ICOM

SERVICE MANUAL

VHF MOBILE TRANSCEIVERS

IC-F5121D
IC-F5122D
IC-F5123D

S-14713XZ-C1
Feb. 2011

Icom Inc.

INTRODUCTION

This service manual describes the latest technical information for the **IC-F5121D**, **IC-F5122D** and **IC-F5123D** VHF TRANSCEIVERS, at the time of publication.

MODEL	VERSION	CHANNEL SPACING (kHz)	TX POWER
IC-F5121D	[USA-01]	6.25/12.5/25.0	50 W
IC-F5122D	[EUR-01]	6.25/12.5/20.0/25.0	25 W
IC-F5123D	[EXP-01]	6.25/12.5/25.0	
	[EXP-02]		50 W

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.

(IC-F5121D)

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-F5121D	MAIN UNIT	5 pieces
8820001210	Screw	2438 screw	IC-F5122D	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 throughly before connecting it to the transceiver.

TABLE OF CONTENTS

SECTION 1 SPECIFICATIONS

■ GENERAL

• Frequency range	: 136–174 MHz		
• Number of conventional channels	: 128 ch (8 zones)		
• Type of emission	: [USA], [EXP]	Wide	16K0F3E (25.0kHz)
		Narrow	11K0F3E (12.5kHz)
		Digital	8K10F1D/8F10F1E (12.5kHz)
			4K00F1D/4F00F1E (6.25kHz)
	[EUR]	Wide	16K0F3E (25.0kHz)
		Middle	14K0F3E (20.0kHz)
		Narrow	8K50F3E (12.5kHz)
		Digital	8K10F1D/8F10F1E (12.5kHz)
			4K00F1D/4F00F1E (6.25kHz)
• Antenna impedance	: 50 Ω (nominal)		
• Operating temperature range	: [USA], [EXP]	–30˚C to +60˚C; –22˚F to +140˚F	
	[EUR]	–25˚C to +55˚C	
• Power supply voltage (negative ground)	: [USA], [EXP]	13.6 V DC (nominal)	
	[EUR]	13.2 V DC (nominal)	
• Current drain (approximate)	: Receiving	300 mA (stand-by)	
		1.2 A (max. audio)	
	Transmitting	[25 W ver.] 5.0 A (at 25 W)	
		[50 W ver.] 10.0 A (at 50 W)	
• Dimensions (projections not included)	: [25 W ver.]	150 (W)×40 (H)×117.5 (D) mm	
		5.9 (W)×1.6 (H)×4.6 (D) in	
	[50 W ver.]	150 (W)×40 (H)×167.5 (D) mm	
		5.9 (W)×1.6 (H)×6.6 (D) in	
• Weight (approximate)	: [25 W ver.]	0.8 kg; 1.8 lb.	
	[50 W ver.]	1.1 kg; 2.4 lb.	

■ TRANSMITTER

• Output power	: [25 W ver.]	25 W/10 W/2.5 W	
	[50 W ver.]	50 W/25 W/5 W	
• Modulation	: Variable reactance frequency modulation		
• Maximum frequency deviation	: Wide	±5.0 kHz	
	Middle	±4.0 kHz	
	Narrow	±2.5 kHz	
• Frequency stability	: [USA], [EXP]	±1.0 ppm	
	[EUR]	±1.5 kHz	
• Spurious emissions	: [USA], [EXP]	70 dB typ.	
	[EUR]	0.25 µW (≦ 1GHz)	
		1.0 µW (>1GHz)	
• Adjacent channel power	: Narrow	60 dB min.	
	Middle	70 dB min. ([EUR] only)	
	Wide	70 dB min.	
• Audio frequency response	: +1 dB to –3 dB of 6 dB/octave (500–2500 Hz)		
• FM hum and Noise (without CCITT Filter) Except [EUR]	: Narrow	34 dB min. 40 dB typ.	
	Wide	40 dB min. 46 dB typ.	
• Residual modulation (with CCITT Filter) [EUR] only	: Narrow	40 dB min. 50 dB typ.	
	Middle	43 dB min. 53 dB typ.	
	Wide	45 dB min. 55 dB typ.	
• Limitting charact of modulator	: 70–100% of max. deviation		
• Audio harmonic distortion	: 3% typ. (at 1 kHz AF 40% deviation)		
• Input impedance (MIC)	: 600 Ω		

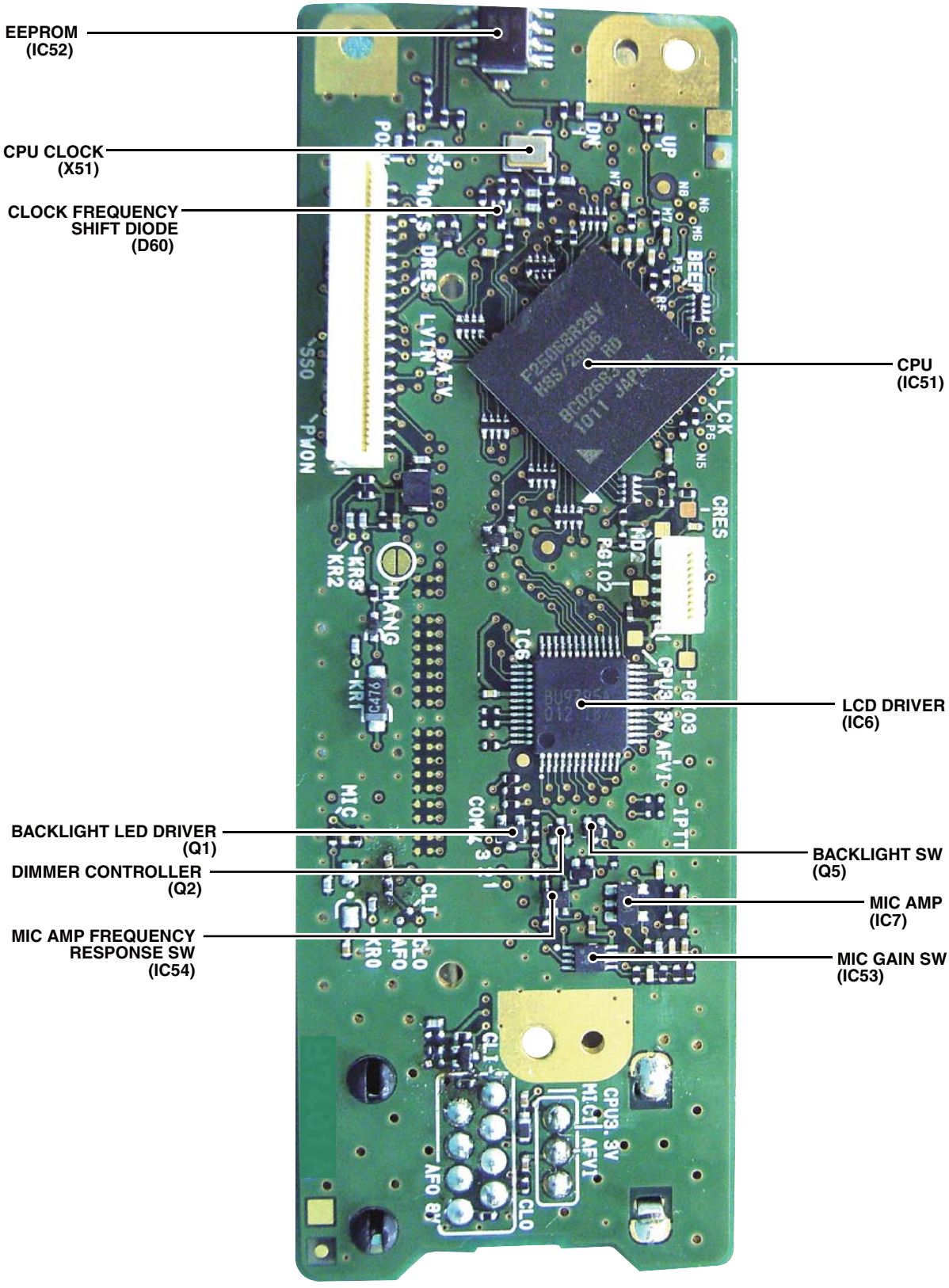
■ RECEIVER

• Sensitivity	: [USA], [EXP]	0.25 µV typ. at 12 dB SINAD
	[EUR]	–4 dBµV (EMF) typ. at 20 dB SINAD
• Squelch sensitivity (at threshold)	: [USA], [EXP]	0.25 µV typ.
	[EUR]	–4 dBµV (EMF) typ.
• Intermediate frequency	: 1st IF; 46.35 MHz, 2nd IF; 450 kHz	
• Adjacent channel selectivity	: Narrow	60 dB min., 65 dB typ.
	Wide, Middle	70 dB min., 75 dB typ.
• Spurious response	: 70 dB min.	
• Intermodulation	: [USA], [EXP]	70 dB min., 75 dB typ.
	[EUR]	65 dB min., 67 dB typ.
• FM hum and Noise (without CCITT Filter)	: Narrow	34 dB min., 40 dB typ.
Except [EUR]	Wide	40 dB min., 45 dB typ.
• FM hum and Noise (with CCITT Filter)	: Narrow	40 dB min., 50 dB typ.
[EUR] only	Middle	43 dB min., 53 dB typ.
	Wide	45 dB min., 55 dB typ.
• Audio output power	: 4.0 W typ. (at 5% distortion with a 4 Ω load)	
• Audio output impedance	: 4 Ω	

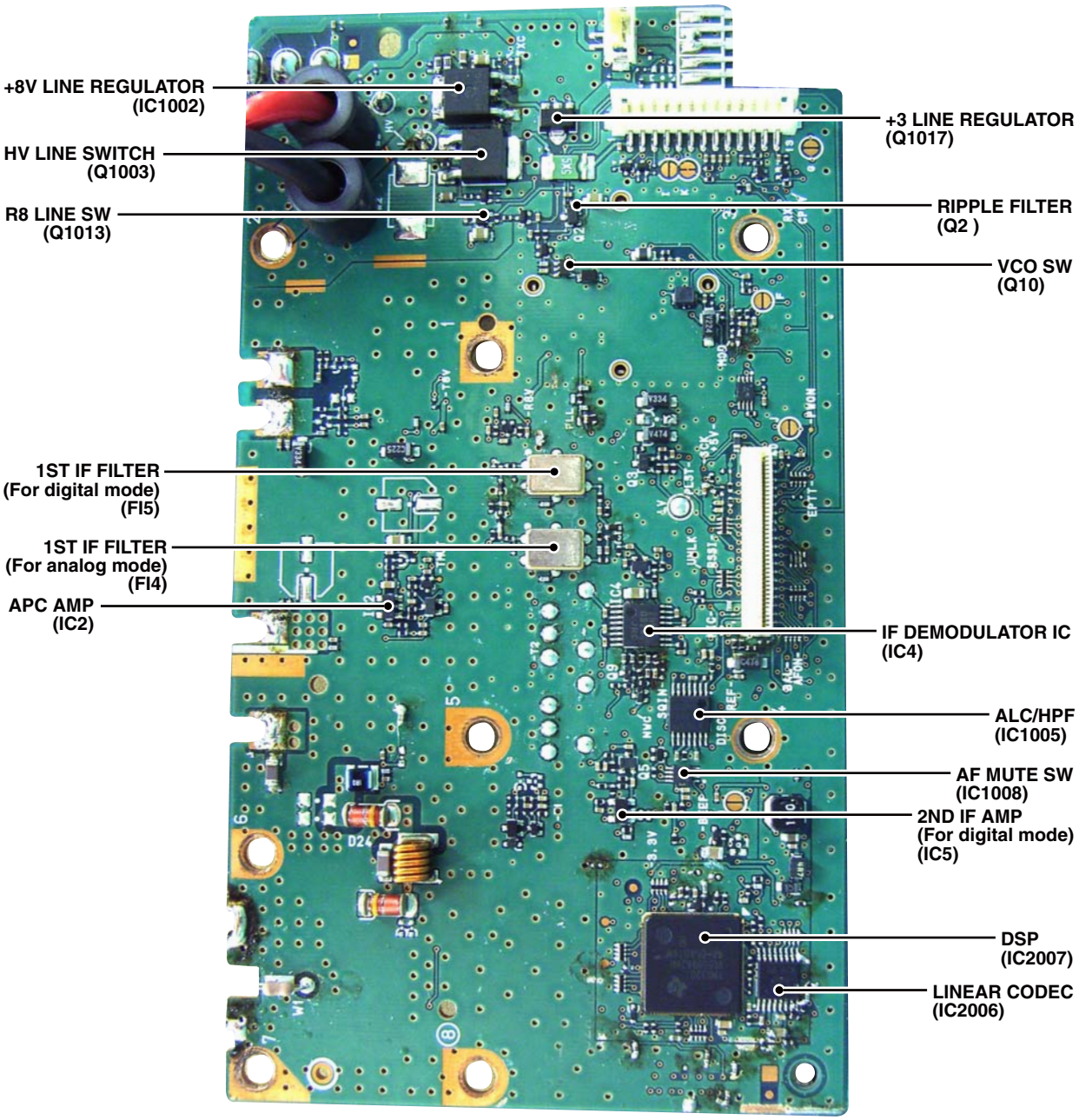
Measurements made in accordance with EN300 086 (Wide, Middle and Narrow), EN301 166 (Digital) for [EUR].
Measurements made in accordance with TIA-603-C (Wide and Narrow), EN301 166 (Digital) for [USA] and [EXP].
All stated specifications are subject to change without notice or obligation.

SECTION 2 INSIDE VIEWS

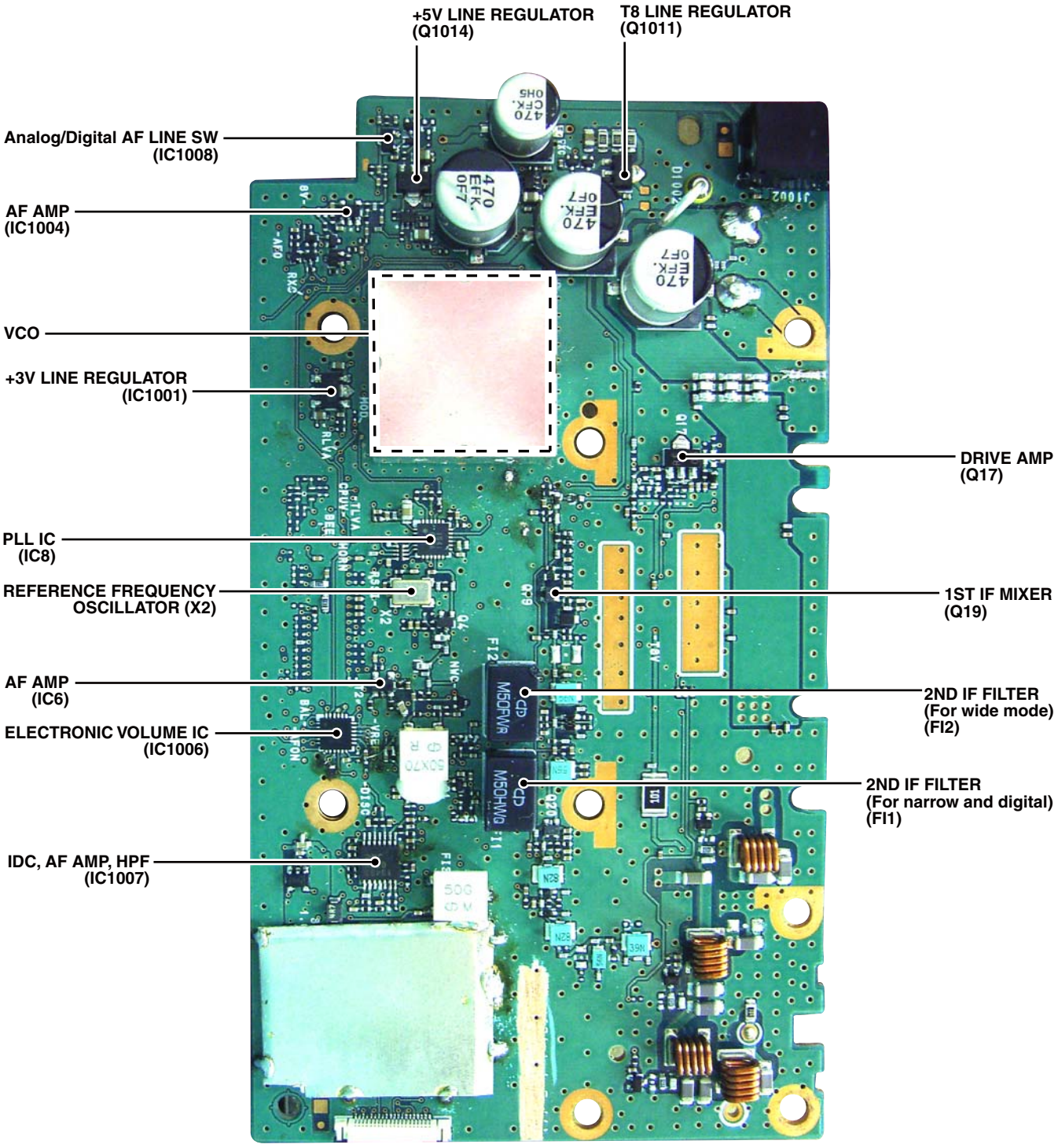
• FRONT UNIT



• MAIN UNIT
(TOP VIEW)

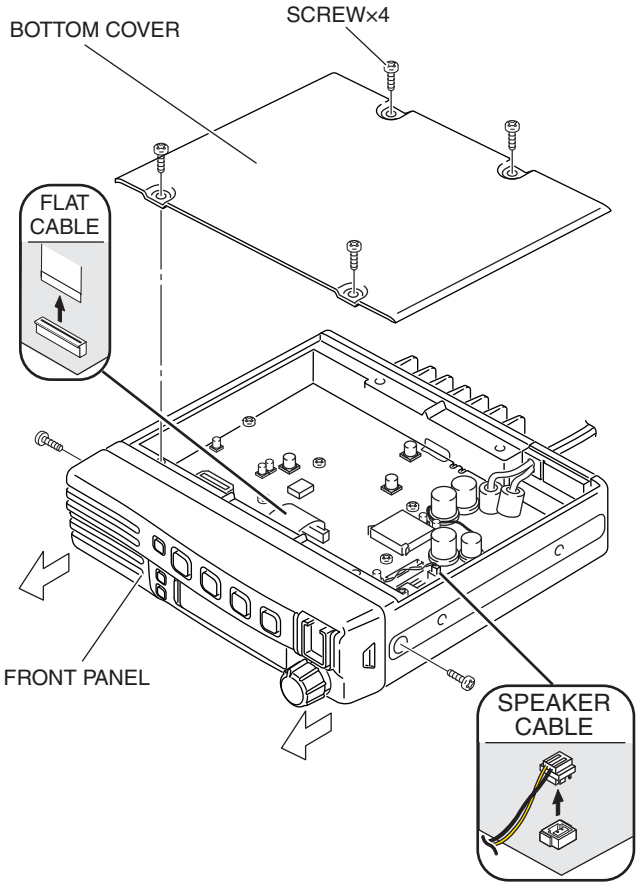


• MAIN UNIT
(BOTTOM VIEW)

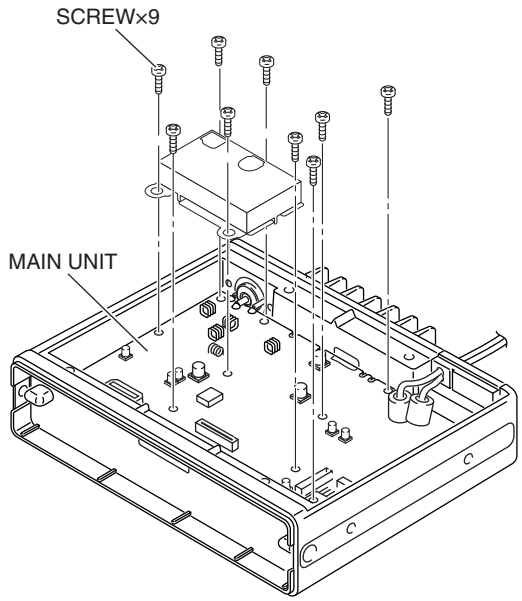


SECTION 3 DISASSEMBLY INSTRUCTION

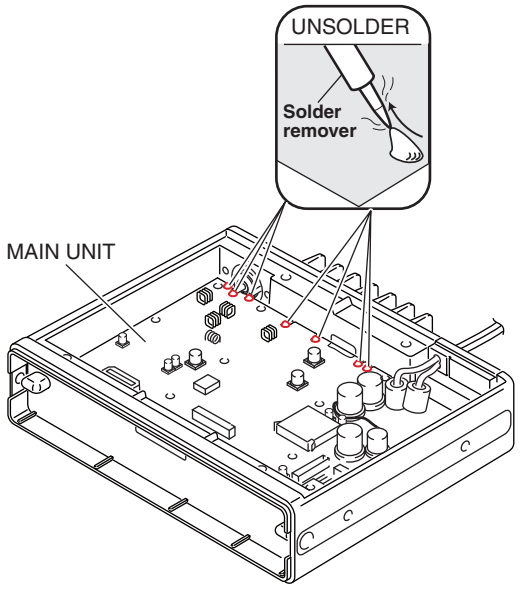
1) Remove 4 screws from the bottom cover, and then remove it.
2) Disconnect the flat cable and speaker cable.
3) Remove 2 screws from the both sides of the front panel, and then remove it in the direction of the arrow.



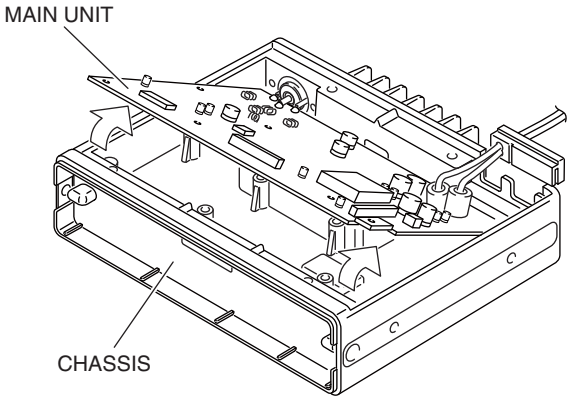
4) Remove 9 screws from the MAIN UNIT.



5) Unsolder total of 7 points; 3 points at the antenna connector, 4 points at the PA module.



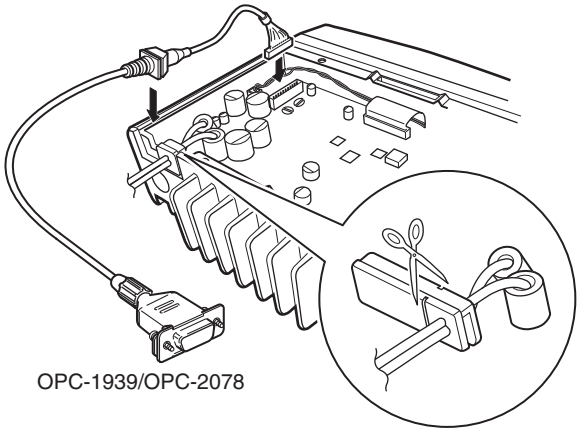
6) Remove the MAIN UNIT from the CHASSIS in the direction of the arrow.



SECTION 4 OPTIONAL CABLE INSTALLATION

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

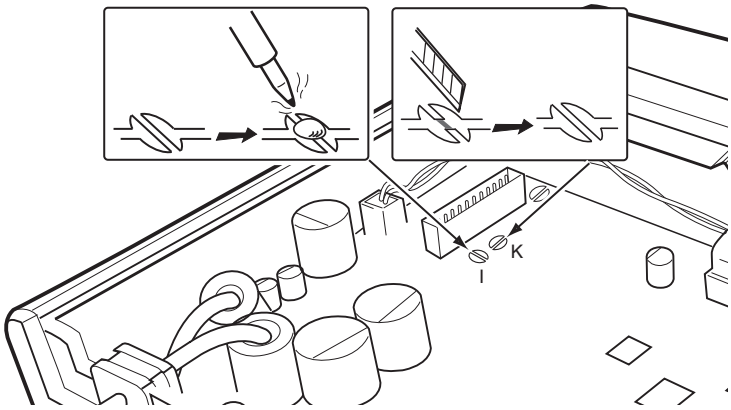
1) Turn OFF the power, and then disconnect the DC power cable.
2) Unscrew 4 screws, then remove the bottom cover.
3) Install the cable as shown.



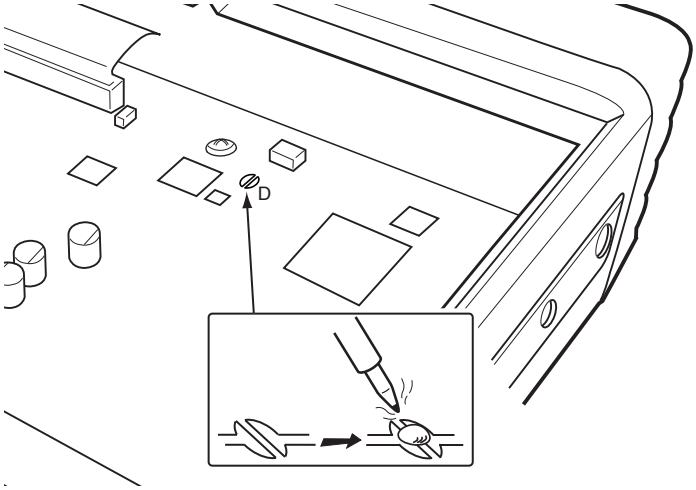
OPC-1939/OPC-2078

Cut off the bushing as in the illustration.

