ICOM®

SERVICE MANUAL

VHF TRANSCEIVER

IC-F70DT/DS
IC-F70T/S

Icom Inc.

INTRODUCTION

This service manual describes the latest service information for the **IC-F70DT/DS** and **IC-F70T/S** VHF TRANSCEIVER at the time of publication.

MODEL	10-KEYPAD	APCO25
IC-F70DS	No	Compatible
		Not compatible
IC-F70S		FM only
IC-F70DT	Yes	Compatible
		Not compatible
IC-F70T		FM only

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

DANGER

NEVER connect the transceiver to an AC outlet or to a DC power supply that uses more than 7.2 V. This will ruin the transceiver.

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

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

ORDERING PARTS

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

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

<SAMPLE ORDER>

1130010100	S.IC	LMX2352TM	IC-F70DS	MAIN UNIT	5 pieces
8810010120	Screw	PH B0 M2×8 SUS ZK	IC-F70DS	CHASSIS	10 pieces

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

IC-F70DT/T

REPAIR NOTES

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

TABLE OF CONTENTS

SECTION 1 SPECIFICATIONS

■ GENERAL

- Frequency coverage : 136–174 MHz
- Type of emission : 11K0F3E (Narrow)
  16K0F3E (Wide)
- Number of conventional channels : 256 channels (Max.)
- Antenna impedance : 50 Ω (Nominal)
- Operating temperature range : –22°F to 140°F
- Power supply requirement : Specified Icom's battery pack only
  (Operatable voltage; 7.2 V DC negative ground)
- Current drain (At 7.2 V DC ; approx.) :

RECEIVING		TRANSMITTING	
Stand-by	Max.audio	High (5 W)	Low (1 W)
150 mA	450 mA	2.2 A	1.5 A

- Dimensions (Projections not included) : 2 5/16 (W)× 5 31/32 (H)× 1 1/2 (D) in
- Weight (Except anntena, battery pack) : 8 13/16 oz (Approx.)

■ TRANSMITTER

- Output power (At 7.2 V DC) : High; 5 W, Low; 1 W
- Modulation : Variable reactance frequency modulation
- Maximum permissible deviation : ±2.5 kHz (Narrow)
  ±5.0 kHz (Wide)
- Frequency error : ±2.00 ppm
- Spurious emissions : 70 dB typ.
- Adjacent channel power : 60 dB min. (Narrow)
  70 dB min. (Wide)
- Audio harmonic distortion : 3% typ. at 40% deviation
- Limiting charactor of modulator : 60–100% of max. deviation
- FM hum and noise (Without CCITT filter) : 34 dB min. (40 dB typ. ; Narrow)
  40 dB min. (45 dB typ. ; Wide)
- Audio frequency response : +2 dB to –8 dB of 6 dB/octave from 300 Hz to 2550 Hz (Narrow)
  +2 dB to –8 dB of 6 dB/octave from 300 Hz to 3000 Hz (Wide)
- Microphone impedance : 2.2 kΩ

■ RECEIVER

- Receive system : Double conversion superheterodyne system
- Intermediate frequencies : 1st IF; 46.35 MHz, 2nd IF; 450 kHz
- Sensitivity : 0.25 μV typ. at 12 dB SINAD
- Squelch sensitivity (At threshold) : 0.25 μV typ.
- Adjacent channel selectivity : 60 dB min. (70 dB typ. ; Narrow)
  70 dB min. (75 dB typ. ; Wide)
- Spurious response : 70 dB min. (80 dB typ.)
- Intermodulation rejection ratio : 70 dB min. (73 dB typ.)
- Hum and Noise (Without CCITT filter) : 34 dB min. (40 dB typ. ; Narrow)
  40 dB min. (45 dB typ. ; Wide)
- Audio output power : 0.5 W typ. at 10% distortion with an 8 Ω load
- Output impedance (Audio) : 8 Ω

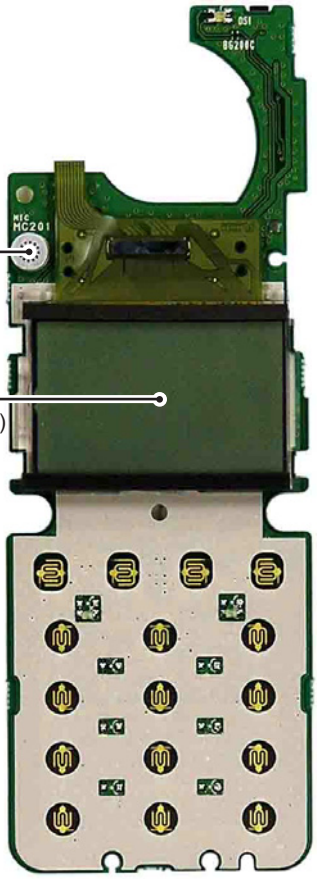
Specifications are measured in accordance with EIA-152-C/204D, TIA-603

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

SECTION 2 INSIDE VIEWS

• FRONT UNIT

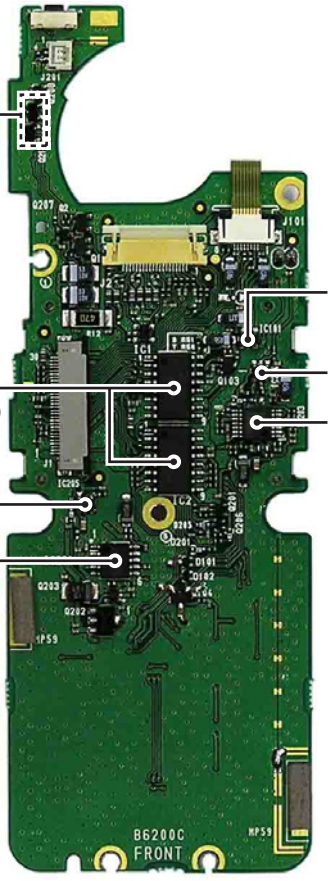
TOP VIEW



Microphone
(MC201: EM-140)

LCD
(DS2: M4-0078TAY-2)

BOTTOM VIEW



AF MUTE
(Q209: RSR025N03
Q210: RSR025N03)

Expanders
(IC1, IC2: M62320FP)

AF mute switch
(IC205: TC4S66F)

AF amplifier
(IC201: TA7368F)

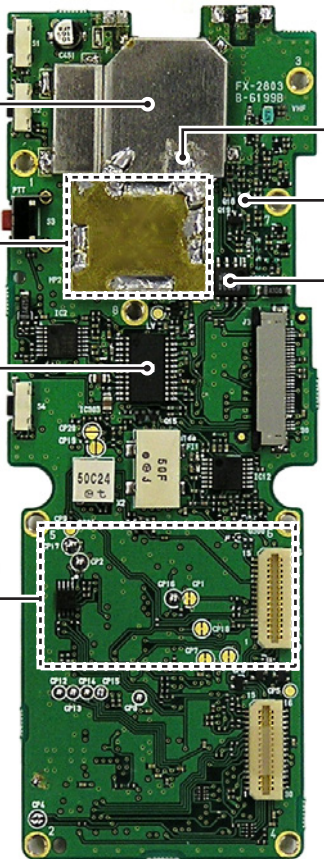
3.0V regulator
(IC101: S-812C30AMC-C2K)

Mic switch
(IC204: TC4S66F)

Mic amplifier
(IC203: NJM12902V)

• MAIN UNIT

TOP VIEW



Power amplifier
(Q13: RD07MVS1)

VCO circuit

AF volume
(IC303: M62364FP)

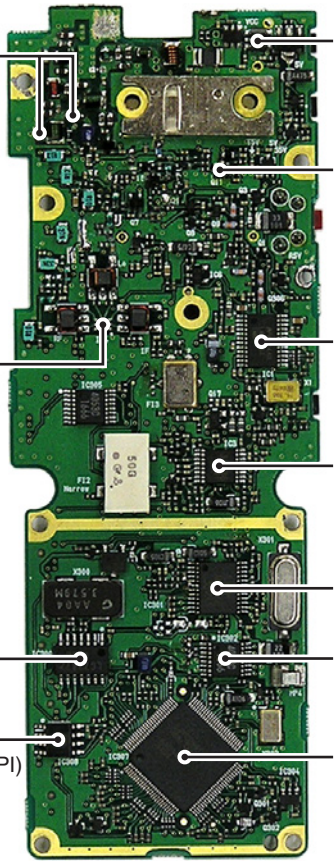
DSP unit
[IC-F70DT/DS] only

ALC amplifier
(IC5: TA75S01F)

RF amplifier
(Q18: 3SK293)

D/A converter
(IC310: M62334FP)

BOTTOM VIEW



Antenna switch
(D12, D22: 1SV307)

Mixer
(IC4: SPM5001)

DTMF DECODE
(IC300: LC73872M)

EEPROM
(IC308: HN58X24128FPI)

CPU5V regulator
(IC311: TK11250CM)

YGR amplifier
(Q11: 2SC5110-O)

PLL IC
(IC1: LMX2352TM)

FM IF IC
(IC3: TA31136FN)

Audio processor
(IC301: AK2346)

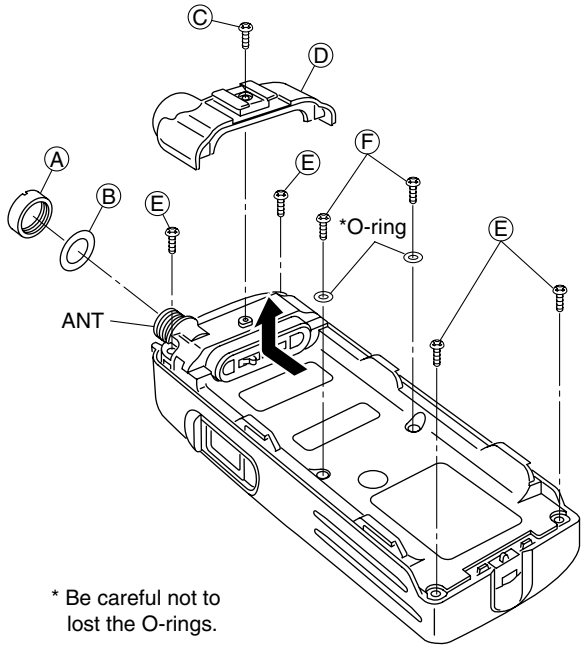
Digital/Analog switch
(IC302: BU4053BCFV)

CPU
(IC307: HD64F2268TF)

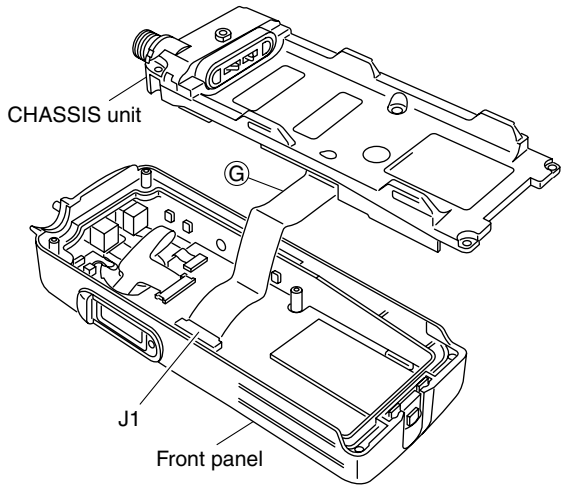
SECTION 3 DISASSEMBLY INSTRUCTIONS

• REMOVING THE CHASSIS UNIT

① Unscrew the ANT nut Ⓐ and remove the ANT washer Ⓑ.
② Unscrew the screw Ⓒ, and remove the rear panel Ⓓ in the direction of the arrow.
③ Unscrew 4 screws Ⓔ and 2 screws Ⓕ.

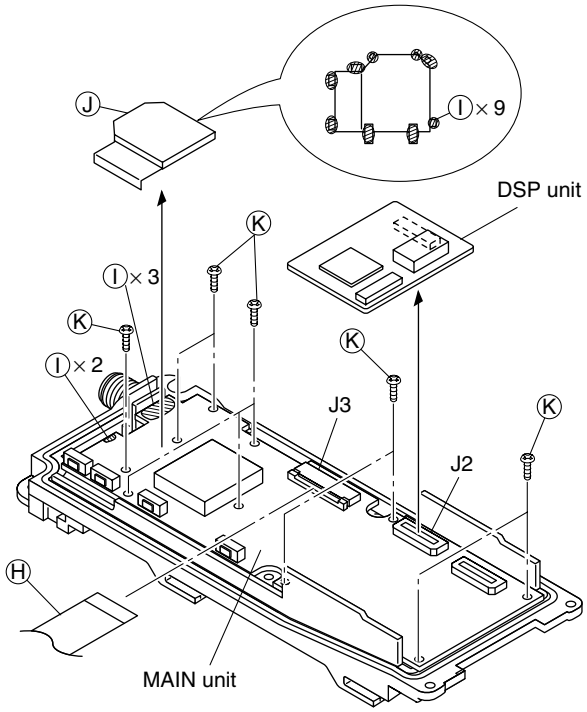


⑤ Disconnect the cable Ⓖ from J1 and remove the CHASSIS unit from the front panel.



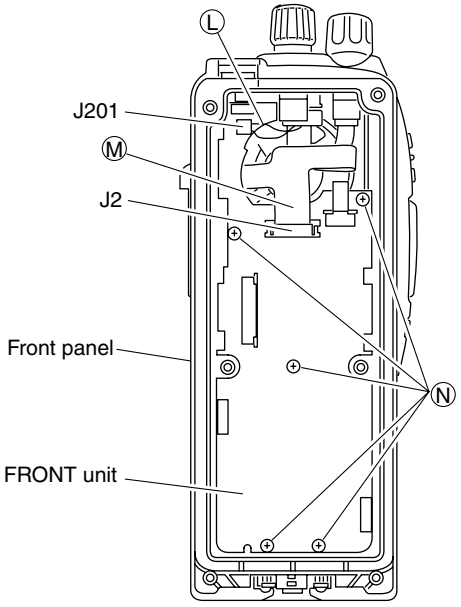
• REMOVING THE MAIN UNIT

① Disconnect the cable Ⓗ from J3.
② Remove the DSP unit from J2.
③ Unsolder 14 points Ⓘ and remove the shield plate Ⓙ.
④ Unscrew 10 screws Ⓚ and remove the MAIN unit from the CHASSIS.



• REMOVING THE FRONT UNIT

① Disconnect the speaker cable Ⓛ from J201.
② Disconnect the cable Ⓜ from J2.
③ Unscrew 5 screws Ⓝ and remove the FRONT unit from the front panel.



SECTION 4 CIRCUIT DESCRIPTION

4-1 RECEIVER CIRCUITS

4-1-1 ANTENNA SWITCHING CIRCUIT

The antenna switching circuit toggles the receive line and the transmit line. This circuit does not allow transmit signals to enter the receiver circuits.

Received signals from the antenna connector (CHASSIS UNIT; J1) are passed through a two-stage low-pass filter (LPF; L22, L23, C204–C207, C209) and applied to the $\lambda/4$ type antenna switching circuit (D12, D22).

While receiving, no voltage is applied to D12 and D22. Thus, the receive line and the ground are disconnected and L41, L42, C199–C202 function as a two-stage LPF which leads received signals to the RF circuits via the limiter (D20, D21).

4-1-2 RF CIRCUITS

The RF circuits amplify received signals within the range of frequency coverage and filters off out-of-band signals.

The signals from the antenna switching circuit are passed through the two-stage tunable bandpass filters (BPF; D18, D19, L38, L39, C191, C193, C194, C197, C232, C233) to suppress unwanted signals. The filtered signals are amplified at the RF amplifier (Q18).

The amplified signals are passed through another two-stage tunable BPF (D15, D16, L49, L52–L55, C171, C173, C174, C176) to suppress unwanted signals again. The filtered signals are then applied to the 1st IF circuit.

4-1-3 1st IF CIRCUITS

The 1st mixer circuit converts the received signals into fixed frequency of the 1st intermediate frequency (IF) signal by mixing with the local oscillator (LO) signals which controlled by the PLL circuit. The IF is shifted by changing LO frequency to track the receive signal. The converted 1st IF signal is filtered at the 1st IF filter, then amplified at the 1st IF amplifier.

The signals from the two-stage tunable BPF are converted into the 46.35 MHz 1st IF signal at the double-balanced type 1st mixer (IC14, L30, L31, L33) by being mixed with the 1st LO signal generated at the RX VCOs (Q4, D4, D5, D24, D26 or Q20, D27 to D30).

The 1st IF signal from the 1st mixer is passed through the crystal filter (FI3) to suppress unwanted signals, and then amplified at the 1st IF amplifier (Q17). The amplified 1st IF signal is applied to the FM IF IC (IC3, pin 16).

4-1-4 2nd IF AND FM DEMODULATOR CIRCUITS

The 1st IF signal is converted into the 2nd IF signal and demodulated at the detector section in the FM IF IC. The FM IF IC contains 2nd mixer, limiter amplifier, quadrature detector, etc. in its package.

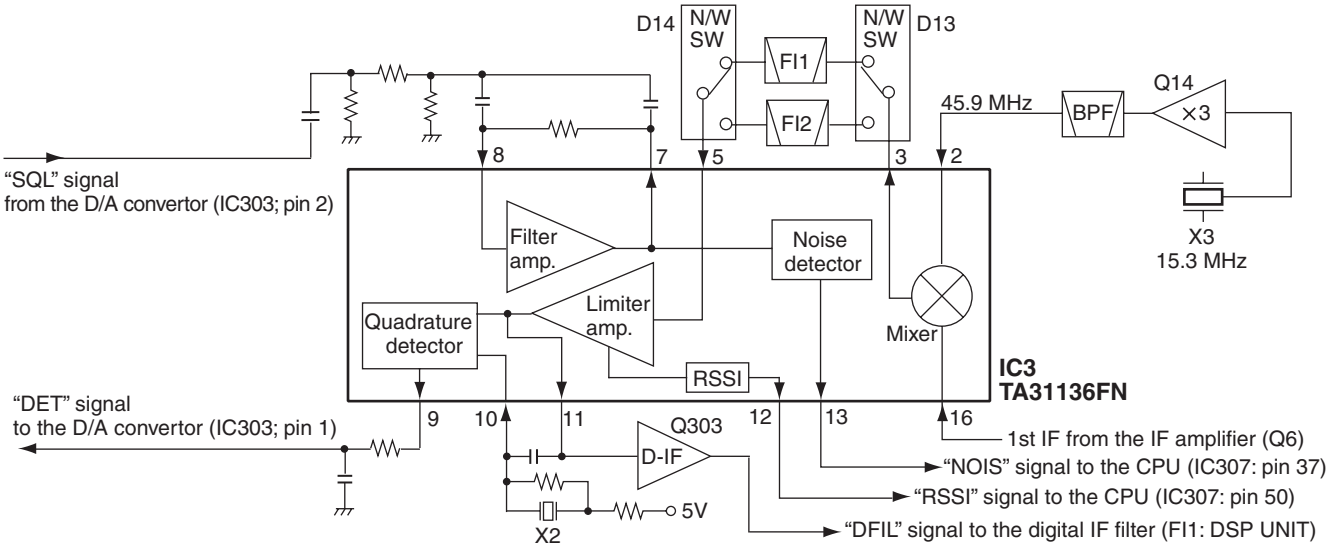
The 1st IF signal from the 1st IF amplifier (Q17) is applied to the mixer section in FM IF IC (IC3, pin 16). The applied 1st IF signal is mixed with the 45.9 MHz 2nd LO signal generated by tripling the 15.3 MHz PLL reference frequency to be converted into the 450 kHz 2nd IF signal.

The 2nd IF signal from the mixer section is output from pin 3 and passed through the N/W switches (D13, D14) and ceramic filter (FI1 or FI2) to suppress the heterodyne noise.

The N/W switches (D13, D14) toggle the receive mode wide and narrow according to “NWC” signal from the CPU (IC307, pin 19). FI1 is used for wide, and FI2 is used for narrow mode operation.

The filtered signal is applied to IC3 (pin 5) again, and amplified at the limiter amplifier section and demodulated by the quadrature detector.

• 2ND IF AND DEMODULATOR CIRCUITS



The quadrature detector is a detection method which uses a ceramic discriminator (X2).

The demodulated AF signals are output from pin 9, and applied to the AF cricuits.

4-1-5 AF CIRCUITS

The demodulated AF signals from the FM IF IC are amplified and filtered at AF circuit. This transceiver employs the base band IC for audio signal processing for both transmit and receive. The base band IC is an audio processor and composed of pre-amplifier, compressor, expander, scrambler, etc. in its package.

The AF signals from FM IF IC (IC3, pin 9) are applied to the base band IC (IC301, pin 23) via the digital/analog switch (IC302, pins 12, 14).

The applied AF signals are amplified at the amplifier section and level adjusted at the volume control section, and then suppressed unwanted 3 kHz and higher audio signals at LPF section. The filtered AF signals are applied or bypassed the TX/RX HPF, scrambler, de-emphasis, sections in sequence, then applied to another volume controller.

The TX/RX HPF filters out 250 Hz and lower audio signals, and the de-emphasis obtains –6 dB/oct of audio characteristics. The expander expands the compressed audio signals and also noise reduction function is provided.

The AF signals are level adjusted at the volume controller and amplified at the amplifier section. The amplified AF signals are output from pin 20 and applied to the D/A coverter (IC303, pin 16) to be adjusted its level, and then applied to the FRONT UNIT via J3 (pin 28).

The level controlled AF signals from the MAIN UNIT are passed through the mute switch (FRONT UNIT; IC205, pins 1, 3) and applied to the AF power amplifier (IC201, pin 4: FRONT UNIT) to obtain 500 mW of AF output power. The power amplified AF signals are applied to the internal speaker (CHASSIS UNIT; SP1).

4-1-6 SQUELCH CIRCUITS

• NOISE SQUELCH

Noise squelch circuit mutes AF output signals when no RF signals are received. By detecting noise components in the demodulated AF signals, the squelch circuit switches the AF mute swithch and AF power amplifier controller ON and OFF.

A portion of the demodulated AF signals from the FM IF IC (IC3, pin 9) are applied to the converter (IC303, pin 1) to be adjusted its level. The level controlled signals are output from pin 2 and applied to the active filter (IC3, pins 7, 8; R74, R75, R77 C137–C139). The filtered signals are applied to the filter amplifier section to amplify the noise components only.

The amplified noise components are converted into the pulse-type signal at the noise detector section, and output from pin 13 as the “NOIS” signal and applied to the CPU (IC307, pin 37). Then the CPU outputs “AFON” signal from pin 18 according to the “NOIS” signal level to toggle the AF mute circuit (FRONT UNIT; IC205) and AF amplifier controller (FRONT UNIT; Q202, Q203) ON/OFF.

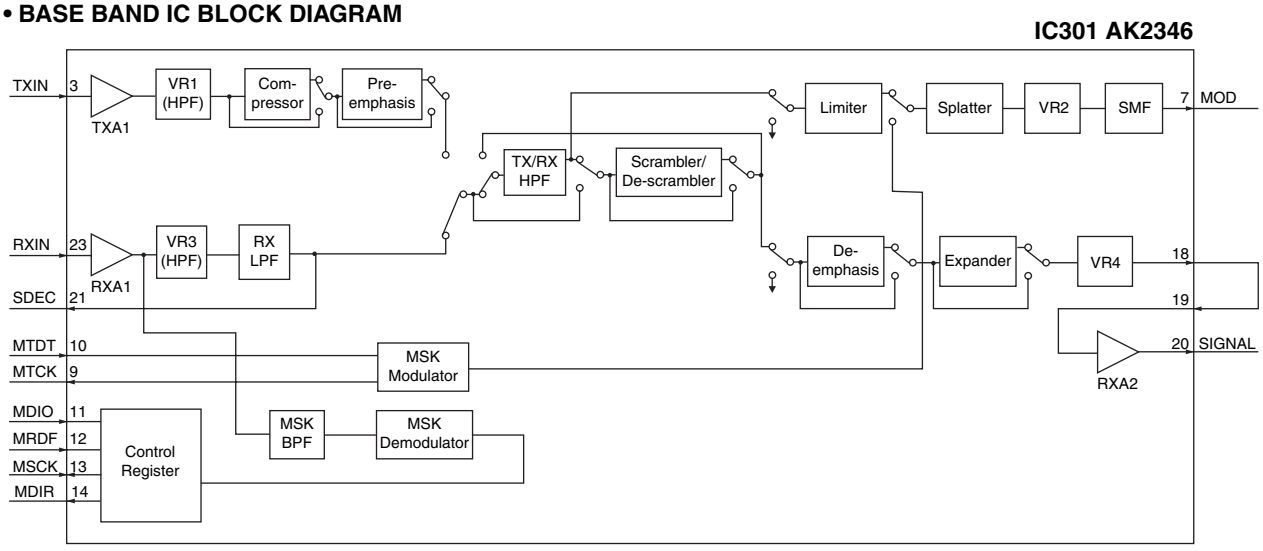
• CTCSS AND DTCS

The tone squelch circuit detects tone signals and opens the squelch only when receiving a signal containing a matched sub audible tone (CTCSS or DTCS). When the tone squelch is in use, and a signal with a mismatched or no sub audible tone is received, the tone squelch circuit mutes the AF signals even when the noise squelch is open.

A portion of the demodulated AF signals are passed through the LPF (IC12, pins 12, 14) to filters CTCSS/DTCS signal. The filtered signal is applied to the CPU (IC307, pin 46) after being amplified at the buffer amplifier (IC2, pins 1, 3).

The CPU compares the applied signal and the set CTCSS/DTCS, then output the AF mute switch (IC205) AF amplifier controller (Q202, Q203) control signal from pin 18.

• BASE BAND IC BLOCK DIAGRAM



4-2 TRANSMITTER CIRCUITS

4-2-1 MICROPHONE AMPLIFIER CIRCUIT

The microphone amplifier circuit amplifies the audio signals from microphone within +6 dB/oct pre-emphasis characteristic. The microphone signals are processed in the base band IC which contains microphone amplifier, compressor, scrambler, limiter, splatter filter, etc. in its package.

The audio signals from the microphone (FRONT UNIT; MC201) are passed through the microphone mute switch (FRONT UNIT; IC204). The switched signals are amplified at the microphone amplifiers (FRONT UNIT; IC203, pins 1, 2, 13, 14) to obtain within +6 dB/oct pre-emphasis characteristics. The amplified signals are applied to the MAIN UNIT via J1 (pin 2).

The amplified MIC signals from the FRONT UNIT are applied to the base band IC (IC301, pin 3). The applied MIC signals are amplified at the amplifier section, and level adjusted at the volume control section. The level adjusted MIC signals are applied or bypassed the compressor section, pre-emphasis section, TX/RX HPF, de-scrambler, limiter, splatter, in sequence, then applied to another volume controller.

The compressor compresses the MIC signals to provide high S/N ratio for receive side, and the pre-emphasis obtains +6 dB/oct audio characteristics. The TX/RX HPF filters out 250 Hz and lower audio signals, the limiter limits its level and the splatter filters out 3 kHz and higher audio signals.

The filtered MIC signals are level adjusted at another volume control section and amplified at the amplifier section, and then output from pin 7 via smoothing section (SMF).

4-2-2 MODULATION CIRCUIT

The modulation circuit modulates the VCO oscillating signal with the audio signals from the microphone.

MIC signals from the base band IC (IC301) are passed through the MIC switch (IC302, pins 5, 4), PM filter (C338, R327), FM/PM switch (IC302, pins 1, 15), and then applied to the AF mixer (IC12, pin 2) to be mixed with CTCSS/DTCS signals.

The mixed MIC signals are applied to the D/A converter (IC303, pin 4) to be adjusted its level. The level adjusted AF signals are output from pin 3 and applied to the modulation circuit (D8) to modulate the VCO oscillating signal by changing the reactance of D8 at the TX VCO (Q5, D6, D7, D25).

The CTCSS/DTCS signals are generated by the CPU (IC307) and output from pins 89–91 (“CENC0,” “CENC1,” ”CENC2”). The CTCSS/DTCS signals are passed through 3 registers (R374–R376) to change its wave form. The wave form changed CTCSS/DTCS signals are then passed through the LPF (IC12, pins 8, 10) and applied to the converter (IC303, pin 9) to be adjusted its level, and output from pin 10.

The level adjusted CTCSS/DTCS signals are applied to the AF mixer (IC12, pin 2) to be mixed with MIC signals. The mixed CTCSS/DTCS signals are output from pin 1 and applied to the D/A converter (IC303, pin 4) to be adjusted its level again, then output from pin 3. The CTCSS/DTCS signals from the D/A converter are applied to the both of reference frequency oscillator (X1) and modulation circuit (D8) to modulate the reference frequency signal and VCO oscillating signal.

The modulated VCO output signal is amplified at the buffer amplifiers (Q6, Q10) and is then applied to the YGR amplifier (Q11) via the TX/RX switch (D10).

4-2-3 TRANSMIT AMPLIFIERS

The VCO output signal is amplified to transmit output power level by the transmit amplifiers .

