



SERVICE MANUAL

UHF MOBILE TRANSCEIVERS

IC-F6011
IC-F6012
IC-F6013
IC-F6013H

S-14716XZ-C1
Mar. 2011

INTRODUCTION

This service manual describes the latest technical information for the **IC-F6011**, **IC-F6012**, **IC-F6013**, **IC-F6013H** UHF MOBILE TRANSCEIVERS, at the time of publication.

MODEL	VERSION	CHANNEL SPACING (kHz)	FREQUENCY RANGE
IC-F6011	USA-01	12.5/25.0	400–470 MHz
	USA-02		450–512 MHz
IC-F6012	EUR-02	12.5/20.0/25.0	
IC-F6013	EXP-01	12.5/25.0	400–470 MHz
	EXP-03		450–520 MHz
IC-F6013H	EXP-04		

CAUTION

NEVER connect the transceiver to an AC outlet or to a DC power supply that uses more than the specified voltage. 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.

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



ORDERING PARTS

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

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

<ORDER EXAMPLE>

1110007320 S.IC NJM2591V IC-F6011 MAIN-A UNIT 5 pieces
8820001210 Screw 2438 screw IC-F6011 Top cover 10 pieces

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

REPAIR NOTES

1. Make sure that the 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 Standard Signal Generator or a Sweep Generator.
7. **ALWAYS** connect a 50 dB to 60 dB attenuator between the transceiver and a Deviation Meter or Spectrum Analyzer, when using such test equipment.
8. **READ** the instructions of the test equipment thoroughly before connecting it to the transceiver.

TABLE OF CONTENTS

SECTION 1 SPECIFICATIONS**SECTION 2 INSIDE VIEWS****SECTION 3 DISASSEMBLY INSTRUCTION****SECTION 4 OPTIONAL PRODUCTS INSTALLATION****SECTION 5 CIRCUIT DESCRIPTION**

5-1	RECEIVER CIRCUITS.....	5-1
5-2	TRANSMITTER CIRCUITS.....	5-3
5-3	FREQUENCY SYNTHESIZER CIRCUITS	5-4
5-4	VOLTAGE DIAGRAMS.....	5-4
5-5	PORT ALLOCATIONS.....	5-5

SECTION 6 ADJUSTMENT PROCEDURES

6-1	PREPARATION	6-1
6-2	FREQUENCY ADJUSTMENT.....	6-4
6-3	TRANSMIT ADJUSTMENT.....	6-5
6-4	RECEIVE ADJUSTMENT	6-6

SECTION 7 PARTS LIST**SECTION 8 MECHANICAL PARTS****SECTION 9 BOARD LAYOUTS****SECTION 10 BLOCK DIAGRAM****SECTION 11 VOLTAGE DIAGRAM**

SECTION 1

SPECIFICATIONS

	[USA], [EXP]	[EUR]		
GENERAL	• Frequency coverage	400–470 MHz [USA-01], [EXP-01], [EXP-03] 450–520 MHz [EXP-04] 450–512 MHz [USA-02]	400–470 MHz	
	• Type of emission	Wide	16K0F3E (25.0 kHz)	
		Middle	—	
		Narrow	11K0F3E (12.5 kHz)	
	• Number of programable channels		8	
	• Antenna impedance		50 Ω (Nominal)	
	• Operating temperature range	–30°C to +60°C (–22°F to +140°F)	–25°C to +55°C	
	• Power supply requirement (Nominal)	13.6 V DC (Negative ground)	13.2 V DC (Negative ground)	
	• Current drain (approx.)	RX	Stand-by	250 mA
			Max.audio	700 mA
		TX	at 25 W	5.0 A
			at 45 W*	11.0 A
	• Dimensions (projections not included)	[25 W ver.]	150 (W) × 40 (H) × 117.5 (D) mm; 5.91 (W) × 1.56 (H) × 4.63 (D) in	
		[45 W ver.]	150 (W) × 40 (H) × 167.5 (D) mm; 5.91 (W) × 1.56 (H) × 6.6 (D) in	—
	• Weight	[25 W ver.]	0.8 kg (1.76 lb)	—
		[45 W ver.]	1.1 kg (2.43 lb)	—
TRANSMITTER	• Transmit output power	[25 W ver.]	25 W (High), 10 W (Low2), 2.5 W (Low1)	
		[45 W ver.]	45 W (High), 25 W (Low2), 5.0 W (Low1)	—
	• Modulation		Variable reactance frequency modulation	
	• Max. permissible deviation	Wide	±5.0 kHz	
		Middle	—	±4.0 kHz
		Narrow	±2.5 kHz	
	• Frequency error		±2.5 ppm	±1.5 kHz
	• Spurious emission		70 dB typ.	0.25 μW (<1 GHz), 1.0 μW (>1 GHz)
	• Adjacent channel power	Wide	70 dB min.	
		Middle	—	70 dB min.
		Narrow	60 dB min.	
	• Audio frequency response		+1 dB to –3 dB of 6 dB/octave (From 500–2500 Hz)	
	• Audio harmonic distortion		3% typ. (With 1 kHz AF 40% deviation)	
	• FM hum and noise (Without CCITT filter)	Wide	More than 40 dB (46 dB typ.)	—
		Narrow	More than 34 dB (40 dB typ.)	—
	• Residual modulation (With CCITT filter)	Wide	—	More than 45 dB (55 dB typ.)
		Middle	—	More than 43 dB (53 dB typ.)
		Narrow	—	More than 40 dB (50 dB typ.)
	• Limiting charact of modulation		70–100% of max. deviation	
	• Microphone impedance		600 Ω	

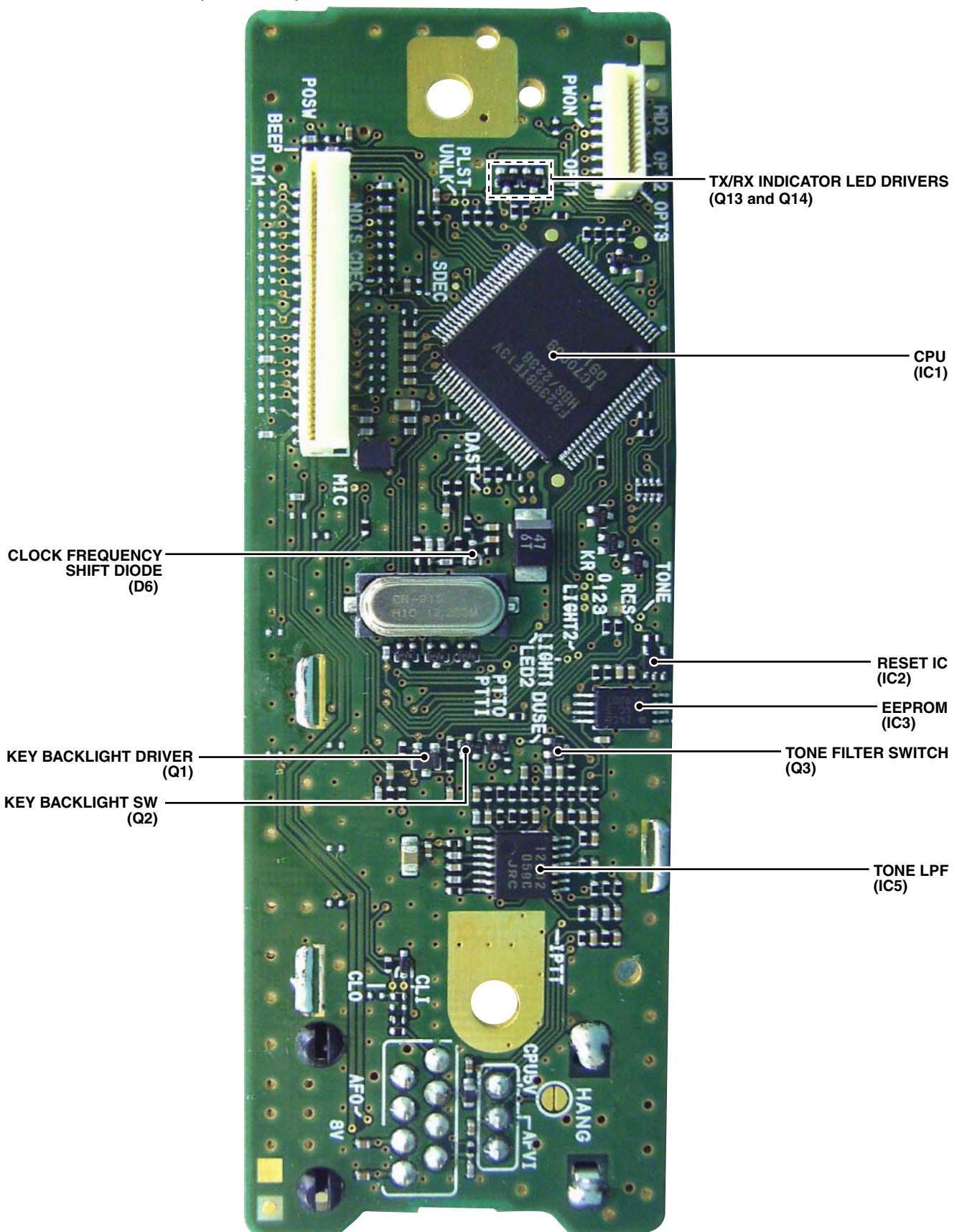
*; 45 W version only.

	[USA], [EXP]	[EUR]
RECEIVER	• Receive system	Double-conversion superheterodyne
	• Intermediate frequencies	1st IF; 46.35 MHz, 2nd IF; 450 kHz
	• Sensitivity	0.25 µV typ. at 12 dB SINAD
	• Squelch sensitivity (At threshold)	0.25 µV typ.
	• Adjacent channel selectivity	Wide More than 70 dB (75 dB typ.)
		Middle – More than 70 dB (75 dB typ.)
		Narrow More than 60 dB (65 dB typ.)
	• Spurious response	70 dB min.
	• Intermodulation	More than 70 dB (75 dB typ.)
	• FM hum and noise (without CCITT filter)	Wide More than 40 dB (45 dB typ.)
		Narrow More than 34 dB (40 dB typ.)
	• Residual modulation (with CCITT filter)	Wide – More than 45 dB (55 dB typ.)
		Middle – More than 43 dB (53 dB typ.)
		Narrow – More than 40 dB (50 dB typ.)
	• Audio output power	4.0 W typ. (At 5% distortion with a 4 Ω load)
	• Audio output impedance	4 Ω

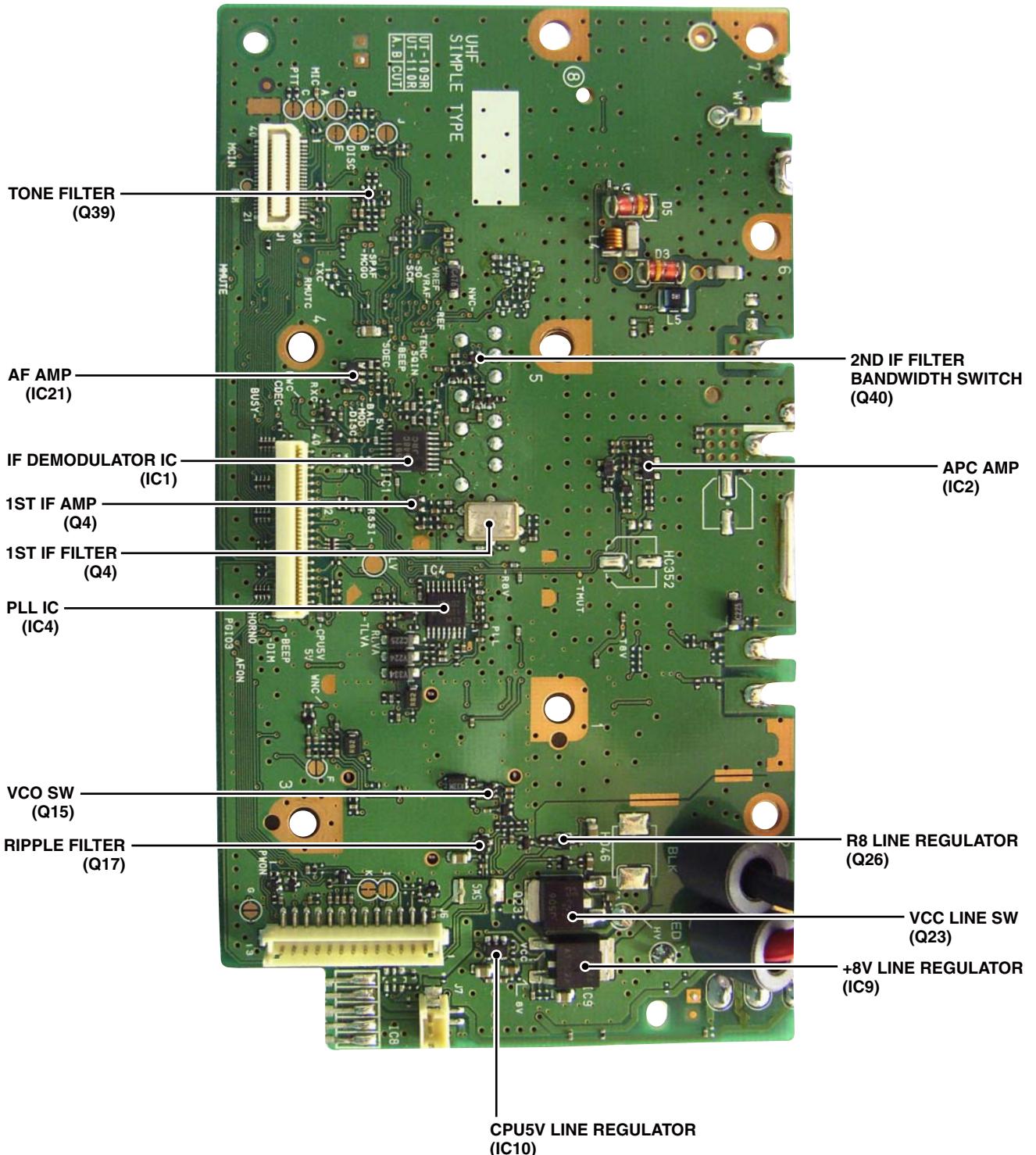
Measurements made in accordance with TIA-603 ([USA], [EXP]) or EN 300 086 ([EUR]).

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

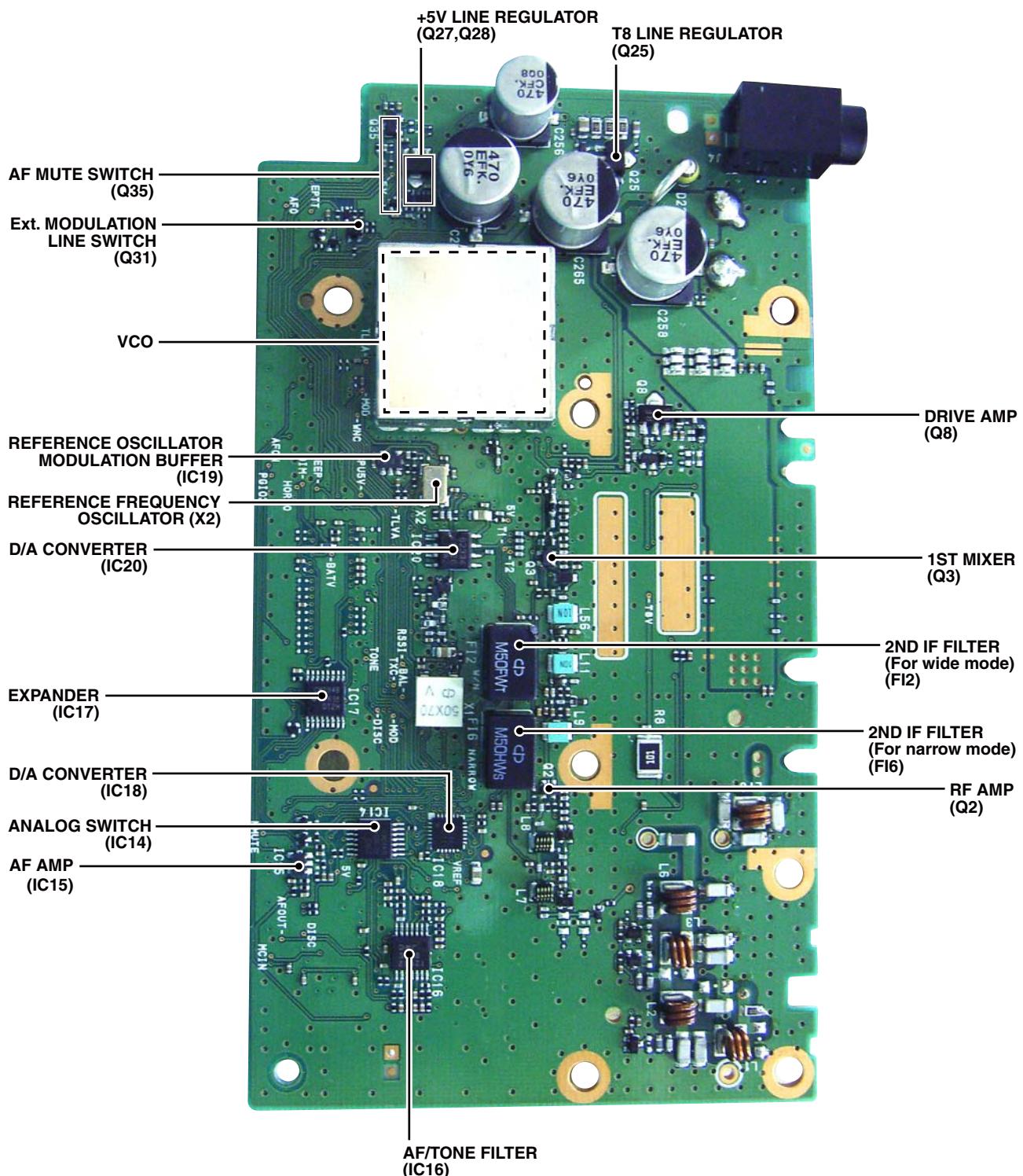
- FRONT UNIT
(TOP VIEW)



• MAIN-A/MAIN-B UNIT
(TOP VIEW)

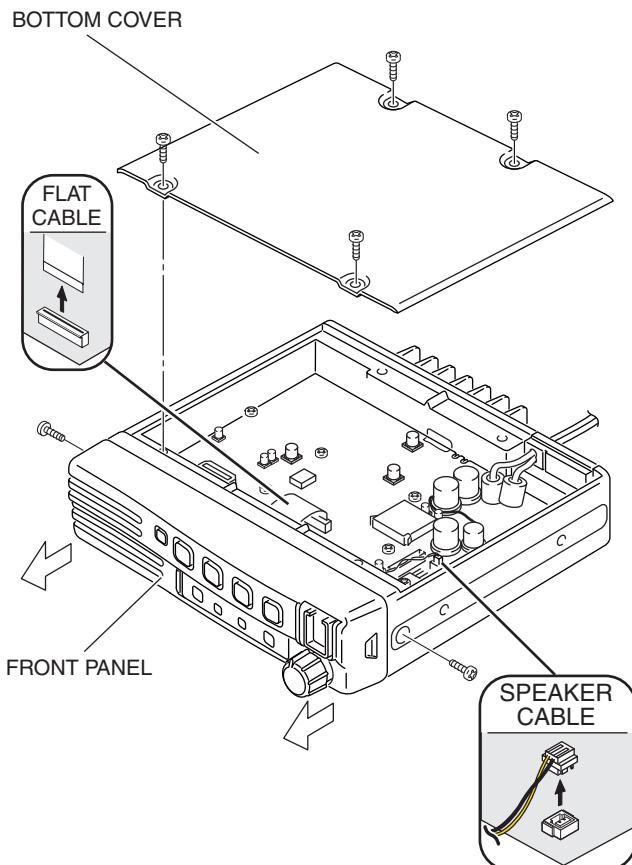


• MAIN-A/MAIN-B UNIT
(BOTTOM VIEW)

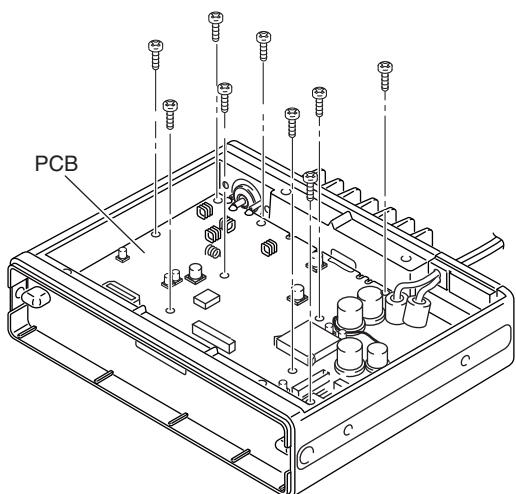


SECTION 3 DISASSEMBLY INSTRUCTION

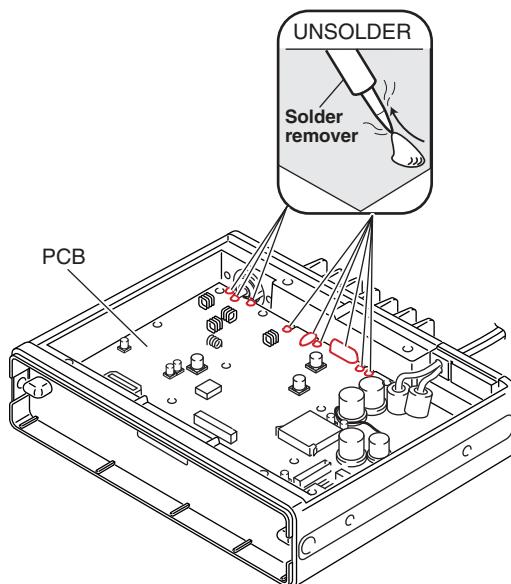
- 1) Remove 4 screws from the bottom cover, and then remove it.
- 2) Disconnect the flat cable and speaker cable.
- 3) Remove 2 screws from the both sides, and then remove the front panel in the direction of the arrow.



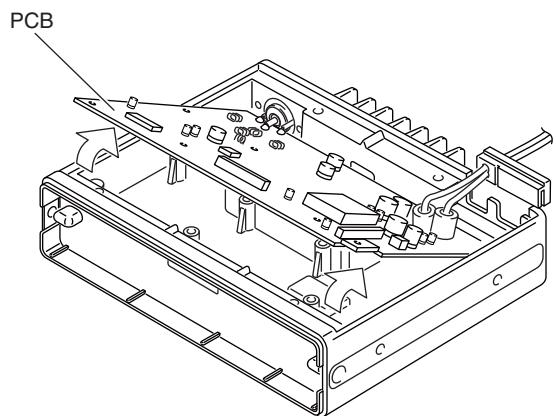
- 4) Remove 9 screws from the PCB.



