



SERVICE MANUAL

HF/50 MHz TRANSCEIVER

IC-7600

S-14523XZ-C1
Mar. 2009

Icom Inc.

INTRODUCTION

This service manual describes the latest technical information for the **IC-7600** HF/50 MHz TRANSCEIVER at the time of publication.

MODEL	VERSION	TX OUTPUT POWER
IC-7600	[USA]	100 W
	[EUR]	
	[EUR-1]	
	[ESP]	
	[KOR]	
	[TPE]	
	[CHN]	
	[ITR]	
	[FRA]	
	[EXP]	

CAUTION

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

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

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

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

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



ORDERING PARTS

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

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

<ORDER EXAMPLE>

1130013010	SN74AHC1G08DCK3	IC-7600	LOGIC UNIT	1 piece
8930079060	3073 DC PLATE	IC-7600	CHASSIS	2 pieces

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

REPAIR NOTES

1. Make sure that the problem is internal before disassembling the transceiver.
2. **DO NOT** open the transceiver until the transceiver is disconnected from its power source.
3. **DO NOT** force any of the variable components. Turn them slowly and smoothly.
4. **DO NOT** short any circuits or electronic parts. An insulated tuning tool **MUST** be used for all adjustments.
5. **DO NOT** keep power ON for a long time when the transceiver is defective.
6. **DO NOT** transmit power into a Standard Signal Generator or a Sweep Generator.
7. **ALWAYS** connect a 50 dB to 60 dB attenuator between the transceiver and a Deviation Meter or Spectrum Analyzer when using such test equipment.
8. **READ** the instructions of test equipment thoroughly before connecting a test equipment to the transceiver.

TABLE OF CONTENTS

SECTION 1 SPECIFICATIONS

SECTION 2 INSIDE VIEWS

SECTION 3 CIRCUIT DESCRIPITON

3-1	RECEIVER CIRCUITS.....	3-1
3-2	TRANSMITTER CIRCUITS.....	3-3
3-3	FREQUENCY SYNTHESIZER CIRCUITS.....	3-6
3-4	VOLTAGE BLOCK DIAGRAM.....	3-8
3-5	CPU PORT ALLOCATIONS.....	3-9

SECTION 4 ADJUSTMENT PROCEDURES

4-1	PREPARATION.....	4-1
4-2	REFERENCE FREQUENCY SIGNAL LEVEL ADJUSTMENT.....	4-3
4-3	PLL UNIT ADJUSTMENT.....	4-3
4-4	PA UNIT ADJUSTMENT.....	4-6
4-5	CTRL UNIT ADJUSTMENT.....	4-8
4-6	MAIN ADJUSTMENT.....	4-9
4-7	MAIN UNIT (SCOPE) ADJUSTMENT.....	4-13
4-8	RF UNIT ADJUSTMENT.....	4-15
4-9	SOFTWARE ADJUSTMENT.....	4-17

SECTION 5 PARTS LIST

SECTION 6 MECHANICAL PARTS

SECTION 7 BOARD LAYOUTS

SECTION 8 GENERAL WIRING

SECTION 9 BLOCK DIAGRAM

SECTION 10 VOLTAGE DIAGRAM

LOGIC UNIT.....	10-1
DISPLAY UNIT (Incl. VR-A, VR-B, VR-C, MIC, JACK and RIT BOARDS).....	10-5
MAIN UNIT.....	10-8
PLL UNIT.....	10-14
RF UNIT.....	10-17
TUNER UNIT.....	10-19
FILTER UNIT.....	10-20
CTRL UNIT.....	10-21
BPF UNIT.....	10-24
DCDC UNIT.....	10-24
BPF UNIT.....	10-24
PREAMP BOARD.....	10-25
PA UNIT.....	10-25

■ General

- Frequency coverage : (unit: MHz)
 - Receive : 0.030–60.000*1*2
 - Transmit : 1.800–1.999*2, 3.500–3.999*2, 5.33050*3, 5.34650*3, 5.36650*3, 5.37150*3, 5.40350*3, 7.000–7.300*2, 10.100–10.150*2, 14.000–14.350*2, 18.068–18.168*2, 21.000–21.450*2, 24.890–24.990*2, 28.000–29.700*2, 50.000–54.000*2
- *1Some frequency bands are not guaranteed.
- *2Depending on version. *3USA version only.
- Mode : USB, LSB, CW, RTTY, PSK, AM, FM
- No. of memory channels : 101 (99 regular, 2 scan edges)
- Antenna connector type : SO-239 × 2 and phono jack (RCA; 50 Ω impedance)
- Temperature range : 0°C to +50°C (+32°F to +122°F)
- Frequency stability : Less than ±0.5 ppm 5 min. after power ON. (0°C to +50°C; +32°F to +122°F)
- Frequency resolution : 1 Hz
- Power supply : 13.8 V DC ±15% (negative ground)
- Power consumption
 - Transmit : Max. power 23 A
 - Receive : Standby 3.0 A, Max. audio 3.5 A
- Dimensions : 340(W) × 116(H) × 279.3(D) mm (projections not included)
- Weight (approx.) : 10.0 kg; 22 lb
- ACC 1 connector : 8-pin DIN connector
- ACC 2 connector : 7-pin DIN connector
- CI-V connector : 2-conductor 3.5 (d) mm (1/8")
- Display : 5.8-inch (diagonal) TFT color LCD

■ Transmitter

- Output power (continuously adjustable)
 - SSB/CW/RTTY/FM : Less than 2 to 100 W
 - AM : Less than 1 to 30 W
- Modulation system
 - SSB : Digital PSN modulation
 - AM : Digital Low power modulation
 - FM : Digital Phase modulation
- Spurious emission
 - HF bands : Less than –50 dB
 - 50 MHz band : Less than –63 dB
- Carrier suppression : More than 40 dB
- Unwanted sideband suppression : More than 55 dB
- ΔTX variable range : ±9.999 kHz
- Microphone connector : 8-pin connector (600 Ω)
- ELEC-KEY connector : 3-conductor 6.35(d) mm (1/4")
- KEY connector : 3-conductor 6.35(d) mm (1/4")
- SEND connector : Phono jack (RCA)
- ALC connector : Phono jack (RCA)

■ Receiver

- Receive system : Double superheterodyne system
- Intermediate frequencies
 - 1st : 64.455 MHz
 - 2nd : 36 kHz
- Sensitivity (typical)
 - SSB, CW, RTTY : 0.15 μV (1.80–29.99 MHz)*1
 - (10 dB S/N) BW=2.4 kHz : 0.12 μV (50.0–54.0 MHz)*2
 - AM (10 dB S/N) : 6.3 μV (0.1–1.799 MHz)*1
 - BW=6 kHz : 2 μV (1.80–29.99 MHz)*1
 - 1.6 μV (50.0–54.0 MHz)*2
 - FM (12 dB SINAD) : 0.5 μV (28.0–29.99 MHz)*1
 - BW=15 kHz : 0.3 μV (50.0–54.0 MHz)*2
- *1Pre-amp 1 is ON. *2Pre-amp 2 is ON.
- Squelch sensitivity (Pre-amp: ON)
 - SSB : Less than 3.2 μV
 - FM : Less than 0.3 μV
- Selectivity (IF filter shape is set to SHARP.)
 - SSB (BW: 2.4 kHz) : More than 2.4 kHz/–6 dB, Less than 3.8 kHz/–60 dB
 - CW (BW: 500 Hz) : More than 500 Hz/–6 dB, Less than 900 Hz/–60 dB
 - RTTY (BW: 350 Hz) : More than 350 Hz/–6 dB, Less than 650 Hz/–60 dB
 - AM (BW: 6 kHz) : More than 6.0 kHz/–6 dB, Less than 15.0 kHz/–60 dB
 - FM (BW: 15 kHz) : More than 12.0 kHz/–6 dB, Less than 20.0 kHz/–60 dB
- Spurious and image rejection ratio : More than 70 dB (except IF through on 50 MHz band)
- AF output power : More than 2.0 W at 10% distortion with an 8 Ω load
- RIT variable range : ±9.999 kHz
- PHONES connector : 3-conductor 6.35 (d) mm (1/4")
- External SP connector : 2-conductor 3.5 (d) mm (1/8")/8 Ω
- DSP ANF attenuation : More than 30 dB (with 1 kHz single tone)
- DSP NR attenuation : More than 6 dB (noise rejection in SSB)

■ Antenna tuner

- Matching impedance range
 - HF bands : 16.7 to 150 Ω unbalanced (Less than VSWR 3:1)
 - 50 MHz band : 20 to 125 Ω unbalanced (Less than VSWR 2.5:1)
- Minimum operating input power : 8 W (HF bands), 15 W (50MHz band)
- Tuning accuracy : VSWR 1.5:1 or less
- Insertion loss : Less than 1.0 dB (after tuning at RF power 100W)

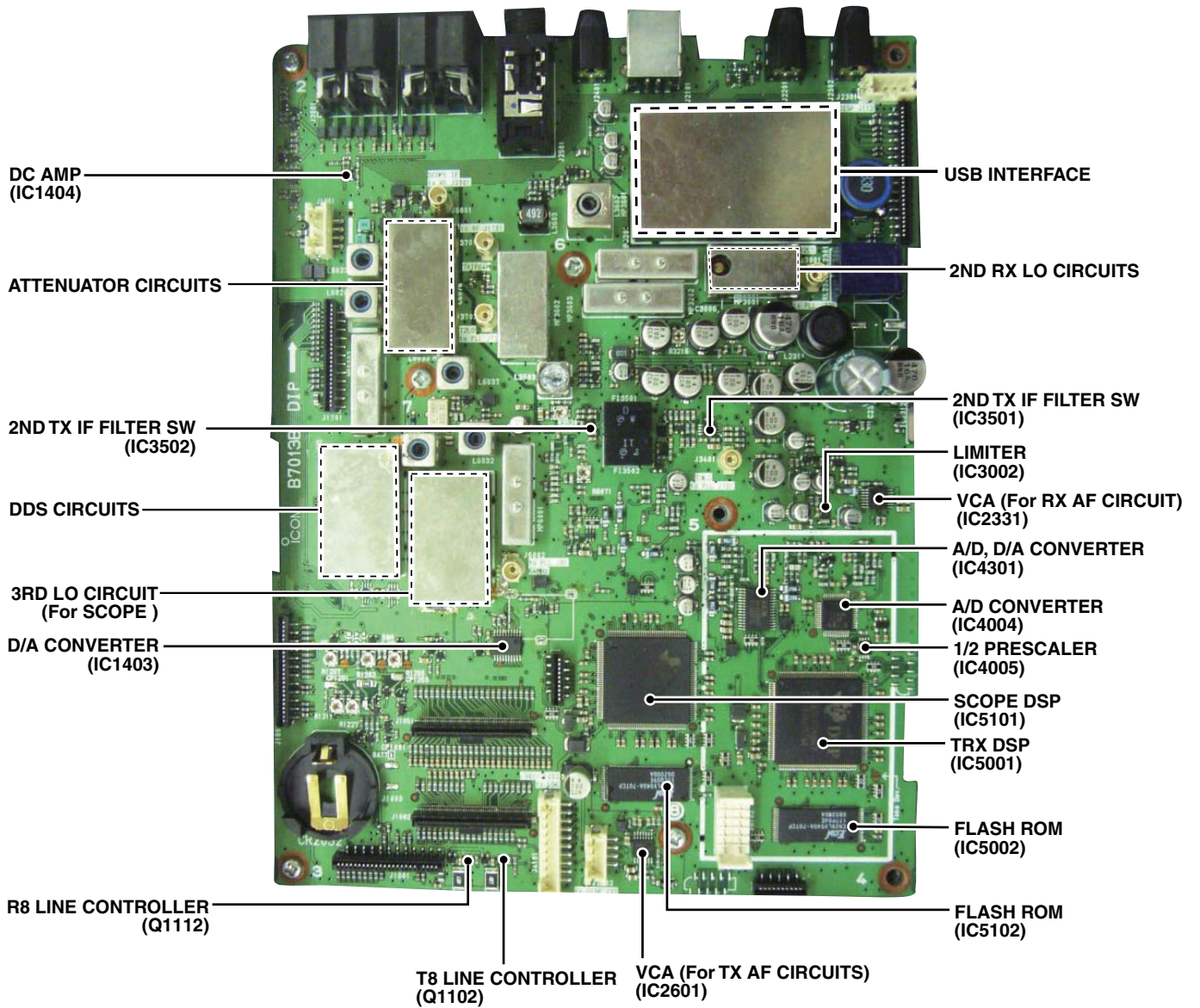
Spurious signals may be displayed on the spectrum scope screen regardless of the transceiver's state (Tx or Rx). They are generated in the scope circuit. This does not indicate a transceiver malfunction.

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

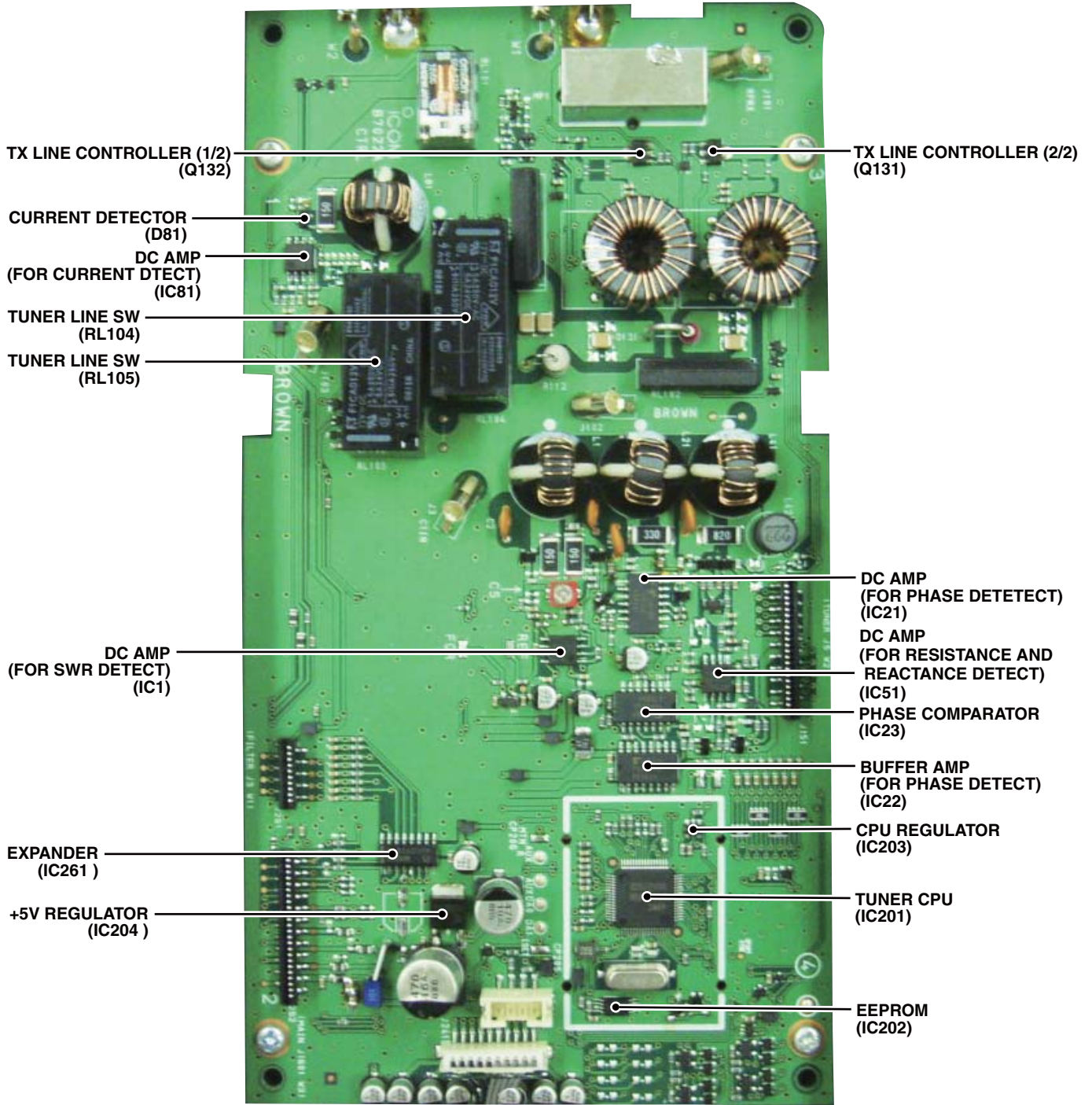
SECTION 2

INSIDE VIEWS

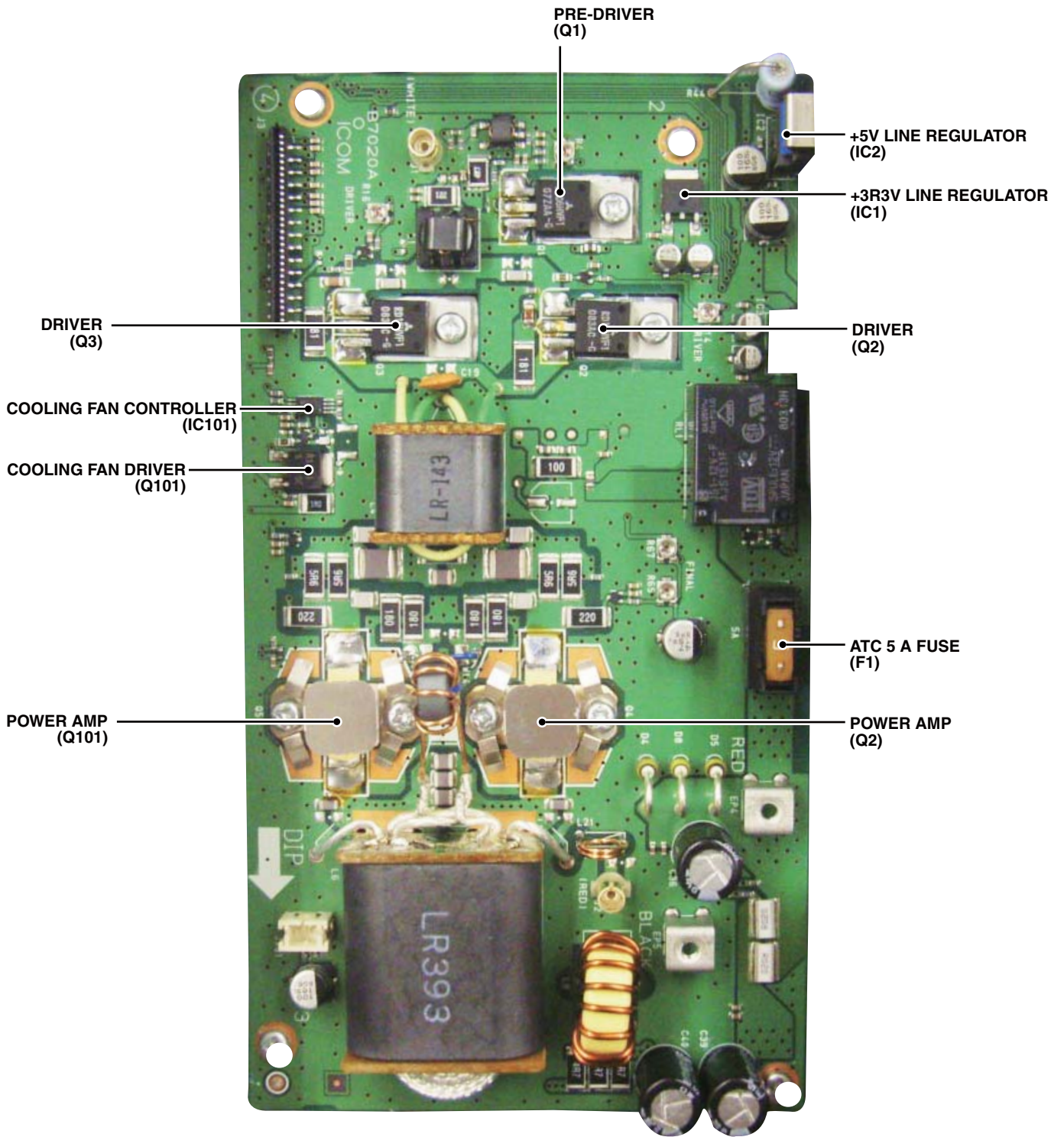
• MAIN UNIT



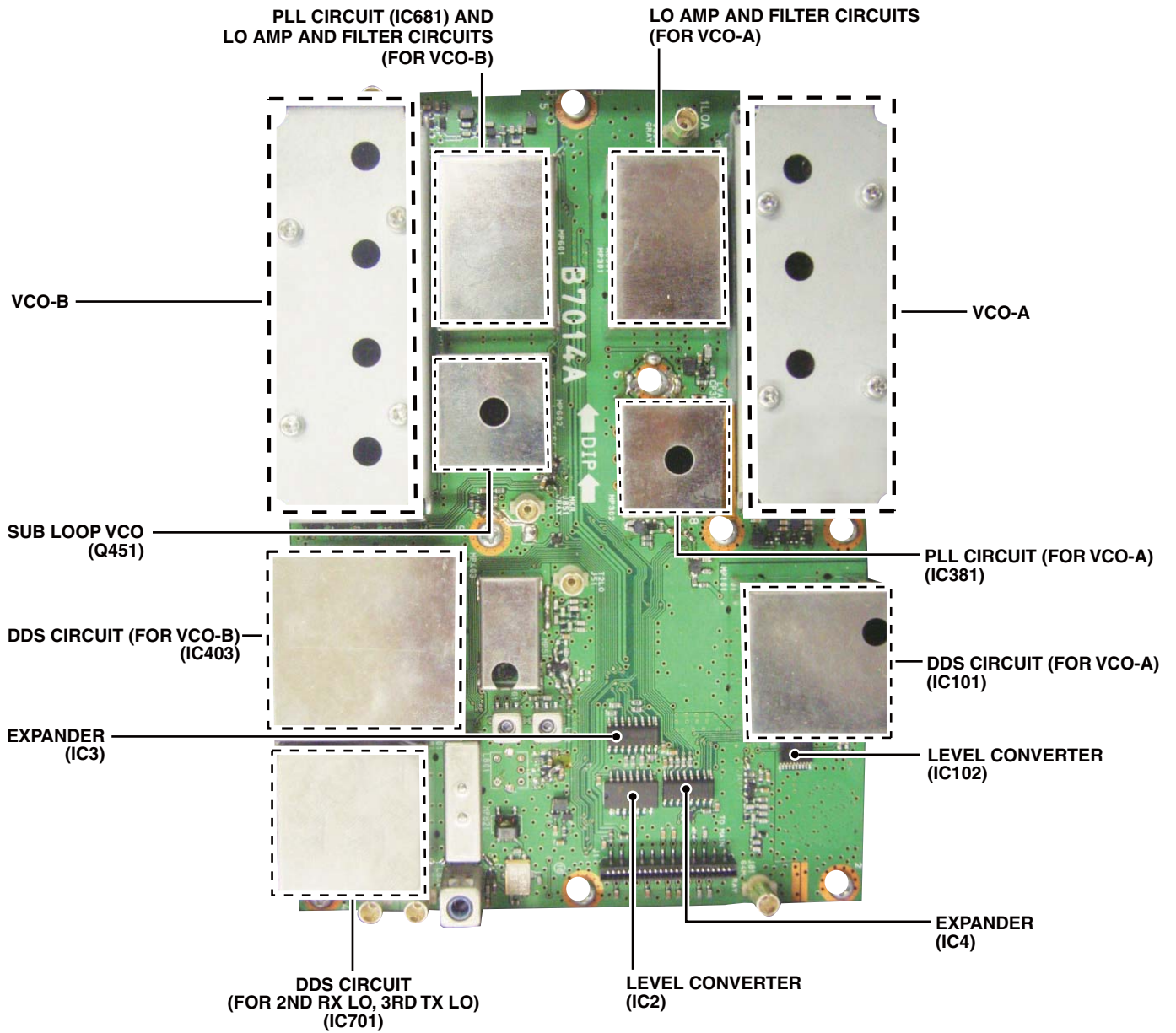
• CTRL UNIT



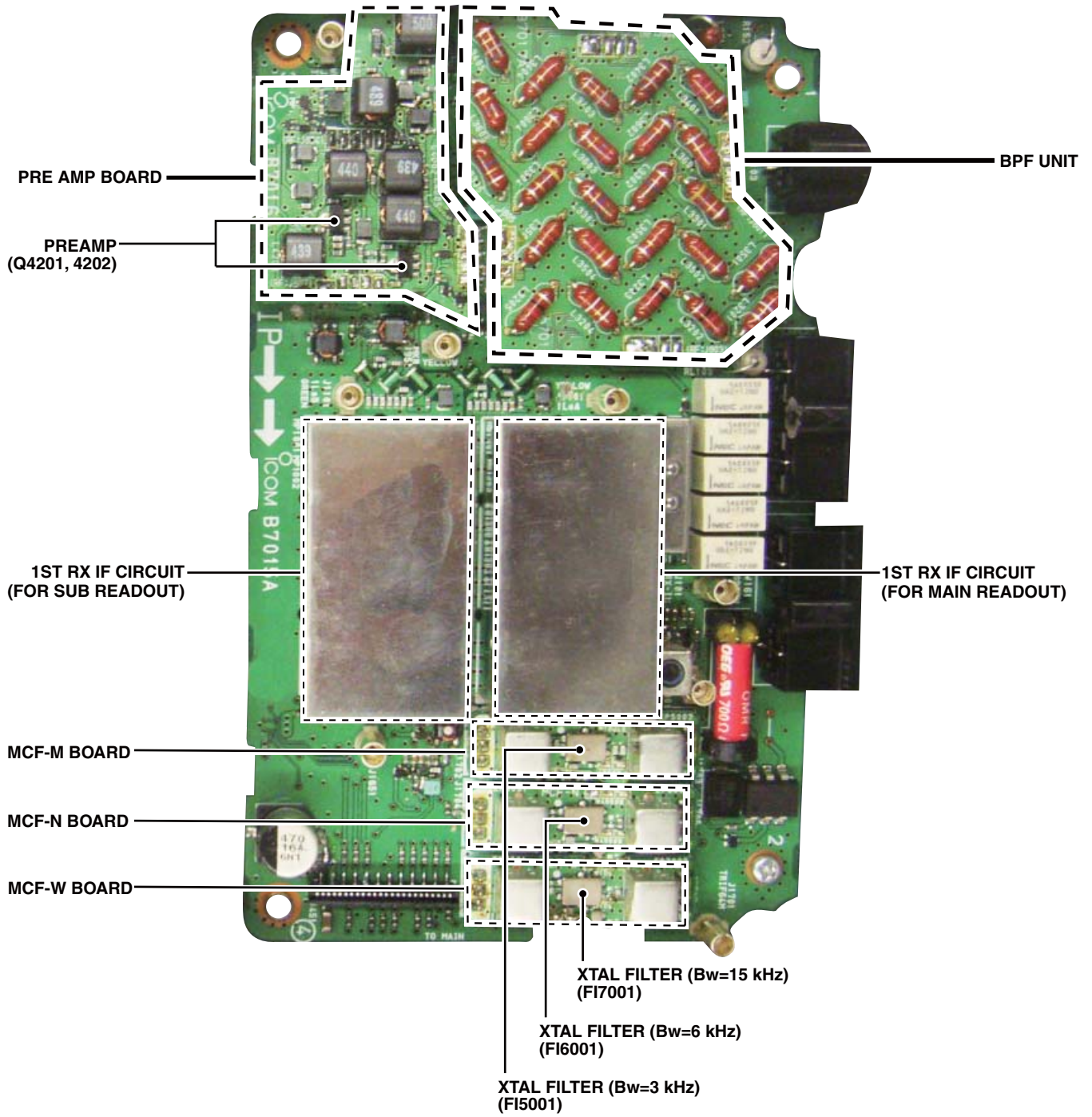
• PA UNIT



• PLL UNIT



• RF UNIT



3-1 RECEIVER CIRCUITS

ANTENNA SWITCHING CIRCUIT AND ANTENNA MATCHING CIRCUITS (CTRL AND TUNER UNITS)

RX signals from the antenna connector; [ANT1] (J5) or [ANT2] (J6) are passed through the antenna switch (RL101) and current detector (D81), and applied to the RF UNIT via the tuner switches (RL104 and RL105), RX line switch (RL103) and LPF.

If the automatic antenna tuning function is activated, the RX signals from the current detection circuit (D81, 301, 302) are applied to the antenna tuning network on the TUNER UNIT to match the transceiver to the connected antenna automatically.

The RX signals from the TUNER UNIT are applied to the RF UNIT via the RX line switch (RL103) and LPF.

ATTENUATOR CIRCUITS (RF UNIT)

The RX signals from the CTRL UNIT are passed through the RECEIVE ANTENNA IN/OUT CONNECTOR switches (RL104, 105) and RX line cut switch (RL101), then passed through or bypassed the attenuator circuits, according to the setting.

The combination of attenuator (or bypass) that the RX signals are passed through determines the entire attenuation level; 0 dB, 6 dB, 12 dB or 18 dB.

The RX signals which are passed through or bypassed the attenuator circuits are applied to the BPF circuits.

BPF CIRCUITS (RF UNIT AND BPF BOARD)

The RX signals from the attenuator circuits are passed through an LPF or one of BPFs correspond to the operating frequency, to remove unwanted out-of-band signals.

The table below shows filter which the RX signals are passed in each frequency range.

Name of BPF	Frequency range	Located on
B0	0.03–1.599999 MHz	RF UNIT
B1	1.6–1.999999 MHz	BPF BOARD
B2	2.0–2.999999 MHz	BPF BOARD
B3	3.0–3.999999 MHz	BPF BOARD
B4	4.0–5.999999 MHz	BPF BOARD
B5	6.0–7.999999 MHz	BPF BOARD
B6	8–10.999999 MHz	RF UNIT
B7	11–14.999999 MHz	RF UNIT
B8	15–21.999999 MHz	RF UNIT
B9	22–29.999999 MHz	RF UNIT
B10 (for RX)	50–54 MHz	RF UNIT
B10W	30–49.999999 MHz 54.000001–59.999999 MHz	RF UNIT
B10TX (for TX)	50–54 MHz	RF UNIT

The filtered RX signals are applied to the PREAMP BOARD.

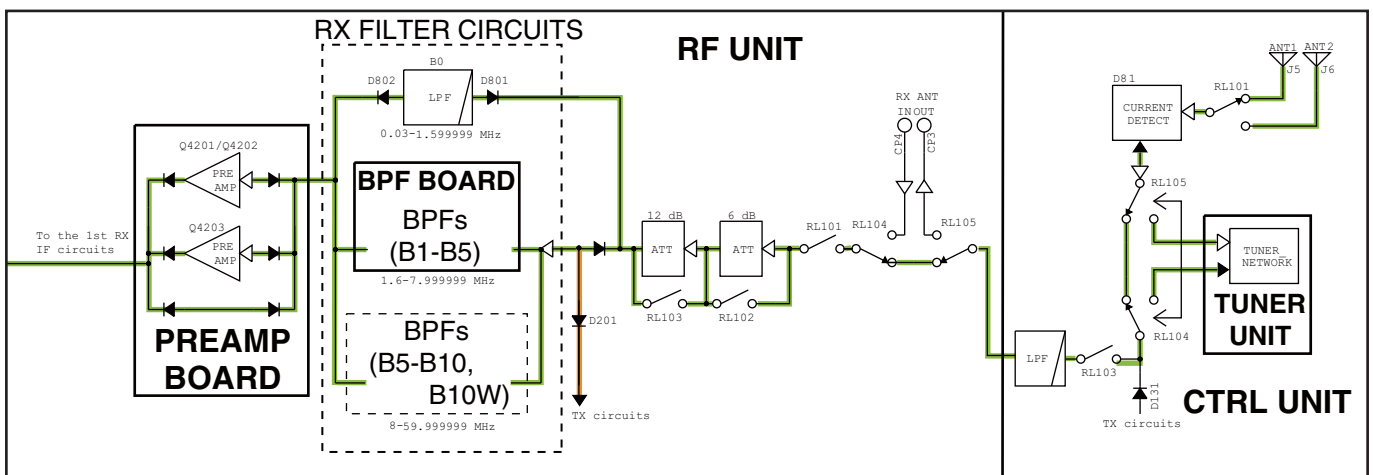
PREAMPLIFIERS (PREAMP BOARD)

The RX signals from the BPF circuits are applied to or bypassed the preamplifier.

When the PREAMP FUNCTION is activated, the RX signals are amplified by one of preamplifiers (Q4201, Q4202 or Q4203).

The amplified or bypassed RX signals are applied to the RF UNIT again.

• RF CIRCUITS



1ST RX IF CIRCUITS (RF UNIT)

The RX signals from the PREAMP BOARD are applied to the splitter (L904) to divide the received signals for dualwatch operation.

The separated RX signals are passed through the LPF which removes unwanted signals (60 MHz and higher), and amplified by the RF AMP (Main readout; Q1201, 1202/Sub readout; Q1001, 1002), then applied to the 1st RX IF mixer (Main readout; Q1203–1206/Sub readout; Q1003–1006).

The RX signals are converted into the 1st RX IF signal by being mixed with 1st RX LO signals (64.485–124.455 MHz) from the PLL UNIT.

The converted 1st RX IF signals are passed through the 2-staged attenuator (Main readout; D1201–1203/Sub

readout; D1001–1003) which adjusts the balance of both 1st RX IF signals, and amplified by 1st RX IF AMP (Main readout; Q1208/Sub readout; Q1008).

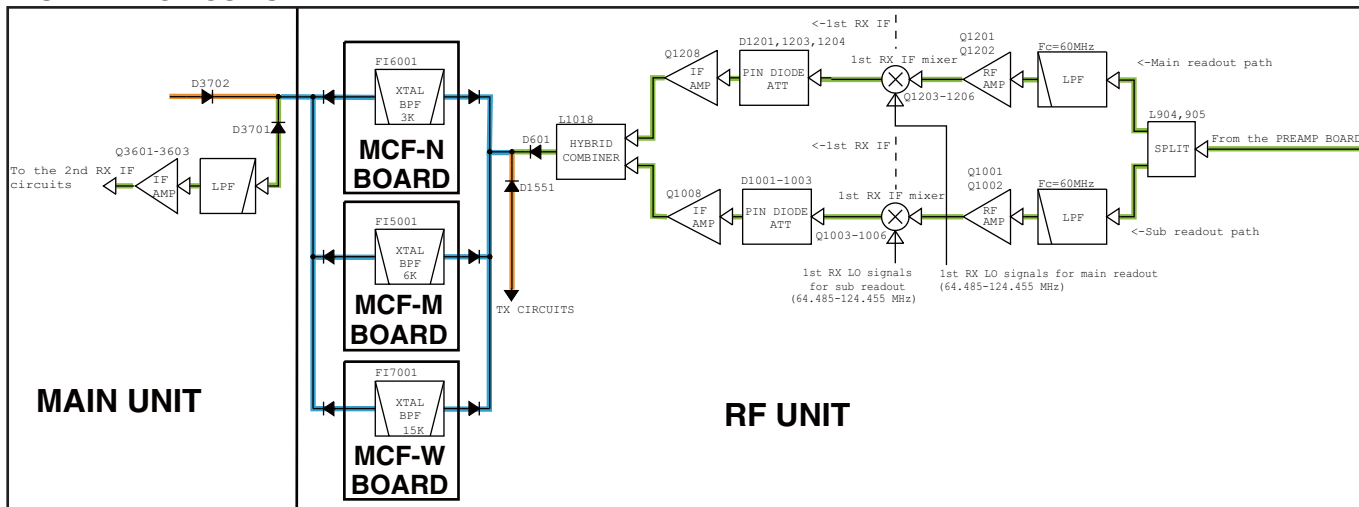
These amplified 1st RX IF signals are combined by the hybrid combiner (L1018), and applied to the 1st IF filter circuits.

The combined 1st IF signal is passed through one of the 1st IF filters on the MCF-N/-M/-W BOARDS which has different passband widths. The filter to be passed through is according to the IF filter setting.

The filtered 1st RX IF signal is applied to the RF UNIT again, and passed through the LPF and amplified by the RX IF AMP (MAIN UNIT: 3601–3603).

The amplified 1st RX IF signal is then applied to the 2nd RX IF circuits.

• 1ST RX IF CIRCUITS



2ND RX IF CIRCUITS (MAIN UNIT)

The 1st RX IF signal from the 1st RX IF circuits is divided into two paths, and each signal is applied to the 2nd RX IF mixers (Image reduction mixer; D3202/D3201) to be converted into the 2nd RX IF signal, by being mixed with the 2nd RX LO signal (64.494 MHz) from the PLL UNIT.

The image reduction mixer removes image frequency components by using LO signals which are 90 degrees phase-shifted from each other.

The converted 2nd RX IF signals are amplified independently by the buffer (Q3202/Q3201) and IF AMP (IC3203).

These amplified 2nd RX IF signals are 90 degrees phase-shifted from each other by the phase shifter (IC3202; pins 8-10, pins 12–14). These phase-shifted 2nd RX IF signals are combined by the combiner (IC3202; pins 5–7) to be converted into the 3rd RX IF signal.

The converted 3rd RX IF signal is amplified by the 3rd IF AMP (IC3201), and passed through the limiter (IC3002) and balance-unbalance converter (Balun; IC4001/IC4002), then applied to the demodulator circuits.

DEMODULATOR CIRCUITS AND DSP (MAIN UNIT)

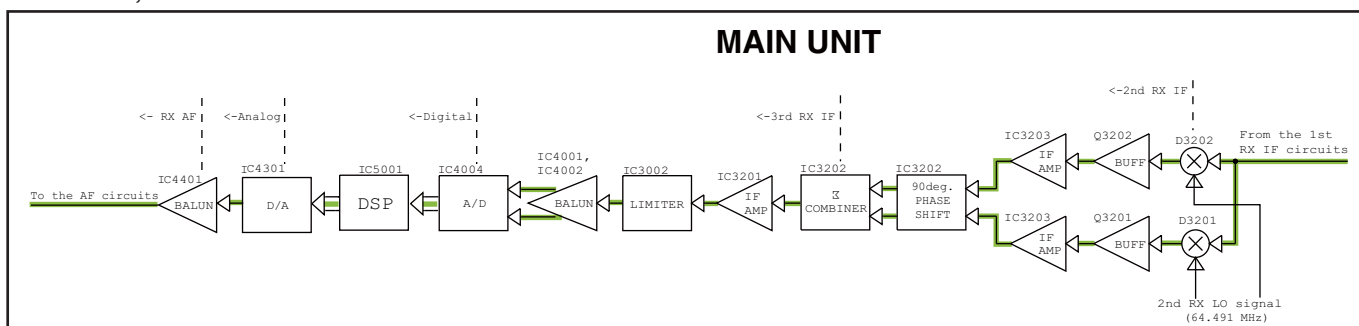
The 3rd RX IF signal from the 3rd RX IF circuits is applied to the A/D converter (IC4004) to be converted into the digital signal.

The converted digital signal is applied to the DSP (IC5001), and demodulated and processed.

The demodulated signal is applied to the D/A converter (IC4301) to be converted into the analog signal, then applied to the buffer amplifier (IC4401; pins 1–3).

The buffer amplified AF signals are applied to the RX AF circuits.