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

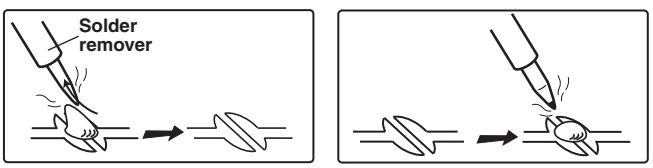


5) Short the pattern as below. (For modulation input)



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

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



SECTION 5 CIRCUIT DESCRIPTION

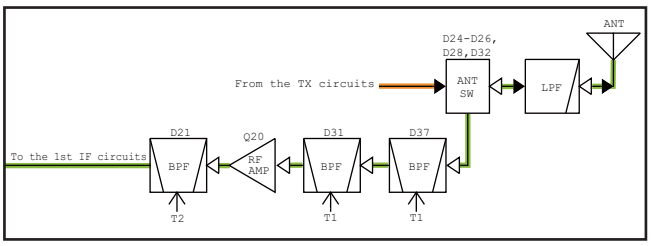
5-1 RECEIVER CIRCUITS

RF CIRCUITS

The RX signal from the antenna is passed through the LPF and antenna SW (D24–D26, D28, D32), then filtered by the 2-staged tuned BPFs (D31 and D37) to eliminate unwanted out-of-band signals. The filtered RX signal is amplified by the RF AMP (Q20), and filtered by another tuned BPF (D21) to obtain a good image response, then applied to the 1st IF circuits.

The BPFs are tuned to the RX frequency by applying adequate tuning voltages: “T1” and “T2” to the variable capacitors.

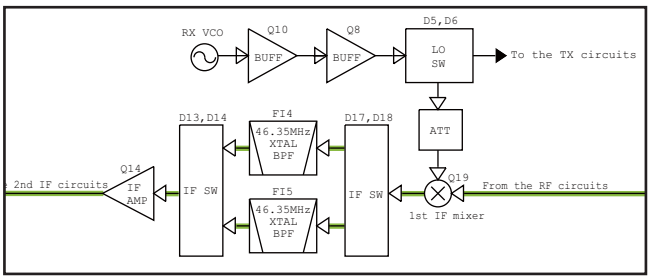
• RF CIRCUITS



1ST IF CIRCUITS

The RX signal from the RF circuits is applied to the 1st IF mixer (Q19) and mixed with the 1st LO signal from the RX VCO, resulting in the 46.35 MHz 1st IF signal. The 1st IF signal is passed through the IF SWs (D13, D14, D17, D18) and the crystal filter (FI4: analog mode, FI5: digital mode) to be filtered, amplified by the 1st IF AMP (Q14), then applied to the 2nd IF circuits.

• 1ST IF CIRCUITS



2ND IF AND DEMODULATOR CIRCUITS

The signal from the 1st IF circuits is applied to the IF demodulator IC (IC4) which contains the 2nd IF mixer, 2nd IF AMP, FM detector, squelch circuit and AF AMP in its package.

The 1st IF signal is applied to the 2nd IF mixer and mixed with the 2nd LO signal resulting in the 450 kHz 2nd IF signal.

The 2nd LO signal is generated by tripling the 15.3 MHz reference frequency signal generated by the reference frequency oscillator (TCXO; X2).

• WHILE OPERATING IN THE ANALOG MODE

The 2nd IF signal is filtered by the 2nd IF filter (FI2: wide/middle mode) or filters (FI1 and FI2: narrow) to eliminate unwanted signals. It is amplified by the 2nd IF AMP, and then demodulated by the detector circuit, which employs the discriminator (X1) as the phase shifter.

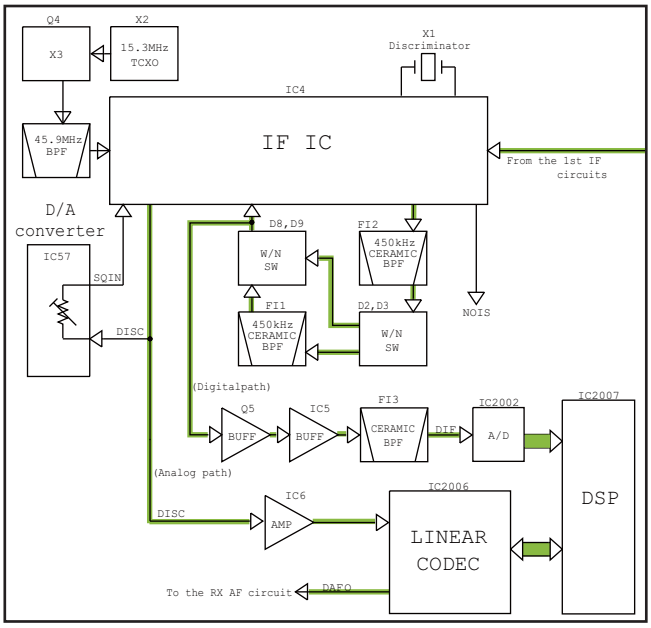
The demodulated AF signal is amplified by the AF AMP (IC6), and then applied to the linear codec (IC2006). The AF signal is converted into a digital audio signal by the linear codec (IC2006), processed by the DSP (IC2007), and then decoded into an analog audio signal.

• WHILE OPERATING IN THE DIGITAL MODE

The 2nd IF signal is filtered by the 2nd IF filters (FI1 and FI2) to eliminate unwanted signals, and applied to the IF AMP (IC5) through the buffer (Q5). The amplified 2nd IF signal is passed through the ceramic filter (FI3), and then applied to the A/D converter (IC2002) to be encoded into a digital signal. The digital signal is demodulated by the DSP (IC2007), and then applied to the linear codec (IC2006) to be decoded into an analog audio signal.

The AF signal is applied to the RX AF circuits.

• 2ND IF AND DEMODULATOR CIRCUITS

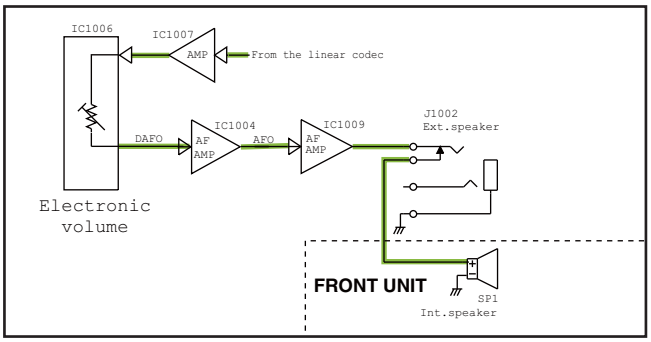


RX AF CIRCUITS

The demodulated AF signal from the linear codec (IC2006) is amplified by the AF AMP (IC1007), and then adjusted in level by the electronic volume (IC1006). The level-adjusted AF signal is then amplified by the pre-AMP (IC1004) and AF power AMP (IC1009).

The amplified AF signal is passed through the external speaker jack, and then applied to the internal speaker.

• RX AF CIRCUITS



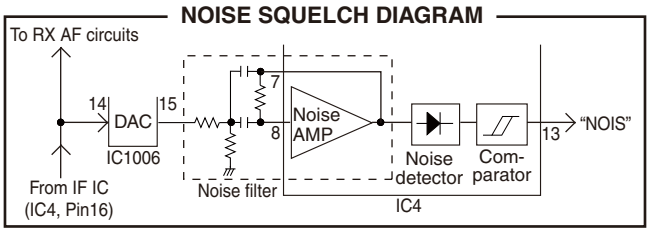
SQUELCH CIRCUITS (Analog mode only)

The squelch circuit cuts off the AF output signals when no RF signals are received. Detecting noise components in the demodulated AF signals, the squelch circuit stops audio signals being emitted.

A portion of demodulated AF signal from the IF IC (IC4) is passed through the D/A converter (IC1006) for level (=threshold) adjustment. The level-adjusted AF signals are passed through the noise filter (IC4, pins 7, 8 and Q9, R42, R44–R45, C68–C70) to filter the noise components (approx. 30 kHz signals) only. The noise components are rectified, resulting in DC voltage corresponding to the noise level.

If the noise level is higher than the preset one, the internal comparator set the “NOISE” signal to the CPU to “High”, then the CPU turns the “AFON” signal which controlls the AF mute SW (Q1008, Q1012, D1007) to “Low,” to stop the AF output.

• SQUELCH CIRCUITS



5-2 TRANSMITTER CIRCUITS

TX AF CIRCUITS

The audio signal from the microphone (MIC signal) is passed through the MIC gain SW (IC53), and then applied to the MIC AMP (IC7).

• WHILE OPERATING IN THE ANALOG MODE

The amplified MIC signal is passed through the HPF (IC1005A), which attenuates frequencies 300 Hz and below, and then applied to the limiter AMP (IC1007). The amplitude-limited MIC signal is applied to the linear codec (IC2006) through the MIC line SW (IC1008).

The MIC signal is converted into a digital audio signal by the linear codec (IC2006), processed by the DSP (IC2007), and then converted into an analog baseband signal (modulation signal).

• WHILE OPERATING IN THE DIGITAL MODE

The amplified MIC signal is applied to the ALC (IC1005B) which keeps the signal level fixed.

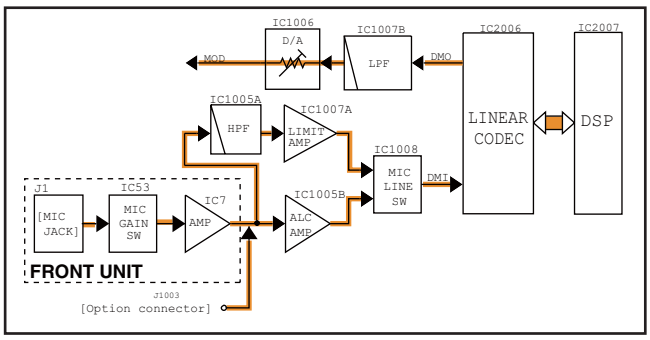
The level-adjusted MIC signal is applied to the linear codec (IC2006) through the MIC line SW (IC1008).

The MIC signal is converted into a digital audio signal by the linear codec (IC2006), processed by the DSP (IC2007), and then converted into the digital baseband signal (modulation signal).

The signal from the linear codec (IC2006) is passed through the LPF (IC1007), and then applied to the D/A converter (IC1006) which adjusts its level (=deviation).

The level-adjusted modulation signal is applied to the modulation circuit.

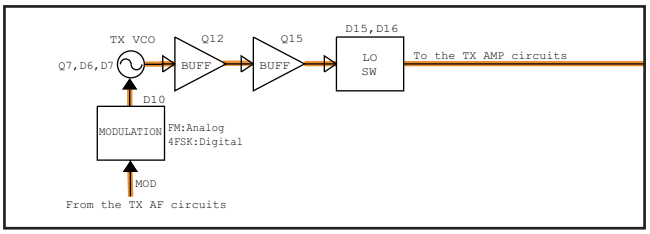
• TX AF CIRCUITS



MODULATION CIRCUIT

The modulation signal from the TX AF circuits is applied to D10 of the TX VCO (Q7, D6, D7, D10, D12) to modulate it (FM for the analog mode, 4FSK for the digital mode). The modulated signal from the TX VCO is buffer-amplified by two buffers (Q12, Q15), and applied to the TX AMP circuits through the LO SW (D15).

• MODULATION CIRCUITS



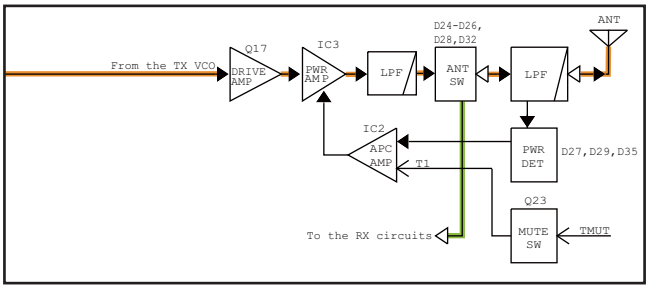
TX AMPLIFIERS

The buffer amplified signal from the LO SW (D15) is sequentially amplified by the drive AMP (Q17) and power AMP (IC3), to obtain TX power. The amplified TX signal is passed through the antenna SW (D24–D26, D28, D32) and the LPFs, which eliminates harmonics, and then fed to the antenna.

APC CIRCUITS

D27, D29 and D35 rectify a portion of the TX signal to direct current, and the APC AMP (IC2) compares the voltage and the TX power control reference voltage, "T1." The resulting voltage controls the gain of the power AMP (IC3) to keep the TX power constant.

• TX AMPLIFIERS AND APC CIRCUITS



5-3 FREQUENCY SYNTHESIZER CIRCUITS

The RX VCO is composed of Q6, and D4, D5, D11. The VCO output signal is buffer-amplified by two buffers (Q12 and Q15), and then applied to the 1st IF mixer, through the LO SW (D16) and the attenuator.

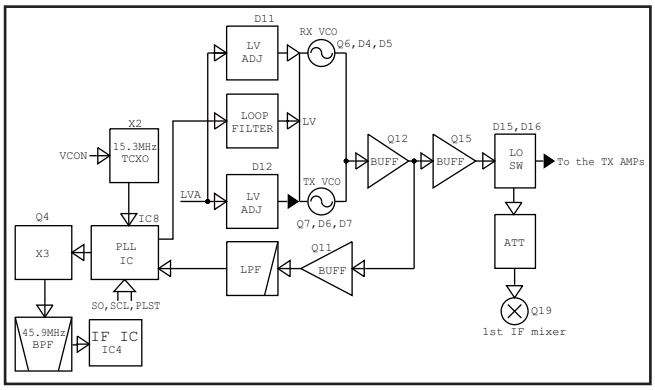
The TX VCO is composed of Q7, D6, D7, D10 and D12. The VCO output signal is buffer-amplified by two buffers (Q12 and Q15), and then applied to the drive AMP (Q17), through the LO SW (D15) and the LPF.

A portion of signal generated by each VCO is fed back to the PLL IC (IC8, pin 17) through the buffer (Q11) and the LPF (L13, C298–C300).

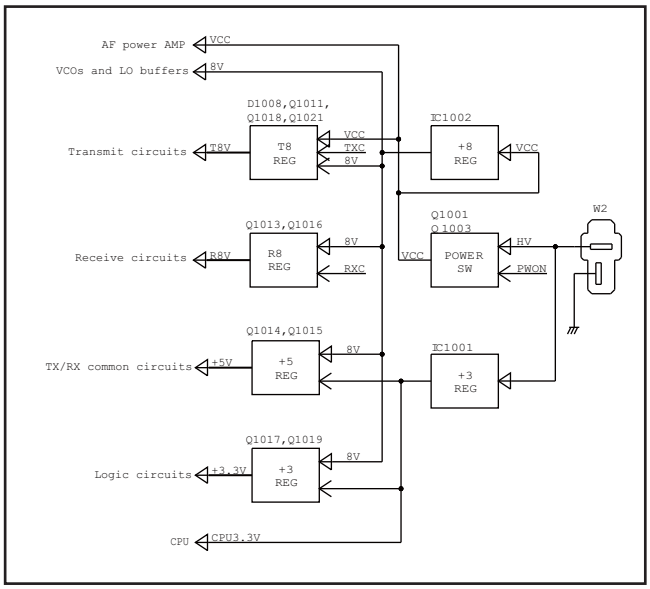
The applied VCO output signal is divided and phase-compared with a 15.3 MHz reference frequency signal from the TCXO (X2), which is also divided. The resulting signal is output from the PLL IC (IC8), and DC-converted by the loop filter, and then applied to the VCO as the lock voltage.

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 DIAGRAMS



5-5 PORT ALLOCATIONS

• CPU (FRONT UNIT: IC51)

BALL No.	LINE NAME	DESCRIPTION	I/O
A1	KR1	**[P1]** input.	I
A5	RXC	Power supply switching control. H= During receive or stand-by.	O
A7	TDAT	Serial data to the DSP (IC2007).	O
A15	PWON	Power supply switching control. H= The transceiver's power is ON.	O
B1	KR3	**[P3]** input.	I
B2	KR0	**[P0]** input.	I
B12	NOIS	Noise level detect. H= Squelch close	I
B13	EPTT	External PTT input. H= An external PTT is pushed.	I
B14	PGIO4	External I/O port.	I/O
B15	AFON	AF mute SW control. H= During the squelch circuit is activated.	O
C3	KR2	**[P2]** input.	I
C5	TXC	Power supply switching control. H= While transmitting.	O
C8	ESDA	EEPROM (IC52) serial data.	I/O
C13	POSW	**[⏻]** input.	I
C14	ADS	1st IF filters (FI4 and FI5) switching control. L= During digital mode.	O
C15	NWC	Receive mode (narrow/mid/wide) switching. L= During narrow mode.	O
D6	DSCK	DSP (IC2007) clock.	O
D8	ESCL	EEPROM (IC52) clock.	O
D13	DPDN	DSP (IC2007) power control. H= DSP is inactivated	O
D14	DRES	DSP (IC2007) reset. L= Reset	O
D15	CSFT	Clock frequency shift. H= Clock frequency is shifted.	O
E13	CRES	CPU reset.	I
H1	SIDE1	**[▲]** key input. L= Pushed	I
H2	SIDE2	**[▼]** key input. L= Pushed	I
J1	IPTT	Microphone [PTT] input. L= Pushed.	I
K3	LIGT1	LCD dimmer control. H= Dimmer OFF.	O
L1, L2	MCG0, MCG1	MIC gain control.	O
L3	LIGT2	Backlight control. H= Backlight ON.	O
L14	SSO	Common serial data.	O
L15	SCK	Common clock.	O
M1	TMUT	Transmission mute. L= TX inhibit.	O
M8	BEEP	Beep audio. (Square waves)	O
M14	DAST	D/A converter (IC1006) strobe. H= Load enable.	O
N2	LINH	LCD driver (IC6) chip enable. H= Enable.	O
N12	BATV	Power supply voltage sensing.	I
N14	RDAT	DSP (IC2007) serial data.	O
N15	IGSW	Ignition SW detect. L=Ignition detected.	I
P2	LCS	LCD driver (IC6) chip	O
P4	PLSW	PLL lock up time control. L= Fast lock up	O
P10	TEMP	Temperature sensing voltage.	I
P11	RSSI	RSSI sensing voltage.	I
P12	AFVI	**[VOLUME CONTROL]** input.	I
R1	LSO	LCD driver (IC6) serial data.	O
R4	PLST	PLL strobe.	O
R10	LVIN	Lock voltage input.	I

• D/A CONVERTER (IC1006)

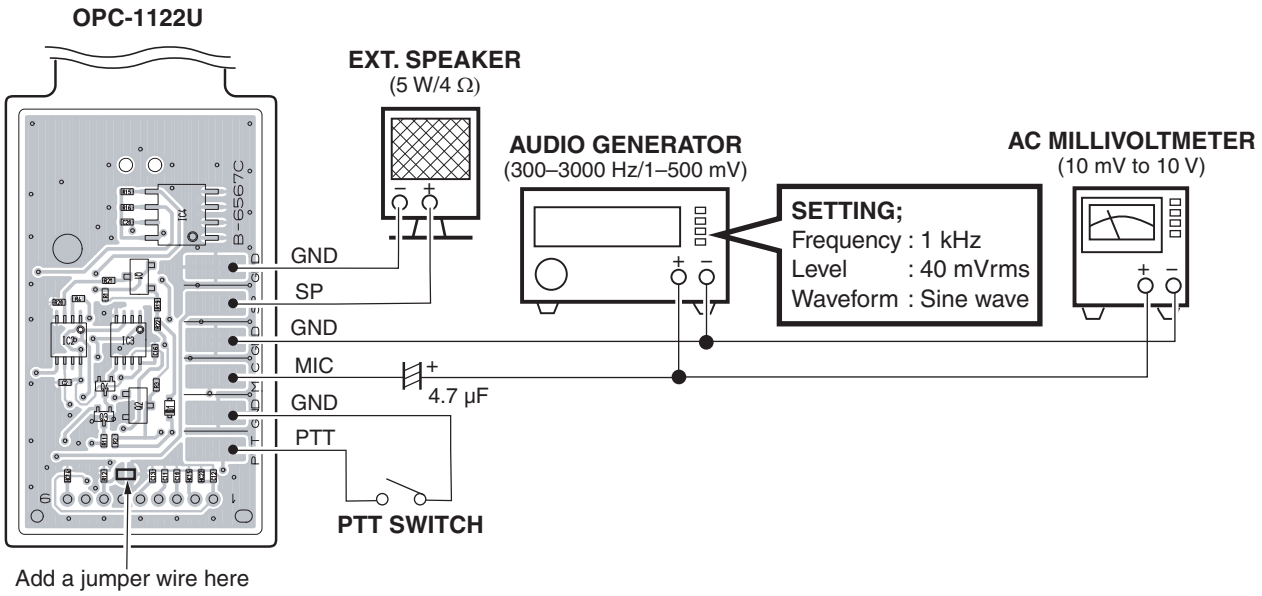
PIN No.	LINE NAME	DESCRIPTION
23	T1 (TXPO)	During receiving: Outputs BPF tuning voltage. During transmitting: TX power reference voltage.
24	T2	Outputs BPF tuning voltage
7	REF	Outputs reference frequency adjust voltage.
8	LVA	Outputs additional lock voltage adjustment.
11	SQLC	Outputs Squelch threshold setting.
12	TENC	Outputs CTCSS deviation adjustment.
19	BAL	Outputs DTCS balance.
20	VRAF	Outputs Max. deviation/AF volume adjustment.

SECTION 6 ADJUSTMENT PROCEDURE

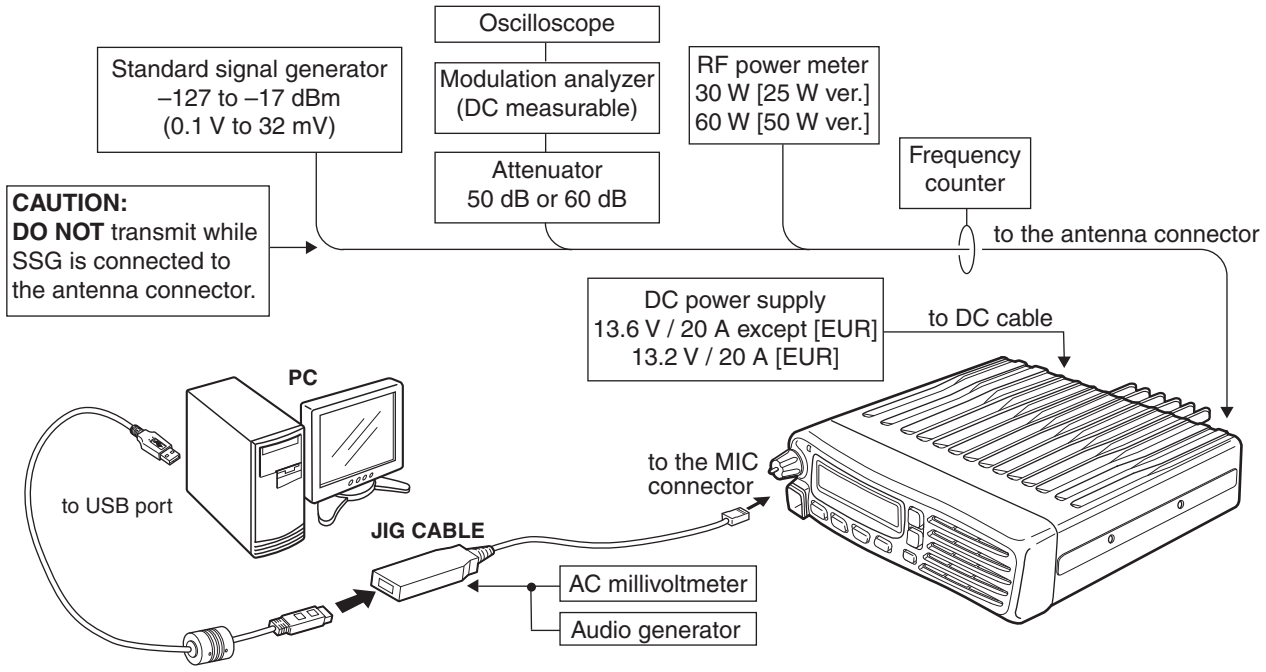
6-1 PREPARATION

EQUIPMENT	GRADE AND RANGE		EQUIPMENT	GRADE AND RANGE	
Cloning Software	CS-F3100D/F5120D	: Revision 1.0 or later	JIG Cable	Modified OPC-1122U (see the illust below)	
DC Power Supply	Output voltage Current capacity	: 13.6 V DC except [EUR] 13.2 V DC [EUR] : More than 20 A	Attenuator	Power attenuation Capacity	: 50 or 60 dB : 30 W [25 W ver.] 60 W [50 W ver.]
Modulation Analyzer	Frequency range Measuring range	: DC–300 MHz : 0 to ±10 kHz	External Speaker	Input impedance Capacity	: 4 Ω : 20 W or more
Frequency Counter	Frequency range Frequency accuracy Sensitivity	: 0.1–300 MHz : ±1 ppm or better : 100 mV or better	Standard Signal Generator (SSG)	Frequency range Output level	: 0.1–300 MHz : 0.1 µV to 32 mV (–127 to –17 dBm)
RF Power Meter	Measuring range Frequency range Impedance SWR	: 0.1–30 W [25 W ver.] 0.1–60 W [50 W ver.] : 100–300 MHz : 50 Ω : Better than 1.2 : 1	Oscilloscope	Frequency rang Measuring range	: DC–20 MHz : 0.01–20 V

■ JIG CABLE



■ CONNECTION



■ ADJUSTMENT CHANNELS

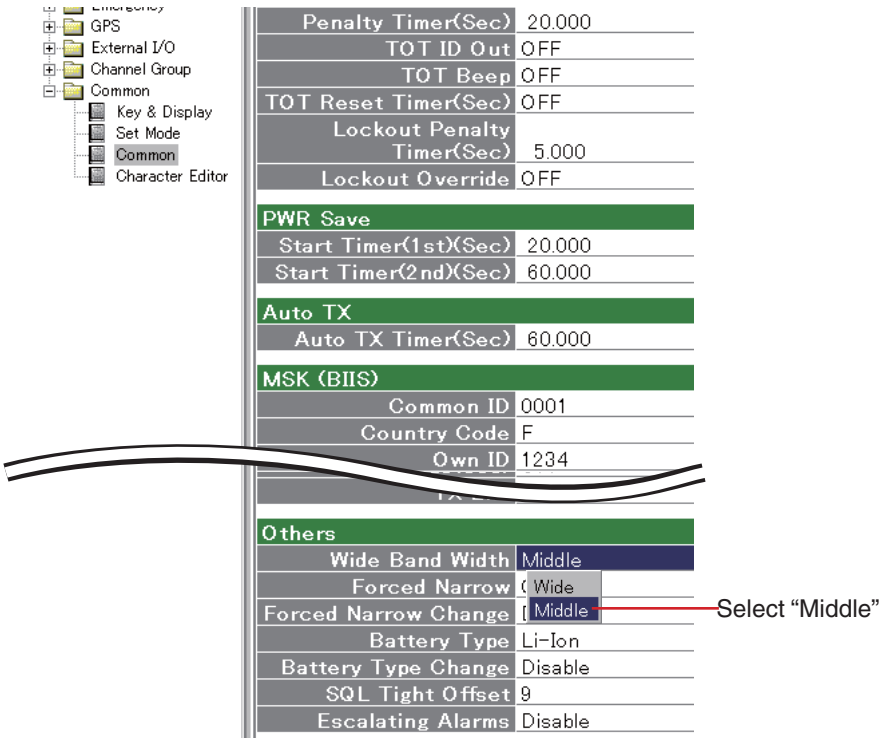
Before starting the adjustments, use the cloning software to create the same cloning file as shown below, then upload it into the transceiver.