- 5) Unsolder total of 9 points; 3 points at the antenna connector, 6 points at the PA module.



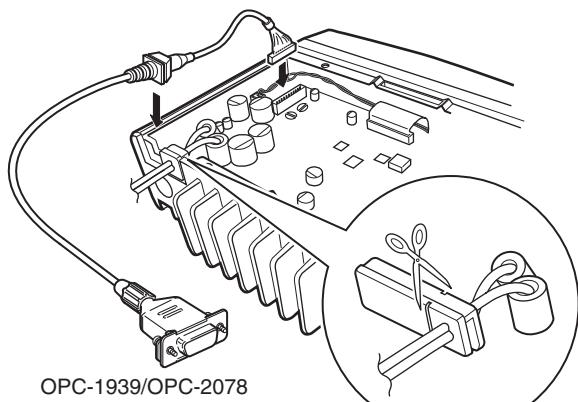
- 6) Remove the PCB from the CHASSIS.



SECTION 4 OPTIONAL PRODUCTS INSTALLATION

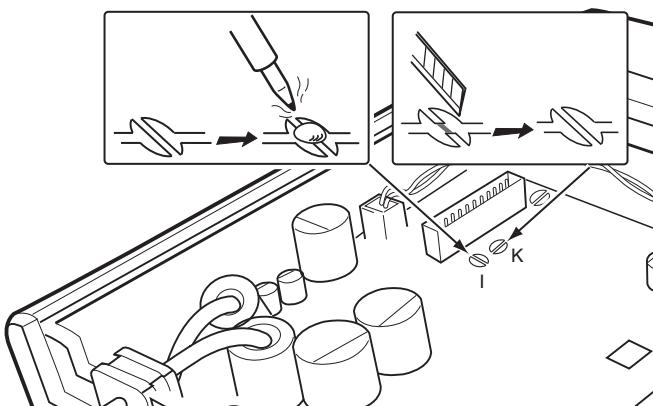
Install optional OPC-1939/OPC-2078 as follows:

- 1) Turn OFF the power, and then disconnect the DC power cable.
- 2) Remove 4 screws, and then remove the bottom cover.
- 3) Install the cable as shown.

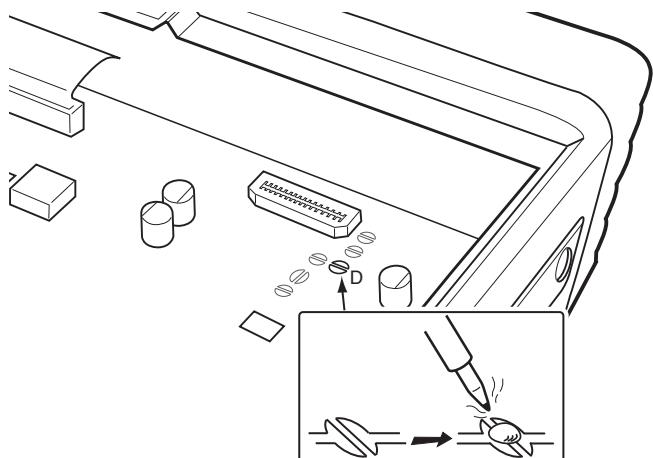


Cut off the bushing as in the illustration.

- 4) Cut or short the patterns as below. (For AF output)



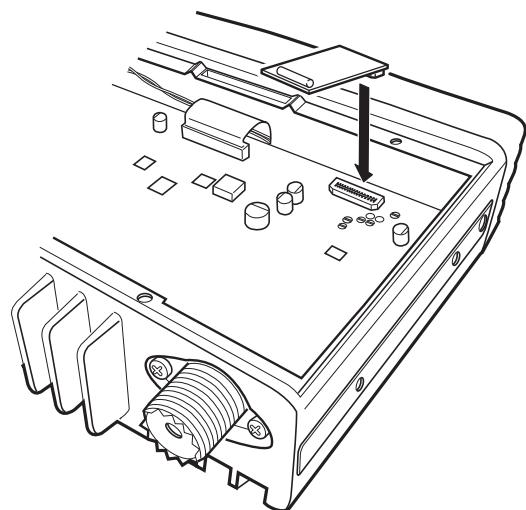
- 5) Short the pattern as below. (For modulation input)



- 6) Recover the bottom cover, screws and DC power cable.

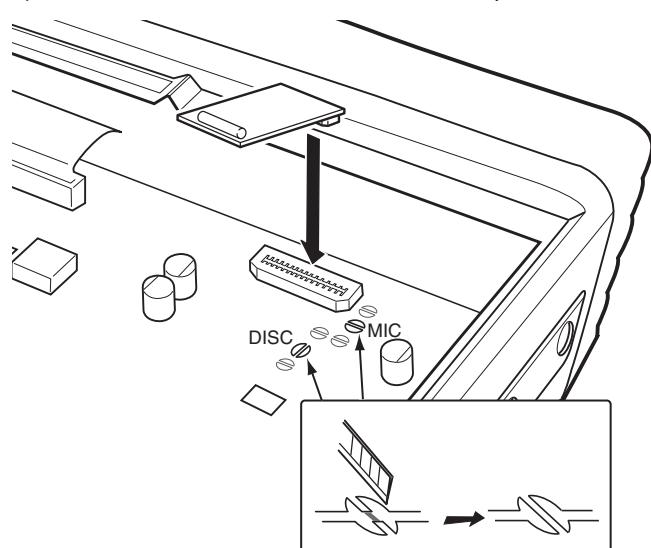
Install optional UT-108R as follows:

- 1) Turn OFF the power, and then disconnect the DC cable.
- 2) Remove 4 screws, and then remove the bottom cover.
- 3) Install the unit as shown.
- 4) Recover the bottom cover, screws and DC power cable.

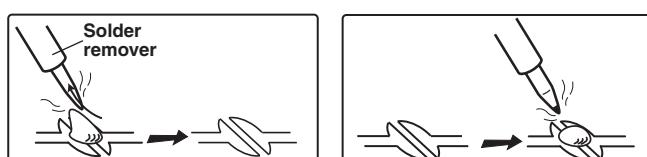


Install optional UT-109R or UT-110R as follows:

- 1) Turn OFF the power, and then disconnect the DC power cable.
- 2) Remove 4 screws, and then remove the bottom cover.
- 3) Cut the pattern on the PCB at "MIC" and "DISC" as shown.
- 4) Install the unit as shown.
- 5) Recover the bottom cover, screws and DC power cable.



NOTE: Be sure to recover the patterns when you remove the optional product. Otherwise no TX modulation or AF output is available.



5-1 RECEIVER CIRCUITS

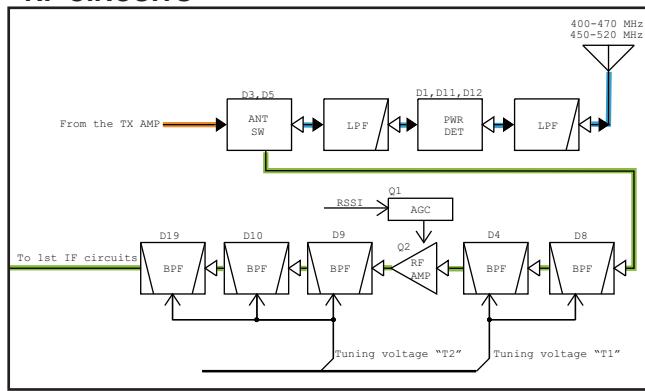
RF CIRCUITS (MAIN-A-B UNIT)

RF signal from the antenna is passed through the LPF (as the harmonic filter for transmitting) and antenna SW (D3, D5, D7), and then applied to the RX BPF circuit.

The applied RX signal is passed through the 3-staged tuned BPF (D4, D8) to remove unwanted out-of-band signals, and amplified by the low-noise RF AMP (Q2), and then applied to the 1st mixer (Q3) through another 3-staged tuned BPF (D9, D10, D19).

Total of 5 stage BPFs are tuned to the RX frequency by the tuning voltage "T1" and "T2" from the D/A converter (IC20), to obtain required IMD characteristic.

• RF CIRCUITS



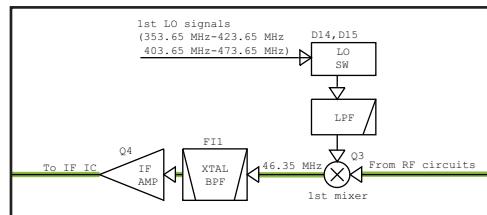
1ST IF CIRCUITS (MAIN-A-B UNIT)

The RX signal from the BPF is mixed with the 1st LO signal to be converted into the 46.35 MHz 1st IF signal.

The 1st LO signal is generated by the RX VCO (Q14, D33, D52), and passed through the LO SW (D15) and attenuator, and then applied to the 1st mixer (Q3).

The converted 1st IF signal is filtered by the crystal filter (FI1) and amplified by the 1st IF AMP (Q4), then applied to the IF demodulator IC (IC1).

• 1ST IF CIRCUITS



2ND IF AND DEMODULATOR CIRCUITS (MAIN-A-B UNIT)

The amplified 1st IF signal is mixed with the 2nd LO signal at the internal 2nd IF mixer of the IF demodulator IC (IC1), to obtain the 450 kHz 2nd IF signal.

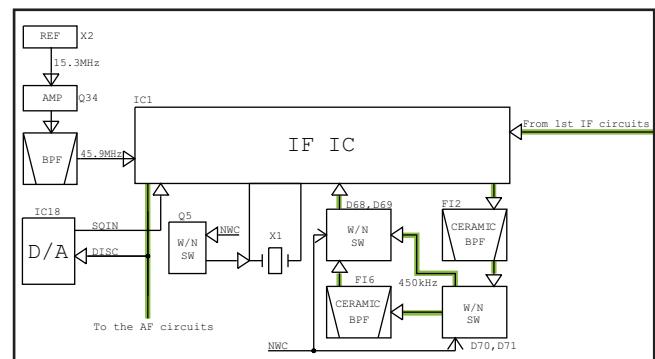
The 15.3 MHz signal generated by the reference oscillator (X2) is passed through the filter AMP (Q34, L33, L35, C305-C308) to extract the 45.9 MHz 3rd harmonic component. The 45.9 MHz signal is then applied to the pin 2 of IF demodulator IC (IC1) as the 2nd LO signal.

The converted 2nd IF signal is output from the pin 3 of IF demodulator IC (IC1), and filtered by the ceramic filters (FI2 and FI6 for Narrow mode; FI2 only for Wide mode) to remove unwanted out-of-band signals, and then applied to the internal frequency-demodulator of IF demodulator IC (IC1) from pin 5.

The demodulator is a quadrature type which uses X1 as the phase shifter.

The frequency-demodulated AF signal is output from pin 9 to AF circuits.

• 2ND IF AND DEMODULATOR CIRCUITS



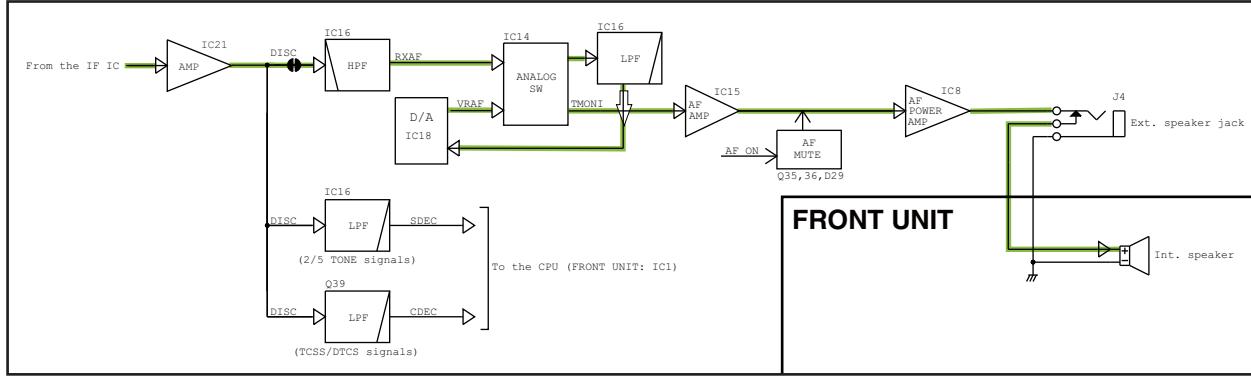
AF CIRCUITS (MAIN-A/-B UNIT)

The demodulated AF signal from the IF demodulator IC (IC1) is amplified by the AMP (IC21), filtered by the HPF (IC16), and then passed through the AF line SW (IC14) and LPF (IC16). The filtered AF signal is adjusted in level (=loudness) by the D/A converter (IC18), and applied to the AF AMP (IC15) through the AF line SW (IC14).

The amplified AF signal is applied to the AF power AMP (IC8) and power-amplified to obtain AF output level.

The power-amplified AF signal is output from the external speaker jack (J4) on the rear panel, or applied to the internal speaker on the FRONT UNIT, through the external speaker jack (J4).

• RX AF CIRCUITS



SIGNALING (DECODING) (MAIN-A-B UNIT)

Demodulated signal from the pin 9 of the IF demodulator IC (IC1) is passed through the LPF to extract tone signals contained in the demodulated signal.

2/5 tone signal is extracted by the LPF (IC16). CTCSS/DTCS signals are extracted by the LPF (Q39).

These extracted tone signal is applied to the CPU (FRONT UNIT: IC1) for decoding.

5-2 TRANSMITTER CIRCUITS

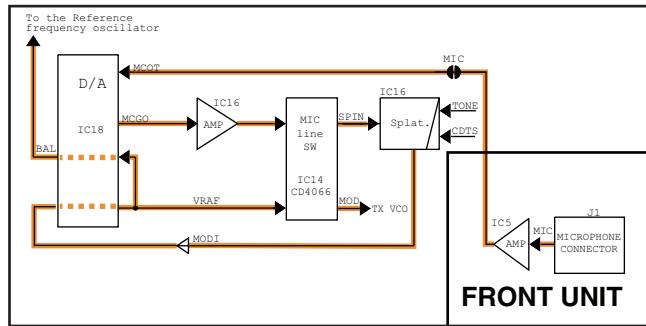
MIC AMPLIFIER (FRONT UNIT)

Audio signal from the connected microphone is applied to the MIC AMP (IC5), through the microphone connector (J1). The amplified MIC signal is applied to the MAIN-A/B UNIT.

TX AF CIRCUITS (MAIN-A-B UNIT)

The MIC signal from the FRONT UNIT is passed through the D/A converter (as a MIC gain controller; IC18) for level adjustment, and applied to the limiter AMP which is also rolled to the pre-emphasis circuit (IC16).

• TX AF CIRCUITS



MIC MUTE SWITCH (MAIN-A-B UNIT)

The pre-emphasized MIC signal is passed through the MIC mute SW (IC14).

While receiving or transmitting DTMF, 2/5 tone and BIIS signals, the MIC mute SW (IC14) cuts the MIC line off, and is controlled by "MMUT" signal from the expander (IC17).

SPLATTER FILTER (MAIN-A-B UNIT)

The MIC signal from the MIC mute SW (IC14) is applied to the splatter filter (IC16).

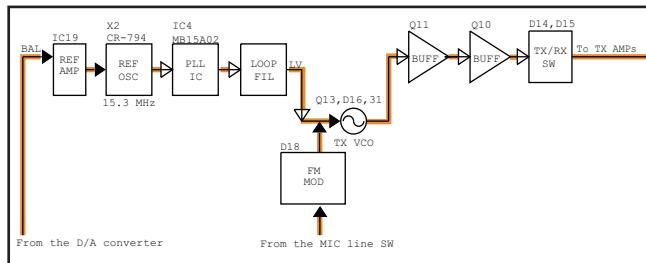
The splatter filter (IC16) is also used as the AF Summing AMP for tone signal modulation (CTCSS, 2/5 TONE).

MODULATION CIRCUIT (MAIN-A-B UNIT)

MIC signal from the splatter filter (IC16) is level-adjusted (=deviation adjustment) by the D/A converter (IC18), and applied to the TX VCO (Q13, D16, D18), through the modulation mute SW (IC14) as the modulation signal.

The MIC signal is also applied to the reference frequency oscillator (X2) as the modulation signal, through D/A converter (IC18) and REF AMP (IC19).

• MODULATION CIRCUITS



CTCSS/DTCS SIGNALS ENCODING (FRONT UNIT)

The CTCSS/DTCS encoding signal from the CPU (IC1) "CENC0-CENC2" is passed through the LPF (IC5) for waveform conversion, and applied to the MAIN UNIT as tone modulation signal.

2/5 TONE, DTMF ENCODING (FRONT UNIT)

Encoding signal from the CPU (IC1) named "SENC," is passed through the LPF (IC5), and applied to the MAIN UNIT as tone modulation signal.

TX AMPLIFIERS (MAIN-A-B UNIT)

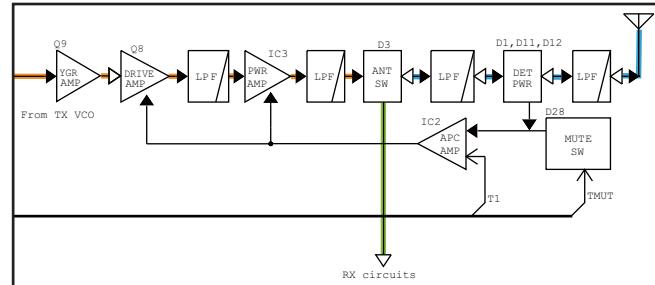
The frequency-modulated signal from the TX VCO is buffer-amplified by two buffers (Q11 and Q10), and applied to the YGR AMP (Q9) as the TX signal through the LO SW (D14). The TX signal is sequentially amplified by the YGR AMP (Q9) and drive AMP (Q8). The amplified signal is applied to the FET HPA module (IC3) through the LPF, and power-amplified to obtain TX output power level.

The power-amplified TX signal is passed through the antenna SW (D3) and LPF as a harmonic filter, and then fed to the antenna.

APC CIRCUIT (MAIN-A-B UNIT)

A portion of TX signal rectified by D1, D11 and D12 on the TX line to detect TX power level. The rectified voltage is applied to the APC AMP (IC2), and the APC AMP controls the gain of drive AMP (Q8) and HPA module (IC3) automatically by comparing the rectified voltage and the power setting voltage "T1."

• TX AMPLIFIERS APC CIRCUIT



5-3 FREQUENCY SYNTHESIZER CIRCUITS

VCOs (MAIN-A-B UNIT)

The TX VCO which generates the TX signal is composed by Q13, D16, D18, L27, L38, etc., and the frequency modulation is carried out by applying modulation signals to D18.

The RX VCO which generates the 1st LO signals is composed by Q14, D33, L39, etc.

These two VCOs are switched by the VCO SW (Q15, 16) using "RXC" signal.

The output signal from each VCO is amplified by the buffer AMP (Q11) and LO AMP (Q10), and then applied to the TX or RX circuits.

A portion of generated signals is applied to the PLL IC (IC4) via buffer AMP (Q12).

PLL (MAIN-A-B UNIT)

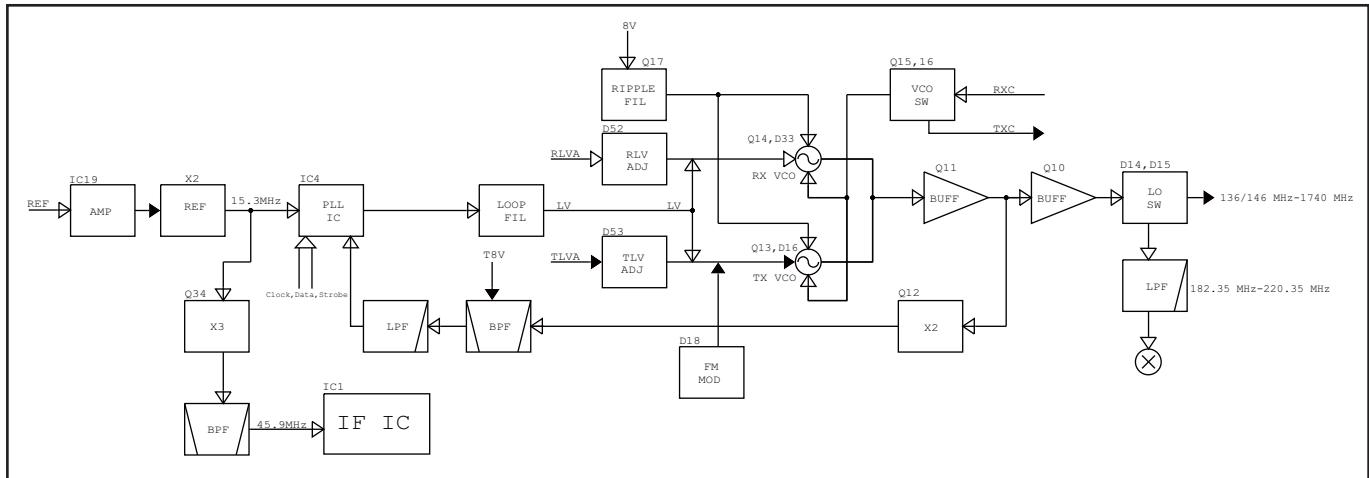
The applied VCO output is divided according to the serial data including divide ratio from the CPU, at the prescaler and programmable divider. In the same way, the reference frequency signal from the reference frequency signal oscillator is applied to the PLL IC and divide so that these are the same frequency.

The frequency-matched signal is applied to the phase comparator and phase-compared. The resulted phase difference is detected as a phase-type signal, and level-adjusted at the charge pump then output. The output pulse type signal is passed through the loop filter to be converted into the DC voltage (=Lock Voltage).

Applying the lock voltage to the variable capacitors (VD) which composes a part of the resonator of VCO, the capacitance of VDs changes corresponding to the applied lock voltage. This causes the change of resonance frequency that determines the VCO oscillating frequency to keep the VCO frequency constant.

