



SERVICE MANUAL

UHF TRUNKED RADIO

IC-F4TR

INTRODUCTION

This service manual describes the latest service information for the **IC-F4TR** UHF TRUNKED RADIO at the time of publication.

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 10 V. This will ruin the transceiver.

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

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

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

ORDERING PARTS

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

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

<SAMPLE ORDER>

1110001810 S.IC TA7368F IC-F4TR MAIN UNIT 1 piece
8810009560 Screw PH B0 2×6 ZK IC-F4TR 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.

TABLE OF CONTENTS

SECTION 1	SPECIFICATIONS	
SECTION 2	INSIDE VIEWS	
SECTION 3	DISASSEMBLY INSTRUCTION	
SECTION 4	CIRCUIT DESCRIPTION	
4 - 1	RECEIVER CIRCUITS	4 - 1
4 - 2	TRANSMITTER CIRCUITS	4 - 2
4 - 3	PLL CIRCUIT	4 - 3
4 - 4	POWER SUPPLY CIRCUITS	4 - 3
4 - 5	CPU PORT ALLOCATIONS	4 - 4
SECTION 6	PARTS LIST	
SECTION 7	MECHANICAL PARTS AND DISASSEMBLY	
SECTION 8	SEMI-CONDUCTOR INFORMATIONS	
SECTION 9	BOARD LAYOUTS	
9 - 1	MAIN UNIT	9 - 1
9 - 2	VR BOARD	9 - 1
SECTION 10	BLOCK DIAGRAM	
SECTION 11	VOLTAGE DIAGRAM	

SECTION 1 SPECIFICATIONS

■ GENERAL

Frequency coverage	: 450.000–490.000 MHz
Type of emission	: 16K0F3E (25 kHz) 11K0F3E (12.5 kHz)
Antenna impedance	: 50 Ω nominal
Power supply requirement	: 9.6 V DC (negative ground; supplied battery pack)
Current drain at 9.6 V DC (approx.)	: Transmit 1.4 A (at 4 W) 700 mA (at 1W) Receive 280 mA (max. audio) 110 mA (stan-by)
Frequency error	: ± 2.5 ppm
Usable temperature range	: -30°C to $+60^{\circ}\text{C}$; $+22^{\circ}\text{F}$ to $+140^{\circ}\text{F}$
Dimensions (proj. not included)	: 57(W) \times 140(H) \times 37(D) mm; 2 $\frac{1}{4}$ (W) \times 5 $\frac{1}{2}$ (H) \times 1 $\frac{15}{32}$ (D) inch
Weight (BP-196)	: 390 g; 13.8 oz

■ TRANSMITTER

Output power	: High 4 W Low 1 W
Modulation system	: Variable reactance frequency modulation
Max. frequency deviation	: ± 5.0 kHz (25 kHz) ± 2.5 kHz (12.5 kHz)
Spurious emissions	: 70 dB typical
Adjacent channel power	: 75 dB typical (25 kHz) 70 dB typical (12.5 kHz)
Transmitter audio distortion	: Less than 5 % at 1 kHz, 60 % deviation
Residual modulation	: 40 dB (25 kHz) 34 dB (12.5 kHz)
Limiting charact of modulator	: 60–100 % of max.deviation
Ext. microphone connector	: 3-conductor 2.5(d) mm ($\frac{1}{10}$ ")/2 k Ω

■ RECEIVER

Receive system	: Double-conversion superheterodyne system
Intermediate frequencies	: 1st IF 47.250 MHz, 2nd IF 450 kHz
Sensitivity	: 0.3 μV at 12 dB SINAD
Squelch sencitivity (at threshold)	: 0.3 μV typical
Adjcent channel selectivity	: 70 dB typical (25 kHz) 65 dB typical (12.5 kHz)
Spurious response	: 70 dB typical
Inter modulation rejection ratio	: 75 dB typical
Hum and noise	: 48 dB typical (25 kHz) 34 dB typical (12.5 kHz)
Audio output power (at 9.6 V DC)	: 500 mW typical at 5% distortion with an 8 Ω load
Ext. speaker connector	: 3-conductor 3.5(d) mm ($\frac{1}{8}$ ")/8 Ω

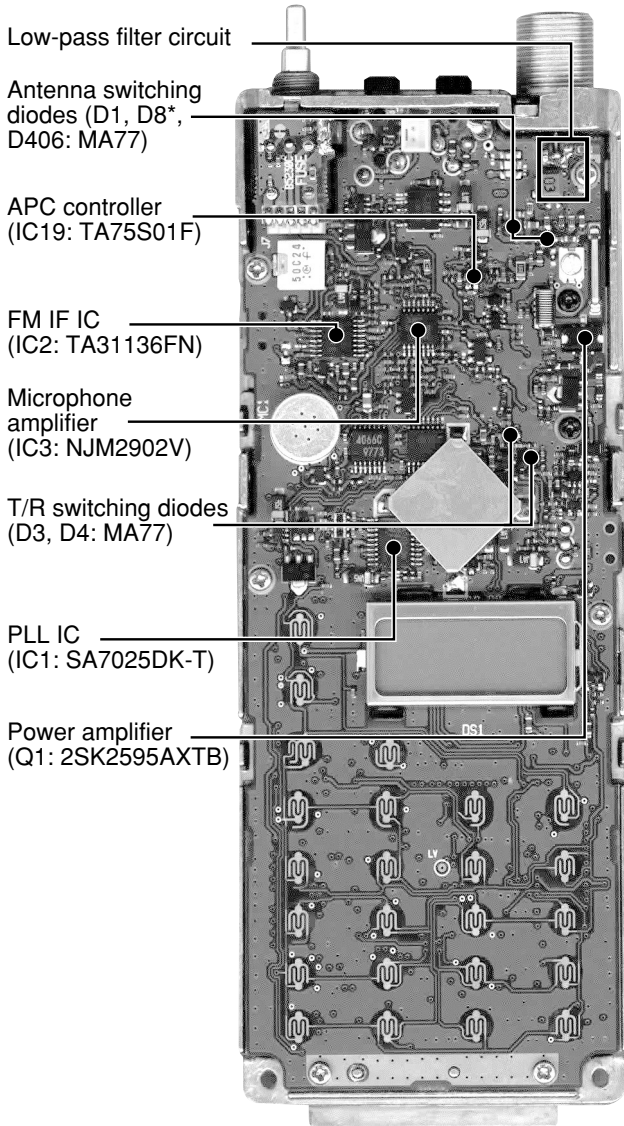
Measurements made in accordance with EIA/TIA-603

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

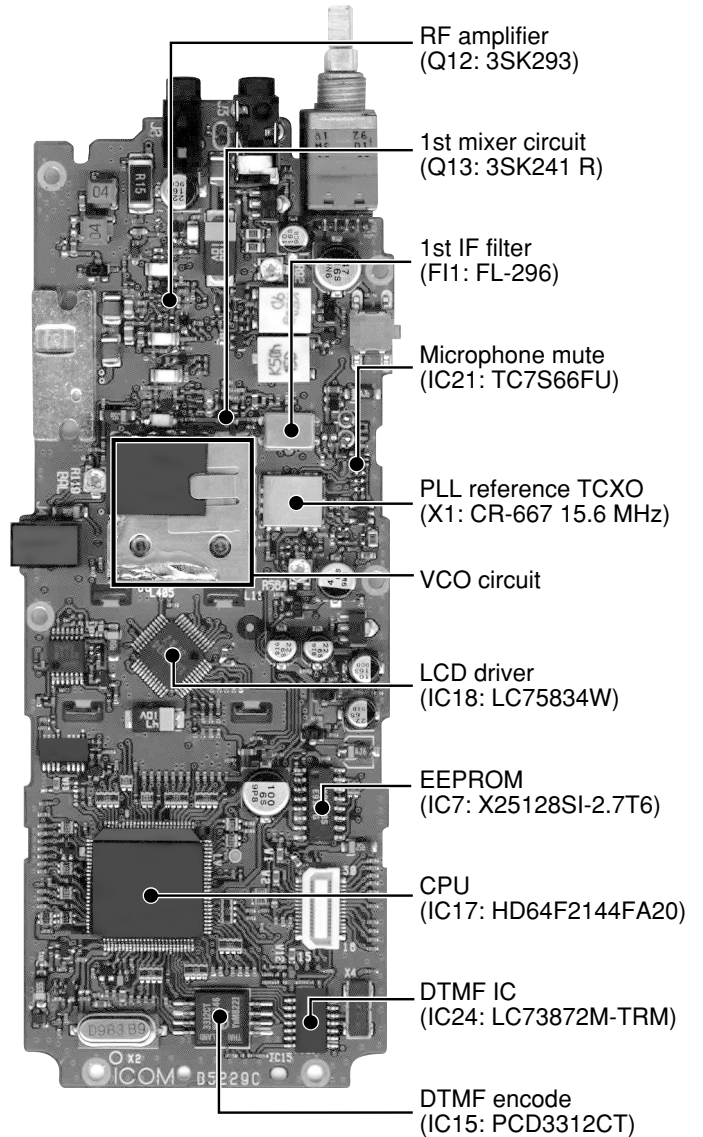
SECTION 2 INSIDE VIEWS

• MAIN UNIT

TOP VIEW



BOTTOM VIEW

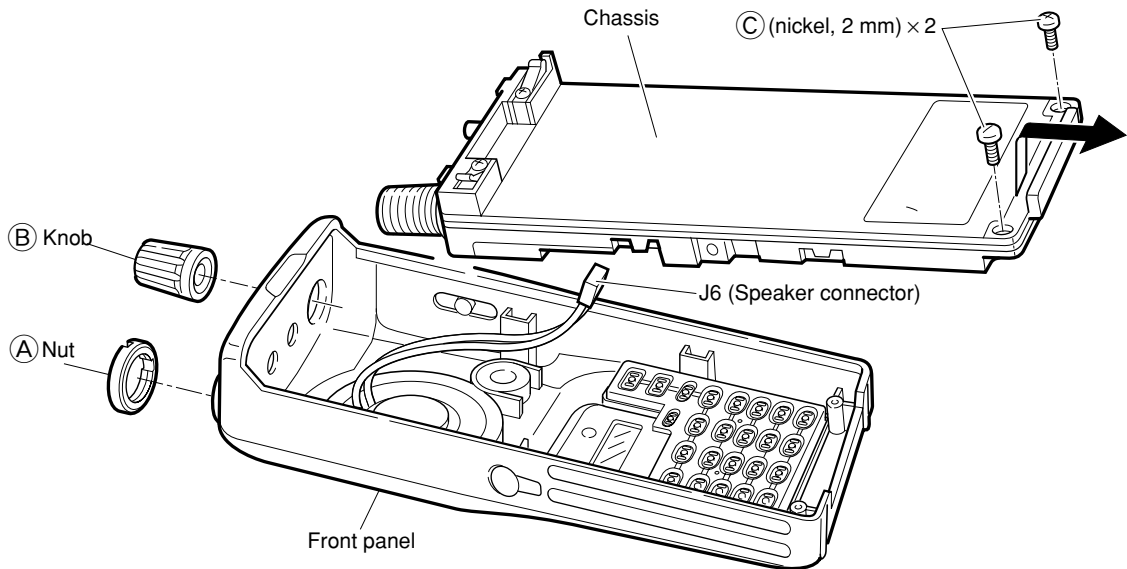


Note: * Located under side of the point.

SECTION 3 DISASSEMBLY INSTRUCTION

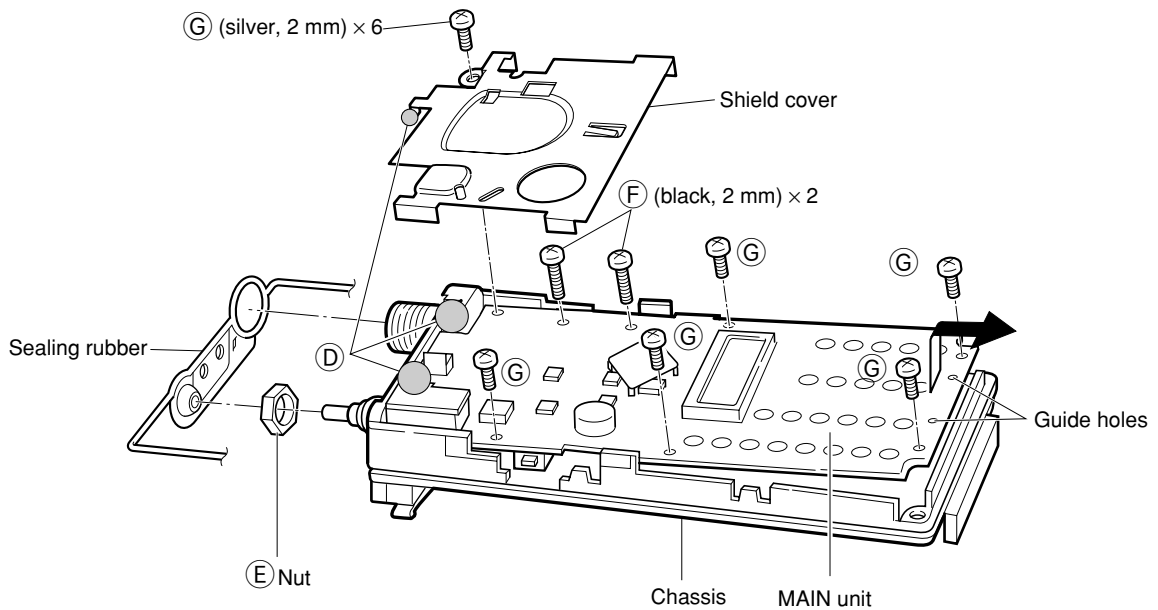
• Removing the chassis panel

- ① Unscrew 1 nut (A), and remove 1 nob (B).
- ② Unscrew 2 screws (C).
- ③ Take off the chassis in the direction of the arrow.
- ④ Unplug J6 to separate front panel and chassis.