Zone 1: (Left CH – 97)

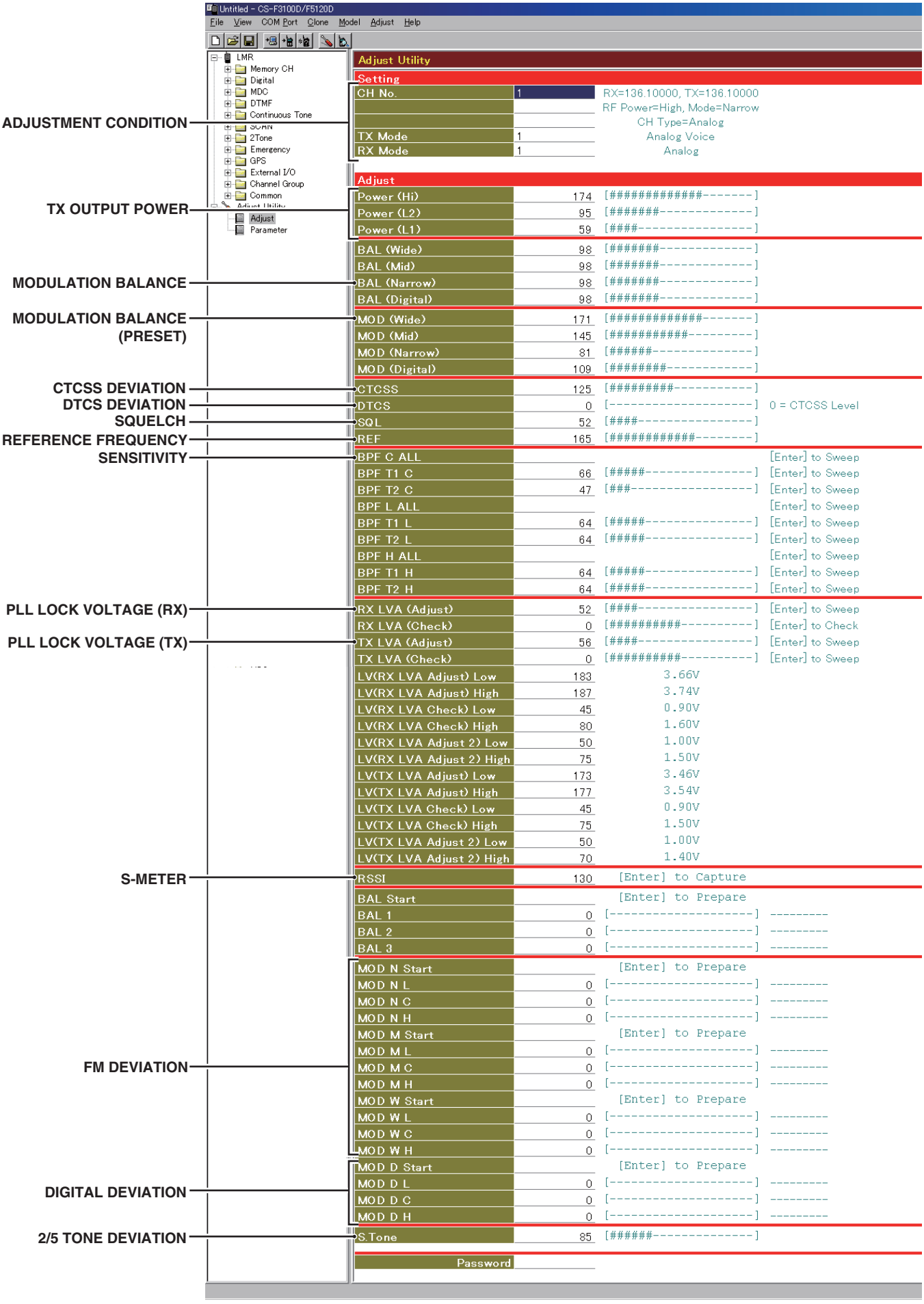
			Frequency (MHz)						C.Tone									Signaling		
CH	Atr	Inh	RX	TX	TX Inh	Beat Cancel	W/N	SQL Tight	RX	TX	Text	TOT	RF PWR	PWR Save	Loc out	Sel Inh	Auto Scan	CH Type	Auto Reset	Log-out	Emg-out
1- 1	AB		136.000000	<-		OFF	W				LV (RX)		L1			---		Analog	Tim-B	DTMF	DTMF
1- 2			136.000000	<-		OFF	W				LV (TX)		L1			---		Analog	Tim-B	DTMF	DTMF
1- 3			174.000000	<-		OFF	W				RX LVR		L1			---		Analog	Tim-B	DTMF	DTMF
1- 4			174.000000	<-		OFF	W				TX LVR		L1			---		Analog	Tim-B	DTMF	DTMF
1- 5			174.000000	<-		OFF	W				REF		L1			---		Analog	Tim-B	DTMF	DTMF
1- 6			155.000000	<-		OFF	W				PowEr H,		H			---		Analog	Tim-B	DTMF	DTMF
1- 7			155.000000	<-		OFF	W				PowEr L2		L2			---		Analog	Tim-B	DTMF	DTMF
1- 8			155.000000	<-		OFF	W				PowEr L1		L1			---		Analog	Tim-B	DTMF	DTMF
1- 9			136.000000	<-		OFF	W				BAL 1		L1			---		Analog	Tim-B	DTMF	DTMF
1- 10			155.000000	<-		OFF	W				BAL 2		L1			---		Analog	Tim-B	DTMF	DTMF
1- 11			174.000000	<-		OFF	W				BAL 3		L1			---		Analog	Tim-B	DTMF	DTMF
1- 12			136.000000	<-		OFF	N				MOD N L		L1			---		Analog	Tim-B	DTMF	DTMF
1- 13			155.000000	<-		OFF	N				MOD N C		L1			---		Analog	Tim-B	DTMF	DTMF
1- 14			174.000000	<-		OFF	N				MOD N H		L1			---		Analog	Tim-B	DTMF	DTMF
1- 15			136.000000	<-		OFF	W				MOD W L		L1			---		Analog	Tim-B	DTMF	DTMF
1- 16			155.000000	<-		OFF	W				MOD W C		L1			---		Analog	Tim-B	DTMF	DTMF
1- 17			174.000000	<-		OFF	W				MOD W H		L1			---		Analog	Tim-B	DTMF	DTMF
1- 18			136.000000	<-		OFF	W				MOD M L		L1			---		Analog	Tim-B	DTMF	DTMF
1- 19			155.000000	<-		OFF	W				MOD M C		L1			---		Analog	Tim-B	DTMF	DTMF
1- 20			174.000000	<-		OFF	W				MOD M H		L1			---		Analog	Tim-B	DTMF	DTMF
1- 21			136.000000	<-		OFF	W				MOD D L		L1			---		Digital	Tim-B	DTMF	DTMF
1- 22			155.000000	<-		OFF	W				MOD D C		L1			---		Digital	Tim-B	DTMF	DTMF
1- 23			174.000000	<-		OFF	W				MOD D H		L1			---		Digital	Tim-B	DTMF	DTMF
1- 24			155.000000	<-		OFF	W				CTCSS		L1			---		Analog	Tim-B	DTMF	DTMF
1- 25			155.000000	<-		OFF	W				DTCS		L1			---		Analog	Tim-B	DTMF	DTMF
1- 26			155.000000	<-		OFF	N				S.TonE		L1			---		Analog	Tim-B	DTMF	DTMF
1- 27			136.000000	<-		OFF	W				BPF C AL		L1			---		Analog	Tim-B	DTMF	DTMF
1- 28			136.000000	<-		OFF	W				RSSI S3		L1			---		Analog	Tim-B	DTMF	DTMF
1- 29			136.000000	<-		OFF	W				RSSI S1		L1			---		Analog	Tim-B	DTMF	DTMF
1- 30			174.000000	<-		OFF	W				SQL		L1			---		Analog	Tim-B	DTMF	DTMF

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

For [EUR] versions:
When adjusting “Deviation” in the middle band, change the bandwidth to “Middle” as shown.



■ ADJUSTMENT UTILITY

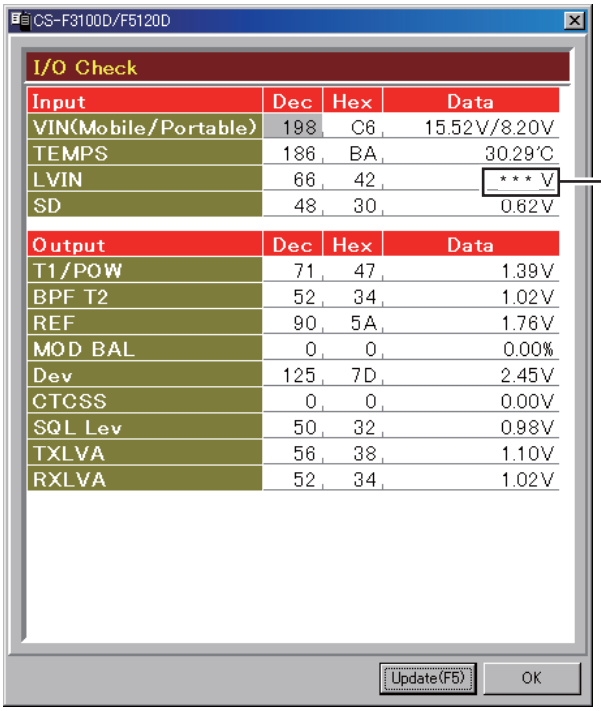


6-2 FREQUENCY ADJUSTMENTS

1) Select an adjustment item using [↑]/[↓] on the PC's keyboard.
2) Set or modify the adjustment value as specified using [←]/[→] on 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(Adjust)]**	1.1 V
(TX)	2	• Channel : 1-2 • Transmitting		**[TX LVA(Adjust)]**	
(RX)	3	• Channel : 1-3 • Receiving	• Click the [Update (F5)] button to check on the "I/O Check window" as below.	**[LVIN]** (On the "I/O Check window")	3.0–4.0 V (Verify)
(TX)	4	• Channel : 1-4 • Transmitting			2.5–3.5 V (Verify)
REFERENCE FREQUENCY	1	• Channel : 1-5 • Transmitting	• Loosely couple a frequency counter to the antenna connector.	**[REF]**	174.000000 MHz (±250 Hz)

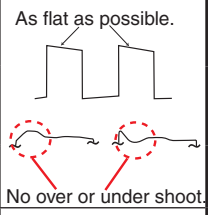
• I/O Check screen



(The values shown above are exsample only.
Each transceiver has own values.)

6-3 TRANSMIT ADJUSTMENTS

1) Select an adjustment item using [↑]/[↓] on the PC's keyboard.
2) Set or modify the adjustment value as specified using [←]/[→] on the PC's keyboard, then push [ENTER].

ADJUSTMENT		TRANSCEIVER'S CONDITION	OPERATION	ADJUSTMENT ITEM	VALUE
TX POWER (Hi power)	1	• Channel : 1-6 • Transmitting	• Connect an RF power meter to the antenna connector.	**[Power (Hi)]**	50 W [50 W ver.] 25 W [25 W ver.]
(L2 power)	2	• Channel : 1-7 • Transmitting		**[Power (L2)]**	25 W [50 W ver.] 10 W [25 W ver.]
(L1 power)	3	• Channel : 1-8 • Transmitting		**[Power (L1)]**	5.0 W [50 W ver.] 2.5 W [25 W ver.]
MODULATION BALANCE (Band low)	1	Channel : 1-9 • Transmitting	• Set the preset value.	**[MOD (WIDE)]**	150
			1) Set the TX mode to "2" on the "Adjust Utility" screen. 2) Push [ENTER] on the PC's keyboard, to enter the modulation balance adjustment mode.	**[BAL Start]**	–
	2		• Connect a modulation analyzer with an oscilloscope to the antenna connector through an attenuator, and set it as; HPF : OFF LPF : 20 kHz De-emphasis : OFF Detector : (P–P)/2	**[BAL 1]**	
(Band center)	3	• Channel : 1-10 • Transmitting.		**[BAL 2]**	
(Band high)	4	• Channel : 1-11 • Transmitting.		**[BAL 3]**	
	5		• Push [ENTER] on the PC's keyboard, to store the value and quit the modulation balance adjustment mode.	**[BAL Start]**	–
FM DEVIATION (Narrow mode) -Band low-	1	• Push [ENTER] on the PC's keyboard, to enter the FM deviation (For narrow mode) adjustment mode.		**[MOD N Start]**	–
	2	• Channel : 1-12 • Transmitting	• Connect a modulation analyzer to the antenna connector through an attenuator, and set it as described in the "MODULATION BALANCE" above. • Connect as audio generator to the [MIC] jack, and set it as; Frequency : 1 kHz (Sine wave) Level : 40 mVrms	**[MOD N L]**	±2.05 to ±2.15 kHz
-Band center-	3	• Channel : 1-13 • Transmitting		**[MOD N C]**	
-Band high-	4	• Channel : 1-14 • Transmitting		**[MOD N H]**	
	5	• Push [ENTER] on the PC's keyboard, to store the value and quit the FM deviation (For narrow mode) adjustment mode.		**[MOD N Start]**	–
(Wide mode) -Band low-	6	• Push [ENTER] on the PC's keyboard, to enter the FM deviation (For wide mode) adjustment mode.		**[MOD W Start]**	–
	7	• Channel : 1-15 • Transmitting	• Connect a modulation analyzer to the antenna connector through an attenuator, and set it as described in the "MODULATION BALANCE" above. • Connect as audio generator to the [MIC] jack, and set it as; Frequency : 1 kHz (Sine wave) Level : 40 mVrms	**[MOD W L]**	±4.05 to ±4.15 kHz
-Band center-	8	• Channel : 1-16 • Transmitting		**[MOD W C]**	
-Band high-	9	• Channel : 1-17 • Transmitting		**[MOD W H]**	
	10	• Push [ENTER] on the PC's keyboard, to store the value and quit the FM deviation (For wide mode) adjustment mode.		**[MOD W Start]**	–
(Middle mode)* -Band low-	11	• Push [ENTER] on the PC's keyboard, to enter the FM deviation (For middle mode) adjustment mode.		**[MOD M Start]**	–
	12	• Channel : 1-18 • Transmitting	• Connect a modulation analyzer to the antenna connector through an attenuator, and set it as described in the "MODULATION BALANCE" above. • Connect as audio generator to the [MIC] jack, and set it as; Frequency : 1 kHz (Sine wave) Level : 40 mVrms	**[MOD M L]**	±3.25 to ±3.35 kHz
-Band center-	13	• Channel : 1-19 • Transmitting		**[MOD M C]**	
-Band high-	14	• Channel : 1-20 • Transmitting		**[MOD M H]**	
	15	• Push [ENTER] on the PC's keyboard, to store the value and quit the FM deviation (For middle mode) adjustment mode.		**[MOD M Start]**	–

*: [EUR] only

6-3 TRANSMIT ADJUSTMENTS (continued)

1) Select an adjustment item using [↑]/[↓] on the PC's keyboard.
2) Set or modify the adjustment value as specified using [←]/[→] on the PC's keyboard, then push [ENTER].

ADJUSTMENT		TRANSCEIVER'S CONDITION	OPERATION	ADJUSTMENT ITEM	VALUE
DIGITAL DEVIATION (Band Low)	1	• Channel : 1-21 • Transmitting	1) Set the TX Mode to "16" on the "Adjust Utility" screen. 2) Push [ENTER] on the PC's keyboard, to enter the digital deviation adjustment mode.	**[MOD D Start]**	–
	2		• Connect a modulation analyzer to the antenna connector through an attenuator, and set it as; HPF : OFF LPF : 20 kHz De-emphasis : OFF Detector : (P–P)/2	**[MOD D L]**	±1.35 to ±1.39 kHz
(Band Center)	3	• Channel : 1-22 • Transmitting		**[MOD D C]**	
(Band High)	4	• Channel : 1-23 • Transmitting		**[MOD D H]**	
			• Push [ENTER] on the PC's keyboard, to store the value and quit the digital deviation adjustment mode.	**[MOD D Start]**	–
CTCSS DEVIATION	1	• Channel : 1-24 • Transmitting	1) Set the TX Mode to "3" on the "Adjust Utility" screen. 2) Connect a modulation analyzer to the antenna connector through an attenuator, and set it as described in the "DIGITAL DEVIATION" above.	**[CTCSS]**	±0.65 to ±0.75 kHz
DTCS DEVIATION	1	• Channel : 1-25 • Transmitting	1) Set the TX Mode to "4" on the "Adjust Utility" screen. 2) Connect a modulation analyzer to the antenna connector through an attenuator, and set it as described in the "DIGITAL DEVIATION" above.	**[DTCS]**	
2/5 TONE, DTMF DEVIATION	1	• Channel : 1-26 • Transmitting	1) Set the TX Mode to "5" on the "Adjust Utility" screen. 2) Connect a modulation analyzer to the antenna connector through an attenuator, and set it as described in the "DIGITAL DEVIATION" above.	**[S.Tone]**	±1.45 to ±1.55 kHz

***: [EUR] only**

6-4 RECEIVE ADJUSTMENTS

1) Select an adjustment item using [↑]/[↓] on the PC's keyboard.
2) Set or modify the adjustment value as specified using [←]/[→] on the PC's keyboard, then push [ENTER].

ADJUSTMENT		TRANSCEIVER'S CONDITION	OPERATION	ADJUSTMENT ITEM	VALUE
RX SENSITIVITY	1	**NOTE:** When "RX SENSITIVITY" is re-adjusted, "S-METER" must be re-adjusted too.			
		• Channel : 1-27 • Receiving	1) Set the SSG to the antenna connector and set it as; Frequency : 136.000 MHz Level† : +20 dBμ (–87 dBm) Modulation : 1 kHz Deviation : ±3.0 kHz 2) Put the cursor on the adjustment item, then push [ENTER].	**[BPF C ALL]**	Push [ENTER].
S-METER (S3 level setting)	1	**NOTE:** When "RX SENSITIVITY" must be adjusted before "S-METER." And when "RX SENSITIVITY" is re-adjusted, "S-METER" must be re-adjusted too.			
		• Channel : 1-28 • Receiving	• Channel : 1-14 • Connect the SSG to the antenna connetor and set as; Frequency : 136.000 MHz Level† : +23 dBμ (–84 dBm) Modulation : 1 kHz Deviation : ±3.00 kHz except [EUR] ±2.40 kHz [EUR] • Receiving	**[RSSI S3 Level]**	Push [ENTER].
(S3 level setting)	2	• Channel : 1-29 • Receiving	1) Set the SSG to the antenna connector and set it as; Level† : –7 dBμ (–114 dBm) 2) Put the cursor on the adjustment item, then push [ENTER].	**[RSSI S1 Level]**	
SQUELCH	1	**NOTE:** When "RX SENSITIVITY" must be adjusted before "SQUELCH." And when "RX SENSITIVITY" is re-adjusted, "SQUELCH" must be re-adjusted too.			
		• Channel : 1-30 • Receiving	1) Set the SSG to the antenna connector and set it as; Frequency : 174.000 MHz Level† : –14 dBμ (–121 dBm) Modulation : 1 kHz Deviation : ±3.00 kHz 2) Once close the squelch by increasing **[SQL]** value, 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.

SECTION 7 PARTS LIST

[MAIN UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
IC2	1110002751	S.IC TA75S01F(TE85RF)	T	60/54.9
IC3	1150002423	IC RA60H1317M1A-222		
IC4	1110007320	S.IC NJM2591V-TE1-#ZZZB	T	57.8/24.7
IC5	1110006230	S.IC NJM2711F-TE1-#ZZZB	T	36.0/26.9
IC6	1110002751	S.IC TA75S01F(TE85RF)	B	59.9/17.4
IC7	1130011741	S.IC TC7W66FK(TE85LF)	T	85.8/12.3
IC8	1130015270	S.IC AK1541P-L	B	78.2/23.7
IC1001	1180003660	S.REG XC6408EN22PR-G	B	96.9/10.8
IC1002	1180003500	S.REG NJM7808DL1A-TE1-#FZZB	T	123.3/45.7
IC1004	1110002751	S.IC TA75S01F(TE85RF)	B	119.7/13.0
IC1005	1110007630	S.IC NJM2783V-TE1-#ZZZH	T	47.4/18.9
IC1006	1110007290	S.IC AK2330P-L	B	53.7/11.5
IC1007	1110005320	S.IC NJM13403V-TE1-#ZZZB	B	37.4/17.0
IC1008	1130009981	S.IC TC7W53FK(TE85LF)	T	40.3/19.7
IC1009	1110003091	IC LA4425A-E		
IC2001	1180003680	S.REG TPS62204DBVR	B	35.1/6.5
IC2002	1190002900	S.IC ADS7886SDCKR	B	14.8/9.3
IC2006	1110007770	S.IC PCM3008T/2K	T	16.3/8.3
IC2007	1140013290	S.IC TMS320VC5509AZHH	T	18.0/18.4
IC2008	1130015620	S.IC EN25Q40-100GIP <MSK>	B	12.5/25.3
IC2009	1110006230	S.IC NJM2711F-TE1-#ZZZB	B	26.7/12.7
Q1	1590004090	S.TRA LDTC114YET1G <SLVJ>	B	47.2/27.1
Q2	1530002851	S.TRA 2SC4116-BL(TE85RF)	T	107.8/33.4
Q3	1560000541	S.FET 2SK880-Y(T5RICOMF)	T	77.2/24.5
Q4	1530002851	S.TRA 2SC4116-BL(TE85RF)	B	67.9/25.4
Q5	1530002851	S.TRA 2SC4116-BL(TE85RF)	T	41.6/26.2
Q6	1530002921	S.TRA 2SC4226-T1 Y25 (R25)	B	100.6/25.8
Q7	1530002921	S.TRA 2SC4226-T1 Y25 (R25)	B	105.4/32.9
Q8	1590004090	S.TRA LDTC114YET1G <SLVJ>	T	103.6/36.6
Q9	1560001360	S.FET 2SK3019 TL	T	52.2/26.3
Q10	1590004500	S.TRA DMC561040R	T	101.2/34.2
Q11	1530003260	S.TRA 2SC5006-T1	B	97.4/31.0
Q12	1530003260	S.TRA 2SC5006-T1	B	100.7/32.8
Q13	1590004090	S.TRA LDTC114YET1G <SLVJ>	B	57.6/27.2
Q14	1530003311	S.TRA 2SC5107-O(TE85RF)	T	64.8/24.9
Q15	1530003260	S.TRA 2SC5006-T1	B	93.8/33.8
Q17	1530003340	S.TRA 2SC3357-T1 RF	B	88.5/55.2
Q18	1590004090	S.TRA LDTC114YET1G <SLVJ>	T	81.5/40.8
Q19	1580000731	S.FET 3SK293(TE85LF)	B	71.3/38.4
Q20	1580000731	S.FET 3SK293(TE85LF)	B	41.5/38.7
Q21	1530002851	S.TRA 2SC4116-BL(TE85RF) [USA-01]	T	60.0/49.8
	1530002851	S.TRA 2SC4116-BL(TE85RF) [EXP-02]		
Q22	1560000841	S.FET 2SK1829(TE85RF)	T	33.7/39.7
Q23	1590004090	S.TRA LDTC114YET1G <SLVJ>	T	62.7/50.3
Q24	1590004090	S.TRA LDTC114YET1G <SLVJ>	T	49.5/24.8
Q1001	1590004090	S.TRA LDTC114YET1G <SLVJ>	T	110.6/44.1
Q1003	1550000190	S.FET 2SJ506STR-E	T	115.3/45.4
Q1004	1590004090	S.TRA LDTC114YET1G <SLVJ>	T	114.0/26.7
Q1005	1590004090	S.TRA LDTC114YET1G <SLVJ>	T	114.0/24.7
Q1007	1590004090	S.TRA LDTC114YET1G <SLVJ>	B	116.3/8.1
Q1008	1590000990	S.TRA DTC363EK T146	B	128.9/17.8
Q1009	1590001451	S.FET 2SJ144-GR (TE85RF)	B	113.8/11.1
Q1010	1590004090	S.TRA LDTC114YET1G <SLVJ>	B	116.1/10.9
Q1011	1540000550	S.TRA 2SD1664 T100Q	B	125.1/47.6
Q1012	1590004090	S.TRA LDTC114YET1G <SLVJ>	B	130.9/20.7
Q1013	1510000920	S.TRA 2SA1577 T106 Q	T	107.7/44.3
Q1014	1520000460	S.TRA 2SB1132 T100 R	B	123.5/21.1
Q1015	1590001190	S.TRA XP6501-(TX).AB	B	118.9/20.4
Q1016	1590004090	S.TRA LDTC114YET1G <SLVJ>	T	107.8/39.2
Q1017	1520000460	S.TRA 2SB1132 T100 R	T	120.1/35.2
Q1018	1590004090	S.TRA LDTC114YET1G <SLVJ>	B	126.4/43.3
Q1019	1590001190	S.TRA XP6501-(TX).AB	B	123.8/35.8
Q1020	1590004090	S.TRA LDTC114YET1G <SLVJ>	T	42.6/22.5
Q1021	1590004090	S.TRA LDTC114YET1G <SLVJ>	B	126.4/41.3
D2	1750001910	S.DIO HVD144AKRF-E	T	7/17.1
D3	1750001910	S.DIO HVD144AKRF-E	B	17.7/10.6
D4	1750000771	S.VAR HVC376BTRF-E	B	93.9/22.2
D5	1750000771	S.VAR HVC376BTRF-E	B	91.4/22.2
D6	1750000771	S.VAR HVC376BTRF-E	B	105.6/23.2
D7	1750000771	S.VAR HVC376BTRF-E	B	107.2/22.1
D8	1750001910	S.DIO HVD144AKRF-E	B	43.4/27.3
D9	1750001910	S.DIO HVD144AKRF-E	B	43.4/28.6
D10	1750001570	S.VAR HVL355CMKRF-E	B	104.1/25.8
D11	1750000721	S.VAR HVC375BTRF-E	B	99.7/22.1
D12	1750000721	S.VAR HVC375BTRF-E	B	103.0/28.1
D13	1750001910	S.DIO HVD144AKRF-E	T	68.3/28.1
D14	1750001910	S.DIO HVD144AKRF-E	T	69.5/28.1
D15	1750001890	S.DIO HVD142AKRF-E	B	83.4/41.8
D16	1750001890	S.DIO HVD142AKRF-E	B	83.2/39.3
D17	1750001910	S.DIO HVD144AKRF-E	T	70.6/41.6
D18	1750001910	S.DIO HVD144AKRF-E	T	74.5/41.6
D21	1750001780	S.VAR HVB350BYPTL-E	B	55.1/41.1
D24	1750002060	S.DIO RN752TE-21	T	35.1/56.8
D25	1750001890	S.DIO HVD142AKRF-E [EUR-01]	T	21.7/51.8
	1750001890	S.DIO HVD142AKRF-E [EXP-01]		
D26	1750001890	S.DIO HVD142AKRF-E [EUR-01]	T	21.7/53.0
	1750001890	S.DIO HVD142AKRF-E [EXP-01]		
D27	1750001820	S.DIO LRB706F-40T1G <SLVJ>	B	42.0/58.2
D28	1750002060	S.DIO RN752TE-21 [USA-01]	T	24.4/54.7
	1750002060	S.DIO RN752TE-21 [EXP-02]		
D29	1750001820	S.DIO LRB706F-40T1G <SLVJ>	B	21.8/54.2
D30	1790001241	S.DIO MA2S7280GL	T	31.8/39.7
D31	1750000721	S.VAR HVC375BTRF-E	B	33.3/38.3
D32	1750001890	S.DIO HVD142AKRF-E	B	25.3/46.8