• 2ND RX IF, 3RD RX IF AND DEMODULATOR CIRCUITS



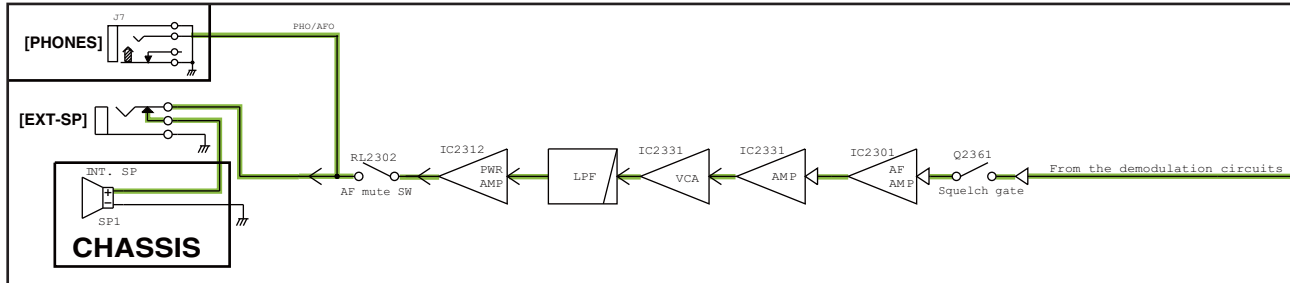
RX AF CIRCUITS (MAIN UNIT)

The AF signals from the buffer amplifier are applied to the AF AMP (IC2301) via the squelch gate (Q2361). The amplified AF signals are applied to the Voltage Controlled Amplifier (VCA; IC2231) to be adjusted its level (=audio output level).

The power-amplified AF signals are passed through the AF mute switch (RL2302), then applied to the internal speaker or external speaker jack (J2302) on the rear panel or headphone jack (JACK BORD J2) on the front panel.

The level-adjusted AF signals are applied to the AF power AMP (IC2312) via the LPF (Q2312).

• RX AF CIRCUITS



3-2 TRANSMITTER CIRCUITS

TX AF CIRCUITS (MAIN UNIT)

The audio signals from the microphone (MIC signals) are applied to the MAIN UNIT via the MICROPHONE CONNECTOR (MIC BOARD; J1), and applied to the Voltage Controlled Amplifier (VCA; IC2601).

The amplified MIC signals are applied to the modulation circuits.

The applied MIC signals are amplified by internal MIC AMP, and adjusted its level (=MIC gain) by internal VCA circuit.

MODULATION CIRCUITS AND DSP (MAIN UNIT)

The MIC signals from the TX AF circuits are applied to the Balance-Unbalance converter (Balun; IC4201, 4204), and the converted MIC signals are applied to the A/D converter (IC4301) to be converted into the digital signal.

The level-adjusted MIC signals are passed through the MIC line selector (IC4101), and amplified by the AF AMP (IC4205), then applied to the modulation circuits.

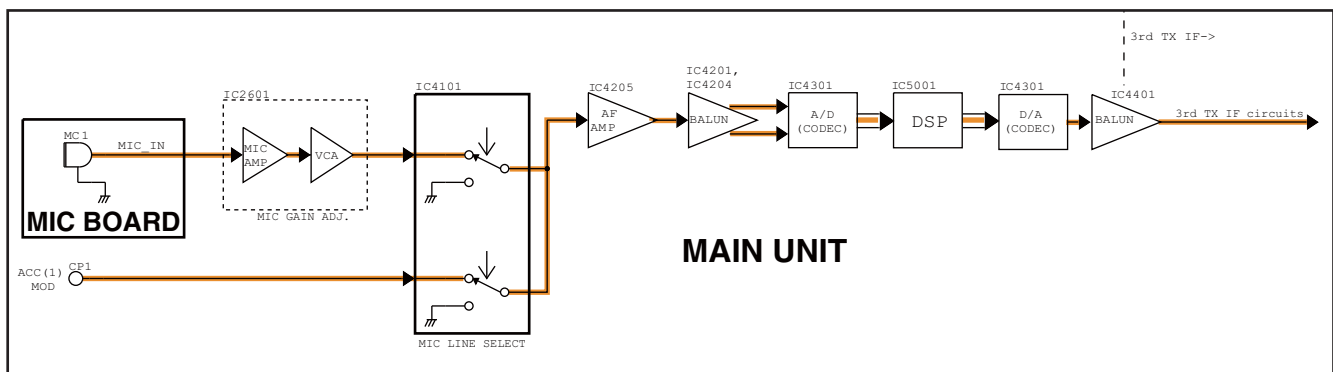
The converted digital signal is applied to the DSP (IC5001) and modulated and processed.

The signals from the external equipment connected to the accessory socket [ACC1] on the rear panel, are directly applied to the AF AMP (IC4205) via the MIC line selector (IC4101).

The modulated signal is converted into the analog signal by the D/A converter (IC4301), and passed through the balun (IC4401) to be converted into the 3rd TX IF signal.

The converted 3rd TX IF signal is applied to the 3rd TX IF circuits.

• TX AF AND MODULATION CIRCUITS



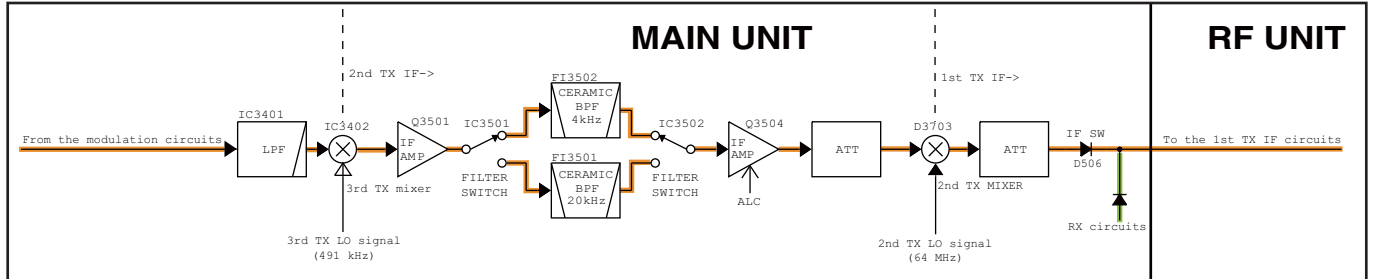
3RD TX IF AND 2ND TX IF CIRCUITS (MAIN UNIT)

The 3rd TX IF signal from the modulation circuits is applied to the 3rd TX mixer (IC3402) via the LPF (IC3401) to be converted into the 2nd TX IF signal, by being mixed with the 3rd TX LO signal from the PLL UNIT. The converted 2nd TX IF signal is amplified by the IF AMP (Q3501), passed through the one of 2nd TX filters (FI3501; for FM, AM mode or FI3502; for SSB, CW, RTTY, PSK mode) via the filter switches (IC3501 and IC3502).

The filtered 2nd TX IF signal is amplified by the 2nd TX IF AMP (Q3504), and applied to the 2nd TX mixer (D3703) via the attenuator to be converted into the 1st TX IF signal, by being mixed with the 2nd TX LO signal from the PLL UNIT.

The converted 1st TX IF signal is applied to the 1st TX IF circuits on the RF UNIT via the attenuator and IF switch (D3702).

• 3RD AND 2ND TX IF CIRCUITS



1ST TX IF CIRCUITS (RF UNIT AND MCF-W BOARD)

The 1st TX IF signal from the 2nd TX IF circuits is passed through the 1st TX IF filter (MCF-W BOARD; FI7001) to remove unwanted signals in wide bandwidth. The filtered 1st TX IF signal is passed through the TX/RX switch (D1551), amplified by the IF AMP (Q1551), and applied to the 1st TX mixer (D1451) via the LPF to be converted into the TX signal (TX frequency itself), by being mixed with the 1st TX LO signals from the PLL UNIT.

BPF CIRCUITS

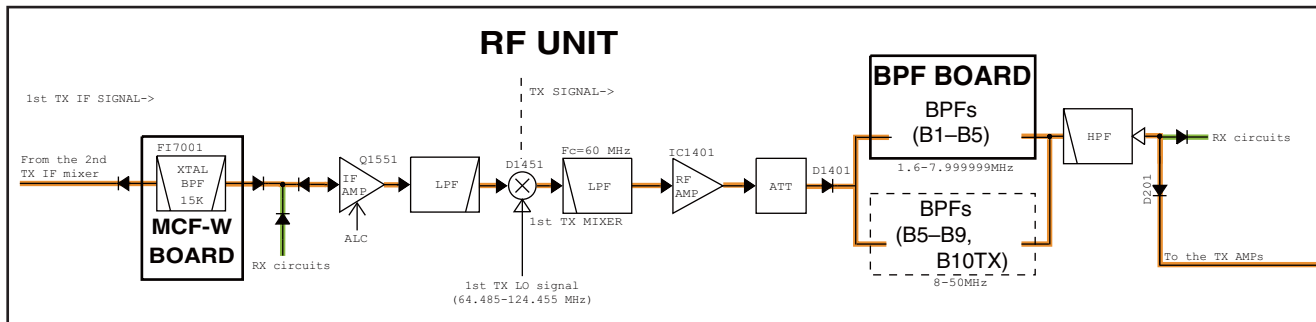
The TX signal from the 1st TX IF circuits is passed through an LPF or one of BPFs according to the transmitting frequency, to remove unwanted signals contained in the TX signal.

Refer to the table on page 4-1 for the filter which the TX signal is passed through.

The converted TX signal is passed through the LPF, and amplified by the RF AMP (IC1401), then applied to the BPF circuits via the attenuator.

The filtered TX signal is applied to the TX amplifier circuits via the HPF and TX line switch (D201).

• 1ST TX IF CIRCUITS



TX AMPLIFIER CIRCUITS (RF AND PA UNITS)

The TX signal from the BPF circuits is applied to the YGR AMP (RF UNIT; IC201) via the attenuator. The amplified TX signal is applied to the PA UNIT via the LPF.

The TX signal from the RF UNIT is applied to the pre-drive AMP (Q1) via the attenuator, and the amplified TX signal is applied to the drive AMP (Q2, 3) via the LPF. The amplified TX signal is then power-amplified by the power AMP (Q4, 5).

The power-amplified TX signal is applied to the TX filter circuits.

TX FILTER CIRCUITS

The power-amplified TX signal from the PA UNIT is passed through one of LPFs according to the transmitting frequency, to remove harmonic components contained in the TX signal.

The filtered TX signal is applied to the CTRL UNIT.

ANTENNA TUNING AND SWITCHING CIRCUITS (CTRL UNIT)

The TX signal from the FILTER UNIT is passed through 4 detection circuits on the CTRL UNIT before being fed to the antenna connector [ANT1] or [ANT2].

Based on the parameters from these 4 detection circuits, the tuner CPU (IC201) controls matching networks on the TUNER UNIT to match the transceiver and connected antenna.

SWR DETECTION CIRCUIT

The forward wave is rectified by D2 at the current detect transformer (L1). The rectified voltage is DC amplified by IC1 and applied to the A/D port of the tuner CPU (IC201).

The reflected wave is rectified by D1 at the current detect transformer (L1). The rectified voltage is DC amplified by IC1 and applied to the A/D port of the tuner CPU (IC201).

PHASE DETECTION CIRCUIT

The TX signal which is picked up at the current detect transformer (L21) and the TX signal which is divided by C21, C22 and C24, are rectified by D21 and D22, and amplified by C-MOS IC (IC21).

The amplified signal is applied to the IC23 via the buffer (IC22) for phase comparison. The resulting signal of phase comparison is rectified by D23 and D24, and composed and amplified by IC51, then applied to the A/D port of the tuner CPU (IC201).

This AMP, as the first stage, employs a C-MOS type AMP to detect the low TX signal. The inverter AMP requires input level lower than others need, and provides high speed operation for stable high frequency operation with low TX signal.

RESISTANCE DETECTION CIRCUIT

A portion of the TX signal is divided by C42 and C44, and rectified by D42 to be converted into DC signal.

Another portion of the TX signal is rectified at the current detect transformer (L41) to be converted into DC signal too.

And the voltage of these signals are the same when the connected load (=antenna) is 50 Ω. Thus the difference of these voltages represents the resistance components.

By comparing the difference of these voltages, the transceiver detects the resistance components.

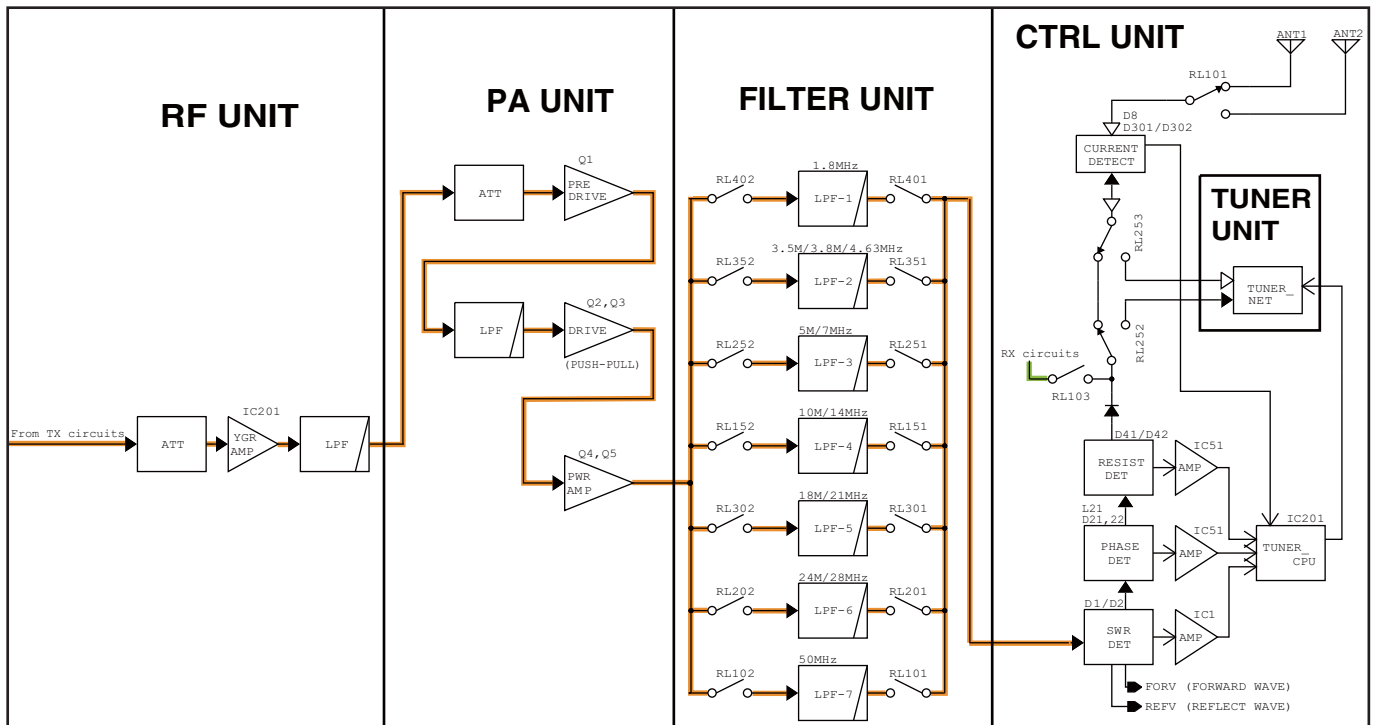
The detected resistance components are amplified by IC51 and applied to the A/D port of the tuner CPU (IC201).

CURRENT DETECTION CIRCUIT

A portion of the TX signal is rectified by D81, L81 and R81, and applied to IC81 to be level-compared with the voltage from the SWR detection circuit.

When the connected load (=antenna) is less than 10 Ω, the TX signal is bypassed the TUNER UNIT via the tuner switches (RL104 and RL105) compulsorily, to protect the circuit on the TUNER UNIT from reflected waves.

• TX AMPLIFIERS AND TX FILTER CIRCUITS



**3-3 FREQUENCY SYNTHESIZER (PLL UNIT)
REFERENCE FREQUENCY OSCILLATOR CIRCUIT**

The crystal oscillator (X51) oscillates the 32 MHz reference frequency signal. This reference signal is applied to the Local Oscillator (LO) circuits via the buffer (Q51) and LPF (L53, C55–57).

2ND TX LO CIRCUIT

The 32 MHz reference signal from the reference frequency oscillator circuit is doubled by the doubler (Q61) and passed through the double-tuned filter (L61, 62) to extract the 64 MHz of 2nd harmonic component. The extracted 64 MHz signal is applied to the RF UNIT via the buffer (Q71) and the BPF as the 2nd TX LO signal.

3RD TX LO CIRCUIT

Using the 32 MHz reference clock signal from the reference frequency oscillator circuit, the 491 kHz 3rd TX LO signal is directly generated by 10-bit DDS (IC701) and D/A converter (R701–720). The generated 491 kHz signal is passed through the BPF and amplified by Q702, then applied to the RF UNIT.

The generated 491 kHz signal from Q702 is also used to generate the 2nd RX LO signal, by being applied to the 2nd RX LO circuit.

2ND RX LO CIRCUIT

The 64 MHz reference signal from the double-tuned filter (L61, 62) and the 491 kHz signal from the 3rd TX LO circuit is mixed by the 2nd RX LO mixer (D821, L821, 822), to generate the 2nd RX LO signal.

The generated 2nd RX LO signal is filtered by the crystal filter (F1831) and amplified by Q831, then applied to the RF UNIT as the 2nd RX LO signal.

1ST RX (Main readout)/TX LO CIRCUITS

The 32 MHz reference signal from the reference frequency oscillator circuit is amplified by Q152, and applied to the DDS (IC101) as the reference clock signal. The DDS (IC101) generates the PLL reference frequency signal, using applied reference clock signal.

The generated PLL reference frequency signal is filtered by the ceramic BPF (F1101) and LPF, amplified by Q151, then applied to the PLL IC (IC381) via LPF as the main loop reference frequency signal.

The reference frequency signal is used for phase comparison of oscillating signals from the VCO-A (Q201, 221, 251, 271). The resulting signal of phase comparison is converted into the lock voltage which controls the oscillation frequency of VCO-A (Q201, 221, 251, 271), by being passed through the passive loop filter.

The output signals of the VCO-A (Q201, 221, 251, 271) are buffer-amplified by Q301, filtered by the BPF, and amplified by IC320, then filtered by the LPF for harmonic removal.

The filtered VCO output signals are passed through the BPF and LO mute switch (Q361, D361, 362), then applied to the RF UNIT as the 1st RX LO (for Main readout)/TX LO signals.

A portion of VCO output signals from the LPF are fed back to the PLL (IC381) for the phase-locked loop.

VCOs (VCO-A)

Q201, Q221, Q251 and Q271 compose four oscillators, and each VCO generates the 1st RX/TX LO signals. These VCO employ high "Q" components as resonator (L202, 222, 252, 272) for high C/N characteristic and wide oscillation frequency range.

The table below shows the oscillation frequency range of VCO-A and the RX frequency range.

Composed by	RX Frequency range	Oscillation frequency range (1st LO)
Q271	0.03–7.999999 MHz	64.485–72.454999 MHz
Q251	8–19.999999 MHz	72.455–84.454999 MHz
Q221	20–44.999999 MHz	84.455–109.454999 MHz
Q201	45–60 MHz	109.455–124.455 MHz

1ST RX (Sub readout) LO CIRCUITS (SUB LOOP)

The 32 MHz reference signal from the reference frequency oscillator circuit is amplified to the C-MOS level by Q403, and applied to the DDS (IC403) as the reference clock signal.

The DDS (IC403) generates the DDS reference frequency signal by using the reference clock signal. The DDS reference frequency signal is converted its waveform by the D/A converter (R401–424), filtered by FI401 to remove unwanted components, and amplified to C-MOS level by IC402, then applied to the phase comparator of DDS (IC403).

The applied DDS reference frequency signal is used for the phase comparison of oscillating signal from the SUB LOOP VCO (Q451). The resulting signal of phase comparison is converted into the lock voltage which controls the oscillation frequency of SUB LOOP VCO (Q451), by being passed through the passive loop filter.

The output signal of SUB LOOP VCO (Q451) is amplified by the buffer (Q452), and applied to the PLL IC (IC681) as the PLL reference frequency signal.

A portion of sub loop VCO (Q451) is applied to the phase comparator of DDS (IC403) via the splitter (R459–461) and AMP (Q402), for the phase-locked loop.

1ST RX (Sub readout) LO CIRCUITS (MAIN LOOP)

The applied PLL reference frequency signal is used for the phase comparison of oscillating signal from the VCO-B (Q501, 521, 551, 571). The resulting signal of phase comparison is converted into the lock voltage which controls the oscillation frequency of VCO-B (Q501, 521, 551, 571), by being passed through the passive loop filter.

The output signals of the VCO-B (Q501, 521, 551, 571) are buffer-amplified by Q601, filtered by the BPF, and amplified by IC620, then filtered by the LPF for harmonic removal. The filtered VCO output signals are passed through the BPF and LO mute switch (Q661, D661, 662), then applied to the RF UNIT as the 1st RX LO (for Sub readout) signals.

A portion of VCO output signals from the LPF are fed back to the PLL (IC681) for the phase-locked loop.

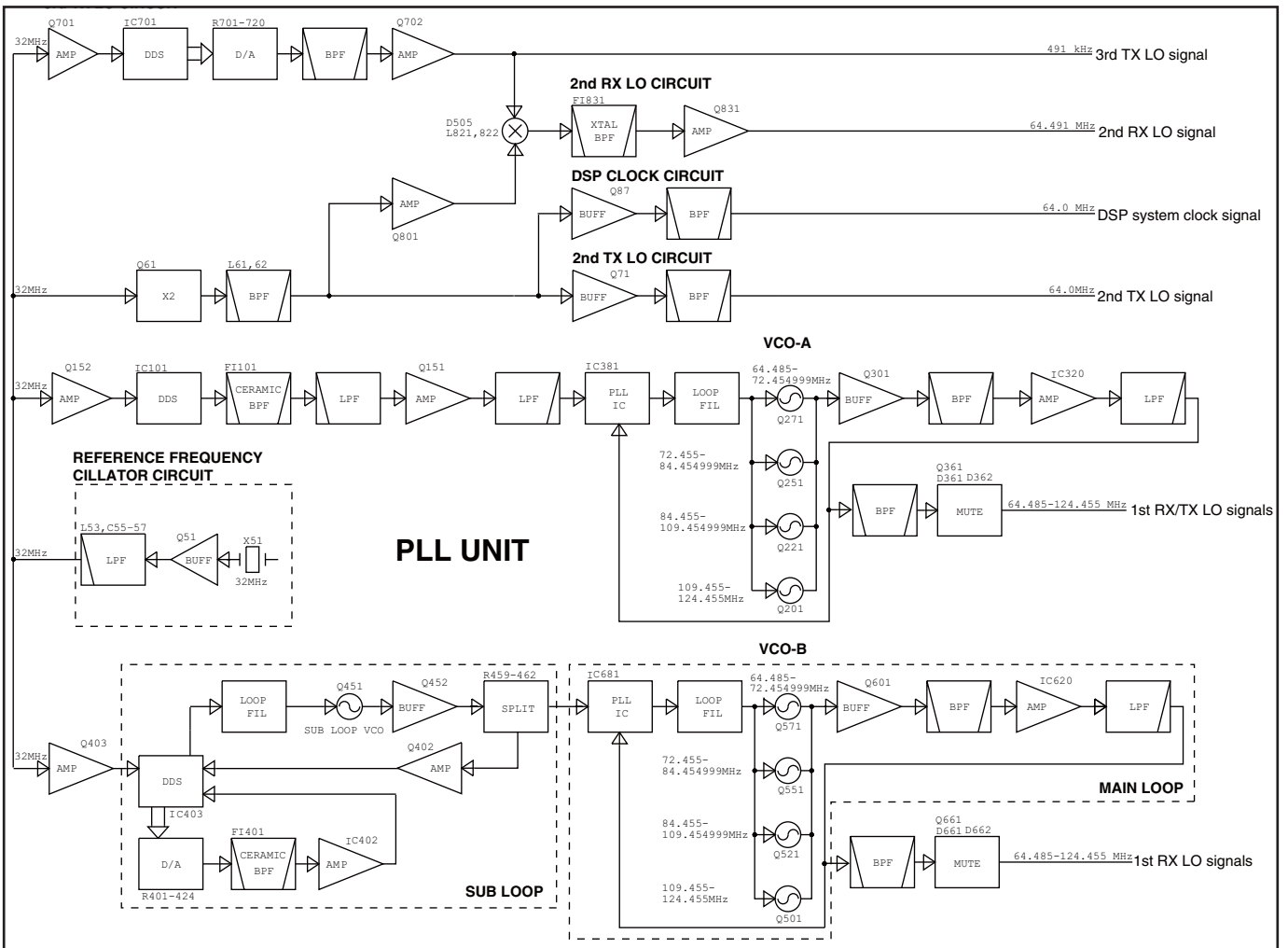
VCOs (VCO-B)

Q501, Q521, Q551 and Q571 compose four oscillators, and each VCO generates the 1st RX LO signals. These VCO employ high "Q" components as resonator (L502, 522, 552, 572) for high C/N characteristic and wide oscillation frequency range.

The table below shows the oscillation frequency range of VCO-B and the RX frequency range.

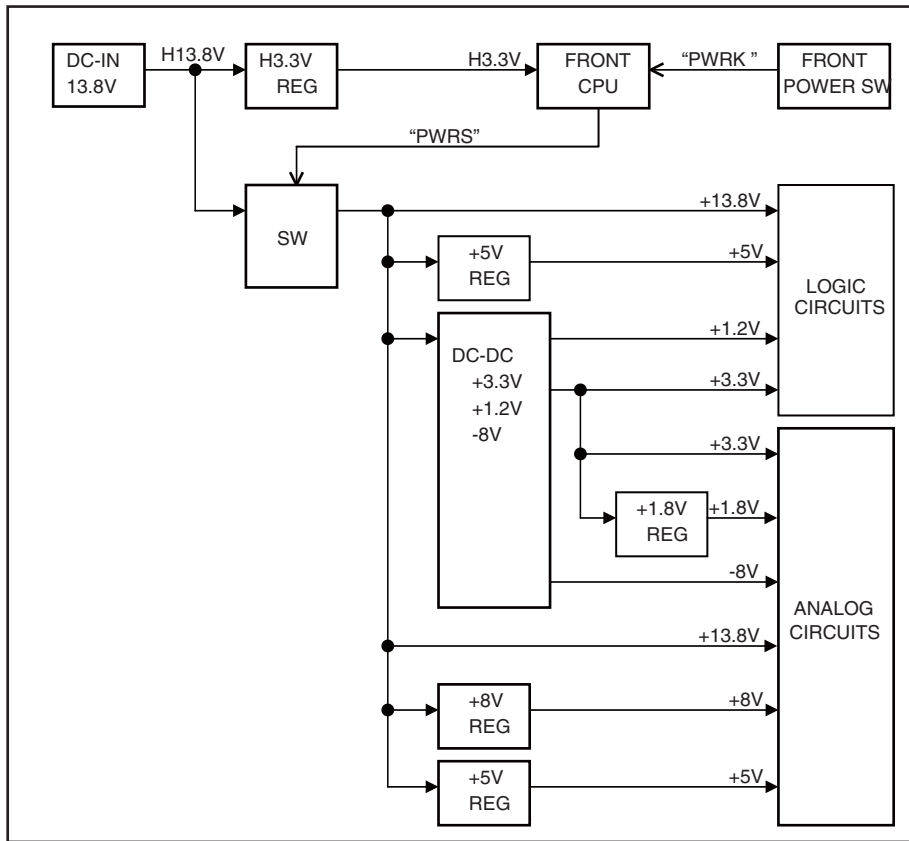
Composed by	RX Frequency range	Oscillation frequency range (1st LO)
Q571	0.03–7.999999 MHz	64.485–72.454999 MHz
Q551	8–19.999999 MHz	72.455–84.454999 MHz
Q521	20–44.999999 MHz	84.455–109.454999 MHz
Q501	45–60 MHz	109.455–124.455 MHz

• FREQUENCY SYNTHESIZER CIRCUITS



3-4 VOLTAGE BLOCK DIAGRAM

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



3-5 CPU PORT ALLOCATIONS

• MAIN CPU (LOGIC UNIT: IC604)

Pin No.	Line Name	Description	I/O
5-20	H8_A0-H8_A13	DSP address bus.	O
21	UNLKA	PLL unlock detect signal input for VCO-A. H=Unlock detected.	I
22	UNLKB	PLL unlock detect signal input for VCO-B. H=Unlock detected.	I
23	ECK	EEPROM (HN58X2464T1) clock.	O
24	EDT	EEPROM (HN58X2464T1) data.	I/O
26	USCK	USB HUB (USB2502) clock.	O
27	USDA	USB HUB (USB2502) data.	O
28	UPWS	USB HUB (USB2502) power control. H=USB power ON.	O
29	VBUS	VBUS connection detect for USB HUB (USB2502). H=USB connection detected.	I
30	RTKI	RTTY keying input. H="Space" input.	I
31	TRVI	Transverter input (from [ACC2]). L=A transverter is connected.	I
33	SDAT	Scope DDS/PLL/DSP data.	O
34	SST2	Scope PLL(ADF4630-8) strobe.	O
35	EXRL1	External SEND relay output. H=Relay ON	O
36	EXRL2	External SEND relay output. H=Relay ON	O
37	H8_CS6#	Dual-port SRAM chip select signal. L=Selected.	O
38	H8_CS7#	Expander chip select signal. L=Selected.	O
42	PCK/CON0	DDS clock.	O
43	PDAT/CON1	DDS data.	O
44	CON2	DDS mode control.	O
45	PSL	PLL strobe.	O
46	METV	External meter voltage. (PWM, 7800 Hz, 12 bit resolution)	O
47	PST	PLL strobe output.	O
48	ESTA	External tuner "START" signal output. L=Tuning start.	O
49	EKEY	External tuner "KEY" signal input. L=While tuning/tune NG.	I
51	MCK	Scope PLL clock.	O
52	MDAT	Scope PLL data.	O
53	TCON	External tuner connection detect.	I
54	CTXD	CI-V (UART) output.	O
55	CRXD/CBSY	CI-V (UART) input/CI-V bus busy input. L=Data "1" /Busy.	I
56	DSPCK	DSP clock.	O
57	DSPR	DSP data.	O
59	SST1	Chip select signal for scope DDS (AD9834). L=Selected.	O
60	SPS0	Scope DDS (AD9834) frequency register shift signal.	O
61	SCK	Scope DDS/PLL/DSP clock.	O
63-80	H8_D0-H8_D15	DSP data bus.	I/O
81	RTD	DSP RTTY/BPSK/QPSK (H) decode data.	I
82	TND	QPSK (L) decode data.	I

Pin No.	Line Name	Description	I/O
83	NSQ	Input noise pulse.	I
84	H8_WAIT#	Bus control "Wait" signal.	I
85	TRAS	SEND signal.	O
87	H8_LWR#	(Bus control) "L" write signal. L=While writing.	O
88	H8_HWR#	(Bus control) "H" write signal. L=While writing.	O
89	H8_RD#	(Bus control) Read signal. L=While reading.	O
90	H8_AS#	(Bus control) Address strobe.	O
94	SENI	PTT/ACC SEND signal. H=While transmitting.	I
104	CTFL	CW TX status.	I
105	RXS	RX circuits power ON. L=While receiving.	O
106	TXS	TX circuits power ON. L=While transmitting.	O
107	SQS	Squelch signal For [ACC1]. H=While the squelch is open.	O
108	USQLS	For USB audio squelch (for RX AF mute). L=While the squelch is open.	O
109	SQLS	Squelch signal (for RX AF mute). L=While the squelch is open.	O
113	FORL	Forward wave detect voltage. (A/D)	I
114	REFL	Reflected wave detect voltage. (A/D)	I
115	ALCL	ALC meter voltage input. (A/D)	I
116	IDL	Drive AMP current (ID) detect voltage. (A/D)	I
117	VDL	Drive AMP voltage (VD). (A/D)	I
118	THML	Temperature detect voltage from the thermal sensor on the PA UNIT. (A/D)	I
119	SKYS	Straight key/electronic keyer input. (A/D) L=Key down.	I
120	AVXL	AF signals peak level detect. (A/D)	I
121	DX1	TX/RX DSP data.	I
122	SHSK0	Hand shake signal for Scope DSP. H=Data output enable.	I
123	SHSK1	Firm-up command for Scope DSP.	I
124	DX1S	Scope DSP data.	I
125	UNLKS	Scope PLL (ADF4630) unlock detect signal. L=Unlock detected.	I
126	THRI	Internal tuner through signal. H=Tuner through.	I
133	LTXD	Data output (UART) for the communication with front CPU.	O
134	LRXD	Data input (UART) for the communication with front CPU.	I
135	DSKY	DSP CW/RTTY keying signal. L=Key down/space.	O
137	PWRS	Transceiver power ON/OFF control. H=Power ON.	O
140	IKEY	Internal tuner "KEY" input (UART). L=Tuner ON.	I
142	ISTA	Internal tuner "START" signal (UART).	O

• FRONT CPU (LOGIC UNIT: IC101)

Pin No.	Line Name	Description	I/O
1	CNTV	TFT contrast control. (D/A) (1–2.3 V)	O
2	PWRD	POWER LED control. (0 V=Light OFF, 3.3 V=Light ON.)	O
3	LDAT	Expander (BU2099) data.	O
4	LST	Expander (BU2099) strobe.	O
5	RTCK	Expander (BU2099) clock.	O
8	RTCCE	Clock IC (RX-4581) chip enable.	O
9	MOND	[MONITOR] LED control signal.	O
16	RTCIRQ	Clock IC (RX-4581) interlude control.	I
19	RSB	RIT dial (24x4 pulses) phase-B input.	I
20	RSA	RIT dial (24x4 pulses) phase-A input.	I
21	MSB	Main dial (250x4 pulses) phase-B input.	I
22	MSA	Main dial (250x4 pulses) phase-A input.	I
23	TMD	Timer LED control. H=Light ON.	O
24	LEDV	LED brightness control. (PWM, 600 Hz)	O
25	BKLS	LCD backlight ON/OFF. H=Backlight ON.	O
26	CFLV	CFL backlight brightness control. (PWM, 600 Hz)	O
28	PHNI	Headphone connection detect. H=Connection detected.	I
29	DTXD	Flash read data.	O
30	DRXD	Flash write data.	I
31	SLOS	Flash write clock. H=While writing.	O
32	DBP1	Flash write "BUSY."	O
33	LTXD	Data output (UART) for the communication with main CPU.	O
34	LRXD	Data input (UART) for the communication with main CPU.	I
35	DOTK	Ele-key input. (Dot)	I
36	DSHK	Ele-key input. (Dash)	I
37	SQSS	Squelch signal to the [MICROPHONE JACK]. H=Squelch open.	O
38	RTCDT	Clock IC (RX-4581) data.	I/O
40	TRAK	[TRANSMIT] input. (Pull-up)	I
41	F1K	[F-1] input. (Pull-up)	I
42	F2K	[F-2] input. (Pull-up)	I
43	F3K	[F-3] input. (Pull-up)	I
44	LOE	Expander (BU2099) output enable.	O
45	F4K	[F-4] input. (Pull-up)	I
46	F5K	[F-5] input. (Pull-up)	I
47	F6K	[F-6] input. (Pull-up)	I
49	SSBK	[SSB] input. (Pull-up)	I
50	CWK	[CW] input. (Pull-up)	I
51	RTYK	[RTTY/PSK] input. (Pull-up)	I
52	AMK	[AM/FM] input. (Pull-up)	I
53	FILK	[FILTER] input. (Pull-up)	I
55	EXTK	[EXIT/SET] input. (Pull-up)	I
56	PLYK	[PLAY key input. (Pull-up)	I
57	RECK	[REC] input. (Pull-up)	I
58	XFCK	[XFC] input. (Pull-up)	I
65	MPRK	[MP-R] input. (Pull-up)	I
66	MWK	[MW] input. (Pull-up)	I
67	UPK	[▲] input. (Pull-up)	I

Pin No.	Line Name	Description	I/O
68	DWK	[▼] input. (Pull-up)	I
69	MPWK	[MP-W] input. (Pull-up)	I
70	VMK	[V/M] input. (Pull-up)	I
71	ATK	[AUTO TUNE] input. (Pull-up)	I
72	TSK	[TS] input. (Pull-up)	I
73	PWRK	[POWER] input. (Pull-up)	I
76	FPWRS	Analog circuit control signal. H=Transceiver power ON.	I/O
83, 84	PB2B, PB2A	Input ports for [PBT2] (outer control).	I
85, 86	PB1B, PB1A	Input ports for [PBT1] (inner control).	I
87	LG_RES	Logic circuits reset signal. H=Reset.	O
88	LG_PWR	Logic circuits power control signal. H=Transceiver power ON.	O
89	MUDL	[MIC GAIN] input. (A/D)	I
90	AS4	Voltage from the analog SW (CD4501). (A/D) (0–3.3 V)	I
91	AS3	Voltage from the analog SW (CD4501). (A/D) (0–3.3 V)	I
93	AS1	Voltage from the analog SW (CD4501). (A/D) (0–3.3 V)	I
98	ASL2	Analog SW (CD4501) control signal.	O
99	ASL1	Analog SW (CD4501) control signal.	O
100	ASL0	Analog SW (CD4501) control signal.	O

SECTION 4 ADJUSTMENT PROCEDURE

4-1 PREPARATION

REQUIRED EQUIPMENTS

EQUIPMENT	GRADE AND RANGE	EQUIPMENT	GRADE AND RANGE
Short plug	Modified 3.5 mm (1/8") monoral plug (See the illust on the page 4-17)	Audio generator (AG)	Frequency range : 300–3000 Hz Output level : 1–500 mV
RF voltmeter (50 Ω terminated)	Measuring range : 20–200 mV Frequency range : 0.1–50 MHz	AC Millivoltmeter	Measuring range : 10 mV to 10 V
RF power meter (50 Ω terminated)	Measuring range : 5–120 W Frequency range : 0.1–50 MHz SWR : Less than 1.2 : 1	Digital multimeter	Measuring range : 0–10 V (Voltage) 1–30 A (Current) Input impedance : More than 50 kΩ
Frequency counter	Frequency range : 0.1–100 MHz Frequency accuracy : ±1 ppm or better Input level : Less than 1 mW	External speaker	Input impedance : 8 Ω Capacity : More than 2 W
Standard signal generator (SSG)	Frequency range : 0.1–100 MHz Output level : 0.1 mV to 32 mV (–127 to –17 dBm)	Spectrum Analyzer	Frequency range : At least 90 MHz Bandwidth : 100 kHz
		Dummy Loads	Impedance : 50 Ω/120 W and 100 Ω/120 W

CAUTION!: SAVE the originally programmed contents (Memory channel contents, set mode settings, etc.) into the USB-Memory before starting adjustment. When all adjustments are completed, these contents in the transceiver will be cleared.