• Removing the MAIN unit

- ① Remove the sealing rubber.
- ② Unsolder 3 points (D), and unscrew 1 nut (E).
- ③ Unscrew 2 screws (F) and 6 screws (G) (silver, 2 mm) to separate the chassis and MAIN unit.
- ④ Take off the MAIN unit in the direction of the arrow.



SECTION 4 CIRCUIT DESCRIPTION

4-1 RECEIVER CIRCUITS

4-1-1 ANTENNA SWITCHING CIRCUIT

Received signals are passed through the low-pass filter (L1–L3, C3–C5, C7). The filtered signals are applied to the $\frac{1}{4}$ type antenna switching circuit (D406, D8).

The antenna switching circuit functions as a low-pass filter while receiving. However, its impedance becomes very high while D406 and D8 are turned ON. Thus transmit signals are blocked from entering the receiver circuits. The antenna switching circuit employs a $\frac{1}{4}$ type diode switching system.

The passed signals are then applied to the RF amplifier circuit.

4-1-2 RF CIRCUIT

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

The signals from the antenna switching circuit are amplified at the RF amplifier (Q12) after passing through the tunable bandpass filter (D10, L17). The amplified signals are applied to the 1st mixer circuit (Q13) after out-of-band signals are suppressed at the tunable bandpass filter (D401, L18, D11, L402, D12, L19).

Varactor diodes are employed at the bandpass filters that track the filters and are controlled by the CPU (IC17) via the expander IC (IC10) using T1–T4 signals. These diodes tune the centre frequency of an RF passband for wide bandwidth receiving and good image response rejection.

4-1-3 1ST MIXER AND 1ST IF CIRCUITS

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

The signals from the RF circuit are mixed at the 1st mixer (Q13) with a 1st LO signal coming from the VCO circuit to produce a 47.25 MHz 1st IF signal.

The 1st IF signal is applied to a crystal filter (F11) to suppress out-of-band signals. The filtered 1st IF signal is applied to the IF amplifier (Q400), then applied to the 2nd mixer circuit (IC2, pin 16).

4-1-4 2ND IF AND DEMODULATOR CIRCUITS

The 2nd mixer circuit converts the 1st IF signal into 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 1st IF signal from the IF amplifier is applied to the 2nd mixer section of the FM IF IC (IC2, pin 16), and is mixed with the 2nd LO signal to be converted into a 450 kHz 2nd IF signal.

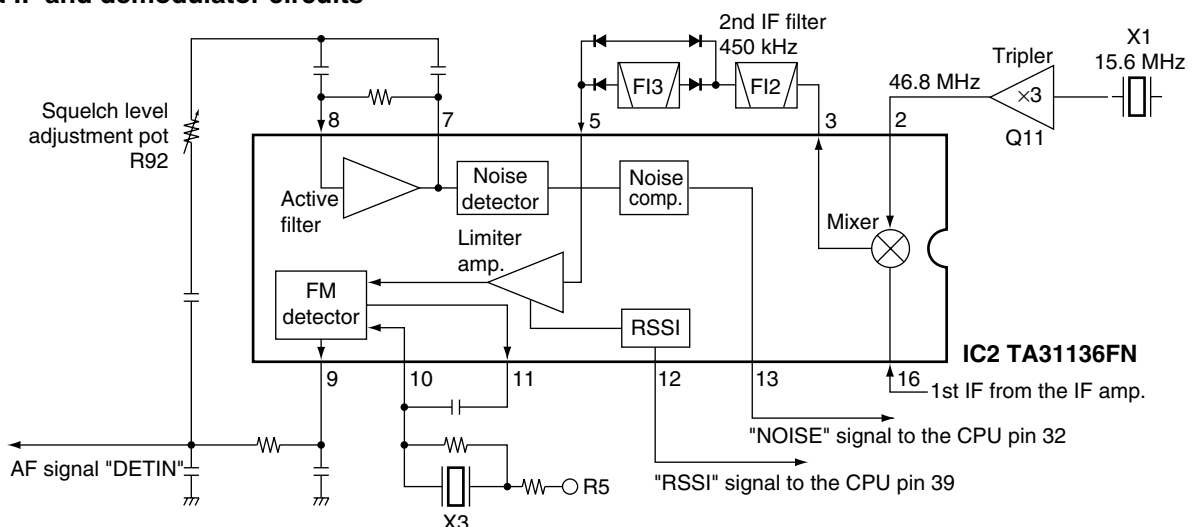
The FM IF IC contains the 2nd mixer, limiter amplifier, quadrature detector and active filter circuits. A 2nd LO signal (46.8 MHz) is produced at the PLL circuit by tripling its reference frequency.

The 2nd IF signal from the 2nd mixer (IC2, pin 3) passes through ceramic filters (F12, F13) during narrow channel spacing selection or F12 only (bypassing F13) during wide channel spacing selection to remove unwanted heterodyned frequencies. It is then amplified at the limiter amplifier (IC2, pin 5) and applied to the quadrature detector (IC2, pins 10, 11) to demodulate the 2nd IF signal into AF signals.

4-1-5 AF CIRCUIT

AF signals from the FM IF IC (IC2, pin 9) are applied to the analog switch (IC4, pin 1) via the high-pass filter circuits (IC3a, pins 3, 1 and IC3b, pins 5, 7). The output signals from pin 11 (IC4) are applied to the AF power amplifier (IC5, pin 4) after being passed through the [VOL] control (VR board, R1).

• 2nd IF and demodulator circuits



The applied AF signals are amplified at the AF power amplifier circuit (IC5, pin 4) to obtain the specified audio level. The amplified AF signals, output from pin 10, are applied to the internal speaker (SP1) via the [SP] jack when no plug is connected to the jack.

4-1-6 SQUELCH CIRCUIT

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

A portion of the AF signals from the FM IF IC (IC2, pin 9) are applied to the active filter section (IC2, pin 8) where noise components are amplified and detected with an internal noise detector. The squelch level adjustment pot (R92) is connected in parallel to the active filter input (pin 8) to control the input noise level.

The active filter section amplifies noise components. The filtered signals are rectified at the noise detector section and converted into "NOISE" (pulse type) signals at the noise comparator section (IC2, pin13). The "NOISE" signal is applied to the CPU (IC17, pin 32).

The CPU detects the receiving signal strength from the number of the pulses, and outputs an "RMUTE" signal from pin 94. This signal controls the analog switch (IC4) to cut the AF signal line.

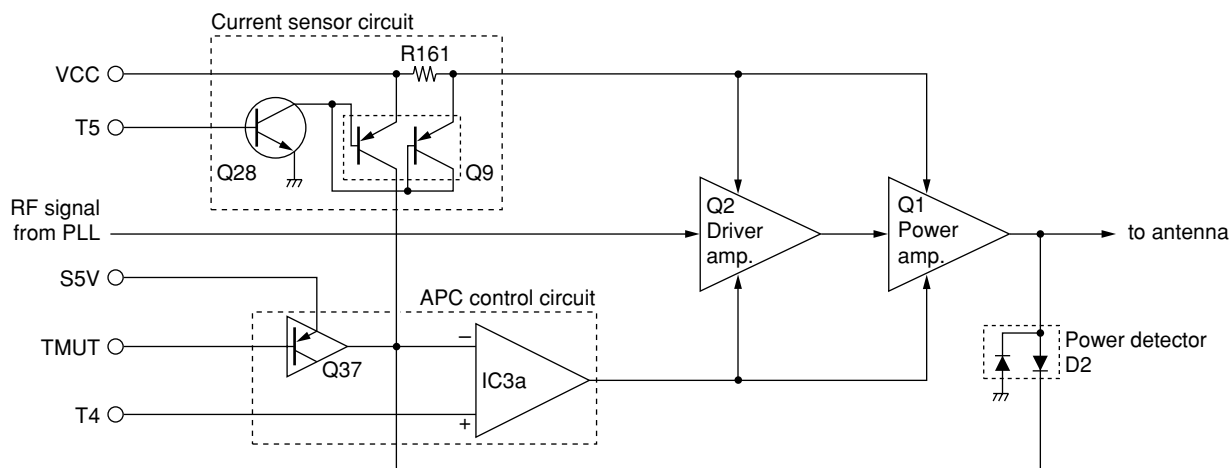
4-2 TRANSMITTER CIRCUITS

4-2-1 MICROPHONE AMPLIFIER CIRCUIT

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

The AF signals from the microphone are applied to the microphone amplifier circuit (IC3c, pin 10). The amplified AF signals are passed through the deviation adjustment pot (R584), analog switch (IC4, pins 2–4) and low-pass filter circuit (IC3d, pins 13, 14). The filtered AF signals are applied to the modulator circuit after being passed through the analog switch (IC4, pins 8–10) and the modulation balance adjustment pot (R119).

• APC circuit



4-2-2 MODULATION CIRCUIT

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

The audio signals change the reactance of a diode (D404) to modulate an oscillated signal at the TX-VCO circuit (Q7). The oscillated signal is amplified at the buffer-amplifiers (Q6, Q4), then applied to the T/R switching circuit (D3, D4).

4-2-3 DRIVE/POWER AMPLIFIER CIRCUITS

The signal from the TX-VCO circuit passes through the T/R switching circuit (D3) and is amplified at the buffer (Q403) pre-drive (Q3), drive (Q2) and power (Q1) amplifiers to obtain 4 W of RF power (at 9.6 V DC). The amplified signal passes through the antenna switching circuit (D1), and low-pass filter and is then applied to the antenna connector.

The bias current of the drive (Q2) and power (Q1) amplifiers is controlled by the APC circuit.

4-2-4 CURRENT DETECTOR CIRCUIT

The current detector circuit (Q9, Q28) detects the total driving current of the drive and the power amplifiers, using the current sensor (R161). The differential amplifier (Q9) detects the voltage difference of the current sensor input and output voltages, then outputs control voltage to the CPU (IC17, pin 41).

4-2-5 POWER DETECTOR CIRCUIT

The power detector circuit (D2) detects the transmit power output level and converts it into DC voltage. The detected signal is applied to the APC circuit (IC19).

4-2-6 APC CIRCUIT

The APC circuit (IC19, Q37) protects the drive and the power amplifiers from excessive current drive, and selects HIGH or LOW output power.

The signal output from the power detector circuit (D2) is applied to the differential amplifier (IC19, pin 3), and the "T4" signal from the expander (IC10, pin 14), controlled by the CPU (IC17), is applied to the other input for reference.

When the driving current is increased, input voltage of the differential amplifier (IC19, pin 3) will be increased. In such cases, the differential amplifier output voltage (pin 4) is decreased to reduce the driving current.

4-3 PLL CIRCUIT

A PLL circuit provides stable oscillation of the transmit frequency and receive 1st LO frequency. The PLL output compares the phase of the divided VCO frequency to the reference frequency. The PLL output frequency is controlled by the divided ratio (N-data) of a programmable divider.

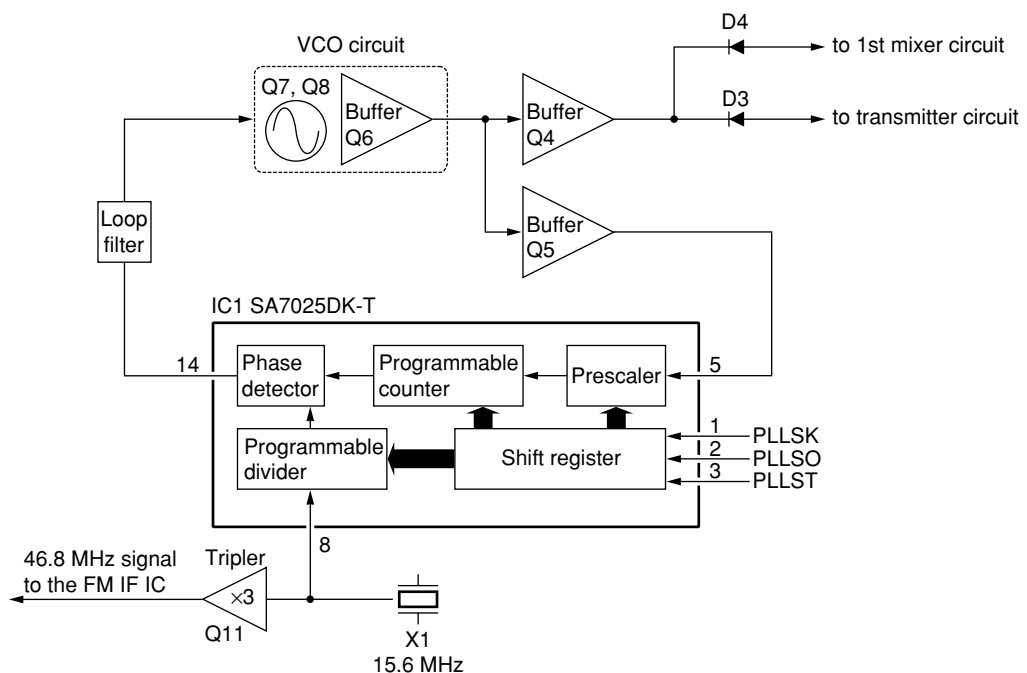
The PLL circuit contains a separate TX-VCO circuit (Q7, D403, L405, C418, C421–C423, C475) and RX-VCO circuit (Q8, D5, L11, C410–C414). The oscillated signal is amplified at the buffer-amplifiers (Q6, Q4) and then applied to the T/R switching circuit (D3, D4). The signal from the TX-VCO circuit is applied to the drive amplifier circuit and the RX-VCO signal to the 1st mixer circuit via the attenuator (R447–R449).

