



SERVICE MANUAL

FM TRANSCEIVER

IC-T8A
IC-T8E

INTRODUCTION

This service manual describes the latest service information for the IC-T8A/E FM TRANSCEIVER at the time of publication.

MODEL	VERSION	SYMBOL
IC-T8A	U.S.A.	USA
	Asia	SEA
IC-T8E	Europe	EUR
	U.K.	UK
	Italy	ITA
	Thailand	THA
	Taiwan	TPE

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

DANGER

NEVER connect the transceiver to an AC outlet or to a DC power supply that uses more than 16 V. Such a connection could cause a fire hazard and/or electric shock.

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

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

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

ORDERING PARTS

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

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

<SAMPLE ORDER>

1110003490 S.I.C TA31136FN IC-T8A/E RF UNIT 1 piece
8810008990 Screw B0 2 × 10 ZK IC-T8A/E CHASSIS 6 pieces

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



REPAIR NOTES

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

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SECTION 1 SPECIFICATIONS

■ GENERAL

- Frequency coverage (MHz):

	50 MHz	VHF	UHF
USA	50–54	Tx: 144–148	Tx: 440–450 ^{*3}
		Rx: 118–174 ^{*1}	Rx: 440–470 ^{*3}
Europe, UK	50–52 (Rx only)	144–146	430–440
Italy	50–52	Tx: 144–148	Tx: 430–440
		Rx: 136–174 ^{*1}	Rx: 400–470 ^{*2}
Asia	50–54	Tx: 144–148	430–440
		Rx: 118–174 ^{*1}	
THA	50–54	144–146	430–440
TPE	Not available	144–146	430–440

Guaranteed range (MHz): ^{*1} 144–148, ^{*2} 430–440, ^{*3} 440–450

- Mode : FM (F3E), WFM (Rx only), AM (118–135.995 MHz; Rx only)
- Frequency stability : ± 5 ppm (0°C to +50°C; 32°F to 122°F)
- No. of memory channels : 123 (incl. 10 scan edges + 1 call channel for each band)
- Antenna connector : SMA (50 Ω)
- Usable battery pack/case : BP-198–BP-200/BP-197
- Power supply requirement : 4.5–16 V DC (negative ground)
- Current drain (at 13.5 V DC) : Transmit high at 5 W 1.4 A (typical)
low at 0.5 W 0.6 A (typical)
Receive max. audio 200 mA (typical)
standby 70 mA (typical)
- Usable temperature range : –10°C to 60°C; 14°F to 140°F
- Dimensions (Projections not included) : 106(W) $\times$ 58(H) $\times$ 28.5(D) mm; 4 $\frac{3}{16}$ (W) $\times$ 2 $\frac{5}{16}$ (H) $\times$ 1 $\frac{1}{8}$ (D) in
- Weight (with BP-199) : 280 g; 9.9 oz

■ TRANSMITTER

- Output power (13.5 V DC) : 5 W (high) 0.5 W (low)
- Modulation system : Variable reactance frequency modulation
- Spurious emissions : Less than –60 dB
- Max. frequency deviation : ± 5 kHz
- External microphone connector : 3-conductor 2.5 (d) mm ($\frac{1}{10}$ ") / 2 k Ω

■ RECEIVER

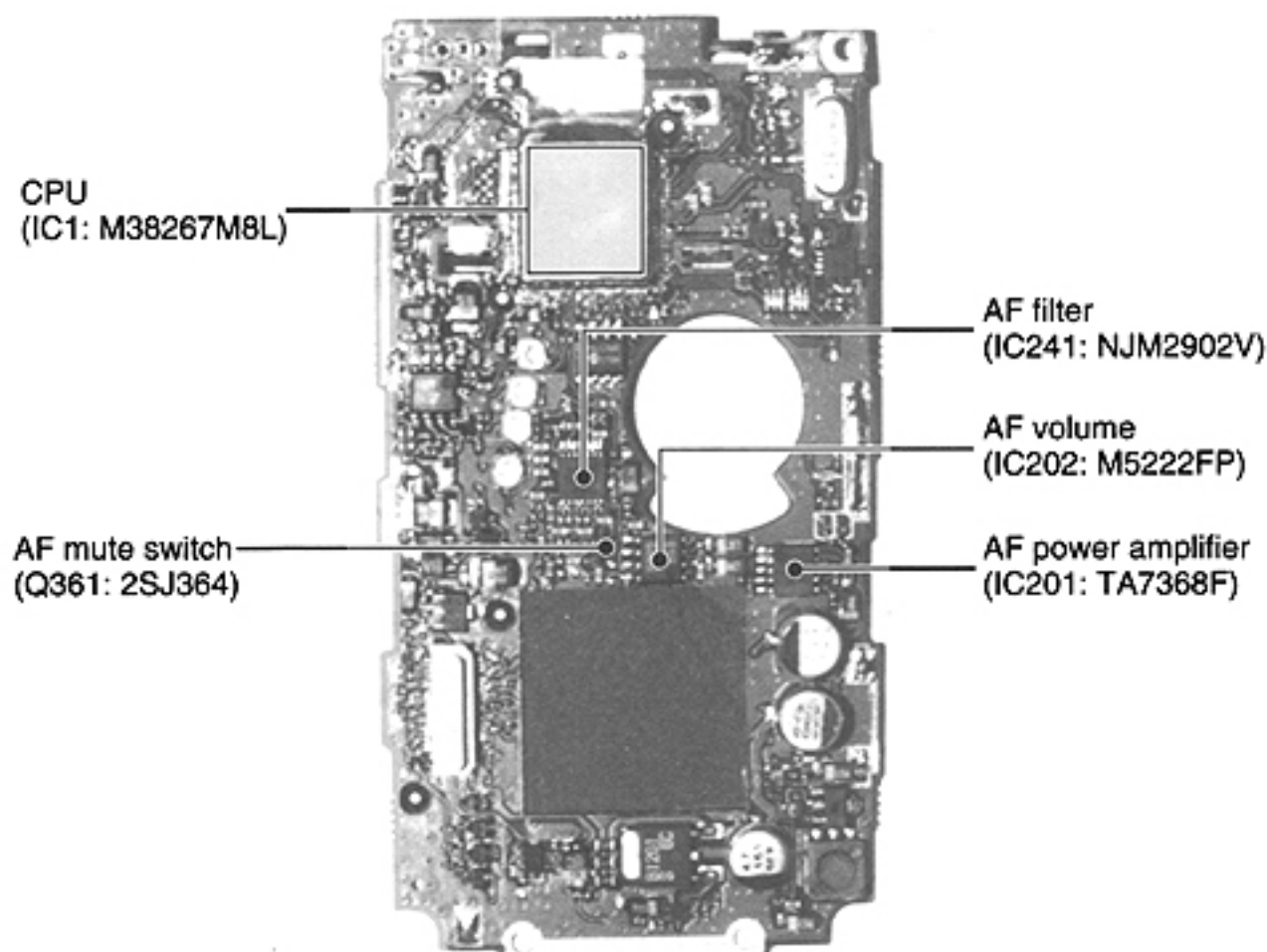
- Receive system : Double conversion superheterodyne
- Intermediate frequencies : 1st 41.85 MHz
13.35 MHz WFM
2nd 450 kHz (except WFM)
- Sensitivity (12 dB SINAD) : Less than 0.18 μ V (–122 dBm)
Less than 1.99 μ V (WFM) (–101.5 dBm)
- Squelch sensitivity (threshold) : Less than 0.18 μ V (–122 dBm)
Less than 5.6 μ V (WFM) (–92 dBm)
- Selectivity : Less than 15 kHz/–6 dB
More than 30 kHz/–60 dB
- Spurious and image refection ratio (except 2nd IF image frequency) : 50/144 MHz band –60 dB (typical)
440 MHz band –50 dB (typical)
- Audio output power (at 13.5 V DC) : 250 mW (typical with an 8 Ω load)
- External speaker connector : 3-conductor 3.5 (d) mm ($\frac{1}{8}$ ") / 8 Ω

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

SECTION 2 INSIDE VIEWS

• LOGIC UNIT

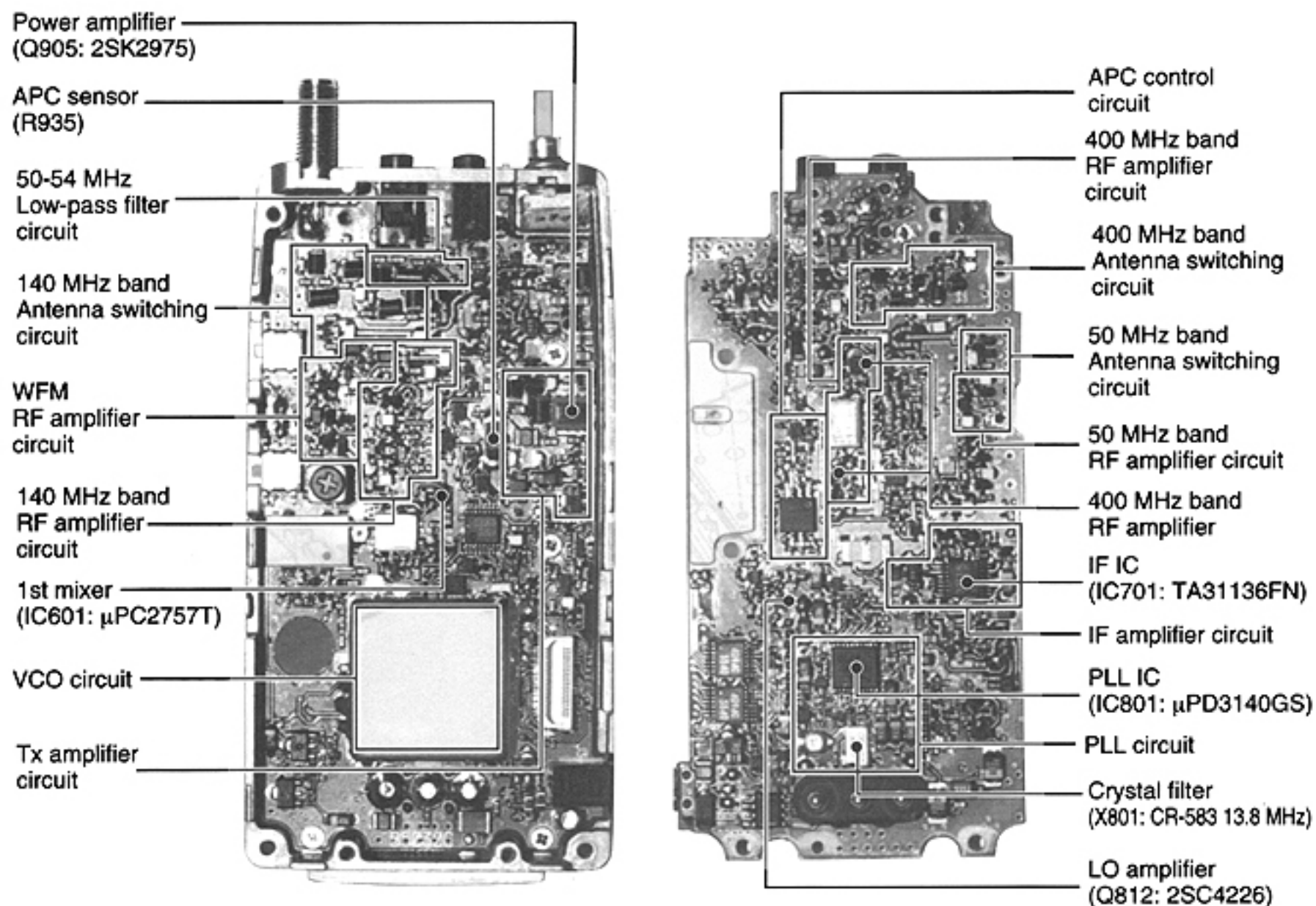
BOTTOM VIEW



• RF UNIT

TOP VIEW

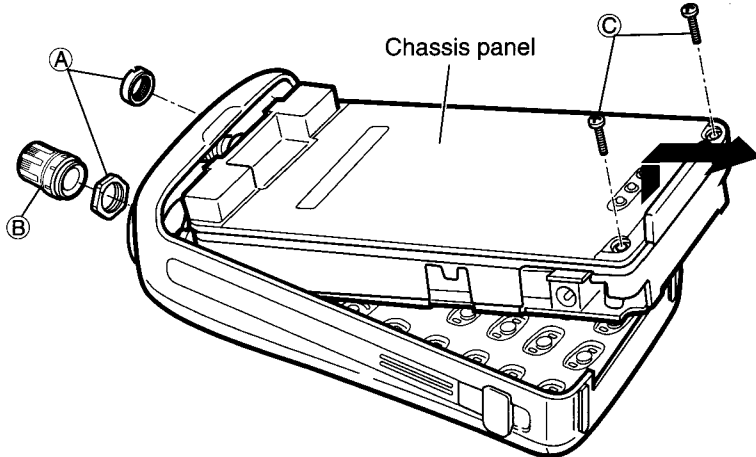
BOTTOM VIEW



SECTION 3 DISASSEMBLY INSTRUCTIONS

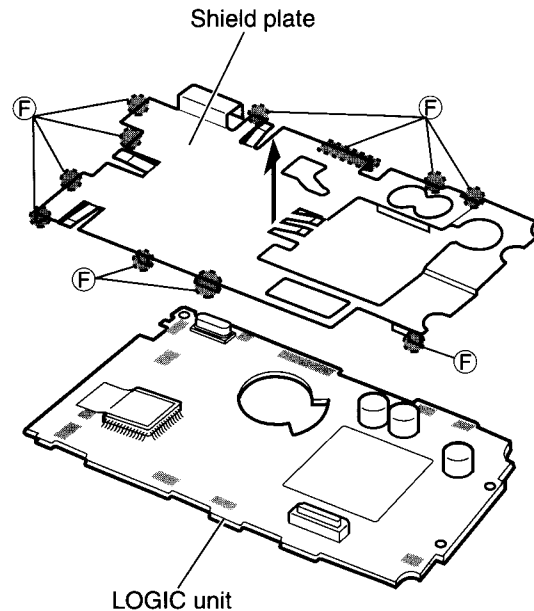
1 Removing the chassis panel

- ① Remove 1 knob, (B), and unscrew 2 nuts, (A).
- ② Unscrew 2 screws, (C).
- ③ Remove the chassis panel in the direction of the arrow.



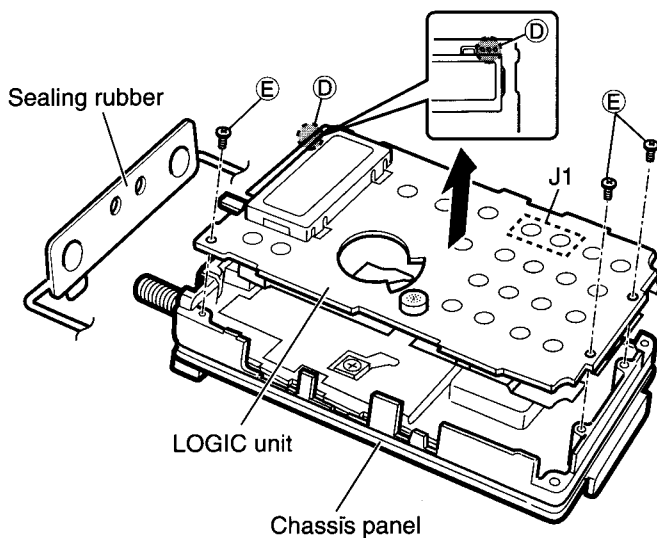
3 Removing the shield plate

- ① Unsolder 11 points, (F), to separate the shield plate and LOGIC unit.



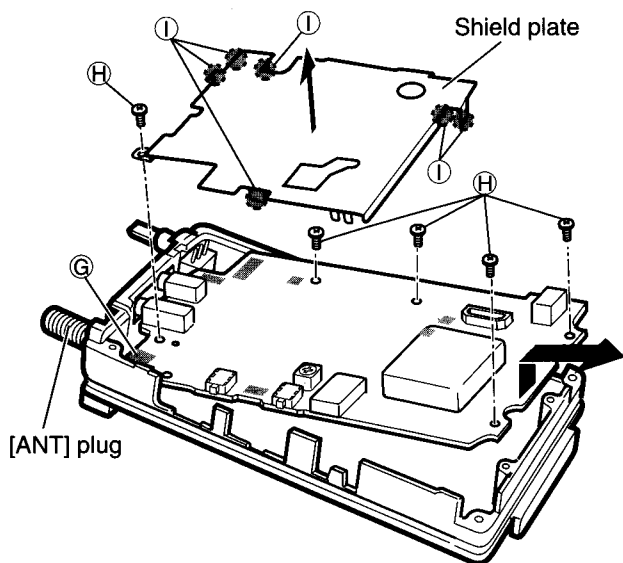
2 Removing the LOGIC unit

- ① Remove the sealing rubber.
- ② Unsolder 1 point, (D), to separate a SENSOR control.
- ③ Unscrew 3 screws, (E).
- ④ Unplug J1 to separate LOGIC unit and RF unit.
- ⑤ Remove the LOGIC unit in the direction of the arrow.



4 Removing the RF unit

- ① Unsolder 1 point, (G), to separate [ANT] plug.
- ② Unscrew 5 screws, (H), to separate the RF unit.
- ③ Remove the RF unit in the direction of the thick arrow.
- ④ Unsolder 6 points (I) to separate the shield plate, then remove it in the direction of the thin arrow.



SECTION 4 CIRCUIT DESCRIPTION

4-1 RECEIVER CIRCUITS

4-1-1 DUPLEXER CIRCUITS (RF UNIT)

The transceiver has two duplexers (low-pass and high-pass filters) on the first stage from the antenna connector to separate the RF signals into VHF and UHF signals. The low-pass filter (L10–L12, C15–C20) is for VHF (50 and 144 MHz) signals and the high-pass filter (L5, L6, C4–C8) is for UHF (440 MHz) signals.

The VHF signals are applied to the 2nd duplexer circuit for separation into 50 and 144 MHz band signals. The low-pass filter (L16–L18, C27–C32) is for 50 MHz band signals and the high-pass filter (L13–L15, C21–C24, C84) is for 144 MHz band signals.

The separated signals are applied to each RF circuit.

4-1-2 144 MHz BAND ANTENNA SWITCHING CIRCUIT (RF UNIT)

The antenna switching circuit functions as a low-pass filter while receiving. However, its impedance becomes very high while transmitting by applying a current to D302 and D303.

Thus, transmit signals are blocked from entering the receiver circuits. The antenna switching circuit employs a $1/4 \lambda$ type diode switching system. The passed signals then applied to the RF amplifier circuit.

4-1-3 50 MHz BAND RF CIRCUIT (RF UNIT)

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

The signals from the antenna switching circuit (D101, D102) are applied to the tunable bandpass filter (D104) to suppress out-of-band signals. The filtered signals are amplified at the RF amplifier (Q101) and are then applied to the 1st mixer circuit (IC601) via the tunable bandpass filter (D105–D107).

4-1-4 144 MHz BAND RF CIRCUIT (RF UNIT)

The signals from the antenna switching circuit (D302, D303) are applied to the RF amplifier (Q301) via the tunable band-pass filter (D305, D306). The amplified signals are applied to the 1st mixer circuit (IC601) after out-of-band signals are suppressed at the tunable bandpass filter (D307–D310).

Varactor diodes (D305–D310) are employed by the tunable bandpass filters to tune the center frequency of the bandpass filter. These diodes are controlled by the PLL lock voltage and obtain good image response rejection.

4-1-5 UHF RF CIRCUIT (RF UNIT)

The signals from the antenna switching circuit (D402, D403) are amplified at the RF amplifier (Q401). The amplified signals are passed through the bandpass filter (FI401) then applied to the 1st mixer circuit (IC601) after being amplified at another RF amplifier (Q402).

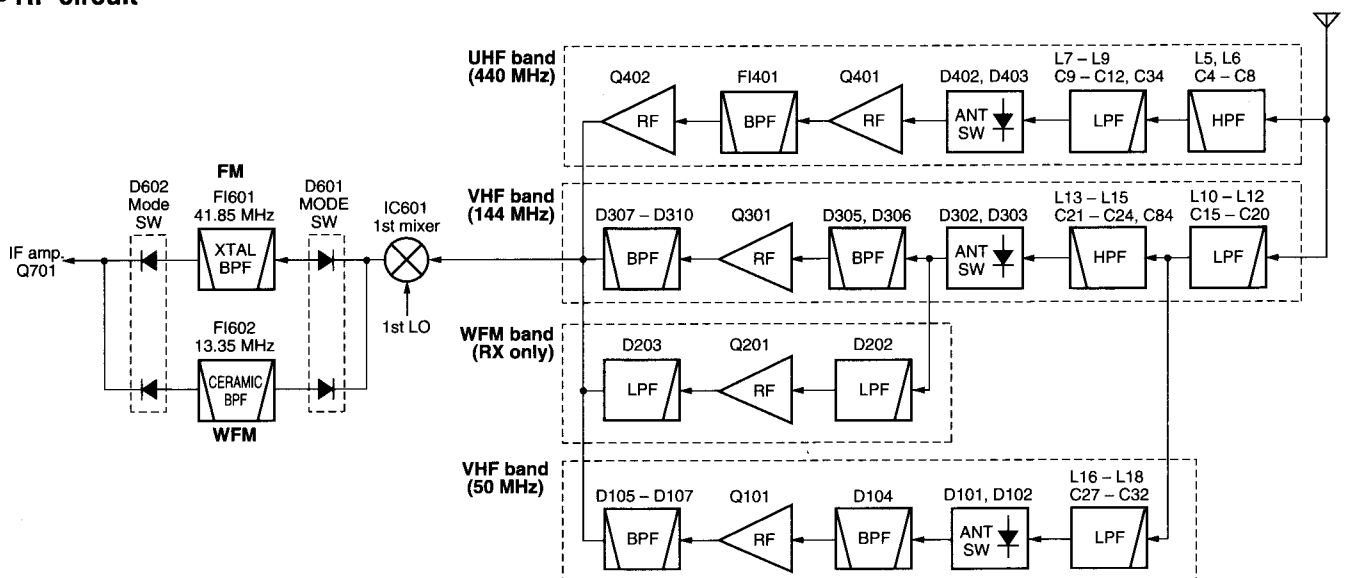
4-1-6 1st MIXER CIRCUIT (RF UNIT)

The mixer circuit converts the received signal to a fixed frequency of the 1st IF signal with a 1st LO (VCO output) frequency. By changing the PLL frequency, only the desired frequency will pass through a crystal filter at the next stage of the mixer. From this stage, the following circuits are used for all bands.

The receive signals from the 50, 144 MHz band RF or UHF RF circuit are mixed with the 1st LO signals (VCO output signals) at the 1st mixer circuit (IC601) to produce a 41.85 MHz 1st IF signal.

The 1st IF signal is applied to a crystal filter (FI601) to suppress out-of-band signals. The filtered signal is amplified at the IF amplifier (Q701) and is applied to the 2nd mixer circuit (IC701).

• RF circuit



4-1-7 2nd IF AND DEMODULATOR CIRCUITS (RF UNIT)

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

The FM IF IC (IC701) contains 2nd local oscillator, 2nd mixer, limiter amplifier, quadrature detector and S-meter detector circuits.

The 1st IF signal (41.85 MHz) from the 1st IF amplifier (Q701) is applied to the 2nd mixer section in the FM IF IC (IC701, pin 16), and is mixed with the 2nd LO signal (41.4 MHz) for conversion to a 450 kHz 2nd IF signal at the 2nd mixer section.

The 2nd IF signal (450 kHz) from the 2nd mixer section (IC701, pin 3) passes through the ceramic filter (F1701) where unwanted heterodyne signals are suppressed. It is then amplified at the limiter amplifier section (IC701, pin 5) and applied to the quadrature detector section to demodulate the 2nd IF signal into AF signals.

The demodulated AF signals are output from pin 9 of the IC and are applied to the AF circuit in the LOGIC unit.

4-1-8 AF AMPLIFIER CIRCUIT (LOGIC UNIT)

The AF circuit, including an AF filter, AF mute switch and volume controller, amplifies the demodulated signals to drive a speaker.

The demodulated AF signals (DETO signal) from the FM IF IC (RF unit; IC701, pin 9) are applied to the AF mute switch (Q361) after passing through the AF filter circuit (IC241). The switched signals are applied to the volume controller (IC202, IC203) to adjust the input level of the AF power amplifier (IC201). The level controlled AF signals are power amplified at the AF power amplifier (IC201), then applied to the internal speaker (SP1) via the [EXT SP] jack (RF unit; J2) when no plug is connected to the jack.

The AF filter circuit (IC241) removes AF signals below 300 Hz (CTCSS signals) for clear AF output and these are applied to the CPU (IC1, pin 4) for CTCSS squelch detection.

4-1-9 NOISE SQUELCH CIRCUIT (RF AND LOGIC UNITS)

A 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 of the noise components in the AF signals from the FM IF IC (RF unit; IC701, pin 9) are amplified and filtered at the active filter section (pins 7, 8). The filtered signals are rectified at the noise detector section and converted into pulse-type signals (NOISE signal) at the noise comparator section. The NOISE signal is applied to the CPU (LOGIC unit; IC1, pin 12).

The CPU detects the receive signal level from the number of the pulses, and outputs an RM/MM signal from pin 44. This signal controls the AF mute switch (LOGIC unit; Q361) to cut the AF signal line. The variable resistor (R733) adjusts the active filter input level.

4-2 TRANSMITTER CIRCUITS

4-2-1 MICROPHONE AMPLIFIER CIRCUIT (LOGIC UNIT)

The microphone amplifier circuit amplifies audio signals with +6 dB/octave pre-emphasis from the microphone to a level needed for the modulation circuit.

The AF signals from the internal microphone (MC1) or the [MIC] jack (RF unit; J1) are applied to the limiter amplifier (IC301, pin 3) which has +6 dB/octave pre-emphasis characteristics. The amplified AF signals are passed through the low-pass filter (IC301, pins 6, 7). The filtered signals are applied to the modulation circuit for each band in the RF unit via the band switch (Q304: for 144 MHz band, Q305: for UHF band, Q306: for 50 MHz band) as the MOD signal.

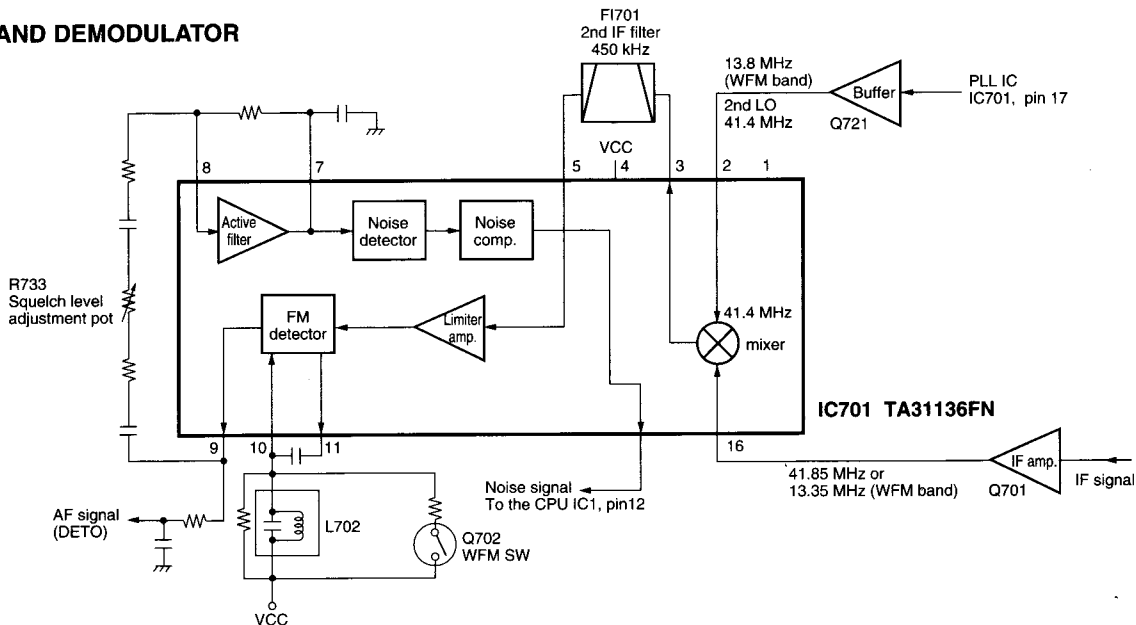
4-2-2 MODULATION CIRCUIT (VCO BOARD)

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

(1) 50 MHz band

The microphone audio signals (MOD) change the reactance

● 2nd IF AND DEMODULATOR



of a diode (D341) via the 6MOD line to modulate the oscillating signal at the 50-VCO (Q341, Q342, D341).

