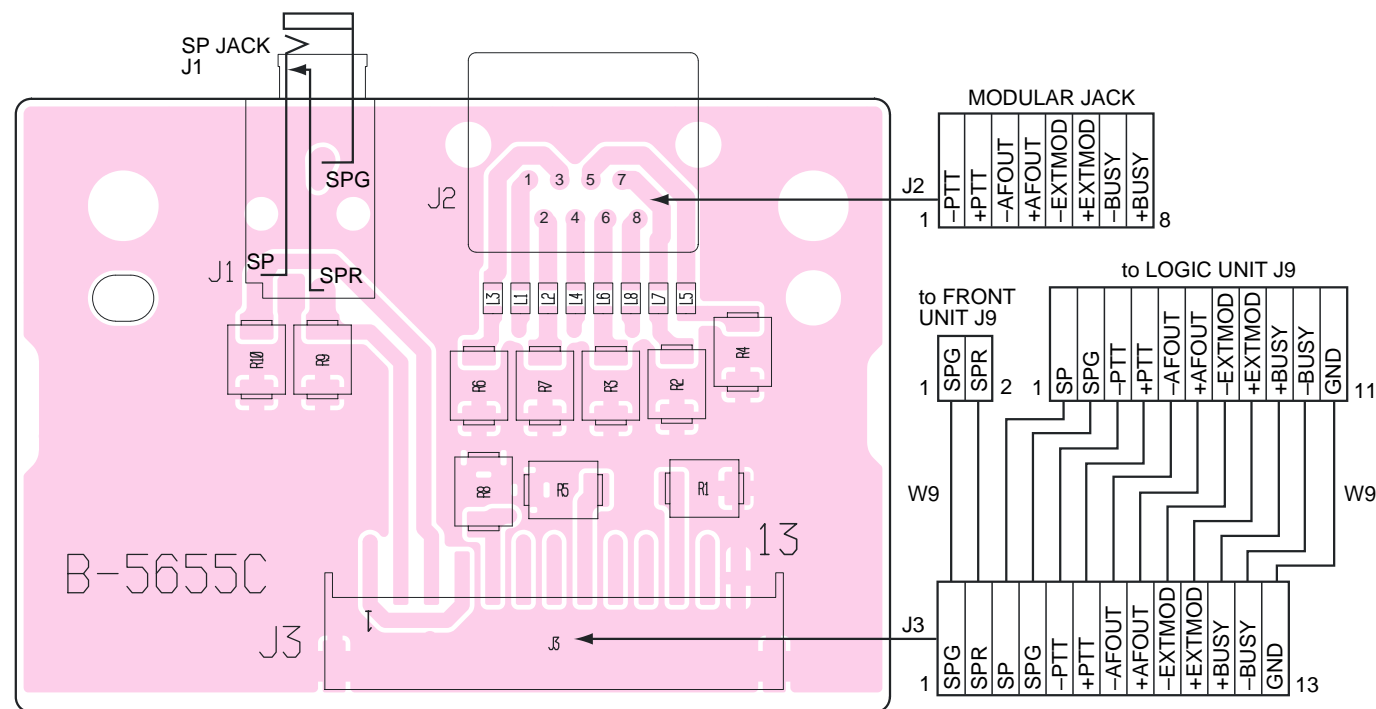
• TOP VIEW



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

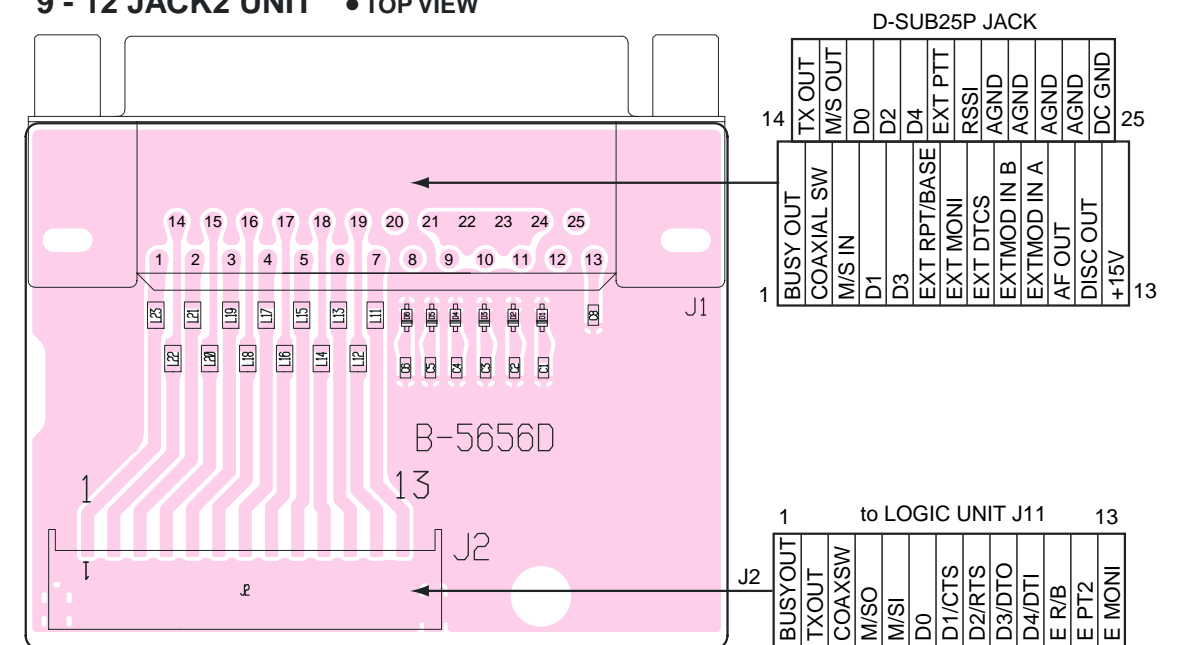
9 - 11 JACK1 UNIT

• TOP VIEW



9 - 12 JACK2 UNIT