[MAIN UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
D34	1750000370	S.DIO DA221 TL	T	33.7/37.1
D35	1750001820	S.DIO LRB706F-40T1G <SLVJ>	B	8.2/49.9
D37	1750000721	S.VAR HVC375BTRF-E	B	30.5/38.3
D1002	1790000700	DIO DSA3A1		
D1003	1750000370	S.DIO DA221 TL	B	114.0/8.2
D1004	1750000370	S.DIO DA221 TL	B	114.1/6.1
D1005	1750000370	S.DIO DA221 TL	T	113.2/7.4
D1006	1750000370	S.DIO DA221 TL	T	113.0/10.3
D1007	1750001810	S.DIO L1SS400T1G <SLVJ>	B	129.0/20.7
D1008	1750000370	S.DIO DA221 TL	B	124.0/43.3
D2002	1790001241	S.DIO MA2S7280GL	T	24.9/18.0
D2003	1790001241	S.DIO MA2S7280GL	B	10.7/30.5
D2004	1790001241	S.DIO MA2S7280GL	B	22.2/20.8
D2005	1790001241	S.DIO MA2S7280GL	B	17.5/26.3
D2006	1790001241	S.DIO MA2S7280GL	T	12.0/25.3
FI1	2020002570	CER LTM450HW <JJE>		
FI2	2020002410	CER LTM450FW <JJE>		
FI3	2020002610	S.CER LTUCG450G <JJE>	B	32.8/27.0
FI4	2030000870	S.MON MFT46.3P3 46.350 MHz (FL-442)	T	66.9/34.9
FI5	2010002760	S.XTA MFT46.3J 46.350 MHz (FL-448)	T	75.8/34.9
FI6	2040001440	S.LC NFE31PT152Z1E9L (NFM60R20T152) [USA-01]	B	97.7/64.9
	2040001440	S.LC NFE31PT152Z1E9L (NFM60R20T152) [EXP-02]		
FI7	2040001440	S.LC NFE31PT152Z1E9L (NFM60R20T152)	B	97.7/61.5
FI8	2040001440	S.LC NFE31PT152Z1E9L (NFM60R20T152)	B	97.7/58.1
X1	6070000310	S.DIS JTBM450CX70 <JJE>	B	51.4/22.5
X2	6050013000	S.XTA CR-892 TTS14VSB-A8 15.3 MHz	B	71.5/21.0
X2001	6050013170	S.XTA CR-914 TTS18VSE-A11 12.288 MHz	B	27.0/18.2
L1	6200007850	S.COI ELJNC R82K-F	B	94.3/19.7
L2	6200002001	S.COI NLV25T-3R3J	B	104.0/19.9
L3	6200012760	S.COI 0.35-1.6-7TL 37.5N <COMO>	B	91.5/19.7
L4	6200005550	S.COI ELJFC 100K-F	B	96.8/19.7
L5	6200013020	S.COI 0.25-1.9-7TL 61N <COMO>	B	107.0/20.0
L6	6200003640	S.COI MLF1608E 100K-T	B	106.8/24.6
L7	6200009910	S.COI C6342A-88NG-A	B	93.6/26.2
L8	6200013020	S.COI 0.25-1.9-7TL 61N <COMO>	B	107.0/28.7
L9	6200012170	S.COI MLG1608S R18J-T	B	65.8/24.7
L10	6200002001	S.COI NLV25T-3R3J	T	97.4/19.5
L11	6200002190	S.COI MLF2012A 4R7K-T	T	102.8/24.5
L12	6200012170	S.COI MLG1608S R18J-T	B	62.3/22.4
L13	6200007901	S.COI ELJRF 22NJFB	T	85.1/32.1
L14	6200007120	S.COI ELJND 1R0J	T	100.1/31.1
L15	6200011001	S.COI ELJRF 56NJFB	B	95.8/31.0
L16	6200007871	S.COI ELJRF 39NJFB	B	99.0/34.3
L17	6200011021	S.COI ELJRF 82NJFB	B	92.7/35.3
L19	6200007001	S.COI ELJRE 82NGFA	B	85.9/59.3
L20	6200010090	S.COI ELJND R82JF	B	68.1/40.6
L21	6200005741	S.COI ELJRE 47NGFA [EUR-01]	B	88.6/59.3
	6200005741	S.COI ELJRE 47NGFA [EXP-01]		
L24	6200006981	S.COI ELJRE R10GFA	B	73.5/38.5
L25	6200010720	S.COI C2520C-56NG-A	B	58.9/40.5
L26	6200010050	S.COI AS080547-47N	B	38.7/64.5
L27	6200010420	S.COI FHW1210HC 1R0JGT <JJE>	T	39.5/57.9
L28	6200010720	S.COI C2520C-56NG-A	B	49.0/39.8
L29	6200010050	S.COI AS080547-47N	T	30.0/51.1
L30	6200010050	S.COI AS080547-47N	B	25.4/58.6
L31	6200010940	S.COI C2520C-39NG-A	B	26.7/49.7
L32	6200011410	S.COI C2520C-82NG-A	B	35.6/38.3
L33	6200010050	S.COI AS080547-47N	B	12.7/56.4
L34	6200010000	S.COI C2012C-56NG-A	B	24.8/44.8
L35	6200010050	S.COI AS080547-47N	B	9.4/62.7
L36	6200011410	S.COI C2520C-82NG-A	B	28.2/39.9
L1001	6200004660	S.COI MLF1608A 1R8K-T	T	79.8/13.3
L2001	6200014160	S.COI VLCF4028T-100M1R0-2	T	35.9/7.6
L2002	6200007830	S.COI ELJFC 4R7K-F	B	31.2/11.2
L2003	6200007830	S.COI ELJFC 4R7K-F	T	29.6/6.2
R1	7030000620	S.RES MCR10EZHJ 100 K (104)	B	17.4/64.6
R4	7030003560	S.RES ERJ3GEYJ 103 V (10K)	B	18.8/54.2
R5	7030005060	S.RES ERJ2GEJ 333 X (33K) [EUR-01]	B	24.1/53.8
	7030005060	S.RES ERJ2GEJ 333 X (33K) [EXP-01]		
	7030005720	S.RES ERJ2GEJ 563 X (56K) [USA-01]		
	7030005720	S.RES ERJ2GEJ 563 X (56K) [EXP-02]		
R6	7030005060	S.RES ERJ2GEJ 333 X (33K) [EUR-01]	B	11.2/49.6
	7030005060	S.RES ERJ2GEJ 333 X (33K) [EXP-01]		
	7030005720	S.RES ERJ2GEJ 563 X (56K) [USA-01]		
	7030005720	S.RES ERJ2GEJ 563 X (56K) [EXP-02]		
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	38.6/58.6
R10	7030005060	S.RES ERJ2GEJ 333 X (33K) [EUR-01]	B	44.8/57.9
	7030005060	S.RES ERJ2GEJ 333 X (33K) [EXP-01]		
	7030005720	S.RES ERJ2GEJ 563 X (56K) [USA-01]		
	7030005720	S.RES ERJ2GEJ 563 X (56K) [EXP-02]		
R11	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	B	31.9/38.4
R12	7030004980	S.RES ERJ2GEJ 101 X (100)	B	39.2/39.5
R13	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	B	31.9/39.7

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

[MAIN UNIT]

REF NO.	PARTS NO.	DESCRIPTION		M.	H/V LOCATION
R14	7030005050	S.RES ERJ2GEJ 103 X (10K)		B	31.9/35.5
R15	7030005700	S.RES ERJ2GEJ 274 X (270K)		B	39.2/38.6
R16	7030008280	S.RES ERJ2GEJ 271 X (270)		B	39.5/40.7
R17	7030004980	S.RES ERJ2GEJ 101 X (100)		B	51.5/40.2
R19	7030005090	S.RES ERJ2GEJ 104 X (100K)		B	39.2/36.8
R20	7030007270	S.RES ERJ2GEJ 151 X (150)		B	52.7/38.7
R21	7030005050	S.RES ERJ2GEJ 103 X (10K)		B	54.4/43.3
R22	7030005050	S.RES ERJ2GEJ 103 X (10K)		B	54.7/37.7
R23	7030005050	S.RES ERJ2GEJ 103 X (10K)		B	55.7/43.3
R26	7030009270	S.RES ERJ2GEJ 821 X (820)		B	79.0/40.6
R27	7030009270	S.RES ERJ2GEJ 821 X (820)		B	77.9/40.6
R28	7030010130	S.RES ERJ2GEJ 6R8 X (6.8)		B	78.5/39.3
R29	7030005570	S.RES ERJ2GEJ 820 X (82)		B	73.7/40.6
R30	7030007300	S.RES ERJ2GEJ 332 X (3.3K)		B	70.5/40.6
R31	7030004980	S.RES ERJ2GEJ 101 X (100)		B	65.8/40.6
R33	7030005600	S.RES ERJ2GEJ 273 X (27K)		T	71.9/42.7
R34	7030005110	S.RES ERJ2GEJ 224 X (220K)		T	64.9/23.1
R35	7030005530	S.RES ERJ2GEJ 100 X (10)		T	64.9/22.2
R36	7030005030	S.RES ERJ2GEJ 152 X (1.5K)		B	56.2/21.7
R37	7030008400	S.RES ERJ2GEJ 182 X (1.8K)		B	56.6/25.5
R38	7030005090	S.RES ERJ2GEJ 104 X (100K)		T	61.7/17.8
R39	7030004970	S.RES ERJ2GEJ 470 X (47)		B	58.4/22.2
R40	7030005030	S.RES ERJ2GEJ 152 X (1.5K)		B	58.4/23.2
R41	7030010040	S.RES ERJ2GEJ-JPW		T	60.8/17.8
R42	7030005070	S.RES ERJ2GEJ 683 X (68K)		T	51.0/24.3
R43	7030005000	S.RES ERJ2GEJ 471 X (470)		T	55.6/19.9
R44	7030005310	S.RES ERJ2GEJ 124 X (120K)		T	54.0/24.7
R45	7030005700	S.RES ERJ2GEJ 274 X (270K)		T	52.2/24.7
R46	7030008410	S.RES ERJ2GEJ 392 X (3.9K)		T	54.0/22.9
R48	7030008300	S.RES ERJ2GEJ 184 X (180K)	[USA-01]	T	56.8/53.2
	7030008300	S.RES ERJ2GEJ 184 X (180K)	[EXP-02]		
R49	7520000241	S.POS PRF18BC471QB5RB	[USA-01]	T	42.0/53.2
	7520000241	S.POS PRF18BC471QB5RB	[EXP-02]		
R50	7030005000	S.RES ERJ2GEJ 471 X (470)		B	80.7/38.0
R51	7030008310	S.RES ERJ2GEJ 564 X (560K)		T	61.5/52.1
R52	7030007340	S.RES ERJ2GEJ 153 X (15K)		T	58.7/52.1
R53	7030004990	S.RES ERJ2GEJ 221 X (220)		T	57.8/53.2
R54	7030005050	S.RES ERJ2GEJ 103 X (10K)		B	58.8/55.7
R55	7030005040	S.RES ERJ2GEJ 472 X (4.7K)		T	62.4/52.1
R56	7030005100	S.RES ERJ2GEJ 154 X (150K)		T	63.8/54.9
R57	7030005050	S.RES ERJ2GEJ 103 X (10K)		B	58.8/54.8
R58	7030005000	S.RES ERJ2GEJ 471 X (470)		T	64.7/54.9
R59	7030008290	S.RES ERJ2GEJ 183 X (18K)		T	59.7/52.1
R67	7030004980	S.RES ERJ2GEJ 101 X (100)		B	83.3/49.1
R68	7030005050	S.RES ERJ2GEJ 103 X (10K)		B	81.7/49.1
R69	7030005040	S.RES ERJ2GEJ 472 X (4.7K)		B	84.0/38.0
R70	7030004980	S.RES ERJ2GEJ 101 X (100)		B	94.0/36.2
R71	7030004980	S.RES ERJ2GEJ 101 X (100)		B	95.9/34.4
R73	7030004980	S.RES ERJ2GEJ 101 X (100)		B	97.7/35.3
R74	7030005310	S.RES ERJ2GEJ 124 X (120K)		B	100.7/34.3
R75	7030005110	S.RES ERJ2GEJ 224 X (220K)		B	97.7/32.6
R76	7030004980	S.RES ERJ2GEJ 101 X (100)		B	97.7/33.5
R77	7030007290	S.RES ERJ2GEJ 222 X (2.2K)		T	105.6/36.5
R78	7030009270	S.RES ERJ2GEJ 821 X (820)		B	103.1/32.9
R79	7030008340	S.RES RR0510P-182-D (1.8K)		B	98.8/25.3
R80	7030005800	S.RES RR0510P-102-D (1K)		B	99.7/28.1
R83	7030008340	S.RES RR0510P-182-D (1.8K)		B	106.1/30.8
R84	7030011000	S.RES RR0510P-392-D (3.9K)		B	103.0/30.2
R85	7030011000	S.RES RR0510P-392-D (3.9K)		B	97.9/28.1
R86	7030005310	S.RES ERJ2GEJ 124 X (120K)		B	105.1/26.0
R89	7030005050	S.RES ERJ2GEJ 103 X (10K)		T	79.0/25.0
R90	7030005080	S.RES ERJ2GEJ 823 X (82K)		T	95.4/12.9
R91	7030005220	S.RES ERJ2GEJ 223 X (22K)		T	93.3/12.5
R92	7030005090	S.RES ERJ2GEJ 104 X (100K)		T	92.1/13.0
R93	7030005600	S.RES ERJ2GEJ 273 X (27K)		B	81.3/25.8
R95	7030004990	S.RES ERJ2GEJ 221 X (220)		B	83.8/24.5
R96	7030008400	S.RES ERJ2GEJ 182 X (1.8K)		B	83.8/23.5
R97	7030010040	S.RES ERJ2GEJ-JPW		B	82.2/24.5
R98	7030007290	S.RES ERJ2GEJ 222 X (2.2K)		T	109.5/33.8
R99	7030008400	S.RES ERJ2GEJ 182 X (1.8K)		B	83.8/21.6
R100	7030005050	S.RES ERJ2GEJ 103 X (10K)		T	76.7/20.9
R101	7030005120	S.RES ERJ2GEJ 102 X (1K)		T	77.9/22.2
R123	7030005530	S.RES ERJ2GEJ 100 X (10)		T	68.2/40.4
R125	7030008370	S.RES ERJ2GEJ 561 X (560)		T	65.6/29.2
R171	7030004980	S.RES ERJ2GEJ 101 X (100)		T	42.5/28.4
R172	7030008300	S.RES ERJ2GEJ 184 X (180K)		T	41.2/27.9
R173	7030005120	S.RES ERJ2GEJ 102 X (1K)		T	39.8/26.7
R174	7030005290	S.RES ERJ2GEJ 682 X (6.8K)		T	38.9/29.2
R175	7030009290	S.RES ERJ2GEJ 562 X (5.6K)		T	38.4/27.9
R176	7030005030	S.RES ERJ2GEJ 152 X (1.5K)		T	38.9/26.7
R178	7030004970	S.RES ERJ2GEJ 470 X (47)		T	37.0/29.4
R211	7030004970	S.RES ERJ2GEJ 470 X (47)		T	82.6/30.5
R212	7030004980	S.RES ERJ2GEJ 101 X (100)	[EUR-01]	T	83.1/61.1
	7030004980	S.RES ERJ2GEJ 101 X (100)	[EXP-01]		
	7030005120	S.RES ERJ2GEJ 102 X (1K)	[USA-01]		
	7030005120	S.RES ERJ2GEJ 102 X (1K)	[EXP-02]		
R213	7030005050	S.RES ERJ2GEJ 103 X (10K)		T	84.1/61.1
R234	7030005050	S.RES ERJ2GEJ 103 X (10K)		B	94.0/35.3
R235	7030005050	S.RES ERJ2GEJ 103 X (10K)		B	81.6/38.0
R236	7030007570	S.RES ERJ2GEJ 122 X (1.2K)		B	67.4/22.7
R237	7030007060	S.RES ERJ2GEJ 684X (680K)		B	67.4/23.6
R290	7030007280	S.RES ERJ2GEJ 331 X (330)		T	63.2/23.1
R291	7030005090	S.RES ERJ2GEJ 104 X (100K)		T	93.8/13.8
R299	7030008300	S.RES ERJ2GEJ 184 X (180K)		B	74.6/38.5
R300	7030005720	S.RES ERJ2GEJ 563 X (56K)		B	76.8/40.6
R301	7030005100	S.RES ERJ2GEJ 154 X (150K)		B	66.7/40.6
R302	7030005720	S.RES ERJ2GEJ 563 X (56K)		B	66.3/38.0
R310	7030005050	S.RES ERJ2GEJ 103 X (10K)		B	95.4/35.7
R311	7030004990	S.RES ERJ2GEJ 221 X (220)		B	96.3/33.2
R317	7030005120	S.RES ERJ2GEJ 102 X (1K)		T	105.6/37.4
R319	7030005050	S.RES ERJ2GEJ 103 X (10K)		T	37.3/37.9
R320	7030005170	S.RES ERJ2GEJ 474 X (470K)		T	35.5/36.2
R328	7030010040	S.RES ERJ2GEJ-JPW		B	104.9/30.8
R332	7030010040	S.RES ERJ2GEJ-JPW		T	90.3/61.6
R333	7030005530	S.RES ERJ2GEJ 100 X (10)		T	89.4/63.7

[MAIN UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
R334	7030005000	S.RES ERJ2GEJ 471 X (470)	T	90.7/63.2
R337	7030010040	S.RES ERJ2GEJ-JPW	T	84.1/63.7
R338	7030005000	S.RES ERJ2GEJ 471 X (470)	T	90.7/64.1
R339	7030010040	S.RES ERJ2GEJ-JPW	B	98.4/26.7
R340	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	72.4/25.3
R348	7030005310	S.RES ERJ2GEJ 124 X (120K)	T	95.4/15.0
R349	7030005700	S.RES ERJ2GEJ 274 X (270K)	T	101.8/18.0
R350	7030005600	S.RES ERJ2GEJ 273 X (27K)	B	52.9/26.2
R351	7030005600	S.RES ERJ2GEJ 273 X (27K)	B	43.2/26.3
R352	7030005210	S.RES ERJ2GEJ 822 X (8.2K)	B	50.9/26.8
R353	7030005210	S.RES ERJ2GEJ 822 X (8.2K)	B	45.4/27.3
R354	7030005210	S.RES ERJ2GEJ 822 X (8.2K)	B	46.1/29.0
R385	7030009530	S.RES ERJ2GEJ 270 X (27)	B	83.3/52.8
R386	7030008010	S.RES ERJ2GEJ 123 X (12K)	B	85.0/53.7
R387	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	B	86.6/58.2
R388	7030005300	S.RES ERJ2GEJ 150 X (15)	B	85.0/55.5
R390	7030005060	S.RES ERJ2GEJ 333 X (33K)	B	55.6/37.7
R393	7030005030	S.RES ERJ2GEJ 152 X (1.5K)	B	97.7/49.6
R478	7030007340	S.RES ERJ2GEJ 153 X (15K)	T	33.8/26.2
R479	7030005600	S.RES ERJ2GEJ 273 X (27K)	T	66.8/27.4
R483	7030007300	S.RES ERJ2GEJ 332 X (3.3K)	T	71.5/28.8
R484	7030007300	S.RES ERJ2GEJ 332 X (3.3K)	T	76.5/42.5
R485	7030010040	S.RES ERJ2GEJ-JPW	T	77.0/40.4
R486	7030005010	S.RES ERJ2GEJ 681 X (680)	T	73.2/29.7
R488	7030007300	S.RES ERJ2GEJ 332 X (3.3K)	T	68.6/42.5
R489	7030007300	S.RES ERJ2GEJ 332 X (3.3K)	T	68.5/29.7
R490	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	81.3/42.2
R492	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	80.0/27.2
R493	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	81.2/39.3
R494	7030005030	S.RES ERJ2GEJ 152 X (1.5K)	B	56.2/24.3
R495	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	50.7/27.7
R496	7410001130	S.ARR EXB28V102JX	B	76.6/19.6
R497	7030008300	S.RES ERJ2GEJ 184 X (180K)	B	59.9/19.6
R498	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	57.4/15.8
R499	7030004980	S.RES ERJ2GEJ 101 X (100)	B	62.1/16.9
R500	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	83.2/11.6
R501	7030005240	S.RES ERJ2GEJ 473 X (47K)	B	57.4/18.4
R502	7030005030	S.RES ERJ2GEJ 152 X (1.5K)	T	35.5/24.6
R503	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	50.7/26.1
R504	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	75.5/16.3
R505	7030005290	S.RES ERJ2GEJ 682 X (6.8K)	T	76.7/22.7
R1003	7030007601	S.RES ERA3YKD 913V (91K)	B	72.6/9.4
R1004	7030006101	S.RES ERA3YED 183V (18K)	B	70.2/10.2
R1005	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	112.3/16.5
R1006	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	112.4/8.1
R1008	7030010040	S.RES ERJ2GEJ-JPW	T	124.9/24.8
R1009	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	122.5/64.9
R1010	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	128.6/23.8
R1012	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	110.6/46.0
R1013	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	114.7/49.0
R1014	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	98.3/12.1
R1015	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	115.3/22.8
R1016	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	115.6/6.1
R1018	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	111.7/7.0
R1020	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	114.7/24.9
R1021	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	116.5/6.1
R1022	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	114.9/7.1
R1023	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	125.2/15.7
R1024	7030007290	S.RES ERJ2GEJ 222 X (2.2K)	B	131.6/17.6
R1025	7030000480	S.RES MCR10EZHJ 6.8K (682)	B	129.4/47.0
R1026	7030000480	S.RES MCR10EZHJ 6.8K (682)	B	129.4/48.8
R1027	7030010040	S.RES ERJ2GEJ-JPW	T	113.7/16.5
R1028	7030004970	S.RES ERJ2GEJ 470 X (47)	B	114.9/13.4
R1029	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	115.3/10.5
R1030	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	114.4/10.5
R1031	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	117.8/7.7
R1032	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	127.1/19.9
R1033	7030000480	S.RES MCR10EZHJ 6.8K (682)	B	129.4/45.2
R1034	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	B	123.6/17.5
R1035	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	107.8/42.5
R1036	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	107.8/41.2
R1037	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	95.4/12.0
R1038	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	125.6/36.3
R1039	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	113.7/12.9
R1040	7030005160	S.RES ERJ2GEJ 105 X (1M)	T	111.2/12.9
R1043	7030005160	S.RES ERJ2GEJ 105 X (1M)	B	112.0/11.0
R1044	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	117.9/9.9
R1045	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	120.4/17.1
R1046	7030007290	S.RES ERJ2GEJ 222 X (2.2K)	B	119.7/9.0
R1047	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	119.4/18.6
R1048	7030009710	S.RES ERJ2GEJ 203 X (20K)	B	119.0/22.4
R1049	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	B	116.7/19.7
R1050	7030007290	S.RES ERJ2GEJ 222 X (2.2K)	B	123.0/38.1
R1054	7030005110	S.RES ERJ2GEJ 224 X (220K)	B	119.7/9.9
R1055	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	120.4/15.2
R1056	7030005110	S.RES ERJ2GEJ 224 X (220K)	B	118.8/10.8
R1057	7030005100	S.RES ERJ2GEJ 154 X (150K)	B	118.8/15.2
R1059	7410001130	S.ARR EXB28V102JX	T	69.7/14.8
R1060	7410001130	S.ARR EXB28V102JX	T	63.4/14.8
R1062	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	116.0/14.8
R1063	7030007340	S.RES ERJ2GEJ 153 X (15K)	B	42.8/22.4
R1064	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	40.5/23.1
R1068	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	74.3/14.1
R1069	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	72.6/14.1
R1070	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	57.3/15.1
R1071	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	51.7/16.7
R1072	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	52.9/16.3
R1073	7030005700	S.RES ERJ2GEJ 274 X (270K)	B	50.8/18.7
R1074	7030005100	S.RES ERJ2GEJ 154 X (150K)	T	32.7/20.6
R1075	7030008290	S.RES ERJ2GEJ 183 X (18K)	T	36.3/21.5
R1076	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	35.0/20.5
R1077	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	36.6/20.2
R1078	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	32.2/15.2
R1080	7030005310	S.RES ERJ2GEJ 124 X (120K)	B	40.1/13.5
R1081	7030008290	S.RES ERJ2GEJ 183 X (18K)	T	42.5/19.5