A portion of the VCO signal from the buffer amplifier (Q6) is amplified at the buffer amplifier (Q5) and is then fed back to the PLL IC (IC1, pin 5).

The PLL IC contains a prescaler, programmable counter, programmable divider phase detector and etc. The entered signal is divided at the prescaler and programmable counter section by the N-data ratio from the CPU. The divided signal is detected on phase at the phase detector using the reference frequency.

If the oscillated signal drifts, its phase changes from that of the reference frequency, causing a lock voltage change to compensate for the drift in the oscillated frequency.

• PLL circuit



4-4 POWER SUPPLY CIRCUITS VOLTAGE LINE

Line	Description
HV	The voltage from the attached battery pack.
VCC	The same voltage as the HV line (battery voltage) which is controlled by the power switch ([VOL] control).
CPU5	Common 5 V converted from the VCC line by the reference regulator circuit (IC6). The output voltage is applied to the CPU (IC17) and the 5V regulator circuit.
5V	Common 5 V converted from the VCC line by the 5 V regulator circuit (Q18, Q19) using the reference regulator (IC6).
T5	5 V for transmitter circuits regulated by the T5 regulator circuit (Q22).
R5	5 V for receiver circuits regulated by the R5 regulator circuit (Q21).
S5	Common 5 V converted from the 5V line by the S5 regulator circuit (Q20).
OPT	The same voltage as the 5V line for the optional HM-75A or HS-51 through a resistor (R132).

4-5 PORT ALLOCATIONS

CPU (IC17)

Pin number	Port name	Description
1	RES	Input port for the reset signal.
5	MD1	Input port for writing control signal. Low : Writing to CPU (IC17)
10	CSHIFT	Outputs CPU clock shift signal.
11	MODEL	Input port for model detect signal.
13	RXD	Input port for the cloning data from the buffer (D27).
14	TXD	Output port for the cloning data to the buffer (Q31).
16	DTMFSD	Outputs data signal for the DTMF encoder (IC15).
18	DTMFCK	Outputs clock signal for the DTMF encoder (IC15).
19	DAST	Outputs strobe signals to the expander IC (IC10).
20	DTACK	Input port for the DTMF clock signal from the DTMF decoder (IC24).
21	DTSD	Input port for the DTMF decoding signal from the DTMF decoder (IC24).
26	SN RX	I/O port for the optional unit.
29	BWC	Outputs bandwidth control signal for the data filter (IC12).
32	NOISE	Input port for noise signals (pulse-type) for noise squelch operation.
33	MMUTE	Outputs mic. audio mute control signal to the audio switch (IC25). High : While DTMF signals are being transmitted, etc.
38	BATIN	Input port for battery voltage detection.
39	RSSI	Input port for receiving signal strength level detection.
40	TEMPS	Input port for the internal temperature detection.
41	ISENS	Input port for the current detection signal from the current sensor circuit (Q9, Q28, R161).
42	LVIN	Input port for PLL lock voltage.
43	TDET	Input port for the subaudible tone decoding.
44	SAUD	Output port for the subaudible tone
49	MSO	Outputs serial signal for the LCD driver, EEPROM and etc.
50	MSI	Input port for serial signal from the LCD driver, EEPROM and etc.
51	MSCK	Outputs clock signal for the LCD driver, EEPROM and etc.
52	R5C	Outputs R5 regulator control signal. Low: While receiving

Pin number	Port name	Description
53	BEEP	Outputs beep audio signals.
54	T5C	Outputs T5 regulator control signal. Low: While transmitting
55	TMUT	Outputs transmit mute signal. High : During unlock or while muted
57	VCOSW	Outputs VCO switching signal. High : While transmitting
60	ULOCK	Input port for the PLL unlock signal. High : During unlock
62	PLLST	Outputs strobe signals for the PLL IC (IC1).
63	PLLSD	Outputs data signal for the PLL IC (IC1).
64	PLLCK	Outputs clock signal for the PLL IC (IC1).
65	W/N	Outputs N/W switch control signal. High : While narrow is selected
78	CLR/ CODE	I/O port for the optional unit.
79	OPTB	I/O port for the optional unit.
81	BKLED	Outputs LCD backlight control signal. High : LCD backlight is ON
84	RMUTE	Outputs the analog switch (IC4) control signal (incl. beep). Low : While squelched, etc.
85	AFON	Outputs the control signal for the AF amplifier regulator circuit. High: While AF amp. is activated.
90	PTTIN	Input port for the PTT control signal from the PTT control switch (Q17).
91	TXLED	Outputs TX LED control signal.
93	S5C	Outputs S5 regulator control signal.
94	FSW	Outputs high-pass filter's characteristics select signal. High : During CTCSS operation
95	SN TR	I/O port for the optional unit.
96	EEPCS	Outputs chip select signal for EEPROM.
97	XTXD	Output port for the programming data to a flash writer.
98	XRXD	Input port for the programming data from a flash writer.
99	DTSTD	Input port for data signal from DTMF decoder (IC24).

SECTION 6 PARTS LIST

[MAIN UNIT]

REF NO.	ORDER NO.		DESCRIPTION
IC1	1130009130	S.IC	SA7025DK-T
IC2	1110003490	S.IC	TA31136FN (D,EL)
IC3	1110003780	S.IC	NJM2902V-TE1
IC4	1130008090	S.IC	BU4066BCFV-E1
IC5	1110001810	S.IC	TA7368F (TP1)
IC6	1180001940	S.IC	S-81250SGUP-DQD-T1
IC7	1130008400	S.IC	X25128SI-2.7T6
IC10	1110003690	S.IC	M62354GP 75EC
IC11	1110004880	S.IC	S-80842ALNP-EA6-T2
IC12	1110003780	S.IC	NJM2902V-TE1
IC13	1130006220	S.IC	TC4W53FU (TE12L)
IC15	1130007770	S.IC	PCD3312CT
IC16	1130006220	S.IC	TC4W53FU (TE12L)
IC17	1140007600	S.IC	HD64F2144FA20
IC18	1130009090	S.IC	LC75834W
IC19	1110002750	S.IC	TA75S01F (TE85R)
IC20	1110002750	S.IC	TA75S01F (TE85R)
IC21	1130007020	S.IC	TC7S66FU (TE85R)
IC22	1130008560	S.IC	TC75S51F (TE85L)
IC23	1110002750	S.IC	TA75S01F (TE85R)
IC24	1130009700	S.IC	LC73872M-TRM
IC25	1110002750	S.IC	TA75S01F (TE85R)
Q1	1560000950	S.FET	2SK2595AXTB
Q2	1560000960	S.FET	2SK2596BXTL
Q3	1530002620	S.TRANSISTOR	2SC3585 R44-T2B
Q4	1530003310	S.TRANSISTOR	2SC5107-O (TE85R)
Q5	1530003310	S.TRANSISTOR	2SC5107-O (TE85R)
Q6	1530003310	S.TRANSISTOR	2SC5107-O (TE85R)
Q7	1530002920	S.TRANSISTOR	2SC4226-T2 R25
Q8	1530002920	S.TRANSISTOR	2SC4226-T2 R25
Q9	1590002160	S.TRANSISTOR	XP6401-(TX)
Q11	1530002060	S.TRANSISTOR	2SC4081 T107 R
Q12	1580000730	S.FET	3SK293 (TE85L)
Q13	1580000680	S.FET	3SK241-R (TX)
Q15	1520000460	S.TRANSISTOR	2SB1132 T100 R
Q16	1590001190	S.TRANSISTOR	XP6501-(TX) .AB
Q17	1590002530	S.TRANSISTOR	UN911H (TX)
Q18	1520000460	S.TRANSISTOR	2SB1132 T100 R
Q19	1590001190	S.TRANSISTOR	XP6501-(TX) .AB
Q20	1510000580	S.TRANSISTOR	2SA1362-GR (TE85R)
Q21	1510000580	S.TRANSISTOR	2SA1362-GR (TE85R)
Q22	1510000580	S.TRANSISTOR	2SA1362-GR (TE85R)
Q23	1530002060	S.TRANSISTOR	2SC4081 T107 R
Q25	1530000160	S.TRANSISTOR	2SC2712-Y (TE85RTEM)
Q27	1520000460	S.TRANSISTOR	2SB1132 T100 R
Q28	1530002060	S.TRANSISTOR	2SC4081 T107 R
Q31	1590000660	S.TRANSISTOR	DTC144TU T107
Q34	1560000540	S.FET	2SK880-Y (TE85R)
Q37	1590000720	S.TRANSISTOR	DTA144EUA T106
Q400	1530002600	S.TRANSISTOR	2SC4215-O (TE85R)
Q401	1590001400	S.TRANSISTOR	XP1214 (TX)
Q402	1590001400	S.TRANSISTOR	XP1214 (TX)
Q403	1530003310	S.TRANSISTOR	2SC5107-O (TE85R)
Q404	1530002850	S.TRANSISTOR	2SC4116-BL (TE85R)
Q405	1590000430	S.TRANSISTOR	DTC144EUA T106
Q407	1590000720	S.TRANSISTOR	DTA144EUA T106
Q413	1590000430	S.TRANSISTOR	DTC144EUA T106
Q415	1590000430	S.TRANSISTOR	DTC144EUA T106
Q417	1590000430	S.TRANSISTOR	DTC144EUA T106
Q419	1590001650	S.TRANSISTOR	XP4601 (TX)
Q420	1560000810	S.FET	2SK1069-4-TL
Q422	1590000430	S.TRANSISTOR	DTC144EUA T106
Q425	1560000810	S.FET	2SK1069-4-TL
Q426	1560000810	S.FET	2SK1069-4-TL
Q427	1560000840	S.FET	2SK1829 (TE85R)
D1	1790000620	S.DIODE	MA77 (TX)
D2	1790000490	S.DIODE	HSM88AS-TR
D3	1790000620	S.DIODE	MA77 (TX)
D4	1790000620	S.DIODE	MA77 (TX)
D5	1720000370	S.VARICAP	HVU350TRF
D8	1790000620	S.DIODE	MA77 (TX)

[MAIN UNIT]

REF NO.	ORDER NO.		DESCRIPTION
D10	1720000370	S.VARICAP	HVU350TRF
D11	1720000370	S.VARICAP	HVU350TRF
D12	1720000370	S.VARICAP	HVU350TRF
D15	1790001250	S.DIODE	MA2S111-(TX)
D24	1750000130	S.DIODE	DA204U T107
D25	1790000670	S.DIODE	SB07-03C-TB
D27	1750000130	S.DIODE	DA204U T107
D400	1790001210	S.DIODE	1SS375-TL
D401	1720000370	S.VARICAP	HVU350TRF
D402	1790001210	S.DIODE	1SS375-TL
D403	1720000370	S.VARICAP	HVU350TRF
D404	1720000520	S.VARICAP	1T365-01-T8A
D405	1720000360	S.DIODE	HSU88TRF
D406	1790000620	S.DIODE	MA77 (TX)
D407	1790001250	S.DIODE	MA2S111-(TX)
D408	1790001250	S.DIODE	MA2S111-(TX)
D409	1790000620	S.DIODE	MA77 (TX)
D410	1160000060	S.DIODE	DAN202U T107
D411	1160000060	S.DIODE	DAN202U T107
D412	1750000520	S.DIODE	DAN222TL
D413	1790001250	S.DIODE	MA2S111-(TX)
F11	2010002310	S.MONOLITH	FL-296 (47.250 MHz)
F12	2020001580	S.CERAMIC	PBFC450P15D
F13	2020001570	S.CERAMIC	PBFC450P9D
F14	2040001440	S.LC	NFM60R20T152
X1	6050010960	S.XTAL	CR-667 (15.600 MHz)
X2	6050009870	S.XTAL	CR-567 (9.8304 MHz)
X3	6070000210	S.DISCRIMINATOR	CDBCA450CX24
X4	6060000550	S.CERAMIC	PBRC 3.58AR
L1	6200005780	S.COIL	33CS-Y655LY-03K=P3
L2	6200005770	S.COIL	33CS-Y655LY-04K=P3
L3	6200005770	S.COIL	33CS-Y655LY-04K=P3
L5	6110003230	S.COIL	LA-515
L6	6200009070	S.COIL	LQW1608A18NG00
L7	6200005700	S.COIL	ELJRE 22NG-F
L8	6200005710	S.COIL	ELJRE 27NG-F
L9	6200005710	S.COIL	ELJRE 27NG-F
L11	6200003690	S.COIL	MC152-E558ANA-100051=P3
L12	6200003550	S.COIL	MLF1608A 4R7K-T
L13	6200003960	S.COIL	MLF1608A 1R0K-T
L14	6200005680	S.COIL	ELJRE 15NG-F
L15	6200009220	S.COIL	LQW1608A15NG00
L17	6200002320	S.COIL	LQN 1A 8N8J04
L18	6200002320	S.COIL	LQN 1A 8N8J04
L19	6200002320	S.COIL	LQN 1A 8N8J04
L20	6200004480	S.COIL	MLF1608D R82K-T
L21	6200005740	S.COIL	ELJRE 47NG-F
L22	6200004660	S.COIL	MLF1608A 1R8K-T
L24	6200004480	S.COIL	MLF1608D R82K-T
L25	6200004480	S.COIL	MLF1608D R82K-T
L26	6200003590	S.COIL	EXCCL3225U1
L27	6200003590	S.COIL	EXCCL3225U1
L400	6200007740	S.COIL	LQN21A 47NJ04
L401	6200009220	S.COIL	LQW1608A15NG00
L402	6200002320	S.COIL	LQN 1A 8N8J04
L403	6200004780	S.COIL	MLF1608A 1R5K-T
L404	6200004780	S.COIL	MLF1608A 1R5K-T
L405	6200004110	S.COIL	MC152-E558ANA-100050
L406	6200004780	S.COIL	MLF1608A 1R5K-T
L407	6200003550	S.COIL	MLF1608A 4R7K-T
L409	6200003550	S.COIL	MLF1608A 4R7K-T
L410	6200003960	S.COIL	MLF1608A 1R0K-T
L411	6200005710	S.COIL	ELJRE 27NG-F
L412	6200003960	S.COIL	MLF1608A 1R0K-T
L414	6200003540	S.COIL	MLF1608D R22K-T
L415	6200003590	S.COIL	EXCCL3225U1
L417	6200003550	S.COIL	MLF1608A 4R7K-T
L418	6200004780	S.COIL	MLF1608A 1R5K-T
L419	6200004780	S.COIL	MLF1608A 1R5K-T