The buffer-amplified signal from the TX/RX switch is applied to the YGR (Q11), the driver (Q12), and power (Q13) amplifiers, to be amplified to the transmit output power level. The power amplified transmit signal is passed through the power detector (D11), antenna switch (D12), and two-stage LPFs (L22, L23, C204–C207, C209), and then applied to the antenna connector (CHASSIS UNIT; J1).

4-2-4 ALC CIRCUIT

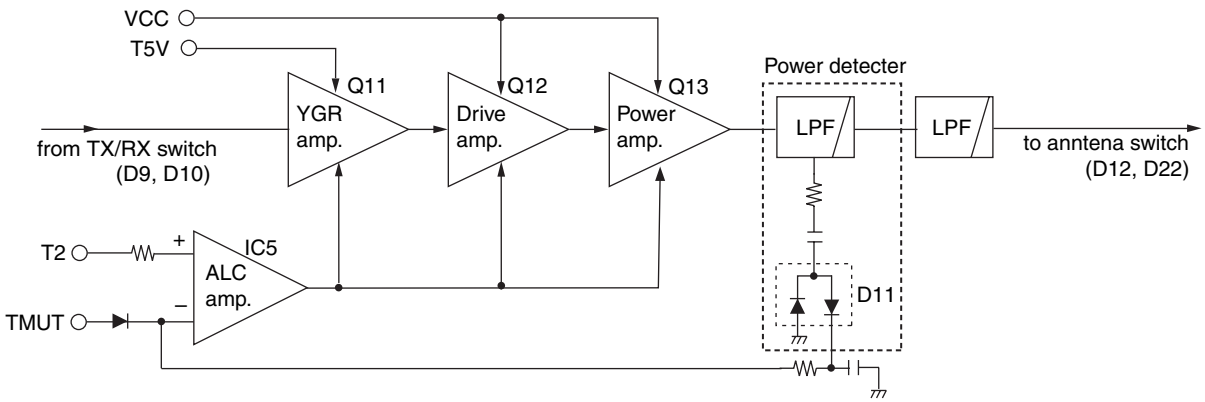
The ALC (Automatic Level Control) circuit stabilizes transmit output power and controls transmit output power High or Low.

The power detector circuit (D11) detects the transmit output signal and converts it into DC voltage.

The detected voltage is applied to the ALC amplifier (IC5, pin 3). The “T2” signal from the D/A converter (IC310, pin 2), controlled by the CPU (IC307), is applied to the another input (pin 1) for reference, and the "T2" signal also controls transmit output power (5 W or 1 W).

The output voltage from the ALC amplifier controls the bias of the YGR (Q11), driver (Q12) and power amplifier (Q13) to reduce the output power by comparing the detected voltage and the reference voltage. Thus the ALC circuit maintains a constant transmit output power.

• ALC CIRCUIT



4-3 PLL CIRCUITS

4-3-1 PLL CIRCUIT (MAIN UNIT)

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

The PLL circuit contains the two RX VCOs (Q4, D4, D5, D24, D26 for 154–174 MHz, Q20, D27–D30 for 136–153.995 MHz) and one TX VCO (Q5, D6, D7, D25). The oscillated signal is amplified at the buffer amplifiers (Q6, Q9) and applied to the PLL IC (IC1, pin 6) after being passed through the BPF (Q1, D1, D2, L2, L56, L57, L302, C12, C15, C20, C22, C25–C28, C32).

Q1, D1 and D2 compose of a BPF switch which toggles the filtering frequencies for TX and RX, controlled by “T5C” signal from the CPU (IC307 pin 16).

The applied signal is divided at the prescaler and programmable divider section by the N-data ratio from the CPU. The divided signal is detected at the phase detector section via divided ratio adjustment section using the reference frequency passed through the reference divider and output from pin 4 after being passed through the charge pump section. The output signal is passed through the loop filter (R16, R17, C17, C24, C29, C31) and is then applied to the VCO circuits.

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

4-3-2 VCO CIRCUITS

The VCO circuits contain separate two RX VCOs (Q4, D4, D5, D24, D26 for 154–174 MHz, Q20, D27–D30 for 136–153.995 MHz) and one TX VCO (Q5, D6, D7, D25). The oscillated signal is amplified at the buffer amplifiers (Q6, Q10) and is then applied to the TX/RX switch (D9, D10). Then the receive 1st LO (RX) signal is applied to the 1st mixer (IC14, L30, L31, L33), and the transmit (TX) signal is applied to the YGR amplifier (Q11).

A portion of the signal from the buffer amplifier (Q6) is fed back to the PLL IC (IC1, pin 6) via the buffer amplifier (Q9) and the BPF (Q1, D1, D2, L2, L56, L57, L302, C12, C15, C20, C22, C25 to C28, C32) as the comparison signal.

4-4 POWER SUPPLY CIRCUITS

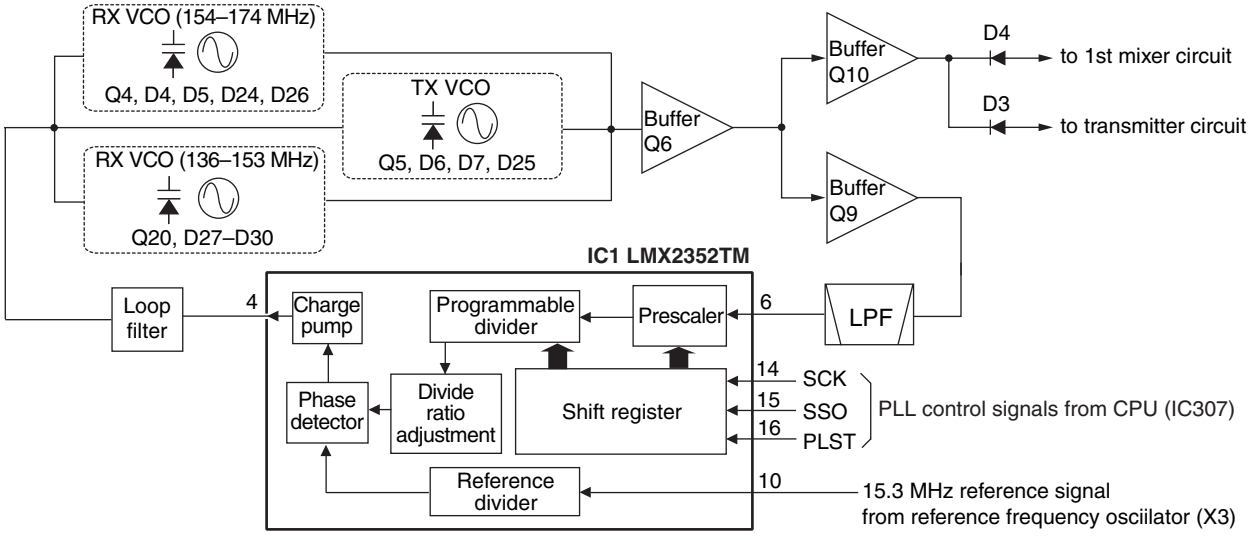
4-4-1 VOLTAGE LINES (MAIN UNIT)

LINE	DESCRIPTION
VCC	The voltage from the attached battery pack passed through the power switch (Q309).
CPU5V	Common 5 V for the CPU (IC307) converted from the VCC line at the CPU5V regulator (IC311).
+5V	Common 5 V line converted from the VCC line at the +5V regulator (Q307, Q308).
T5V	5 V for the transmit circuits regulated from the +5V line by the T5V switch (Q305). The switch is controlled by the "T5C" signal from the CPU (IC307, pin 16).
S5V	5 V for the power save line regulated from the +5V line by the S5V switch (Q304). The switch is controlled by the "S5C" signal from the CPU (IC307, pin 27).
R5V	5 V for the receive circuits regulated from the +5V line by the R5V switch (Q306). The regulator is controlled by the "R5C" signal from the CPU (IC307, pin 26).

4-4-2 VOLTAGE LINES (DSP UNIT)

LINE	DESCRIPTION
DVDD3.3V	3.3 V for the CPU (IC12; DSP UNIT), DSP IC (IC7) and EEPROM (IC17) regulated from the +5V line by the +3VC regulator (IC1).
CVDD1.5V	1.5 V for the DSP IC (IC7) converted from the +5V line at the +1.5VA regulator (IC2).
+3VD	3.3 V for the A/D converter (IC8) and LINER CODEC IC (IC9) from the +5V line at the +3VD regulator (IC3).

• PLL CIRCUIT



4-5 DIGITAL CIRCUIT (IC-F70DT/DS only)

• WHILE RECEIVING

A portion of the 2nd IF sigal from the limiter amplifier section in the FM IF IC (IC3) is output from pin 11 and is applied to the 2nd IF amplifier (Q303). The amplified 2nd IF signal is applied to the DSP UNIT via J2 (pin 11).

The 2nd IF signal from the MAIN UNIT is passed through the ceramic BPF (DSP UNIT; FI1) to suppress heterodyne noise, and amplified again at the digital IF amplifier (DSP UNIT; IC5, pin 4). The amplified 2nd IF signal is applied to the A/D converter (DSP UNIT; IC8, pin 3) to be converted into digital IF data, then applied to the DSP IC (DSP UNIT; IC7). The DSP IC converts the digital IF into the digital audio signal.

The digital audio signal from the DSP IC are converted into analog audio signals at the LINER CODEC IC (IC9) and output from pin 16. The audio signals from the LINER CODEC IC are applied to the MAIN UNIT via J1 (pin 22).

The audio signals from the DSP UNIT are applied to the base band IC (MAIN UNIT; IC301, pin 20) after being passed through the digital/analog switch (MAIN UNIT; IC302).

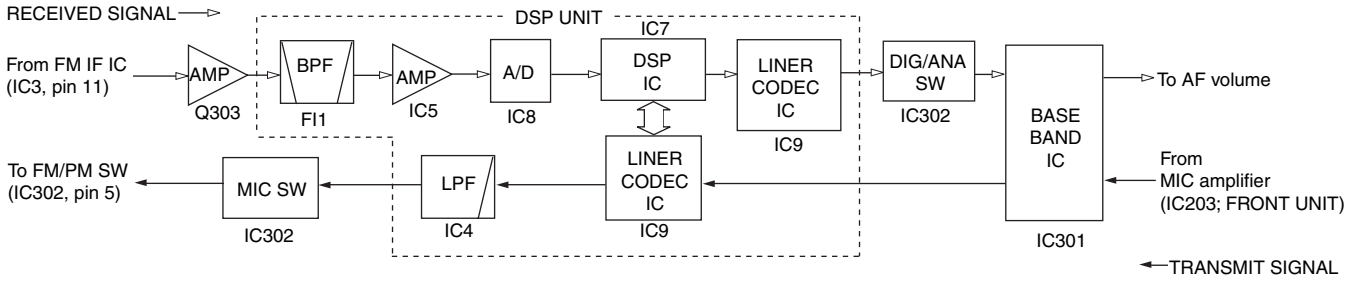
• WHILE TRANSMITTING

The microphone signals from the base band IC (IC301, pin 7) are applied to the DSP UNIT via J2 (pin 4).

The microphone signals from the MAIN UNIT are applied to the LINER CODEC IC (DSP UNIT; IC9, pin 2) to convert into the digital audio signal.

The converted digital audio signal is processed by the DSP IC (DSP UNIT; IC7), and applied to the LINER CODEC IC (DSP UNIT; IC9) again. The signal from the LINER CODEC IC (IC9, pin 15) is passed through the LPFs (DSP UNIT; IC4, pins 3, 4, 5, 7) and applied to the MAIN UNIT via J1, and then passed through the microphone switch (MAIN UNIT; IC302, pins 3, 4), FM filter (R328, C335), FM/PM switch (IC302, pins 2, 15).

• DIGITAL MODE BLOCK DIAGRAM



4-6 PORT ALLOCATIONS

4-6-1 CPU (IC307)

Pin number	Port name	Description
4–7	R1, R2, R4, R8	Input ports for rotary selector (VR UNIT; S1).
10	SSO	Outputs serial data to the PLL IC (IC1, pin 15) and D/A converter (IC303, pin 8).
11	SCK	Outputs clock signal to the PLL IC (IC1 pin 14) and D/A converter (IC303, pin 7), etc.
13	PLST	Outputs strobe signals to the PLL IC (IC1, pin 16).
15	DASW	Outputs control signal to the digital /analog switch (IC302). Low: While analog mode is selected.
16	TXC	Outputs the T5V switch (Q305) control signal. Low: During transmit.
17	TMUT	Outputs the ALC amplifier (IC5) control signal. Low: During receive.
18	AFON	Outputs control signal for AF mute circuit (FRONT UNIT; IC205) and AF power amplifier (FRONT UNIT; IC201). High: AF amplifier (IC201) is activated.
19	NWC	Outputs wide/narrow switch (D13, D14) control signal. High: When narrow mode is selected.

Pin number	Port name	Description
20	DDSD	Input port for serial data from the DTMF decoder IC (IC300, pin 9).
21	DDAC	Outputs clock signals to the DTMF decoder IC (IC300, pin 10).
26	R5C	Outputs R5V switch (Q306) control signal. High:While receiving.
27	S5C	Outputs S5V switch (Q304) control signal. High:In power save mode..
29	PTTO	Input port for optional unit. Low: Switch ON.
30	EM	Input port for the emegency switch (FRONT UNIT; S117). Low: While emegency switch is pushed.
32	RMUT	Input port for the AF mute signal from the optional unit via J1 or J2. Low: While RX audio is muted.
33	MMUT	Input port for the microphone mute signal from the optional unit via J1 or J2. Low: While microphone audio is muted.
34–36	OPT1–OPT3	I/O ports for the connected optional unit to J1.

4-6-1 CPU (continued)

Pin number	Port name	Description
37	NOIS	Input port for the noise signal from the FM IF IC (IC3, pin 13).
38	PWRSW	Input port for the [VOL] control (VR UNIT; R1). Low: While power is ON.
39	DDST	Input port for the decodedDTMF signals from the DTMF decoder IC (IC300, pin 11).
40	CIRQ	Inputs offering signal from the optional unit and DSP unit. Low: Offering signal is output.
41	PWRO	Outputs control signal for the power switch circuit (Q309, Q310). High: Power ON.
43	SENC	Outputs single tone encode signal.
44	BEEP	Outputs beep audio signals.
45	SDEC	Input port for single tone decode signal from the base band IC (IC301, pin 1).
46	CDEC	Input port for CTCSS/DTCS signal from the LPF (IC12, pin 7).
47	ULCK	Input port for the PLL unlock signal. Low: The PLL circuit is unlocked.
48	BATV	Input port for the connected battery pack for the low battery voltage detection. Low: The battery voltage is low.
49	LVIN	Input port for the PLL lock voltage.
50	RSSI	Input port for the "RSSI" signal from the FM IF IC (IC3, pin 12).
51	TEMP/ OPTV	• Input port for the transceiver's internal temperature detecting signal. High: Internal temperature is high. • Input port for the optional unit detecting signal. High: While connecting optional unit to the multiconnector.
55	SIDE1	Input port for [UP] switch (MAIN UNIT; S1). Low: While [UP] switch is pushed.
68	DAST	Outputs strobe signals to the D/A converter (IC303, pin 6).
69	DSDA	I/O port for data signal to the D/A converter (IC310, pin 6).
72	SPCON	Outputs "SPCON" signal. Low: Audio output.
78	MTCK	Input port for transmitting MSK clock signal from the base band IC (IC301, pin 9).
79	KR	Input port for key matrix. Low: While any of key on the 10-keypad (including [P0]–[P3]) is pushed.
80	FSDA	I/O port for the serial data signal for the expander (FRONT UNIT; IC2).
81	FSCL	Outputs clock signal to the expander (FRONT UNIT; IC2).
88	SIDE2	Input port for [DOWN] switch (MAIN UNIT; S2). Low: While [DOWN] switch is pushed.
89–91	CENC0–CENC2	Output the CTCSS/DTCS signals.
92	SIDE3	Input port for [MONITOR] switch (MAIN UNIT; S4). Low: While [MONITOR] switch is pushed.
93	MTDT	Outputs the MSK data to the base band IC (IC301, pin 10).
94	MDIR	Outputs serial data control signal to the base band IC (IC301, pin 14).
95	MDIO	I/O port for the serial data signals from/to the base band IC (IC301, pin 11).
96	MSCK	Outputs clock signal for the base band IC (IC301, pin 13).
97	PMFM	Outputs the the FM/PM switch (IC302, pin 11) control signal. High:While PM is selected.
98	ESDA	I/O port for data signals from/to the EEPROM (IC308, pin 5).
99	ESCL	Outputs clock signal to the EEPROM (IC308, pin 6).
100	CODE8	Output port for "CODE8" signal.

4-6-2 D/A CONVERTER (MAIN UNIT; IC303)

Pin number	Port name	Description
2	SQL	Outputs AF signals to the squelch circuit (IC3, pin 8).
3	MOD	Outputs modulation signals to the modulation circuit (D8).
10	TENC	Outputs CTCSS/DTCS signals.
11	BAL	Outputs deviation balance control signal.
14	BEPV	Outputs beep audio signals to the speaker via the AF amplifier (FRONT UNIT; IC201).
15	SIGNAL	Outputs AF signals to the speaker via the AF amplifiers (FRONT UNIT; IC201).
22	TONE	Outputs single tone signal.
23	REF	Outputs reference oscillator control signal.

4-6-3 D/A CONVERTER (MAIN UNIT; IC310)

Pin number	Port name	Description
1	T1	Outputs the bandpass filters (D18, D19) tuning signal.
2	T2	• While receiving: Outputs the bandpass filters (D15, D16) tuning signal. • While transmitting: Outputs the TX power control signal which selects TX output power of HIGH or LOW. The output signal is applied to the ALC amplifier (IC5, pin 1).
3	TXLVA	Outputs TX VCO lock voltage.
4	RXLVA	Outputs RX VCO lock voltage.

SECTION 5 ADJUSTMENT PROCEDURES

5-1 PREPARATION

When adjusting IC-F70DS/DT/S/D, the optional CS-F70/F1700 ADJ ADJUSTMENT SOFTWARE (Rev. 1.1 or later), OPC-966 JIG CABLE (modified OPC-966 CLONING CABLE; see illustration page 5-2) are required.

■ REQUIRED TEST EQUIPMENT

EQUIPMENT	GRADE AND RANGE	EQUIPMENT	GRADE AND RANGE
DC power supply	Output voltage : 7.2 V DC Current capacity : 3 A or more	Audio generator	Frequency range : 300–3000 Hz Measuring range : 1–500 mV
FM deviation meter	Frequency range : DC–300 MHz Measuring range : 0 to ±10 kHz	Attenuator	Power attenuation : 50 or 60 dB Capacity : 10 W
Frequency counter	Frequency range : 0.1–300 MHz Frequency accuracy : ±1 ppm or better Sensitivity : 100 mV or better	Standard signal generator (SSG)	Frequency range : 0.1–300 MHz Output level : 0.1 µV to 32 mV (–127 to –17 dBm)
Digital multimeter	Input impedance : 10 MΩ/V DC or more	AC millivoltmeter	Measuring range : 10 mV to 10 V
RF power meter	Measuring range : 1–10 W Frequency range : 100–300 MHz Impedance : 50 Ω SWR : Better than 1.2 : 1	Oscilloscope	Frequency rang : DC–20 MHz Measuring range : 0.01–20 V
		External speaker	Input impedance : 8 Ω Capacity : 1 W or more

■ SYSTEM REQUIREMENTS

- Microsoft® Windows® 98/98SE/Me/2000/XP
- RS-232C serial port (D-sub 9 pin)

■ ADJUSTMENYT SOFTWARE INSTALLATION

① Quit all applications when Windows is running.
② Insert the CD into the appropriate CD drive.
③ Double-click the “Setup.exe” contained in the ‘CS-F70/F1700 ADJ’ folder in the CD drive.
④ The “Welcome to the InstallShield Wizard for CS-F70/F1700 ADJ” will appear. Click [Next>].
⑤ The “Choose Destination Location” will appear. Then click [Next>] to install the software to the destination folder. (e.g. C:\Program Files\Icom\CS-F70/F1700 ADJ)
⑥ After the installation is completed, the “InstallShield Wizard Complete” will appear. Then click [Finish].
⑦ Eject the CD.
⑧ Program group ‘CS-F70/F1700 ADJ’ appears in the ‘Programs’ folder of the start menu, and ‘CS-F70/F1700 ADJ’ icon appears on the desk top screen.

■ BEFORE STARTING SOFTWARE ADJUSTMENT

Clone the adjustment frequencies into the transceiver, and-set the configuration using with the CS-F70/F1700 CLONING SOFTWARE before starting the software adjustment. Otherwise, the transceiver can not start software adjustment.

CAUTION!: BACK UP the originally programmed memory data in the transceiver before programming the adjustment frequencies.
When program the adjustment frequencies into the transceiver, the transceiver’s memory data will be overwritten and lose original memory data at the same time.

■ STARTING SOFTWARE ADJUSTMENT

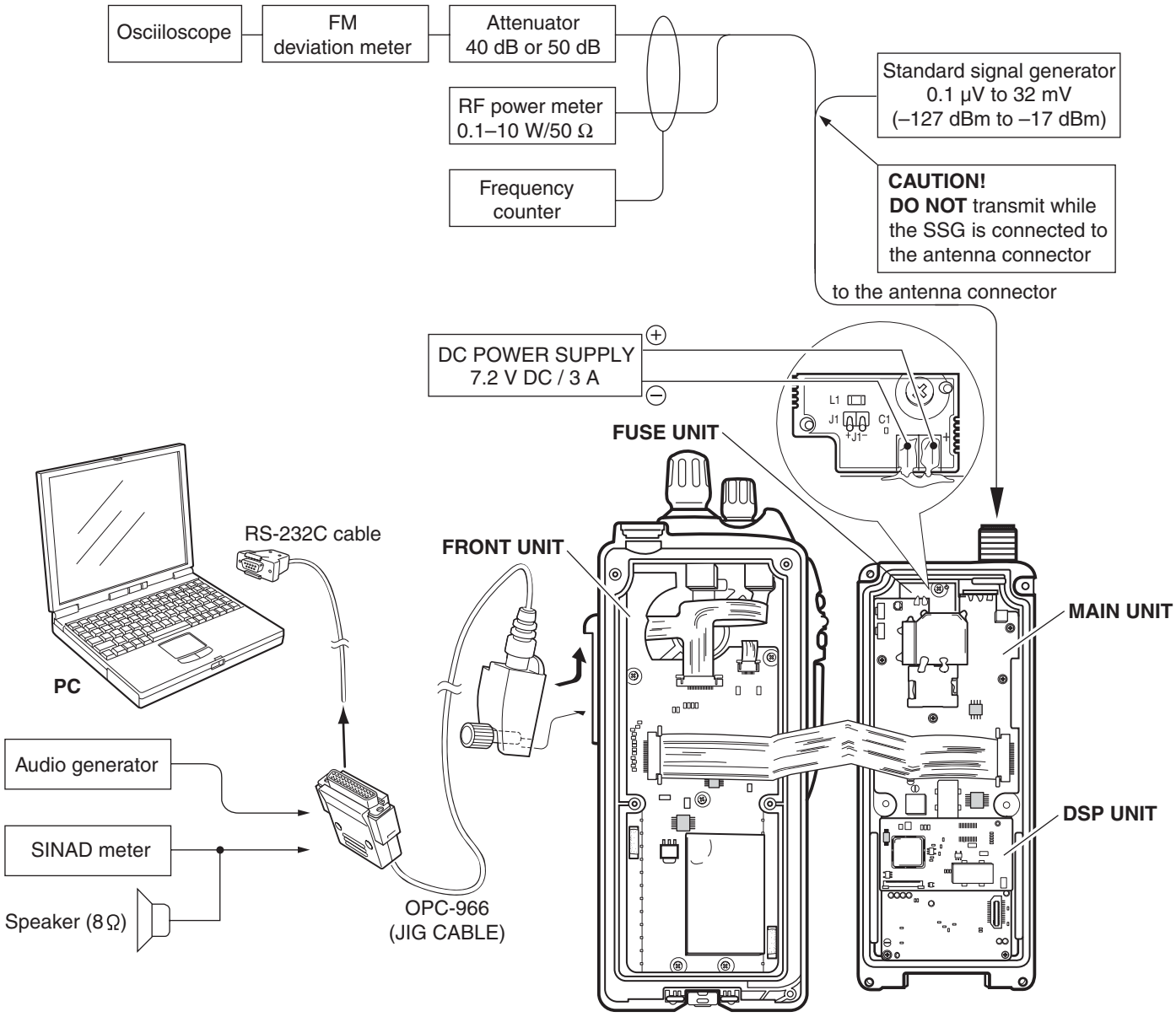
① Connect the transceiver and PC with OPC-966 JIG CABLE.
② Turn the transceiver power ON.
③ Boot up Windows, and click the program group ‘CS-F70/F1700 ADJ’ in the ‘Programs’ folder of the [Start] menu, then CS-F70/F1700 ADJ’s window appears.
④ Click ‘Connect’ on the CS-F70/F1700 ADJ’s window, then appears transceiver’s up-to-date condition.
⑤ Set or modify adjustment data as desired.

• ADJUSTMENT FREQUENCY LIST

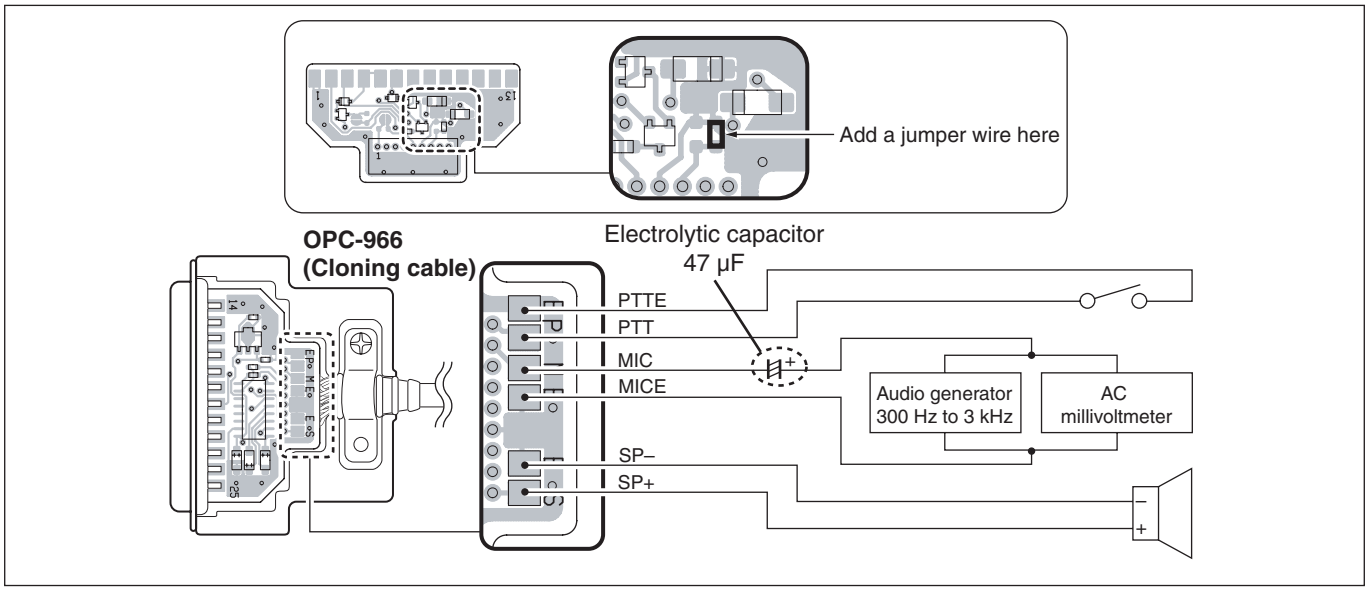
CH	FREQUENCY	ADJUSTMENT ITEM
1	153.900 MHz	TX power : Low1 Mode : Wide
2	174.000 MHz	TX power : Low1 Mode : Narrow
3	155.000 MHz	TX power : High Mode : Wide
4	155.000 MHz	TX power : Low2 Mode : Wide
5	155.000 MHz	TX power : Low1 Mode : Wide
6	136.000 MHz	TX power : Low1 Mode : Wide
7	174.000 MHz	TX power : Low1 Mode : Wide
8	136.000 MHz	TX power : Low1 Mode : Narrow
9*	155.000 MHz	TX power : Low1 Mode : Digital Preamble Length† : 270
10*	136.000 MHz	TX power : Low1 Mode : Digital Preamble Length† : 270
11*	174.000 MHz	TX power : Low1 Mode : Digital
12	155.000 MHz	TX power : Low1 Mode : Wide CTCSS : 151.4 Hz
13	155.000 MHz	TX power : Low1 Mode : Narrow

*; IC-F70DT/DS only
†; [USA-02] only

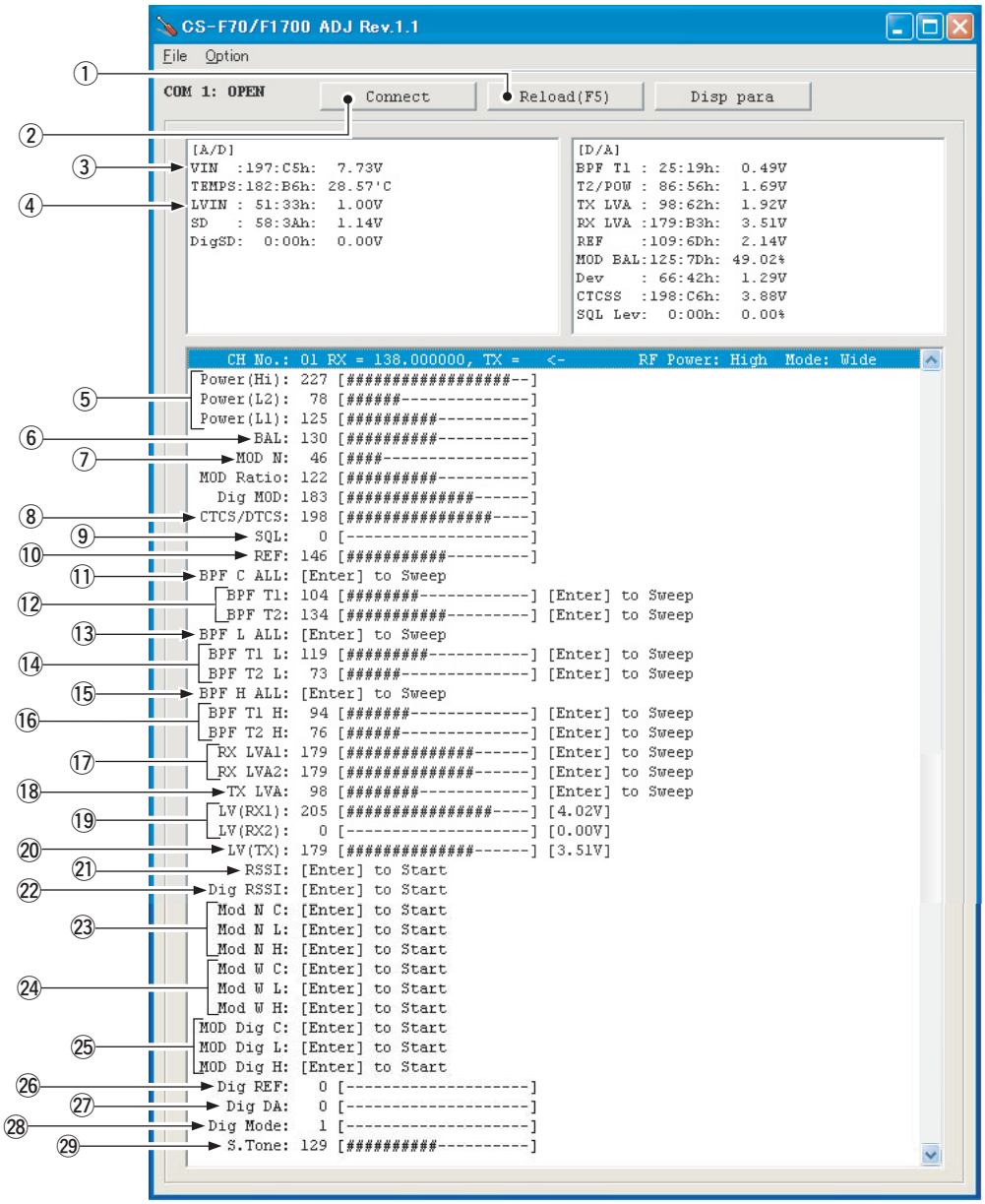
• CONNECTION



• JIG cable



• PC SCREEN EXAMPLE



NOTE: The above values for settings are example only.
Each transceiver has its own specific values for each setting.