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

[MAIN UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
R1082	7410001130	S.ARR EXB28V102JX	T	56.9/6.7
R1083	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	69.1/8.8
R1084	7410001130	S.ARR EXB28V102JX	T	61.7/6.1
R1085	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	65.8/6.1
R1086	7030008310	S.RES ERJ2GEJ 564 X (560K)	B	32.2/18.5
R1087	7030007340	S.RES ERJ2GEJ 153 X (15K)	B	31.3/15.2
R1088	7030005160	S.RES ERJ2GEJ 105 X (1M)	B	31.3/16.9
R1089	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	44.2/16.9
R1090	7030008300	S.RES ERJ2GEJ 184 X (180K)	B	36.5/13.4
R1092	7030008400	S.RES ERJ2GEJ 182 X (1.8K)	B	38.3/13.5
R1093	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	42.4/16.4
R1094	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	55.7/12.8
R1095	7030009290	S.RES ERJ2GEJ 562 X (5.6K)	T	55.7/13.7
R1096	7030005100	S.RES ERJ2GEJ 154 X (150K)	B	35.6/13.4
R1097	7030007290	S.RES ERJ2GEJ 222 X (2.2K)	T	55.2/11.6
R1098	7510001730	S.THE ERTJOEP 473J	T	73.9/15.0
R1099	7030008270	S.RES RR0510P-104-D (100K)	T	72.5/15.5
R1100	7410001130	S.ARR EXB28V102JX	T	75.3/6.0
R1101	7030005290	S.RES ERJ2GEJ 682 X (6.8K)	B	44.0/20.4
R1102	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	42.4/17.3
R1103	7030005290	S.RES ERJ2GEJ 682 X (6.8K)	B	52.9/18.3
R1104	7030003220	S.RES ERJ3GEYJ 150 V (15)	T	127.8/50.2
R1105	7030003220	S.RES ERJ3GEYJ 150 V (15)	T	127.8/48.9
R1106	7030009290	S.RES ERJ2GEJ 562 X (5.6K)	B	41.0/20.8
R1107	7030008410	S.RES ERJ2GEJ 392 X (3.9K)	B	39.2/20.8
R1108	7030005240	S.RES ERJ2GEJ 473 X (47K)	B	124.9/41.7
R1111	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	36.3/19.7
R1112	7030005230	S.RES ERJ2GEJ 334 X (330K)	B	41.5/19.6
R2003	7030007250	S.RES ERJ2GEJ 220 X (22)	B	16.7/6.8
R2004	7030005210	S.RES ERJ2GEJ 822 X (8.2K)	B	13.0/8.8
R2005	7030005210	S.RES ERJ2GEJ 822 X (8.2K)	B	15.8/6.8
R2009	7030007290	S.RES ERJ2GEJ 222 X (2.2K)	B	10.5/11.7
R2010	7030004980	S.RES ERJ2GEJ 101 X (100)	T	11.5/11.7
R2011	7030004980	S.RES ERJ2GEJ 101 X (100)	T	23.0/10.4
R2012	7030004980	S.RES ERJ2GEJ 101 X (100)	T	22.5/11.3
R2013	7030005240	S.RES ERJ2GEJ 473 X (47K)	B	20.1/12.0
R2015	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	18.4/11.6
R2016	7030010040	S.RES ERJ2GEJ-JPW	B	24.2/5.8
R2019	7030010040	S.RES ERJ2GEJ-JPW	B	9.9/17.9
R2020	7030010040	S.RES ERJ2GEJ-JPW	B	14.8/11.1
R2021	7030004980	S.RES ERJ2GEJ 101 X (100)	B	23.6/12.1
R2024	7030005240	S.RES ERJ2GEJ 473 X (47K)	B	26.6/21.6
R2026	7030004970	S.RES ERJ2GEJ 470 X (47)	B	27.9/22.9
R2028	7030005240	S.RES ERJ2GEJ 473 X (47K)	B	12.1/19.3
R2030	7030005240	S.RES ERJ2GEJ 473 X (47K)	B	11.0/21.2
R2031	7030005240	S.RES ERJ2GEJ 473 X (47K)	B	10.7/29.4
R2032	7030005240	S.RES ERJ2GEJ 473 X (47K)	B	24.9/17.4
R2034	7030005240	S.RES ERJ2GEJ 473 X (47K)	B	28.8/10.5
R2035	7030005240	S.RES ERJ2GEJ 473 X (47K)	B	26.7/14.9
R2036	7030004980	S.RES ERJ2GEJ 101 X (100)	T	26.8/11.9
R2037	7030007290	S.RES ERJ2GEJ 222 X (2.2K)	T	28.1/10.7
R2038	7030004970	S.RES ERJ2GEJ 470 X (47)	B	28.8/12.1
R2039	7030005240	S.RES ERJ2GEJ 473 X (47K)	B	24.1/9.5
R2040	7030005240	S.RES ERJ2GEJ 473 X (47K)	B	24.5/12.1
R2043	7410001140	S.ARR EXB28V104JX	T	15.6/26.7
R2044	7410001140	S.ARR EXB28V104JX	B	20.8/26.3
R2045	7410001140	S.ARR EXB28V104JX	T	27.0/22.3
R2046	7410001140	S.ARR EXB28V104JX	T	19.3/26.7
R2047	7410001140	S.ARR EXB28V104JX	B	10.9/14.5
R2048	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	25.7/14.6
R2049	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	21.8/15.6
R2050	7410001140	S.ARR EXB28V104JX	B	22.4/18.4
R2051	7410001140	S.ARR EXB28V104JX	T	9.9/17.6
R2052	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	16.8/11.6
R2053	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	18.0/15.9
R2056	7030010040	S.RES ERJ2GEJ-JPW	T	10.6/20.0
R2057	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	10.4/22.9
R2058	7410001140	S.ARR EXB28V104JX	B	17.0/18.6
R2059	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	10.4/23.8
R2060	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	25.7/15.6
R2061	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	14.7/12.6
R2062	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	17.7/14.4
R2063	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	22.2/22.9
R2064	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	19.7/17.7
R2065	7030005030	S.RES ERJ2GEJ 152 X (1.5K)	B	13.8/6.8
R2066	7410001170	S.ARR EXB28V470JX	T	21.3/6.7
R2067	7030010040	S.RES ERJ2GEJ-JPW	T	13.1/5.3
R2068	7030010040	S.RES ERJ2GEJ-JPW	T	20.9/10.4
R2071	7030010040	S.RES ERJ2GEJ-JPW	T	25.3/5.7
R2072	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	12.2/10.1
C1	4030011170	S.CER GRM31M2C2H180JV01L (GRM42-6 CH)	B	8.4/66.6
C2	4030011180	S.CER GRM31M2C2H220JV01L (GRM42-6 CH)	B	7.4/58.6
C3	4030009500	S.CER C1608 CH 1H 0R5B-T	B	18.8/55.5
C4	4030009570	S.CER C1608 CH 1H 0R3B-T [EUR-01]	B	37.3/58.6
	4030009570	S.CER C1608 CH 1H 0R3B-T [EXP-01]		
	4030009500	S.CER C1608 CH 1H 0R5B-T [USA-01]		
	4030009500	S.CER C1608 CH 1H 0R5B-T [EXP-02]		
C5	4030009500	S.CER C1608 CH 1H 0R5B-T	B	8.2/54.5
C6	4030011180	S.CER GRM31M2C2H220JV01L (GRM42-6 CH)	B	7.4/56.3
C7	4030011180	S.CER GRM31M2C2H220JV01L (GRM42-6 CH)	B	18.0/58.7
C8	4030011180	S.CER GRM31M2C2H220JV01L (GRM42-6 CH)	B	26.4/63.8
C9	4030011170	S.CER GRM31M2C2H180JV01L (GRM42-6 CH)	T	29.4/55.0
C10	4030017460	S.CER C1005 JB 1H 102K-T	B	23.8/55.0
C11	4030017460	S.CER C1005 JB 1H 102K-T	B	10.0/49.2
C12	4030017460	S.CER C1005 JB 1H 102K-T	T	39.4/55.0
C13	4030017420	S.CER C1005 CH 1H 470J-T	B	49.5/51.4
C14	4030019420	S.CER GRM31A7U2J102JW31D	B	35.0/57.0

[MAIN UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C15	4030017400	S.CER C1005 CH 1H 220J-T	B	24.3/51.2
C17	4030017600	S.CER C1005 CH 1H 080C-T	B	24.3/48.3
C18	4030017580	S.CER C1005 CH 1H 060C-T	B	22.3/44.8
C19	4030017460	S.CER C1005 JB 1H 102K-T	B	27.0/46.2
C20	4030017400	S.CER C1005 CH 1H 220J-T	B	30.5/40.5
C22	4030017550	S.CER C1005 CH 1H 1R5B-T	B	31.9/37.5
C25	4030017630	S.CER C1005 CH 1H 120J-T	B	25.1/40.2
C26	4030017400	S.CER C1005 CH 1H 220J-T	B	33.3/40.5
C27	4030016930	S.CER C1005 JB 1A 104K-T	B	31.9/36.5
C28	4030017460	S.CER C1005 JB 1H 102K-T	B	33.6/35.5
C29	4030017350	S.CER C1005 CH 1H 020B-T	B	37.7/38.1
C30	4030017600	S.CER C1005 CH 1H 080C-T	B	39.2/37.7
C31	4030016930	S.CER C1005 JB 1A 104K-T	T	37.3/36.2
C32	4030017460	S.CER C1005 JB 1H 102K-T	B	41.3/40.7
C33	4030016930	S.CER C1005 JB 1A 104K-T	B	38.6/40.7
C34	4030017460	S.CER C1005 JB 1H 102K-T	B	37.7/40.7
C35	4030020000	S.CER C1005 JB 1A 105K-T	B	48.5/42.8
C36	4030017460	S.CER C1005 JB 1H 102K-T	B	51.5/41.3
C37	4030017460	S.CER C1005 JB 1H 102K-T	B	49.5/42.8
C38	4030017460	S.CER C1005 JB 1H 102K-T	B	39.2/35.9
C39	4030017430	S.CER C1005 CH 1H 101J-T	B	53.3/42.4
C40	4030017570	S.CER C1005 CH 1H 040B-T	B	55.1/39.1
C41	4030017390	S.CER C1005 CH 1H 180J-T	B	66.3/39.1
C42	4030017460	S.CER C1005 JB 1H 102K-T	B	53.8/37.7
C43	4030016930	S.CER C1005 JB 1A 104K-T	B	56.5/37.7
C44	4030017560	S.CER C1005 CH 1H 2R5B-T	B	61.1/40.5
C45	4030017430	S.CER C1005 CH 1H 101J-T	B	56.8/42.4
C46	4030017350	S.CER C1005 CH 1H 020B-T	B	41.0/36.8
C48	4030016930	S.CER C1005 JB 1A 104K-T	B	71.9/40.6
C49	4030017640	S.CER C1005 CH 1H 150J-T	B	76.3/39.3
C50	4030017460	S.CER C1005 JB 1H 102K-T	B	72.8/40.6
C51	4030017460	S.CER C1005 JB 1H 102K-T	T	72.4/41.1
C52	4030017620	S.CER C1005 CH 1H 100C-T	B	69.5/40.6
C53	4030016930	S.CER C1005 JB 1A 104K-T	B	70.5/42.3
C54	4030017460	S.CER C1005 JB 1H 102K-T	B	69.5/42.3
C57	4030017460	S.CER C1005 JB 1H 102K-T	B	65.8/36.7
C58	4030017460	S.CER C1005 JB 1H 102K-T	T	67.2/26.1
C59	4030017460	S.CER C1005 JB 1H 102K-T	T	66.9/22.7
C60	4030016790	S.CER C1005 JB 1E 103K-T	T	65.3/26.6
C61	4030017430	S.CER C1005 CH 1H 101J-T	T	61.6/23.1
C62	4030017680	S.CER C1005 CH 1H 820J-T	B	57.1/24.3
C63	4030017420	S.CER C1005 CH 1H 470J-T	T	60.3/14.3
C64	4030016790	S.CER C1005 JB 1E 103K-T	B	56.2/26.8
C65	4030016790	S.CER C1005 JB 1E 103K-T	T	58.2/19.6
C66	4030017460	S.CER C1005 JB 1H 102K-T	T	54.7/19.9
C67	4030017460	S.CER C1005 JB 1H 102K-T	B	58.4/21.3
C68	4030017680	S.CER C1005 CH 1H 820J-T	T	52.2/23.8
C69	4030017710	S.CER C1005 CH 1H 181J-T	T	54.0/23.8
C70	4030017710	S.CER C1005 CH 1H 181J-T	T	54.0/25.6
C71	4030016930	S.CER C1005 JB 1A 104K-T	T	57.4/29.0
C72	4030017460	S.CER C1005 JB 1H 102K-T [USA-01]	T	59.8/48.0
	4030017460	S.CER C1005 JB 1H 102K-T [EXP-02]		
C73	4030018860	S.CER C1005 JB 0J 105K-T	T	63.4/52.1
C74	4030017460	S.CER C1005 JB 1H 102K-T	B	24.8/55.0
C75	4030019560	S.CER GRM21BB31C106KE15L	T	61.6/25.3
C76	4030016790	S.CER C1005 JB 1E 103K-T	T	57.8/54.9
C77	4030017460	S.CER C1005 JB 1H 102K-T	T	56.8/50.7
C78	4030017460	S.CER C1005 JB 1H 102K-T	B	58.8/56.6
C79	4030011810	S.CER C1608 JB 1A 224K-T	T	62.6/54.9
C80	4030016930	S.CER C1005 JB 1A 104K-T	T	60.6/52.1
C81	4030017460	S.CER C1005 JB 1H 102K-T	T	66.5/54.9
C82	4030011170	S.CER GRM31M2C2H180JV01L (GRM42-6 CH) [EUR-01]	T	36.7/63.5
	4030011170	S.CER GRM31M2C2H180JV01L (GRM42-6 CH) [EXP-01]		
C83	4030011160	S.CER GRM31M2C2H150JV01L (GRM42-6 CH) [EUR-01]	T	39.9/68.6
	4030011160	S.CER GRM31M2C2H150JV01L (GRM42-6 CH) [EXP-01]		
	4030011090	S.CER GRM31M2C2H7R0DV01L (GRM42-6 CH) [USA-01]		
	4030011090	S.CER GRM31M2C2H7R0DV01L (GRM42-6 CH) [EXP-02]		
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	4030017420	S.CER C1005 CH 1H 470J-T	T	81.1/63.7
C87	4030017460	S.CER C1005 JB 1H 102K-T	T	79.8/68.8
C88	4030017460	S.CER C1005 JB 1H 102K-T	T	64.2/50.3
C90	4030017460	S.CER C1005 JB 1H 102K-T	B	87.2/50.3
C92	4030017460	S.CER C1005 JB 1H 102K-T	B	87.2/51.9
C93	4030017390	S.CER C1005 CH 1H 180J-T	B	84.9/49.1
C94	4030017420	S.CER C1005 CH 1H 470J-T	B	78.8/53.2
C99	4030017460	S.CER C1005 JB 1H 102K-T	B	81.7/48.2
C100	4030017620	S.CER C1005 CH 1H 100C-T	B	91.5/35.4
C102	4030017640	S.CER C1005 CH 1H 150J-T	B	97.7/34.4
C103	4030017620	S.CER C1005 CH 1H 100C-T	B	99.0/32.7
C104	4030017460	S.CER C1005 JB 1H 102K-T	B	100.7/31.3
C105	4030017460	S.CER C1005 JB 1H 102K-T	B	97.4/29.5
C106	4030017420	S.CER C1005 CH 1H 470J-T	B	90.5/49.1
C107	4030017460	S.CER C1005 JB 1H 102K-T	T	82.1/58.3
C108	4030016790	S.CER C1005 JB 1E 103K-T	B	80.1/49.1
C109	4030017460	S.CER C1005 JB 1H 102K-T	B	96.3/35.7
C110	4030017460	S.CER C1005 JB 1H 102K-T	B	100.7/35.7
C111	4030017420	S.CER C1005 CH 1H 470J-T	T	101.8/36.6
C112	4030018860	S.CER C1005 JB 0J 105K-T	T	100.9/36.6
C113	4030017530	S.CER C1005 CH 1H 0R5B-T	B	100.6/28.1
C114	4030017660	S.CER C1005 CH 1H 330J-T	B	98.8/28.1
C115	4030017660	S.CER C1005 CH 1H 330J-T	B	101.5/23.5
C116	4030016790	S.CER C1005 JB 1E 103K-T	B	100.6/23.5
C117	4030017460	S.CER C1005 JB 1H 102K-T	B	99.7/23.5
C118	4030017540	S.CER C1005 CH 1H R75B-T	B	103.1/32.0
C119	4030017460	S.CER C1005 JB 1H 102K-T	B	107.7/31.8
C120	4030016930	S.CER C1005 JB 1A 104K-T	B	107.7/32.9
C121	4030017390	S.CER C1005 CH 1H 180J-T	B	104.0/30.8
C122	4030017500	S.CER C1005 CH 1H 560J-T	B	107.7/33.8

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

[MAIN UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C123	4030017420	S.CER C1005 CH 1H 470J-T	B	105.0/29.2
C124	4030017440	S.CER C1005 CH 1H 221J-T	B	106.0/26.2
C126	4030017390	S.CER C1005 CH 1H 180J-T	B	97.9/25.3
C127	4030017640	S.CER C1005 CH 1H 150J-T	B	93.9/23.3
C129	4030017340	S.CER C1005 CH 1H 010B-T	B	105.0/27.6
C131	4030017380	S.CER C1005 CH 1H 050B-T	B	107.7/30.8
C132	4030016930	S.CER C1005 JB 1A 104K-T	T	94.2/12.5
C133	4030017510	S.CER C1005 CH 1H 680J-T	B	104.1/27.6
C134	4030017660	S.CER C1005 CH 1H 330J-T	B	97.9/23.5
C135	4030017460	S.CER C1005 JB 1H 102K-T	T	78.3/21.0
C138	4030017420	S.CER C1005 CH 1H 470J-T	B	101.6/18.7
C139	4030016930	S.CER C1005 JB 1A 104K-T	B	106.3/35.7
C140	4030017430	S.CER C1005 CH 1H 101J-T	B	81.2/18.9
C141	4030017460	S.CER C1005 JB 1H 102K-T	T	76.7/21.8
C143	4030017460	S.CER C1005 JB 1H 102K-T	T	78.9/22.2
C144	4030017420	S.CER C1005 CH 1H 470J-T	B	98.8/18.7
C145	4030017420	S.CER C1005 CH 1H 470J-T	B	103.8/22.5
C147	4550003250	S.TAN TEESVA 1V 474M8R	T	80.5/22.9
C148	4030019560	S.CER GRM21BB31C106KE15L	T	109.7/30.5
C150	4030016790	S.CER C1005 JB 1E 103K-T	B	81.2/17.9
C151	4030016930	S.CER C1005 JB 1A 104K-T	B	75.3/18.1
C152	4030017420	S.CER C1005 CH 1H 470J-T	B	77.8/18.1
C153	4030017420	S.CER C1005 CH 1H 470J-T	B	78.1/16.2
C154	4030017420	S.CER C1005 CH 1H 470J-T	B	76.4/16.2
C155	4030017460	S.CER C1005 JB 1H 102K-T	B	81.7/16.7
C157	4030017620	S.CER C1005 CH 1H 100C-T	B	72.4/24.4
C160	4030016930	S.CER C1005 JB 1A 104K-T	B	74.2/21.3
C162	4030016790	S.CER C1005 JB 1E 103K-T	B	72.4/17.7
C165	4030017460	S.CER C1005 JB 1H 102K-T	B	74.1/23.5
C195	4550000550	S.TAN TEESVA 1V 224M8R	T	93.9/16.6
C196	4030017460	S.CER C1005 JB 1H 102K-T	T	97.3/17.1
C197	4030017460	S.CER C1005 JB 1H 102K-T	T	101.9/21.3
C198	4030016930	S.CER C1005 JB 1A 104K-T	T	101.9/20.3
C277	4030016930	S.CER C1005 JB 1A 104K-T	T	35.4/23.6
C282	4030016930	S.CER C1005 JB 1A 104K-T	T	41.2/28.8
C283	4030016930	S.CER C1005 JB 1A 104K-T	T	39.3/25.5
C284	4030016930	S.CER C1005 JB 1A 104K-T	T	41.2/29.7
C285	4030017660	S.CER C1005 CH 1H 330J-T	B	94.6/30.6
C286	4030017600	S.CER C1005 CH 1H 080C-T	T	32.9/26.2
C298	4030017390	S.CER C1005 CH 1H 180J-T	T	86.3/31.7
C299	4030017640	S.CER C1005 CH 1H 150J-T	T	83.9/31.7
C300	4030017640	S.CER C1005 CH 1H 150J-T	T	85.1/33.0
C301	4030017460	S.CER C1005 JB 1H 102K-T	B	94.0/32.3
C302	4030017620	S.CER C1005 CH 1H 100C-T	B	80.7/39.3
C303	4030017460	S.CER C1005 JB 1H 102K-T	B	81.6/36.4
C305	4030017500	S.CER C1005 CH 1H 560J-T	B	64.8/24.2
C306	4030017580	S.CER C1005 CH 1H 060C-T	B	64.3/25.4
C307	4030017500	S.CER C1005 CH 1H 560J-T	B	61.3/22.7
C308	4030017360	S.CER C1005 CH 1H 030B-T	B	60.1/23.2
C309	4030016790	S.CER C1005 JB 1E 103K-T	B	67.4/21.8
C312	4030016930	S.CER C1005 JB 1A 104K-T	B	67.4/20.9
C314	4030016790	S.CER C1005 JB 1E 103K-T	T	110.5/33.8
C323	4030017620	S.CER C1005 CH 1H 100C-T	B	72.3/26.2
C330	4550002980	S.TAN TEESVA 1C 225M8R	T	78.8/53.9
C333	4030017420	S.CER C1005 CH 1H 470J-T	B	40.4/40.7
C335	4030017460	S.CER C1005 JB 1H 102K-T	B	95.4/33.2
C337	4030017460	S.CER C1005 JB 1H 102K-T	T	82.6/31.4
C339	4030017590	S.CER C1005 CH 1H 070C-T	B	52.7/40.4
C342	4550000560	S.TAN TEESVA 1V 334M8R	T	78.4/66.1
C343	4030017460	S.CER C1005 JB 1H 102K-T	B	51.5/39.1
C347	4030017460	S.CER C1005 JB 1H 102K-T	T	52.2/22.9
C348	4030017460	S.CER C1005 JB 1H 102K-T	T	59.3/20.5
C350	4030018860	S.CER C1005 JB 0J 105K-T	T	95.4/13.8
C353	4030017380	S.CER C1005 CH 1H 050B-T	B	98.8/20.3
C354	4030017610	S.CER C1005 CH 1H 090C-T	B	92.2/23.3
C355	4030017560	S.CER C1005 CH 1H 2R5B-T	B	105.1/22.1
C356	4030017590	S.CER C1005 CH 1H 070C-T	B	107.7/23.2
C360	4030017380	S.CER C1005 CH 1H 050B-T	B	107.3/26.7
C363	4030016780	S.CER C1005 JB 1E 153K-T	T	36.4/37.9
C364	4030017420	S.CER C1005 CH 1H 470J-T	T	79.8/67.8
C366	4030017460	S.CER C1005 JB 1H 102K-T	B	69.1/61.6
C367	4030017510	S.CER C1005 CH 1H 680J-T	B	95.1/57.2
C368	4030017460	S.CER C1005 JB 1H 102K-T	B	95.1/68.3
C369	4030017510	S.CER C1005 CH 1H 680J-T	B	93.9/68.3
C372	4030017460	S.CER C1005 JB 1H 102K-T	T	60.2/67.2
C374	4030018860	S.CER C1005 JB 0J 105K-T	T	105.6/38.3
C376	4030017380	S.CER C1005 CH 1H 050B-T	B	107.3/25.8
C377	4030017510	S.CER C1005 CH 1H 680J-T	B	65.7/61.6
C380	4030017640	S.CER C1005 CH 1H 150J-T [EUR-01]	B	90.7/59.3
	4030017640	S.CER C1005 CH 1H 150J-T [EXP-01]		
C381	4030017640	S.CER C1005 CH 1H 150J-T [EUR-01]	B	90.0/58.2
	4030017640	S.CER C1005 CH 1H 150J-T [EXP-01]		
C383	4030016930	S.CER C1005 JB 1A 104K-T	T	36.4/36.2
C384	4030016790	S.CER C1005 JB 1E 103K-T	T	59.3/29.0
C385	4030016790	S.CER C1005 JB 1E 103K-T	B	54.9/28.9
C390	4030017420	S.CER C1005 CH 1H 470J-T	B	74.6/40.6
C391	4030017460	S.CER C1005 JB 1H 102K-T	B	75.7/40.6
C392	4030017390	S.CER C1005 CH 1H 180J-T	B	61.3/39.1
C394	4030016790	S.CER C1005 JB 1E 103K-T	B	50.9/28.8
C395	4030016790	S.CER C1005 JB 1E 103K-T	B	45.1/29.0
C396	4030016930	S.CER C1005 JB 1A 104K-T	T	55.8/29.0
C397	4030016790	S.CER C1005 JB 1E 103K-T	B	50.4/12.7
C398	4030016790	S.CER C1005 JB 1E 103K-T	B	48.6/27.3
C399	4030016790	S.CER C1005 JB 1E 103K-T	B	48.3/28.5
C401	4030017460	S.CER C1005 JB 1H 102K-T	T	88.1/64.1
C402	4030011160	S.CER GRM31M2C2H150JV01L (GRM42-6 CH) [USA-01]	B	36.2/68.7
	4030011160	S.CER GRM31M2C2H150JV01L (GRM42-6 CH) [EXP-02]		
C403	4030011170	S.CER GRM31M2C2H180JV01L (GRM42-6 CH) [USA-01]	B	35.0/65.3
	4030011170	S.CER GRM31M2C2H180JV01L (GRM42-6 CH) [EXP-02]		

