ICOM®

SERVICE MANUAL

VHF MOBLE TRANSCEIVERS

IC-F1721/D
IC-F1710
IC-F1821/D
IC-F1810

Icom Inc.

INTRODUCTION

This service manual describes the latest service information for the **IC-F1721/D/F1710/F1821/D/F1810** VHF MOBILE TRANSCEIVER at the time of publication.
6 versions of the **IC-F1721** have been designed. This service manual covers each version.

MODEL	VERSION	10 KEY	TX power
IC-F1721D	USA-02, USA-03	None	50 W
IC-F1721	USA-04		
IC-F1710	EUR-02, GEN-02		25 W
IC-F1821D	USA-02, USA-03	Yes	50 W
IC-F1821	USA-04		
IC-F1810	EUR-02, GEN-02		25 W

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 16 V. This will ruin the transceiver.

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

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

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

IC-F1700 S ri s

IC-F1e00 S ri s

ORDERING PARTS

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

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

<**SAMPLE ORDER**>

1110003490 S.IC	TA31136FN	IC-F1721 MAIN UNIT	5 pieces
8820001210 Screw	2438 screw	IC-F1721 Chassis	12 pieces

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

REPAIR NOTES

1. Make sure a problem is internal before disassembling the transceiver.
2. **DO NOT** open the transceiver until the transceiver is disconnected from its power source.
3. **DO NOT** force any of the variable components. Turn them slowly and smoothly.
4. **DO NOT** short any circuits or electronic parts. An insulated turning tool **MUST** be used for all adjustments.
5. **DO NOT** keep power ON for a long time when the transceiver is defective.
6. **DO NOT** transmit power into a signal generator or a sweep generator.
7. **ALWAYS** connect a 40 dB to 50 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 : 136.000–174.000 MHz
- Type of emission :

VERSION	WIDE	MIDDLE	NARROW
[USA]	16K0F3E (25.0 kHz)	N/A	11K0F3E (12.5 kHz)
[GEN]			8K50F3E (12.5 kHz)
[EUR]		14K0F3E (20.0 kHz)	

- Number of conventional channels : max 256 channels
- Antenna impedance : 50 Ω
- Operating temperature range : –30˚C to +60˚C (–22˚F to +140˚F)
- Power supply requirement : 13.6 V DC nominal [USA], [GEN]
  (Negative ground) 13.2 V DC nominal [EUR]
- Current drain (Approx.) :

RECEIVING		TRANSMITTING	
Stand-by	Max. audio	at 50 W	at 25 W
600 mA	1200 mA	14.0 A	7.0 A

- Dimensions (projections not included) : 175(W) × 45(H) × 170(D) mm; $6\frac{7}{8}$(W) × $1\frac{25}{32}$(H) × $6\frac{11}{16}$(D) in
- Weight (Approx.) : 1.5 kg; $3\frac{5}{16}$ lb

■ TRANSMITTER

- Output power : 25 W [F1710], [F1810]
  50 W [F1721/D], [F1821/D]
- Modulation : Variable reactance frequency modulation
- Maximum permissible deviation : ±5.0 kHz (Wide), ±4.0 kHz (Middle), ±2.5 kHz (Narrow)
- Frequency error : ±2.0 ppm [USA], [GEN]
  ±0.85 kHz [EUR]
- Spurious emissions : 75 dB (typical) [USA], [GEN]
  0.25 µW (≤1 GHz), 1.0 µW (>1 GHz) [EUR]
- Adjacent channel power : 70 dB min. for Wide and Middle
  60 dB min. for Narrow
- Audio harmonic distortion : 3% typical (Mod. 1 kHz, 40% deviation)
- Limiting charact of modulator : 70–100% of maximum deviation
- Microphone impedance : 600 Ω

■ RECEIVER

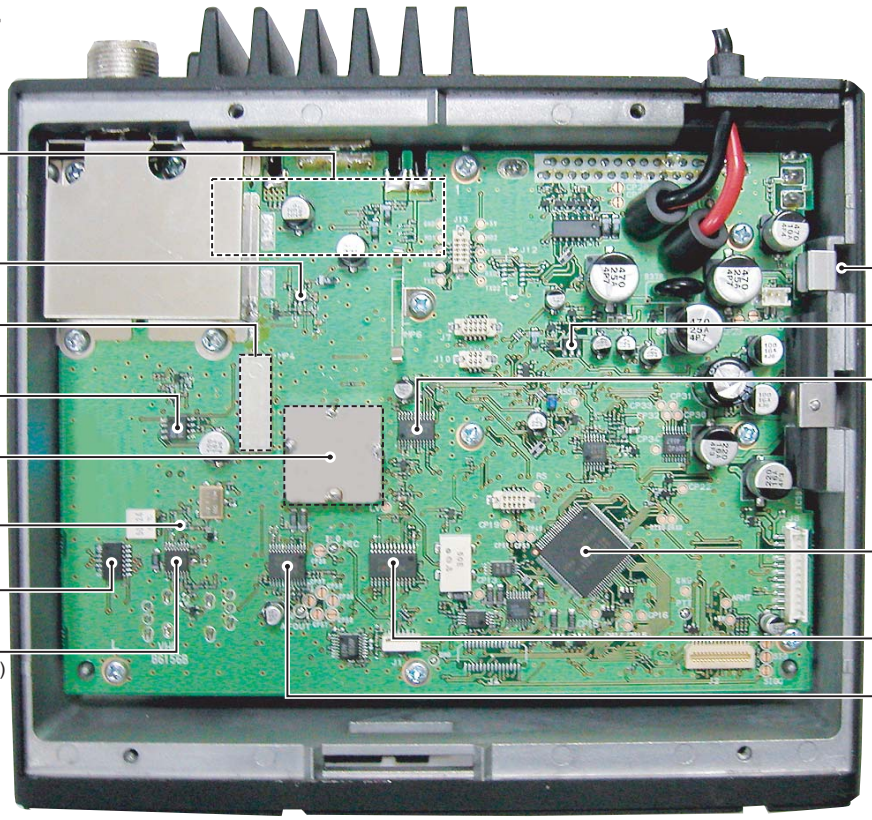
- Receive system : Double conversion superheterodyne system
- Intermediate frequencies : 1st IF: 46.35 MHz, 2nd IF: 450 kHz
- Sensitivity : 0.25 µV (–119 dBm) typical at 12 dB SINAD [USA], [GEN]
  –4 dBµV emf typical at 20 dB SINAD [EUR]
- Adjacent channel selectivity : 70 dB min. (80 dB typical) for Wide and Middle
  60 dB min. (75 dB typical) for Narrow
- Spurious response : 70 dB min. (80 dB typical)
- Intermodulation rejection ratio : 70 dB min. (77 dB typical) for Wide [USA], [GEN]
  70 dB min. (75 dB typical) for Narrow [USA], [GEN]
  65 dB min. (70 dB typical) [EUR]
- Audio output power
  (Internal) : 4 W typical at 10% distortion with a 4 Ω load
  (External) 22 W typical (BTL) at 10% with a 4 Ω load (D-SUB 25 connector)
- Squelch sensitivity (at threshold) : 0.25 µV typical [USA], [GEN]
  –4 dBµV emf typical [EUR]
- Output impedance (Audio) : 4 Ω

Specifications are measured in accordance with EIA-152-C/204D, TIA-603 or EN 300 086.
All stated specifications are subject to change without notice or obligation.

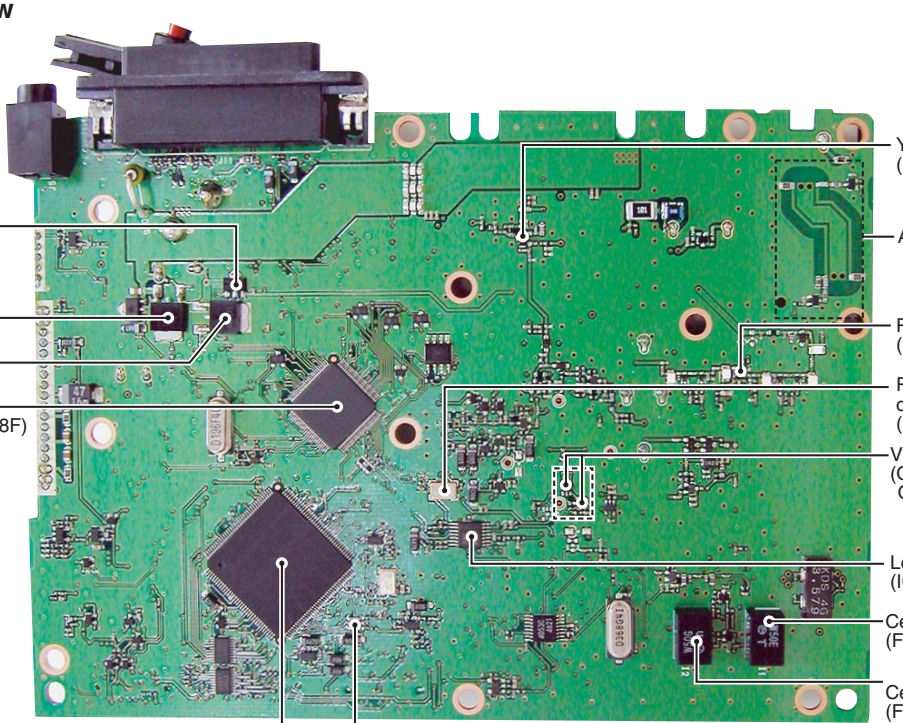
SECTION 2 INSIDE VIEWS

• MAIN UNIT

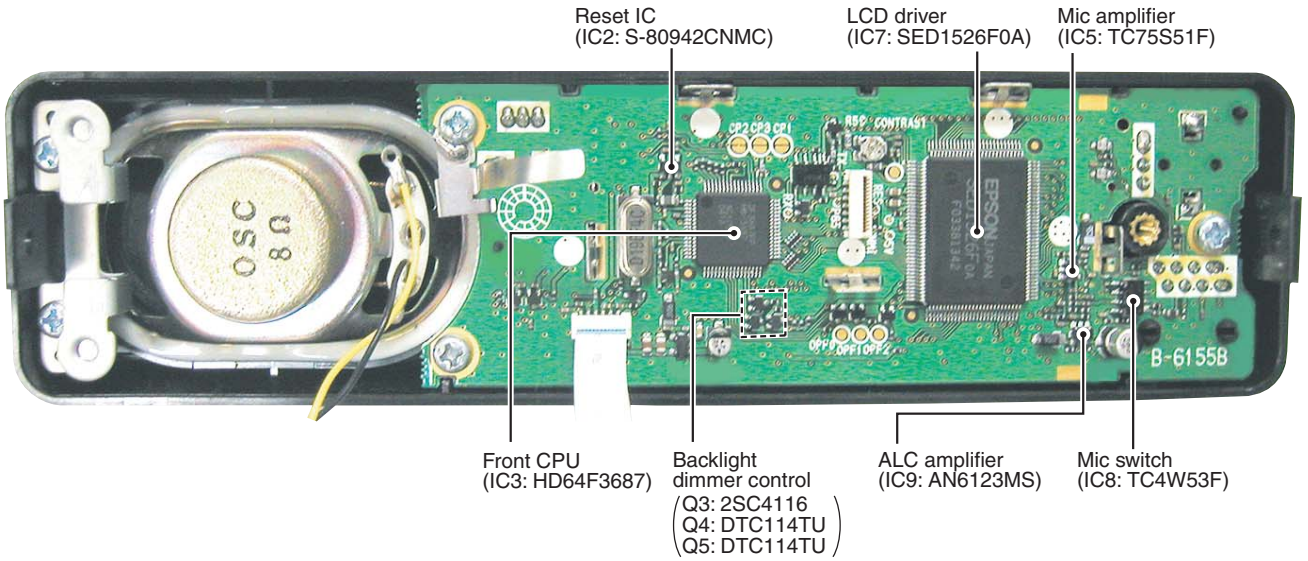
Top view



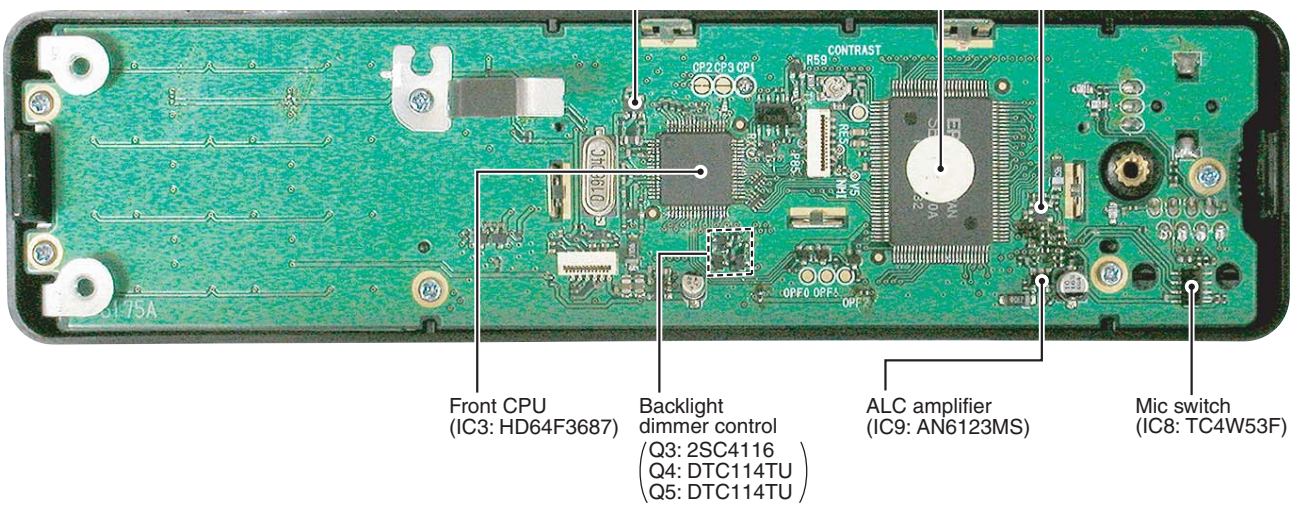
• Bottom view



● FRONT-A UNIT (IC-F1700 Series)



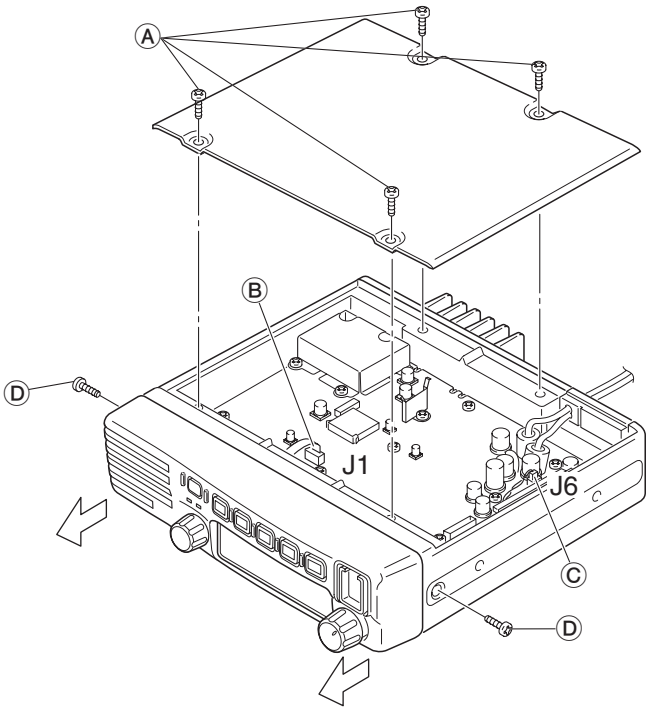
● FRONT-B UNIT (IC-F1800 Series)



SECTION 3 DISASSEMBLY INSTRUCTIONS

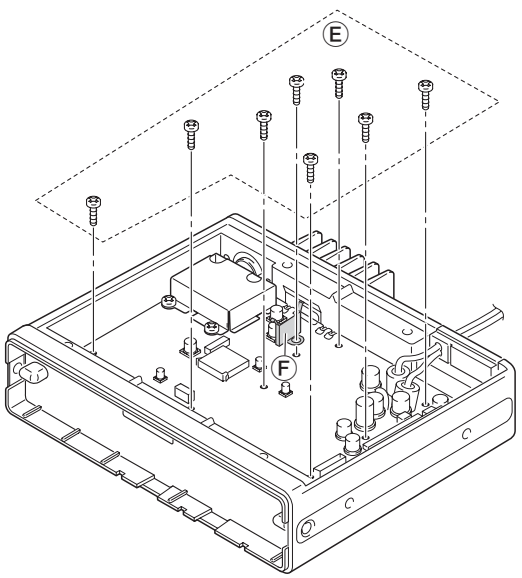
● REMOVING THE FRONT UNIT

① Unscrew 4 screws, Ⓐ, then remove the bottom cover.
② Unplug J1(Ⓑ) and J6 (Ⓒ).
③ Unscrew 2 screws, Ⓓ.
④ Remove the front unit in the direction of the arrow.



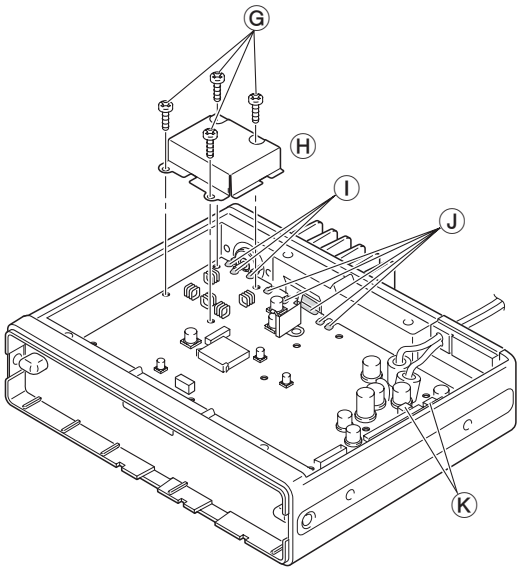
● BEFORE REMOVING THE MAIN UNIT

① Unscrew 8 screws, Ⓔ and remove the shield plate Ⓕ.



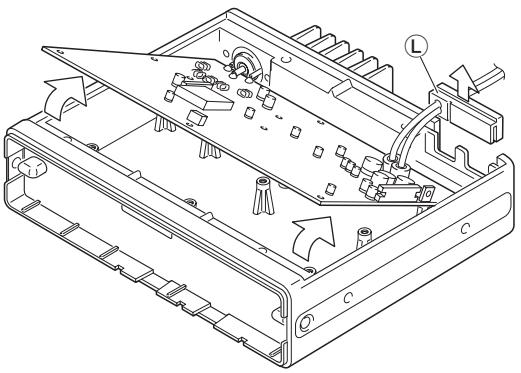
Continue to right above

② Unscrew 4 screws, Ⓖ and remove the shield cover Ⓗ.
③ Unsolder 3 points, Ⓘ and 5 points Ⓙ.
④ Remove 2 clips, Ⓚ.



● REMOVING THE MAIN UNIT

① Remove the bushing, Ⓛ.
② Remove the MAIN unit in the direction of the arrow.



SECTION 4 CIRCUIT DESCRIPTION

4-1 RECEIVER CIRCUITS

4-1-1 ANTENNA SWITCHING CIRCUIT (MAIN UNIT)

The antenna switching circuit functions as a low-pass filter while receiving and a resonator circuit while transmitting. This circuit does not allow transmit signals to enter the receiver circuits.

Received signals enter the antenna connector (CHASSIS; J1) and pass through the low-pass filters (L42–L44, C375, C388, C389, C391, C432, C461). The filtered signals are passed through the λ/4 type antenna switching circuit (D29, D30) and then applied to the RF circuit.

4-1-2 RF CIRCUIT (MAIN UNIT)

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

The signals from the antenna switching circuit pass through the two-stage tunable bandpass filters (D23, D26, L32, L36). The filtered signals are amplified at the RF amplifier (Q24) and then passed through the another two-stage tunable bandpass filters (D17, D18, L28) to suppress unwanted signals. The filtered signals are applied to the 1st mixer circuit.

D17, D18, D23 and D26 employ varactor diodes, that are controlled by the MAIN CPU (IC23) via the D/A converter (IC30, pins 1, 2), to track the bandpass filter. These varactor diodes tune the center frequency of an RF passband for wide bandwidth receiving and good image response rejection.

4-1-3 1ST MIXER AND 1ST IF CIRCUITS (MAIN UNIT)

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

The RF signals from the bandpass filter are mixed with the 1st LO signals, where come from the RX VCO circuit (Q11, D6, D7) via the LO amplifier (Q21) and low-pass filter (L24, C246, C264), at the 1st mixer circuit (D16, L22, L23) to produce a 46.35 MHz 1st IF signal. The 1st IF signal is passed through a monolithic filter (FI4) to supplies unwanted signals and to pass only the desired signals after being amplified at the IF amplifiers (Q10, Q13, Q14). The filtered signal is applied to the 1st IF amplifier (Q6) and then applied to the 2nd IF circuit.

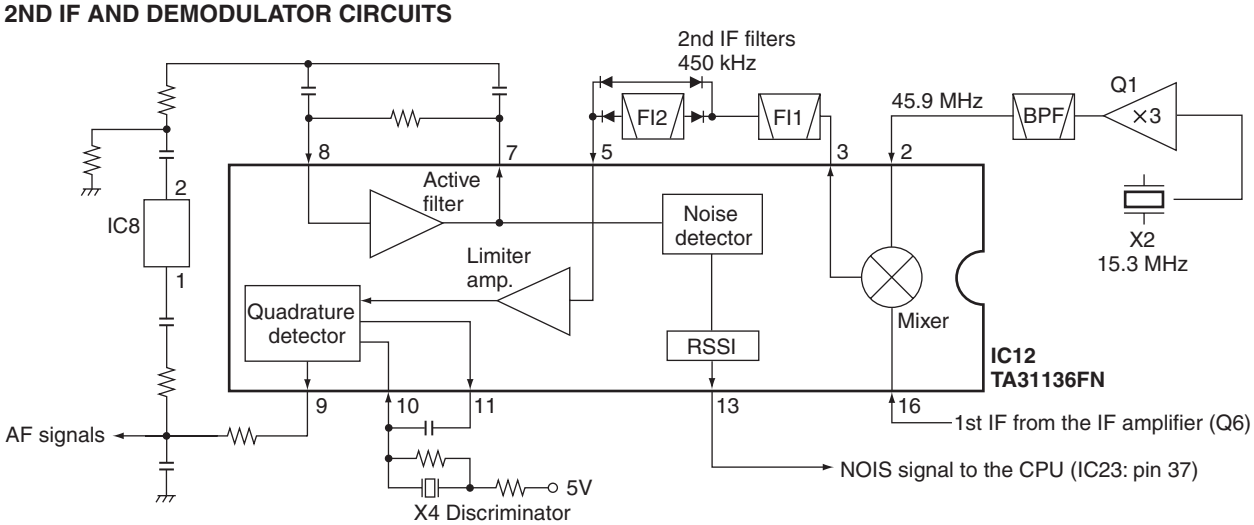
4-1-4 2ND IF AND DEMODULATOR CIRCUITS (MAIN UNIT)

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

The 1st IF signal from the IF amplifier (Q6) is applied to the 2nd mixer section of the FM IF IC (IC12, pin 16), and is mixed with the 2nd LO signal to be converted into a 450 kHz 2nd IF signal.

The FM IF IC (IC12) contains the 2nd mixer, limiter amplifier, quadrature detector, active filter and noise amplifier circuits.

• 2ND IF AND DEMODULATOR CIRCUITS



A 2nd LO signal (45.9 MHz) is produced at the PLL circuit by tripling it's reference frequency (15.3 MHz).

The 2nd IF signal from the 2nd mixer section (IC12, pin 3) passes through the ceramic filter(s) (Wide: FI1 only, Narrow: FI1 and FI2) to remove unwanted heterodyned frequencies. It is then amplified at the limiter amplifier section (IC12, pin 5) and applied to the quadrature detector section (IC12, pins 10, 11) to demodulate the 2nd IF signal into AF signals.

The demodulated AF signals are output from pin 9 (IC12) and applied to the base band IC (IC2).

4-1-5 AF AMPLIFIER CIRCUIT (MAIN UNIT)

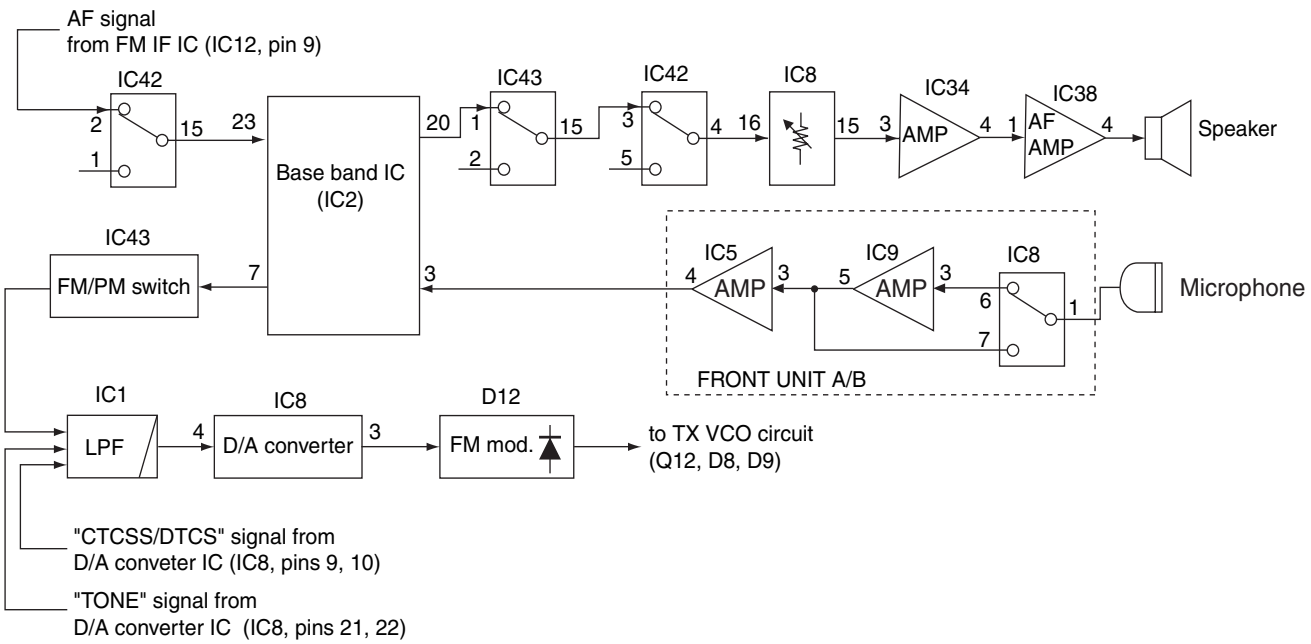
The AF amplifier circuit amplifies the demodulated AF signals to drive a speaker. This transceiver employs the base band IC which is composed of pre-amplifier, expander, scrambler, MSK de-modulator, etc. at the AF amplifier section.

The AF signals from the FM IF IC (IC12, pin 9) are passed through the DA switch (IC42, pins 2, 15) and are then applied to the base band IC (IC2, pin, 23). The signals are amplified at the AF amplifier section in the base band IC (IC2, pin 23), and are then applied to the high-pass and low-pass filter sections of it.

The filtered signals pass through the high-pass filter to suppress unwanted harmonic components. The signals pass through (or bypass) scrambler and expander sections. The signals are amplified at the amplifier section in the base band IC (IC2).

The output signals from the base band IC (IC2, pin 20) are applied to the AF volume (IC8, pins 15, 16), and are then applied to the AF power amplifiers (IC34 pins 3, 4, IC38 pins 1, 4) after pass through the analog switches (IC42 pins 3, 4 and IC43 pins 1, 15).

• AF AND MIC AMPLIFIER CIRCUITS



The power amplified AF signals are applied to the internal speaker (IC-F1700 series only) that is connected to J6 via [EXT SP] jack (J5).

4-1-6 SQUELCH CIRCUITS (MAIN UNIT)

• NOISE SQUELCH

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

Some noise components in the AF signals from the FM IF IC (IC12, pin 9) are passed through the D/A converter (IC8, pins 1, 2). The signals are applied to the active filter section in the FM IF IC (IC12, pin 8). The active filter section filters and amplifies noise components. The amplified signals are converted into the pulse-type signals at the noise detector section. The detected signals output from pin 13 (NOIS) via the noise comparator section.

The "NOIS" signal from the FM IF IC is applied to the MAIN CPU (IC23, pin 37). Then the MAIN CPU analyzes the noise condition and outputs the AF mute signal as "AFON" from the pin 19 to the AF power controller (Q28, Q29, D34, D36).

• CTCSS AND DTCS

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

A portion of the AF signals from the FM IF IC (IC12, pin 9) pass through the low-pass filter (IC1, pins 8, 10) to remove AF (voice) signals, and are then applied to the amplifier (IC1, pins 5, 7). The amplified signals are applied to the CTCSS or DTCS decoder in the MAIN CPU (IC23, pin 46) via the "CDEC" line. The MAIN CPU outputs the AF mute signal as "AFON" from the pin 19 to the AF power controller (Q28, Q29, D34, D36).

4-2 TRANSMITTER CIRCUITS

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

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

This transceiver employs the base band IC which is composed of microphone amplifier, compressor, scrambler, limiter, splatter filter, MSK modulator, etc. at the microphone amplifier section.

The AF signals from the microphone connector (FRONT UNIT; J2, pin 6) are passed through the microphone switch (FRONT UNIT; IC8, pins 1, 6, 7) and are then applied to the ALC amplifier (FRONT UNIT; IC9) during digital mode operation (bypass during FM mode operation). The signals are amplified at the microphone amplifier (FRONT UNIT; IC5, pins 3, 4) and then applied to MAIN UNIT via J1 (pin 10).

The amplified signals are applied to the microphone amplifier section of the base band IC (IC2, pin 3). The amplified signals are passed through (or bypass) the compressor, scrambler sections of IC2, and are then passed through the high-pass, limiter amplifier, splatter filter sections of IC2.

The output signals from the base band IC (IC2, pin 7) are applied to the FM/PM switch (IC43, pins 12–14) after pass through the DA switch (IC42, pins 12, 14). The signal are passed through the low-pass filter (IC1, pins 4, 13) and then applied to the D/A converter (IC8, pins 3, 4). The output signal from D/A converter (IC8, pin 3) are applied to the modulation circuit (D12).

4-2-2 MODULATION CIRCUIT (MAIN UNIT)

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

The AF signals from the D/A converter (IC8, pin 3) change the reactance of varactor diode (D12) to modulate the oscillated signal at the TX VCO circuit (Q12, D8, D9). The modulated VCO signal is amplified at the buffer amplifiers (Q20, Q22) and is then applied to the YGR amplifier circuit via the T/R switch (D19).

The CTCSS/DTCS signals (“CENC0”, “CENC1”, ”CENC2”) from the MAIN CPU (IC23, pins 89–91) are combined at resistors (R158, R159, R162) and are then pass through the low-pass filter (IC9, pins 8, 10).