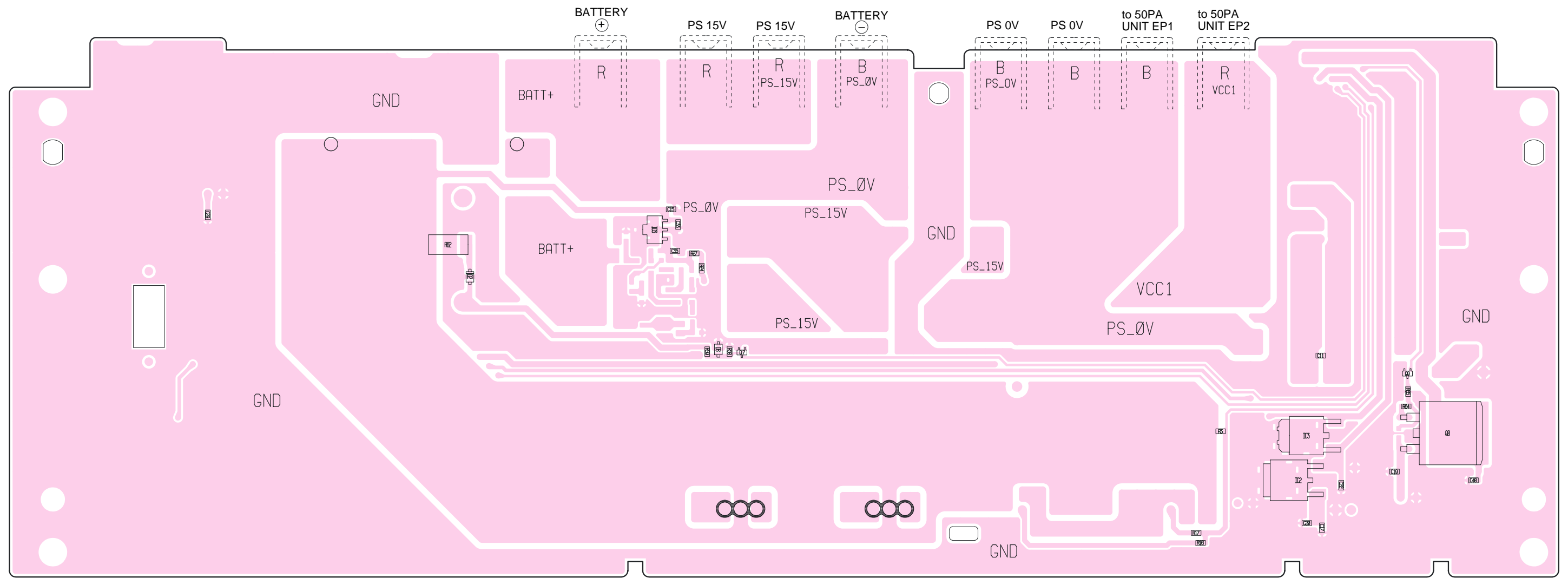
• TOP VIEW



REG UNIT

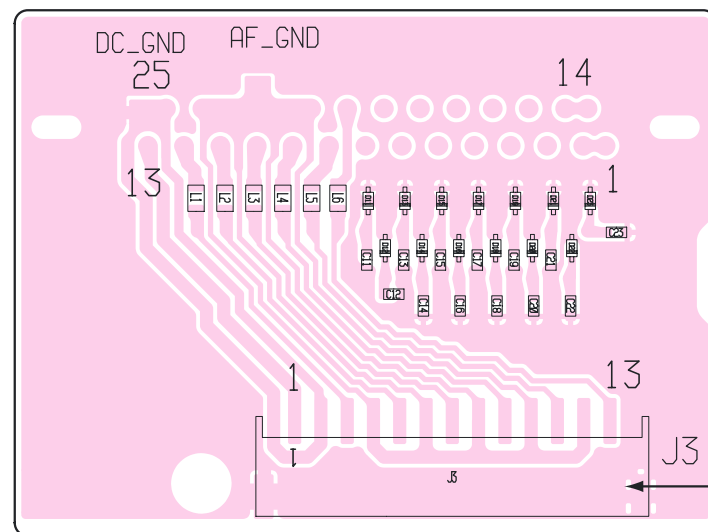
● **BOTTOM VIEW**

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



JACK2 UNIT

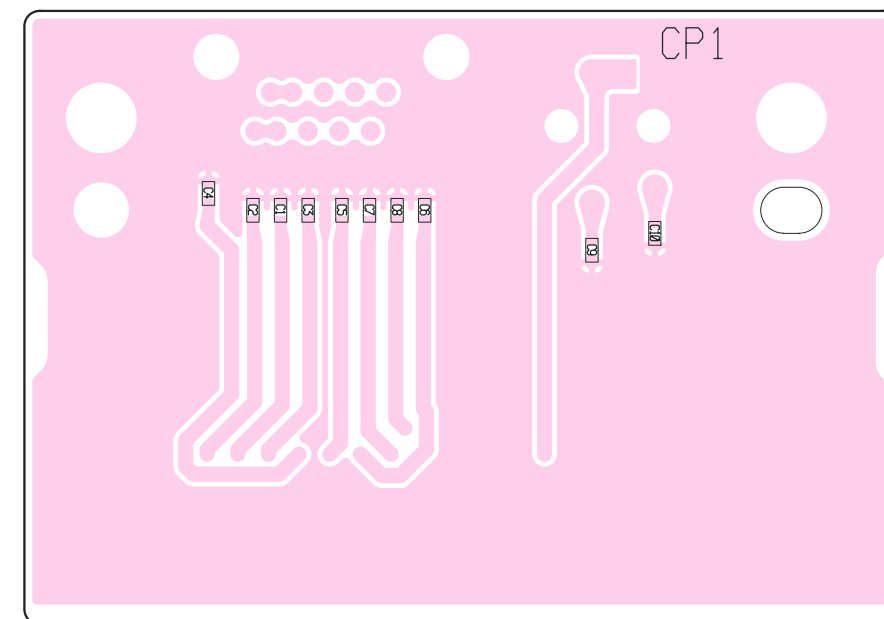