REMOVING COVERS

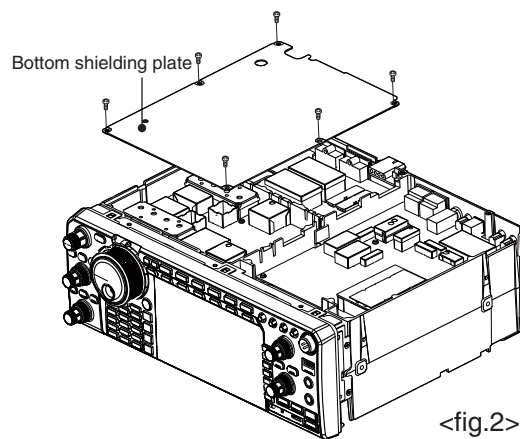
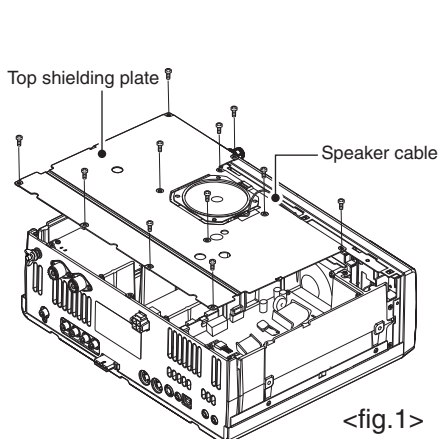
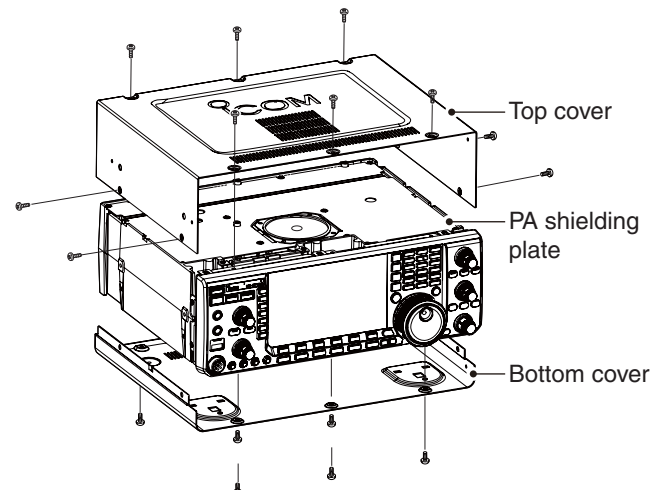
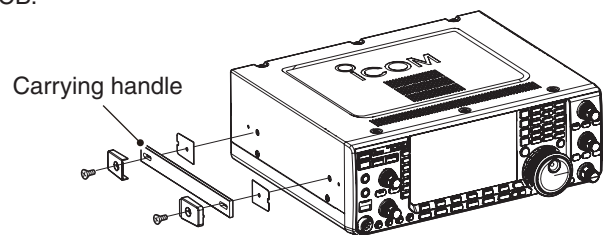
Some adjustments require removal the covers to expose PCB.

CAUTION: Turn the power OFF and disconnect the DC power cable from the transceiver before performing any work on the transceiver. Otherwise, there is danger of electric shock and/or equipment damage.

- ① Remove the two screws from the carrying handle and remove the handle from the transceiver.
- ② Remove the 6 screws from the top of the transceiver and the 4 screws from the sides, then lift up the top cover.
- ③ Turn the transceiver upside-down.

CAUTION: NEVER HOLD THE MAIN DIAL OR ANY OTHER KNOBS when the transceiver is being turned upside down. This may damage the transceiver.

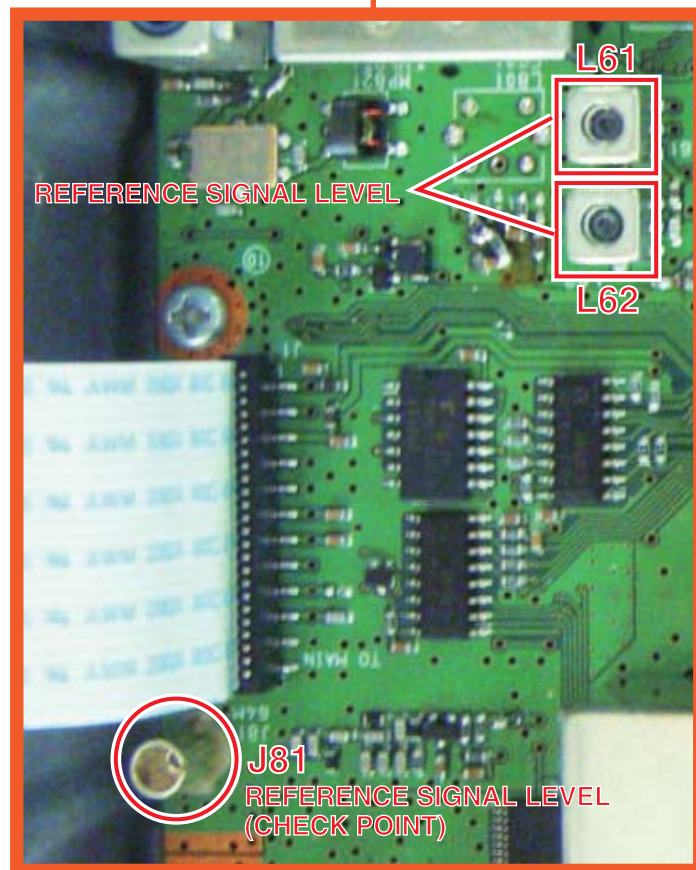
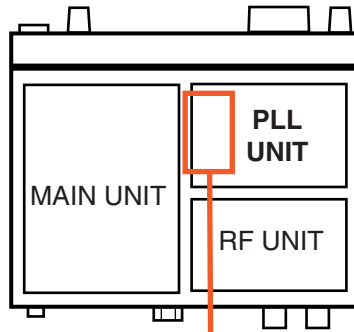
- ④ Remove 6 screws from the bottom, then lift up the bottom cover.
- ⑤ Remove the 11 screws, and disconnect the speaker cable, then remove the top shielding plate. <fig.1>
- ⑥ Remove the 6 screws, then remove the bottom shielding plate. <fig.2>



4-2 REFERENCE FREQUENCY SIGNAL LEVEL ADJUSTMENT

ADJUSTMENT	ADJUSTMENT CONDITION	OPERATION	ADJUSTMENT POINT	VALUE
REFERENCE FREQUENCY SIGNAL LEVEL	1 • Receiving	1) Connect a RF Voltmeter to J81 . 2) Adjust the reference frequency signal level.	L61, L62 (repeatedly)	Maximum level

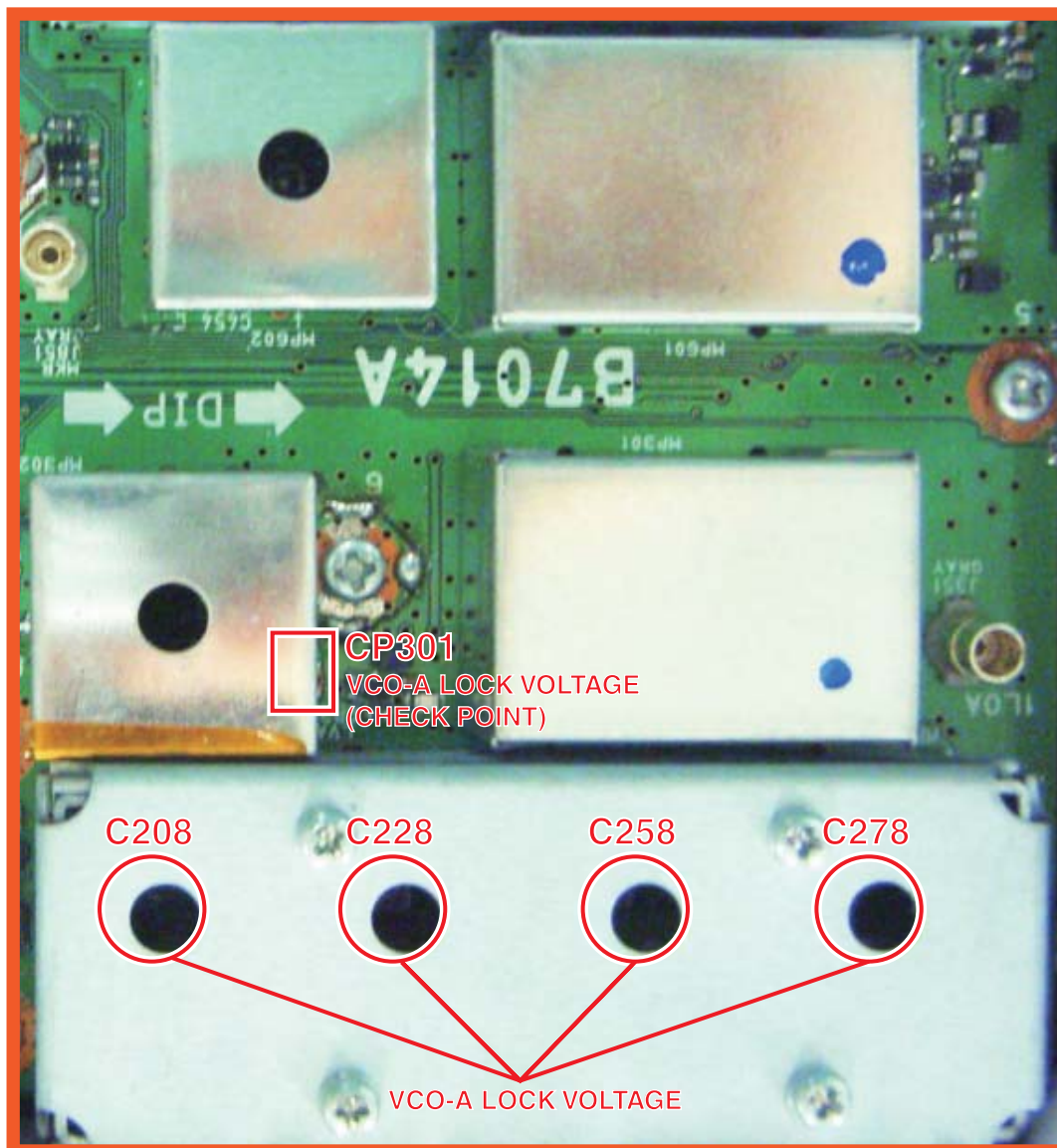
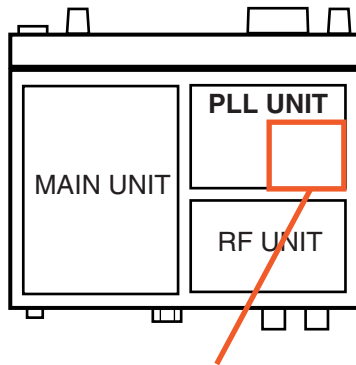
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4-3 PLL UNIT ADJUSTMENT

ADJUSTMENT	ADJUSTMENT CONDITION	OPERATION	ADJUSTMENT POINT	VALUE
VCO-A LOCK VOLTAGE	1 • Frequency : 7.999999 MHz • Mode : USB • Receiving	1) Connect a Digital multimeter to CP301. 2) Adjust the lock voltage.	C278	4.3 V (4.2-4.4 V)
	2 • Frequency : 19.999999 MHz • Mode : USB • Receiving		C258	
	3 • Frequency : 44.999999 MHz • Mode : USB • Receiving		C228	
	4 • Frequency : 60.000000 MHz • Mode : USB • Receiving		C208	

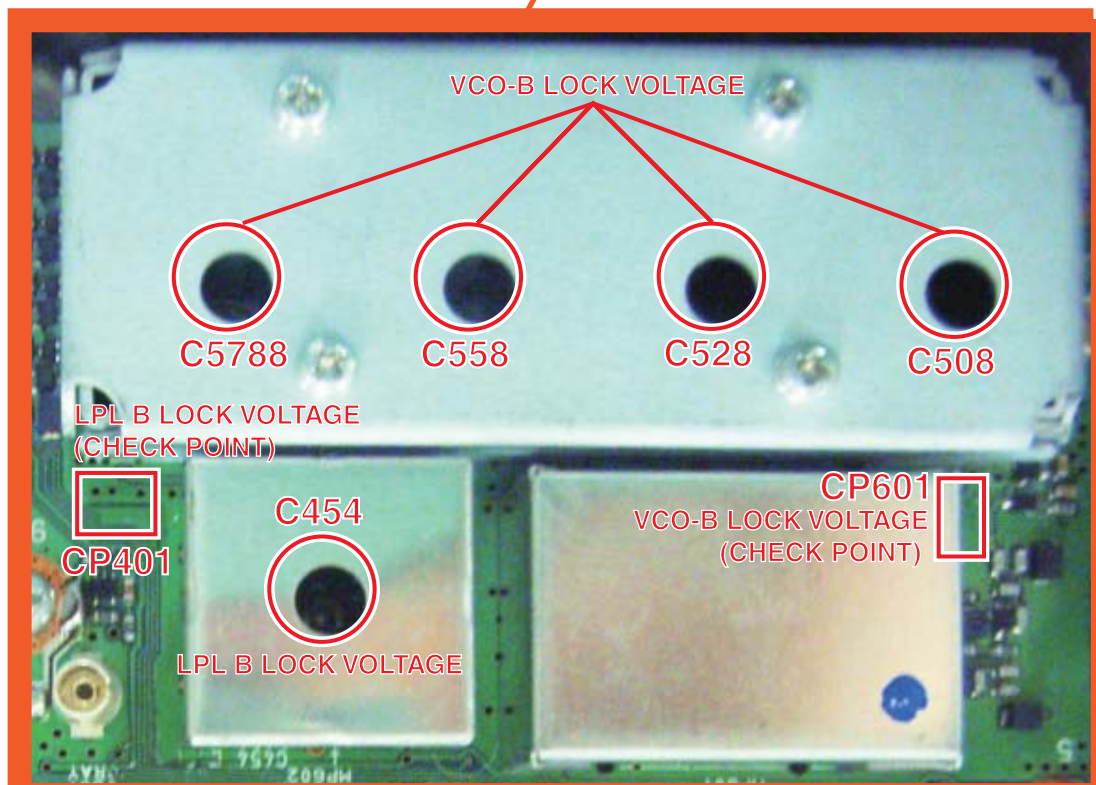
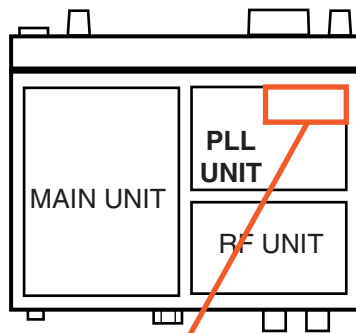
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4-3 PLL UNIT ADJUSTMENT (continued)

ADJUSTMENT	ADJUSTMENT CONDITION	OPERATION	ADJUSTMENT POINT	VALUE
LPL B LOCK VOLTAGE	1 • Frequency : 0.030000 MHz (Sub band) • Mode : USB • [DUALWATCH] : "ON" • Receiving	1) Connect a Digital multimeter to CP401. 2) Adjust the lock voltage.	C454	2.0 V (1.9–2.1 V)
VCO-B LOCK VOLTAGE	1 • Frequency : 7.999999 MHz (Sub band) • Mode : USB • Receiving	1) Connect a Digital multimeter to CP601. 2) Adjust the lock voltage.	C578	4.3 V (4.2–4.4 V)
	2 • Frequency : 19.999999 MHz (Sub band) • Mode : USB • Receiving		C558	
	3 • Frequency : 44.9999999 MHz (Sub band) • Mode : USB • Receiving		C508	
	4 • Frequency : 60.000000 MHz (Sub band) • Mode : USB • Receiving		C528	

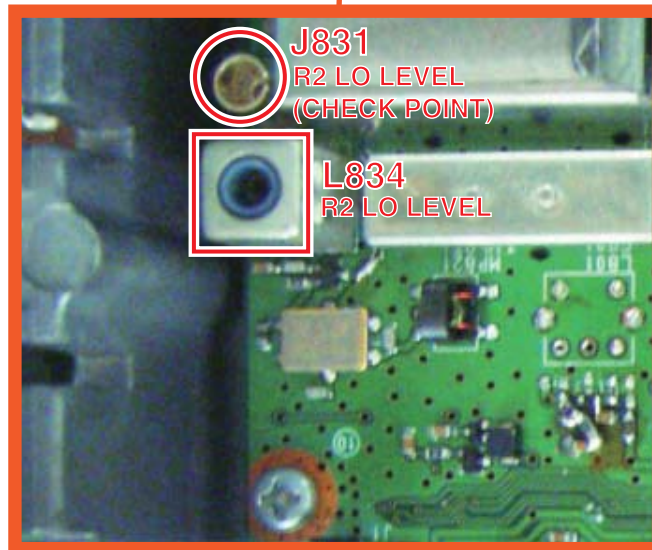
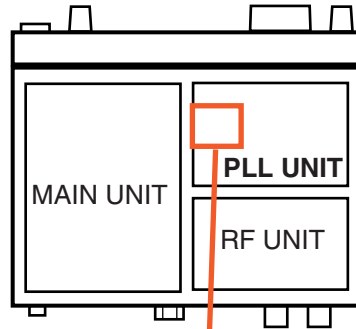
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4-3 PLL UNIT ADJUSTMENT (continued)

ADJUSTMENT	ADJUSTMENT CONDITION	OPERATION	ADJUSTMENT POINT	VALUE
R2 LO LEVEL 1	<ul style="list-style-type: none"> • Frequency : 14.100 MHz (Main band) • Mode : USB • Receiving 	1) Connect a Spectrum Analyzer to J831 . 2) Adjust the LO signal level.	L834	Maximum level

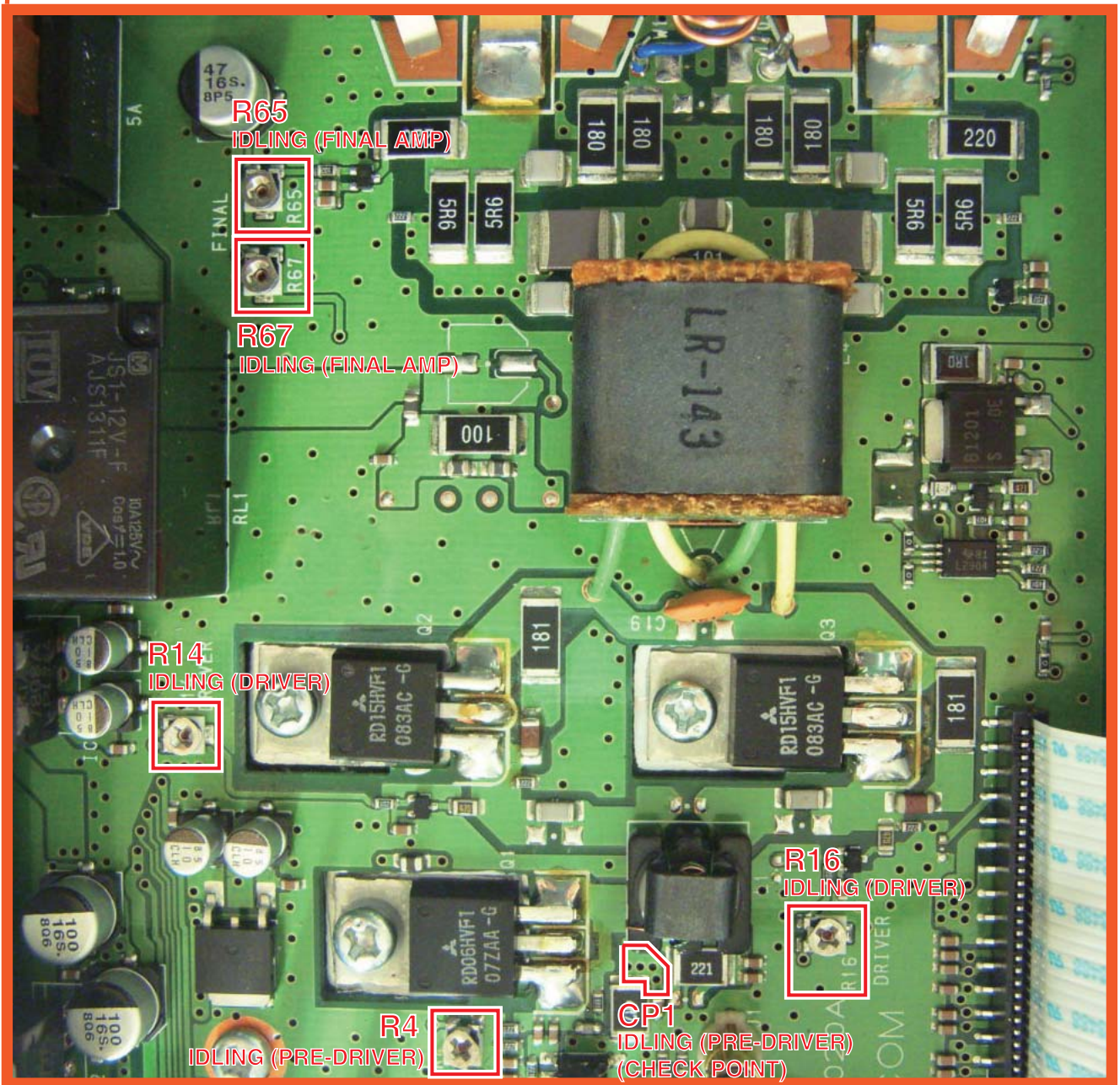
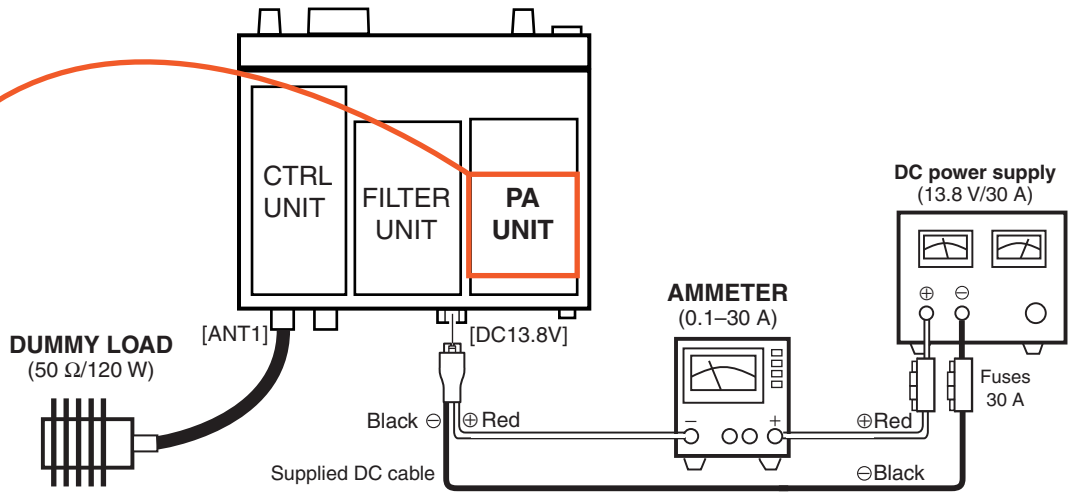
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4-4 PA UNIT ADJUSTMENT

ADJUSTMENT	ADJUSTMENT CONDITION	OPERATION	ADJUSTMENT POINT	VALUE
IDLING (Preparation)	"IDLING" must be adjusted by cold-started.			
	1	–	1) Set 5 variable resistors to the preset point. 2) Disconnect the power cable from the transceiver, and connect an DC Ammeter (30 A) between the power supply and transceiver.	R4, R14, R16, R65, R67 Max. counter clockwise
IDLING (PRE-DRIVER)	2	<ul style="list-style-type: none"> • Frequency : 14.100 MHz • Mode : CW • Push [TRANSMIT] to transmit. 	1) Connect a Digital multimeter to CP1 and adjust the voltage. 2) Measure the current, and note it as the initial value.	R4 0.5 V (0.4–0.6 V)
IDLING (DRIVER)	3	<ul style="list-style-type: none"> • Frequency : 14.100 MHz • Mode : CW • Push [TRANSMIT] to transmit. 	• Adjust the current.	R14 +1.0 A more than "Step 2"
	4		• Adjust the current.	R16 +1.0 A more than "Step 3"
IDLING (FINAL AMP)	5	<ul style="list-style-type: none"> • Frequency : 14.100 MHz • Mode : CW • Push [TRANSMIT] to transmit. 	• Adjust the current.	R65 +1.0 A more than "Step 4"
	6		• Adjust the current.	R67 +1.0 A more than "Step 5"
	7	Apply slight vibration to the PA UNIT, and verify that the current is stable against the vibration.		

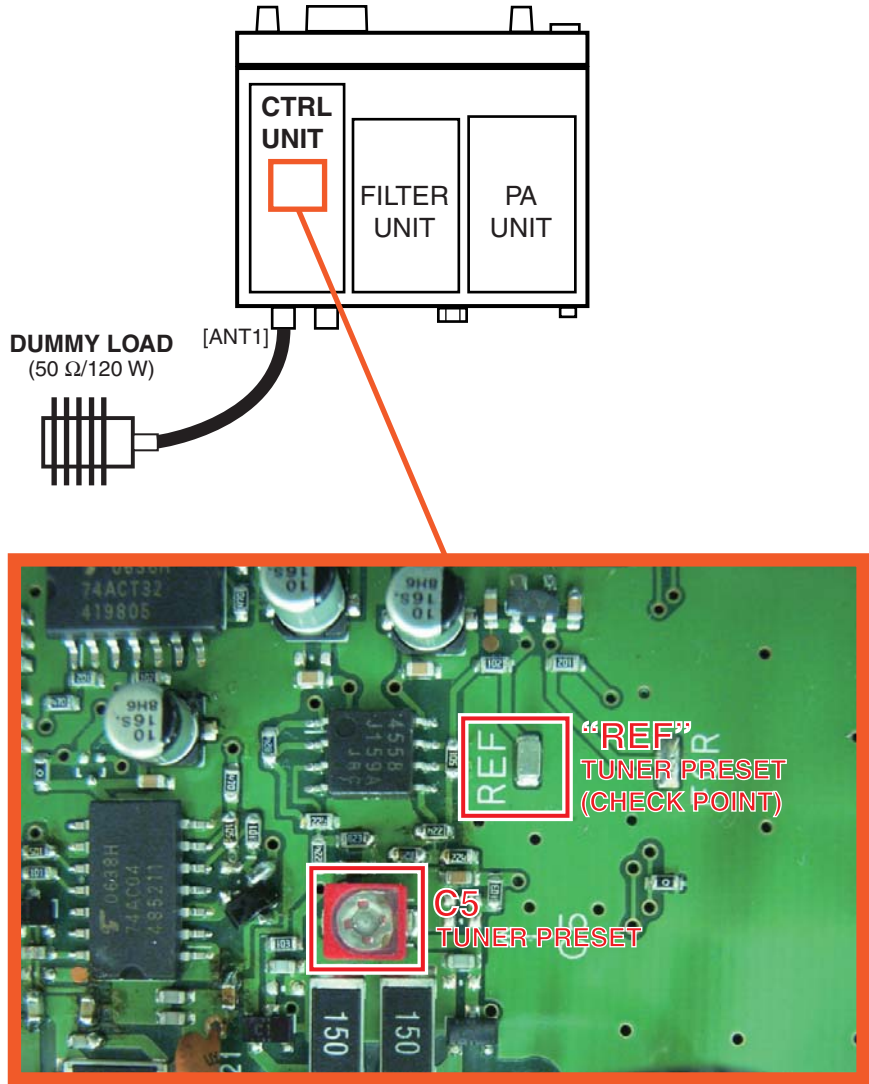
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4-5 CTRL UNIT ADJUSTMENT

ADJUSTMENT	ADJUSTMENT CONDITION	OPERATION	ADJUSTMENT POINT	VALUE
TUNER PRESET	<ul style="list-style-type: none"> • Frequency : 50.0 MHz • Mode : RTTY • [TUNER] : "THROUGH" • Transmitting (Max. power) 	<ol style="list-style-type: none"> 1) Connect a 50 Ω dummy load to [ANT1]. 2) Connect the voltmeter to "REF." 3) Adjust the voltage. 	C5	Minimum voltage

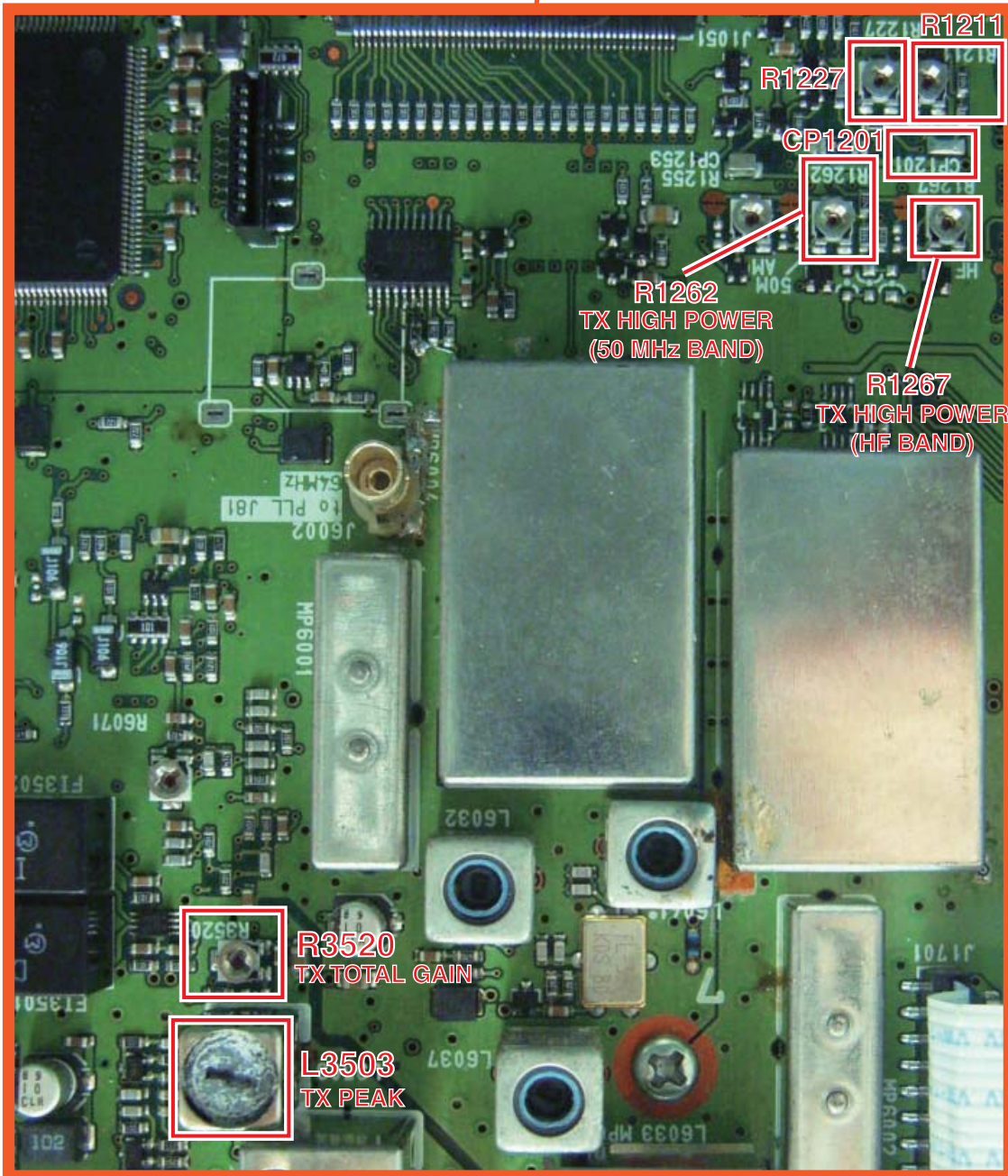
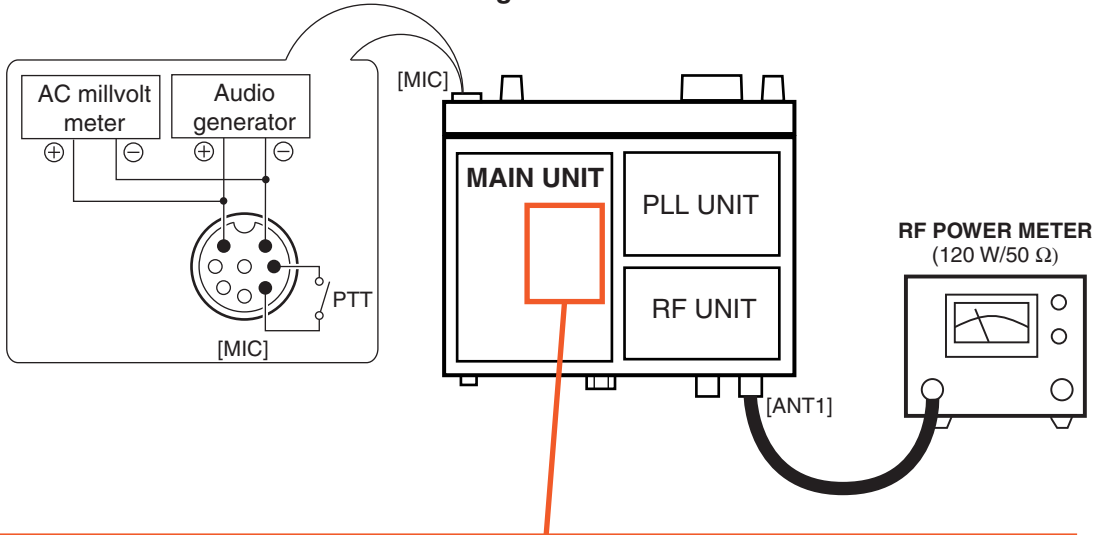
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4-6 MAIN UNIT ADJUSTMENT

ADJUSTMENT	ADJUSTMENT CONDITION	OPERATION	ADJUSTMENT POINT	VALUE
PRESET	1	• Receiving		–
	2			–
	3			–
		1) Turn the transceiver OFF. 2) Reset the CPU. (While pushing and holding both [F-INP] and [MW], turn the power ON.)	–	–
		• Set the variable resistor to 3 o'clock position (viewing from REAR).	R1211	3 o'clock position
		1) Connect a Digital multimeter to the CP1201 . 2) Adjust the voltage.	R1227	0.5 V (0.3–0.7 V)
TX PEAK -Preparation-	1	• Frequency : 14.1 MHz • Mode : USB • Transmitting (Max. power)		–
		1) Connect an AC Millivoltmeter and Audio Generator to the [MIC] connector on the FRONT panel, and set it as; Frequency : 1.5 kHz Level : 1 mV 2) Connect an RF Power meter to [ANT1].	–	–
-Adjustment-	2	• Adjust the TX output power. (If ALC is activated during adjustment, reduce the MIC gain.)	L3503	Max. TX power
TX TOTAL GAIN	1	• Frequency : 14.1 MHz • Mode : USB • [MIC GAIN] : Center position • Transmitting		–
		1) Connect an AC Millivoltmeter and Audio Generator to the [MIC] connector on the FRONT panel, and set it as; Frequency : 1.5 kHz Level : 1 mV 2) Connect an RF Power meter to [ANT1]. 3) Adjust the TX output power.	R3520	50 W
TX HIGH POWER (HF BAND)	1	• Frequency : 14.100 MHz • Mode : RTTY • Transmitting		–
		1) Connect an RF Power meter to [ANT1]. 2) Adjust the TX output power.	R1267	103 W
(50 MHz BAND)	2	• Frequency : 50.100 MHz • Mode : RTTY • Transmitting		–
		1) Connect an RF Power meter to [ANT1]. 2) Adjust the TX output power.	R1262	100 W

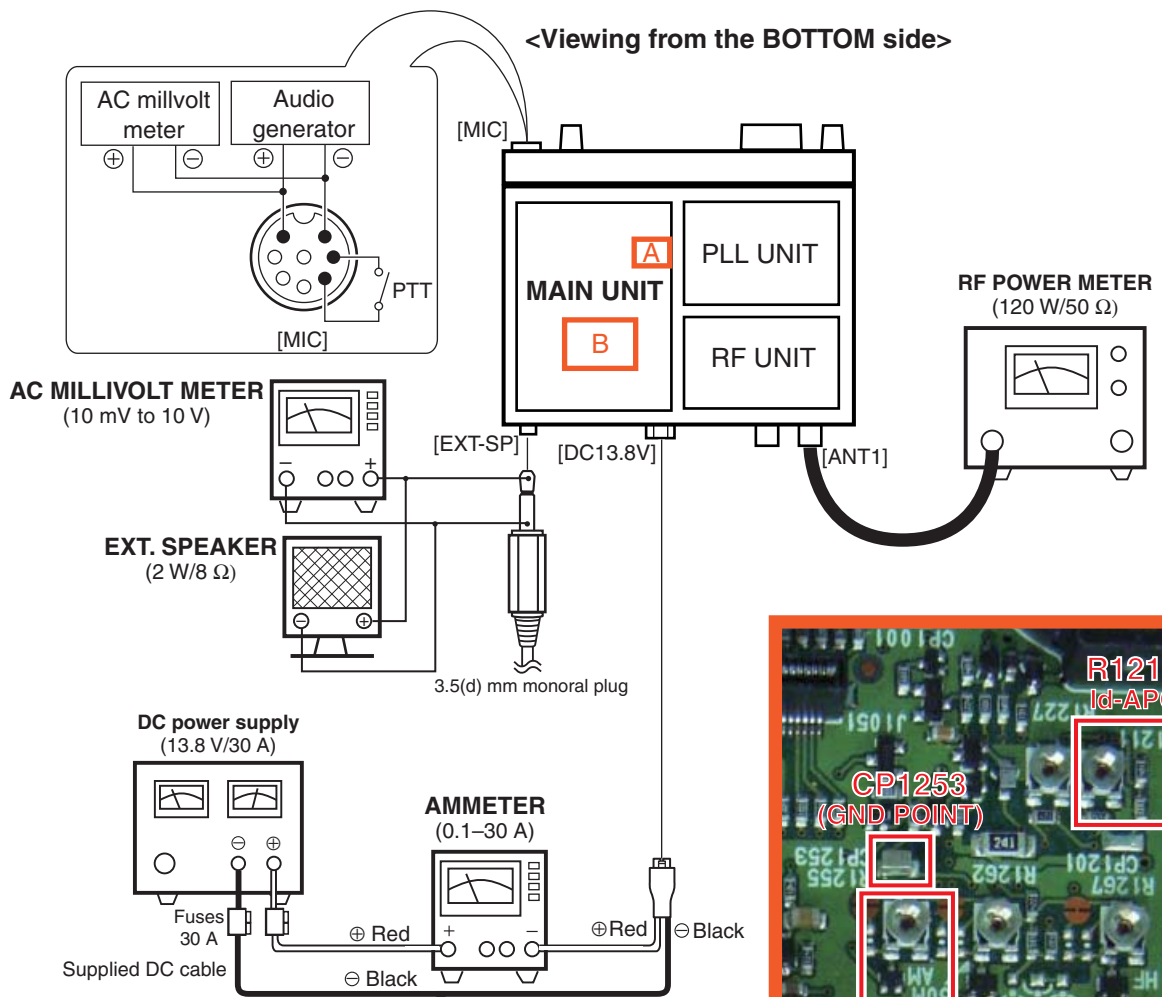
<Viewing from the BOTTOM side>



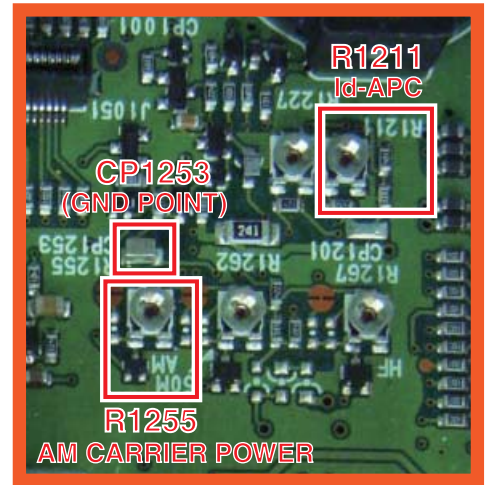
4-6 MAIN UNIT ADJUSTMENT (continued)