The filtered signals are applied to the D/A converter (IC8, pins 9, 10), and are then mixed with the filtered microphone audio signals.The mixed signals are applied to the D/A converter (IC8, pin 3, 4) after pass through the low-pass filter (IC1, pins 4, 13). The output signal from D/A converter (IC8, pin 3) are applied to the D12 in the TX VCO circuit.

4-2-3 YGR/POWER AMPLIFIER CIRCUITS (MAIN UNIT)

The YGR/power amplifier circuits amplify the VCO oscillating signal to an output power level.

The signal from the VCO circuit passes through the T/R switch (D19), and is amplified at the YGR (Q23), power (IC29) amplifiers to obtain 50 W (IC-F1721/D/F1821/D; 25 W for IC-F1710/F1810) of RF power.

The amplified signal is passed through the low-pass filter (L35, C345, C346, C348, C349), antenna switching circuit (D29, D30), low-pass filters (L42, L43, C375, C388, C389, C391), power detector (D38, D40), low-pass filter (L44, C432, C461), and is then applied to the antenna connector (CHASSIS unit; J1).

The bias voltage of the YGR amplifier (Q23) and power amplifier (IC29) are controlled by the APC circuit.

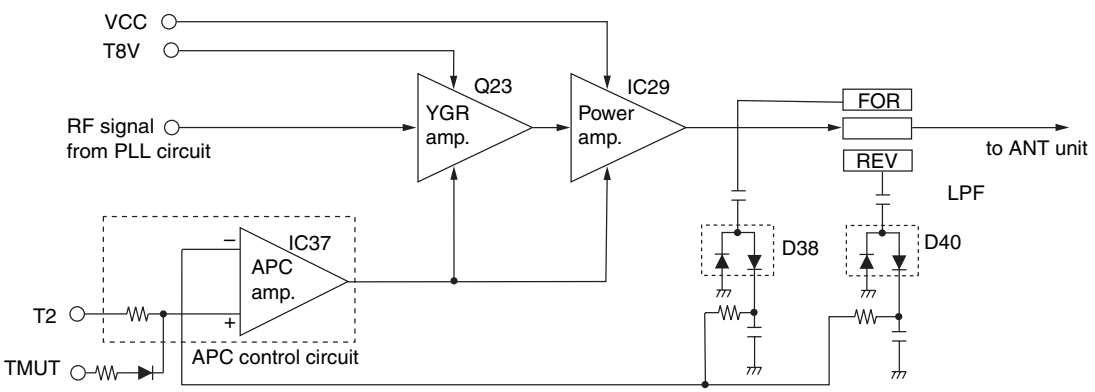
4-2-4 APC CIRCUIT (MAIN UNIT)

The APC circuit protects the power amplifier from a mismatched output load and stabilizes the output power.

The power detector circuit (D38, D40) detects the forward signals and reflection signals and converts it into DC voltage. The output voltage is at a minimum level when the antenna impedance is matched with 50 Ω and is increased when it is mismatched.

The detected voltage is applied to the differential amplifier (IC37; pins 3, 4), and the “T2” signal from the D/A converter (IC30, pin 2), controlled by the MAIN CPU (IC23), is applied to the other input for reference (IC37, pin 1). When antenna impedance is mismatched, the detected voltage exceeds the power setting voltage. Then the output voltage of the differential amplifier (IC37, pin 4) controls the bias voltage of the YGR amplifier (Q23) and power amplifier (IC29) amplifiers to reduce the output power.

• APC CIRCUIT



4-3 PLL CIRCUITS

4-3-1 PLL CIRCUIT (MAIN UNIT)

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

The PLL circuit contains the RX VCO (Q11, D6, D7) and TX VCO (Q12, D8, D9). The oscillated signal is amplified at the buffer amplifier (Q20). The output signal frequency is doubled at Q19, and is then applied to the PLL IC (IC4, pin 6) after being passed through the bandpass filter (Q5, D3, D5, L4, L47, L48, C85, C104, C105, C123, C519–521).

Q5, D3 and D5 switch the filtering frequencies between TX and RX which is controlled by TXC.

The PLL IC contains a prescaler, programmable counter, programmable divider and phase detector, etc. The applied signal is divided at the prescaler and programmable counter section by the N-data ratio from the MAIN CPU. The divided signal is detected on phase at the phase detector using the reference frequency and output from pin 4. The output signal is passed through the loop filter (Q46, Q47) and is then applied to the VCO circuit.

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 (MAIN UNIT)

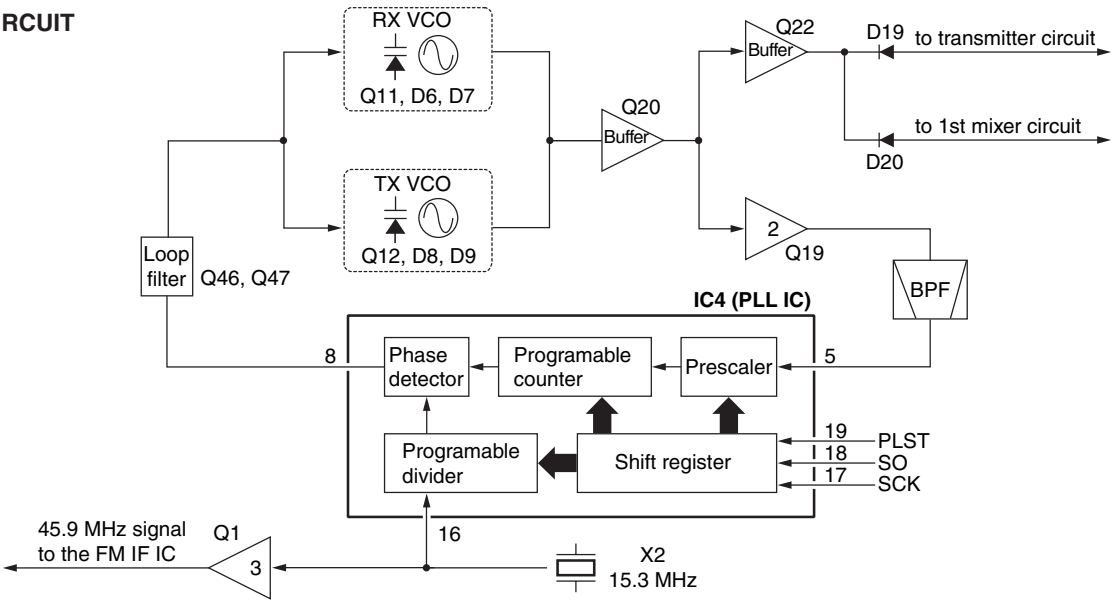
The VCO circuits contains a separate RX VCO (Q11, D6, D7) and TX VCO (Q12, D8, D9). The oscillated signal is amplified at the buffer amplifiers (Q20, Q22) and is then applied to the T/R switch (D19, D20). Then the receive 1st LO (Rx) signal is applied to the 1st mixer (L22, L23, D16) and the transmit (Tx) signal to the YGR amplifier circuit (Q23).

A portion of the signal from the buffer amplifier (Q20) is fed back to the PLL IC (IC4, pin 6) via the doubler circuit (Q19) as the comparison signal.

4-4 POWER SUPPLY CIRCUITS

Line	Description
HV	The voltage from a DC power supply.
VCC	The same voltage as the HV line which is controlled by the power switch circuit (Q41, Q42). When the [ ] is pushed, the MAIN CPU outputs the "PWR" control signal to the power switch circuit to turn the circuit ON.
CPU 5	Common 5 V converted from the HV line at the CPU5V regulator circuit (IC40). The output voltage is applied to the MAIN CPU (IC23) and EEPROM (IC26), etc.
5V	Common 5 V converted from the CPU5V line at the 5 V regulator circuit (Q31, Q32). The output voltage is applied to the PLL IC (IC4) and D/A converter IC (IC30), etc.
8V	Common 8 V converted from the VCC line at the 8 V regulator circuit (IC36). The output voltage is applied to the buffer amplifier (Q22) and 1st LO amplifier (Q21), etc.
T8V	Transmit 8 V controlled by the T8V regulator circuit (Q34) using the "TMUT" signal from the MAIN CPU (IC23). The output voltage is applied to the driver (Q23) and PA amplifiers (IC29), etc.
R8V	Receive 8 V controlled by the R8V regulator circuit (Q30) using the "TXC" signal from the MAIN CPU (IC23). The output voltage is applied to the RF amplifier (Q24) and 1st IF amplifier (Q6), etc.

• PLL CIRCUIT



4-5 OTHER CIRCUITS

4-5-1 COMPANDER CIRCUIT (MAIN UNIT)

IC-F1700/F1800 series have compander circuit which can improve S/N ratio and become wide dynamic range. The circuit is composed in the base band IC (IC2).

(1) IN CASE OF RECEIVING

The demodulated AF signals from the FM IF IC (IC12, pin 9) are applied to the amplifier section in base band IC (IC2, pin 23), and then pass through the low-pass and high-pass filter section to suppress unwanted signals. The filtered signals pass through (or bypass) scrambler section, and are then applied to the expander circuit to expand AF signals.

The output signals from the base band IC (IC2, pin20) is applied to the AF amplifier circuit after amplified at the amplifier section.

(2) IN CASE OF TRANSMITTING

The audio signals from the microphone are applied to the base band IC (IC2, pin 3) via microphone amplifier (FRONT UNIT; IC5). The signals are amplified at the amplifier section, and are then applied to the compressor circuit to compress the audio signals. The signals pass through (or bypass) scrambler section, and are then applied to the limiter section after being passed through the high-pass filter.

The filtered signals pass through the splatter filter section, and are then applied to the modulation circuit (D12) via the FM/PM switch (IC43, pins12–14) and D/A converter (IC8, pins 2, 3).

4-5-2 DIGITAL MODE CIRCUIT (IC-F1721D/F1821D only)

(1) IN CASE OF RECEIVING

A portion of the 2nd IF signal from the limiter amplifier section in the FM IF IC (IC12) output from pin 11 and is applied to the IF amplifier (Q3). The amplified signal is passed through a ceramic bandpass filter (FI3) to suppress heterodyne noise, and amplified again at the digital IF amplifier (IC15, pins, 1, 4). The amplified 2nd IF signal is applied to the A/D converter (IC16) to be converted into digital IF signal, then applied to the DSP IC (IC41). The DSP IC converts the digital IF signal into the digital audio signal.

The digital audio signal from DSP IC are converted into analog audio signals at the LINER CODEC IC (IC18) and output from pin 16.

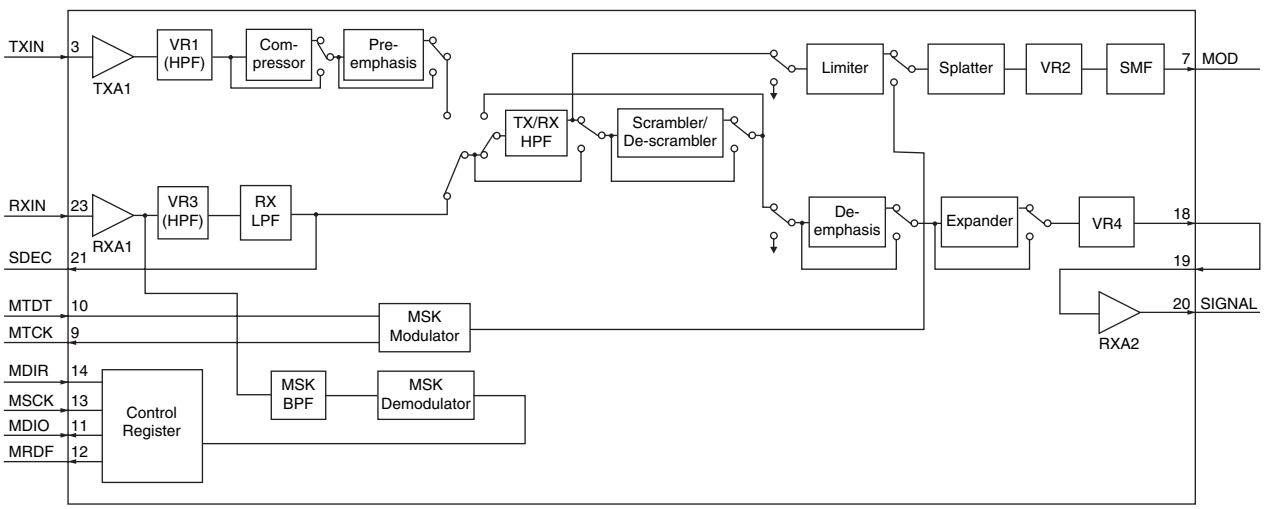
The audio signals are applied to the base band IC (IC2, pin 23) after being pass through the DIG/ANA switch (IC42, pins 1, 15).

(2) IN CASE OF TRANSMITTING

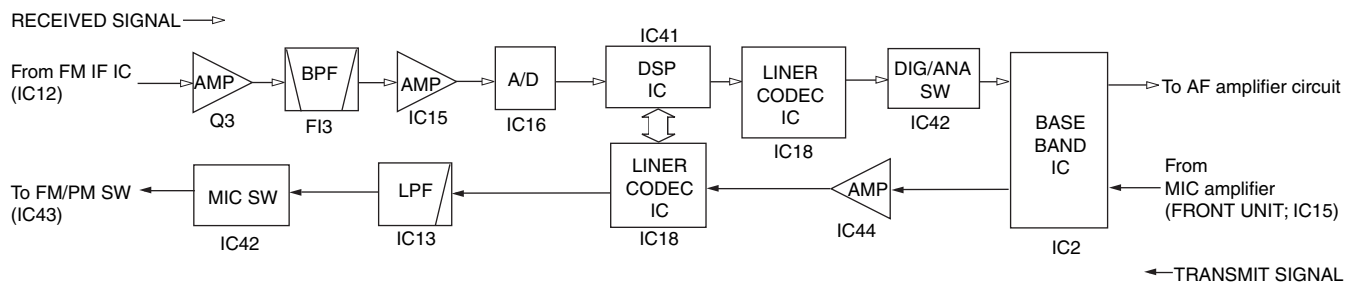
The microphone signal from the base band IC (IC2, pin 7) are amplified at the MOD amplifier (IC44, pins 3, 4) and are then applied to the LINER CODEC IC (IC18, pin 2) to convert into the digital audio signal.
The digital audio signal is processed by DSP IC (IC41), and applied to the LINER CODEC IC (IC18) again.

The signal from the LINER CODEC IC (IC18, pin 15) is passed through the low-pass filter (IC13, pins 1, 3, 6, 7) and then applied to the PM/FM switch (IC43, pins 12–14) after pass through the microphone switch (IC42 pins 13, 14).

• BASE BAND IC BLOCK DIAGRAM



• DIGITAL MODE CIRCUITS



4-6 PORT ALLOCATIONS

4-6-1 MAIN CPU (MAIN UNIT; IC23)

Pin number	Port name	Description
1	DSDA	I/O port for data signal to the D/A converter (IC30 pin 6).
2	DAST	Outputs strobe signals to the D/A converter (IC8, pin 6).
10	SSO	Outputs serial data to the PLL IC (IC4, pin 15) and D/A converter (IC8, pin 8).
11	SCK	Outputs clock signal to the PLL IC (IC4 pin 14), D/A converter (IC8, pin 7), etc.
13	PLST	Outputs strobe signals to the PLL IC (IC4, pin 16).
15	DASW	Outputs control signal to the digital /analog switch (IC42). Low: While analog mode is selected.
16	TXC	Outputs the T8V regulator circuit (Q34) control signal. Low: During transmit.
17	TMUT	Outputs the R8V regulator circuit (Q30) control signal. Low: During receive.
18	AFON	Outputs control signal for AF mute circuit (Q28, Q29). High: While AF amplifier (IC38) is activated.
19	NWC	Outputs wide/narrow switch (D2, D4) control signal. High: When narrow band is selected.
20	DDSD	Input port for serial data from the DTMF decoder IC (IC6, pin 9).
21	DDAC	Outputs clock signals to the DTMF decoder IC (IC6, pin 10).
32	RMUT	Input port for the AF mute signal from the optional unit via J2. Low: While RX audio is muted.
33	MMUT	Input port for the microphone mute signal from the optional unit via J2. Low: While microphone audio is muted.
34–36	OPT1–OPT3	I/O ports for optional unit.
37	NOIS	Input port for the noise signal from the FM IF IC (IC9, pin 13).
38	POSW	Input port for the [⏻] switch. Low: While [⏻] switch is pushed.
39	DDST	Input port for DTMF detection signal from the DTMF decoder IC (IC6, pin 11).
40	IGSW	Input port for the remote power control signal from external connector, J7.
41	PWON	Outputs control signal for the power switch circuit (Q41, Q42). Low: While power ON.
43	SENC	Outputs single tone encoder signal.
44	BEEP	Outputs beep audio signals.
45	SDEC	Input port for single tone decode signal from the base band IC (IC2, pin 21).
46	CDEC	Input port for CTCSS/DTCS signal from the LPF (IC1, 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 for the low battery detection.
49	LVIN	Input port for the PLL lock voltage.
50	RSSI	Input port for the S-meter signal from the FM IF IC (IC12, pin 12).
51	TEMP	Input port for the transceiver's internal temperature detecting signal.
68	CLO	Outputs the data signal to the FRONT CPU (FRONT UNIT; IC3).
69	CLI	Input port for the data signal from the FRONT CPU (FRONT UNIT; IC3).
72	HORN	Outputs external device control signal. High: When matched 5/2 tone signals are received.
78	MTCK	Input port for transmitting MSK clock signal from the base band IC (IC2, pin 9).
79	NTXD	Outputs NMEA data signals for the connected unit via external connector (J7).
80	NRXD	Input port for NMEA data signals from the connected unit via external connector (J7).
88	DIM	Input port for the LCD backlight control signal from the external connector (J8). Low: While LCD backlight is dimmed.
89–91	CENC0–CENC2	Output the CTCSS/DTCS signals.
93	MTDT	Outputs the MSK data to the base band IC (IC2, pin 10).
94	MDIR	Outputs serial data control signal to the base band IC (IC2, pin 14).
95	MDIO	I/O port for the serial data signals from/to the base band IC (IC2, pin 11).
96	MSCK	Outputs clock signal for the base band IC (IC2, pin 13).
97	PMFM	Outputs the the FM/PM switch (IC43, pin 11) control signal. High: While PM is selected.
98	ESDA	I/O port for data signals from/to the EEPROM (IC26, pin 5).
99	ESCL	Outputs clock signal to the EEPROM (IC26, pin 6).

4-6-2 FRONT CPU (FRONT UNIT; IC3)

Pin number	Port name	Description
7	RES	Input port for rest signal.
19–22	KR0–KR3	Input ports for the 10-keypad. (IC-F1800 series only)
28, 29	LIGT1, LIGT2	Output control signals for LCD backlight. LIGT1 / LIGT2 / LIGHT HIGH / HIGH / DIM HIGH / LOW / OFF LOW / HIGH / ON LOW / LOW / OFF
47	LEDT	Outputs control signal for the TX LED.
48	LEDR	Outputs control signal for the RX LED.
51, 52	DICK, DIUP	Input ports for control signal from the dial (S9). (IC-F1700 series only)
53, 54	KYUP, KYDN	Input ports for control signal from [∧], [∨] keys. (IC-F1800 series only)
57	HANG	Input port for the microphone hanger detection signal. Low: When microphone on the hanger.
58	PTT	Input port for the PTT switch of the connected microphone.
59–63	KYP0–KYP4	Input ports for the programmable function keys (P0–P4).

4-6-3 D/A CONVERTER (MAIN UNIT; IC8)

Pin number	Port name	Description
2	SQL	Outputs AF signal to the squelch circuit (IC12, pin 8).
3	MOD	Outputs modulation signals to the VCO circuit.
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 amplifiers (IC34, IC38).
15	SIGNAL	Outputs AF signals to the speaker via the AF amplifiers (IC34, IC38).
22	TONE	Outputs single tone signal.
23	REF	Outputs reference oscillator control signal.

4-6-4 D/A CONVERTER (MAIN UNIT; IC30)

Pin number	Port name	Description
1	T1	Outputs the bandpass filters (D23, D26) tuning signal.
2	T2	• While receiving Outputs the bandpass filters (D17, D18) tuning signal. • While transmitting Outputs the TX power control signal which selects TX output power of HIGH, LOW1 or LOW2. The output signal is applied to the APC amplifier (IC37, 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-F1721/D,F1710,F1821/D,F1810, the optional CS-F1700 ADJ ADJUSTMENT SOFTWARE (Rev. 1.0 or later), JIG CABLE (modified OPC-1122 CLONING CABLE; see illustration on page 5-3) are required.

■ REQUIRED TEST EQUIPMENT

EQUIPMENT	GRADE AND RANGE	EQUIPMENT	GRADE AND RANGE
DC power supply	Output voltage : 13.6 (13.2) V DC Current capacity : 20 A or more	Audio generator	Frequency range : 300–3000 Hz Measuring range : 1–500 mV
Modulation analyzer	Frequency range : DC–600 MHz Measuring range : 0 to ±10 kHz	Attenuator	Power attenuation : 50 or 60 dB Capacity : 100 W
Frequency counter	Frequency range : 0.1–600 MHz Frequency accuracy : ±1 ppm or better Sensitivity : 100 mV or better	Standard signal generator (SSG)	Frequency range : 0.1–600 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 : 1–75 W Frequency range : 100–800 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 : 4 Ω Capacity : 10 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-F1700 ADJ’ folder in the CD drive.
④ The “Welcome to the InstallShield Wizard for CS-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-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-F1700 ADJ’ appears in the ‘Programs’ folder of the start menu, and ‘CS-F1700 ADJ’ icon appears on the desk top screen.

■ BEFORE STARTING SOFTWARE ADJUSTMENT

Program the adjustment frequencies into the transceiver using with the CS-F1700 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.

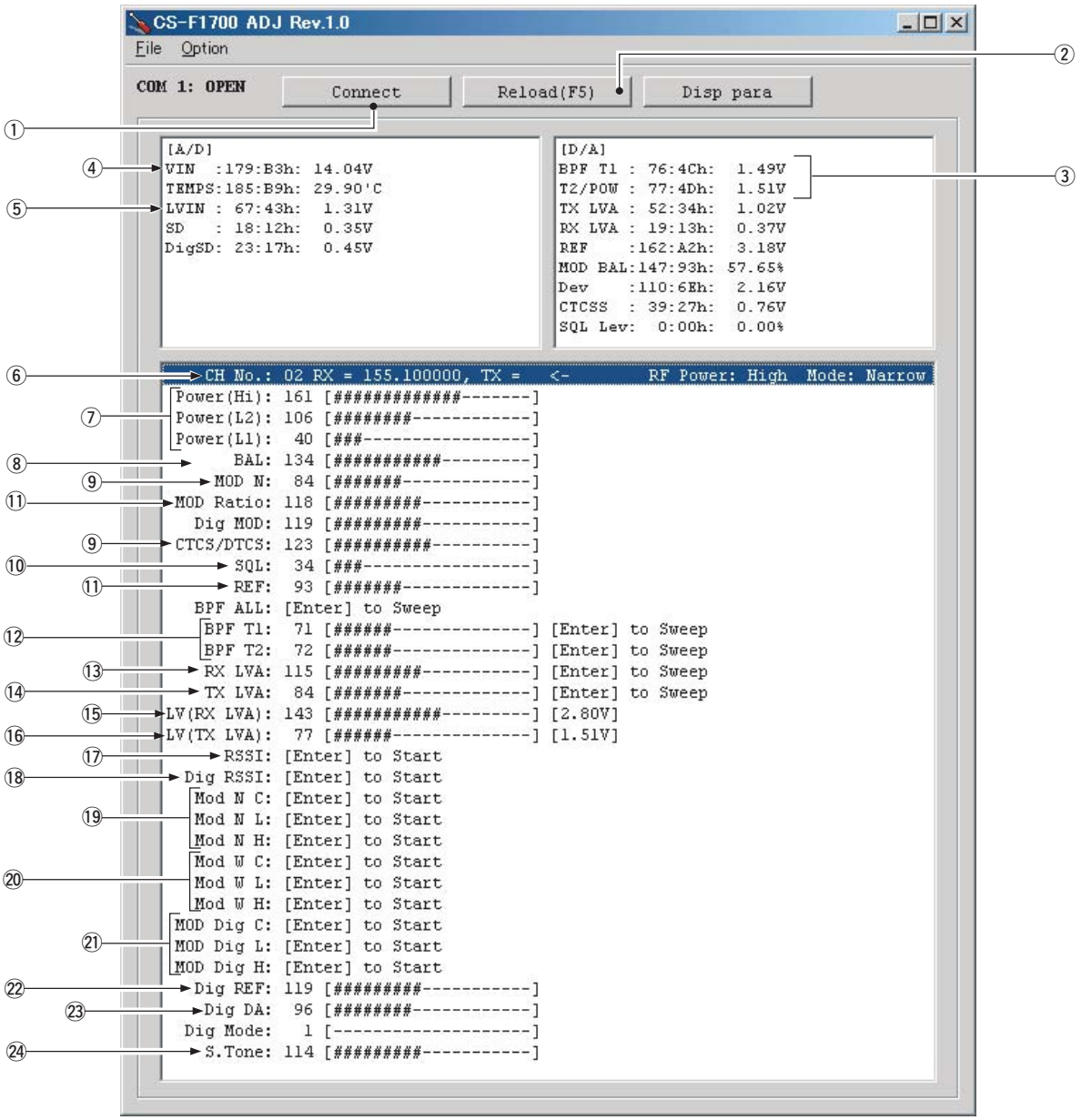
■ STARTING SOFTWARE ADJUSTMENT

① Connect the transceiver and PC with OPC-1122* JIG CABLE.
② Turn the transceiver power ON.
③ Boot up Windows, and click the program group ‘CS-F1700 ADJ’ in the ‘Programs’ folder of the [Start] menu, then CS-F1700 ADJ’s window appears.
④ Click ‘Connect’ on the CS-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	CONDITIONS
1	155.000 MHz	TX power : Low1 Mode : Wide/Middle
2	155.000 MHz	TX power : Low2 Mode : Wide
3	155.000 MHz	TX power : High Mode : Wide
4	155.000 MHz	TX power : Low1 Mode : Narrow
5	155.000 MHz	TX power : Low1 Mode : Wide CTCSS : 151.4 Hz
6	155.000 MHz	TX power : Low1 Mode : Digital
7	174.000 MHz	TX power : Low1 Mode : Wide/Middle
8	174.000 MHz	TX power : Low1 Mode : Narrow
9	174.000 MHz	TX power : Low1 Mode : Digital
10	136.000 MHz	TX power : Low1 Mode : Wide/Middle
11	136.000 MHz	TX power : Low1 Mode : Narrow
12	136.000 MHz	TX power : Low1 Mode : Digital
13	136.000 MHz	TX power : Low1 Mode : Wide

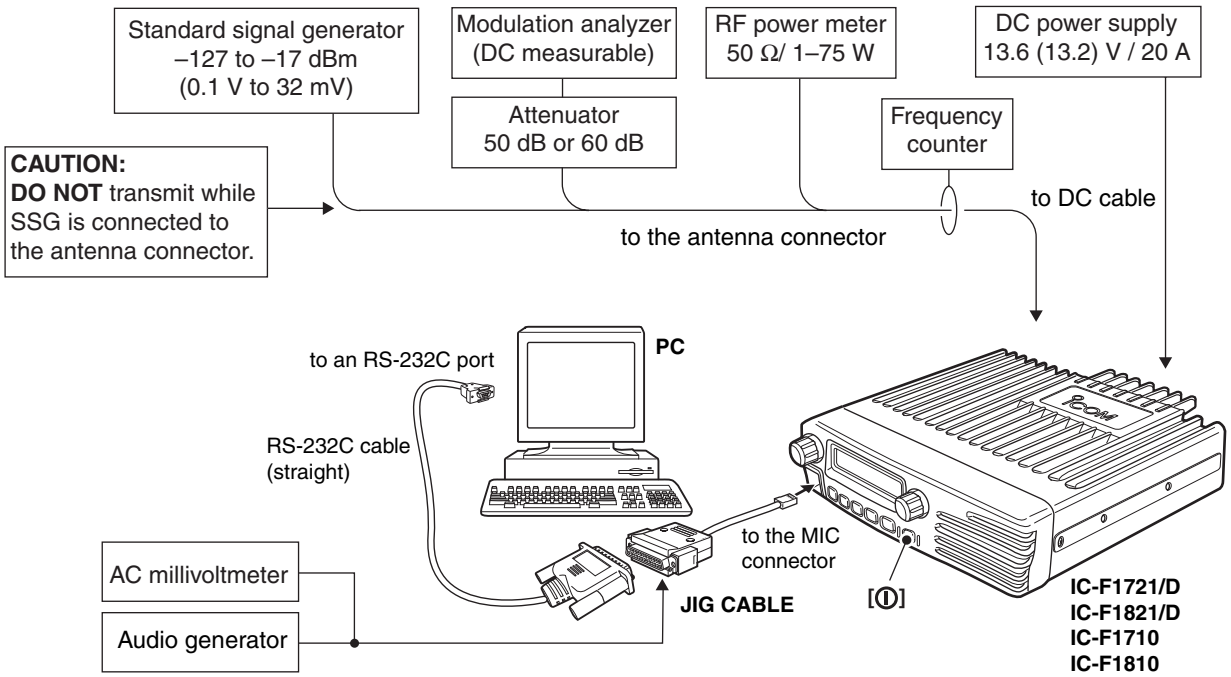
• CS-F1700 ADJ'S SCREEN EXAMPLE



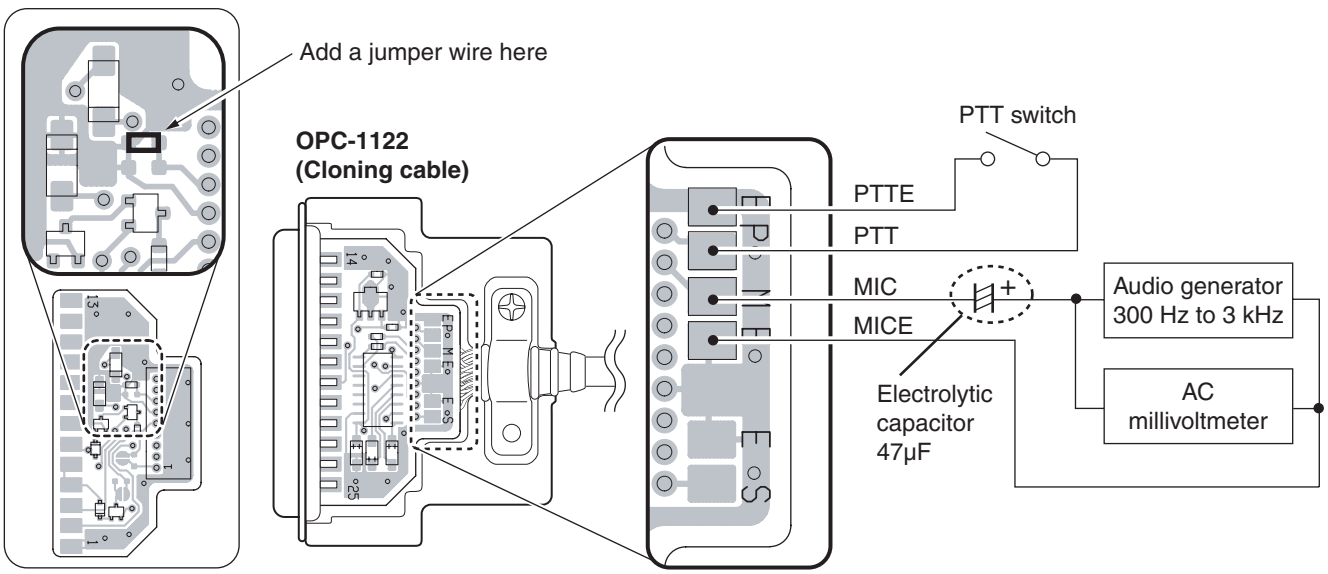
NOTE: The above values for settings are example only.
Each transceiver has its own specific values for each setting.