(2) 144 MHz band

The microphone audio signals change the reactance of a diode (D302) to modulate the oscillating signal at the 144-VCO circuit (Q301, Q302, D301, D302).

(3) UHF band

The microphone audio signals change the reactance of a diode (D321) via the USHIFT line to modulate the oscillating signal at the UHF-VCO (Q321, Q322, D321, D322).

Each VCO output is amplified at the buffer amplifier (Q303) and then applied to the TX/RX switch (RF unit; D802) via the LO amplifier (RF unit; Q812).

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

Q904 is a drive and Q905 is a power amplifier. They are designed to use all 50, 144 and 440 MHz bands commonly. They provides more than 5 W for all 50, 144 and 440 MHz bands with a 13.5 V DC power source via one power amplifier system.

An RF signal from the TX/RX switch (D802) is amplified at the buffer (Q901) and YGR (Q902: for 50 and 144 MHz band bands, Q903: for 440 MHz band) amplifiers. The amplified RF signal is applied to the drive amplifier (Q904) via the band switch (D917, D918). The amplified signal at the drive amplifier is again amplified at the power amplifier (Q905).

The power amplified signal is passed through either the high-pass (L915, L916, C928–C931 for 144 MHz band, L912, C923, C924 for 440 MHz band) or low-pass (L919, L920, C938–C940 for 50 MHz band) filter, and then applied to the antenna connector via the antenna switching and RF circuits for each band.

4-2-4 APC CIRCUIT (RF UNIT)

The APC (Automatic Power Control) circuit stabilizes transmit output power and selects HIGH and LOW power. The APC circuit consists of an APC sensor and APC control circuits.

The APC sensor (R935) detects driving current from drive voltage at the drive (Q904) and power (Q905) amplifiers. The detected current is converted into DC voltage at Q915, then applied to the APC control circuit (IC901, pin 2). The applied voltage is compared with a PSET voltage from the CPU via the D/A converter (IC4), and the APC control circuit outputs VGGC voltage from pin 1 to control the drive and power amplifiers.

When the driving current is increased, input voltage of the differential amplifier (IC901, pin 2) will be increased. In such cases, the differential amplifier output voltage (pin 1) is decreased to reduce the driving current.

4-3 PLL CIRCUITS

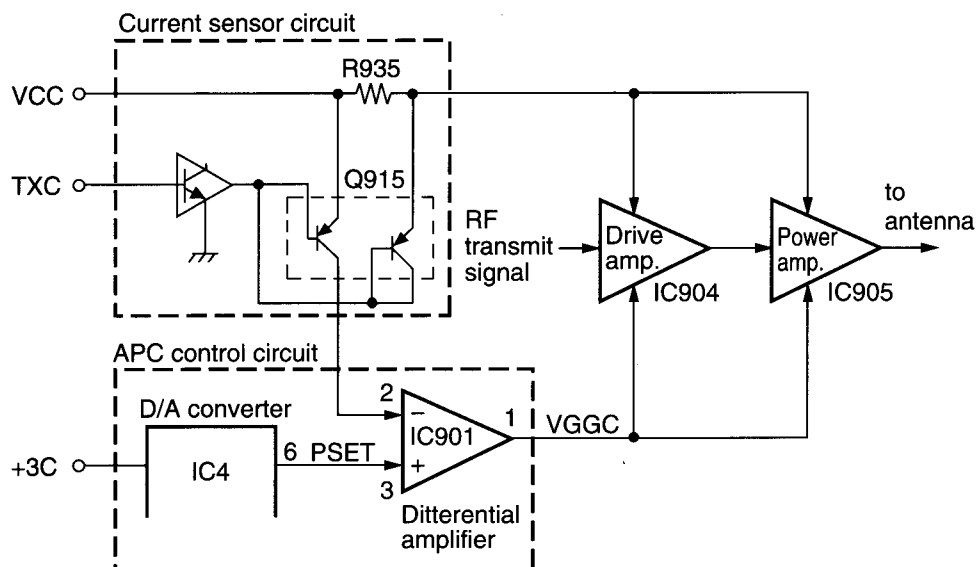
4-3-1 144 MHz BAND AND UHF BAND PLL CIRCUITS (RF UNIT)

The oscillated signal at the 144-VCO circuit (VCO board, Q301, Q302, D301, D302) or UHF-VCO (VCO board, Q321, Q322, D321, D322) is amplified at the buffer amplifiers (VCO board, Q303, Q323). The amplified signal is applied to the PLL IC (IC801, pin 19) via a buffer amplifier (Q806).

The applied signal is divided by serial data from the CPU (N-data) and phase-detected with the divided reference frequency (5 kHz) at the phase detector section in the PLL IC. The phase-detected signal is output from pin 13 and converted into DC voltage at the active filter (Q801, Q802). The converted DC voltage is fed back to the VCO board as the lock voltage (LV).

While operating in the 144 MHz band, the lock voltage is applied to the CPU (LOGIC unit; IC1) via the tune control circuit (Q803) and band switch (IC802) to track the center frequency of the tunable bandpass filters (D305–D310) as the VTUNE signal.

• APC control circuit



4-3-2 50 MHz BAND PLL CIRCUIT (RF UNIT)

The oscillated signal at the 6MVCO (VCO board, Q341, D341) is amplified at the buffer amplifiers (VCO board, Q303, Q323). The amplified signal is applied to the PLL IC (IC801, pin 2) via the buffer amplifier (Q807).

The applied signal is divided by N-data from the CPU and phase-detected with the divided reference frequency (5 kHz) then output from pin 8. The output signal is converted into DC voltage at the active filter (Q808, Q809) and is fed back to the VCO board as the lock voltage (6MLV).

While operating in the 50 MHz band, the lock voltage is

4-4 POWER SUPPLY CIRCUITS

Line	Description
HV	The voltage from the external power supply or attached battery pack.
VCC	The same voltage as the HV line (external power supply) passed through a diode (RF unit; D1).
+3CPU	Common 3 V converted from the VCC line by the +3 CPU regulator IC (LOGIC unit; IC141). The output voltage is supplied to the +3C regurator circuits, etc.
	Common 3V converted from the VCC line by the

4-5 CPU PORT ALLOCATIONS

4-5-1 CPU (IC1): LOGIC UNIT

Pin number	Port name	Description
1	VIN	Input port for the over-voltage detection from connected battery pack or external power supply.
2	REMOTE	Input port for remote control signals from an optional HM-75A microphone via the [MIC] jack.
3	SD	Input port for the S-meter voltage.
4	CTCIN	Input port for CTCSS decoded signals.
5	VTUNE	Input port for the tune voltage.
6	THERMC	Input port for the transceiver's internal temperature.
7	SBATT	Input port for the VCC voltage (connected battery voltage).
8	PDA/UL	Outputs data signals to the PLL IC. Input port for PLL unlock signal from the PLL IC (RF unit; IC801).
9	CTCOUT	Outputs CTCSS signals while transmitting.
10	BEEP	Output port for: •Beep audio signals while receiving. •DTMF signals or 1750 Hz Europe tone signal while transmitting. (according to versions)
11	PTT	Input ports for the [PTT] switch. High: While [PTT] switch is pushed.
12	NOISE	Input port for noise signal (pulse-type) from the IF IC (RF unit; IC701).
13	PLST	Outputs strobe signals to the PLL IC (RF unit; IC801).
14	DAST	Outputs strobe signals to the D/A IC (RF unit; IC4).
15	IOST	Outputs strobe signals to the I/O IC (RF unit; IC2, IC3).
16	DATA	Data bus line for the D/A IC (IC4) and I/O IC (IC2, IC3).
17	CLK	Outputs clock signal to the PLL IC (IC801), D/A IC (IC4) and I/O IC (IC2, IC3), etc. on the RF unit.
18	ESIO	Data bus line for the EEPROM (LOGIC unit; IC2).
19	CLONEOUT	Output port for the cloning signal.
20	CLONEIN	Input port for the cloning signal.
21, 22	DIUD, DICK	Input port for the up/down signal from main dial.
23	POWER	Input port for the [POWER] switch.
24	EURDEV	Outputs deviation switching signal for deviation switch (Q307).
25	H/L	Inputs TX output power control signal from [H/L] switch.
28–31	KR3–KR0	Input ports for key matrix.
32	CPUHV	Input port for the reset signal from Q151 (LOGIC unit).

Pin number	Port name	Description
33	RESET	Input port for the reset signal from IC142 (LOGIC unit).
36, 37	CPU CLOCK	Input port for clock signal.
39	PCON	Outputs +3C control signal.
40	AFON	Outputs the AF amplifier control signal for the regulator circuit.
41	BLED	Outputs BUSY LED control signal.
42	LIGHT	Outputs LCD backlight control signal.
43	MICC	Outputs the control signal for the regulator section of the mic amp (LOGIC unit; IC301).
44	RM/MM	Outputs RX mute/Mic. mute control signals.
45	BPCPI	Outputs the bias control signal for a type of battery.
47	R3C	Outputs R3 regulator control signal. High: While receiving.
48	CHGC	Outputs control signal for charger circuit (RF unit; Q4).
49–54	KS0–KS5	Output ports for key matrix.
55	CONT	Outputs LCD contrast control signal.
56	TXC	Outputs T4 regulator control signal. High: While transmitting.

4-5-2 I/O EXPANDER IC (IC2: RF UNIT)

Pin number	Port name	Description
4	Q1	Outputs VVCO3 regulator control signal (140 MHz band).
5	Q2	Outputs UVCO3 regulator control signal (UHF band).
6	Q3	Outputs 6MVCO3 regulator control signal (50 MHz band).
7	Q4	Outputs VCO shift signal for UHF, 140 MHz and 50 MHz bands.
14	Q5	Outputs transmitting control signal for a 50 MHz band.
13	Q6	Outputs the switching signal to select U-V bands when transmitting.

4-5-3 I/O EXPANDER IC (IC3: RF UNIT)

- Outputs power source ON–OFF signal while receiving.

Pin number	Port name	Description
4	Q1	Receiving 300 MHz band.
6	Q3	Receiving UHF band.
7	Q4	Receiving WFM band.
14	Q5	Receiving 440 MHz band.
13	Q6	Receiving 144 MHz band.
12	Q7	Receiving 50 MHz band.
11	Q8	Receiving WFM band.

SECTION 5 ADJUSTMENT PROCEDURES

5-1 PREPARATION

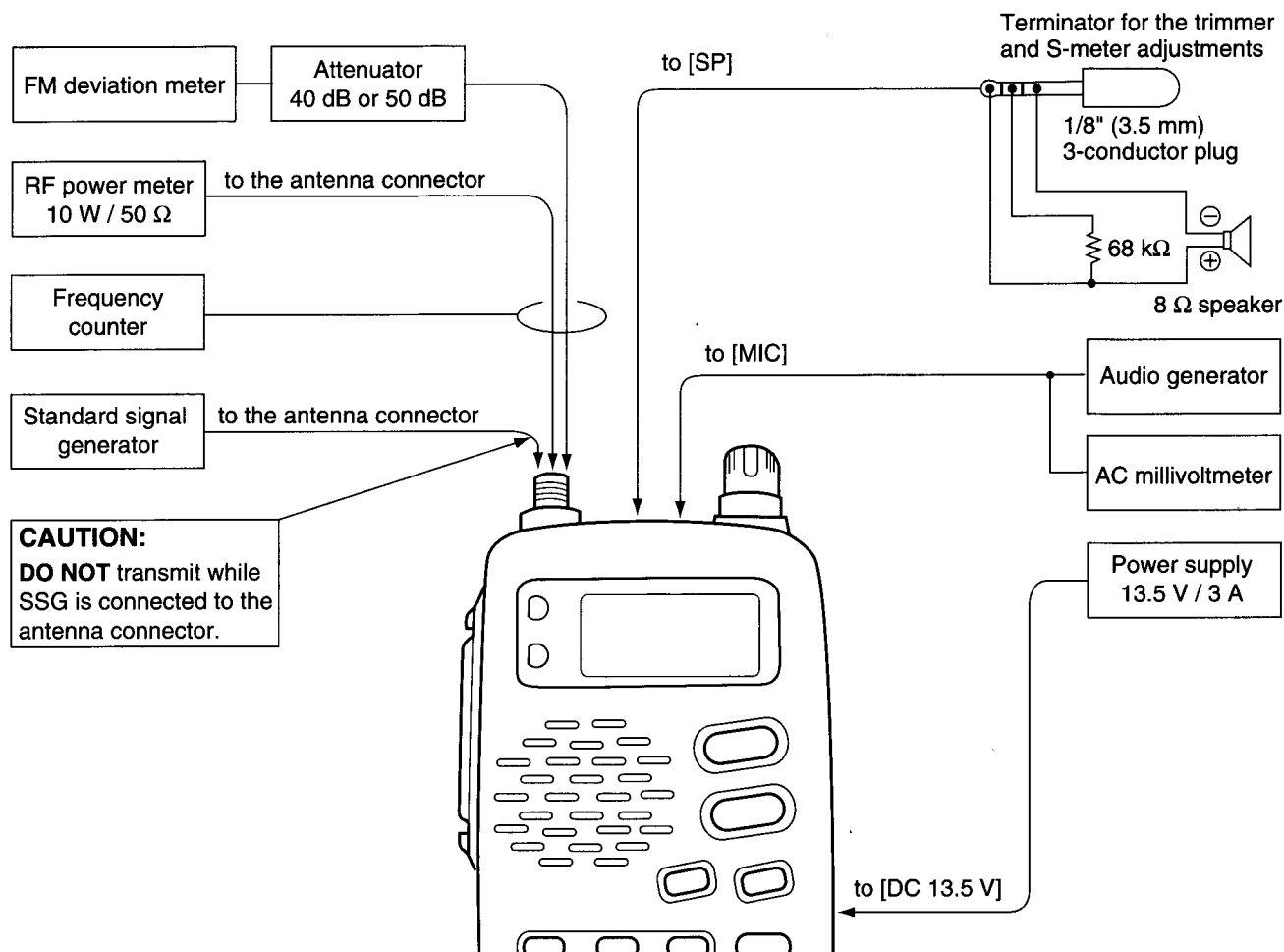
■ REQUIRED TEST EQUIPMENT

EQUIPMENT	GRADE AND RANGE	EQUIPMENT	GRADE AND RANGE
DC power supply	Output voltage : 13.5 V DC Current capacity : 3 A or more	Audio generator	Frequency range : 300–3000 Hz Output level : 1–500 mV
RF power meter (terminated type)	Measuring range : 1–10 W Frequency range : 28–500 MHz Impedance : 50 Ω SWR : Less than 1.2 : 1	Attenuator	Power attenuation : 40 or 50 dB Capacity : 10 W or more
Frequency counter	Frequency range : 28–500 MHz Frequency accuracy : ± 1 ppm or better Sensitivity : 100 mV or better	Standard signal generator (SSG)	Frequency range : 28–500 MHz Output level : 0.1 μ V–32 mV (–127 to –17 dBm)
FM deviation meter	Frequency range : 28–500 MHz Measuring range : 0 to ± 5 kHz	DC voltmeter	Input impedance : 50 k Ω /V DC or better
Digital multimeter	Input impedance : 10 M Ω /V DC or better	Oscilloscope	Frequency range : DC–20 MHz Measuring range : 0.01–20 V
		AC millivoltmeter	Measuring range : 10 mV–10 V

■ ENTERING ADJUSTMENT MODE

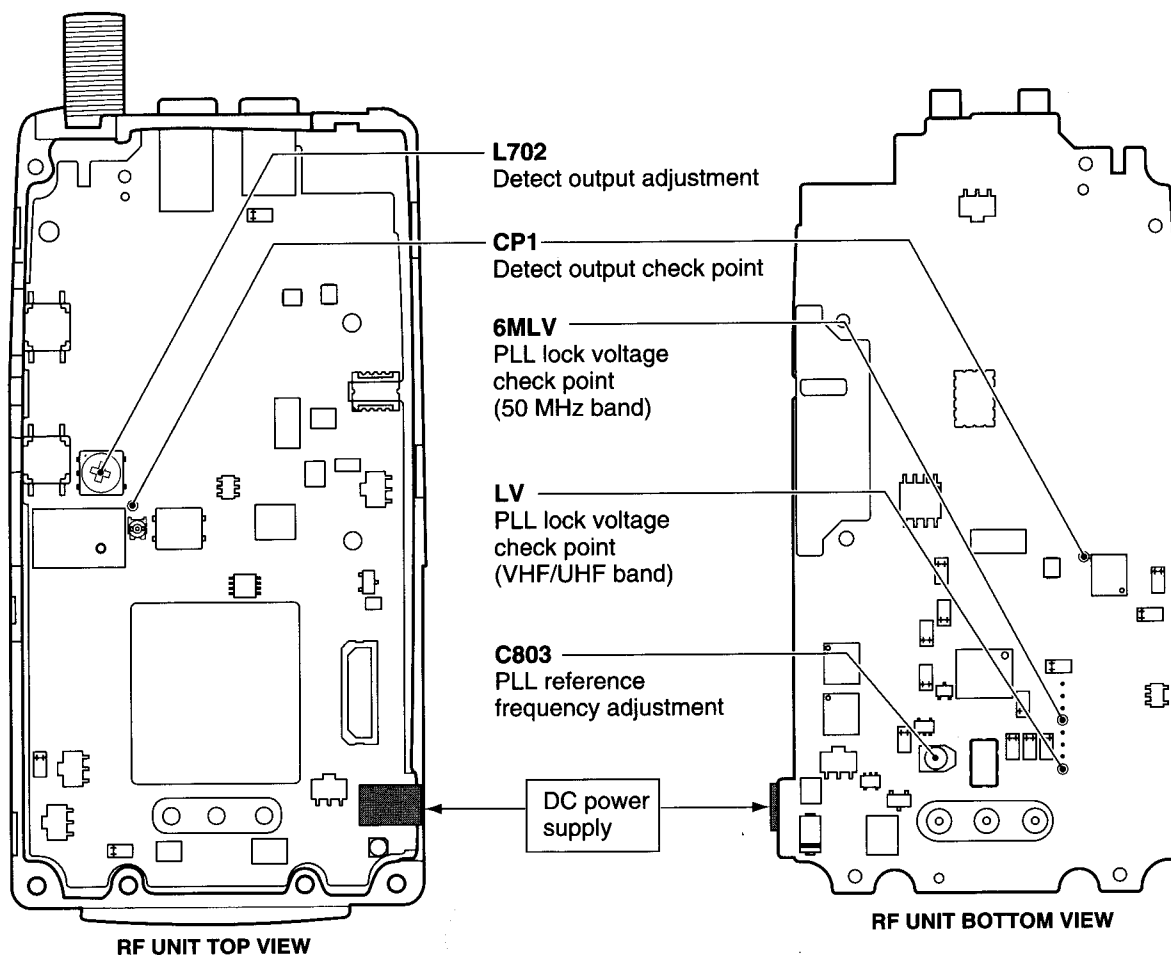
- ① Connect a 68 k Ω terminator to the [SP] jack.
- ② Push and hold the [H/L] key, then turn power ON.
Note: The frequency of the wide range appears at the display using this operation.

■ CONNECTION



5-2 PLL ADJUSTMENT

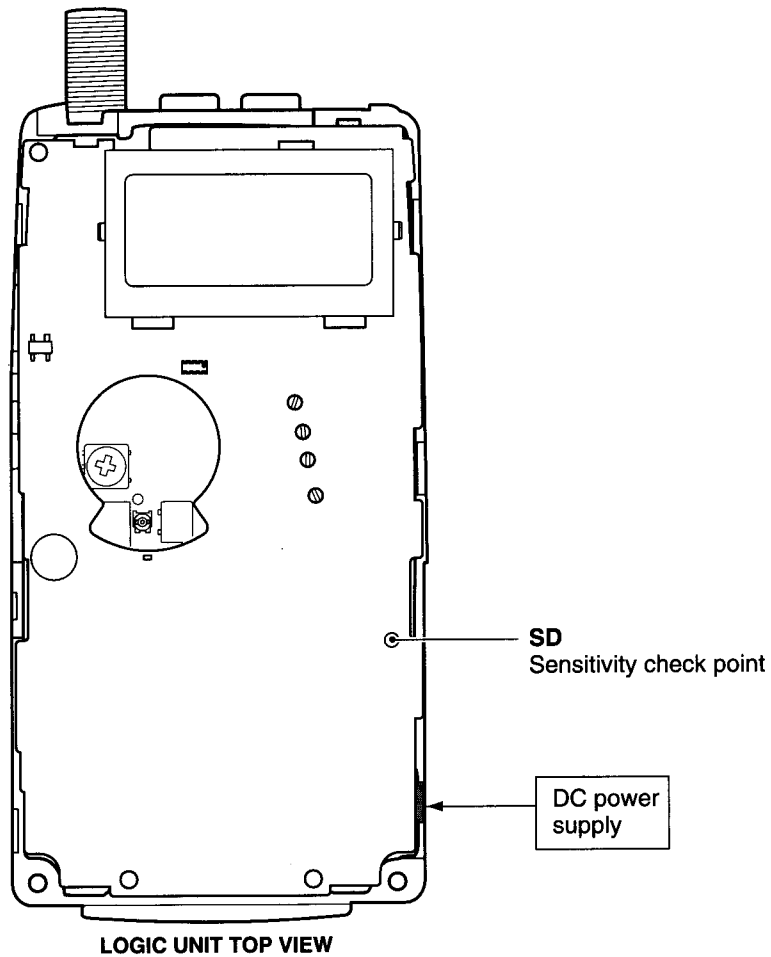
ADJUSTMENT		ADJUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT	
			UNIT	LOCATION		UNIT	ADJUST
PLL LOCK VOLTAGE	1	• Operating Frequency : 51.000 MHz • Receiving	RF	Connect a digital multimeter or an oscilloscope to 6MLV.	0.8 V–1.8 V		Verify
	2	• Transmitting			1.8 V–2.8 V		
	3	• Operating Frequency : 145.000 MHz • Receiving		Connect a digital multimeter or an oscilloscope to LV.	0.6 V–1.2 V		
	4	• Transmitting			1 V–1.6 V		
	5	• Operating Frequency : 445.000 MHz [USA] 435.000 MHz [Other] • Receiving			2.7 V–3.7 V [USA] 2.2 V–3.2 V [Other]		
		• Transmittig			2.6 V–3.6 V [USA] 2.2 V–3.2 V [Other]		
PLL REFERENCE FREQUENCY	1	• Operating Frequency : 445.000 MHz [USA] 435.000 MHz [Other] • Transmitting	Top panel	Loosely couple a frequency counter to the antenna connector.	[USA] 445.000000 MHz [Other] 435.000000 MHz	RF	C803
DETECT OUTPUT	1	• Operating Frequency : 445.000 MHz [USA] 435.000 MHz [Other] • Connect an SSG to the [ANT] connector and set as: Level : 1.0 mV (–47 dBm) Modulation : OFF • Receiving	RF	Connect a digital multimeter or an oscilloscope to check point CP1 (IC701 pin 9).	1.0 V	RF	L702



5-3 TRIMMER ADJUSTMENT

The following adjustment must be performed at "ADJUSTMENT MODE."

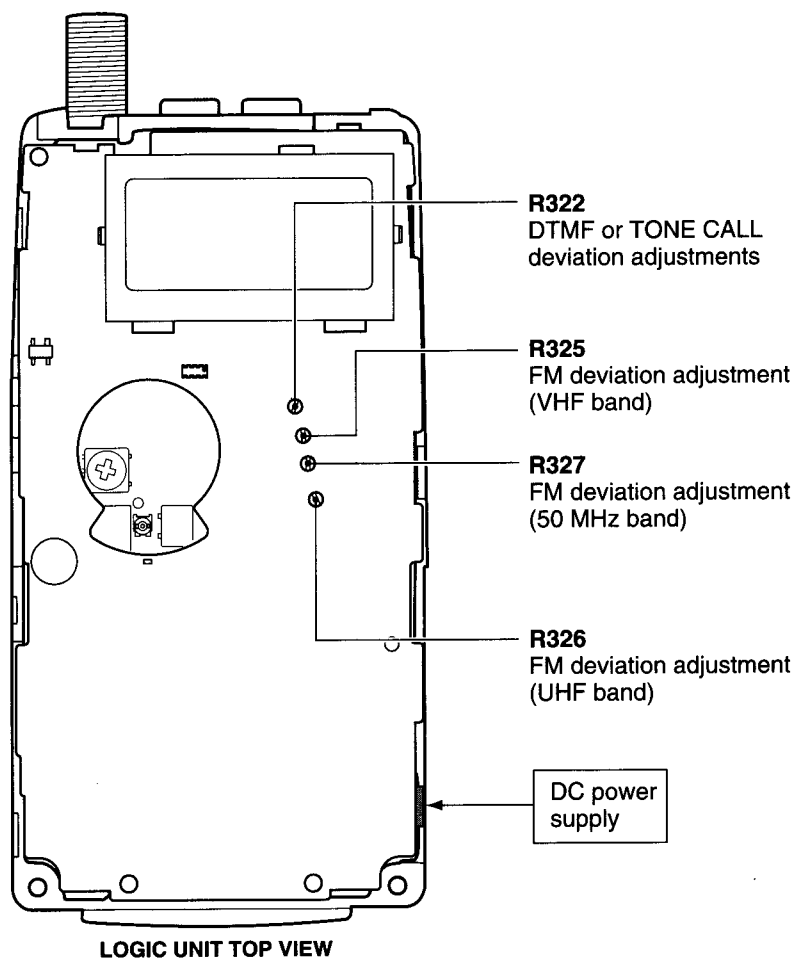
ADJUSTMENT		ADJUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT
			UNIT	LOCATION		
50 MHz SENSITIVITY	1	- Operating Frequency: 50.000 MHz - Connect an SSG to the [ANT] connector and a SINAD meter with an 8 Ω load to the [SP] jack. - Set an SSG as: - Level : 1 μV* (-107 dBm) - Modulation : 1 kHz - Deviation : 3.5 kHz - Receiving	LOGIC	Connect a multimeter to check point SD.	Maximum voltage	While receiving, turn [DIAL] to set maximum voltage and push [D] key to program into memory.
	2	- Operating Frequency: 52.000 MHz [EUR], [UK] 53.000 MHz [Other] - Receiving				
WFM SENSITIVITY	1	- Operating Frequency: 76.000 MHz - Set an SSG as: - Level : 3.2 μV* (-97 dBm) - Modulation : 1 kHz - Deviation : 52.5 kHz - Receiving	LOGIC	Connect a multimeter to check point SD.	Maximum voltage	
	2	- Operating Frequency: 107.000 MHz - Receiving				
VHF SENSITIVITY	1	- Operating Frequency: 136.000 MHz - Set an SSG as: - Level : 1 μV* (-107 dBm) - Modulation : 1 kHz - Deviation : 3.5 kHz - Receiving	LOGIC	Connect a multimeter to check point SD.	Maximum voltage	
OUTPUT POWER	1	- Operating Frequency: 50 MHz band : 52.000 MHz [Other] 51.000 MHz [Italy] 144 MHz band : 145.000 MHz - UHF band : 445.000 MHz [USA] 435.000 MHz [Other] - Output power : High - Transmitting	Top panel	Connect an RF power meter to the [ANT] connector.	5 W	While transmitting, turn [DIAL] to set power and push [D] key to program into memory.
	2	- Output power : Low - Transmitting			0.5 W	



TRIMMER ADJUSTMENT (Continued)

The following adjustment must be performed after "PLL REFERENCE FREQUENCY ADJUSTMENT" in section 5-2.