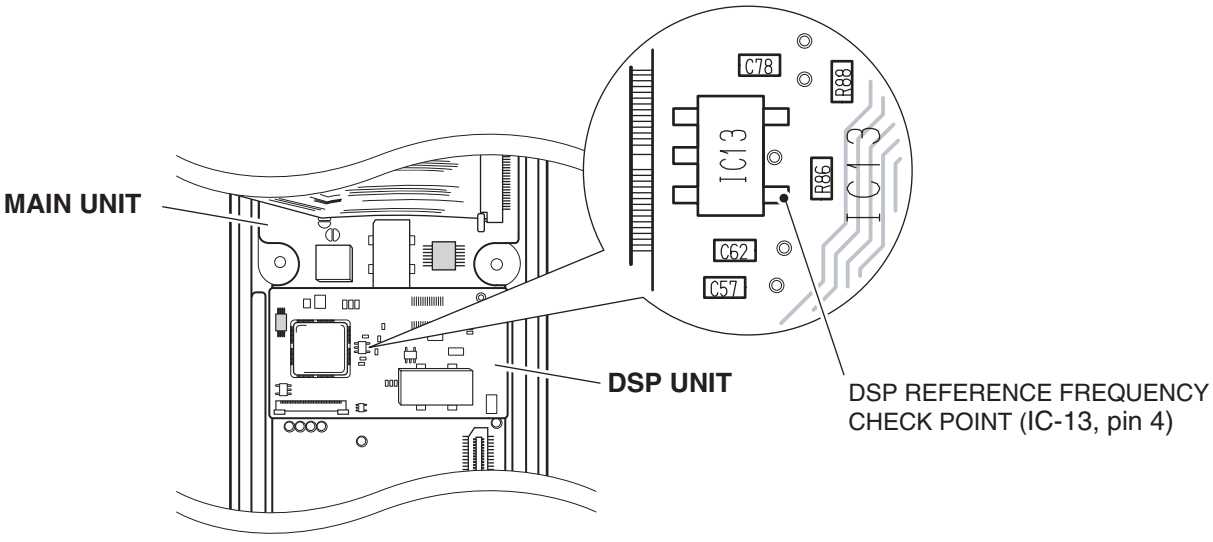
①: Reload adjustment data
②: Transceiver's connection state
③: Connected DC voltage measurement
④: PLL lock voltage measurement
⑤: RF output power
⑥: FM modulation balance
⑦: FM modulation preset
⑧: CTCSS/DTCS deviation
⑨: Squelch level
⑩: Reference frequency
⑪: Receive sensitivity for center (automatic)
⑫: Receive sensitivity for center (manual)
⑬: Receive sensitivity for low edge (automatic)
⑭: Receive sensitivity for low edge (manual)
⑮: Receive sensitivity for high edge (automatic)
⑯: Receive sensitivity for high edge (manual)
⑰: PLL lock voltage adjust for RX (manual)
⑱: PLL lock voltage adjust for TX (manual)
⑲: PLL lock voltage preset for RX (automatic)
⑳: PLL lock voltage preset for TX (automatic)
㉑: S-meter
㉒: S-meter (digital)
㉓: Deviation (narrow)
㉔: Deviation (wide)
㉕: Deviation (digital)
㉖: DSP reference frequency
㉗: Base band center voltage
㉘: Digital mode
㉙: 2/5 TONE, DTMF deviation

5-2 SOFT WARE ADJUSTMENT

Select an operation using [↑] / [↓] keys, then set specified value using [←] / [→] keys on the connected computer keyboard

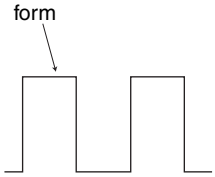
ADJUSTMENT		ADJUSTMENT CONDITION	MEASUREMENT		VALUE
			UNIT	OPERATION	
PLL LOCK VOLTAGE [RX LVA1]	1	• Operating CH. : CH 2 • Preset [LV (RX1)] : 169 [3.30 V] • Receiving	PC screen	Click [Reload (F5)] button, then check the "LVIN" item on the CS-F70/F1700 ADJ's screen.	3.3 V
[RX LVA2]	2	• Operating CH. : CH 1 • Preset [LV (RX2)] : 179 [3.50 V] • Receiving			3.5 V
[TX LVA]	3	• Operating CH. : CH 2 • Preset [LV (TX)] : 179 [3.50 V] • Transmitting			3.5 V
	CONVENIENT: The PLL lock voltage can be adjusted automatically. Put the cursor on each items "RX LVA1"/"RX LVA2"/"TX LVA" and then push [ENTER] key of the connected PC's keyboard.				
PLL LOCK VOLTAGE	1	• Operating CH. : CH 2 • Receiving	PC screen	Click [Reload (F5)] button, then check the "LVIN" item on the CS-F70/F1700 ADJ's screen.	3.2–3.4 V (Verify)
	2	• Operating CH. : CH 1 • Receiving			3.4–3.6 V (Verify)
	3	• Operating CH. : CH 2 • Transmitting			3.4–3.6 V (Verify)
REFERENCE FREQUENCY [REF]		• Operating CH. : CH 2 • Connect an RF power meter or 50 Ω dummy load to the antenna connector. • Transmitting	Top panel	Loosely couple a frequency counter to the antenna connector.	174.000000 MHz ±100 Hz
DSP REFERENCE FREQUENCY* [Dig REF]		• Operating CH. : CH 9 • Receiving	DSP unit	Connect a frequency counter to the pin 4 of IC13 on the DSP unit through a 1000 pF capacitor. (see the illust below)	12.288000 MHz
BASE BAND CENTER VOLTAGE* [Dig DA]		• Operating CH. : CH 9 • Receiving	PC screen	Set the "Dig DA" item to 70.	

*; IC-F70DT/DS only



SOFTWARE ADJUSTMENT (Continued)

Select an operation using [↑] / [↓] keys, then set specified value using [←] / [→] keys on the connected computer keyboard

ADJUSTMENT		ADJUSTMENT CONDITION	MEASUREMENT		VALUE
			UNIT	OPERATION	
OUTPUT POWER [Power (Hi)]	1	• Operating CH. : CH 3 • Transmitting	Top panel	Connect an RF power meter to the antenna connector.	5.0 W
[Power (L2)]	2	• Operating CH. : CH 4 • Transmitting			2.0 W
[Power (L1)]	3	• Operating CH. : CH 5 • Transmitting			1.0 W
MODULATION BALANCE [BAL]	1	• Operating CH. : CH 5 • Preset [MOD N] : 100 • No audio applied to the JIG cable. • Set an FM deviation meter as; HPF : OFF LPF : 20 kHz De-emphasis : OFF Detector : (P–P)/2 • Push [P0] while transmitting.	Top panel	Connect an FM deviation meter with an oscilloscope to the antenna connector through an attenuator.	Set to square wave form 
FM DEVIATION (NARROW) [MOD N C]	1	• Operating CH. : CH 13 • Connect an audio generator to the JIG cable and set as; : 1.0 kHz/150 mV rms • Set an FM deviation meter as; HPF : OFF LPF : 20 kHz De- emphasis : OFF Detector : (P–P)/2 • Transmitting	Top panel	Connect an FM deviation meter to the antenna connector through an attenuator.	±2.00 to ±2.10 kHz
(NARROW) [MOD N L]	2	• Operating CH. : CH 8 • Transmitting			
(NARROW) [MOD N H]	3	• Operating CH. : CH 2 • Transmitting			
(WIDE) [MOD W C]	4	• Operating CH. : CH 5 • Transmitting			±3.95 to ±4.05 kHz
(WIDE) [MOD W L]	5	• Operating CH. : CH 6 • Transmitting			
(WIDE) [MOD W H]	6	• Operating CH. : CH 7 • Transmitting			

SOFTWARE ADJUSTMENT (Continued)

Select an operation using [↑] / [↓] keys, then set specified value using [←] / [→] keys on the connected computer keyboard

ADJUSTMENT		ADJUSTMENT CONDITION	MEASUREMENT		VALUE
			UNIT	OPERATION	
DIGITAL DEVIATION* [MOD Dig C]	1	• Preset [Dig Mode] : 7	Top panel	Connect an FM deviation meter to the antenna connector through an attenuator.	±2.83 to ±2.87 kHz
	2	• Operating CH. : CH 9 • Set an FM deviation meter as; HPF : OFF LPF : 20 kHz De- emphasis : OFF Detector : (P–P)/2 • Transmitting			
[MOD Dig L]	3	• Operating CH. : CH 10 • Transmitting			
[MOD Dig H]	4	• Operating CH. : CH 11 • Transmitting			
DIGITAL DEVIATION* [MOD Dig C]	1	• Preset [Dig Mode] : 6	Top panel	Connect an FM deviation meter to the antenna connector through an attenuator.	±0.91 to ±1.01 kHz (Verify)
	2	• Operating CH. CH 9 • Transmitting			
[MOD Dig L]	3	• Operating CH. CH 10 • Transmitting			
[MOD Dig H]	4	• Operating CH. CH 11 • Transmitting			
CTCSS/DTCS DEVIATION [CTCSS/DTCS]	1	• Operating CH. : CH 12 • No audio applied to the JIG cable. • Set an FM deviation meter as; HPF : OFF LPF : 20 kHz De- emphasis : OFF Detector : (P–P)/2 • Transmitting	Top panel	Connect an FM deviation meter to the antenna connector through an attenuator.	±0.68 to ±0.72 kHz
2/5 TONE /DTMF DEVIATION [S.Tone]	1	• Operating CH. : CH 5 • No audio applied to the JIG cable. • Set an FM deviation meter as; HPF : OFF LPF : 20 kHz De- emphasis : OFF Detector : (P–P)/2 • Push [P3] while transmitting.	Top panel	Connect an FM deviation meter to the antenna connector through an attenuator.	±1.50 kHz

*; [IC-F70DT/DS] only

SOFTWARE ADJUSTMENT (continued)

• Select an operation using [↑] / [↓]keys, then set specified value using [←] / [→] keys on the connected computer keyboard

ADJUSTMENT		ADJUSTMENT CONDITION	MEASUREMENT		VALUE
			UNIT	LOCATION	
RX SENSITIVITY [BPF C]	**NOTE:** Need to adjust "S-METER ADJUSTMENT" after "RX SENSITIVITY ADJUSTMENT" is adjusted. Otherwise, "S-METER ADJUSTMENT" will not be adjusted properly.				
	1	• Operating CH : CH 5 • Connect the SSG to the antenna connector and set as; Frequency : 155.000 MHz Level : +20 dBμ† (–87 dBm) Modulation : 1 kHz Deviation : ±3.5 kHz • Receiving	PC screen	Connect the SINAD meter with an 8 Ω load to the JIG cable.	Minimum distortion level
[BPF L]	2	• Operating CH : CH 6 Frequency : 136.000 MHz • Receiving			
[BPF H]	3	• Operating CH : CH 7 Frequency : 174.000 MHz • Receiving			
		CONVENIENT: The BPF C/L/H can be adjustment automatically. ①-1: Put the cursor on "BPF C/L/H ALL" and then push [ENTER] key. ①-2: The connected PC tunes BPF C/L/H to peak levels. or ②-1: Put the cursor on the one of "BPF C/L/H" as desired. ②-2: Push [ENTER] key to start tuning. ②-3: Repeat ②-1 and ②-2 to perform additional BPF tuning.			
Digital RSSI* [Dig RSSI]	1	• Operating CH. : CH 9 • Connect the SSG to the antenna connector and set as; Frequency : 155.000 MHz Level : –20 dBμ† (–127 dBm) Modulation : No modulation • Receiving	Put the cursor on "Dig RSSI" and push the [ENTER] key to set the Digial RSSI level.		
S-METER [RSSI]	1	• Operating CH. : CH 5 • Connect the SSG to the antenna connector and set as; Frequency : 155.000 MHz Level : +23 dBμ† (–84 dBm) Modulation : 1 kHz Deviation : ±3.5 kHz • Receiving	Push the [ENTER] key on the connected computer's keyboard to set "S3" level.		
	2	• Set the SSG as; Level : –7dBμ† (–114 dBm) • Receiving	Push the [ENTER] key on the connected computer's keyboard to set "S1" level.		
SQUELCH LEVEL [SQL]	1	• Operating CH. : CH 5 • Connect the SSG to the antenna connector and set as; Frequency : 155.000 MHz Level : –14dBμ† (–121 dBm) Modulation : 1 kHz Deviation : ±3.5 kHz • Receiving	Top panel	Connect speaker to the JIG cable.	Set the SQL level to close squelch. Then set SQL level at the point where the audio signals just appears.

*; [IC-F70DT/DS] only

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

SECTION 6 PARTS LIST

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
IC1	1130010100	S.IC LMX2352TMX	B	8.3/75.8
IC2	1110005340	S.IC NJM12902V-TE1	T	8/75.7
IC3	1110003490	S.IC TA31136FN	B	14.6/57.6
IC4	1190002050	S.IC SPM5001	B	31.4/78.3
IC5	1110002750	S.IC TA75S01F (TE85R)	T	24.8/101.4
IC6	1130004200	S.IC TC4S66F (TE85R)	B	17.7/85.4
IC12	1110005340	S.IC NJM12902V-TE1	T	31.9/56.5
IC300	1130009700	S.IC LC73872M-TRM	B	34.9/29.5
IC301	1110006220	S.IC AK2346-E2	B	15/39.8
IC302	1130008230	S.IC BU4053BCFV-E2	B	13.9/29.3
IC303	1190001350	S.IC M62364FP 600D	T	20.2/71.7
IC304	1110006260	S.IC BD5242G-TR	B	4.7/8.6
IC305	1130008230	S.IC BU4053BCFV-E2	B	33.4/66.4
IC307	1140010190	S.IC HD64F2268TF20	B	20.2/15
IC308	1140009240	S.IC HN58X24128FPI	B	38.2/17.7
IC310	1190001340	S.IC M62334FP 600C	T	32.5/84.4
IC311	1180002270	S.REG TK11250CMCL	B	8.6/119.6
IC312	1190001860	S.IC EW-460-FT	B	30.1/43.8
IC313	1130006220	S.IC TC4W53FU (TE12L)	T	8.5/38.2
Q1	1590001940	S.TR DTC144EE TL	B	8.4/88.3
Q2	1560000540	S.FET 2SK880-Y (TE85R)	T	24.2/80.5
Q3	1530002850	S.TR 2SC4116-BL (TE85R)	B	9.1/96.8
Q4	1530002920	S.TR 2SC4226-T1 R25	T	19.3/95.8
Q5	1530002920	S.TR 2SC4226-T1 R25	T	25.2/93.8
Q6	1530003310	S.TR 2SC5107-O (TE85R)	T	22.3/97
Q7	1590001400	S.TR XP1214 (TX)	B	26.6/96
Q8	1590001940	S.TR DTC144EE TL	B	18.4/93
Q9	1530003310	S.TR 2SC5107-O (TE85R)	B	14.8/94.8
Q10	1530003310	S.TR 2SC5107-O (TE85R)	B	24/99.4
Q11	1530003420	S.TR 2SC5110-O (TE85R)	B	14/100.9
Q12	1560001240	S.FET RD01MUS1	T	14.9/109.8
Q13	1560001230	S.FET RD07MVS1	T	21/109.4
Q14	1530002380	S.TR 2SC4215-Y (TE85R)	B	8.9/64.9
Q15	1590002430	S.TR DTA144EE TL	T	21.3/64.7
Q16	1590001940	S.TR DTC144EE TL	T	19.3/64.7
Q17	1560000670	S.FET 2SK1771 (TE85R)	B	15.3/64.3
Q18	1580000730	S.FET 3SK293 (TE85L)	T	34.3/96.3
Q19	1560000840	S.FET 2SK1829 (TE85R)	T	33/93.5
Q20	1530002920	S.TR 2SC4226-T1 R25	T	19.3/92.1
Q21	1590001400	S.TR XP1214 (TX)	B	18.6/95.3
Q300	1590001940	S.TR DTC144EE TL	T	36.7/49.7
Q302	1590001940	S.TR DTC144EE TL	B	7.2/5.9
Q303	1530002380	S.TR 2SC4215-Y (TE85R)	T	19.4/49
Q304	1510000920	S.TR 2SA1577 T106 Q	B	3.9/106
Q305	1510000920	S.TR 2SA1577 T106 Q	B	7.3/101.7
Q306	1510000920	S.TR 2SA1577 T106 Q	B	5.6/84.6
Q307	1590001190	S.TR XP6501-(TX) AB	B	3.4/110.6
Q308	1520000450	S.TR 2SB1132 T100 Q	B	4.1/119.1
Q309	1590003320	S.FET TPC6103 (TE85L)	B	12.3/120.1
Q310	1590001940	S.TR DTC144EE TL	B	8.9/9.6
Q311	1590002430	S.TR DTA144EE TL	B	33.3/45.1
D1	1790001260	S.DIO MA2S077-(TX)	B	12.9/87.1
D2	1790001260	S.DIO MA2S077-(TX)	B	12.9/88.9
D3	1790001250	S.DIO MA2S111-(TX)	B	10/93.3
D4	1750000770	S.VCP HVC376BTRF	T	10.9/89.3
D5	1750000770	S.VCP HVC376BTRF	T	12.1/89.3
D6	1750000770	S.VCP HVC376BTRF	T	27.2/85.4
D7	1750000770	S.VCP HVC376BTRF	T	25/85.3
D8	1720000470	S.VCP 1SV239 (TPH3)	B	26.3/90.2
D9	1790001260	S.DIO MA2S077-(TX)	B	24.9/101.4
D10	1790001260	S.DIO MA2S077-(TX)	B	19.6/101.3
D11	1790001670	S.DIO RB706F-40T106	B	30.5/104.3
D12	1750000580	S.DIO 1SV307 (TPH3)	B	35.3/108.7
D13	1750001070	S.DIO DAN235ETL	B	20/60
D14	1750001070	S.DIO DAN235ETL	B	21.6/55.4
D15	1750000710	S.VCP HVC350BTRF	T	40.1/89.5
D16	1750000710	S.VCP HVC350BTRF	T	39.4/92.1
D17	1790001250	S.DIO MA2S111-(TX)	T	35.1/89.7
D18	1750000720	S.VCP HVC375BTRF	T	40.3/98.6
D19	1750000720	S.VCP HVC375BTRF	T	39.1/104.1
D20	1790001260	S.DIO MA2S077-(TX)	T	35.2/105.5
D21	1790001240	S.DIO MA2S728-(TX)	T	35.2/109
D22	1750000580	S.DIO 1SV307 (TPH3)	B	40.4/106.3
D23	1790001250	S.DIO MA2S111-(TX)	T	28.1/102.4
D24	1720000640	S.VCP 1SV284 (TPH3)	T	13.5/91.3
D25	1750000720	S.VCP HVC375BTRF	T	21.9/88.8
D26	1720000640	S.VCP 1SV284 (TPH3)	T	13.8/90.1
D27	1720000640	S.VCP 1SV284 (TPH3)	T	17.4/89.3
D28	1720000640	S.VCP 1SV284 (TPH3)	T	16.2/89.5
D29	1750000770	S.VCP HVC376BTRF	T	13.3/85.5
D30	1750000770	S.VCP HVC376BTRF	T	13.3/88

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
D31	1790001250	S.DIO MA2S111-(TX)	T	26.2/105.3
D301	1160000050	S.DIO DAP202U T106	T	33.6/26
D302	1160000050	S.DIO DAP202U T106	B	32.4/5.4
D303	1160000050	S.DIO DAP202U T106	T	39.7/27
D304	1160000050	S.DIO DAP202U T106	T	36.5/27.3
D306	1730002320	S.ZEN MA8051-M (TX)	B	11.1/5.2
D307	1790001260	S.DIO MA2S077-(TX)	B	9/24.5
D308	1790001250	S.DIO MA2S111-(TX)	B	21.9/27.1
D309	1790001250	S.DIO MA2S111-(TX)	T	37.8/29.3
D310	1750000270	S.DIO 1SS301 (TE85R)	B	35.9/5
D311	1750000270	S.DIO 1SS301 (TE85R)	B	11.3/7.5
D312	1790001250	S.DIO MA2S111-(TX)	B	27.4/44.7
D313	1160000050	S.DIO DAP202U T106	B	23.3/3
FI1	2020001930	S.CER CFWCA450KFFA-R0	T	21.5/57.1
FI2	2020002120	S.CER CFWCA450KGFA-R0	B	28.2/56.7
FI3	2030000410	S.MLH FL-380 MFT46.3P	B	20.3/69.6
X1	6050012060	S.XTL CR-796 (15.300 MHz)	B	5.4/68.4
X2	6070000190	S.DCR CDBCB450KCAY24-R0	T	12.5/55.5
X300	6050012100	S.XTL CR-800 (3.579545 MHz)	B	34.6/38.3
X301	6050012090	S.XTL CR-799 (3.6864 MHz)	B	5.4/39.2
X302	6050012110	S.XTL CR-803 (19.6608 MHz)	B	7.4/19.5
L1	6200004930	S.COL MLF1608E 8R2K-T	B	9.7/68.9
L2	6200011250	S.COL LLQ1608-A18NG	B	11.5/85.9
L3	6200007170	S.COL MLF1608A 3R3K-T	T	23.2/84.4
L4	6200007170	S.COL MLF1608A 3R3K-T	T	10.9/86.7
L6	6200008090	S.COL LQW2BHN68NJ01L	T	22.3/86.6
L7	6200003640	S.COL MLF1608E 100K-T	T	12.7/92.5
L8	6200003640	S.COL MLF1608E 100K-T	T	26.1/87.1
L9	6200011110	S.COL 0.40-2.00-9TL 80.2N	T	12.1/95.7
L10	6200007760	S.COL LQW2BHN82NJ01L	T	25.9/90.3
L11	6200009180	S.COL ELJRE R10J-F3	T	24.3/96.4
L12	6200011240	S.COL LLQ1608-A33NG	B	12.4/94.7
L13	6200011280	S.COL C1608CB-R10G	B	20.4/99.2
L14	6200005740	S.COL ELJRE 47NG-F	B	13.1/102.9
L15	6200003590	S.COL EXCCL3225U1	B	15.9/117.1
L16	6200005690	S.COL ELJRE 18NG-F	T	16.6/115.7
L17	6200008210	S.COL 0.45-1.5-5TL 23.2N	B	21.2/117.7
L18	6200009710	S.COL 0.30-0.9-4TL 10.5N	B	25.2/117.8
L19	6200008490	S.COL 0.30-0.9-3TR 7.5N	B	30.7/117.5
L20	6200008280	S.COL 0.30-1.7-7TL 50N	B	32.4/111
L21	6200002860	S.COL NL 252018T-4R7J	B	33.3/106
L22	6200009800	S.COL 0.26-1.1-7TR 30N	B	38.3/112.7
L23	6200008580	S.COL 0.30-1.4-6TL 32N	B	36.8/117.2
L24	6200003540	S.COL MLF1608D R22K-T	B	6.9/63.2
L25	6200004480	S.COL MLF1608D R82K-T	B	7.8/61
L26	6200002690	S.COL MLF1608A 1R0M-T	B	11.5/63.3
L27	6200004660	S.COL MLF1608A 1R8K-T	B	20.2/64.6
L29	6200004790	S.COL MLF1608D R47K-T	B	20.9/75.5
L30	6130003000	S.COL 617DB-1714=P3	B	26.1/79.2
L31	6130003000	S.COL 617DB-1714=P3	B	31.4/85.1
L32	6200004780	S.COL MLF1608A 1R5K-T	B	12.8/63.3
L33	6130003000	S.COL 617DB-1714=P3	B	36.6/79.2
L34	6200011260	S.COL C1608CB-15NG	B	30.3/93.5
L35	6200011260	S.COL C1608CB-15NG	B	29.5/96.3
L37	6200009920	S.COL C2012C-R10G	B	33.4/96.5
L38	6200011050	S.COL C2012C-R12G	B	36.6/100
L39	6200011050	S.COL C2012C-R12G	B	38.3/103
L40	6200011150	S.COL C1608CB-68NG	B	36.5/85.6
L41	6200010400	S.COL ELJRE 39NJ-F	B	36/105.8
L42	6200008280	S.COL 0.30-1.7-7TL 50N	B	38.1/106.4
L43	6200007170	S.COL MLF1608A 3R3K-T	B	15.1/91
L44	6200007170	S.COL MLF1608A 3R3K-T	B	25.1/88
L45	6200011130	S.COL C1608CB-12NG	B	39.6/82
L46	6200004660	S.COL MLF1608A 1R8K-T	B	13.1/80.2
L47	6200007170	S.COL MLF1608A 3R3K-T	T	12.1/86.7
L48	6200007170	S.COL MLF1608A 3R3K-T	B	16.3/89
L49	6200010100	S.COL C2012C-33NG	B	39.3/87.2
L50	6200003640	S.COL MLF1608E 100K-T	T	14.5/87.6
L51	6200011120	S.COL 0.40-2.00-10TL 90.5N	T	18.2/86.3
L52	6200011150	S.COL C1608CB-68NG	T	36.5/87
L53	6200011140	S.COL C1608CB-39NG	T	38.4/87.5
L54	6200011150	S.COL C1608CB-68NG	T	36.5/89.7
L55	6200010310	S.COL C2012C-27NG	B	37.1/91.7
L56	6200011230	S.COL LLQ1608-A22NG	B	8.5/85
L57	6200011230	S.COL LLQ1608-A22NG	B	8.5/82.4
L58	6200011060	S.COL C1608CB-18NG	B	21.8/100.3
L60	6200009890	S.COL C2012C-82NG	T	37.9/108.6
L61	6200009920	S.COL C2012C-R10G	B	42.1/77.3
L301	6200002860	S.COL NL 252018T-4R7J	B	25.7/28.8