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REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C404	4030011180	S.CER GRM31M2C2H220JV01L (GRM42-6 CH)	B	20.4/58.7
C408	4030017460	S.CER C1005 JB 1H 102K-T	B	43.9/57.9
C409	4030017460	S.CER C1005 JB 1H 102K-T	B	38.0/52.6
C411	4030017460	S.CER C1005 JB 1H 102K-T [USA-01]	T	42.2/55.4
	4030017460	S.CER C1005 JB 1H 102K-T [EXP-02]		
C440	4030017630	S.CER C1005 CH 1H 120J-T	B	27.0/44.3
C442	4030017370	S.CER C1005 CH 1H 3R5B-T	B	24.6/49.8
C443	4030017420	S.CER C1005 CH 1H 470J-T	T	40.3/55.0
C451	4030019560	S.CER GRM21BB31C106KE15L	T	67.9/53.9
C456	4030017460	S.CER C1005 JB 1H 102K-T	B	88.6/60.4
C457	4030017460	S.CER C1005 JB 1H 102K-T	B	72.5/51.7
C458	4030017460	S.CER C1005 JB 1H 102K-T	B	85.0/58.2
C459	4030017420	S.CER C1005 CH 1H 470J-T	B	85.0/57.3
C460	4030017390	S.CER C1005 CH 1H 180J-T	B	88.3/58.2
C461	4030017460	S.CER C1005 JB 1H 102K-T	B	85.0/56.4
C462	4030017460	S.CER C1005 JB 1H 102K-T	T	83.1/58.3
C463	4030017710	S.CER C1005 CH 1H 181J-T	T	54.0/26.5
C466	4030017420	S.CER C1005 CH 1H 470J-T	B	114.3/61.8
C467	4030017460	S.CER C1005 JB 1H 102K-T	B	78.9/68.8
C468	4030017510	S.CER C1005 CH 1H 680J-T	B	54.2/68.9
C469	4030017460	S.CER C1005 JB 1H 102K-T	B	54.2/67.1
C470	4030017510	S.CER C1005 CH 1H 680J-T	B	80.0/68.8
C471	4030017440	S.CER C1005 CH 1H 221J-T	T	60.2/68.1
C472	4030017460	S.CER C1005 JB 1H 102K-T	T	81.8/48.7
C473	4030017510	S.CER C1005 CH 1H 680J-T	T	82.3/51.9
C476	4030017460	S.CER C1005 JB 1H 102K-T	T	81.2/38.4
C477	4030017440	S.CER C1005 CH 1H 221J-T	T	84.1/40.8
C478	4030017460	S.CER C1005 JB 1H 102K-T	B	82.8/37.7
C479	4030017460	S.CER C1005 JB 1H 102K-T	T	57.8/50.7
C480	4030017460	S.CER C1005 JB 1H 102K-T	T	65.7/50.3
C482	4030017460	S.CER C1005 JB 1H 102K-T	T	101.9/22.2
C487	4550000560	S.TAN TEESVA 1V 334M8R	T	84.7/22.9
C488	4030017460	S.CER C1005 JB 1H 102K-T	B	81.3/26.7
C489	4030017590	S.CER C1005 CH 1H 070C-T	T	63.3/36.2
C490	4030017530	S.CER C1005 CH 1H 0R5B-T	T	66.8/29.7
C491	4030017040	S.CER C1005 JB 1A 333K-T	T	36.0/29.4
C492	4030016930	S.CER C1005 JB 1A 104K-T	T	43.5/26.0
C493	4030016790	S.CER C1005 JB 1E 103K-T	T	66.8/28.8
C494	4030016790	S.CER C1005 JB 1E 103K-T	T	71.5/29.7
C495	4030016790	S.CER C1005 JB 1E 103K-T	T	68.6/41.6
C496	4030016790	S.CER C1005 JB 1E 103K-T	T	76.5/41.6
C498	4030017600	S.CER C1005 CH 1H 080C-T	T	72.3/36.2
C499	4030016930	S.CER C1005 JB 1A 104K-T	T	81.3/43.1
C500	4030016930	S.CER C1005 JB 1A 104K-T	T	80.0/41.2
C501	4030017460	S.CER C1005 JB 1H 102K-T	T	83.5/42.2
C502	4030018890	S.CER C1005 JB 0J 224K-T	B	76.3/27.1
C503	4030018890	S.CER C1005 JB 0J 224K-T	B	77.5/27.0
C504	4030017430	S.CER C1005 CH 1H 101J-T	B	77.5/27.9
C505	4030019560	S.CER GRM21BB31C106KE15L	B	81.7/20.4
C506	4030017430	S.CER C1005 CH 1H 101J-T	B	59.9/20.5
C507	4030016930	S.CER C1005 JB 1A 104K-T	B	63.3/16.4
C508	4030017460	S.CER C1005 JB 1H 102K-T	T	84.7/10.0
C509	4030018910	S.CER C1608 JB 0J 475K-T	B	57.3/19.3
C510	4030016930	S.CER C1005 JB 1A 104K-T	B	30.8/21.8
C511	4030018100	S.CER C1005 JB 1H 681K-T	T	94.5/11.1
C1003	4030017460	S.CER C1005 JB 1H 102K-T	T	133.3/63.5
C1005	4030018980	S.CER C1608 JB 1H 104K-T	B	100.1/11.8
C1007	4030017460	S.CER C1005 JB 1H 102K-T	T	100.1/12.1
C1008	4510009680	S.ELE EEEFK1E471P	B	110.2/52.6
C1010	4030017460	S.CER C1005 JB 1H 102K-T	B	106.5/59.0
C1011	4030016930	S.CER C1005 JB 1A 104K-T	B	93.9/12.1
C1012	4030017420	S.CER C1005 CH 1H 470J-T	B	117.5/16.6
C1014	4030017460	S.CER C1005 JB 1H 102K-T	T	116.6/27.5
C1015	4030017460	S.CER C1005 JB 1H 102K-T	T	114.9/8.0
C1017	4030017460	S.CER C1005 JB 1H 102K-T	T	133.3/49.2
C1018	4030017460	S.CER C1005 JB 1H 102K-T	T	133.3/45.0
C1019	4510009250	S.ELE EEEFK1C471P	B	130.5/34.8
C1022	4030017420	S.CER C1005 CH 1H 470J-T	B	105.5/59.0
C1023	4030017460	S.CER C1005 JB 1H 102K-T	B	113.4/58.8
C1024	4030017440	S.CER C1005 CH 1H 221J-T	B	113.4/59.7
C1025	4030017510	S.CER C1005 CH 1H 680J-T	B	113.4/60.6
C1026	4030019120	S.CER GRM188B31E105KA75D	T	115.8/49.5
C1028	4030017460	S.CER C1005 JB 1H 102K-T	B	117.4/6.1
C1029	4030017460	S.CER C1005 JB 1H 102K-T	T	114.9/12.6
C1031	4030017460	S.CER C1005 JB 1H 102K-T	T	115.0/16.9
C1032	4030016930	S.CER C1005 JB 1A 104K-T	B	123.6/16.6
C1033	4510009680	S.ELE EEEFK1E471P	B	120.0/29.1
C1034	4030018860	S.CER C1005 JB 0J 105K-T	B	131.6/16.6
C1035	4030016790	S.CER C1005 JB 1E 103K-T	B	131.6/18.7
C1036	4030018980	S.CER C1608 JB 1H 104K-T	T	128.4/46.9
C1037	4030019560	S.CER GRM21BB31C106KE15L	B	129.4/43.4
C1038	4030011600	S.CER C1608 JB 1E 104K-T	T	110.5/48.7
C1039	4510009680	S.ELE EEEFK1E471P	B	117.0/41.7
C1040	4030019560	S.CER GRM21BB31C106KE15L	B	116.7/22.2
C1042	4030016930	S.CER C1005 JB 1A 104K-T	B	118.1/22.4
C1043	4030016930	S.CER C1005 JB 1A 104K-T	T	114.9/16.0
C1045	4030017460	S.CER C1005 JB 1H 102K-T	T	114.9/14.2
C1046	4030018860	S.CER C1005 JB 0J 105K-T	T	114.9/15.1
C1048	4030018900	S.CER C1005 JB 0J 474K-T	B	126.7/18.6
C1050	4030018860	S.CER C1005 JB 0J 105K-T	B	125.2/16.6
C1051	4030017460	S.CER C1005 JB 1H 102K-T	B	122.1/48.2
C1052	4030016930	S.CER C1005 JB 1A 104K-T	T	127.8/40.1
C1053	4030019560	S.CER GRM21BB31C106KE15L	T	127.8/44.5
C1056	4030018860	S.CER C1005 JB 0J 105K-T	T	111.2/11.7
C1057	4030016930	S.CER C1005 JB 1A 104K-T	B	118.7/17.1
C1058	4030019560	S.CER GRM21BB31C106KE15L	T	105.5/44.4
C1059	4030017460	S.CER C1005 JB 1H 102K-T	T	107.7/46.3
C1060	4030017460	S.CER C1005 JB 1H 102K-T	B	126.2/39.8
C1061	4030017460	S.CER C1005 JB 1H 102K-T	T	107.7/37.4
C1062	4030017460	S.CER C1005 JB 1H 102K-T	B	120.7/22.9
C1063	4030019560	S.CER GRM21BB31C106KE15L	B	126.9/22.2
C1064	4030019560	S.CER GRM21BB31C106KE15L	B	121.6/36.0
C1065	4030017460	S.CER C1005 JB 1H 102K-T	B	120.2/35.6
C1066	4030018860	S.CER C1005 JB 0J 105K-T	B	125.6/38.1

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

[MAIN UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C1070	4030017440	S.CER C1005 CH 1H 221J-T	B	120.4/16.2
C1071	4030016930	S.CER C1005 JB 1A 104K-T	B	120.4/10.8
C1074	4030017460	S.CER C1005 JB 1H 102K-T	B	73.9/10.4
C1075	4030017460	S.CER C1005 JB 1H 102K-T	B	70.7/14.4
C1076	4030017460	S.CER C1005 JB 1H 102K-T	B	69.7/14.4
C1077	4030017460	S.CER C1005 JB 1H 102K-T	B	68.8/14.4
C1080	4030016790	S.CER C1005 JB 1E 103K-T	B	51.1/15.3
C1081	4030016930	S.CER C1005 JB 1A 104K-T	B	117.2/15.2
C1082	4030016930	S.CER C1005 JB 1A 104K-T	B	114.8/14.6
C1083	4030017460	S.CER C1005 JB 1H 102K-T	T	37.6/19.3
C1084	4030017710	S.CER C1005 CH 1H 181J-T	B	41.9/20.8
C1092	4030016930	S.CER C1005 JB 1A 104K-T	B	75.8/14.4
C1095	4030016930	S.CER C1005 JB 1A 104K-T	T	38.5/19.3
C1096	4030018860	S.CER C1005 JB 0J 105K-T	T	51.7/18.5
C1097	4030018240	S.CER C1005 JB 1H 562K-T	B	50.8/17.8
C1098	4030018860	S.CER C1005 JB 0J 105K-T	T	54.5/16.3
C1099	4030018860	S.CER C1005 JB 0J 105K-T	B	45.2/20.8
C1100	4030017460	S.CER C1005 JB 1H 102K-T	B	75.8/9.1
C1101	4030016930	S.CER C1005 JB 1A 104K-T	T	78.2/8.0
C1102	4030017420	S.CER C1005 CH 1H 470J-T	B	71.6/6.6
C1106	4030016930	S.CER C1005 JB 1A 104K-T	T	36.3/20.6
C1107	4030017440	S.CER C1005 CH 1H 221J-T	B	33.1/15.2
C1108	4030017450	S.CER C1005 JB 1H 271K-T	B	39.2/13.5
C1109	4030018860	S.CER C1005 JB 0J 105K-T	T	42.5/18.0
C1110	4030018860	S.CER C1005 JB 0J 105K-T	T	42.5/20.4
C1111	4030018860	S.CER C1005 JB 0J 105K-T	B	46.6/19.1
C1112	4030016930	S.CER C1005 JB 1A 104K-T	B	45.7/19.1
C1119	4030017420	S.CER C1005 CH 1H 470J-T	B	65.2/6.9
C1127	4030017770	S.CER C1005 JB 1H 332K-T	B	36.6/21.2
C1128	4030016930	S.CER C1005 JB 1A 104K-T	B	31.3/13.6
C1129	4030016930	S.CER C1005 JB 1A 104K-T	B	32.2/16.9
C1130	4030017900	S.CER C1005 JB 1E 123K-T	B	37.4/13.5
C1131	4550006970	S.TAN TEESVA0G476M8R	T	53.5/12.1
C1132	4030017460	S.CER C1005 JB 1H 102K-T	T	51.8/13.0
C1133	4030016790	S.CER C1005 JB 1E 103K-T	T	78.2/5.7
C1135	4030017460	S.CER C1005 JB 1H 102K-T	T	73.9/17.2
C1136	4030016930	S.CER C1005 JB 1A 104K-T	T	71.6/15.5
C1137	4030016960	S.CER C1005 JB 1E 183K-T	B	40.1/20.8
C1138	4030017460	S.CER C1005 JB 1H 102K-T	T	37.7/15.7
C1139	4030017920	S.CER C1005 JB 1A 683K-T	T	54.5/17.2
C1140	4030017040	S.CER C1005 JB 1A 333K-T	B	52.0/18.3
C1141	4030016790	S.CER C1005 JB 1E 103K-T	B	42.4/18.2
C1142	4030016930	S.CER C1005 JB 1A 104K-T	B	117.6/11.8
C1143	4030018980	S.CER C1608 JB 1H 104K-T	B	93.8/9.4
C1144	4030016930	S.CER C1005 JB 1A 104K-T	B	42.4/15.5
C1145	4030018090	S.CER C1005 JB 1E 822K-T	B	42.8/20.8
C2001	4050000240	S.FEE NFM18PC104R1C3D	B	39.6/7.2
C2002	4030016930	S.CER C1005 JB 1A 104K-T	B	38.5/6.8
C2004	4550007730	S.TAN TEESVJ 0J 106M8R	B	37.4/7.1
C2007	4030018910	S.CER C1608 JB 0J 475K-T	B	18.3/10.4
C2008	4030016930	S.CER C1005 JB 1A 104K-T	B	19.4/9.9
C2009	4050000240	S.FEE NFM18PC104R1C3D	B	28.0/5.9
C2010	4050000240	S.FEE NFM18PC104R1C3D	B	12.3/5.5
C2011	4030019460	S.CER C1608 JB 0J 106M-T	T	33.0/6.9
C2012	4030016930	S.CER C1005 JB 1A 104K-T	B	26.4/5.8
C2013	4550007730	S.TAN TEESVJ 0J 106M8R	B	25.2/6.2
C2014	4030016930	S.CER C1005 JB 1A 104K-T	T	32.0/6.6
C2015	4030016930	S.CER C1005 JB 1A 104K-T	B	10.1/6.4
C2016	4550007720	S.TAN TEESVP 0G 476M8R	T	27.2/7.1
C2017	4550007730	S.TAN TEESVJ 0J 106M8R	B	17.1/8.9
C2018	4030016930	S.CER C1005 JB 1A 104K-T	B	9.2/6.4
C2019	4030016790	S.CER C1005 JB 1E 103K-T	B	14.8/19.3
C2021	4030018910	S.CER C1608 JB 0J 475K-T	B	16.0/21.6
C2022	4030018910	S.CER C1608 JB 0J 475K-T	B	13.5/14.5
C2023	4030016790	S.CER C1005 JB 1E 103K-T	B	23.1/14.3
C2024	4030018860	S.CER C1005 JB 0J 105K-T	B	20.8/13.6
C2025	4030017420	S.CER C1005 CH 1H 470J-T	B	20.8/11.1
C2026	4030017460	S.CER C1005 JB 1H 102K-T	B	20.8/10.2
C2027	4030018910	S.CER C1608 JB 0J 475K-T	B	10.9/10.5
C2028	4030018860	S.CER C1005 JB 0J 105K-T	T	11.5/10.2
C2031	4030018860	S.CER C1005 JB 0J 105K-T	T	20.9/11.3
C2032	4030016930	S.CER C1005 JB 1A 104K-T	T	13.1/11.7
C2033	4030018860	S.CER C1005 JB 0J 105K-T	B	15.1/17.7
C2034	4030016930	S.CER C1005 JB 1A 104K-T	T	11.9/7.9
C2035	4030018910	S.CER C1608 JB 0J 475K-T	T	10.2/8.2
C2036	4030018860	S.CER C1005 JB 0J 105K-T	B	20.9/20.9
C2038	4030016790	S.CER C1005 JB 1E 103K-T	B	16.4/25.3
C2040	4030016790	S.CER C1005 JB 1E 103K-T	T	26.4/18.1
C2041	4030018910	S.CER C1608 JB 0J 475K-T	T	11.1/14.5
C2042	4030016930	S.CER C1005 JB 1A 104K-T	T	10.1/14.8
C2044	4030016790	S.CER C1005 JB 1E 103K-T	T	26.4/19.9
C2045	4030016930	S.CER C1005 JB 1A 104K-T	B	26.6/23.4
C2047	4030016930	S.CER C1005 JB 1A 104K-T	B	26.6/20.7
C2048	4030016930	S.CER C1005 JB 1A 104K-T	B	26.6/22.5
C2049	4030017420	S.CER C1005 CH 1H 470J-T	B	25.7/9.5
C2050	4030017620	S.CER C1005 CH 1H 100C-T	B	26.7/15.8
C2051	4030016930	S.CER C1005 JB 1A 104K-T	B	13.6/29.4
C2052	4030016930	S.CER C1005 JB 1A 104K-T	B	25.5/15.3
C2053	4030017460	S.CER C1005 JB 1H 102K-T	B	27.4/10.4
C2054	4030016930	S.CER C1005 JB 1A 104K-T	T	25.5/12.4
C2055	4030017400	S.CER C1005 CH 1H 220J-T	B	11.0/20.3
C2056	4030017380	S.CER C1005 CH 1H 050B-T	T	27.2/10.7
C2057	4030016930	S.CER C1005 JB 1A 104K-T	B	24.1/10.4
C2058	4030016790	S.CER C1005 JB 1E 103K-T	B	28.8/13.7
C2060	4030016780	S.CER C1005 JB 1E 153K-T	B	12.2/11.7
C2062	4030018860	S.CER C1005 JB 0J 105K-T	T	9.4/20.1
C2063	4030017420	S.CER C1005 CH 1H 470J-T	T	2.1/14.7
J1001	6510014961	S.CON B2B-ZR-SM4-TF(LF)(SN)	T	130.5/27.3
J1002	6450000140	CON HSJ0807-01-010		
J1003	6510022891	S.CON B13B-ZR-SM4-TF(LF)(SN)	T	120.0/17.2
J1004	6510027960	S.CON 04-6294-040-000-800+	T	67.5/10.6

[MAIN UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
S1001	2260003180	S.SWI MINISMDC050F-2 CN	T	114.1/33.8
W1	7030012290	JUM RDS2T0R0		
W2	8900011863	CAB OPC-1195C <TJM>		
EP1	6910018460	S.BEA MMZ1005Y102C-T	B	106.3/34.8
EP4	6910010280	BEA HF70BB9.5X10.4X4.9		
EP5	6910010280	BEA HF70BB9.5X10.4X4.9		
EP7	6910018460	S.BEA MMZ1005Y102C-T	B	74.2/19.4
EP8	6910018460	S.BEA MMZ1005Y102C-T	B	80.8/16.7
EP9	6910018460	S.BEA MMZ1005Y102C-T	T	103.1/21.8
EP2001	6910016330	S.BEA MMZ1005S 601CT-S	B	23.0/5.3
EP2004	6910016330	S.BEA MMZ1005S 601CT-S	T	40.3/6.2
EP2005	6910016330	S.BEA MMZ1005S 601CT-S	B	24.6/23.8

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

[FRONT UNIT]

REF NO.	PARTS NO.	DESCRIPTION		M.	H/V LOCATION
IC6	1130015530	S.IC	BU9795AKV-E2	B	43.0/21.2
IC7	1110002751	S.IC	TA75S01F(TE85RF)	B	28.3/24.7
IC51	1140015010	S.IC	HD64F2506RBR26DV(EMPTY)	B	67.5/21.9
IC52	1130015080	S.IC	R1EX24512ASAS0A	B	92.3/15.4
IC53	1130011741	S.IC	TC7W66FK(TE85LF)	B	24.3/22.0
IC54	1130007021	S.IC	TC7S66FU(TE85LF)	B	28.8/19.5
Q1	1530002851	S.TRA	2SC4116-BL(TE85RF)	B	33.6/16.2
Q2	1590004090	S.TRA	LDTC114YET1G <SLVJ>	B	33.7/19.8
Q5	1590004090	S.TRA	LDTC114YET1G <SLVJ>	B	33.7/22.3
Q10	1590004090	S.TRA	LDTC114YET1G <SLVJ>	B	54.1/21.1
Q95	1590004090	S.TRA	LDTC114YET1G <SLVJ>	B	77.6/11.2
Q96	1590004150	S.TRA	DRC9114T0L	B	17.1/12.8
Q97	1590004150	S.TRA	DRC9114T0L	B	30.7/21.5
D1	1790001990	S.VAR	EZJP0V080DA	T	12.4/17.1
D2	1790001990	S.VAR	EZJP0V080DA	B	52.6/28.5
D3	1790001990	S.VAR	EZJP0V080DA	B	52.6/27.3
D5	1790001241	S.DIO	MA2S7280GL	B	48.6/6.3
D60	1750001790	S.DIO	1SS390 TE61	B	80.2/13.0
X51	6050013160	S.XTA	CR-912 TSS3225A 19.6608 MHz	B	84.0/16.9
L1	6200003640	S.COI	MLF1608E 100K-T	B	11.6/17.1
L2	6200001981	S.COI	NLV25T-1R0J	B	58.5/9.5
R7	7030005000	S.RES	ERJ2GEJ 471 X (470)	B	35.7/16.2
R8	7030005000	S.RES	ERJ2GEJ 471 X (470)	B	36.7/16.2
R9	7030007570	S.RES	ERJ2GEJ 122 X (1.2K)	B	37.6/16.2
R11	7030009280	S.RES	ERJ2GEJ 391 X	B	33.1/18.0
R12	7030009140	S.RES	ERJ2GEJ 272 X (2.7K)	B	34.7/18.0
R14	7210003330	VAR	RK09D1130A1N		
R15	7030005120	S.RES	ERJ2GEJ 102 X (1K)	B	7.2/17.1
R16	7030005120	S.RES	ERJ2GEJ 102 X (1K)	B	15.5/12.0
R18	7030005240	S.RES	ERJ2GEJ 473 X (47K)	T	5.9/17.1
R19	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	18.7/12.6
R20	7030010040	S.RES	ERJ2GEJ-JPW	B	29.7/7.3
R40	7030005040	S.RES	ERJ2GEJ 472 X (4.7K)	B	23.0/25.4
R41	7030007340	S.RES	ERJ2GEJ 153 X (15K)	B	23.0/27.4
R42	7030005240	S.RES	ERJ2GEJ 473 X (47K)	B	26.9/27.8
R43	7030007350	S.RES	ERJ2GEJ 393 X (39K)	B	28.8/27.8
R44	7030006610	S.RES	ERJ2GEJ 394 X (390K)	B	25.0/26.2
R46	7030004980	S.RES	ERJ2GEJ 101 X (100)	B	33.4/3.3
R47	7030007300	S.RES	ERJ2GEJ 332 X (3.3K)	B	33.4/5.1
R51	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	51.0/6.3
R60	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	84.0/8.6
R76	7030005120	S.RES	ERJ2GEJ 102 X (1K)	T	10.4/17.1
R83	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	40.0/14.7
R85	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	57.7/27.5
R86	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	56.7/25.0
R87	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	59.1/28.1
R88	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	56.3/6.9
R89	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	86.9/19.8
R90	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	86.2/26.0
R243	7030005530	S.RES	ERJ2GEJ 100 X (10)	B	80.5/18.4
R244	7030005160	S.RES	ERJ2GEJ 105 X (1M)	B	81.9/17.9
R627	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	74.8/17.5
R628	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	58.1/5.6
R631	7030005050	S.RES	ERJ2GEJ 103 X (10K)	B	80.8/15.5
R632	7030005050	S.RES	ERJ2GEJ 103 X (10K)	B	81.7/13.7
R633	7030005040	S.RES	ERJ2GEJ 472 X (4.7K)	B	77.6/12.7
R635	7030005050	S.RES	ERJ2GEJ 103 X (10K)	B	86.0/11.0
R636	7030005050	S.RES	ERJ2GEJ 103 X (10K)	B	86.6/9.8
R637	7030005120	S.RES	ERJ2GEJ 102 X (1K)	B	55.0/24.4
R638	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	77.8/23.8
R639	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	76.6/16.3
R651	7030005120	S.RES	ERJ2GEJ 102 X (1K)	B	88.4/9.8
R652	7030005120	S.RES	ERJ2GEJ 102 X (1K)	B	70.9/29.6
R657	7030005120	S.RES	ERJ2GEJ 102 X (1K)	B	86.0/12.2
R688	7030005120	S.RES	ERJ2GEJ 102 X (1K)	B	81.8/22.3
R763	7410001150	S.ARR	EXB28V471JX	B	76.0/14.5
R765	7410001130	S.ARR	EXB28V102JX	B	63.1/29.6
R767	7410001130	S.ARR	EXB28V102JX	B	59.2/24.8
R768	7410001130	S.ARR	EXB28V102JX	B	59.2/21.7
R769	7410001130	S.ARR	EXB28V102JX	B	59.3/18.0
R770	7410001130	S.ARR	EXB28V102JX	B	75.8/26.3
R771	7410001130	S.ARR	EXB28V102JX	B	69.4/12.7
R772	7410001130	S.ARR	EXB28V102JX	B	77.3/19.1
R773	7030005120	S.RES	ERJ2GEJ 102 X (1K)	B	83.4/28.7
R774	7030005120	S.RES	ERJ2GEJ 102 X (1K)	B	86.5/23.2
R775	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	59.2/5.6
R776	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	56.0/19.8
R777	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	82.3/23.8
R778	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	76.5/17.2
R779	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	67.3/29.3
R780	7030005210	S.RES	ERJ2GEJ 822 X (8.2K)	B	23.0/29.4
R781	7030007340	S.RES	ERJ2GEJ 153 X (15K)	B	23.0/28.4
R782	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	75.6/22.7
R783	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	58.5/29.4
R784	7030005240	S.RES	ERJ2GEJ 473 X (47K)	B	26.5/18.8
R785	7030005240	S.RES	ERJ2GEJ 473 X (47K)	B	30.8/19.3
C2	4030017420	S.CER	C1005 CH 1H 470J-T	B	84.0/7.7
C3	4030017420	S.CER	C1005 CH 1H 470J-T	B	28.5/6.1
C4	4030017420	S.CER	C1005 CH 1H 470J-T	B	47.2/5.0
C5	4030017420	S.CER	C1005 CH 1H 470J-T	B	56.3/4.6
C8	4030017460	S.CER	C1005 JB 1H 102K-T	B	13.7/17.1
C9	4030017460	S.CER	C1005 JB 1H 102K-T	T	11.3/17.1
C10	4030017460	S.CER	C1005 JB 1H 102K-T	T	20.3/13.1