ADJUSTMENT		ADJUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT	
			UNIT	LOCATION		UNIT	ADJUST
FM DEVIATION	1	- Operating Frequency : 52.000 MHz [Other] 51.000 MHz [Italy] - Connect an audio generator to the [MIC] connector and set as: 1 kHz/95 mV - Set an FM deviation meter as: HPF : OFF LPF : 20 kHz De-emphasis : OFF Detector : (P-P)/2 - Output power : High - Push [H/L] key while transmitting. - Transmitting	Top panel	Connect an FM deviation meter to the [ANT] connector through an attenuator.	±4.5 kHz	LOGIC	R327
	2	- Operating Frequency : 145.000 MHz - Push [H/L] key while transmitting. - Transmitting			±4.5 kHz		R325
	3	- Operating Frequency : 445.000 MHz [USA] 435.000 MHz [Other] - Transmitting			±4.5 kHz		R326
DTMF DEVIATION	1	- Operating Frequency : (except Europe, UK and Italy versions.) 445.000 MHz [USA] 435.000 MHz [Other] - Push [D] key while transmitting. - Transmitting.	Top panel	Connect an FM deviation meter to the [ANT] connector through an attenuator.	±3.5 kHz	LOGIC	R322
TONE CALL DEVIATION	1	- Operating Frequency : 435.000 MHz (Europe, UK and Italy versions only) - Set an FM deviation meter as: HPF : OFF LPF : 20 kHz De-emphasis : OFF Detector : (P-P)/2 - Output power : High - Push [TONE] key while transmitting. - Transmitting.	Top panel	Connect an FM deviation meter to the [ANT] connector through an attenuator.	±3.5 kHz	LOGIC	R322
CTCSS DEVIATION	1	- Operating Frequency : 445.000 MHz [USA] 435.000 MHz [Other] - TONE frequency: 88.5 MHz [SQELCH] key: ON - Set an FM deviation meter as: HPF : OFF LPF : 3 kHz De-emphasis : OFF Detector : (P-P)/2 - No audio applied to the [MIC] jack. - Transmitting	Top panel	Connect an FM deviation meter to the [ANT] connector through an attenuator.	0.5–1.0 kHz		Verify



5-4 RECEIVER ADJUSTMENT

The following adjustment must be performed after "SENSITIVITY ADJUSTMENT."

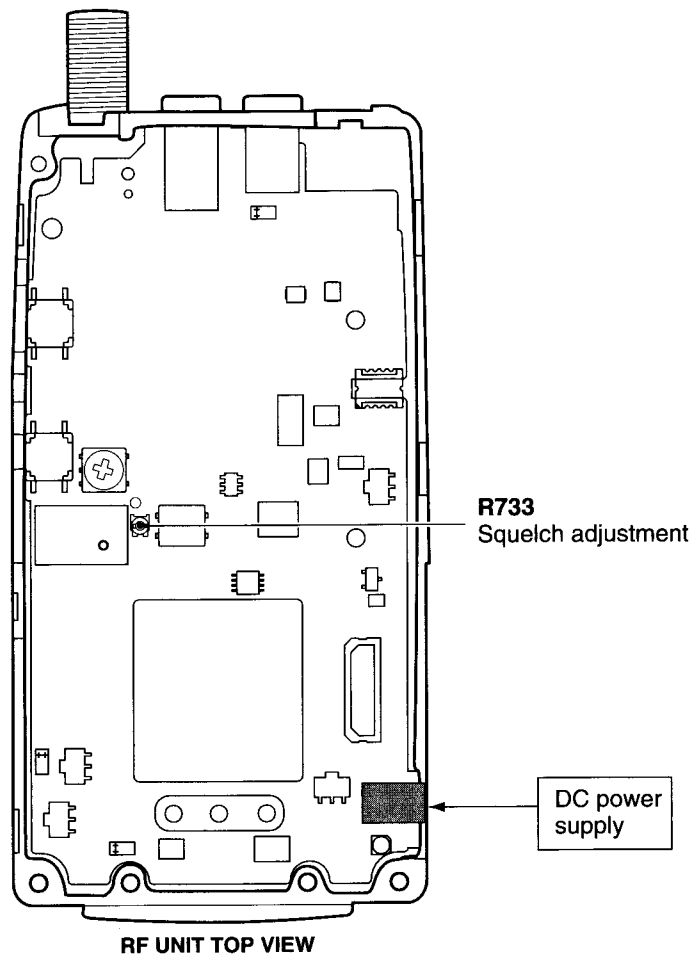
ADJUSTMENT		ADJUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT	
			UNIT	LOCATION		UNIT	ADJUST
SQUELCH LEVEL	1	- Operating Frequency: 445.000 MHz [USA] 435.000 MHz [Other] - Connect an SSG to the [ANT] connector and set as: Level : 0.1 μV* (-127 dBm) Modulation : 1 kHz Deviation : $\pm$3.5 kHz - Pre-set the R733 to maximum clockwise. - Receiving	Speaker		At the point where the AF signal just disappears	RF	R733
S-METER (50 MHz band)	1	- Operating Frequency : 52.000 MHz [USA] 51.000 MHz [Italy] - Connect an SSG to the [ANT] connector and set as: Level : 1 μV* (-106 dBm) Modulation : 1 kHz Deviation : $\pm$3.5 kHz - Connect a terminator to the [SP] jack. - Receiving	Top panel				Push and hold the [SQL] key
	2	- Set an SSG output level for the S-meter to S3. - Receiving	SSG	Output level	0.56 to 1.8 μ V (-112 to -102 dBm)		Verify
	3	- Increase an SSG output level. - Receiving	Front panel	S-meter	Full scale		Verify
(WFM band)	4	- Operating Frequency : 91.0000 MHz (WFM) - Connect an SSG to the [ANT] connector and set as: Level : 2 μV* (-101 dBm) Modulation : 1 kHz Deviation : $\pm$52.5 kHz - Connect a terminator to the [SP] jack. - Receiving	Top panel Front panel				Push and hold the [SQL] key
	5	- Increase an SSG output level. - Receiving		S-meter	Full scale		Verify
(VHF band)	6	- Operating Frequency : 145.000 MHz - Connect an SSG to the [ANT] connector and set as: Level : 0.5 μV* (-113 dBm) Modulation : 1 kHz Deviation : $\pm$3.5 kHz - Connect a terminator to the [SP] jack. - Receiving	Top panel				Push and hold the [SQL] key
	7	- Set an SSG output level for the S-meter to S4. - Receiving	SSG	Output level	0.28 to 0.89 μ V (-118 to -108dBm)		Verify
	8	- Increase an SSG output level. - Receiving	Front panel	S-meter			Verify

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

RECEIVER ADJUSTMENT (Continued)

ADJUSTMENT		ADJUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT
			UNIT	LOCATION		
(UHF band)	9	• Operating Frequency : 445.000 MHz [USA] 435.000 MHz [Other] • Connect an SSG to the [ANT] connector and set as: Level : 0.63 μV* (-111 dBm) Modulation : 1 kHz Deviation : $\pm$3.5 kHz • Connect a terminator to the [SP] jack. • Receiving	Top panel			Push and hold the [SQL] key
	10	• Set an SSG output level for the S-meter to S3. • Receiving	SSG	Output level	0.28 to 0.89 μ V (-118 to -108dBm)	Verify

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



SECTION 6 PARTS LIST

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC1	1140007090	S.IC	M38267M8L-194-GP [THA]
	1140007100	S.IC	M38267M8L-195-GP [Other]
IC2	1130007290	S.IC	24LC16BT-I/SN
IC3	1110004560	S.IC	XC6371A650PR
IC4	1130006220	S.IC	TC4W53FU (TE12L)
IC141	1180001720	S.IC	S-81332HG-KC-T1
IC142	1110004540	S.IC	S-80928ALMP-DAR-T2
IC201	1110001810	S.IC	TA7368F(TP1)
IC202	1110004520	S.IC	M5222FP 600C
IC203	1110002750	S.IC	TA75S01F (TE85R)
IC241	1110003780	S.IC	NJM2902V-TE1
IC301	1110004110	S.IC	BA4510F-T1
Q1	1590002620	S.TRANSISTOR	XP1201 (TX)
Q3	1590002620	S.TRANSISTOR	XP1201 (TX)
Q10	1590001150	S.TRANSISTOR	UN9211 (TX)
Q141	1590001140	S.TRANSISTOR	UN9210 (TX)
Q142	1590001170	S.TRANSISTOR	XP1501-(TX).AB
Q143	1590001470	S.TRANSISTOR	UN9213 (TX)
Q145	1520000460	S.TRANSISTOR	2SB1132 T100 R
Q151	1540000350	S.TRANSISTOR	2SD2216-S (TX)
Q201	1520000650	S.TRANSISTOR	2SB1201-S-TL
Q202	1590001170	S.TRANSISTOR	XP1501-(TX).AB
Q301	1590001690	S.TRANSISTOR	UN9115 (TX)
Q302	1520000430	S.TRANSISTOR	2SB1462-R (TX)
Q303	1590001150	S.TRANSISTOR	UN9211 (TX)
Q304	1550000010	S.FET	2SJ364-Q (TX)
Q305	1550000010	S.FET	2SJ364-Q (TX)
Q306	1550000010	S.FET	2SJ364-Q (TX)
Q307	1590001440	S.TRANSISTOR	UN9214 (TX)
Q308	1590001210	S.TRANSISTOR	XP5601-(TX).AB
Q361	1550000010	S.FET	2SJ364-Q (TX)
D2	1790000670	S.DIODE	SB07-03C-TB
D3	1790001250	S.DIODE	MA2S111-(TX)
D4	1790001250	S.DIODE	MA2S111-(TX)
D51	1790001250	S.DIODE	MA2S111-(TX)
D52	1790001250	S.DIODE	MA2S111-(TX) except [ITA], [THA]
D53	1160000050	S.DIODE	DAP202U T107 [ITA], [SEA]
	1750000220	S.DIODE	DA113W T107 [UK], [THA]
	1750000240	S.DIODE	DA112 T107 [EUR], [USA]
D54	1160000050	S.DIODE	DAP202U T107 except [ITA], [THA]
D55	1750000220	S.DIODE	DA113W T107 [ITA], [THA]
	1750000240	S.DIODE	DA112 T107 [USA], [SEA]
D57	1790001250	S.DIODE	MA2S111-(TX) [EUR], [UK], [ITA]
D58	1790001200	S.DIODE	MA6S121 (TX)
D59	1790001200	S.DIODE	MA6S121 (TX)
D61	1790001250	S.DIODE	MA2S111-(TX) except [ITA], [THA]
D141	1790001250	S.DIODE	MA2S111-(TX)
D143	1790001250	S.DIODE	MA2S111-(TX)
D144	1790001250	S.DIODE	MA2S111-(TX)
D151	1730002330	S.ZENER	MA8100-M (TX)
D152	1790001250	S.DIODE	MA2S111-(TX)
D304	1790000990	S.ZENER	MA8051-H (TX)
X1	6050009620	S.XTAL	CR-534 (5.039 MHz)
L1	6200006720	S.COIL	5CA-395KN-0369AQ=P3
L2	6200003550	S.COIL	MLF1608A 4R7K-T
R1	7510000910	S.THERMISTOR	NTCCF2012 4AH 473KC-T
R2	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R4	7030008280	S.RESISTOR	ERJ2GEJ 271 X (270 Ω)
R5	7030005000	S.RESISTOR	ERJ2GEJ 471 X (470 Ω)
R6	7030009160	S.RESISTOR	ERJ2GEJ 181 X (180 Ω)
R7	7030009160	S.RESISTOR	ERJ2GEJ 181 X (180 Ω)
R8	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R10	7030005220	S.RESISTOR	ERJ2GEJ 223 X (22 kΩ)
R11	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R12	7030005840	S.RESISTOR	RR0510R-473-D (47 kΩ)
R13	7030005840	S.RESISTOR	RR0510R-473-D (47 kΩ)
R14	7030005840	S.RESISTOR	RR0510R-473-D (47 kΩ)
R16	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R17	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R18	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R19	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R20	7030007250	S.RESISTOR	ERJ2GEJ 220 X (22 Ω)
R51	7410000580	S.ARRAY	EXB-V4V 224JV (220 kΩ)
R55	7410000710	S.ARRAY	EXB-V8V 224JV (220 kΩ)
R141	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R142	7030005830	S.RESISTOR	RR0510R-223-D (22 kΩ)
R143	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R144	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R145	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R146	7030005160	S.RESISTOR	ERJ2GEJ 105 X (1M Ω)
R148	7030008270	S.RESISTOR	RR0510R-104-D (100 kΩ)
R151	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R152	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R153	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R154	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R196	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R197	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R201	7030005530	S.RESISTOR	ERJ2GEJ 100 X (10 Ω)
R202	7030007270	S.RESISTOR	ERJ2GEJ 151 X (150 Ω)
R203	7030000240	S.RESISTOR	MCR10EZJH 68 Ω (680)
R204	7030000240	S.RESISTOR	MCR10EZJH 68 Ω (680)
R205	7030000240	S.RESISTOR	MCR10EZJH 68 Ω (680)
R206	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R207	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R208	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R209	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R210	7030005950	S.RESISTOR	RR0510R-123-D (12 kΩ)
R211	7030005820	S.RESISTOR	RR0510P-103-D (10 kΩ)
R212	7030005220	S.RESISTOR	ERJ2GEJ 223 X (22 kΩ)
R213	7030005830	S.RESISTOR	RR0510R-223-D (22 kΩ)
R214	7030008270	S.RESISTOR	RR0510R-104-D (100 kΩ)
R215	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R241	7030005160	S.RESISTOR	ERJ2GEJ 105 X (1M Ω)
R242	7030005170	S.RESISTOR	ERJ2GEJ 474 X (470 kΩ)
R243	7030005080	S.RESISTOR	ERJ2GEJ 823 X (82 kΩ)
R244	7030005080	S.RESISTOR	ERJ2GEJ 823 X (82 kΩ)
R245	7030005080	S.RESISTOR	ERJ2GEJ 823 X (82 kΩ)
R246	7030005310	S.RESISTOR	ERJ2GEJ 124 X (120 kΩ)
R247	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R248	7030005170	S.RESISTOR	ERJ2GEJ 474 X (470 kΩ)
R249	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R250	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R251	7030005600	S.RESISTOR	ERJ2GEJ 273 X (27 kΩ)
R252	7030006610	S.RESISTOR	ERJ2GEJ 394 X (390 kΩ)
R253	7030007350	S.RESISTOR	ERJ2GEJ 393 X (39 kΩ)
R254	7030007350	S.RESISTOR	ERJ2GEJ 393 X (39 kΩ)
R267	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R301	7030005720	S.RESISTOR	ERJ2GEJ 563 X (56 kΩ)
R302	7030008290	S.RESISTOR	ERJ2GEJ 183 X (18 kΩ)
R303	7030005600	S.RESISTOR	ERJ2GEJ 273 X (27 kΩ)
R304	7030005720	S.RESISTOR	ERJ2GEJ 563 X (56 kΩ)
R305	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R306	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R307	7030007320	S.RESISTOR	ERJ2GEJ 225 X (2.2M Ω)
R308	7030005100	S.RESISTOR	ERJ2GEJ 154 X (150 kΩ)
R309	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R310	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R311	7030005530	S.RESISTOR	ERJ2GEJ 100 X (10 Ω)
R312	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R313	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R314	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R315	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R316	7030005000	S.RESISTOR	ERJ2GEJ 471 X (470 Ω)
R317	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R318	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R319	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R320	7030005060	S.RESISTOR	ERJ2GEJ 333 X (33 kΩ)
R321	7030005290	S.RESISTOR	ERJ2GEJ 682 X (6.8 kΩ)
R322	7310004320	S.TRIMMER	RH03APAS4 47K
R323	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R324	7030005210	S.RESISTOR	ERJ2GEJ 824 X (8.2 kΩ)
R325	7310004320	S.TRIMMER	RH03APAS4 47K
R326	7310004320	S.TRIMMER	RH03APAS4 47K

S.=Surface mount

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R327	7310004320	S.TRIMMER	RH03APAS4 47K
R328	7030005170	S.RESISTOR	ERJ2GEJ 474 X (470 kΩ)
R329	7030005170	S.RESISTOR	ERJ2GEJ 474 X (470 kΩ)
R330	7030005170	S.RESISTOR	ERJ2GEJ 474 X (470 kΩ)
R331	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R332	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R333	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R334	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R335	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R336	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R361	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R362	7030005160	S.RESISTOR	ERJ2GEJ 105 X (1M Ω)
R363	7030005170	S.RESISTOR	ERJ2GEJ 474 X (470 kΩ)
C1	4550006540	S.TANTALUM	ECST1CY475R
C2	4030013850	S.CERAMIC	ECUE1E102KBQ
C3	4030012020	S.CERAMIC	GRM39 CH 270J 50PT
C4	4030012100	S.CERAMIC	GRM39 CH 240J 50PT
C5	4030013850	S.CERAMIC	ECUE1E102KBQ
C6	4550006540	S.TANTALUM	ECST1CY475R
C7	4030013850	S.CERAMIC	ECUE1E102KBQ
C8	4030012390	S.CERAMIC	GRM39 B 104K 16PT
C9	4030013850	S.CERAMIC	ECUE1E102KBQ
C10	4030004310	S.CERAMIC	GRM39 B 103K 50PT
C11	4030012390	S.CERAMIC	GRM39 B 104K 16PT
C12	4030012390	S.CERAMIC	GRM39 B 104K 16PT
C13	4030013850	S.CERAMIC	ECUE1E102KBQ
C17	4550006460	S.TANTALUM	ECST1VX225R
C90	4030013850	S.CERAMIC	ECUE1E102KBQ
C91	4030013850	S.CERAMIC	ECUE1E102KBQ
C92	4030013850	S.CERAMIC	ECUE1E102KBQ
C93	4030013850	S.CERAMIC	ECUE1E102KBQ
C101	4030013850	S.CERAMIC	ECUE1E102KBQ
C102	4030013850	S.CERAMIC	ECUE1E102KBQ
C103	4030013850	S.CERAMIC	ECUE1E102KBQ
C141	4030013850	S.CERAMIC	ECUE1E102KBQ
C142	4550006850	S.TANTALUM	ECST0GX476R
C143	4030013850	S.CERAMIC	ECUE1E102KBQ
C145	4030013850	S.CERAMIC	ECUE1E102KBQ
C146	4030012390	S.CERAMIC	GRM39 B 104K 16PT
C147	4550006630	S.TANTALUM	ECST0GY226R
C148	4030013850	S.CERAMIC	ECUE1E102KBQ
C149	4550006850	S.TANTALUM	ECST0GX476R
C150	4030004310	S.CERAMIC	GRM39 B 103K 50PT
C151	4030013850	S.CERAMIC	ECUE1E102KBQ
C152	4030012340	S.CERAMIC	GRM39 B 223K 16PT
C162	4030013850	S.CERAMIC	ECUE1E102KBQ
C201	4030012380	S.CERAMIC	GRM39 B 473K 16PT
C202	4550006340	S.TANTALUM	ECST1AY335R
C203	4030009160	S.CERAMIC	GRM39 CH 470J 50PT
C204	4030013850	S.CERAMIC	ECUE1E102KBQ
C205	4510004640	S.ELECTROLITIC	ECEV1CA470SP
C206	4510005320	S.ELECTROLITIC	ECEV0JA101SP
C207	4550006180	S.TANTALUM	ECST0GY475R
C208	4030013850	S.CERAMIC	ECUE1E102KBQ
C209	4030013850	S.CERAMIC	ECUE1E102KBQ
C210	4550006700	S.TANTALUM	ECST1AY106R
C211	4030013850	S.CERAMIC	ECUE1E102KBQ
C212	4510006960	S.ELECTROLITIC	ECEV0JA151WP
C213	4550006680	S.TANTALUM	ECST0JY156R
C214	4550006560	S.TANTALUM	ECST1CY225R
C215	4030012390	S.CERAMIC	GRM39 B 104K 16PT
C216	4030012390	S.CERAMIC	GRM39 B 104K 16PT
C217	4030012390	S.CERAMIC	GRM39 B 104K 16PT
C240	4030012270	S.CERAMIC	GRM39 B 152K 50PT
C241	4030012390	S.CERAMIC	GRM39 B 104K 16PT
C242	4030012370	S.CERAMIC	GRM39 B 393K 16PT
C243	4030012390	S.CERAMIC	GRM39 B 104K 16PT
C244	4030012390	S.CERAMIC	GRM39 B 104K 16PT
C245	4030012390	S.CERAMIC	GRM39 B 104K 16PT
C246	4030012390	S.CERAMIC	GRM39 B 104K 16PT
C247	4030009150	S.CERAMIC	GRM39 CH 101J 50PT
C248	4030012390	S.CERAMIC	GRM39 B 104K 16PT
C249	4030004310	S.CERAMIC	GRM39 B 103K 50PT
C250	4030004310	S.CERAMIC	GRM39 B 103K 50PT
C251	4030013850	S.CERAMIC	ECUE1E102KBQ
C252	4030004250	S.CERAMIC	GRM39 B 222K 50PT
C253	4030004260	S.CERAMIC	GRM39 B 272K 50PT
C301	4030004250	S.CERAMIC	GRM39 B 222K 50PT
C302	4030004280	S.CERAMIC	GRM39 B 472K 50PT
C303	4030012240	S.CERAMIC	GRM39 B 561K 50PT

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C304	4030013850	S.CERAMIC	ECUE1E102KBQ
C305	4030004250	S.CERAMIC	GRM39 B 222K 50PT
C306	4550006850	S.TANTALUM	ECST0GX476R
C307	4030013850	S.CERAMIC	ECUE1E102KBQ
C308	4030012120	S.CERAMIC	GRM39 CH 121J 50PT
C309	4030013720	S.CERAMIC	GRM39 B 224K 10PT
C310	4030003890	S.CERAMIC	GRM39 B 471K 50PT
C311	4550006180	S.TANTALUM	ECST0GY475R
C312	4030003890	S.CERAMIC	GRM39 B 471K 50PT
C313	4030004280	S.CERAMIC	GRM39 B 472K 50PT
C314	4030013850	S.CERAMIC	ECUE1E102KBQ
C315	4030013850	S.CERAMIC	ECUE1E102KBQ
C316	4550006180	S.TANTALUM	ECST0GY475R
C317	4030012380	S.CERAMIC	GRM39 B 473K 16PT
C318	4030004310	S.CERAMIC	GRM39 B 103K 50PT
C319	4030003890	S.CERAMIC	GRM39 B 471K 50PT
C320	4030013850	S.CERAMIC	ECUE1E102KBQ
C321	4030013850	S.CERAMIC	ECUE1E102KBQ
C322	4030013850	S.CERAMIC	ECUE1E102KBQ
C323	4030013850	S.CERAMIC	ECUE1E102KBQ
C324	4030013850	S.CERAMIC	ECUE1E102KBQ
C325	4030013850	S.CERAMIC	ECUE1E102KBQ
C326	4030013850	S.CERAMIC	ECUE1E102KBQ
C361	4030012380	S.CERAMIC	GRM39 B 473K 16PT
C362	4030013850	S.CERAMIC	ECUE1E102KBQ
C901	4030013850	S.CERAMIC	ECUE1E102KBQ
C903	4030013850	S.CERAMIC	ECUE1E102KBQ
C904	4030013850	S.CERAMIC	ECUE1E102KBQ
C906	4030013850	S.CERAMIC	ECUE1E102KBQ
C907	4030013850	S.CERAMIC	ECUE1E102KBQ
C908	4030013850	S.CERAMIC	ECUE1E102KBQ
C909	4030013850	S.CERAMIC	ECUE1E102KBQ
C910	4030013850	S.CERAMIC	ECUE1E102KBQ
C912	4030013850	S.CERAMIC	ECUE1E102KBQ
C913	4030013850	S.CERAMIC	ECUE1E102KBQ
C914	4030013850	S.CERAMIC	ECUE1E102KBQ
C915	4030013850	S.CERAMIC	ECUE1E102KBQ
C916	4030013850	S.CERAMIC	ECUE1E102KBQ
C917	4030013850	S.CERAMIC	ECUE1E102KBQ
C918	4030013850	S.CERAMIC	ECUE1E102KBQ
C919	4030012390	S.CERAMIC	GRM39 B 104K 16PT
C920	4030013850	S.CERAMIC	ECUE1E102KBQ
C921	4030013850	S.CERAMIC	ECUE1E102KBQ
C922	4030013850	S.CERAMIC	ECUE1E102KBQ
DS1	5010000160	S.LED	LNJ310M6URA
DS2	5010000160	S.LED	LNJ310M6URA
DS3	5010000150	S.LED	LT1EP53A
DS4	5030001550	LCD	LM-1526B
J1	6510019860	S.CONNECTOR	AXK6S40645P
W2	7030003860	S.JUMPER	ERJ3GE JPW V
MC1	7700002310	MICROPHONE	EM-140
EP1	910049695	PCB	B 5031E
EP2	8930046030	LCD CONTACT	SRCN-1903-SP-N-W