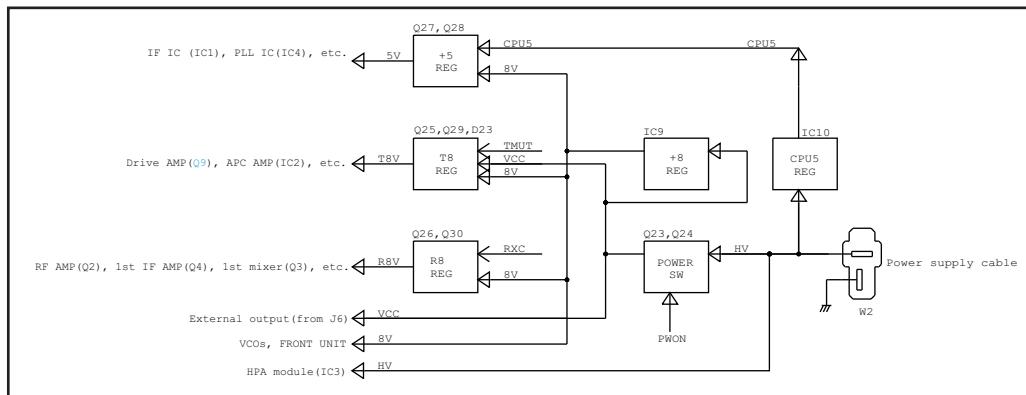
When the oscillation frequency drifts, its phase changes from that of the reference frequency, causing a lock voltage change to compensate for the drift in the VCO oscillating frequency.

• FREQUENCY SYNTHESIZER CIRCUITS



5-4 VOLTAGE DIAGRAM

Voltage from the power supply is routed to the whole of the transceiver via regulators and switches.



5-5 PORT ALLOCATIONS

• CPU (FRONT UNIT; IC1)

Pin No.	Port Name	Description	I/O
1-3	KR1-KR3	Dealer-programmable keys input.	I
10	CCS	Chip-select signal to the attached optional unit.	O
19-21	CENC0-CENC2	CTCSS/DTCS signal.	O
23	DUSE	Frequency response of tone filter (IC5) switching control. "Low"=While transmitting.	O
24	IPTT	PTT input. "Low"=PTT is pushed.	I
25	HANG	Microphone on/off hook detect. "Low"=The microphone is off hook.	I
30	PLST	PLL strobe to the PLL IC (MAIN-A-B UNIT; IC4, pin 11).	O
34	ULCK	PLL unlock detect signal from the PLL IC (MAIN-A-B UNIT; IC4, pin 7). "Low"=While the PLL circuit is unlocked.	I
35	LED1	Key indicator LED for [P1] (DS9) control. "High"= Lights.	O
36	LED2	Key indicator LED for [P2] (DS8) control. "High"= Lights.	O
37	LED3	Key indicator LED for [P3] (DS7) control. "High"= Lights.	O
28	POSW	[PWR] key input. "Low"=Pushed.	I
39	DSDA	Serial data to the D/A converter (MAIN-A-B UNIT; IC20, pin 6).	O
43	SENC	DTMF signals to the LPF (IC5, pin 3).	O
44	BEEP	Beep audio.	O
45	SDEC	DTMF signals.	I
46	CDEC	CTCSS/DTCS signals.	I
48	BATV	Power supply voltage.	I
49	LVIN	VCO lock voltage.	I
50	RSSI	Received signal strength level signal from the IF demodulator IC (MAIN-A-B UNIT; IC1, pin 12).	I
51	TEMP	Temperature sensing voltage.	I
52	AFVI	[VOL] dial (R14) input. (divided voltage of "5V" line)	I
59	RES	CPU reset signal from the reset IC (IC8, pin 1). "Low"=CPU is reset.	I
69	CSFT	CPU clock shift signal to the clock frequency shift switch (D6).	O
71	DAST	Strobe signal to the D/A converter (MAIN-A-B UNIT; IC18, pin 7).	O
72	IGSW	Ignition SW input.	I
75	NOIS	Noise signal from the IF demodulate IC (MAIN-A-B UNIT; IC1, pin 13).	I
82	ESDA	Serial data to the EEPROM (IC3, pin 5).	O
85	ESCL	Clock signal to the EEPROM (IC3, pin 6).	O
86	PWON	Transceiver's power control. "High"=Power ON.	I
87	CH4L	Channel indicator LED for [CH4] (DS3) control. "High"= Lights.	O
88	CH3L	Channel indicator LED for [CH3] (DS4) control. "High"= Lights.	O
89	CH2L	Channel indicator LED for [CH2] (DS5) control. "High"= Lights.	O
90	CH1L	Channel indicator LED for [CH1] (DS6) control. "High"= Lights.	O
95	LIGT2	Key backlight LED (DS1, DS2) control. "High"=Backlight is ON.	O
96	TLED	TX indicator LED (DS10) control. "High"= Lights red (While transmitting).	O
97	RLED	RX indicator LED (DS10) control. "High"= Lights green (While receiving).	O

Pin No.	Port Name	Description	I/O
98	SCK	Serial clock signal to the PLL IC (IC4, pin 9) and D/A converters (IC17, pin 3/IC18, pin 8/IC20, pin 7).	O
99	SO	Serial data to the PLL IC (IC4, pin 9) and D/A converters (IC17, pin 3/IC18, pin 8/IC20, pin 7).	O
100	KR0	Input ports for dealer-programmable keys.	I

• EXPANDER (MAIN-A-B UNIT; IC17)

Pin No.	Line Name	Description
4	RXC	T8V, R8V lines and RX VCO ON/OFF control.
5	AFON	AF mute SW (Q35) control. "Low"=Mute
6	NWC	<ul style="list-style-type: none"> • RX passband width switching signal to the 2nd IF filter SW (D56, D57). "Low"=Narrow mode • RX passband width switching signal to the phase shifter SW (Q5). "Low"=Wide mode
7	RMUT	AF mute signal to the analog switch (IC3, pins 12, 13). "Low"=While the squelch is closed or transmitting.
12	HORNO	External device control. "Low"=Pin 6 of OPC-1939 or pin 10 of OPC-2078 (if connected) is "Low."
13	TMUT	Transmit mute signal to the transmit mute switch (Q46). "High"=Transmitting is muted.

• D/A CONVERTER (MAIN-A-B UNIT; IC18)

Pin No.	Description	
2, 3	MIC signal level adjustment.	
4, 5	RX AF/MIC signal level adjustment.	
16, 17	Tone signal level adjustment.	
18, 19	Oscillation frequency control voltage to the reference frequency oscillator (X2).	
20, 21	Modulation signal level adjustment.	
22, 23	Beep sound loudness adjustment.	
24, 25	Squelch threshold level adjustment.	

• D/A CONVERTER (MAIN UNIT; IC20)

Pin No.	Line Name	Description
1	T1	<ul style="list-style-type: none"> • While receiving Tuning voltage to the tuned BPF (D4, D8). • While transmitting TX power level setting signal to the APC AMP (IC2).
2	T2	Tuning voltage to the tuned BPF (D9, D10).
3	TLVA	Oscillation frequency correcting voltage to the TX VCO (Q13, D16, D18, D31, D53).
4	RLVA	Oscillation frequency correcting voltage to the RX VCO (Q14, D33, D34, D52).

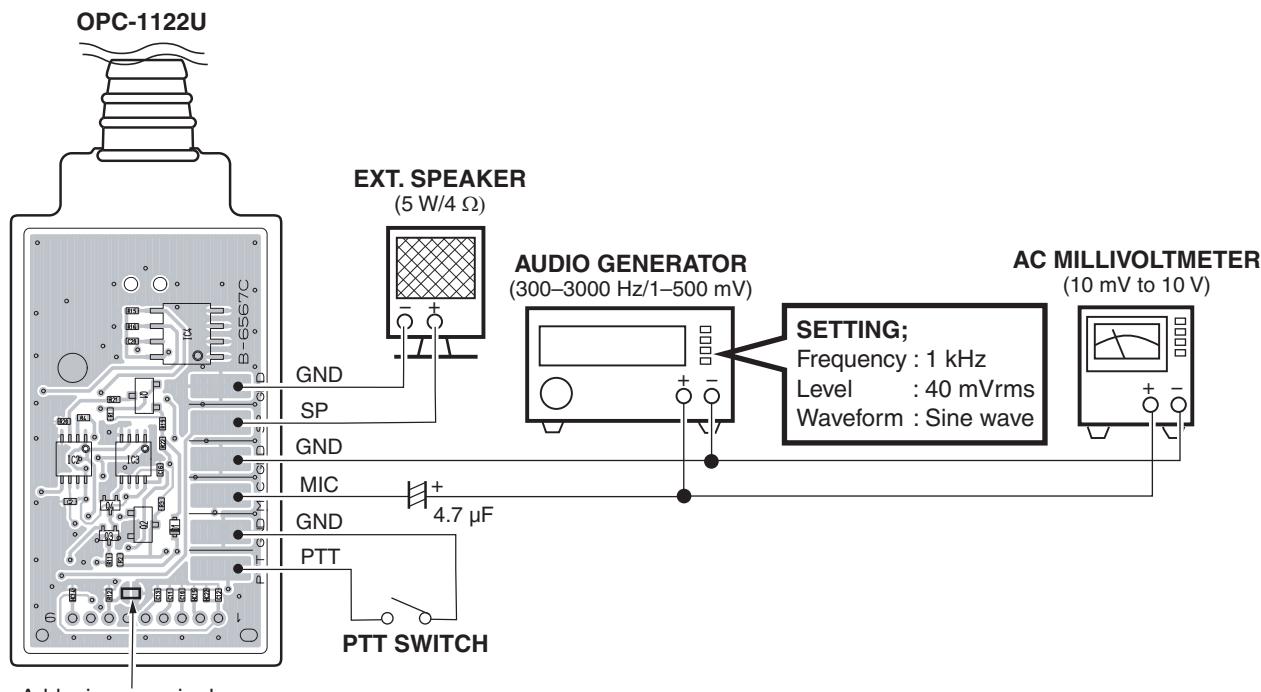
SECTION 6 ADJUSTMENT PROCEDURE

6-1 PREPARATION

■ REQUIRED EQUIPMENTS

EQUIPMENT	GRADE AND RANGE		EQUIPMENT	GRADE AND RANGE	
Cloning Software	CS-F3020/F5020 : Revision 1.0 or later		JIG Cable	Modified OPC-1122U (see the illust below)	
DC Power Supply	Output voltage : 13.6 V DC except [EUR] Current capacity : More than 20 A		Attenuator	Power attenuation : 50 or 60 dB Capacity : 30 W [25 W ver.] 60 W [45 W ver.]	
Modulation Analyzer	Frequency range : DC–600 MHz Measuring range : 0 to \pm 10 kHz		External Speaker	Input impedance : 4 Ω Capacity : 5 W or more	
Frequency Counter	Frequency range : 0.1–600 MHz Frequency accuracy : \pm 1 ppm or better Sensitivity : 100 mV or better		Standard Signal Generator (SSG)	Frequency range : 0.1–600 MHz Output level : 0.1 μ V to 32 mV (–127 to –17 dBm)	
RF Power Meter	Measuring range : 0.1–30 W [25 W ver.] 0.1–60 W [45 W ver.] Frequency range : 100–600 MHz Impedance : 50 Ω SWR : Better than 1.2 : 1		Oscilloscope	Frequency range : DC–20 MHz Measuring range : 0.01–20 V	

■ JIG CABLE



■ ADJUSTMENT CHANNELS

- For [Low band] version

CH	Atr	Inh	Frequency (MHz)			C.Tone		Text	TOT	RF PWR	PWR Save	Lock-out
			RX	TX	TX Inh	W/N	SQL Tight					
1- 1	AB		400.000000	<-		W				L1	ON	
1- 2			470.000000	<-		W				L1	ON	
1- 3			470.000000	<-		W				L1	ON	
1- 4			435.000000	<-		W				H	ON	
1- 5			435.000000	<-		W				L2	ON	
1- 6			435.000000	<-		W				L1	ON	
1- 7			435.000000	<-		W		007N		L1	ON	
1- 8			435.000000	<-		N				H	ON	
1- 9			435.000000	<-		W				H	ON	
1- 10			435.000000	<-		W				H	ON	
1- 11			435.000000	<-		W		250.3		H	ON	
1- 12			400.100000	<-	i	W				H	ON	
1- 13			400.100000	<-	i	W				H	ON	
1- 14			400.100000	<-	i	N				H	ON	
1- 15												
1- 16												

- For [High band] version

CH	Atr	Inh	Frequency (MHz)			C.Tone		Text	TOT	RF PWR	PWR Save	Lock-out
			RX	TX	TX Inh	W/N	SQL Tight					
1- 1	AB		450.000000	<-		W				L1	ON	
1- 2			520.000000	<-		W				L1	ON	
1- 3			520.000000	<-		W				L1	ON	
1- 4			485.000000	<-		W				H	ON	
1- 5			485.000000	<-		W				L2	ON	
1- 6			485.000000	<-		W				L1	ON	
1- 7			485.000000	<-		W		007N		L1	ON	
1- 8			485.000000	<-		N				H	ON	
1- 9			485.000000	<-		W				H	ON	
1- 10			485.000000	<-		W				H	ON	
1- 11			485.000000	<-		W		250.3		H	ON	
1- 12			450.100000	<-	i	W				H	ON	
1- 13			450.100000	<-	i	W				H	ON	
1- 14			450.100000	<-	i	N				H	ON	
1- 15												
1- 16												

CONVENIENT: The cloning data file for the adjustment, as described in this service manual, is attached.
Right click the clip icon, and select "Save Embedded File to Disk."

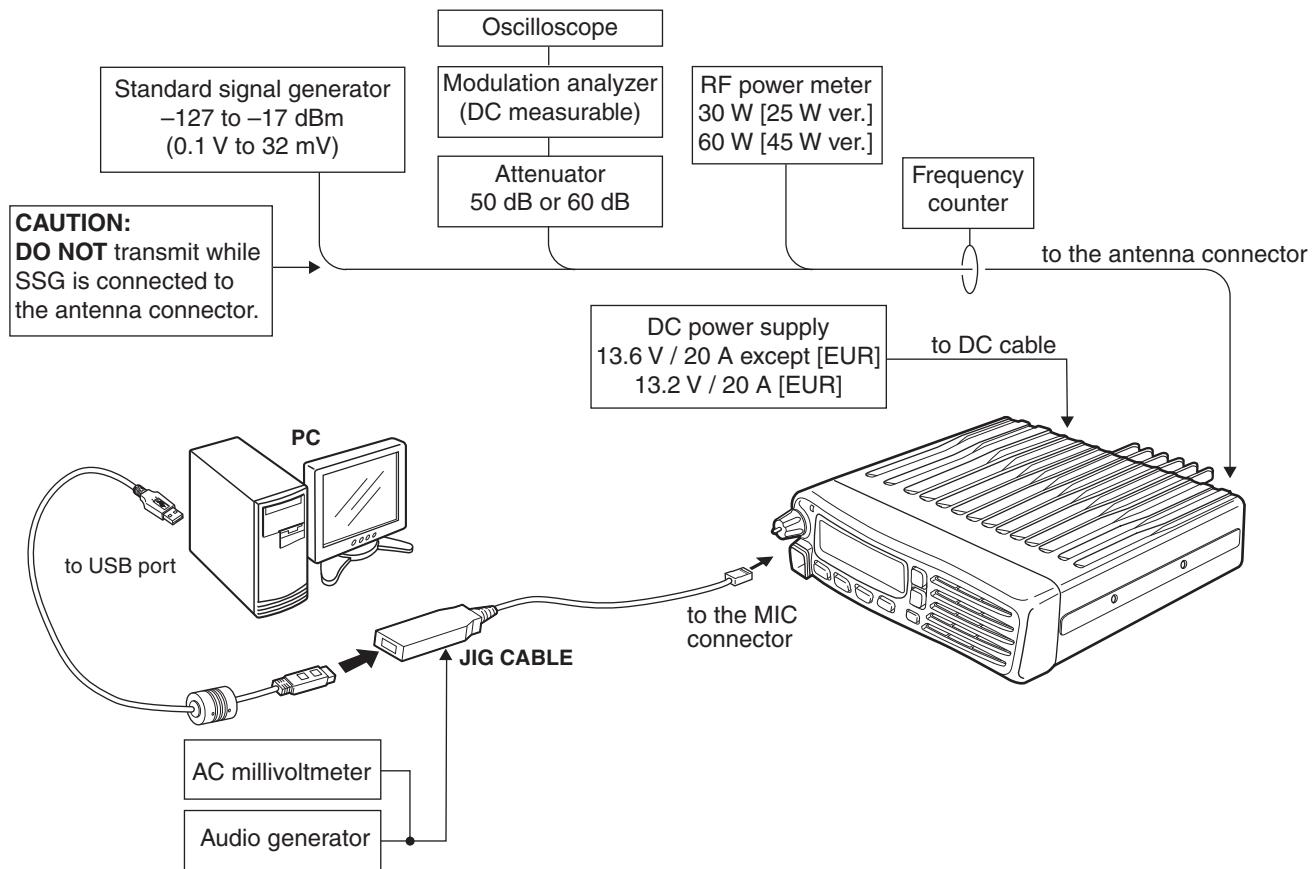
- For low band version



- For high band version

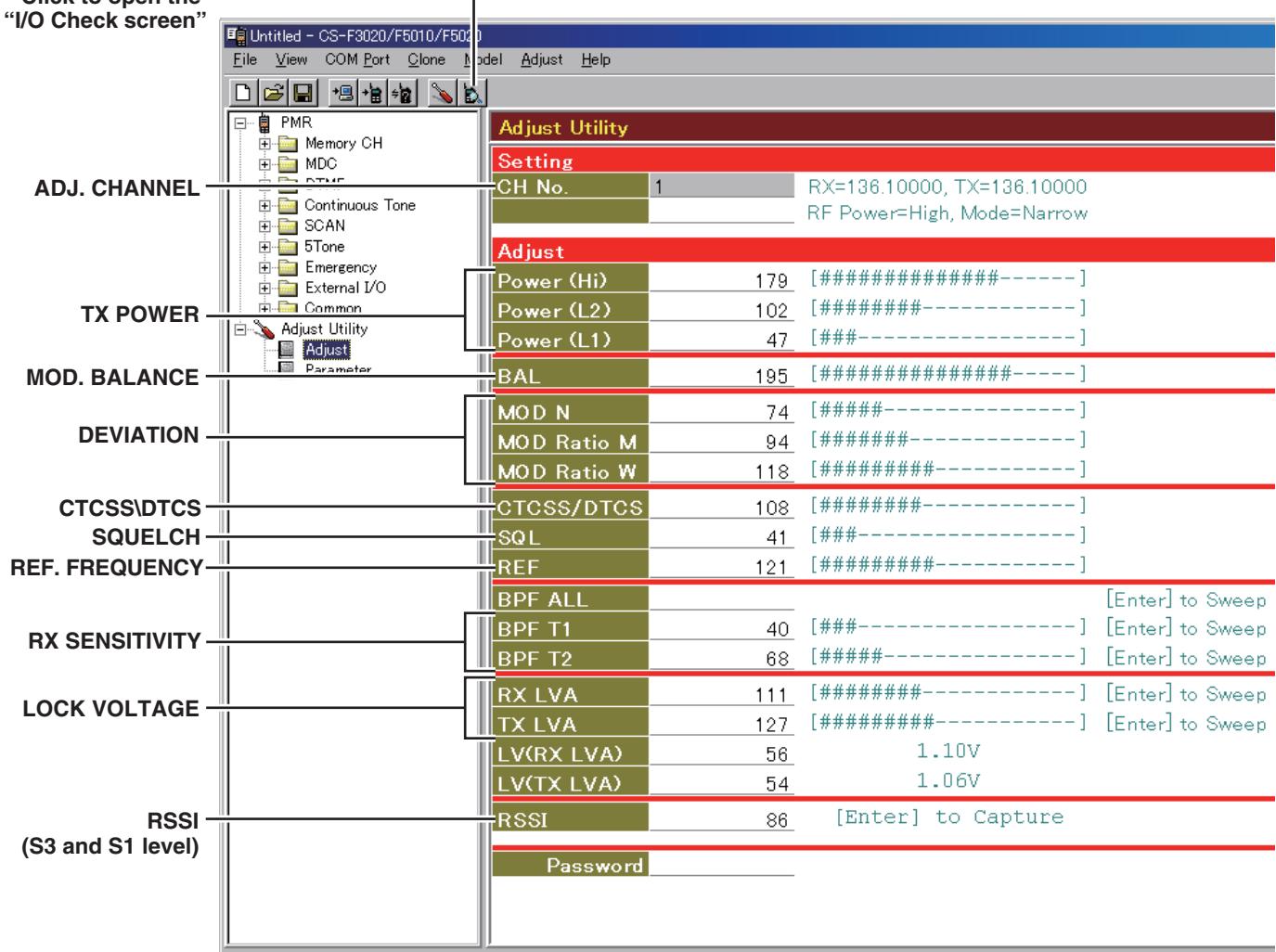


■ CONNECTION



■ ADJUSTMENT UTILITY

Click to open the
“I/O Check screen”



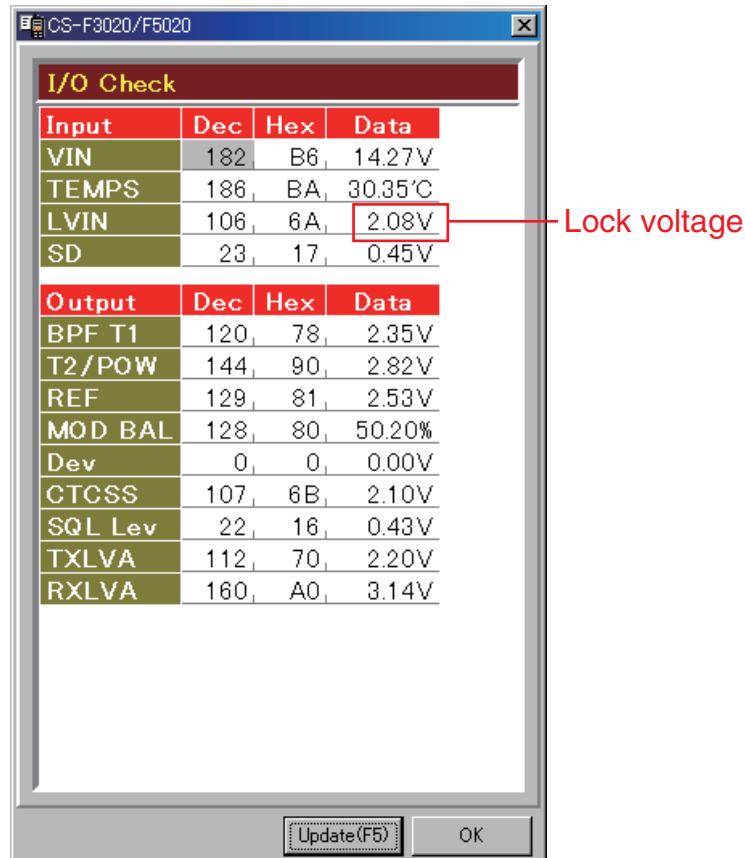
6-2 FREQUENCY ADJUSTMENT

- 1) Select an adjustment item using cursor or [\uparrow / \downarrow] of the PC's keyboard.
- 2) Set or modify the adjustment value as specified using [\leftarrow / \rightarrow] of the PC's keyboard, then push [ENTER].