[FRONT UNIT]

REF NO.	PARTS NO.	DESCRIPTION		M.	H/V LOCATION
C12	4030017460	S.CER	C1005 JB 1H 102K-T	T	18.3/13.1
C25	4030016790	S.CER	C1005 JB 1E 103K-T	B	26.9/28.9
C26	4030016930	S.CER	C1005 JB 1A 104K-T	B	23.0/26.4
C27	4030017430	S.CER	C1005 CH 1H 101J-T	B	25.0/27.1
C28	4030016930	S.CER	C1005 JB 1A 104K-T	B	30.6/27.1
C31	4030016930	S.CER	C1005 JB 1A 104K-T	B	33.4/4.2
C34	4030017420	S.CER	C1005 CH 1H 470J-T	B	56.3/5.5
C41	4030017460	S.CER	C1005 JB 1H 102K-T	B	25.0/29.0
C50	4030017420	S.CER	C1005 CH 1H 470J-T	B	61.6/8.6
C75	4030016930	S.CER	C1005 JB 1A 104K-T	B	43.8/14.7
C76	4030016930	S.CER	C1005 JB 1A 104K-T	B	28.8/28.9
C78	4030017460	S.CER	C1005 JB 1H 102K-T	B	8.9/17.1
C84	4030017420	S.CER	C1005 CH 1H 470J-T	B	29.9/2.9
C87	4030016930	S.CER	C1005 JB 1A 104K-T	B	30.9/18.0
C93	4030017460	S.CER	C1005 JB 1H 102K-T	B	56.3/7.9
C114	4030017420	S.CER	C1005 CH 1H 470J-T	B	19.7/10.6
C126	4030017460	S.CER	C1005 JB 1H 102K-T	B	25.2/4.2
C128	4030016930	S.CER	C1005 JB 1A 104K-T	T	14.6/19.3
C129	4030017460	S.CER	C1005 JB 1H 102K-T	T	13.7/19.3
C130	4030017460	S.CER	C1005 JB 1H 102K-T	B	85.7/8.6
C131	4030017460	S.CER	C1005 JB 1H 102K-T	B	86.9/21.0
C132	4030017460	S.CER	C1005 JB 1H 102K-T	B	86.2/26.9
C626	4030017640	S.CER	C1005 CH 1H 150J-T	B	81.1/19.6
C627	4030017580	S.CER	C1005 CH 1H 060C-T	B	80.0/17.0
C628	4030017640	S.CER	C1005 CH 1H 150J-T	B	81.0/17.0
C629	4030016930	S.CER	C1005 JB 1A 104K-T	B	79.4/15.1
C630	4030016930	S.CER	C1005 JB 1A 104K-T	B	76.2/12.3
C631	4030016930	S.CER	C1005 JB 1A 104K-T	B	56.1/29.6
C797	4030016930	S.CER	C1005 JB 1A 104K-T	B	75.6/21.5
C799	4030016930	S.CER	C1005 JB 1A 104K-T	B	77.2/22.4
C800	4030016930	S.CER	C1005 JB 1A 104K-T	B	77.2/21.2
C802	4030016930	S.CER	C1005 JB 1A 104K-T	B	64.7/9.9
C803	4030019990	S.CER	C1005 JB 1C 104K-T	B	49.7/24.9
C804	4030017460	S.CER	C1005 JB 1H 102K-T	B	26.6/22.1
C805	4030018900	S.CER	C1005 JB 0J 474K-T	B	65.3/29.3
C806	4550006970	S.TAN	TEESVA0G476M8R	B	43.4/6.5
C807	4030016930	S.CER	C1005 JB 1A 104K-T	B	75.4/20.4
C808	4030016930	S.CER	C1005 JB 1A 104K-T	B	78.8/17.1
C809	4030016930	S.CER	C1005 JB 1A 104K-T	B	88.6/15.1
C810	4030016930	S.CER	C1005 JB 1A 104K-T	B	25.0/28.1
C811	4030017460	S.CER	C1005 JB 1H 102K-T	B	31.5/8.0
J1	6450002210	CON	3017-8821 <KIN>		
J2	6510027960	S.CON	04-6294-040-000-800+	B	71.0/5.7
J3	6510025142	S.CON	10FLT-SM2-TB(LF)(SN)(M)	B	51.6/28.5
DS1	5040003510	S.LED	LNJ426W83RA	T	64.8/23.5
DS2	5040003510	S.LED	LNJ426W83RA	T	58.2/23.5
DS3	5040003510	S.LED	LNJ426W83RA	T	51.6/23.5
DS4	5040003510	S.LED	LNJ426W83RA	T	31.8/23.5
DS5	5040003510	S.LED	LNJ426W83RA	T	38.4/23.5
DS6	5040003510	S.LED	LNJ426W83RA	T	45.0/23.5
DS7	5040003510	S.LED	LNJ426W83RA	T	82.6/22.1
DS8	5040003510	S.LED	LNJ426W83RA	T	65.3/5.0
DS9	5040003510	S.LED	LNJ426W83RA	T	36.3/5.0
DS11	5030003390	LCD	TAK-35877 FX-3331<ITAK>		
SP1	2510001221	SPE	C052SB500-14 <OSC>		
W1	8900010503	CAB	OPC-1046B-1(P0.5N40L55) <TJM>		
EP2	8930059170	LCD	SRCN-2622-SP-N-W (SHJ)		

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	[EXP-02]	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
MP11	8930049131	SHIELD TAPE (D)-1	[EUR-01] only	1

[MAIN UNIT]

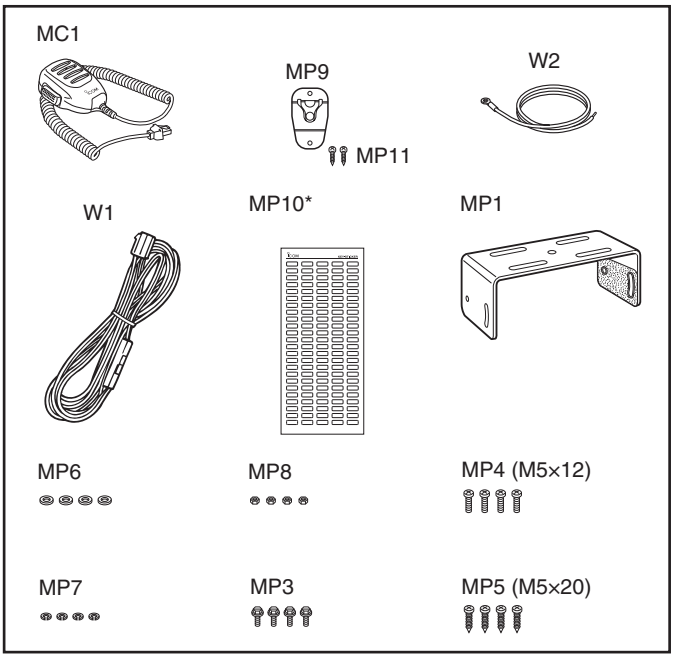
REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1001*	6510014961	B2B-ZR-SM4-TF (LF) (SN)	1
J1002	6450000140	HSJ0807-01-010	1
J1003*	6510022891	B13B-ZR-SM4-TF (LF) (SN)	1
J1004*	6510027960	04-6294-040-000-800+	1
S1001*	2260003180	MINISMDC050F-2 CN	1
W1*	7030012290	RDS2T0R0	1
W2	8900011863	OPC-1195C	1
EP4*	6910010280	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
MP4*	8930055841	2490 EARTH SPRING-1	1
MP5	8510014910	2601 FILTER CASE	1
MP6	8510020200	3331 SHIELD PLATE Y1235	1
MP9	8930059390	SHIELD SPONGE (Y)	1

[FRONT UNIT]

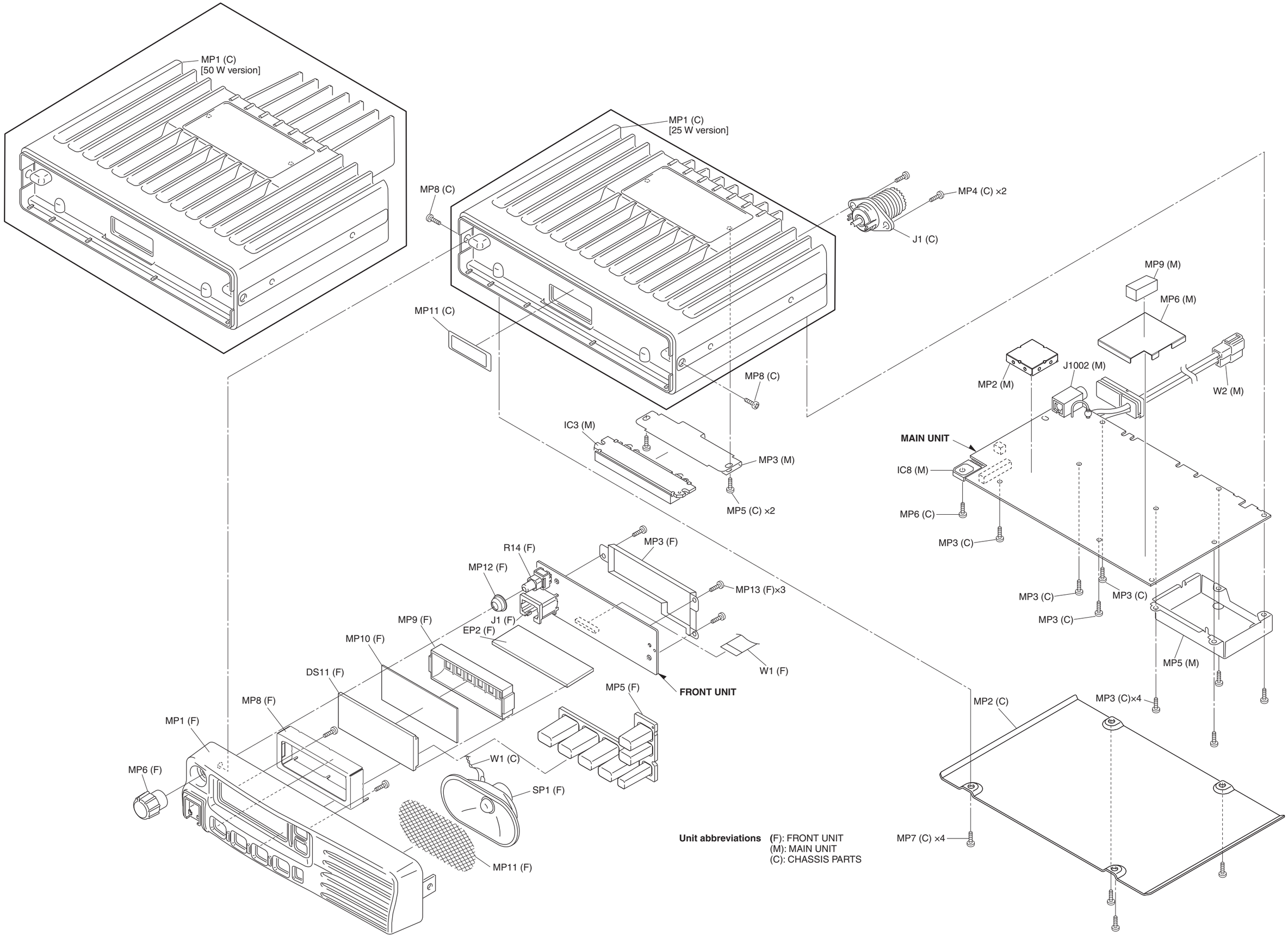
REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6450002210	3017-8821 <KIN>	1
J2*	6510027960	04-6294-040-000-800+	1
J3*	6510025142	10FLT-SM2-TB (LF) (SN) (M)	1
DS11	5030003390	TAK-35877 FX-3331<ITAK>	1
SP1	2510001221	C052SB500-14 <OSC>	1
W1	8900010503	OPC-1046B-1 (P0.5N40L55)	1
EP2	8930059170	SRCN-2622-SP-N-W (SHJ)	1
MP1	8210025591	3179 FRONT PANEL-1	1
MP3	8510019440	3179 SHIELD PLATE Y1151	1
MP5	8930081250	3179 KEYBOARD (A) <SEP >	1
MP6	8610014010	KNOB N-386	1
MP8	8930059090	2622 LCD PLATE Y658	1
MP9	8210019350	2622 REFLECTOR	1
MP10	8930059100	2622 LCD FILTER	1
MP11	8930059000	2601 SP NET	1
MP12	8930070850	2979 VOL RUBBER (TOT)	1
MP13	8810008761	PHBT M2 X 8 NI-ZC3	3

[ACCESSORIES]

REF NO.	ORDER NO.	DESCRIPTION		QTY.
MC1	(Optional)	HM-152		1
W1	(Optional)	OPC-1194A	[EUR-01]	1
	(Optional)	OPC-1194A	[EXP-01]	1
	(Optional)	OPC-1132A	[USA-01]	1
	(Optional)	OPC-1132A	[EXP-02]	1
W2	(Optional)	OPC-049A		1
MP1	8010019151	2601 MOBIL BRACKET-1		1
MP3	8820000530	FLANGE BOLT M4 X 8 NI		4
MP4	8810000471	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
MP11	8810004700	PHA M3 X16 SUS		2



*: 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

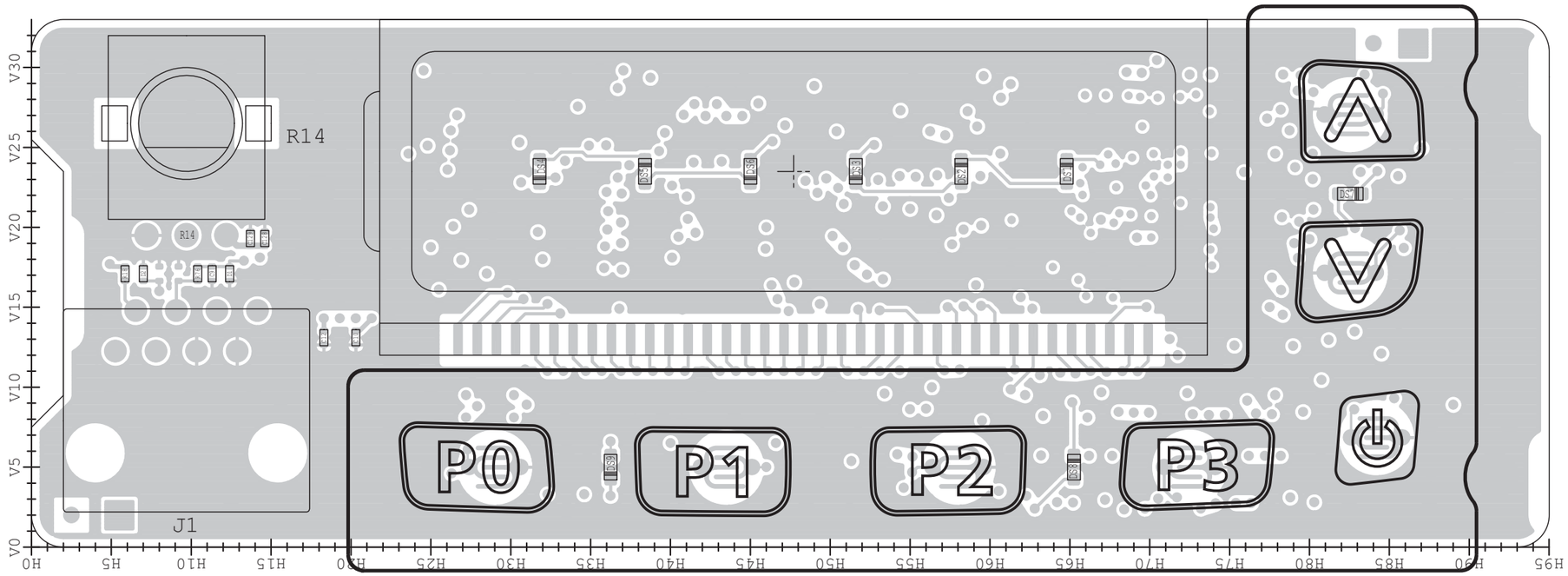


Unit abbreviations (F): FRONT UNIT
(M): MAIN UNIT
(C): CHASSIS PARTS

SECTION 9 BOARD LAYOUTS

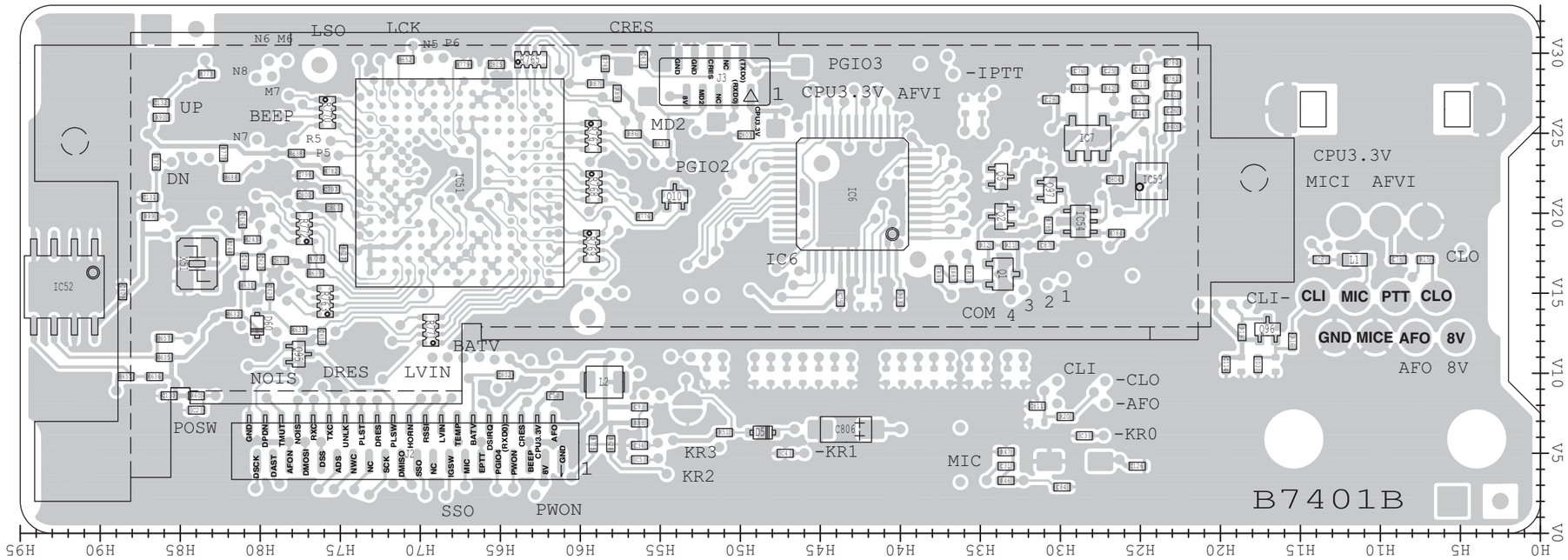
The combination of top side and bottom side of this page shows the actual configuration of P.C. board.

• FRONT UNIT (TOP VIEW)



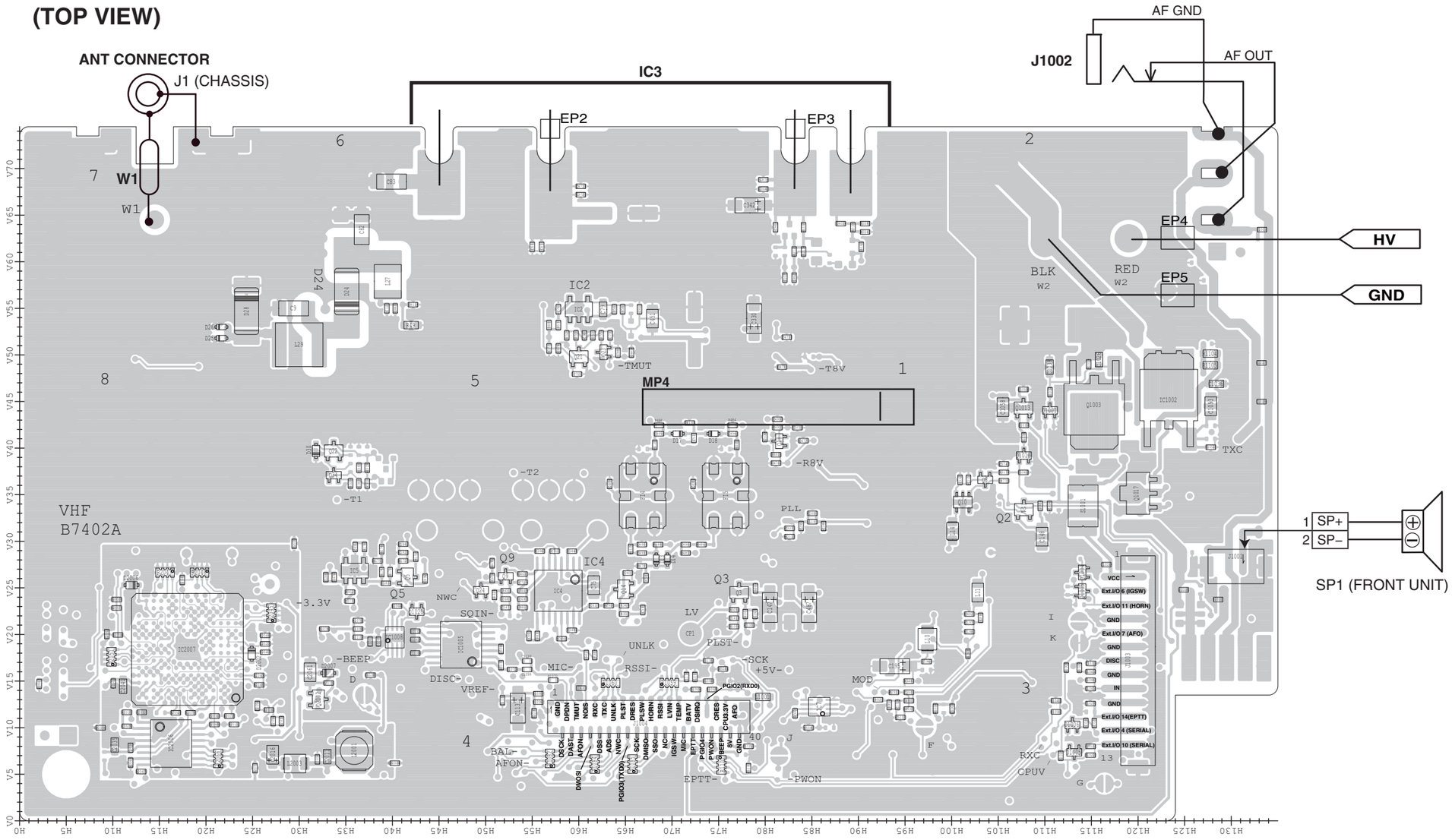
The combination of top side and bottom side of this page shows the actual configuration of P.C. board.