S.=Surface mount

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC2	1130007510	S.IC	BU4094BCFV-E1
IC3	1130007510	S.IC	BU4094BCFV-E1
IC4	1110004530	S.IC	M62368GP 70ED
IC5	1180001240	S.IC	S-81335HG-KI-T1
IC501	1110003370	S.IC	μPC2748T-E3
IC601	1110004020	S.IC	μPC2757T-E3
IC701	1110003490	S.IC	TA31136FN (D EL)
IC751	1130004200	S.IC	TC4S66F (TE85R)
IC801	1130007610	S.IC	μPD3140GS-E1 (DS8)
IC802	1130006220	S.IC	TC4W53FU (TE12L)
IC901	1110002700	S.IC	NJM2904M-T1
IC902	1130007280	S.IC	TC7S32FU(TE85R)
Q2	1540000350	S.TRANSISTOR	2SD2216-S (TX)
Q3	1520000460	S.TRANSISTOR	2SB1132 T100 R
Q4	1520000460	S.TRANSISTOR	2SB1132 T100 R
Q5	1590001140	S.TRANSISTOR	UN9210 (TX)
Q6	1590002580	S.FET	HAT1024R-EL
Q7	1590001170	S.TRANSISTOR	XP1501-(TX).AB
Q8	1520000460	S.TRANSISTOR	2SB1132 T100 R
Q9	1590001650	S.TRANSISTOR	XP4601 (TX)
Q10	1590001650	S.TRANSISTOR	XP4601 (TX)
Q11	1590001650	S.TRANSISTOR	XP4601 (TX)
Q12	1590001650	S.TRANSISTOR	XP4601 (TX)
Q13	1590001150	S.TRANSISTOR	UN9211 (TX)
Q101	1530002560	S.TRANSISTOR	2SC4403-3-TL
Q201	1580000700	S.FET	3SK292 (TE85R)
Q202	1590001690	S.TRANSISTOR	UN9115 (TX)
Q301	1580000690	S.FET	3SK291 (TE85R)
Q302	1590002380	S.TRANSISTOR	XP1115 (TX)
Q303	1590001690	S.TRANSISTOR	UN9115 (TX)
Q401	1530002920	S.TRANSISTOR	2SC4226-T2 R25
Q402	1530002560	S.TRANSISTOR	2SC4403-3-TL
Q403	1590001690	S.TRANSISTOR	UN9115 (TX)
Q501	1530002930	S.TRANSISTOR	2SC4228(M)-T1 R45
Q502	1590002380	S.TRANSISTOR	XP1115 (TX)
Q601	1530002560	S.TRANSISTOR	2SC4403-3-TL
Q602	1590001690	S.TRANSISTOR	UN9115 (TX)
Q603	1590001140	S.TRANSISTOR	UN9210 (TX)
Q701	1530002600	S.TRANSISTOR	2SC4215-O (TE85R)
Q702	1590001690	S.TRANSISTOR	UN9115 (TX)
Q721	1530002600	S.TRANSISTOR	2SC4215-O (TE85R)
Q751	1590001170	S.TRANSISTOR	XP1501-(TX).AB
Q752	1540000350	S.TRANSISTOR	2SD2216-S (TX)
Q753	1590001690	S.TRANSISTOR	UN9115 (TX)
Q754	1540000350	S.TRANSISTOR	2SD2216-S (TX)
Q801	1560000540	S.FET	2SK880-Y (TE85R)
Q802	1530003000	S.TRANSISTOR	2SC4117-BL (TE85R)
Q803	1560000540	S.FET	2SK880-Y (TE85R)
Q804	1590001690	S.TRANSISTOR	UN9115 (TX)
Q805	1590002380	S.TRANSISTOR	XP1115 (TX)
Q806	1530003310	S.TRANSISTOR	2SC5107-O (TE85R)
Q807	1530003310	S.TRANSISTOR	2SC5107-O (TE85R)
Q808	1560000540	S.FET	2SK880-Y (TE85R)
Q809	1530003000	S.TRANSISTOR	2SC4117-BL (TE85R)
Q810	1590001180	S.TRANSISTOR	XP1210 (TX)
Q811	1590001980	S.TRANSISTOR	XP4315 (TX)
Q812	1530002920	S.TRANSISTOR	2SC4226-T2 R25
Q813	1560000540	S.FET	2SK880-Y (TE85R)
Q901	1530003310	S.TRANSISTOR	2SC5107-O (TE85R)
Q902	1530000371	S.TRANSISTOR	2SC3356 R25-T2B
Q903	1530000371	S.TRANSISTOR	2SC3356 R25-T2B
Q904	1560001020	S.FET	2SK2973 (MTS101P)
Q905	1560001030	S.FET	2SK2975 (MTS103)
Q906	1540000350	S.TRANSISTOR	2SD2216-S (TX)
Q907	1520000460	S.TRANSISTOR	2SB1132 T100 R
Q908	1590001150	S.TRANSISTOR	UN9211 (TX)
Q909	1510000670	S.TRANSISTOR	2SA1588-GR (TE85R)
Q911	1510000670	S.TRANSISTOR	2SA1588-GR (TE85R)
Q913	1510000670	S.TRANSISTOR	2SA1588-GR (TE85R)
Q914	1590001860	S.TRANSISTOR	UN9215 (TX)
Q915	1590002160	S.TRANSISTOR	XP6401- (TX)
Q916	1590001150	S.TRANSISTOR	UN9211 (TX)
Q917	1590001150	S.TRANSISTOR	UN9211 (TX)
Q918	1590001860	S.TRANSISTOR	UN9215 (TX)
Q919	1590001860	S.TRANSISTOR	UN9215 (TX)
Q920	1590001860	S.TRANSISTOR	UN9215 (TX)
Q921	1590001860	S.TRANSISTOR	UN9215 (TX)
D1	1750000540	S.DIODE	RB060L-40 TE-25
D3	1790001250	S.DIODE	MA2S111-(TX)

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
D4	1790001240	S.DIODE	MA2S728-(TX)
D5	1790000860	S.DIODE	MA133 (TX)
D6	1790000670	S.DIODE	SB07-03C-TB
D101	1710000870	S.DIODE	HVU131TRF
D102	1710000870	S.DIODE	HVU131TRF
D104	1720000370	S.VARICAP	HVU350TRF
D105	1720000370	S.VARICAP	HVU350TRF
D106	1720000370	S.VARICAP	HVU350TRF
D107	1720000370	S.VARICAP	HVU350TRF
D108	1790001260	S.DIODE	MA2S077-(TX)
D201	1790001260	S.DIODE	MA2S077-(TX)
D202	1720000370	S.VARICAP	HVU350TRF
D203	1720000370	S.VARICAP	HVU350TRF
D204	1790001260	S.DIODE	MA2S077-(TX)
D301	1750000530	S.DIODE	1SV271 (TPH3)
D302	1790001260	S.DIODE	MA2S077-(TX)
D303	1790001260	S.DIODE	MA2S077-(TX)
D304	1790001260	S.DIODE	MA2S077-(TX)
D305	1790001260	S.DIODE	MA2S077-(TX)
D306	1720000370	S.VARICAP	HVU350TRF
D307	1790001260	S.DIODE	MA2S077-(TX)
D308	1790001260	S.DIODE	MA2S077-(TX)
D309	1720000370	S.VARICAP	HVU350TRF
D310	1720000370	S.VARICAP	HVU350TRF
D311	1790001260	S.DIODE	MA2S077-(TX)
D402	1790001260	S.DIODE	MA2S077-(TX)
D403	1790001260	S.DIODE	MA2S077-(TX)
D404	1790001260	S.DIODE	MA2S077-(TX)
D405	1790001260	S.DIODE	MA2S077-(TX)
D501	1790001260	S.DIODE	MA2S077-(TX)
D502	1790001260	S.DIODE	MA2S077-(TX)
D503	1790001260	S.DIODE	MA2S077-(TX)
D504	1790001260	S.DIODE	MA2S077-(TX)
D505	1790001260	S.DIODE	MA2S077-(TX)
D506	1790000850	S.DIODE	MA132WK(TX)
D507	1790001260	S.DIODE	MA2S077-(TX)
D601	1750000360	S.DIODE	1SS364(TE85L)
D602	1750000360	S.DIODE	1SS364(TE85L)
D701	1750000360	S.DIODE	1SS364(TE85L)
D702	1750000360	S.DIODE	1SS364(TE85L)
D703	1790000860	S.DIODE	MA133 (TX)
D801	1750000360	S.DIODE	1SS364(TE85L)
D802	1790001260	S.DIODE	MA2S077-(TX)
D905	1750000530	S.DIODE	1SV271 (TPH3)
D906	1750000580	S.DIODE	1SV307 (TPH3)
D908	1790000850	S.DIODE	MA132WK (TX)
D909	1750000580	S.DIODE	1SV307 (TPH3)
D910	1750000530	S.DIODE	1SV271 (TPH3)
D911	1750000580	S.DIODE	1SV307 (TPH3)
D912	1790000860	S.DIODE	MA133 (TX)
D913	1750000530	S.DIODE	1SV271 (TPH3)
D914	1750000580	S.DIODE	1SV307 (TPH3)
D917	1790001260	S.DIODE	MA2S077-(TX)
D918	1750000580	S.DIODE	1SV307 (TPH3)
D919	1750000530	S.DIODE	1SV271 (TPH3)
FI401	2040001020	S.SAW	EFCH445MWNP1 [USA]
	2040001000	S.SAW	EFCH435MWNP1 [Other]
FI601	2010002170	S.XTAL	FL-275 (41.850 MHz)
FI602	2020001500	S.CERAMIC	SFECV13.35MA
FI701	2020001480	S.CERAMIC	PBFC450R15DR
L1	6200007760	S.COIL	LQN21A 82NJ04
L2	6200007670	S.COIL	LQN21A 10NJ04
L3	6200007670	S.COIL	LQN21A 10NJ04
L5	6200008340	S.COIL	0.26-1.1-5TR 19.5N
L6	6200008230	S.COIL	0.30-1.3-5TL 22N
L7	6200008240	S.COIL	0.30-0.9-5TL 14N
L8	6200008230	S.COIL	0.30-1.3-5TL 22N
L9	6200008250	S.COIL	0.30-0.9-7TL 21N
L10	6200008150	S.COIL	0.35-1.6-7TL 44N
L11	6200008300	S.COIL	0.35-1.6-9TL 65N
L12	6200008260	S.COIL	0.30-1.7-8TL 60N
L13	6200007800	S.COIL	LQN21A R18J04
L14	6200008180	S.COIL	0.25-1.9-10TL 107N
L15	6200008190	S.COIL	0.25-1.9-8TL 80N
L16	6200008390	S.COIL	0.25-1.9-9TL
L17	6200008360	S.COIL	0.25-1.9-13TL
L18	6200008360	S.COIL	0.25-1.9-13TL
L52	6200005490	S.COIL	NL 322522T-331J
L53	6200003640	S.COIL	MLF1608K 100K-T

S.=Surface mount

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
L54	6200008420	S.COIL	HF50ACC 453215P-T
L55	6200003590	S.COIL	EXCCL3225U1
L56	6200003590	S.COIL	EXCCL3225U1
L57	6200003640	S.COIL	MLF1608K 100K-T
L101	6200007790	S.COIL	LQN21A R15J04
L102	6200007790	S.COIL	LQN21A R15J04
L105	6200007790	S.COIL	LQN21A R15J04
L108	6200007790	S.COIL	LQN21A R15J04
L109	6200007800	S.COIL	LQN21A R18J04
L110	6200007800	S.COIL	LQN21A R18J04
L201	6200007050	S.COIL	ELJND 27NKF
L202	6200007130	S.COIL	ELJND R15J 0.15U
L203	6200007130	S.COIL	ELJND R15J 0.15U
L204	6200007130	S.COIL	ELJND R15J 0.15U
L205	6200007130	S.COIL	ELJND R15J 0.15U
L206	6200007820	S.COIL	ELJND R33J 0.33U
L301	6200007750	S.COIL	LQN21A 56NJ04
L302	6200007750	S.COIL	LQN21A 56NJ04
L303	6200007710	S.COIL	LQN21A 27NJ04
L304	6200008090	S.COIL	LQN21A 68NJ04
L305	6200007770	S.COIL	LQN21A R10J04
L306	6200007770	S.COIL	LQN21A R10J04
L401	6200007700	S.COIL	LQN21A 22NJ04
L402	6200007690	S.COIL	LQN21A 18NJ04
L403	6200005680	S.COIL	ELJRE 15NG-F
L404	6200005690	S.COIL	ELJRE 18NG-F
L405	6200005670	S.COIL	ELJRE 12NG-F
L406	6200005670	S.COIL	ELJRE 12NG-F
L501	6200005650	S.COIL	ELJRE 8N2Z-F
L502	6200005660	S.COIL	ELJRE 10NG-F
L503	6200005660	S.COIL	ELJRE 10NG-F
L504	6200005700	S.COIL	ELJRE 22NG-F
L505	6200005700	S.COIL	ELJRE 22NG-F
L506	6200005740	S.COIL	ELJRE 47NG-F
L602	6200005190	S.COIL	MLF1608D R56K-T
L701	6200002710	S.COIL	ELJFC 1R8K-F
L702	6150004840	S.COIL	LS-510 (taping)
L721	6200004600	S.COIL	MLF1608D R15K-T
L722	6200004940	S.COIL	MLF1608D R27K-T
L723	6200005140	S.COIL	MLF1608D R33K-T
L724	6200008070	S.COIL	MLF1608E 6R8K 6.8U
L801	6200003550	S.COIL	MLF1608A 4R7K-T
L802	6200003550	S.COIL	MLF1608A 4R7K-T
L803	6200005710	S.COIL	ELJRE 27NG-F
L804	6200006780	S.COIL	ELJRE 1N8Z-F
L902	6200005680	S.COIL	ELJRE 15NG-F
L903	6200004470	S.COIL	MLF1608D R12K-T
L905	6200007680	S.COIL	LQN21A 12NJ04
L906	6200003590	S.COIL	EXCCL3225U1
L907	6200003590	S.COIL	EXCCL3225U1
L908	6200007810	S.COIL	LQN 1H 95NK04
L909	6200005580	S.COIL	ELJRE 2N2Z-F
L911	6200008170	S.COIL	0.35-1.6-8TL 54N
L912	6200008370	S.COIL	0.40-1.3-2TL [USA]
	6200008200	S.COIL	0.40-1.4-2TL [Other]
L914	6200003300	S.COIL	ELJNC R22K-F
L915	6200008210	S.COIL	0.45-1.5-5TL 23.2N
L916	6200008190	S.COIL	0.25-1.9-8TL 80N
L917	6200008400	S.COIL	0.35-1.6-6TL 36N
L918	6200003300	S.COIL	ELJNC R22K-F
L919	6200008220	S.COIL	0.40-1.4-5TR 21N
L920	6200008390	S.COIL	0.25-1.9-9TL
L921	6200004480	S.COIL	MLF1608D R82K-T
L922	6200003300	S.COIL	ELJNC R22K-F
L923	6200004480	S.COIL	MLF1608D R82K-T
L924	6200004480	S.COIL	MLF1608D R82K-T
L925	6200004480	S.COIL	MLF1608D R82K-T
L926	6200004480	S.COIL	MLF1608D R82K-T
L928	6200007800	S.COIL	LQN21A R18J04
L929	6200006990	S.COIL	ELJRE 56NG-F
L930	6200008380	S.COIL	0.28-1.0-11TR 42N
L931	6200003640	S.COIL	MLF1608K 100K-T
L932	6200004480	S.COIL	MLF1608D R82K-T
L933	6200004480	S.COIL	MLF1608D R82K-T
L934	6200005670	S.COIL	ELJRE 12NG-F
X801	6050010160	S.XTAL	CR-583 (13.800 MHz)
R1	7030000330	S.RESISTOR	MCR10EZHZ 390 Ω (391)
R2	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R6	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R7	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R8	7030000180	S.RESISTOR	MCR10EZHZ 22 Ω (220)
R9	7030000180	S.RESISTOR	MCR10EZHZ 22 Ω (220)
R10	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R11	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R12	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R13	7510000910	S.THERMISTOR	NTCCF2012 4AH 473K-T
R14	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R15	7030008260	S.RESISTOR	RR0510R-393-D (39 kΩ)
R16	7030005830	S.RESISTOR	RR0510R-223-D (22 kΩ)
R17	7030008260	S.RESISTOR	RR0510R-393-D (39 kΩ)
R18	7030005830	S.RESISTOR	RR0510R-223-D (22 kΩ)
R19	7030008260	S.RESISTOR	RR0510R-393-D (39 kΩ)
R20	7030005830	S.RESISTOR	RR0510R-223-D (22 kΩ)
R21	7030008260	S.RESISTOR	RR0510R-393-D (39 kΩ)
R22	7030005830	S.RESISTOR	RR0510R-223-D (22 kΩ)
R103	7030005720	S.RESISTOR	ERJ2GEJ 563 X (56 kΩ)
R106	7030005030	S.RESISTOR	ERJ2GEJ 152 X (1.5 kΩ)
R107	7030005170	S.RESISTOR	ERJ2GEJ 474 X (470 kΩ)
R109	7030005170	S.RESISTOR	ERJ2GEJ 474 X (470 kΩ)
R110	7030005170	S.RESISTOR	ERJ2GEJ 474 X (470 kΩ)
R111	7030005580	S.RESISTOR	ERJ2GEJ 560 X (56 Ω)
R112	7030005170	S.RESISTOR	ERJ2GEJ 474 X (470 kΩ)
R113	7030005000	S.RESISTOR	ERJ2GEJ 471 X (470 Ω)
R201	7030005080	S.RESISTOR	ERJ2GEJ 823 X (82 kΩ)
R202	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R203	7030005310	S.RESISTOR	ERJ2GEJ 124 X (120 kΩ)
R204	7030005220	S.RESISTOR	ERJ2GEJ 223 X (22 kΩ)
R205	7030005160	S.RESISTOR	ERJ2GEJ 105 X (1 MΩ)
R206	7030005530	S.RESISTOR	ERJ2GEJ 100 X (10 Ω)
R207	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R208	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R209	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R210	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R301	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R302	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R303	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R304	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R305	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R306	7030005310	S.RESISTOR	ERJ2GEJ 124 X (120 kΩ)
R307	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R308	7030004970	S.RESISTOR	ERJ2GEJ 470 X (47 Ω)
R309	7030004970	S.RESISTOR	ERJ2GEJ 470 X (47 Ω)
R310	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R311	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R312	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ) [USA]
	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ) [Other]
R313	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R314	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R315	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R316	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R402	7030007300	S.RESISTOR	ERJ2GEJ 332 X (3.3 kΩ)
R403	7030007300	S.RESISTOR	ERJ2GEJ 332 X (3.3 kΩ)
R404	7030005060	S.RESISTOR	ERJ2GEJ 333 X (33 kΩ)
R409	7030007270	S.RESISTOR	ERJ2GEJ 151 X (150 Ω)
R410	7030004990	S.RESISTOR	ERJ2GEJ 221 X (220 Ω)
R411	7030007280	S.RESISTOR	ERJ2GEJ 331 X (330 Ω)
R412	7030005070	S.RESISTOR	ERJ2GEJ 683 X (68 kΩ)
R413	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R501	7030007300	S.RESISTOR	ERJ2GEJ 332 X (3.3 kΩ)
R502	7030005060	S.RESISTOR	ERJ2GEJ 333 X (33 kΩ)
R503	7030007280	S.RESISTOR	ERJ2GEJ 331 X (330 Ω)
R504	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R505	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R506	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R507	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R508	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R509	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R601	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R602	7030005310	S.RESISTOR	ERJ2GEJ 124 X (120 kΩ)
R603	7030005100	S.RESISTOR	ERJ2GEJ 154 X (150 kΩ)
R604	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R605	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R606	7030007280	S.RESISTOR	ERJ2GEJ 331 X (330 Ω)
R609	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R610	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R611	7030005030	S.RESISTOR	ERJ2GEJ 152 X (1.5 kΩ)
R612	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R613	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R614	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R701	7030005000	S.RESISTOR	ERJ2GEJ 471 X (470 Ω)
R702	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)

S.=Surface mount

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION
R706	7030005050	S.RESISTOR ERJ2GEJ 103 X (10 kΩ)
R713	7030008010	S.RESISTOR ERJ2GEJ 123X
R714	7030008010	S.RESISTOR ERJ2GEJ 123X
R716	7030008010	S.RESISTOR ERJ2GEJ 123X
R717	7030005120	S.RESISTOR ERJ2GEJ 102 X (1 kΩ)
R718	7030008010	S.RESISTOR ERJ2GEJ 123X
R719	7030008010	S.RESISTOR ERJ2GEJ 123X
R721	7030005240	S.RESISTOR ERJ2GEJ 473 X (47 kΩ)
R723	7030005000	S.RESISTOR ERJ2GEJ 471 X (470 Ω)
R725	7030004980	S.RESISTOR ERJ2GEJ 101 X (100 Ω)
R726	7030005240	S.RESISTOR ERJ2GEJ 473 X (47 kΩ)
R727	7030005220	S.RESISTOR ERJ2GEJ 223 X (22 kΩ)
R728	7030007290	S.RESISTOR ERJ2GEJ 222 X (2.2 kΩ)
R729	7030008400	S.RESISTOR ERJ2GEJ 182 X (1.8 kΩ)
R730	7030005110	S.RESISTOR ERJ2GEJ 224 X (220 kΩ)
R731	7030008300	S.RESISTOR ERJ2GEJ 184 X (180 kΩ)
R732	7030005040	S.RESISTOR ERJ2GEJ 472 X (4.7 kΩ)
R733	7310003590	S.TRIMMER EVM-1XSX50 B24 (20 kΩ)
R734	7030005220	S.RESISTOR ERJ2GEJ 223 X (22 kΩ)
R736	7030007340	S.RESISTOR ERJ2GEJ 153 X (15 kΩ)
R737	7510001040	S.THERMISTOR TBPS1R153K460H5Q
R738	7030007340	S.RESISTOR ERJ2GEJ 153 X (15 kΩ)
R739	7030005530	S.RESISTOR ERJ2GEJ 100 X (10 Ω)
R750	7030005040	S.RESISTOR ERJ2GEJ 472 X (4.7 kΩ)
R751	7030007300	S.RESISTOR ERJ2GEJ 332 X (3.3 kΩ)
R752	7030005230	S.RESISTOR ERJ2GEJ 334 X (330 kΩ)
R753	7030005000	S.RESISTOR ERJ2GEJ 471 X (470 Ω)
R754	7030005240	S.RESISTOR ERJ2GEJ 473 X (47 kΩ)
R755	7030005120	S.RESISTOR ERJ2GEJ 102 X (1 kΩ)
R756	7030004980	S.RESISTOR ERJ2GEJ 101 X (100 Ω)
R757	7030005220	S.RESISTOR ERJ2GEJ 223 X (22 kΩ)
R758	7030005240	S.RESISTOR ERJ2GEJ 473 X (47 kΩ)
R759	7030005110	S.RESISTOR ERJ2GEJ 224 X (220 kΩ)
R760	7030005160	S.RESISTOR ERJ2GEJ 105 X (1 MΩ)
R801	7030007280	S.RESISTOR ERJ2GEJ 331 X (330 Ω)
R802	7030005090	S.RESISTOR ERJ2GEJ 104 X (100 kΩ)
R803	7030005050	S.RESISTOR ERJ2GEJ 103 X (10 kΩ)
R804	7030009190	S.RESISTOR RR0510P-332-D (3.3 kΩ)
R805	7030008250	S.RESISTOR RR0510P-562-D (5.6 kΩ)
R806	7030006010	S.RESISTOR RR0510P-472-D (4.7 kΩ)
R807	7030005820	S.RESISTOR RR0510P-103-D (10 kΩ)
R808	7030008280	S.RESISTOR ERJ2GEJ 271 X (270 Ω)
R809	7030005820	S.RESISTOR RR0510P-103-D (10 kΩ)
R810	7030005090	S.RESISTOR ERJ2GEJ 104 X (100 kΩ)
R811	7030005310	S.RESISTOR ERJ2GEJ 124 X (120 kΩ)
R812	7030005310	S.RESISTOR ERJ2GEJ 124 X (120 kΩ)
R813	7030007270	S.RESISTOR ERJ2GEJ 151 X (150 Ω)
R814	7030005060	S.RESISTOR ERJ2GEJ 333 X (33 kΩ)
R815	7030007270	S.RESISTOR ERJ2GEJ 151 X (150 Ω)
R816	7030004970	S.RESISTOR ERJ2GEJ 470 X (47 Ω)
R817	7030005300	S.RESISTOR ERJ2GEJ 150 X (15 Ω)
R818	7030005060	S.RESISTOR ERJ2GEJ 333 X (33 kΩ)
R819	7030007270	S.RESISTOR ERJ2GEJ 151 X (150 Ω)
R820	7030004970	S.RESISTOR ERJ2GEJ 470 X (47 Ω)
R821	7030008280	S.RESISTOR ERJ2GEJ 271 X (270 Ω)
R822	7030009190	S.RESISTOR RR0510P-332-D (3.3 kΩ)
R823	7030005820	S.RESISTOR RR0510P-103-D (10 kΩ)
R824	7030006010	S.RESISTOR RR0510P-472-D (4.7 kΩ)
R825	7030005820	S.RESISTOR RR0510P-103-D (10 kΩ)
R826	7030005820	S.RESISTOR RR0510P-103-D (10 kΩ)
R827	7030006020	S.RESISTOR RR0510P-682-D (6.8 kΩ)
R828	7030005100	S.RESISTOR ERJ2GEJ 154 X (150 kΩ)
R829	7030005110	S.RESISTOR ERJ2GEJ 224 X (220 kΩ)
R830	7030005110	S.RESISTOR ERJ2GEJ 224 X (220 kΩ)
R831	7030005840	S.RESISTOR RR0510P-473-D (47 kΩ)
R832	7030005230	S.RESISTOR ERJ2GEJ 334 X (330 kΩ)
R833	7030005060	S.RESISTOR ERJ2GEJ 333 X (33 kΩ)
R834	7030005090	S.RESISTOR ERJ2GEJ 104 X (100 kΩ)
R836	7030006020	S.RESISTOR RR0510P-682-D (6.8 kΩ)
R837	7030005600	S.RESISTOR ERJ2GEJ 273 X (27 kΩ)
R838	7030007270	S.RESISTOR ERJ2GEJ 151 X (150 Ω)
R840	7030005040	S.RESISTOR ERJ2GEJ 472 X (4.7 kΩ)
R841	7030004970	S.RESISTOR ERJ2GEJ 470 X (47 Ω)
R842	7030007270	S.RESISTOR ERJ2GEJ 151 X (150 Ω)
R843	7030005000	S.RESISTOR ERJ2GEJ 471 X (470 Ω)
R844	7030005090	S.RESISTOR ERJ2GEJ 104 X (100 kΩ)
R847	7030005530	S.RESISTOR ERJ2GEJ 100 X (10 Ω)
R900	7030005710	S.RESISTOR ERJ2GEJ 121 X (120 Ω)
R901	7030004990	S.RESISTOR ERJ2GEJ 221 X (220 Ω)
R902	7030005050	S.RESISTOR ERJ2GEJ 103 X (10 kΩ)
R903	7030005050	S.RESISTOR ERJ2GEJ 103 X (10 kΩ)