ADJUSTMENT	ADJUSTMENT CONDITION	OPERATION	ADJUSTMENT POINT	VALUE
AM CARRIER POWER	1 <ul style="list-style-type: none"> • Frequency : 14.100 MHz • Mode : AM • MIC input : OFF • Transmitting 	1) Connect an RF Power meter to [ANT1]. 2) Adjust the TX output power.	R1255	30 W
Id-APC -Preparation-	1 <ul style="list-style-type: none"> • Frequency : 54.000 MHz • Mode : RTTY • Transmitting 	1) Connect CP1253 to GND. 2) Turn R1211 to max. clockwise, then turn it to 90° position. 3) Disconnect the power cable from the transceiver, and connect an DC Ammeter (30 A) between the power supply and transceiver.	-	-
-Adjustment-	2	1) Connect an RF Power meter (or Dummy Load) to [ANT1]. 2) Adjust the driving current.	R1211 (Clockwise rotation)	23.5 A
	3	• Disconnect CP1253 from the GND.		
RX SENSITIVITY	1 <ul style="list-style-type: none"> • Frequency : 14.150 MHz • Mode : USB • Receiving 	1) Connect an SSG to [ANT1], and set it as. Frequency : 14.1515 MHz Level : 0 dBμ [†] (107 dBm) Modulation : None 2) Connect an AC Millivoltmeter to [EXP-SP]. 3) Adjust the sensitivity.	L3602	Max. audio output level
IMAGE RESPONSE	1 <ul style="list-style-type: none"> • Frequency : 14.150 MHz • Mode : USB • Receiving 	1) Connect an SSG to J3701 , and set it as. Frequency : 64.530 MHz Level : +50 dBμ [†] (-57 dBm) Modulation : None 2) Connect an AC Millivoltmeter to [EXP-SP]. 3) Adjust the image response.	R3216, C3006 (Repeatedly)	Min. audio output level

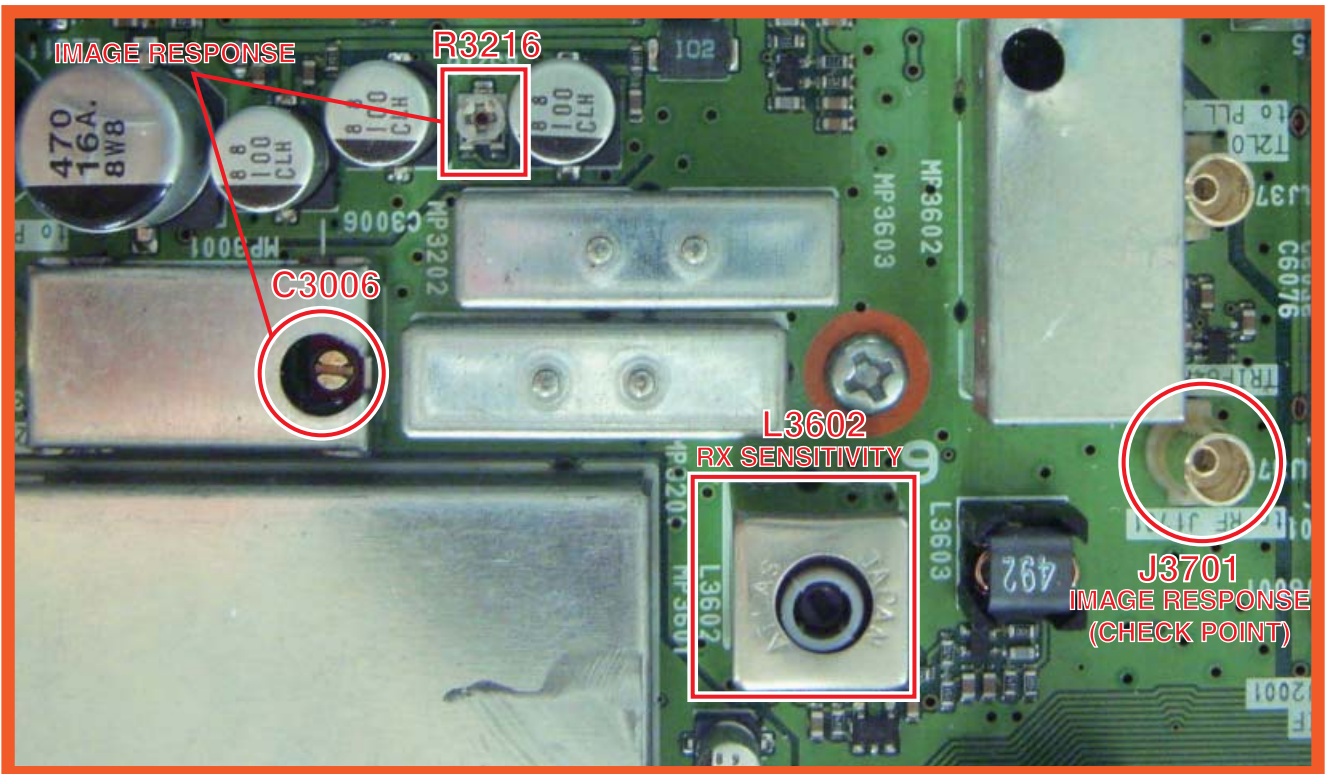
[†]; The output level of the standard signal generator (SSG) is indicated as the SSG's terminated circuit.



A



B

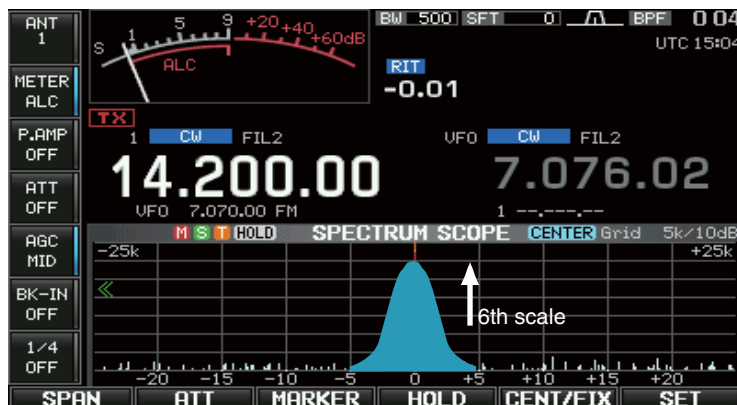


4-7 MAIN UNIT ADJUSTMENT (SCOPE CIRCUIT)

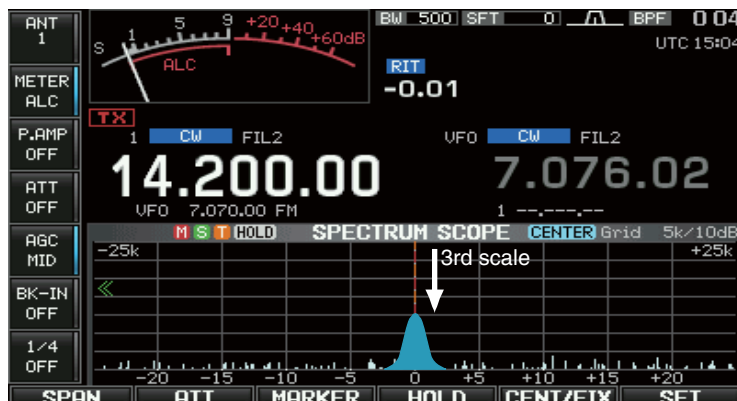
ADJUSTMENT	ADJUSTMENT CONDITION	OPERATION	ADJUSTMENT POINT	VALUE	
SCOPE DISPLAY	1	<ul style="list-style-type: none"> Frequency : 14.200 MHz (Main band) Mode : CW [DUALWATCH] : "OFF" [P.AMP] : "OFF" [ATT] : "OFF" [SCOPE] : "ON" 	<ul style="list-style-type: none"> Connect an SSG to [ANT1] and set as; <ul style="list-style-type: none"> Frequency : 14.200 MHz Modulation : None Level : +54 dBμ† (-53 dBm) 	L6032→L6037→L6041→L6023→L6028→C6076 (in sequence) and L6023, L6028, C6076 (repeatedly)	Maximum waveform on the SCOPE screen
	2	<ul style="list-style-type: none"> [SCOPE ATT] : "OFF" [SPAN] : "±25 kHz" Receiving 	<ul style="list-style-type: none"> Connect an SSG to J6001 and set as; <ul style="list-style-type: none"> Frequency : 71.715 MHz Modulation : None Level : +100 dBμ† (-7 dBm) 	C6076	Minimum waveform on the SCOPE screen
	3		<ul style="list-style-type: none"> Connect an SSG to [ANT1] and set as; <ul style="list-style-type: none"> Frequency : 14.200 MHz Modulation : None Level : +54 dBμ† (-53 dBm) 	L6023, L6028 (repeatedly)	Maximum waveform on the SCOPE screen
SCOPE GAIN	1	Receiving	<ol style="list-style-type: none"> Connect an SSG to [ANT1] and set as; <ul style="list-style-type: none"> Frequency : 14.200 MHz Modulation : None Level : +54 dBμ† (-53 dBm) Adjust the waveform to set the peak of the wave spectrum reaches the 6th scale. 	R6071	(See fig.1)
SCOPE ATT	1	<ul style="list-style-type: none"> [SCOPE ATT] : "30 dB" Receiving 	<ol style="list-style-type: none"> Connect an SSG to [ANT1] and set as; <ul style="list-style-type: none"> Frequency : 14.200 MHz Modulation : None Level : +54 dBμ† (-53 dBm) Adjust the waveform to set the peak of the wave spectrum reaches the 3rd scale. 	R6043	(See fig.2)

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

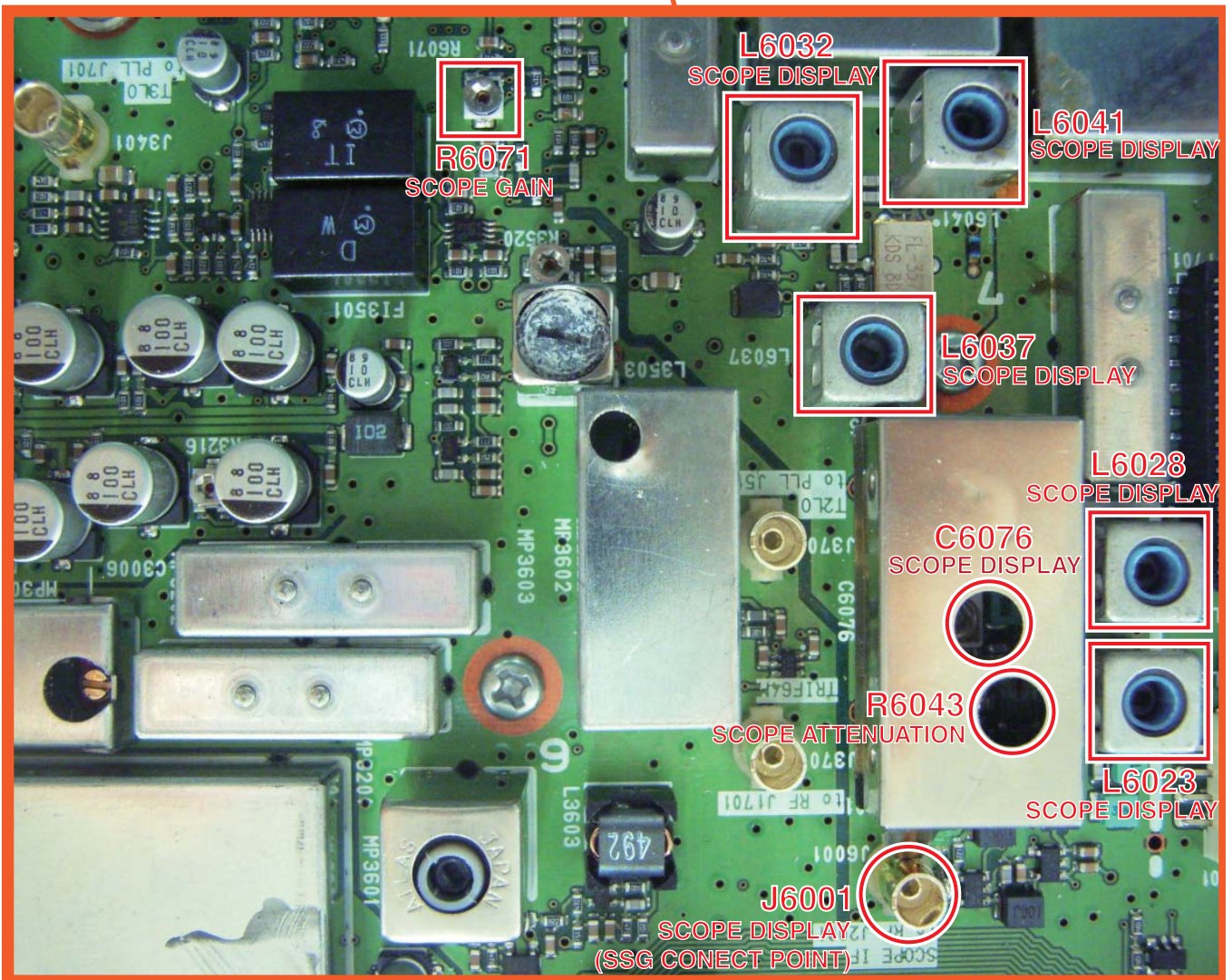
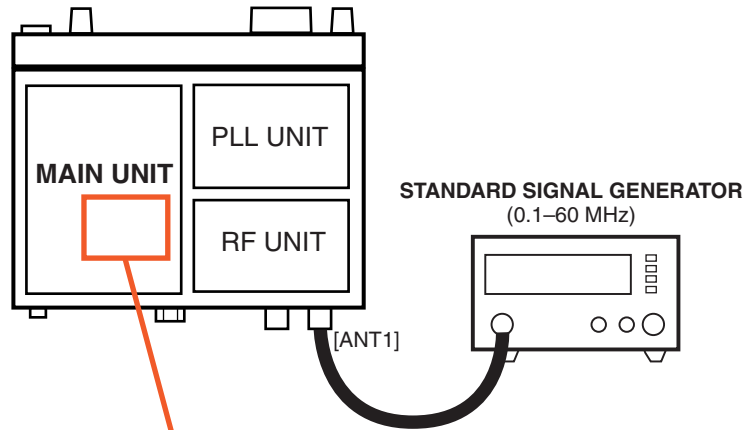
<fig. 1>



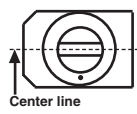
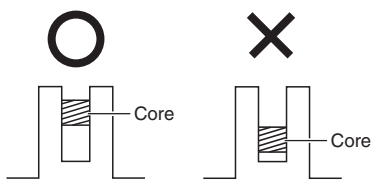
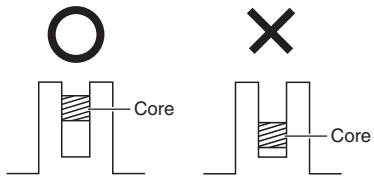
<fig. 2>



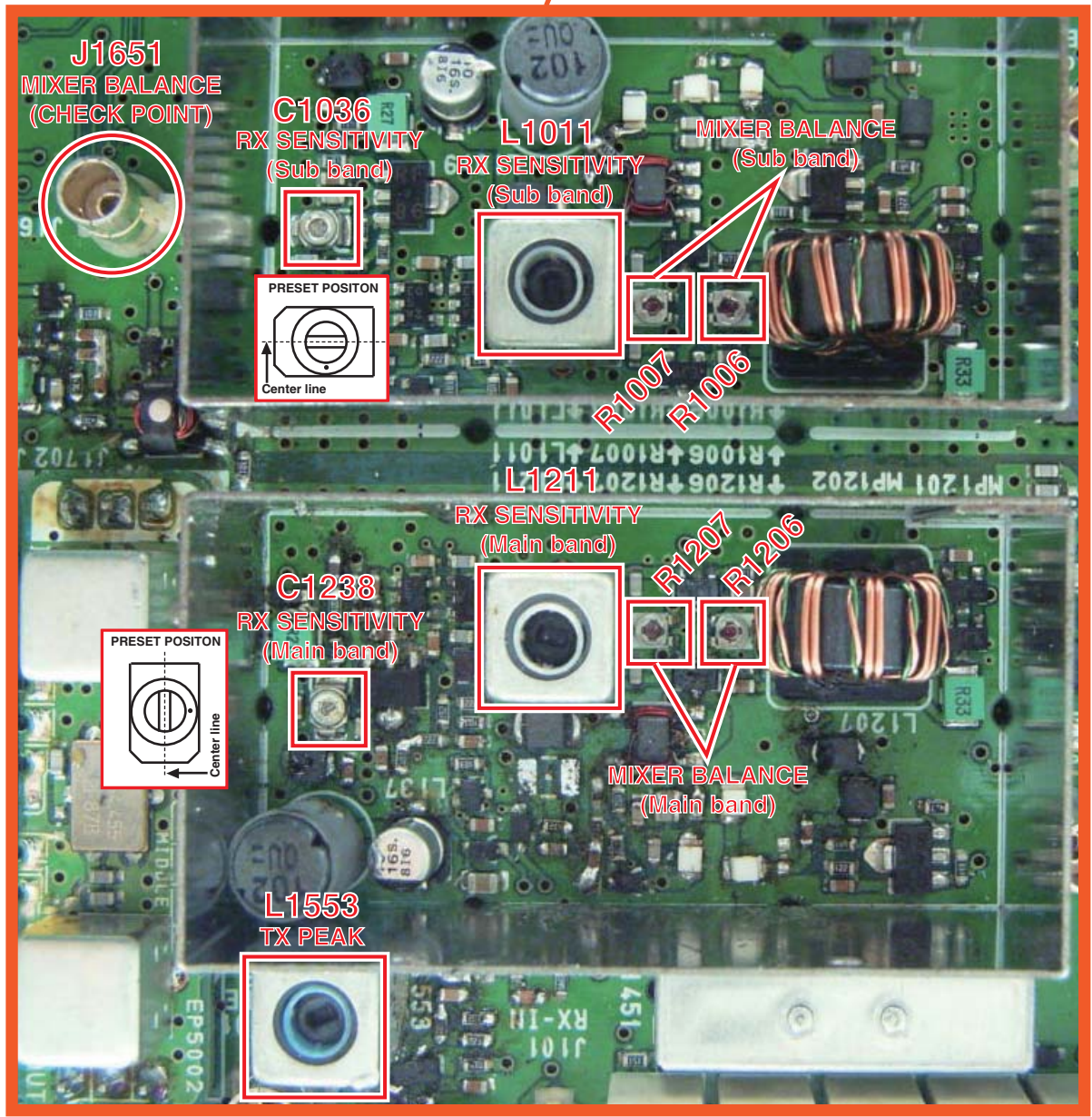
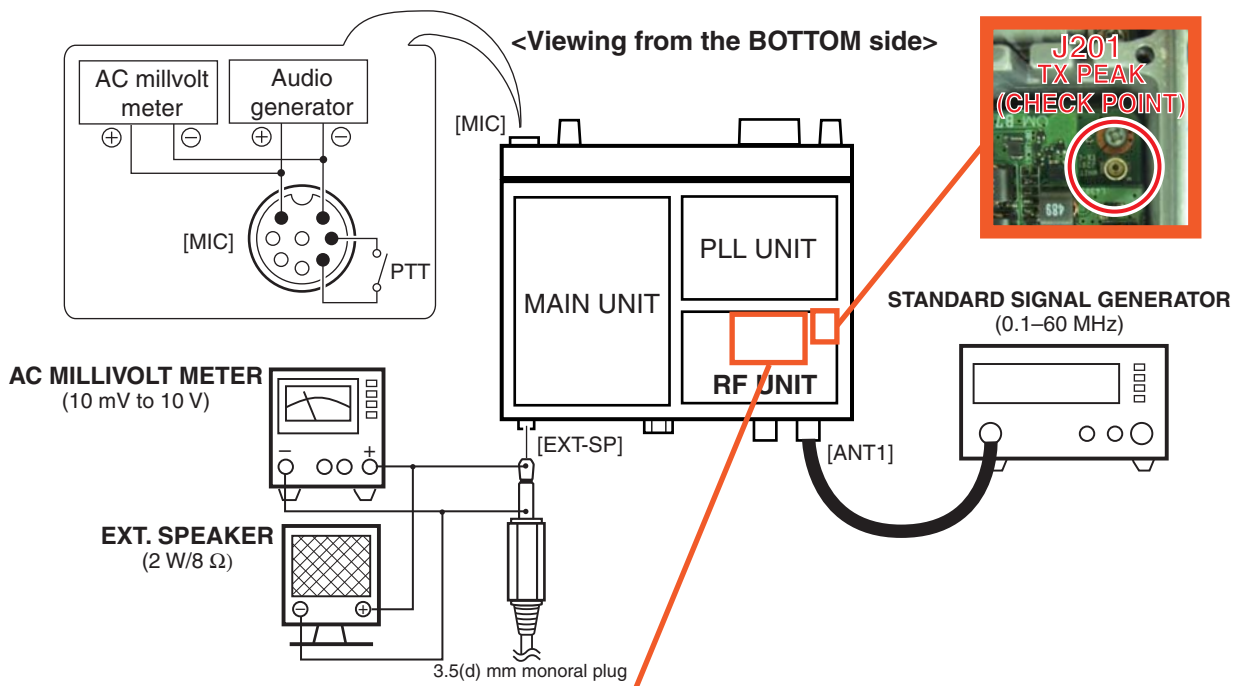
<Viewing from the BOTTOM side>



4-8 RF UNIT ADJUSTMENT

ADJUSTMENT	ADJUSTMENT CONDITION	OPERATION	ADJUSTMENT POINT	VALUE
PRESET	<ul style="list-style-type: none"> • Frequency : 14.100000 MHz • Mode : CW • [DUALWATCH] : "OFF" • [ATT] : "OFF" • [RF/SQL] : Center position • [RF POWER] : "MAX" • Transmitting 	<ul style="list-style-type: none"> • Set 2 trimmer capacitors to the preset position as illustrated below. 	C1238, C1036	(as shown)
TX PEAK	<ul style="list-style-type: none"> • Frequency : 14.100000 MHz • Mode : USB • [MIC GAIN] : Center position • Transmitting (Max. power) 	<ol style="list-style-type: none"> 1) Connect a RF Voltmeter to J201. 2) Adjust the output voltage. 	L1553	Maximum voltage
RX SENSITIVITY (MAIN BAND)	<ol style="list-style-type: none"> 1) <ul style="list-style-type: none"> • Frequency : 14.100000 MHz (Main band) • Mode : USB • [FIL] : 2.4 kHz • [TWIN-PBT] : "Center" (Push [PBT-CLR] for 1 sec.) • [P.AMP1] : "ON" • Receiving 	<ol style="list-style-type: none"> 1) Connect an SSG to [ANT1] and set as; <ul style="list-style-type: none"> Frequency : 14.101500 MHz Modulation : None Level : 0 dBμ[†] (-107 dBm) 2) Connect an AC Millivoltmeter and a speaker to [EXT-SP]. 3) Adjust the receive sensitivity by tuning the core. <p>L1211 has two peak points. Tune the core in the upper portion.</p> 	L1211, C1238 (L1211: Peak point in the upper portion)	Max. sensitivity (Minimum noise level)
(SUB BAND)	<ol style="list-style-type: none"> 2) <ul style="list-style-type: none"> • Frequency : 14.100000 MHz (Sub band) • Mode : USB • [DUALWATCH] : "ON" • [FIL] : 2.4 kHz • [TWIN-PBT] : "Center" (Push [PBT-CLR] for 1 sec.) • [P.AMP1] : "ON" • [BALANCE] : "SUB MAX" • Receiving 	<ol style="list-style-type: none"> 1) Connect an SSG to [ANT1] and set as; <ul style="list-style-type: none"> Frequency : 14.100000 MHz Modulation : None Level : 0 dBμ[†] (-107 dBm) 2) Connect an AC Millivoltmeter and a speaker to [EXT-SP]. 3) Adjust the receive sensitivity by tuning the core. <p>L1011 has two peak points. Tune the core in the upper portion.</p> 	L1011, C1036 (L1011: Peak point in the upper portion)	Max. sensitivity (Minimum noise level)
MIXER BALANCE (MAIN BAND)	<ol style="list-style-type: none"> 1) <ul style="list-style-type: none"> • Frequency : 1.907500 MHz (Main and sub bands) • [DUALWATCH] : "ON" 	<ol style="list-style-type: none"> 1) Connect a Spectrum Analyzer to J1651. 2) Adjust the leaking LO signal level. 	R1206, R1207	Minimum leaking level
(SUB BAND)	<ol style="list-style-type: none"> 2) <ul style="list-style-type: none"> • [FIL] : 2.4 kHz • [TWIN-PBT] : "Center" (Push [PBT-CLR] for 1 sec.) • [P.AMP1] : "ON" • Receiving 	<ul style="list-style-type: none"> • Adjust the leaking LO signal level. 	R1006, R1007	

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

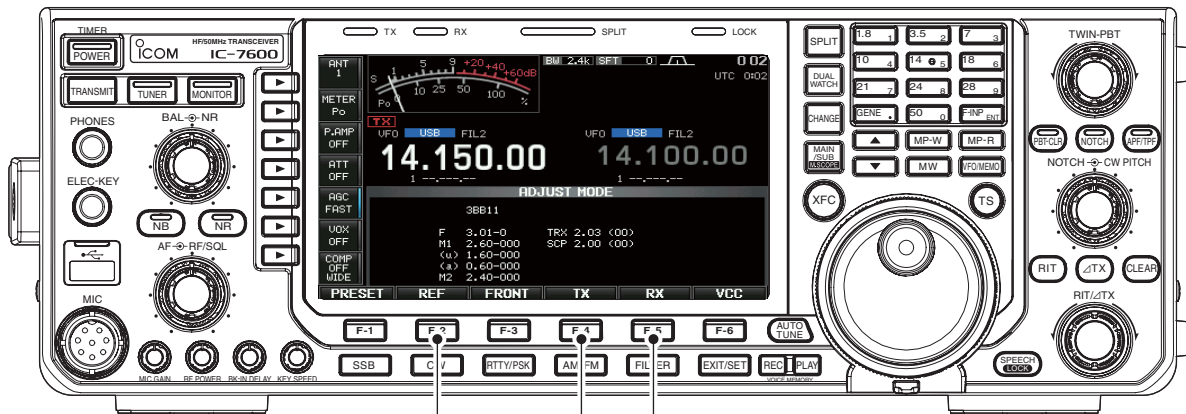


4-9 SOFTWARE ADJUSTMENT

■ ENTERING ADJUSTMENT MODE

- 1) Turn the transceiver OFF.
- 2) Connect a short plug (See the illust below) to [REMOTE].
- 3) While pushing and holding both [SSB] and [CW], turn the transceiver power ON.
("ADJUST MODE" appears on the display as below.)

<FRONT VIEW>



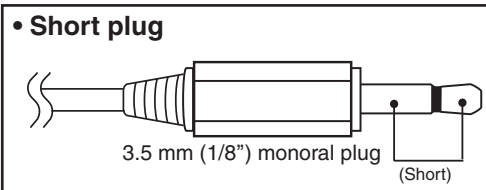
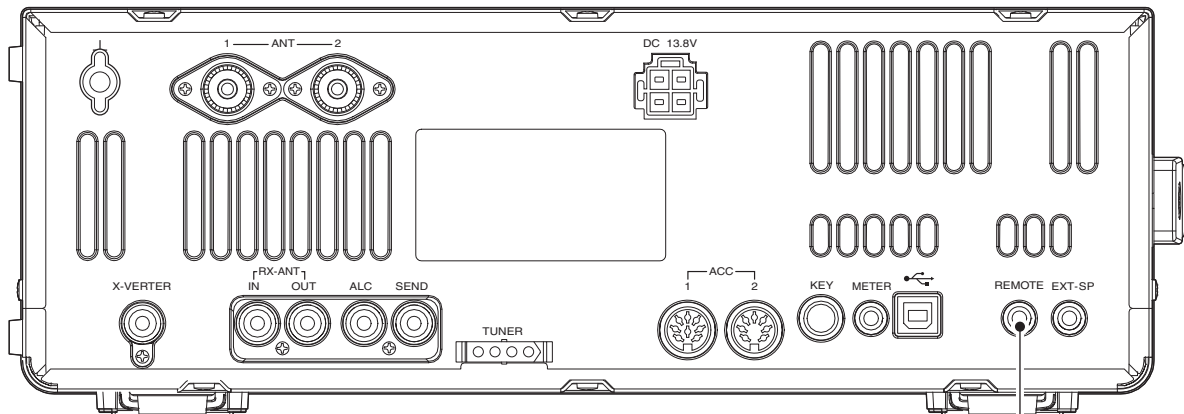
REFERENCE
FREQUENCY
ADJUSTMENT
(page 4-22)

RECEIVE
ADJUSTMENT (page 4-20)

TRANSMIT
ADJUSTMENT (page 4-18)

CAUTION: When a TX adjustment item is selected, the transceiver transmits automatically. Disconnect the SSG from the antenna connector if connected, and connect a dummy load (50 Ω/120 W).

<REAR VIEW>

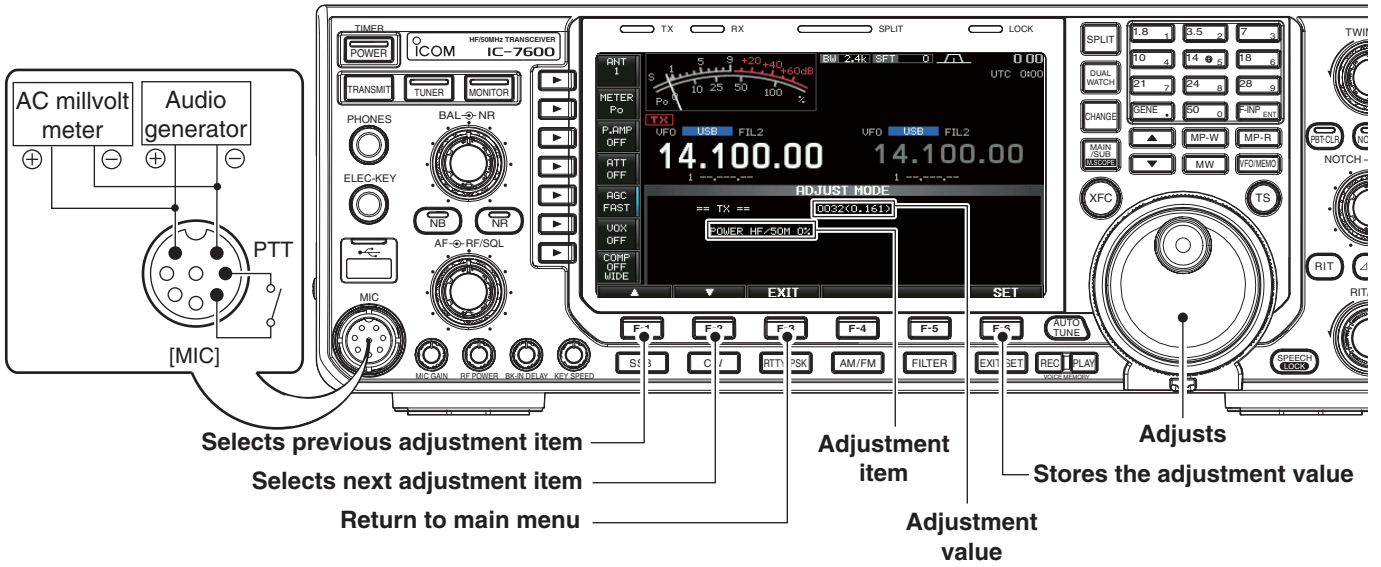


4-9-1 SOFTWARE ADJUSTMENT (TRANSMIT)

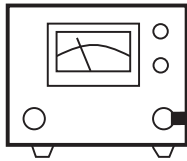
Push [F-4] (TX) to enter the TRANSMIT ADJUSTMENT MODE.

CONNECTIONS FOR THE TRANSMIT ADJUSTMENT

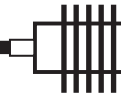
<FRONT VIEW>



RF POWER METER
(120 W/50 Ω)



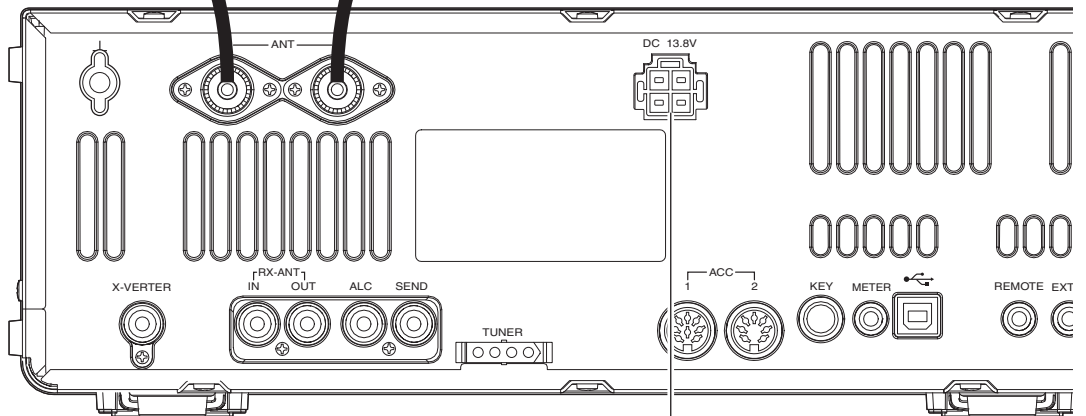
DUMMY LOAD
(100 Ω/120 W)



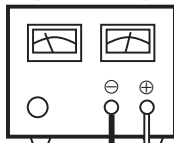
[ANT1]

[ANT2]

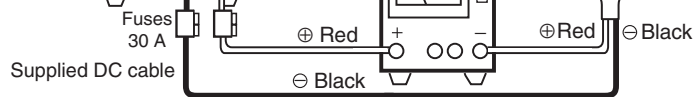
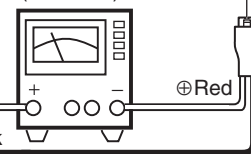
<REAR VIEW>



DC power supply
(13.8 V/30 A)



AMMETER
(0.1–30 A)



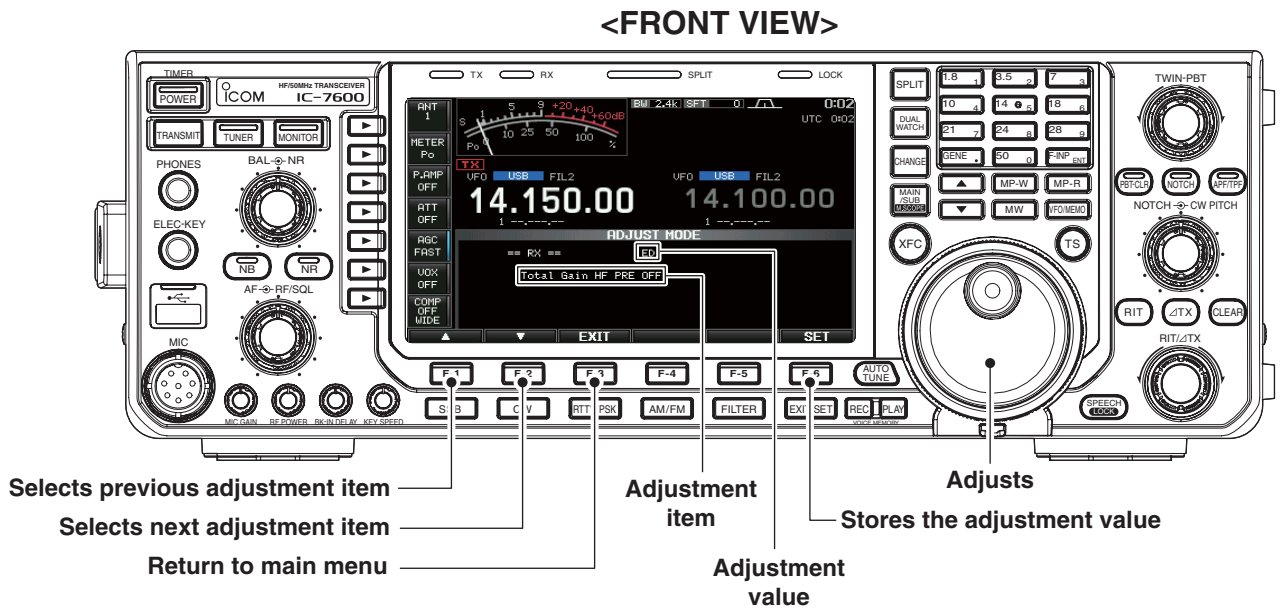
4-9-1 SOFTWARE ADJUSTMENT (TRANSMIT) (continued)

ADJUSTMENT	ADJUSTMENT ITEM	OPERATION	VALUE
PREPARATION	1	<p>1) Connect an Audio Generator and AC Millivoltmeter to the [MIC] connector on the FRONT panel, and set it as; Frequency : 1.5 kHz Level : 10 mV</p> <p>2) Connect an RF Power meter (terminated) to [ANT1].</p> <p>3) Connect a Dummy Load (SWR=2; 100 Ω) to [ANT2].</p> <p>4) Disconnect the power cable from the transceiver, and connect an DC Ammeter (30 A) between the power supply and transceiver.</p>	–
POWER METER (HF BAND)	1	[POWER HF/50M 0%] • Push [F-6] (SET).	–
	2	[POWER HF Tuner] 1) Adjust the TX power using MAIN DIAL. 2) Push [F-6] (SET).	10 W
	3	[POWER HF 10%] 1) Adjust the TX power using MAIN DIAL. 2) Push [F-6] (SET).	10 W
	4	[POWER HF 50%] 1) Adjust the TX power using MAIN DIAL. 2) Push [F-6] (SET).	50 W
	5	[POWER HF APC Low Volt] 1) Adjust the TX power using MAIN DIAL. 2) Push [F-6] (SET).	80 W
	6	[POWER HF 100%] 1) Adjust the TX power using MAIN DIAL. 2) Push [F-6] (SET).	100 W
POWER METER (50MHz BAND)	1	[POWER 50M Tuner] 1) Adjust the TX power using MAIN DIAL. 2) Push [F-6] (SET).	10 W
	2	[POWER 50M 10%] 1) Adjust the TX power using MAIN DIAL. 2) Push [F-6] (SET).	10 W
	3	[POWER 50M 50%] 1) Adjust the TX power using MAIN DIAL. 2) Push [F-6] (SET).	50 W
	4	[POWER 50M 100%] 1) Adjust the TX power using MAIN DIAL. 2) Push [F-6] (SET).	99 W
POWER-DOWN SETTING	1	[POWER for Power Down HF/50M] 1) Adjust the TX power using MAIN DIAL. 2) Push [F-6] (SET).	50 W
ALC METER	1	[ALC] • Push [F-6] (SET).	–
DRIVE GAIN	1	[DRIVE] • Push [F-6] (SET).	–
Vd METER	1	[Vd 13.8V] • Push [F-6] (SET).	–
Id METER	1	[Id 0A] • Push [F-6] (SET).	–
	2	[Id 10A] 1) Adjust the driving current using MAIN DIAL. 2) Push [F-6] (SET).	10 A
	3	[Id 15A] 1) Adjust the driving current using MAIN DIAL. 2) Push [F-6] (SET).	15 A
SWR METER	1	[SWR] • Push [F-6] (SET). (Returns to "ADJUSTMENT MODE.")	–

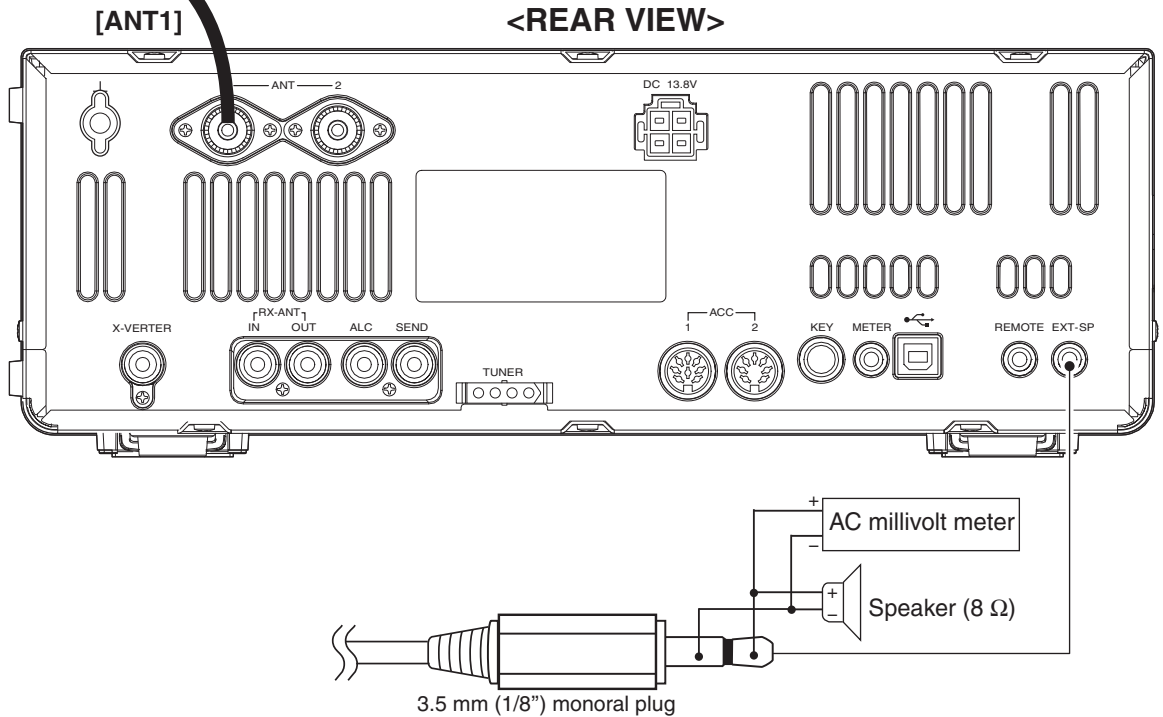
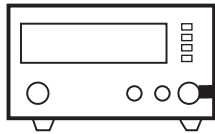
4-9-2 SOFTWARE ADJUSTMENTS (RECEIVE)

Push [F-5] (RX) to enter the RECEIVE ADJUSTMENT MODE.