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

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
L302	6200011250	S.COL LLQ1608-A18NG	B	12.9/92.7
R1	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	5.8/71.2
R2	7030005700	S.RES ERJ2GEJ 274 X (270 kΩ)	T	3.6/74.9
R3	7030008310	S.RES ERJ2GEJ 564 X (560 kΩ)	T	1.6/73.6
R4	7410001130	S.ARY EXB28V102JX	B	3.4/73.3
R5	7030008310	S.RES ERJ2GEJ 564 X (560 kΩ)	T	3.7/73.2
R6	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	9.7/70.3
R7	7030005580	S.RES ERJ2GEJ 560 X (56 Ω)	B	9.9/81.7
R8	7510001730	S.TMR ERTJOEP 473J	B	4.2/64
R9	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	2.4/63.1
R10	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	T	26.7/79.2
R11	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	22.1/77.9
R12	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	7.3/87
R13	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	17.2/76.3
R14	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	11.6/88.8
R15	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	11.6/89.7
R16	7030005030	S.RES ERJ2GEJ 152 X (1.5 kΩ)	B	14.6/78.8
R17	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	14.2/81.1
R18	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	B	23.4/87.5
R19	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	22/83.9
R20	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	23.4/86.6
R21	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	B	22.7/89.6
R22	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	T	10.9/84.6
R23	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	T	21.1/84.1
R24	7030007290	S.RES ERJ2GEJ 222 X (2.2 kΩ)	B	9.5/95
R25	7030008370	S.RES ERJ2GEJ 561 X (560 Ω)	T	24.3/78.6
R26	7030011000	S.RES RR0510P-392-D (3.9 kΩ)	T	15.1/97.3
R27	7030010040	S.RES ERJ2GE-JPW	T	17.2/96.2
R28	7030011000	S.RES RR0510P-392-D (3.9 kΩ)	T	22.4/90.8
R29	7030009320	S.RES ERJ2GEJ 4R7 X (4.7 Ω)	T	26.5/92
R30	7030008340	S.RES RR0510P-182-D (1.8 kΩ)	T	17.2/95.3
R31	7030008340	S.RES RR0510P-182-D (1.8 kΩ)	T	24.7/92
R32	7030008370	S.RES ERJ2GEJ 561 X (560 Ω)	T	26.7/96.3
R33	7030005000	S.RES ERJ2GEJ 471 X (470 Ω)	T	17.2/97.4
R34	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	25.4/95.9
R35	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	T	23.3/94.7
R36	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	25.4/94.1
R37	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	28.4/95.5
R38	7030005110	S.RES ERJ2GEJ 224 X (220 kΩ)	B	14.8/96.6
R39	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	12.1/96.8
R40	7030009320	S.RES ERJ2GEJ 4R7 X (4.7 Ω)	B	24.4/96.3
R41	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	23.5/97.5
R42	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	20.5/97.5
R43	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	28.9/99.8
R44	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	28.5/98.6
R45	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	22.1/102.5
R46	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	19.4/102.4
R47	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	17.8/102.1
R48	7030005030	S.RES ERJ2GEJ 152 X (1.5 kΩ)	B	16.4/100.8
R49	7030005530	S.RES ERJ2GEJ 100 X (10 Ω)	B	10.9/103.7
R51	7030007290	S.RES ERJ2GEJ 222 X (2.2 kΩ)	B	12.2/101.4
R52	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	11.9/100.1
R53	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	T	16.4/104.2
R54	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	T	15.4/104.2
R55	7030005590	S.RES ERJ2GEJ 680 X (68 Ω)	T	14.5/106.3
R56	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	T	20.1/103.5
R57	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	19/103.3
R58	7030007250	S.RES ERJ2GEJ 220 X (22 Ω)	T	19/104.9
R59	7030007570	S.RES ERJ2GEJ 122 X (1.2 kΩ)	B	6.1/64.3
R60	7030007060	S.RES ERJ2GEJ 684X (680 kΩ)	B	7.1/65.4
R62	7030007290	S.RES ERJ2GEJ 222 X (2.2 kΩ)	T	24.4/103.6
R63	7030007340	S.RES ERJ2GEJ 153 X (15 kΩ)	B	21.4/58.5
R64	7030007250	S.RES ERJ2GEJ 220 X (22 Ω)	T	17.5/65.4
R65	7030003490	S.RES ERJ3GEYJ 272 V (2.7 kΩ)	B	31.4/108.1
R66	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	B	21.6/60
R67	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	20.8/61.9
R68	7030007300	S.RES ERJ2GEJ 332 X (3.3 kΩ)	B	21.1/52.5
R69	7030009290	S.RES ERJ2GEJ 562 X (5.6 kΩ)	B	22/53.3
R70	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	T	28.8/103.5
R71	7030005600	S.RES ERJ2GEJ 273 X (27 kΩ)	B	20.7/57.2
R72	7030004970	S.RES ERJ2GEJ 470 X (47 Ω)	B	14.9/54.2
R73	7030005030	S.RES ERJ2GEJ 152 X (1.5 kΩ)	B	17.5/61
R74	7030005110	S.RES ERJ2GEJ 224 X (220 kΩ)	B	19/55.4
R75	7030007290	S.RES ERJ2GEJ 222 X (2.2 kΩ)	B	17.6/52.8
R76	7030008410	S.RES ERJ2GEJ 392 X (3.9 kΩ)	B	33.5/53.3
R77	7030005080	S.RES ERJ2GEJ 823 X (82 kΩ)	B	19.1/53.4
R78	7030007350	S.RES ERJ2GEJ 393 X (39 kΩ)	B	17.6/51.9
R79	7030005000	S.RES ERJ2GEJ 471 X (470 Ω)	B	11.1/54.1
R80	7030010040	S.RES ERJ2GE-JPW	B	9.4/57.3
R81	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	9.4/59
R82	7030006610	S.RES ERJ2GEJ 394 X (390 kΩ)	T	33.2/35.8
R83	7030007570	S.RES ERJ2GEJ 122 X (1.2 kΩ)	T	13.9/51
R85	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	15.2/61.1
R86	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	13.1/66.8
R87	7030008290	S.RES ERJ2GEJ 183 X (18 kΩ)	B	15.8/66.8
R88	7030005210	S.RES ERJ2GEJ 822 X (8.2 kΩ)	B	17.6/63.2
R89	7030005530	S.RES ERJ2GEJ 100 X (10 Ω)	B	11.8/66.3
R90	7030005310	S.RES ERJ2GEJ 124 X (120 kΩ)	B	24.5/90.1
R91	7030003860	S.RES ERJ3GE JPW V	B	27/102.8
R92	7030010130	S.RES ERJ2GE 6R8 X (6.8 Ω)	B	23.6/75.5
R93	7030009270	S.RES ERJ2GEJ 821 X (820 Ω)	B	23.1/74.2

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
R94	7030009270	S.RES ERJ2GEJ 821 X (820 Ω)	B	24.1/74.2
R95	7030004970	S.RES ERJ2GEJ 470 X (47 Ω)	B	27.6/75.8
R96	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	34.9/76.2
R97	7030009270	S.RES ERJ2GEJ 821 X (820 Ω)	B	31.2/89.9
R98	7030010130	S.RES ERJ2GE 6R8 X (6.8 Ω)	B	30.2/91.3
R99	7030009270	S.RES ERJ2GEJ 821 X (820 Ω)	B	31.4/91.7
R100	7030010040	S.RES ERJ2GE-JPW	B	38/83.1
R101	7030010090	S.RES ERJ2GEJ 180 X (18 Ω)	T	35/92.1
R103	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	38/89.2
R104	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	38/91
R105	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	38.4/86
R107	7030004970	S.RES ERJ2GEJ 470 X (47 Ω)	B	34.1/98.8
R108	7030005530	S.RES ERJ2GEJ 100 X (10 Ω)	T	33.2/98.3
R109	7030005710	S.RES ERJ2GEJ 121 X (120 Ω)	T	36.4/92.7
R111	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	34.8/98.3
R112	7030008300	S.RES ERJ2GEJ 184 X (180 kΩ)	T	36.4/96.9
R113	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	34/100.1
R114	7030005110	S.RES ERJ2GEJ 224 X (220 kΩ)	T	32.3/101
R115	7030009290	S.RES ERJ2GEJ 562 X (5.6 kΩ)	T	33.7/91.6
R116	7030005170	S.RES ERJ2GEJ 474 X (470 kΩ)	T	33.7/90.7
R117	7030005110	S.RES ERJ2GEJ 224 X (220 kΩ)	T	32.3/91
R118	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	37.7/99.6
R119	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	37.7/103.2
R120	7030005530	S.RES ERJ2GEJ 100 X (10 Ω)	T	22/102.3
R121	7030005110	S.RES ERJ2GEJ 224 X (220 kΩ)	T	26.7/103.9
R122	7030003340	S.RES ERJ3GEYJ 151 V (150 Ω)	B	33.2/102.2
R123	7030005700	S.RES ERJ2GEJ 274 X (270 kΩ)	T	27.9/100.8
R124	7030005070	S.RES ERJ2GEJ 683 X (68 kΩ)	T	29.1/100.4
R125	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	27.6/103.9
R126	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	27.9/106.3
R127	7030003670	S.RES ERJ3GEYJ 823 V (82 kΩ)	B	36.5/119.2
R128	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	37.7/100.5
R129	7030005110	S.RES ERJ2GEJ 224 X (220 kΩ)	B	18.8/87.6
R130	7030005110	S.RES ERJ2GEJ 224 X (220 kΩ)	B	27.6/85.5
R131	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	T	12.1/84.6
R132	7030011000	S.RES RR0510P-392-D (3.9 kΩ)	T	21.2/90.2
R133	7030008340	S.RES RR0510P-182-D (1.8 kΩ)	T	17.5/91.9
R134	7030010040	S.RES ERJ2GE-JPW	T	19/90.2
R135	7030005000	S.RES ERJ2GEJ 471 X (470 Ω)	T	21.3/92.6
R136	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	16.8/92.7
R137	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	30.5/81.4
R138	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	32.3/81.4
R139	7030010040	S.RES ERJ2GE-JPW	B	34.3/88
R140	7030004990	S.RES ERJ2GEJ 221 X (220 Ω)	T	24.4/104.5
R141	7030003860	S.RES ERJ3GE JPW V	B	23.9/103.2
R299	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	11.1/52.5
R300	7030005080	S.RES ERJ2GEJ 823 X (82 kΩ)	B	24.4/39.3
R301	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	B	24.4/38.4
R302	7030007300	S.RES ERJ2GEJ 332 X (3.3 kΩ)	B	14.5/33.3
R303	7030005160	S.RES ERJ2GEJ 105 X (1 MΩ)	B	34.6/33.8
R304	7030005720	S.RES ERJ2GEJ 563 X (56 kΩ)	T	17.5/64
R305	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	11.5/64.5
R306	7030005110	S.RES ERJ2GEJ 224 X (220 kΩ)	T	15.4/61
R307	7030005530	S.RES ERJ2GEJ 100 X (10 Ω)	B	36.4/33.8
R308	7030008290	S.RES ERJ2GEJ 183 X (18 kΩ)	B	23/40.2
R309	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	15.2/34.6
R310	7030008290	S.RES ERJ2GEJ 183 X (18 kΩ)	B	21.7/39.8
R311	7030005000	S.RES ERJ2GEJ 471 X (470 Ω)	T	4.2/78.8
R312	7030006610	S.RES ERJ2GEJ 394 X (390 kΩ)	B	21.2/41.1
R313	7030008010	S.RES ERJ2GEJ 123 X (12 kΩ)	B	21.2/42
R314	7030005170	S.RES ERJ2GEJ 474 X (470 kΩ)	T	3.7/77.2
R315	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	1.9/77.2
R316	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	B	23/41.1
R317	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	25.2/36.2
R318	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	32.9/38.2
R319	7030005160	S.RES ERJ2GEJ 105 X (1 MΩ)	B	10/40.9
R320	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	T	12.8/77.1
R321	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	B	10/43.3
R322	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	T	12.9/78.9
R323	7030009290	S.RES ERJ2GEJ 562 X (5.6 kΩ)	T	8.8/29.6
R324	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	B	13.1/45.7
R325	7030005110	S.RES ERJ2GEJ 224 X (220 kΩ)	B	14/45.7
R326	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	9.9/45.1
R327	7030008290	S.RES ERJ2GEJ 183 X (18 kΩ)	B	20.8/31.4
R328	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	B	18.3/30.4
R329	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	T	12.9/79.8
R330	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	B	11.9/45.3
R331	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	9.7/38.9
R332	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	T	14.1/78.5
R333	7030008270	S.RES RR0510R-104-D (100 kΩ)	T	13.2/73.1
R334	7030008310	S.RES ERJ2GEJ 564 X (560 kΩ)	T	14.5/64.1
R335	7030007610	S.RES RR0510R-683-D (68 kΩ)	T	12.8/75
R336	7030008270	S.RES RR0510R-104-D (100 kΩ)	T	27.6/57.1
R337	7030010040	S.RES ERJ2GE-JPW	T	21.7/34.8
R338	7030005310	S.RES ERJ2GEJ 124 X (120 kΩ)	T	28.8/60.7
R339	7030007610	S.RES RR0510R-683-D (68 kΩ)	T	27.6/58.8
R340	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	14/3.7
R342	7030005010	S.RES ERJ2GEJ 681 X (680 Ω)	T	25.7/76.6
R344	7030005230	S.RES ERJ2GEJ 334 X (330 kΩ)	T	33/23.6
R345	7030005230	S.RES ERJ2GEJ 334 X (330 kΩ)	T	31.8/23.8
R346	7030005230	S.RES ERJ2GEJ 334 X (330 kΩ)	T	32.6/20
R347	7030005160	S.RES ERJ2GEJ 105 X (1 MΩ)	T	30.7/15.3
R348	7030005160	S.RES ERJ2GEJ 105 X (1 MΩ)	T	32.9/17.1

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

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
R349	7030005160	S.RES ERJ2GEJ 105 X (1 MΩ)	T	32.5/15.8
R350	7410001140	S.ARY EXB28V104JX	T	35/4.4
R351	7030008410	S.RES ERJ2GEJ 392 X (3.9 kΩ)	T	26.8/67.6
R352	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	T	25.9/67.6
R353	7030005600	S.RES ERJ2GEJ 273 X (27 kΩ)	T	25.5/66
R354	7030005600	S.RES ERJ2GEJ 273 X (27 kΩ)	T	25.5/65.1
R355	7030005700	S.RES ERJ2GEJ 274 X (270 kΩ)	T	28.3/53.4
R356	7030005160	S.RES ERJ2GEJ 105 X (1 MΩ)	B	9.4/37.7
R357	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	33.5/20
R358	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	32.6/22.4
R359	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	33.5/22.2
R360	7030008290	S.RES ERJ2GEJ 183 X (18 kΩ)	T	36/51.8
R361	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	T	36/53.4
R362	7030005070	S.RES ERJ2GEJ 683 X (68 kΩ)	T	29.6/53
R363	7030005070	S.RES ERJ2GEJ 683 X (68 kΩ)	T	30.3/52.1
R364	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	33.3/52.7
R365	7030005070	S.RES ERJ2GEJ 683 X (68 kΩ)	T	36.2/58.3
R366	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	34.2/51.8
R367	7030005070	S.RES ERJ2GEJ 683 X (68 kΩ)	T	31.3/61.3
R368	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	32.9/51.4
R371	7030005070	S.RES ERJ2GEJ 683 X (68 kΩ)	T	30/61.7
R372	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	30.3/51.2
R373	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	T	30.8/49.9
R374	7030008300	S.RES ERJ2GEJ 184 X (180 kΩ)	B	28.8/23.9
R375	7030005720	S.RES ERJ2GEJ 563 X (56 kΩ)	B	27.9/23.9
R376	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	B	26.4/22.5
R377	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	27.7/26.8
R378	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	T	17.5/49.2
R379	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	15.3/23.1
R380	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	16.2/23.1
R381	7030008010	S.RES ERJ2GEJ 123 X (12 kΩ)	B	7.6/24.5
R382	7030007300	S.RES ERJ2GEJ 332 X (3.3 kΩ)	T	21.2/47.6
R383	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	7.2/11
R384	7030008010	S.RES ERJ2GEJ 123 X (12 kΩ)	B	11.6/26
R385	7030008010	S.RES ERJ2GEJ 123 X (12 kΩ)	B	6.7/23.6
R387	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	16.9/25.9
R388	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	18.1/25.5
R389	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	T	18/50.5
R390	7030008290	S.RES ERJ2GEJ 183 X (18 kΩ)	T	15.2/76
R391	7030005160	S.RES ERJ2GEJ 105 X (1 MΩ)	B	12.8/21.7
R392	7030010040	S.RES ERJ2GE-JPW	B	28.2/69.1
R393	7030005080	S.RES ERJ2GEJ 823 X (82 kΩ)	B	24.2/40.6
R394	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	B	25.1/40.6
R395	7030010040	S.RES ERJ2GE-JPW	B	32.8/20.5
R396	7030005070	S.RES ERJ2GEJ 683 X (68 kΩ)	T	11.5/40.5
R397	7030008290	S.RES ERJ2GEJ 183 X (18 kΩ)	B	19.2/31.2
R399	7030009160	S.RES ERJ2GEJ 181 X (180 Ω)	B	13.6/20.4
R400	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	T	9.2/50.4
R401	7030009320	S.RES ERJ2GEJ 4R7 X (4.7 Ω)	T	14.8/73.1
R402	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	22/24.8
R403	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	25.6/24.1
R404	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	24.4/23.6
R405	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	11.8/10.3
R406	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	26.5/24.1
R407	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	18.4/24.3
R408	7410001130	S.ARY EXB28V102JX	B	14.9/7.8
R409	7410001130	S.ARY EXB28V102JX	B	28.1/20.6
R410	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	14/5.5
R411	7410001130	S.ARY EXB28V102JX	B	29.7/18.6
R412	7410001130	S.ARY EXB28V102JX	B	16.9/5.8
R413	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	30.6/6.6
R414	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	17.9/10.9
R415	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	16.1/10.9
R416	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	32.8/19.3
R417	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	31.6/19.3
R418	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	28.1/3.2
R419	7410001140	S.ARY EXB28V104JX	T	28.2/9.8
R420	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	1.9/106.1
R421	7410001130	S.ARY EXB28V102JX	B	22.5/5.1
R422	7410001130	S.ARY EXB28V102JX	B	27/7.8
R424	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	2.7/107.9
R425	7410001130	S.ARY EXB28V102JX	B	25/6.2
R426	7410001130	S.ARY EXB28V102JX	B	28.6/9.9
R427	7410001130	S.ARY EXB28V102JX	B	30.5/12.3
R428	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	6.1/98.9
R429	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	7/99.8
R430	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	2.8/82
R431	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	4/82.4
R432	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	29.4/79.5
R433	7030005000	S.RES ERJ2GEJ 471 X (470 Ω)	T	31.2/78.5
R434	7030007290	S.RES ERJ2GEJ 222 X (2.2 kΩ)	B	2.7/108.8
R435	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	6.4/116.9
R436	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	4.3/122.2
R437	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	36.5/3.3
R438	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	36.9/2
R439	7030005700	S.RES ERJ2GEJ 274 X (270 kΩ)	B	15.7/120.9
R440	7030010080	S.RES ERJ2RHD 104 X (100 kΩ)	B	14.3/121.8
R441	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	T	10.8/5.4
R442	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	6.9/7.9
R443	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	4.2/10.8
R444	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	18.1/3.7
R445	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	16.4/3.7
R446	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	11.5/9.4

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
R447	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	21.9/29.2
R448	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	30.1/25.1
R449	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	31.4/23.6
R450	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	31.4/22
R451	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	22.8/26.6
R452	7030007290	S.RES ERJ2GEJ 222 X (2.2 kΩ)	T	22.8/25.7
R453	7030007290	S.RES ERJ2GEJ 222 X (2.2 kΩ)	T	22.8/24.8
R454	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	22.3/23.5
R455	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	23.6/23.9
R456	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	B	19.7/3
R501	7030010040	S.RES ERJ2GE-JPW	T	31.1/19.2
R503	7030010040	S.RES ERJ2GE-JPW	T	33.1/5.1
R504	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	27.4/46.4
R505	7030005170	S.RES ERJ2GEJ 474 X (470 kΩ)	B	25.2/42.8
R506	7030010040	S.RES ERJ2GE-JPW	T	9.7/34.8
R507	7030005170	S.RES ERJ2GEJ 474 X (470 kΩ)	B	20.3/40.2
R508	7030004970	S.RES ERJ2GEJ 470 X (47 Ω)	T	12/72.6
C1	4030017330	S.CER ECJ0EF1C104Z	B	2.4/71
C2	4030017420	S.CER ECJ0EC1H470J	B	1.4/72.9
C3	4030017420	S.CER ECJ0EC1H470J	B	1.4/73.8
C4	4030017350	S.CER ECJ0EC1H020B	B	10.6/70.3
C5	4030017420	S.CER ECJ0EC1H470J	B	3/75.3
C6	4030017460	S.CER ECJ0EB1E102K	B	12.5/82.5
C7	4030017420	S.CER ECJ0EC1H470J	T	2.8/73.2
C8	4030017390	S.CER ECJ0EC1H180J	B	8.8/70.3
C9	4030017460	S.CER ECJ0EB1E102K	B	11.5/71.1
C10	4030017460	S.CER ECJ0EB1E102K	B	4/77.3
C11	4030016930	S.CER ECJ0EB1A104K	B	2.6/65.9
C12	4030017600	S.CER ECJ0EC1H080C	B	9.9/82.6
C13	4030017460	S.CER ECJ0EB1E102K	B	12.6/75
C14	4030017460	S.CER ECJ0EB1E102K	B	12.4/71.1
C15	4030017640	S.CER ECJ0EC1H150J	B	9.9/84.1
C16	4030017460	S.CER ECJ0EB1E102K	T	42.8/76.4
C17	4030016790	S.CER ECJ0EB1C103K	B	14.4/77.5
C18	4030017460	S.CER ECJ0EB1E102K	B	11.1/82.2
C19	4030016930	S.CER ECJ0EB1A104K	B	2.4/64
C20	4030017570	S.CER ECJ0EC1H040B	B	9.5/87
C21	4030017460	S.CER ECJ0EB1E102K	T	23/77.9
C22	4030017360	S.CER ECJ0EC1H030B	B	10.8/87
C23	4030017460	S.CER ECJ0EB1E102K	T	26.1/81.1
C24	4550007000	S.TAN ECST1VY105R	B	15.5/74.4
C25	4030017600	S.CER ECJ0EC1H080C	B	10.8/87.9
C26	4030017600	S.CER ECJ0EC1H080C	B	9.6/85.3
C27	4030017360	S.CER ECJ0EC1H030B	B	10.4/89.2
C28	4030017600	S.CER ECJ0EC1H080C	B	11.6/90.6
C29	4030016790	S.CER ECJ0EB1C103K	B	14.7/82.5
C30	4030017460	S.CER ECJ0EB1E102K	B	23.4/85.7
C31	4030016790	S.CER ECJ0EB1C103K	B	14.7/83.4
C32	4030017360	S.CER ECJ0EC1H030B	B	11.6/91.6
C33	4030017770	S.CER ECJ0EB1E332K	B	21.1/83.9
C34	4030016930	S.CER ECJ0EB1A104K	B	23.4/88.4
C35	4030017490	S.CER C1608 JB 1A 105K-T	B	22/86.1
C36	4030017720	S.CER ECJ0EB1H331K	B	24.5/91
C37	4030017570	S.CER ECJ0EC1H040B	T	24.1/87.5
C39	4030017380	S.CER ECJ0EC1H050B	T	25/87.5
C40	4030016790	S.CER ECJ0EB1C103K	B	10.8/95.9
C42	4030017360	S.CER ECJ0EC1H030B	T	26.1/84.9
C43	4030017360	S.CER ECJ0EC1H030B	T	23.8/85.9
C44	4550006760	S.TAN TEESVB21A336M8R	B	6.4/93.2
C45	4030017420	S.CER ECJ0EC1H470J	T	10.9/92.2
C46	4030017440	S.CER ECJ0EC1H221J	T	27.2/87.6
C47	4030017360	S.CER ECJ0EC1H030B	T	14.7/94.8
C48	4030017340	S.CER ECJ0EC1H010B	T	26.1/88.8
C49	4030017340	S.CER ECJ0EC1H010B	T	22.4/89.9
C50	4030017640	S.CER ECJ0EC1H150J	T	11.3/91
C52	4030017400	S.CER ECJ0EC1H220J	T	24.5/88.8
C54	4030017660	S.CER ECJ0EC1H330J	T	14.7/96
C55	4030017510	S.CER ECJ0EC1H680J	T	23.8/90.5
C56	4030017660	S.CER ECJ0EC1H330J	T	16/95.6
C57	4030017660	S.CER ECJ0EC1H330J	T	16/97.3
C58	4030017390	S.CER ECJ0EC1H180J	T	27.1/93.3
C59	4030017660	S.CER ECJ0EC1H330J	T	26.8/95.4
C60	4030016790	S.CER ECJ0EB1C103K	T	18/94.4
C61	4030017460	S.CER ECJ0EB1E102K	T	23.3/92.9
C62	4030017460	S.CER ECJ0EB1E102K	T	18/93.5
C63	4030017360	S.CER ECJ0EC1H030B	B	11.2/94.6
C64	4030016930	S.CER ECJ0EB1A104K	B	23.2/93.9
C65	4030017540	S.CER ECJ0EC1HR75B	T	19.8/97.7
C66	4030017530	S.CER ECJ0EC1H0R5B	T	25.9/97.2
C67	4030017460	S.CER ECJ0EB1E102K	T	21.9/95.2
C68	4030017730	S.CER ECJ0EB1E471K	B	24.1/93.9
C69	4030017460	S.CER ECJ0EB1E102K	B	13.4/96.2
C70	4030017620	S.CER ECJ0EC1H100C	B	21.5/95.2
C71	4030017460	S.CER ECJ0EB1E102K	B	16.7/95.5
C72	4030017460	S.CER ECJ0EB1E102K	B	19.2/98.6
C73	4030017460	S.CER ECJ0EB1E102K	B	27.2/94.1
C74	4030017380	S.CER ECJ0EC1H050B	B	11.2/92.8
C75	4030017590	S.CER ECJ0EC1H070C	B	23.4/95.2
C76	4030017460	S.CER ECJ0EB1E102K	B	22.3/98
C77	4030017390	S.CER ECJ0EC1H180J	B	29.4/98.6
C78	4030017460	S.CER ECJ0EB1E102K	B	27.6/99.4