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION
R905	7030008410	S.RESISTOR ERJ2GEJ 392 X (3.9 kΩ)
R907	7030007260	S.RESISTOR ERJ2GEJ 330 X (33 Ω)
R908	7030007300	S.RESISTOR ERJ2GEJ 332 X (3.3 kΩ)
R909	7030005580	S.RESISTOR ERJ2GEJ 560 X (56 Ω)
R910	7030007300	S.RESISTOR ERJ2GEJ 332 X (3.3 kΩ)
R911	7030007270	S.RESISTOR ERJ2GEJ 151 X (150 Ω)
R912	7030005300	S.RESISTOR ERJ2GEJ 150 X (15 Ω)
R915	7030007260	S.RESISTOR ERJ2GEJ 330 X (33 Ω)
R918	7030007260	S.RESISTOR ERJ2GEJ 330 X (33 Ω)
R920	7030005580	S.RESISTOR ERJ2GEJ 560 X (56 Ω)
R921	7030009200	S.RESISTOR ERJ2GEJ 390 X (39 Ω)
R922	7030005530	S.RESISTOR ERJ2GEJ 100 X (10 Ω)
R923	7030004970	S.RESISTOR ERJ2GEJ 470 X (47 Ω)
R924	7030005040	S.RESISTOR ERJ2GEJ 472 X (4.7 kΩ)
R925	7030005040	S.RESISTOR ERJ2GEJ 472 X (4.7 kΩ)
R926	7030005040	S.RESISTOR ERJ2GEJ 472 X (4.7 kΩ)
R927	7030005040	S.RESISTOR ERJ2GEJ 472 X (4.7 kΩ)
R930	7030005040	S.RESISTOR ERJ2GEJ 472 X (4.7 kΩ)
R931	7030005040	S.RESISTOR ERJ2GEJ 472 X (4.7 kΩ)
R933	7030005050	S.RESISTOR ERJ2GEJ 103 X (10 kΩ)
R934	7030008340	S.RESISTOR RR0510P-182-D (1.8 kΩ)
R935	7030007330	S.RESISTOR ERJ1WRSJR15U (0.15 Ω)
R936	7030005820	S.RESISTOR RR0510P-103-D (10 kΩ)
R937	7030005050	S.RESISTOR ERJ2GEJ 103 X (10 kΩ)
R938	7030005160	S.RESISTOR ERJ2GEJ 105 X (1 MΩ)
R939	7030005090	S.RESISTOR ERJ2GEJ 104 X (100 kΩ)
R940	7030005040	S.RESISTOR ERJ2GEJ 472 X (4.7 kΩ)
R941	7030005160	S.RESISTOR ERJ2GEJ 105 X (1 MΩ)
R942	7030009150	S.RESISTOR ERJ2GEJ 824 X (820 kΩ)
R944	7030005120	S.RESISTOR ERJ2GEJ 102 X (1 kΩ)
R945	7030005090	S.RESISTOR ERJ2GEJ 104 X (100 kΩ)
R946	7030005120	S.RESISTOR ERJ2GEJ 102 X (1 kΩ)
R947	7030005090	S.RESISTOR ERJ2GEJ 104 X (100 kΩ)
R948	7030005000	S.RESISTOR ERJ2GEJ 471 X (470 Ω)
R949	7030007300	S.RESISTOR ERJ2GEJ 332 X (3.3 kΩ)
R950	7030004990	S.RESISTOR ERJ2GEJ 221 X (220 Ω)
R951	7030009160	S.RESISTOR ERJ2GEJ 181 X (180 Ω)
R952	7030005300	S.RESISTOR ERJ2GEJ 150 X (15 Ω)
R953	7030007290	S.RESISTOR ERJ2GEJ 222 X (2.2 kΩ)
R954	7030008410	S.RESISTOR ERJ2GEJ 392 X (3.9 kΩ)
R955	7030008410	S.RESISTOR ERJ2GEJ 392 X (3.9 kΩ)
R956	7030005530	S.RESISTOR ERJ2GEJ 100 X (10 Ω)
R957	7030004980	S.RESISTOR ERJ2GEJ 101 X (100 Ω)
R958	7030005240	S.RESISTOR ERJ2GEJ 473 X (47 kΩ)
R959	7030007270	S.RESISTOR ERJ2GEJ 151 X (150 Ω)
R960	7030005240	S.RESISTOR ERJ2GEJ 473 X (47 kΩ)
R961	7030007270	S.RESISTOR ERJ2GEJ 151 X (150 Ω)
R962	7030005530	S.RESISTOR ERJ2GEJ 100 X (10 Ω)
R963	7030007270	S.RESISTOR ERJ2GEJ 151 X (150 Ω)
R964	7030005240	S.RESISTOR ERJ2GEJ 473 X (47 kΩ)
R965	7030005530	S.RESISTOR ERJ2GEJ 100 X (10 Ω)
R966	7030005240	S.RESISTOR ERJ2GEJ 473 X (47 kΩ)
R967	7030008410	S.RESISTOR ERJ2GEJ 392 X (3.9 kΩ)
C1	4030012570	S.CERAMIC GRM39 CH 020B 50PT
C2	4030012550	S.CERAMIC GRM39 CH 010B 50PT
C3	4030012580	S.CERAMIC GRM39 CH 030B 50PT
C4	4030011980	S.CERAMIC GRM39 CH 100D 50PT
C5	4030012140	S.CERAMIC GRM39 CH 151J 50PT
C6	4030011930	S.CERAMIC GRM39 CH 060D 50PT
C7	4030009160	S.CERAMIC GRM39 CH 470J 50PT
C8	4030011990	S.CERAMIC GRM39 CH 120J 50PT
C9	4030013840	S.CERAMIC GRM39 CH 2R5B 50PT
C10	4030011940	S.CERAMIC GRM39 CH 070D 50PT
C11	4030012550	S.CERAMIC GRM39 CH 010B 50PT
C12	4030011980	S.CERAMIC GRM39 CH 100D 50PT
C13	4030013780	S.CERAMIC GRM39 CH 0R3B 50PT
C14	4030013850	S.CERAMIC ECUE1E102KBQ
C15	4030012580	S.CERAMIC GRM39 CH 030B 50PT
C16	4030012010	S.CERAMIC GRM39 CH 220J 50PT
C17	4030012430	S.CERAMIC GRM39 CH 050B 50PT
C18	4030012100	S.CERAMIC GRM39 CH 240J 50PT
C19	4030012570	S.CERAMIC GRM39 CH 020B 50PT
C20	4030011940	S.CERAMIC GRM39 CH 070D 50PT
C21	4030012050	S.CERAMIC GRM39 CH 560J 50PT
C22	4030009280	S.CERAMIC GRM39 CH 820J 50PT
C23	4030012030	S.CERAMIC GRM39 CH 330J 50PT
C24	4030012200	S.CERAMIC GRM39 CH 271J 50PT
C25	4030013850	S.CERAMIC ECUE1E102KBQ
C26	4030012070	S.CERAMIC GRM39 CH 680J 50PT
C27	4030011950	S.CERAMIC GRM39 CH 080D 50PT

S.=Surface mount

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C28	4030012070	S.CERAMIC GRM39 CH 680J 50PT
C29	4030012000	S.CERAMIC GRM39 CH 180J 50PT
C30	4030009280	S.CERAMIC GRM39 CH 820J 50PT
C31	4030011990	S.CERAMIC GRM39 CH 120J 50PT
C32	4030012050	S.CERAMIC GRM39 CH 560J 50PT
C34	4030009560	S.CERAMIC C1608 CH 1H R75B-TA
C35	4030004310	S.CERAMIC GRM39 B 103K 50PT
C36	4550006300	S.TANTALUM ECST1AY475R
C37	4030013850	S.CERAMIC ECUE1E102KBQ
C38	4030013850	S.CERAMIC ECUE1E102KBQ
C39	4030013850	S.CERAMIC ECUE1E102KBQ
C40	4030013850	S.CERAMIC ECUE1E102KBQ
C50	4030013850	S.CERAMIC ECUE1E102KBQ
C51	4030013850	S.CERAMIC ECUE1E102KBQ
C53	4030013850	S.CERAMIC ECUE1E102KBQ
C54	4030013850	S.CERAMIC ECUE1E102KBQ
C56	4030013850	S.CERAMIC ECUE1E102KBQ
C57	4030013850	S.CERAMIC ECUE1E102KBQ
C58	4510005600	S.ELECTROLITIC ECEV1CS100SR
C60	4550006710	S.TANTALUM ECST1AX226R
C61	4030013850	S.CERAMIC ECUE1E102KBQ
C62	4550006630	S.TANTALUM ECST0GY226R
C63	4030013850	S.CERAMIC ECUE1E102KBQ
C64	4030013850	S.CERAMIC ECUE1E102KBQ
C65	4030013850	S.CERAMIC ECUE1E102KBQ
C66	4030013850	S.CERAMIC ECUE1E102KBQ
C67	4030013850	S.CERAMIC ECUE1E102KBQ
C68	4030004310	S.CERAMIC GRM39 B 103K 50PT
C69	4030013850	S.CERAMIC ECUE1E102KBQ
C70	4030013850	S.CERAMIC ECUE1E102KBQ
C71	4030013850	S.CERAMIC ECUE1E102KBQ
C72	4030013850	S.CERAMIC ECUE1E102KBQ
C73	4030013850	S.CERAMIC ECUE1E102KBQ
C74	4030013850	S.CERAMIC ECUE1E102KBQ
C75	4550006170	S.TANTALUM ECST1AY225R
C76	4030013850	S.CERAMIC ECUE1E102KBQ
C77	4030013850	S.CERAMIC ECUE1E102KBQ
C78	4030013850	S.CERAMIC ECUE1E102KBQ
C79	4030013850	S.CERAMIC ECUE1E102KBQ
C80	4030013850	S.CERAMIC ECUE1E102KBQ
C81	4030013850	S.CERAMIC ECUE1E102KBQ
C82	4030013850	S.CERAMIC ECUE1E102KBQ
C83	4550006710	S.TANTALUM ECST1AX226R
C84	4030009160	S.CERAMIC GRM39 CH 470J 50PT
C85	4030013850	S.CERAMIC ECUE1E102KBQ
C86	4030013850	S.CERAMIC ECUE1E102KBQ
C87	4030012390	S.CERAMIC GRM39 B 104K 16PT
C88	4030004310	S.CERAMIC GRM39 B 103K 50PT
C89	4030012010	S.CERAMIC GRM39 CH 220J 50PT
C90	4030012010	S.CERAMIC GRM39 CH 220J 50PT
C91	4030013850	S.CERAMIC ECUE1E102KBQ
C93	4030013850	S.CERAMIC ECUE1E102KBQ
C94	4030013850	S.CERAMIC ECUE1E102KBQ
C101	4030012050	S.CERAMIC GRM39 CH 560J 50PT
C102	4030012120	S.CERAMIC GRM39 CH 121J 50PT
C103	4030012050	S.CERAMIC GRM39 CH 560J 50PT
C107	4030012030	S.CERAMIC GRM39 CH 330J 50PT
C108	4030009160	S.CERAMIC GRM39 CH 470J 50PT
C109	4030013850	S.CERAMIC ECUE1E102KBQ
C110	4030008810	S.CERAMIC GRM39 CH 150J 50PT
C114	4030004310	S.CERAMIC GRM39 B 103K 50PT
C115	4030012020	S.CERAMIC GRM39 CH 270J 50PT
C116	4030004310	S.CERAMIC GRM39 B 103K 50PT
C117	4030011930	S.CERAMIC GRM39 CH 060D 50PT
C118	4030012020	S.CERAMIC GRM39 CH 270J 50PT
C119	4030013850	S.CERAMIC ECUE1E102KBQ
C120	4030011930	S.CERAMIC GRM39 CH 060D 50PT
C121	4030013850	S.CERAMIC ECUE1E102KBQ
C122	4030011990	S.CERAMIC GRM39 CH 120J 50PT
C123	4030009160	S.CERAMIC GRM39 CH 470J 50PT
C124	4030013850	S.CERAMIC ECUE1E102KBQ
C201	4030004310	S.CERAMIC GRM39 B 103K 50PT
C202	4030013850	S.CERAMIC ECUE1E102KBQ
C203	4030013850	S.CERAMIC ECUE1E102KBQ
C204	4030013850	S.CERAMIC ECUE1E102KBQ
C205	4030012390	S.CERAMIC GRM39 B 104K 16PT
C206	4030013850	S.CERAMIC ECUE1E102KBQ
C207	4030013850	S.CERAMIC ECUE1E102KBQ
C208	4030013850	S.CERAMIC ECUE1E102KBQ
C209	4030013850	S.CERAMIC ECUE1E102KBQ
C210	4030013850	S.CERAMIC ECUE1E102KBQ

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C211	4030004310	S.CERAMIC GRM39 B 103K 50PT
C212	4030013850	S.CERAMIC ECUE1E102KBQ
C213	4030013850	S.CERAMIC ECUE1E102KBQ
C301	4030012000	S.CERAMIC GRM39 CH 180J 50PT
C302	4030012020	S.CERAMIC GRM39 CH 270J 50PT
C303	4030011990	S.CERAMIC GRM39 CH 120J 50PT
C304	4030013850	S.CERAMIC ECUE1E102KBQ
C305	4030008810	S.CERAMIC GRM39 CH 150J 50PT
C306	4030011990	S.CERAMIC GRM39 B 104K 16PT
C307	4030013850	S.CERAMIC ECUE1E102KBQ
C308	4030013850	S.CERAMIC ECUE1E102KBQ
C309	4030011930	S.CERAMIC GRM39 CH 060D 50PT
C310	4030012390	S.CERAMIC GRM39 B 104K 16PT
C311	4030013850	S.CERAMIC ECUE1E102KBQ
C312	4030013850	S.CERAMIC ECUE1E102KBQ
C313	4030013850	S.CERAMIC ECUE1E102KBQ
C314	4030013850	S.CERAMIC ECUE1E102KBQ
C315	4030013850	S.CERAMIC ECUE1E102KBQ
C316	4030012440	S.CERAMIC GRM39 CH 040B 50PT
C317	4030012440	S.CERAMIC GRM39 CH 040B 50PT
C318	4030013780	S.CERAMIC GRM39 CH 0R3B 50PT
C319	4030012550	S.CERAMIC GRM39 CH 010B 50PT
C320	4030011980	S.CERAMIC GRM39 CH 100D 50PT
C321	4030011980	S.CERAMIC GRM39 CH 100D 50PT
C322	4030013850	S.CERAMIC ECUE1E102KBQ
C323	4030012440	S.CERAMIC GRM39 CH 040B 50PT
C324	4030013850	S.CERAMIC ECUE1E102KBQ
C325	4030012570	S.CERAMIC GRM39 CH 020B 50PT
C326	4030012430	S.CERAMIC GRM39 CH 050B 50PT
C327	4030012390	S.CERAMIC GRM39 B 104K 16PT
C401	4030011930	S.CERAMIC GRM39 CH 060D 50PT
C402	4030011980	S.CERAMIC GRM39 CH 100D 50PT
C403	4030012440	S.CERAMIC GRM39 CH 040B 50PT
C404	4030013850	S.CERAMIC ECUE1E102KBQ
C405	4030013850	S.CERAMIC ECUE1E102KBQ
C409	4030011950	S.CERAMIC GRM39 CH 080D 50PT
C410	4030012120	S.CERAMIC GRM39 CH 121J 50PT
C411	4030013850	S.CERAMIC ECUE1E102KBQ
C412	4030013850	S.CERAMIC ECUE1E102KBQ
C413	4030012030	S.CERAMIC GRM39 CH 330J 50PT
C414	4030013850	S.CERAMIC ECUE1E102KBQ
C415	4030013850	S.CERAMIC ECUE1E102KBQ
C416	4030013850	S.CERAMIC ECUE1E102KBQ
C501	4030013850	S.CERAMIC ECUE1E102KBQ
C502	4030013850	S.CERAMIC ECUE1E102KBQ
C503	4030013850	S.CERAMIC ECUE1E102KBQ
C504	4030013850	S.CERAMIC ECUE1E102KBQ
C505	4030012570	S.CERAMIC GRM39 CH 020B 50PT
C506	4030012550	S.CERAMIC GRM39 CH 010B 50PT
C507	4030012570	S.CERAMIC GRM39 CH 020B 50PT
C508	4030011950	S.CERAMIC GRM39 CH 080D 50PT
C509	4030012560	S.CERAMIC GRM39 CH 1R5B 50PT
C510	4030012430	S.CERAMIC GRM39 CH 050B 50PT
C511	4030013850	S.CERAMIC ECUE1E102KBQ
C512	4030013850	S.CERAMIC ECUE1E102KBQ
C513	4030013850	S.CERAMIC ECUE1E102KBQ
C514	4030013850	S.CERAMIC ECUE1E102KBQ
C515	4030013850	S.CERAMIC ECUE1E102KBQ
C516	4030009150	S.CERAMIC GRM39 CH 101J 50PT
C517	4030013850	S.CERAMIC ECUE1E102KBQ
C518	4030013850	S.CERAMIC ECUE1E102KBQ
C519	4030013850	S.CERAMIC ECUE1E102KBQ
C520	4030012390	S.CERAMIC GRM39 B 104K 16PT
C600	4030013850	S.CERAMIC ECUE1E102KBQ
C601	4030012430	S.CERAMIC GRM39 CH 050B 50PT
C602	4030012430	S.CERAMIC GRM39 CH 050B 50PT
C604	4030012010	S.CERAMIC GRM39 CH 220J 50PT
C605	4030013850	S.CERAMIC ECUE1E102KBQ
C606	4030013850	S.CERAMIC ECUE1E102KBQ
C607	4030013850	S.CERAMIC ECUE1E102KBQ
C608	4030012570	S.CERAMIC GRM39 CH 020B 50PT
C609	4030013850	S.CERAMIC ECUE1E102KBQ
C610	4030013850	S.CERAMIC ECUE1E102KBQ
C612	4030013850	S.CERAMIC ECUE1E102KBQ
C613	4030013850	S.CERAMIC ECUE1E102KBQ
C614	4030013850	S.CERAMIC ECUE1E102KBQ
C615	4030013850	S.CERAMIC ECUE1E102KBQ
C616	4030013850	S.CERAMIC ECUE1E102KBQ
C700	4030012390	S.CERAMIC GRM39 B 104K 16PT
C701	4030013850	S.CERAMIC ECUE1E102KBQ
C702	4030013850	S.CERAMIC ECUE1E102KBQ

S.=Surface mount

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C703	4030013850	S.CERAMIC ECUE1E102KBQ
C706	4030004310	S.CERAMIC GRM39 B 103K 50PT
C707	4030012390	S.CERAMIC GRM39 B 104K 16PT
C708	4030012390	S.CERAMIC GRM39 B 104K 16PT
C709	4550006680	S.TANTALUM ECST0JY156R
C712	4030012030	S.CERAMIC GRM39 CH 330J 50PT
C713	4030013850	S.CERAMIC ECUE1E102KBQ
C714	4030012390	S.CERAMIC GRM39 B 104K 16PT
C715	4030012390	S.CERAMIC GRM39 B 104K 16PT
C716	4030012390	S.CERAMIC GRM39 B 104K 16PT
C717	4030012390	S.CERAMIC GRM39 B 104K 16PT
C719	4030012390	S.CERAMIC GRM39 B 104K 16PT
C720	4030012380	S.CERAMIC GRM39 B 473K 16PT
C721	4030012580	S.CERAMIC GRM39 CH 030B 50PT
C722	4030013850	S.CERAMIC ECUE1E102KBQ
C724	4030009150	S.CERAMIC GRM39 CH 101J 50PT
C725	4030009150	S.CERAMIC GRM39 CH 101J 50PT
C726	4030012070	S.CERAMIC GRM39 CH 680J 50PT
C727	4030013850	S.CERAMIC ECUE1E102KBQ
C729	4030012010	S.CERAMIC GRM39 CH 220J 50PT
C730	4030012180	S.CERAMIC GRM39 CH 221J 50PT
C731	4030009150	S.CERAMIC GRM39 CH 101J 50PT
C732	4030012050	S.CERAMIC GRM39 CH 560J 50PT
C733	4030013850	S.CERAMIC ECUE1E102KBQ
C734	4030013850	S.CERAMIC ECUE1E102KBQ
C735	4030012390	S.CERAMIC GRM39 B 104K 16PT
C736	4030013850	S.CERAMIC ECUE1E102KBQ
C737	4030004310	S.CERAMIC GRM39 B 103K 50PT
C751	4030012390	S.CERAMIC GRM39 B 104K 16PT
C752	4030012010	S.CERAMIC GRM39 CH 220J 50PT
C753	4030004310	S.CERAMIC GRM39 B 103K 50PT
C754	4030012390	S.CERAMIC GRM39 B 104K 16PT
C755	4030012380	S.CERAMIC GRM39 B 473K 16PT
C756	4030004310	S.CERAMIC GRM39 B 103K 50PT
C757	4030013770	S.CERAMIC GRM40 B 224K 16PT
C758	4550006180	S.TANTALUM ECST0GY475R
C759	4030013850	S.CERAMIC ECUE1E102KBQ
C801	4030008820	S.CERAMIC GRM39 CH 390J 50PT
C802	4030012000	S.CERAMIC GRM39 CH 180J 50PT
C803	4610002140	S.TRIMMER CTZ3S-20C-WI-PF
C804	4030013850	S.CERAMIC ECUE1E102KBQ
C805	4030013850	S.CERAMIC ECUE1E102KBQ
C806	4030012390	S.CERAMIC GRM39 B 104K 16PT
C807	4030013850	S.CERAMIC ECUE1E102KBQ
C808	4030009170	S.CERAMIC GRM40 F 105Z 16PT
C809	4030009160	S.CERAMIC GRM39 CH 470J 50PT
C810	4030009160	S.CERAMIC GRM39 CH 470J 50PT
C811	4030009160	S.CERAMIC GRM39 CH 470J 50PT
C812	4030004310	S.CERAMIC GRM39 B 103K 50PT
C813	4550006160	S.TANTALUM ECST1CY155R
C814	4550006160	S.TANTALUM ECST1CY155R
C815	4030013850	S.CERAMIC ECUE1E102KBQ
C816	4030013850	S.CERAMIC ECUE1E102KBQ
C817	4030013850	S.CERAMIC ECUE1E102KBQ
C818	4550006170	S.TANTALUM ECST1AY225R
C819	4030013850	S.CERAMIC ECUE1E102KBQ
C820	4550006630	S.TANTALUM ECST0GY226R
C821	4030013850	S.CERAMIC ECUE1E102KBQ
C822	4550006630	S.TANTALUM ECST0GY226R
C823	4030013850	S.CERAMIC ECUE1E102KBQ
C824	4550006630	S.TANTALUM ECST0GY226R
C825	4030013850	S.CERAMIC ECUE1E102KBQ
C826	4030013850	S.CERAMIC ECUE1E102KBQ
C827	4030013850	S.CERAMIC ECUE1E102KBQ
C828	4030013850	S.CERAMIC ECUE1E102KBQ
C829	4030013850	S.CERAMIC ECUE1E102KBQ
C830	4030013850	S.CERAMIC ECUE1E102KBQ
C831	4030013850	S.CERAMIC ECUE1E102KBQ
C832	4030013850	S.CERAMIC ECUE1E102KBQ
C833	4030004310	S.CERAMIC GRM39 B 103K 50PT
C834	4550006150	S.TANTALUM ECST1CY105R
C835	4550006150	S.TANTALUM ECST1CY105R
C836	4550006360	S.TANTALUM ECST1VY104R
C837	4030013850	S.CERAMIC ECUE1E102KBQ
C838	4030013850	S.CERAMIC ECUE1E102KBQ
C839	4030012390	S.CERAMIC GRM39 B 104K 16PT
C841	4030013850	S.CERAMIC ECUE1E102KBQ
C842	4030012390	S.CERAMIC GRM39 B 104K 16PT
C843	4030013850	S.CERAMIC ECUE1E102KBQ
C844	4030012390	S.CERAMIC GRM39 B 104K 16PT
C845	4030013850	S.CERAMIC ECUE1E102KBQ

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C846	4030013850	S.CERAMIC ECUE1E102KBQ
C847	4030013850	S.CERAMIC ECUE1E102KBQ
C848	4550006360	S.TANTALUM ECST1VY104R
C849	4030013850	S.CERAMIC ECUE1E102KBQ
C850	4030013850	S.CERAMIC ECUE1E102KBQ
C851	4030013850	S.CERAMIC ECUE1E102KBQ
C853	4030013850	S.CERAMIC ECUE1E102KBQ
C854	4030012390	S.CERAMIC GRM39 B 104K 16PT
C856	4030011990	S.CERAMIC GRM39 CH 120J 50PT
C900	4030013850	S.CERAMIC ECUE1E102KBQ
C901	4030011990	S.CERAMIC GRM39 CH 120J 50PT
C902	4030013850	S.CERAMIC ECUE1E102KBQ
C903	4030011930	S.CERAMIC GRM39 CH 060D 50PT
C904	4030013850	S.CERAMIC ECUE1E102KBQ
C905	4030013850	S.CERAMIC ECUE1E102KBQ
C906	4030013850	S.CERAMIC ECUE1E102KBQ
C907	4030013850	S.CERAMIC ECUE1E102KBQ
C909	4030012500	S.CERAMIC GRM39 CH 300J 50PT
C910	4030013850	S.CERAMIC ECUE1E102KBQ
C911	4030012390	S.CERAMIC GRM39 B 104K 16PT
C912	4030013850	S.CERAMIC ECUE1E102KBQ
C913	4030013850	S.CERAMIC ECUE1E102KBQ
C914	4030012390	S.CERAMIC GRM39 B 104K 16PT
C915	4030013850	S.CERAMIC ECUE1E102KBQ
C916	4030008820	S.CERAMIC GRM39 CH 390J 50PT
C917	4030013850	S.CERAMIC ECUE1E102KBQ
C919	4030012010	S.CERAMIC GRM39 CH 220J 50PT
C920	4030013850	S.CERAMIC ECUE1E102KBQ
C921	4030013850	S.CERAMIC ECUE1E102KBQ
C923	4030012650	S.CERAMIC GRH708 CH 220J 200PT
C924	4030001100	S.CERAMIC GRM40 B 102K 50PT
C926	4030001100	S.CERAMIC GRM40 B 102K 50PT
C927	4030013850	S.CERAMIC ECUE1E102KBQ
C928	4030000960	S.CERAMIC GRM40 CH 390J 50PT
C929	4030000960	S.CERAMIC GRM40 CH 390J 50PT
C930	4030001020	S.CERAMIC GRM40 CH 121J 50PT
C931	4030000980	S.CERAMIC GRM40 CH 560J 50PT
C932	4030000900	S.CERAMIC GRM40 CH 100D 50PT
C934	4030013850	S.CERAMIC ECUE1E102KBQ
C935	4030001100	S.CERAMIC GRM40 B 102K 50PT
C936	4030013850	S.CERAMIC ECUE1E102KBQ
C937	4030013850	S.CERAMIC ECUE1E102KBQ
C938	4030009610	S.CERAMIC GRM40 CH 271J 50PT
C939	4030001000	S.CERAMIC GRM40 CH 820J 50PT
C940	4030001100	S.CERAMIC GRM40 B 102K 50PT
C941	4030013850	S.CERAMIC ECUE1E102KBQ
C942	4550006170	S.TANTALUM ECST1AY225R
C943	4030013850	S.CERAMIC ECUE1E102KBQ
C944	4030012390	S.CERAMIC GRM39 B 104K 16PT
C945	4030013850	S.CERAMIC ECUE1E102KBQ
C946	4030013850	S.CERAMIC ECUE1E102KBQ
C947	4030013850	S.CERAMIC ECUE1E102KBQ
C948	4030013850	S.CERAMIC ECUE1E102KBQ
C949	4030012390	S.CERAMIC GRM39 B 104K 16PT
C950	4030013850	S.CERAMIC ECUE1E102KBQ
C951	4030013850	S.CERAMIC ECUE1E102KBQ
C953	4030013850	S.CERAMIC ECUE1E102KBQ
C955	4030012140	S.CERAMIC GRM39 CH 151J 50PT
C956	4030012010	S.CERAMIC GRM39 CH 220J 50PT
C957	4030004310	S.CERAMIC GRM39 B 103K 50PT
C958	4030013850	S.CERAMIC ECUE1E102KBQ
C959	4030013850	S.CERAMIC ECUE1E102KBQ
C960	4030013850	S.CERAMIC ECUE1E102KBQ
C961	4030013850	S.CERAMIC ECUE1E102KBQ
C962	4030013850	S.CERAMIC ECUE1E102KBQ
C963	4030013850	S.CERAMIC ECUE1E102KBQ
C964	4030013850	S.CERAMIC ECUE1E102KBQ
C965	4030013850	S.CERAMIC ECUE1E102KBQ
C966	4030013850	S.CERAMIC ECUE1E102KBQ
C967	4030013850	S.CERAMIC ECUE1E102KBQ
C968	4030013850	S.CERAMIC ECUE1E102KBQ
C969	4030013850	S.CERAMIC ECUE1E102KBQ
C970	4030013850	S.CERAMIC ECUE1E102KBQ
C971	4030004310	S.CERAMIC GRM39 B 103K 50PT
C972	4030012100	S.CERAMIC GRM39 CH 240J 50PT
C973	4030013850	S.CERAMIC ECUE1E102KBQ
C974	4030013850	S.CERAMIC ECUE1E102KBQ
C975	4030012390	S.CERAMIC GRM39 B 104K 16PT
C976	4030013850	S.CERAMIC ECUE1E102KBQ

[TPE]
[Other][ITA]
[Other]

S.=Surface mount

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C977	4030013850	S.CERAMIC	ECUE1E102KBQ
C978	4030000890	S.CERAMIC	GRM40 CH 080D 50PT
C979	4030000900	S.CERAMIC	GRM40 CH 100D 50PT
C980	4030013850	S.CERAMIC	ECUE1E102KBQ
C981	4030012390	S.CERAMIC	GRM39 B 104K 16PT
J1	6450001680	CONNECTOR	HSJ1122-010010
J2	6450001690	CONNECTOR	HSJ1456-01-220
J3	6450000870	CONNECTOR	HEC2711-01-020
J4	6510019870	S.CONNECTOR	AXK5S40045P
S1	2230000900	S.SWITCH	JPM1990-2013R
S2	2230000900	S.SWITCH	JPM1990-2013R
EP1	910049687	PCB	B 5030G

[VCO BOARD]