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
L420	6200004780	S.COIL	MLF1608A 1R5K-T
L421	6200004780	S.COIL	MLF1608A 1R5K-T
L422	6200004780	S.COIL	MLF1608A 1R5K-T
L423	6200004780	S.COIL	MLF1608A 1R5K-T
L424	6200004780	S.COIL	MLF1608A 1R5K-T
L425	6200005650	S.COIL	ELJRE 8N2Z-F
L426	6200005650	S.COIL	ELJRE 8N2Z-F
L427	6200005670	S.COIL	ELJRE 12NG-F
L428	6200006770	S.COIL	ELJRE 1N5Z-F
R1	7030003670	S.RESISTOR	ERJ3GEYJ 823 V (82 kΩ)
R2	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R3	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R7	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R8	7030005210	S.RESISTOR	ERJ2GEJ 822 X (8.2 kΩ)
R9	7030005210	S.RESISTOR	ERJ2GEJ 822 X (8.2 kΩ)
R12	7030005220	S.RESISTOR	ERJ2GEJ 223 X (22 kΩ)
R13	7030005530	S.RESISTOR	ERJ2GEJ 100 X (10 Ω)
R14	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R15	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R17	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R18	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R19	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R20	7030005070	S.RESISTOR	ERJ2GEJ 683 X (68 kΩ)
R21	7030004990	S.RESISTOR	ERJ2GEJ 221 X (220 Ω)
R22	7030005070	S.RESISTOR	ERJ2GEJ 683 X (68 kΩ)
R23	7030004990	S.RESISTOR	ERJ2GEJ 221 X (220 Ω)
R40	7030007060	S.RESISTOR	ERJ2GEJ 684 X (680 kΩ)
R41	7030005580	S.RESISTOR	ERJ2GEJ 560 X (56 Ω)
R42	7410000950	S.ARRAY	EXB-V8V 102 JV (1 kΩ)
R44	7030007570	S.RESISTOR	ERJ2GEJ 122 X (1.2 kΩ)
R46	7030009320	S.RESISTOR	ERJ2GEJ 4R7 X (4.7 Ω)
R52	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R53	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R54	7030005100	S.RESISTOR	ERJ2GEJ 154 X (150 kΩ)
R59	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R62	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R63	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R64	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R65	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R66	7030005100	S.RESISTOR	ERJ2GEJ 154 X (150 kΩ)
R67	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R68	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R69	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R70	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R72	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R75	7030008280	S.RESISTOR	ERJ2GEJ 271 X (270 Ω)
R77	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R82	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R83	7030009320	S.RESISTOR	ERJ2GEJ 4R7 X (4.7 Ω)
R84	7030004970	S.RESISTOR	ERJ2GEJ 470 X (47 Ω)
R85	7030005030	S.RESISTOR	ERJ2GEJ 152 X (1.5 kΩ)
R86	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R87	7030009270	S.RESISTOR	ERJ2GEJ 821 X (820 Ω)
R88	7030005230	S.RESISTOR	ERJ2GEJ 334 X (330 kΩ)
R89	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R90	7030005030	S.RESISTOR	ERJ2GEJ 152 X (1.5 kΩ)
R92	7310004110	S.TRIMMER	EVM-1YSX50 B54 (503)
R94	7030007350	S.RESISTOR	ERJ2GEJ 393 X (39 kΩ)
R95	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R97	7030005060	S.RESISTOR	ERJ2GEJ 333 X (33 kΩ)
R98	7030005230	S.RESISTOR	ERJ2GEJ 334 X (330 kΩ)
R99	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R100	7030008400	S.RESISTOR	ERJ2GEJ 182 X (1.8 kΩ)
R103	7030008010	S.RESISTOR	ERJ2GEJ 123 X (12 kΩ)
R104	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R105	7030004990	S.RESISTOR	ERJ2GEJ 221 X (220 Ω)
R107	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R108	7030008300	S.RESISTOR	ERJ2GEJ 184 X (180 kΩ)
R109	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R112	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R114	7030005060	S.RESISTOR	ERJ2GEJ 333 X (33 kΩ)
R116	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R117	7030008400	S.RESISTOR	ERJ2GEJ 182 X (1.8 kΩ)
R119	7310004090	S.TRIMMER	EVM-1YSX50 B14 (103)
R120	7030005070	S.RESISTOR	ERJ2GEJ 683 X (68 kΩ)
R121	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R122	7030009700	S.RESISTOR	ERJ2GEJ 202 X (2 kΩ)
R123	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R124	7030009140	S.RESISTOR	ERJ2GEJ 272 X (2.7 kΩ)

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R125	7030005600	S.RESISTOR	ERJ2GEJ 273 X (27 kΩ)
R126	7030009320	S.RESISTOR	ERJ2GEJ 4R7 X (4.7 Ω)
R127	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R128	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R130	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R131	7030005000	S.RESISTOR	ERJ2GEJ 471 X (470 Ω)
R132	7030005000	S.RESISTOR	ERJ2GEJ 471 X (470 Ω)
R133	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R134	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R135	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R137	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R139	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R141	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R144	7030005060	S.RESISTOR	ERJ2GEJ 333 X (33 kΩ)
R146	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R147	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R148	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R149	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R153	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R154	7030008290	S.RESISTOR	ERJ2GEJ 183 X (18 kΩ)
R155	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R156	7030000160	S.RESISTOR	MCR10EZHJ 15 Ω (150)
R157	7030000160	S.RESISTOR	MCR10EZHJ 15 Ω (150)
R158	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R160	7030000290	S.RESISTOR	MCR10EZHJ 180 Ω (181)
R161	7030007330	S.RESISTOR	ERJ1WRSJR15U (0.15 Ω)
R162	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R163	7030005060	S.RESISTOR	ERJ2GEJ 333 X (33 kΩ)
R164	7030009140	S.RESISTOR	ERJ2GEJ 272 X (2.7 kΩ)
R165	7030008400	S.RESISTOR	ERJ2GEJ 182 X (1.8 kΩ)
R167	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R174	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R176	7030008410	S.RESISTOR	ERJ2GEJ 392 X (3.9 kΩ)
R178	7030008410	S.RESISTOR	ERJ2GEJ 392 X (3.9 kΩ)
R181	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R182	7510001240	S.THEMISTOR	ERTJ0EV 473 J (47K)
R184	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R185	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R186	7030005240	S.RESISTOR	ERJ2GEJ 473 X (4.7 kΩ)
R205	7030005030	S.RESISTOR	ERJ2GEJ 152 X (1.5 kΩ)
R208	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R209	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R210	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R214	7030008010	S.RESISTOR	ERJ2GEJ 123 X (12 kΩ)
R215	7030005520	S.RESISTOR	RR0816R-334-D (330 kΩ)
R216	7030005630	S.RESISTOR	RR0816R-154-D (150 kΩ)
R400	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R403	7030009320	S.RESISTOR	ERJ2GEJ 4R7 X (4.7 Ω)
R404	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R405	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R406	7030008280	S.RESISTOR	ERJ2GEJ 271 X (270 Ω)
R407	7030005310	S.RESISTOR	ERJ2GEJ 124 X (120 kΩ)
R408	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R409	7030005530	S.RESISTOR	ERJ2GEJ 100 X (10 Ω)
R410	7030007300	S.RESISTOR	ERJ2GEJ 332 X (3.3 kΩ)
R411	7030009140	S.RESISTOR	ERJ2GEJ 272 X (2.7 kΩ)
R412	7030009320	S.RESISTOR	ERJ2GEJ 4R7 X (4.7 Ω)
R413	7030009320	S.RESISTOR	ERJ2GEJ 4R7 X (4.7 Ω)
R414	7030005000	S.RESISTOR	ERJ2GEJ 471 X (470 Ω)
R415	7030005530	S.RESISTOR	ERJ2GEJ 100 X (10 Ω)
R416	7030007300	S.RESISTOR	ERJ2GEJ 332 X (3.3 kΩ)
R417	7030007300	S.RESISTOR	ERJ2GEJ 332 X (3.3 kΩ)
R419	7030009320	S.RESISTOR	ERJ2GEJ 4R7 X (4.7 Ω)
R420	7030009280	S.RESISTOR	ERJ2GE 391 X (390 Ω)
R421	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R422	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R424	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R438	7030005230	S.RESISTOR	ERJ2GEJ 334 X (330 kΩ)
R439	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R441	7510001290	S.THEMISTOR	ERTJ0ER 472 J (4.7K)
R442	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R443	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R444	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R445	7030004990	S.RESISTOR	ERJ2GEJ 221 X (220 Ω)
R446	7030005720	S.RESISTOR	ERJ2GEJ 563 X (56 kΩ)
R447	7030005000	S.RESISTOR	ERJ2GEJ 471 X (470 Ω)
R448	7030003210	S.RESISTOR	ERJ3GEYJ 120 V (12 Ω)
R449	7030005000	S.RESISTOR	ERJ2GEJ 471 X (470 Ω)
R450	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R451	7030005160	S.RESISTOR	ERJ2GEJ 105 X (1 MΩ)
R452	7030009320	S.RESISTOR	ERJ2GEJ 4R7 X (4.7 Ω)