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

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
C79	4030017380	S.CER ECJ0EC1H050B	B	23/101.3
C80	4030016790	S.CER ECJ0EB1C103K	B	25/103.7
C81	4030017460	S.CER ECJ0EB1E102K	B	19.4/103.3
C82	4030017640	S.CER ECJ0EC1H150J	B	16.4/101.7
C83	4030017420	S.CER ECJ0EC1H470J	B	9.6/101.6
C84	4030017460	S.CER ECJ0EB1E102K	B	16.2/103.5
C85	4030017460	S.CER ECJ0EB1E102K	B	10.9/102.8
C86	4030017460	S.CER ECJ0EB1E102K	B	11.9/99.2
C87	4030017430	S.CER ECJ0EC1H101J	T	13.5/106.3
C88	4030017420	S.CER ECJ0EC1H470J	B	10.9/101.9
C89	4030017460	S.CER ECJ0EB1E102K	B	11/115.7
C90	4030017420	S.CER ECJ0EC1H470J	T	18.1/103.3
C91	4030017460	S.CER ECJ0EB1E102K	T	15.5/115.8
C92	4030016790	S.CER ECJ0EB1C103K	T	16.4/106.3
C93	4030017460	S.CER ECJ0EB1E102K	T	15.4/106.3
C94	4030017650	S.CER ECJ0EC1H270J	T	16.3/113.5
C95	4030017490	S.CER C1608 JB 1A 105K-T	T	20.5/115.7
C96	4030017430	S.CER ECJ0EC1H101J	T	18.1/113.5
C97	4030017460	S.CER ECJ0EB1E102K	T	21.1/103.5
C98	4030017730	S.CER ECJ0EB1E471K	T	18.1/104.9
C99	4030017460	S.CER ECJ0EB1E102K	B	18.6/115.3
C100	4030017460	S.CER ECJ0EB1E102K	T	20.6/104.8
C101	4550006250	S.TAN TEESVA 1A 106M8L	T	17.8/101.5
C102	4030007110	S.CER C1608 CH 1H 680J-T	B	27.4/117.8
C103	4030007100	S.CER C1608 CH 1H 560J-T	B	28.8/117.8
C104	4030017620	S.CER ECJ0EC1H100C	B	9.2/67.3
C105	4030017460	S.CER ECJ0EB1E102K	T	23.1/104
C106	4030007040	S.CER C1608 CH 1H 180J-T	B	28.1/115.9
C108	4030017460	S.CER ECJ0EB1E102K	B	31/113.8
C109	4030016790	S.CER ECJ0EB1C103K	B	4.7/65.4
C110	4030017530	S.CER ECJ0EC1H0R5B	B	30.9/106.3
C111	4030017460	S.CER ECJ0EB1E102K	T	21.5/101.1
C112	4030017500	S.CER ECJ0EC1H560J	B	6.8/62.1
C113	4030017460	S.CER ECJ0EB1E102K	B	28.4/103.4
C114	4030007010	S.CER C1608 CH 1H 100D-T	B	30.1/108.1
C115	4030016930	S.CER ECJ0EB1A104K	T	22.6/101.1
C116	4030017460	S.CER ECJ0EB1E102K	B	32.1/102.6
C117	4030017570	S.CER ECJ0EC1H040B	B	9.2/63
C118	4030016930	S.CER ECJ0EB1A104K	B	5.6/65.5
C119	4030017460	S.CER ECJ0EB1E102K	B	32.6/103.9
C120	4030016790	S.CER ECJ0EB1C103K	B	5.6/61.7
C121	4030007040	S.CER C1608 CH 1H 180J-T	B	34.1/113.1
C122	4030017460	S.CER ECJ0EB1E102K	B	34.8/110.5
C123	4030016930	S.CER ECJ0EB1A104K	T	25.8/103.9
C124	4030016930	S.CER ECJ0EB1A104K	T	27/100.8
C125	4030017590	S.CER ECJ0EC1H070C	B	8.4/62.1
C126	4030017460	S.CER ECJ0EB1E102K	B	37.6/109.7
C127	4030016930	S.CER ECJ0EB1A104K	B	19.5/62
C128	4030016930	S.CER ECJ0EB1A104K	B	22.5/60
C129	4030017360	S.CER ECJ0EC1H030B	B	9.6/61.7
C130	4030016930	S.CER ECJ0EB1A104K	B	20.6/53.8
C131	4030016930	S.CER ECJ0EB1A104K	B	22.9/53.3
C132	4030016930	S.CER ECJ0EB1A104K	B	22.1/62.3
C133	4030016930	S.CER ECJ0EB1A104K	B	19.6/58.5
C134	4030016930	S.CER ECJ0EB1A104K	B	22.9/61.4
C135	4030016930	S.CER ECJ0EB1A104K	B	19.4/56.7
C136	4030016930	S.CER ECJ0EB1A104K	B	17.3/54.1
C137	4030017690	S.CER ECJ0EC1H121J	B	19.9/55.4
C138	4030017690	S.CER ECJ0EC1H121J	B	18.2/54.1
C139	4030017430	S.CER ECJ0EC1H101J	B	18.9/51.5
C140	4030017460	S.CER ECJ0EB1E102K	B	19.4/57.6
C141	4030017460	S.CER ECJ0EB1E102K	B	9.7/53.6
C142	4030017420	S.CER ECJ0EC1H470J	B	9.7/52.5
C143	4550006050	S.TAN TEESVA 0J 106M8L	B	14.2/52.3
C144	4030017460	S.CER ECJ0EB1E102K	B	10.3/59
C145	4030016790	S.CER ECJ0EB1C103K	B	11.5/61.1
C146	4030017430	S.CER ECJ0EC1H101J	B	10.2/55.6
C147	4030017460	S.CER ECJ0EB1E102K	B	8.5/58.2
C148	4030016790	S.CER ECJ0EB1C103K	B	15.2/62
C149	4030016790	S.CER ECJ0EB1C103K	B	18/64.5
C150	4030017460	S.CER ECJ0EB1E102K	B	14.9/66.8
C151	4030016790	S.CER ECJ0EB1C103K	B	14/66.8
C152	4030016930	S.CER ECJ0EB1A104K	B	22.4/52.1
C153	4030017400	S.CER ECJ0EC1H220J	B	24.2/68.7
C154	4030017600	S.CER ECJ0EC1H080C	B	40.2/83.6
C155	4030017580	S.CER ECJ0EC1H060C	B	20.4/74.2
C156	4030016790	S.CER ECJ0EB1C103K	B	23.6/76.4
C157	4030016790	S.CER ECJ0EB1C103K	B	11.4/67.6
C158	4030016790	S.CER ECJ0EB1C103K	B	22.3/79.8
C159	4030016790	S.CER ECJ0EB1C103K	B	28.5/75.8
C161	4030017460	S.CER ECJ0EB1E102K	B	29.9/89.4
C162	4030016790	S.CER ECJ0EB1C103K	B	8.1/59.5
C163	4030017570	S.CER ECJ0EC1H040B	B	23/65.3
C164	4030016790	S.CER ECJ0EB1C103K	B	37.2/82.2
C165	4030017580	S.CER ECJ0EC1H060C	B	31.7/92.6
C166	4030017460	S.CER ECJ0EB1E102K	B	40.5/78.2
C167	4030017630	S.CER ECJ0EC1H120J	B	31/95.2
C168	4030017460	S.CER ECJ0EB1E102K	B	36.8/83.5
C170	4030017580	S.CER ECJ0EC1H060C	B	26.7/99.9
C171	4030017580	S.CER ECJ0EC1H060C	T	40.2/88.4
C172	4030017460	S.CER ECJ0EB1E102K	T	38/90.1
C173	4030017420	S.CER ECJ0EC1H470J	B	40.1/88.8
C174	4030017580	S.CER ECJ0EC1H060C	T	39.7/91

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
C175	4030017490	S.CER C1608 JB 1A 105K-T	B	35.2/96.2
C176	4030017420	S.CER ECJ0EC1H470J	B	39/91.8
C177	4030017460	S.CER ECJ0EB1E102K	T	39.3/86
C178	4030017460	S.CER ECJ0EB1E102K	B	35.3/97.9
C179	4030017460	S.CER ECJ0EB1E102K	T	35/93.7
C180	4030017460	S.CER ECJ0EB1E102K	T	36.4/93.6
C181	4030017420	S.CER ECJ0EC1H470J	T	36.4/94.5
C182	4030017460	S.CER ECJ0EB1E102K	B	33.8/100
C184	4030016930	S.CER ECJ0EB1A104K	T	32.3/99.2
C185	4030016930	S.CER ECJ0EB1A104K	T	34/101
C186	4030017460	S.CER ECJ0EB1E102K	T	36.1/99
C187	4030016930	S.CER ECJ0EB1A104K	T	34/99.2
C188	4030017460	S.CER ECJ0EB1E102K	T	32.3/100.1
C189	4030017380	S.CER ECJ0EC1H050B	T	36.4/97.8
C190	4030016930	S.CER ECJ0EB1A104K	T	33.7/89.8
C191	4030017380	S.CER ECJ0EC1H050B	T	40.5/99.9
C192	4030017460	S.CER ECJ0EB1E102K	T	37.7/102.3
C193	4030017630	S.CER ECJ0EC1H120J	T	36.2/100.6
C194	4030017380	S.CER ECJ0EC1H050B	T	40.5/104.2
C195	4030017460	S.CER ECJ0EB1E102K	T	39.7/101.5
C196	4030017650	S.CER ECJ0EC1H270J	T	37.7/101.4
C197	4030017630	S.CER ECJ0EC1H120J	T	36.2/102.2
C198	4030017660	S.CER ECJ0EC1H330J	T	36.3/105.4
C199	4030017380	S.CER ECJ0EC1H050B	B	34.3/103.5
C200	4030017650	S.CER ECJ0EC1H270J	T	36.3/107.8
C201	4030017580	S.CER ECJ0EC1H060C	B	35.2/103.8
C202	4030007020	S.CER C1608 CH 1H 120J-T	B	39.3/109
C203	4030017460	S.CER ECJ0EB1E102K	T	29.1/101.3
C204	4030007020	S.CER C1608 CH 1H 120J-T	B	39.3/110.4
C205	4030011530	S.CER C1608 CH 1H 110J-T	B	36.4/112.4
C206	4030007030	S.CER C1608 CH 1H 150J-T	B	39.3/117.2
C207	4030006990	S.CER C1608 CH 1H 080D-T	B	37/115.2
C208	4030017460	S.CER ECJ0EB1E102K	T	28.3/105.1
C209	4030006940	S.CER C1608 CH 1H 030C-T	B	36.5/120.5
C210	4030017460	S.CER ECJ0EB1E102K	T	30/102.7
C211	4030017460	S.CER ECJ0EB1E102K	B	14.8/89
C212	4030016930	S.CER ECJ0EB1A104K	B	14.8/89.9
C213	4030017460	S.CER ECJ0EB1E102K	B	26.2/86.7
C214	4030016930	S.CER ECJ0EB1A104K	B	27.1/86.7
C215	4030017330	S.CER ECJ0EF1C104Z	B	13.5/77.5
C216	4030017490	S.CER C1608 JB 1A 105K-T	B	11.2/80.6
C217	4030017460	S.CER ECJ0EB1E102K	B	12.6/77.5
C218	4030017330	S.CER ECJ0EF1C104Z	B	3.1/77.3
C219	4030017490	S.CER C1608 JB 1A 105K-T	B	3.1/78.7
C222	4030017640	S.CER ECJ0EC1H150J	T	14.6/85.9
C223	4030017420	S.CER ECJ0EC1H470J	T	14.6/85
C224	4550006480	S.TAN TEESVA 1C 475M8L	B	19.4/89.5
C225	4030017590	S.CER ECJ0EC1H070C	T	18.5/88.9
C226	4030017660	S.CER ECJ0EC1H330J	T	19.4/88.9
C227	4030017660	S.CER ECJ0EC1H330J	T	20.3/89.8
C228	4030017660	S.CER ECJ0EC1H330J	T	21.3/91.7
C231	4030017540	S.CER ECJ0EC1HR75B	T	20.7/93.9
C232	4030017530	S.CER ECJ0EC1H0R5B	T	40.5/105.1
C233	4030017530	S.CER ECJ0EC1H0R5B	T	39.6/99.9
C234	4030017460	S.CER ECJ0EB1E102K	T	36.5/106.6
C235	4030017630	S.CER ECJ0EC1H120J	T	39.8/108.9
C236	4030017690	S.CER ECJ0EC1H121J	T	39.8/109.8
C237	4030017690	S.CER ECJ0EC1H121J	B	40.5/75.7
C300	4030017420	S.CER ECJ0EC1H470J	B	21.8/35.7
C301	4030017420	S.CER ECJ0EC1H470J	B	9.4/36.1
C302	4030017640	S.CER ECJ0EC1H150J	B	34.6/34.7
C303	4030017420	S.CER ECJ0EC1H470J	B	21.7/36.6
C304	4030017420	S.CER ECJ0EC1H470J	B	9.6/34.9
C305	4030017460	S.CER ECJ0EB1E102K	T	5.4/79.3
C306	4030017420	S.CER ECJ0EC1H470J	B	21.8/37.5
C307	4030016970	S.CER ECJ0EB1C223K	B	16.1/34.6
C308	4030016930	S.CER ECJ0EB1A104K	B	13.7/34.6
C309	4030017390	S.CER ECJ0EC1H180J	B	36.4/34.7
C310	4030017420	S.CER ECJ0EC1H470J	B	21.7/38.4
C311	4030016930	S.CER ECJ0EB1A104K	B	30.6/33.6
C312	4030017460	S.CER ECJ0EB1E102K	B	20.3/43.8
C313	4550000460	S.TAN TEESVA 1C 105M8L	B	23.7/44.5
C314	4030017420	S.CER ECJ0EC1H470J	B	19.9/41.7
C315	4030018860	S.CER ECJ0EB0J105K	T	16.8/63.1
C316	4030018860	S.CER ECJ0EB0J105K	T	13.2/64.5
C317	4030018860	S.CER ECJ0EB0J105K	T	15.4/62.7
C318	4550000460	S.TAN TEESVA 1C 105M8L	B	17.7/45
C319	4030017730	S.CER ECJ0EB1E471K	T	2.8/77.2
C320	4030016930	S.CER ECJ0EB1A104K	B	38.1/24.4
C321	4550005980	S.TAN TEESVA 1A 475M8L	T	2.6/80.6
C322	4030017910	S.CER ECJ0EB1H152K	B	22.6/42.3
C323	4030017680	S.CER ECJ0EC1H820J	B	13.3/44.5
C324	4030018860	S.CER ECJ0EB0J105K	T	7.9/29.6
C325	4030017400	S.CER ECJ0EC1H220J	B	8.5/37
C326	4030016930	S.CER ECJ0EB1A104K	T	12.8/78
C327	4030016930	S.CER ECJ0EB1A104K	B	23.5/42.3
C328	4030017400	S.CER ECJ0EC1H220J	B	8.5/39.2
C329	4550006350	S.TAN TEESVB2 1A 226M8L	B	6.4/30.4
C330	4030016790	S.CER ECJ0EB1C103K	T	12.8/76.2
C331	4030018820	S.CER ECJ0EB1H561K	T	11.5/39.6
C332	4030016930	S.CER ECJ0EB1A104K	B	10.9/32.5
C333	4030016930	S.CER ECJ0EB1A104K	B	9/44.2
C334	4030017460	S.CER ECJ0EB1E102K	B	10.5/34

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

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
C335	4030017720	S.CER ECJ0EB1H331K	B	17/32.4
C336	4030016930	S.CER ECJ0EB1A104K	T	25.9/69.8
C337	4030016940	S.CER ECJ0EB1A393K	T	11.2/79.1
C338	4030017760	S.CER ECJ0EB1H222K	B	19.2/29.6
C339	4030016930	S.CER ECJ0EB1A104K	B	11.9/46.2
C340	4030017750	S.CER ECJ0EB1E122K	B	15.2/46.4
C341	4030017460	S.CER ECJ0EB1E102K	T	14.5/77.3
C342	4030016930	S.CER ECJ0EB1A104K	T	27.1/55.8
C343	4030017460	S.CER ECJ0EB1E102K	T	26.7/57.1
C344	4030017260	S.CER C2012 JB 0J 475KT	T	14.5/66.7
C345	4030016930	S.CER ECJ0EB1A104K	T	12.8/74.1
C346	4030016930	S.CER ECJ0EB1A104K	T	15.2/74.3
C347	4030017710	S.CER ECJ0EC1H181J	T	28.8/59.8
C348	4030016930	S.CER ECJ0EB1A104K	T	26.7/58.8
C349	4030016930	S.CER ECJ0EB1A104K	T	24.8/77.3
C350	4030017460	S.CER ECJ0EB1E102K	T	41.5/11.8
C351	4030016930	S.CER ECJ0EB1A104K	T	25.7/74.1
C352	4030017420	S.CER ECJ0EC1H470J	T	32.4/9.3
C353	4030016930	S.CER ECJ0EB1A104K	T	26/72.8
C354	4030016930	S.CER ECJ0EB1A104K	T	27.1/53.9
C355	4030016930	S.CER ECJ0EB1A104K	T	23.7/66
C356	4030016930	S.CER ECJ0EB1A104K	T	23.7/65.1
C357	4030017420	S.CER ECJ0EC1H470J	T	26.9/52.1
C358	4030017420	S.CER ECJ0EC1H470J	T	32.4/10.2
C359	4030017460	S.CER ECJ0EB1E102K	T	41.5/17.2
C360	4030017460	S.CER ECJ0EB1E102K	T	37.4/3.9
C361	4030018090	S.CER ECJ0EB1C822K	T	28.6/52.1
C362	4030018560	S.CER C2012 JB 1A 475K-T	T	13.4/70.3
C363	4030017420	S.CER ECJ0EC1H470J	T	35.1/51.8
C364	4030017510	S.CER ECJ0EC1H680J	T	31.2/53
C365	4030016930	S.CER ECJ0EB1A104K	T	36.9/51.8
C366	4030017420	S.CER ECJ0EC1H470J	T	30.9/60.1
C367	4030017460	S.CER ECJ0EB1E102K	T	28/27.1
C368	4030017740	S.CER ECJ0EB1E821K	T	32.4/52.7
C369	4030017460	S.CER ECJ0EB1E102K	B	40.6/33.8
C370	4030017420	S.CER ECJ0EC1H470J	T	33.9/34.2
C371	4030017460	S.CER ECJ0EB1E102K	B	38.6/34.2
C372	4030018240	S.CER ECJ0EB1E562K	T	31.8/60.1
C373	4030017710	S.CER ECJ0EC1H181J	T	36.7/57
C374	4030016930	S.CER ECJ0EB1A104K	T	34.7/53.2
C375	4030016780	S.CER ECJ0EB1C153K	T	32.9/50.5
C376	4030018110	S.CER ECJ0EB1H272K	T	30/60.1
C377	4030017420	S.CER ECJ0EC1H470J	T	32.7/34.5
C378	4030016930	S.CER ECJ0EB1A104K	B	5.2/11.7
C379	4030017460	S.CER ECJ0EB1E102K	T	25.8/51
C380	4030016930	S.CER ECJ0EB1A104K	B	8.8/5.7
C381	4030016790	S.CER ECJ0EB1C103K	B	4/6.3
C382	4030016930	S.CER ECJ0EB1A104K	T	21.2/49.5
C383	4030017420	S.CER ECJ0EC1H470J	T	15.3/23
C384	4030017420	S.CER ECJ0EC1H470J	T	16.2/23
C385	4030016930	S.CER ECJ0EB1A104K	T	22.8/47.1
C386	4030017660	S.CER ECJ0EC1H330J	B	8/23.2
C387	4030016930	S.CER ECJ0EB1A104K	T	25.6/68.9
C388	4030017460	S.CER ECJ0EB1E102K	T	28.5/16.9
C389	4030017460	S.CER ECJ0EB1E102K	T	21.9/12.4
C390	4030016790	S.CER ECJ0EB1C103K	B	10.3/25.5
C391	4030017590	S.CER ECJ0EC1H070C	B	13.7/21.7
C392	4030017460	S.CER ECJ0EB1E102K	T	25/13.4
C393	4030017400	S.CER ECJ0EC1H220J	B	12.3/19.7
C394	4030016930	S.CER ECJ0EB1A104K	B	29.1/69.1
C395	4030017420	S.CER ECJ0EC1H470J	T	42.8/73.7
C396	4030017460	S.CER ECJ0EB1E102K	T	20.9/13.8
C397	4030017460	S.CER ECJ0EB1E102K	T	20.5/21.8
C398	4030016930	S.CER ECJ0EB1A104K	B	10.3/11.1
C399	4030016930	S.CER ECJ0EB1A104K	B	10.3/12
C402	4030017420	S.CER ECJ0EC1H470J	T	24.2/29.1
C404	4030017620	S.CER ECJ0EC1H100C	T	42.8/70.7
C405	4030017620	S.CER ECJ0EC1H100C	T	42.8/71.6
C408	4030017420	S.CER ECJ0EC1H470J	T	29.8/22.2
C409	4030017760	S.CER ECJ0EB1H222K	T	11.5/38.7
C410	4030017420	S.CER ECJ0EC1H470J	T	29.3/20.9
C411	4030017420	S.CER ECJ0EC1H470J	T	29.3/20
C412	4030017420	S.CER ECJ0EC1H470J	B	33.5/18.1
C413	4030017420	S.CER ECJ0EC1H470J	B	32.1/17.7
C415	4030017420	S.CER ECJ0EC1H470J	B	14.9/3.2
C416	4030017420	S.CER ECJ0EC1H470J	B	19.3/3.9
C418	4030016930	S.CER ECJ0EB1A104K	T	23.1/11.5
C419	4030017460	S.CER ECJ0EB1E102K	B	1.9/105.2
C420	4030016930	S.CER ECJ0EB1A104K	B	34.1/19.3
C421	4030016790	S.CER ECJ0EB1C103K	B	1.9/107
C422	4030017460	S.CER ECJ0EB1E102K	B	4.3/107.9
C423	4030017460	S.CER ECJ0EB1E102K	B	8.8/103.4
C424	4030016790	S.CER ECJ0EB1C103K	B	8.6/99.8
C425	4030017460	S.CER ECJ0EB1E102K	B	7.2/103.6
C426	4030017420	S.CER ECJ0EC1H470J	B	25.4/3.2
C427	4030017420	S.CER ECJ0EC1H470J	B	26.3/3.2
C428	4030017420	S.CER ECJ0EC1H470J	B	27.2/3.2
C429	4030017420	S.CER ECJ0EC1H470J	B	29.2/4.6
C430	4030017420	S.CER ECJ0EC1H470J	B	30.1/5.7
C431	4030017420	S.CER ECJ0EC1H470J	B	30.1/6.7
C432	4030017420	S.CER ECJ0EC1H470J	B	30.1/7.6
C433	4030017420	S.CER ECJ0EC1H470J	B	32.1/8
C434	4030017420	S.CER ECJ0EC1H470J	B	32.3/8.9

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
C435	4030017420	S.CER ECJ0EC1H470J	B	32.3/9.8
C436	4030017420	S.CER ECJ0EC1H470J	B	32/10.7
C437	4030017420	S.CER ECJ0EC1H470J	B	34.6/11.6
C438	4030017420	S.CER ECJ0EC1H470J	B	34.6/12.5
C439	4030017420	S.CER ECJ0EC1H470J	B	33.6/13.8
C440	4030017420	S.CER ECJ0EC1H470J	B	31.9/14.2
C441	4030017460	S.CER ECJ0EB1E102K	B	4.3/87.2
C442	4030016790	S.CER ECJ0EB1C103K	B	6.1/86.6
C443	4030017460	S.CER ECJ0EB1E102K	B	4.3/108.8
C444	4550006250	S.TAN TEESVA 1A 106M8L	B	12.3/23.6
C445	4550005980	S.TAN TEESVA 1A 475M8L	B	2.9/114.3
C446	4030016930	S.CER ECJ0EB1A104K	T	30.3/78.5
C447	4030016930	S.CER ECJ0EB1A104K	B	6.9/116
C448	4030016930	S.CER ECJ0EB1A104K	B	12.7/122.3
C449	4030018860	S.CER ECJ0EB0J105K	B	10.5/116.9
C450	4030016790	S.CER ECJ0EB1C103K	T	10.9/11.1
C451	4510004630	S.ELE ECEV1CA100SR	T	8.7/120.2
C452	4030017460	S.CER ECJ0EB1E102K	T	43/65.1
C453	4030017460	S.CER ECJ0EB1E102K	B	15.5/122.1
C454	4030017460	S.CER ECJ0EB1E102K	B	7.3/9.7
C455	4030017430	S.CER ECJ0EC1H101J	T	2.6/114.9
C456	4030017430	S.CER ECJ0EC1H101J	T	4.5/106.8
C457	4030017430	S.CER ECJ0EC1H101J	T	3.5/88.3
C458	4030017430	S.CER ECJ0EC1H101J	T	2.5/61.9
C459	4550006250	S.TAN TEESVA 1A 106M8L	T	38.7/83.1
C460	4030017490	S.CER C1608 JB 1A 105K-T	B	28/30
C461	4030016790	S.CER ECJ0EB1C103K	B	8/116.9
C462	4030017420	S.CER ECJ0EC1H470J	B	35.3/45.6
C463	4030017460	S.CER ECJ0EB1E102K	B	34.4/85.2
C464	4030017460	S.CER ECJ0EB1E102K	T	32/97
C465	4030017460	S.CER ECJ0EB1E102K	T	33.7/88.9
C466	4030017750	S.CER ECJ0EB1E122K	B	18.2/32
C470	4030017730	S.CER ECJ0EB1E471K	T	42.3/67
C471	4030017730	S.CER ECJ0EB1E471K	T	34.8/33
C472	4030018860	S.CER ECJ0EB0J105K	T	11.1/72.6
C473	4030017430	S.CER ECJ0EC1H101J	B	40.1/68.8
C474	4030017430	S.CER ECJ0EC1H101J	T	42.8/72.8
C475	4030017430	S.CER ECJ0EC1H101J	T	42.8/69.8
J1	6510018430	S.CNR AXN330C038P	T	37.5/16.1
J2	6510018430	S.CNR AXN330C038P	T	38.7/38.2
J3	6510022710	S.CNR 30FLZ-SM1-TB	T	38.4/70.5
F1	5210000830	S.FUS ERBFE3R00U	T	13.2/120.1
S1	2260002800	S.SW SW-167 (SKQTLAE010)	T	2.1/119.2
S2	2260002800	S.SW SW-167 (SKQTLAE010)	T	2.1/109.8
S3	2260002840	SW SKHLLFA010		
S4	2260002800	S.SW SW-167 (SKQTLAE010)	T	2.1/66.4
EP1	6910015370	S.BEA ACZ1005Y-102-T	B	3.8/65.4
EP2	6910015370	S.BEA ACZ1005Y-102-T	T	21.6/93.9
EP3	6910012350	S.BEA MMZ1608Y 102BT	T	18.5/116.5
EP4	6910015370	S.BEA ACZ1005Y-102-T	B	32.9/99
EP5	6910015370	S.BEA ACZ1005Y-102-T	B	26/25.8
EP6	6910015370	S.BEA ACZ1005Y-102-T	B	24.4/24.5
EP300	6910015370	S.BEA ACZ1005Y-102-T	B	20.4/42.9
EP301	6910015370	S.BEA ACZ1005Y-102-T	B	11.8/34.5

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

S.=Surface mount

[FRONT UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
IC1	1110006440	S.IC M62320FP DF5J	B	20.7/73.6
IC2	1110006440	S.IC M62320FP DF5J	B	20.7/62.5
IC101	1180002400	S.REG S-812C30AMC-C2K-T2	B	9.4/80.8
IC201	1110001810	S.IC TA7368F (ER)	B	29.6/47.4
IC203	1110005340	S.IC NJM12902V-TE1	B	8.2/68
IC204	1130004200	S.IC TC4S66F (TE85R)	B	7.6/75.9
IC205	1130004200	S.IC TC4S66F (TE85R)	B	34/56.1
Q1	1590000980	S.TR DTB123EK T146	B	34.6/94.7
Q2	1590000980	S.TR DTB123EK T146	B	34.4/98.3
Q102	1590001940	S.TR DTC144EE TL	B	26.2/72.9
Q103	1590000980	S.TR DTB123EK T146	B	12.7/76.7
Q104	1590000980	S.TR DTB123EK T146	B	28.9/35.7
Q201	1590002230	S.TR UMG2N TL	B	14/55
Q202	1520000450	S.TR 2SB1132 T100 Q	B	34.4/37.9
Q203	1590001190	S.TR XP6501-(TX) .AB	B	29.9/42.1
Q206	1590002430	S.TR DTA144EE TL	B	14/50.9
Q207	1590000430	S.TR DTC144EUA T106	B	37.1/96.5
Q208	1530002840	S.TR 2SC4116-Y (TE85R)	B	42.4/114.7
Q209	1560001330	S.FET RSR025N03	B	42/111.7
Q210	1560001330	S.FET RSR025N03	B	42.3/108.3
D1	1730002530	S.ZEN NNCD6.2G-T1	B	25.2/81.6
D101	1160000140	S.DIO DAP222 TL	B	15.3/47.1
D102	1160000140	S.DIO DAP222 TL	B	15.3/45
D201	1790001250	S.DIO MA2S111-(TX)	B	17.2/49
D202	1790001250	S.DIO MA2S111-(TX)	B	10.9/71.5
D203	1790001250	S.DIO MA2S111-(TX)	B	36.2/54.2
D204	1790001250	S.DIO MA2S111-(TX)	B	12.3/50.9
D205	1790001250	S.DIO MA2S111-(TX)	B	14.9/52.7
R1	7030005000	S.RES ERJ2GEJ 471 X (470 Ω)	T	34.8/127
R2	7030007280	S.RES ERJ2GEJ 331 X (330 Ω)	T	34.8/126.1
R3	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	36.5/93.5
R4	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	26.1/77
R5	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	26.1/75.8
R6	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	25.7/67
R7	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	25.8/65.1
R11	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	21.4/87.7
R12	7030001090	S.RES MCR50JZHJ 47 Ω (470)	B	33.7/83.9
R13	7030003440	S.RES ERJ3GEYJ 102 V (1 kΩ)	B	26.9/87.3
R14	7030003440	S.RES ERJ3GEYJ 102 V (1 kΩ)	B	23.3/87.3
R15	7030004970	S.RES ERJ2GEJ 470 X (47 Ω)	B	22.3/87.7
R16	7030004970	S.RES ERJ2GEJ 470 X (47 Ω)	B	28/87.1
R30	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	40.7/74.4
R31	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	40.7/75.3
R32	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	40.7/76.2
R33	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	40.5/77.1
R34	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	17.7/89.4
R35	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	18.6/89.4
R36	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	19.5/89.4
R37	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	20.4/89.3
R38	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	40.7/65.6
R40	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	40.7/72.5
R50	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ) [IC-F70DT/T] only	B	16.4/79.1
R51	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ) [IC-F70DS/S] only	B	17/80.6
R101	7030007270	S.RES ERJ2GEJ 151 X (150 Ω)	B	12.6/78.9
R102	7030008370	S.RES ERJ2GEJ 561 X (560 Ω)	B	11.1/78.3
R103	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	18.2/33.6
R104	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	14.8/58.7
R105	7030007250	S.RES ERJ2GEJ 220 X (22 Ω)	B	9.1/93.2
R106	7030007250	S.RES ERJ2GEJ 220 X (22 Ω)	B	10/93.2
R107	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	14.8/59.7
R108	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	14.8/60.7
R109	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	14.8/61.7
R110	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	26.6/58.8
R111	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	26.6/59.7
R112	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	26.6/60.6
R113	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	26.6/61.5
R115	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	12.8/94.2
R116	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	40/67.7
R201	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	17.6/55.3
R202	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	16.3/54.2
R203	7030003830	S.RES ERJ3GEYJ 185 V (1.8 MΩ)	B	26.8/71.1
R204	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	15.5/48.9
R205	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	14.5/49.2
R207	7030005600	S.RES ERJ2GEJ 273 X (27 kΩ)	B	11.8/63.6
R208	7030007060	S.RES ERJ2GEJ 684X (680 kΩ)	B	12.6/69.7
R209	7030005230	S.RES ERJ2GEJ 334 X (330 kΩ)	B	13.8/68.6
R210	7030007340	S.RES ERJ2GEJ 153 X (15 kΩ)	B	13.8/66.8
R211	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	B	13.8/69.5
R212	7030007300	S.RES ERJ2GEJ 332 X (3.3 kΩ)	B	3/69
R213	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	31.5/57.4
R214	7030005070	S.RES ERJ2GEJ 683 X (68 kΩ)	B	36.2/56.3
R215	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	27.2/42.1
R216	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	13.6/49.2
R217	7030007340	S.RES ERJ2GEJ 153 X (15 kΩ)	B	10.2/64.5
R219	7030003860	S.RES ERJ3GE JPW V	B	7.3/64.3