ADJUSTMENT		TRANSCEIVER'S CONDITION	OPERATION	ADJUSTMENT ITEM	VALUE
PLL LOCK VOLTAGE (RX)	1	• Channel : 1-1 • Receiving	1) Connect an RF power meter to the antenna connector. 2) Set the adjustment value on the "Adjust Utility" screen.	[RX LVA]	1.35 V [Low band]* 1.1 V [High band]**
	2	• Channel : 1-2 • Transmitting		[TX LVA]	
(RX)	3	• Channel : 1-3 • Receiving	• Click [Update (F5)] button, and then check the "LVIN" item on the "I/O Check screen" as below.	[LVIN] (On the "I/O Check screen")	3.0–4.0 V (Verify)
	4	• Channel : 1-3 • Transmitting			
REFERENCE FREQUENCY	1	• Channel : 1-3 • Transmitting	• Loosely couple a frequency counter to the antenna connector.	[REF]	470.000000 MHz [Low band]* 512.000000 MHz [High band]**

*: [Low band]=[EUR-01], [EXP-01], [USA-01], [EXP-03] **: [High band]=[USA-02], [EXP-04]

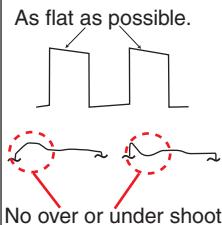
• I/O Check window



(The values shown in the above screen are example only.
Each transceiver has their own values.)

6-3 TRANSMIT ADJUSTMENT

- 1) Select an adjustment item using cursor or [\uparrow]/[\downarrow] of the PC's keyboard.
- 2) Set or modify the adjustment value as specified using [\leftarrow]/[\rightarrow] of the PC's keyboard, then push [ENTER].

ADJUSTMENT		TRANSCEIVER'S CONDITION	OPERATION	ADJUSTMENT ITEM	VALUE
OUTPUT POWER (Hi power)	1	<ul style="list-style-type: none"> • Channel : 1-4 • Transmitting 	<ul style="list-style-type: none"> • Connect an RF power meter to the antenna connector. 	[Power (Hi)]	25 W [25 W ver.] 45 W [45 W ver.]
(L2 power)	2	<ul style="list-style-type: none"> • Channel : 1-5 • Transmitting 		[Power (L2)]	10 W [25 W ver.] 25 W [45 W ver.]
(L1 power)	3	<ul style="list-style-type: none"> • Channel : 1-6 • Transmitting 		[Power (L1)]	2.5 W [25 W ver.] 4.5 W [45 W ver.]
MODULATION BALANCE	1	<ul style="list-style-type: none"> • Channel : 1-7 • No audio signal applied to the JIG cable. • Transmitting. 	<ul style="list-style-type: none"> • Connect a modulation analyzer with an oscilloscope to the antenna connector through an attenuator, and set it as; <p>HPF : OFF LPF : 20 kHz De-emphasis : OFF Detector : (P-P)/2</p>	[BAL]	 <p>As flat as possible. No over or under shoot.</p>
DEVIATION (NARROW)	1	<ul style="list-style-type: none"> • Channel : 1-8 • Transmitting 	<ul style="list-style-type: none"> • Connect a modulation analyzer to the antenna connector through an attenuator, and set it as described in the "MODULATION BALANCE" above. • Connect an audio generator to the JIG cable and set it as; <p>Frequency : 1.0 kHz Level : 40 mVrms</p>	[MOD N]	± 2.05 to ± 2.15 kHz
(WIDE)	2	<ul style="list-style-type: none"> • Channel : 1-9 • Transmitting 		[MOD Ratio]	± 4.05 to ± 4.15 kHz
(MIDDLE) [†]	3	<ul style="list-style-type: none"> • Channel : 1-10 • Transmitting 		[MOD Ratio]	± 3.25 to ± 3.35 kHz
CTCSS/DTCS DEVIATION	1	<ul style="list-style-type: none"> • Channel : 1-11 • No audio signal applied to the JIG cable. • Transmitting 	<ul style="list-style-type: none"> • Connect a modulation analyzer to the antenna connector through an attenuator, and set it as described in the "MODULATION BALANCE" above. 	[CTCSS/DTCS]	± 0.65 to ± 0.75 kHz

[†]: [EUR] only

6-4 RECEIVE ADJUSTMENT

- 1) Select an adjustment item using cursor or [\uparrow / \downarrow] of the PC's keyboard.
 2) Set or modify the adjustment value as specified using [\leftarrow / \rightarrow] of the PC's keyboard, then push [ENTER].

ADJUSTMENT	TRANSCEIVER'S CONDITION	OPERATION	ADJUSTMENT ITEM	VALUE
RECEIVE SENSITIVITY	NOTE: When "RECEIVE SENSITIVITY" is re-adjusted, "S-METER" and "SQUELCH" must be re-adjusted too.			
	1 • Channel : 1-12 • Receiving	1) Connect an SSG to the antenna connector and set it as; Frequency : 400.000 MHz [Low band]* 485.000 MHz [High band]** Level [†] : +20 dB μ (-87 dBm) Modulation : 1 kHz Deviation : \pm 3.0 kHz 2) Put the cursor on the adjustment item, then push [ENTER].	[BPF ALL]	Push [ENTER].
S-METER (S3 level)	NOTE: "RECEIVE SENSITIVITY" MUST be adjusted before "S-METER." When "RECEIVE SENSITIVITY" is re-adjusted, "S-METER" MUST be re-adjusted too.			
	1 • Channel : 1-13 • Receiving	• Connect an SSG to the antenna connector and set it as; Frequency : 400.000 MHz [Low band]* 450.000 MHz [High band]** Level [†] : +23 dB μ (-84 dBm) Modulation : 1 kHz Deviation : \pm 3.0 kHz	[RSSI]	Push [ENTER].
(S1 level)	2	• Set the SSG as; Level [†] : -7 dB μ (-114 dBm)		
SQUELCH	NOTE: "RECEIVE SENSITIVITY" MUST be adjusted before "SQUELCH." When "RECEIVE SENSITIVITY" is re-adjusted, "SQUELCH" MUST be re-adjusted too.			
	1 • Channel : 1-14 • Receiving	1) Connect a SSG to the antenna connector and set it as; Frequency : 400.000 MHz [Low band]* 450.000 MHz [High band]** Level [†] : -13 dB μ (-120 dBm) Modulation : 1 kHz Deviation : \pm 3.0 kHz 2) Once close the squelch by increasing [SQL] value, and then decrease the value to open the squelch.	[SQL]	Push [ENTER].

[†]; The output level of the standard signal generator (SSG) is indicated as the SSG's open circuit.

*: [Low band]=[EUR-01], [EXP-01], [USA-01], [EXP-03] **: [High band]=[USA-02], [EXP-04]

SECTION 7

PARTS LIST

[MAIN-A UNIT] (For low band version)

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
IC1	1110007320	S.I.C NJM2591V-TE1-#ZZZB	B	67.8/23
IC2	1110002751	S.I.C TA75S01F(TE85RF)	B	44.5/31.1
IC3	1150002380	IC RA30H4047M1-101 [EUR-01]		
	1150002380	IC RA30H4047M1-101 [EXP-01]		
	1150002400	IC RA60H4047M1-121 [USA-01]		
	1150002400	IC RA60H4047M1-121 [EXP-03]		
	1150002400	IC RA60H4047M1-121 [CHN-01]		
IC4	1140005991	S.I.C MB15A02PFV1-G-BND-ERE1	T	77.8/29.2
IC8	1110003091	IC LA4425A-E		
IC9	1180003500	S.REG NJM7808DL1A-TE1-#FZZB	T	123.3/45.7
IC10	1180003460	S.REG NJM2831F05-TE1-#ZZZB	T	121.6/35.4
IC14	1130011770	S.I.C CD4066BPWR	B	35.1/16.4
IC15	1110002751	S.I.C TA75S01F(TE85RF)	B	32.0/6.7
IC16	1110005340	S.I.C NJM12902V-TE1-#ZZZB	B	20.6/21.1
IC17	1130011760	S.I.C CD4094BPWR	B	53.1/9.9
IC18	1110002790	S.I.C AK2330P-L	B	35.9/25.7
IC19	1110002751	S.I.C TA75S01F(TE85RF)	B	83.7/18.1
IC20	1190001340	S.I.C M62334FP 600C	B	72.3/26.3
IC21	1110002751	S.I.C TA75S01F(TE85RF)	T	47.9/17.5

[MAIN-A UNIT] (Low band version)

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
D69	1750001910	S.DIO HVD144AKRF-E	T	48.1/29.8
D70	1750001910	S.DIO HVD144AKRF-E	T	51.5/33.2
D71	1750001910	S.DIO HVD144AKRF-E	T	51.5/34.7
FI1	2030000870	S.MON MFT46.3P3 46.350 MHz (FL-442)	T	66.6/34.9
FI2	2020002410	CER LTM450FW <JJE>		
FI3	2040001440	S.LC NFE31PT15Z1E9L (NFM60R20T152)	B	97.7/55.4
FI4	2040001440	S.LC NFE31PT15Z1E9L (NFM60R20T152)	B	97.7/58.9
FI5	2040001440	S.LC NFE31PT15Z1E9L (NFM60R20T152) [USA-01]	B	97.7/62.2
	2040001440	S.LC NFE31PT15Z1E9L (NFM60R20T152) [EXP-03]		
	2040001440	S.LC NFE31PT15Z1E9L (NFM60R20T152) [CHN-01]		
FI6	2020002570	CER LTM450HW <JJE>		
X1	6070000310	S.DIS JTBM450CX70 <JJE>	B	53.0/24.5
X2	6050012050	S.XTA CR-794 TTS14VSB-A6 15.3 MHz	B	80.8/23.8
L1	6200010150	S.COI AS080340-15N	B	8.4/62.7
L2	6200010150	S.COI AS080340-15N	B	12.9/55.5
L3	6200010150	S.COI AS080340-15N	B	20.7/55.5
L4	6200013100	S.COI 045.1-5.5T 18.3N <COMO>	T	31.1/50.5
L5	6200010420	S.COI FHW1210HC 1R0JGT <JJE>	T	38.5/58.4
L6	6200010150	S.COI AS080340-15N	B	27.3/55.5
L7	6200012800	S.COI 040.1-5.5T 20N <COMO>	B	28.2/37.8
L8	6200012800	S.COI 040.1-5.5T 20N <COMO>	B	34.6/37.8
L9	6200011690	S.COI C2520C-12NG-A	B	49.0/39.8
L10	6200004660	S.COI MLF1608A 1R8K-T	T	78.1/13.3
L11	6200011690	S.COI C2520C-12NG-A	B	57.8/40.5
L13	6200010090	S.COI ELJND R82JF	B	68.9/40.9
L16	6200010150	S.COI AS080340-15N	B	38.2/65.2
L18	6200005701	S.COI ELJRE 22NGFA	B	88.1/58.9
L19	6200005711	S.COI ELJRE 27NGFA	B	89.9/56.0
L20	6200005701	S.COI ELJRE 22NGFA	B	84.6/53.7
L21	6200005711	S.COI ELJRE 27NGFA	B	90.8/33.1
L22	6200005721	S.COI ELJRE 33NGFA	B	99.5/33.8
L27	6200001770	S.COI ELJNC 47NK-F	B	102.2/19.7
L28	6200007370	S.COI ELJFC R82K-F	T	94.8/17.3
L33	6200012170	S.COI MLG1608S R18J-T	B	62.9/23.3
L35	6200012170	S.COI MLG1608S R18J-T	B	65.3/24.3
L36	6200006991	S.COI ELJRE 56NGFA	B	73.5/38.5
L37	6200006981	S.COI ELJRE R10GFA	T	82.6/62.9
L38	6200013660	S.COI C36-5NH <COMO>	B	106.2/24.9
L39	6200013660	S.COI C36-5NH <COMO>	B	92.9/20.2
L41	6200005681	S.COI ELJRE 15NGFA	B	95.8/29.8
L45	6200005671	S.COI ELJRE 12NGFA	B	85.4/31.3
L46	6200007370	S.COI ELJFC R82K-F	T	88.9/24.9
L47	6200007370	S.COI ELJFC R82K-F	B	102.2/22.2
L53	6200005731	S.COI ELJRE 39NGFA	B	78.0/39.2
L54	6200007370	S.COI ELJFC R82K-F	T	100.0/30.4
L55	6200003310	S.COI ELJFC R33M-F	B	103.7/33.8
L56	6200011690	S.COI C2520C-12NG-A	B	64.2/40.5
L57	6200005671	S.COI ELJRE 12NGFA	B	94.2/27.4
R1	7030000620	S.RES MCR10EZHZ 100 K (104)	B	12.3/65.5
R4	7030003560	S.RES ERJ3GEY J 103 V (10K)	B	16.4/50.6
R5	7030005290	S.RES ERJ2GEJ 682 X (6.8K) [EUR-01]	B	11.2/49.6
	7030005290	S.RES ERJ2GEJ 682 X (6.8K) [EXP-01]		
	7030005290	S.RES ERJ2GEJ 223 X (22K) [USA-01]		
	7030005290	S.RES ERJ2GEJ 223 X (22K) [EXP-03]		
	7030005290	S.RES ERJ2GEJ 223 X (22K) [CHN-01]		
R6	7030005290	S.RES ERJ2GEJ 682 X (6.8K) [EUR-01]	B	19.8/48.1
	7030005290	S.RES ERJ2GEJ 682 X (6.8K) [EXP-01]		
	7030005290	S.RES ERJ2GEJ 223 X (22K) [USA-01]		
	7030005290	S.RES ERJ2GEJ 183 X (18K) [EXP-03]		
	7030005290	S.RES ERJ2GEJ 183 X (18K) [CHN-01]		
R7	7030003560	S.RES ERJ3GEY J 103 V (10K)	B	8.2/53.2
R8	7030006070	S.RES ERJ12YJ101U (100)	B	45.7/51.9
R9	7030003560	S.RES ERJ3GEY J 103 V (10K)	B	25.6/50.6
R10	7030005290	S.RES ERJ2GEJ 682 X (6.8K) [EUR-01]	B	22.2/48.1
	7030005290	S.RES ERJ2GEJ 682 X (6.8K) [EXP-01]		
	7030005290	S.RES ERJ2GEJ 183 X (18K) [USA-01]		
	7030005290	S.RES ERJ2GEJ 183 X (18K) [EXP-03]		
	7030005290	S.RES ERJ2GEJ 183 X (18K) [CHN-01]		
R11	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	30.9/40.5
R12	7030004980	S.RES ERJ2GEJ 101 X (100)	B	39.2/39.5
R13	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	31.9/40.5
R14	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	31.9/38.8
R15	7030005700	S.RES ERJ2GEJ 274 X (270K)	B	39.2/38.6
R16	7030004980	S.RES ERJ2GEJ 101 X (100)	B	39.5/40.7
R17	7030005530	S.RES ERJ2GEJ 100 X (10)	B	51.5/40.2
R18	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	60.8/40.5
R19	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	39.2/36.8
R20	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	52.8/38.6
R21	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	54.1/40.2
R22	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	63.7/36.7
R23	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	54.1/41.2
R29	7030005570	S.RES ERJ2GEJ 820 X (82)	B	74.0/40.6
R30	7030007300	S.RES ERJ2GEJ 332 X (3.3K)	B	71.3/40.6
R31	7030004980	S.RES ERJ2GEJ 101 X (100)	B	66.9/37.4
R32	7030005530	S.RES ERJ2GEJ 100 X (10)	T	68.0/40.2

M.=Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)

S.=Surface mount

[MAIN-A UNIT] (Low band version)

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
R327	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	54.6/8.3
R328	7030007250	S.RES ERJ2GEJ 220 X (22) [EUR-01]	B	104.8/29.1
	7030007250	S.RES ERJ2GEJ 220 X (22) [EXP-01]		
	703001040	S.RES ERJ2GEJ-JPW [USA-01]		
	703001040	S.RES ERJ2GEJ-JPW [EXP-03]		
	703001040	S.RES ERJ2GEJ-JPW [CHN-01]		
R329	703000480	S.RES MCR10EZHJ 6.8K (682)	B	129.4/45.2
R330	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	B	13.4/20.6
R334	7030008280	S.RES ERJ2GEJ 271 X (270)	T	87.6/61.3
R336	7030009290	S.RES ERJ2GEJ 562 X (5.6K)	T	14.6/17.2
R337	7030010090	S.RES ERJ2GEJ 180 X (18)	T	87.1/62.7
R338	7030008280	S.RES ERJ2GEJ 271 X (270)	T	87.6/64.1
R339	7030010040	S.RES ERJ2GEJ-JPW	B	96.5/25.3
R340	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	76.9/23.9
R345	7030010040	S.RES ERJ2GEJ-JPW	B	76.3/32.3
R350	7030005600	S.RES ERJ2GEJ 273 X (27K)	T	51.2/36.1
R351	7030005600	S.RES ERJ2GEJ 273 X (27K)	T	49.4/28.3
R352	7030005210	S.RES ERJ2GEJ 822 X (8.2K)	T	49.5/33.0
R353	7030007300	S.RES ERJ2GEJ 332 X (3.3K)	T	49.5/33.9
R354	7030005210	S.RES ERJ2GEJ 822 X (8.2K)	T	47.6/30.8
R355	7030010040	S.RES ERJ2GEJ-JPW	T	124.9/24.8
R356	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	115.5/8.4
R357	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	114.9/7.1
R358	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	112.8/14.2
R359	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	111.5/9.4
R360	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	112.3/8.4
R361	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	111.5/7.1
R362	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	55.7/6.3
R363	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	76.1/22.2
R368	7030010040	S.RES ERJ2GEJ-JPW	B	33.0/23.1
R370	7030010040	S.RES ERJ2GEJ-JPW	B	13.4/18.8
R371	7030007350	S.RES ERJ2GEJ 393 X (39K)	B	36.6/21.1
R372	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	27.0/13.4
R373	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	28.3/12.4
R374	7030005230	S.RES ERJ2GEJ 334 X (330K)	T	30.5/12.4
R375	7030005230	S.RES ERJ2GEJ 334 X (330K)	B	29.8/14.3
R377	7030005230	S.RES ERJ2GEJ 334 X (330K)	T	39.4/19.0
R378	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	122.6/37.6
R381	7030010040	S.RES ERJ2GEJ-JPW	B	57.8/10.2
R384	7030012220	S.RES ERJ2GEJ 185 X (1.8M)	B	26.7/19.6
R391	7030008310	S.RES ERJ2GEJ 564 X (560K)	T	31.7/24.3
R392	7030008290	S.RES ERJ2GEJ 183 X (18K)	T	121.0/37.6
R393	7030010040	S.RES ERJ2GEJ-JPW	T	84.3/30.5
R394	7030010040	S.RES ERJ2GEJ-JPW	B	100.1/27.3
R395	7030010040	S.RES ERJ2GEJ-JPW	B	26.7/46.8
R396	7030007290	S.RES ERJ2GEJ 222 X (2.2K)	B	57.3/26.5
R397	7030005080	S.RES ERJ2GEJ 823 X (82K)	T	48.4/21.6
R398	7030008300	S.RES ERJ2GEJ 184 X (180K)	T	46.8/20.7
R399	7030005700	S.RES ERJ2GEJ 274 X (270K)	T	50.1/20.7
R400	7030004980	S.RES ERJ2GEJ 101 X (100)	T	58.9/18.6
R401	7030010040	S.RES ERJ2GEJ-JPW	T	51.5/22.2
R402	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	48.4/19.8
R403	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	45.5/30.4

[MAIN-A UNIT] (Low band version)