①: Transceiver's connection state
②: Reload adjustment data
③: Receive sensitivity measurement
④: Connected DC voltage measurement
⑤: PLL lock voltage measurement
⑥: Operating channel select
⑦: RF output power
⑧: FM modulation balance (narrow)
⑨: CTCSS/DTCS deviation
⑩: Squelch level
⑪: Reference frequency
⑫: Receive sensitivity (automatic)
⑬: PLL lock voltage for RX (automatic)
⑭: PLL lock voltage for TX (automatic)
⑮: PLL lock voltage for RX (manual)
⑯: PLL lock voltage for TX (manual)
⑰: S-meter adjustment
⑱: Digital RSSI
⑲: Deviation (narrow)
⑳: Deviation (wide/middle)
㉑: Deviation (digital)
㉒: DSP frequency
㉓: Base band frequency
㉔: 2/5 TONE deviation

• CONNECTION



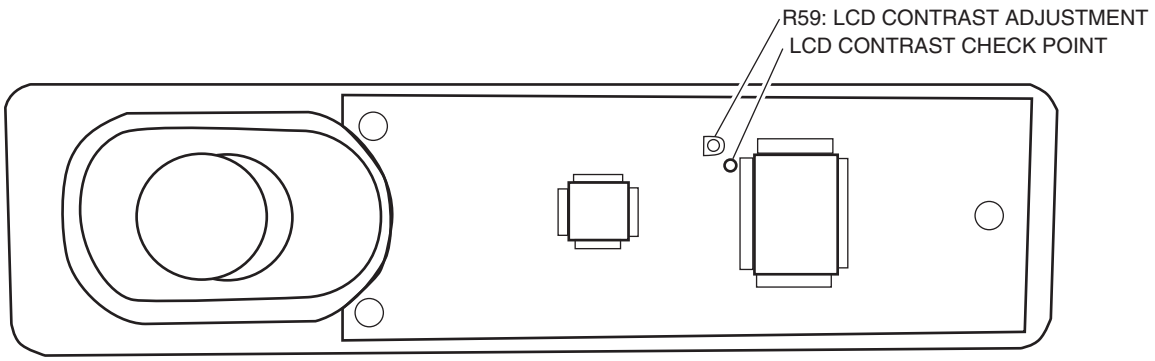
• JIG CABLE



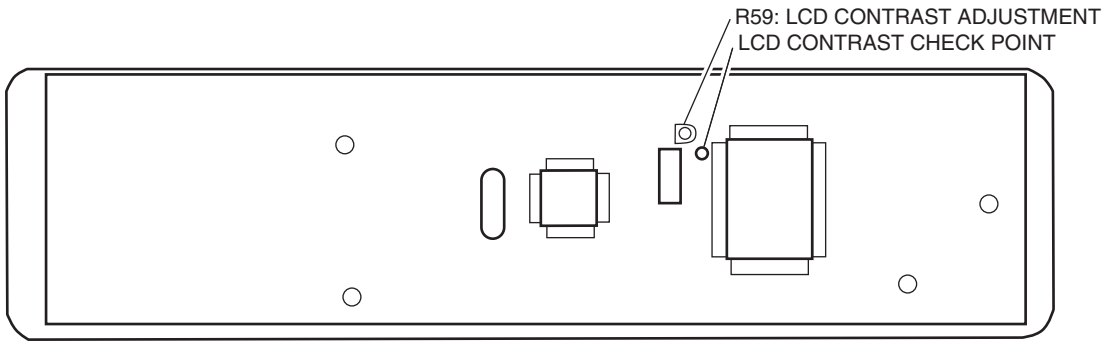
5-2 LCD CONTRAST ADJUSTMENT

ADJUSTMENT		ADJUSTMENT CONDITION	MEASUREMENT		VALUE	ADJUSTMENT	
			UNIT	LOCATION		UNIT	ADJUST
LCD CONTRAST	1	• Operating CH. : CH 1 • Preset LCD conterast : 64 (user set mode) • Receiving	FRONT A/B	Connect a digital multimeter or an oscilloscope to the check point "CONTRAST".	–2.0 V	FRONT A/B	R59

• FRONT-A UNIT for IC-F1700 series



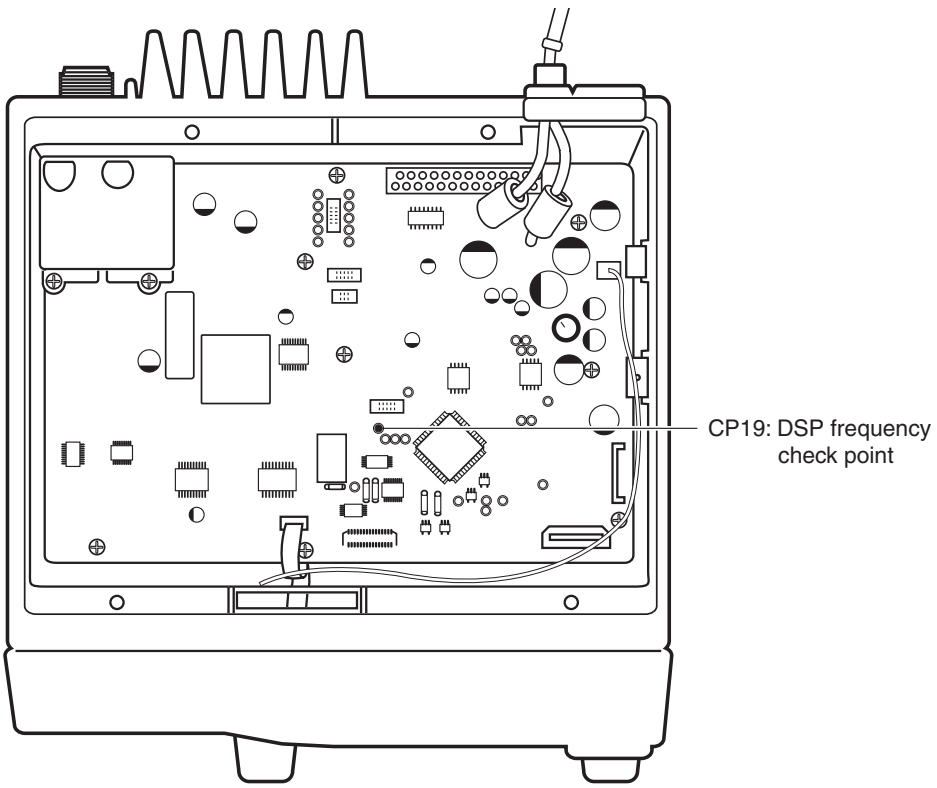
• FRONT-B UNIT for IC-F1800 series



5-3 SOFT WARE ADJUSTMENT

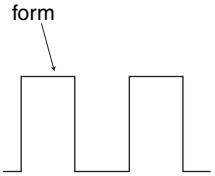
Select an operation using [↑] / [↓] keys, then set specified value using [←] / [→] keys on the connected computer keyboard.

ADJUSTMENT		ADJUSTMENT CONDITION	MEASUREMENT		VALUE
			UNIT	LOCATION	
PLL LOCK VOLTAGE [LV (RX LVA)] [LV (TX LVA)]	1	• Operating CH. : CH 1 • Preset LV(RX LVA) : 158 [3.10 V] • Receiving	PC screen	Check the "LVIN" item on the CS-F1700 ADJ's screen.	3.10 V
	2	• Operating CH. : CH 10 • Preset LV(TX LVA) : 46 [0.90 V] • Transmitting			0.90 V
		CONVENIENT: The PLL lock voltage can be adjustment automatically. Set the cursor to "RX LVA"/"TX LVA" and then push [ENTER] key.			
	3	• Operating CH. : CH 7 • Receiving	PC screen	Check the "LVIN" item on the CS-F1700 ADJ's screen.	3.0–4.8 V (Verify)
	4	• Transmitting			2.0–3.0 V (Verify)
REFERENCE FREQUENCY [REF]		• Operating CH. : CH 7 • Connect an RF power meter or 50 Ω dummy load to the antenna connector. • Transmitting	Rear panel	Loosely couple a frequency counter to the antenna connector.	174.000000 MHz
DSP FREQUENCY [Dig REF] (IC-F1721D/ F1821D only)		• Operating CH. : CH 9 • Connect an RF power meter or 50 Ω dummy load to the antenna connector. • Transmitting	MAIN unit	Connect a frequency counter to CP19.	12.288000 MHz
BASE BAND FREQUENCY [Dig DA] (IC-F1721D/ F1821D only)		• Operating CH. : CH 9 • Preset Dig Mode : 13 • Connect an RF power meter or 50 Ω dummy load to the antenna connector. • Transmitting	Rear panel	Loosely couple a frequency counter to the antenna connector.	174.000000 MHz



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	
OUTPUT POWER [Power (Hi)]	1	• Operating CH. : CH 3 • Transmitting	Rear panel	Connect an RF power meter to the antenna connector.	25.0 W [25W] 50.0 W [50W]
[Power (L2)]	2	• Operating CH. : CH 2 • Transmitting			10.0 W [25W] 25.0 W [50W]
[Power (L1)]	3	• Operating CH. : CH 1 • Transmitting			2.5 W [25W] 5.0 W [50W]
MODULATION BALANCE [BAL]	1	• Operating CH. : CH 11 • Preset [MOD N] : 100 • No audio applied to the [MIC] connector. • Set a modulation analyzer as: HPF : OFF LPF : 20 kHz De-emphasis : OFF Detector : (P–P)/2 • Push [P0] while transmitting.	Rear panel	Connect a modulation analyzer 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 4 • Connect an audio generator to the [MIC] connector and set as : 1.0 kHz/40 mVrms • Set a Modulation analyzer as: HPF : OFF LPF : 20 kHz De- emphasis : OFF Detector : (P–P)/2 • Transmitting	Rear panel	Connect a modulation analyzer to the antenna connector through an attenuator.	±2.10 kHz
(NARROW) [MOD N L]	2	• Operating CH. : CH 11 • Transmitting			±2.10 kHz
(NARROW) [MOD N H]	3	• Operating CH. : CH 8 • Transmitting			±2.10 kHz
(WIDE) [MOD W C]	4	• Operating CH. : CH 1 • Transmitting			±4.10 kHz
(WIDE) [MOD W L]	5	• Operating CH. : CH 10 • Transmitting			±4.10 kHz
(WIDE) [MOD W H]	6	• Operating CH. : CH 7 • Transmitting			±4.10 kHz
(MIDDLE) [MOD W C] ([EUR] only)	7	• Operating CH. : CH 1 • Transmitting			±3.20 kHz
(MIDDLE) [MOD W L] ([EUR] only)	8	• Operating CH. : CH 10 • Transmitting			±3.20 kHz
(MIDDLE) [MOD W H] ([EUR] only)	9	• Operating CH. : Ch 7 • Transmitting			±3.20 kHz

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	
DIGITAL DEVIATION (Digital) [MOD Dig C] (IC-F1721D/ F1821D only)	1	• Operating CH. : CH 6 • Set a modulation analyzer as: HPF : OFF LPF : 20 kHz De- emphasis : OFF Detector : (P–P)/2 • Transmitting	Rear panel	Connect a modulation analyzer to the antenna connector through an attenuator.	±2.85 kHz
(Digital) [MOD Dig L] (IC-F1721D/ F1821D only)	2	Operating CH. : CH 12 Transmitting			±2.85 kHz
(Digital) [MOD Dig H] (IC-F1721D/ F1821D only)	3	Operating CH. : CH 9 Transmitting			±2.85 kHz
CTCSS/DTCS DEVIATION [CTCSS/DTCS]	1	• Operating CH. : CH 5 • No audio applied to the [MIC] connector. • Set a modulation analyzer as: HPF : OFF LPF : 20 kHz De- emphasis : OFF Detector : (P–P)/2 • Transmitting	Rear panel	Connect a modulation analyzer to the antenna connector through an attenuator.	±0.70 kHz
2TONE /5TONE /DTMF DEVIATION [S.Tone]	1	• Operating CH. : CH 4 • No audio applied to the [MIC] connector. • Set a modulation analyzer as: HPF : OFF LPF : 20 kHz De- emphasis : OFF Detector : (P–P)/2 • Push [P3] while transmitting.	Rear panel	Connect a modulation analyzer to the antenna connector through an attenuator.	±1.50 kHz

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	
NOTE: Adjust the adjustment items as follows throughly in sequence.					
RX SENSITIVITY [BPF T1] [BPF T2] (Analog)	1	• Operating CH : CH 13 • Connect the SSG to the antenna connector and set as: Frequency : 136.000 MHz Level : 10 µV* (–87 dBm) Modulation : 1 kHz Deviation : ±3.5 kHz • Receiving	PC screen	Connect the SINAD meter with a 4 Ω load to the [EXT SP] jack.	Minimum distortion level
		CONVENIENT: The BPF T1, BPF T2 can be adjustment automatically. ①-1: Set the cursor to "BPF ALL" and then push [ENTER] key. ①-2: The connected PC tunes BPF T1, T2 to peak levels. or ②-1: Set the cursor to one of BPF T1, T2 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] (IC-F1721D/ F1821D only)	1	• Operating CH. : CH 12 • Connect the SSG to the antenna connector and set as: Frequency : 136.000 MHz Level : 0.18 µV* (–122 dBm) Modulation : OFF • Receiving	Push the [ENTER] key on the connected computer's keyboard to set "Dig RSSI" level.		
S-METER [RSSI]	1	• Operating CH. : CH 13 • Connect the SSG to the antenna connector and set as: Frequency : 136.000 MHz Level : 14 µV* (–84 dBm) Modulation : OFF • Receiving	Push the [ENTER] key on the connected computer's keyboard to set "S3" level.		
	2	• Set the SSG as: Level : 0.45 µV* (–114 dBm) • Receiving	Push the [ENTER] key on the connected computer's keyboard to set "S1" level.		
SQUELCH LEVEL [SQL]	1	• Operating CH. : CH 2 • Connect the SSG to the antenna connector and set as: Frequency : 136.000 MHz Level : 0.2 µV* (–121 dBm) Modulation : OFF • Receiving	Rear panel	Connect speaker to the [EXT SP] jack.	Set SQL level to close squelch. Then set SQL level at the point where the audio signals just appears.

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

SECTION 6 PARTS LIST

[REPLACEMENT UNITS]

ORDER NO.	UNIT NAME	
0327810101	U F1721 #01 FRONT-A	[F1721/D], [F1710]
0327811102	U F1821 #11 FRONT-B	[F1821/D], [F1810]

[FRONT-A UNIT] (for IC-F1700 series)

REF NO.	ORDER NO.	DESCRIPTION		M.	H/V LOCATION
IC2	1110005770	S.IC	S-80942CNMC-G9C-T2	B	81.9/29.8
IC3	1140010770	S.IC	HD64F3687FP	B	73.5/21.4
IC4	1130005720	S.IC	TC7W04F (TE12L)	B	63.1/28.7
IC5	1130008560	S.IC	TC75S51F (TE85L)	B	26.9/15.7
IC6	1110005350	S.IC	NJM2870F05-TE1	B	80.4/5.9
IC7	1130009120	S.IC	SED1526F0A	B	40.6/21.1
IC8	1130005640	S.IC	TC4W53F (TE12L)	B	18.2/11.9
IC9	1110005310	S.IC	AN6123MS	B	25.3/6.9
Q1	1590001330	S.TR	DTA114EUA T106	B	59.8/34.9
Q2	1590000680	S.TR	DTC114EUA T106	B	63.9/24.2
Q3	1530002850	S.TR	2SC4116-BL (TE85R)	B	67.7/8.9
Q4	1590001050	S.TR	DTC114TUA T106	B	70.6/8.9
Q5	1590001050	S.TR	DTC114TUA T106	B	70.1/11.4
Q6	1590001050	S.TR	DTC114TUA T106	B	100.3/12.1
Q7	1590001050	S.TR	DTC114TUA T106	B	102.9/12.1
D1	1790000620	S.DIO	MA77 (TX)	B	82.2/15.3
D4	1790001250	S.DIO	MA2S111-(TX)	B	60/31.3
D5	1790000950	S.ZEN	MA8056-M (TX)	B	22.7/28.7
D6	1790000950	S.ZEN	MA8056-M (TX)	B	22.7/32.6
D7	1790000950	S.ZEN	MA8056-M (TX)	T	19.3/16
D8	1750000550	S.DIO	1SS355 TE-17	B	86.7/12.6
D9	1750000130	S.DIO	DA204U T106	B	59.1/9.9
D10	1750000130	S.DIO	DA204U T106	B	56.5/9.9
D11	1750000130	S.DIO	DA204U T106	B	52.4/9.6
D12	1790001250	S.DIO	MA2S111-(TX)	B	69.6/29.5
X1	6050009520	S.XTL	CR-520 (19.6608 MHz+)	B	86.6/20.5
L1	6200003640	S.COL	MLF1608E 100K-T	B	12.3/9.7
R4	7030008010	S.RES	ERJ2GEJ 123 XΩ(12 kΩ)	B	83.4/13.4
R5	7030008010	S.RES	ERJ2GEJ 123 X (12 kΩ)	B	82.9/16.7
R6	7030005160	S.RES	ERJ2GEJ 105 X (1 MΩ)	B	82.4/20.8
R7	7030008010	S.RES	ERJ2GEJ 123 X (12 kΩ)	B	81.1/17
R8	7030005530	S.RES	ERJ2GEJ 100 X (10 Ω)	B	81.1/20.8
R9	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	53.5/21.1
R12	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	59.5/29.6
R14	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	62.3/32
R15	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	59.8/27.2
R16	7030007300	S.RES	ERJ2GEJ 332 X (3.3 kΩ)	B	59.5/33
R18	7030005220	S.RES	ERJ2GEJ 223 X (22 kΩ)	B	61.3/25.2
R19	7030009280	S.RES	ERJ2GE 391 X	B	67.3/10.6
R20	7030005240	S.RES	ERJ2GEJ 473 X (47 kΩ)	T	18.6/14.6
R21	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	21.8/31.2
R22	7030009140	S.RES	ERJ2GEJ 272 X (2.7 kΩ)	B	67.8/11.6
R24	7030005050	S.RES	ERJ2GEJ 103 X (10 kΩ)	B	28.3/17.9
R25	7030007290	S.RES	ERJ2GEJ 222 X (2.2 kΩ)	B	26.5/11.1
R26	7030007290	S.RES	ERJ2GEJ 222 X (2.2 kΩ)	B	24.8/16.5
R28	7030005220	S.RES	ERJ2GEJ 223 X (22 kΩ)	B	26.5/12
R29	7030005050	S.RES	ERJ2GEJ 103 X (10 kΩ)	B	26.7/17.9
R30	7030005120	S.RES	ERJ2GEJ 102 X (1 kΩ)	B	17.6/16.1
R31	7030005120	S.RES	ERJ2GEJ 102 X (1 kΩ)	B	12.1/21.1
R32	7030005120	S.RES	ERJ2GEJ 102 X (1 kΩ)	B	11.7/19.7
R33	7030009160	S.RES	ERJ2GEJ 181 X (180 Ω)	B	50.9/4.8
R34	7030009160	S.RES	ERJ2GEJ 181 X (180 Ω)	B	65.1/8.5
R35	7210003050	VAR	EVU-F2KFK3 B14 (10KB)		
R36	7030009160	S.RES	ERJ2GEJ 181 X (180 Ω)	B	64.1/8.4
R37	7030009160	S.RES	ERJ2GEJ 181 X (180 Ω)	B	63.2/8.9
R38	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	86.9/11.2
R39	7030005240	S.RES	ERJ2GEJ 473 X (47 kΩ)	B	88.6/13.9
R40	7030005120	S.RES	ERJ2GEJ 102 X (1 kΩ)	B	51.7/6.9
R41	7030005120	S.RES	ERJ2GEJ 102 X (1 kΩ)	B	54.4/8.8

[FRONT-A UNIT] (for IC-F1700 series)

REF NO.	ORDER NO.	DESCRIPTION		M.	H/V LOCATION
R42	7030005120	S.RES	ERJ2GEJ 102 X (1 kΩ)	B	60.6/7.8
R43	7030005120	S.RES	ERJ2GEJ 102 X (1 kΩ)	B	97.6/12.6
R44	7030005010	S.RES	ERJ2GEJ 681 X (680 Ω)	B	104.8/12.5
R47	7030005050	S.RES	ERJ2GEJ 103 X (10 kΩ)	B	83.4/34.2
R48	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	74.9/29.4
R49	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	75.8/29.6
R50	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	76.7/29.9
R51	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	77.6/30.2
R52	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	78.5/29.9
R55	7510001470	S.TMR	NTCG20 4AG 473JT	B	82.3/25.3
R56	7030005120	S.RES	ERJ2GEJ 102 X (1 kΩ)	B	80.8/26.7
R57	7030003810	S.RES	ERJ3GEYJ 125 V (1.2 MΩ)	B	57.9/33.2
R58	7030003810	S.RES	ERJ3GEYJ 125 V (1.2 MΩ)	B	54.2/29.8
R59	7310002820	S.TRI	RV-158 (RH03A3AS5) 474	B	55/32.2
R60	7030005240	S.RES	ERJ2GEJ 473 X (47 kΩ)	B	14.5/10.7
R61	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	19.7/8.6
R62	7030004980	S.RES	ERJ2GEJ 101 X (100 Ω)	B	21.3/8.6
R63	7030005160	S.RES	ERJ2GEJ 105 X (1 MΩ)	B	26.8/4.7
R64	7030005220	S.RES	ERJ2GEJ 223 X (22 kΩ)	B	26.5/10.2
R65	7030007290	S.RES	ERJ2GEJ 222 X (2.2 kΩ)	B	28.2/9.3
R66	7030009290	S.RES	ERJ2GEJ 562 X (5.6 kΩ)	B	29.9/9.3
R67	7030009280	S.RES	ERJ2GE 391 X	B	24.7/10.2
R68	7030007300	S.RES	ERJ2GEJ 332 X (3.3 kΩ)	B	24.7/9.3
R69	7030005050	S.RES	ERJ2GEJ 103 X (10 kΩ)	B	81.9/33.3
R70	7410001130	S.ARY	EXB28V102JX	B	65.2/19.9
R71	7410001130	S.ARY	EXB28V102JX	B	65.6/17
R72	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	83.7/27.6
R73	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	21.8/30.1
R74	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	21.7/13.3
R75	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	51.1/23.4
R76	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	73/30.1
R77	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	18.1/8.6
C10	4030016930	S.CER	ECJ0EB1A104K	B	81.7/19
C11	4030017030	S.CER	ECJ0EB1A273K	B	82.4/32
C12	4030017400	S.CER	ECJ0EC1H220J	B	83.4/21.8
C13	4030017640	S.CER	ECJ0EC1H150J	B	83.4/19.9
C14	4030017510	S.CER	ECJ0EC1H680J	B	83.4/18.1
C15	4030017730	S.CER	ECJ0EB1E471K	B	81/13.4
C16	4030016790	S.CER	ECJ0EB1C103K	B	82.7/23.6
C17	4030016930	S.CER	ECJ0EB1A104K	B	81.1/23.3
C18	4030017420	S.CER	ECJ0EC1H470J	B	100.7/8.8
C28	4030017460	S.CER	ECJ0EB1E102K	B	60/26
C30	4030016930	S.CER	ECJ0EB1A104K	B	79.9/8.1
C31	4030017460	S.CER	ECJ0EB1E102K	B	90/5.9
C33	4030017460	S.CER	ECJ0EB1E102K	B	11.1/21.1
C35	4030017420	S.CER	ECJ0EC1H470J	B	91.5/4.7
C36	4030017460	S.CER	ECJ0EB1E102K	B	23.8/30.1
C37	4030017420	S.CER	ECJ0EC1H470J	B	7.8/9.4
C38	4030017420	S.CER	ECJ0EC1H470J	B	88.7/11.2
C39	4030017460	S.CER	ECJ0EB1E102K	B	96.1/10.7
C41	4030017420	S.CER	ECJ0EC1H470J	B	94.2/11.5
C42	4030017420	S.CER	ECJ0EC1H470J	B	13.2/25.2
C43	4030017460	S.CER	ECJ0EB1E102K	B	23.9/15
C44	4030017420	S.CER	ECJ0EC1H470J	B	90.5/11.2
C45	4030018860	S.CER	ECJ0EB0J105K	B	14.5/9.7
C46	4030017420	S.CER	ECJ0EC1H470J	B	92/12.8
C47	4030017420	S.CER	ECJ0EC1H470J	B	17.6/15.2
C48	4030017460	S.CER	ECJ0EB1E102K	B	29.1/15.3
C49	4030016790	S.CER	ECJ0EB1C103K	B	25/17.7
C50	4550006540	S.TAN	ECST1CY475R	B	24.8/20.8
C51	4030017460	S.CER	ECJ0EB1E102K	B	11.7/18.8
C52	4030017420	S.CER	ECJ0EC1H470J	B	24.2/12
C53	4030004760	S.CER	C2012 JF 1H 104Z-T	B	83.2/5.9
C54	4510006120	S.ELE	ECEV1ES4R7SR	B	75.3/6.6
C55	4030004760	S.CER	C2012 JF 1H 104Z-T	B	85.1/5.9
C56	4030006900	S.CER	C1608 JB 1H 103K-T	B	78/7.7
C57	4550006050	S.TAN	TEESVA 0J 106M8L	B	82.2/10.3
C58	4030017730	S.CER	ECJ0EB1E471K	B	101.9/14
C59	4030017730	S.CER	ECJ0EB1E471K	B	100.1/14
C60	4030016930	S.CER	ECJ0EB1A104K	B	80.8/27.6
C61	4030016930	S.CER	ECJ0EB1A104K	B	52.8/34.1
C62	4030016930	S.CER	ECJ0EB1A104K	B	51.2/33.7
C63	4030016930	S.CER	ECJ0EB1A104K	B	51.2/32.8
C64	4030016930	S.CER	ECJ0EB1A104K	B	51.1/31.6
C65	4030016930	S.CER	ECJ0EB1A104K	B	52/31.6
C66	4030017490	S.CER	C1608 JB 1A 105K-T	B	51.6/26.3
C67	4030017490	S.CER	C1608 JB 1A 105K-T	B	51.6/24.8

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

[FRONT-A UNIT] (for IC-F1700 series)

REF NO.	ORDER NO.	DESCRIPTION		M.	H/V LOCATION
C68	4030017460	S.CER	ECJ0EB1E102K	B	50.7/21.7
C69	4030017460	S.CER	ECJ0EB1E102K	B	87.9/5.9
C70	4030017760	S.CER	ECJ0EB1H222K	B	26.5/12.9
C71	4030017460	S.CER	ECJ0EB1E102K	B	22.2/9.5
C72	4510004630	S.ELE	ECEV1CA100SR	B	20.3/5.7
C73	4550006050	S.TAN	TEESVA 0J 106M8L	B	29.7/6.2
C74	4030016930	S.CER	ECJ0EB1A104K	B	26.5/9.3
C75	4030016930	S.CER	ECJ0EB1A104K	B	28.2/8.3
C76	4030018860	S.CER	ECJ0EB0J105K	B	24.7/11.1
C77	4030017420	S.CER	ECJ0EC1H470J	B	82.2/35.1
C78	4030017420	S.CER	ECJ0EC1H470J	B	81/32.4
C79	4030016930	S.CER	ECJ0EB1A104K	B	28.2/11.1
J1	6510024520	S.CNR	12FLT-SM1-TB	B	91.2/8.5
J2	6450002210	CNR	3017-8821 <KIN>		
J4	6510022020	S.CNR	14FLT-SM1-TB	B	56.6/24.8
DS1	5030002810	LCD	L4-0013TVY-1		
DS5	5040002310	S.LED	SML-311YTT86	T	49.9/6.5
DS6	5040002310	S.LED	SML-311YTT86	T	35.4/6.5
DS7	5040002310	S.LED	SML-311YTT86	T	20.9/6.5
DS8	5040002310	S.LED	SML-311YTT86	T	93.4/6.5
DS9	5040002310	S.LED	SML-311YTT86	T	78.9/6.5
DS11	5040002310	S.LED	SML-311YTT86	T	82.1/27
DS12	5040002310	S.LED	SML-311YTT86	T	72.1/27
DS13	5040002310	S.LED	SML-311YTT86	T	62.1/27
DS14	5040002310	S.LED	SML-311YTT86	T	52.1/27
DS15	5040002310	S.LED	SML-311YTT86	T	42.1/27
DS16	5040002310	S.LED	SML-311YTT86	T	32.1/27
DS17	5040002930	S.LED	SML-512MW T86	T	105.6/14
DS18	5040002990	S.LED	SML-512UWT86	T	97.6/14
DS26	5040002310	S.LED	SML-311YTT86	T	64.4/6.5
S9	2250000510	ECR	RH70N1037E20-13.5F-2781		
SP1	2510001290	SP	C062SB504-11		
W1	8900013690	CBL	OPC-1425 (N=12, L=92)		
W2	8900013700	CBL	OPC-1426		
EP1	8930065150	LCT	SRCN-2781-SP-N-W		

[FRONT-B UNIT] (for IC-F1800 series)

REF NO.	ORDER NO.	DESCRIPTION		M.	H/V LOCATION
IC2	1110005770	S.IC	S-80942CNMC-G9C-T2	B	84.7/29.2
IC3	1140010770	S.IC	HD64F3687FP	B	76.3/20.8
IC4	1130005720	S.IC	TC7W04F (TE12L)	B	65.8/28.1
IC5	1130008560	S.IC	TC75S51F (TE85L)	B	29.1/15.1
IC6	1110005350	S.IC	NJM2870F05-TE1	B	83.1/5.3
IC7	1130009120	S.IC	SED1526F0A	B	43.3/20.5
IC8	1130005640	S.IC	TC4W53F (TE12L)	B	9.4/5.5
IC9	1110005310	S.IC	AN6123MS	B	31.1/5.6
Q1	1590001330	S.TR	DTA114EUA T106	B	62/32.7
Q2	1590000680	S.TR	DTC114EUA T106	B	66.6/23.6
Q3	1530002850	S.TR	2SC4116-BL (TE85R)	B	70.4/8.3
Q4	1590001050	S.TR	DTC114TUA T106	B	73.3/8.3
Q5	1590001050	S.TR	DTC114TUA T106	B	72.8/10.8
Q6	1590001050	S.TR	DTC114TUA T106	B	103/11.5
Q7	1590001050	S.TR	DTC114TUA T106	B	105.6/11.5
D1	1790000620	S.DIO	MA77 (TX)	B	84.9/14.7
D4	1790001250	S.DIO	MA2S111-(TX)	B	62.4/29.9
D5	1790000950	S.ZEN	MA8056-M (TX)	B	13.8/27
D6	1790000950	S.ZEN	MA8056-M (TX)	B	12.1/27
D7	1790000950	S.ZEN	MA8056-M (TX)	B	19.9/15.3
D8	1750000550	S.DIO	1SS355 TE-17	B	89.4/12
D9	1750000130	S.DIO	DA204U T106	B	61.8/10.4
D10	1750000130	S.DIO	DA204U T106	B	59.2/10.4
D11	1750000130	S.DIO	DA204U T106	B	56.7/10.5
D12	1790001250	S.DIO	MA2S111-(TX)	B	72.3/28.9