● **BOTTOM VIEW**



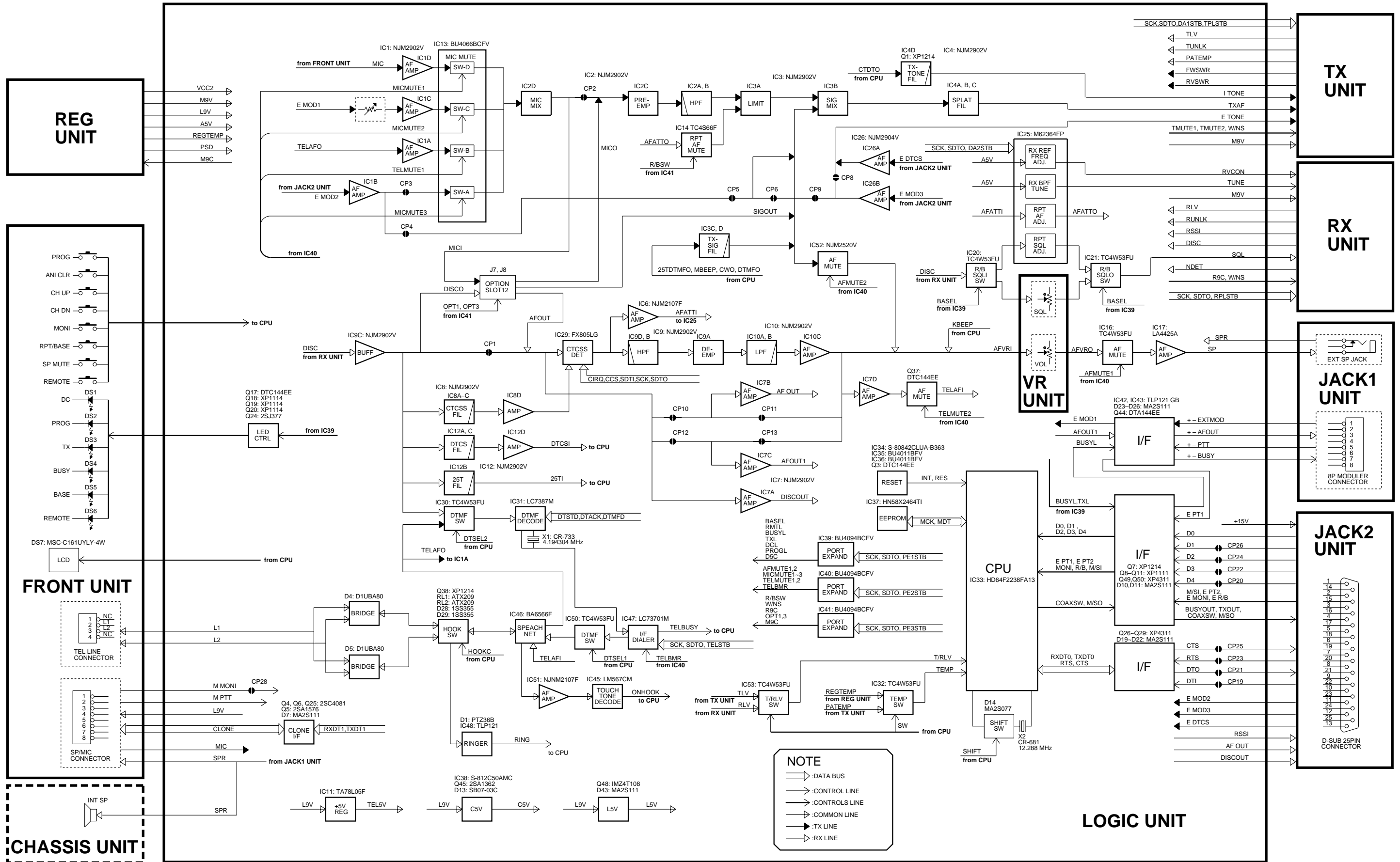
1	to LOGIC UNIT J10	13
+E15V		
DC_GND		
DISC_OUT		
AF_GND		
AF_OUT		
AF_GND		
E_MOD2		
E_MOD3		
E_MODG		
E_DTCS		
E_MODG		
RSSI		