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C53	4030016790	S.CER C1005 JB 1E 103K-T	B	71.3/42.3
C54	4030017730	S.CER C1005 JB 1H 471K-T	B	70.3/42.3
C57	4030017460	S.CER C1005 JB 1H 102K-T	B	74.6/36.7
C58	4030017460	S.CER C1005 JB 1H 102K-T	T	65.3/27.8
C59	4030017460	S.CER C1005 JB 1H 102K-T	T	67.3/29.5
C60	4030016790	S.CER C1005 JB 1E 103K-T	T	67.3/26.0
C61	4030017430	S.CER C1005 CH 1H 101J-T	T	61.6/23.1
C62	4030017400	S.CER C1005 CH 1H 220J-T	T	56.4/20.4
C63	4030017420	S.CER C1005 CH 1H 470J-T	T	60.2/16.2
C64	4030016790	S.CER C1005 JB 1E 103K-T	T	56.4/17.4
C65	4030017460	S.CER C1005 JB 1H 102K-T	T	70.4/17.5
C67	4030017460	S.CER C1005 JB 1H 102K-T	B	60.7/23.2
C68	4030017430	S.CER C1005 CH 1H 101J-T	T	52.1/25.2
C69	4030017430	S.CER C1005 CH 1H 101J-T	T	53.9/25.2
C70	4030017430	S.CER C1005 CH 1H 101J-T	T	53.9/27.0
C71	4030016930	S.CER C1005 JB 1A 104K-T	T	56.9/29.4
C72	4030017730	S.CER C1005 JB 1H 471K-T [USA-01]	T	56.8/50.7
C74	4030017730	S.CER C1005 JB 1H 471K-T [CHN-01]	B	11.2/50.5
C75	4030019560	S.CER GRM21BB31C106KE15L	B	59.2/25.2
C76	4030016790	S.CER C1005 JB 1E 103K-T	T	57.8/54.9
C77	4030017460	S.CER C1005 JB 1H 102K-T	T	57.8/50.7
C78	4030017730	S.CER C1005 JB 1H 471K-T	B	58.8/57.2
C79	4030018890	S.CER C1005 JB 0J 224K-T	T	62.4/55.0
C80	4030017780	S.CER C1005 JB 1H 472K-T	T	60.6/52.1
C81	4030017460	S.CER C1005 JB 1H 102K-T	T	65.1/55.0
C82	4030011030	S.CER GRM31MC4C2H1R5CY21L (GRM42-6 CK) [USA-01]	T	34.9/65.2
C84	4030017420	S.CER C1005 CH 1H 470J-T	T	55.0/61.6
C85	4030017460	S.CER C1005 JB 1H 102K-T	T	56.0/61.6
C86	4030017710	S.CER C1005 CH 1H 181J-T	T	81.3/63.8
C87	4030017460	S.CER C1005 JB 1H 102K-T	T	79.8/68.8
C88	4030017730	S.CER C1005 JB 1H 471K-T	T	65.4/52.1
C89	4030017580	S.CER C1005 CH 1H 060C-T	B	87.3/57.5
C90	4030017580	S.CER C1005 CH 1H 060C-T	B	88.2/57.5
C92	4030017590	S.CER C1005 CH 1H 070C-T	B	89.9/58.0
C93	4030017620	S.CER C1005 CH 1H 100C-T	B	86.9/51.5
C95	4030017460	S.CER C1005 JB 1H 102K-T	[EUR-01] [EXP-01]	83.9/53.4
C96	4030017460	S.CER C1005 JB 1H 102K-T	B	87.8/56.3
C97	4030017730	S.CER C1005 JB 1H 471K-T	B	87.8/55.4
C98	4030017370	S.CER C1005 CH 1H 3R5B-T	B	83.3/49.1
C99	4030017730	S.CER C1005 JB 1H 471K-T	B	83.9/43.5
C100	4030017620	S.CER C1005 CH 1H 100C-T	B	91.2/34.9
C101	4030017530	S.CER C1005 CH 1H 0R5B-T	T	64.3/29.5
C102	4030017350	S.CER C1005 CH 1H 020B-T	B	97.1/33.8
C103	4030017620	S.CER C1005 CH 1H 100C-T	B	98.5/32.2
C104	4030017460	S.CER C1005 JB 1H 102K-T	B	100.8/29.9
C105	4030017730	S.CER C1005 JB 1H 471K-T	B	97.6/28.9
C106	4030017420	S.CER C1005 CH 1H 470J-T	B	91.7/48.9
C107	4030017460	S.CER C1005 JB 1H 102K-T	T	79.0/51.7
C108	4030016790	S.CER C1005 JB 1E 103K-T	B	83.9/40.8
C109	4030017460	S.CER C1005 JB 1H 102K-T	T	95.8/35.3
C110	4030017730	S.CER C1005 JB 1H 471K-T	B	98.6/35.3
C111	4030017730	S.CER C1005 JB 1H 471K-T	T	101.7/37.1
C112	4030016930	S.CER C1005 JB 1A 104K-T	T	100.8/37.1
C113	4030017540	S.CER C1005 CH 1H R75B-T	B	102.0/29.6
C114	4030017570	S.CER C1005 CH 1H 040B-T	B	98.3/26.1
C115	4030017630	S.CER C1005 CH 1H 120J-T	B	98.8/21.9
C116	4030017460	S.CER C1005 JB 1H 102K-T	B	107.5/30.0
C117	4030017730	S.CER C1005 JB 1H 471K-T	B	107.5/30.9
C118	4030017530	S.CER C1005 CH 1H 0R5B-T	B	102.8/32.0
C119	4030016790	S.CER C1005 JB 1E 103K-T	B	97.0/21.9
C120	4030017730	S.CER C1005 JB 1H 471K-T	B	97.9/21.9
C121	4030017380	S.CER C1005 CH 1H 050B-T	B	103.3/30.8
C122	4030017640	S.CER C1005 CH 1H 150J-T	B	107.5/31.8
C123	4030017620	S.CER C1005 CH 1H 100C-T	B	104.8/28.2
C124	4030017630	S.CER C1005 CH 1H 120J-T	B	105.0/22.7
C125	4030017420	S.CER C1005 CH 1H 470J-T	B	101.7/27.5
C126	4030017630	S.CER C1005 CH 1H 120J-T	B	95.6/23.7
C127	4030017390	S.CER C1005 CH 1H 180J-T	B	96.1/21.9
C128	4030017360	S.CER C1005 CH 1H 030B-T	B	99.2/27.3
C129	4030017530	S.CER C1005 CH 1H 0R5B-T	B	103.5/27.5
C131	4030017340	S.CER C1005 CH 1H 010B-T	B	106.4/27.2
C132	4030017460	S.CER C1005 JB 1H 102K-T	T	94.3/12.6
C133	4030017630	S.CER C1005 CH 1H 120J-T	B	102.4/24.4
C134	4030017390	S.CER C1005 CH 1H 180J-T	B	91.9/23.1
C135	4030016790	S.CER C1005 JB 1E 103K-T	T	76.1/20.6
C136	4030017360	S.CER C1005 CH 1H 030B-T	B	95.2/20.1
C137	4030018080	S.CER C1005 JB 1H 182K-T	T	94.3/11.7
C138	4030017730	S.CER C1005 JB 1H 471K-T	B	100.1/20.1
C139	4030016930	S.CER C1005 JB 1A 104K-T	B	107.5/33.6
C140	4030016930	S.CER C1005 JB 1A 04K-T	T	83.2/28.7
C141	4030017460	S.CER C1005 JB 1H 102K-T	T	77.9/22.2
C142	4030017460	S.CER C1005 JB 1H 102K-T	T	77.3/15.3
C143	4030017460	S.CER C1005 JB 1H 102K-T	T	78.8/22.2
C144	4030017420	S.CER C1005 CH 1H 470J-T	T	92.6/15.3
C145	4030017730	S.CER C1005 JB 1H 471K-T	T	101.1/23.2
C146	4550000560	S.TAN TEESVA 1V 334M8R	T	85.8/23.4
C147	4550002980	S.TAN TEESVA 1C 225M8R	T	81.6/23.4
C148	4030019560	S.CER GRM21BB31C106KE15L	T	109.5/30.7
C149	4550000550	S.TAN TEESVA 1V 224M8R	T	83.7/23.4
C150	4030017460	S.CER C1005 JB 1H 102K-T	T	89.9/11.7
C151	4030016930	S.CER C1005 JB 1A 104K-T	T	77.0/33.4
C152	4030017420	S.CER C1005 CH 1H 470J-T	T	75.6/33.4
C153	4030017420	S.CER C1005 CH 1H 470J-T	B	73.7/34.8
C154	4030017420	S.CER C1005 CH 1H 470J-T	T	76.1/25.9
C155	4030017730	S.CER C1005 JB 1H 471K-T	T	81.6/33.4
C156	4030017620	S.CER C1005 CH 1H 100C-T	B	76.9/24.8
C160	4030016930	S.CER C1005 JB 1A 104K-T	B	82.3/26.3

M.=Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)

S.=Surface mount

[MAIN-A UNIT] (Low band version)

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C161	4030017340	S.CER C1005 CH 1H 010B-T	B	92.8/30.0
C162	4030016790	S.CER C1005 JB 1E 103K-T	B	83.7/15.9
C163	4030017460	S.CER C1005 JB 1H 102K-T	T	92.1/32.4
C164	4030017780	S.CER C1005 JB 1H 472K-T	B	81.1/19.1
C165	4030016790	S.CER C1005 JB 1E 103K-T	B	80.2/26.4
C166	4030017420	S.CER C1005 CH 1H 470J-T	B	84.7/20.3
C167	4030018390	S.CER C1005 JB 1A 563K-T	B	13.4/21.5
C168	4030016950	S.CER C1005 JB 1A 473K-T	B	13.4/22.4
C169	4030016950	S.CER C1005 JB 1A 473K-T	B	15.1/21.5
C170	4030017460	S.CER C1005 JB 1H 102K-T	T	19.8/23.5
C172	4030016790	S.CER C1005 JB 1E 103K-T	T	32.3/23.0
C173	4030016930	S.CER C1005 JB 1A 104K-T	T	14.6/19.0
C174	4030019560	S.CER GRM21BB31C106KE15L	B	30.7/29.3
C175	4030017460	S.CER C1005 JB 1H 102K-T	T	32.3/29.6
C176	4030017420	S.CER C1005 CH 1H 470J-T	T	30.8/22.6
C177	4030018090	S.CER C1005 JB 1E 822K-T	B	13.4/19.7
C178	4030017430	S.CER C1005 CH 1H 101J-T	B	16.3/19.3
C179	4030016930	S.CER C1005 JB 1A 104K-T	B	18.9/17.5
C180	4550006970	S.TAN TEESVA0G476M8R	T	35.9/30.3
C181	4030016930	S.CER C1005 JB 1A 104K-T	B	29.8/19.3
C182	4030016790	S.CER C1005 JB 1E 103K-T	B	28.5/19.6
C183	4030016930	S.CER C1005 JB 1A 104K-T	B	27.6/18.0
C184	4030017700	S.CER C1005 CH 1H 151J-T	B	24.9/19.6
C185	4030016930	S.CER C1005 JB 1A 104K-T	B	36.2/30.0
C186	4030016930	S.CER C1005 JB 1A 104K-T	B	16.9/13.8
C187	4030016930	S.CER C1005 JB 1A 104K-T	B	17.0/7.2
C188	4030016930	S.CER C1005 JB 1A 104K-T	B	33.0/22.2
C189	4030017460	S.CER C1005 JB 1H 102K-T	T	42.3/22.3
C190	4030016790	S.CER C1005 JB 1E 103K-T	B	38.1/30.0
C192	4030017350	S.CER C1005 CH 1H 020B-T	B	33.7/40.5
C193	4030017340	S.CER C1005 CH 1H 010B-T	B	51.5/38.3
C200	4030016930	S.CER C1005 JB 1A 104K-T	T	75.3/15.3
C201	4030016930	S.CER C1005 JB 1A 104K-T	T	78.1/7.5
C202	4030016930	S.CER C1005 JB 1A 104K-T	B	75.0/14.3
C203	4030016930	S.CER C1005 JB 1A 104K-T	B	75.8/11.4
C204	4030017730	S.CER C1005 JB 1H 471K-T	B	70.8/6.6
C207	4030017460	S.CER C1005 JB 1H 102K-T	B	73.7/11.0
C208	4030017460	S.CER C1005 JB 1H 102K-T	B	71.0/14.3
C209	4030017460	S.CER C1005 JB 1H 102K-T	B	70.0/14.3
C210	4030017460	S.CER C1005 JB 1H 102K-T	B	69.1/14.3
C216	4030017460	S.CER C1005 JB 1H 102K-T	T	59.2/16.2
[EUR-01]				
[EXP-01]				

[MAIN-A UNIT] (Low band version)

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION		
C315	4030016970	S.CER C1005 JB 1E 223K-T	B	26.7/22.9		
C316	4030017740	S.CER C1005 JB 1H 821K-T	B	24.9/24.6		
C317	4030017740	S.CER C1005 JB 1H 821K-T	B	21.3/24.6		
C318	4030016930	S.CER C1005 JB 1A 104K-T	T	22.2/24.6		
C320	4030016940	S.CER C1005 JB 1A 393K-T	T	29.1/18.6		
C321	4030016930	S.CER C1005 JB 1A 104K-T	T	27.5/18.6		
C322	4030017790	S.CER C1005 JB 1H 682K-T	T	27.5/17.7		
C325	4030016970	S.CER C1005 JB 1E 223K-T	T	27.5/21.3		
C332	4030017340	S.CER C1005 CH 1H 010B-T	B	84.9/50.0		
C333	4030017420	S.CER C1005 CH 1H 470J-T	B	40.4/40.7		
C334	4030017590	S.CER C1005 CH 1H 070C-T	B	94.9/68.3		
C335	4030017630	S.CER C1005 CH 1H 120J-T	B	93.8/68.3		
C336	4030017710	S.CER C1005 CH 1H 181J-T	B	62.0/68.7		
C337	4030017460	S.CER C1005 JB 1H 102K-T	T	82.7/31.4		
C340	4030017710	S.CER C1005 CH 1H 181J-T	B	107.7/28.7		
C342	4550002980	S.TAN TEESVA1C 225M8R	T	78.4/66.1		
C343	4030017460	S.CER C1005 JB 1H 102K-T	B	51.5/39.2		
C344	4030017460	S.CER C1005 JB 1H 102K-T	B	54.2/68.0		
C345	4030017730	S.CER C1005 JB 1H 471K-T	B	54.2/67.1		
C346	4030017420	S.CER C1005 CH 1H 470J-T	B	66.0/68.7		
C347	4030016930	S.CER C1005 JB 1A 104K-T	T	52.1/24.3		
C348	4030017460	S.CER C1005 JB 1H 102K-T	T	59.3/20.4		
C349	4030016930	S.CER C1005 JB 1A 104K-T	B	21.0/17.7		
C350	4030017920	S.CER C1005 JB 1A 683K-T	T	95.9/15.3		
C351	4030016780	S.CER C1005 JB 1E 153K-T	B	131.6/18.7		
C357	4030016930	S.CER C1005 JB 1A 104K-T	T	103.5/34.3		
C358	4030017340	S.CER C1005 CH 1H 010B-T	B	91.2/35.8		
C359	4030018860	S.CER C1005 JB 0J 105K-T	B	29.4/18.0		
C361	4030016930	S.CER C1005 JB 1A 104K-T	B	56.7/6.3		
C362	4030017460	S.CER C1005 JB 1H 102K-T	T	133.3/62.5		
C366	4030017460	S.CER C1005 JB 1H 102K-T	B	97.0/64.4		
C367	4030017730	S.CER C1005 JB 1H 471K-T	B	97.0/65.8		
C368	4030017740	S.CER C1005 CH 1H 470J-T	B	97.0/67.3		
C372	4030017730	S.CER C1005 JB 1H 471K-T	T	60.3/67.7		
C376	4030017730	S.CER C1005 JB 1H 471K-T	B	88.7/49.5		
C377	4030017460	S.CER C1005 JB 1H 102K-T	T	57.8/61.6		
C378	4030017910	S.CER C1005 JB 1H 152K-T	B	23.4/14.9		
C379	4030016780	S.CER C1005 JB 1E 153K-T	B	30.3/10.7		
C382	4030017460	S.CER C1005 JB 1H 102K-T	B	75.8/9.1		
C383	4030018860	S.CER C1005 JB 0J 105K-T	T	33.1/35.8		
C384	4030016930	S.CER C1005 JB 1A 104K-T	T	59.1/29.4		
C385	4030016930	S.CER C1005 JB 1A 104K-T	T	53.5/33.5		
C388	4030017730	S.CER C1005 JB 1H 471K-T	B	68.2/36.7		
C390	4030017460	S.CER C1005 JB 1H 102K-T	B	75.0/40.6		
C391	4030017420	S.CER C1005 CH 1H 470J-T	B	75.9/40.6		
C392	4030017520	S.CER C1005 CH 1H 0R3B-T	B	60.3/39.2		
C393	4030017350	S.CER C1005 CH 1H 020B-T	B	66.3/40.5		
C394	4030016930	S.CER C1005 JB 1A 104K-T	T	52.6/31.6		
C395	4030016930	S.CER C1005 JB 1A 104K-T	T	46.4/30.4		
C396	4030016930	S.CER C1005 JB 1A 104K-T	T	53.9/29.3		
C397	4030016790	S.CER C1005 JB 1E 103K-T	B	39.4/31.5		
C398	4030016790	S.CER C1005 JB 1E 103K-T	B	39.4/32.4		
C399	4030016790	S.CER C1005 JB 1E 103K-T	T	48.3/28.3		
C400	4030017710	S.CER C1005 CH 1H 181J-T	T	80.6/38.3		
C401	4030017350	S.CER C1005 CH 1H 020B-T	B	78.6/40.6		
C402	4030011060	S.CER GRM31M2C2H4R0CY21L (GRM42-6 CH)	B	38.0/68.7		
C403	4030011060	S.CER GRM31M2C2H4R0CY21L (GRM42-6 CH)	B	34.9/65.2		
C404	4030011100	S.CER GRM31M2C2H8R0DV01L (GRM42-6 CH)	B	15.5/60.7		
C408	4030017730	S.CER C1005 JB 1H 471K-T	B	23.9/48.1		
C409	4030017460	S.CER C1005 JB 1H 102K-T	B	39.3/51.1		
C411	4030017460	S.CER C1005 JB 1H 102K-T	[USA-01]	42.2/55.4		
C412	4030017460	S.CER C1005 CH 1H 470J-T	[EXP-03]	[CHN-01]	B	93.7/25.3
C413	4030018890	S.CER C1005 JB 0J 224K-T	T	91.4/23.1		
C414	4030017460	S.CER C1005 JB 1H 102K-T	B	94.6/25.3		
C415	4030018890	S.CER C1608 JB 1H 104K-T	T	110.5/47.4		
C417	4030017730	S.CER C1005 JB 1H 471K-T	B	106.5/19.3		
C418	4030018890	S.CER C1005 JB 0J 224K-T	T	102.8/17.3		
C421	4030011060	S.CER GRM31M2C2H4R0CY21L (GRM42-6 CH)	B	21.7/60.7		
C423	4030017350	S.CER C1005 CH 1H 020B-T	B	28.2/60.7		
C429	4030017620	S.CER C1005 CH 1H 100C-T	B	77.7/40.6		
C436	4030017460	S.CER C1005 JB 1H 102K-T	B	61.9/42.0		
C437	4030017460	S.CER C1005 JB 1H 102K-T	T	114.9/8.0		
C446	4030017710	S.CER C1005 CH 1H 181J-T	T	116.7/9.6		
C447	4030017730	S.CER C1005 JB 1H 471K-T	T	84.1/28.7		
C448	4030017670	S.CER C1005 CH 1H 390J-T	B	82.7/52.3		
C453	4030017420	S.CER C1005 CH 1H 470J-T	B	87.8/49.5		
C454	4030017460	S.CER C1005 JB 1H 102K-T	B	101.3/35.3		
C457	4030017420	S.CER C1005 CH 1H 470J-T	B	100.4/35.3		
C458	4030017420	S.CER C1005 CH 1H 470J-T	B	71.9/34.8		
C459	4030017420	S.CER C1005 CH 1H 470J-T	B	72.8/34.8		
C460	4030017420	S.CER C1005 CH 1H 470J-T	T	84.7/48.3		
C461	4030017420	S.CER C1005 CH 1H 470J-T	T	73.8/38.5		
C462	4030017420	S.CER C1005 CH 1H 470J-T	T	64.8/17.5		
C463	4030017420	S.CER C1005 CH 1H 470J-T	T	64.8/18.4		
C464	4030017420	S.CER C1005 CH 1H 470J-T	B	72.2/37.8		
C465	4030017420	S.CER C1005 CH 1H 470J-T	B	74.6/34.8		
C466	4030017420	S.CER C1005 CH 1H 470J-T	T	72.2/30.9		
C467	4030017420	S.CER C1005 CH 1H 470J-T	T	62.7/49.8		
C468	4030017420	S.CER C1005 CH 1H 470J-T	T	89.0/22.2		
C471	4030018890	S.CER C1005 JB 0J 224K-T	B	97.0/13.7		
C492	4030018860	S.CER C1005 JB 0J 105K-T	T	104.9/18.4		
C493	4030019120	S.CER GRM188B31E105KA75D	T	114.9/50.3		
C494	4030016930	S.CER C1005 JB 1A 104K-T	T	34.0/35.8		
C495	4030018860	S.CER C1005 JB 0J 105K-T	T	50.1/21.6		
C496	4030017420	S.CER C1005 JB 1H 102K-T	T	50.6/22.9		
C497	4030017400	S.CER C1005 CH 1H 220J-T	T	46.8/19.8		
C498	4030016930	S.CER C1005 JB 1A 104K-T	T	50.1/16.8		

M.=Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)

S.=Surface mount

[MAIN-A UNIT] (Low band version)

REF NO.	PARTS NO.	DESCRIPTION		M.	H/V LOCATION
C499	4030018860	S.CER	C1005 JB 0J 105K-T	T	48.4/20.7
C500	4030016930	S.CER	C1005 JB 1A 104K-T	B	28.0/7.3
J1	6510026770	S.CON	AXK540147YG	T	23.0/8.3
J2	6510027960	S.CON	04-6294-040-000-800	T	67.5/10.6
J4	6450000140	CON	HSJ0807-01-010		
J6	6510022891	S.CON	B13B-ZR-SM4-TF(LF)(SN)	T	120.0/17.2
J7	6510014961	S.CON	B2B-ZR-SM4-TF(LF)(SN)	T	130.5/27.3
S1	2260003180	S.SWI	MINISMDC050F-2 CN	T	114.0/33.2
W1	7030012290	JUM	RDS2T0R0		
W2	8900011863	CAB	OPC-1195C <TJM>		
EP1	6910018460	S.BEA	MMZ1005Y102C-T	B	107.5/32.7
EP4	6910010280	BEA	HF70BB9.5X10.4X4.9		
EP5	6910010280	BEA	HF70BB9.5X10.4X4.9		
EP7	6910018460	S.BEA	MMZ1005Y102C-T	B	84.3/25.0
EP8	6910018460	S.BEA	MMZ1005Y102C-T	T	84.3/27.5
EP9	6910018460	S.BEA	MMZ1005Y102C-T	T	27.0/25.9
EP10	6910018460	S.BEA	MMZ1005Y102C-T	B	96.1/20.1
EP11	6910018460	S.BEA	MMZ1005Y102C-T	B	92.8/25.3
EP12	6910018460	S.BEA	MMZ1005Y102C-T	B	91.0/23.1
EP13	6910018460	S.BEA	MMZ1005Y102C-T	B	100.1/25.3
EP15	6910018460	S.BEA	MMZ1005Y102C-T	B	104.9/19.3

[MAIN-B UNIT] (For high band version)