• FRONT UNIT (BOTTOM VIEW)



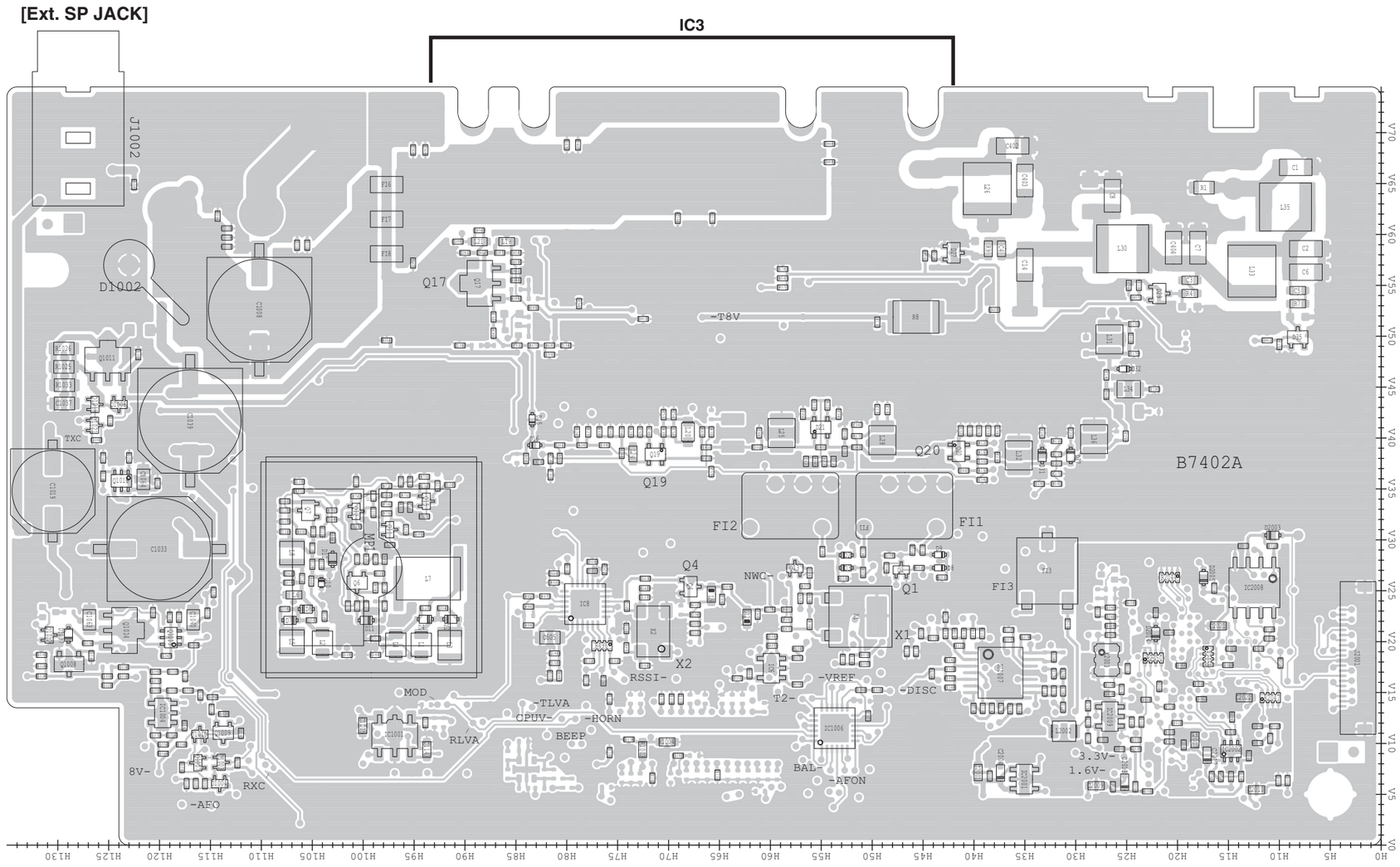
The combination of top side and bottom side of this page shows the actual configuration of P.C. board.

• MAIN UNIT (TOP VIEW)

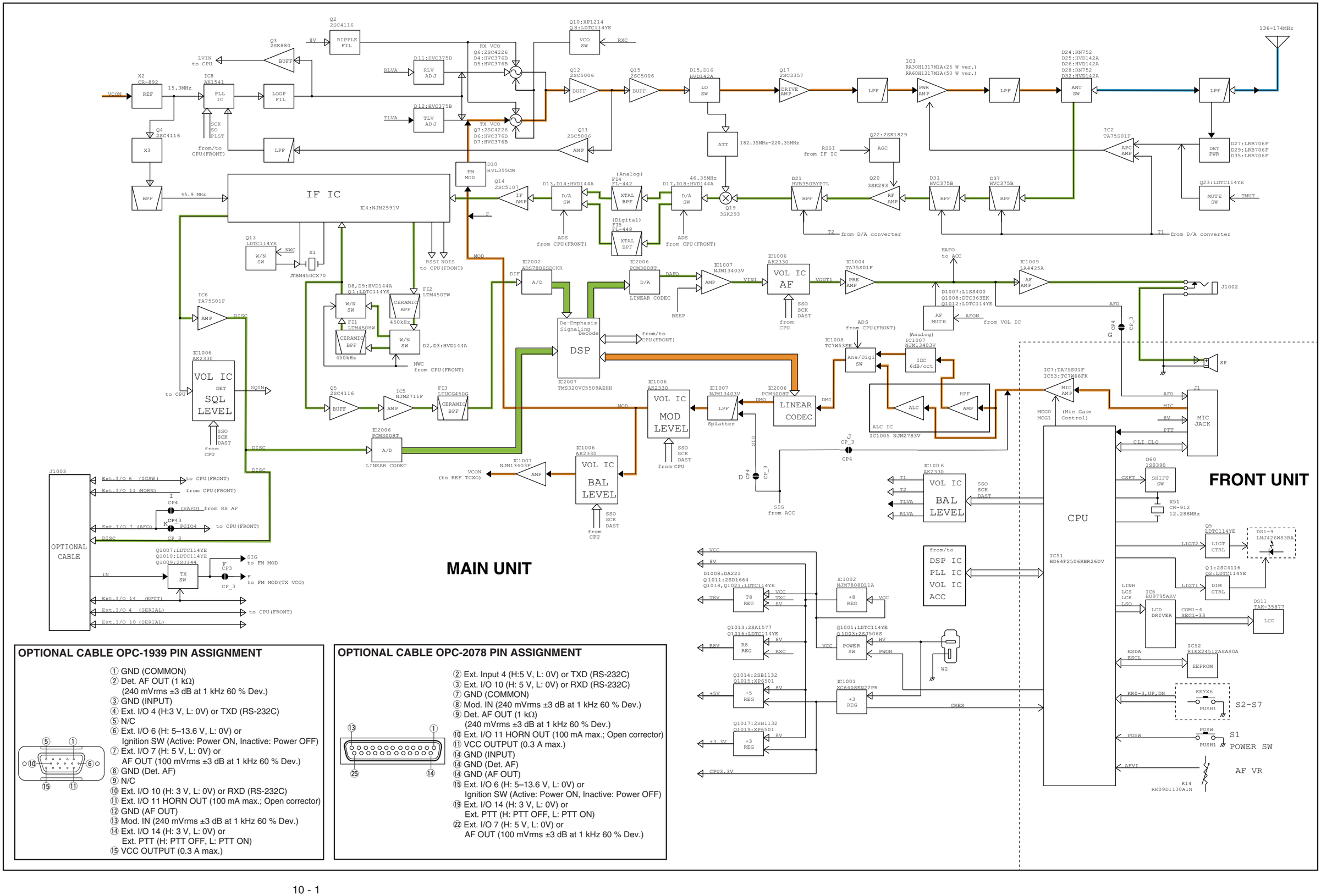


The combination of top side and bottom side of this page shows the actual configuration of P.C. board.

• MAIN UNIT (BOTTOM VIEW)



SECTION 10 BLOCK DIAGRAM



OPTIONAL CABLE OPC-1939 PIN ASSIGNMENT

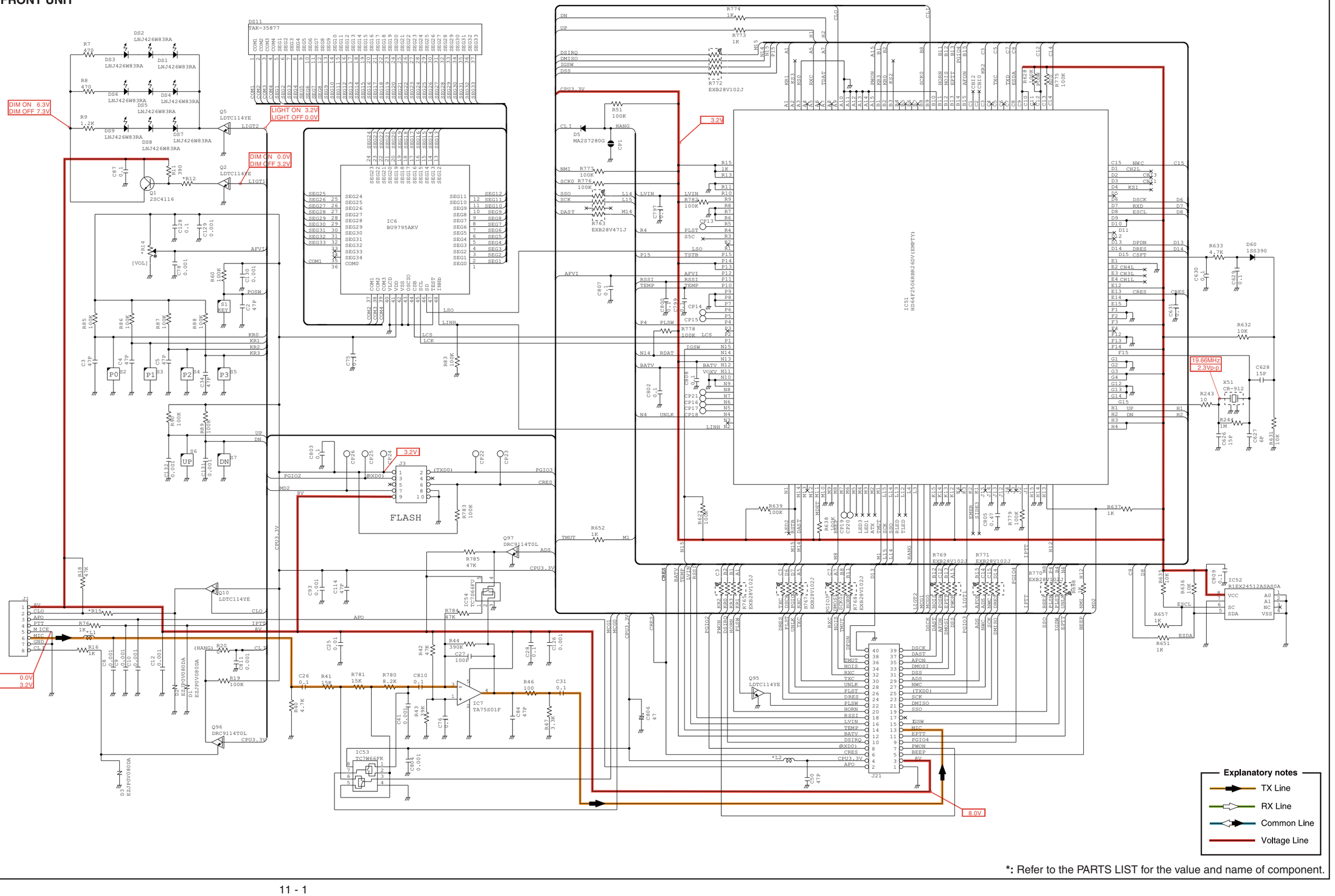
① GND (COMMON)
② Det. AF OUT (1 kΩ)
(240 mVrms ±3 dB at 1 kHz 60 % Dev.)
③ GND (INPUT)
④ Ext. I/O 4 (H:3 V, L: 0V) or TXD (RS-232C)
⑤ N/C
⑥ Ext. I/O 6 (H: 5–13.6 V, L: 0V) or
Ignition SW (Active: Power ON, Inactive: Power OFF)
⑦ Ext. I/O 7 (H: 5 V, L: 0V) or
AF OUT (100 mVrms ±3 dB at 1 kHz 60 % Dev.)
⑧ GND (Det. AF)
⑨ N/C
⑩ Ext. I/O 10 (H: 3 V, L: 0V) or RXD (RS-232C)
⑪ Ext. I/O 11 HORN OUT (100 mA max.; Open corrector)
⑫ GND (AF OUT)
⑬ Mod. IN (240 mVrms ±3 dB at 1 kHz 60 % Dev.)
⑭ Ext. I/O 14 (H: 3 V, L: 0V) or
Ext. PTT (H: PTT OFF, L: PTT ON)
⑮ VCC OUTPUT (0.3 A max.)

OPTIONAL CABLE OPC-2078 PIN ASSIGNMENT

② Ext. Input 4 (H:5 V, L: 0V) or TXD (RS-232C)
③ Ext. I/O 10 (H: 5 V, L: 0V) or RXD (RS-232C)
⑦ GND (COMMON)
⑧ Mod. IN (240 mVrms ±3 dB at 1 kHz 60 % Dev.)
⑨ Det. AF OUT (1 kΩ)
(240 mVrms ±3 dB at 1 kHz 60 % Dev.)
⑩ Ext. I/O 11 HORN OUT (100 mA max.; Open corrector)
⑪ VCC OUTPUT (0.3 A max.)
⑭ GND (INPUT)
⑭ GND (Det. AF)
⑭ GND (AF OUT)
⑮ Ext. I/O 6 (H: 5–13.6 V, L: 0V) or
Ignition SW (Active: Power ON, Inactive: Power OFF)
⑲ Ext. I/O 14 (H: 3 V, L: 0V) or
Ext. PTT (H: PTT OFF, L: PTT ON)
㉒ Ext. I/O 7 (H: 5 V, L: 0V) or
AF OUT (100 mVrms ±3 dB at 1 kHz 60 % Dev.)

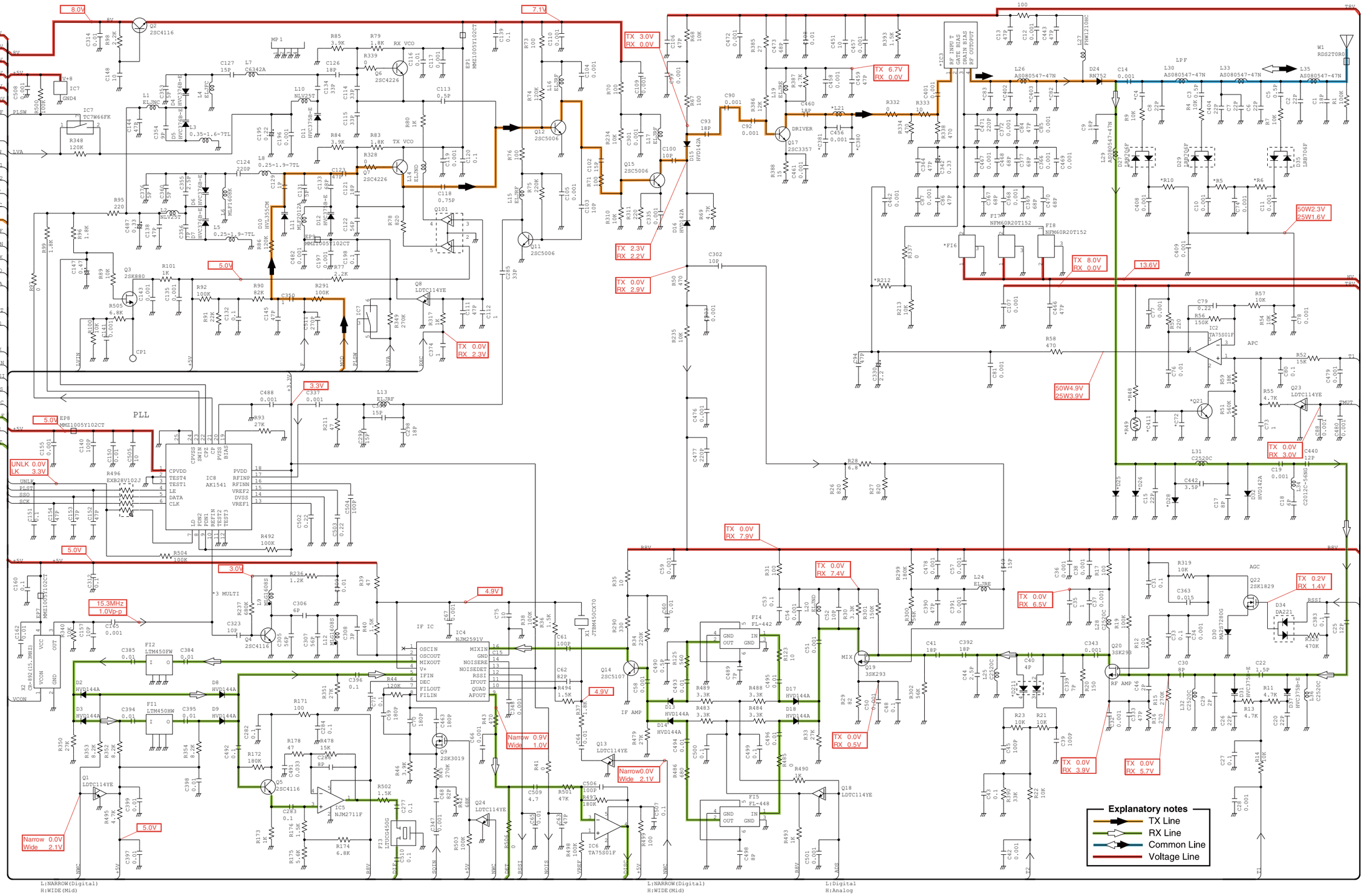
SECTION 11 VOLTAGE DIAGRAM

• FRONT UNIT



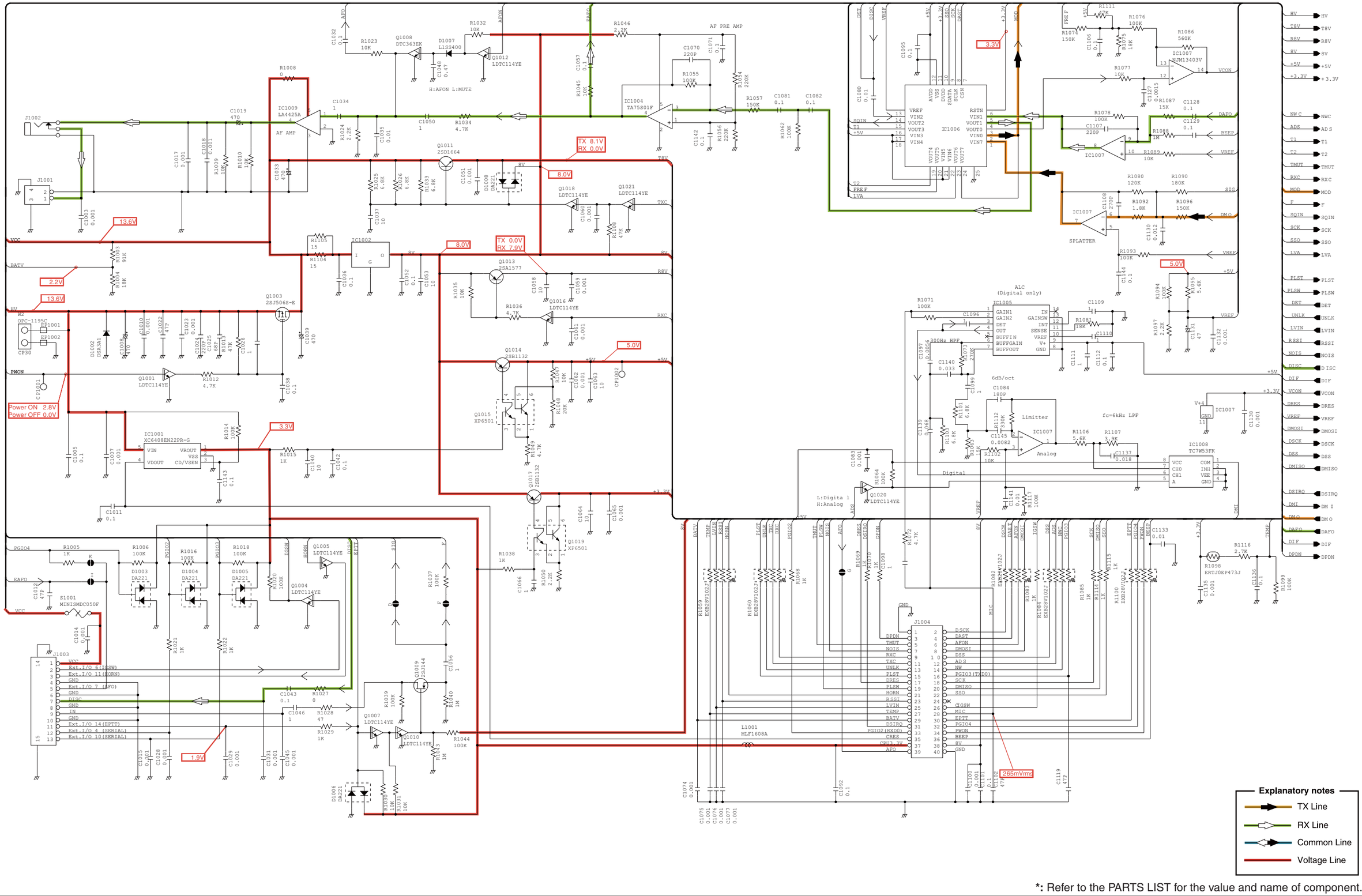
***:** Refer to the PARTS LIST for the value and name of component.

• MAIN UNIT (1/3)



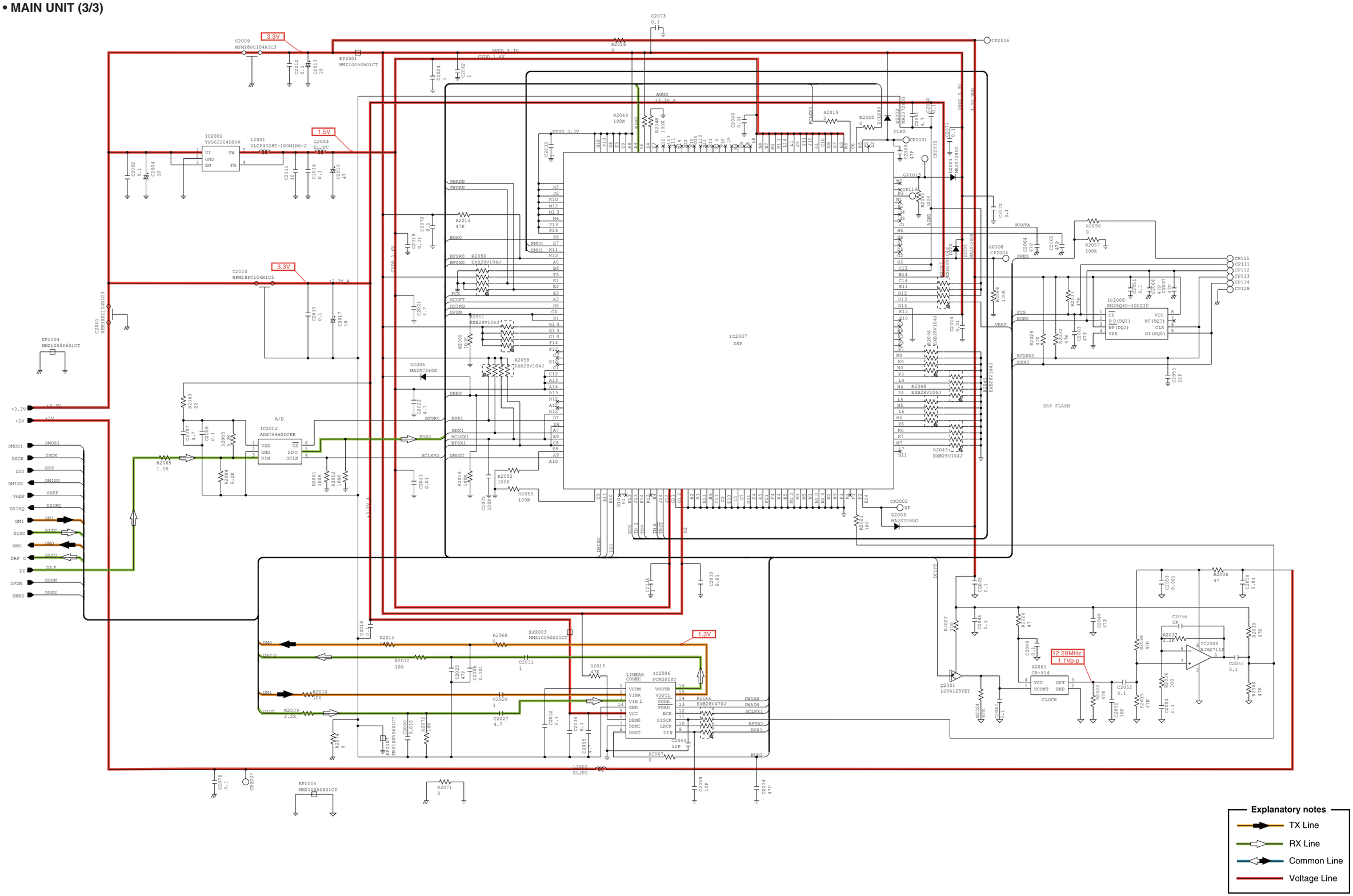
***:** Refer to the PARTS LIST for the value and name of component.

• MAIN UNIT (2/3)



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

• MAIN UNIT (3/3)



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

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