REF NO.	ORDER NO.	DESCRIPTION	
Q301	1530003560	S.TRANSISTOR	2SC5195-T1
Q302	1530003560	S.TRANSISTOR	2SC5195-T1
Q303	1530003560	S.TRANSISTOR	2SC5195-T1
Q321	1530003560	S.TRANSISTOR	2SC5195-T1
Q322	1530003560	S.TRANSISTOR	2SC5195-T1
Q323	1530003560	S.TRANSISTOR	2SC5195-T1
Q341	1530003640	S.TRANSISTOR	2SC4215-O
Q342	1530002600	S.TRANSISTOR	2SC4215-O (TE85R)
Q343	1530002920	S.TRANSISTOR	2SC4226-T2 R25
D301	1790001260	S.DIODE	MA2S077-(TX)
D302	1720000700	S.VARICAP	1SV305 (TPL3)
D321	1790001260	S.DIODE	MA2S077-(TX)
D322	1790001310	S.VARICAP	1SV270(TPH3)
D323	1790001260	S.DIODE	MA2S077-(TX)
D324	1790001260	S.DIODE	MA2S077-(TX)
D341	1720000660	S.VARICAP	1SV288 (TPH2)
D350	1750000360	S.DIODE	1SS364(TE85L)
D351	1790001260	S.DIODE	MA2S077-(TX)
L301	6200004480	S.COIL	MLF1608D R82K-T
L302	6200008260	S.COIL	0.30-1.7-8TL 60N
L321	6200004480	S.COIL	MLF1608D R82K-T
L322	6200008330	S.COIL	0.45-1.4-4TL 15N
L341	6200004920	S.COIL	MLF1608A 2R2K-T
L342	6200007670	S.COIL	LQN21A 10NJ04
L343	6200008410	S.COIL	LQN 1H R21J04
L344	6200006980	S.COIL	ELJRE R10G-F
L345	6200007000	S.COIL	ELJRE 82NG-F
L346	6200006670	S.COIL	ELJRE 68NG-F
L347	6200006990	S.COIL	ELJRE 56NG-F
L348	6200007000	S.COIL	ELJRE 82NG-F
J301	6910011530	CONNECTOR	IMSA-9230B-1-08Z057-T
J302	6910011530	CONNECTOR	IMSA-9230B-1-08Z057-T
R301	7030005290	S.RESISTOR	ERJ2GEJ 682 X (6.8 kΩ)
R302	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R303	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R305	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R306	7030005290	S.RESISTOR	ERJ2GEJ 682 X (6.8 kΩ)
R307	7030004990	S.RESISTOR	ERJ2GEJ 221 X (220 Ω)
R308	7030004970	S.RESISTOR	ERJ2GEJ 470 X (47 Ω)
R311	7030005060	S.RESISTOR	ERJ2GEJ 333 X (33 kΩ)
R313	7030007270	S.RESISTOR	ERJ2GEJ 151 X (150 Ω)
R314	7030004970	S.RESISTOR	ERJ2GEJ 470 X (47 Ω)
R315	7030005700	S.RESISTOR	ERJ2GEJ 274 X (270 kΩ)
R321	7030009140	S.RESISTOR	ERJ2GEJ 272 X (2.7 kΩ)
R322	7030005290	S.RESISTOR	ERJ2GEJ 682 X (6.8 kΩ)
R323	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R324	7030005290	S.RESISTOR	ERJ2GEJ 682 X (6.8 kΩ)
R325	7030005710	S.RESISTOR	ERJ2GEJ 121 X (120 Ω)
R328	7030004970	S.RESISTOR	ERJ2GEJ 470 X (47 Ω)
R329	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)

[VCO BOARD]

REF NO.	ORDER NO.	DESCRIPTION	
R330	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R331	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R332	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R333	7030005300	S.RESISTOR	ERJ2GEJ 150 X (15 Ω)
R334	7030005300	S.RESISTOR	ERJ2GEJ 150 X (15 Ω)
R337	7030005720	S.RESISTOR	ERJ2GEJ 563 X (56 kΩ)
R338	7030004990	S.RESISTOR	ERJ2GEJ 221 X (220 Ω)
R339	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R340	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R341	7030006610	S.RESISTOR	ERJ2GEJ 394 X (390 kΩ)
R342	7030009140	S.RESISTOR	ERJ2GEJ 272 X (2.7 kΩ)
R343	7030005600	S.RESISTOR	ERJ2GEJ 273 X (27 kΩ)
R344	7030007270	S.RESISTOR	ERJ2GEJ 151 X (150 Ω)
R345	7030005080	S.RESISTOR	ERJ2GEJ 823 X (82 kΩ)
R346	7030004990	S.RESISTOR	ERJ2GEJ 221 X (220 Ω)
R347	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R348	7030004970	S.RESISTOR	ERJ2GEJ 470 X (47 Ω)
R349	7030005080	S.RESISTOR	ERJ2GEJ 823 X (82 kΩ)
R350	7030004970	S.RESISTOR	ERJ2GEJ 470 X (47 Ω)
R351	7030004970	S.RESISTOR	ERJ2GEJ 470 X (47 Ω)
R353	7030005710	S.RESISTOR	ERJ2GEJ 121 X (120 Ω)
R354	7030005300	S.RESISTOR	ERJ2GEJ 150 X (15 Ω)
R355	7030004990	S.RESISTOR	ERJ2GEJ 221 X (220 Ω)
R356	7030005300	S.RESISTOR	ERJ2GEJ 150 X (15 Ω)
C301	4030013850	S.CERAMIC	ECUE1E102KBQ
C302	4030013850	S.CERAMIC	ECUE1E102KBQ
C303	4030012560	S.CERAMIC	GRM39 CH 1R5B 50PT
C304	4030012560	S.CERAMIC	GRM39 CH 1R5B 50PT
C305	4030013850	S.CERAMIC	ECUE1E102KBQ
C306	4030013780	S.CERAMIC	GRM39 CH 0R3B 50PT
C307	4030013850	S.CERAMIC	ECUE1E102KBQ
C308	4030013850	S.CERAMIC	ECUE1E102KBQ
C309	4030013850	S.CERAMIC	ECUE1E102KBQ
C310	4030013850	S.CERAMIC	ECUE1E102KBQ
C311	4030013850	S.CERAMIC	ECUE1E102KBQ
C312	4030013850	S.CERAMIC	ECUE1E102KBQ
C313	4030013850	S.CERAMIC	ECUE1E102KBQ
C314	4030012580	S.CERAMIC	GRM39 CH 030B 50PT
C315	4030012100	S.CERAMIC	GRM39 CH 240J 50PT
C321	4030012000	S.CERAMIC	GRM39 CH 180J 50PT
C323	4030012560	S.CERAMIC	GRM39 CH 1R5B 50PT
C324	4030012560	S.CERAMIC	GRM39 CH 1R5B 50PT
C325	4030013850	S.CERAMIC	ECUE1E102KBQ
C326	4030013850	S.CERAMIC	ECUE1E102KBQ
C327	4030012550	S.CERAMIC	GRM39 CH 010B 50PT
C328	4030012560	S.CERAMIC	GRM39 CH 1R5B 50PT
C329	4030013850	S.CERAMIC	ECUE1E102KBQ
C330	4030013850	S.CERAMIC	ECUE1E102KBQ
C331	4030013850	S.CERAMIC	ECUE1E102KBQ
C332	4030013850	S.CERAMIC	ECUE1E102KBQ
C333	4030013850	S.CERAMIC	ECUE1E102KBQ
C334	4030013850	S.CERAMIC	ECUE1E102KBQ
C335	4030012000	S.CERAMIC	GRM39 CH 180J 50PT
C336	4030012580	S.CERAMIC	GRM39 CH 030B 50PT
C337	4030013850	S.CERAMIC	ECUE1E102KBQ
C341	4030013850	S.CERAMIC	ECUE1E102KBQ
C342	4030012180	S.CERAMIC	GRM39 CH 221J 50PT
C343	4030004310	S.CERAMIC	GRM39 B 103K 50PT
C344	4030012580	S.CERAMIC	GRM39 CH 030B 50PT
C345	4030012180	S.CERAMIC	GRM39 CH 221J 50PT
C346	4030013780	S.CERAMIC	GRM39 CH 0R3B 50PT
C347	4030004310	S.CERAMIC	GRM39 B 103K 50PT
C348	4030004310	S.CERAMIC	GRM39 B 103K 50PT
C349	4030004310	S.CERAMIC	GRM39 B 103K 50PT
C350	4030013850	S.CERAMIC	ECUE1E102KBQ
C351	4030013850	S.CERAMIC	ECUE1E102KBQ
C352	4030009160	S.CERAMIC	GRM39 CH 470J 50PT
C353	4030012070	S.CERAMIC	GRM39 CH 680J 50PT
C354	4030012010	S.CERAMIC	GRM39 CH 220J 50PT
C356	4030008820	S.CERAMIC	GRM39 CH 390J 50PT
C357	4030012000	S.CERAMIC	GRM39 CH 180J 50PT
C358	4030012000	S.CERAMIC	GRM39 CH 180J 50PT
C359	4030008820	S.CERAMIC	GRM39 CH 390J 50PT
C360	4030013760	S.CERAMIC	GRM39 CH 3R5B 50PT
C361	4030012010	S.CERAMIC	GRM39 CH 220J 50PT
C362	4030013850	S.CERAMIC	ECUE1E102KBQ
C363	4030013850	S.CERAMIC	ECUE1E102KBQ
EP1	910049707	PCB	B 5032G

S.=Surface mount

SECTION 7 MECHANICAL PARTS AND DISASSEMBLY

7-1 CABINET PARTS

[CHASSIS PARTS]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6510020650	Antenna connector SMA-R224	1
S1	7600000210	Sensor TP70N00E20-15F-1903	1
MP1	8210015120	1903 Front panel (A) [EUR, UK, ITA, THA, TPE]	1
	8210015130	1903 Front panel (B) [USA, SEA]	1
MP2	8010017150	1903 Chassis	1
MP3	8930044580	1903 Rubber seal	1
MP4	8930044550	1903 10-Key	1
MP5	8930044490	1903 Microphone cap	1
MP6	8930044510	1903 PTT button	1
MP7	8930015050	1903 PTT panel	1
MP8	8930044560	1903 2-Key	1
MP9	8830001220	Nut (F)	1
MP10	8930018220	870 net	1
MP11	8930046020	1123 Sheet (A)-1	1
MP12	8930044460	1903 Contact rubber	1
MP13	8930044470	1903 DC cap	1
MP14	8930044480	1903 Lens	1
MP15	8830001340	1903 Hex nut	1
MP16	8930044970	1903 Rear sheet (A) [USA]	1
	8930044980	1903 Rear sheet (B) [SEA]	1
	8930044990	1903 Rear sheet (C) [EUR, UK, ITA]	1
	8930045000	1903 Rear sheet (D) [THA, TPE]	1
MP17	8930044530	1903 Rubber sheet	1
MP18	8950004810	1903 SP spring	2
MP19	8610010530	Knob N263	1
MP20	8810008990	Screw PH BT M2×10 ZK	2
MP21	8810008970	Screw FH BT No.0 M2×3.5 NI-ZU	9
MP22	8810009630	Screw FH No.0 M2×4.5 NI B	2
MP25	8310041950	1903 Window plate w/sheet	1
MP27	8930046000	1903 Microphone sponge	1
MP28	8930045940	1903 Bottom sheet	1
MP29	8930040410	Isolating sheet EO	2
SP1	2510000840	Speaker CS028014-12	1
MP1*	8210015400	1903 Front panel (A) assembly (incl. MP1, MP6, MP7 and MP10)	1
	8210015410	1903 Front panel (B) assembly (incl. MP1, MP6, MP7 and MP10)	1

ΩScrew abbreviations: PH: Pan head NI: Nickel ZK: Black

7-2 ACCESSORIES

REF NO.	ORDER NO.	DESCRIPTION	QTY.
EP1	Optional product	Antenna FA-S6270B	1
EP2	Optional product	Battery BP-200 [USA only]	1
	Optional product	Battery BP-199 [other]	1
EP3	Optional product	Charger BC-110A [USA]	1
	Optional product	Charger BC-110D [EUR, ITA]	1
MP1	8930044450	1903 Belt clip	1
MP2	8010011960	Strap belt HK-005	1

[RF UNIT]

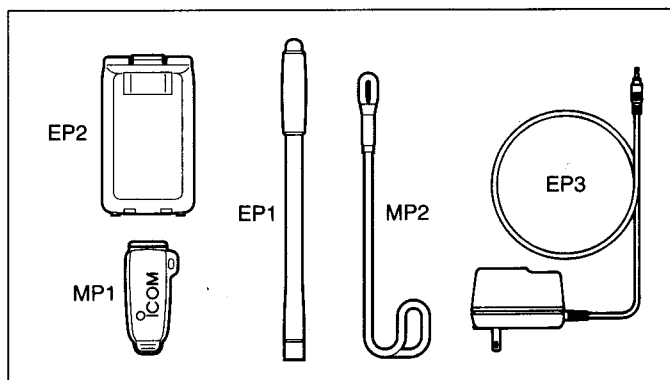
REF NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8510002162	1903 PA heatsink-2	1
MP2	8950004800	1903 Contact spring	1
MP3	8510011630	1903 RF shield	1
MP4	8930045990	1903 RF sheet	1

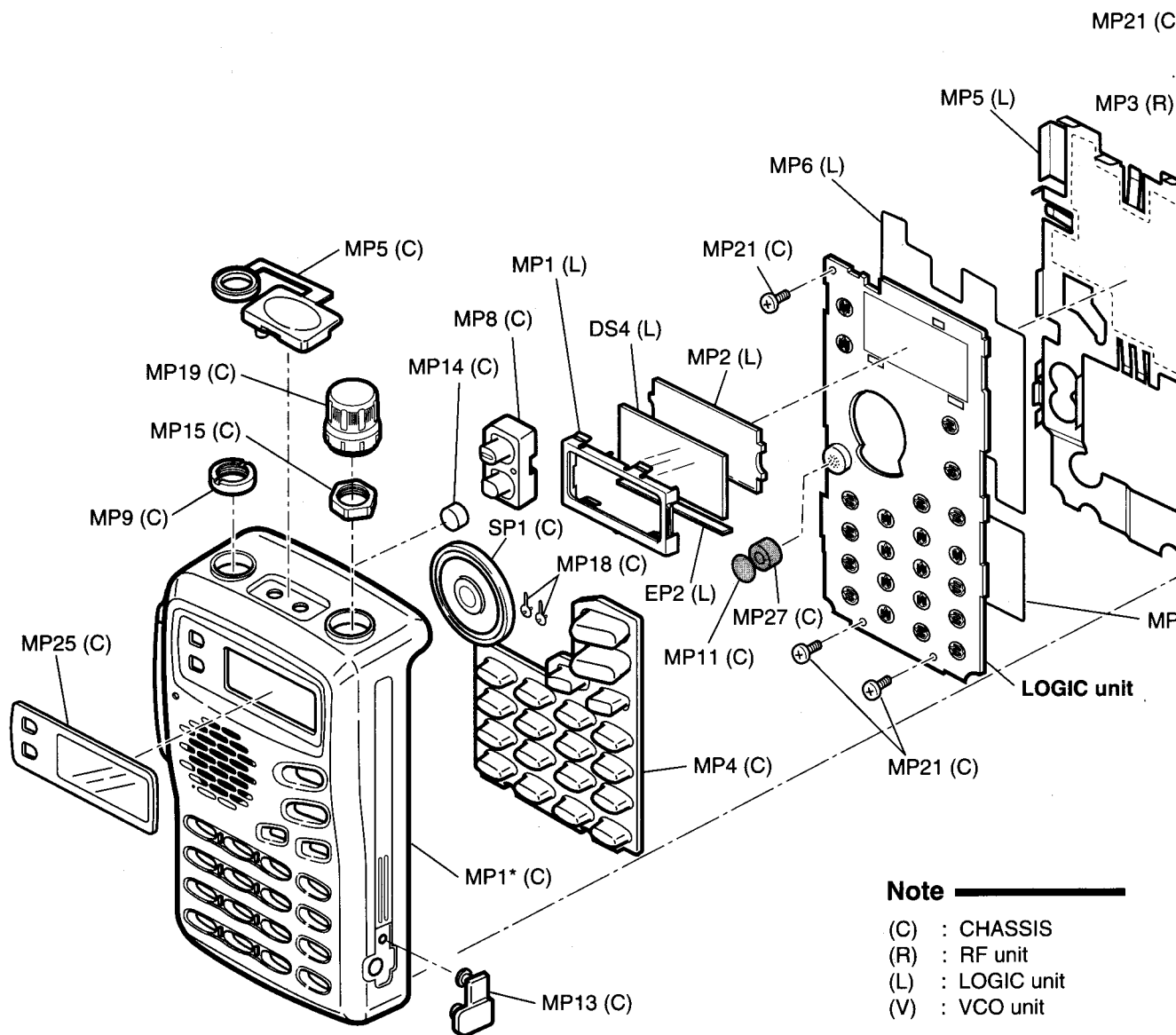
[LOGIC UNIT]

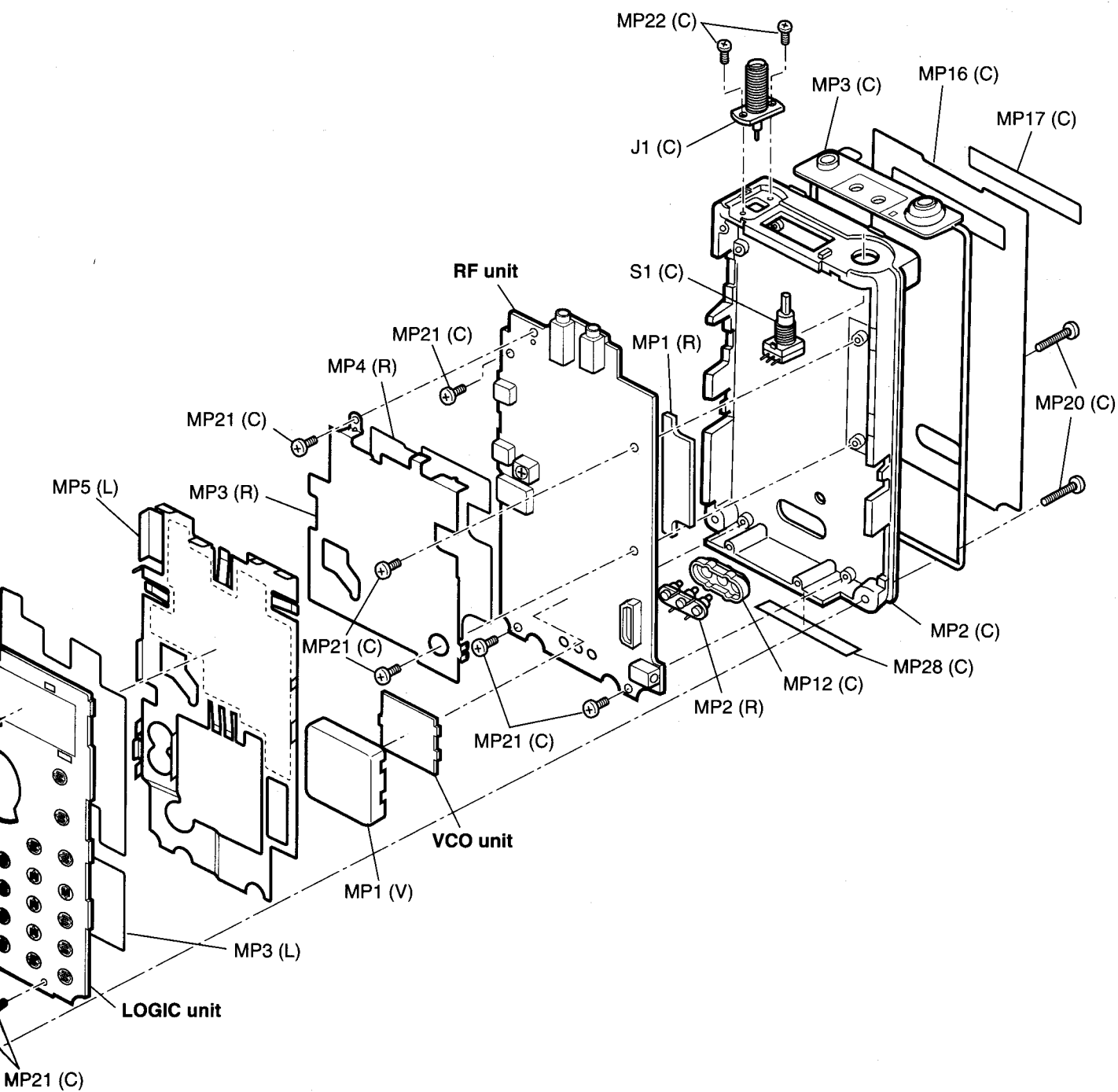
REF NO.	ORDER NO.	DESCRIPTION	QTY.
DS4	5030001550	LCD LM-1526B	1
EP2	8930046030	Contact screen SRCN-1903-SP-N-W	1
MP1	8930044570	1903 LCD holder	1
MP2	8210015060	1903 Reflector	1
MP3	8930045910	Himeron sheet	1
MP5	8510011621	1903 LOGIC shield	1
MP6	8930045980	1903 LOGIC sheet	1

[VCO BOARD]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8510011430	1903 VCO case	1







Note

- (C) : CHASSIS
- (R) : RF unit
- (L) : LOGIC unit
- (V) : VCO unit

SECTION 8

SEMI-CONDUCTOR INFORMATION

8 - 1 TRANSISTORS

NAME	SYMBOL	INSIDE VIEW
2SB1201-S	2M	
2SC3356-R25 2SC4117-BL 2SC4215-O 2SC4226-R25 2SC4228-R45 2SC4403-3 2SC5107-O 2SC5195 2SD2216-S	R25 CL QO R25 R44 LY3 MFO 88 YS	
2SA1588-GR-ZG 2SB1462-R	A6	
UN9210 UN9213	8L 8C	
UN9211 UN9215	8A 8E	
UN9115	H	
2SB1132-R	BAR	
XP1501-AB	5R	

NAME	SYMBOL	INSIDE VIEW
XP1210	AC	
XP4601	5C	
XP5601-AB	4N	
XP6401	5O	
2SJ364-Q	4M	
2SK880-Y	XY	
UN9214	8A	
XP1115	7M	
XP1201	AI	

NAME	SYMBOL	INSIDE VIEW
XP4315	CB	
2SK2973	K1	
2SK2975	K2975	
3SK291 3SK292	UF UK	

8 - 2 DIODES

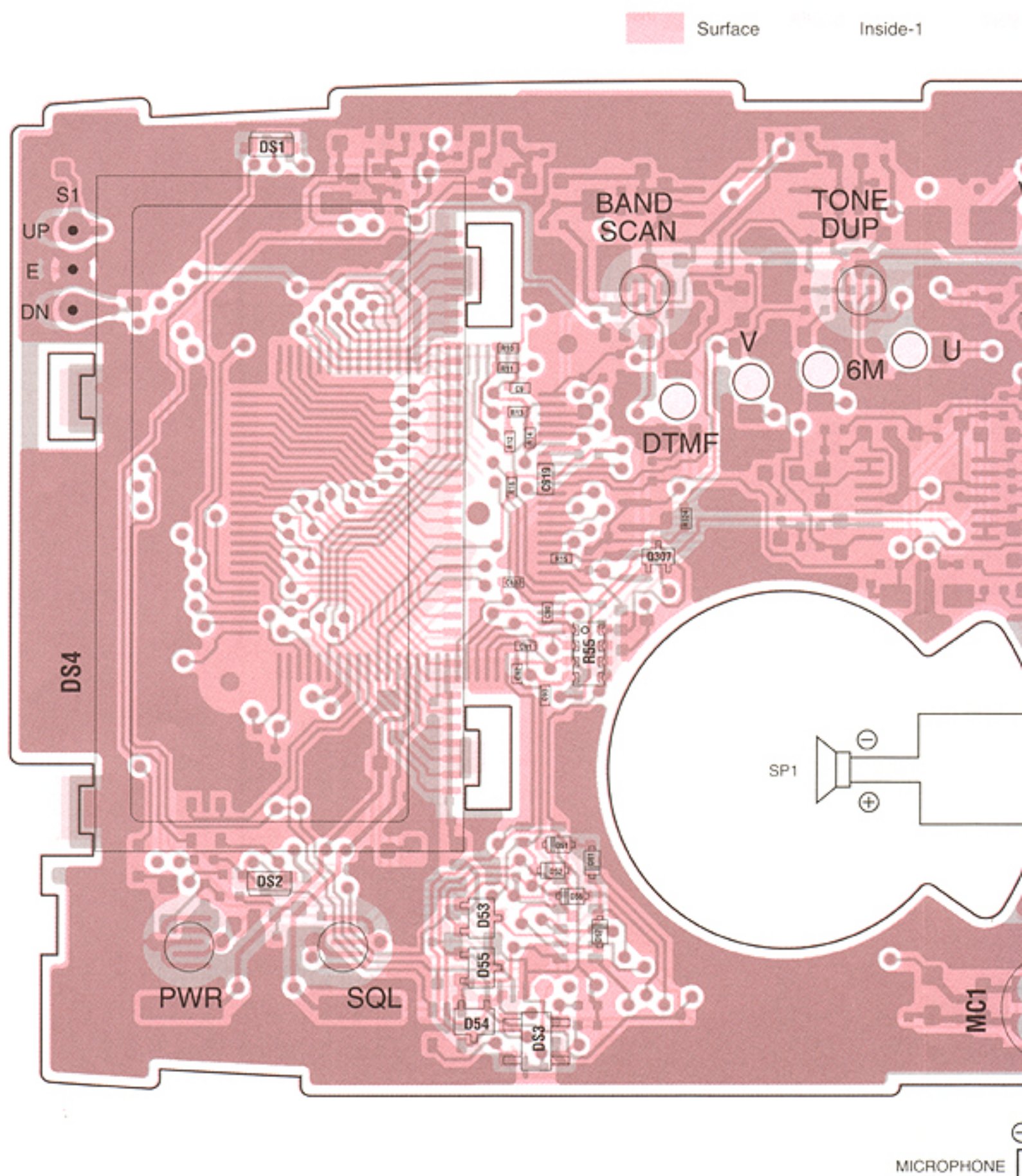
NAME	SYMBOL	INSIDE VIEW
SB07-03C-TB	J	
MA6S121	M2D	
1SV270 HVU350TRF 1SV305	TF 4 TV	
MA2S077 MA2S111 MA2S728	S A B	

NAME	SYMBOL	INSIDE VIEW
MA8051-H	5-1	
RB060L-40 1SV307	No symbol TX	
1SV271 1SV288	TG TJ	
DAP202U T107	P	
MA8100-M	10-	
1SS364 MA132WK	BF MU	
DA112 T107	AZ	
DA113W T107	AY	
MA133	MP	
HVU131TRF	P1	

SECTION 9 BOARD LAYOUTS

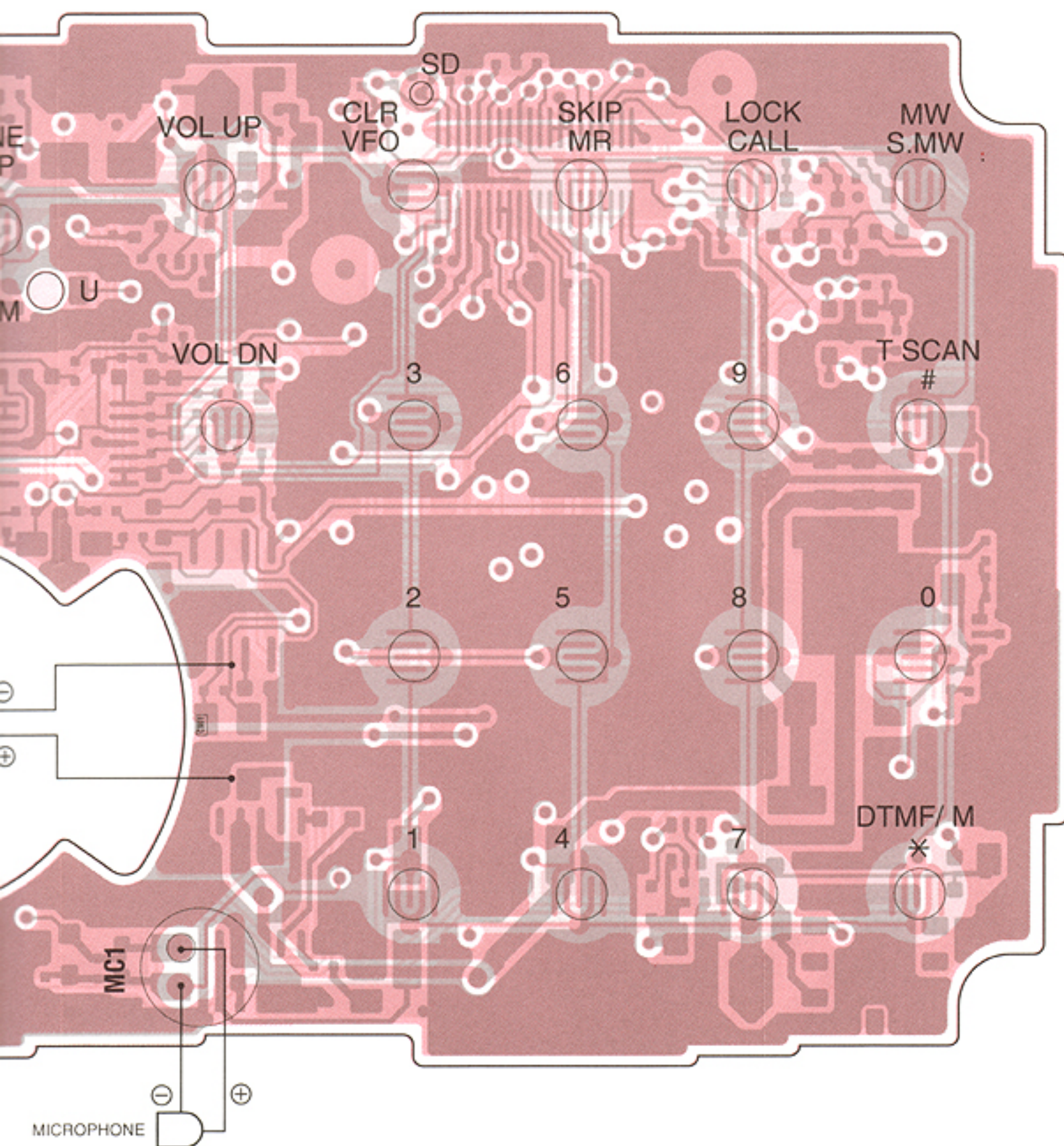
9 - 1 LOGIC UNIT

• 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.