[FRONT-B UNIT] (for IC-F1800 series)

REF NO.	ORDER NO.	DESCRIPTION		M.	H/V LOCATION
X1	6050009520	S.XTL	CR-520 (19.6608 MHz)	B	89.3/19.9
L1	6200003640	S.COL	MLF1608E 100K-T	B	10.7/8.9
R4	7030008010	S.RES	ERJ2GEJ 123 X (12 kΩ)	B	86.3/12.8
R5	7030008010	S.RES	ERJ2GEJ 123 X (12 kΩ)	B	85.6/16.1
R6	7030005160	S.RES	ERJ2GEJ 105 X (1 MΩ)	B	85.1/20.2
R7	7030008010	S.RES	ERJ2GEJ 123 X (12 kΩ)	B	83.8/16.4
R8	7030005530	S.RES	ERJ2GEJ 100 X (10 Ω)	B	83.8/20.2
R9	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	54.6/19.5
R12	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	62.2/27.9
R14	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	65/31.4
R15	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	62.5/26.6
R16	7030007300	S.RES	ERJ2GEJ 332 X (3.3 kΩ)	B	61.3/30.2
R18	7030005220	S.RES	ERJ2GEJ 223 X (22 kΩ)	B	63.4/23.5
R19	7030009160	S.RES	ERJ2GEJ 181 X (180 Ω)	B	70/10.7
R20	7030005240	S.RES	ERJ2GEJ 473 X (47 kΩ)	B	21.6/16.3
R21	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	21/27.7
R22	7030009140	S.RES	ERJ2GEJ 272 X (2.7 kΩ)	B	71/11.7
R24	7030005050	S.RES	ERJ2GEJ 103 X (10 kΩ)	B	30.8/17.3
R25	7030007290	S.RES	ERJ2GEJ 222 X (2.2 kΩ)	B	28.4/11.1
R26	7030007290	S.RES	ERJ2GEJ 222 X (2.2 kΩ)	B	27/15
R28	7030005220	S.RES	ERJ2GEJ 223 X (22 kΩ)	B	28.4/12
R29	7030005050	S.RES	ERJ2GEJ 103 X (10 kΩ)	B	28.5/17.3
R30	7030005120	S.RES	ERJ2GEJ 102 X (1 kΩ)	B	17.6/15.9
R31	7030005120	S.RES	ERJ2GEJ 102 X (1 kΩ)	B	10.7/20.1
R32	7030005120	S.RES	ERJ2GEJ 102 X (1 kΩ)	B	12/20.6
R33	7030007280	S.RES	ERJ2GEJ 331 X (330 Ω)		
R34	7030004980	S.RES	ERJ2GEJ 101 X (100 Ω)	B	131.6/30.4
R35	7210003050	VAR	EVU-F2KFK3 B14 (10KB)		
R36	7030004980	S.RES	ERJ2GEJ 101 X (100 Ω)	B	99.2/29.1
R37	7030004980	S.RES	ERJ2GEJ 101 X (100 Ω)	B	99.2/27.8
R38	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	89.6/10.6
R39	7030005240	S.RES	ERJ2GEJ 473 X (47 kΩ)	B	91.3/13.3
R40	7030005120	S.RES	ERJ2GEJ 102 X (1 kΩ)	B	56.2/8.5
R41	7030005120	S.RES	ERJ2GEJ 102 X (1 kΩ)	B	58.7/8.5
R42	7030005120	S.RES	ERJ2GEJ 102 X (1 kΩ)	B	61.3/8.5
R43	7030005120	S.RES	ERJ2GEJ 102 X (1 kΩ)	B	99.5/15
R44	7030005010	S.RES	ERJ2GEJ 681 X (680 Ω)	B	107.6/11.9
R48	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	77.6/28.8
R49	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	78.5/29
R50	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	79.4/29.3
R51	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	80.3/29.6
R52	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	81.2/29.3
R55	7510001470	S.TMR	NTCG20 4AG 473JT	B	85/24.7
R56	7030005120	S.RES	ERJ2GEJ 102 X (1 kΩ)	B	83.6/26.1
R57	7030003810	S.RES	ERJ3GEYJ 125 V (1.2 MΩ)	B	61.8/24.4
R58	7030003810	S.RES	ERJ3GEYJ 125 V (1.2 MΩ)	B	59.6/27.3
R59	7310002820	S.TRI	RV-158 (RH03A3AS5) 474	B	58.6/24.8
R60	7030005240	S.RES	ERJ2GEJ 473 X (47 kΩ)	B	8.1/9.2
R61	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	5.9/3.6
R62	7030004980	S.RES	ERJ2GEJ 101 X (100 Ω)	B	27.1/8
R63	7030005160	S.RES	ERJ2GEJ 105 X (1 MΩ)	B	35.1/6
R64	7030005220	S.RES	ERJ2GEJ 223 X (22 kΩ)	B	29.7/12.4
R65	7030007290	S.RES	ERJ2GEJ 222 X (2.2 kΩ)	B	33.1/10.5
R66	7030009290	S.RES	ERJ2GEJ 562 X (5.6 kΩ)	B	34.7/10.5
R67	7030009280	S.RES	ERJ2GE 391 X	B	28.4/10.2
R68	7030007300	S.RES	ERJ2GEJ 332 X (3.3 kΩ)	B	29.7/9.2
R70	7410001130	S.ARY	EXB28V102JX	B	66.5/17.7
R71	7410001130	S.ARY	EXB28V102JX	B	55.1/16.7
R72	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	86.5/27
R73	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	21/26.7
R74	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	12.4/9.2
R75	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	53.8/22.8
R76	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	75.8/29.5
R77	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	5.9/5.2
R80	7030004980	S.RES	ERJ2GEJ 101 X (100 Ω)	B	147.9/30.4
R81	7030004980	S.RES	ERJ2GEJ 101 X (100 Ω)	B	67.1/8.4
R82	7030004980	S.RES	ERJ2GEJ 101 X (100 Ω)	B	65.8/8.4
R83	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	99.2/25.2
R84	7030005090	S.RES	ERJ2GEJ 104 X (100 kΩ)	B	99.2/23.9
C10	4030016930	S.CER	ECJ0EB1A104K	B	84.4/18.4
C11	4030017030	S.CER	ECJ0EB1A273K	B	85.2/31.4
C12	4030017400	S.CER	ECJ0EC1H220J	B	86.1/21.2
C13	4030017640	S.CER	ECJ0EC1H150J	B	86.1/19.3
C14	4030017510	S.CER	ECJ0EC1H680J	B	86.1/17.5
C15	4030017730	S.CER	ECJ0EB1E471K	B	83.7/12.8
C16	4030016790	S.CER	ECJ0EB1C103K	B	85.4/23
C17	4030016930	S.CER	ECJ0EB1A104K	B	83.8/22.8
C18	4030017420	S.CER	ECJ0EC1H470J	B	103.4/8.2
C28	4030017460	S.CER	ECJ0EB1E102K	B	63.4/24.6
C30	4030016930	S.CER	ECJ0EB1A104K	B	82.6/7.5
C31	4030017460	S.CER	ECJ0EB1E102K	B	92.7/4.5

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

[FRONT-B UNIT] (for IC-F1800 series)

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
C33	4030017460	S.CER ECJ0EB1E102K	B	4.1/16.4
C35	4030017420	S.CER ECJ0EC1H470J	B	94.7/4.5
C36	4030017460	S.CER ECJ0EB1E102K	B	21/25.7
C37	4030017420	S.CER ECJ0EC1H470J	B	7.2/9.2
C38	4030017420	S.CER ECJ0EC1H470J	B	91.4/10.6
C39	4030017460	S.CER ECJ0EB1E102K	B	98.8/10.1
C41	4030017420	S.CER ECJ0EC1H470J	B	96.9/10.9
C42	4030017420	S.CER ECJ0EC1H470J	B	20.6/28.9
C43	4030017460	S.CER ECJ0EB1E102K	B	25.8/13.8
C44	4030017420	S.CER ECJ0EC1H470J	B	93.2/10.6
C45	4030018860	S.CER ECJ0EB0J105K	B	9/9.2
C46	4030017420	S.CER ECJ0EC1H470J	B	94.7/12.2
C47	4030017420	S.CER ECJ0EC1H470J	B	18.1/14.7
C48	4030017460	S.CER ECJ0EB1E102K	B	31.3/15.2
C49	4030016790	S.CER ECJ0EB1C103K	B	27/16.8
C50	4550006540	S.TAN ECST1CY475R	B	27.5/20.2
C51	4030017460	S.CER ECJ0EB1E102K	B	12/19.7
C52	4030017420	S.CER ECJ0EC1H470J	B	25.8/12.8
C53	4030004760	S.CER C2012 JF 1H 104Z-T	B	85.9/5.3
C54	4510006120	S.ELE ECEV1ES4R7SR	B	78.1/6
C55	4030004760	S.CER C2012 JF 1H 104Z-T	B	87.8/5.3
C56	4030006900	S.CER C1608 JB 1H 103K-T	B	80.7/7.1
C57	4550006050	S.TAN TEESVA 0J 106M8L	B	84.9/9.7
C58	4030017730	S.CER ECJ0EB1E471K	B	104.6/13.4
C59	4030017730	S.CER ECJ0EB1E471K	B	102.8/13.4
C60	4030016930	S.CER ECJ0EB1A104K	B	83.6/27
C61	4030016930	S.CER ECJ0EB1A104K	B	59.5/32.2
C62	4030016930	S.CER ECJ0EB1A104K	B	59.9/31.2
C63	4030016930	S.CER ECJ0EB1A104K	B	59.4/30.2
C64	4030016930	S.CER ECJ0EB1A104K	B	59.9/29.3
C65	4030016930	S.CER ECJ0EB1A104K	B	60.4/28.4
C66	4030017490	S.CER C1608 JB 1A 105K-T	B	54.3/25.7
C67	4030017490	S.CER C1608 JB 1A 105K-T	B	54.3/24.2
C68	4030017460	S.CER ECJ0EB1E102K	B	53.4/21.1
C69	4030017460	S.CER ECJ0EB1E102K	B	90.7/5.3
C70	4030017760	S.CER ECJ0EB1H222K	B	28.4/12.9
C71	4030017460	S.CER ECJ0EB1E102K	B	25.4/8
C72	4510004630	S.ELE ECEV1CA100SR	B	25.9/5.1
C73	4550006050	S.TAN TEESVA 0J 106M8L	B	35.5/4.5
C74	4030016930	S.CER ECJ0EB1A104K	B	29.7/10.8
C75	4030016930	S.CER ECJ0EB1A104K	B	34/8.1
C76	4030018860	S.CER ECJ0EB0J105K	B	25.4/9.4
C79	4030016930	S.CER ECJ0EB1A104K	B	31.5/10.5
J1	6510024520	S.CNR 12FLT-SM1-TB	B	93.9/7.9
J2	6450002210	CNR 3017-8821 <KIN>		
J4	6510022020	S.CNR 14FLT-SM1-TB		
DS1	5030002810	LCD L4-0013TVY-1		
DS2	5040002310	S.LED SML-311YTT86		
DS3	5040002310	S.LED SML-311YTT86		
DS7	5040002310	S.LED SML-311YTT86		
DS8	5040002310	S.LED SML-311YTT86	T	131.6/30.4
DS9	5040002310	S.LED SML-311YTT86	T	131.6/20.4
DS10	5040002310	S.LED SML-311YTT86	T	131.6/10.4
DS11	5040002310	S.LED SML-311YTT86	T	84.9/27
DS12	5040002310	S.LED SML-311YTT86	T	74.9/27
DS13	5040002310	S.LED SML-311YTT86	T	64.9/27
DS14	5040002310	S.LED SML-311YTT86	T	54.9/27
DS15	5040002310	S.LED SML-311YTT86	T	44.9/27
DS16	5040002310	S.LED SML-311YTT86	T	34.9/27
DS17	5040002930	S.LED SML-512MW T86	T	108.3/14
DS18	5040002990	S.LED SML-512UWT86	T	100.3/14
DS19	5040002310	S.LED SML-311YTT86	T	147.9/30.4
DS20	5040002310	S.LED SML-311YTT86	T	147.9/20.4
DS21	5040002310	S.LED SML-311YTT86	T	147.9/10.4
DS22	5040002310	S.LED SML-311YTT86	T	67.1/8.5
DS23	5040002310	S.LED SML-311YTT86	T	81.6/8.5
DS24	5040002310	S.LED SML-311YTT86	T	52.6/8.5
DS25	5040002310	S.LED SML-311YTT86	T	38.1/8.5
DS26	5040002310	S.LED SML-311YTT86		
W1	8900013690	CBL OPC-1425 (N=12, L=92)		
EP1	8930065150	LCT SRCN-2781-SP-N-W		

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
IC1	1110005340	S.IC NJM12902V-TE1	B	75.1/36.2
IC2	1110006220	S.IC AK2346-E2	T	48.4/27.8
IC4	1130010100	S.IC LMX2352TMX	T	75.6/56.2
IC6	1130009700	S.IC LC73872M-TRM	T	11.4/28.7
IC8	1190001350	S.IC M62364FP 600D	T	70.6/27.9
IC9	1110005340	S.IC NJM12902V-TE1	T	113/51.5
IC12	1110003490	S.IC TA31136FN (D,EL)	T	25/28.7
IC13	1110005290	S.IC NJM2115V-TE1		
		[F1721D], [F1821D] only	T	88/16.5
IC15	1110006230	S.IC NJM2711F-TE1		
		[F1721D], [F1821D] only	B	86/19.1
IC16	1190002080	S.IC AD7476ARTZ-500RL7		
		[F1721D], [F1821D] only	B	96.7/19.3
IC17	1130008810	S.IC TC7SH32FU (TE85L)		
		[F1721D], [F1821D] only	B	122/19.2
IC18	1130011610	S.IC AK4550VT-E2		
		[F1721D], [F1821D] only	T	97/18.5
IC19	1110006230	S.IC NJM2711F-TE1		
		[F1721D], [F1821D] only	B	92.7/35.2
IC20	1140011880	S.IC HD64F2239TE16		
		[F1721D], [F1821D] only	T	111/30.5
IC21	1130011620	S.IC TC7MET374AFK (EC)		
		[F1721D], [F1821D] only	B	122/14
IC22	1130003830	S.IC TC7S04F (TE85R)		
		[F1721D], [F1821D] only	T	120/21.3
IC23	1140010190	S.IC HD64F2268TF	B	100.3/60.1
IC24	1110005730	S.IC S-80928CNMC-G8Y-T2		
		[F1721D], [F1821D] only	T	116/17.5
IC25	1130011600	S.IC TC7MET541AFK (EC)		
		[F1721D], [F1821D] only	B	122/8
IC26	1140009240	S.IC HN58X24128FPI	B	80.7/69.7
IC28	1130010390	S.IC HN58X2416TI		
		[F1721D], [F1821D] only	T	93.5/27
IC29	1150002110	IC S-AV33 (I) [F1710], [F1810]		
	1150002160	IC S-AV32 (I2)		
		[F1721/D], [F1821/D]		
IC30	1190001340	S.IC M62334FP 600C	T	25.3/56.7
IC31	1180002590	S.REG XC6204B332MR		
		[F1721D], [F1821D] only	T	110/11.5
IC32	1180002640	S.REG R1114N151B-TR		
		[F1721D], [F1821D] only	T	105.5/11.5
IC33	1180002590	S.REG XC6204B332MR		
		[F1721D], [F1821D] only	B	105.5/13.1
IC34	1110002750	S.IC TA75S01F (TE85R)	B	153.1/35.8
IC35	1120002510	S.IC DS14C232TM	T	109.1/98.4
IC36	1180001250	S.IC TA7808F (TE16L)	B	120.8/76.7
IC37	1110002750	S.IC TA75S01F (TE85R)	T	51.3/84.1
IC38	1110003090	IC LA4425A		
IC39	1110005800	IC TA8225L		
IC40	1180000970	S.IC AN78L05M-(E1)	B	138.3/78.4
IC41	1140011890	S.IC TMS320VC5416PGE120		
		[F1721D], [F1821D] only	B	111/30.5
IC42	1130008230	S.IC BU4053BCFV-E2	T	61.3/10.7
IC43	1130008230	S.IC BU4053BCFV-E2	B	61.3/18.7
IC44	1110002750	S.IC TA75S01F (TE85R)	B	70.3/7.6
IC45	1130007570	S.IC BU4094BCFV-E2	T	129.9/53.2
IC46	1110005770	S.IC S-80942CNMC-G9C-T2	T	98.5/68.5
IC47	1130007020	S.IC TC7S66FU (TE85R)	B	49.1/41.2
Q1	1530002850	S.TR 2SC4116-BL (TE85R)	B	37.5/28.4
Q2	1590001330	S.TR DTA114EUA T106	T	28.2/18.1
Q3	1530002600	S.TR 2SC4215-O (TE85R)		
		[F1721D], [F1821D] only	T	82.9/38.8
Q4	1560000540	S.FET 2SK880-Y (TE85R)	T	72.9/49
Q5	1590000430	S.TR DTC144EUA T106	B	74.2/61.5
Q6	1530002600	S.TR 2SC4215-O (TE85R)	T	25.8/36.3
Q7	1590000430	S.TR DTC144EUA T106	T	121.5/51.7
Q9	1530002850	S.TR 2SC4116-BL (TE85R)	B	69.5/45.3
Q10	1530002600	S.TR 2SC4215-O (TE85R)	B	34.1/44.7
Q11	1530002920	S.TR 2SC4226-T1 R25	T	55/51
Q12	1530002920	S.TR 2SC4226-T1 R25	T	59.5/51
Q13	1560000990	S.FET PMBFJ310	B	34.1/52.7
Q14	1560000990	S.FET PMBFJ310	B	30.9/52.7
Q15	1590000720	S.TR DTA144EUA T106	T	108.9/58.5
Q17	1590001400	S.TR XP1214 (TX)	B	57.1/44.8
Q18	1590000430	S.TR DTC144EUA T106	B	54.6/42
Q19	1530003310	S.TR 2SC5107-O (TE85R)	B	65/56.9
Q20	1530003310	S.TR 2SC5107-O (TE85R)	T	59.3/56
Q21	1530003310	S.TR 2SC5107-O (TE85R)	B	52/64.6
Q22	1530003310	S.TR 2SC5107-O (TE85R)	B	62.9/63.7
Q23	1530000370	S.TR 2SC3356-T1B	B	64.8/91
Q24	1580000730	S.FET 3SK293 (TE85L)	B	25.3/66.2
Q26	1560000840	S.FET 2SK1829 (TE85R)	T	25.3/67.3
Q27	1590000430	S.TR DTC144EUA T106	T	103.8/77.8

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
Q28	1590000430	S.TR DTC144EUA T106	T	128.6/45.7
Q29	1590000990	S.TR DTC363EK T146	B	149.7/91.7
Q30	1510000920	S.TR 2SA1577 T106 Q	T	108.2/80.8
Q31	1520000450	S.TR 2SB1132 T100 Q	T	108.3/74.1
Q32	1590001190	S.TR XP6501-(TX) .AB	T	103.8/74
Q33	1590001450	S.FET 2SJ144-GR (TE85R)	B	147.8/19.5
Q34	1540000550	S.TR 2SD1664 T100Q	B	118.8/82.8
Q35	1590001050	S.TR DTC114TUA T106	T	113.9/78.2
Q36	1530002850	S.TR 2SC4116-BL (TE85R) [F1721/D], [F1821/D] only	T	46.2/80.6
Q38	1590000430	S.TR DTC144EUA T106	B	148/30.4
Q39	1590000430	S.TR DTC144EUA T106	T	146.4/36.8
Q40	1590000430	S.TR DTC144EUA T106	B	142.9/38.4
Q41	1590000430	S.TR DTC144EUA T106	T	125.4/79.9
Q42	1550000020	S.FET 2SJ377 (TE16L)	B	131.5/78.4
Q43	1590000430	S.TR DTC144EUA T106	B	87.8/66.3
Q44	1590000990	S.TR DTC363EK T146	B	146.1/35.8
Q45	1590000430	S.TR DTC144EUA T106	T	26.2/20.5
Q46	1530002850	S.TR 2SC4116-BL (TE85R)	B	72.1/52.1
Q47	1530002850	S.TR 2SC4116-BL (TE85R)	B	69.6/53.4
D2	1160000060	S.DIO DAN202U T106	B	26.9/17.1
D3	1790000620	S.DIO MA77 (TX)	B	72.1/60
D4	1160000060	S.DIO DAN202U T106	B	27.9/24.5
D5	1790000620	S.DIO MA77 (TX)	B	69.3/60
D6	1720000790	S.VCP HVC321B1TRF	T	52.2/52.6
D7	1720000790	S.VCP HVC321B1TRF	T	52.2/55.3
D8	1750000770	S.VCP HVC376BTRF	T	64.7/49.8
D9	1750000770	S.VCP HVC376BTRF	T	63.8/51.6
D10	1790001210	S.DIO 1SS375-TL	T	32.2/33.9
D11	1750000720	S.VCP HVC375BTRF	T	55.1/43.6
D12	1720000470	S.VCP 1SV239 (TPH3)	T	65.5/44.6
D13	1750000720	S.VCP HVC375BTRF	T	58.2/44.5
D14	1160000070	S.DIO DAN202K T146	B	110.8/68.9
D15	1790000620	S.DIO MA77 (TX)	B	115.2/50
D16	1750000430	S.DIO HSB88WSTR	T	42.8/62.5
D17	1750000710	S.VCP HVC350BTRF	B	35.2/65.1
D18	1750000710	S.VCP HVC350BTRF	B	32.1/65.1
D19	1790000620	S.DIO MA77 (TX)	B	60.8/71.5
D20	1790000620	S.DIO MA77 (TX)	B	58/67.5
D21	1750001080	S.DIO RB886G T2R	T	66.5/102.5
D22	1790001250	S.DIO MA2S111-(TX)	T	24.4/64.8
D23	1750000720	S.VCP HVC375BTRF	B	17.6/64.8
D24	1790001250	S.DIO MA2S111-(TX)	T	28.1/66.3
D25	1750000370	S.DIO DA221 TL	T	24.9/62.4
D26	1750000720	S.VCP HVC375BTRF	B	14.5/64.8
D27	1790000620	S.DIO MA77 (TX)	B	13.6/72.4
D28	1790001240	S.DIO MA2S728-(TX)	B	15.5/72.6
D29	1710001060	DIO XB15A407 [F1721/D], [F1821/D] only		
D30	1750000510	S.DIO UM9401F [F1710], [F1810] only	T	32.3/93
D31	1750000510	S.DIO UM9401F	T	36.4/85.1
D34	1790001250	S.DIO MA2S111-(TX)	B	146.7/90.7
D35	1790001210	S.DIO 1SS375-TL	B	31.9/90.6
D36	1160000060	S.DIO DAN202U T106	T	128/42.8
D37	1750000370	S.DIO DA221 TL	T	113.6/80.5
D38	1790001210	S.DIO 1SS375-TL	B	11.3/79.3
D39	1790001250	S.DIO MA2S111-(TX)	B	151.6/19.5
D40	1790001210	S.DIO 1SS375-TL	B	4.4/100.6
D41	1790001240	S.DIO MA2S728-(TX)	T	54.4/81.1
D44	1160000070	S.DIO DAN202K T146	B	89.4/75.9
D46	1790000700	DIO DSA3A1		
D47	1160000070	S.DIO DAN202K T146	B	83.9/76.2
D48	1160000070	S.DIO DAN202K T146	B	95.2/77.7
D49	1790001250	S.DIO MA2S111-(TX)	B	144/35.7
D51	1160000050	S.DIO DAP202U T106	B	139.9/19.3
D52	1160000050	S.DIO DAP202U T106	B	138.5/15.8
D53	1790001250	S.DIO MA2S111-(TX)	T	126.1/42.9
D54	1160000050	S.DIO DAP202U T106	T	134.2/13.8
D55	1160000050	S.DIO DAP202U T106	B	140.8/10.9
D57	1750000130	S.DIO DA204U T106	T	113.1/103.8
D58	1750000130	S.DIO DA204U T106	T	110.6/103.8
D59	1750000130	S.DIO DA204U T106	T	105.6/103.8
D60	1750000130	S.DIO DA204U T106	T	108.1/103.8
D61	1790001250	S.DIO MA2S111-(TX) [F1721D], [F1821D] only	T	124.6/40.6
D62	1790001250	S.DIO MA2S111-(TX) [F1721D], [F1821D] only	T	119.7/36.5
D64	1160000050	S.DIO DAP202U T106	B	143.8/10.9
D65	1790001250	S.DIO MA2S111-(TX)	B	138/20.5
D66	1750000130	S.DIO DA204U T106	B	129.5/102.9
D67	1750000130	S.DIO DA204U T106	T	102.5/103.8
D68	1750001080	S.DIO RB886G T2R	T	67.6/102.5

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
FI1	2020001270	CER CFWLB450KE2A-B0		
FI2	2020001410	CER CFWLB450KGFA-B0		
FI3	2020001780	S.CER CFWCA450KEFA-R0 [F1721D], [F1821D] only	T	83.7/28.5
FI4	2030000410	S.MLH FL-380 MFT46.3P 46.350MHz	T	32.6/41.1
FI5	2040001440	S.LC NFE31PT152Z1E9L	B	85.2/103.6
FI6	2040001440	S.LC NFE31PT152Z1E9L	B	85.2/100.3
FI7	2040001440	S.LC NFE31PT152Z1E9L	B	85.2/97
X1	6050011730	S.XTL CR-765 (3.6864 MHz)	B	47.4/18.6
X2	6050012050	S.XTL CR-794 (15.3 MHz)	B	79.9/44.4
X3	6050009910	S.XTL CR-563 (3.579545 MHz)	B	10.7/26.1
X4	6070000190	S.DCR CDBCB450KCAY24-R0	T	17.9/36.7
X5	6050009520	S.XTL CR-520 (19.6608 MHz)	B	121.8/56.3
X6	6050012130	S.XTL CR-802 (12.288 MHz) [F1721D], [F1821D] only	B	90.4/27.3
L1	6200004660	S.COL MLF1608A 1R8K-T	T	76.4/63.3
L2	6200003540	S.COL MLF1608D R22K-T	B	35.4/27.6
L3	6200004480	S.COL MLF1608D R82K-T	B	30.1/27.6
L4	6200005690	S.COL ELJRE 18NG-F	B	75/57.8
L6	6200007170	S.COL MLF1608A 3R3K-T	T	50.9/55.3
L7	6200008400	S.COL 0.35-1.6-6TL 36N	T	54.7/56.1
L8	6200003640	S.COL MLF1608E 100K-T	T	50.9/52.7
L9	6200002610	S.COL NL 252018T-R47J	T	66/52.7
L10	6200009460	S.COL 0.25-1.9-7TL 67N	T	62.9/54.4
L11	6200003640	S.COL MLF1608E 100K-T	T	66.6/47.3
L12	6200009460	S.COL 0.25-1.9-7TL 67N	T	51.9/47.4
L13	6200007170	S.COL MLF1608A 3R3K-T	T	52.6/44.5
L14	6200008190	S.COL 0.25-1.9-8TL 80N	T	63/46.9
L15	6200007170	S.COL MLF1608A 3R3K-T	T	61/44.1
L16	6200003960	S.COL MLF1608A 1R0K-T [F1721D], [F1821D] only	T	101.2/17.4
L17	6200003550	S.COL MLF1608A 4R7K-T	B	28.4/47.9
L18	6200001620	S.COL ELJFC 1R0K-F	B	30.7/49.6
L19	6200003640	S.COL MLF1608E 100K-T	B	26.8/52.7
L20	6200003960	S.COL MLF1608A 1R0K-T [F1721D], [F1821D] only	B	95.7/24.7
L21	6200005690	S.COL ELJRE 18NG-F	B	67.2/57.6
L22	6130002960	S.COL 617DB-1327=P3	T	42.8/56.1
L23	6130002960	S.COL 617DB-1327=P3	T	42.8/67.9
L24	6200010390	S.COL ELJRE 33NJ-F	B	48.7/60.3
L25	6200009160	S.COL ELJRE 68NJ-F3	T	60.9/58.4
L26	6200010390	S.COL ELJRE 33NJ-F	B	48.7/62.9
L27	6200009150	S.COL ELJRE 82NJ-F3	B	51.8/62.7
L28	6200007750	S.COL LQW2BHN56NJ01L	B	37.9/65.2
L29	6200009150	S.COL ELJRE 82NJ-F3	B	61.9/65.9
L30	6200009150	S.COL ELJRE 82NJ-F3	B	67.1/92.4
L31	6200007750	S.COL LQW2BHN56NJ01L	B	27.7/65.9
L32	6200008090	S.COL LQW2BHN68NJ01L	B	20.2/64.6
L33	6200005740	S.COL ELJRE 47NG-F	B	71.7/93
L34	6200005740	S.COL ELJRE 47NG-F	T	74.2/96.6
L35	6200010050	S.COL AS080547-47N	T	35.6/101
L36	6200008090	S.COL LQW2BHN68NJ01L	B	11.8/64.6
L37	6200007750	S.COL LQW2BHN56NJ01L	B	10.9/70.2
L38	6200010420	S.COL FHW1210HC 1R0JGT	B	37.4/95.9
L39	6200006990	S.COL ELJRE 56NG-F	B	18.9/73.4
L40	6200010050	S.COL AS080547-47N	T	31.6/85.4
L41	6200002860	S.COL NL 252018T-4R7J	T	104/62
L42	6200010050	S.COL AS080547-47N	T	23.3/85.9
L43	6200010050	S.COL AS080547-47N	T	14.3/85.5
L44	6200010050	S.COL AS080547-47N	T	8.4/103
L45	6200003960	S.COL MLF1608A 1R0K-T [F1721D], [F1821D] only	T	115.2/20.6
L46	6200005700	S.COL ELJRE 22NG-F	B	77.9/58.3
L47	6200005700	S.COL ELJRE 22NG-F	B	78.6/56.5
R1	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	75.2/32.5
R2	7030005700	S.RES ERJ2GEJ 274 X (270 kΩ)	B	82.5/36.9
R3	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	73.5/22.2
R4	7030005070	S.RES ERJ2GEJ 683 X (68 kΩ)	B	67.7/17.7
R5	7030005000	S.RES ERJ2GEJ 471 X (470 Ω)	B	81.8/33.8
R6	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	B	48.5/28
R7	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	T	47.3/38
R8	7030005110	S.RES ERJ2GEJ 224 X (220 kΩ)	T	148.2/7.3
R9	7030008290	S.RES ERJ2GEJ 183 X (18 kΩ)	T	47.3/36.2
R10	7030008290	S.RES ERJ2GEJ 183 X (18 kΩ)	T	49.4/33.2
R11	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	T	51.2/22.7
R12	7030007300	S.RES ERJ2GEJ 332 X (3.3 kΩ)	T	52.5/16
R13	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	134.2/22.1
R14	7030005160	S.RES ERJ2GEJ 105 X (1 MΩ)	T	145.5/16.1
R15	7030005160	S.RES ERJ2GEJ 105 X (1 MΩ)	T	144.6/16.1