REF NO.	PARTS NO.	DESCRIPTION		M.	H/V LOCATION
IC1	1110007320	S.IC	NJM2591V-TE1-#ZZB	T	57.8/24.7
IC2	1110002751	S.IC	TA75S01F(TE85RF)	T	60.0/54.9
IC3	1150002390	IC	RA30H4552M1-101 [EXP-02]		
	1150002410	IC	RA60H4452M1-121 [USA-02]		
IC4	1140005991	S.IC	RA60H4452M1-121 [EXP-04]	T	77.8/29.2
IC8	1110003091	IC	MB15A02PFV1-G-BND-ERE1		
IC9	1180003500	S.REG	NJM7808DL1A-TE1-#FZZB	T	123.3/45.7
IC10	1180003460	S.REG	NJM2831F05-TE1-#ZZB	T	121.6/35.4
IC14	1130011770	S.IC	CD4066BPWR	B	35.1/16.4
IC15	1110002751	S.IC	TA75S01F(TE85RF)	B	32.0/6.7
IC16	1110005340	S.IC	NJM12902V-TE1-#ZZB	B	20.6/21.1
IC17	1130011760	S.IC	CD4094BPWR	B	53.1/9.9
IC18	1110002790	S.IC	AK230P-L	B	35.9/25.7
IC19	1110002751	S.IC	TA75S01F(TE85RF)	B	83.7/18.1
IC20	1190001340	S.IC	M62334FP 600C	B	72.3/26.3
IC21	1110002751	S.IC	TA75S01F(TE85RF)	T	47.9/17.5
Q1	1560000841	S.FET	2SK1829(TE85RF)	T	34.6/40.4
Q2	1580000731	S.FET	3SK293(TE85LF)	B	41.5/38.7
Q3	1580000731	S.FET	3SK293(TE85LF)	T	71.4/38.4
Q4	1530003311	S.TRA	2SC5107-O(TE85RF)	T	64.5/25.3
Q5	1590004070	S.TRA	LDTC144EET1G <SLVJ>	T	55.7/15.2
Q6	1590004070	S.TRA	LDTC144EET1G <SLVJ>	B	62.6/52.1
Q8	1530002680	S.TRA	2SC3357-T1	B	90.4/52.8
Q9	1530002921	S.TRA	2SC4226-T1 Y25 (R25)	B	84.6/51.8
Q10	1530003311	S.TRA	2SC5107-O(TE85RF)	B	92.8/33.1
Q11	1530003311	S.TRA	2SC5107-O(TE85RF)	B	100.5/31.7
Q12	1530004110	S.TRA	MT3S37T(TE85LF)	B	97.6/30.4
Q13	1530002921	S.TRA	2SC4226-T1 Y25 (R25)	B	105.2/30.9
Q14	1530002921	S.TRA	2SC4226-T1 Y25 (R25)	B	98.3/24.2
Q15	1590004500	S.TRA	DMC561040R	T	101.0/34.4
Q16	1590004070	S.TRA	LDTC144EET1G <SLVJ>	T	103.5/36.6
Q17	1530002851	S.TRA	2SC4116-BL(TE85RF)	T	107.7/33.8
Q18	1560000541	S.FET	2SK880-Y(TRICOMF)	T	78.0/24.5
Q19	1590004070	S.TRA	LDTC144EET1G <SLVJ>	T	91.8/11.7
Q20	1530002851	S.TRA	2SC4116-BL(TE85RF) [USA-02]	T	60.0/49.8
Q23	1550000190	S.FET	2SJ506STR-E	I	115.3/45.1
Q24	1590004070	S.TRA	LDTC144EET1G <SLVJ>	T	110.5/44.3
Q25	1540000550	S.TRA	2SD1664 T100Q	B	125.1/47.6
Q26	1510000920	S.TRA	2SA1577 T106 Q	T	107.7/44.3
Q27	1520000450	S.TRA	2SB1132 T100 Q	B	123.5/21.1
Q28	1590004590	S.TRA	DMC506010R	B	118.7/22.2
Q29	1590004150	S.TRA	DRC9114T0L	B	126.4/43.3
Q30	1590004070	S.TRA	LDTC144EET1G <SLVJ>	T	107.8/39.3
Q31	1590001451	S.FET	2SJ144-GR (TE85RF)	B	114.3/13.1
Q33	1590004070	S.TRA	LDTC144EET1G <SLVJ>	T	113.7/27.3
Q34	1530002851	S.TRA	2SC4116-BL(TE85RF)	B	67.6/25.1
Q35	1590000990	S.TRA	DTC363EK T146	B	128.9/17.8
Q36	1590004070	S.TRA	LDTC144EET1G <SLVJ>	B	118.3/18.4
Q37	1590004070	S.TRA	LDTC144EET1G <SLVJ>	T	112.0/15.8
Q39	1590004390	S.TRA	DMG504010R	T	25.2/19.5
Q40	1590004310	S.TRA	LDTA114EET1G <SLVJ>	T	46.8/33.0
Q44	1590004070	S.TRA	LDTC144EET1G <SLVJ>	T	53.0/14.3
D1	1750001820	S.DIO	LRB706F-40T1G <SLVJ>	B	19.2/49.9
D3	1750002060	S.DIO	RN752TE-21	T	35.0/56.9
D4	1750001780	S.VAR	HVB350BYPTL-E	B	35.7/40.9
D5	1750002060	S.DIO	RN752TE-21	T	26.5/52.9
D7	1790001621	S.DIO	1SV308(TPL3F)	B	25.3/45.3
D8	1750001780	S.VAR	HVB350BYPTL-E	B	27.1/40.9
D9	1750000711	S.VAR	HVC350BTRF-E	B	52.8/42.6
D10	1750000711	S.VAR	HVC350BTRF-E	B	55.3/39.9
D11	1750001820	S.DIO	LRB706F-40T1G <SLVJ>	B	8.2/49.9
D12	1750001820	S.DIO	LRB706F-40T1G <SLVJ>	B	22.8/49.9
D14	1750001890	S.DIO	HVD142AKRF-E	B	82.2/41.8
D15	1750001890	S.DIO	HVD142AKRF-E	B	82.2/39.2
D16	1750001780	S.VAR	HVB350BYPTL-E	B	107.1/21.1
D18	1750001650	S.VAR	1SV309(TPH3F)	B	101.8/25.9
D19	1750000711	S.VAR	HVC350BTRF-E	B	61.9/39.9
D22	1790000700	DIO	DSA3A1		
D23	1750000370	S.DIO	DA221 TL	B	124.0/43.3
D26	1750001810	S.DIO	L1SS400T1G <SLVJ>	B	116.7/12.0
D29	1750001810	S.DIO	L1SS400T1G <SLVJ>	B	119.2/20.2
D33	1750001780	S.VAR	HVB350BYPTL-E	B	98.1/19.9
D37	1750001810	S.DIO	L1SS400T1G <SLVJ>	T	79.9/33.4
D42	1160000140	S.DIO	DAP222 TL	B	37.1/7.2
D43	1160000140	S.DIO	DAP222 TL	B	35.0/7.2
D44	1750001850	S.DIO	LDAN222T1G <SLVJ>	B	49.1/5.8
D52	1750000711	S.VAR	HVC350BTRF-E	B	93.6/24.0
D53	1750000711	S.VAR	HVC350BTRF-E	B	104.5/21.0
D58	1750000370	S.DIO	DA221 TL	B	112.7/10.3
D59	1750000370	S.DIO	DA221 TL	T	113.0/7.1
D60	1750000370	S.DIO	DA221 TL	B	113.9/8.2
D61	1750000370	S.DIO	DA221 TL	T	113.0/9.4
D66	1750000370	S.DIO	DA221 TL	T	34.6/37.8
D68	1750001910	S.DIO	HVD144AKRF-E	T	49.0/31.4
D69	1750001910	S.DIO	HVD144AKRF-E	T	48.1/29.8
D70	1750001910	S.DIO	HVD144AKRF-E	T	51.5/33.2
D71	1750001910	S.DIO	HVD144AKRF-E	T	51.5/34.7
FI1	2030000870	S.MON	MFT46.3P3 46.350 MHz (FL-442)	T	66.6/34.9
FI2	2020002410	CER	LTM450FW <JJE>		
FI3	2040001440	S.LC	NFE31PT152Z1E9L (NFM60R20T152)	B	97.7/55.4
FI4	2040001440	S.LC	NFE31PT152Z1E9L (NFM60R20T152)	B	97.7/58.9

M.=Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)
S.=Surface mount

[MAIN-B UNIT] (For high band version)

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
FI5	2040001440	S.LC NFE31PT152Z1E9L [USA-02]	B	97.7/62.2
	2040001440	S.LC NFE31PT152Z1E9L [EXP-04]		
FI6	2020002570	CER LTM450HW <JJE>		
X1	6070000310	S.DIS JTBM450CX70 <JJE>	B	53.0/24.5
X2	6050012050	S.XTA CR-794 TTS14VSB-A6 15.3 MHz	B	80.8/23.8
L1	6200010150	S.COI AS080340-15N	B	8.4/62.7
L2	6200010150	S.COI AS080340-15N	B	12.9/55.5
L3	6200010150	S.COI AS080340-15N	B	20.7/55.5
L4	6200013100	S.COI 0.45-1.5-STL 18.3N <COMO>	T	31.1/50.5
L5	6200010420	S.COI FHW1210HC 1R0JGT <JJE>	T	38.5/58.4
L6	6200010150	S.COI AS080340-15N	B	27.3/55.5
L7	6200012800	S.COI 0.40-1.5-STL 20N <COMO>	B	28.2/37.8
L8	6200012800	S.COI 0.40-1.5-STL 20N <COMO>	B	34.6/37.8
L9	6200011460	S.COI C2520C-10NG-A	B	49.0/39.8
L10	6200004660	S.COI MLF1608A 1R8K-T	T	78.1/13.3
L11	6200011460	S.COI C2520C-10NG-A	B	57.8/40.5
L13	6200010090	S.COI ELJND R82JF	B	68.9/40.9
L16	6200010150	S.COI AS080340-15N	B	38.2/65.2
L18	6200005681	S.COI ELJRE 15NGFA	B	88.1/58.9
L19	6200005691	S.COI ELJRE 18NGFA	B	89.9/56.0
L20	6200005681	S.COI ELJRE 15NGFA	B	84.6/53.7
L21	6200005701	S.COI ELJRE 22NGFA	B	90.8/33.1
L22	6200005701	S.COI ELJRE 22NGFA	B	99.5/33.8
L27	6200001770	S.COI ELJNC 47NK-F	B	102.2/19.7
L28	6200007370	S.COI ELJFC R82K-F	T	94.8/17.3
L33	6200014140	S.COI MLG1608S R82J-T	B	62.9/23.3
L35	6200012170	S.COI MLG1608S R18J-T	B	65.3/24.3
L36	6200006991	S.COI ELJRE 56NGFA	B	73.5/38.5
L37	6200006981	S.COI ELJRE R10GFA	T	82.6/62.9
L38	6200013660	S.COI C36-5NH <COMO>	B	106.2/24.9
L39	6200013660	S.COI C36-5NH <COMO>	B	92.9/20.2
L41	6200005701	S.COI ELJRE 22NGFA	B	95.8/29.8
L45	6200005671	S.COI ELJRE 12NGFA	B	85.4/31.3
L46	6200007370	S.COI ELJFC R82K-F	T	88.9/24.9
L47	6200007370	S.COI ELJFC R82K-F	B	102.2/22.2
L53	6200005711	S.COI ELJRE 27NGFA	B	78.0/39.2
L54	6200003310	S.COI ELJFC R33M-F	T	100.0/30.4
L55	6200003310	S.COI ELJFC R33M-F	B	103.7/33.8
L56	6200011460	S.COI C2520C-10NG-A	B	64.2/40.5
L57	6200005671	S.COI ELJRE 12NGFA	B	94.2/27.4
R1	7030000620	S.RES MCR10EZHZ 100 K (104)	B	12.3/65.5
R4	7030003560	S.RES ERJ3GEYJ 103 V (10K)	B	16.4/50.6
R5	7030005220	S.RES ERJ2GEJ 223 X (22K)	B	11.2/49.6
R6	7030005220	S.RES ERJ2GEJ 223 X (22K) [EXP-02]	B	19.8/48.1
	7030008290	S.RES ERJ2GEJ 183 X (18K) [USA-02]		
7030008290	S.RES ERJ2GEJ 183 X (18K) [EXP-04]			
R7	7030003560	S.RES ERJ3GEYJ 103 V (10K)	B	8.2/53.2
R8	7030006070	S.RES ERJ12YJ101U (100)	B	45.7/51.9
R9	7030003560	S.RES ERJ3GEYJ 103 V (10K)	B	25.6/50.6
R10	703000290	S.RES ERJ2GEJ 183 X (18K)	B	22.2/48.1
R11	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	30.9/40.5
R12	7030004980	S.RES ERJ2GEJ 101 X (100)	B	39.2/39.5
R13	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	31.9/40.5
R14	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	31.9/38.8
R15	7030005700	S.RES ERJ2GEJ 274 X (270K)	B	39.2/38.6
R16	7030004980	S.RES ERJ2GEJ 101 X (100)	B	39.5/40.7
R17	7030005530	S.RES ERJ2GEJ 100 X (100)	B	51.5/40.2
R18	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	60.8/40.5
R19	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	39.2/36.8
R20	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	52.8/38.6
R21	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	54.1/40.2
R22	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	63.7/36.7
R23	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	54.1/41.2
R29	7030005570	S.RES ERJ2GEJ 820 X (82)	B	74.0/40.6
R30	7030007300	S.RES ERJ2GEJ 332 X (3.3K)	B	71.3/40.6
R31	7030004980	S.RES ERJ2GEJ 101 X (100)	B	66.9/37.4
R32	7030005530	S.RES ERJ2GEJ 100 X (10)	T	68.0/40.2
R33	7030008370	S.RES ERJ2GEJ 561 X (560)	T	65.3/29.5
R34	7030005110	S.RES ERJ2GEJ 224 X (220K)	T	66.3/27.8
R35	7030005530	S.RES ERJ2GEJ 100 X (10)	T	67.3/27.8
R36	7030007290	S.RES ERJ2GEJ 222 X (2.2K)	B	58.5/27.3
R37	7030008410	S.RES ERJ2GEJ 392 X (3.9K)	T	56.4/19.0
R38	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	58.9/19.5
R39	7030004970	S.RES ERJ2GEJ 470 X (47)	B	58.2/22.2
R40	7030005030	S.RES ERJ2GEJ 152 X (1.5K)	B	60.7/24.8
R41	7030010040	S.RES ERJ2GEJ-JPW	T	60.2/17.8
R42	7030007340	S.RES ERJ2GEJ 153 X (15K)	T	50.5/26.1
R43	7030005000	S.RES ERJ2GEJ 471 X (470)	T	54.2/22.2
R44	7030005110	S.RES ERJ2GEJ 224 X (220K)	T	53.9/26.1
R45	7030005100	S.RES ERJ2GEJ 154 X (150K)	T	52.1/26.1
R46	7030007290	S.RES ERJ2GEJ 222 X (2.2K)	T	53.5/23.9
R48	7030008300	S.RES ERJ2GEJ 184 X (180K) [USA-02]	T	56.8/53.2
	7520000241	S.POS PRF18BC471QB5RB [USA-02]	T	42.0/53.2
7520000241	S.POS PRF18BC471QB5RB [EXP-04]			
R50	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	80.1/37.9
R51	7030006610	S.RES ERJ2GEJ 394 X (390K)	T	61.8/49.8
R52	7030005100	S.RES ERJ2GEJ 154 X (150K)	T	58.7/52.1
R53	7030005000	S.RES ERJ2GEJ 471 X (470) [EXP-02]	T	57.8/53.2
7030004980	S.RES ERJ2GEJ 101 X (100) [USA-02]			
7030004980	S.RES ERJ2GEJ 101 X (100) [EXP-04]			
R54	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	58.8/56.3
R56	7030005100	S.RES ERJ2GEJ 154 X (150K)	T	63.3/55.0
R57	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	58.8/55.4
R58	7030004980	S.RES ERJ2GEJ 101 X (100)	T	64.2/55.0
R59	7030005110	S.RES ERJ2GEJ 224 X (220K)	T	59.7/52.1
R61	7030004970	S.RES ERJ2GEJ 470 X (47)	B	90.5/49.5

[MAIN-B UNIT] (For high band version)

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
R62	7030005220	S.RES ERJ2GEJ 223 X (22K) [USA-02]	B	89.6/49.5
R63	7030008290	S.RES ERJ2GEJ 183 X (18K) [EXP-04]	T	85.7/53.4
R64	7030010040	S.RES ERJ2GEJ-JPW [EXP-02] only	T	83.0/53.4
R66	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	84.9/49.1
R67	7030004980	S.RES ERJ2GEJ 101 X (100)	B	83.9/42.6
R68	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	83.9/41.7
R69	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	B	80.8/41.3
R70	7030004980	S.RES ERJ2GEJ 101 X (100)	B	92.8/35.8
R71	7030007260	S.RES ERJ2GEJ 330 X (33)	B	95.3/33.8
R72	7030004980	S.RES ERJ2GEJ 101 X (100)	B	86.5/49.1
R73	7030004980	S.RES ERJ2GEJ 101 X (100)	B	99.5/35.3
R74	7030005310	S.RES ERJ2GEJ 124 X (120K)	T	101.3/33.7
R75	7030005720	S.RES ERJ2GEJ 563 X (56K)	B	97.6/32.2
R76	7030004980	S.RES ERJ2GEJ 101 X (100)	B	96.7/32.2
R77	7030007290	S.RES ERJ2GEJ 222 X (2.2K)	T	105.6/35.6
R78	7030009280	S.RES ERJ2GEJ 391 X	T	102.5/32.5
R79	7030006020	S.RES RR0510P-682-D (6.8K)	B	96.5/23.7
R80	7030008370	S.RES ERJ2GEJ 561 X (560)	T	100.0/32.5
R83	7030006020	S.RES RR0510P-682-D (6.8K)	B	106.4/29.1
R84	7030006020	S.RES RR0510P-682-D (6.8K)	B	106.4/28.2
R85	7030006020	S.RES RR0510P-682-D (6.8K)	B	95.6/25.3
R86	7030005110	S.RES ERJ2GEJ 224 X (220K)	B	101.5/24.4
R87	7030005530	S.RES ERJ2GEJ 100 X (10)	B	102.6/27.5
R89	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	80.0/25.1
R90	7030005170	S.RES ERJ2GEJ 474 X (470K)	T	95.9/14.4
R92	7030005100	S.RES ERJ2GEJ 154 X (150K)	T	94.3/14.4
R93	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	78.8/33.4
R95	7030008400	S.RES ERJ2GEJ 182 X (1.8K)	T	84.3/26.6
R96	7030007290	S.RES ERJ2GEJ 222 X (2.2K)	T	82.7/25.5
R98	7030002790	S.RES ERJ2GEJ 152 X (15K)	T	109.5/33.8
R100	7030005240	S.RES ERJ2GEJ 474 X (47K)	T	77.0/22.2
R101	7030004980	S.RES ERJ2GEJ 101 X (100)	T	79.7/22.2
R103	7030005100	S.RES ERJ2GEJ 154 X (150K)	T	77.9/33.4
R104	7030005080	S.RES ERJ2GEJ 823 X (82K)	B	81.1/21.2
R105	7030008300	S.RES ERJ2GEJ 184 X (180K)	B	84.7/21.2
R106	7030005080	S.RES ERJ2GEJ 823 X (82K)	B	82.9/20.3
R107	7030005700	S.RES ERJ2GEJ 274 X (270K)	B	82.9/21.2
R110	7030005700	S.RES ERJ2GEJ 274 X (270K)	T	30.5/24.6
R111	7030009190	S.RES RR0510P-332-D (3.3K)	T	30.5/29.6
R112	7030008260	S.RES RR0510P-393-D (39K)	T	29.6/29.6
R113	7030006000	S.RES RR0510P-222-D (2.2K)	T	31.4/29.6
R114	7030008010	S.RES ERJ2GEJ 152 X (15K)	T	19.2/21.6
R115	7030008400	S.RES ERJ2GEJ 182 X (1.8K)	B	13.4/23.3
R116	7030008010	S.RES ERJ2GEJ 123 X (12K)	B	15.1/22.4
R117	7030005310	S.RES ERJ2GEJ 124 X (120K)	B	20.7/15.3
R118	7030008010	S.RES ERJ2GEJ 123 X (12K)	T	19.2/20.7
R119	7030009290	S.RES ERJ2GEJ 562 X (5.6K)	B	18.8/23.5
R120	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	16.3/22.8
R121	7030005240	S.RES ERJ2GEJ 473 X (47K)	B	15.1/23.3
R122	7030005210	S.RES ERJ2GEJ 822 X (8.2K)	T	28.1/24.3
R123	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	27.6/22.9
R124	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	B	28.5/18.0
R125	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	27.6/21.3
R126	7030005000	S.RES ERJ2GEJ 471 X (470)	B	27.6/19.6
R127	7030006610	S.RES ERJ2GEJ 394 X (390K)	B	25.8/19.6
R128	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	26.7/18.0
R129	7030004980	S.RES ERJ2GEJ 101 X (100)	T	31.0/16.2
R130	7030005220	S.RES ERJ2GEJ 223 X (22K)	T	29.0/24.3
R133	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	30.8/24.3
R134	7030007350	S.RES ERJ2GEJ 393 X (39K)	T	14.6/19.9
R135	7030005700	S.RES ERJ2GEJ 274 X (270K)	T	29.5/25.9
R137	7030005070	S.RES ERJ2GEJ 683 X (68K)	T	11.8/16.1
R138	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	33.3/12.0
R139	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	33.3/11.1
R142	7410001130	S.ARR EXB28V102JX	T	69.7/14.8