CONNECTIONS FOR THE RECEIVE ADJUSTMENT



STANDARD SIGNAL GENERATOR (0.1–60 MHz)



4-9-2 SOFTWARE ADJUSTMENT (RECEIVE) (continued)

ADJUSTMENT	ADJUSTMENT ITEM	OPERATION	VALUE
PREPARATION	-	1) Connect an SSG to [ANT1] and set it as; Frequency : 14.1515 MHz Modulation : None Level : OFF (initially) 2) Connect an AC Millivoltmeter to [EXT-SP].	-
TOTAL GAIN (Pre-AMP: OFF)	1 [Total Gain HF PRE OFF]	1) Set the SSG as; Level : +60 dBμ [†] (-47 dBm) 2) Set the audio output level to 0 dB as the reference. 3) Set the SSG as; Level : "OFF" 4) Adjust the AF output level using MAIN DIAL, then push [F-6] (SET).	-30 dB
(Pre-AMP: ON)	2 [Total Gain HF PRE ON]	• Adjust the AF output level using MAIN DIAL, then push [F-6] (SET).	
EXTERNAL AGC	1 [AGC (RX-DSP)]	1) Set the SSG as; Level : +70 dBμ [†] (-37 dBm) 2) Push [F-6] (SET).	-
S-METER	1 [HF S0 LEVEL]	1) Set the SSG as; Level : "OFF" 2) Push [F-6] (SET). (the beep "Pi" sounds) NEVER CHANGE the SSG output level until the two short beeps "PiPi" sound. The two short beeps will sound after 0.5 sec. from 1st single beep "Pi" sounds.	-
	2 [HF S9 LEVEL]	1) Set the SSG as; Level : +34 dBμ [†] (-73 dBm) 2) Push [F-6] (SET). (the beep "Pi" sounds) NEVER CHANGE the SSG output level until the two short beeps "PiPi" sound. The two short beeps will sound after 1 sec. from 1st single beep "Pi" sounds.	-
	3 [S9+60 LEVEL]	1) Set the SSG as; Level : +94 dBμ [†] (-13 dBm) 2) Push [F-6] (SET). (the beep "Pi" sounds) NEVER CHANGE the SSG output level until the two short beeps "PiPi" sound. The two short beeps will sound after 0.5 sec. from 1st single beep "Pi" sounds. (Returns to "ADJUST MODE.")	-

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

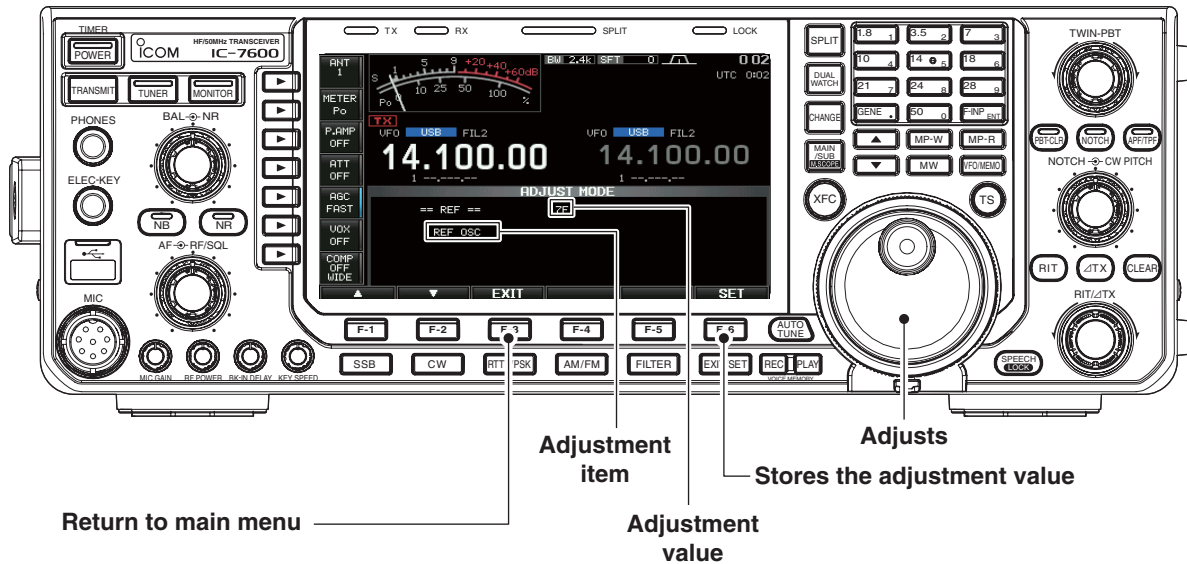
4-9-3 SOFTWARE ADJUSTMENT (FREQUENCY)

Push [F-2] (REF) to enter the RECEIVE ADJUSTMENT MODE.

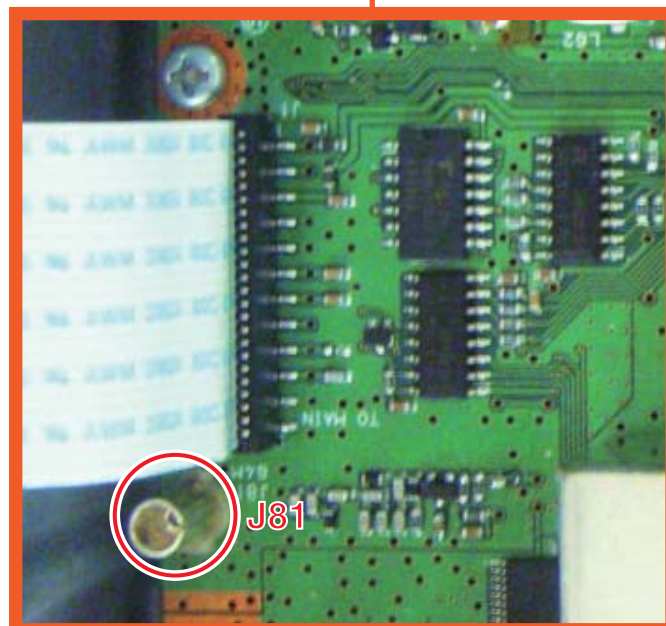
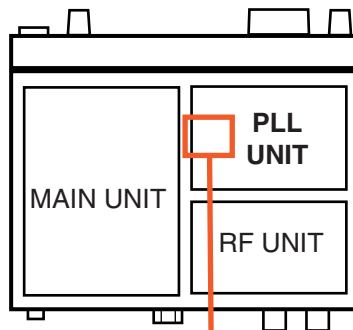
ADJUSTMENT	ADJUSTMENT ITEM	OPERATION	VALUE
REFERENCE FREQUENCY	1	1) Connect a Frequency Counter to J81 (PLL UNIT). 2) Adjust the reference frequency using MAIN DIAL. 3) Push [F-6] (SET). (Returns to "ADJUST MODE.")	64.00000 MHz

CONNECTION FOR THE FREQUENCY ADJUSTMENT

<FRONT VIEW>



<Viewing from the BOTTOM side>



4-9-4 SOFTWARE ADJUSTMENT (TUNER)

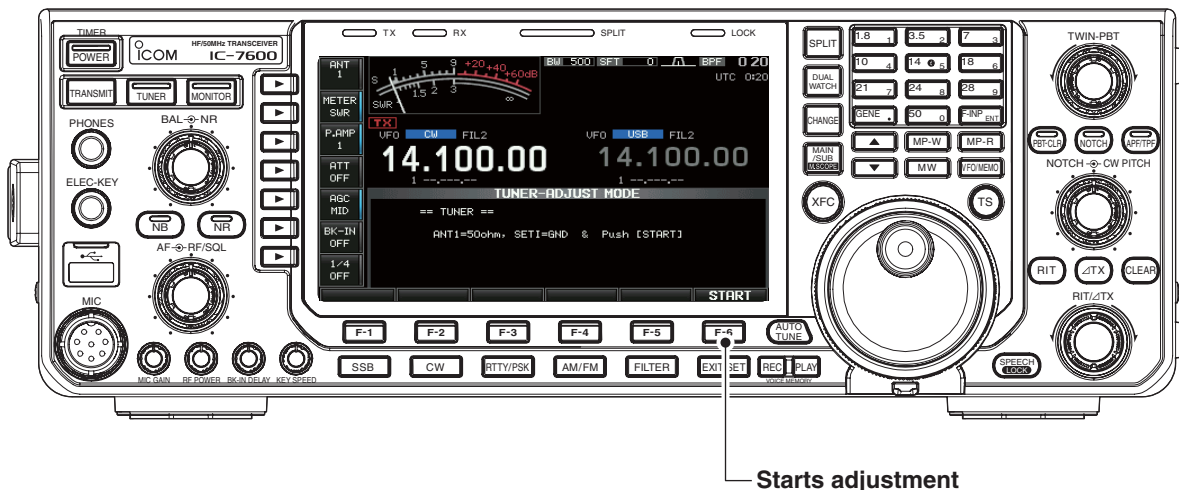
■ ENTERING TUNER REFERENCE ADJUSTMENT MODE

- 1) Turn the transceiver OFF.
- 2) Connect a 50 Ω Dummy Load to [ANT1].
- 3) Connect a short plug (see the illust below) to [REMOTE].
- 4) While pushing and holding both [FILTER] and [SET/EXIT], turn the transceiver power ON.

ADJUSTMENT	ADJUSTMENT ITEM	OPERATION	VALUE
TUNER REFERENCE	1 [== TUNER ==]	1) Push [F-6] (START) key. 2) 10 sec. (approx.) after, verify that "* * * OK * * *" is displayed. 3) Turn the power OFF.	-

■ CONNECTION FOR THE TUNER REFERENCE ADJUSTMENT

<FRONT VIEW>

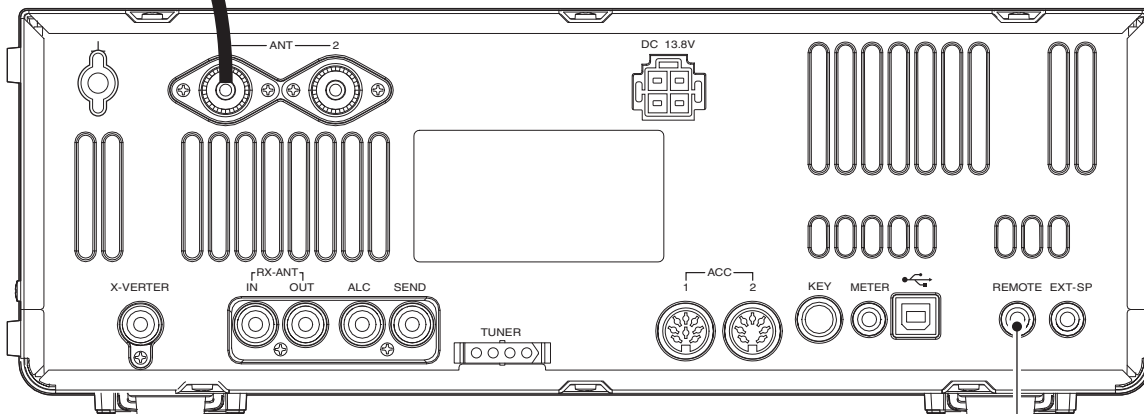


DUMMY LOAD (50 Ω/120 W)

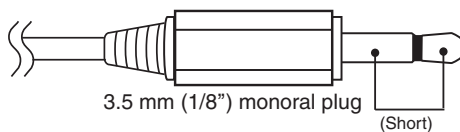


[ANT1]

<REAR VIEW>



• Short plug



SECTION 5

PARTS LIST

[LOGIC UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
IC1	1130013750	S.IC EM639165TS-7G	T	109/62.6
IC2	1130013750	S.IC EM639165TS-7G	T	84.1/62.6
IC21	1130015113	S.IC JS28F128J3D-75(SX-3073A-3)	T	103.2/37.1
IC51	1130011591	S.IC IDT70V24L15PFG	B	119.8/87.1
IC53	1110005731	S.IC S-80928CNMC-G8Y-G	B	65.8/89.4
IC54	1130007431	S.IC TC7S14FU(TE85R,F)	B	61/88.6
IC55	1130012600	S.IC SN74AHC1G04DCKR	B	58.1/87.9
IC102	1130013010	S.IC SN74AHC1G08DCK3	T	115.7/35.5
IC103	1140014730	S.IC HD6417751RBG240V	T	70.8/30.7
IC105	1130015120	S.IC CY22393FXC(SX-3073F)	B	97.8/18
IC201	1130013750	S.IC EM639165TS-7G	T	8.9/79.8
IC202	1130013750	S.IC EM639165TS-7G	B	14.8/80.1
IC203	1140011571	S.IC HD64404BTDV	T	40.7/80.6
IC208	1130014030	S.IC BD6516F-E2	T	65.8/95.2
IC209	1190001920	S.IC AK5355-VT-E2	B	90.8/6.7
IC210	1190001920	S.IC AK5355-VT-E2	B	76.7/6.7
IC211	1190001910	S.IC AK4384-VT-E2	B	65.9/6.7
IC604	1140014710	S.IC HD64F2370VFQ34V	B	140.3/66.4
IC605	1140015050	S.IC XC9572XL-10TQG100C (SX-3073E)	B	131.9/35.3
IC607	1130013010	S.IC SN74AHC1G08DCK3	T	142.8/87
IC608	1130013010	S.IC SN74AHC1G08DCK3	T	148.5/87
IC609	1130005252	S.IC TC74HC08AF(EL,F)	T	119/77.2
IC610	1130014800	S.IC R1EX24064ATA00A	T	148/64.6
IC661	1130012600	S.IC SN74AHC1G04DCKR	T	147.8/77.7
IC721	1130010111	S.IC TC7WH04FU(TE12L,F)	B	150.5/43.3
IC851	1180003100	S.REG BD9302FP-E2	T	179.5/87.9
IC871	1180003100	S.REG BD9302FP-E2	T	180.1/52.2
IC901	1110003870	S.IC NJM2058M-TE1-#ZZZB	B	141.1/6.6
IC902	1110003870	S.IC NJM2058M-TE1-#ZZZB	B	124.1/6.6
Q725	1510000771	S.TRA 2SA1586-GR(TE85L,F)	B	155/39
Q727	1530003900	S.TRA KTC4075 BL-RTK/P	B	155.1/41.5
Q731	1590003680	S.TRA KRC402 RTK/P	B	147.9/36.7
Q1031	1560001221	S.FET ECH8301-TL-E	T	190.2/30.4
D51	1750001320	S.DIO KDS4148U RTK/P [USA]	T	52.5/27.1
	1750001320	S.DIO KDS4148U RTK/P [EUR]		
	1750001320	S.DIO KDS4148U RTK/P [EUR-1]		
	1750001320	S.DIO KDS4148U RTK/P [ESP]		
	1750001320	S.DIO KDS4148U RTK/P [KOR]		
	1750001320	S.DIO KDS4148U RTK/P [TPE]		
	1750001320	S.DIO KDS4148U RTK/P [CHN]		
	1750001320	S.DIO KDS4148U RTK/P [ITR]		
D52	1750001320	S.DIO KDS4148U RTK/P [EXP]		
	1750001320	S.DIO KDS4148U RTK/P [EUR-1]	T	52.5/23.6
	1750001320	S.DIO KDS4148U RTK/P [ESP]		
	1750001320	S.DIO KDS4148U RTK/P [KOR]		
	1750001320	S.DIO KDS4148U RTK/P [TPE]		
	1750001320	S.DIO KDS4148U RTK/P [CHN]		
	1750001320	S.DIO KDS4148U RTK/P [FRA]		
D53	1750001320	S.DIO KDS4148U RTK/P [EXP]		
	1750001320	S.DIO KDS4148U RTK/P [USA]	T	52.5/25.3
	1750001320	S.DIO KDS4148U RTK/P [EUR]		
	1750001320	S.DIO KDS4148U RTK/P [EUR-1]		
	1750001320	S.DIO KDS4148U RTK/P [TPE]		
D54	1750001320	S.DIO KDS4148U RTK/P [CHN]		
	1750001320	S.DIO KDS4148U RTK/P [USA]	T	52.5/28.8
	1750001320	S.DIO KDS4148U RTK/P [EUR]		
	1750001320	S.DIO KDS4148U RTK/P [EUR-1]		
	1750001320	S.DIO KDS4148U RTK/P [ESP]		
	1750001320	S.DIO KDS4148U RTK/P [KOR]		
	1750001320	S.DIO KDS4148U RTK/P [TPE]		
	1750001320	S.DIO KDS4148U RTK/P [CHN]		
D55	1750001320	S.DIO KDS4148U RTK/P [ITR]		
	1750001320	S.DIO KDS4148U RTK/P [EXP]	T	52.5/20.1
	1750001320	S.DIO KDS4148U RTK/P [EUR-1]		
	1750001320	S.DIO KDS4148U RTK/P [CHN]		
	1750001320	S.DIO KDS4148U RTK/P [ITR]		
	1750001320	S.DIO KDS4148U RTK/P [EXP]		
D56	1750001320	S.DIO KDS4148U RTK/P [USA]	T	52.5/21.8
	1750001320	S.DIO KDS4148U RTK/P [EUR]		
	1750001320	S.DIO KDS4148U RTK/P [ESP]		
	1750001320	S.DIO KDS4148U RTK/P [KOR]		
	1750001320	S.DIO KDS4148U RTK/P [TPE]		
	1750001320	S.DIO KDS4148U RTK/P [CHN]		
	1750001320	S.DIO KDS4148U RTK/P [FRA]		
	1750001320	S.DIO KDS4148U RTK/P [EXP]		
D57	1750001320	S.DIO KDS4148U RTK/P [USA]	T	52.5/18.3
	1750001320	S.DIO KDS4148U RTK/P [EUR]		
	1750001320	S.DIO KDS4148U RTK/P [EUR-1]		
	1750001320	S.DIO KDS4148U RTK/P [TPE]		
	1750001320	S.DIO KDS4148U RTK/P [CHN]		
D58	1750001320	S.DIO KDS4148U RTK/P [USA]	T	52.5/16.6
	1750001320	S.DIO KDS4148U RTK/P [EUR]		
	1750001320	S.DIO KDS4148U RTK/P [EUR-1]		
	1750001320	S.DIO KDS4148U RTK/P [ESP]		
	1750001320	S.DIO KDS4148U RTK/P [KOR]		
	1750001320	S.DIO KDS4148U RTK/P [ITR]		
D59	1750001320	S.DIO KDS4148U RTK/P [EXP]	T	52.5/14.8
	1750001320	S.DIO KDS4148U RTK/P [EUR-1]		
	1750001320	S.DIO KDS4148U RTK/P [ESP]		
	1750001320	S.DIO KDS4148U RTK/P [CHN]		
	1750001320	S.DIO KDS4148U RTK/P [ITR]		
	1750001320	S.DIO KDS4148U RTK/P [EXP]		
D60	1750001320	S.DIO KDS4148U RTK/P	T	56.3/27.1
D61	1750001320	S.DIO KDS4148U RTK/P	T	56.3/23.6

[LOGIC UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
D62	1750001320	S.DIO KDS4148U RTK/P	T	56.3/25.3
D63	1750001320	S.DIO KDS4148U RTK/P	T	56.3/28.8
D66	1750001320	S.DIO KDS4148U RTK/P	T	56.3/18.3
D67	1750001320	S.DIO KDS4148U RTK/P	T	56.3/16.6
		[EUR]		
		[EUR-1]		
		[ITR]		
		[FRA]		
D68	1750001320	S.DIO KDS4148U RTK/P	T	56.3/14.8
D101	1750001320	S.DIO KDS4148U RTK/P	B	66.5/18.7
D102	1750001320	S.DIO KDS4148U RTK/P	B	68.2/18.7
D206	1790000980	S.DIO MA742(TX)	T	45.8/95.6
D207	1790000980	S.DIO MA742(TX)	T	49.2/95.6
D711	1750001320	S.DIO KDS4148U RTK/P	B	154.5/63.6
D715	1790001241	S.DIO MA2S7280GL	B	154.5/65.2
D727	1750001320	S.DIO KDS4148U RTK/P	B	155.1/43.7
D731	1750001180	S.DIO KDS122 RTK/P	B	145/36.7
D732	1750001180	S.DIO KDS122 RTK/P	B	150.8/36.6
D851	1750000960	S.DIO RB081L-20	T	188.1/88.1
D852	1750000960	S.DIO RB081L-20	T	171/86.2
D871	1750000960	S.DIO RB081L-20	T	171.4/52.2
D872	1750000960	S.DIO RB081L-20	T	188.7/52.2
D901	1790000980	S.DIO MA742(TX)	B	161.5/33.9
D902	1790000980	S.DIO MA742(TX)	B	176.5/33.9
D903	1790000980	S.DIO MA742(TX)	B	164/33.9
D904	1790000980	S.DIO MA742(TX)	B	166.5/33.9
D905	1790000980	S.DIO MA742(TX)	B	169/33.9
D906	1790000980	S.DIO MA742(TX)	B	171.5/33.9
D907	1790000980	S.DIO MA742(TX)	B	174/33.9
D909	1790000980	S.DIO MA742(TX)	T	120.5/11.1
D910	1790000980	S.DIO MA742(TX)	T	120.5/13.6
D911	1790000980	S.DIO MA742(TX)	T	101.3/6.3
D912	1790000980	S.DIO MA742(TX)	T	101.3/3.8
D913	1790000980	S.DIO MA742(TX)	B	159.6/31.1
X101	6050011610	S.XTA CR-751 SMD-49 25.000 MHz	T	97.8/18.1
X201	6050010680	S.XTA CR-628 SMD-49 24.576 MHz	T	36.8/63.7
X202	6050011910	S.XTA CR-780 DSX530G 48 MHz	T	37.6/97.5
X601	6050011810	S.XTA CR-755 SMD-49 15.9744 MHz	T	126.6/65.3
L801	6200005011	S.COI NLV25T-100J	T	63/8
L803	6200005011	S.COI NLV25T-100J	B	157.1/32.2
L851	6200013280	S.COI SLF10145T-330M1R6-PF	T	196.3/89.3
L852	6200013280	S.COI SLF10145T-330M1R6-PF	T	164.1/83.7
L853	6200010881	S.COI CDRH124NP-330MC	T	192.9/77.3
L871	6200013280	S.COI SLF10145T-330M1R6-PF	T	164.6/53.5
L872	6200013280	S.COI SLF10145T-330M1R6-PF	T	196.9/49.9
L873	6200010881	S.COI CDRH124NP-330MC	T	193.4/62
R1	7030003520	S.RES ERJ3GEYJ 472 V (4.7K)	T	107.7/24.3
R51	7030003520	S.RES ERJ3GEYJ 472 V (4.7K)	T	130.2/45.4
R52	7030003560	S.RES ERJ3GEYJ 103 V (10K)	B	63.2/89.4
R53	7030003560	S.RES ERJ3GEYJ 103 V (10K)	B	109.6/87.6
R54	7030003560	S.RES ERJ3GEYJ 103 V (10K)	B	129.3/80.4
R61	7030003640	S.RES ERJ3GEYJ 473 V (47K)	T	53.6/30.4
R62	7030003640	S.RES ERJ3GEYJ 473 V (47K)	T	56.6/30.4
R91	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	53.6/43.8
R92	7030003560	S.RES ERJ3GEYJ 103 V (10K)	B	56.6/37.6
R93	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	56/50.4
R94	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	55.2/47.4
R95	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	56.4/47.4
R96	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	57.6/47.4
R97	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	57.2/40.4
R98	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	59.6/50.4
R99	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	58.8/47.4
R102	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	71/19
R103	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	68.6/19
R104	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	54.8/50.4
R105	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	58.4/50.4
R106	7030003560	S.RES ERJ3GEYJ 103 V (10K)	B	71/19
R107	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	67.4/19
R108	7030003560	S.RES ERJ3GEYJ 103 V (10K)	B	69.8/19
R109	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	69.8/16
R110	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	71/16
R111	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	72.2/19
R112	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	68.6/16
R113	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	65/16
R114	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	66.2/16
R115	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	66.2/19
R116	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	65/19
R117	7030003260	S.RES ERJ3GEYJ 330 V (33)	T	63.8/19
R118	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	63.8/16
R119	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	61.4/19
R120	7030003560	S.RES ERJ3GEYJ 103 V (10K)	B	56.6/24.4
R121	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	60.2/16
R122	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	61.4/16
R123	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	60.2/19
R125	7030003520	S.RES ERJ3GEYJ 472 V (4.7K)	T	67.4/16
R126	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	69.8/19
R128	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	72.2/16
R129	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	73.4/19
R130	7030003560	S.RES ERJ3GEYJ 103 V (10K)	B	73.4/19
R131	7030003560	S.RES ERJ3GEYJ 103 V (10K)	B	75.1/19
R132	7030003560	S.RES ERJ3GEYJ 103 V (10K)	B	72.2/19
R133	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	73.4/16
R134	7030003200	S.RES ERJ3GEYJ 100 V (10)	T	77.6/19

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

[LOGIC UNIT]

Table with 5 columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Rows include EP1006 to EP1009.

[MAIN UNIT]

Table with 5 columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Rows include Q2101 to Q6008.

[MAIN UNIT]

Large table with 5 columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Rows include IC1201 to IC6020 and Q1101 to Q2051.

Table with 5 columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Rows include D1001 to D6005.

Table with 5 columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Rows include FI3501 to FI6001.

Table with 5 columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Rows include X2101 and X2131.

Table with 5 columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Rows include L1501 to L3205.

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

[MAIN UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
EP1608	6910015970	S.BEA MMZ1608B 301CT-AS	T	3.7/126
EP1609	6910012350	S.BEA MMZ1608Y 102BT	T	12.5/125.3
EP1610	6910012350	S.BEA MMZ1608Y 102BT	T	12.5/124
EP1611	6910012350	S.BEA MMZ1608Y 102BT	T	15.2/122.9
EP1612	6910014690	S.BEA MPZ1608S221A-T	T	12.5/121
EP1613	6910014690	S.BEA MPZ1608S221A-T	T	12.5/119.3
EP1614	6910014690	S.BEA MPZ1608S221A-T	T	12.5/118
EP1615	6910014690	S.BEA MPZ1608S221A-T	T	3.7/116
EP1616	6910014690	S.BEA MPZ1608S221A-T	T	3.7/114.8
EP1617	6910014640	S.BEA MPZ2012S221A-T	T	4/110.5
EP1618	6910014690	S.BEA MPZ1608S221A-T	T	3.7/124.7
EP1701	6910014690	S.BEA MPZ1608S221A-T	T	130/139.9
EP1702	6910012350	S.BEA MMZ1608Y 102BT	T	128.7/139.9
EP1703	6910012350	S.BEA MMZ1608Y 102BT	T	127.4/139.9
EP1704	6910014690	S.BEA MPZ1608S221A-T	T	126.1/139.9
EP1705	6910012350	S.BEA MMZ1608Y 102BT	T	124.8/139.9
EP1706	6910012350	S.BEA MMZ1608Y 102BT	T	122.4/139.9
EP1707	6910014690	S.BEA MPZ1608S221A-T	T	121.1/139.9
EP1708	6910014690	S.BEA MPZ1608S221A-T	T	119.8/139.9
EP1709	6910014690	S.BEA MPZ1608S221A-T	T	118.5/139.9
EP1710	6910014640	S.BEA MPZ2012S221A-T	T	115.8/139.9
EP1801	6910014690	S.BEA MPZ1608S221A-T	T	41.7/142.5
EP1802	6910014690	S.BEA MPZ1608S221A-T	T	43/142.5
EP1803	6910014690	S.BEA MPZ1608S221A-T	T	44.3/142.5
EP1804	6910014690	S.BEA MPZ1608S221A-T	T	47/142.5
EP1805	6910014690	S.BEA MPZ1608S221A-T	T	48.3/142.5
EP1901	6910018930	S.BEA MPZ2012S601A	T	154.6/143
EP1902	6910018930	S.BEA MPZ2012S601A	T	158.2/143.1
EP2001	6910014690	S.BEA MPZ1608S221A-T	T	178.8/121.5
EP2002	6910014690	S.BEA MPZ1608S221A-T	T	178.8/124.1
EP2003	6910014690	S.BEA MPZ1608S221A-T	T	174.5/112.8
EP2004	6910014690	S.BEA MPZ1608S221A-T	T	178.8/120.2
EP2031	6910014690	S.BEA MPZ1608S221A-T	T	181.8/144.8
EP2101	6910012350	S.BEA MMZ1608Y 102BT	B	192.2/62.7
EP2102	6910012350	S.BEA MMZ1608Y 102BT	B	183.7/62.7
EP2103	6910012350	S.BEA MMZ1608Y 102BT	T	175.3/30.3
EP2104	6910012350	S.BEA MMZ1608Y 102BT	T	172.7/26.3
EP2121	6910012350	S.BEA MMZ1608Y 102BT	T	173.8/36.1
EP2131	6910012350	S.BEA MMZ1608Y 102BT	T	158/58.7
EP2132	6910012350	S.BEA MMZ1608Y 102BT	T	158/60.4
EP2201	6910012350	S.BEA MMZ1608Y 102BT	T	195.2/37
EP2301	6910014730	S.BEA MPZ2012S331A-T	B	188.7/11.5
EP2302	6910014730	S.BEA MPZ2012S331A-T	B	183/19.2
EP2303	6910014730	S.BEA MPZ2012S331A-T	B	186.4/17
EP2304	6910014730	S.BEA MPZ2012S331A-T	B	196.1/20
EP2401	6910015970	S.BEA MMZ1608B 301CT-AS	B	193.5/79.5
EP2402	6910015970	S.BEA MMZ1608B 301CT-AS	B	197.2/79.6
EP3001	6910012350	S.BEA MMZ1608Y 102BT	B	136.9/38.8
EP3601	6910012350	S.BEA MMZ1608Y 102BT	B	135.5/27.8
EP3602	6910012350	S.BEA MMZ1608Y 102BT	B	132.5/25.6
EP3715	6910015970	S.BEA MMZ1608B 301CT-AS	T	140.1/99
EP4101	6910014730	S.BEA MPZ2012S331A-T	B	2.3/79.1
EP5001	6910014690	S.BEA MPZ1608S221A-T	T	29.5/36.8
EP5101	6910014690	S.BEA MPZ1608S221A-T	T	38.9/76.6
EP6001	6910015970	S.BEA MMZ1608B 301CT-AS	T	146.8/110.7

[PLL UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
IC1	1180000421	S.IC TA78L05F(TE12R,F)	B	94.4/59.7
IC2	1130009691	S.IC TC74HCT7007AF(F) S	T	133.6/64.3
IC3	1130011530	S.IC CD74HC4094M96	T	122.4/64.6
IC4	1130011530	S.IC CD74HC4094M96	T	133/75.2
IC101	1190002101	S.IC AD9951YSVZ <FE>	T	110.6/100.7
IC102	1130010560	S.IC SN74AHC244PWR	T	126.1/95.9
IC103	1180003190	S.REG UPD120N33TA-E1-A	T	115.7/86.4
IC104	1180003200	S.REG UPD120N18TA-E1-A	T	115.8/91.4
IC192	1130013010	S.IC SN74AHC1G08DCK3	T	77.6/36.8
IC320	1110007400	S.IC BGA616	T	43.3/67.2
IC381	1130013270	S.IC ADF4116BRUZ <FE>	T	70/70.3
IC401	1130013010	S.IC SN74AHC1G08DCK3	T	114/3.1
IC402	1130003831	S.IC TC7S04F(TE85R,F)	T	90.5/9.5
IC403	1140007881	S.IC TC190G08EFG0046JDZ/SC1246A	T	104.1/13.6
IC405	1130013010	S.IC SN74AHC1G08DCK3	T	75.2/53.2
IC620	1110007400	S.IC BGA616	T	38.4/47.5
IC681	1130013270	S.IC ADF4116BRUZ <FE>	T	29.3/39.8
IC701	1140014960	S.IC TC190G02EFG-0058/SC1287A	T	130.6/15.3
Q1	1590003680	S.TRA KRC402 RTK/P	T	138.4/75.4
Q51	1530003890	S.TRA KTC3880S Y-RTK/P	T	101.5/41.6
Q61	1530004011	S.TRA KTC3770U-C-RTK/P	T	109.9/41.5
Q71	1530003890	S.TRA KTC3880S Y-RTK/P	T	109.5/51.1
Q87	1530003890	S.TRA KTC3880S Y-RTK/P	T	133.1/87.2
Q121	1590003770	S.TRA KRA302E-RTK/P	T	85.8/93.8
Q122	1590003680	S.TRA KRC402 RTK/P	B	87.2/92.2
Q123	1590003770	S.TRA KRA302E-RTK/P	T	85.2/96.3
Q124	1590003680	S.TRA KRC402 RTK/P	B	87.6/95.2
Q125	1590003770	S.TRA KRA302E-RTK/P	T	85.8/91.1
Q126	1590003680	S.TRA KRC402 RTK/P	B	86.9/89.2
Q127	1590003770	S.TRA KRA302E-RTK/P	T	86/99
Q128	1590003680	S.TRA KRC402 RTK/P	B	87.9/98.2
Q151	1530003900	S.TRA KTC4075 BL-RTK/P	T	82.7/70.2
Q152	1530003340	S.TRA 2SC3357-T1 RF	B	117.3/106.5
Q181	1530003900	S.TRA KTC4075 BL-RTK/P	T	53.9/78.1
Q201	1560000491	S.FET 2SK508-T2B-A K52	T	74.1/96.5
Q202	1530003960	S.TRA KTC2875-B-RTK/P	T	73.6/102.5
Q221	1560000491	S.FET 2SK508-T2B-A K52	T	57.2/96.5
Q222	1530003960	S.TRA KTC2875-B-RTK/P	T	56.8/102.5
Q251	1560000491	S.FET 2SK508-T2B-A K52	T	40.1/96.5
Q252	1530003960	S.TRA KTC2875-B-RTK/P	T	40/102.5
Q271	1560000491	S.FET 2SK508-T2B-A K52	T	23.1/96.5
Q272	1530003960	S.TRA KTC2875-B-RTK/P	T	23.1/102.5
Q301	1530004011	S.TRA KTC3770U-C-RTK/P	T	33.2/76
Q361	1590003680	S.TRA KRC402 RTK/P	B	20.9/77.3
Q402	1530003900	S.TRA KTC4075 BL-RTK/P	T	93.2/20.9
Q403	1530003900	S.TRA KTC4075 BL-RTK/P	T	115.6/12.5
Q404	1590003770	S.TRA KRA302E-RTK/P	T	94.1/4.8
Q421	1590003770	S.TRA KRA302E-RTK/P	T	81.3/9.9
Q422	1590003680	S.TRA KRC402 RTK/P	T	83.1/12.4
Q423	1590003770	S.TRA KRA302E-RTK/P	T	81.3/7.4
Q424	1590003680	S.TRA KRC402 RTK/P	T	82.7/5
Q425	1590003770	S.TRA KRA302E-RTK/P	T	81.7/14.3
Q426	1590003680	S.TRA KRC402 RTK/P	T	83.1/16.6
Q427	1590003770	S.TRA KRA302E-RTK/P	T	81.3/18.6
Q428	1590003680	S.TRA KRC402 RTK/P	T	83.1/20.8
Q451	1560000331	S.FET 2SK210-GR(TE85R,F)	T	61/44
Q452	1530003900	S.TRA KTC4075 BL-RTK/P	T	61.9/34.8
Q481	1530003900	S.TRA KTC4075 BL-RTK/P	T	22.8/34.1
Q501	1560000491	S.FET 2SK508-T2B-A K52	T	30.8/13.4
Q502	1530003960	S.TRA KTC2875-B-RTK/P	T	31.2/7.5
Q521	1560000491	S.FET 2SK508-T2B-A K52	T	14/13.5
Q522	1530003960	S.TRA KTC2875-B-RTK/P	T	14.3/7.5
Q551	1560000491	S.FET 2SK508-T2B-A K52	T	47.6/13.4
Q552	1530003960	S.TRA KTC2875-B-RTK/P	T	47.9/7.5
Q571	1560000491	S.FET 2SK508-T2B-A K52	T	64.5/13.5
Q572	1530003960	S.TRA KTC2875-B-RTK/P	T	64.7/7.5
Q601	1530004011	S.TRA KTC3770U-C-RTK/P	T	41/37
Q661	1590003680	S.TRA KRC402 RTK/P	B	5.1/27.9
Q681	1590003770	S.TRA KRA302E-RTK/P	T	67.8/51.5
Q701	1530003900	S.TRA KTC4075 BL-RTK/P	B	123.9/12.4
Q702	1530003900	S.TRA KTC4075 BL-RTK/P	T	141.9/19.2
Q801	1530003890	S.TRA KTC3880S Y-RTK/P	T	127.9/46.7
Q831	1560000561	S.FET 2SK882-GR(TE85L,F)	T	149.4/37.4
Q851	1590003680	S.TRA KRC402 RTK/P	T	138/52.1
Q852	1590003770	S.TRA KRA302E-RTK/P	T	137.8/49.8
Q853	1590003680	S.TRA KRC402 RTK/P	B	109.5/55.3
Q854	1590003770	S.TRA KRA302E-RTK/P	T	106.6/54.7
Q1502	1590003680	S.TRA KRC402 RTK/P	T	73/63.6
Q1521	1590003680	S.TRA KRC402 RTK/P	B	21.5/62.4
Q1522	1590003770	S.TRA KRA302E-RTK/P	T	21.2/64.1
Q2501	1590003680	S.TRA KRC402 RTK/P	T	85.1/50.4
Q2511	1590003680	S.TRA KRC402 RTK/P	B	7.2/47.5
Q2512	1590003770	S.TRA KRA302E-RTK/P	T	5.6/45.5
D81	1750000581	S.DIO 1SV307(TPH3,F)	B	97/49.7
D201	1720000831	S.VAR KV1770STL-G	T	74.5/88.8
D202	1720000831	S.VAR KV1770STL-G	B	74.3/88.7
D221	1720000831	S.VAR KV1770STL-G	T	57.5/88.7
D222	1720000831	S.VAR KV1770STL-G	B	57.5/88.7
D251	1750001720	S.VAR 1SV215(TPH3,F)	T	39.1/87.9
D252	1750001720	S.VAR 1SV215(TPH3,F)	T	41.4/87.9
D253	1750001720	S.VAR 1SV215(TPH3,F)	B	41.4/88
D254	1750001720	S.VAR 1SV215(TPH3,F)	B	39.1/87.9
D271	1750001720	S.VAR 1SV215(TPH3,F)	T	22.3/87.2
D272	1750001720	S.VAR 1SV215(TPH3,F)	T	24.6/87.1
D273	1750001720	S.VAR 1SV215(TPH3,F)	B	24.5/87.9
D274	1750001720	S.VAR 1SV215(TPH3,F)	B	22.3/88
D361	1750000581	S.DIO 1SV307(TPH3,F)	T	22.7/75.5
D362	1750000581	S.DIO 1SV307(TPH3,F)	T	26.1/75.4
D401	1750001320	S.DIO KDS4148U RTK/P	B	88.9/6.7
D451	1720000681	S.VAR 1SV262(TPH2,F)	T	64.7/33.5