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
R16	7030005160	S.RES ERJ2GEJ 105 X (1 MΩ)	T	143.7/16.1
R17	7030005160	S.RES ERJ2GEJ 105 X (1 MΩ)	T	142.6/17.8
R18	7030005160	S.RES ERJ2GEJ 105 X (1 MΩ)	T	142.1/12.9
R19	7030005160	S.RES ERJ2GEJ 105 X (1 MΩ)	T	137.6/18.8
R20	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	141.2/13.1
R21	7030005160	S.RES ERJ2GEJ 105 X (1 MΩ)	B	81.5/37.9
R22	7030005230	S.RES ERJ2GEJ 334 X (330 kΩ)	B	79.5/37.9
R23	7410001130	S.ARY EXB28V102JX	T	78.3/64.5
R24	7030005170	S.RES ERJ2GEJ 474 X (470 kΩ)	B	79.5/34.3
R25	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	81.8/34.8
R26	7030005170	S.RES ERJ2GEJ 474 X (470 kΩ)	B	49.8/32.7
R27	7030007340	S.RES ERJ2GEJ 153 X (15 kΩ)	B	50.8/32.7
R28	7030007340	S.RES ERJ2GEJ 153 X (15 kΩ)	B	52.1/33.2
R29	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	58.4/28.7
R30	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	T	67.1/10.4
R31	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	59.9/30.2
R32	7030008290	S.RES ERJ2GEJ 183 X (18 kΩ)	T	67.1/14.3
R33	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	143.7/13.3
R34	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	144.6/13.3
R35	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	145.5/13.3
R36	7410001130	S.ARY EXB28V102JX	T	72.9/17.5
R37	7030007570	S.RES ERJ2GEJ 122 X (1.2 kΩ)	B	37/25.6
R38	7030007060	S.RES ERJ2GEJ 684X (680 kΩ)	B	37.9/30.1
R39	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	B	67.4/35.5
R40	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	B	69.2/35.5
R41	7030005160	S.RES ERJ2GEJ 105 X (1 MΩ)	T	49.2/22.7
R42	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	T	54.4/25.4
R43	7030005080	S.RES ERJ2GEJ 823 X (82 kΩ)	T	54.4/26.4
R44	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	T	50.2/20.7
R45	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	T	51.2/21.7
R46	7030005160	S.RES ERJ2GEJ 105 X (1 MΩ)	B	6.9/26.1
R47	7030005530	S.RES ERJ2GEJ 100 X (10 Ω)	B	5.9/26.1
R48	7030005000	S.RES ERJ2GEJ 471 X (470 Ω)	T	77.9/49.4
R49	7030005580	S.RES ERJ2GEJ 560 X (56 Ω)	B	76.7/55.7
R50	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	26.5/14.3
R52	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	B	65.6/35.5
R53	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	75/35.3
R54	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	58.3/25.9
R55	7030005310	S.RES ERJ2GEJ 124 X (120 kΩ)	T	67.8/37.4
R56	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	110.8/45.4
R57	7510001730	S.TMR ERTJOEP 473J	T	87.2/47.8
R58	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	87.2/49.6
R59	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	B	29/17
R60	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	66.5/38
R62	7030005310	S.RES ERJ2GEJ 124 X (120 kΩ)	T	71.2/38.1
R67	7030004980	S.RES ERJ2GEJ 101 X (100 Ω) [F1721D], [F1821D] only	T	84.8/38.3
R68	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ) [F1721D], [F1821D] only	T	80.5/39.5
R69	7030007300	S.RES ERJ2GEJ 332 X (3.3 kΩ) [F1721D], [F1821D] only	T	80.5/38.2
R77	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	T	75.7/49.1
R78	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	72.3/46.7
R79	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	71/49.5
R80	7030008280	S.RES ERJ2GEJ 271 X (270 Ω)	B	67.3/54.3
R81	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	73.5/59.4
R82	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	70.7/59.4
R83	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	66.8/52.8
R84	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	70.6/61.6
R85	7030004970	S.RES ERJ2GEJ 470 X (47 Ω)	T	24.9/23.7
R86	7030005030	S.RES ERJ2GEJ 152 X (1.5 kΩ)	B	24/26.1
R87	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	26.3/21.4
R88	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	B	28.9/21.3
R89	7030009320	S.RES ERJ2GEJ 4R7 X (4.7 Ω)	B	29.9/23.1
R90	7030005000	S.RES ERJ2GEJ 471 X (470 Ω)	T	76.5/24.8
R91	7030007340	S.RES ERJ2GEJ 153 X (15 kΩ)	T	67.7/22.2
R92	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	T	66.8/22.2
R93	7030005600	S.RES ERJ2GEJ 273 X (27 kΩ)	T	112.6/66.2
R94	7030005600	S.RES ERJ2GEJ 273 X (27 kΩ)	B	135.8/5.3
R95	7030006610	S.RES ERJ2GEJ 394 X (390 kΩ)	T	116.7/48.5
R96	7030005030	S.RES ERJ2GEJ 152 X (1.5 kΩ) [F1721D], [F1821D] only	T	81.5/35.1
R97	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	T	72.4/43.9
R98	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	73.4/40.4
R99	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	29.7/24.9
R100	7030006610	S.RES ERJ2GEJ 394 X (390 kΩ)	T	27.1/24.2
R101	7030005290	S.RES ERJ2GEJ 682 X (6.8 kΩ)	T	27.1/22.3
R102	7030005290	S.RES ERJ2GEJ 682 X (6.8 kΩ)	T	33.5/24.2
R103	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	30.7/23.2
R104	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	30.7/24.2
R105	7030005000	S.RES ERJ2GEJ 471 X (470 Ω)	T	28.6/30.7
R106	7030008290	S.RES ERJ2GEJ 183 X (18 kΩ)	T	119.3/53.8
R107	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	T	116.7/53.8
R108	7030005070	S.RES ERJ2GEJ 683 X (68 kΩ)	T	109.7/52.1
R109	7030005070	S.RES ERJ2GEJ 683 X (68 kΩ)	T	109.3/53.5

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
R110	7030009710	S.RES ERJ2GEJ 203 X (20 kΩ) [F1721D], [F1821D] only	T	85.5/13
R111	7030009710	S.RES ERJ2GEJ 203 X (20 kΩ) [F1721D], [F1821D] only	T	87.3/14
R112	7030004980	S.RES ERJ2GEJ 101 X (100 Ω) [F1721D], [F1821D] only	T	83.5/14.8
R113	7030005070	S.RES ERJ2GEJ 683 X (68 kΩ) [F1721D], [F1821D] only	T	83.5/16.5
R114	7030004980	S.RES ERJ2GEJ 101 X (100 Ω) [F1721D], [F1821D] only	T	92.8/15
R115	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ) [F1721D], [F1821D] only	T	103.1/42.8
R116	7030009710	S.RES ERJ2GEJ 203 X (20 kΩ) [F1721D], [F1821D] only	T	89.1/14
R117	7030008400	S.RES ERJ2GEJ 182 X (1.8 kΩ) [F1721D], [F1821D] only	B	84/15.5
R118	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ) [F1721D], [F1821D] only	B	83/15.5
R119	7030005030	S.RES ERJ2GEJ 152 X (1.5 kΩ) [F1721D], [F1821D] only	B	83.2/20.3
R120	7030004980	S.RES ERJ2GEJ 101 X (100 Ω) [F1721D], [F1821D] only	B	86.1/21.3
R121	7030007340	S.RES ERJ2GEJ 153 X (15 kΩ) [F1721D], [F1821D] only	B	88.3/19.2
R122	7030004970	S.RES ERJ2GEJ 470 X (47 Ω) [F1721D], [F1821D] only	B	90.6/20.3
R123	7030009290	S.RES ERJ2GEJ 562 X (5.6 kΩ) [F1721D], [F1821D] only	B	85.5/15
R124	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ) [F1721D], [F1821D] only	B	84/17.3
R125	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	74.2/42.9
R126	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	72.4/42.9
R127	7030007290	S.RES ERJ2GEJ 222 X (2.2 kΩ)	B	71.2/45.7
R128	7030005110	S.RES ERJ2GEJ 224 X (220 kΩ)	B	48.7/43
R129	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	24.3/33.4
R130	7030009140	S.RES ERJ2GEJ 272 X (2.7 kΩ)	T	22.4/38
R131	7030005010	S.RES ERJ2GEJ 681 X (680 Ω)	T	23.9/38.5
R132	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	27.7/36.9
R133	7030008280	S.RES ERJ2GEJ 271 X (270 Ω)	T	30/35.6
R134	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	115.7/55.8
R135	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	117.2/56.1
R136	7030005070	S.RES ERJ2GEJ 683 X (68 kΩ)	T	112.3/56.3
R137	7030005070	S.RES ERJ2GEJ 683 X (68 kΩ)	T	112.3/58.1
R138	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ) [F1721D], [F1821D] only	T	85/18.7
R139	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ) [F1721D], [F1821D] only	T	82.5/17.5
R140	7030009290	S.RES ERJ2GEJ 562 X (5.6 kΩ) [F1721D], [F1821D] only	T	81.5/17.5
R141	7030004980	S.RES ERJ2GEJ 101 X (100 Ω) [F1721D], [F1821D] only	T	99.5/10.6
R142	7030005000	S.RES ERJ2GEJ 471 X (470 Ω) [F1721D], [F1821D] only	T	101.5/11.9
R143	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ) [F1721D], [F1821D] only	B	98.5/40.3
R144	7030007250	S.RES ERJ2GEJ 220 X (22 Ω) [F1721D], [F1821D] only	B	93.2/18.3
R145	7030005210	S.RES ERJ2GEJ 822 X (8.2 kΩ) [F1721D], [F1821D] only	B	94.5/18.9
R146	7030005210	S.RES ERJ2GEJ 822 X (8.2 kΩ) [F1721D], [F1821D] only	B	94.5/20.8
R147	7030011000	S.RES RR0510P-392-D (3.9 kΩ)	T	55.3/46.9
R148	7030011000	S.RES RR0510P-392-D (3.9 kΩ)	T	58.8/46.8
R149	7030005110	S.RES ERJ2GEJ 224 X (220 kΩ)	B	62.2/41.5
R150	7030005310	S.RES ERJ2GEJ 124 X (120 kΩ)	T	64.9/43.2
R151	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	T	26.7/39.5
R154	7030007280	S.RES ERJ2GEJ 331 X (330 Ω)	T	36.6/44.1
R155	7030007290	S.RES ERJ2GEJ 222 X (2.2 kΩ)	B	36.1/44.5
R156	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	116.2/57.1
R157	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	115.3/58.9
R158	7030008300	S.RES ERJ2GEJ 184 X (180 kΩ)	T	116.2/58.9
R159	7030005720	S.RES ERJ2GEJ 563 X (56 kΩ)	T	117.1/58.1
R160	7030005070	S.RES ERJ2GEJ 683 X (68 kΩ)	T	112.3/59.9
R161	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	T	119.4/57.6
R162	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	T	118/58.1
R163	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	T	118.9/58.9
R164	7030004980	S.RES ERJ2GEJ 101 X (100 Ω) [F1721D], [F1821D] only	B	91.1/23.2
R165	7030007300	S.RES ERJ2GEJ 332 X (3.3 kΩ) [F1721D], [F1821D] only	T	80.5/18.5
R166	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ) [F1721D], [F1821D] only	T	81/19.8
R167	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ) [F1721D], [F1821D] only	T	97.8/14.2

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
R168	7030010040	S.RES ERJ2GE-JPW [F1721D], [F1821D] only	T	100.2/15.3
R169	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ) [F1721D], [F1821D] only	T	97/36.9
R170	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ) [F1721D], [F1821D] only	B	100.7/39.7
R171	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ) [F1721D], [F1821D] only	B	97.7/25.8
R172	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ) [F1721D], [F1821D] only	B	115.8/17.4
R173	7030010040	S.RES ERJ2GE-JPW	T	54.3/48.7
R174	7030008340	S.RES RR0510P-182-D (1.8 kΩ)	T	53.2/50.5
R175	7030008340	S.RES RR0510P-182-D (1.8 kΩ)	T	61.2/50.9
R176	7030009280	S.RES ERJ2GE	T	56.3/48.7
R177	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	55/40.2
R178	7030009320	S.RES ERJ2GEJ 4R7 X (4.7 Ω)	T	58.8/48.6
R179	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	T	57.8/48.6
R180	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	31.6/44.7
R181	7030005100	S.RES ERJ2GEJ 154 X (150 kΩ)	B	33.9/46.9
R182	7030005530	S.RES ERJ2GEJ 100 X (10 Ω)	B	29.5/46.6
R184	7030007250	S.RES ERJ2GEJ 220 X (22 Ω)	B	28.5/53.2
R185	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	104.5/59.3
R186	7410000750	S.ARY EXB-V4V 104JV (100 kΩ)	T	105.7/56.2
R187	7030008010	S.RES ERJ2GEJ 123 X (12 kΩ)	B	112.7/51.8
R188	7030005530	S.RES ERJ2GEJ 100 X (10 Ω)	B	108/54
R189	7030008010	S.RES ERJ2GEJ 123 X (12 kΩ)	B	116.7/51.4
R190	7030008010	S.RES ERJ2GEJ 123 X (12 kΩ)	B	119.2/49.4
R191	7030005160	S.RES ERJ2GEJ 105 X (1 MΩ)	B	114.9/53
R192	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ) [F1721D], [F1821D] only	T	115.7/39.4
R193	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	65/59.6
R194	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	56.5/41.5
R195	7030008280	S.RES ERJ2GEJ 271 X (270 Ω)	B	45.5/57.2
R196	7030010090	S.RES ERJ2GEJ 180 X (18 Ω)	B	45.5/58.2
R197	7030008280	S.RES ERJ2GEJ 271 X (270 Ω)	B	46.8/57.7
R198	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	109.9/61.3
R199	7030004970	S.RES ERJ2GEJ 470 X (47 Ω) [F1721D], [F1821D] only	B	93.6/25.5
R201	7030004970	S.RES ERJ2GEJ 470 X (47 Ω) [F1721D], [F1821D] only	B	90/33.8
R202	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ) [F1721D], [F1821D] only	B	90/32.8
R203	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ) [F1721D], [F1821D] only	B	92/32.8
R204	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ) [F1721D], [F1821D] only	T	120.7/24.4
R205	7030004980	S.RES ERJ2GEJ 101 X (100 Ω) [F1721D], [F1821D] only	B	118.2/15.7
R206	7030004980	S.RES ERJ2GEJ 101 X (100 Ω) [F1721D], [F1821D] only	B	117.9/14.2
R207	7030004980	S.RES ERJ2GEJ 101 X (100 Ω) [F1721D], [F1821D] only	B	117.8/11.7
R208	7030005310	S.RES ERJ2GEJ 124 X (120 kΩ)	T	61.1/56.9
R209	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	T	63.1/57.6
R210	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	63/61.2
R211	7030005210	S.RES ERJ2GEJ 822 X (8.2 kΩ)	B	61.1/64.1
R212	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	65/55.1
R213	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	54.5/62
R214	7030004990	S.RES ERJ2GEJ 221 X (220 Ω)	B	54.5/65
R215	7030005210	S.RES ERJ2GEJ 822 X (8.2 kΩ)	B	52.4/66.4
R216	7030005210	S.RES ERJ2GEJ 822 X (8.2 kΩ)	B	64.9/63.6
R217	7030005210	S.RES ERJ2GEJ 822 X (8.2 kΩ)	B	54.5/67
R218	7030005100	S.RES ERJ2GEJ 154 X (150 kΩ)	B	34.7/62.5
R219	7030005110	S.RES ERJ2GEJ 224 X (220 kΩ)	B	32.6/62.5
R220	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	33.1/61.2
R221	7030007290	S.RES ERJ2GEJ 222 X (2.2 kΩ) [F1721D], [F1821D] only	B	95.9/35.2
R222	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ) [F1721D], [F1821D] only	T	121.7/23.9
R223	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ) [F1721D], [F1821D] only	T	119.7/19.2
R224	7030009290	S.RES ERJ2GEJ 562 X (5.6 kΩ) [F1721D], [F1821D] only	B	116.7/11.6
R225	7030009290	S.RES ERJ2GEJ 562 X (5.6 kΩ) [F1721D], [F1821D] only	B	115.4/11.6
R226	7030009290	S.RES ERJ2GEJ 562 X (5.6 kΩ) [F1721D], [F1821D] only	B	113.9/10.1
R227	7030009290	S.RES ERJ2GEJ 562 X (5.6 kΩ) [F1721D], [F1821D] only	B	112.9/10.1
R228	7030009290	S.RES ERJ2GEJ 562 X (5.6 kΩ) [F1721D], [F1821D] only	B	111.9/10.1
R229	7030007300	S.RES ERJ2GEJ 332 X (3.3 kΩ) [F1721D], [F1821D] only	B	118.3/9.5
R230	7030007300	S.RES ERJ2GEJ 332 X (3.3 kΩ) [F1721D], [F1821D] only	B	116.5/8.7

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
R231	7030007300	S.RES ERJ2GEJ 332 X (3.3 kΩ) [F1721D], [F1821D] only	B	118.4/8.2
R232	7030007300	S.RES ERJ2GEJ 332 X (3.3 kΩ) [F1721D], [F1821D] only	B	116.5/7.6
R233	7030007300	S.RES ERJ2GEJ 332 X (3.3 kΩ) [F1721D], [F1821D] only	B	118.3/7
R234	7030004980	S.RES ERJ2GEJ 101 X (100 Ω) [F1721D], [F1821D] only	T	122/6.5
R235	7030004980	S.RES ERJ2GEJ 101 X (100 Ω) [F1721D], [F1821D] only	B	113.2/6.7
R236	7030004980	S.RES ERJ2GEJ 101 X (100 Ω) [F1721D], [F1821D] only	B	116.3/5.2
R237	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	T	61.9/65.9
R238	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	63.3/73.8
R239	7030005590	S.RES ERJ2GEJ 680 X (68 Ω)	B	61.3/73.8
R241	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	68.2/92.7
R242	7030003280	S.RES ERJ3GEYJ 470 V (47 Ω)	B	64.6/96.3
R243	7030004990	S.RES ERJ2GEJ 221 X (220 Ω)	B	60.6/62.8
R244	7030005000	S.RES ERJ2GEJ 471 X (470 Ω)	B	54.5/66
R245	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	58/65.8
R246	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	58/63.2
R247	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	61.3/68.5
R248	7030007340	S.RES ERJ2GEJ 153 X (15 kΩ)	B	62.1/90
R250	7030003310	S.RES ERJ3GEYJ 820 V (82 Ω)	B	61.4/92.7
R251	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	60.3/90
R252	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	29.4/61.8
R253	7030009320	S.RES ERJ2GEJ 4R7 X (4.7 Ω)	B	22.2/62.3
R254	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	22.2/64.1
R255	7030005530	S.RES ERJ2GEJ 100 X (10 Ω)	B	24.1/68.1
R256	7030008290	S.RES ERJ2GEJ 183 X (18 kΩ)	T	23.3/65.3
R257	7030005000	S.RES ERJ2GEJ 471 X (470 Ω)	B	30/65.4
R258	7030008280	S.RES ERJ2GEJ 271 X (270 Ω)	B	24.2/64.1
R259	7030005700	S.RES ERJ2GEJ 274 X (270 kΩ)	B	23.3/66.1
R261	7410000750	S.ARY EXB-V4V 104JV (100 kΩ)	T	101.7/63.7
R262	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	82.5/64.8
R263	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	80.4/65.4
R264	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	99.2/61.7
R268	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ) [F1721D], [F1821D] only	B	126.6/6.1
R269	7030004980	S.RES ERJ2GEJ 101 X (100 Ω) [F1721D], [F1821D] only	B	125.7/9.7
R270	7030004980	S.RES ERJ2GEJ 101 X (100 Ω) [F1721D], [F1821D] only	B	128.3/9.7
R271	7030004980	S.RES ERJ2GEJ 101 X (100 Ω) [F1721D], [F1821D] only	B	128.3/8.7
R272	7030004980	S.RES ERJ2GEJ 101 X (100 Ω) [F1721D], [F1821D] only	B	128.3/7.7
R273	7030004980	S.RES ERJ2GEJ 101 X (100 Ω) [F1721D], [F1821D] only	B	125.7/7.7
R276	7030010040	S.RES ERJ2GE-JPW	T	75.4/99.5
R277	7030005110	S.RES ERJ2GEJ 224 X (220 kΩ)	T	22.4/67.6
R278	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	T	27.7/68
R279	7030005170	S.RES ERJ2GEJ 474 X (470 kΩ)	T	26.7/65.6
R280	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	26.2/64.2
R281	7030007280	S.RES ERJ2GEJ 331 X (330 Ω)	T	64.7/99.7
R282	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	17.1/62.1
R283	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	15/62.1
R284	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	16.6/60.8
R285	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	97.1/70
R286	7410000730	S.ARY EXB-V8V 104JV (100 kΩ)	T	101/52.1
R287	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	91.9/49.2
R288	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	92.1/50.7
R290	7410000830	S.ARY EXB-V4V 103JV (10 kΩ) [F1721D], [F1821D] only	T	98.8/24.6
R291	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ) [F1721D], [F1821D] only	T	98/27.8
R292	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ) [F1721D], [F1821D] only	T	99/28.3
R293	7030005030	S.RES ERJ2GEJ 152 X (1.5 kΩ)	T	64.7/101.9
R294	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	64.7/100.7
R295	7030008410	S.RES ERJ2GEJ 392 X (3.9 kΩ)	T	64.7/102.9
R296	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	29.7/56.6
R297	7030005000	S.RES ERJ2GEJ 471 X (470 Ω)	T	30.2/58.6
R298	7030004010	S.RES ERJ3GEYJ 2R2 V (2.2 Ω) [F1721D], [F1821D] only	B	108.1/13.5
R299	7030006070	S.RES ERJ12YJ101U (100 Ω)	B	43.1/95.9
R300	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	144.6/90.7
R301	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	149.1/17.1
R302	7030005070	S.RES ERJ2GEJ 683 X (68 kΩ)	T	148.2/5.6
R303	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	30.1/90.2
R304	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	T	129.7/43.2
R305	7410000950	S.ARY EXB-V8V 102JV	T	106.9/92.4
R306	7030005070	S.RES ERJ2GEJ 683 X (68 kΩ)	T	148.2/11.1
R307	7030005160	S.RES ERJ2GEJ 105 X (1 MΩ)	B	146.4/17.8
R308	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	T	105.6/77.2

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
R309	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	T	111.9/78.2
R310	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	T	106.1/78.7
R311	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	108.2/78.7
R312	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	T	101.9/73.5
R313	7030003370	S.RES ERJ3GEYJ 271 V (270 Ω)	B	9.3/80.1
R314	7030005600	S.RES ERJ2GEJ 273 X (27 kΩ)	B	14.5/78.7
R315	7030000220	S.RES MCR10EZHJ 47 Ω (470)	B	3.4/83.6
R316	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	T	52.8/86.4
R317	7030005700	S.RES ERJ2GEJ 274 X (270 kΩ)	B	33.7/90.2
R318	7030004990	S.RES ERJ2GEJ 221 X (220 Ω)	T	49.1/86.5
R319	7030008300	S.RES ERJ2GEJ 184 X (180 kΩ) [F1721/D], [F1821/D] only	B	44.2/92.8
R320	7520000240	S.POS PRF18BC471QB1RB [F1721/D], [F1821/D] only	T	37.8/90.1
R321	7030004050	S.RES ERJ3GEYJ 1R0 V (1 Ω)	T	141.4/79.1
R322	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	145.1/84.1
R323	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	B	151.7/89.2
R324	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	B	152.7/93.2
R325	7030007290	S.RES ERJ2GEJ 222 X (2.2 kΩ)	B	151.4/38.9
R326	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	B	152.4/33.6
R327	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	154.4/31.6
R328	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	149.1/68.3
R329	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	154.4/33.6
R332	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	150.4/34.7
R333	7030005160	S.RES ERJ2GEJ 105 X (1 MΩ)	B	149.2/21.2
R334	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	146.4/21.3
R335	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	151.9/18.4
R336	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	154.4/23.9
R337	7030004970	S.RES ERJ2GEJ 470 X (47 Ω)	T	147.2/21.9
R338	7030000480	S.RES MCR10EZHJ 6.8 kΩ	T	120.3/79.1
R339	7030000480	S.RES MCR10EZHJ 6.8 kΩ	T	118.3/79.1
R340	7030000220	S.RES MCR10EZHJ 47 Ω (470)	B	16.4/100.4
R341	7030005600	S.RES ERJ2GEJ 273 X (27 kΩ)	B	2.6/100.8
R342	7030003370	S.RES ERJ3GEYJ 271 V (270 Ω)	B	7.2/100.6
R343	7030005100	S.RES ERJ2GEJ 154 X (150 kΩ)	T	53.5/84.1
R344	7030007340	S.RES ERJ2GEJ 153 X (15 kΩ)	T	50.3/81.1
R345	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	52.3/81.1
R346	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	49.1/81.1
R347	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	48.1/81.1
R348	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)	T	153.4/91
R349	7030005110	S.RES ERJ2GEJ 224 X (220 kΩ)	B	152.4/38
R350	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	152.2/78.3
R351	7030003300	S.RES ERJ3GEYJ 680 V (68 Ω)	T	142.6/71.2
R352	7030007300	S.RES ERJ2GEJ 332 X (3.3 kΩ)	T	142/59.5
R353	7030003300	S.RES ERJ3GEYJ 680 V (68 Ω)	T	151.4/66.7
R354	7030005110	S.RES ERJ2GEJ 224 X (220 kΩ)	B	154.2/38
R355	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	B	152.7/70.4
R359	7030000440	S.RES MCR10EZHJ 3.3 kΩ	T	116.3/79.1
R360	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	131.3/83.7
R361	7030005000	S.RES ERJ2GEJ 471 X (470 Ω)	T	127.1/81.3
R362	7030000620	S.RES MCR10EZHJ 100 kΩ	B	6.3/105.2
R363	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	T	54.4/77.4
R364	7030005210	S.RES ERJ2GEJ 822 X (8.2 kΩ)	T	53.2/81.1
R365	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)	T	150.3/109
R366	7030007300	S.RES ERJ2GEJ 332 X (3.3 kΩ)	T	143.6/71.2
R367	7030000020	S.RES MCR10EZHJ 1 Ω (010)	B	151.5/57.9
R368	7030000020	S.RES MCR10EZHJ 1 Ω (010)	B	151.5/47.4
R370	7410000750	S.ARY EXB-V4V 104JV (100 kΩ)	T	96.9/76.1
R371	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	84.7/74.5
R372	7030005651	S.RES ERA3YKD 304V (300 kΩ)	B	131/70.2
R373	7030005871	S.RES ERA3YKD 104V (100 kΩ)	B	131/67.6
R374	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	93/78.7
R375	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	B	35/46.9
R376	7030005100	S.RES ERJ2GEJ 154 X (150 kΩ)	B	36.1/46.9
R377	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	142.9/36
R378	7540000290	ABSB ERZV10D220		
R383	7030006610	S.RES ERJ2GEJ 394 X (390 kΩ)	T	29.6/28.7
R387	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	101.2/67.8
R391	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	97.4/77.2
R392	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	103.2/54.2
R393	7410000730	S.ARY EXB-V8V 104JV (100 kΩ)	B	94.4/49.2
R394	7030005600	S.RES ERJ2GEJ 273 X (27 kΩ)	B	68/8.1
R395	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	B	70.8/9.8
R396	7030005040	S.RES ERJ2GEJ 472 X (4.7 kΩ)	B	68/6.1
R397	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	65.7/6.6
R398	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	90.1/58.7
R399	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	132.6/58.1
R400	7030007350	S.RES ERJ2GEJ 393 X (39 kΩ)	T	62.6/7.4
R401	7030007340	S.RES ERJ2GEJ 153 X (15 kΩ)	T	61.3/6.9
R402	7030004980	S.RES ERJ2GEJ 101 X (100 Ω)	T	132.4/14.3
R405	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	130.1/106.1
R406	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	126/106.1
R407	7030000100	S.RES MCR10EZHJ 4.7 Ω (4R7)	T	110.5/106.8
R408	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ) [F1721D], [F1821D] only	T	118/19.2