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R453	7030005230	S.RESISTOR	ERJ2GEJ 334 X (330 kΩ)
R455	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R456	7030005030	S.RESISTOR	ERJ2GEJ 152 X (1.5 kΩ)
R457	7030008010	S.RESISTOR	ERJ2GEJ 123 X (12 kΩ)
R458	7030005600	S.RESISTOR	ERJ2GEJ 273 X (27 kΩ)
R459	7030005220	S.RESISTOR	ERJ2GEJ 223 X (22 kΩ)
R460	7030004990	S.RESISTOR	ERJ2GEJ 221 X (220 Ω)
R464	7030008410	S.RESISTOR	ERJ2GEJ 392 X (3.9 kΩ)
R465	7030007250	S.RESISTOR	ERJ2GEJ 220 X (22 Ω)
R466	7030009320	S.RESISTOR	ERJ2GEJ 4R7 X (4.7 Ω)
R467	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R468	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R469	7030009140	S.RESISTOR	ERJ2GEJ 272 X (2.7 kΩ)
R470	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R471	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R472	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R473	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R474	7030005230	S.RESISTOR	ERJ2GEJ 334 X (330 kΩ)
R480	7030005230	S.RESISTOR	ERJ2GEJ 334 X (330 kΩ)
R481	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R482	7030008010	S.RESISTOR	ERJ2GEJ 123 X (12 kΩ)
R483	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R484	7030005220	S.RESISTOR	ERJ2GEJ 223 X (22 kΩ)
R485	7030009140	S.RESISTOR	ERJ2GEJ 272 X (2.7 kΩ)
R486	7030008010	S.RESISTOR	ERJ2GEJ 123 X (12 kΩ)
R487	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R491	7030009700	S.RESISTOR	ERJ2GEJ 202 X (2 kΩ)
R492	7030009710	S.RESISTOR	ERJ2GEJ 203 X (20 kΩ)
R493	7030008010	S.RESISTOR	ERJ2GEJ 123 X (12 kΩ)
R494	7030008410	S.RESISTOR	ERJ2GEJ 392 X (3.9 kΩ)
R495	7030005530	S.RESISTOR	ERJ2GEJ 100 X (10 Ω)
R496	7030009700	S.RESISTOR	ERJ2GEJ 202 X (2 kΩ)
R497	7030009700	S.RESISTOR	ERJ2GEJ 202 X (2 kΩ)
R498	7030008010	S.RESISTOR	ERJ2GEJ 123 X (12 kΩ)
R500	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R503	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R504	7030007300	S.RESISTOR	ERJ2GEJ 332 X (3.3 kΩ)
R505	7410000950	S.ARRAY	EXB-V8V 102 JV (1 kΩ)
R508	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R509	7030007350	S.RESISTOR	ERJ2GEJ 393 X (39 kΩ)
R512	7030008400	S.RESISTOR	ERJ2GEJ 182 X (1.8 kΩ)
R514	7030008290	S.RESISTOR	ERJ2GEJ 183 X (18 kΩ)
R516	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R517	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R519	7410000750	S.ARRAY	EXB-V4V 104JV (100 kΩ)
R520	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R521	7030005220	S.RESISTOR	ERJ2GEJ 223 X (22 kΩ)
R522	7030005600	S.RESISTOR	ERJ2GEJ 273 X (27 kΩ)
R523	7030005600	S.RESISTOR	ERJ2GEJ 273 X (27 kΩ)
R524	7030005600	S.RESISTOR	ERJ2GEJ 273 X (27 kΩ)
R525	7410000770	S.ARRAY	EXB-V4V 102 JV (1 kΩ)
R526	7410000850	S.ARRAY	EXB-V4V 151 JV (150 Ω)
R527	7410000950	S.ARRAY	EXB-V8V 102 JV (1 kΩ)
R528	7410000950	S.ARRAY	EXB-V8V 102 JV (1 kΩ)
R529	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R530	7410000770	S.ARRAY	EXB-V4V 102 JV (1 kΩ)
R531	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R532	7410000770	S.ARRAY	EXB-V4V 102 JV (1 kΩ)
R533	7410000770	S.ARRAY	EXB-V4V 102 JV (1 kΩ)
R534	7410000950	S.ARRAY	EXB-V8V 102 JV (1 kΩ)
R535	7410000770	S.ARRAY	EXB-V4V 102JV (1 kΩ)
R536	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R537	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R538	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R539	7410000950	S.ARRAY	EXB-V8V 102 JV (1 kΩ)
R540	7410000950	S.ARRAY	EXB-V8V 102 JV (1 kΩ)
R545	7030008370	S.RESISTOR	ERJ2GEJ 561 X (560 Ω)
R547	7030005720	S.RESISTOR	ERJ2GEJ 563 X (56 kΩ)
R548	7410000730	S.ARRAY	EXB-V8V 104 JV (100 kΩ)
R549	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R550	7030005070	S.RESISTOR	ERJ2GEJ 683 X (68 kΩ)
R551	7030007600	S.RESISTOR	RR0816R-913-D (91 kΩ)
R552	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R553	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R555	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R556	7030009320	S.RESISTOR	ERJ2GEJ 4R7 X (4.7 Ω)
R557	7030006610	S.RESISTOR	ERJ2GEJ 394 X (390 kΩ)
R558	7030006610	S.RESISTOR	ERJ2GEJ 394 X (390 kΩ)
R559	7410000770	S.ARRAY	EXB-V4V 102 JV (1 kΩ)
R560	7410000750	S.ARRAY	EXB-V4V 104 JV (100 kΩ)
R561	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R562	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R563	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R564	7030005220	S.RESISTOR	ERJ2GEJ 223 X (22 kΩ)
R565	7030009320	S.RESISTOR	ERJ2GEJ 4R7 X (4.7 Ω)
R566	7030009530	S.RESISTOR	ERJ2GEJ 270 X (27 Ω)
R567	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R568	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R569	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R571	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R572	7030005220	S.RESISTOR	ERJ2GEJ 223 X (22 kΩ)
R573	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R574	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R575	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R578	7030008290	S.RESISTOR	ERJ2GEJ 183 X (18 kΩ)
R579	7410000770	S.ARRAY	EXB-V4V 102JV (1 kΩ)
R581	7030007350	S.RESISTOR	ERJ2GEJ 393 X (39 kΩ)
R582	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R584	7310004090	S.TRIMMER	EVM-1YSX50 B14 (103)
R585	7030005220	S.RESISTOR	ERJ2GEJ 223 X (22 kΩ)
R586	7030005220	S.RESISTOR	ERJ2GEJ 223 X (22 kΩ)
R587	7030005220	S.RESISTOR	ERJ2GEJ 223 X (22 kΩ)
R589	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R590	7030009320	S.RESISTOR	ERJ2GEJ 4R7 X (4.7 Ω)
R591	7030008010	S.RESISTOR	ERJ2GEJ 123 X (12 kΩ)
R592	7030005720	S.RESISTOR	ERJ2GEJ 563 X (56 kΩ)
R593	7030005060	S.RESISTOR	ERJ2GEJ 333 X (33 kΩ)
R594	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R595	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R596	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R597	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R598	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R599	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R600	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R601	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R602	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R603	7030008400	S.RESISTOR	ERJ2GEJ 182 X (1.8 kΩ)
R604	7030005170	S.RESISTOR	ERJ2GEJ 474 X (470 kΩ)
R605	7030008300	S.RESISTOR	ERJ2GEJ 184 X (180 kΩ)
R606	7030009320	S.RESISTOR	ERJ2GEJ 4R7 X (4.7 Ω)
R607	7030009320	S.RESISTOR	ERJ2GEJ 4R7 X (4.7 Ω)
R608	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R609	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R610	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R611	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R612	7030007280	S.RESISTOR	ERJ2GEJ 331 X (330 Ω)
R613	7510001240	S.THERMISTOR	ERTJ0EV 473 J (47K)
R614	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R615	7030009290	S.RESISTOR	ERJ2GEJ 562 X (5.6 kΩ)
R616	7510001240	S.THERMISTOR	ERTJ0EV 473 J (47K)
R617	7030008010	S.RESISTOR	ERJ2GEJ 123 X (12 kΩ)
R618	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R619	7030005170	S.RESISTOR	ERJ2GEJ 474 X (470 kΩ)
C3	4030006990	S.CERAMIC	C1608 CH 1H 080D-T-A
C4	4030009500	S.CERAMIC	C1608 CH 1H 0R5B-T-A
C5	4030009920	S.CERAMIC	C1608 CH 1H 050B-T-A
C7	4030009530	S.CERAMIC	C1608 CH 1H 030B-T-A
C8	4030010760	S.CERAMIC	C1608 CH 1H 331J-T-A
C9	4030014490	S.CERAMIC	ECUE1E331KBQ
C10	4030014490	S.CERAMIC	ECUE1E331KBQ
C11	4030006990	S.CERAMIC	C1608 CH 1H 080D-T-A
C12	4030014490	S.CERAMIC	ECUE1E331KBQ
C13	4030014490	S.CERAMIC	ECUE1E331KBQ
C14	4030016790	S.CERAMIC	ECJ0EB1C103K
C15	4030014160	S.CERAMIC	ECUE1H270JQC [24 keys]
	4030009780	S.CERAMIC	C1005 CH 1E 270J-T-A [7 keys]
C16	4030014490	S.CERAMIC	ECUE1E331KBQ
C17	4030014490	S.CERAMIC	ECUE1E331KBQ
C18	4030014490	S.CERAMIC	ECUE1E331KBQ
C19	4030014490	S.CERAMIC	ECUE1E331KBQ
C20	4030014490	S.CERAMIC	ECUE1E331KBQ
C21	4510005310	S.ELECTROLYTIC	ECEV1CA220SR
C22	4030014060	S.CERAMIC	ECUE1H3R5BCQ
C24	4030014490	S.CERAMIC	ECUE1E331KBQ
C25	4030014120	S.CERAMIC	ECUE1H100CCQ
C26	4030014490	S.CERAMIC	ECUE1E331KBQ
C27	4030014080	S.CERAMIC	ECUE1H050BCQ
C28	4030014130	S.CERAMIC	ECUE1H120JQC
C30	4030014130	S.CERAMIC	ECUE1H120JQC
C31	4030014080	S.CERAMIC	ECUE1H050BCQ

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C32	4030014490	S.CERAMIC ECUE1E331KBQ
C33	4030014490	S.CERAMIC ECUE1E331KBQ
C42	4030014490	S.CERAMIC ECUE1E331KBQ
C47	4030014200	S.CERAMIC ECUE1H101JCQ
C48	4550006410	S.TANTALUM ECST1VY334R
C50	4030014490	S.CERAMIC ECUE1E331KBQ
C51	4030014120	S.CERAMIC ECUE1H100CCQ
C52	4030016790	S.CERAMIC ECJ0EB1C103K
C53	4030014080	S.CERAMIC ECUE1H050BCQ
C54	4030016930	S.CERAMIC ECJ0EB1A104K
C55	4030014490	S.CERAMIC ECUE1E331KBQ
C56	4030014180	S.CERAMIC ECUE1H470JCQ
C57	4030014180	S.CERAMIC ECUE1H470JCQ
C58	4030014180	S.CERAMIC ECUE1H470JCQ
C59	4030014180	S.CERAMIC ECUE1H470JCQ
C60	4030014490	S.CERAMIC ECUE1E331KBQ
C61	4030014090	S.CERAMIC ECUE1H060CCQ
C62	4030014090	S.CERAMIC ECUE1H060CCQ
C63	4030014120	S.CERAMIC ECUE1H100CCQ
C65	4030014070	S.CERAMIC ECUE1H040BCQ
C66	4030014070	S.CERAMIC ECUE1H040BCQ
C67	4030014050	S.CERAMIC ECUE1H030BCQ
C71	4030014490	S.CERAMIC ECUE1E331KBQ
C73	4030016950	S.CERAMIC ECJ0EB1A473K
C75	4030016790	S.CERAMIC ECJ0EB1C103K
C76	4030011770	S.CERAMIC C1608 CH 1H 060B-T-A
C77	4030014050	S.CERAMIC ECUE1H030BCQ
C78	4030014090	S.CERAMIC ECUE1H060CCQ
C79	4030014070	S.CERAMIC ECUE1H040BCQ
C83	4030014420	S.CERAMIC ECUE1H0R5BCQ
C84	4030014490	S.CERAMIC ECUE1E331KBQ
C85	4030014090	S.CERAMIC ECUE1H060CCQ
C86	4030014050	S.CERAMIC ECUE1H030BCQ
C87	4030014180	S.CERAMIC ECUE1H470JCQ
C88	4030014490	S.CERAMIC ECUE1E331KBQ
C89	4030014420	S.CERAMIC ECUE1H0R5BCQ
C90	4030014490	S.CERAMIC ECUE1E331KBQ
C91	4030014080	S.CERAMIC ECUE1H050BCQ
C92	4030014110	S.CERAMIC ECUE1H080CCQ
C93	4030014490	S.CERAMIC ECUE1E331KBQ
C94	4030014420	S.CERAMIC ECUE1H0R5BCQ
C95	4030014490	S.CERAMIC ECUE1E331KBQ
C96	4030014100	S.CERAMIC ECUE1H070CCQ
C97	4030014070	S.CERAMIC ECUE1H040BCQ
C98	4030014150	S.CERAMIC ECUE1H220JCQ
C99	4030014490	S.CERAMIC ECUE1E331KBQ
C104	4030016950	S.CERAMIC ECJ0EB1A473K
C105	4030014490	S.CERAMIC ECUE1E331KBQ
C106	4030014120	S.CERAMIC ECUE1H100CCQ
C107	4030014490	S.CERAMIC ECUE1E331KBQ
C108	4030016790	S.CERAMIC ECJ0EB1C103K
C109	4030014110	S.CERAMIC ECUE1H080CCQ
C110	4030014490	S.CERAMIC ECUE1E331KBQ
C112	4030013850	S.CERAMIC ECUE1E102KBQ
C113	4030013850	S.CERAMIC ECUE1E102KBQ
C114	4030013850	S.CERAMIC ECUE1E102KBQ
C115	4030014200	S.CERAMIC ECUE1H101JCQ
C116	4030014190	S.CERAMIC ECUE1H680JCQ
C117	4550006700	S.TANTALUM ECST1AY106R
C118	4030014490	S.CERAMIC ECUE1E331KBQ
C120	4030016930	S.CERAMIC ECJ0EB1A104K
C121	4030014220	S.CERAMIC ECUE1E471KBQ
C122	4030014220	S.CERAMIC ECUE1E471KBQ
C123	4030013850	S.CERAMIC ECUE1E102KBQ
C124	4030016950	S.CERAMIC ECJ0EB1A473K
C126	4030016950	S.CERAMIC ECJ0EB1A473K
C128	4030012600	S.CERAMIC C2012 JB 1A 105M-T-A
C129	4550006540	S.TANTALUM ECST1CY475R
C130	4030014490	S.CERAMIC ECUE1E331KBQ
C131	4030016790	S.CERAMIC ECJ0EB1C103K
C132	4030016930	S.CERAMIC ECJ0EB1A104K
C133	4030016930	S.CERAMIC ECJ0EB1A104K
C134	4030014330	S.CERAMIC ECUE1H221JCQ
C135	4030017030	S.CERAMIC ECJ0EB1A273K
C136	4030017050	S.CERAMIC ECUE1E272KBQ
C137	4030017040	S.CERAMIC ECJ0EB1A333K
C139	4030016930	S.CERAMIC ECJ0EB1A104K
C140	4030016930	S.CERAMIC ECJ0EB1A104K
C144	4030013850	S.CERAMIC ECUE1E102KBQ
C145	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C146	4030013850	S.CERAMIC ECUE1E102KBQ