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

[PLL UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C2222	4030008560	S.CER C1608 CH 1H 300J-T	T	9.6/46.6
C2223	4030009530	S.CER C1608 CH 1H 030B-T	T	10.3/44.8
C2224	4030007070	S.CER C1608 CH 1H 330J-T	T	9.6/42.9
C2225	4030009520	S.CER C1608 CH 1H 020B-T	T	11.4/37.3
C2226	4030007050	S.CER C1608 CH 1H 220J-T	T	7/38.7
C2227	4030007100	S.CER C1608 CH 1H 560J-T	T	7.9/36.6
C2228	4030011280	S.CER C1608 CH 1H 271J-T	T	7.1/34.4
C2229	4030007100	S.CER C1608 CH 1H 560J-T	T	8.8/34.4
C2230	4030006900	S.CER C1608 JB 1H 103K-T	B	4.9/34.1
C2231	4030007010	S.CER C1608 CH 1H 100D-T	T	11.5/41.3
C2232	4030006900	S.CER C1608 JB 1H 103K-T	B	5.7/42.5
C2511	4030006900	S.CER C1608 JB 1H 103K-T	B	9.5/47.3
C2512	4030006900	S.CER C1608 JB 1H 103K-T	T	5.7/47.1
J1	6510022581	S.CON 24FMN-BMTRR-A-TBT(LF)(SN)	T	147.7/71
J51	6510007020	CON TMP-J01X-V6		
J81	6510007020	CON TMP-J01X-V6		
J351	6510007020	CON TMP-J01X-V6		
J651	6510007020	CON TMP-J01X-V6		
J701	6510007020	CON TMP-J01X-V6		
J831	6510007020	CON TMP-J01X-V6		
J851	6510007020	CON TMP-J01X-V6		
EP1	6910019900	S.BEA MPZ1608S601AT	T	142.1/60.5
EP2	6910015970	S.BEA MMZ1608B 301CT-AS	B	148.3/59.4
EP3	6910015970	S.BEA MMZ1608B 301CT-AS	B	142.5/59
EP4	6910019900	S.BEA MPZ1608S601AT	T	142.1/62.9
EP5	6910019900	S.BEA MPZ1608S601AT	B	149.3/67.5
EP6	6910015970	S.BEA MMZ1608B 301CT-AS	B	141.8/70.5
EP7	6910015970	S.BEA MMZ1608B 301CT-AS	B	149.3/71.5
EP8	6910015970	S.BEA MMZ1608B 301CT-AS	B	141.8/72.5
EP9	6910015970	S.BEA MMZ1608B 301CT-AS	B	149.3/73.5
EP103	6910012350	S.BEA MMZ1608Y 102BT	T	103/101.4
EP204	6910012350	S.BEA MMZ1608Y 102BT	B	71.1/101.2
EP224	6910012350	S.BEA MMZ1608Y 102BT	B	62.8/105.3
EP254	6910012350	S.BEA MMZ1608Y 102BT	B	48.1/105.7
EP274	6910012350	S.BEA MMZ1608Y 102BT	B	20.7/101.2
EP382	6910012350	S.BEA MMZ1608Y 102BT	T	66/75.1
EP401	6910012350	S.BEA MMZ1608Y 102BT	T	106.1/4.2
EP402	6910015970	S.BEA MMZ1608B 301CT-AS	B	106.7/5.4
EP403	6910015970	S.BEA MMZ1608B 301CT-AS	B	96.7/3.2
EP404	6910015970	S.BEA MMZ1608B 301CT-AS	B	108.3/5.4
EP405	6910015970	S.BEA MMZ1608B 301CT-AS	B	96/1.8
EP406	6910015970	S.BEA MMZ1608B 301CT-AS	B	109.9/5.4
EP407	6910015970	S.BEA MMZ1608B 301CT-AS	T	115.2/6.3
EP504	6910012350	S.BEA MMZ1608Y 102BT	B	37/4.6
EP524	6910012350	S.BEA MMZ1608Y 102BT	B	20.5/4.3
EP554	6910012350	S.BEA MMZ1608Y 102BT	B	53.9/4.4
EP574	6910012350	S.BEA MMZ1608Y 102BT	B	71/4.1
EP682	6910012350	S.BEA MMZ1608Y 102BT	T	25.2/33.5
EP1503	6910015970	S.BEA MMZ1608B 301CT-AS	T	39.6/65.4
EP2501	6910015970	S.BEA MMZ1608B 301CT-AS	T	28.4/47.7

[RF UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
IC161	1190001930	S.IC PS7122AL-1A-E3	T	134.8/91.3
IC201	1110007400	S.IC BGA616	T	4.1/33.2
IC301	1130011530	S.IC CD74HC4094M96	B	40.1/13.4
IC303	1130011530	S.IC CD74HC4094M96	B	40.1/24.3
IC305	1130011530	S.IC CD74HC4094M96	B	29/19
IC1401	1110006420	S.IC UPC2708TB-E3-A	T	53.6/40
Q101	1590003680	S.TRA KRC402 RTK/P	T	9.2/68
Q102	1590003680	S.TRA KRC402 RTK/P	T	5.6/68.4
Q103	1530003900	S.TRA KTC4075 BL-RTK/P	B	74.7/71.7
Q104	1590003770	S.TRA KRA302E-RTK/P	B	72.4/73.2
Q151	1590003680	S.TRA KRC402 RTK/P	T	46.8/83.2
Q152	1590003680	S.TRA KRC402 RTK/P	T	44/81.2
Q153	1590003680	S.TRA KRC402 RTK/P	T	49.5/83.3
Q161	1590003680	S.TRA KRC402 RTK/P	B	115.2/81
Q162	1590003680	S.TRA KRC402 RTK/P	T	143/85.6
Q201	1590003770	S.TRA KRA302E-RTK/P	T	7.5/27.8
Q202	1590003680	S.TRA KRC402 RTK/P	T	8/30.8
Q203	1590003680	S.TRA KRC402 RTK/P	T	9.5/34.5
Q204	1590003680	S.TRA KRC402 RTK/P	T	6.7/34.4
Q303	1590003680	S.TRA KRC402 RTK/P	T	44.5/13.5
Q307	1590003680	S.TRA KRC402 RTK/P	T	38/13.3
Q308	1590003770	S.TRA KRA302E-RTK/P	T	38.2/7.9
Q309	1590003680	S.TRA KRC402 RTK/P	T	38/16.2
Q310	1590003770	S.TRA KRA302E-RTK/P	T	40.3/7.9
Q311	1590003680	S.TRA KRC402 RTK/P	T	43.6/9.6
Q312	1590003770	S.TRA KRA302E-RTK/P	T	44/7
Q313	1590003680	S.TRA KRC402 RTK/P	T	34/11.5
Q314	1590003770	S.TRA KRA302E-RTK/P	T	31.7/11.1
Q317	1590003680	S.TRA KRC402 RTK/P	T	43.4/24.3
Q318	1590003770	S.TRA KRA302E-RTK/P	T	28.3/6.5
Q319	1590003680	S.TRA KRC402 RTK/P	T	39.3/23.1
Q320	1590003770	S.TRA KRA302E-RTK/P	T	27.9/7.9
Q321	1590003680	S.TRA KRC402 RTK/P	B	31.1/7.5
Q322	1590003770	S.TRA KRA302E-RTK/P	B	28.6/5.7
Q323	1590003680	S.TRA KRC402 RTK/P	B	32.4/11.8
Q324	1590003770	S.TRA KRA302E-RTK/P	B	27.8/8.3
Q325	1590003680	S.TRA KRC402 RTK/P	T	33/25.1
Q326	1590003770	S.TRA KRA302E-RTK/P	T	25.4/8.3
Q327	1590003680	S.TRA KRC402 RTK/P	B	28.5/12.5
Q328	1590003770	S.TRA KRA302E-RTK/P	B	27/10.3
Q329	1590003680	S.TRA KRC402 RTK/P	T	32.9/27.6
Q330	1590003770	S.TRA KRA302E-RTK/P	T	30.1/28.2
Q331	1590003680	S.TRA KRC402 RTK/P	B	29/29.3
Q332	1590003770	S.TRA KRA302E-RTK/P	B	28.5/32.1
Q333	1590003680	S.TRA KRC402 RTK/P	B	24.9/31.4
Q334	1590003770	S.TRA KRA302E-RTK/P	B	22.2/30.9
Q335	1590003680	S.TRA KRC402 RTK/P	B	24.9/28.8
Q336	1590003770	S.TRA KRA302E-RTK/P	B	22.1/28.3
Q337	1590003680	S.TRA KRC402 RTK/P	T	26.5/17.8
Q338	1590003770	S.TRA KRA302E-RTK/P	T	26/20.9
Q339	1590003680	S.TRA KRC402 RTK/P	B	24.9/26.2
Q340	1590003770	S.TRA KRA302E-RTK/P	B	22.1/25.7
Q341	1590003680	S.TRA KRC402 RTK/P	T	27.7/25
Q342	1590003770	S.TRA KRA302E-RTK/P	T	25.2/24.4
Q343	1590003680	S.TRA KRC402 RTK/P	T	26.3/27.7
Q344	1590003770	S.TRA KRA302E-RTK/P	T	23.8/27.1
Q345	1590003680	S.TRA KRC402 RTK/P	T	24.9/30.4
Q346	1590003770	S.TRA KRA302E-RTK/P	T	22.4/29.8
Q1001	1560000641	S.FET 2SK1740-4/5-TB-E	T	72.6/26.6
Q1002	1560000641	S.FET 2SK1740-4/5-TB-E	T	72.6/23.5
Q1003	1560000641	S.FET 2SK1740-4/5-TB-E	B	92.6/27.5
Q1004	1560000641	S.FET 2SK1740-4/5-TB-E	T	90.1/31.9
Q1005	1560000641	S.FET 2SK1740-4/5-TB-E	T	90.1/24.1
Q1006	1560000641	S.FET 2SK1740-4/5-TB-E	B	92.6/23.4
Q1007	1530003900	S.TRA KTC4075 BL-RTK/P	T	106.8/33.2
Q1008	1530003340	S.TRA 2SC3357-T1 RF	T	107.6/20.6
Q1101	1530003340	S.TRA 2SC3357-T1 RF	T	81.1/19.7
Q1201	1560000641	S.FET 2SK1740-4/5-TB-E	T	72.3/48.5
Q1202	1560000641	S.FET 2SK1740-4/5-TB-E	T	72.3/45.5
Q1203	1560000641	S.FET 2SK1740-4/5-TB-E	B	92.6/49.9
Q1204	1560000641	S.FET 2SK1740-4/5-TB-E	T	89.2/51.1
Q1205	1560000641	S.FET 2SK1740-4/5-TB-E	T	89.2/45.5
Q1206	1560000641	S.FET 2SK1740-4/5-TB-E	B	92.6/46.5
Q1207	1530003900	S.TRA KTC4075 BL-RTK/P	T	103.3/58.6
Q1208	1530003340	S.TRA 2SC3357-T1 RF	T	108.5/51.8
Q1209	1530003851	S.TRA 2SC5551F-TD-E	B	98.9/56.2
Q1301	1530003340	S.TRA 2SC3357-T1 RF	T	75.5/62.4
Q1551	1560000561	S.FET 2SK882-GR(TE85L,F)	B	121/70.1
Q1901	1590003680	S.TRA KRC402 RTK/P	T	130.9/27.2
Q1902	1590003770	S.TRA KRA302E-RTK/P	T	130.9/29.5
Q2001	1560000641	S.FET 2SK1740-4/5-TB-E	T	106.6/76
D101	1790000980	S.DIO MA742(TX)	B	83.2/72.4
D104	1750000581	S.DIO 1SV307(TPH3,F)	B	14.1/79.4
D105	1750001320	S.DIO KDS4148U RTK/P	B	77.4/74.7
D106	1750001320	S.DIO KDS4148U RTK/P	T	59.4/77.7
D107	1750001320	S.DIO KDS4148U RTK/P	T	67/75.1
D108	1750001320	S.DIO KDS4148U RTK/P	B	86.2/75
D109	1750001320	S.DIO KDS4148U RTK/P	B	94.7/75.7
D151	1750000581	S.DIO 1SV307(TPH3,F)	T	46/86
D152	1750000581	S.DIO 1SV307(TPH3,F)	B	16.4/82.1
D161	1750001320	S.DIO KDS4148U RTK/P	B	111/83.4
D201	1750000581	S.DIO 1SV307(TPH3,F)	B	2.9/77.8
D501	1750000581	S.DIO 1SV307(TPH3,F)	T	20.5/71.8
D502	1750000581	S.DIO 1SV307(TPH3,F)	T	28.8/41.8
D551	1750000581	S.DIO 1SV307(TPH3,F)	T	31/74.8
D552	1750000581	S.DIO 1SV307(TPH3,F)	T	33/44.6
D601	1750000581	S.DIO 1SV307(TPH3,F)	T	21.4/75.2
D602	1750000581	S.DIO 1SV307(TPH3,F)	T	25.7/74.5
D603	1750000581	S.DIO 1SV307(TPH3,F)	T	28.8/43.6
D604	1750000581	S.DIO 1SV307(TPH3,F)	B	42/44.9

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

[RF UNIT]

Table with columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Contains part details for REF NO. D651 to D1706 and L101 to L1016.

[RF UNIT]

Table with columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Contains part details for REF NO. L1017 to L1704 and R101 to R310.

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

[RF UNIT]

Table with columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Contains part numbers R311 through R1404.

[RF UNIT]

Table with columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Contains part numbers R1405 through C465.

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

[RF UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C1242	4030011600	S.CER C1608 JB 1E 104K-T	B	93/55.8
C1243	4030009920	S.CER C1608 CH 1H 050B-T	T	112.1/44
C1245	4030017810	S.CER C1608 CH 1H 102J-T	B	106/61.5
C1246	4030007010	S.CER C1608 CH 1H 100D-T	T	99.1/58.2
C1247	4550007650	S.TAN F931V105MAABMA	B	106.9/53.5
C1301	4030006900	S.CER C1608 JB 1H 103K-T	T	96.7/57.5
C1302	4030006900	S.CER C1608 JB 1H 103K-T	B	102.9/61.2
C1303	4030006900	S.CER C1608 JB 1H 103K-T	T	96.4/64.1
C1304	4030007040	S.CER C1608 CH 1H 180J-T	T	92.8/59.7
C1305	4030006980	S.CER C1608 CH 1H 070D-T	T	91.8/62
C1306	4030008560	S.CER C1608 CH 1H 300J-T	T	91/58.6
C1307	4030007020	S.CER C1608 CH 1H 120J-T	T	89.1/59
C1308	4030007060	S.CER C1608 CH 1H 270J-T	T	91/59.8
C1310	4030006900	S.CER C1608 JB 1H 103K-T	T	82.2/60.8
C1311	4030011600	S.CER C1608 JB 1E 104K-T	T	77/58.5
C1313	4030006900	S.CER C1608 JB 1H 103K-T	T	79.9/64.3
C1314	4030006900	S.CER C1608 JB 1H 103K-T	B	70.1/61.2
C1400	4030011600	S.CER C1608 JB 1E 104K-T	T	49.5/46.2
C1401	4030011600	S.CER C1608 JB 1E 104K-T	T	54.5/38.1
C1402	4030011600	S.CER C1608 JB 1E 104K-T	T	50.7/37.6
C1403	4030011600	S.CER C1608 JB 1E 104K-T	T	52.9/41.9
C1404	4030011600	S.CER C1608 JB 1E 104K-T	T	54.8/42.4
C1405	4030007120	S.CER C1608 CH 1H 820J-T	T	54/44.3
C1406	4030007040	S.CER C1608 CH 1H 180J-T	T	51.4/48.6
C1407	4030007130	S.CER C1608 CH 1H 101J-T	T	54/48.6
C1408	4030007110	S.CER C1608 CH 1H 680J-T	T	53.6/50.5
C1409	4030007100	S.CER C1608 CH 1H 560J-T	T	54.1/52.4
C1452	4030009920	S.CER C1608 CH 1H 050B-T	T	82.6/71
C1453	4030011600	S.CER C1608 JB 1E 104K-T	B	86/72
C1454	4030011600	S.CER C1608 JB 1E 104K-T	B	91.1/68.2
C1501	4030006900	S.CER C1608 JB 1H 103K-T	T	98.4/68.6
C1502	4030006900	S.CER C1608 JB 1H 103K-T	T	99.7/71.3
C1550	4030017810	S.CER C1608 CH 1H 102J-T	B	125.1/64.3
C1551	4030007100	S.CER C1608 CH 1H 560J-T	B	96.3/70.1
C1552	4030006980	S.CER C1608 CH 1H 070D-T	B	98.7/70.9
C1553	4030007100	S.CER C1608 CH 1H 560J-T	B	101.1/71
C1556	4030006900	S.CER C1608 JB 1H 103K-T	B	116.6/66.7
C1557	4030007010	S.CER C1608 CH 1H 100D-T	B	117.1/69.9
C1558	4030011600	S.CER C1608 JB 1E 104K-T	B	119.2/67.4
C1559	4030006970	S.CER C1608 CH 1H 060D-T	B	124/66.7
C1560	4030017810	S.CER C1608 CH 1H 102J-T	B	125.9/66.7
C1561	4030017810	S.CER C1608 CH 1H 102J-T	B	129.1/68.7
C1563	4030017810	S.CER C1608 CH 1H 102J-T	B	124.9/58.9
C1601	4030007170	S.CER C1608 CH 1H 221J-T	T	130.3/33.1
C1603	4030006900	S.CER C1608 JB 1H 103K-T	T	127.4/32.7
C1604	4030006900	S.CER C1608 JB 1H 103K-T	T	128.2/30.7
C1651	4030009920	S.CER C1608 CH 1H 050B-T	B	125.8/25.4
C1701	4030006900	S.CER C1608 JB 1H 103K-T	B	128.3/30.2
C1704	4030006900	S.CER C1608 JB 1H 103K-T	B	149.7/84.4
C1705	4030006900	S.CER C1608 JB 1H 103K-T	B	159/43.2
C1706	4030006900	S.CER C1608 JB 1H 103K-T	B	127.6/35.4
C1707	4030006900	S.CER C1608 JB 1H 103K-T	T	140.2/36.7
C1708	4030006900	S.CER C1608 JB 1H 103K-T	B	138.1/71.3
C1709	4030006900	S.CER C1608 JB 1H 103K-T	B	130.6/71
C1710	4030006900	S.CER C1608 JB 1H 103K-T	B	147.2/73.1
C1901	4030011600	S.CER C1608 JB 1E 104K-T	T	128.2/29.5
C2001	4030006900	S.CER C1608 JB 1H 103K-T	T	104.5/71.4
C2002	4030011600	S.CER C1608 JB 1E 104K-T	T	103/77.1
C2003	4030006900	S.CER C1608 JB 1H 103K-T	T	109.7/77
C9001	4030006900	S.CER C1608 JB 1H 103K-T	T	4.6/59.4
C9002	4030006900	S.CER C1608 JB 1H 103K-T	T	7.4/59.4
C9007	4030006900	S.CER C1608 JB 1H 103K-T	T	42/38.9
C9008	4030006900	S.CER C1608 JB 1H 103K-T	T	42/36.1
C9011	4030006900	S.CER C1608 JB 1H 103K-T	T	26/82.4
C9012	4030006900	S.CER C1608 JB 1H 103K-T	T	26/79.6
C9015	4030006900	S.CER C1608 JB 1H 103K-T	T	54.6/67.5
C9016	4030006900	S.CER C1608 JB 1H 103K-T	T	57.4/67.5
C9018	4030006900	S.CER C1608 JB 1H 103K-T	T	20.6/17.5
C9020	4030006900	S.CER C1608 JB 1H 103K-T	T	23.4/17.5
C9021	4030006900	S.CER C1608 JB 1H 103K-T	T	49.4/17.5
C9024	4030006900	S.CER C1608 JB 1H 103K-T	T	46.6/17.5
C9026	4030006900	S.CER C1608 JB 1H 103K-T	T	44.1/42.9
C9027	4030006900	S.CER C1608 JB 1H 103K-T	T	44.1/40.1
C9031	4030006900	S.CER C1608 JB 1H 103K-T	T	154.9/54.3
C9035	4030006900	S.CER C1608 JB 1H 103K-T	T	142.9/62.7
C9036	4030006900	S.CER C1608 JB 1H 103K-T	T	146.3/62.7
C9061	4030006900	S.CER C1608 JB 1H 103K-T	T	150.6/77.8
C9062	4030006900	S.CER C1608 JB 1H 103K-T	T	149/74.4
C9065	4030006900	S.CER C1608 JB 1H 103K-T	T	148.9/42.2
C9066	4030006900	S.CER C1608 JB 1H 103K-T	T	150.6/38.8
C9071	4030006900	S.CER C1608 JB 1H 103K-T	T	137.9/77.8
C9072	4030006900	S.CER C1608 JB 1H 103K-T	T	137.9/74.4
C9075	4030006900	S.CER C1608 JB 1H 103K-T	T	137.9/42.2
C9076	4030006900	S.CER C1608 JB 1H 103K-T	T	136.1/38.8
C9081	4030006900	S.CER C1608 JB 1H 103K-T	T	125.2/77.8
C9082	4030006900	S.CER C1608 JB 1H 103K-T	T	125.2/74.4
C9085	4030006900	S.CER C1608 JB 1H 103K-T	T	125.2/42.2
C9086	4030006900	S.CER C1608 JB 1H 103K-T	T	125.2/38.8
RL101	6330001860	REL UA2-12NU		
RL102	6330001860	REL UA2-12NU		
RL103	6330001860	REL UA2-12NU		
RL104	6330001860	REL UA2-12NU		
RL105	6330001860	REL UA2-12NU		
RL161	6330000540	REL 2-1419131-2(OMR-109F)		
J101	6510007020	CON TMP-J01X-V6		
J102	6450001130	CON JPJ2042-01-110		
J103	6450001800	CON JPJ1044-01-010		
J161	6450001130	CON JPJ2042-01-110		
J201	6510007020	CON TMP-J01X-V6		
J451	6510022581	S.CON 24FMN-BMTR-A-TBT(LF)(SN)	T	151.7/24.3

[RF UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
J801	6910016430	CON IMSA-9210B-1-05Z869-PT1		
J802	6910016430	CON IMSA-9210B-1-05Z869-PT1		
J803	6910016430	CON IMSA-9210B-1-05Z869-PT1		
J804	6910016430	CON IMSA-9210B-1-05Z869-PT1		
J805	6910016430	CON IMSA-9210B-1-05Z869-PT1		
J807	6910016430	CON IMSA-9210B-1-05Z869-PT1		
J809	6910016430	CON IMSA-9210B-1-05Z869-PT1		
J951	6510007020	CON TMP-J01X-V6		
J1101	6510007020	CON TMP-J01X-V6		
J1301	6510007020	CON TMP-J01X-V6		
J1651	6510007020	CON TMP-J01X-V6		
J1701	6510007020	CON TMP-J01X-V6		
J1702	6910004741	CON IMSA-9202B-1-03Z041-PT1		
J1703	6910004741	CON IMSA-9202B-1-03Z041-PT1		
J1704	6910004741	CON IMSA-9202B-1-03Z041-PT1		
J1705	6910004741	CON IMSA-9202B-1-03Z041-PT1		
J1706	6910004741	CON IMSA-9202B-1-03Z041-PT1		
J1707	6910004741	CON IMSA-9202B-1-03Z041-PT1		
J1708	6910004741	CON IMSA-9202B-1-03Z041-PT1		
J1709	6910004741	CON IMSA-9202B-1-03Z041-PT1		
J2001	6510007020	CON TMP-J01X-V6		
EP451	6910015970	S.BEA MMZ1608B 301CT-AS	T	145.6/35.8
EP452	6910015970	S.BEA MMZ1608B 301CT-AS	T	156.3/36.2
EP453	6910015970	S.BEA MMZ1608B 301CT-AS	T	145.6/33.8
EP454	6910015970	S.BEA MMZ1608B 301CT-AS	T	157.6/32.8
EP455	6910015970	S.BEA MMZ1608B 301CT-AS	T	145.6/31.8
EP456	6910015970	S.BEA MMZ1608B 301CT-AS	T	157.6/30.8
EP457	6910015970	S.BEA MMZ1608B 301CT-AS	T	145.6/29.8
EP458	6910015970	S.BEA MMZ1608B 301CT-AS	T	145.6/27.8
EP459	6910015970	S.BEA MMZ1608B 301CT-AS	T	157.5/26.8
EP460	6910019900	S.BEA MPZ1608S601AT	T	157.5/24.8
EP461	6910019900	S.BEA MPZ1608S601AT	T	145.6/21.8
EP462	6910019900	S.BEA MPZ1608S601AT	T	145.6/19.8
EP463	6910019900	S.BEA MPZ1608S601AT	T	157.4/18.8
EP464	6910019900	S.BEA MPZ1608S601AT	T	145.6/17.8
EP465	6910019900	S.BEA MPZ1608S601AT	T	35.5/7.5
EP466	6910019900	S.BEA MPZ1608S601AT	T	32.6/4.2
EP467	6910019900	S.BEA MPZ1608S601AT	T	157.5/22.8
EP1001	6910015970	S.BEA MMZ1608B 301CT-AS	B	112.5/32.4
EP1009	6910019900	S.BEA MPZ1608S601AT	T	120.6/9.9
EP1201	6910015970	S.BEA MMZ1608B 301CT-AS	B	106/63
EP1406	6910015970	S.BEA MMZ1608B 301CT-AS	T	50.7/44.3
EP1551	6910015970	S.BEA MMZ1608B 301CT-AS	B	127.5/65.1
EP1701	6910015970	S.BEA MMZ1608B 301CT-AS	B	158.2/41
EP1702	6910015970	S.BEA MMZ1608B 301CT-AS	B	129.9/36.2
EP1703	6910015970	S.BEA MMZ1608B 301CT-AS	T	137.2/35.5
EP1901	6910015970	S.BEA MMZ1608B 301CT-AS	T	133.6/30
MP1	8930065741	SPR 2590 D-EARTH SPRING-1	B	100.3/94.8
MP2	8930065741	SPR 2590 D-EARTH SPRING-1	B	68.3/94.8
MP3	8930065741	SPR 2590 D-EARTH SPRING-1	B	26.3/94.8

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

[BPF UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
D3201	1750000581	S.DIO 1SV307(TPH3,F)	B	39.6/48.2
D3202	1750000581	S.DIO 1SV307(TPH3,F)	B	48.2/9.2
D3301	1750000581	S.DIO 1SV307(TPH3,F)	B	33.9/45.3
D3302	1750000581	S.DIO 1SV307(TPH3,F)	B	30.9/3.5
D3401	1750000581	S.DIO 1SV307(TPH3,F)	B	21.7/44.3
D3402	1750000581	S.DIO 1SV307(TPH3,F)	B	27.5/5.7
D3501	1750000581	S.DIO 1SV307(TPH3,F)	B	36.5/48.4
D3502	1750000581	S.DIO 1SV307(TPH3,F)	B	40/10.5
D3601	1750000581	S.DIO 1SV307(TPH3,F)	B	26.6/41.6
D3602	1750000581	S.DIO 1SV307(TPH3,F)	B	27.5/3.9
L3201	6180003540	COI SP0406-3R9K-6		
L3202	6180003580	COI SP0406-120K-6		
L3203	6180003580	COI SP0406-120K-6		
L3204	6180003540	COI SP0406-3R9K-6		
L3205	6180003580	COI SP0406-120K-6		
L3301	6180003550	COI SP0406-4R7K-6		
L3302	6180003560	COI SP0406-5R6K-6		
L3303	6180003560	COI SP0406-5R6K-6		
L3304	6180003550	COI SP0406-4R7K-6		
L3305	6180003560	COI SP0406-5R6K-6		
L3401	6180003410	COI SP0406-2R2K-6		
L3402	6180003510	COI SP0406-6R8K-6		
L3403	6180003510	COI SP0406-6R8K-6		
L3404	6180003410	COI SP0406-2R2K-6		
L3405	6180003510	COI SP0406-6R8K-6		
L3501	6180003410	COI SP0406-2R2K-6		
L3502	6180003570	COI SP0406-3R3K-6		
L3503	6180003570	COI SP0406-3R3K-6		
L3504	6180003410	COI SP0406-2R2K-6		
L3505	6180003570	COI SP0406-3R3K-6		
L3601	6180003390	COI SP0406-1R2K-6		
L3602	6180003490	COI SP0406-2R7K-6		
L3603	6180003490	COI SP0406-2R7K-6		
L3604	6180003390	COI SP0406-1R2K-6		
L3605	6180003490	COI SP0406-2R7K-6		
R3201	7030003320	S.RES ERJ3GEYJ 101 V (100)	B	54.2/39.5
R3202	7030003320	S.RES ERJ3GEYJ 101 V (100)	B	56.9/25.8
R3301	7030003320	S.RES ERJ3GEYJ 101 V (100)	B	31.3/39.2
R3302	7030003320	S.RES ERJ3GEYJ 101 V (100)	B	30.2/12.7
R3401	7030003320	S.RES ERJ3GEYJ 101 V (100)	B	6/32.5
R3402	7030003320	S.RES ERJ3GEYJ 101 V (100)	B	6/17.5
R3501	7030003320	S.RES ERJ3GEYJ 101 V (100)	B	47.4/42.4
R3502	7030003320	S.RES ERJ3GEYJ 101 V (100)	B	45.2/23.4
R3601	7030003320	S.RES ERJ3GEYJ 101 V (100)	B	22/40.5
R3602	7030003320	S.RES ERJ3GEYJ 101 V (100)	B	20.2/11.1
C3201	4030017810	S.CER C1608 CH 1H 102J-T	B	53.6/41.5
C3202	4030011600	S.CER C1608 JB 1E 104K-T	B	51/41.6
C3203	4030017810	S.CER C1608 CH 1H 102J-T	B	53.6/43.3
C3204	4030010760	S.CER C1608 CH 1H 331J-T	B	50.4/39.2
C3205	4030007140	S.CER C1608 CH 1H 121J-T	B	50.4/37.4
C3206	4030007160	S.CER C1608 CH 1H 181J-T	B	48/33.6
C3207	4030007060	S.CER C1608 CH 1H 270J-T	B	48/35.4
C3208	4030010760	S.CER C1608 CH 1H 331J-T	B	49.4/31.8
C3209	4030007090	S.CER C1608 CH 1H 470J-T	B	49.4/30
C3210	4030007160	S.CER C1608 CH 1H 181J-T	B	47.9/27.3
C3211	4030007060	S.CER C1608 CH 1H 270J-T	B	49.7/27.3
C3212	4030010760	S.CER C1608 CH 1H 331J-T	B	49.4/24.6
C3213	4030007140	S.CER C1608 CH 1H 121J-T	B	49.4/22.8
C3214	4030017810	S.CER C1608 CH 1H 102J-T	B	53/20.3
C3215	4030011600	S.CER C1608 JB 1E 104K-T	B	53/24.8
C3216	4030017810	S.CER C1608 CH 1H 102J-T	B	53/22.1
C3301	4030017800	S.CER C1608 CH 1H 561J-T	B	29.2/34.8
C3302	4030011600	S.CER C1608 JB 1E 104K-T	B	31.2/31.2
C3303	4030010760	S.CER C1608 CH 1H 331J-T	B	29.2/33
C3304	4030007080	S.CER C1608 CH 1H 390J-T	B	31.2/29.4
C3305	4030010760	S.CER C1608 CH 1H 331J-T	B	31.2/27.6
C3306	4030010760	S.CER C1608 CH 1H 331J-T	B	34.4/25
C3307	4030007100	S.CER C1608 CH 1H 560J-T	B	32.6/25
C3308	4030007090	S.CER C1608 CH 1H 470J-T	B	30/24.4
C3309	4030010760	S.CER C1608 CH 1H 331J-T	B	30/22.6
C3310	4030010760	S.CER C1608 CH 1H 331J-T	B	32.6/21.3
C3311	4030007100	S.CER C1608 CH 1H 560J-T	B	34.4/21.3
C3312	4030007080	S.CER C1608 CH 1H 390J-T	B	30/20.6
C3313	4030010760	S.CER C1608 CH 1H 331J-T	B	31.2/18.8
C3314	4030017800	S.CER C1608 CH 1H 561J-T	B	32.2/12.9
C3315	4030011600	S.CER C1608 JB 1E 104K-T	B	29.3/16.7
C3316	4030010760	S.CER C1608 CH 1H 331J-T	B	34/12.9
C3401	4030011330	S.CER C1608 CH 1H 391J-T	B	10.2/32
C3402	4030011600	S.CER C1608 JB 1E 104K-T	B	10.2/30.2
C3403	4030017800	S.CER C1608 CH 1H 561J-T	B	10.2/33.8
C3404	4030007160	S.CER C1608 CH 1H 181J-T	B	10.2/26.6
C3405	4030007070	S.CER C1608 CH 1H 330J-T	B	10.2/28.4
C3406	4030007120	S.CER C1608 CH 1H 820J-T	B	12.9/27.4
C3407	4030007030	S.CER C1608 CH 1H 150J-T	B	14.7/27.4
C3408	4030007140	S.CER C1608 CH 1H 121J-T	B	11.5/22.8
C3409	4030007100	S.CER C1608 CH 1H 560J-T	B	11.5/24.6
C3410	4030007120	S.CER C1608 CH 1H 820J-T	B	15.9/20.7
C3411	4030007030	S.CER C1608 CH 1H 150J-T	B	14.1/20.7
C3412	4030007160	S.CER C1608 CH 1H 181J-T	B	13.5/16.4
C3413	4030007070	S.CER C1608 CH 1H 330J-T	B	13.5/18.2
C3414	4030011330	S.CER C1608 CH 1H 391J-T	B	13.8/11.3
C3415	4030011600	S.CER C1608 JB 1E 104K-T	B	12/14.7
C3416	4030017800	S.CER C1608 CH 1H 561J-T	B	12/11.3
C3501	4030010760	S.CER C1608 CH 1H 331J-T	B	45.4/42.4
C3502	4030011600	S.CER C1608 JB 1E 104K-T	B	41.8/40.8
C3503	4030007150	S.CER C1608 CH 1H 151J-T	B	43.6/42.4
C3504	4030007060	S.CER C1608 CH 1H 270J-T	B	40.8/38.2
C3505	4030007150	S.CER C1608 CH 1H 151J-T	B	40.8/36.4