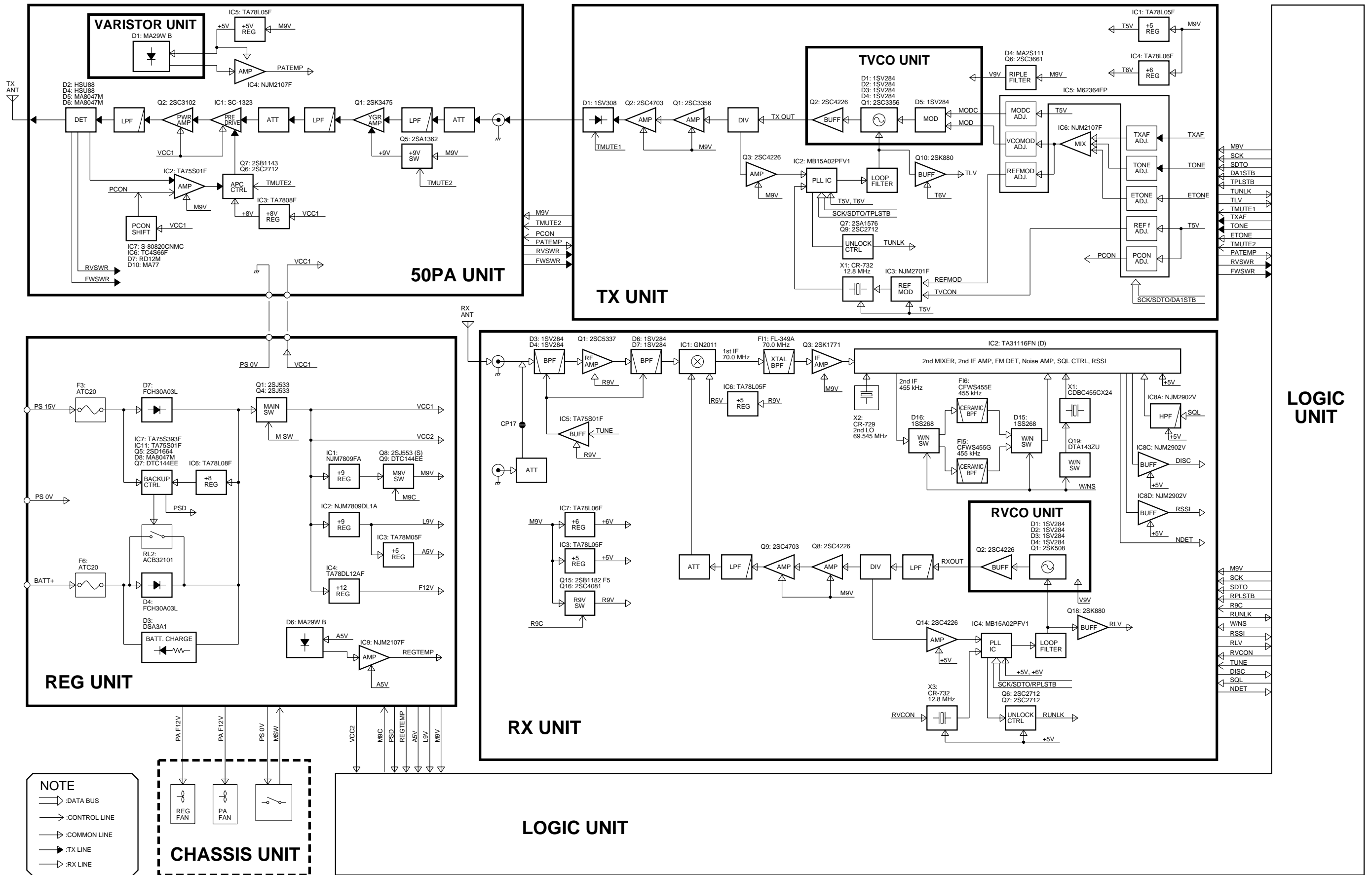
JACK1 UNIT

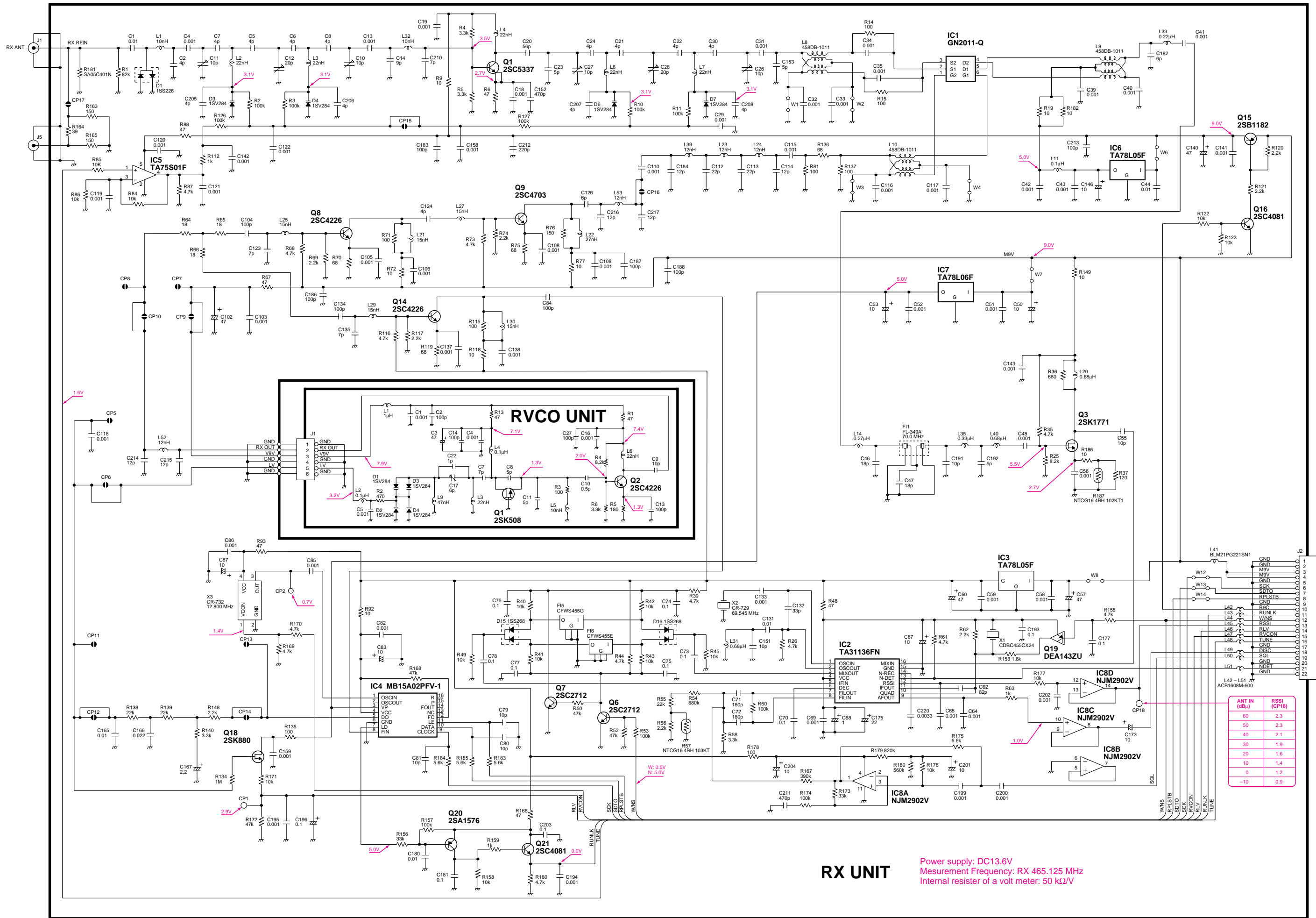
● **BOTTOM VIEW**



SECTION 10 BLOCK DIAGRAM



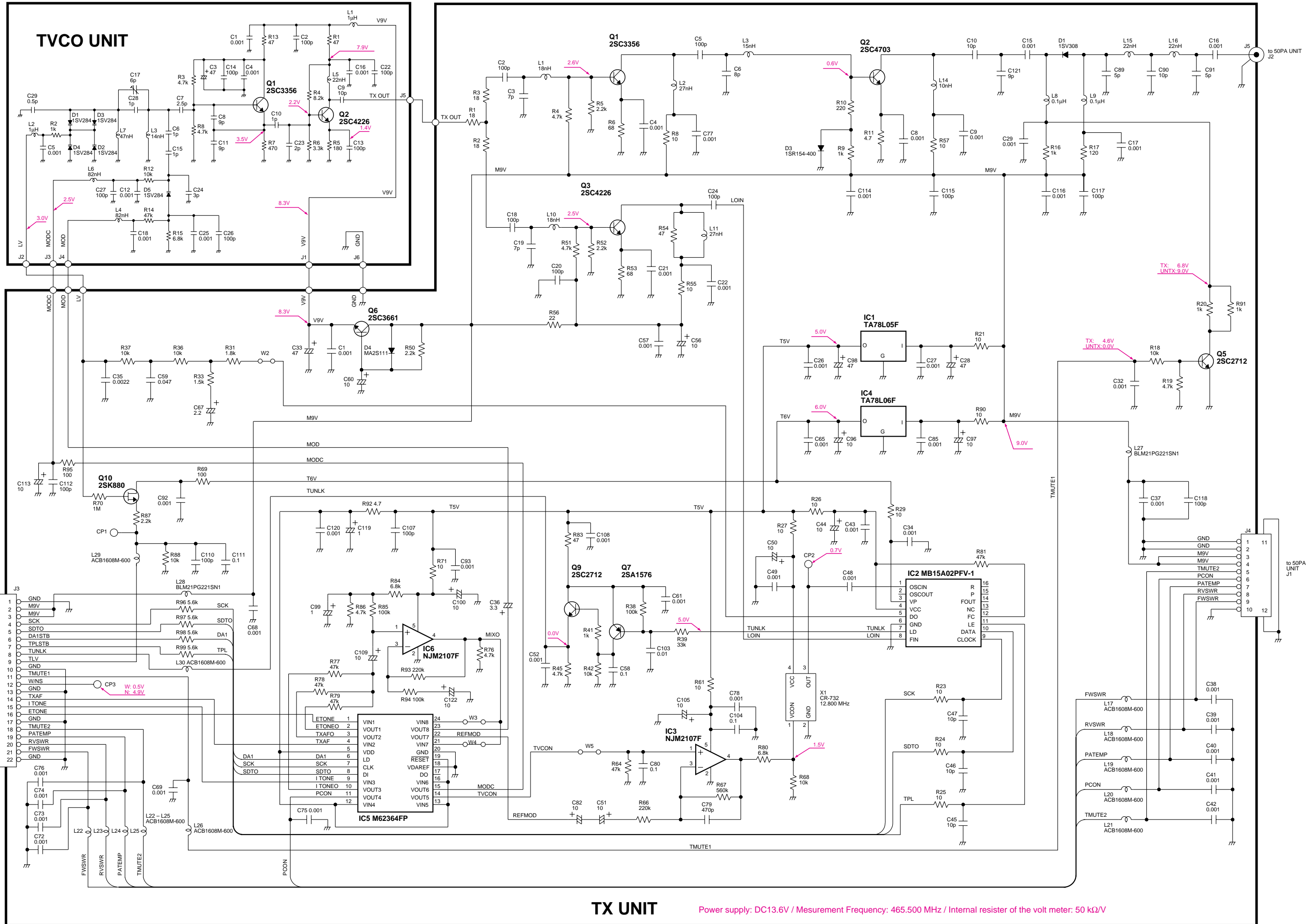