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
R409	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	T	105.9/106.7
R410	7030000100	S.RES MCR10EZHJ 4.7 Ω (4R7)	B	116.3/106
R411	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	124.2/106.1
R413	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	128.5/106.1
R414	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	109.5/106.1
R415	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	131.9/106.1
R416	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	B	133.7/106.1
R417	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	T	103.9/106.7
R419	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	T	110.3/88.1
R420	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	103.1/95.3
R421	7030005160	S.RES ERJ2GEJ 105 X (1 MΩ)	T	45.9/21.9
R422	7030005000	S.RES ERJ2GEJ 471 X (470 Ω)	B	52.1/61.6
R424	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	151.7/79.8
R425	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	T	28.3/21.4
R426	7030009320	S.RES ERJ2GEJ 4R7 X (4.7 Ω)	B	27.3/21.4
R427	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ)	B	72.9/9.1
R428	7030005030	S.RES ERJ2GEJ 152 X (1.5 kΩ)	B	73.2/53.9
R429	7030008400	S.RES ERJ2GEJ 182 X (1.8 kΩ)	B	74.6/53.8
R430	7030008410	S.RES ERJ2GEJ 392 X (3.9 kΩ)	B	78.9/52.6
R431	7030005220	S.RES ERJ2GEJ 223 X (22 kΩ)	B	69.7/51.2
R432	7030007300	S.RES ERJ2GEJ 332 X (3.3 kΩ)	T	73.2/46.7
R433	7030005290	S.RES ERJ2GEJ 682 X (6.8 kΩ)	T	74.1/46.7
R434	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	57/9.8
R435	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	64/6.6
R436	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ)	T	102.1/95.3
R437	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ) [F1721D], [F1821D] only	T	123.3/7.4
R438	7030005240	S.RES ERJ2GEJ 473 X (47 kΩ) [F1721D], [F1821D] only	T	124.2/7.4
R439	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	T	82.1/86
R440	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ)	T	79.2/89.2
R441	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ) [F1721D], [F1821D] only	T	123/24.4
R442	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	94.3/52.5
R444	7030005060	S.RES ERJ2GEJ 333 X (33 kΩ)	B	143.2/13.1
R445	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	B	142.2/13.1
R446	7030005120	S.RES ERJ2GEJ 102 X (1 kΩ) [F1721D], [F1821D] only	B	90/36.8
R447	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ) [F1721D], [F1821D] only	B	94.1/30.8
R448	7030005050	S.RES ERJ2GEJ 103 X (10 kΩ) [F1721D], [F1821D] only	B	94.1/31.8
R449	7030005070	S.RES ERJ2GEJ 683 X (68 kΩ)	T	109.3/54.5
R450	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	103.2/66.7
R451	7030005090	S.RES ERJ2GEJ 104 X (100 kΩ)	T	16.9/29.1
C1	4030017420	S.CER ECJ0EC1H470J	T	77.2/10.4
C2	4030017420	S.CER ECJ0EC1H470J	T	78.2/10.4
C3	4030017460	S.CER ECJ0EB1E102K	T	75.9/67.5
C4	4030017330	S.CER ECJ0EF1C104Z	T	81.4/61.8
C5	4030017420	S.CER ECJ0EC1H470J	T	81/64.9
C6	4030017420	S.CER ECJ0EC1H470J	T	80.1/65.3
C7	4030017460	S.CER ECJ0EB1E102K	B	83.1/33.3
C10	4030017460	S.CER ECJ0EB1E102K	T	48.3/36.2
C11	4550000460	S.TAN TEESVA 1C 105M8L	T	49.8/37.3
C12	4030016930	S.CER ECJ0EB1A104K	T	148.2/9.1
C13	4550000460	S.TAN TEESVA 1C 105M8L	T	51.9/37.3
C14	4030017420	S.CER ECJ0EC1H470J	T	44.8/35.2
C15	4030017420	S.CER ECJ0EC1H470J	T	42.7/24.7
C16	4030017420	S.CER ECJ0EC1H470J	T	45.4/33.4
C17	4030017420	S.CER ECJ0EC1H470J	T	43.7/24.7
C18	4030017420	S.CER ECJ0EC1H470J	T	46.1/35.2
C19	4030016970	S.CER ECJ0EB1C223K	T	52.8/23.2
C20	4030017420	S.CER ECJ0EC1H470J	T	46.8/33.4
C21	4030016930	S.CER ECJ0EB1A104K	T	50.5/16
C22	4030017420	S.CER ECJ0EC1H470J	B	50.3/31.4
C24	4030017420	S.CER ECJ0EC1H470J	B	135.2/8.5
C25	4030017460	S.CER ECJ0EB1E102K	B	143.1/16.1
C26	4030017420	S.CER ECJ0EC1H470J	T	72.7/8.7
C27	4030017420	S.CER ECJ0EC1H470J	T	68.8/8.7
C28	4030017420	S.CER ECJ0EC1H470J	T	70.2/15.4
C29	4030017420	S.CER ECJ0EC1H470J	B	74.7/39.4
C30	4030017510	S.CER ECJ0EC1H680J	B	80.5/37.9
C31	4030017330	S.CER ECJ0EF1C104Z	T	71.4/60.7
C32	4510004630	S.ELE ECEV1CA100SR	T	73.3/64.6
C33	4030017420	S.CER ECJ0EC1H470J	T	79.2/66.9
C34	4030017620	S.CER ECJ0EC1H100C	B	40.1/29
C35	4030017730	S.CER ECJ0EB1E471K	B	80.5/34.3
C36	4550005980	S.TAN TEESVA 1A 475M8L	B	85.3/34.9
C37	4030017710	S.CER ECJ0EC1H181J	T	53/25.9
C38	4030017400	S.CER ECJ0EC1H220J	B	44.2/14.8
C39	4030017760	S.CER ECJ0EB1H222K	B	50.8/34.5
C41	4030017760	S.CER ECJ0EB1H222K	T	67.1/12.2
C42	4030017460	S.CER ECJ0EB1E102K	T	68.1/14.3

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
C43	4030017420	S.CER ECJ0EC1H470J	T	137/12.8
C44	4030017460	S.CER ECJ0EB1E102K	B	140.3/6.2
C45	4030017460	S.CER ECJ0EB1E102K	T	131.1/6
C46	4030017420	S.CER ECJ0EC1H470J	T	74.6/16.3
C47	4030017420	S.CER ECJ0EC1H470J	T	72.2/15.4
C48	4030017460	S.CER ECJ0EB1E102K	T	71.4/61.7
C49	4030017460	S.CER ECJ0EB1E102K	T	72.8/51.3
C50	4030017420	S.CER ECJ0EC1H470J	T	76.4/51.7
C51	4030016790	S.CER ECJ0EB1C103K	B	38.5/26.1
C52	4030016930	S.CER ECJ0EB1A104K	B	39.5/26.1
C53	4030016790	S.CER ECJ0EB1C103K	B	37/26.6
C54	4030017500	S.CER ECJ0EC1H560J	B	34.2/27.9
C55	4030017570	S.CER ECJ0EC1H040B	B	32.7/28.4
C56	4030017590	S.CER ECJ0EC1H070C	B	31.2/27.9
C57	4030016930	S.CER ECJ0EB1A104K	B	69.2/34.5
C58	4030016790	S.CER ECJ0EB1C103K	B	70.5/35.7
C59	4030016940	S.CER ECJ0EB1A393K	B	66.1/34.2
C60	4510004630	S.ELE ECEV1CA100SR	T	45.8/18.1
C61	4030017760	S.CER ECJ0EB1H222K	B	56.4/19
C62	4030017460	S.CER ECJ0EB1E102K	T	46.9/21
C63	4030017400	S.CER ECJ0EC1H220J	B	45.7/24.9
C64	4030016930	S.CER ECJ0EB1A104K	T	49.2/21.7
C65	4030016930	S.CER ECJ0EB1A104K	B	53.9/33.2
C66	4030016930	S.CER ECJ0EB1A104K	B	64.6/14.9
C67	4030016930	S.CER ECJ0EB1A104K	T	10.1/23
C68	4030017640	S.CER ECJ0EC1H150J	B	14.7/28.2
C69	4030017390	S.CER ECJ0EC1H180J	B	14.7/24
C70	4030016930	S.CER ECJ0EB1A104K	B	83.9/44.7
C71	4030017620	S.CER ECJ0EC1H100C	B	76.6/45.2
C72	4030017460	S.CER ECJ0EB1E102K	B	83.9/47.2
C73	4030017430	S.CER ECJ0EC1H101J	T	77.9/51.2
C75	4030017460	S.CER ECJ0EB1E102K	B	74.9/55.7
C76	4030017460	S.CER ECJ0EB1E102K	T	75/33.5
C77	4030016930	S.CER ECJ0EB1A104K	T	57/26.4
C78	4030017750	S.CER ECJ0EB1E122K	T	55.7/25.9
C79	4030016930	S.CER ECJ0EB1A104K	B	72/40.8
C80	4030017460	S.CER ECJ0EB1E102K	B	73/40.8
C81	4030016930	S.CER ECJ0EB1A104K	T	13.8/23.4
C82	4030016930	S.CER ECJ0EB1A104K	T	86.2/49.6
C83	4030017460	S.CER ECJ0EB1E102K	T	71.4/46.7
C84	4030017460	S.CER ECJ0EB1E102K	T	74.7/49.1
C85	4030017570	S.CER ECJ0EC1H040B	B	76.2/57.4
C86	4030017360	S.CER ECJ0EC1H030B	B	73.9/57.4
C87	4030017360	S.CER ECJ0EC1H030B	B	27.5/28.4
C88	4030016930	S.CER ECJ0EB1A104K	B	25.5/15.3
C89	4030016930	S.CER ECJ0EB1A104K	B	29.5/15.3
C90	4030016930	S.CER ECJ0EB1A104K	T	76.5/27.8
C92	4030017710	S.CER ECJ0EC1H181J	T	71.2/37.1
C93	4030016930	S.CER ECJ0EB1A104K	B	68.5/38
C94	4030016930	S.CER ECJ0EB1A104K	T	112.6/46.3
C95	4030016930	S.CER ECJ0EB1A104K	T	63.7/14
C96	4030016930	S.CER ECJ0EB1A104K	T	68.6/22.2
C98	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	T	83.3/37.1
C100	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	T	82/36.6
C104	4030017600	S.CER ECJ0EC1H080C	B	72.1/57.4
C106	4030017360	S.CER ECJ0EC1H030B	B	70.6/56.9
C107	4030016930	S.CER ECJ0EB1A104K	T	23.9/23.7
C108	4030016930	S.CER ECJ0EB1A104K	B	29.9/21.3
C109	4030016930	S.CER ECJ0EB1A104K	T	111.6/65.2
C110	4030016930	S.CER ECJ0EB1A104K	B	137.6/5.3
C111	4030016930	S.CER ECJ0EB1A104K	T	77.5/23.8
C112	4030016930	S.CER ECJ0EB1A104K	T	71/22.2
C113	4030016930	S.CER ECJ0EB1A104K	T	118.5/48.5
C114	4030016930	S.CER ECJ0EB1A104K	T	115.7/46.6
C115	4030017420	S.CER ECJ0EC1H470J	T	116.7/47.6
C116	4030017720	S.CER ECJ0EB1H331K	T	107.9/54
C119	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	B	81.4/20.3
C120	4030017460	S.CER ECJ0EB1E102K	T	74.7/41.6
C121	4030016930	S.CER ECJ0EB1A104K	T	72.4/44.9
C122	4030017730	S.CER ECJ0EB1E471K	T	70.9/41.4
C123	4030017600	S.CER ECJ0EC1H080C	B	69.3/57.4
C124	4550003220	S.TAN TEESVA 1E 105M8L	B	63.8/52.2
C125	4030017420	S.CER ECJ0EC1H470J	B	65.4/53.8
C126	4030017360	S.CER ECJ0EC1H030B	B	68.3/57.4
C127	4030017490	S.CER C1608 JB 1A 105K-T	T	72.6/41.9
C128	4030017460	S.CER ECJ0EB1E102K	T	72.4/40.4
C129	4030017460	S.CER ECJ0EB1E102K	B	24/25.1
C130	4030016930	S.CER ECJ0EB1A104K	T	25.8/23.7
C131	4030017430	S.CER ECJ0EC1H101J	T	27.1/23.2
C132	4030017430	S.CER ECJ0EC1H101J	T	28.9/23.2
C133	4030017430	S.CER ECJ0EC1H101J	T	32.5/23.2
C134	4030017460	S.CER ECJ0EB1E102K	T	28.6/31.7

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
C135	4030018560	S.CER C2012 JB 1A 475K-T	T	121.1/56.1
C136	4030016930	S.CER ECJ0EB1A104K	T	119.3/54.8
C137	4030017770	S.CER ECJ0EB1E332K	T	116.2/49.8
C138	4030017420	S.CER ECJ0EC1H470J	T	118/54.3
C139	4030017420	S.CER ECJ0EC1H470J	T	108.7/52.1
C140	4550006250	S.TAN TEESVA 1A 106M8L [F1721D], [F1821D] only	T	84.6/21.4
C141	4030017450	S.CER ECJ0EB1E271K [F1721D], [F1821D] only	B	88/14.7
C142	4030017730	S.CER ECJ0EB1E471K [F1721D], [F1821D] only	T	91.5/14.8
C143	4030017420	S.CER ECJ0EC1H470J [F1721D], [F1821D] only	T	93.2/16.8
C144	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	T	87/19
C145	4030017680	S.CER ECJ0EC1H820J [F1721D], [F1821D] only	T	92.2/17.3
C146	4030016790	S.CER ECJ0EB1C103K [F1721D], [F1821D] only	B	119.8/40
C147	4030016790	S.CER ECJ0EB1C103K [F1721D], [F1821D] only	B	114.5/45
C148	4030017590	S.CER ECJ0EC1H070C [F1721D], [F1821D] only	B	89.3/19.2
C149	4550006250	S.TAN TEESVA 1A 106M8L [F1721D], [F1821D] only	B	84.5/22.8
C150	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	B	87.9/21.3
C151	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	B	85.5/16
C152	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	B	85.5/17
C153	4030017440	S.CER ECJ0EC1H221J	B	66.7/45.7
C154	4030017620	S.CER ECJ0EC1H100C	T	51.3/50.5
C155	4030016790	S.CER ECJ0EB1C103K	B	67.7/45.7
C156	4550007080	S.TAN TEESVA 1C 106M8R	B	74.3/43.9
C157	4030017620	S.CER ECJ0EC1H100C	T	66.1/50.2
C159	4030017360	S.CER ECJ0EC1H030B	T	63.6/49.4
C160	4030017360	S.CER ECJ0EC1H030B	T	62.6/51.5
C161	4030016930	S.CER ECJ0EB1A104K	B	48.7/45
C162	4550006050	S.TAN TEESVA 0J 106M8L	T	20.6/28.7
C163	4030017430	S.CER ECJ0EC1H101J	T	23.5/35.4
C164	4030017680	S.CER ECJ0EC1H820J	T	26.2/33.1
C165	4030017460	S.CER ECJ0EB1E102K	T	28.2/35.6
C166	4030017420	S.CER ECJ0EC1H470J	B	25.8/32.9
C167	4030017460	S.CER ECJ0EB1E102K	T	24/33.7
C168	4030017460	S.CER ECJ0EB1E102K	T	28.3/28.2
C170	4030017740	S.CER ECJ0EB1E821K	T	114.1/56.3
C171	4030017730	S.CER ECJ0EB1E471K	T	111.4/56.3
C172	4030016930	S.CER ECJ0EB1A104K	T	116.7/54.8
C173	4030017420	S.CER ECJ0EC1H470J	T	110.5/56.3
C174	4030017510	S.CER ECJ0EC1H680J	T	113.2/56.3
C175	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	T	84/18.7
C176	4030017420	S.CER ECJ0EC1H470J [F1721D], [F1821D] only	T	100.5/10.6
C177	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	T	99.7/11.9
C178	4030016790	S.CER ECJ0EB1C103K [F1721D], [F1821D] only	T	102.4/38.5
C188	4030017660	S.CER ECJ0EC1H330J	T	52.2/50.5
C189	4030017590	S.CER ECJ0EC1H070C	T	55.3/45.1
C190	4030017460	S.CER ECJ0EB1E102K	B	48.7/44
C191	4030017640	S.CER ECJ0EC1H150J	T	54.3/45
C192	4030017700	S.CER ECJ0EC1H151J	T	65.4/47.2
C193	4030016930	S.CER ECJ0EB1A104K	B	63.2/41.5
C194	4030017340	S.CER ECJ0EC1H010B	T	62.7/44.7
C196	4030017620	S.CER ECJ0EC1H100C	T	62.7/43.7
C197	4030017660	S.CER ECJ0EC1H330J	T	59.8/45
C198	4030016790	S.CER ECJ0EB1C103K	T	24.9/38.5
C199	4030017460	S.CER ECJ0EB1E102K	T	27.7/39.5
C200	4030016790	S.CER ECJ0EB1C103K	B	33.7/42.8
C201	4030017460	S.CER ECJ0EB1E102K	B	33.7/41.7
C202	4030017350	S.CER ECJ0EC1H020B	T	31.8/35.6
C203	4030017640	S.CER ECJ0EC1H150J	T	36.9/41.5
C204	4030017350	S.CER ECJ0EC1H020B	T	36.6/45.1
C205	4030017460	S.CER ECJ0EB1E102K	B	36.6/43.1
C206	4030017460	S.CER ECJ0EB1E102K	T	114/59.6
C207	4030016780	S.CER ECJ0EB1C153K	T	118.5/56.6
C208	4030017450	S.CER ECJ0EB1E271K	T	113.6/58.6
C209	4030017420	S.CER ECJ0EC1H470J [F1721D], [F1821D] only	B	92.8/6.5
C210	4030017460	S.CER ECJ0EB1E102K [F1721D], [F1821D] only	B	91.1/22.2
C212	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	B	93.7/23.2

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
C213	4550006250	S.TAN TEESVA 1A 106M8L [F1721D], [F1821D] only	T	91/21.3
C214	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	T	100.9/18.6
C215	4550006250	S.TAN TEESVA 1A 106M8L [F1721D], [F1821D] only	T	93.1/21.3
C216	4030016790	S.CER ECJ0EB1C103K [F1721D], [F1821D] only	B	121.3/21
C217	4030017660	S.CER ECJ0EC1H330J	T	54.3/46.9
C218	4030017660	S.CER ECJ0EC1H330J	T	55.3/48.7
C219	4030017420	S.CER ECJ0EC1H470J	T	55.6/53.4
C220	4030016790	S.CER ECJ0EB1C103K	T	53.6/53.4
C221	4030017460	S.CER ECJ0EB1E102K	T	59.7/53.4
C222	4030017730	S.CER ECJ0EB1E471K	T	54.6/53.4
C223	4030017730	S.CER ECJ0EB1E471K	T	60.7/53.4
C224	4030017660	S.CER ECJ0EC1H330J	T	59.8/46.8
C225	4030017400	S.CER ECJ0EC1H220J	T	59.8/48.6
C226	4030017660	S.CER ECJ0EC1H330J	T	58.7/53.4
C227	4030017630	S.CER ECJ0EC1H120J	B	31.2/47.8
C228	4030016790	S.CER ECJ0EB1C103K	B	28.4/50.1
C229	4030017460	S.CER ECJ0EB1E102K	B	27.3/50.1
C230	4030016790	S.CER ECJ0EB1C103K	B	36.8/53.7
C231	4030017460	S.CER ECJ0EB1E102K	B	35/49.4
C232	4030016790	S.CER ECJ0EB1C103K	B	112.7/49
C233	4030017660	S.CER ECJ0EC1H330J	B	118.7/50.7
C234	4030017590	S.CER ECJ0EC1H070C	B	118.7/52.5
C235	4030017400	S.CER ECJ0EC1H220J	B	117.1/53.5
C236	4030016790	S.CER ECJ0EB1C103K [F1721D], [F1821D] only	B	95.9/25.8
C237	4030016790	S.CER ECJ0EB1C103K [F1721D], [F1821D] only	B	101.6/20.7
C238	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	B	127.1/12.2
C239	4030017540	S.CER ECJ0EC1HR75B	T	56.6/53.4
C240	4030017530	S.CER ECJ0EC1H0R5B	T	57.7/53.4
C241	4030016930	S.CER ECJ0EB1A104K	B	57.5/50.1
C242	4030017730	S.CER ECJ0EB1E471K	T	65.1/57.6
C243	4030017420	S.CER ECJ0EC1H470J	B	53.2/40.2
C245	4030017350	S.CER ECJ0EC1H020B	T	42.8/60.1
C246	4030017390	S.CER ECJ0EC1H180J	B	47.8/57.7
C247	4030017460	S.CER ECJ0EB1E102K	B	25.9/45.7
C248	4030016930	S.CER ECJ0EB1A104K	B	111.3/63.9
C249	4030016930	S.CER ECJ0EB1A104K	T	107/61.3
C250	4030016930	S.CER ECJ0EB1A104K	B	109.9/60.3
C251	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	B	93.1/26.6
C252	4030017620	S.CER ECJ0EC1H100C [F1721D], [F1821D] only	B	92/31.8
C253	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	B	90/31.8
C254	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	B	90/34.8
C255	4030017460	S.CER ECJ0EB1E102K	T	62/56.9
C256	4030017730	S.CER ECJ0EB1E471K	B	66.3/60.1
C257	4030017460	S.CER ECJ0EB1E102K	T	64.1/57.6
C258	4030017620	S.CER ECJ0EC1H100C	B	62.5/56.7
C259	4030017620	S.CER ECJ0EC1H100C	B	62.3/59.2
C260	4030017420	S.CER ECJ0EC1H470J	B	65/58.7
C261	4030017390	S.CER ECJ0EC1H180J	B	49.9/64.1
C262	4030017460	S.CER ECJ0EB1E102K	B	54.5/63
C263	4030017460	S.CER ECJ0EB1E102K	B	54.5/64
C264	4030017660	S.CER ECJ0EC1H330J	B	50.2/61
C265	4030017620	S.CER ECJ0EC1H100C	B	39.4/66.4
C266	4030017560	S.CER ECJ0EC1H2R5B	B	33.7/65.9
C267	4030017400	S.CER ECJ0EC1H220J	B	38.9/67.9
C269	4030017460	S.CER ECJ0EB1E102K	B	35.7/63.4
C270	4030017460	S.CER ECJ0EB1E102K	B	34.2/61.2
C271	4030017460	S.CER ECJ0EB1E102K	B	31.6/63.5
C272	4030017490	S.CER C1608 JB 1A 105K-T [F1721D], [F1821D] only	B	87.6/26
C273	4030017460	S.CER ECJ0EB1E102K [F1721D], [F1821D] only	B	86.5/25.8
C275	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	B	119.4/11
C276	4030017420	S.CER ECJ0EC1H470J [F1721D], [F1821D] only	B	112.2/6.7
C277	4030017420	S.CER ECJ0EC1H470J [F1721D], [F1821D] only	T	121/5.6
C278	4030017420	S.CER ECJ0EC1H470J [F1721D], [F1821D] only	B	118.3/5.2
C279	4030017460	S.CER ECJ0EB1E102K	B	60.1/64.1
C280	4030017620	S.CER ECJ0EC1H100C	B	61.3/67.5
C281	4030016790	S.CER ECJ0EB1C103K	B	64.3/74.7
C282	4030017460	S.CER ECJ0EB1E102K	B	62.3/74.7
C283	4030017400	S.CER ECJ0EC1H220J	B	63.8/88.3

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
C284	4030018140	S.CER ECJ0EB1H391K	B	63.3/97.5
C285	4030017420	S.CER ECJ0EC1H470J	B	63.3/98.5
C286	4030017460	S.CER ECJ0EB1E102K	B	60.6/61.8
C287	4030017620	S.CER ECJ0EC1H100C	B	56.5/66
C288	4030017460	S.CER ECJ0EB1E102K	B	58.5/64.5
C289	4030017340	S.CER ECJ0EC1H010B	B	61.3/69.5
C290	4030017460	S.CER ECJ0EB1E102K	B	60.3/89
C291	4030017460	S.CER ECJ0EB1E102K	B	28.5/59.7
C292	4030017490	S.CER C1608 JB 1A 105K-T	B	27.5/62.3
C293	4030017460	S.CER ECJ0EB1E102K	B	27.7/63.6
C294	4030016790	S.CER ECJ0EB1C103K	B	29.5/66.9
C295	4030017460	S.CER ECJ0EB1E102K	B	22.7/61
C296	4030016930	S.CER ECJ0EB1A104K	T	21.5/65.3
C297	4030016930	S.CER ECJ0EB1A104K	T	21.5/67.6
C298	4030017400	S.CER ECJ0EC1H220J	B	22/65.6
C299	4030016930	S.CER ECJ0EB1A104K	T	22.4/65.3
C300	4030017460	S.CER ECJ0EB1E102K	T	20.5/67.6
C301	4030017360	S.CER ECJ0EC1H030B	B	31/65.4
C302	4030017460	S.CER ECJ0EB1E102K	B	32.1/61.2
C303	4030017460	S.CER ECJ0EB1E102K	B	25.2/64.1
C304	4030017420	S.CER ECJ0EC1H470J	B	26.2/64.1
C306	4030016930	S.CER ECJ0EB1A104K	B	77.5/68.5
C308	4030016930	S.CER ECJ0EB1A104K	T	94.3/63.6
C310	4550006480	S.TAN TEESVA 1C 475M8L [F1721D], [F1821D] only	B	123.9/23.2
C311	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	T	121/18.7
C312	4030016790	S.CER ECJ0EB1C103K [F1721D], [F1821D] only	T	116.1/15.3
C313	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	T	111.7/19.5
C314	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	T	114.8/14.2
C315	4030016790	S.CER ECJ0EB1C103K [F1721D], [F1821D] only	T	106.2/21.4
C316	4030017420	S.CER ECJ0EC1H470J [F1721D], [F1821D] only	T	128.3/8.2
C317	4030017420	S.CER ECJ0EC1H470J [F1721D], [F1821D] only	B	128.3/10.7
C318	4030017420	S.CER ECJ0EC1H470J [F1721D], [F1821D] only	B	125.7/10.7
C319	4030017420	S.CER ECJ0EC1H470J [F1721D], [F1821D] only	B	128.5/6.7
C320	4030017420	S.CER ECJ0EC1H470J [F1721D], [F1821D] only	B	125.2/6.2
C321	4030017390	S.CER ECJ0EC1H180J	B	69.5/92.2
C322	4030017460	S.CER ECJ0EB1E102K	B	64.8/93.2
C323	4030017390	S.CER ECJ0EC1H180J	B	70/93.5
C324	4030017420	S.CER ECJ0EC1H470J	B	64.8/94.2
C325	4030017390	S.CER ECJ0EC1H180J	B	72.5/94.4
C326	4030017400	S.CER ECJ0EC1H220J	T	72.6/95.9
C328	4030017460	S.CER ECJ0EB1E102K	B	62.6/92.4
C329	4030017730	S.CER ECJ0EB1E471K	T	73.2/103.2
C330	4030016930	S.CER ECJ0EB1A104K	T	27.2/64.2
C331	4030017550	S.CER ECJ0EC1H1R5B	B	16/65.6
C332	4030017420	S.CER ECJ0EC1H470J	T	64.7/98.7
C333	4550006170	S.TAN ECST1AY225R	T	57/87.4
C334	4030017350	S.CER ECJ0EC1H020B	B	18.7/65.1
C335	4030017460	S.CER ECJ0EB1E102K	B	18.1/63.1
C336	4030017460	S.CER ECJ0EB1E102K	B	15.5/60.8
C337	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	T	95.9/29.3
C338	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	T	112.2/11.7
C339	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	T	107.7/10.7
C340	4550006050	S.TAN TEESVA 0J 106M8L [F1721D], [F1821D] only	B	100.4/12.7
C341	4550006050	S.TAN TEESVA 0J 106M8L [F1721D], [F1821D] only	T	101.7/21.7
C342	4550006050	S.TAN TEESVA 0J 106M8L [F1721D], [F1821D] only	B	100.4/10.5
C343	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	B	105/11
C345	4030011100	S.CER GRM31M2C2H8R0DV01L	T	29.9/105.7
C346	4030011120	S.CER GRM31M2C2H100JV01L	T	29.9/103.1
C347	4510005750	S.ELE ECEV1EA220SP	T	62.4/93.5
C348	4030011120	S.CER GRM31M2C2H100JV01L	T	29.9/98.8
C349	4030011080	S.CER GRM31M2C2H6R0DV01L	T	29.9/96.3
C350	4550006410	S.TAN ECST1VY334R	T	69.7/101.6
C351	4030017460	S.CER ECJ0EB1E102K	T	71.2/103.2
C352	4030017420	S.CER ECJ0EC1H470J	T	72.2/103.2
C353	4030017420	S.CER ECJ0EC1H470J	T	47/103.2
C354	4030017460	S.CER ECJ0EB1E102K	T	46/103.2
C355	4510005750	S.ELE ECEV1EA220SP	T	51/101.3

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
C356	4030017730	S.CER ECJ0EB1E471K	T	45/103.2
C357	4030017420	S.CER ECJ0EC1H470J	B	45.3/92.8
C358	4550006700	S.TAN ECST1AY106R	T	67.1/98.1
C359	4030017580	S.CER ECJ0EC1H060C	B	11.8/67.9
C360	4030017460	S.CER ECJ0EB1E102K	B	12.1/72.9
C361	4030017460	S.CER ECJ0EB1E102K	B	14/63.1
C362	4030017460	S.CER ECJ0EB1E102K	B	17.6/60.8
C364	4030017580	S.CER ECJ0EC1H060C	B	9.9/72.9
C365	4030016930	S.CER ECJ0EB1A104K	T	30.7/56.6
C366	4510004630	S.ELE ECEV1CA100SR	T	101/58
C367	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	T	107.7/12.5
C368	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	T	103.3/12.1
C369	4550005980	S.TAN TEESVA 1A 475M8L [F1721D], [F1821D] only	B	104.9/16
C370	4550005980	S.TAN TEESVA 1A 475M8L [F1721D], [F1821D] only	T	108.2/16
C371	4550005980	S.TAN TEESVA 1A 475M8L [F1721D], [F1821D] only	T	104.5/16
C372	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	B	103.3/13.8
C373	4030011170	S.CER GRM31M2C2H180JV01L	T	32.1/89.6
C374	4030017200	S.CER GRM31BR32J102KY01L	T	27.3/89.6
C375	4030011170	S.CER GRM31M2C2H180JV01L	T	21.7/91.7
C377	4030017730	S.CER ECJ0EB1E471K	B	38.8/92.8
C378	4030017460	S.CER ECJ0EB1E102K	B	82.8/95.3
C379	4030017460	S.CER ECJ0EB1E102K	B	81.8/95.3
C380	4030017460	S.CER ECJ0EB1E102K	B	80.8/95.3
C381	4030017460	S.CER ECJ0EB1E102K	B	52.2/99
C382	4030017460	S.CER ECJ0EB1E102K	T	63.4/101.4
C383	4030017520	S.CER ECJ0EC1H0R3B	B	30.1/92.2
C384	4030017600	S.CER ECJ0EC1H080C	B	16.8/72.9
C385	4030018070	S.CER ECJ0EC1H300J	B	21.1/72.9
C386	4030017480	S.CER C1608 JB 1A 474K-T	B	149.4/89.3
C387	4030017460	S.CER ECJ0EB1E102K	T	104.4/75.9
C388	4030011170	S.CER GRM31M2C2H180JV01L	T	19.1/85.3
C389	4030011170	S.CER GRM31M2C2H180JV01L	T	16.5/90.7
C390	4030017460	S.CER ECJ0EB1E102K	B	51.2/99
C391	4030011170	S.CER GRM31M2C2H180JV01L	T	12.2/90.7
C392	4030017460	S.CER ECJ0EB1E102K	T	52.8/87.4
C393	4550006540	S.TAN ECST1CY475R	T	100.4/75.1
C394	4030016930	S.CER ECJ0EB1A104K	T	98.8/76.2
C395	4510004630	S.ELE ECEV1CA100SR	T	150.1/15
C396	4510004630	S.ELE ECEV1CA100SR	T	104.5/83.3
C397	4030017460	S.CER ECJ0EB1E102K	B	109.9/77.1
C398	4030017460	S.CER ECJ0EB1E102K	T	110.2/81.7
C399	4510004630	S.ELE ECEV1CA100SR	T	114.2/74
C400	4030017460	S.CER ECJ0EB1E102K	B	112.5/74.7
C401	4030011340	S.CER C1608 CH 1H 471J-T	B	9.3/82.7
C402	4030007030	S.CER C1608 CH 1H 150J-T	B	10.6/82.7
C403	4030017460	S.CER ECJ0EB1E102K	B	13.2/79.2
C404	4030017460	S.CER ECJ0EB1E102K	B	33.7/92.2
C405	4030017460	S.CER ECJ0EB1E102K	T	48.1/86.5
C406	4030016790	S.CER ECJ0EB1C103K	T	49.1/84.7
C407	4030017460	S.CER ECJ0EB1E102K [F1721/D], [F1821D] only	T	46.3/82.7
C408	4030016930	S.CER ECJ0EB1A104K	B	143.8/83.6
C409	4030016930	S.CER ECJ0EB1A104K	B	152.7/91.2
C410	4030016930	S.CER ECJ0EB1A104K	B	151.7/91.2
C412	4030016930	S.CER ECJ0EB1A104K	B	150.9/37.5
C413	4030017460	S.CER ECJ0EB1E102K	B	152.4/32.6
C414	4030016790	S.CER ECJ0EB1C103K	B	152.4/31.6
C415	4030016930	S.CER ECJ0EB1A104K	B	154.4/32.6
C417	4030016930	S.CER ECJ0EB1A104K	B	148.6/34.7
C418	4550007000	S.TAN ECST1VY105R	B	112/102.4
C419	4550007000	S.TAN ECST1VY105R	B	107.4/104.1
C420	4550007000	S.TAN ECST1VY105R	T	117.4/98.9
C421	4550007000	S.TAN ECST1VY105R	T	115.3/98.9
C422	4030017460	S.CER ECJ0EB1E102K	B	115.2/81.6
C423	4030016930	S.CER ECJ0EB1A104K	B	153.1/24.4
C424	4030016930	S.CER ECJ0EB1A104K	T	148.5/21.4
C428	4510004630	S.ELE ECEV1CA100SR	T	124.3/72
C429	4510004630	S.ELE ECEV1CA100SR	T	119.5/74
C430	4030016930	S.CER ECJ0EB1A104K	B	125/72.8
C431	4030011340	S.CER C1608 CH 1H 471J-T	B	9.8/100.6
C432	4030011170	S.CER GRM31M2C2H180JV01L	T	17.2/100.8
C433	4030017460	S.CER ECJ0EB1E102K	B	4/102.4
C434	4030011810	S.CER C1608 JB 1A 224K-T	T	54.6/84.1
C435	4030017460	S.CER ECJ0EB1E102K	B	34.7/90.2
C436	4030017490	S.CER C1608 JB 1A 105K-T	T	55.1/78.9
C438	4030016930	S.CER ECJ0EB1A104K	T	49.1/82.9
C439	4510008030	S.ELE ECEV1EA471P	T	141.4/87.4
C440	4510006260	S.ELE ECEV1AA471UP	T	152.2/97.4
C442	4030017420	S.CER ECJ0EC1H470J	B	152.7/79.8