[BPF UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C3506	4030007140	S.CER C1608 CH 1H 121J-T	B	38/34.5
C3507	4030007060	S.CER C1608 CH 1H 270J-T	B	38/32.7
C3508	4030007010	S.CER C1608 CH 1H 100D-T	B	39.3/30.9
C3509	4030007150	S.CER C1608 CH 1H 151J-T	B	39.3/29.1
C3510	4030007140	S.CER C1608 CH 1H 121J-T	B	38.8/26.4
C3511	4030007060	S.CER C1608 CH 1H 270J-T	B	40.6/26.4
C3512	4030007060	S.CER C1608 CH 1H 270J-T	B	39.3/23.7
C3513	4030007150	S.CER C1608 CH 1H 151J-T	B	38.8/21.9
C3514	4030010760	S.CER C1608 CH 1H 331J-T	B	42.6/19.6
C3515	4030011600	S.CER C1608 JB 1E 104K-T	B	42.6/23.2
C3516	4030007150	S.CER C1608 CH 1H 151J-T	B	42.6/21.4
C3601	4030007170	S.CER C1608 CH 1H 221J-T	B	20.8/34.8
C3602	4030011600	S.CER C1608 JB 1E 104K-T	B	22/42.4
C3603	4030007170	S.CER C1608 CH 1H 221J-T	B	20.8/33
C3604	4030007130	S.CER C1608 CH 1H 101J-T	B	21.8/29.4
C3605	4030007050	S.CER C1608 CH 1H 220J-T	B	21.8/31.2
C3606	4030007080	S.CER C1608 CH 1H 390J-T	B	22/26.8
C3607	4030007070	S.CER C1608 CH 1H 330J-T	B	23.8/26.8
C3608	4030007120	S.CER C1608 CH 1H 820J-T	B	21.8/22.2
C3609	4030007050	S.CER C1608 CH 1H 220J-T	B	21.8/24
C3610	4030007080	S.CER C1608 CH 1H 390J-T	B	24.4/20.8
C3611	4030007070	S.CER C1608 CH 1H 330J-T	B	26.2/20.8
C3612	4030007130	S.CER C1608 CH 1H 101J-T	B	23/18.2
C3613	4030007050	S.CER C1608 CH 1H 220J-T	B	23/16.4
C3614	4030007170	S.CER C1608 CH 1H 221J-T	B	22.2/11.3
C3615	4030011600	S.CER C1608 JB 1E 104K-T	B	21.5/14.2
C3616	4030007170	S.CER C1608 CH 1H 221J-T	B	24/11.3

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

[PREAMP UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
Q4101	1590003680	S.TRA KRC402 RTK/P	T	49.4/33.7
Q4102	1590003770	S.TRA KRA302E-RTK/P	T	47/31.7
Q4201	1530003851	S.TRA 2SC5551F-TD-E	T	43.8/24.4
Q4202	1530003851	S.TRA 2SC5551F-TD-E	T	36.3/12.9
Q4203	1590003770	S.TRA KRA302E-RTK/P	T	21/10.2
Q4204	1590003770	S.TRA KRA302E-RTK/P	T	20.5/4.7
Q4205	1590003770	S.TRA KRA302E-RTK/P	B	45.7/24.5
Q4301	1590003770	S.TRA KRA302E-RTK/P	T	23.5/25.7
Q4302	1530003851	S.TRA 2SC5551F-TD-E	B	6/18.9
Q4303	1590003770	S.TRA KRA302E-RTK/P	T	22.7/23.6
Q4304	1590003770	S.TRA KRA302E-RTK/P	T	18.9/8.4
Q4305	1590003680	S.TRA KRC402 RTK/P	T	16.6/7.3
D4101	1750000581	S.DIO 1SV307(TPH3,F)	T	41.9/30.8
D4102	1750000581	S.DIO 1SV307(TPH3,F)	T	48.8/26.2
D4201	1750000581	S.DIO 1SV307(TPH3,F)	T	37.8/31.7
D4202	1750000581	S.DIO 1SV307(TPH3,F)	T	44.5/15.9
D4203	1750001320	S.DIO KDS4148U RTK/P	T	21/7.5
D4301	1750000581	S.DIO 1SV307(TPH3,F)	T	35.1/32.1
D4302	1750000581	S.DIO 1SV307(TPH3,F)	T	48.4/7.4
D4303	1750001320	S.DIO KDS4148U RTK/P	T	22.4/21.7
L4101	6200003221	S.COI NLV32T-151J	B	47.5/33
L4201	6200003221	S.COI NLV32T-151J	T	38/28.6
L4202	6140003800	COI LR-439		
L4203	6200009060	S.COI LQH32CN101K23L	T	38.1/17.5
L4204	6200009060	S.COI LQH32CN101K23L	T	25.4/7.5
L4205	6140003810	COI LR-440		
L4206	6140003810	COI LR-440		
L4207	6200009060	S.COI LQH32CN101K23L	T	31.6/7.5
L4208	6140003800	COI LR-439		
L4209	6200003221	S.COI NLV32T-151J	B	42.9/23.1
L4210	6200007780	S.COI LQW2BHNR12J03L	B	42.4/17.5
L4301	6200003221	S.COI NLV32T-151J	T	19.2/26.5
L4302	6140004430	COI LR-500		
L4303	6140003900	COI LR-489		
L4304	6200009060	S.COI LQH32CN101K23L	T	15.1/24.1
L4305	6200003221	S.COI NLV32T-151J	T	17.1/12.4
R4101	7030003280	S.RES ERJ3GEYJ 470 V (47)	B	42.7/32.3
R4102	7030003280	S.RES ERJ3GEYJ 470 V (47)	B	44.7/32.3
R4201	7030003280	S.RES ERJ3GEYJ 470 V (47)	T	34.6/27.7
R4202	7030003280	S.RES ERJ3GEYJ 470 V (47)	T	41.7/17
R4203	7030003280	S.RES ERJ3GEYJ 470 V (47)	T	27.5/6.1
R4204	7030003440	S.RES ERJ3GEYJ 102 V (1K)	T	44.5/19.9
R4205	7030003440	S.RES ERJ3GEYJ 102 V (1K)	T	41.8/13.1
R4206	7030003490	S.RES ERJ3GEYJ 272 V (2.7K)	T	41.8/18.8
R4207	7030003490	S.RES ERJ3GEYJ 272 V (2.7K)	T	39.9/15
R4208	7030003280	S.RES ERJ3GEYJ 470 V (47)	B	41.6/19.7
R4209	7030003220	S.RES ERJ3GEYJ 150 V (15)	B	37.2/23.6
R4210	7030003220	S.RES ERJ3GEYJ 150 V (15)	B	28.7/15.2
R4213	7030003280	S.RES ERJ3GEYJ 470 V (47)	T	40.6/21.4
R4214	7030003280	S.RES ERJ3GEYJ 470 V (47)	T	33.1/12.4
R4301	7030003280	S.RES ERJ3GEYJ 470 V (47)	T	21.4/28.4
R4302	7030003510	S.RES ERJ3GEYJ 392 V (3.9K)	B	13.3/25.7
R4303	7030003440	S.RES ERJ3GEYJ 102 V (1K)	B	13.3/23.3
R4304	7030007860	S.RES ERJ3GEYJ 8R2V (8.2)	B	1.6/19.3
R4305	7030003240	S.RES ERJ3GEYJ 220 V (22)	B	11.9/28.7
R4306	7030003280	S.RES ERJ3GEYJ 470 V (47)	T	15.4/10.3
R4307	7030003200	S.RES ERJ3GEYJ 100 V (10)	T	14.3/28.6
R4308	7030003280	S.RES ERJ3GEYJ 470 V (47)	B	5.2/26.4
C4101	4030011600	S.CER C1608 JB 1E 104K-T	B	47.3/29.4
C4102	4030019320	S.CER C1608 X7R 1C 105K-T	T	45.4/29.8
C4103	4030011600	S.CER C1608 JB 1E 104K-T	T	48.4/30
C4104	4030011600	S.CER C1608 JB 1E 104K-T	T	49.6/31.3
C4201	4030019320	S.CER C1608 X7R 1C 105K-T	T	30.2/27.7
C4202	4030011600	S.CER C1608 JB 1E 104K-T	T	44.1/28.3
C4205	4030017490	S.CER C1608 JB 1A 105K-T	B	33.9/23.6
C4206	4030017490	S.CER C1608 JB 1A 105K-T	T	26.7/18.8
C4207	4030017490	S.CER C1608 JB 1A 105K-T	T	46.9/22.8
C4208	4030017490	S.CER C1608 JB 1A 105K-T	T	40.6/13.1
C4209	4030019320	S.CER C1608 X7R 1C 105K-T	B	35/18.9
C4210	4030019320	S.CER C1608 X7R 1C 105K-T	B	26.5/8.1
C4211	4030019320	S.CER C1608 X7R 1C 105K-T	B	39/16
C4212	4030019320	S.CER C1608 X7R 1C 105K-T	B	33.5/8.9
C4213	4030017810	S.CER C1608 CH 1H 102J-T	T	34.1/7.8
C4215	4030019320	S.CER C1608 X7R 1C 105K-T	B	44/11.5
C4216	4030011600	S.CER C1608 JB 1E 104K-T	B	43.7/26.4
C4217	4030007110	S.CER C1608 CH 1H 680J-T	B	44.2/14.1
C4218	4030007110	S.CER C1608 CH 1H 680J-T	B	42.5/15.6
C4221	4030009510	S.CER C1608 CH 1H 010B-T	T	42.6/20.7
C4222	4030009510	S.CER C1608 CH 1H 010B-T	T	38.1/10.1
C4223	4030007010	S.CER C1608 CH 1H 100D-T	B	38.5/8
C4224	4030017810	S.CER C1608 CH 1H 102J-T	T	29.6/18.9
C4225	4030017810	S.CER C1608 CH 1H 102J-T	T	43.3/18.8
C4226	4030017810	S.CER C1608 CH 1H 102J-T	T	39.4/13.1
C4301	4030011600	S.CER C1608 JB 1E 104K-T	T	21.4/25.8
C4302	4030019320	S.CER C1608 X7R 1C 105K-T	T	17.3/29.3
C4303	4030017810	S.CER C1608 CH 1H 102J-T	B	10.2/24.2
C4304	4030017810	S.CER C1608 CH 1H 102J-T	B	10.2/27.2
C4305	4030019320	S.CER C1608 X7R 1C 105K-T	T	11.3/18.5
C4306	4030017490	S.CER C1608 JB 1A 105K-T	T	14.5/13.3
C4307	4030017810	S.CER C1608 CH 1H 102J-T	B	11.1/21.1
C4308	4030011600	S.CER C1608 JB 1E 104K-T	T	18/10.3
C4309	4030006990	S.CER C1608 CH 1H 080D-T	T	15.5/27.2
C4310	4550006120	S.TAN TEESVA 0G 226M8R	T	11.6/25.9
C4311	4550006120	S.TAN TEESVA 0G 226M8R	T	6.7/19.3
C4312	4030017490	S.CER C1608 JB 1A 105K-T	T	9.8/27.2
C4313	4030017490	S.CER C1608 JB 1A 105K-T	T	8.2/21.1

[MCF-M UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
FI5001	2030000740	S.MON FL-425 (HF-734A 64.455M BW6K)	T	20/6
L5001	6200012350	S.COI C2520C-R62G-A	T	8.9/7.6
L5002	6200012350	S.COI C2520C-R62G-A	T	8.9/4.4
L5003	6200012350	S.COI C2520C-R62G-A	T	31.2/7.6
L5004	6200012350	S.COI C2520C-R62G-A	T	31.2/4.4
C5001	4030006900	S.CER C1608 JB 1H 103K-T	T	6.2/6
C5002	4030007010	S.CER C1608 CH 1H 100D-T	T	13.6/6.5
C5003	4030007010	S.CER C1608 CH 1H 100D-T	T	14.9/6.5
C5004	4030007030	S.CER C1608 CH 1H 150J-T	T	17.9/2.6
C5006	4030007010	S.CER C1608 CH 1H 100D-T	T	25/5.5
C5007	4030007010	S.CER C1608 CH 1H 100D-T	T	26.3/5.5
C5008	4030006900	S.CER C1608 JB 1H 103K-T	T	33.9/6
EP5001	6910002161	CAS CASE-BM7H-LF		
EP5002	6910002161	CAS CASE-BM7H-LF		

[MCF-N UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
FI6001	2030000750	S.MON FL-426 (HF-734A 64.455M BW3K)	T	20/6
L6001	6200010960	S.COI C2520C-R47G-A (0.47U)	T	8.9/7.6
L6002	6200010960	S.COI C2520C-R47G-A (0.47U)	T	8.9/4.4
L6003	6200010960	S.COI C2520C-R47G-A (0.47U)	T	31.2/7.6
L6004	6200010960	S.COI C2520C-R47G-A (0.47U)	T	31.2/4.4
C6001	4030006900	S.CER C1608 JB 1H 103K-T	T	6.2/6
C6002	4030009990	S.CER C1608 CH 1H 200J-T	T	13.6/6.5
C6004	4030007030	S.CER C1608 CH 1H 150J-T	T	17.9/2.6
C6007	4030009990	S.CER C1608 CH 1H 200J-T	T	26.3/5.5
C6008	4030006900	S.CER C1608 JB 1H 103K-T	T	33.9/6
EP6001	6910002161	CAS CASE-BM7H-LF		
EP6002	6910002161	CAS CASE-BM7H-LF		

[MCF-W UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
FI7001	2030000730	S.MON FL-424 (HF-734A 64.455M BW15K)	T	20/6
L7001	6200012350	S.COI C2520C-R62G-A	T	8.9/7.6
L7002	6200012350	S.COI C2520C-R62G-A	T	8.9/4.4
L7003	6200012350	S.COI C2520C-R62G-A	T	31.2/7.6
L7004	6200012350	S.COI C2520C-R62G-A	T	31.2/4.4
C7001	4030006900	S.CER C1608 JB 1H 103K-T	T	6.2/6
C7002	4030007040	S.CER C1608 CH 1H 180J-T	T	13.6/6.5
C7004	4030006990	S.CER C1608 CH 1H 080D-T	T	17.9/2.6
C7007	4030007040	S.CER C1608 CH 1H 180J-T	T	26.3/5.5
C7008	4030006900	S.CER C1608 JB 1H 103K-T	T	33.9/6
EP7001	6910002161	CAS CASE-BM7H-LF		
EP7002	6910002161	CAS CASE-BM7H-LF		

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

[PA UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
EP2	6910019200	S.BEA N2012ZPS121T50	T	28.1/56.7
EP4	6510018330	TER F4053A		
EP5	6510018330	TER F4053A		
EP6	6910019200	S.BEA N2012ZPS121T50	T	65.2/56.6
EP19	6910019200	S.BEA N2012ZPS121T50	T	60.2/52.8
EP20	6910019200	S.BEA N2012ZPS121T50	T	60.2/49.5

[FILTER UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
Q101	1590003680	S.TRA KRC402 RTK/P	T	145.4/87.7
Q102	1590003770	S.TRA KRA302E-RTK/P	T	145.6/85.1
Q151	1590003680	S.TRA KRC402 RTK/P	T	142.9/87.7
Q152	1590003770	S.TRA KRA302E-RTK/P	T	143.1/85.1
Q201	1590003680	S.TRA KRC402 RTK/P	T	140.4/87.7
Q202	1590003770	S.TRA KRA302E-RTK/P	T	140.6/85.1
Q251	1590003680	S.TRA KRC402 RTK/P	T	116.8/87.7
Q252	1590003770	S.TRA KRA302E-RTK/P	T	117/85.1
Q301	1590003680	S.TRA KRC402 RTK/P	T	114.3/87.7
Q302	1590003770	S.TRA KRA302E-RTK/P	T	114.4/85.1
Q351	1590003680	S.TRA KRC402 RTK/P	T	109.3/87.7
Q352	1590003770	S.TRA KRA302E-RTK/P	T	109.5/85.1
Q401	1590003680	S.TRA KRC402 RTK/P	T	106.8/87.7
Q402	1590003770	S.TRA KRA302E-RTK/P	T	107/85.1
D102	1750001320	S.DIO KDS4148U RTK/P	T	154.9/77.3
D152	1750001320	S.DIO KDS4148U RTK/P	T	139.4/77.3
D154	1750001320	S.DIO KDS4148U RTK/P	T	135.6/86.5
D155	1750001320	S.DIO KDS4148U RTK/P	T	137.4/86.5
D202	1750001320	S.DIO KDS4148U RTK/P	T	124/77.3
D252	1750001320	S.DIO KDS4148U RTK/P	T	106.5/78.6
D302	1750001320	S.DIO KDS4148U RTK/P	T	92.5/84
D352	1750001320	S.DIO KDS4148U RTK/P	T	61.9/84
D402	1750001320	S.DIO KDS4148U RTK/P	T	46.6/84
L1	6200002041	S.COI NLV25T-101J	T	121/84.5
L102	6110003540	COI LA-548 (LA-215A)		
L103	6110003570	COI LA-550		
L104	6110003550	COI LA-547 (LA-214A)		
L152	6110002920	COI LA-481		
L153	6140004750	COI LR-535		
L154	6140004750	COI LR-535		
L202	6140003450	COI LR-387 (T50-10)		
L203	6140003460	COI LR-388 (T50-10)		
L204	6140003460	COI LR-388 (T50-10)		
L252	6140001160	COI LR-141 (T68-2)		
L253	6140001160	COI LR-141 (T68-2)		
L254	6140001160	COI LR-141 (T68-2)		
L302	6110002920	COI LA-481		
L303	6110002910	COI LA-480		
L352	6140001240	COI LR-149 (T68-2)		
L353	6140001130	COI LR-138 (T68-2)		
L401	6200002041	S.COI NLV25T-101J	T	38.7/20.9
L402	6140002570	COI LR-294 (T50-2)		
L403	6140002580	COI LR-295 (T50-2)		
L501	6140003440	COI LR-386 (FK-100E-5003H)		
L502	6140003440	COI LR-386 (FK-100E-5003H)		
R101	7030003360	S.RES ERJ3GEYJ 221 V (220)	T	158.1/77.3
R102	7030003360	S.RES ERJ3GEYJ 221 V (220)	T	158.1/79.2
R151	7030003360	S.RES ERJ3GEYJ 221 V (220)	T	142.5/77.3
R152	7030003360	S.RES ERJ3GEYJ 221 V (220)	T	142.5/79.1
R201	7030003360	S.RES ERJ3GEYJ 221 V (220)	T	127.2/77.3
R202	7030003360	S.RES ERJ3GEYJ 221 V (220)	T	127.2/79.1
R251	7030003360	S.RES ERJ3GEYJ 221 V (220)	T	110.4/79.4
R252	7030003360	S.RES ERJ3GEYJ 221 V (220)	T	109.2/79.4
R301	7030003360	S.RES ERJ3GEYJ 221 V (220)	T	95.6/84
R302	7030003360	S.RES ERJ3GEYJ 221 V (220)	T	95.6/85.8
R351	7030003360	S.RES ERJ3GEYJ 221 V (220)	T	65/84
R352	7030003360	S.RES ERJ3GEYJ 221 V (220)	T	65/85.8
R401	7030003360	S.RES ERJ3GEYJ 221 V (220)	T	49.7/84
R402	7030003360	S.RES ERJ3GEYJ 221 V (220)	T	49.7/85.8
C101	4030006900	S.CER C1608 JB 1H 103K-T	T	150/21
C105	4030011160	S.CER GRM31M2C2H150JV01L (GRM42-6 CH)	T	161.6/26
C106	4030011120	S.CER GRM31M2C2H100JV01L (GRM42-6 CH)	T	168.6/34.1
C107	4030011190	S.CER GRM31M2C2H270JV01L (GRM42-6 CH)	T	155.4/39.7
C108	4030011240	S.CER GRM31M2C2H470JV01L (GRM42-6 CH)	T	155.4/41.8
C109	4030011160	S.CER GRM31M2C2H150JV01L (GRM42-6 CH)	T	168.6/44.1
C110	4030011240	S.CER GRM31M2C2H470JV01L (GRM42-6 CH)	T	155.2/57.6
C111	4030011240	S.CER GRM31M2C2H470JV01L (GRM42-6 CH)	T	155.2/60.4
C112	4030011100	S.CER GRM31M2C2H8R0DV01L (GRM42-6 CH)	T	158.8/61.9
C113	4030011240	S.CER GRM31M2C2H470JV01L (GRM42-6 CH)	T	155.2/63.5
C114	4030006900	S.CER C1608 JB 1H 103K-T	T	155.2/79.2
C154	4030006900	S.CER C1608 JB 1H 103K-T	T	137.1/18.1
C158	4030011180	S.CER GRM31M2C2H220JV01L (GRM42-6 CH)	T	148.8/29.5
C159	4030011730	S.CER GRM31M2C2H101JV01L (GRM42-6 CH)	T	150.4/36.4
C160	4030011730	S.CER GRM31M2C2H101JV01L (GRM42-6 CH)	T	150.4/38.5
C162	4030011730	S.CER GRM31M2C2H101JV01L (GRM42-6 CH)	T	141.4/48.9
C163	4030012480	S.CER GRM31M2C2H121JV01L (GRM42-6 CH)	T	147.5/48.9
C165	4030012480	S.CER GRM31M2C2H121JV01L (GRM42-6 CH)	T	147.5/51
C166	4030011510	S.CER GRM31M2C2H560JV01L (GRM42-6 CH)	T	140.4/63.4
C170	4030014460	S.CER GRM31M2C2H820JV01L (GRM42-6 CH)	T	146.2/65.6

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

[FILTER UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C172	4030006900	S.CER C1608 JB 1H 103K-T	T	139.7/79.1
C201	4030006900	S.CER C1608 JB 1H 103K-T	T	122.1/18.1
C203	4030011190	S.CER GRM31M2C2H270JV01L (GRM42-6 CH)	T	126.1/32.1
C204	4030012480	S.CER GRM31M2C2H121JV01L (GRM42-6 CH)	T	126.1/37.3
C206	4030011050	S.CER GRM31M3C2H3R0CY21L (GRM42-6 CJ)	T	131.6/48.1
C207	4030011190	S.CER GRM31M2C2H270JV01L (GRM42-6 CH)	T	131.6/50.2
C209	4030011550	S.CER GRM31M2C2H680JV01L (GRM42-6 CH)	T	123.3/50.1
C210	4030011550	S.CER GRM31M2C2H680JV01L (GRM42-6 CH)	T	123.3/48
C211	4030011120	S.CER GRM31M2C2H100JV01L (GRM42-6 CH)	T	134.9/57.5
C212	4030011210	S.CER GRM31M2C2H330JV01L (GRM42-6 CH)	T	124/62.9
C213	4030006900	S.CER C1608 JB 1H 103K-T	T	124.3/79.1
C251	4030006900	S.CER C1608 JB 1H 103K-T	T	106.7/17.8
C252	4010005880	CER HM95SJ SL 271J 500V		
C253	4010005880	CER HM95SJ SL 271J 500V		
C254	4030011730	S.CER GRM31M2C2H101JV01L (GRM42-6 CH)	T	102.5/36.2
C255	4030011550	S.CER GRM31M2C2H680JV01L (GRM42-6 CH)	T	104.8/36.2
C256	4010008300	CER HM11TJ SL 391J 500V		
C257	4010008200	CER HM11TJ SL 331J 500V		
C260	4030012480	S.CER GRM31M2C2H121JV01L (GRM42-6 CH)	T	106.5/51.9
C261	4010008300	CER HM11TJ SL 391J 500V		
C262	4030011230	S.CER GRM31M2C2H390JV01L (GRM42-6 CH)	T	106.9/69.6
C263	4010008300	CER HM11TJ SL 391J 500V		
C264	4010005880	CER HM95SJ SL 271J 500V		
C265	4030006900	S.CER C1608 JB 1H 103K-T	T	106.8/80.3
C301	4030006900	S.CER C1608 JB 1H 103K-T	T	91.5/16.1
C302	4030012480	S.CER GRM31M2C2H121JV01L (GRM42-6 CH)	T	96/20.7
C303	4030011170	S.CER GRM31M2C2H180JV01L (GRM42-6 CH)	T	94/34.9
C304	4030012480	S.CER GRM31M2C2H121JV01L (GRM42-6 CH)	T	90.1/45.2
C305	4030012480	S.CER GRM31M2C2H121JV01L (GRM42-6 CH)	T	90.1/47.7
C306	4030011240	S.CER GRM31M2C2H470JV01L (GRM42-6 CH)	T	95.4/55.2
C307	4030011730	S.CER GRM31M2C2H101JV01L (GRM42-6 CH)	T	95.4/72.1
C308	4030006900	S.CER C1608 JB 1H 103K-T	T	92.8/85.8
C351	4030006900	S.CER C1608 JB 1H 103K-T	T	60.9/16.1
C352	4010005360	CER HM11SJ SL 301J 500V		
C353	4010005360	CER HM11SJ SL 301J 500V		
C354	4010005370	CER HM11SJ SL 331J 500V		
C355	4010005360	CER HM11SJ SL 301J 500V		
C356	4010005830	CER HM74SJ SL 151J 500V		
C357	4010005360	CER HM11SJ SL 301J 500V		
C358	4010005360	CER HM11SJ SL 301J 500V		
C360	4030011730	S.CER GRM31M2C2H101JV01L (GRM42-6 CH)	T	62.8/63.1
C361	4010005360	CER HM11SJ SL 301J 500V		
C362	4010008300	CER HM11TJ SL 391J 500V		
C363	4030006900	S.CER C1608 JB 1H 103K-T	T	62.2/85.8
C401	4030006900	S.CER C1608 JB 1H 103K-T	T	45.4/16
C402	4010007590	CER HM15SJ SL 681J 500V		
C403	4010007590	CER HM15SJ SL 681J 500V		
C404	4010007590	CER HM15SJ SL 681J 500V		
C405	4010007590	CER HM15SJ SL 681J 500V		
C406	4010006410	CER HM13SJ SL 471J 500V		
C407	4010008260	CER HM74TJ SL 151J 500V		
C408	4010008200	CER HM11TJ SL 331J 500V		
C409	4010008280	CER HM95TJ SL 221J 500V		
C410	4010005390	CER HM15SJ SL 621J 500V		
C411	4010005390	CER HM15SJ SL 621J 500V		
C412	4010005390	CER HM15SJ SL 621J 500V		
C413	4010008200	CER HM11TJ SL 331J 500V		
C415	4030012480	S.CER GRM31M2C2H121JV01L (GRM42-6 CH)	T	55.5/61.2
C416	4010005390	CER HM15SJ SL 621J 500V		
C417	4010005390	CER HM15SJ SL 621J 500V		
C419	4030006900	S.CER C1608 JB 1H 103K-T	T	46.9/85.8
C501	4030018980	S.CER C1608 JB 1H 104K-T	T	24.5/85.7
C502	4030018980	S.CER C1608 JB 1H 104K-T	T	15.5/85.7
C503	4030006880	S.CER C1608 JB 1H 472K-T	T	26.5/85.7
C504	4030006880	S.CER C1608 JB 1H 472K-T	T	13.5/85.7
C507	4030018980	S.CER C1608 JB 1H 104K-T	T	20/84
C508	4030006880	S.CER C1608 JB 1H 472K-T	T	20/80.5
C513	4030018980	S.CER C1608 JB 1H 104K-T	T	30/47
C514	4030018980	S.CER C1608 JB 1H 104K-T	T	10/47
C515	4030006880	S.CER C1608 JB 1H 472K-T	T	30/44.5
C516	4030006880	S.CER C1608 JB 1H 472K-T	T	10/44.5
C517	4510004330	ELE 35 ME 10 SWB		
C521	4030006880	S.CER C1608 JB 1H 472K-T	T	33.1/21.4
C522	4030006880	S.CER C1608 JB 1H 472K-T	T	6.8/21.4
C523	4030018980	S.CER C1608 JB 1H 104K-T	T	33.1/19
C524	4030018980	S.CER C1608 JB 1H 104K-T	T	6.8/19
C527	4030018980	S.CER C1608 JB 1H 104K-T	T	20/8.3
C528	4510004330	ELE 35 ME 10 SWB		
RL101	6330001721	REL ATN207-K1		
RL102	6330001721	REL ATN207-K1		
RL151	6330001721	REL ATN207-K1		
RL152	6330001721	REL ATN207-K1		

[FILTER UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
RL201	6330001721	REL ATN207-K1		
RL202	6330001721	REL ATN207-K1		
RL251	6330001721	REL ATN207-K1		
RL252	6330001721	REL ATN207-K1		
RL301	6330001721	REL ATN207-K1		
RL302	6330001721	REL ATN207-K1		
RL351	6330001721	REL ATN207-K1		
RL352	6330001721	REL ATN207-K1		
RL401	6330001721	REL ATN207-K1		
RL402	6330001721	REL ATN207-K1		
J1	6510007020	CON TMP-J01X-V6		
J2	6510007020	CON TMP-J01X-V6		
J3	6510022621	S.CON 10FMN-BMTTR-A-TBT(LF)(SN)	T	128.5/86
W9	8900009621	CAB OPC-961A		
W10	8900009631	CAB OPC-962A		
EP501	6510018330	TER F4053A		
EP502	6510018330	TER F4053A		

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

[TUNER UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
Q1	1590003680	S.TRA KRC402 RTK/P	T	124.5/89
Q2	1590003680	S.TRA KRC402 RTK/P	T	104.5/78.3
Q3	1590003680	S.TRA KRC402 RTK/P	T	77.6/60.7
Q4	1590003680	S.TRA KRC402 RTK/P	T	72.1/60.7
Q5	1590003680	S.TRA KRC402 RTK/P	T	66.6/60.7
Q6	1590003680	S.TRA KRC402 RTK/P	T	61.1/60.7
Q7	1590003680	S.TRA KRC402 RTK/P	T	57/60.7
Q8	1590003680	S.TRA KRC402 RTK/P	T	53.2/60.7
Q9	1590003680	S.TRA KRC402 RTK/P	T	53/78
Q10	1590003680	S.TRA KRC402 RTK/P	T	108.9/81
Q11	1590003680	S.TRA KRC402 RTK/P	T	91/78.2
Q12	1590003680	S.TRA KRC402 RTK/P	T	114.4/81
Q13	1590003680	S.TRA KRC402 RTK/P	T	95.5/78.2
Q14	1590003680	S.TRA KRC402 RTK/P	T	119.4/81
Q15	1590003680	S.TRA KRC402 RTK/P	T	100/78.2
Q16	1590003680	S.TRA KRC402 RTK/P	T	49.8/70.2
D1	1750001180	S.DIO KDS122 RTK/P	T	124.5/85
D2	1750001180	S.DIO KDS122 RTK/P	T	103/75.7
D3	1750001180	S.DIO KDS122 RTK/P	T	77.6/56.7
D4	1750001180	S.DIO KDS122 RTK/P	T	72.1/56.7
D5	1750001180	S.DIO KDS122 RTK/P	T	66.6/56.7
D6	1750001180	S.DIO KDS122 RTK/P	T	61.1/56.7
D7	1750001180	S.DIO KDS122 RTK/P	T	57/56.7
D8	1750001180	S.DIO KDS122 RTK/P	T	53.2/56.7
D9	1750001180	S.DIO KDS122 RTK/P	T	49/76.2
D10	1750001180	S.DIO KDS122 RTK/P	T	108.9/77.1
D11	1750001180	S.DIO KDS122 RTK/P	T	89.5/75.7
D12	1750001180	S.DIO KDS122 RTK/P	T	114.4/77.1
D13	1750001180	S.DIO KDS122 RTK/P	T	94/75.7
D14	1750001180	S.DIO KDS122 RTK/P	T	119.4/77.1
D15	1750001180	S.DIO KDS122 RTK/P	T	98.5/75.7
D16	1750001180	S.DIO KDS122 RTK/P	T	49.8/66.2
L3	6110003600	COI LA-555		
L4	6110003590	COI LA-554		
L5	6110003020	COI LA-489		
L6	6110003030	COI LA-490		
L7	6110003020	COI LA-489		
L8	6110003030	COI LA-490		
L9	6140004520	COI LR-511		
L10	6140004510	COI LR-510		
L11	6140002700	COI LR-307 (T130-2)		
L12	6140002700	COI LR-307 (T130-2)		
L13	6180003291	COI BM27-400-6A-LF		
L14	6180003291	COI BM27-400-6A-LF		
L15	6180003291	COI BM27-400-6A-LF		
L16	6180003291	COI BM27-400-6A-LF		
L17	6180003291	COI BM27-400-6A-LF		
L18	6180003291	COI BM27-400-6A-LF		
L19	6180003291	COI BM27-400-6A-LF		
L20	6180003291	COI BM27-400-6A-LF		
R46	7410000950	S.ARR EXB-V8V 102JV	T	106.8/88.5
R47	7410000950	S.ARR EXB-V8V 102JV	T	110.8/88.5
R48	7410000950	S.ARR EXB-V8V 102JV	T	94.8/88.5
R49	7410000950	S.ARR EXB-V8V 102JV	T	98.8/88.5
C3	4010005130	CER DEC1X3J470JC4B (DE0910SL470J)		
C4	4010004790	CER DEC1X3J680JC4B (DE1210SL680J)		
C11	4030006900	S.CER C1608 JB 1H 103K-T	T	123.3/82.7
C12	4030006900	S.CER C1608 JB 1H 103K-T	T	124.6/87
C13	4030006900	S.CER C1608 JB 1H 103K-T	T	109/84
C17	4030006900	S.CER C1608 JB 1H 103K-T	T	124.5/93.7
C19	4030006900	S.CER C1608 JB 1H 103K-T	T	89/91.3
C21	4030006900	S.CER C1608 JB 1H 103K-T	T	102.1/71.7
C22	4030006900	S.CER C1608 JB 1H 103K-T	T	120.3/54
C31	4030006900	S.CER C1608 JB 1H 103K-T	T	76.5/54.7
C32	4030006900	S.CER C1608 JB 1H 103K-T	T	77.8/58.7
C33	4030006900	S.CER C1608 JB 1H 103K-T	T	100/84
C34	4010008550	CER DEA1X3F390JC3B (DE0607SL390J)		
C35	4010008550	CER DEA1X3F390JC3B (DE0607SL390J)		
C36	4010004800	CER DEC1X3J820JC4B (DE1210SL820J)		
C37	4010004780	CER DEC1X3J560JC4B (DE1010SL560J)		
C38	4010004830	CER DEC1X3J151JC4B (DE1510SL151J)		
C39	4010008560	CER DEA1X3F151JA3B (DE1107SL151J)		
C40	4010008690	CER DEA1X3F101JA3B		
C41	4010004820	CER DEC1X3J121JC4B (DE1410SL121J)		
C42	4010004790	CER DEC1X3J680JC4B (DE1210SL680J)		
C43	4010004790	CER DEC1X3J680JC4B (DE1210SL680J)		
C44	4620000160	VAR KV-150-05 150P		
C45	4620000160	VAR KV-150-05 150P		
C46	4030006900	S.CER C1608 JB 1H 103K-T	T	71/54.7
C47	4030006900	S.CER C1608 JB 1H 103K-T	T	72.3/58.7
C48	4030006900	S.CER C1608 JB 1H 103K-T	T	98.7/84
C51	4030006900	S.CER C1608 JB 1H 103K-T	T	65.5/54.7
C52	4030006900	S.CER C1608 JB 1H 103K-T	T	66.8/58.7
C53	4030006900	S.CER C1608 JB 1H 103K-T	T	97.5/84
C61	4030006900	S.CER C1608 JB 1H 103K-T	T	60/54.7

[TUNER UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C62	4030006900	S.CER C1608 JB 1H 103K-T	T	61.3/58.7
C63	4030006900	S.CER C1608 JB 1H 103K-T	T	96.2/84
C71	4030006900	S.CER C1608 JB 1H 103K-T	T	55.8/54.7
C72	4030006900	S.CER C1608 JB 1H 103K-T	T	57.1/58.7
C73	4030006900	S.CER C1608 JB 1H 103K-T	T	95/84
C81	4030006900	S.CER C1608 JB 1H 103K-T	T	52/54.7
C82	4030006900	S.CER C1608 JB 1H 103K-T	T	53.3/58.7
C83	4030006900	S.CER C1608 JB 1H 103K-T	T	93.7/84
C91	4030006900	S.CER C1608 JB 1H 103K-T	T	51.2/74.5
C92	4030006900	S.CER C1608 JB 1H 103K-T	T	51/77.8
C93	4030006900	S.CER C1608 JB 1H 103K-T	T	91.2/84
C101	4030006900	S.CER C1608 JB 1H 103K-T	T	107.7/75.2
C102	4030006900	S.CER C1608 JB 1H 103K-T	T	109/79
C103	4030006900	S.CER C1608 JB 1H 103K-T	T	110.2/84
C111	4030006900	S.CER C1608 JB 1H 103K-T	T	88.6/71.7
C112	4030006900	S.CER C1608 JB 1H 103K-T	T	102.6/5.4
C113	4030006900	S.CER C1608 JB 1H 103K-T	T	105.2/84
C121	4030006900	S.CER C1608 JB 1H 103K-T	T	113.2/75.2
C122	4030006900	S.CER C1608 JB 1H 103K-T	T	114.5/79
C123	4030006900	S.CER C1608 JB 1H 103K-T	T	111.5/84
C131	4030006900	S.CER C1608 JB 1H 103K-T	T	93.1/71.7
C132	4030006900	S.CER C1608 JB 1H 103K-T	T	107.4/5.4
C133	4030006900	S.CER C1608 JB 1H 103K-T	T	106.5/84
C141	4030006900	S.CER C1608 JB 1H 103K-T	T	118.2/75.2
C142	4030006900	S.CER C1608 JB 1H 103K-T	T	119.5/79
C143	4030006900	S.CER C1608 JB 1H 103K-T	T	112.7/84
C151	4030006900	S.CER C1608 JB 1H 103K-T	T	97.6/71.7
C152	4030006900	S.CER C1608 JB 1H 103K-T	T	115.3/5.4
C153	4030006900	S.CER C1608 JB 1H 103K-T	T	107.7/84
C161	4030006900	S.CER C1608 JB 1H 103K-T	T	48.7/64.2
C162	4030006900	S.CER C1608 JB 1H 103K-T	T	50/68.2
C163	4030006900	S.CER C1608 JB 1H 103K-T	T	92.5/84
RL1	6330001610	REL NY-12W-K-IE		
RL2	6330001610	REL NY-12W-K-IE		
RL3	6330001610	REL NY-12W-K-IE		
RL4	6330001610	REL NY-12W-K-IE		
RL5	6330001610	REL NY-12W-K-IE		
RL6	6330001610	REL NY-12W-K-IE		
RL7	6330001610	REL NY-12W-K-IE		
RL8	6330001610	REL NY-12W-K-IE		
RL9	6330001610	REL NY-12W-K-IE		
RL10	6330001610	REL NY-12W-K-IE		
RL11	6330001610	REL NY-12W-K-IE		
RL12	6330001610	REL NY-12W-K-IE		
RL13	6330001610	REL NY-12W-K-IE		
RL14	6330001610	REL NY-12W-K-IE		
RL15	6330001610	REL NY-12W-K-IE		
RL16	6330001610	REL NY-12W-K-IE		
J3	6510007020	CON TMP-J01X-V6		
J4	6510007020	CON TMP-J01X-V6		
J5	6510022591	S.CON 22FMN-BMTTR-A-TBT(LF)(SN)	T	102.9/93.3
MF1	2710000800	MOT MP24ZA		
MF2	2710000800	MOT MP24ZA		
W1	8900018420	CAB OPC-1889		
EP2	6910014730	S.BEA MPZ2012S331A-T	T	87.1/91.6
EP4	6910014730	S.BEA MPZ2012S331A-T	T	122.7/92.1

[FRONT UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
W1	8900018460	CAB OPC-1950 (P1,N10,L60) <TJM>		
W2	8900009231	CAB OPC-908A (P1,N10,L60) <TJM>		
W3	8900017820	CAB OPC-852A (P1,N16,L60) <TJM>		
W4	8900009231	CAB OPC-908A (P1,N10,L60) <TJM>		
W5	8900009231	CAB OPC-908A (P1,N10,L60) <TJM>		
W6	8900009231	CAB OPC-908A (P1,N10,L60) <TJM>		
W7	8900018480	CAB OPC-1952 (P0.5,N30,L65) <TJM>		
W8	8900018480	CAB OPC-1952 (P0.5,N30,L65) <TJM>		
EP1	6910020500	E.O RMS20-250-201-1B (-1P/E)		
EP2	6910015650	E.O S-G2218-3#01 (MOUNT PLATE)		
EP3	6910015650	E.O S-G2218-3#01 (MOUNT PLATE)		