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C147	4030014490	S.CERAMIC ECUE1E331KBQ
C148	4030016930	S.CERAMIC ECJ0EB1A104K
C149	4030016960	S.CERAMIC ECJ0EB1C183K
C150	4550006200	S.TANTALUM ECST0JY106R
C151	4030014180	S.CERAMIC ECUE1H470JCQ
C152	4030016950	S.CERAMIC ECJ0EB1A473K
C153	4550006670	S.TANTALUM ECST1AD107R
C154	4550006320	S.TANTALUM ECST0JY475R
C155	4510004630	S.ELECTROLYTIC ECEV1CA100SR
C156	4030013850	S.CERAMIC ECUE1E102KBQ
C157	4030013850	S.CERAMIC ECUE1E102KBQ
C158	4510004540	S.ELECTROLYTIC ECEV0JA470SR
C159	4550006320	S.TANTALUM ECST0JY475R
C160	4030016790	S.CERAMIC ECJ0EB1C103K
C161	4030016790	S.CERAMIC ECJ0EB1C103K
C162	4030016790	S.CERAMIC ECJ0EB1C103K
C163	4030014490	S.CERAMIC ECUE1E331KBQ
C164	4030014490	S.CERAMIC ECUE1E331KBQ
C165	4030014490	S.CERAMIC ECUE1E331KBQ
C166	4030014490	S.CERAMIC ECUE1E331KBQ
C167	4030014180	S.CERAMIC ECUE1H470JCQ
C168	4030014490	S.CERAMIC ECUE1E331KBQ
C169	4030014490	S.CERAMIC ECUE1E331KBQ
C170	4030014490	S.CERAMIC ECUE1E331KBQ
C171	4030013850	S.CERAMIC ECUE1E102KBQ
C172	4030014490	S.CERAMIC ECUE1E331KBQ
C173	4510004640	S.ELECTROLYTIC ECEV1CA470SP
C174	4510005430	S.ELECTROLYTIC ECEV0JA220SR
C175	4510005430	S.ELECTROLYTIC ECEV0JA220SR
C176	4510005430	S.ELECTROLYTIC ECEV0JA220SR
C177	4550006170	S.TANTALUM ECST1AY225R
C179	4030016790	S.CERAMIC ECJ0EB1C103K
C180	4030014180	S.CERAMIC ECUE1H470JCQ
C181	4030014180	S.CERAMIC ECUE1H470JCQ
C182	4030014180	S.CERAMIC ECUE1H470JCQ
C183	4030014180	S.CERAMIC ECUE1H470JCQ
C184	4030014180	S.CERAMIC ECUE1H470JCQ
C185	4030014180	S.CERAMIC ECUE1H470JCQ
C186	4030013850	S.CERAMIC ECUE1E102KBQ
C187	4030013850	S.CERAMIC ECUE1E102KBQ
C189	4030013850	S.CERAMIC ECUE1E102KBQ
C190	4030013850	S.CERAMIC ECUE1E102KBQ
C191	4030016930	S.CERAMIC ECJ0EB1A104K
C193	4030014100	S.CERAMIC ECUE1H070CCQ
C194	4030014150	S.CERAMIC ECUE1H220JCQ
C195	4030014170	S.CERAMIC ECUE1H330JCQ
C196	4030016790	S.CERAMIC ECJ0EB1C103K
C197	4030014490	S.CERAMIC ECUE1E331KBQ
C200	4030014490	S.CERAMIC ECUE1E331KBQ
C201	4030014490	S.CERAMIC ECUE1E331KBQ
C202	4030014490	S.CERAMIC ECUE1E331KBQ
C204	4030014490	S.CERAMIC ECUE1E331KBQ
C205	4030007040	S.CERAMIC C1608 CH 1H 180J-T-A
C206	4030009570	S.CERAMIC C1608 CH 1H 0R3B-T-A
C207	4030014490	S.CERAMIC ECUE1E331KBQ
C208	4030014490	S.CERAMIC ECUE1E331KBQ
C209	4030016930	S.CERAMIC ECJ0EB1A104K
C210	4030016930	S.CERAMIC ECJ0EB1A104K
C211	4550006320	S.TANTALUM ECST0JY475R
C212	4030016930	S.CERAMIC ECJ0EB1A104K
C217	4030016950	S.CERAMIC ECJ0EB1A473K
C223	4030016790	S.CERAMIC ECJ0EB1C103K
C224	4030016790	S.CERAMIC ECJ0EB1C103K
C229	4030016930	S.CERAMIC ECJ0EB1A104K
C230	4550006140	S.TANTALUM ECST1EY474R
C231	4030016930	S.CERAMIC ECJ0EB1A104K
C232	4030016930	S.CERAMIC ECJ0EB1A104K
C233	4030014490	S.CERAMIC ECUE1E331KBQ
C234	4030014490	S.CERAMIC ECUE1E331KBQ
C237	4030016790	S.CERAMIC ECJ0EB1C103K
C238	4030016790	S.CERAMIC ECJ0EB1C103K
C239	4030016790	S.CERAMIC ECJ0EB1C103K
C240	4030016790	S.CERAMIC ECJ0EB1C103K
C241	4550006200	S.TANTALUM ECST0JY106R
C242	4030016790	S.CERAMIC ECJ0EB1C103K
C243	4030014180	S.CERAMIC ECUE1H470JCQ
C244	4030016790	S.CERAMIC ECJ0EB1C103K
C400	4030014120	S.CERAMIC ECUE1H100CCQ
C401	4030014180	S.CERAMIC ECUE1H470JCQ
C402	4030014110	S.CERAMIC ECUE1H080CCQ
C403	4030014180	S.CERAMIC ECUE1H470JCQ

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C404	4030014490	S.CERAMIC ECUE1E331KBQ
C405	4030014070	S.CERAMIC ECUE1H040BCQ
C406	4030014110	S.CERAMIC ECUE1H080CCQ
C407	4030014490	S.CERAMIC ECUE1E331KBQ
C408	4030014490	S.CERAMIC ECUE1E331KBQ
C410	4030014110	S.CERAMIC ECUE1H080CCQ
C412	4030008190	S.CERAMIC C1608 UJ 1H 040C-T-A
C413	4030014090	S.CERAMIC ECUE1H060CCQ
C414	4030014100	S.CERAMIC ECUE1H070CCQ
C415	4030016790	S.CERAMIC ECJ0EB1C103K
C416	4030014490	S.CERAMIC ECUE1E331KBQ
C417	4030014420	S.CERAMIC ECUE1H0R5BCQ
C418	4030014290	S.CERAMIC ECUE1H090CCQ
C419	4030016820	S.CERAMIC ECUE1HR75BCQ
C421	4030008210	S.CERAMIC C1608 UJ 1H 060D-T-A
C422	4030014080	S.CERAMIC ECUE1H050BCQ
C423	4030014080	S.CERAMIC ECUE1H050BCQ
C424	4030014490	S.CERAMIC ECUE1E331KBQ
C426	4030013850	S.CERAMIC ECUE1E102KBQ
C427	4030014420	S.CERAMIC ECUE1H0R5BCQ
C432	4030013850	S.CERAMIC ECUE1E102KBQ
C436	4030014490	S.CERAMIC ECUE1E331KBQ
C447	4510005320	S.ELECTROLYTIC ECEV0JA101SP
C448	4030014130	S.CERAMIC ECUE1H120JCQ
C449	4030014180	S.CERAMIC ECUE1H470JCQ
C450	4030014070	S.CERAMIC ECUE1H040BCQ
C451	4030014140	S.CERAMIC ECUE1H150JCQ
C452	4030014050	S.CERAMIC ECUE1H030BCQ
C455	4030014120	S.CERAMIC ECUE1H100CCQ
C456	4550006200	S.TANTALUM ECST0JY106R
C458	4030014490	S.CERAMIC ECUE1E331KBQ
C459	4030014050	S.CERAMIC ECUE1H030BCQ
C460	4030014490	S.CERAMIC ECUE1E331KBQ
C463	4030016790	S.CERAMIC ECJ0EB1C103K
C464	4030014180	S.CERAMIC ECUE1H470JCQ
C466	4030014490	S.CERAMIC ECUE1E331KBQ
C467	4610001590	S.TRIMMER TZC03R100A110 10P
C468	4030012600	S.CERAMIC C2012 JB 1A 105M-T-A
C469	4030014180	S.CERAMIC ECUE1H470JCQ
C470	4030014180	S.CERAMIC ECUE1H470JCQ
C471	4030014490	S.CERAMIC ECUE1E331KBQ
C472	4030016930	S.CERAMIC ECJ0EB1A104K
C473	4030014490	S.CERAMIC ECUE1E331KBQ
C474	4030016930	S.CERAMIC ECJ0EB1A104K
C475	4030014000	S.CERAMIC ECUE1H1R5BCQ
C476	4030014180	S.CERAMIC ECUE1H470JCQ
C477	4030014180	S.CERAMIC ECUE1H470JCQ
C479	4030014180	S.CERAMIC ECUE1H470JCQ
C481	4030014490	S.CERAMIC ECUE1E331KBQ
C483	4030014490	S.CERAMIC ECUE1E331KBQ
C486	4030014080	S.CERAMIC ECUE1H050BCQ
C487	4030014180	S.CERAMIC ECUE1H470JCQ
C491	4550006450	S.TANTALUM ECST1EY105R
C493	4030016760	S.CERAMIC ECUE1E472KBQ
C494	4030016760	S.CERAMIC ECUE1E472KBQ
C495	4030016760	S.CERAMIC ECUE1E472KBQ
C496	4030014490	S.CERAMIC ECUE1E331KBQ
C497	4030014180	S.CERAMIC ECUE1H470JCQ
C499	4030014180	S.CERAMIC ECUE1H470JCQ
C500	4030016790	S.CERAMIC ECJ0EB1C103K
C501	4030016790	S.CERAMIC ECJ0EB1C103K
C502	4030016920	S.CERAMIC ECUE1H222KBQ
C503	4030016930	S.CERAMIC ECJ0EB1A104K
C504	4550006300	S.TANTALUM ECST1AY475R
C505	4030017060	S.CERAMIC ECUE1E332KBQ
C506	4030016790	S.CERAMIC ECJ0EB1C103K
C507	4030016790	S.CERAMIC ECJ0EB1C103K
C508	4030016790	S.CERAMIC ECJ0EB1C103K
C509	4030016790	S.CERAMIC ECJ0EB1C103K
C510	4030016930	S.CERAMIC ECJ0EB1A104K
C511	4030016790	S.CERAMIC ECJ0EB1C103K
C513	4030014180	S.CERAMIC ECUE1H470JCQ
C514	4030014180	S.CERAMIC ECUE1H470JCQ
C515	4030014180	S.CERAMIC ECUE1H470JCQ
C516	4030014180	S.CERAMIC ECUE1H470JCQ
C517	4030014180	S.CERAMIC ECUE1H470JCQ
C518	4030016790	S.CERAMIC ECJ0EB1C103K
C519	4030016930	S.CERAMIC ECJ0EB1A104K
C520	4030016930	S.CERAMIC ECJ0EB1A104K
C521	4030014490	S.CERAMIC ECUE1E331KBQ
C522	4030013850	S.CERAMIC ECUE1E102KBQ

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C523	4030014180	S.CERAMIC ECUE1H470JCQ
C524	4030016930	S.CERAMIC ECJ0EB1A104K
C525	4030016930	S.CERAMIC ECJ0EB1A104K
C526	4030014180	S.CERAMIC ECUE1H470JCQ
C527	4030014180	S.CERAMIC ECUE1H470JCQ
C528	4030014180	S.CERAMIC ECUE1H470JCQ
C529	4030014180	S.CERAMIC ECUE1H470JCQ
C530	4030014180	S.CERAMIC ECUE1H470JCQ
C531	4030014180	S.CERAMIC ECUE1H470JCQ
C532	4030014180	S.CERAMIC ECUE1H470JCQ
C533	4030014180	S.CERAMIC ECUE1H470JCQ
C534	4030014180	S.CERAMIC ECUE1H470JCQ
C535	4030014180	S.CERAMIC ECUE1H470JCQ
C536	4030014180	S.CERAMIC ECUE1H470JCQ
C537	4030014180	S.CERAMIC ECUE1H470JCQ
C538	4030014230	S.CERAMIC ECUE1E681KBQ
C539	4030014180	S.CERAMIC ECUE1H470JCQ
C542	4030014180	S.CERAMIC ECUE1H470JCQ
C543	4030014180	S.CERAMIC ECUE1H470JCQ
C544	4030014180	S.CERAMIC ECUE1H470JCQ
C545	4030014180	S.CERAMIC ECUE1H470JCQ
C546	4030014180	S.CERAMIC ECUE1H470JCQ
C547	4030014180	S.CERAMIC ECUE1H470JCQ
C548	4030014180	S.CERAMIC ECUE1H470JCQ
C549	4030014180	S.CERAMIC ECUE1H470JCQ
C550	4030014180	S.CERAMIC ECUE1H470JCQ
C551	4030014180	S.CERAMIC ECUE1H470JCQ
C552	4030014180	S.CERAMIC ECUE1H470JCQ
C553	4030014180	S.CERAMIC ECUE1H470JCQ
C554	4030014180	S.CERAMIC ECUE1H470JCQ
C555	4030014180	S.CERAMIC ECUE1H470JCQ
C556	4030014180	S.CERAMIC ECUE1H470JCQ
C557	4030014180	S.CERAMIC ECUE1H470JCQ
C558	4030014180	S.CERAMIC ECUE1H470JCQ
C560	4030014180	S.CERAMIC ECUE1H470JCQ
C561	4030014180	S.CERAMIC ECUE1H470JCQ
C562	4030014180	S.CERAMIC ECUE1H470JCQ
C563	4030016930	S.CERAMIC ECJ0EB1A104K
C564	4030016930	S.CERAMIC ECJ0EB1A104K
C565	4030016930	S.CERAMIC ECJ0EB1A104K
C566	4030016930	S.CERAMIC ECJ0EB1A104K
C567	4030014180	S.CERAMIC ECUE1H470JCQ
C568	4030014180	S.CERAMIC ECUE1H470JCQ
C570	4030014180	S.CERAMIC ECUE1H470JCQ
C571	4030014180	S.CERAMIC ECUE1H470JCQ
C572	4030014180	S.CERAMIC ECUE1H470JCQ
C573	4030016790	S.CERAMIC ECJ0EB1C103K
C574	4030014220	S.CERAMIC ECUE1E471KBQ
C575	4030014180	S.CERAMIC ECUE1H470JCQ
C576	4030014180	S.CERAMIC ECUE1H470JCQ
C577	4030016930	S.CERAMIC ECJ0EB1A104K
C580	4030014490	S.CERAMIC ECUE1E331KBQ
C581	4030014490	S.CERAMIC ECUE1E331KBQ
C582	4030014170	S.CERAMIC ECUE1H330JCQ
C583	4030016950	S.CERAMIC ECJ0EB1A473K
C584	4030016950	S.CERAMIC ECJ0EB1A473K
C585	4030014180	S.CERAMIC ECUE1H470JCQ
C586	4030014180	S.CERAMIC ECUE1H470JCQ
C589	4030016930	S.CERAMIC ECJ0EB1A104K
C590	4030016790	S.CERAMIC ECJ0EB1C103K
C591	4030014180	S.CERAMIC ECUE1H470JCQ
C592	4030014180	S.CERAMIC ECUE1H470JCQ
C593	4030014180	S.CERAMIC ECUE1H470JCQ
C594	4030016930	S.CERAMIC ECJ0EB1A104K
C595	4030016930	S.CERAMIC ECJ0EB1A104K
C596	4030016930	S.CERAMIC ECJ0EB1A104K
C597	4030014490	S.CERAMIC ECUE1E331KBQ
C598	4030014490	S.CERAMIC ECUE1E331KBQ
C600	4550006810	S.TANTALUM ECST1VY473R
C601	4030016790	S.CERAMIC ECJ0EB1C103K
C602	4030014180	S.CERAMIC ECUE1H470JCQ
C603	4030016930	S.CERAMIC ECJ0EB1A104K
C604	4030014490	S.CERAMIC ECUE1E331KBQ
C605	4030016930	S.CERAMIC ECJ0EB1A104K
C606	4030014180	S.CERAMIC ECUE1H470JCQ
C607	4030014180	S.CERAMIC ECUE1H470JCQ
C608	4550006170	S.TANTALUM ECST1AY225R
C609	4030016930	S.CERAMIC ECJ0EB1A104K
C610	4030014180	S.CERAMIC ECUE1H470JCQ
C611	4030014180	S.CERAMIC ECUE1H470JCQ
C612	4030014180	S.CERAMIC ECUE1H470JCQ