[FRONT UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
R221	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	6.4/63.2
R222	7030008300	S.RES ERJ2GEJ 184 X (180 kΩ)	B	35.4/51.2
R223	7030005600	S.RES ERJ2GEJ 273 X (27 kΩ)	B	3/69.9
R224	7030007290	S.RES ERJ2GEJ 222 X (2.2 kΩ)	B	2.8/67.1
R225	7030009140	S.RES ERJ2GEJ 272 X (2.7 kΩ)	B	30.2/43.9
R226	7030007300	S.RES ERJ2GEJ 332 X (3.3 kΩ)	B	27.2/43.9
R227	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	16.7/51.2
R228	7030005700	S.RES ERJ2GEJ 274 X (270 kΩ)	B	5.1/64.9
R229	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	9.3/72.6
R231	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	3/68.1
R232	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	7.6/72.6
R235	7030007260	S.RES ERJ2GEJ 330 X (33 Ω)	B	27.6/51.9
R236	7030005530	S.RES ERJ2GEJ 100 X (10 Ω)	B	27.6/51
R237	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	B	5.6/78.2
R238	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	B	6/79.4
R239	7030005170	S.RES ERJ2GEJ 474 X (470 kΩ)	B	36.5/99.3
R240	7030005170	S.RES ERJ2GEJ 474 X (470 kΩ)	B	38.5/98.7
R241	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	36.9/98.4
R242	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	43.2/116.7
R250	7030003860	S.RES ERJ3GE JPW V	B	27.2/68.1
R251	7030003860	S.RES ERJ3GE JPW V	B	40.2/78.8
R259	7030004970	S.RES ERJ2GEJ 470 X (47 Ω)	B	16.6/87.8
R260	7030004970	S.RES ERJ2GEJ 470 X (47 Ω)	B	15.7/87.8
R261	7030003860	S.RES ERJ3GE JPW V	B	41.3/71.5
R262	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	16.7/53
R263	7030010040	S.RES ERJ2GE-JPW	B	40.5/46
R264	7030010040	S.RES ERJ2GE-JPW	B	40.5/40
R265	7030010040	S.RES ERJ2GE-JPW	B	40.5/34
R266	7030010040	S.RES ERJ2GE-JPW	B	40.5/28
R267	7030010040	S.RES ERJ2GE-JPW	B	40.5/22
R268	7030010040	S.RES ERJ2GE-JPW	B	40.5/15.9
R269	7030010040	S.RES ERJ2GE-JPW	B	40.5/10
R270	7030010040	S.RES ERJ2GE-JPW	B	40.5/4
R271	7030010040	S.RES ERJ2GE-JPW	B	5.4/46
R272	7030010040	S.RES ERJ2GE-JPW	B	5.4/40
R273	7030010040	S.RES ERJ2GE-JPW	B	5.4/34
R274	7030010040	S.RES ERJ2GE-JPW	B	5.5/28
R275	7030010040	S.RES ERJ2GE-JPW	B	5.5/16
R276	7030010040	S.RES ERJ2GE-JPW	B	5.5/4
R277	7030010040	S.RES ERJ2GE-JPW	B	5.5/10
R278	7030010040	S.RES ERJ2GE-JPW	B	5.5/22
C2	4030016790	S.CER ECJ0EB1C103K	B	21.6/88.9
C3	4030017460	S.CER ECJ0EB1E102K	B	17/86.5
C4	4030016930	S.CER ECJ0EB1A104K	B	15.3/75.2
C5	4030016930	S.CER ECJ0EB1A104K	B	15.2/64.2
C6	4030017460	S.CER ECJ0EB1E102K	B	15.3/74.3
C7	4030017460	S.CER ECJ0EB1E102K	B	15.2/63.2
C8	4030017430	S.CER ECJ0EC1H101J	B	20.8/85.8
C9	4030017430	S.CER ECJ0EC1H101J	B	19.8/87.8
C10	4030017430	S.CER ECJ0EC1H101J	B	18.9/87.8
C11	4030017460	S.CER ECJ0EB1E102K	B	26.7/84.7
C12	4030017460	S.CER ECJ0EB1E102K	B	24.7/83.8
C13	4030017430	S.CER ECJ0EC1H101J	B	41.1/73.4
C15	4030017430	S.CER ECJ0EC1H101J	B	17.5/87.8
C16	4030016790	S.CER ECJ0EB1C103K	B	22/86.1
C17	4030009580	S.CER C1608 JB 1H 681K-T	B	26.9/38.1
C18	4030009580	S.CER C1608 JB 1H 681K-T	B	28.8/32.6
C19	4030009580	S.CER C1608 JB 1H 681K-T	B	30/33.4
C101	4550006300	S.TAN ECST1AY475R	B	13.8/80.6
C102	4030016930	S.CER ECJ0EB1A104K	B	12.3/82.1
C103	4030016930	S.CER ECJ0EB1A104K	B	16.4/32.6
C104	4030017420	S.CER ECJ0EC1H470J	B	41.3/67.6
C105	4550006150	S.TAN ECST1CY105R	B	7.2/90.4
C106	4550006620	S.TAN ECST0JY226R	B	11.6/83.8
C107	4030016790	S.CER ECJ0EB1C103K	B	10.8/85.4
C108	4030009580	S.CER C1608 JB 1H 681K-T	B	15.4/43.3
C109	4030016930	S.CER ECJ0EB1A104K	B	9/91.5
C110	4030016930	S.CER ECJ0EB1A104K	B	7.5/93.6
C111	4550006450	S.TAN ECST1EY105R	B	12.2/90.6
C112	4030016930	S.CER ECJ0EB1A104K	B	11.3/93.6
C113	4030016930	S.CER ECJ0EB1A104K	B	14.8/76.4
C201	4030017460	S.CER ECJ0EB1E102K	B	27/70
C202	4030018100	S.CER ECJ0EB1H681K	B	11.8/64.5
C203	4030017730	S.CER ECJ0EB1E471K	B	13.8/67.7
C204	4550006300	S.TAN ECST1AY475R	B	3.9/73.7
C205	4030016960	S.CER ECJ0EB1C183K	B	12.6/67.3
C206	4030016960	S.CER ECJ0EB1C183K	B	12.6/65.7
C207	4030017730	S.CER ECJ0EB1E471K	B	5.8/71.4
C208	4030017460	S.CER ECJ0EB1E102K	B	37.6/39.7
C209	4030017460	S.CER ECJ0EB1E102K	B	37.6/38.8
C210	4030017460	S.CER ECJ0EB1E102K	B	37.3/44.9
C211	4030016930	S.CER ECJ0EB1A104K	B	36.6/52.5
C212	4030017460	S.CER ECJ0EB1E102K	B	27.2/43
C213	4030017460	S.CER ECJ0EB1E102K	B	18.1/51.2
C214	4030017460	S.CER ECJ0EB1E102K	B	16.3/55.1
C215	4030017460	S.CER ECJ0EB1E102K	B	15.6/51.2
C216	4030016930	S.CER ECJ0EB1A104K	B	9/64.3
C220	4550006250	S.TAN TEESVA 1A 106M8L	B	10.3/60.8
C221	4030017490	S.CER C1608 JB 1A 105K-T	B	8.3/61.8
C222	4030017460	S.CER ECJ0EB1E102K	B	35.2/48.9
C224	4030017460	S.CER ECJ0EB1E102K	B	33.9/49.4

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

[FRONT UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
C225	4030016930	S.CER ECJ0EB1A104K	B	29.8/40.2
C226	4550006080	S.TAN TEESVB2 1C 106M8L	B	34.9/42.7
C229	4030017460	S.CER ECJ0EB1E102K	B	5.1/77
C230	4030017510	S.CER ECJ0EC1H680J	B	5.1/64
C231	4030017460	S.CER ECJ0EB1E102K	B	5.8/72.3
C234	4030017460	S.CER ECJ0EB1E102K	B	2.8/65.3
C235	4030017460	S.CER ECJ0EB1E102K	B	2.8/66.2
C236	4550006250	S.TAN TEESVA 1A 106M8L	B	27.9/54.9
C237	4030017420	S.CER ECJ0EC1H470J	B	24.8/46.4
C238	4030016950	S.CER ECJ0EB1A473K	B	25/49.3
C239	4030017460	S.CER ECJ0EB1E102K	B	37.5/94.7
C240	4030017460	S.CER ECJ0EB1E102K	B	14.1/57.1
C241	4030016930	S.CER ECJ0EB1A104K	B	12.3/61.5
C242	4030016790	S.CER ECJ0EB1C103K	B	10.5/73.2
C243	4030016930	S.CER ECJ0EB1A104K	B	7.6/73.8
C244	4030017460	S.CER ECJ0EB1E102K	B	3.4/90.6
C245	4550007060	S.TAN ECSTIAX336R	B	34.7/90.7
C246	4550007060	S.TAN ECSTIAX336R	B	34.7/87.4
C247	4030006900	S.CER C1608 JB 1H 103K-T	B	34.4/52.7
C248	4030017460	S.CER ECJ0EB1E102K	B	31.5/58.3
C255	4030017430	S.CER ECJ0EC1H101J	B	41.3/78.5
C256	4030017430	S.CER ECJ0EC1H101J	B	28.5/84
C259	4030017430	S.CER ECJ0EC1H101J	B	28.9/82.3
C260	4030017460	S.CER ECJ0EB1E102K	B	41.4/70.4
C261	4030017460	S.CER ECJ0EB1E102K	B	41.4/68.6
C263	4030017460	S.CER ECJ0EB1E102K	B	41.2/66.5
C264	4030017460	S.CER ECJ0EB1E102K	B	21.5/90.3
C270	4030017430	S.CER ECJ0EC1H101J	B	41.2/64.7
C271	4030016930	S.CER ECJ0EB1A104K	B	41.2/63.8
C272	4030017430	S.CER ECJ0EC1H101J	T	27.1/91.8
C273	4030017430	S.CER ECJ0EC1H101J	T	25.9/91.4
C274	4030016790	S.CER ECJ0EB1C103K	T	25.6/93.4
C275	4030017430	S.CER ECJ0EC1H101J	B	41.5/69.5
J1	6510022710	S.CNR 30FLZ-SM1-TB	B	36/70.5
J2	6510024590	S.CNR 20FLH-SM1-TB	B	23.5/94.2
J101	6510024570	S.CNR 52745-0896	B	9.7/98
J201	6510021900	S.CNR BM02B-ASRS-TF	B	40.3/118.5
DS1	5040003140	S.LED FRDG1211C-TR	T	32.5/129.5
DS2	5030002830	LCD M4-0078TAY-2		
DS101	5010000120	S.LED LN1371G-(TR) [IC-F70DT/T] only	T	15.6/12.9
DS102	5010000120	S.LED LN1371G-(TR) [IC-F70DT/T] only	T	30.4/12.9
DS106	5010000120	S.LED LN1371G-(TR) [IC-F70DT/T] only	T	15.6/22.1
DS107	5010000120	S.LED LN1371G-(TR) [IC-F70DT/T] only	T	30.4/22.1
DS108	5010000120	S.LED LN1371G-(TR) [IC-F70DT/T] only	T	15.6/31.3
DS109	5010000120	S.LED LN1371G-(TR) [IC-F70DT/T] only	T	30.4/31.3
DS110	5010000120	S.LED LN1371G-(TR) [IC-F70DS/S] only	T	12.1/39.3
DS111	5010000120	S.LED LN1371G-(TR) [IC-F70DS/S] only	T	33.8/39.3
DS112	5010000120	S.LED LN1371G-(TR) [IC-F70DT/T] only	T	12.1/40.8
DS113	5010000120	S.LED LN1371G-(TR) [IC-F70DT/T] only	T	33.8/40.8
DS201	5040002960	S.LED SML-A12MT T86	T	11.6/87.7
DS202	5040002960	S.LED SML-A12MT T86	T	22.1/87.7
DS203	5040002960	S.LED SML-A12MT T86	T	32.6/87.7
MC201	7700002310	MIC EM-140		
S117	2260002800	S.SW SW-167 (SKQTLAE010)	B	38.5/129
EP2	6910012350	S.BEA MMZ1608Y 102BT	B	30.3/86.8
EP3	6910012350	S.BEA MMZ1608Y 102BT	B	29.1/86.8
EP4	6910012350	S.BEA MMZ1608Y 102BT	B	25.7/87.3
EP5	6910012350	S.BEA MMZ1608Y 102BT	B	24.5/87.3
EP6	6910012350	S.BEA MMZ1608Y 102BT	B	31.2/89.8

[DSP UNIT] (IC-F70DT/DS only)

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
IC1	1180002590	S.REG XC6204B332MR	B	2.1/19.5
IC2	1180002740	S.REG R1230D151F-TR-F	B	2.9/30.3
IC3	1180002590	S.REG XC6204B332MR	T	23.7/7.5
IC4	1110003800	S.IC NJM2904V-TE1	T	14.5/11.8
IC5	1110006230	S.IC NJM2711F-TE1	B	14.6/16.4
IC7	1140011980	S.IC TMS320VC5416GGU120	B	11.8/30.4
IC8	1190002080	S.IC AD7476ARTZ-500RL7	T	14.7/18.4
IC9	1130011610	S.IC AK4550VT-E2	T	23.5/19.3
IC10	1110006230	S.IC NJM2711F-TE1	T	24.2/29.7
IC12	1140011880	S.IC HD64F2239TE16	T	11.8/30.4
IC13	1130003830	S.IC TC7S04F (TE85R)	B	11.6/22.5
IC14	1110005730	S.IC S-80928CNMC-G8Y-T2	B	19.6/38.1
IC15	1130011600	S.IC TC7MET541AFK (EC)	T	7/16.4
IC17	1130010390	S.IC HN58X2416TI	B	8.9/38.5
Q1	1530002060	S.TR 2SC4081 T106 R	B	23.4/22
FI1	2020001780	S.CER CFWCA450KEFA-R0	B	20.7/12.1
X1	6050012080	S.XTL CR-798 (12.288 MHz)	T	23.4/36.3
L1	6200003590	S.COL EXCCL3225U1	T	23.5/2.5
L2	6200003960	S.COL MLF1608A 1R0K-T	B	3.6/23.6
L3	6200003960	S.COL MLF1608A 1R0K-T	T	24.6/12.1
L4	6200003960	S.COL MLF1608A 1R0K-T	T	1/24.3
L5	6200003960	S.COL MLF1608A 1R0K-T	B	3.6/24.8
L6	6200003960	S.COL MLF1608A 1R0K-T	B	3.7/37.2
L7	6200011440	S.COL NLFV25T-330K-PF	B	3.1/33.3
L8	6200003960	S.COL MLF1608A 1R0K-T	B	21.1/5.4
R1	7030003860	S.RES ERJ3GE JPW V	B	3.7/26
R2	7030005030	S.RES ERJ2GEJ 152 X (1.5 kΩ)	B	16.3/6.4
R3	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	B	8.2/8
R4	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	T	19.6/8.4
R5	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	14/12.6
R6	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	11.5/16.8
R7	7030005030	S.RES ERJ2GEJ 152 X (1.5 kΩ)	B	15.5/13.9
R8	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	T	20.5/8.4
R9	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	20.7/21.9
R10	7030009710	S.RES ERJ2GEJ 203 X (20 kΩ)	T	17.5/13.9
R12	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	T	4.3/9.8
R15	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	T	11.1/8.6
R16	7030009710	S.RES ERJ2GEJ 203 X (20 kΩ)	T	18.8/11.3
R17	7030008400	S.RES ERJ2GEJ 182 X (1.8 kΩ)	B	21.6/21.2
R18	7030009290	S.RES ERJ2GEJ 562 X (5.6 kΩ)	B	21.8/19.4
R19	7030007340	S.RES ERJ2GEJ 153 X (15 kΩ)	B	13.7/13.9
R20	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	15.6/14.3
R21	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	T	11.2/13.9
R22	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	4.3/6.6
R23	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	5.5/8
R24	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	1.9/10.3
R25	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	7.3/8
R26	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	T	15.3/9.3
R27	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	T	2.7/7.6
R28	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	6.4/8
R29	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	T	4.6/6.2
R30	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	T	3.9/4.3
R31	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	T	3.6/2.8
R32	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	14.2/5.1
R33	7030009710	S.RES ERJ2GEJ 203 X (20 kΩ)	T	19.6/9.6
R34	7030009710	S.RES ERJ2GEJ 203 X (20 kΩ)	T	18.9/13.5
R35	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	19.6/19.5
R36	7030004970	S.RES ERJ2GEJ 470 X (47 Ω)	B	18.4/19.2
R37	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	T	18/17.7
R38	7030007300	S.RES ERJ2GEJ 332 X (3.3 kΩ)	T	17.7/16
R39	7030009290	S.RES ERJ2GEJ 562 X (5.6 kΩ)	T	17.7/15.1
R41	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	B	16.5/37.9
R42	7030007250	S.RES ERJ2GEJ 220 X (22 Ω)	T	12.1/16.1
R43	7030005210	S.RES ERJ2GEJ 822 X (8.2 kΩ)	B	17.1/18.7
R44	7030005000	S.RES ERJ2GEJ 471 X (470 Ω)	T	20.7/14.1
R45	7030005210	S.RES ERJ2GEJ 822 X (8.2 kΩ)	T	11.6/17.4
R46	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	16.1/22.6
R47	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	T	18.3/20
R48	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	23.8/14.9
R49	7030010040	S.RES ERJ2GE-JPW	T	25/14.6
R50	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	T	20.9/31.5
R52	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	20.6/27.2
R53	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	18.5/30.5
R54	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	T	6.1/20.7
R55	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	T	2.7/34.4
R56	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	19.4/31
R57	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	23.4/19.5
R58	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	24.7/20.2
R59	7030004970	S.RES ERJ2GEJ 470 X (47 Ω)	T	25.7/37.3
R61	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	B	25.1/22.3
R62	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	25.4/32.2
R63	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	25.7/33.8
R64	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	B	5.3/11.6

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

S.=Surface mount

[DSP UNIT] (IC-F70DT/DS only)

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
R65	7030004970	S.RES ERJ2GEJ 470 X (47 Ω)	T	25.7/27.1
R66	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	B	7.3/19.2
R67	7030007290	S.RES ERJ2GEJ 222 X (2.2 kΩ)	T	22/27.3
R68	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	20.8/29.1
R70	7030008290	S.RES ERJ2GEJ 183 X (18 kΩ)	T	9.1/10.2
R71	7030005600	S.RES ERJ2GEJ 273 X (27 kΩ)	T	8.2/10.2
R72	7030008290	S.RES ERJ2GEJ 183 X (18 kΩ)	T	7.3/10.2
R73	7030005600	S.RES ERJ2GEJ 273 X (27 kΩ)	T	6.4/9.2
R74	7030005600	S.RES ERJ2GEJ 273 X (27 kΩ)	T	5.5/9.2
R75	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	9.3/12.4
R76	7030007340	S.RES ERJ2GEJ 153 X (15 kΩ)	T	8.4/12.4
R77	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	7.5/12.9
R78	7030007340	S.RES ERJ2GEJ 153 X (15 kΩ)	T	6.6/12.7
R79	7030007340	S.RES ERJ2GEJ 153 X (15 kΩ)	T	5.7/12
R80	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	B	20.7/35.9
R82	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	3.5/17.2
R83	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	2.1/38.6
R85	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	4.3/38.8
R86	7030005010	S.RES ERJ2GEJ 681 X (680 Ω)	B	12.1/20.3
R87	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	10.7/18.5
R88	7030004970	S.RES ERJ2GEJ 470 X (47 Ω)	B	9.8/19.8
R89	7030010040	S.RES ERJ2GE-JPW	T	3.3/37.4
R90	7030008370	S.RES ERJ2GEJ 561 X (560 Ω)	T	22/28.9
R91	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	23.4/25.7
R92	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	23.5/24.8
R93	7030010040	S.RES ERJ2GE-JPW	T	22.2/24
R94	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	7.8/19.8
R95	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	17.1/19.6
R96	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	T	1.6/11.8
R97	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	T	1.9/18.6
C1	4550007070	S.TAN TEESVP 1A 475M8R	B	1.2/15.3
C2	4550007070	S.TAN TEESVP 1A 475M8R	B	2/27.6
C3	4550007070	S.TAN TEESVP 1A 475M8R	T	23/4.9
C4	4030017420	S.CER ECJ0EC1H470J	B	22.7/1.7
C5	4030016930	S.CER ECJ0EB1A104K	B	1.3/17.3
C6	4030016930	S.CER ECJ0EB1A104K	B	4.6/27.4
C7	4030016930	S.CER ECJ0EB1A104K	T	21.5/7.7
C8	4030016930	S.CER ECJ0EB1A104K	B	23.7/5.6
C9	4030017420	S.CER ECJ0EC1H470J	B	9.1/8
C10	4550006250	S.TAN TEESVA 1A 106M8L	B	23.5/3.3
C11	4030017460	S.CER ECJ0EB1E102K	B	5.9/23.4
C12	4030017460	S.CER ECJ0EB1E102K	B	4.9/35.2
C13	4030017460	S.CER ECJ0EB1E102K	T	24.5/10
C14	4550007030	S.TAN TEESVP 0J 106M8R	B	4.9/21.3
C15	4550007030	S.TAN TEESVP 0J 106M8R	B	2.9/35.6
C16	4550007030	S.TAN TEESVP 0J 106M8R	T	22.4/10.8
C17	4550006250	S.TAN TEESVA 1A 106M8L	B	14.8/9.5
C18	4030016930	S.CER ECJ0EB1A104K	B	16.4/12.7
C19	4030016930	S.CER ECJ0EB1A104K	B	16.4/11.5
C20	4030017420	S.CER ECJ0EC1H470J	T	17.5/9.7
C21	4550006250	S.TAN TEESVA 1A 106M8L	B	11.8/13
C22	4030016930	S.CER ECJ0EB1A104K	B	12.4/16.8
C23	4030017680	S.CER ECJ0EC1H820J	B	13.2/9
C24	4030017730	S.CER ECJ0EB1E471K	T	18.4/9.7
C25	4030017420	S.CER ECJ0EC1H470J	T	20.2/11.3
C26	4030016930	S.CER ECJ0EB1A104K	T	14/14.3
C27	4030017590	S.CER ECJ0EC1H070C	B	14.6/13.9
C28	4030016930	S.CER ECJ0EB1A104K	B	20.9/19.4
C30	4030017450	S.CER ECJ0EB1E271K	T	19.3/14.7
C31	4030017420	S.CER ECJ0EC1H470J	T	4.9/13.2
C32	4030016930	S.CER ECJ0EB1A104K	B	19.6/18.6
C33	4030016790	S.CER ECJ0EB1C103K	T	12.4/14.6
C35	4030017420	S.CER ECJ0EC1H470J	B	3.1/7.2
C36	4030017420	S.CER ECJ0EC1H470J	B	4.3/7.5
C38	4030017420	S.CER ECJ0EC1H470J	B	3/11.3
C39	4030017760	S.CER ECJ0EB1H222K	B	19.6/20.4
C40	4030017420	S.CER ECJ0EC1H470J	B	7.8/9.9
C41	4030017420	S.CER ECJ0EC1H470J	T	12.9/9.3
C42	4030017420	S.CER ECJ0EC1H470J	T	3.2/8.8
C43	4030017460	S.CER ECJ0EB1E102K	B	16.5/39.7
C44	4030017420	S.CER ECJ0EC1H470J	T	7.6/8.7
C45	4030017420	S.CER ECJ0EC1H470J	B	3.9/8.7
C46	4030017420	S.CER ECJ0EC1H470J	T	3.4/6.4
C47	4030017460	S.CER ECJ0EB1E102K	B	18.6/26.9
C48	4030017460	S.CER ECJ0EB1E102K	B	19.4/34.7
C49	4030017420	S.CER ECJ0EC1H470J	T	3.4/5.5
C50	4030017420	S.CER ECJ0EC1H470J	T	2.4/3.7
C51	4030017420	S.CER ECJ0EC1H470J	B	15.1/5.1
C52	4030016930	S.CER ECJ0EB1A104K	B	17.1/19.6
C53	4030017460	S.CER ECJ0EB1E102K	B	19.4/33.3
C54	4030016930	S.CER ECJ0EB1A104K	T	20.2/12.9
C55	4550007030	S.TAN TEESVP 0J 106M8R	T	14.8/15.7
C56	4030017460	S.CER ECJ0EB1E102K	T	18.3/20.9
C57	4030017460	S.CER ECJ0EB1E102K	B	14.8/22.6
C58	4030016930	S.CER ECJ0EB1A104K	T	12.5/17.4
C59	4030017460	S.CER ECJ0EB1E102K	T	21.8/32.1
C60	4030017760	S.CER ECJ0EB1H222K	T	22.1/14.9
C62	4030017460	S.CER ECJ0EB1E102K	B	13.9/22.4
C63	4030016930	S.CER ECJ0EB1A104K	T	19.9/20
C64	4030017460	S.CER ECJ0EB1E102K	T	23/14
C65	4030016930	S.CER ECJ0EB1A104K	T	18.9/17.6

[DSP UNIT] (IC-F70DT/DS only)

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
C66	4550007030	S.TAN TEESVP 0J 106M8R	T	22.4/12.6
C67	4030017490	S.CER C1608 JB 1A 105K-T	T	20/17.2
C68	4030017460	S.CER ECJ0EB1E102K	T	1.2/26.5
C69	4030017460	S.CER ECJ0EB1E102K	T	1.6/38.1
C70	4030017490	S.CER C1608 JB 1A 105K-T	T	20.9/37.9
C71	4030017460	S.CER ECJ0EB1E102K	T	19.2/37.5
C72	4030016930	S.CER ECJ0EB1A104K	B	24.7/19.3
C73	4030016930	S.CER ECJ0EB1A104K	T	25.7/38.9
C74	4030017620	S.CER ECJ0EC1H100C	T	23.3/32.1
C75	4030016930	S.CER ECJ0EB1A104K	T	24.5/32.6
C76	4030017460	S.CER ECJ0EB1E102K	B	4.9/18.8
C77	4030017460	S.CER ECJ0EB1E102K	T	24.8/27.1
C78	4030017460	S.CER ECJ0EB1E102K	B	9.4/21.8
C79	4030017460	S.CER ECJ0EB1E102K	T	18.9/38.7
C80	4030017460	S.CER ECJ0EB1E102K	T	9.3/21.3
C81	4030017460	S.CER ECJ0EB1E102K	T	10.3/13.3
C82	4550007070	S.TAN TEESVP 1A 475M8R	T	2.8/21.9
C83	4030016790	S.CER ECJ0EB1C103K	B	17.4/39.7
C84	4030016930	S.CER ECJ0EB1A104K	T	4.9/21.5
C85	4030016930	S.CER ECJ0EB1A104K	T	2.5/23.3
C86	4030017460	S.CER ECJ0EB1E102K	B	1.2/37.9
C88	4030017730	S.CER ECJ0EB1E471K	B	1.4/23.1
C89	4030017490	S.CER C1608 JB 1A 105K-T	B	2.9/21.9
C90	4030017730	S.CER ECJ0EB1E471K	B	1.5/24.8
C91	4030017730	S.CER ECJ0EB1E471K	B	4.8/4.9
C92	4030016930	S.CER ECJ0EB1A104K	T	21.8/30.5
C93	4030017640	S.CER ECJ0EC1H150J	T	23.3/27.5
C94	4030016930	S.CER ECJ0EB1A104K	T	22.2/25.6
J1	6510018440	S.CNR AXN430C330P	T	13.2/4.3

[CHASSIS UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
J1	6910015860	CNR IMSA-6277S-02A-G		
J2	6910016780	CNR ANT CONNECTOR-105		
SP1	2510001300	SP 036D0801C <FG>		
W1	8900013740	CBL OPC-1429		
W2	8900010960	CBL OPC-1129		