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
C443	4510006220	S.ELE ECEV1CA101UP	T	148.4/72.9
C444	4510006220	S.ELE ECEV1CA101UP	T	147.3/62.5
C445	4550006770	S.TAN TEESVD2 1C 476M-12R	B	148.7/62.3
C446	4030016930	S.CER ECJ0EB1A104K	B	149.1/70.1
C447	4550003080	S.TAN TEESVA 1A 335M8L	B	150.6/72.3
C448	4030017460	S.CER ECJ0EB1E102K	B	151.7/70.4
C452	4030017460	S.CER ECJ0EB1E102K	T	149.8/21.9
C453	4030017460	S.CER ECJ0EB1E102K	B	153.1/23.4
C454	4030017460	S.CER ECJ0EB1E102K	T	124.2/77.9
C455	4030017460	S.CER ECJ0EB1E102K	B	151.9/17.4
C457	4030016930	S.CER ECJ0EB1A104K	B	124.3/85.2
C458	4550006700	S.TAN ECST1AY106R	B	138.2/74.8
C459	4510008030	S.ELE ECEV1EA471P	T	116.2/87.8
C460	4030016930	S.CER ECJ0EB1A104K	B	137.1/73.2
C461	4030011170	S.CER GRM31M2C2H180JV01L	T	13.6/105.1
C462	4030017460	S.CER ECJ0EB1E102K	T	51.3/81.1
C463	4030017460	S.CER ECJ0EB1E102K	T	55.7/76.9
C464	4030017460	S.CER ECJ0EB1E102K	T	150.4/107.8
C465	4030017460	S.CER ECJ0EB1E102K	T	150.4/106.8
C467	4030017420	S.CER ECJ0EC1H470J	T	150.4/104.8
C468	4510006240	S.ELE ECEV1CA221P	T	137.6/53.1
C469	4030017460	S.CER ECJ0EB1E102K	T	141/59.5
C470	4510006240	S.ELE ECEV1CA221P	T	148.4/45.3
C471	4510004600	ELE 16 MV 1000 HC		
C472	4030005110	S.CER C2012 JB 1E 473K-T	B	151.5/54.4
C473	4030005110	S.CER C2012 JB 1E 473K-T	B	151.5/50.9
C474	4030017420	S.CER ECJ0EC1H470J	T	148.6/26.9
C475	4030017420	S.CER ECJ0EC1H470J	T	139.2/74.9
C476	4030017460	S.CER ECJ0EB1E102K	T	138.9/73.4
C477	4510008030	S.ELE ECEV1EA471P	T	133/77
C478	4030004760	S.CER C2012 JF 1H 104Z-T	B	137.5/81.8
C479	4030017460	S.CER ECJ0EB1E102K	T	151/86.6
C480	4030017420	S.CER ECJ0EC1H470J	T	151/87.6
C482	4030017460	S.CER ECJ0EB1E102K	T	153.1/37.8
C485	4030017460	S.CER ECJ0EB1E102K	B	130.5/96.5
C486	4030017480	S.CER C1608 JB 1A 474K-T	B	145.9/33.4
C487	4030016930	S.CER ECJ0EB1A104K	B	27.4/26.4
C488	4030017480	S.CER C1608 JB 1A 474K-T	B	66.8/8.3
C489	4030016930	S.CER ECJ0EB1A104K	B	67/6.1
C490	4030016930	S.CER ECJ0EB1A104K	B	70.8/5.3
C491	4030016930	S.CER ECJ0EB1A104K	T	131.7/48.7
C492	4030017670	S.CER ECJ0EC1H390J	B	56.4/17.7
C493	4030017420	S.CER ECJ0EC1H470J	B	50.9/56.9
C495	4030017420	S.CER ECJ0EC1H470J	T	102.4/106.7
C496	4030017420	S.CER ECJ0EC1H470J	B	134.6/106.1
C497	4030017420	S.CER ECJ0EC1H470J	B	132.8/106.1
C498	4030017420	S.CER ECJ0EC1H470J	T	108.4/106.7
C499	4030017420	S.CER ECJ0EC1H470J	B	127/106.1
C500	4030017420	S.CER ECJ0EC1H470J	B	125.1/106.1
C501	4030017420	S.CER ECJ0EC1H470J	B	122.8/106.1
C503	4030017420	S.CER ECJ0EC1H470J	T	106.9/106.7
C504	4030017420	S.CER ECJ0EC1H470J	B	114.2/106.1
C505	4030017420	S.CER ECJ0EC1H470J	B	131/106.1
C508	4030017420	S.CER ECJ0EC1H470J	B	110.8/106.6
C509	4030017420	S.CER ECJ0EC1H470J	T	101/87.3
C511	4030017420	S.CER ECJ0EC1H470J	T	101.4/106.7
C513	4030017420	S.CER ECJ0EC1H470J	B	140/106.5
C515	4030017030	S.CER ECJ0EB1A273K	T	100.3/70.4
C516	4030017390	S.CER ECJ0EC1H180J	B	49.9/62.3
C517	4030017400	S.CER ECJ0EC1H220J	T	78.9/104.7
C519	4030017600	S.CER ECJ0EC1H080C	B	76.2/59.1
C520	4030017640	S.CER ECJ0EC1H150J	B	80.1/57.1
C521	4030017600	S.CER ECJ0EC1H080C	B	80.1/55.9
C522	4550003220	S.TAN TEESVA 1E 105M8L	B	76.5/50.5
C523	4550003220	S.TAN TEESVA 1E 105M8L	B	74.4/50.5
C525	4030017780	S.CER ECJ0EB1E472K	B	78/52.6
C526	4030016930	S.CER ECJ0EB1A104K	T	28.2/16.4
C529	4510006220	S.ELE ECEV1CA101UP	T	34.2/52.7
C530	4030017730	S.CER ECJ0EB1E471K	B	48.8/38.7
C531	4030017380	S.CER ECJ0EC1H050B [F1721D], [F1821D] only	B	94.9/35.2
C532	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	B	90/35.8
C533	4030016930	S.CER ECJ0EB1A104K [F1721D], [F1821D] only	B	94.1/32.8
C534	4030017780	S.CER ECJ0EB1E472K	T	73.8/51.3
C535	4030017730	S.CER ECJ0EB1E471K	B	67.7/16.7
J1	6510024520	S.CNR 12FLT-SM1-TB	T	72.5/12.1
J2	6510018430	S.CNR AXN330C038P	T	139.7/8.3
J3	6510021300	S.CNR 52365-1091 [F1721D], [F1821D] only	T	96/41.5
J4	6510018430	S.CNR AXN330C038P except [F1721D], [F1821D] only	T	91.5/8.5

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
J5	6450000140	CNR	HSJ0807-01-010		
J6	6510014960	S.CNR	B2B-ZR-SM3-TF	T	150.3/83.8
J7	6510021300	S.CNR	52365-1091	T	88/77.7
J8	6510019250	S.CNR	B11B-ZR-SM3-TF	T	155.1/25.9
J10	6510019270	S.CNR	52365-0691	T	88/71
J11	6510023210	CNR	CD6125SA1J0 <CVI>		
J13	6510021300	S.CNR	52365-1091	T	84.9/93.5
W2	7120000470	JMP	ERDS2T0		
W3	8900013680	CBL	OPC-1414 <CMI>		
EP1	6910015600	S.BEA	ACZ1005Y-241 (240 Ω)	T	51.3/33.2
EP4	6910015370	S.BEA	ACZ1005Y-102-T	T	47.4/22.3
EP5	6910015370	S.BEA	ACZ1005Y-102-T	B	83.9/45.7
EP6	6910015370	S.BEA	ACZ1005Y-102-T	B	57.7/51.4
EP7	6910011560	BEA	HF70BB4.5X5X1.6		
EP8	6910011560	BEA	HF70BB4.5X5X1.6		
EP9	6910010280	BEA	HF70BB9.5X10.4X4.9		
EP10	6910010280	BEA	HF70BB9.5X10.4X4.9		

[CHASSIS UNIT]

REF NO.	ORDER NO.	DESCRIPTION		M.	H/V LOCATION
J1	6510004880	CNR	MR-DS-E 01		

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

SECTION 7 MECHANICAL PARTS AND DISASSEMBLY

[CHASSIS PARTS]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6510004880	Connector MR-DS-E 01	1
MP1	8010019800	2781 chassis	1
MP2	8110008270	2781 cover	1
MP3	8810008660	Screw PH BT M3 × 8 NI-ZU	12
MP4	8810008660	Screw PH BT M3 × 8 NI-ZU	2
MP5	8810008660	Screw PH BT M3 × 8 NI-ZU	2
MP6	8810009990	Screw PH BT M3 × 8 ZK	2
MP7	8810009990	Screw PH BT M3 × 8 ZK	4
MP8	8930064590	Plate 2781 D-SUB PLATE	1
MP9	8510016740	Case 2781 FILTER CASE Y755	1
MP10	8930048550	2177 clip	1
MP11	8930048520	2156 clip	1
MP12	8810009990	Screw PH BT M3 × 8 ZK	2

[FRONT-A UNIT] (IC-F1700 Series)

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
W1	8900013690	Cable OPC-1425 (N=12, L=92)	1
W2	8900013700	Cable OPC-1426	1
EP1	8930065150	LCD contact SRCN-2781-SP-N-W	2
MP1	8930064250	2781 angle Y754	1
MP2	8930064190	2781 front key	1
MP3	8210021430	2781 front panel assembly	1
MP4	8930064220	2781 knob rubber	1
MP5	8930064260	2781 LCD holder Y753	1
MP7	8210021190	2781 reflector	1
MP9	8610012160	Knob N324	1
MP10	8610012150	Knob N325	1
MP11	8810008660	Screw PH BT M3 × 8 NI-ZU	3
MP12	8810008660	Screw PH BT M3 × 8 NI-ZU	2
MP16	8930051500	Seal O-ring (AB)	1
MP18	8830000030	VR nut (C)	1
MP19	8930065250	2781 A-lens	
MP20	8930065240	2781 B-lens	1
SP1	2510001290	Speaker C062SB504-11	1

[FRONT-B UNIT] (IC-F1800 Series)

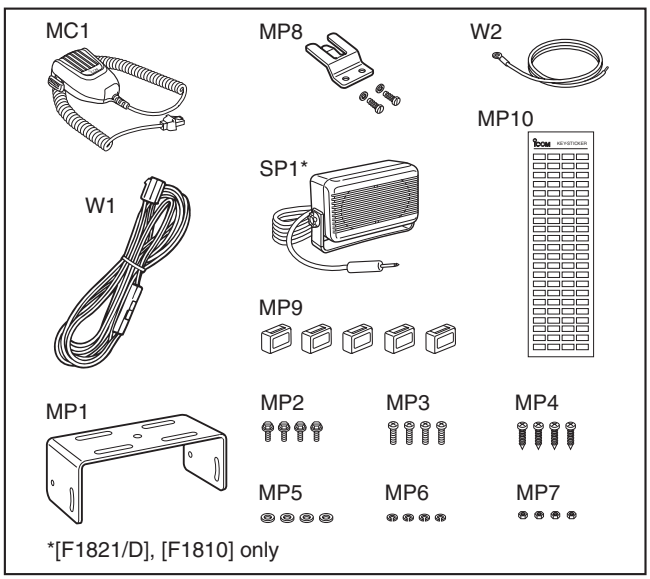
REF. NO.	ORDER NO.	DESCRIPTION	QTY.
W1	8900013690	Cable OPC-1425 (N=12, L=92)	1
EP1	8930065150	LCD contact SRCN-2781-SP-N-W	2
MP1	8930064190	2781 front key	1
MP2	8930064220	2781 knob rubber	1
MP3	8930064260	2781 LCD holder Y753	1
MP5	8210021190	2781 reflector	1
MP6	8930064370	2781 T-angle	1
MP7	8210021440	2781 T-front panel assembly	1
MP8	8930064520	2781 UP/DOWN key	1
MP10	8930064380	2781 10-key	1
MP11	8610012160	Knob N324	1
MP12	8810008760	Screw PH BT M2 × 8 NI-ZU	6
MP14	8930064890	2781 T-sheet	1
MP17	8930065250	2781 A-lens	1
MP18	8930065240	2781 B-lens	1
MP20	8930065170	2781 LED sheet	2

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
W3	8900013680	Cable OPC-1414 <CMI>T	1
J11	6510023210	CD6125SA1J0	1
EP9	6910010280	Bead HF70BB9.5 × 10.4 × 4.9	1
EP10	6910010280	Bead HF70BB9.5 × 10.4 × 4.9	1
MP1	8510014940	2601 VCO case Y641 (Tip)	1
MP2	8510014950	2601 VCO cover Y642	1
MP4	8510014890	2577 DBM case	1
MP5	8930065060	2781 M-plate	1
MP6	8510016820	2781 shield plate	1

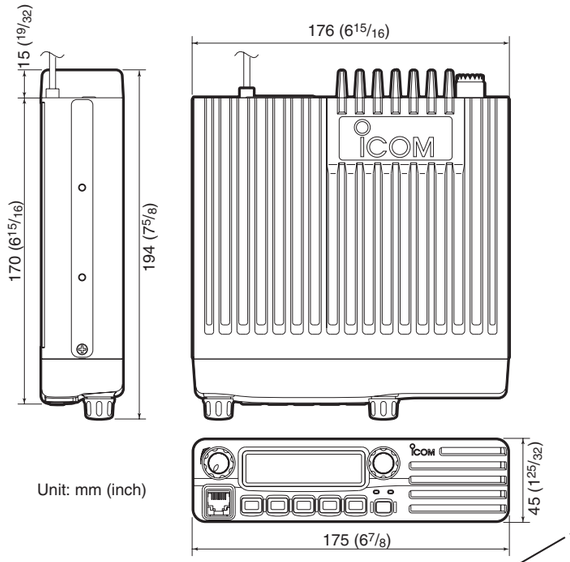
[ACCESSORIES]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
W1	8900010990	DC power cable OPC-1132 [USA]	1
	8900011780	DC power cable OPC-1194 [EUR], [GEN]	1
W2	8900000730	Microphone hanger cable OPC-049	1
MC1	Optional puroduct	Microphone HM-100N [EUR], [GEN]	1
	Optional puroduct	Microphone HM-148 [USA]	1
MP1	8010019880	2781 mounting blacket assembly	1
MP2	8820000530	Screw bracket bolts M4 × 8 NI	4
MP3	8810000470	Screw M5 × 12 (+ –)	4
MP4	8810000950	Screw (PH) A0 M5 × 16	4
MP5	8850000150	Flat washer M5 NI BS	4
MP6	8850000390	Spring washer M5	4
MP7	8830000120	Nut M5	4
MP8	6910004210	731 mic hanger assembly	1
MP9	8930064670	2781 key cap	5
MP10	8930064820	2781 key sheet	1
SP1	Optional puroduct	Speaker SP-22 [F1821/D], [F1810] only	1

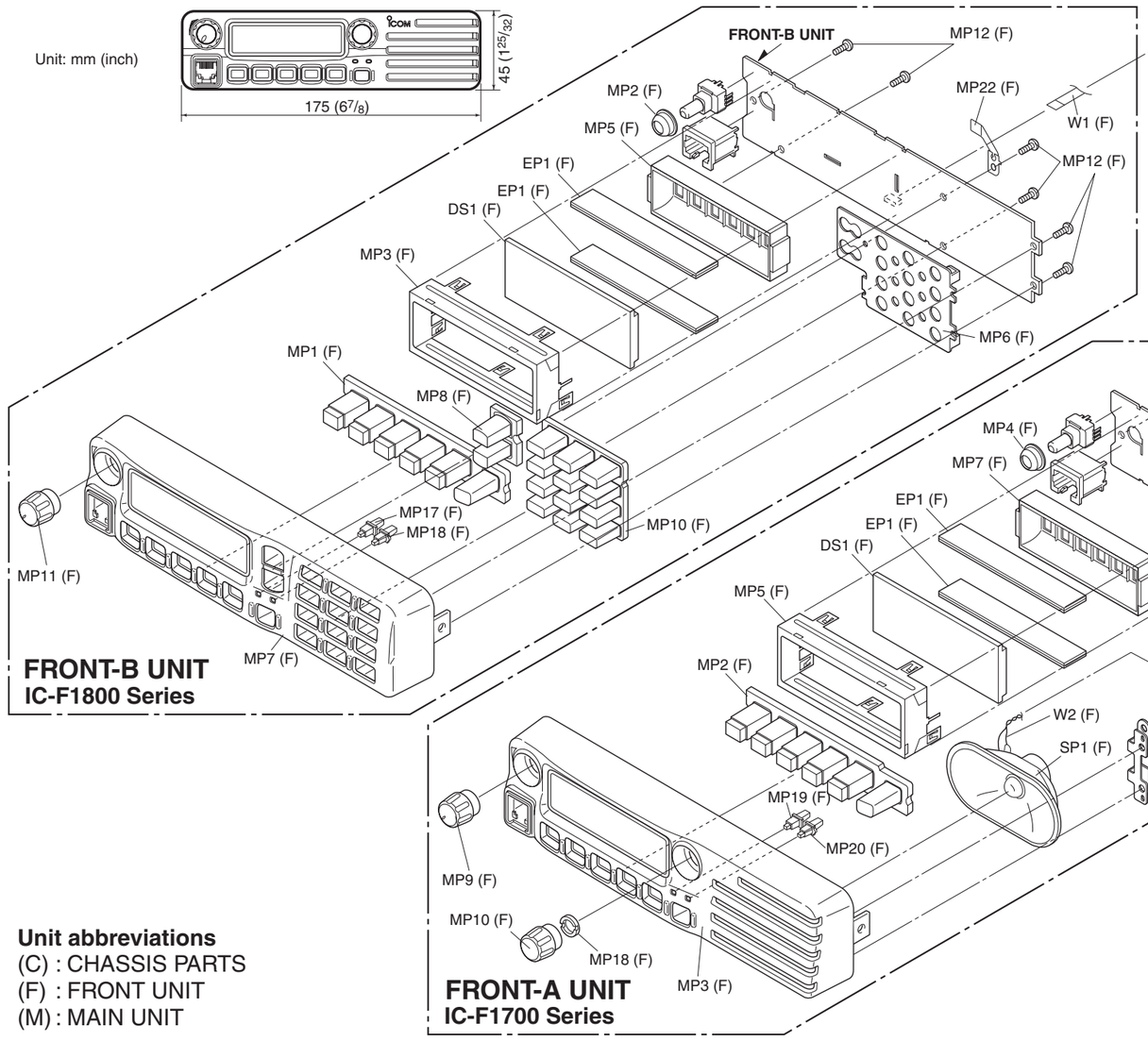


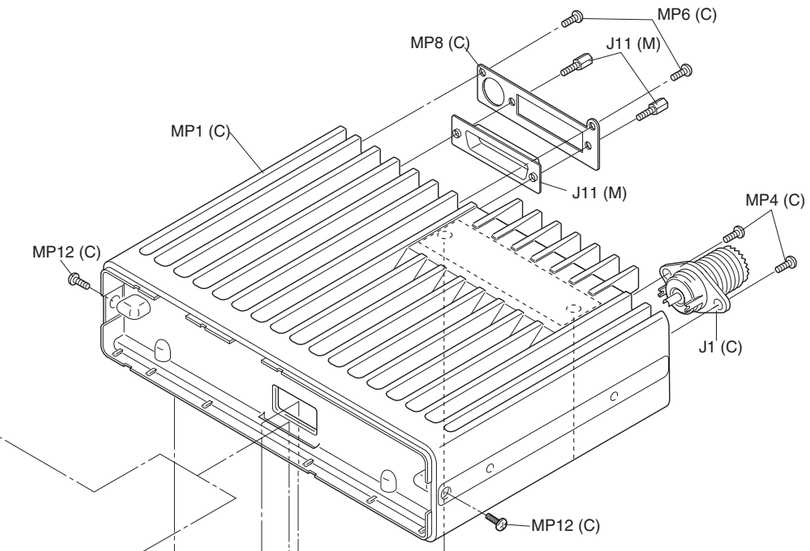
Screw abbreviations

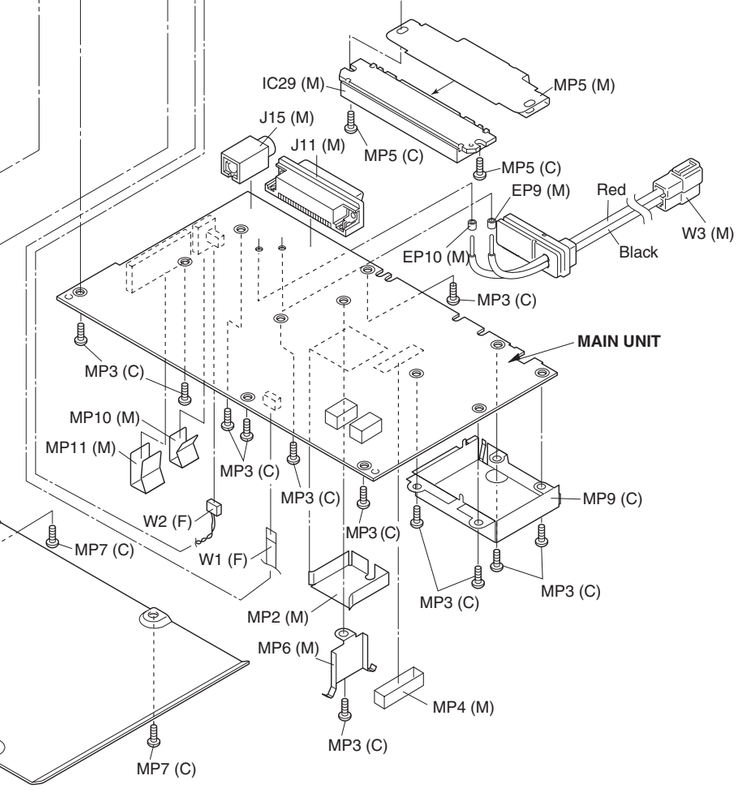
A0, B0, BT: Self-tapping
PH: Pan head
NI: Nickel
SUS: Stainless
NI-ZU: Nickel-Zinc



Unit: mm (inch)



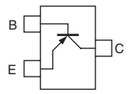
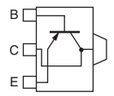
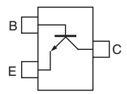
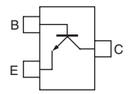
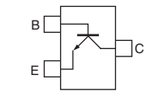
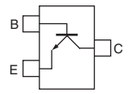
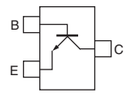
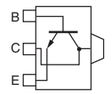
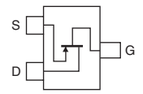
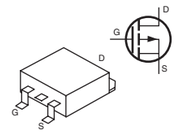
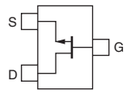
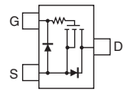
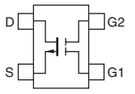
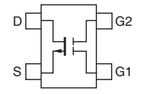
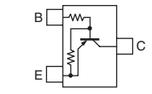
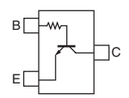
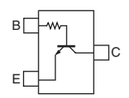
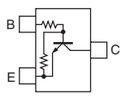
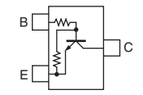
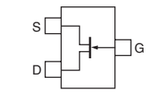
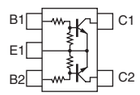
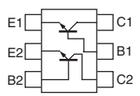




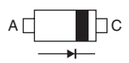
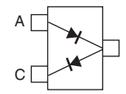
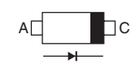
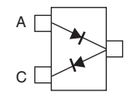
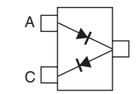
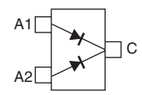
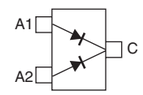
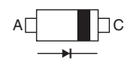
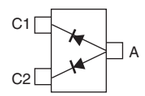
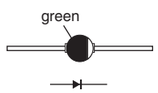
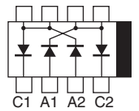
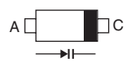
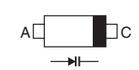
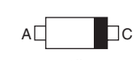
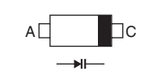
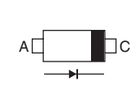
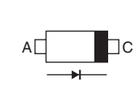
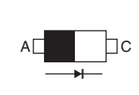
Unit abbreviations
(C) : CHASSIS PARTS
(F) : FRONT UNIT
(M) : MAIN UNIT

SECTION 8 SEMI-CONDUCTOR INFORMATION

• TRANSISTOR AND FET'S

2SA1577 T106 Q (S mbol: HQ) 	**2SB1132 Q** (S mbol: BAQ) 	**2SC3356 T1B R25** (S mbol: R25) 	**2SC4116 BL** (S mbol: LL) 	**2SC4215 O** (S mbol: QO) 
2SC4226 T1 R25 (S mbol: R25) 	**2SC5107 O** (S mbol: MFO) 	**2SD1664 T100Q** (S mbol: DAQ) 	**2SJ144 GR** (S mbol: VG) 	**2SJ377** (S mbol: 4L) 
2SK880 Y (S mbol: XY) 	**2SK1829** (S mbol: K1) 	**3SK293** (S mbol: UF) 	**DTA114EUA T106** (S mbol: U73) 	**DTA144EUA T106** (S mbol: 16) 
DTC114EUA T106 (S mbol: 04) 	**DTC114TUA T106** (S mbol: 04) 	**DTC144EUA T106** (S mbol: 26) 	**DTC363 EK** (S mbol: H27) 	**PMBFJ310** (S mbol: 50*) 
XP1214 (S mbol: 9H) 	**XP6501 AB** (S mbol: 5N) 			

• DIODES

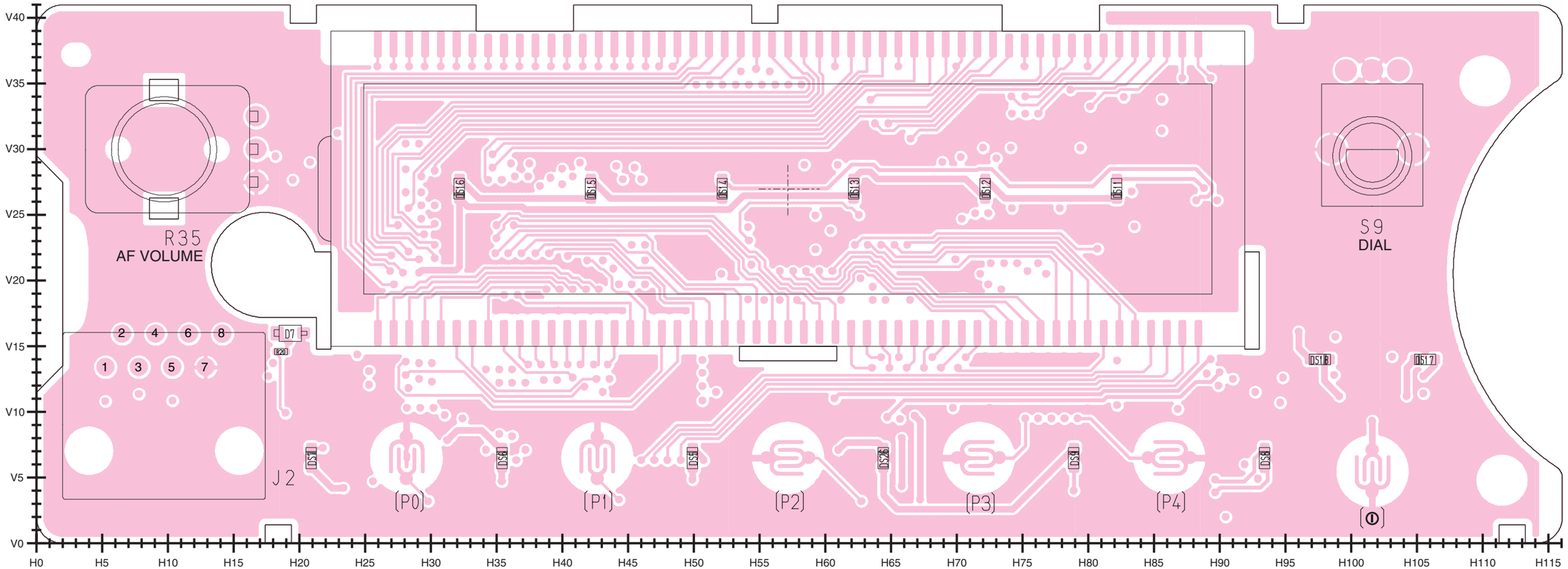
1SS355 (S mbol: A) 	**1SS375-TL** (S mbol: FH) 	**1SV239** (S mbol: TC) 	**DA204U** (S mbol: K) 	**DA221 TL** (S mbol: K) 
DAN202K T146 (S mbol: N) 	**DAN202U T106** (S mbol: N) 	**DAN222TL** (S mbol: N-4) 	**DAP202U T106** (S mbol: P) 	**DSA3A1** (S mbol: Green) 
HSB88WSTR (S mbol: Silver line) 	**HVC321B1** (S mbol: V8) 	**HVC350B** (S mbol: B0) 	**HVC375B** (S mbol: B8) 	**HVC376B** (S mbol: B9) 
MA2S111 (S mbol: A) 	**MA2S728** (S mbol: B) 	**MA77** (S mbol: 4B) 	**MA8056 M** (S mbol: 5-6) 	**RB886G T2R** (S mbol: C)
UM9401F (S mbol: none) 	**XB15A407** (S mbol: None) 			