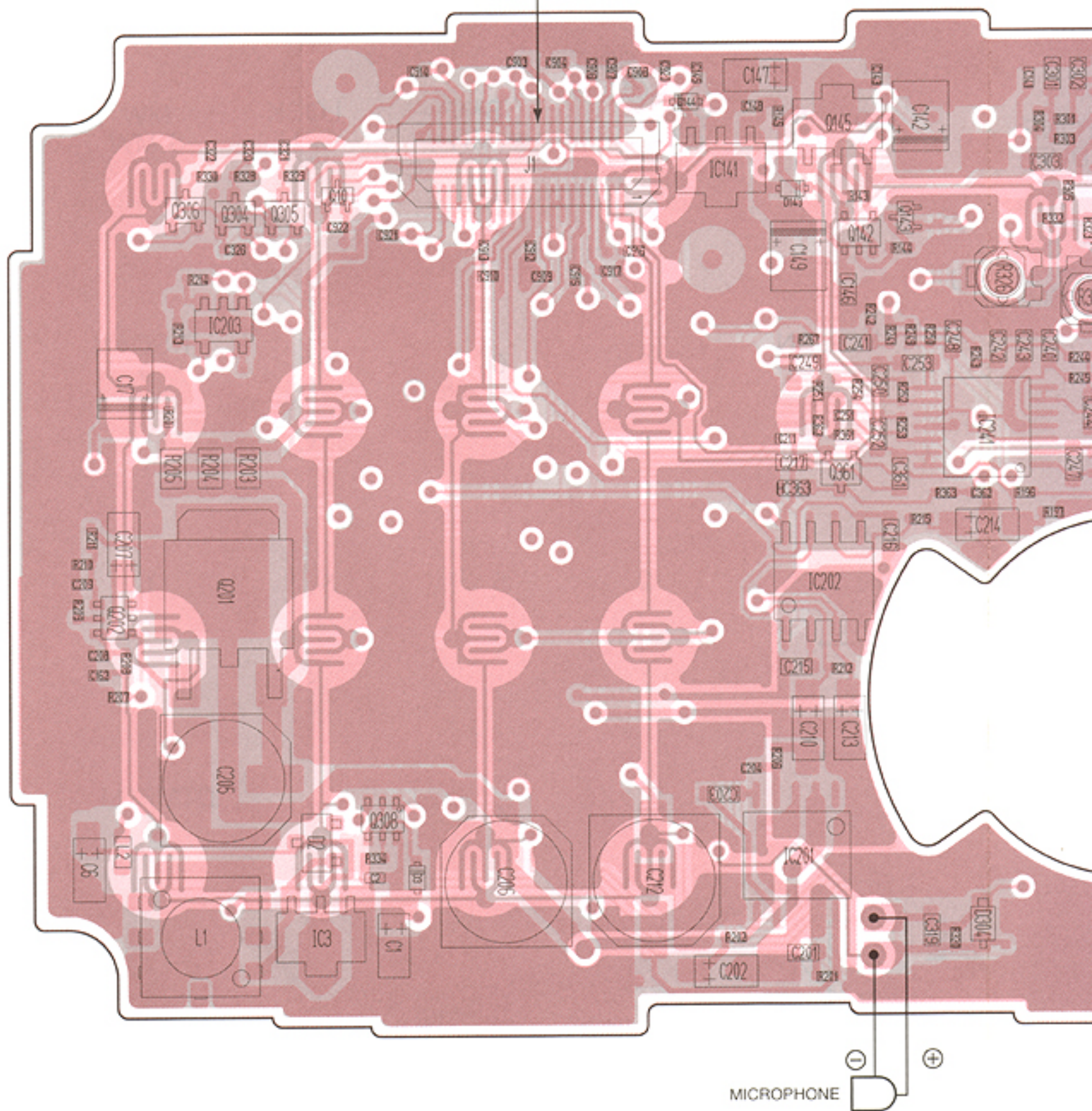
Inside-1 Inside-2 Underside



• BOTTOM VIEW

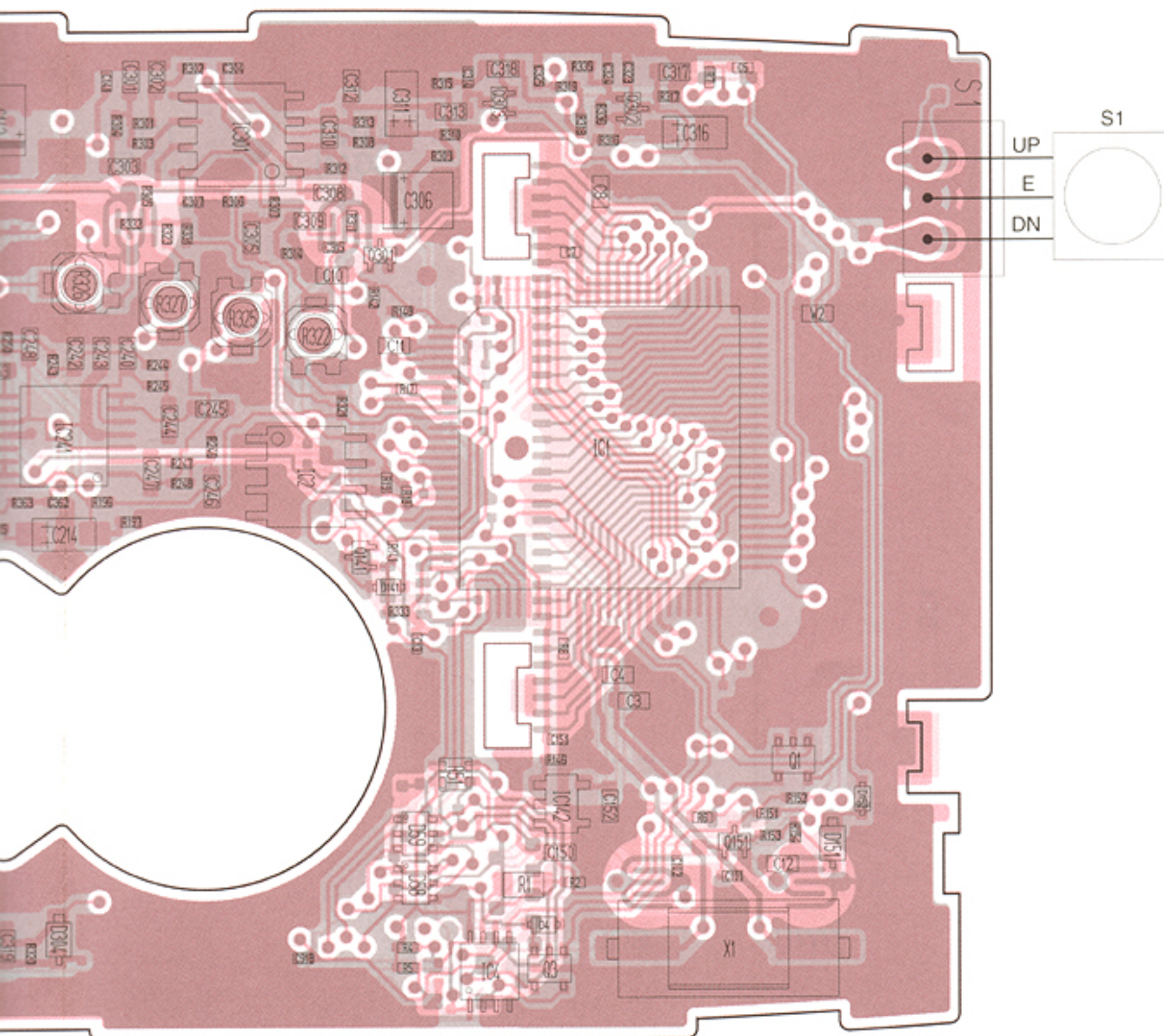
J1		to RF UNIT J4	
21	GND	40	DETO
	DC-DC		+3C
	PTT		EXTMIC
	HV		SPE
	HV		AFO
	CHGC		INTSP
	R3C		CK
	VOL		NOISE
	GND		DAST
	MOD		VCC
	GND		VTUNE
	BDET		PLST
	PDAUL		UHF
	TXC		VHF
			VCC
			REMOTE
			DA
			IOST
			THERM
			SD
20	H/L	1	

Surface



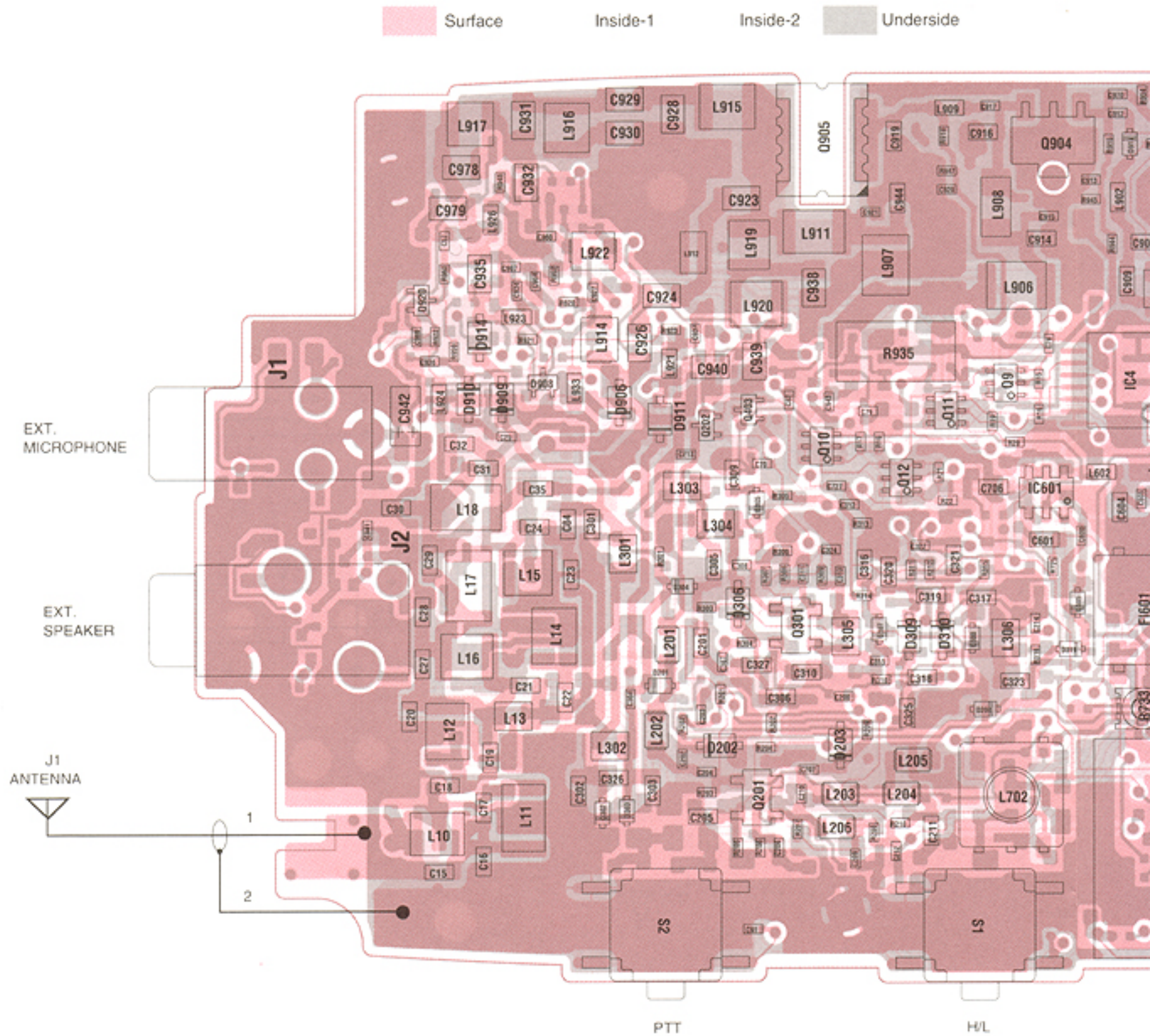
The combination of this page and the previous page shows the unit layout in the same configuration as the actual P.C. Board.

Surface Inside-1 Inside-2 Underside



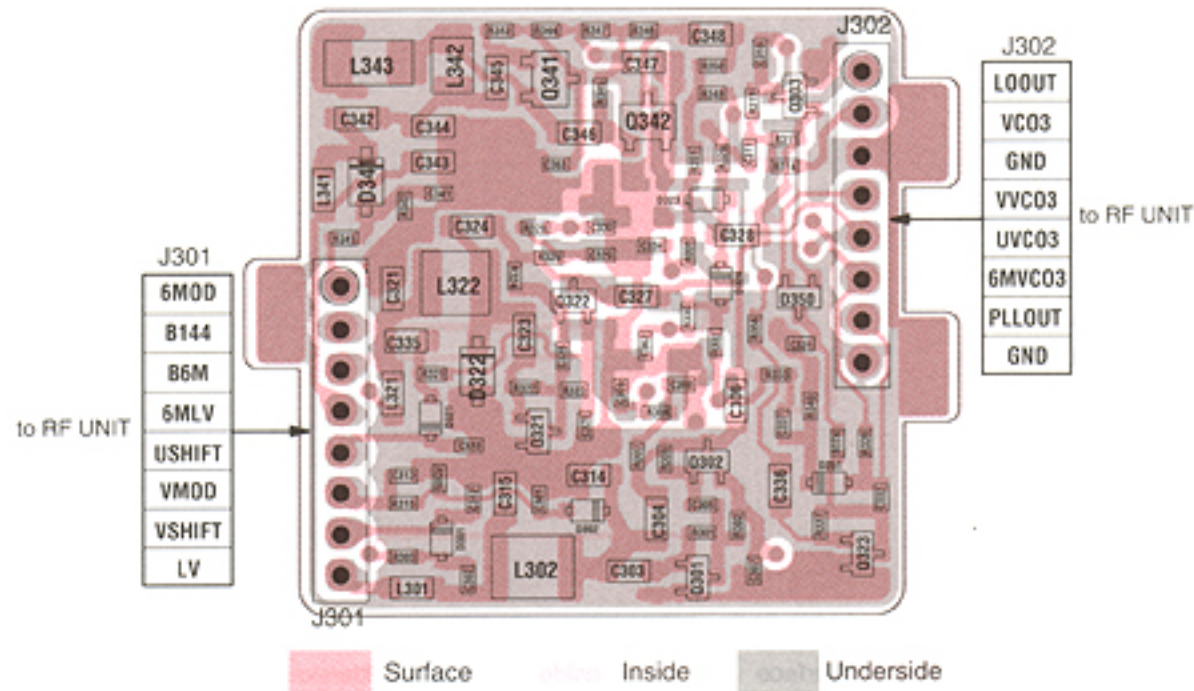
9 - 2 RF UNIT

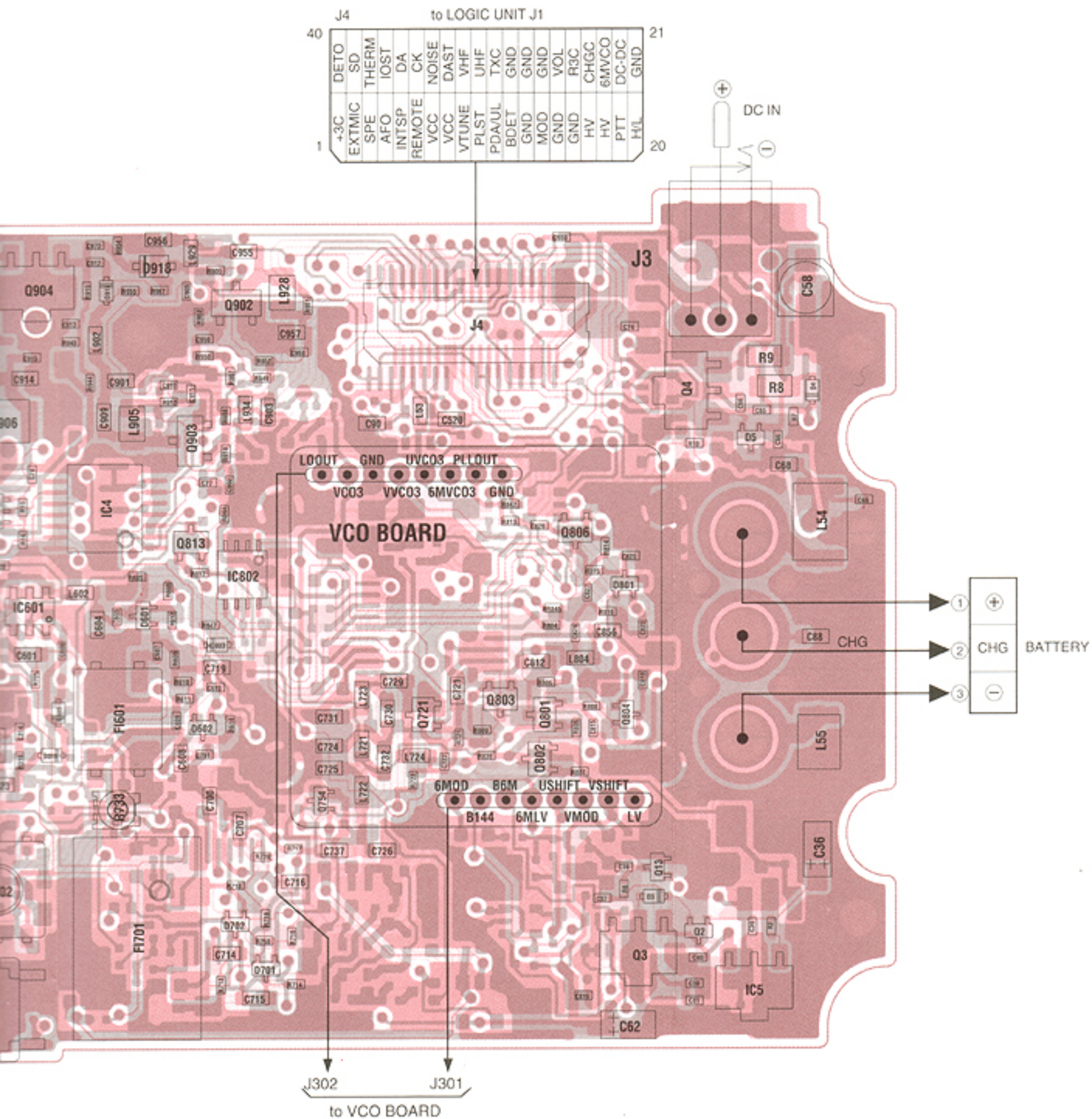
• TOP VIEW



9 - 3 VCO BOARD

• 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.

• BOTTOM VIEW

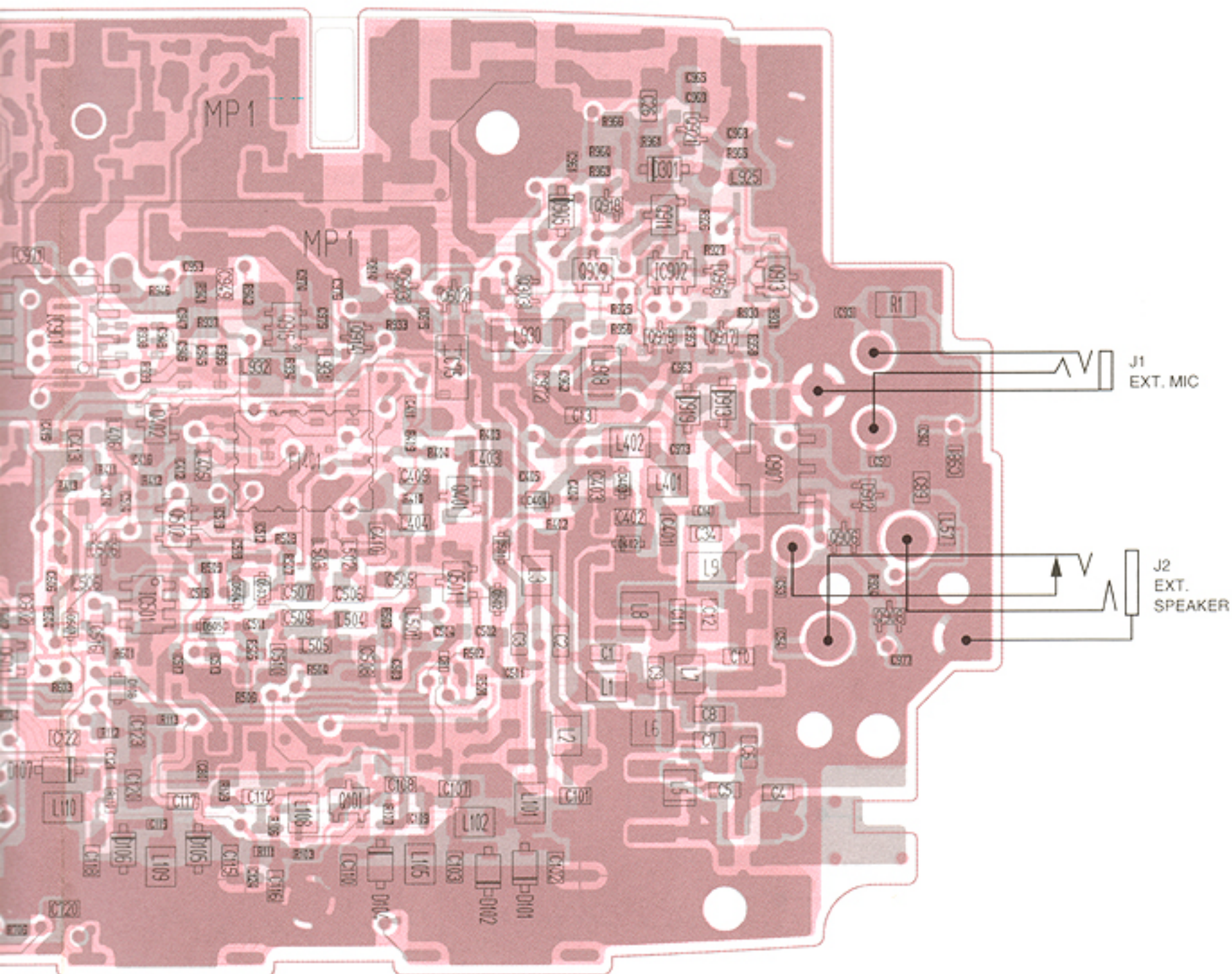
Legend: Surface (Pink), Inside-1 (Light Blue), Inside-2 (Light Green), Underside (Grey)

Key components and labels on the bottom view include:

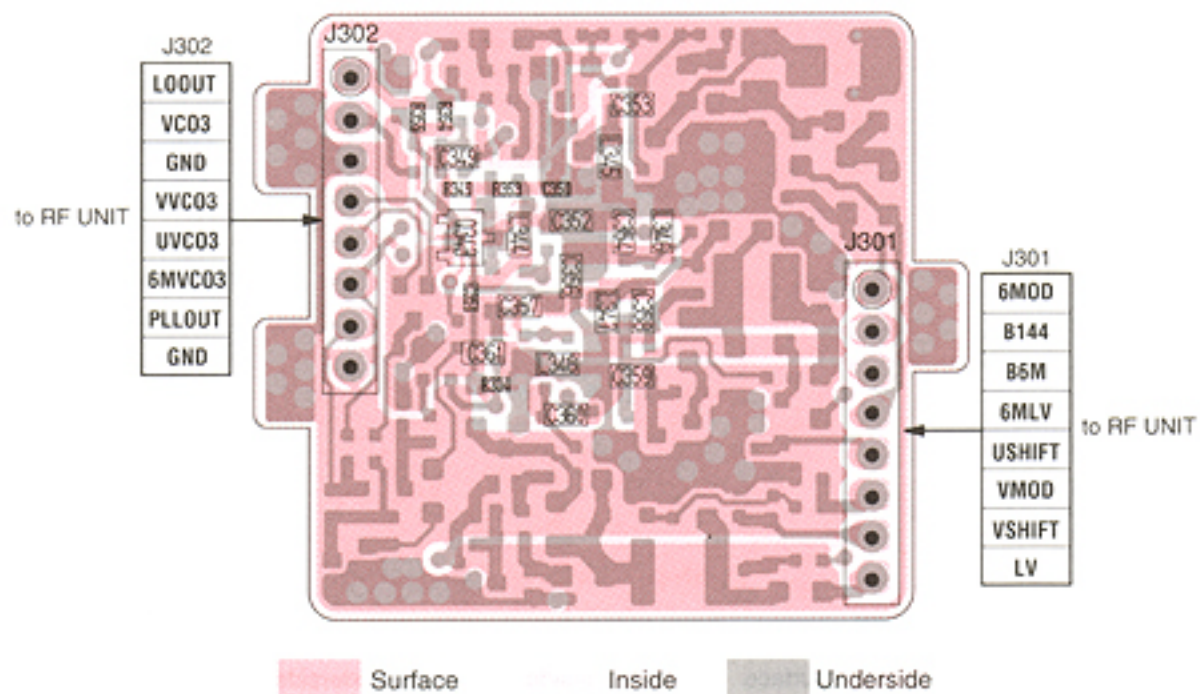
- ICs:** IC1, IC2, IC3, IC4, IC5, IC6, IC7, IC8, IC9, IC10, IC11, IC12, IC13, IC14, IC15, IC16, IC17, IC18, IC19, IC20, IC21, IC22, IC23, IC24, IC25, IC26, IC27, IC28, IC29, IC30, IC31, IC32, IC33, IC34, IC35, IC36, IC37, IC38, IC39, IC40, IC41, IC42, IC43, IC44, IC45, IC46, IC47, IC48, IC49, IC50, IC51, IC52, IC53, IC54, IC55, IC56, IC57, IC58, IC59, IC60, IC61, IC62, IC63, IC64, IC65, IC66, IC67, IC68, IC69, IC70, IC71, IC72, IC73, IC74, IC75, IC76, IC77, IC78, IC79, IC80, IC81, IC82, IC83, IC84, IC85, IC86, IC87, IC88, IC89, IC90, IC91, IC92, IC93, IC94, IC95, IC96, IC97, IC98, IC99, IC100.
- Capacitors:** C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58, C59, C60, C61, C62, C63, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C78, C79, C80, C81, C82, C83, C84, C85, C86, C87, C88, C89, C90, C91, C92, C93, C94, C95, C96, C97, C98, C99, C100.
- Inductors:** L1, L2, L3, L4, L5, L6, L7, L8, L9, L10, L11, L12, L13, L14, L15, L16, L17, L18, L19, L20, L21, L22, L23, L24, L25, L26, L27, L28, L29, L30, L31, L32, L33, L34, L35, L36, L37, L38, L39, L40, L41, L42, L43, L44, L45, L46, L47, L48, L49, L50, L51, L52, L53, L54, L55, L56, L57, L58, L59, L60, L61, L62, L63, L64, L65, L66, L67, L68, L69, L70, L71, L72, L73, L74, L75, L76, L77, L78, L79, L80, L81, L82, L83, L84, L85, L86, L87, L88, L89, L90, L91, L92, L93, L94, L95, L96, L97, L98, L99, L100.
- Other components:** J3 DC IN, BATTERY, CHG, MP2, VCO BOARD, VSHIFT, USHIFT, B6M, 6MOD, LV, VMOD, 6MLV, B144.