[VR BOARD]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
R1	7210003200	VAR TP76N937N-16.5F-10KA-2803		
DS1	5040003170	LED UW3804X		
S1	2250000500	ECR TP70TF5164S-20F-2803		

[FUSE BOARD]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
L1	6200006190	S.COL BLM21PG300SN1D	T	7.5/6.5
C1	4030017460	S.CER ECJ0EB1E102K	T	10.5/2.9
J1	6910015880	CNR IMSA-9230B-1-02Z141-T		

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

SECTION 7 MECHANICAL PARTS AND DISASSEMBLY

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
S3	2260002840	Switch SKHLLFA010	1
MP1	8410002530	2681 PA heatsink	1
MP2	8510016880	2803 VCO case	1
MP3	8510016870	2803 VCO cover	1
MP4	6910014760	Plate OG-503040	1
MP5	8510016900	2803 PA shield	1
MP6	8930066240	Sponge (IM)	1

[CHASSIS PARTS]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6910015860	Connector IMSA-6277S-02A-G	1
J2	6910016780	ANT connector-105	1
W1	8900013740	Cable OPC-1429	1
W2	8900010960	Cable OPC-1129	1
MP1	8210021540	2803 T-front panel assembly [F70DT/T]	1
	8210021800	2803 S-front panel assembly [F70DS/S]	1
MP2	8210021490	2803 rear panel	1
MP8	8610012350	Knob N327 assembly	1
MP10	8610012200	Knob N321 (A)	1
MP17	8010019840	2803 chassis	1
MP20	8930064750	2803 main seal	1
MP22	8930064770	2803 release plate	1
MP25	8930059830	2600 sheet	1
MP26	8930065270	2803 mic seal	1
MP29	8930059800	2600 pet sheet	1
MP34	8930059360	2600 release button	1
MP35	8930056540	Spring (AH)	2
MP39	8930063690	O ring (BA)	2
MP41	8930055730	2403 connector seal	1
MP43	8830001470	VR Nut (N)	2
MP44	8830002430	2803 ant nut	1
MP47	8810010480	Screw PH B0 M2 × 6 SUS SSBC	2
MP49	8810010120	Screw PH B0 M2 × 8 SUS ZK	4
MP50	8820001320	2795 screw	2
MP51	8810009510	Screw PH BT M2 × 4 NI-ZU	10
MP52	8810008970	Screw FH BT M2 × 3.5 NI-ZU	2
MP53	8810010430	Screw truss M3 × 5 SUS SSBC	1
MP55	8930063060	2721 T-rubber	1
MP56	8850002590	2803 ant washer	1
MP57	8810009180	Screw FH BT M2 × 5 NI-ZU	5

[FRONT UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
DS2	5030002830	LCD M4-0078TAY-2	1
MC201	7700002310	Microphone EM-140	1
MP1	8210021460	2803 reflector	1
MP2	8930061120	Shield sponge (AA)	2
MP3	8930066040	Sponge (IK)	1
MP4	8950004430	Double coated tape (O)	2
MP5	8930062540	Sponge (HO)	2
MP6	8930066250	2803 sponge	1

[DSP UNIT] (IC-F70DT/DS only)

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8930059940	Sponge (HF)	1

[FUSE BOARD]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6910015880	Connector IMSA-9230B-1-02Z141-T	1

[ANT BOARD]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8930065180	2803 ant plate	1

[VR BOARD]

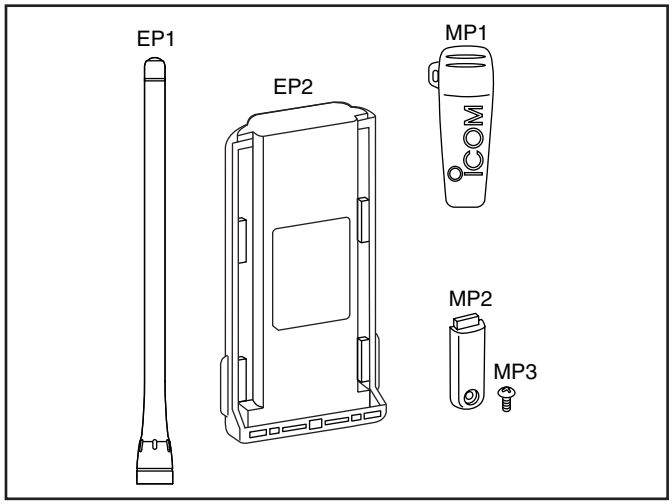
REF. NO.	ORDER NO.	DESCRIPTION	QTY.
R1	7210003200	Variable resistor TP76N937N-16.5F-10KA-2803	1
S1	2250000500	Encoder TP70TF5164S-20F-2803	1
DS1	5040003170	LED UW3804X	1
EP1	0910059082	Cable B 6224B	1
MP1	8930057690	O ring (AQ)	2

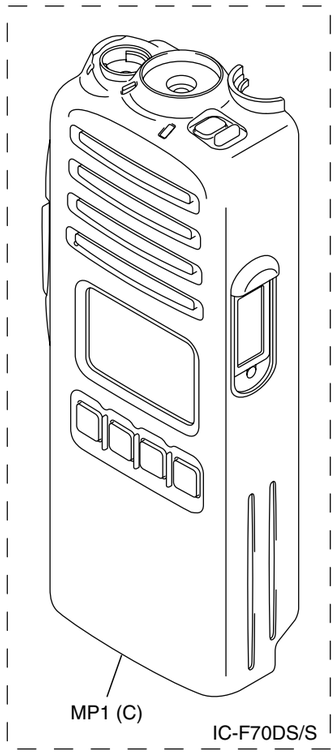
Screw abbreviations

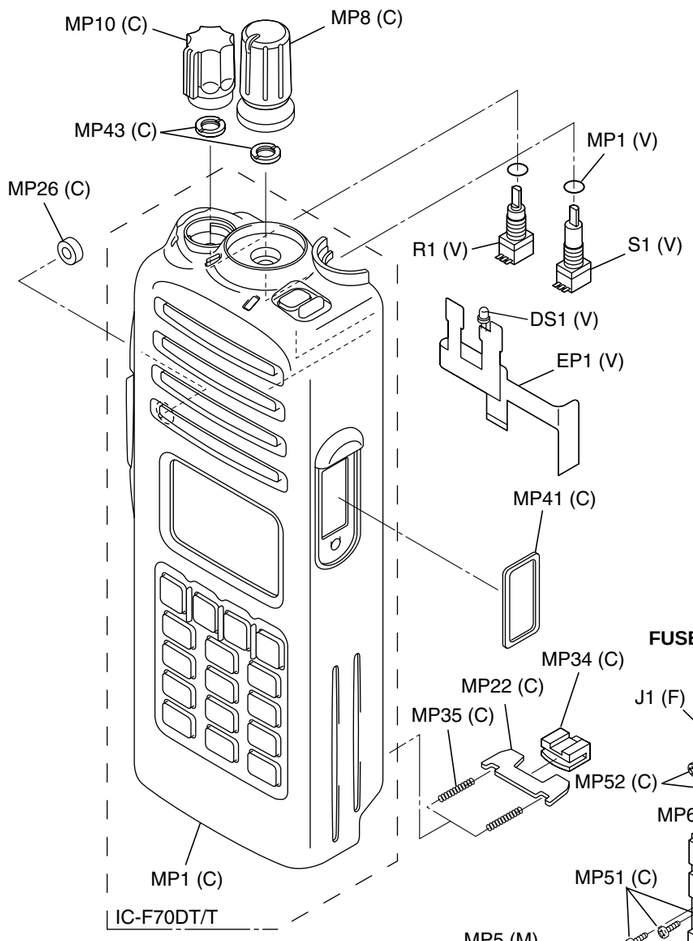
BT, B0: Self-tapping
PH: Pan head FH: Flat head
ZK: Black SUS: Stainless
NI-ZU: Nickel-Zinc

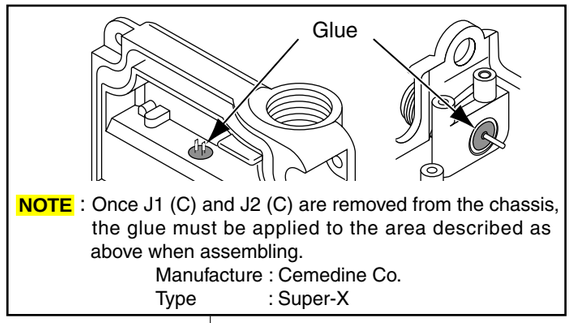
[ACCESORIES]

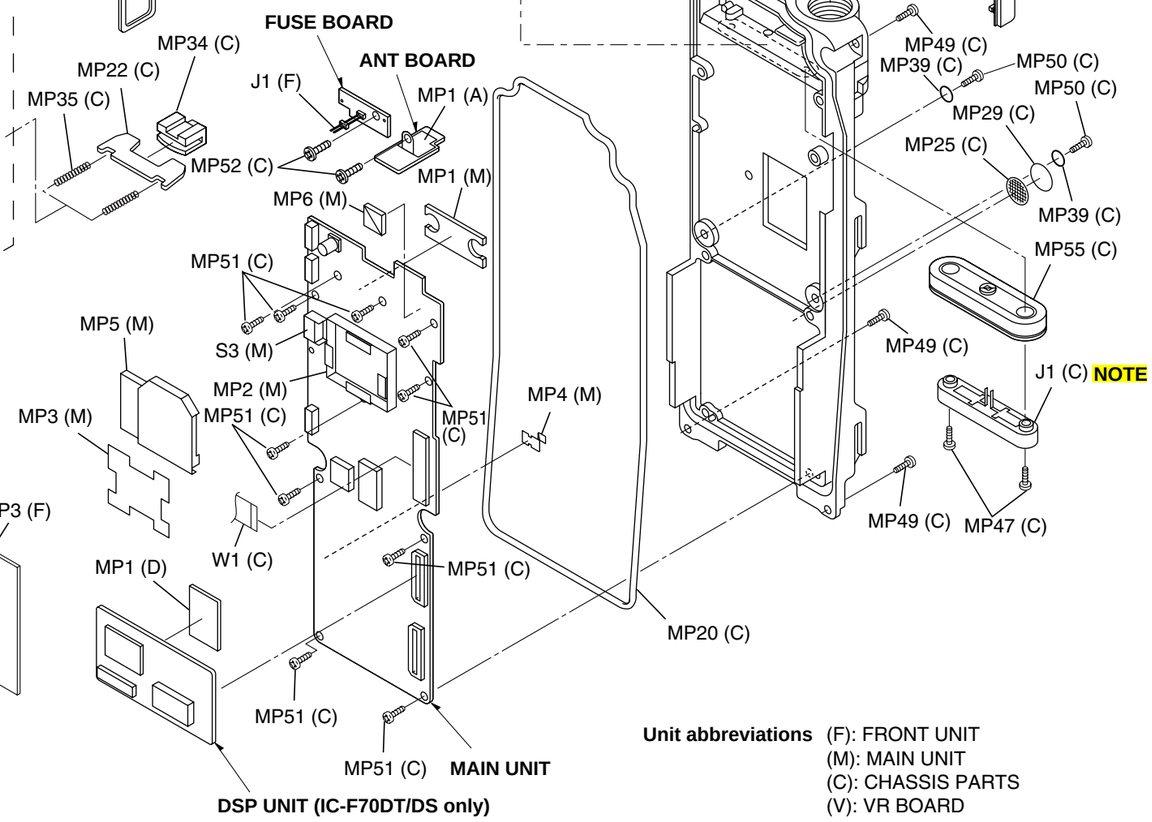
REF. NO.	ORDER NO.	DESCRIPTION	QTY.
EP1	Optional product	Antenna FA-SC55V-1	1
EP2	Optional product	Battery BP-235	1
MP1	Optional product	Belt clip MB-94	1
MP2	8210021470	2803 side panel	1
MP3	8810010430	Screw truss M3 × 5 SUS SSBC	1







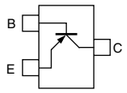
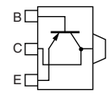
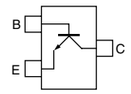
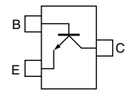
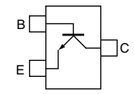
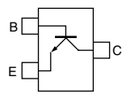
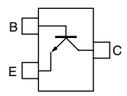
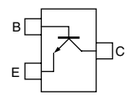
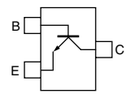
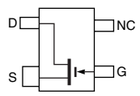
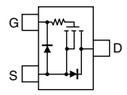
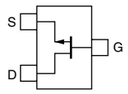
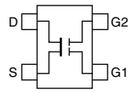
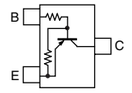
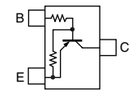
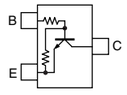
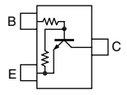
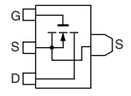
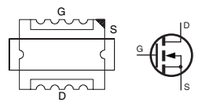
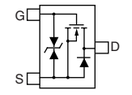
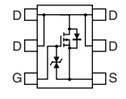
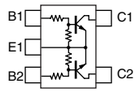
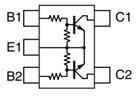
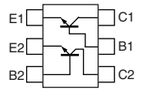




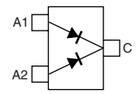
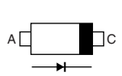
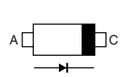
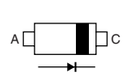
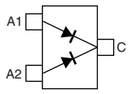
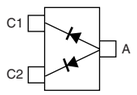
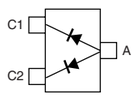
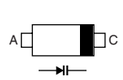
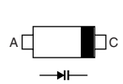
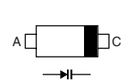
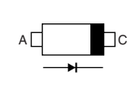
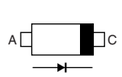
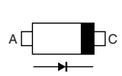
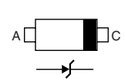
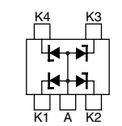
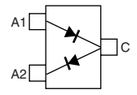
Unit abbreviations
(F): FRONT UNIT
(M): MAIN UNIT
(C): CHASSIS PARTS
(V): VR BOARD
(D): DSP UNIT
(A): ANT BOARD
(F): FUSE BOARD

SECTION 8 SEMICONDUCTOR INFORMATION

• TRANSISTORS AND FET'S

2SA1577 T106 Q (Symbol: HQ) 	**2SB1132 T100 Q** (Symbol: BAQ) 	**2SC4081 T106 R** (Symbol: BR) 	**2SC4116 BL** (Symbol: LL) 	**2SC4116 Y** (Symbol: LY) 
2SC4215 Y (Symbol: QY) 	**2SC4226 T1 R25** (Symbol: R25) 	**2SC5107 O** (Symbol: MFO) 	**2SC5110 O** (Symbol: MGO) 	**2SK1771** (Symbol: UB) 
2SK1829 (Symbol: K1) 	**2SK880 Y** (Symbol: XY) 	**3SK293** (Symbol: UF) 	**DTA144 EE TL** (Symbol: 16) 	**DTB123 EK T146** (Symbol: F12) 
DTC144 EE TL (Symbol: 26) 	**DTC144EUA T106** (Symbol: 26_) 	**RD01MUS1** (Symbol: K2) 	**RD07MVS1** (Symbol: RD07MVS1) 	**RSR025N03** (Symbol: QY) 
TPC6103 (Symbol: S3C) 	**UMG2N** (Symbol: G2) 	**XP1214** (Symbol: 9H) 	**XP6501 AB** (Symbol: 5N) 	

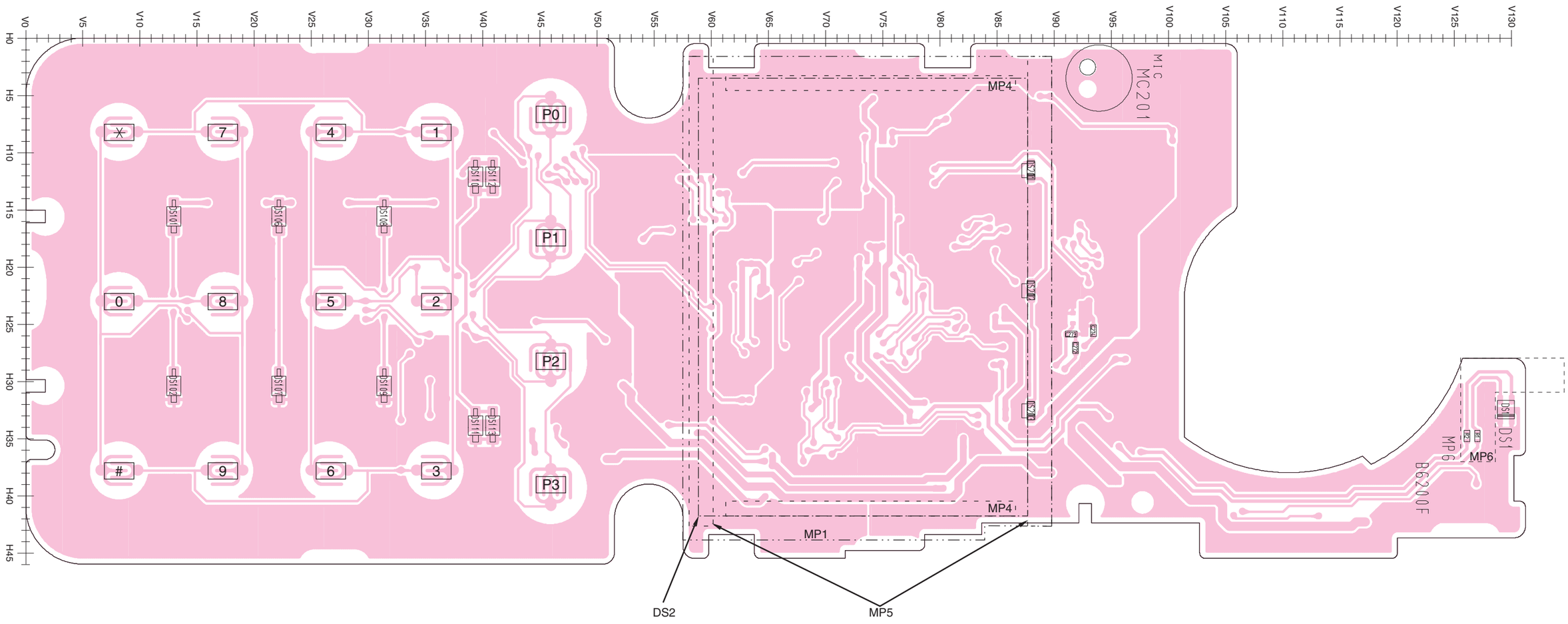
• DIODES

1SS301 (Symbol: B3) 	**1SV239** (Symbol: TC) 	**1SV284** (Symbol: TL) 	**1SV307** (Symbol: TX) 	**DAN235E TL** (Symbol: M) 
DAP202 U T106 (Symbol: P) 	**DAP222 TL** (Symbol: P) 	**HVC350B** (Symbol: B0) 	**HVC375B** (Symbol: B8) 	**HVC376B** (Symbol: B9) 
MA2S077 (Symbol: S) 	**MA2S111** (Symbol: A) 	**MA2S728** (Symbol: B) 	**MA8051 M** (Symbol: 5-1) 	**NNCD6.2G** (Symbol: 62G) 
RB706F-40 T106 (Symbol: 3J) 				

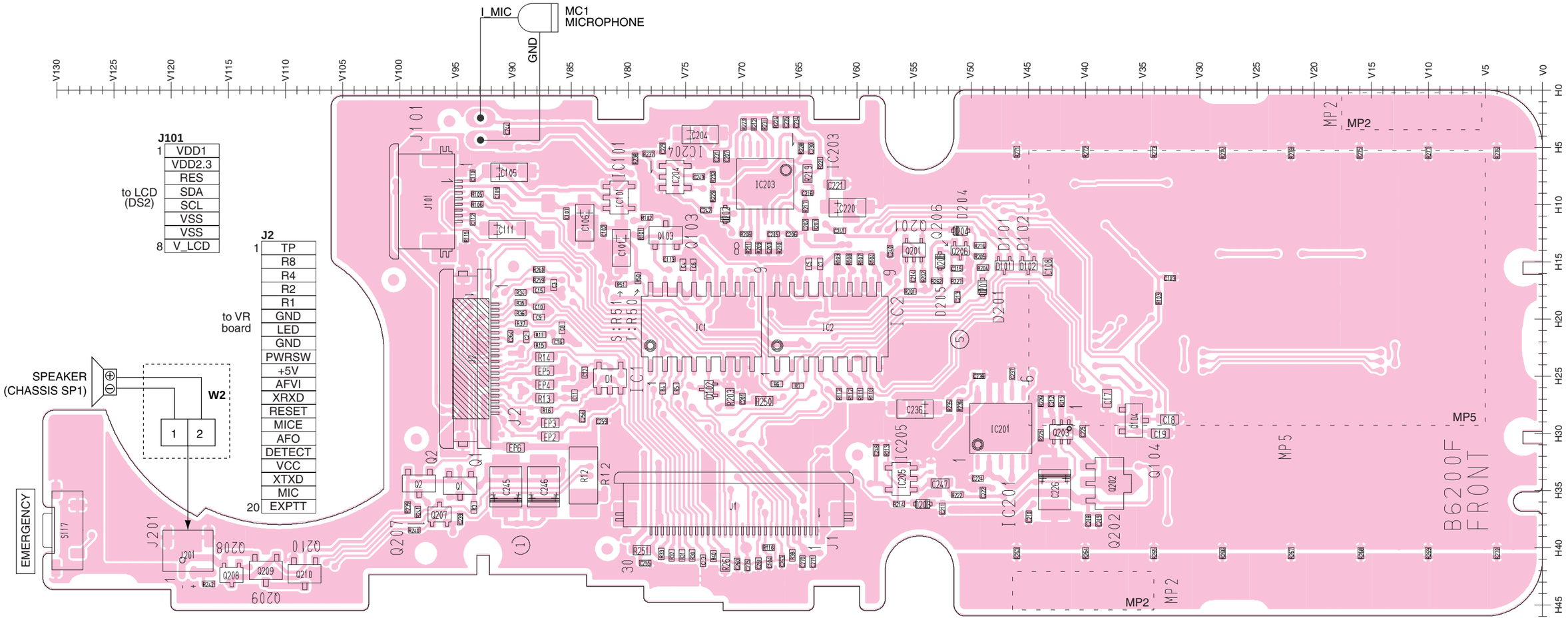
SECTION 9 BOARD LAYOUTS

9-1 FRONT UNIT

• TOP VIEW



• **BOTTOM VIEW (FRONT UNIT)**



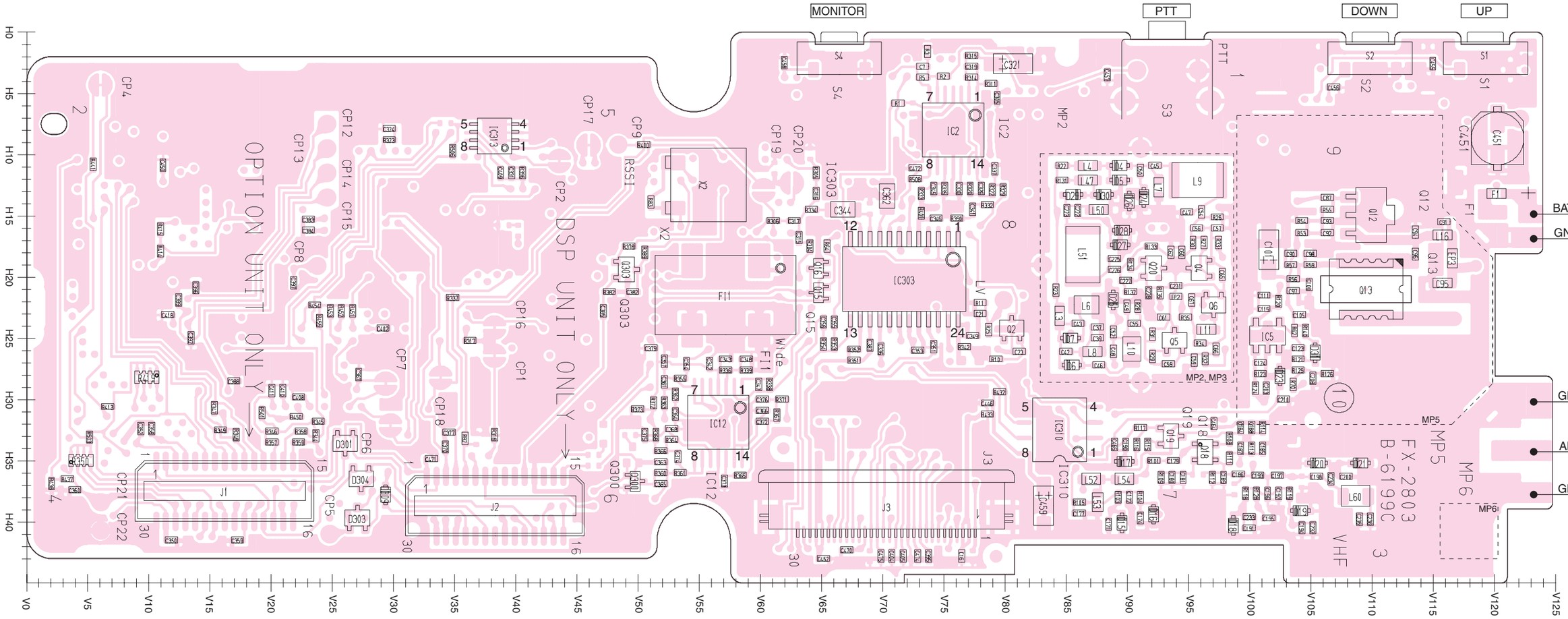
J1 (30 … 1)