SECTION 9 BOARD LAYOUTS

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

9-1 FRONT-A UNIT (for IC-F1700 Series)

• TOP VIEW



J2

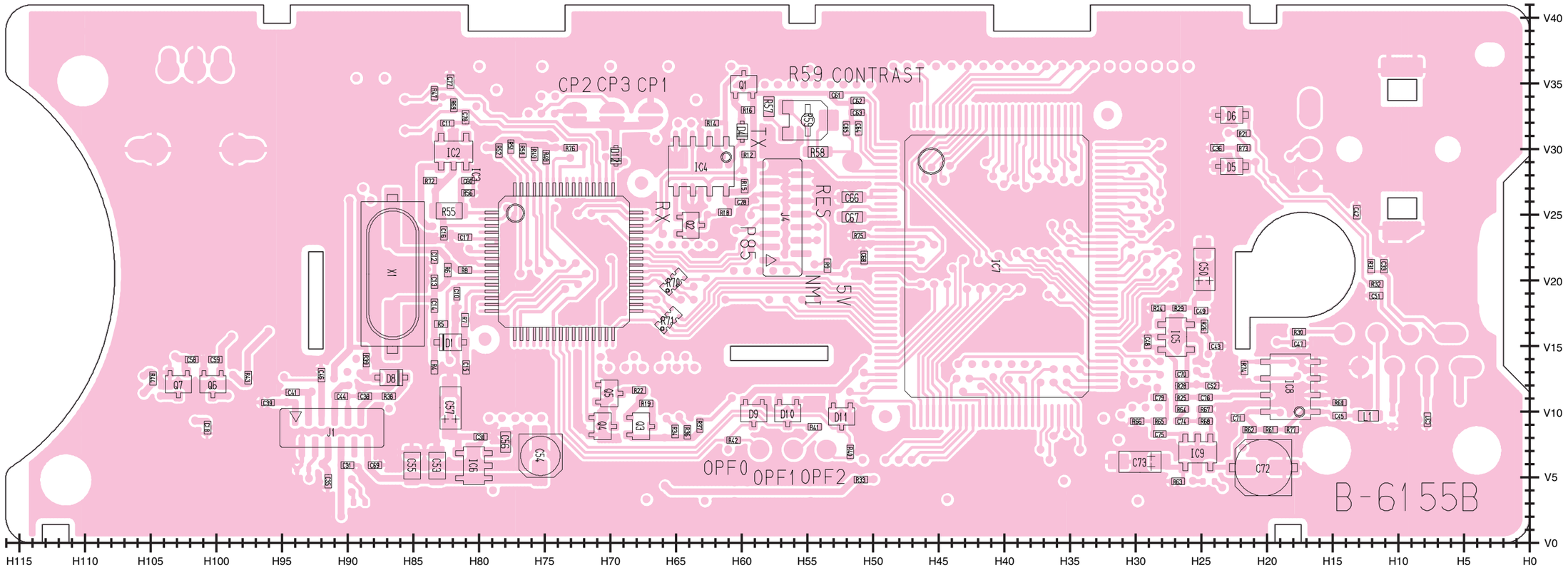
2	CLO	PTT	MIC	CLI	8
1	8V	AFO	MICE	GND	7

to MIC JACK

FRONT-A UNIT

• BOTTOM VIEW (for IC-F1700 series)

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



J1

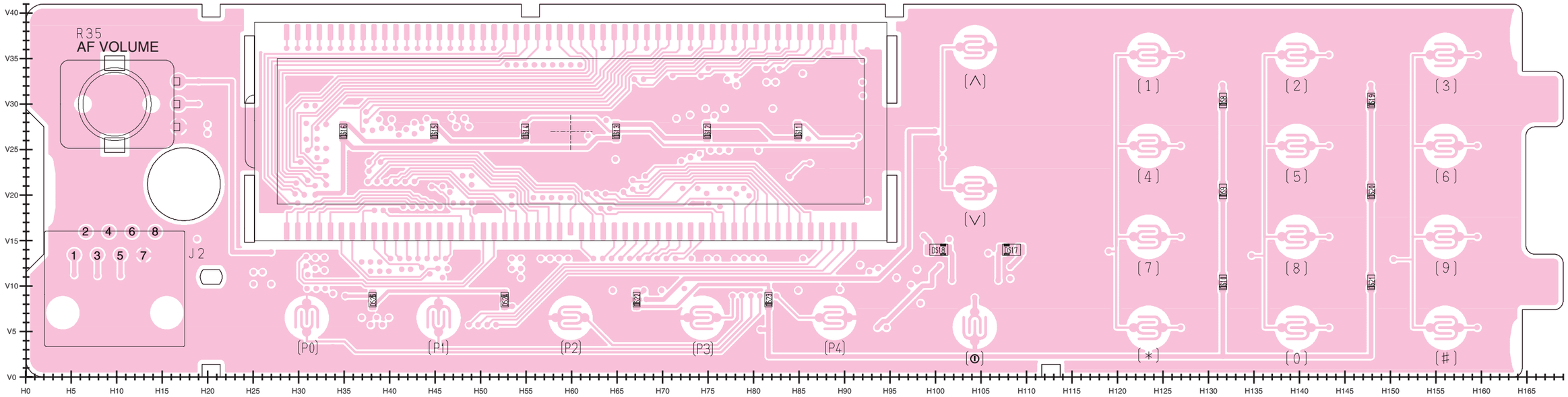
1	AFO	MIC	POSW	MFDA	GND	SLQ	11
2	GND	MICE	FMDA	8V	GND	VCC	12

to MAIN UNIT

9-2 FRONT-B UNIT (for IC-F1800 Series)

• TOP VIEW

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



J2

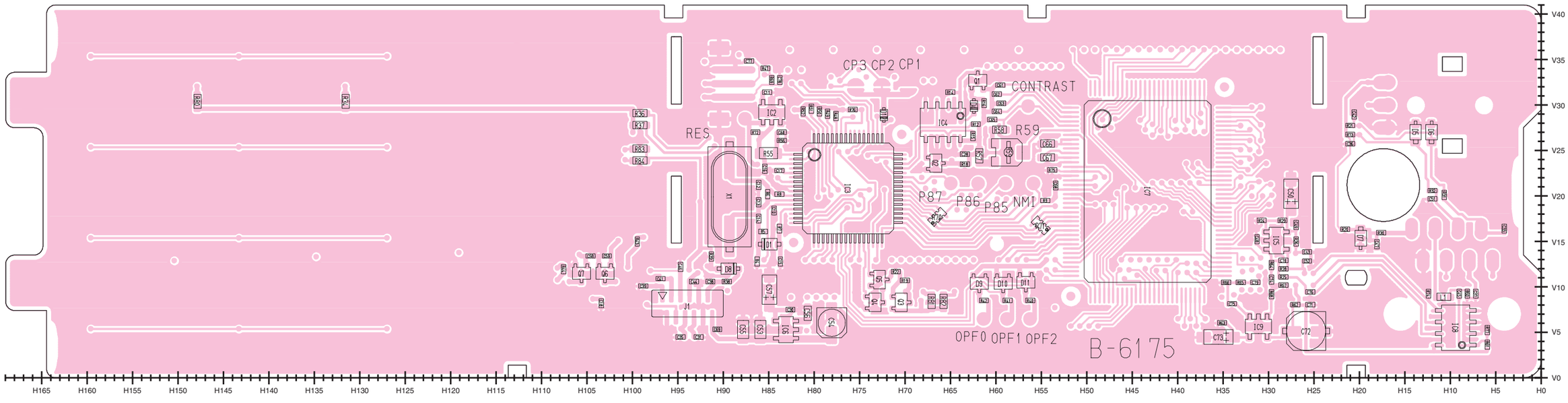
2	CLO	PTT	MIC	CLI			8
1	8V	AFO	MICE	GND			7

to MIC JACK

FRONT-B UNIT

• BOTTOM VIEW (for IC-F1800 series)

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



J1

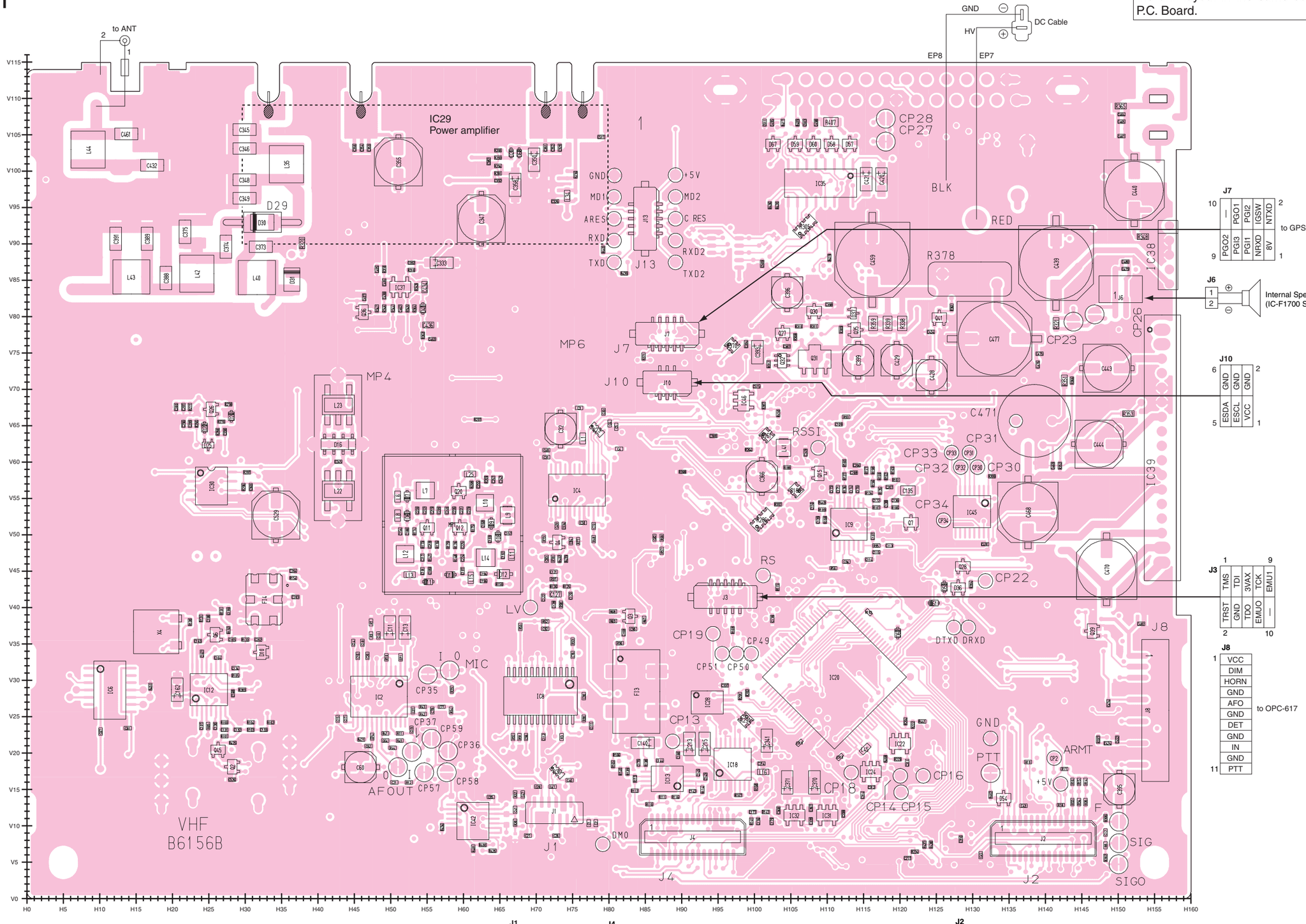
1	AFO	MIC	POSW	MFDA	GND	SLQ	11
2	GND	MICE	FMDA	8V	GND	VCC	12

to MAIN UNIT

9-3 MAIN UNIT

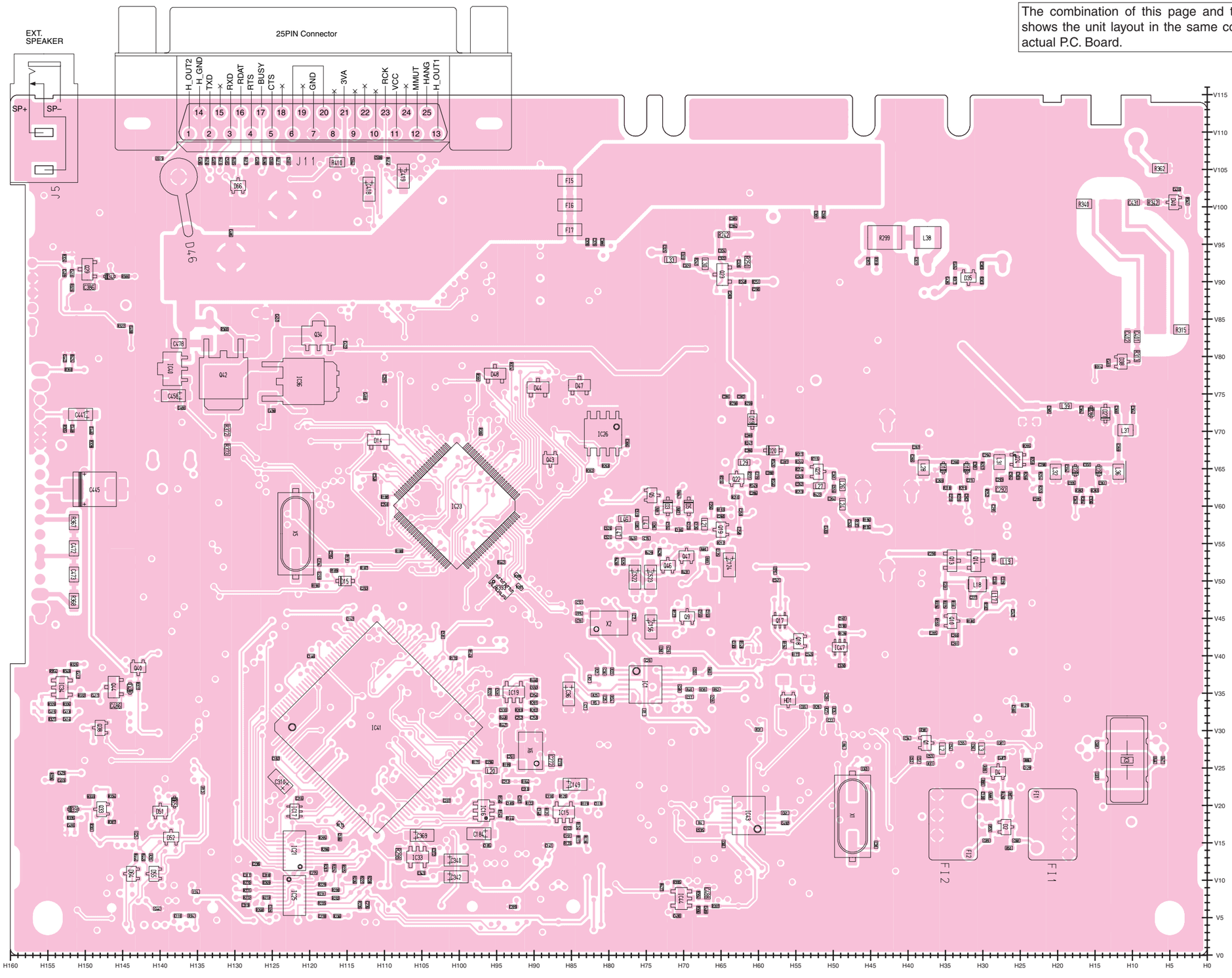
• TOP VIEW

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

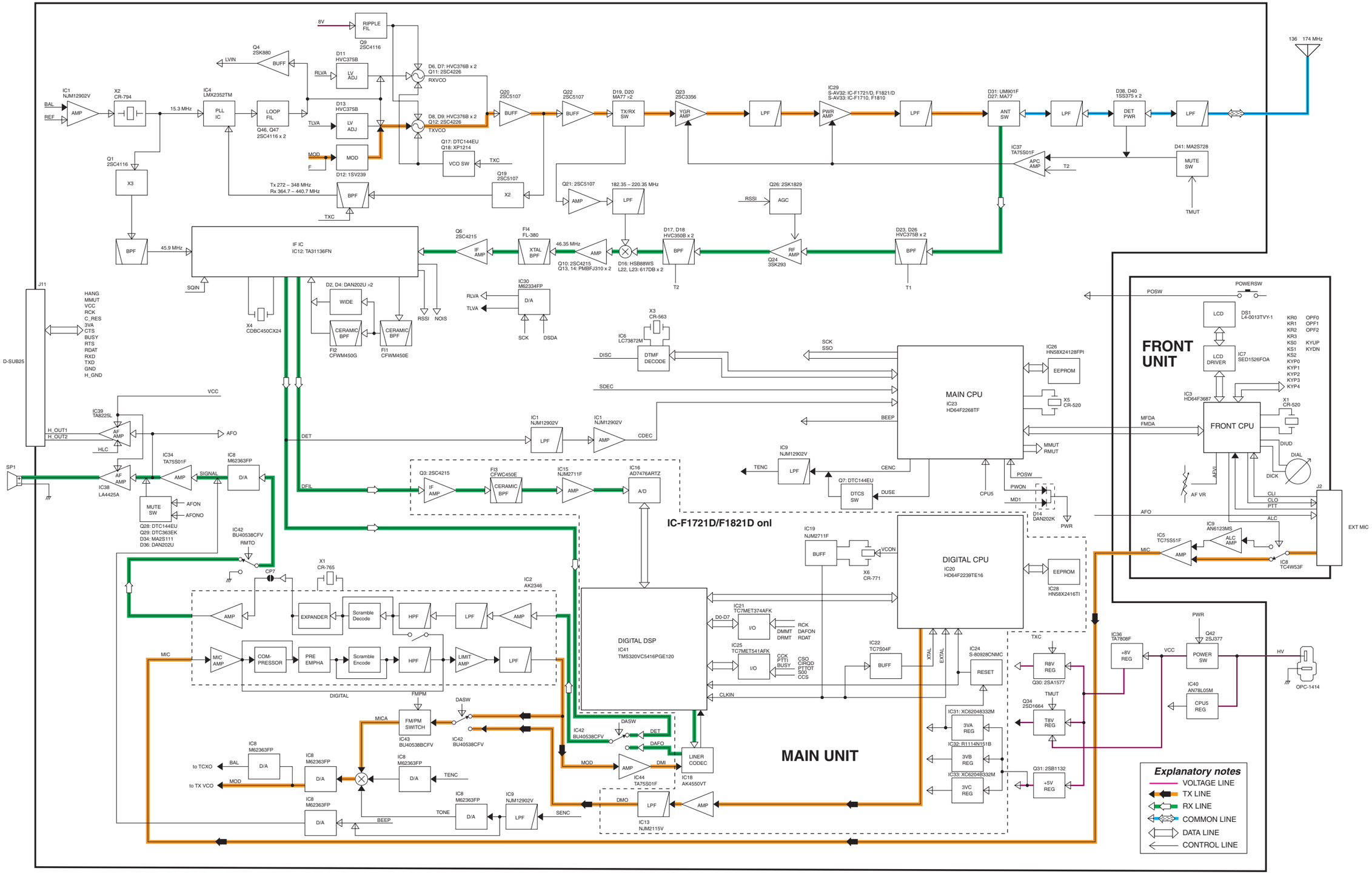


MAIN UNIT
• **BOTTOM VIEW**

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

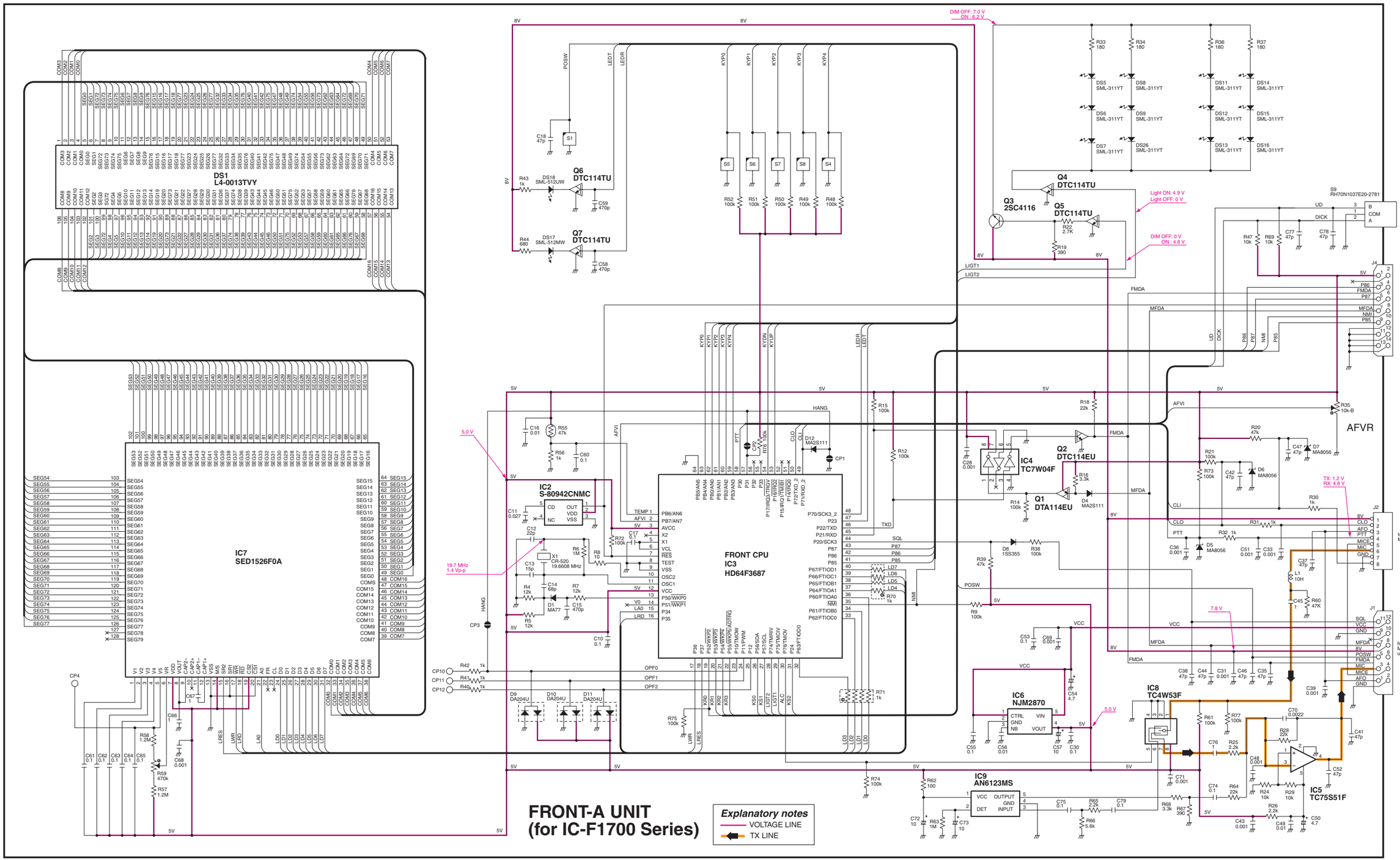


SECTION 10 BLOCK DIAGRAM

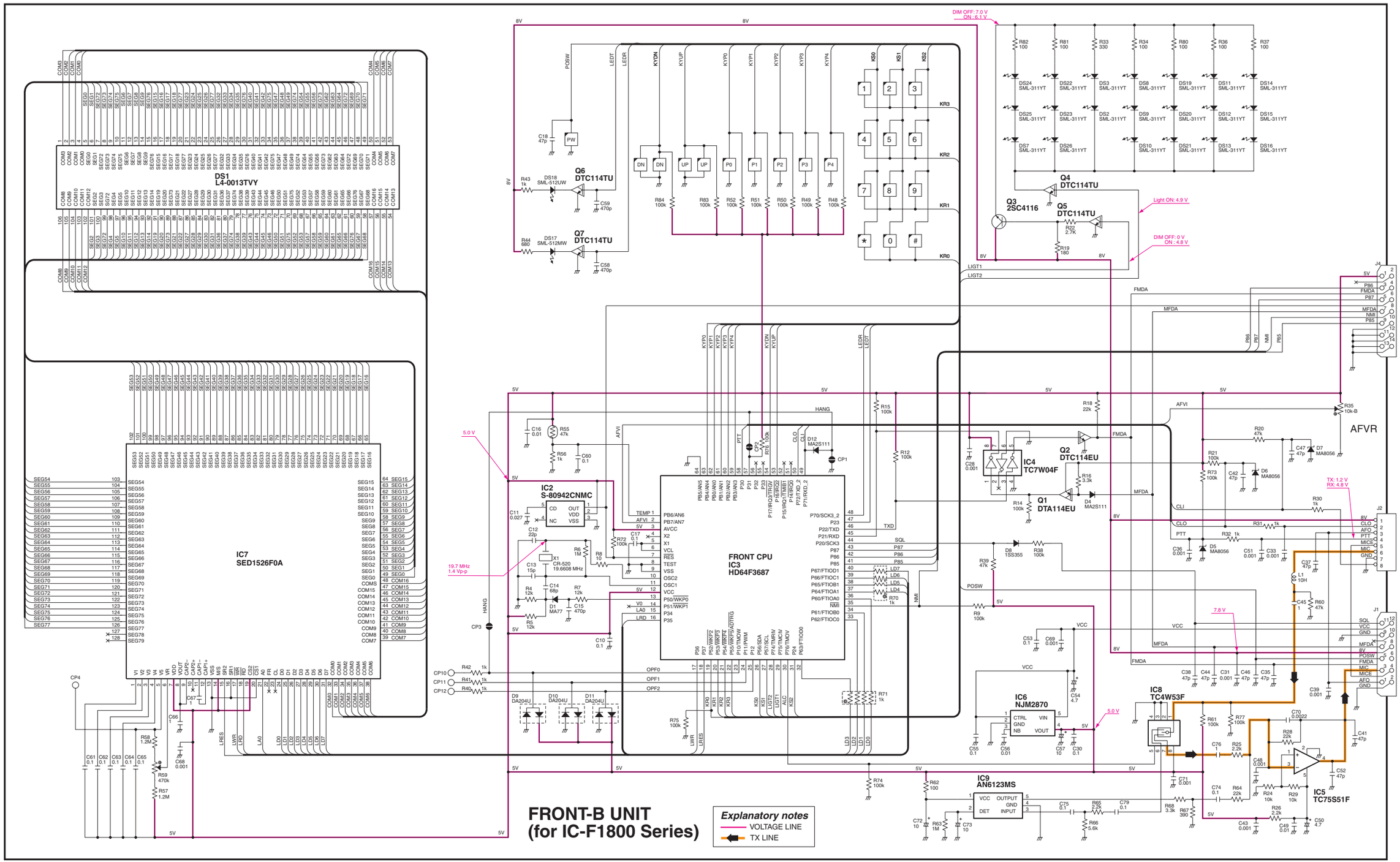


SECTION 11 VOLTAGE DIAGRAM

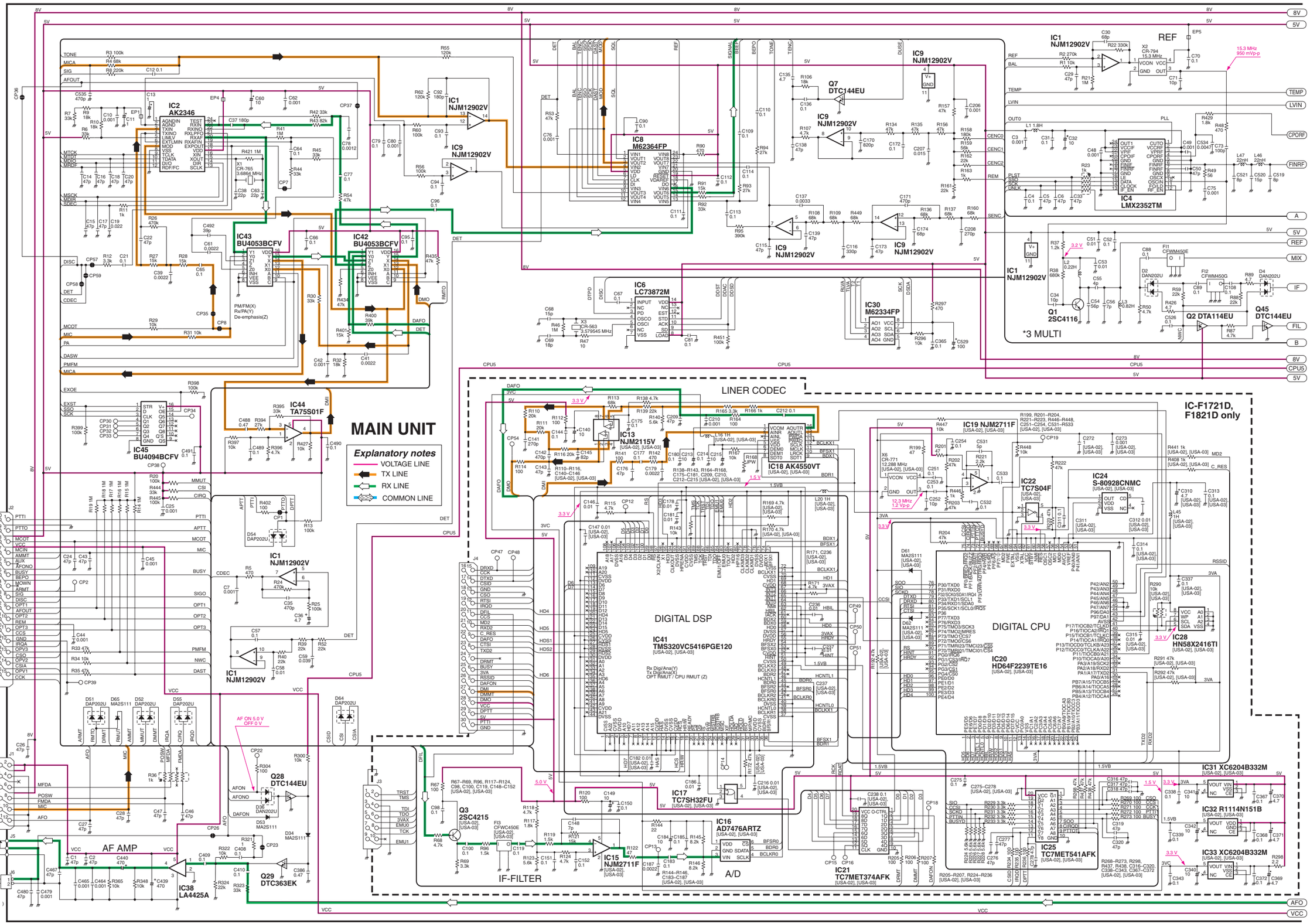
11-1 FRONT-A UNIT (for IC-F1700 Series)



11-2 FRONT-B UNIT (for IC-F1800 Series)



11-3 MAIN UNIT



MAIN UNIT

Explanatory notes
- VOLTAGE LINE
- TX LINE
- RX LINE
- COMMON LINE

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