[FRONT UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
R133	7030008400	S.RES ERJ2GEJ 182 X (1.8K)	B	40.5/20.7
R134	7030008400	S.RES ERJ2GEJ 182 X (1.8K)	B	57.6/21.4
R135	7030005030	S.RES ERJ2GEJ 152 X (1.5K)	B	27.4/28.4
R136	7030005030	S.RES ERJ2GEJ 152 X (1.5K)	B	47.2/28.3
R137	7030005030	S.RES ERJ2GEJ 152 X (1.5K)	B	47.2/27.4
R138	7030005030	S.RES ERJ2GEJ 152 X (1.5K)	B	78.5/24.2
R139	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	54.7/9.2
R140	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	63.1/15.8
C2	4030017420	S.CER C1005 CH 1H 470J-T	B	84.4/5.1
C3	4030017420	S.CER C1005 CH 1H 470J-T	B	34.6/10.2
C4	4030017420	S.CER C1005 CH 1H 470J-T	B	45.3/10.8
C5	4030017420	S.CER C1005 CH 1H 470J-T	B	57.0/4.2
C8	4030017460	S.CER C1005 JB 1H 102K-T	B	13.8/17.2
C10	4030017460	S.CER C1005 JB 1H 102K-T	B	7.7/9.2
C12	4030017460	S.CER C1005 JB 1H 102K-T	B	5.2/9.2
C14	4030017460	S.CER C1005 JB 1H 102K-T	B	32.9/26.6
C15	4030016960	S.CER C1005 JB 1E 183K-T	B	32.9/25.7
C16	4030016930	S.CER C1005 JB 1A 104K-T	B	32.9/23.9
C17	4030017750	S.CER C1005 JB 1H 122K-T	B	31.2/26.6
C19	4030016930	S.CER C1005 JB 1A 104K-T	B	36.3/23.9
C20	4030017460	S.CER C1005 JB 1H 102K-T	B	34.6/17.6
C21	4030017460	S.CER C1005 JB 1H 102K-T	B	32.9/18.5
C22	4030020020	S.CER C1005 CH 1H 391J-T	B	30.0/16.0
C23	4030016790	S.CER C1005 JB 1E 103K-T	B	32.9/22.1
C24	4030017420	S.CER C1005 CH 1H 470J-T	B	28.2/16.0
C25	4030016790	S.CER C1005 JB 1E 103K-T	B	25.5/28.4
C26	4030016930	S.CER C1005 JB 1A 104K-T	B	23.6/26.6
C27	4030020010	S.CER C1005 CH 1H 271J-T	B	25.5/26.6
C28	4030016930	S.CER C1005 JB 1A 104K-T	B	29.1/16.0
C30	4030019560	S.CER GRM21BB31C106KE15L	B	29.9/12.6
C31	4030016930	S.CER C1005 JB 1A 104K-T	B	36.3/11.1
C34	4030017420	S.CER C1005 CH 1H 470J-T	B	80.7/10.8
C36	4030016930	S.CER C1005 JB 1A 104K-T	B	38.7/27.2
C38	4030017420	S.CER C1005 CH 1H 470J-T	B	78.9/10.8
C41	4030017460	S.CER C1005 JB 1H 102K-T	B	23.6/28.4
C50	4030017420	S.CER C1005 CH 1H 470J-T	B	61.9/9.3
C54	4030017420	S.CER C1005 CH 1H 470J-T	B	62.8/9.3
C69	4030017420	S.CER C1005 CH 1H 470J-T	B	67.4/1.8
C74	4030017420	S.CER C1005 CH 1H 470J-T	B	61.7/1.8
C76	4030016930	S.CER C1005 JB 1A 104K-T	B	29.1/26.6
C77	4030016950	S.CER C1005 JB 1A 473K-T	B	73.0/12.4
C78	4030017460	S.CER C1005 JB 1H 102K-T	B	8.9/17.4
C82	4030017420	S.CER C1005 CH 1H 470J-T	T	34.9/65.2
C84	4030017420	S.CER C1005 CH 1H 470J-T	T	55.0/61.6
C85	4030017420	S.CER C1005 CH 1H 470J-T	T	56.0/61.6
C86	4030017420	S.CER C1005 CH 1H 470J-T	T	81.3/63.8
		[EUR-01] [EXP-01]		
C87	4030016930	S.CER C1005 JB 1A 104K-T	T	79.8/68.8
C93	4030017460	S.CER C1005 JB 1H 102K-T	B	61.9/12.6
C101	4030016930	S.CER C1005 JB 1A 104K-T	B	56.0/15.3
C102	4030016930	S.CER C1005 JB 1A 104K-T	B	53.8/18.8
C103	4030016930	S.CER C1005 JB 1A 104K-T	B	54.7/18.8
C104	4030017400	S.CER C1005 CH 1H 220J-T	B	52.1/15.3
C105	4030017600	S.CER C1005 CH 1H 080C-T	B	53.4/14.9
C106	4030017640	S.CER C1005 CH 1H 150J-T	B	53.4/14.0
C107	4030017030	S.CER C1005 JB 1A 273K-T	B	43.8/29.3
C111	4030016930	S.CER C1005 JB 1A 104K-T	B	43.8/28.4
C112	4550006780	S.TAN TEESVB2 OJ 476M8R	B	53.4/21.7
C113	4030018910	S.CER C1608 JB OJ 475K-T	B	63.9/12.2
C114	4030017420	S.CER C1005 CH 1H 470J-T	B	62.8/12.6
C116	4030016930	S.CER C1005 JB 1A 104K-T	B	65.7/12.6
C117	4030016930	S.CER C1005 JB 1A 104K-T	B	66.6/12.6
C118	4030016930	S.CER C1005 JB 1A 104K-T	B	69.3/12.6
C119	4030016930	S.CER C1005 JB 1A 104K-T	B	67.5/12.6
C120	4030016930	S.CER C1005 JB 1A 104K-T	B	68.4/12.6
C123	4030017460	S.CER C1005 JB 1H 102K-T	B	80.0/14.7
C124	4030016930	S.CER C1005 JB 1A 104K-T	B	73.9/30.1
C125	4030016930	S.CER C1005 JB 1A 104K-T	B	83.5/6.8
C126	4030017460	S.CER C1005 JB 1H 102K-T	B	30.4/14.0
C128	4030016930	S.CER C1005 JB 1A 104K-T	T	14.3/19.2
C129	4030017460	S.CER C1005 JB 1H 102K-T	T	14.3/17.5
C130	4030017460	S.CER C1005 JB 1H 102K-T	B	84.8/8.1
C131	4030018860	S.CER C1005 JB OJ 105K-T	B	106.4/27.2
C139	4030017420	S.CER C1005 CH 1H 470J-T	B	5.6/17.4
J1	6450002210	CON 3017-8821 <KIN>		
J2	6510027960	S.CON 04-6294-040-000-800	B	71.0/5.7
J3	6510022022	S.CON 14FLT-SM2-TB(LF)(SN)(M)	B	84.4/28.6
DS1	5040003510	S.LED LNJ426W83RA	T	37.5/6.8
DS2	5040003510	S.LED LNJ426W83RA	T	67.9/6.8
DS3	5040003510	S.LED LNJ426W83RA	T	75.5/27.2
DS4	5040003510	S.LED LNJ426W83RA	T	60.3/27.2
DS5	5040003510	S.LED LNJ426W83RA	T	45.1/27.2
DS6	5040003510	S.LED LNJ426W83RA	T	29.9/27.2
DS7	5040003510	S.LED LNJ426W83RA	T	60.3/21.2
DS8	5040003510	S.LED LNJ426W83RA	T	45.1/21.2
DS9	5040003510	S.LED LNJ426W83RA	T	29.9/21.2
DS10	5040002670	S.LED CL-165HR/YG	T	79.8/21.2
SP1	2510001221	SPE C052SB500-14 <OSC>		
W1	8900010503	CAB OPC-1046B-1(P0.5N40L55) <TJM>		

M.=Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)

S.=Surface mount

SECTION 8

MECHANICAL PARTS

[CHASSIS PARTS]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6510004880	MR-DS-E 01 <SSC>	1
W1	8900011800	OPC-1199	1
MP1	8010019065	2601 CHASSIS-5 [EUR-01]	1
	8010019065	2601 CHASSIS-5 [EXP-01]	1
	8010019135	2601 LONG CHASSIS-5 [USA-01]	1
	8010019135	2601 LONG CHASSIS-5 [USA-02]	1
	8010019135	2601 LONG CHASSIS-5 [EXP-03]	1
	8010019135	2601 LONG CHASSIS-5 [EXP-04]	1
MP2	8110007821	2601 COVER-1 RO	1
MP3	8810008661	PHBT M3 X 8 NI-ZC3	8
MP4	8810008661	PHBT M3 X 8 NI-ZC3	2
MP5	8810008661	PHBT M3 X 8 NI-ZC3	2
MP6	8810008661	PHBT M3 X 8 NI-ZC3	1
MP7	8810009991	PHBT M3 X 8 NI-ZK3	4
MP8	8810009991	PHBT M3 X 8 NI-ZK3	2

[FRONT UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6450002210	3017-8821 <KIN>	1
J2*	6510027960	04-6294-040-000-800	1
J3*	6510022022	14FLT-SM2-TB (LF) (SN) (M)	1
SP1	2510001221	C052SB500-14 <OSC>	1
W1	8900010503	OPC-1046B-1 (P0.5N40L55)	1
MP1	8210026500	3334 FRONT PANEL	1
MP2	8930081280	3334 FRONT KEY <SEP>	1
MP3	8310076970	3334 FRONT PLATE	1
MP4	8210026510	3334 REFLECTOR	1
MP5	8610014010	KNOB N-386	1
MP7	8810009131	PHBT M3 X12 NI-ZC3	2
MP9	8930059000	2601 SP NET	1
MP11	8930070850	2979 VOL RUBBER (TOT)	1
MP12*	8510015150	2602 F-SHIELD	1
MP13*	8930058840	SHIELD SPONGE (T)	1

[MAIN-A UNIT] (For low band versions)

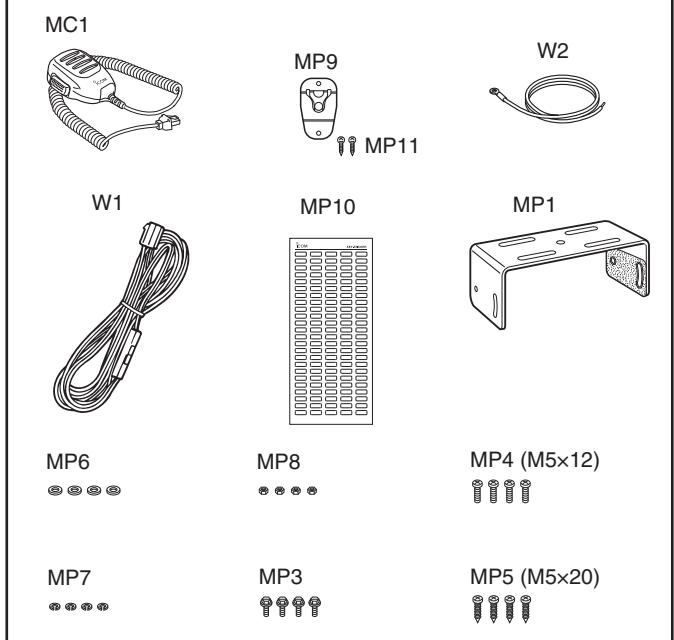
REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1*	6510026770	AXK540147YG	1
J2*	6510027960	04-6294-040-000-800	1
J4	6450000140	HSJ0807-01-010	1
J6*	6510022891	B13B-ZR-SM4-TF (LF) (SN)	1
J7*	6510014961	B2B-ZR-SM4-TF (LF) (SN)	1
S1*	2260003180	MINISMDC050F-2 CN	1
W1*	7030012290	RDS2T0R0	1
W2	8900011863	OPC-1195C	1
EP4*	6910010280	HF70BB9.5X10.4X4.9	1
EP5*	6910010280	HF70BB9.5X10.4X4.9	1
MP1*	8510019340	3179 VCO CASE Y1142	1
MP2	8510019350	3179 VCO COVER Y1143	1
MP3	8510015110	2602 M-PLATE Y660	1
MP5*	8510019570	3179 MAIN SHIELD Y1159	1
MP10*	8930072530	SPONGE (JN)	1

[ACCESSORIES]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
MC1	(Optional)	HM-152	1
W1	8900011781	OPC-1194A [EUR-01]	1
	8900011781	OPC-1194A [EXP-01]	1
	(Optional)	OPC-1132A [USA-01]	1
	(Optional)	OPC-1132A [USA-02]	1
	(Optional)	OPC-1132A [EXP-03]	1
	(Optional)	OPC-1132A [EXP-04]	1
W2	8900000731	OPC-049A	1
MP1	8010019151	2601 MOBIL BRACKET-1	1
MP3	8820000530	FLANGE BOLT M4 X 8 NI	4
MP4	881000471	PH M5 X12 (+-) ZC3	4
MP5	8810005841	PHA M5 X20 ZC3	4
MP6	8850000150	FLAT WASHER M 5 NI BS	4
MP7	8850000391	S-WASHER M5 ZC3	4
MP8	8830000121	NUT M 5 ZC3	4
MP9	8950005110	2289 MIC HANGER Y468	1
MP10	8310073440	3179 LCD LABEL M6K	1
	8810004700	PHA M3 X16 SUS	2

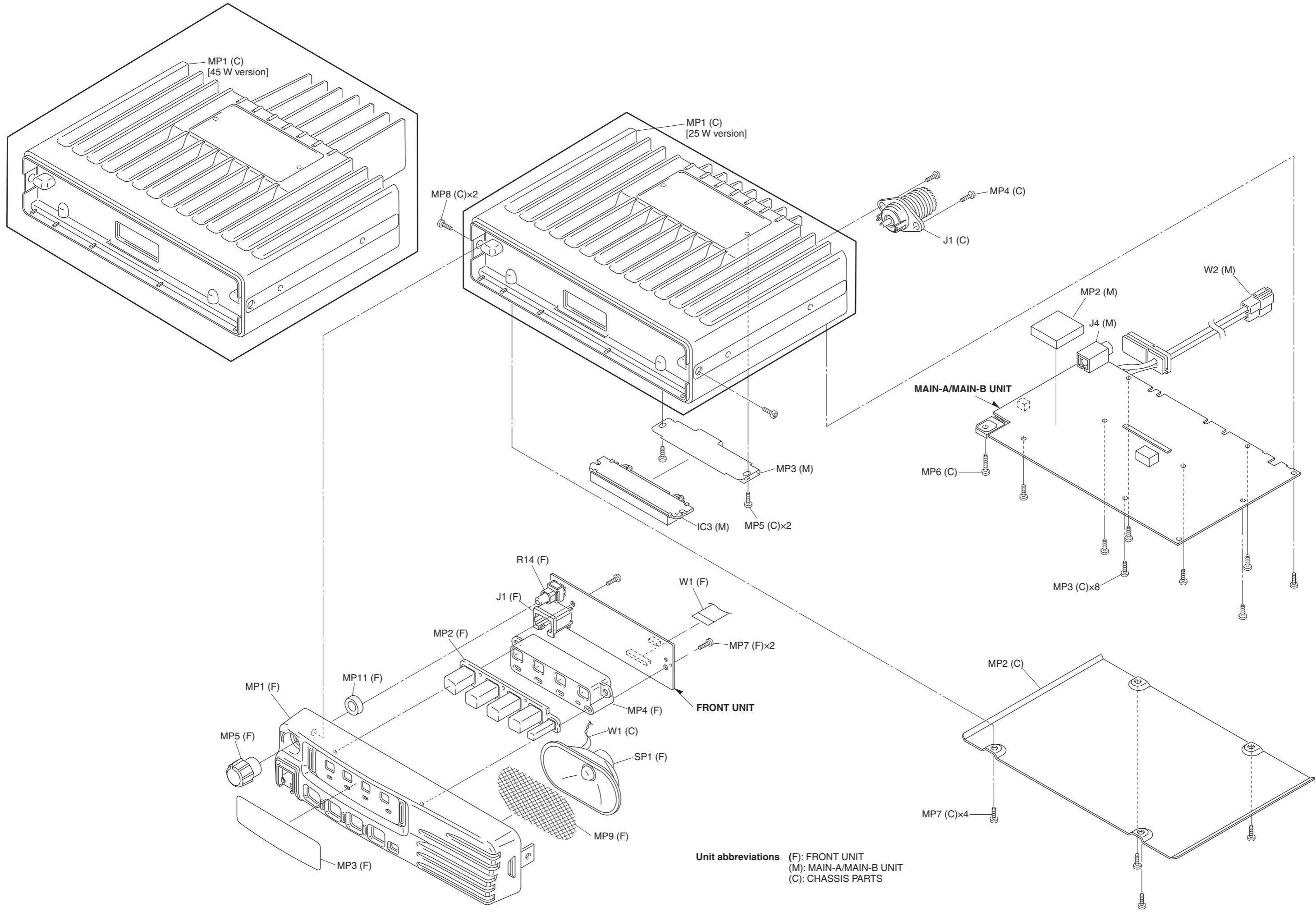
[MAIN-B UNIT] (For high band versions)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1*	6510026770	AXK540147YG	1
J2*	6510027960	04-6294-040-000-800	1
J4	6450000140	HSJ0807-01-010	1
J6*	6510022891	B13B-ZR-SM4-TF (LF) (SN)	1
J7*	6510014961	B2B-ZR-SM4-TF (LF) (SN)	1
S1*	2260003180	MINISMDC050F-2 CN	1
W1*	7030012290	RDS2T0R0	1
W2	8900011863	OPC-1195C	1
EP4*	6910010280	HF70BB9.5X10.4X4.9	1
EP5*	6910010280	HF70BB9.5X10.4X4.9	1
MP1*	8510019340	3179 VCO CASE Y1142	1
MP2	8510019350	3179 VCO COVER Y1143	1
MP3	8510015110	2602 M-PLATE Y660	1
MP5*	8510019570	3179 MAIN SHIELD Y1159	1
MP10*	8930072530	SPONGE (JN)	1

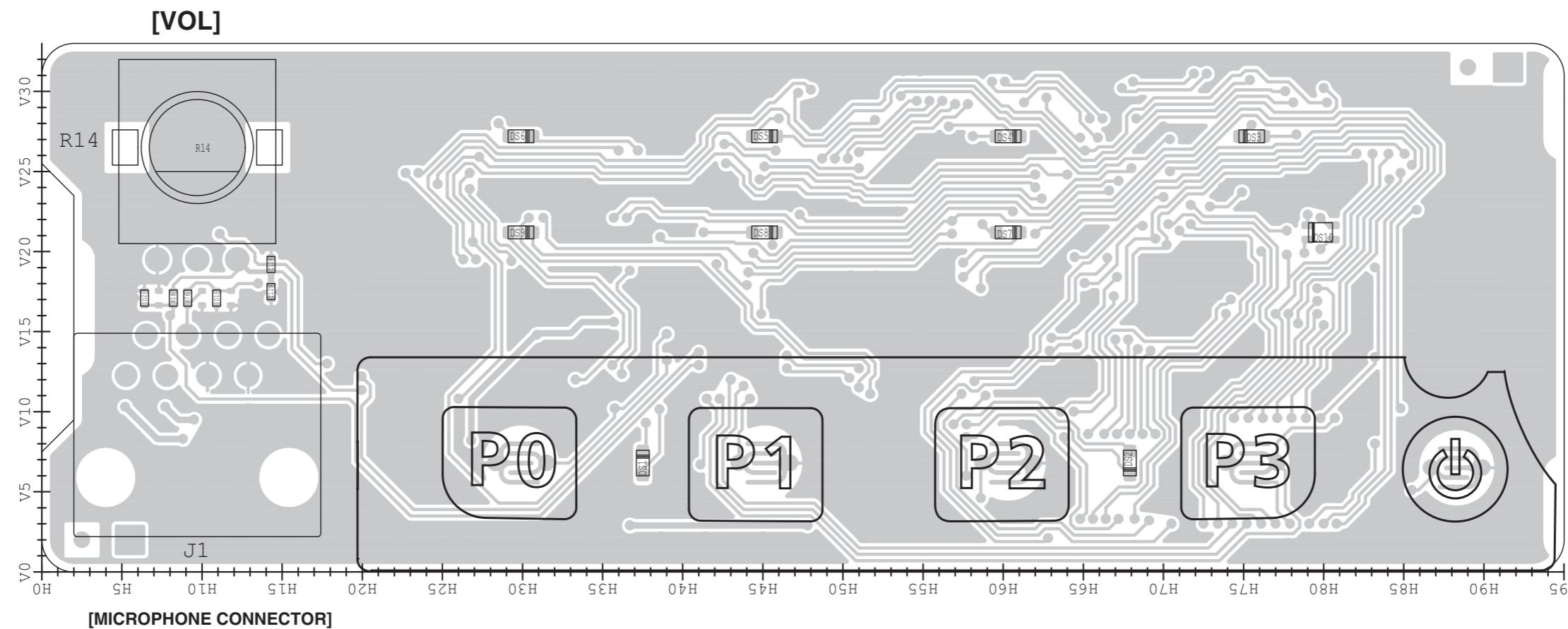


*: Refer to "BOARD LAYOUTS" for the location.

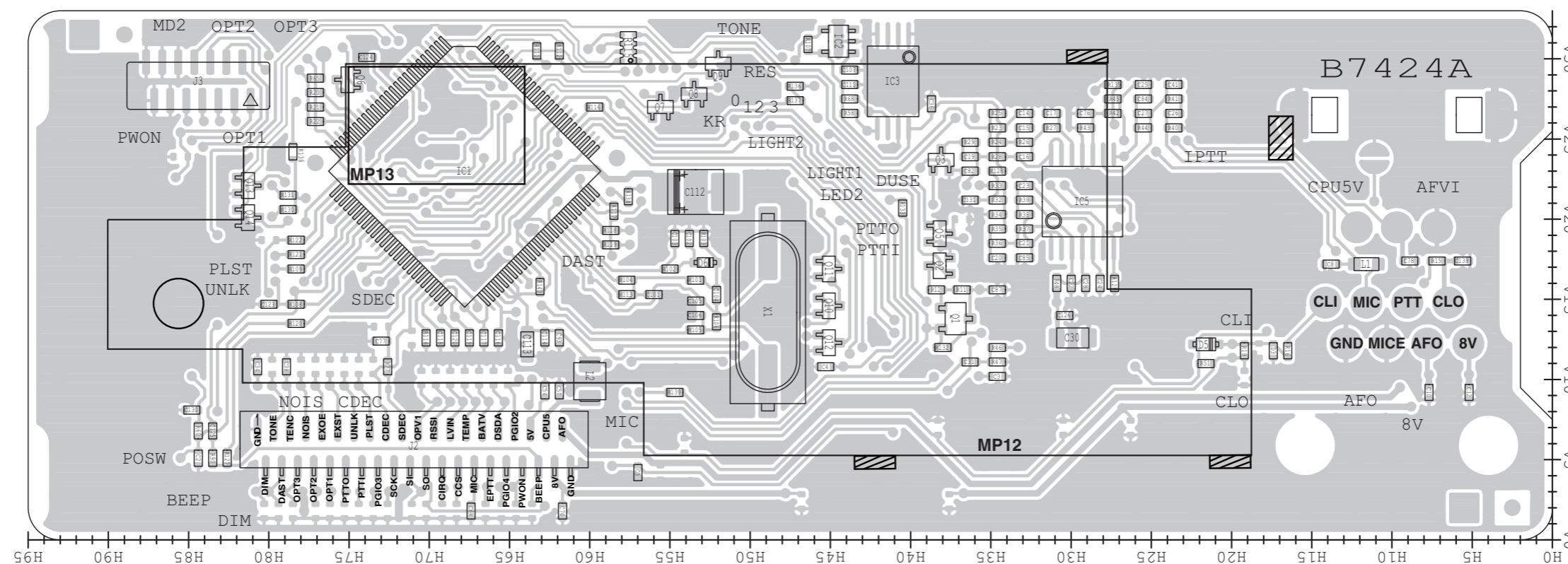
Screw abbreviations A, B0, BT: Self-tapping PH: Pan head ZK: Black NI-ZU: Nickel-Zinc SUS: Stainless