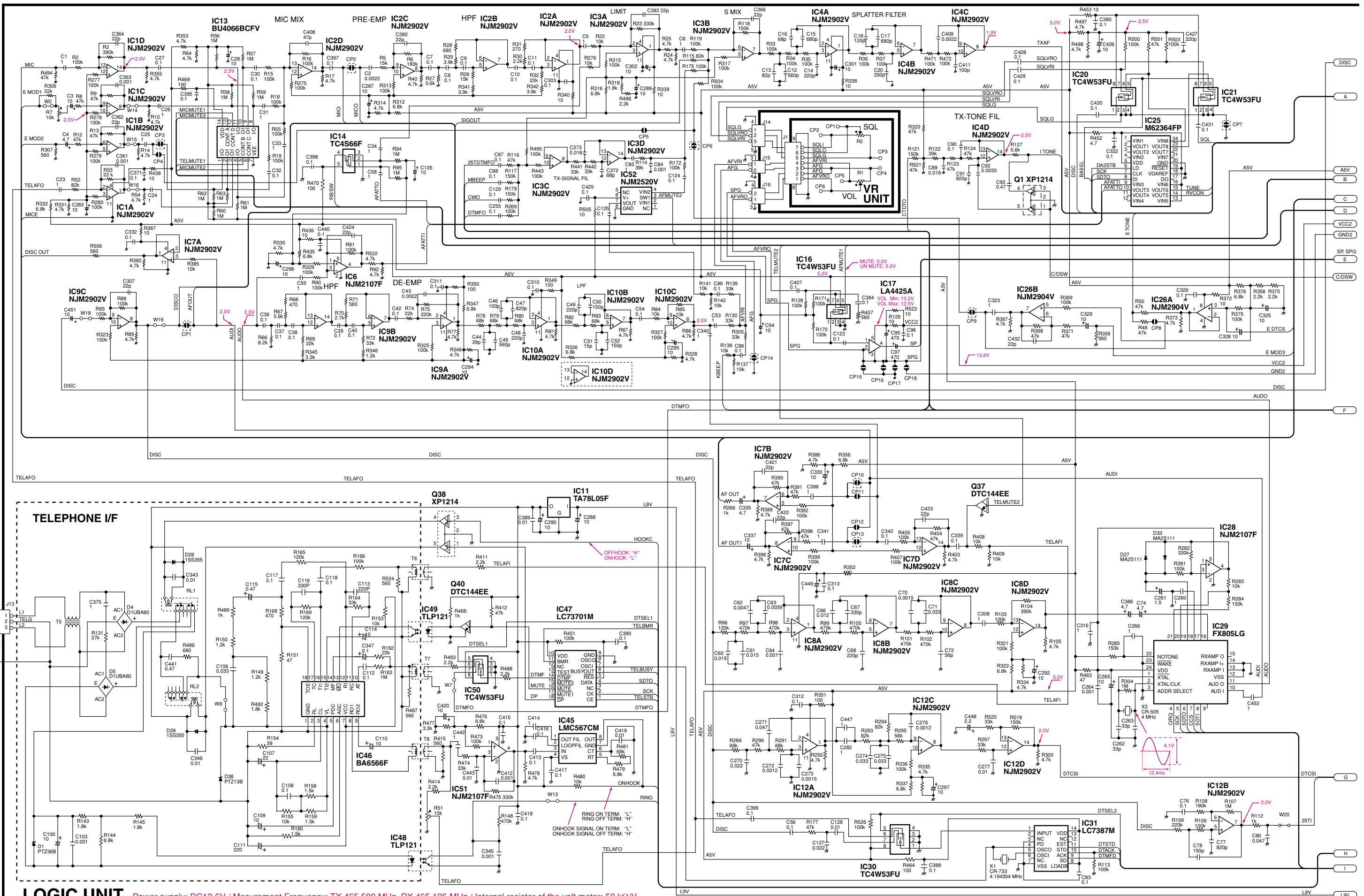


ANT IN (dBm)	RSSI (CP18)
60	2.3
50	2.3
40	2.1
30	1.9
20	1.6
10	1.4
0	1.2
-10	0.9

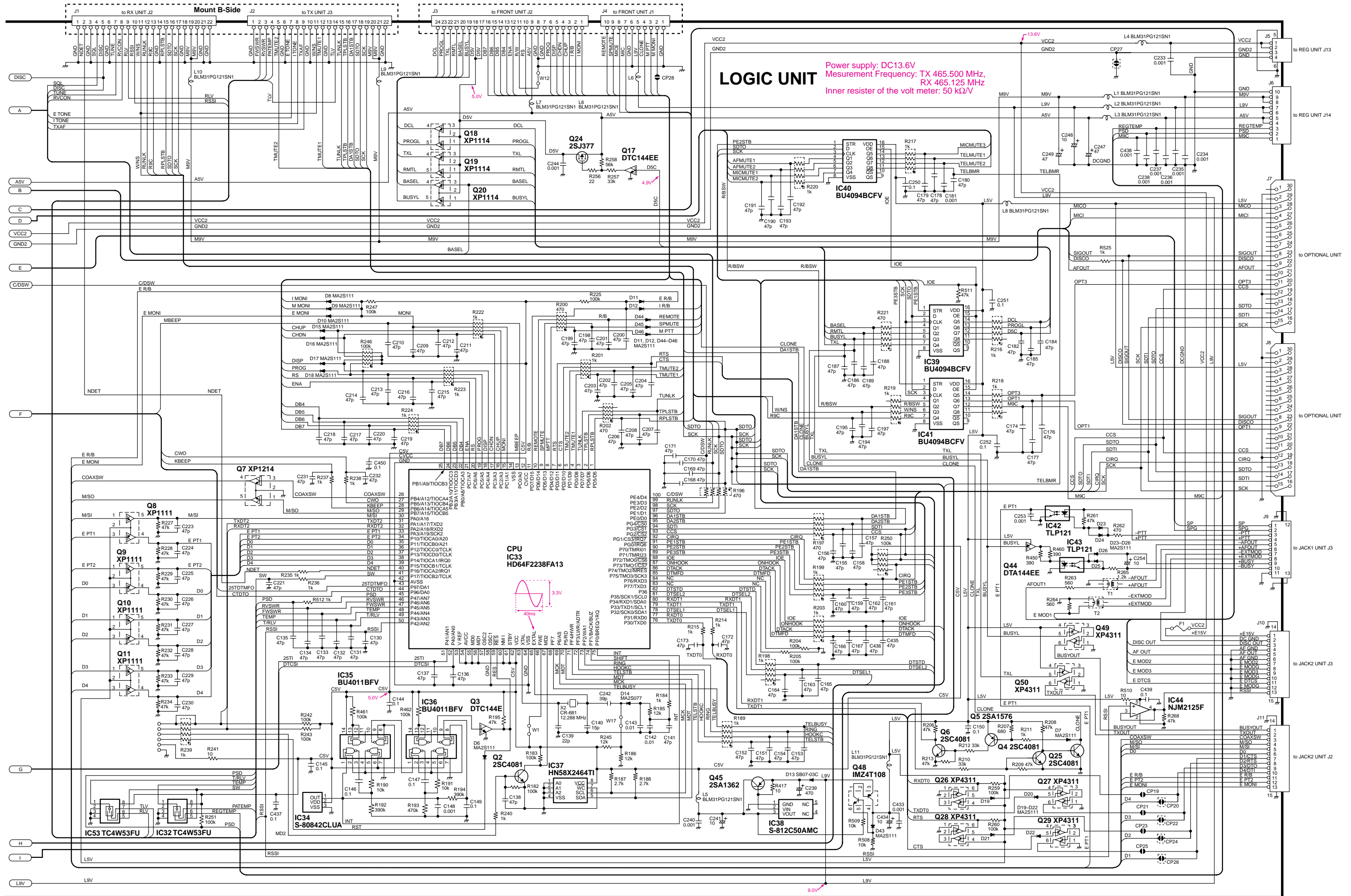
RX UNIT

Power supply: DC13.6V
 Measurement Frequency: RX 465.125 MHz