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C613	4030014180	S.CERAMIC	ECUE1H470JCQ
C614	4030014220	S.CERAMIC	ECUE1E471KBQ
C615	4030014180	S.CERAMIC	ECUE1H470JCQ
C616	4030014220	S.CERAMIC	ECUE1E471KBQ
C617	4030014220	S.CERAMIC	ECUE1E471KBQ
C618	4030014490	S.CERAMIC	ECUE1E331KBQ
C619	4030014180	S.CERAMIC	ECUE1H470JCQ
C622	4030014180	S.CERAMIC	ECUE1H470JCQ
C623	4030014490	S.CERAMIC	ECUE1E331KBQ
C624	4030014180	S.CERAMIC	ECUE1H470JCQ
C625	4030014180	S.CERAMIC	ECUE1H470JCQ
C626	4030014180	S.CERAMIC	ECUE1H470JCQ
C627	4030014180	S.CERAMIC	ECUE1H470JCQ
C628	4030014180	S.CERAMIC	ECUE1H470JCQ
C629	4030014180	S.CERAMIC	ECUE1H470JCQ
C630	4030014180	S.CERAMIC	ECUE1H470JCQ
C631	4030014180	S.CERAMIC	ECUE1H470JCQ
C632	4030014180	S.CERAMIC	ECUE1H470JCQ
C633	4030014180	S.CERAMIC	ECUE1H470JCQ
C634	4030014490	S.CERAMIC	ECUE1E331KBQ
C635	4030014490	S.CERAMIC	ECUE1E331KBQ
C636	4030014180	S.CERAMIC	ECUE1H470JCQ
C637	4030014180	S.CERAMIC	ECUE1H470JCQ
C638	4030014180	S.CERAMIC	ECUE1H470JCQ
C639	4030014180	S.CERAMIC	ECUE1H470JCQ
C640	4030014490	S.CERAMIC	ECUE1E331KBQ
C641	4030014280	S.CERAMIC	ECUE1H0R3BCQ
C642	4030014420	S.CERAMIC	ECUE1H0R5BCQ
C643	4030016820	S.CERAMIC	ECUE1HR75BCQ
C644	4030016750	S.CERAMIC	ECUE1H910JCQ
C645	4550006320	S.TANTALUM	ECST0J475R
C646	4030016930	S.CERAMIC	ECJ0EB1A104K
C647	4030014490	S.CERAMIC	ECUE1E331KBQ
C648	4550006690	S.TANTALUM	ECST1AC476R
C651	4030012610	S.CERAMIC	C2012 JB 1C 474K-T-A
C652	4030013850	S.CERAMIC	ECUE1E102KBQ
C653	4030014490	S.CERAMIC	ECUE1E331KBQ
C654	4030014490	S.CERAMIC	ECUE1E331KBQ
C655	4030013850	S.CERAMIC	ECUE1E102KBQ
C656	4030014490	S.CERAMIC	ECUE1E331KBQ
C657	4030014070	S.CERAMIC	ECUE1H040BCQ
C658	4030014050	S.CERAMIC	ECUE1H030BCQ
C659	4030016930	S.CERAMIC	ECJ0EB1A104K
C662	4030014200	S.CERAMIC	ECUE1H101JCQ
C665	4030016930	S.CERAMIC	ECJ0EB1A104K
C666	4030016930	S.CERAMIC	ECJ0EB1A104K
C667	4030014180	S.CERAMIC	ECUE1H470JCQ
C668	4030014180	S.CERAMIC	ECUE1H470JCQ
J2	6450001680	CONNECTOR	HSJ1122-010010
J3	6450001690	CONNECTOR	HSJ1456-01-220
J4	6450000870	CONNECTOR	HEC2711-01-020
J6	6510007080	CONNECTOR	PI28A-02M
J7	6910010850	CONNECTOR	IMS A-9230B-1-05Z080-T
J8	6510021330	S.CONNECTOR	AXK530145P
DS1	5030001640	LCD	LM-1761B
DS2	5010000160	S.LED	LNJ310M6URA
DS3	5010000160	S.LED	LNJ310M6URA
DS4	5040002190	S.LED	LNJ808R8ERA
MC1	7700002160	MICROPHON	KUC3523-040245
S1	2230000900	S.SWITCH	JPM1990-2013R
SP1	2510000960	SPEAKER	K036NA500-26
W1	7030003860	S.JUMPER	ERJ3GE JPW V
W2	7030003860	S.JUMPER	ERJ3GE JPW V
W6	6910012670	S.JUMPER	MJ-0.4
W10	7030003860	S.JUMPER	ERJ3GE JPW V [24 keys] only
W12	7030003860	S.JUMPER	ERJ3GE JPW V
W13	7030003860	S.JUMPER	ERJ3GE JPW V
W14	7030003860	S.JUMPER	ERJ3GE JPW V
W15	7030003860	S.JUMPER	ERJ3GE JPW V

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
W16	7030003860	S.JUMPER	ERJ3GE JPW V
W17	7030003860	S.JUMPER	ERJ3GE JPW V
WS1	8600035811	CABLE	FX1923 P01MA-1
EP1	0910050625	PCB	B 5229E
EP2	8930042590	LCD CONTACT	SRCN-1922-SP-N-W

[VR BOARD]

REF NO.	ORDER NO.	DESCRIPTION	
R1	7210002950	VARIABLE	RV-312
R2	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R3	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
C1	4030014180	S.CERAMIC	ECUE1H470JCQ
C2	4030014180	S.CERAMIC	ECUE1H470JCQ
C3	4030014180	S.CERAMIC	ECUE1H470JCQ
C4	4030014490	S.CERAMIC	ECUE1E331KBQ
F1	5210000710	S.FUSE	KAB 2402 322 NA29
EP1	0910050634	PCB	B 5230D

S.=Surface mount

SECTION 7 MECHANICAL PARTS AND DISASSEMBLY

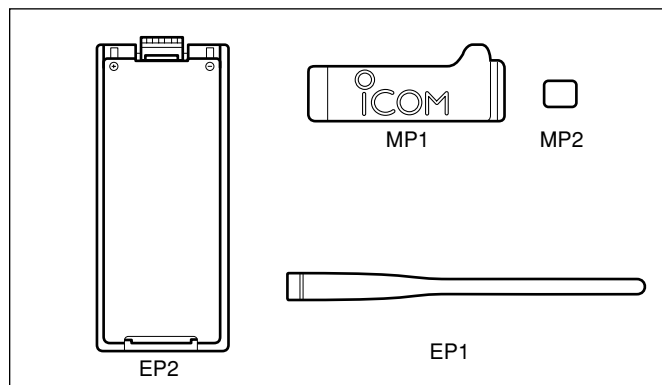
7-1 CABINET PARTS

7-2 ACCESSORIES

[CHASSIS PARTS]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8010016822	1922 chassis-2	1
MP2	8210014731	1922 front panel (B) assembly [24 keys]	1
	8210015161	2066 front panel (A) assembly [7 keys]	1
MP4	8210014330	1922 contact base	1
MP5	8610010420	Knob N-261	1
MP6	8930051540	1922 10-key (B) [24 keys]	1
	8930043970	2065 7-key [7 keys]	1
MP7	8930042070	1922 MIC cap	1
MP9	8930042030	1922 main seal	1
MP10	8110006050	1922 OPT cover	1
MP11	8930042050	1922 DC cap	1
MP12	8930042090	1922 plus terminal	1
MP13	8930042080	1922 minus terminal	1
MP17	8310048520	1922 window plate (I)	1
MP19	8930051530	1922 rear sheet (AV)	1
MP21	8930042350	1922 MIC sheet	1
MP22	8930042560	1922 OPT sheet	1
MP24	8830001250	Nut ANT connector-101	1
MP25	8830001010	Hex nut (A)	1
MP26	8810000100	Screw PH M2 × 4 ZK	2
MP27	8810009510	Screw B0 2 × 4 NI-ZU (BT)	6
MP28	8810009510	Screw PH B0 2 × 4 NI-ZU (BT)	1
MP29	8810009510	Screw PH B0 2 × 4 NI-ZU (BT)	2
MP30	8810009560	Screw PH B0 2 × 6 ZK (BT)	2
MP31	8810009560	Screw PH B0 2 × 6 ZK (BT)	2
MP34	8930043210	1922 A-rear sheet	1
MP36	8950004671	ANT connector-101A	1
MP37	8510011260	1923 shield cover	1
MP38	8930043760	1923 MIC seal	1
MP39	8930052330	Sponge (GN)	1
MP40	8930043610	Isolating sheet (EZ)	1

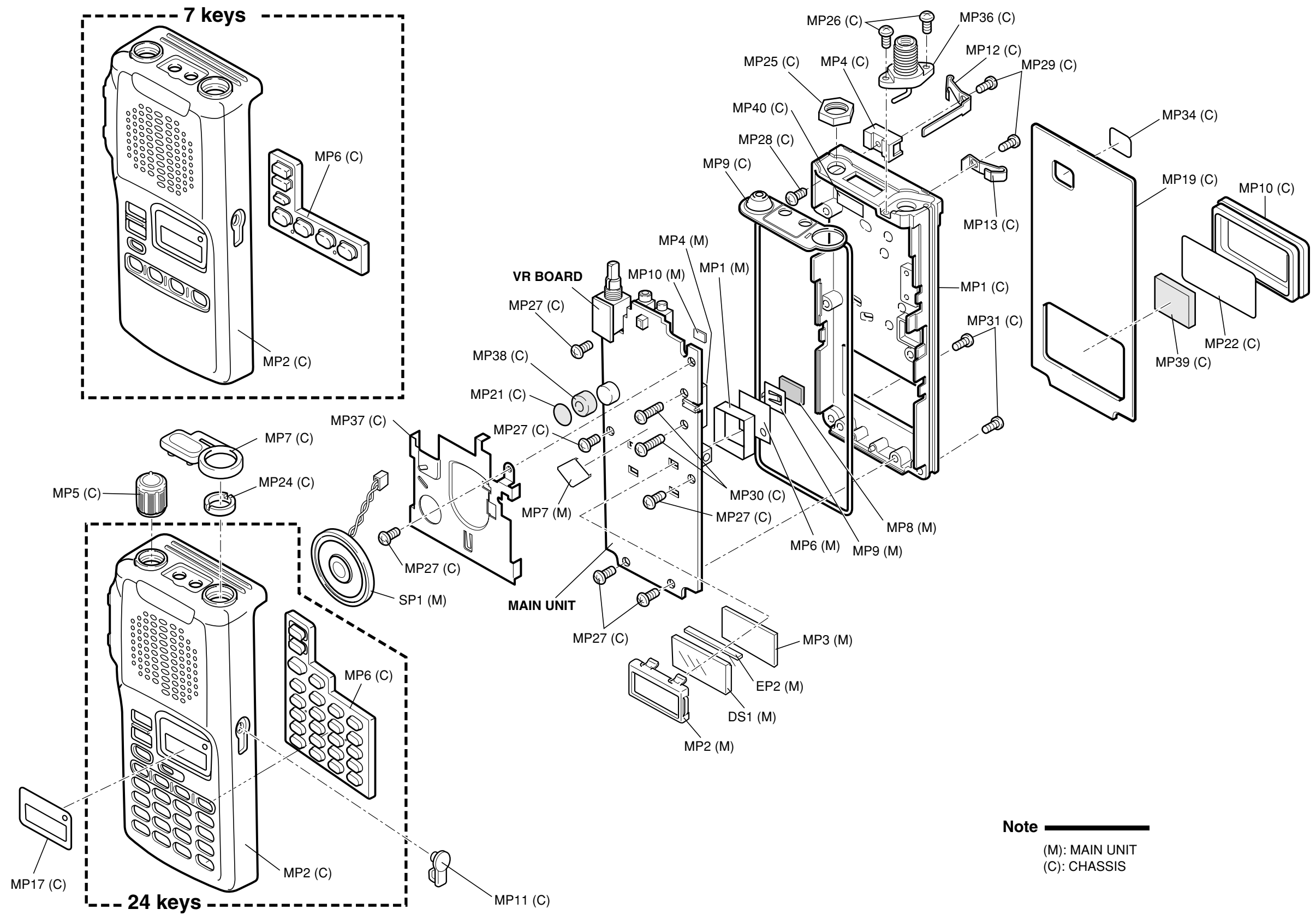
REF NO.	ORDER NO.	DESCRIPTION	QTY.
EP1	Optional product	Antenna FA-SC56U-2	1
EP2	Optional product	Battery BP-196	1
MP1	Optional product	1922 belt clip	1