EXPTT	+5V	+5V	R1	R2	R4	R8	RESB	XRXD	XTXD	RES	GND	FSCL	FSDA	AFON	SPCON	NC	PTTSW	PTTI	EM	KR	PWRSW	VOXOUT	AFVI	OPTV	VCC	VCC	SP+	MIC	GND

to MAIN unit J3

9-2 MAIN UNIT

• TOP VIEW



J1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PTTI	PTTO	MCOT	MCIN	NC	BUSY	NC	SIG	OPT1	OPT2	OPT3	GND	OPV3	OPV2	OPV1
GND	CPU5	VCC	AMMT	AFONO	BEPO	ARMT	DISC2	AFOUT	REM	CCS	IRQA	CSO	ACSI	CCK
30	29	28	27	26	25	24	23	22	21	20	19	18	17	16

to Optional unit

J2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PTTI	DPTT	DMO	DMI	RSSID	BUSY	TEMP	NC	NC	DFIL	GND	NC	DTXD	DRXD	
GND	5V	VCC	DMMT	DAFON	NC	DRMT	NC	DAFO	NC	CCS	IRQD	CSO	DCSI	CCK
30	29	28	27	26	25	24	23	22	21	20	19	18	17	16

to DSP unit J1

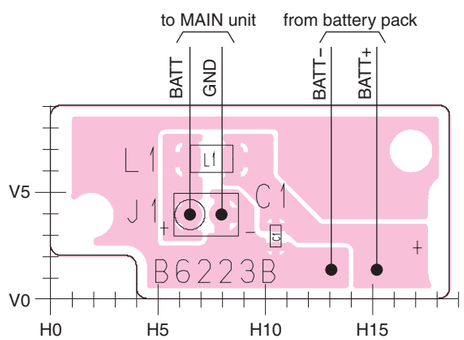
J3

30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
GND	MIC	SP+	VCC	VCC	OPTV	AFVI	VOXOUT	PWRSW	KR	EM	PTTI	PTTSW	NC	SPCON	AFON	FSDA	FSCL	GND	RESET	XTXD	XRXD	RESB	R8	R4	R2	R1	+5V	+5V	EXPTT

to FRONT unit J1

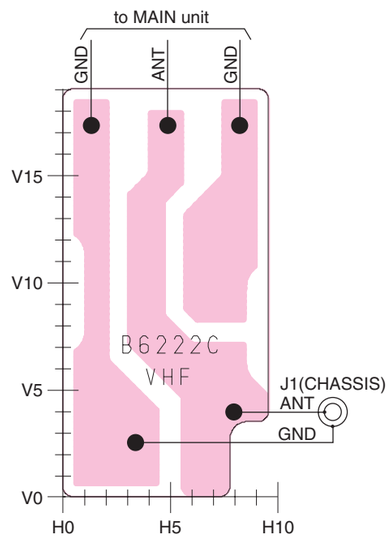
9-3 FUSE BOARD

• TOP VIEW

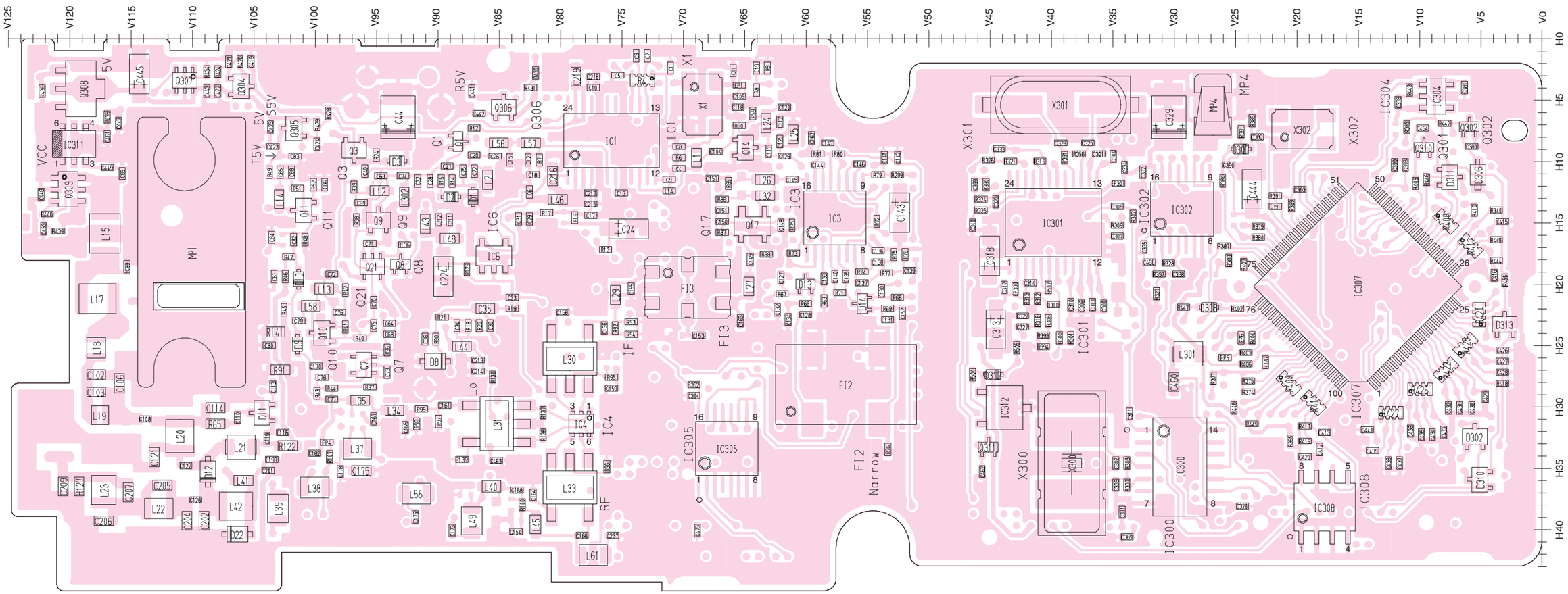


9-4 ANT BOARD

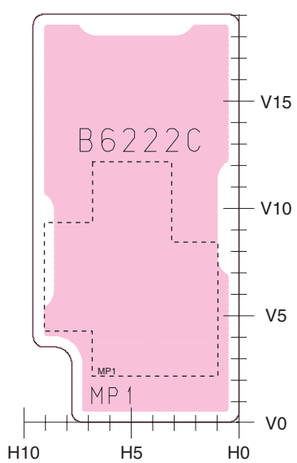
• TOP VIEW



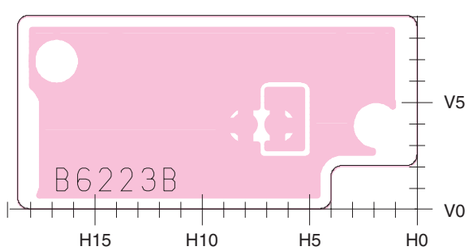
• **BOTTOM VIEW (MAIN UNIT)**



• **BOTTOM VIEW (ANT BOARD)**



• **BOTTOM VIEW (FUSE BOARD)**



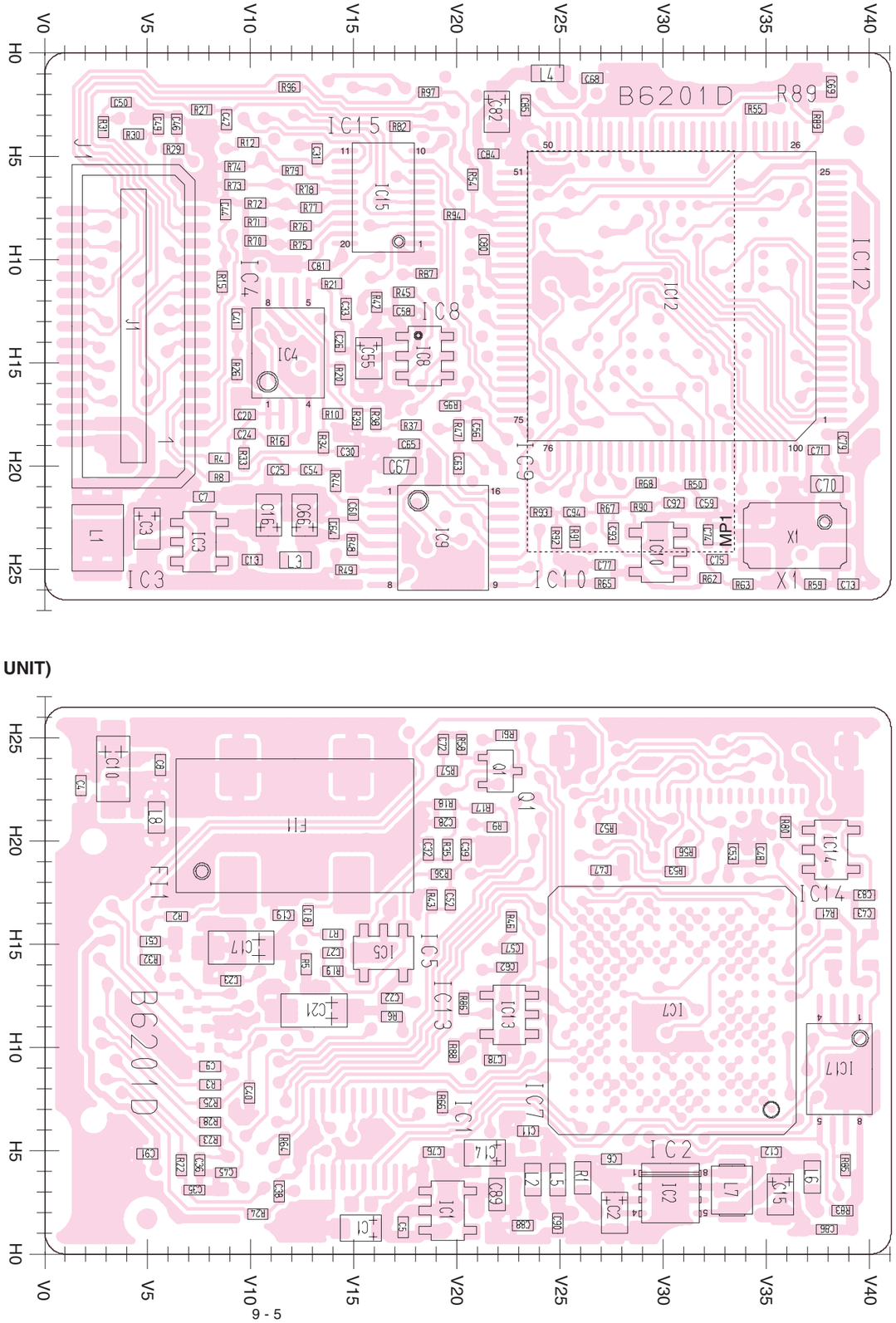
9-5 DSP UNIT (IC-F70DT/DS only)

• TOP VIEW

J1

16	SCK	RXD	15
	SI	TXD	
	SO	RTS	
	CIRQ	AGND	
	CCS	DFIL	
	FLASH_RXD	MD2	
	AFOUT	CPU_VDD	
	FLASH_TXD	CTS	
	RMUT	TEMP	
	3.3V	BUSY	
	AFON	RSSI	
	MMUT	MIC	
	VCC	QOUT	
	+5V	PTTO	
30	GND	PTTI	1

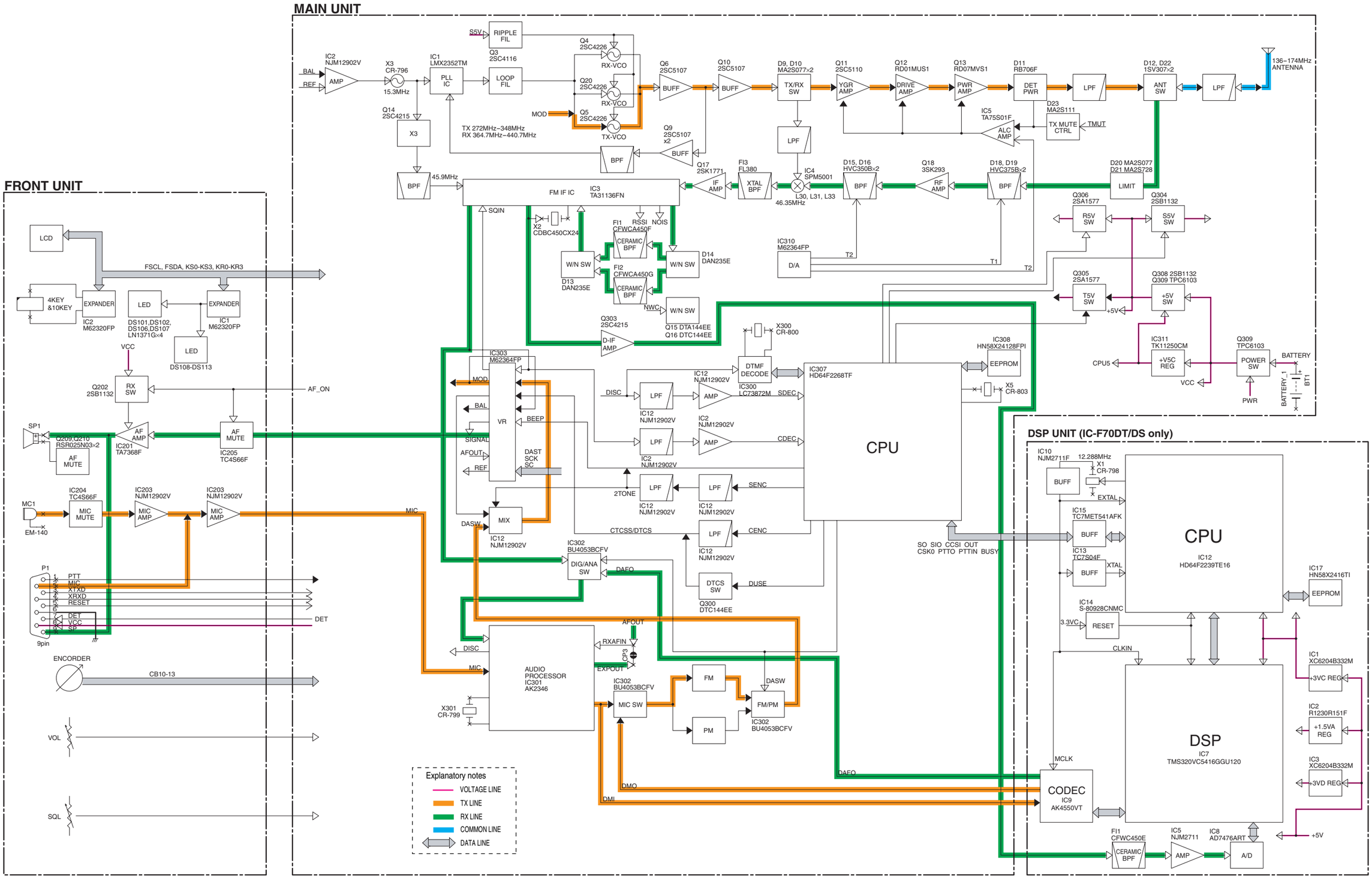
to MAIN unit J2



• BOTTOM VIEW (DSP UNIT)

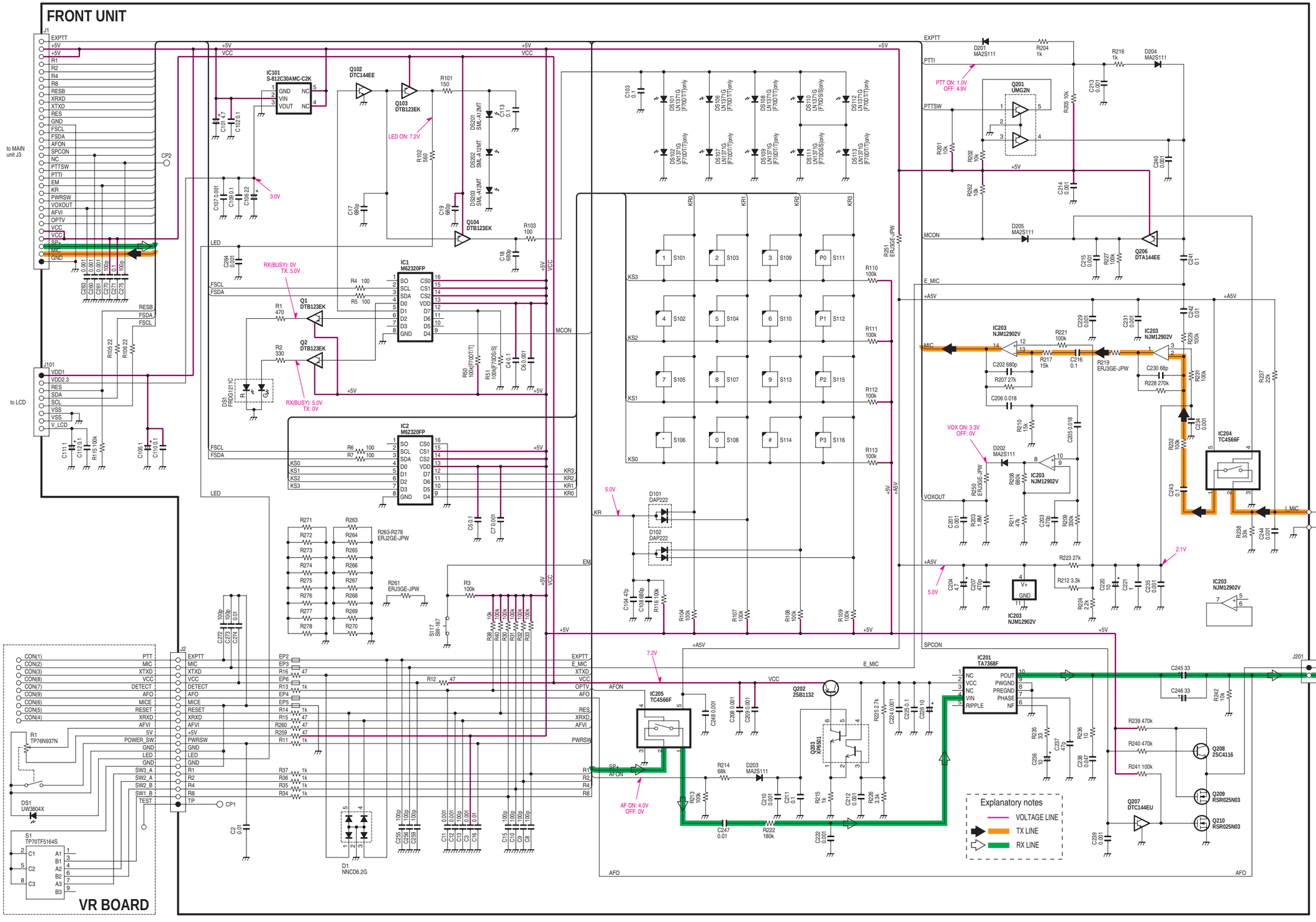
9-6 VR BOARD

SECTION 10 BLOCK DIAGRAM

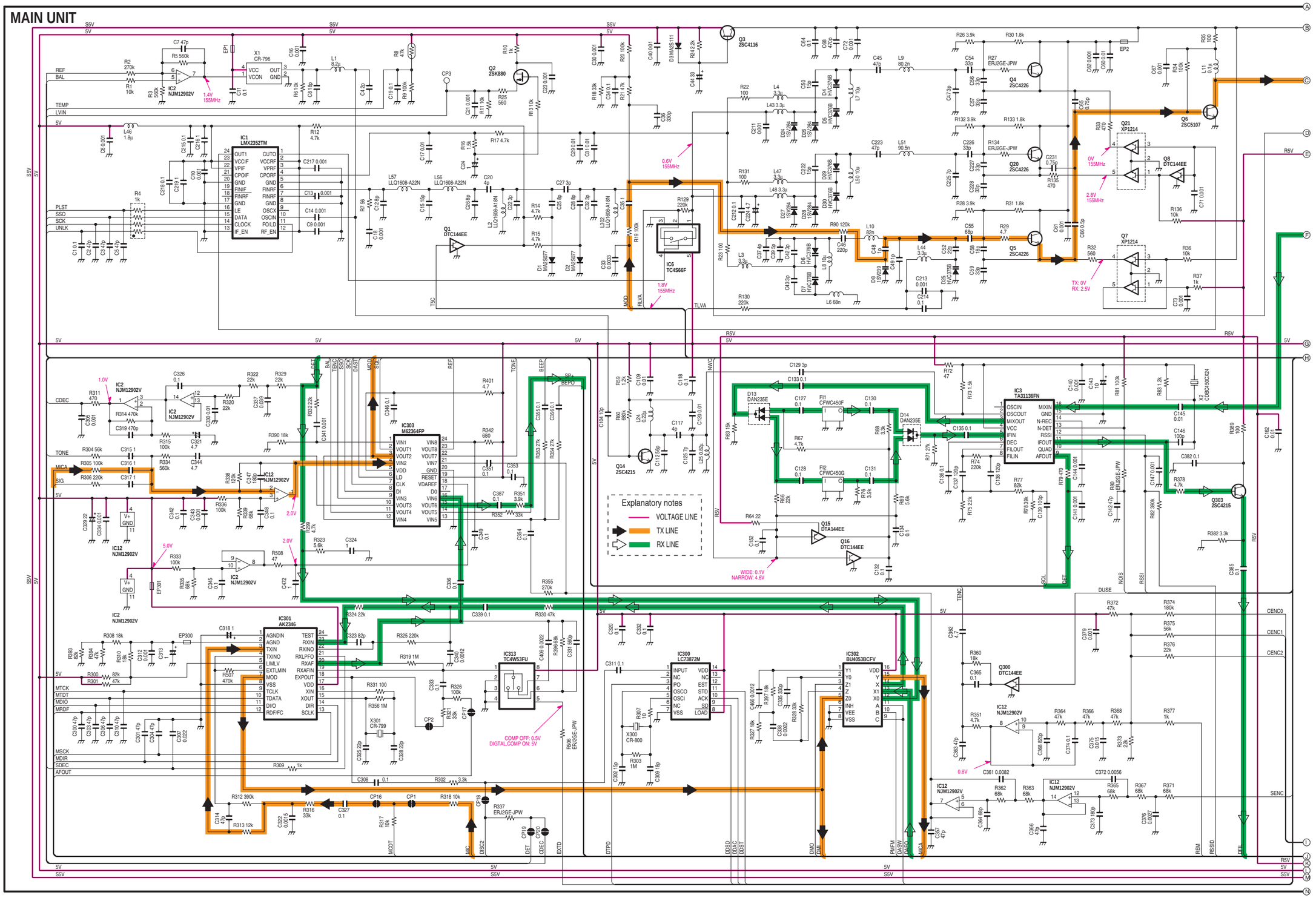


SECTION 11 VOLTAGE DIAGRAMS

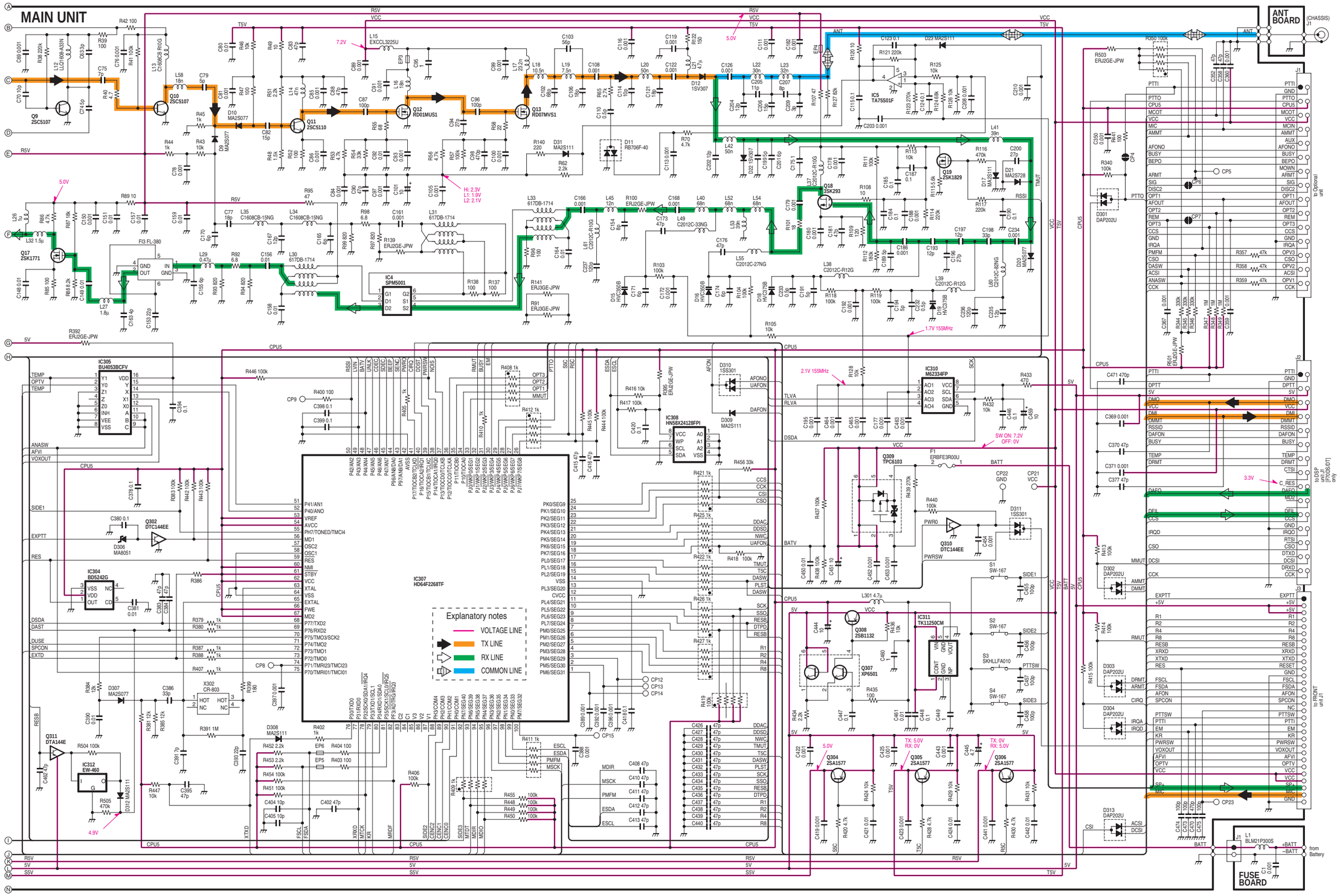
11-1 FRONT UNIT



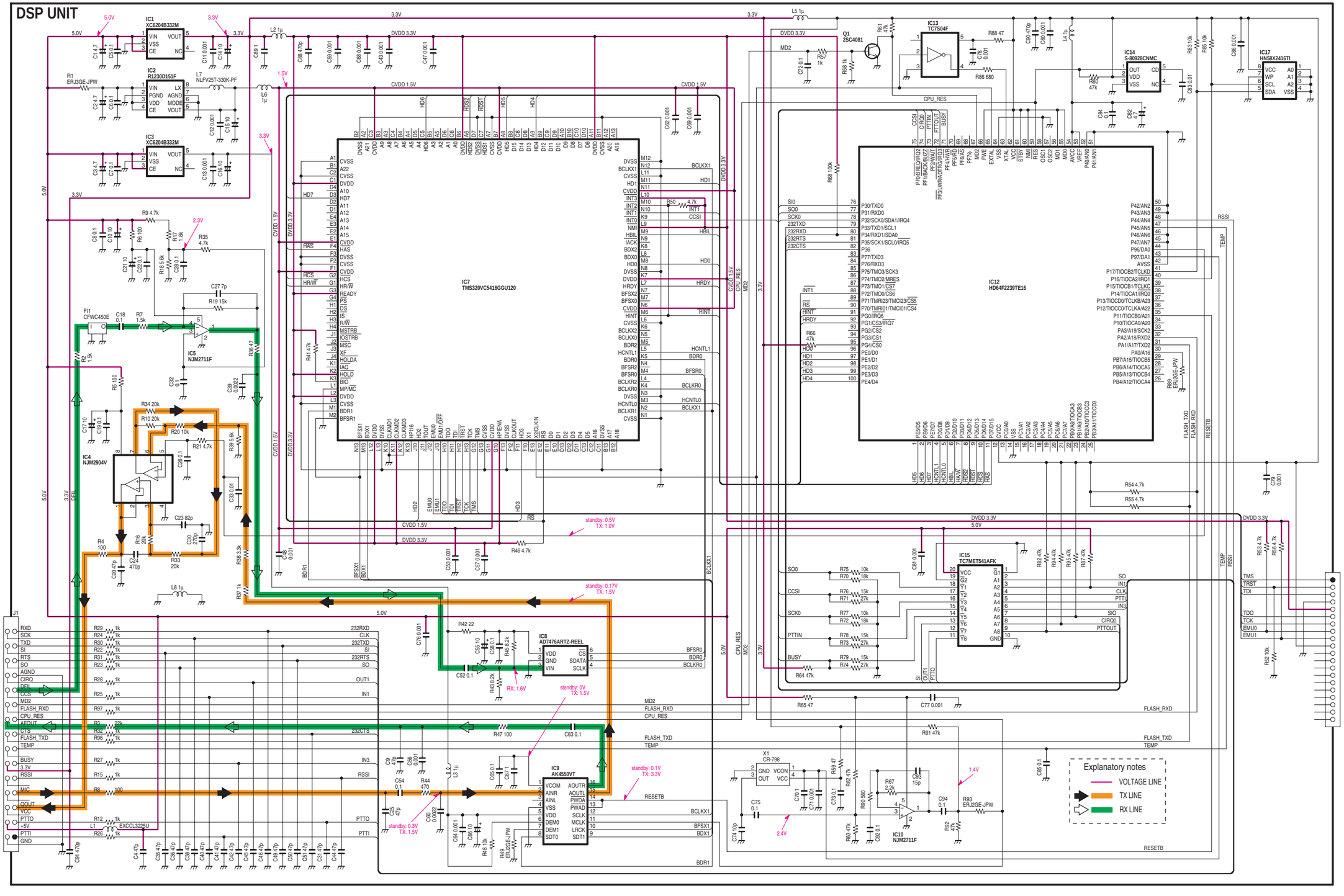
11-2 MAIN UNIT



MAIN UNIT


ANT BOARD
(CHASSIS) J1
IC305 BU4053BCFV
IC307 HD64F2268TF
IC308 HN58X24128FPI
IC310 M62334FP
IC311 TK11250CM
IC4 SPM5001
IC5 TA75S01F
IC204 BD5242G
IC302 EW-460
IC303 CR-803
Q9 2SC5107
Q10 2SC5107
Q11 2SC5110
Q12 RD01MUS1
Q13 RD07MVS1
Q17 2SK1771
Q18 3SK293
Q19 2SK1829
Q301 DAP202U
Q302 DTC144EE
Q303 DAP202U
Q304 2SA1577
Q305 2SA1577
Q306 2SA1577
Q307 XP6501
Q308 2SB1132
Q309 TPC6103
Q310 DTC144EE
Q311 DTA144E
D301 DAP202U
D302 DAP202U
D303 DAP202U
D304 DAP202U
D313 DAP202U
D306 MA8051
D307 MA2S077
D308 MA2S111
D309 MA2S111
D310 1SS301
D311 1SS301
D312 MA2S111
D10 MA2S077
D11 RB706F-40
D12 1SV307
D15 HVC359B
D16 HVC359B
D18 HVC375B
D20 MA2S077
D21 MA2S728
D23 MA2S111
D301 DAP202U
D307 MA2S077
D309 MA2S111
D310 1SS301
D311 1SS301
D312 MA2S111
D17 MA2S111
D22 1SV307
Explanatory notes
VOLTAGE LINE
TX LINE
RX LINE
COMMON LINE
Hi: 2.3V
L1: 1.9V
L2: 2.1V
7.2V
5.0V
1.7V 155MHz
2.1V 155MHz
SW ON: 7.2V
OFF: 0V
TX: 5.0V
RX: 0V
TX: 0V
RX: 5.0V
4.9V
3.3V
R5V
VCC
T5V
5V
S5V
CPU5
BATT
ANT
TMUT
RSSI
PTTO
BATV
DSDA
DAST
DUSE
SPCON
EXTD
EXPTT
SIDE1
RES
RESB
TEMP
OPTV
ANASW
AFVI
VOXOUT
to DSP unit J1 [TS50D37] only
to FRONT unit J1
from Battery
FUSE BOARD

11-3 DSP UNIT (IC-F70DT/DS only)



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