 Internal resistor of a volt meter: 50 kΩV





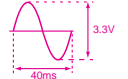
LOGIC UNIT Power supply: DC13.6V / Measurement Frequency: TX 465.500 MHz, RX 465.125 MHz / Internal resistor of the volt meter: 50 kΩ/V

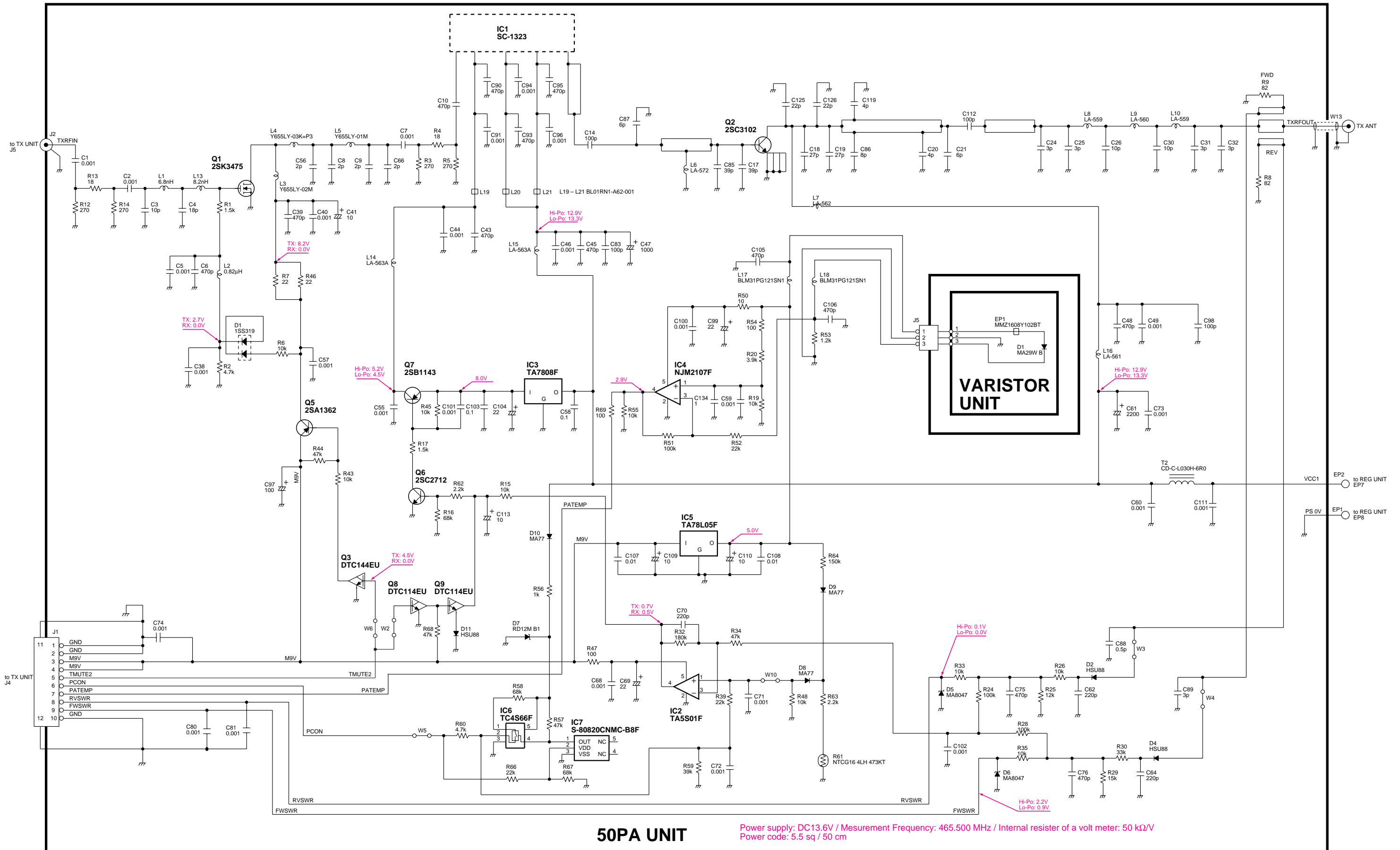


LOGIC UNIT

Power supply: DC13.6V
 Measurement Frequency: TX 465.500 MHz,
 RX 465.125 MHz
 Inner resistor of the volt meter: 50 kΩ/V