Screw abbreviations: PH: Pan head B0: Self-tapping
 NI : Nickel ZK: Black

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
DS1	5030001640	LCD LM-1761B	1
SP1	2510000960	K036NA500-26A27	1
EP2	8930042590	LCD contact SRCN-1922-SP-N-W	1
MP1	8510011111	1922 VCO case-1	1
MP2	8930042060	1922 LCD holder	1
MP3	8210014380	1922 Reflector	1
MP4	8410002081	1922 PA heatsink-1	1
MP6	8510011180	1923 VCO cover	1
MP7	8510011230	1923 VCO shield	1
MP8	8930046590	Sponge (FO)	1
MP9	8510009971	1591 shield plate-1	1
MP10	8930038670	Ferrite sheet	1



SECTION 8 SEMI-CONDUCTOR INFORMATIONS

8 - 1 TRANSISTORS AND FET'S

NAME	SYMBOL	INSIDE VIEW
2SA1362-GR	AEG	
2SB1132 - R	BAR	
2SC2712 - Y 2SC3585 R44 2SC4081 - R 2SC4116 - BL 2SC4215 - O 2SC4226 - R25 2SC5107 - O	LY R44 BR LL QO R25 MFO	
2SK880 - Y	XY	
2SK1069-4-TL	FJ	
2SK1829	KI	
2SK2595AXTB	AX	

NAME	SYMBOL	INSIDE VIEW
2SK2596BXTL	BX	
3SK239XR - TL 3SK241 - R 3SK293	XR DU UF	
DTA144EU UN911H	16 6P	
DTC114EUA	14	
DTC144TU T107	06	
XP1214	9H	
XP4601	5C	

NAME	SYMBOL	INSIDE VIEW
XP6401	5O	
XP6501 - AB	5N	

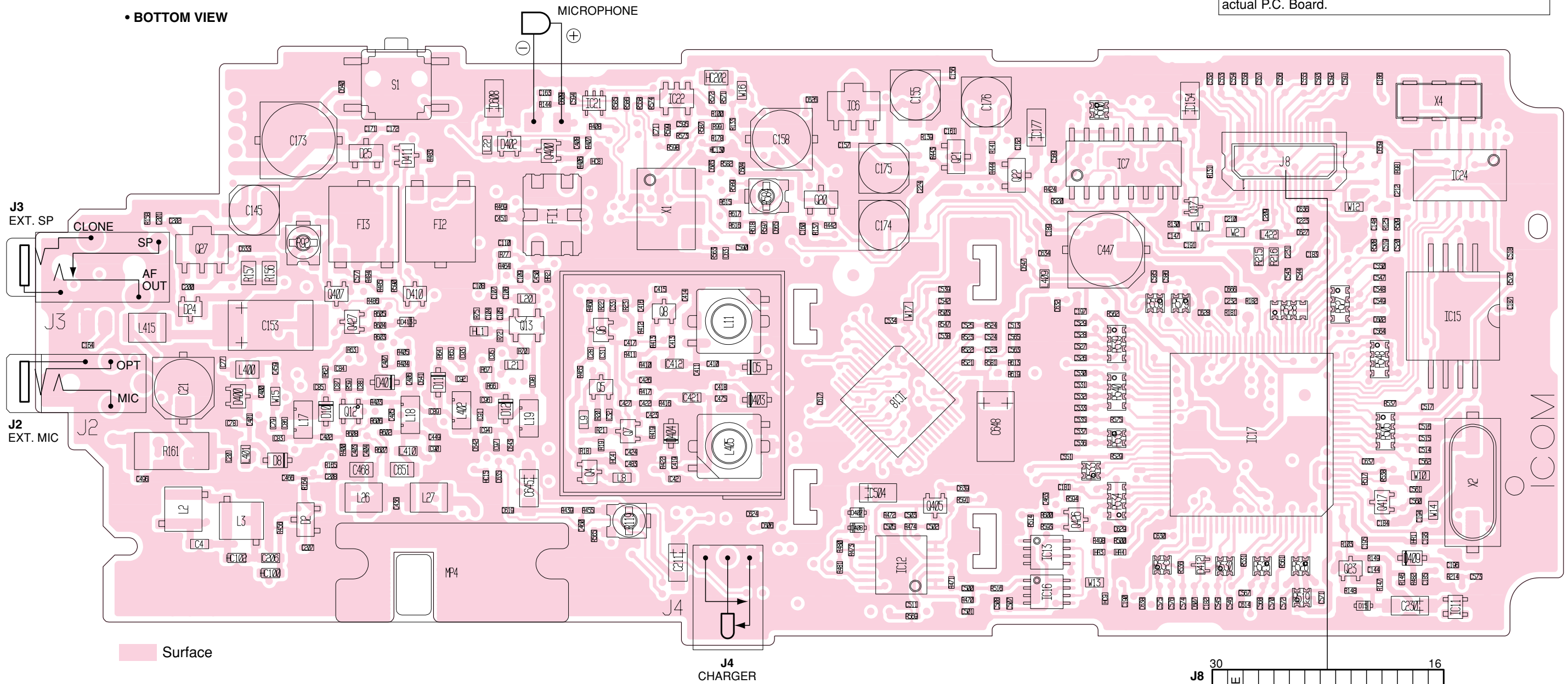
8 - 2 DIODES

NAME	SYMBOL	INSIDE VIEW
1SS353 HSU88TRF MA2S111	C 9 A	
1SS375 DA204U HSM88AS	FH K C1	
1T365-01	pink line	
DAN202U	N	

NAME	SYMBOL	INSIDE VIEW
HVU350TRF	4	
MA77	4B	
MA111 DAN222TL	1B N-4	
SB07-03C-TB	J	

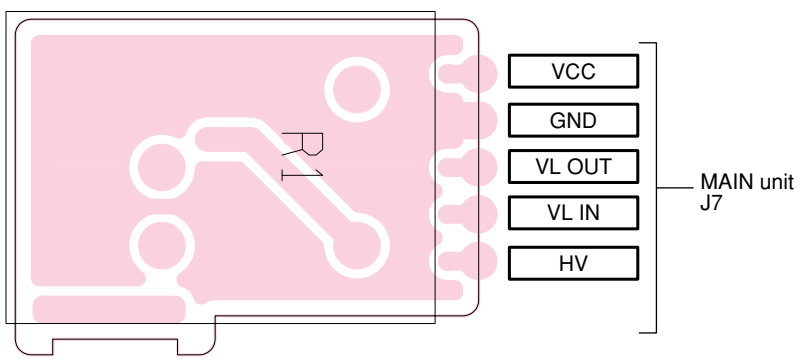
The combination of this page and the previous page shows the unit layout in the same configuration as the actual P.C. Board.

• BOTTOM VIEW



Surface

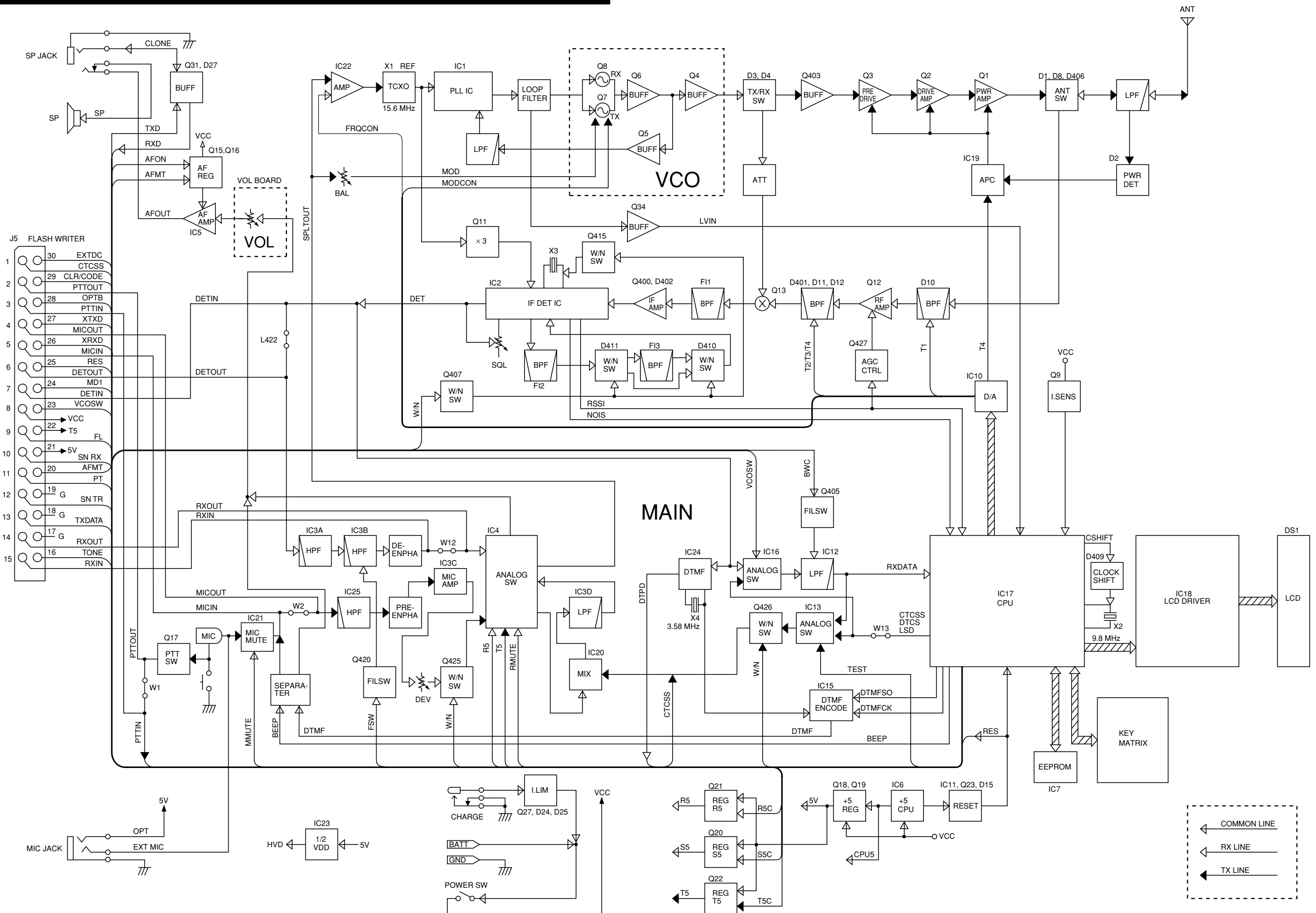
• BOTTOM VIEW



Surface

30	EXTDC	16
29	CLR/CODE	
28	OPTB	
27	TXD	
26	XRxD	
25	RES	
24	MD1	
23	VCOSW	
22	FL T5	
21	5V	
20	AFMT	
19	PT	
18	SN RX	
17	GND	
16	TXDATA	
15	RXOUT	
14	RXIN	
13	DTMF	

SECTION 10 BLOCK DIAGRAM



Icom Inc.

6-9-16, Kamihigashi, Hirano-ku, Osaka 547-0002, Japan
Phone : 06 6793 5302
Fax : 06 6793 0013

Icom America Inc.

<Corporate Headquarters>
2380 116th Avenue N.E., Bellevue, WA 98004, U.S.A.
Phone : (425) 454-8155 Fax : (425) 454-1509
URL : <http://www.icomamerica.com>
<Customer Service>
Phone : (425) 454-7619

Icom Canada

3071 #5 Road, Unit 9, Richmond, B.C., V6X 2T4, Canada
Phone : (604) 273-7400 Fax : (604) 273-1900
URL : <http://www.icomcanada.com>

Icom (Australia) Pty. Ltd.

A.C.N. 006 092 575
290-294 Albert Street, Brunswick, Victoria, 3056, Australia
Phone : 03 9387 0666 Fax : 03 9387 0022
URL : <http://www.icom.net.au>

Asia Icom Inc.

6F No. 68, Sec. 1 Cheng-Teh Road, Taipei, Taiwan, R.O.C.
Phone : (02) 2559 1899 Fax : (02) 2559 1874

Icom (Europe) GmbH

Communication Equipment
Himmelgeister Str. 100, D-40225 Düsseldorf, Germany
Phone : 0211 346047 Fax : 0211 333639
URL : <http://www.icomeurope.com>

Icom Spain S.L.

Crta. de Gracia a Manresa Km. 14,750
08190 Sant Cugat del Valles Barcelona, SPAIN
Phone : (93) 590 26 70 Fax : (93) 589 04 46
URL : <http://www.icomspain.com>

Icom (UK) Ltd.

Unit 9, Sea St., Herne Bay, Kent, CT6 8LD, U.K.
Phone : 01227 741741 Fax : 01227 741742
URL : <http://www.icomuk.co.uk>

Icom France Sa

Zac de la Plaine, Rue Brindejonc des Moulinais
BP 5804, 31505 Toulouse Cedex, France
Phone : 561 36 03 03 Fax : 561 36 03 00
URL : <http://www.icom-france.com>

Count on us!