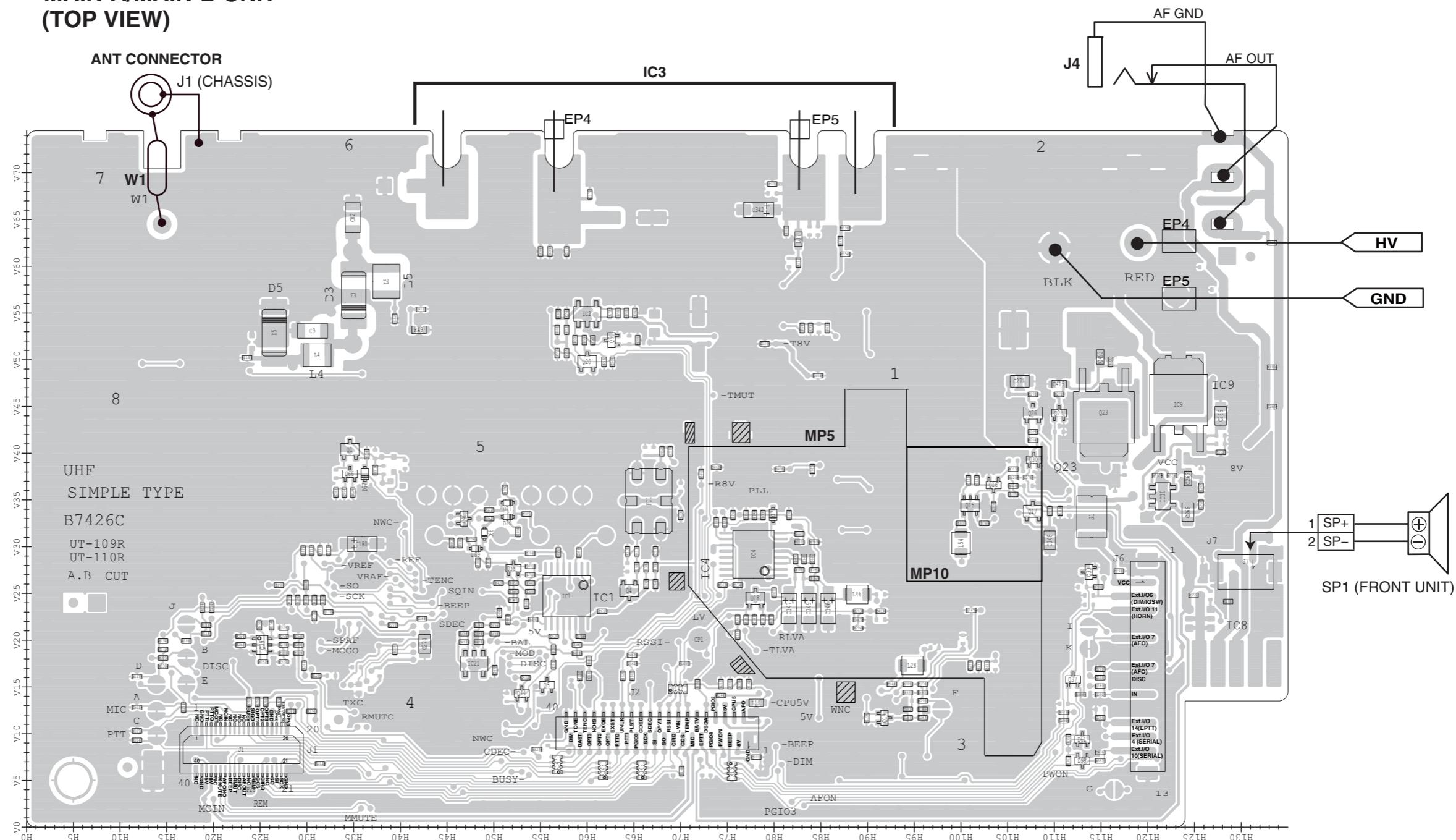
• FRONT UNIT
(TOP VIEW)



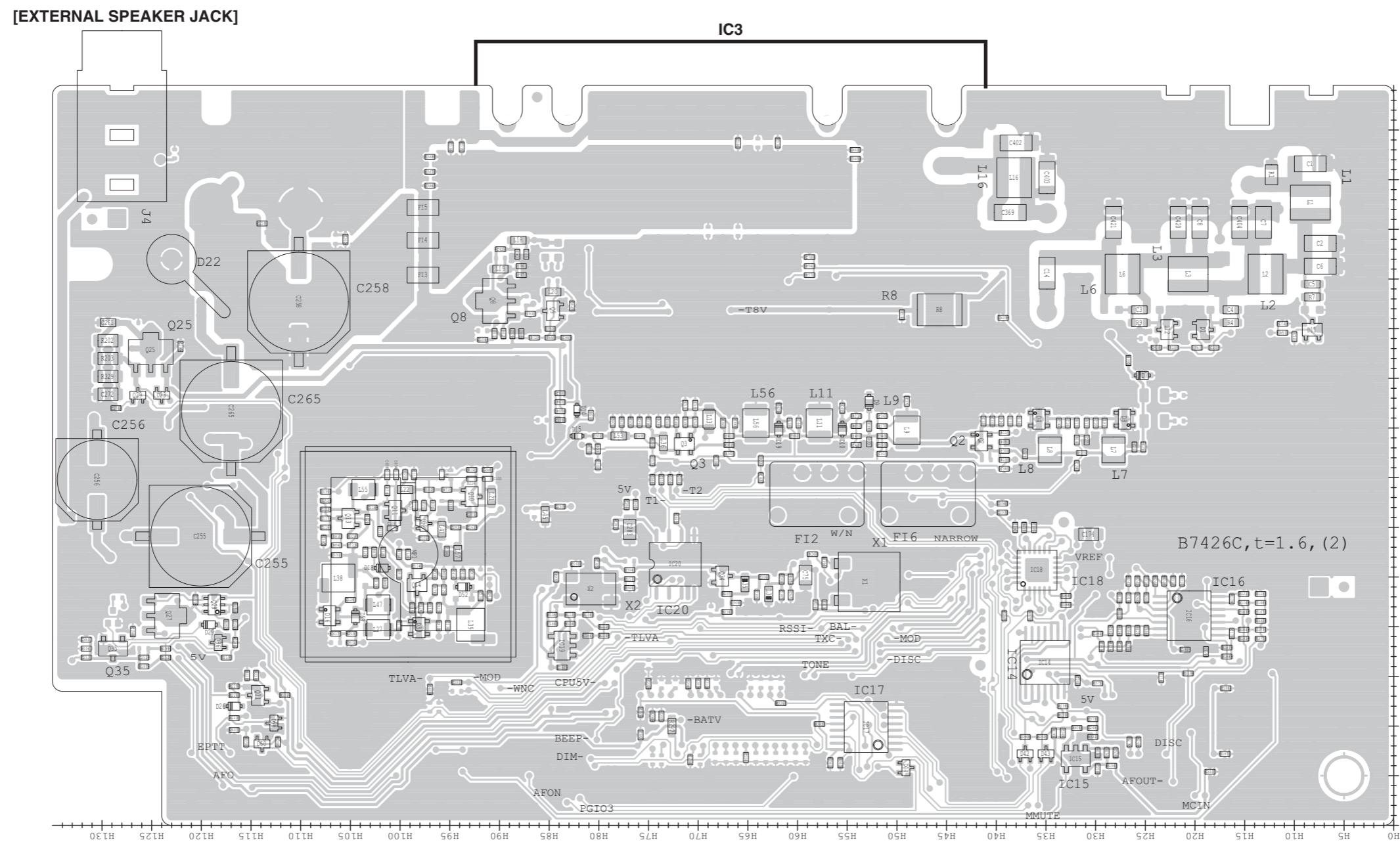
- FRONT UNIT
(BOTTOM VIEW)



- **MAIN-A/MAIN-B UNIT
(TOP VIEW)**

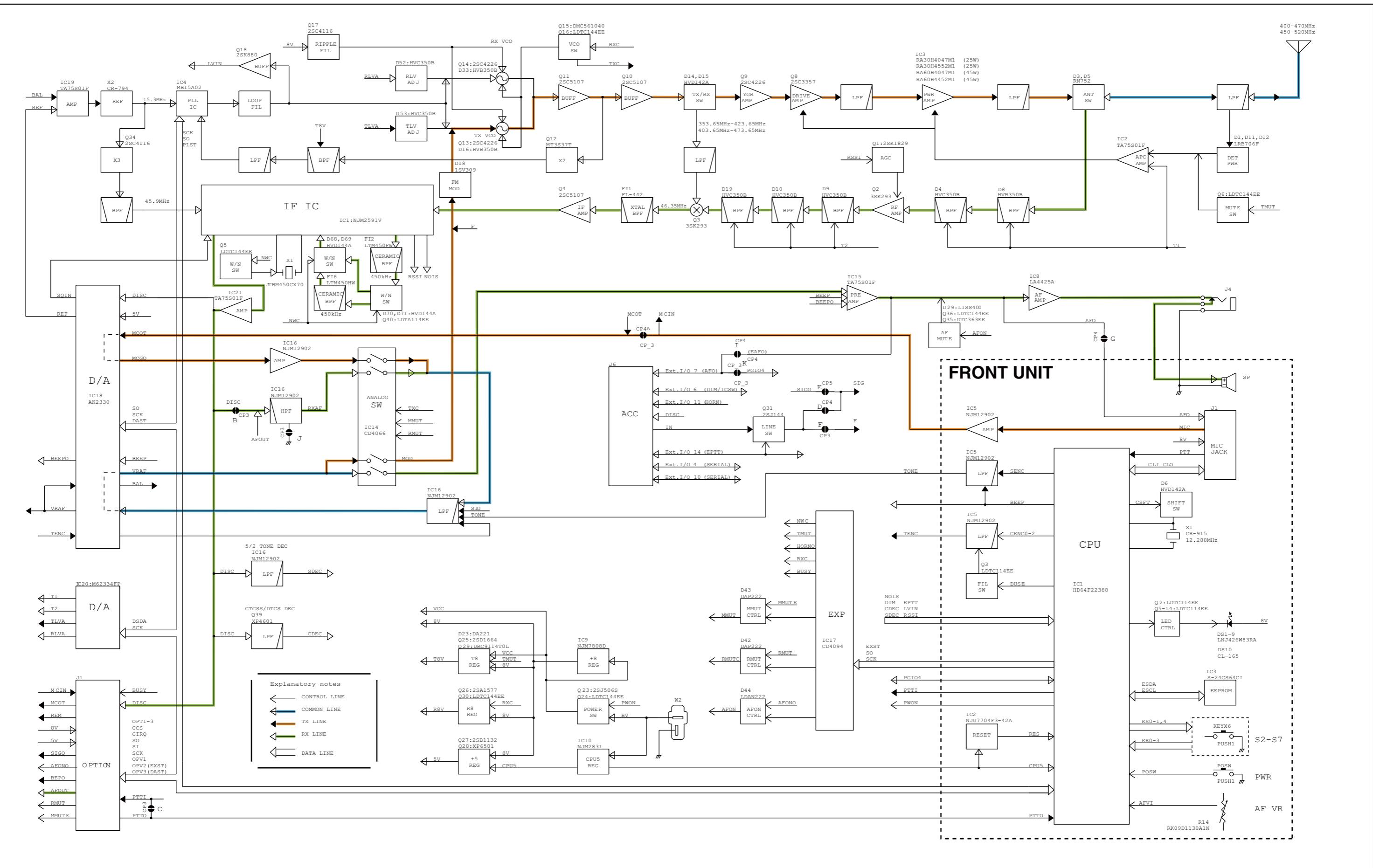


• MAIN-A/MAIN-B UNIT
(BOTTOM VIEW)



SECTION 10

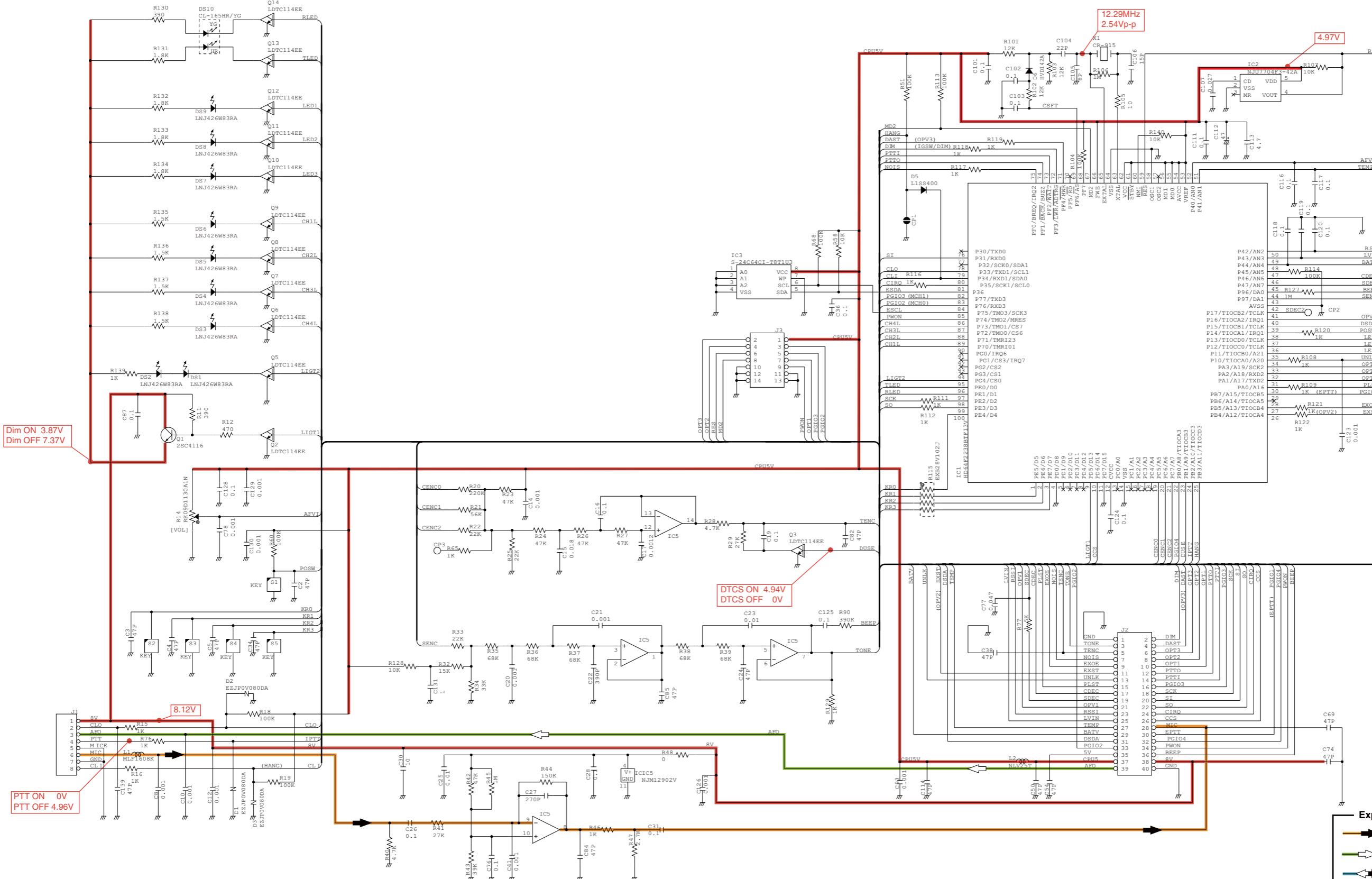
BLOCK DIAGRAM



SECTION 11

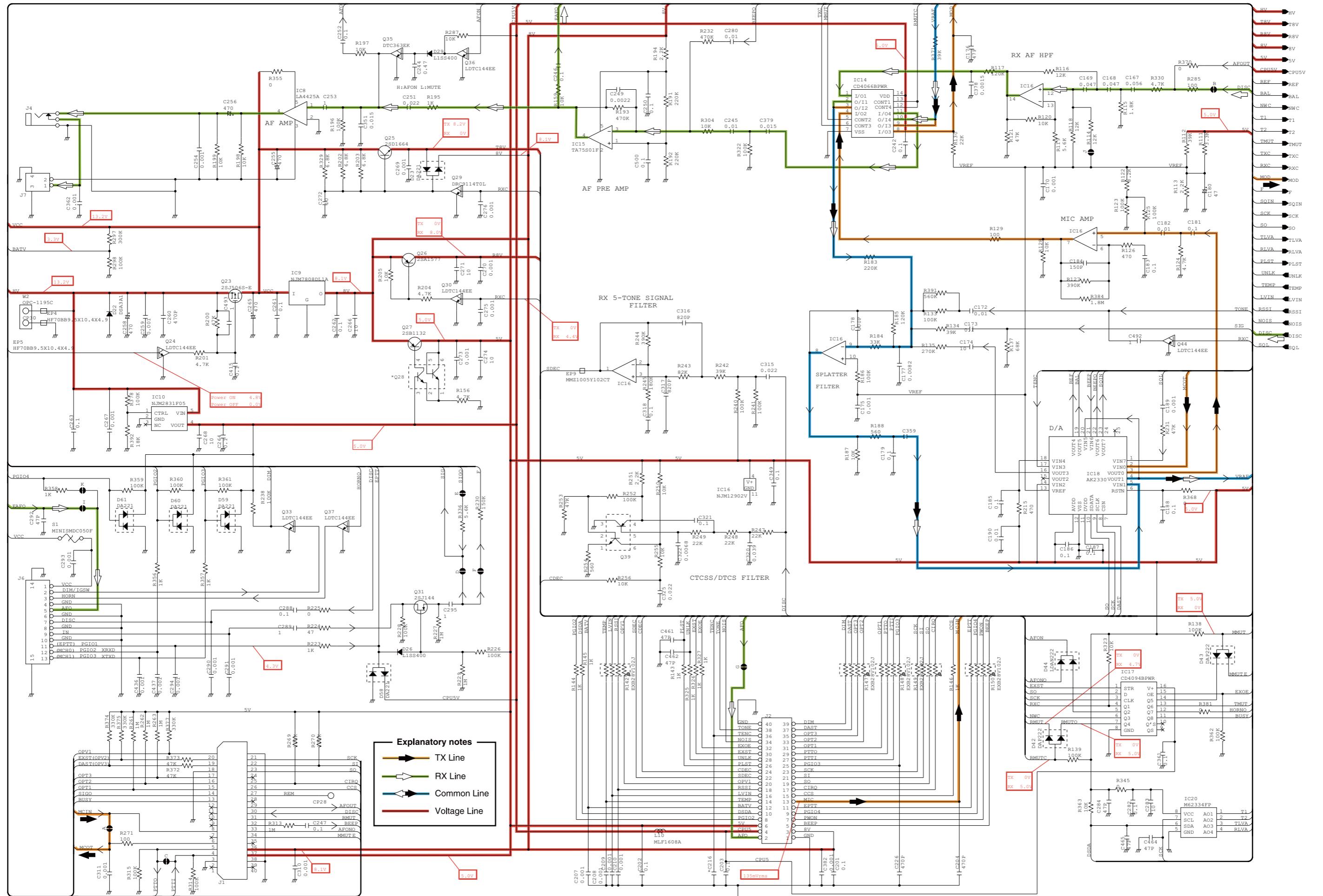
VOLTAGE DIAGRAM

• FRONT UNIT



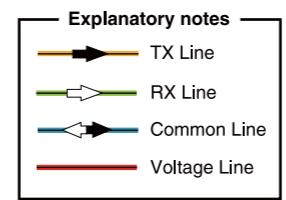
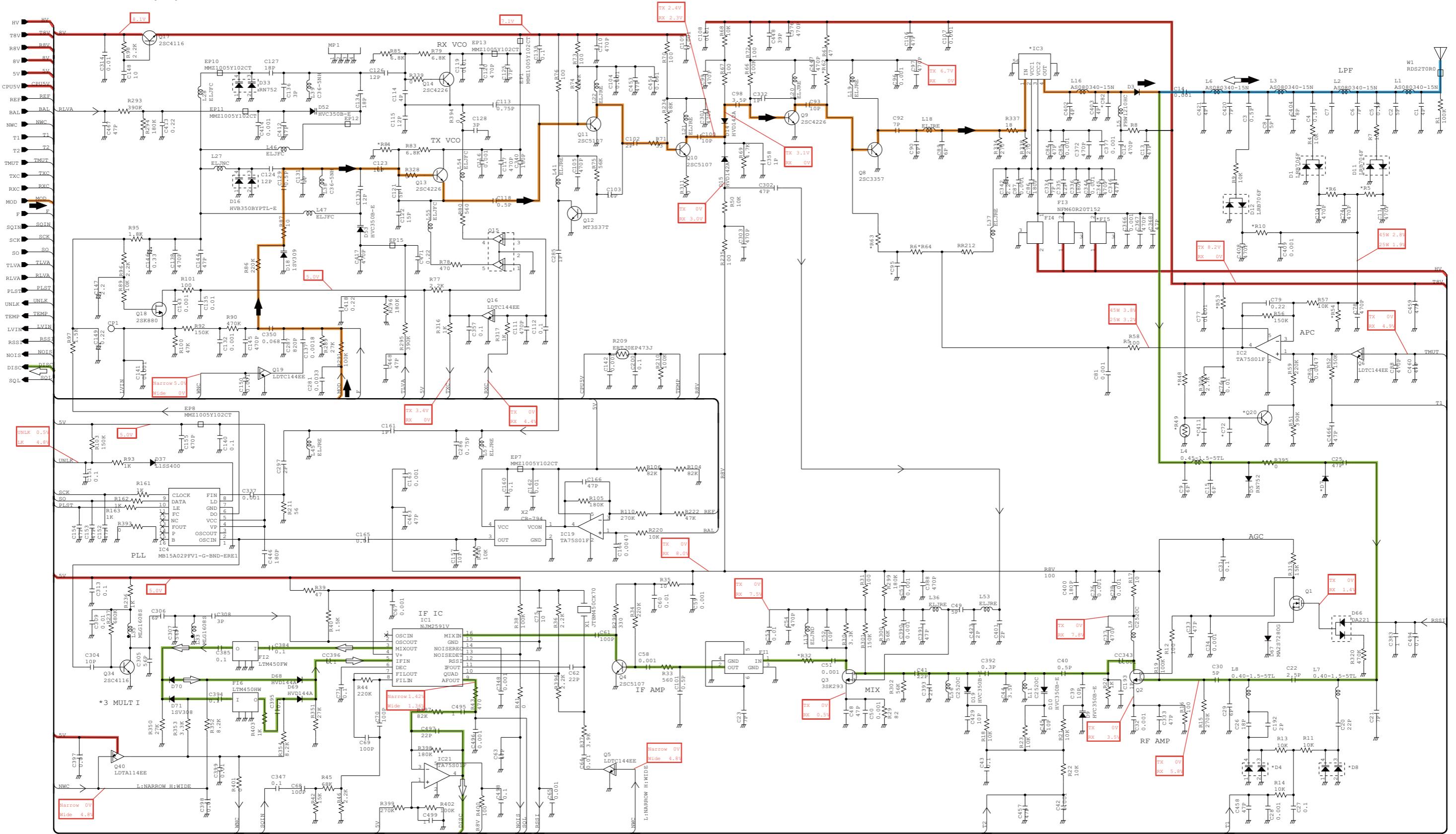
*: Refer to the PARTS LIST for the value and name of component.

• MAIN-A/MAIN-B UNIT (1/2)



*: Refer to the PARTS LIST for the value and name of component.

• MAIN-A/MAIN-B UNIT (2/2)



*: Refer to the PARTS LIST for the value and name of component.

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