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

Underside



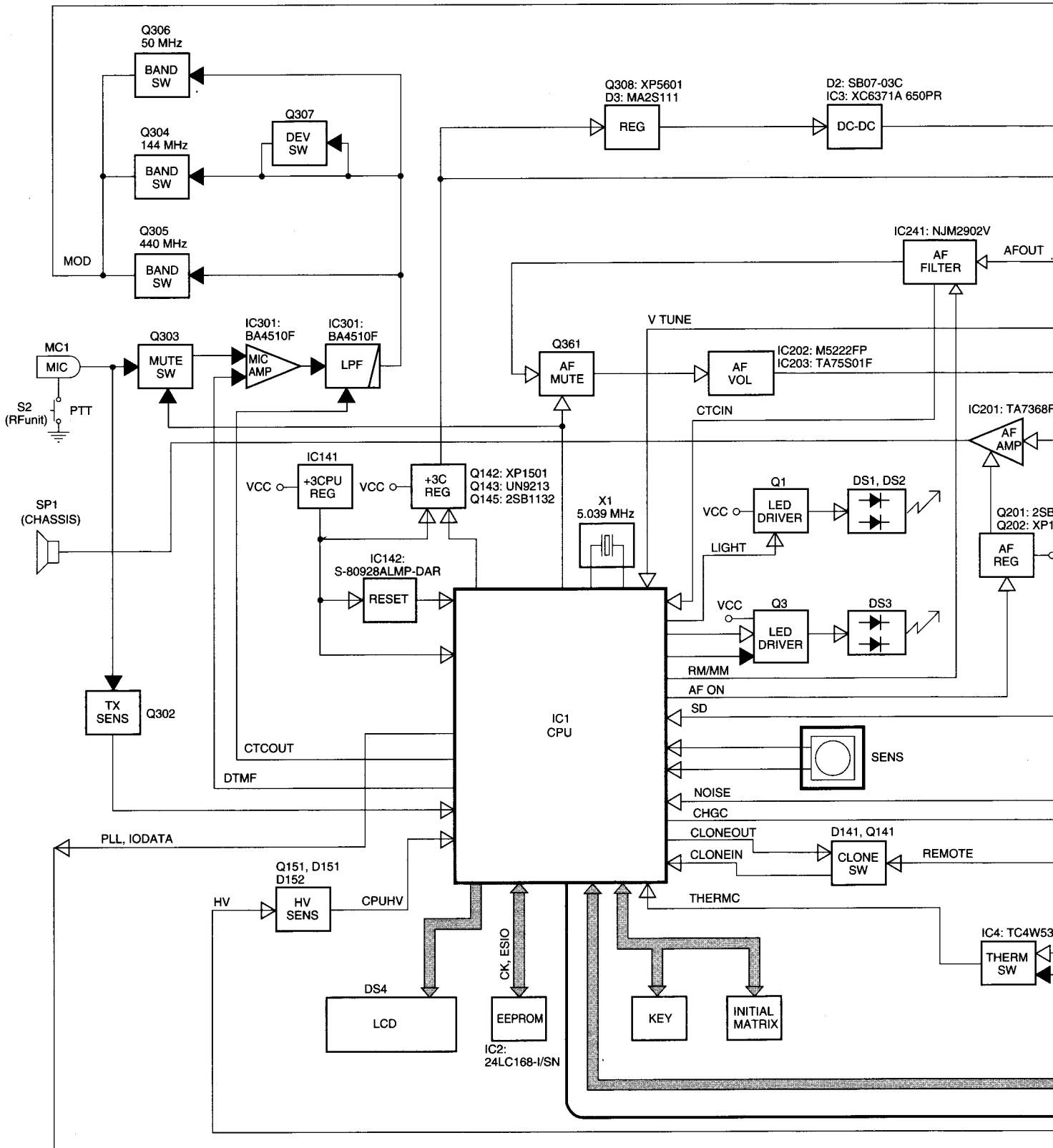
• BOTTOM VIEW

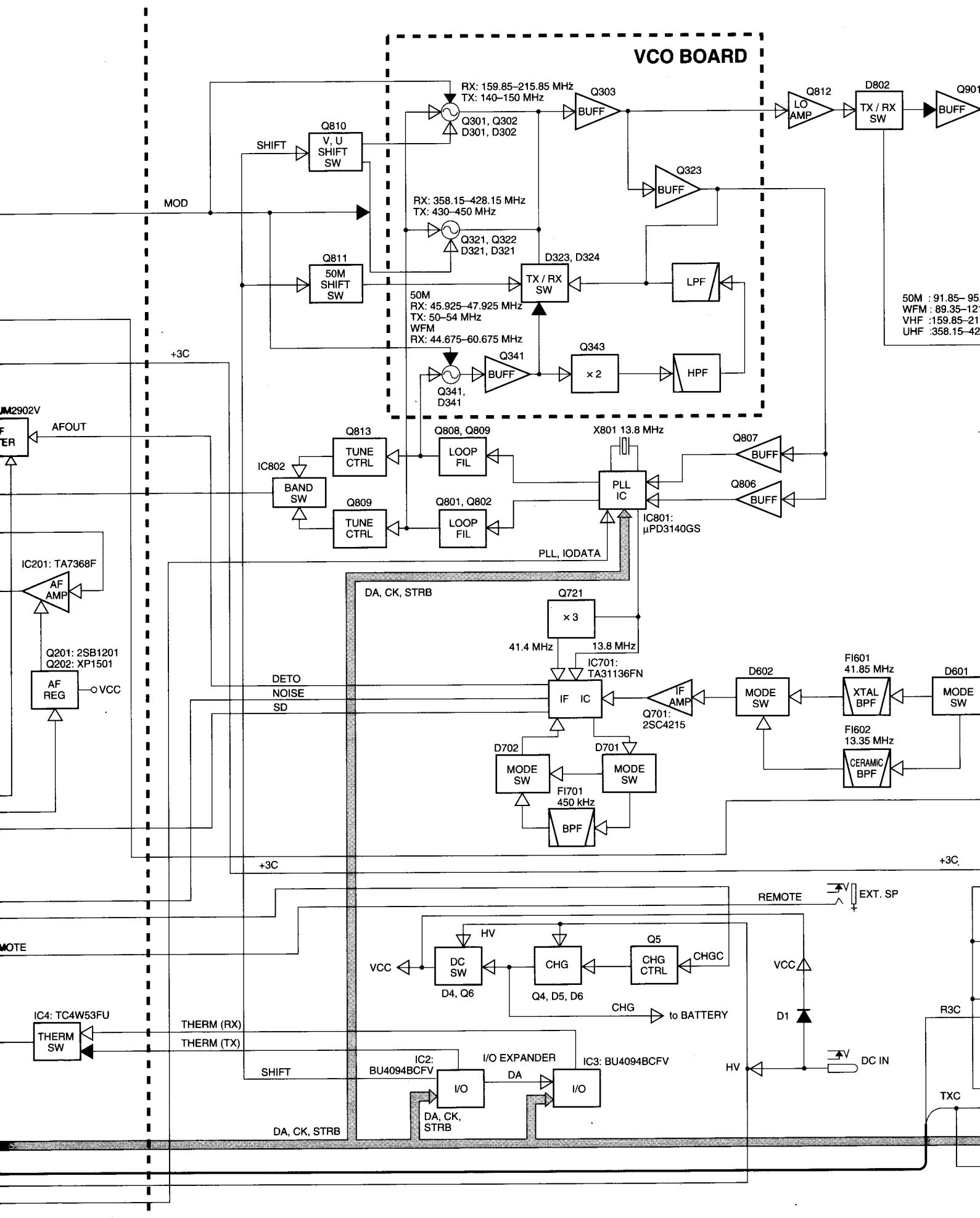


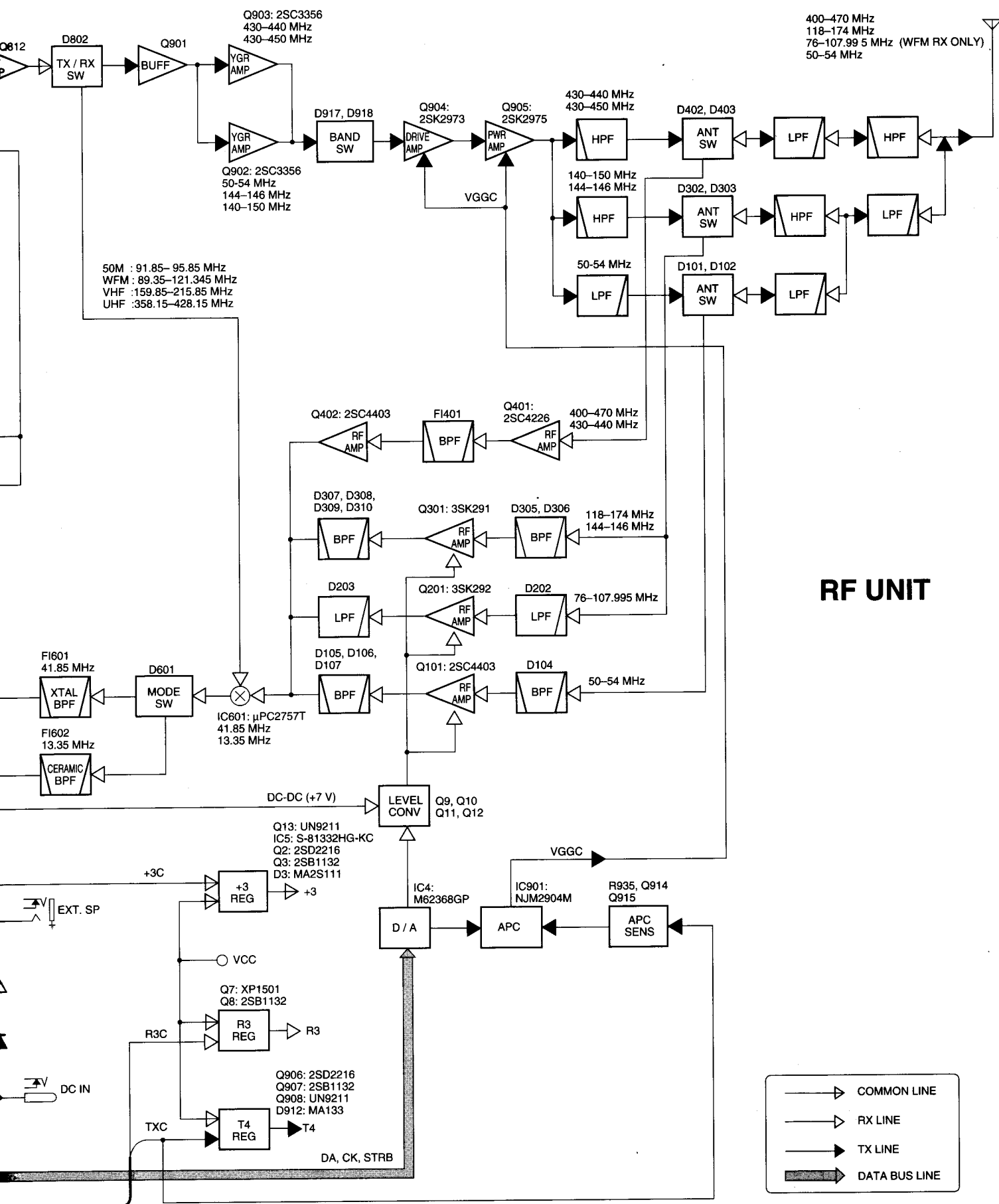
SECTION 10

BLOCK DIAGRAM

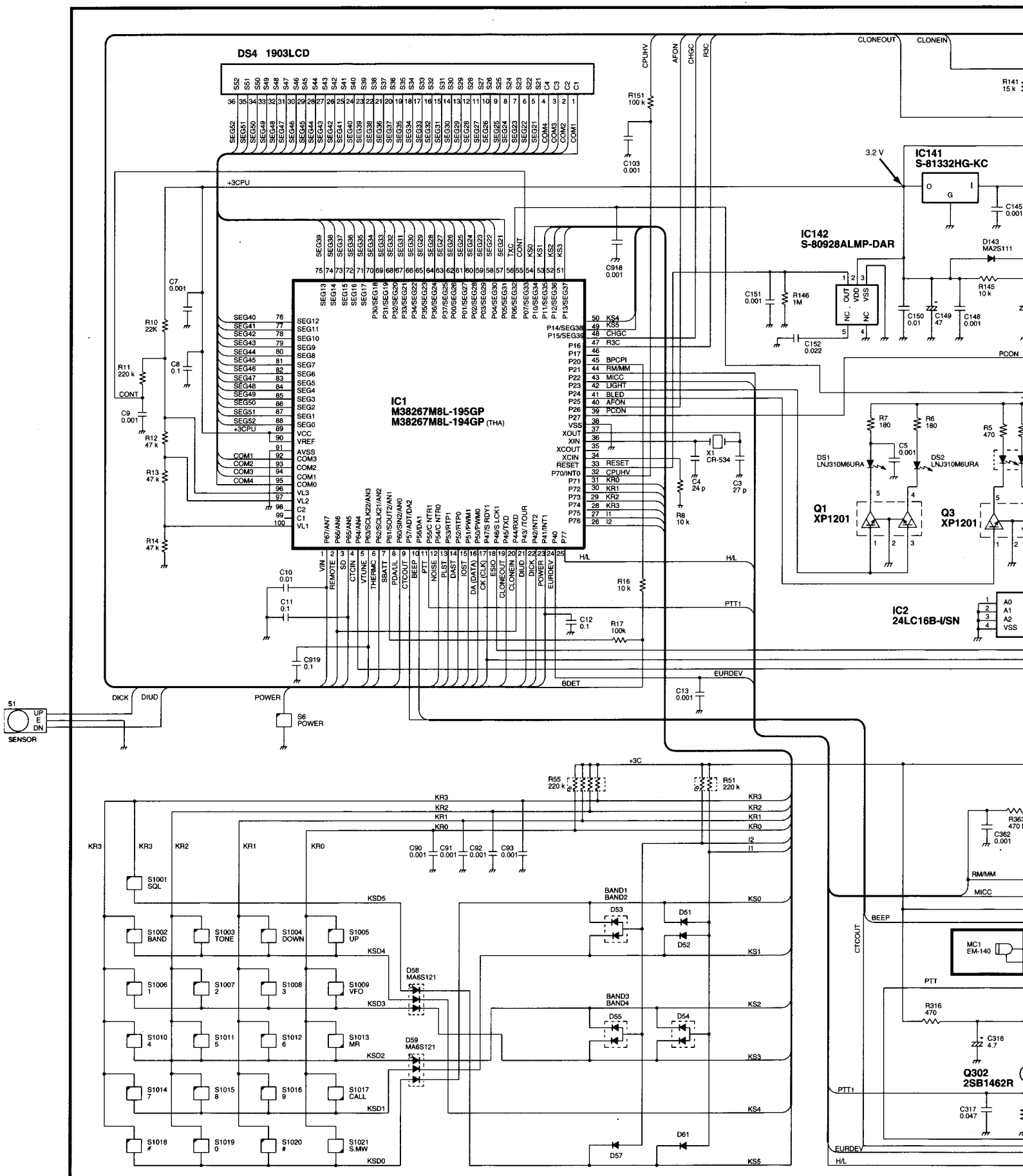
LOGIC UNIT

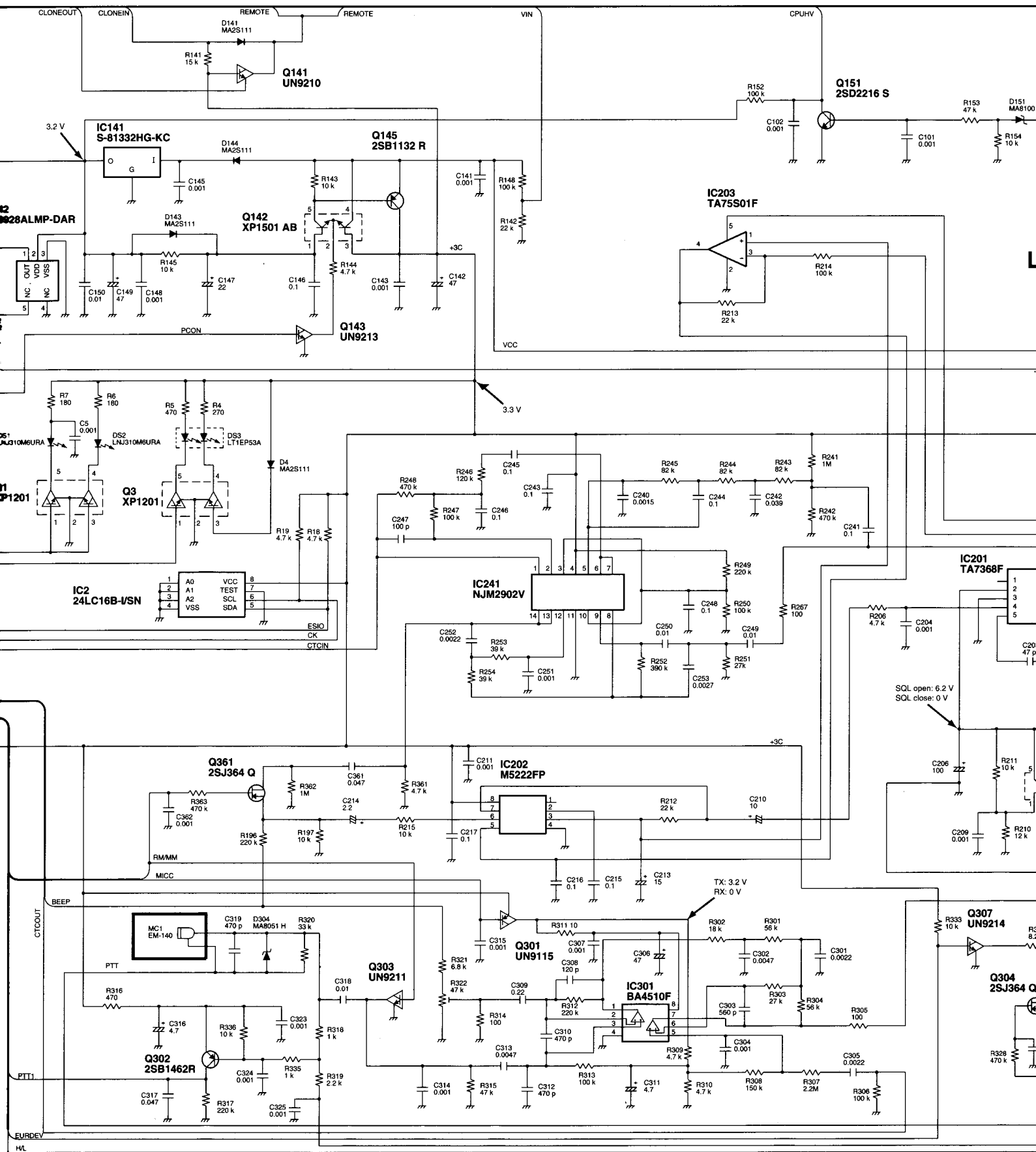


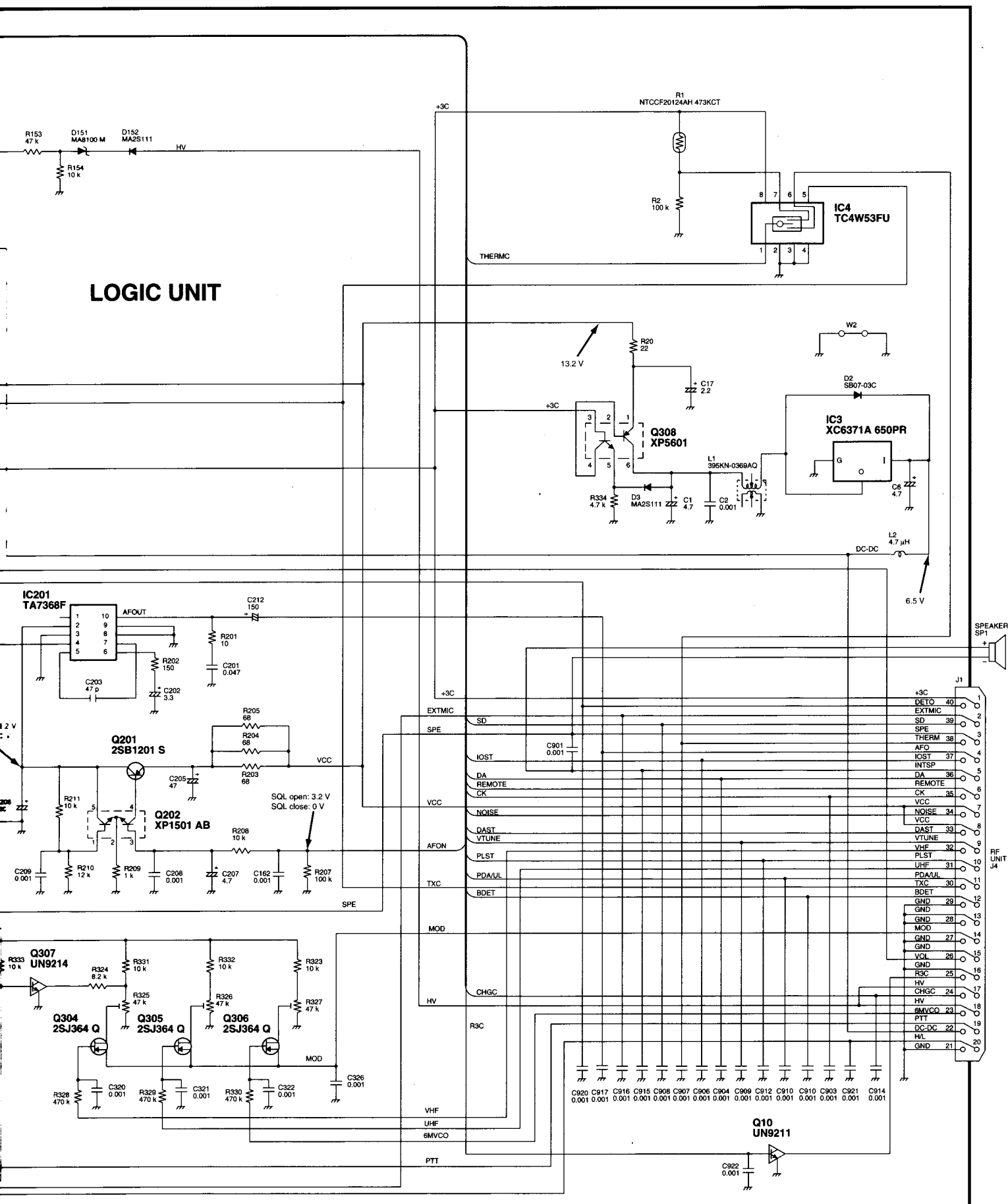


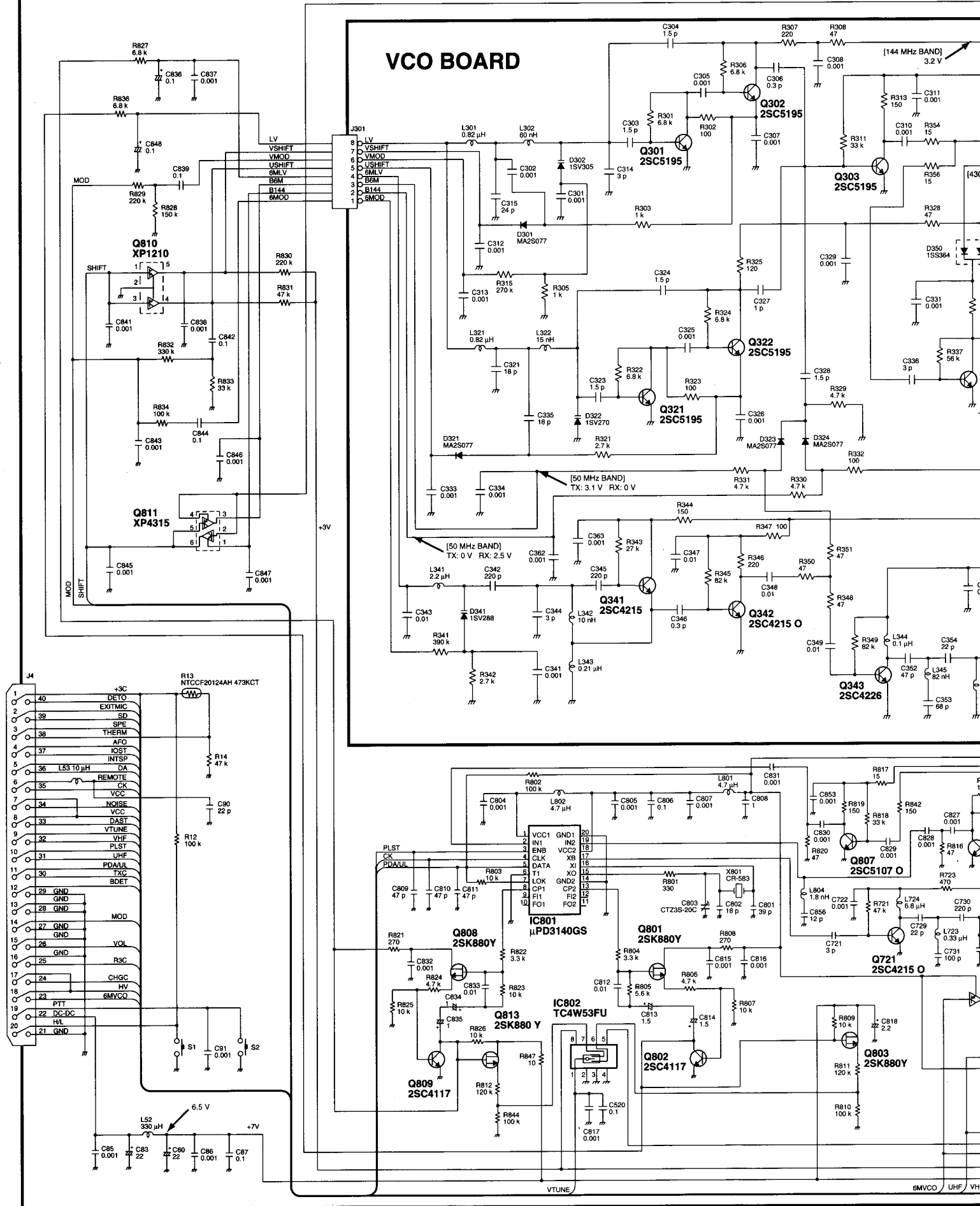


VOLTAGE DIAGRAM













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