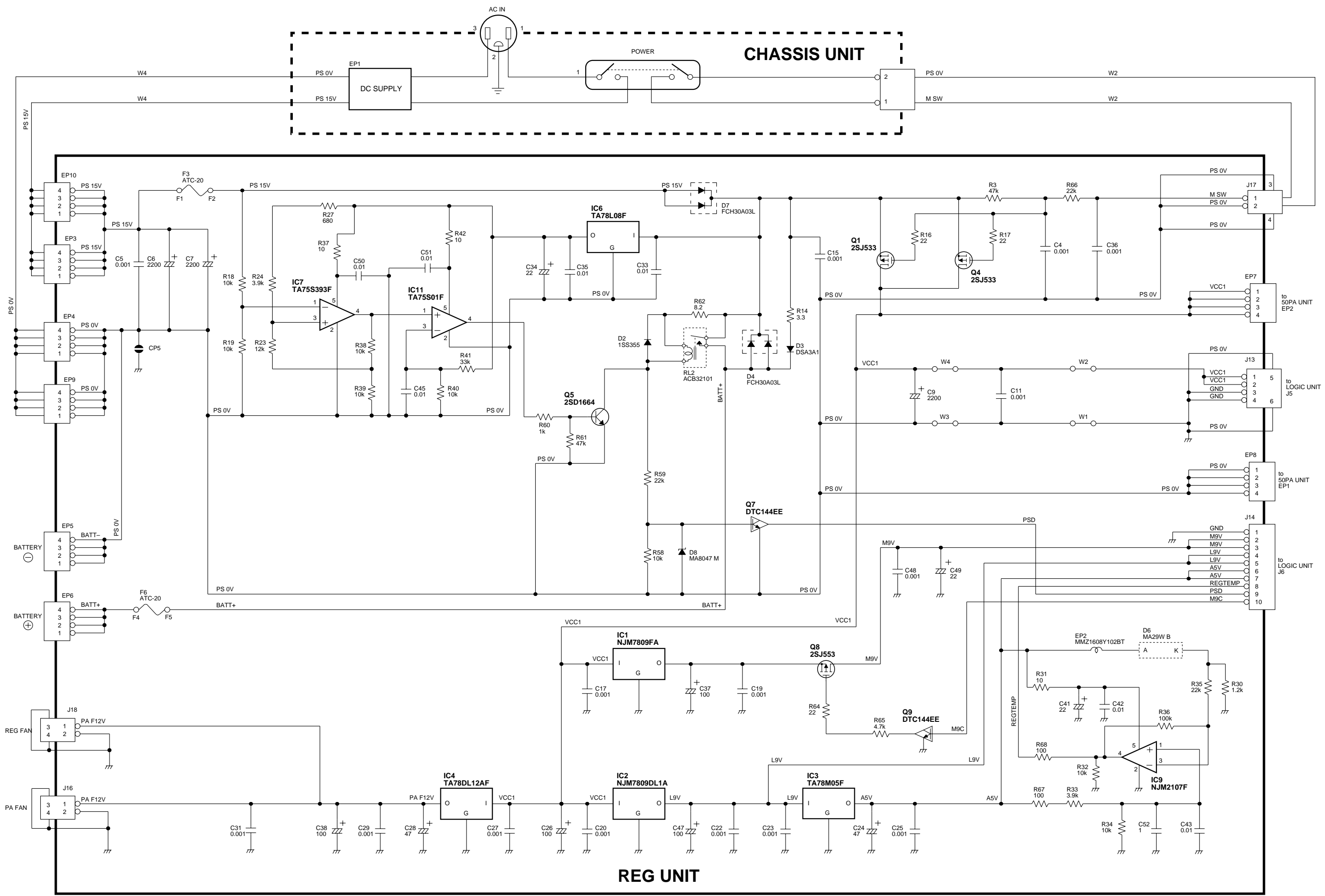
CPU
 IC33
 HD64F2238FA13





50PA UNIT

Power supply: DC13.6V / Measurement Frequency: 465.500 MHz / Internal resistor of a volt meter: 50 kΩ/V
 Power code: 5.5 sq / 50 cm



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Icom (UK) Ltd.

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

Phone : +44 (01227) 741741 Fax : +44 (01227) 741742

URL : <http://www.icomuk.co.uk>

Icom France S.a

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Phone : +33 (5) 61 36 03 03 Fax : +33 (5) 61 36 03 00

URL : <http://www.icom-france.com>

Asia Icom Inc.

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Phone : +886 (02) 2559 1899 Fax : +886 (02) 2559 1874

URL : <http://www.asia-icom.com>

Count on us!

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RadioAmateur.EU**

FR4000 PA Replacement

1. Remove old PA Board from FR4000. The new PA kit part number is 98415323.
2. See the following image. Verify there are 2 little shields, one big shield panel, one brick final, and the PA Board. The power cable is not required...you already have one.



3. Put the PA Board in place and screw it into place firmly into the repeater.
4. See the following image. Put transistor grease on bottom of shield where it contacts the chassis and put it in place. Solder the bottom shield onto the PA board.



Note: Board is shown outside of repeater for clarity.

5. Put a layer of white transistor grease on the bottom shield so it will contact the final brick.
 Note: There is now grease on both sides of the shield.
6. See the following image. Set the Final "Brick" into the bottom shield, align the pins and screw holes, and solder it onto the PA Board.



7. See the following image. Set the top shield in place and screw the Bottom shield, PA Brick, and Top shield in place.



8. Put large shield panel over the PA enclosure.
9. Reassemble repeater cover.
10. Go to the set mode or adjust mode of the repeater (explained at the dealer B2B site) and adjust the power output for High, L2, and L1 using a direct connection (or very short test cable) between the repeater and a certified, calibrated wattmeter.
11. Go to Maker Reserve Mode (specifically following the Maker Reserve Instructions on the B2B) and set the "On Mute Timer" to 0.000. Replacement is complete.