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

[MIC UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
L1	6200003261	S.COI NLV32T-101J	T	9/15
L2	6200003261	S.COI NLV32T-101J	T	2.7/15
L3	6200003261	S.COI NLV32T-101J	T	6/15
C1	4030006900	S.CER C1608 JB 1H 103K-T	T	8.2/9.1
C2	4030006900	S.CER C1608 JB 1H 103K-T	T	11.5/16.3
C3	4030006900	S.CER C1608 JB 1H 103K-T	T	8.2/5.7
C4	4030007130	S.CER C1608 CH 1H 101J-T	T	20.2/1.6
C5	4030006900	S.CER C1608 JB 1H 103K-T	T	16.5/16.3
C6	4030006900	S.CER C1608 JB 1H 103K-T	T	22.3/10.4
C7	4030006900	S.CER C1608 JB 1H 103K-T	T	13.6/10.6
C8	4030007090	S.CER C1608 CH 1H 470J-T	T	9.5/9.1
J1	6510000191	CON FM214-8SS(P)-1	T	4/6.5
J2	6510022621	S.CON 10FMN-BMTTR-A-TBT(LF)(SN)	T	
EP2	6910012350	S.BEA MMZ1608Y 102BT	T	17.7/14.9
EP3	6910012350	S.BEA MMZ1608Y 102BT	T	21.1/10.4
EP4	6910012350	S.BEA MMZ1608Y 102BT	T	9.7/4.5
EP5	6910012350	S.BEA MMZ1608Y 102BT	T	12/14.5
EP6	6910014690	S.BEA MPZ1608S221A-T	T	16/10.9
EP7	6910015130	S.BEA MMZ1608D 301BT	T	12.1/2
EP8	6910015130	S.BEA MMZ1608D 301BT	T	12.1/3.3
EP9	6910015130	S.BEA MMZ1608D 301BT	T	18.2/2.3
EP10	6910015130	S.BEA MMZ1608D 301BT	T	17/2.4
EP11	6910012350	S.BEA MMZ1608Y 102BT	T	9/12.4
EP12	6910014690	S.BEA MPZ1608S221A-T	T	8.5/3.1

[JACK UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
R1	7030006240	S.RES ERJ12YJ181U (180)	T	8.1/18.1
R2	7030006240	S.RES ERJ12YJ181U (180)	T	8.2/26.5
R486	7030003580	S.RES ERJ3GEYJ 153 V (15K)	T	6.1/7.6
R487	7310004300	S.TRI EVM-3SSX50 B13	T	11/8
C1	4030006900	S.CER C1608 JB 1H 103K-T	T	2.5/10.4
C2	4030006900	S.CER C1608 JB 1H 103K-T	T	5.2/13.2
C101	4030006900	S.CER C1608 JB 1H 103K-T	T	3.7/32.5
C102	4030006900	S.CER C1608 JB 1H 103K-T	T	3.7/31
J1	6510022621	S.CON 10FMN-BMTTR-A-TBT(LF)(SN)	T	3.7/21.8
J2	6510023891	CON S-G4617#01F	T	
J102	6510023900	CON LGR4619-7000	T	
EP1	6910014690	S.BEA MPZ1608S221A-T	T	4.4/11.1
EP2	6910014690	S.BEA MPZ1608S221A-T	T	2.8/13.2
EP3	6910014690	S.BEA MPZ1608S221A-T	T	4/13.2
EP101	6910012350	S.BEA MMZ1608Y 102BT	T	7.2/32.5
EP102	6910012350	S.BEA MMZ1608Y 102BT	T	7.2/31

[VR-A UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
R1	7210002970	VAR RV-314(RK0972210 10KB/10KB)		
R2	7210002970	VAR RV-314(RK0972210 10KB/10KB)		
R3	7030003520	S.RES ERJ3GEYJ 472 V (4.7K)	T	6.5/12.3
R4	7030003520	S.RES ERJ3GEYJ 472 V (4.7K)	T	6.5/13.6
R5	7030003520	S.RES ERJ3GEYJ 472 V (4.7K)	T	43.4/12.3
R6	7030003520	S.RES ERJ3GEYJ 472 V (4.7K)	T	43.4/13.6
R33	7030003860	S.RES ERJ3GE JPW V	T	34.2/8.3
R34	7030003860	S.RES ERJ3GE JPW V	T	32.9/8.3
R35	7030003860	S.RES ERJ3GE JPW V	T	31.6/8.3
R38	7030003860	S.RES ERJ3GE JPW V	T	31.6/11.1
C1	4030006900	S.CER C1608 JB 1H 103K-T	T	39.9/13.6
C2	4030006900	S.CER C1608 JB 1H 103K-T	T	39.9/12.3
C3	4030006900	S.CER C1608 JB 1H 103K-T	T	10/13.6
C4	4030006900	S.CER C1608 JB 1H 103K-T	T	10/12.3
J32	6510022621	S.CON 10FMN-BMTTR-A-TBT(LF)(SN)	T	35/4
J33	6510022611	S.CON 16FMN-BMTTR-A-TBT(LF)(SN)	T	17/4
EP34	6910012350	S.BEA MMZ1608Y 102BT	T	40.7/8.3
EP35	6910012350	S.BEA MMZ1608Y 102BT	T	39.4/8.3
EP36	6910012350	S.BEA MMZ1608Y 102BT	T	38.1/8.3
EP37	6910012350	S.BEA MMZ1608Y 102BT	T	36.8/8.3
EP38	6910014690	S.BEA MPZ1608S221A-T	T	35.5/8.3
EP39	6910012350	S.BEA MMZ1608Y 102BT	T	30.3/8.3
EP43	6910012350	S.BEA MMZ1608Y 102BT	T	28.5/8.3
EP44	6910012350	S.BEA MMZ1608Y 102BT	T	27.2/8.3
EP45	6910012350	S.BEA MMZ1608Y 102BT	T	25.9/8.3

[VA-B UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
R1	7210002970	VAR RV-314(RK0972210 10KB/10KB)		
R2	7030003520	S.RES ERJ3GEYJ 472 V (4.7K)	T	44/9.8
R3	7030003520	S.RES ERJ3GEYJ 472 V (4.7K)	T	44/11.1
J1	6510022621	S.CON 10FMN-BMTTR-A-TBT(LF)(SN)	T	25.1/4.3
S1	2250000410	ENC TP90D96E20-30F-2178-1		

[VA-C UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
R1	7210001130	VAR RK097111T005A (10KB)		
R2	7210001130	VAR RK097111T005A (10KB)		
R3	7210001130	VAR RK097111T005A (10KB)		
R4	7210001130	VAR RK097111T005A (10KB)		
R11	7030003520	S.RES ERJ3GEYJ 472 V (4.7K)	T	22/10.6
R12	7030003520	S.RES ERJ3GEYJ 472 V (4.7K)	T	19/10.6
R13	7030003520	S.RES ERJ3GEYJ 472 V (4.7K)	T	13/10.6
R14	7030003520	S.RES ERJ3GEYJ 472 V (4.7K)	T	16/10.6
C11	4030006900	S.CER C1608 JB 1H 103K-T	T	20.5/10.6
C12	4030006900	S.CER C1608 JB 1H 103K-T	T	17.6/10.6
C13	4030006900	S.CER C1608 JB 1H 103K-T	T	11.5/10.6
C14	4030006900	S.CER C1608 JB 1H 103K-T	T	14.5/10.6
J1	6510022621	S.CON 10FMN-BMTTR-A-TBT(LF)(SN)	T	14.7/5.4

[RIT UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
J1	6510022621	S.CON 10FMN-BMTTR-A-TBT(LF)(SN)	T	4/9
S1	2250000650	ENC EVEGC2F2524B		

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

[DCDC UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
IC101	1180003100	S.REG BD9302FP-E2	T	51.2/22.5
IC201	1190002450	S.IC BD9851FEV-E2	T	11/12.7
Q201	1550000230	S.FET SSM3J117TU(TE85L)	T	22.8/15.8
D101	1750000960	S.DIO RB081L-20	T	59.9/21.7
D102	1750000960	S.DIO RB081L-20	T	42.4/21.7
D201	1790001450	S.DIO RB160L-40 TE-25	T	23.4/27.3
L101	6200010881	S.COI CDRH124NP-330MC	T	64/11.8
L102	6200013280	S.COI SLF10145T-330M1R6-PF	T	67.2/24.2
L103	6200013280	S.COI SLF10145T-330M1R6-PF	T	35.1/24.2
L201	6200011551	S.COI CDRH6D28NP-270NC	T	7.4/28.5
L202	6200011300	S.COI EXCML16A270U	T	22.6/31.5
L203	6180003501	S.COI SLF6028T-100M1R3-PF	T	21.5/20.6
L204	6200011300	S.COI EXCML16A270U	T	19.7/16.5
R101	7030003600	S.RES ERJ3GEYJ 223 V (22K)	T	52.6/30.8
R102	7030003600	S.RES ERJ3GEYJ 223 V (22K)	T	49.8/30.8
R103	7030003680	S.RES ERJ3GEYJ 104 V (100K)	T	55.4/32.1
R104	7030003600	S.RES ERJ3GEYJ 223 V (22K)	T	47/30.8
R105	7030005451	S.RES ERA3YED 153V (15K)	T	52.6/29.5
R106	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	57.4/28.7
R107	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	44.9/28.7
R108	7030003440	S.RES ERJ3GEYJ 102 V (1K)	T	60.1/30.8
R109	7030003440	S.RES ERJ3GEYJ 102 V (1K)	T	44.2/30.8
R110	7030003520	S.RES ERJ3GEYJ 472 V (4.7K)	T	47/32.1
R111	7030003520	S.RES ERJ3GEYJ 472 V (4.7K)	T	58/30.8
R201	7030005691	S.RES ERA3YED 123V (12K)	T	23.8/8.4
R202	7030003440	S.RES ERJ3GEYJ 102 V (1K)	T	22.5/8.4
R203	7030007230	S.RES ERA3YED 102V (1K)	T	20.5/6.4
R204	7030006461	S.RES ERA3YED 152V (1.5K)	T	20.5/9
R205	7030005981	S.RES ERA3YED 333V (33K)	T	15.6/9.6
R206	7030003700	S.RES ERJ3GEYJ 154 V (150K)	T	21.3/12.3
R207	7030005451	S.RES ERA3YED 153V (15K)	T	19.2/10.3
R208	7030005321	S.RES ERA3YED 103V (10K)	T	18.5/8.2
R209	7030003440	S.RES ERJ3GEYJ 102 V (1K)	T	19.2/11.6
R210	7030003740	S.RES ERJ3GEYJ 334 V (330K)	T	23.2/13
C101	4030007070	S.CER C1608 CH 1H 330J-T	T	55.4/30.8
C102	4030007070	S.CER C1608 CH 1H 330J-T	T	49.6/32.1
C103	4030008650	S.CER C1608 JB 1H 332K-T	T	55.4/29.5
C104	4030008650	S.CER C1608 JB 1H 332K-T	T	47/29.5
C105	4030007130	S.CER C1608 CH 1H 101J-T	T	47/28.2
C106	4030007130	S.CER C1608 CH 1H 101J-T	T	55.4/28.2
C107	4030011600	S.CER C1608 JB 1E 104K-T	T	52.4/28.2
C108	4030011600	S.CER C1608 JB 1E 104K-T	T	49.8/29.5
C109	4030011600	S.CER C1608 JB 1E 104K-T	T	55.7/17.2
C110	4030011600	S.CER C1608 JB 1E 104K-T	T	46.6/17.2
C111	4030011600	S.CER C1608 JB 1E 104K-T	T	52.7/17.2
C112	4510009700	S.ELE EEEFK1C101P	T	47.4/10
C113	4030019500	S.CER GRM21BB31A106KE18 (GRM40 B)	T	59.1/27.7
C114	4030018960	S.CER C3216 JB 1C 106MT-N	T	52.8/13.9
C115	4030019500	S.CER GRM21BB31A106KE18 (GRM40 B)	T	41.5/27.7
C116	4030019500	S.CER GRM21BB31A106KE18 (GRM40 B)	T	60.8/27.7
C117	4030019500	S.CER GRM21BB31A106KE18 (GRM40 B)	T	43.3/27.7
C201	4510009700	S.ELE EEEFK1C101P	T	7.7/20.8
C202	4030011600	S.CER C1608 JB 1E 104K-T	T	14/26
C203	4030011600	S.CER C1608 JB 1E 104K-T	T	18.6/24.7
C204	4030018960	S.CER C3216 JB 1C 106MT-N	T	19.1/26.4
C205	4030018960	S.CER C3216 JB 1C 106MT-N	T	17.2/16.5
C206	4030010020	S.CER C1608 JB 1H 122K-T	T	20.5/7.7
C207	4030007070	S.CER C1608 CH 1H 330J-T	T	16.9/10.1
C208	4030008860	S.CER C1608 JB 1H 153K-T	T	19.2/12.9
C209	4030011600	S.CER C1608 JB 1E 104K-T	T	23.2/11.7
C210	4030011600	S.CER C1608 JB 1E 104K-T	T	6.4/8.9
C211	4030019090	S.CER C2012 JB 1C 225M-T	T	12.4/26.3
C212	4030011600	S.CER C1608 JB 1E 104K-T	T	5.6/13.4
C213	4030017490	S.CER C1608 JB 1A 105K-T	T	5/11.4
C214	4030018960	S.CER C3216 JB 1C 106MT-N	T	19.1/28.6
J1	6910020210	CON IMSA-9180S-12Z900		
F1	5210001050	S.FUS ICP-S0.5TN	T	51.5/41.1
EP101	6910014730	S.BEA MPZ2012S331A-T	T	61.7/31
EP102	6910014730	S.BEA MPZ2012S331A-T	T	40.9/31
EP103	6910014730	S.BEA MPZ2012S331A-T	T	71.3/16.1
EP201	6910014730	S.BEA MPZ2012S331A-T	T	19.2/31.5
EP202	6910014730	S.BEA MPZ2012S331A-T	T	12.4/31

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

SECTION 6

MECHANICAL PARTS

[FRONT UNIT] (FR)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
W1	8900018460	OPC-1950	1
W2	8900009231	OPC-908A	1
W3	8900017820	OPC-852A	1
W4	8900009231	OPC-908A	1
W5	8900009231	OPC-908A	1
W6	8900009231	OPC-908A	1
W7	8900018480	OPC-1952	1
W8	8900018480	OPC-1952	1
EP1	6910020500	RMS20-250-201-1P/E	1
EP2	6910015650	MOUNT PLATE (S-G2218-3#01)	1
EP3	6910015650	MOUNT PLATE (S-G2218-3#01)	1
MP1	8210025390	3073 FRONT PANEL (Incl. MP13-15)	1
MP2	8010021410	3073 SUB CHASSIS (Incl. MP3)	1
MP3	8930077140	3073 JACK PLATE	1
MP4	8310072650	3073 WINDOW PLATE	1
MP5	8510019120	3073 LOGIC COVER	1
MP11	8930076840	3073 A-LENS	3
MP12	8930076850	3073 B-LENS	5
MP13	8930076860	3073 C-LENS	1
MP14	8930076870	3073 D-LENS	3
MP15	8930076880	3073 E-LENS	1
MP21	8610013940	KNOB K-281 (Incl. MP11)	1
MP22	8610013950	KNOB K-282 (Incl. MP11)	1
MP23	8610013960	KNOB K-283 (Incl. MP12)	1
MP24	8610013810	KNOB K-284	1
MP25	8610013820	KNOB K-285	1
MP26	8610013830	KNOB K-286	1
MP27	8610013970	KNOB K-287 (Incl. MP12)	1
MP28	8610013850	KNOB K-288	1
MP29	8610013860	KNOB K-289	1
MP30	8930076890	3073 KEYBOARD	1
MP31	8610013870	KNOB N-378	3
MP32	8610013880	KNOB N-379	1
MP33	8610013290	KNOB N-361 (Incl. MP39)	3
MP34	8610011830	KNOB N-301 (Incl. MP39)	1
MP35	8610013900	KNOB N-380 (Incl. MP37, 39)	1
MP36	8610011741	KNOB N-307-1 (Incl. MP38)	4
MP37	8610013320	KNOB N-362 RING	1
MP38	8610009240	KNOB SPRING NO.7800P	4
MP39	8610007420	KNOB SPRING NO.6601	5
MP42	8610010040	KNOB N-239 FINGER REST	1
MP43	8930076900	3073 D-RUBBER	1
MP44	8930060190	2591 N-SPRING	1
MP45	8930076990	3073 BRAKE PLATE	1
MP46	8930076910	3073 BRAKE BUTTON (Incl. MP45)	1
MP47	8610013921	KNOB N-268 BASE-3 (Incl. MP42, 44, 51)	1
MP48	8310072900	3073 NAME PLATE	1
MP51	8930077340	3073 BRAKE SHEET	1
MP52	8930077360	3073 BRAKE PAD	2
MP53	8930077370	DOUBLE SIDE TAPE (BB)	2
MP54	8930077380	DOUBLE SIDE TAPE (BC)	2
MP55	8930074750	FERRITE SHEET (V)	1
MP56	8930059330	SHIELD SPONGE (W)	1
MP57	8930074750	FERRITE SHEET (V)	1
MP58	8930029050	THERMAL SHEET (AL)	2
MP61	8810008661	SCREW BT B0 3X8 NI-ZC3 (BT)	4
MP62	8810008661	SCREW BT B0 3X8 NI-ZC3 (BT)	6
MP63	8810008761	SCREW BT B0 2X8 NI-ZC3 (BT)	17
MP64	8930079010	SPONGE (KK)	4
MP65	8930061490	SHIELD SPONGE (AB)	1
MP66	8930055981	SHIELD SPONGE (F)-1	1
MP67	8930055981	SHIELD SPONGE (F)-1	1
MP68	8930055981	SHIELD SPONGE (F)-1	1
MP69	8930059330	SHIELD SPONGE (W)	1

[LOGIC UNIT] (LG)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J801*	6510021722	30FLT-SM2-TB (LF) (SN) (M)	1
J802*	6510021722	30FLT-SM2-TB (LF) (SN) (M)	1
J901*	6510018921	B8B-PH-SM4-TB (LF) (SN)	1
J1001*	6510024151	50FY-BMT-TB (LF) (SN)	1
J1002*	6510022191	B3B-PH-SM4-TB (LF) (SN)	1
J1101*	6510024151	50FY-BMT-TB (LF) (SN)	1
S51*	2260002740	LS8J2M	1
MP1	8930078890	3073 EARTH SPRING	1
MP2	8930065741	2590 D-EARTH SPRING-1	1
MP4	8930058170	SHIELD SPONGE (O)	1
MP101	8510002280	VCO SHIELD PLATE (A) (FX-15)	1
MP102	8930058700	SHIELD SPONGE (R)	1
MP103	8930079230	3073 SHIELD SPRING	1
MP104	8930071550	SHIELD SPONGE (BM)	2
MP202	8930079230	3073 SHIELD SPRING	1
MP203	8930071550	SHIELD SPONGE (BM)	2
MP601	8930065741	2590 D-EARTH SPRING-1	1
MP851	8510015720	2590 DC-DC A-CASE	1
MP852	8930063980	SHIELD SPONGE (AL)	1
MP871	8510015720	2590 DC-DC A-CASE	1
MP872	8930063980	SHIELD SPONGE (AL)	1

[DISPLAY UNIT] (DS)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J4*	6510022621	10FMN-BMTTR-A-TBT (LF) (SN)	1
J21*	6510022621	10FMN-BMTTR-A-TBT (LF) (SN)	1
J31*	6510022621	10FMN-BMTTR-A-TBT (LF) (SN)	1
J33*	6510018971	B4B-PH-SM4-TB (LF) (SN)	1
J107	6510026080	XM7A-0441	1
J113*	6510022621	10FMN-BMTTR-A-TBT (LF) (SN)	1
J114*	6510018971	B4B-PH-SM4-TB (LF) (SN)	1
J301*	6510021722	30FLT-SM2-TB (LF) (SN) (M)	1
J407*	6510026740	IMSA-9637S-60Y922	1
J601*	6510026730	IMSA-9637S-08Y902	1
J603*	6510022611	16FMN-BMTTR-A-TBT (LF) (SN)	1
J604*	6510021722	30FLT-SM2-TB (LF) (SN) (M)	1
S1001*	2260002740	LS8J2M	1
S1002*	2260002740	LS8J2M	1
S1003*	2260002740	LS8J2M	1
S1004*	2260002740	LS8J2M	1
S1005*	2260002740	LS8J2M	1
S1006*	2260002740	LS8J2M	1
S1007*	2260002740	LS8J2M	1
S1008*	2260002740	LS8J2M	1
S1009*	2260002740	LS8J2M	1
S1010*	2260002740	LS8J2M	1
S1011*	2260002740	LS8J2M	1
S1012*	2260002740	LS8J2M	1
S1013*	2260002740	LS8J2M	1
S1014*	2260002740	LS8J2M	1
S1015*	2260002740	LS8J2M	1
S1016*	2260002740	LS8J2M	1
S1017*	2260002740	LS8J2M	1
S1018*	2260002740	LS8J2M	1
S1019*	2260002740	LS8J2M	1
S1020*	2260002740	LS8J2M	1
S1021*	2260002740	LS8J2M	1
S1022*	2260002740	LS8J2M	1
S1023*	2260002740	LS8J2M	1
S1024*	2260002740	LS8J2M	1
S1025*	2260002740	LS8J2M	1
S1026*	2260002740	LS8J2M	1
S1027*	2260002740	LS8J2M	1
S1028*	2260002740	LS8J2M	1
S1029*	2260002740	LS8J2M	1
S1030*	2260002740	LS8J2M	1
S1031*	2260002740	LS8J2M	1
S1101*	2260002740	LS8J2M	1
S1102*	2260002740	LS8J2M	1
S1103*	2260002740	LS8J2M	1
S1104*	2260002740	LS8J2M	1
S1105*	2260002740	LS8J2M	1
S1106*	2260002740	LS8J2M	1
S1107*	2260002740	LS8J2M	1
S1108*	2260002740	LS8J2M	1
S1109*	2260002740	LS8J2M	1
S1110*	2260002740	LS8J2M	1
S1111*	2260002740	LS8J2M	1
S1112*	2260002740	LS8J2M	1
S1113*	2260002740	LS8J2M	1
S1201*	2260002740	LS8J2M	1

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

** : Refer to "GENERAL WIRING" for the connection.

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

[DISPLAY UNIT] (DS)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
S1202*	2260002740	LS8J2M	1
S1203*	2260002740	LS8J2M	1
S1204*	2260002740	LS8J2M	1
S1205*	2260002740	LS8J2M	1
S1206*	2260002740	LS8J2M	1
S1207*	2260002740	LS8J2M	1
S1208*	2260002740	LS8J2M	1
S1209*	2260002740	LS8J2M	1
S1210*	2260002740	LS8J2M	1
S1211*	2260002740	LS8J2M	1
S1212*	2260002740	LS8J2M	1
S1213*	2260002740	LS8J2M	1
S1214*	2260002740	LS8J2M	1
S1215*	2260002740	LS8J2M	1
EP2	6910020190	L5S30853P00	1
MP1	8930077470	3073 EARTH SHIELD	1
MP2	8930077470	3073 EARTH SHIELD	1
MP3	8510002280	VCOSHIELD PLATE (A) (FX-15)	1
MP4	8510002280	VCOSHIELD PLATE (A) (FX-15)	1
MP11	8930077000	3073 LCD HOLDER	1
MP12	8930078950	3073 A-LCD SPONGE	1
MP13	8930062550	SPONGE (HP)	4
MP23	8930043610	INSULATION SHEET (EZ)	1
MP24	8930043610	INSULATION SHEET (EZ)	1
MP33	8930072060	SHIELD SPONGE (BU)	1
MP34	8930072060	SHIELD SPONGE (BU)	1
MP35	8930055981	SHIELD SPONGE (F)-1	1
MP36	8930055981	SHIELD SPONGE (F)-1	1
MP37	8930055981	SHIELD SPONGE (F)-1	1
MP38	8930049131	SHIELD TAPE (D)-1	1
MP39	8930049131	SHIELD TAPE (D)-1	1
MP40	8930049131	SHIELD TAPE (D)-1	1
MP41	8930049131	SHIELD TAPE (D)-1	1
MP51	8930058700	SHIELD SPONGE (R)	1
MP52	8930058700	SHIELD SPONGE (R)	1
MP53	8930058700	SHIELD SPONGE (R)	1

[RIT UNIT] (RIT)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1*	6510022621	10FMN-BMTTR-A-TBT (LF) (SN)	1
S1	2250000650	EVEGC2F2524B	1

[MIC UNIT] (MIC)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6510000191	FM214-8SS (P)-1	1
J2*	6510022621	10FMN-BMTTR-A-TBT (LF) (SN)	1

[JACK UNIT] (JCK)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1*	6510022621	10FMN-BMTTR-A-TBT (LF) (SN)	1
J2	6510023891	S-G4617#01F	1
J102	6510023900	LGR4619-7000	1

[VR-A UNIT] (VRA)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
R1	7210002970	RV-314 (RK0972210 10KB/10KB)	1
R2	7210002970	RV-314 (RK0972210 10KB/10KB)	1
J32*	6510022621	10FMN-BMTTR-A-TBT (LF) (SN)	1
J33*	6510022611	16FMN-BMTTR-A-TBT (LF) (SN)	1

[VR-B UNIT] (VRB)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
R1	7210002970	RV-314 (RK0972210 10KB/10KB)	1
J1*	6510022621	10FMN-BMTTR-A-TBT (LF) (SN)	1
S1	2250000410	TP90D96E20-30F-2178-1	1

[VR-C UNIT] (VRC)

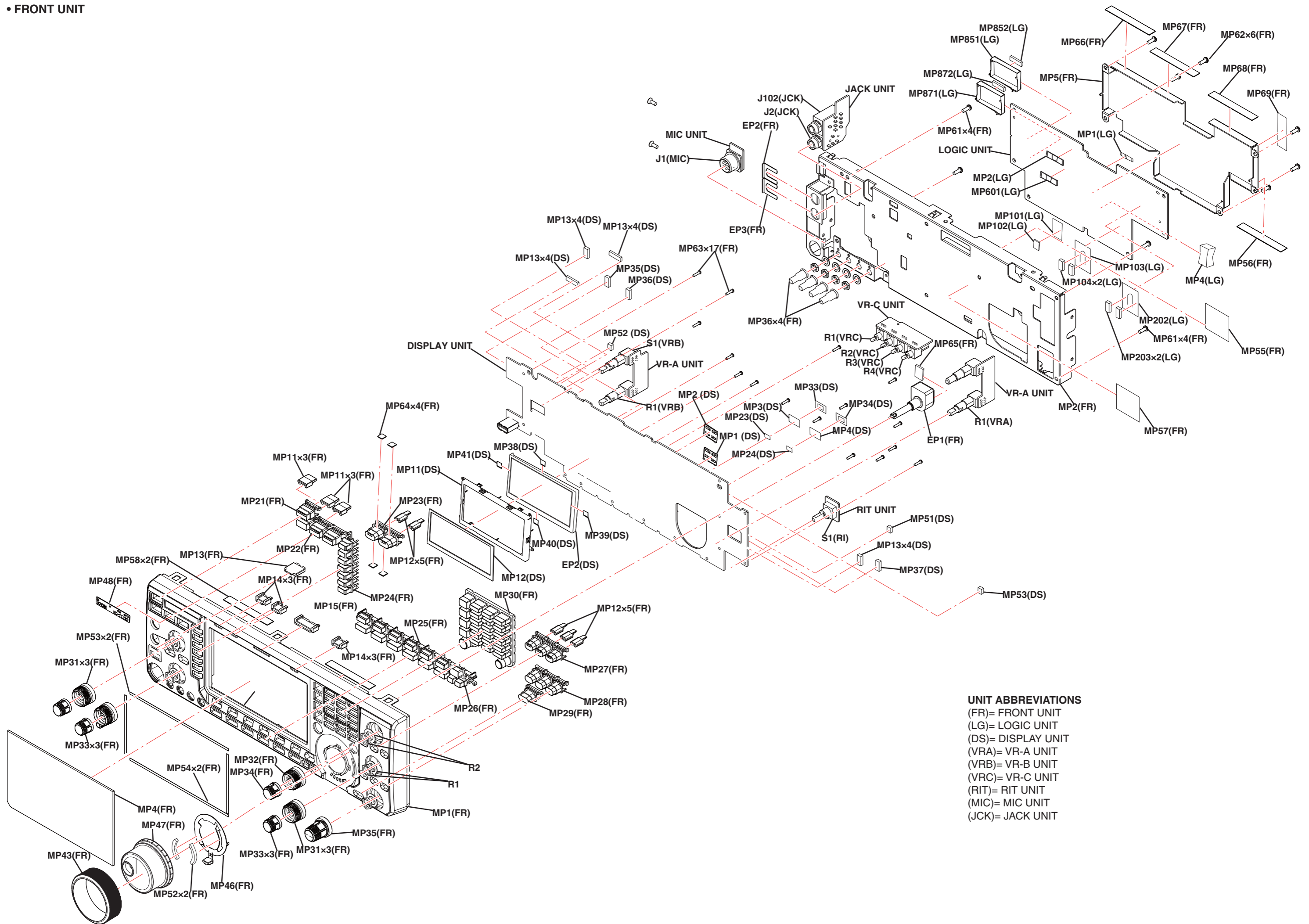
REF NO.	ORDER NO.	DESCRIPTION	QTY.
R1	7210001130	RK097111T005A 10KB	1
R2	7210001130	RK097111T005A 10KB	1
R3	7210001130	RK097111T005A 10KB	1
R4	7210001130	RK097111T005A 10KB	1
J1*	6510022621	10FMN-BMTTR-A-TBT (LF) (SN)	1

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

** : Refer to "GENERAL WIRING" for the connection.

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

• FRONT UNIT



UNIT ABBREVIATIONS
 (FR)= FRONT UNIT
 (LG)= LOGIC UNIT
 (DS)= DISPLAY UNIT
 (VRA)= VR-A UNIT
 (VRB)= VR-B UNIT
 (VRC)= VR-C UNIT
 (RIT)= RIT UNIT
 (MIC)= MIC UNIT
 (JCK)= JACK UNIT

[CHASSIS PARTS] (CH)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J5	6510000370	MR-DS	1
J6	6510000370	MR-DS	1
P15	6510009330	51006-0200	1
SP1	2510000761	SM-C77KY0208	1
MF1	2710000630	FBA08T12HC	1
W1	8900014720	OPC-909A	1
W2	8900015160	OPC-916A	1
W3	8900018470	OPC-1951	1
W4	8900017130	OPC-926A	1
W5	8900017130	OPC-926A	1
W6	8900015170	OPC-918A	1
W7	8900018640	OPC-1964	1
W8	8900018640	OPC-1964	1
W11	8900018430	OPC-1891	1
W12	8900018440	OPC-1944	1
W13	8900018720	OPC-1967	1
W15	9030730010	51/99/220/A14A/W11A	1
W16	9012410001	WIRE 00 A	1
W17	8900018450	OPC-1948	1
W21	9025900110	62/99/300/C31/C31	1
W22	9011450130	WIRE /08/	1
W23	9025900590	62/99/360/C31/C31	1
W24	9011450130	WIRE /08/	1
W25	9030730040	62/99/200/C31/C31	1
W26	9011450130	WIRE /08/	1
W27	9025900560	62/99/330/C31/C31	1
W28	9011450130	WIRE /08/	1
W29	9025900270	62/99/240/C31/C31	1
W30	9011450130	WIRE /08/	1
W31	9025900540	62/99/270/C31/C31	1
W32	9011450130	WIRE /08/	1
W33	9030730040	62/99/200/C31/C31	1
W34	9011450130	WIRE /08/	1
W35	9025900290	62/99/150/C31/C31	1
W36	9011450130	WIRE /08/	1
W37	9025900110	62/99/300/C31/C31	1
W38	9011450130	WIRE /08/	1
W39	9024290050	62/99/130/C31/C31	1
W40	9011450130	WIRE /08/	1
W41	9030730030	62/99/650/C31/C31	1
W42	9011450130	WIRE /08/	1
W43	9025900110	62/99/300/C31/C31	1
W44	9011450130	WIRE /08/	1
W45	9030730040	62/99/200/C31/C31	1
W46	9011450130	WIRE /08/	1
W47	9026200020	62/99/190/C31/C31	1
W48	9011450130	WIRE /08/	1
W49	9026200020	62/99/190/C31/C31	1
W50	9011450130	WIRE /08/	1
EP1	6910000340	P101 KD MYLAR SHEET	1
EP2	6910000310	B312D INSULATION BUSH	1
MP1	8010021340	3073 CHASSIS	1
MP2	8110009680	3073 U-COVER (Incl. MP19, 113)	1
MP3	8110009600	3073 L-COVER	1
MP4	8930077240	3073 MAIN PLATE	1
MP5	8510010731	1876 B-PLATE-1	1
MP6	8510010740	1876 C-PLATE	1
MP7	8510010752	1876 D-PLATE-2	1
MP8	8930077030	3073 MAIN STAND	2
MP9	8930077040	3073 SUB STAND	2
MP11	8930077020	3073 A-STAND SHEET	2
MP12	8930077490	3073 B-STAND SHEET	2
MP13	8930029731	1413 FAN HOLDER-1	1
MP15	8930037001	1691 EARTH PLATE-1	2
MP16	8930078210	3073 IC CLIP	2
MP17	8930035240	1546 TR-B CLIP	1
MP18	8950003640	COATING CLIP CS-2	1
MP19	8930036070	1528 SP NET	1
MP20	8810005771	SCREW BiH M3X8 ZK3	10
MP21	8810005771	SCREW BiH M3X8 ZK3	6
MP22	8810008661	SCREW BT B0 3X8 NI-ZC3 (BT)	4
MP23	8810008661	SCREW BT B0 3X8 NI-ZC3 (BT)	11
MP24	8810008661	SCREW BT B0 3X8 NI-ZC3 (BT)	3
MP25	8810008661	SCREW BT B0 3X8 NI-ZC3 (BT)	6
MP26	8810008661	SCREW BT B0 3X8 NI-ZC3 (BT)	2
MP27	8810008661	SCREW BT B0 3X8 NI-ZC3 (BT)	2
MP28	8810008661	SCREW BT B0 3X8 NI-ZC3 (BT)	2
MP31	8810008661	SCREW BT B0 3X8 NI-ZC3 (BT)	4
MP32	8810008661	SCREW BT B0 3X8 NI-ZC3 (BT)	7
MP33	8810008661	SCREW BT B0 3X8 NI-ZC3 (BT)	5
MP34	8810008661	SCREW BT B0 3X8 NI-ZC3 (BT)	4
MP35	8810008661	SCREW BT B0 3X8 NI-ZC3 (BT)	4
MP36	8810008661	SCREW BT B0 3X8 NI-ZC3 (BT)	10
MP37	8810008661	SCREW BT B0 3X8 NI-ZC3 (BT)	8
MP38	8810008661	SCREW BT B0 3X8 NI-ZC3 (BT)	4
MP40	8810008661	SCREW BT B0 3X8 NI-ZC3 (BT)	3
MP41	8810008160	HEX HEAD BOLT (+) M5X18 NI	1
MP42	8830000211	NUT M5 BS-CD NI	1

[CHASSIS PARTS] (CH)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
MP43	8830000360	BUTTERFLY NUT M5 NI	1
MP44	8850000150	FLAT WASHER M5 BS NI	3
MP45	8850000440	S-WASHER M5 NI	1
MP46	8810003171	SETSCREW (A) 3X8 ZC3	3
MP47	8810003171	SETSCREW (A) 3X8 ZC3	4
MP48	8810000421	SCREW PH M4X18 ZC3	2
MP49	8810009651	SCREW FLAT-HEAD B0 3X8 NI-ZC3 (BT)	4
MP53	8930077650	3073 SIDE HANDLE	1
MP54	8810010870	SCREW PAN-HEAD M4X12 ZK3	2
MP57	8930027900	SPONGE (DD)	2
MP58	8930038820	ALUMINIUM SHEET (V)	1
MP61	8810003161	SETSCREW (A) 3X6 ZC3	2
MP63	8810003161	SETSCREW (A) 3X6 ZC3	2
MP65	8930043281	SPONGE (EW)-1	1
MP66	8930043800	DOUBLESIDED TAPE (S)	1
MP67	8930029050	THERMAL SHEET (AL)	1
MP68	8930032130	HIMELON SHEET (AQ)	2
MP69	8930029050	THERMAL SHEET (AL)	1
MP70	8930008670	SPONGE (AQ)	2
MP71	8930043490	SPONGE (FB)	1
MP72	8930007840	THERMAL SHEET (K)	2
MP88	8930052271	SHIELD SPONGE (D)-1	1
MP89	8930052271	SHIELD SPONGE (D)-1	1
MP90	8930052271	SHIELD SPONGE (D)-1	1
MP91	8930039570	RUBBER SHEET (U)	3
MP92	8930069610	SPONGE (IV)	1
MP93	8930059520	NONWOVENS SHEET (CG)	2
MP94	8930057950	DOUBLESIDED TAPE (AH)	1
MP95	8930071700	PJ-21B	1
MP106	8930075440	3015 RUG SPRING	2
MP109	8930040590	RUBBER REG (K)	2
MP110	8930046120	RUBBER REG (M)	4
MP111	8930079200	THERMALLY SHEET (BR)	1
MP112	8930079060	3073 DC PLATE	1
MP113	8930077500	3073 A-NET	1
MP114	8930070740	1958 MAGNETIC SHIELD	1
MP115	8930079000	SHIELD SPONGE (CN)	1
MP116	8930070510	THERMALLY SHEET (BF)	1
MP153	8930058170	SHIELD SPONGE (O)	1
MP154	8930058170	SHIELD SPONGE (O)	1
MP155	8930058170	SHIELD SPONGE (O)	1
MP156	8930058170	SHIELD SPONGE (O)	1
MP157	8930066040	SPONGE (IK)	1
MP158	8930071220	SPONGE (JI)	1
MP159	8930048121	SHIELD TAPE (A)-1	2
MP160	8930058840	SHIELD SPONGE (T)	2

[PA UNIT] (PA)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
RL1	6330001471	AJS1311F-K2	1
CP1*	6910009670	HK3-S-T	1
CP2*	6910009670	HK3-S-T	1
J1	6510007020	TMP-J01X-V6	1
J2	6510007020	TMP-J01X-V6	1
J3*	6510022601	30FMN-BMTTR-A-TBT (LF) (SN)	1
J10	6510003081	RT01T-1.0B (LF)	1
J101*	6510018961	B2B-PH-SM4-TB (LF) (SN)	1
F1	5220000400	FHA010-01F	1
F2	5210000940	1205	1
W14	8970023510	23/06/050/D21/W05	1
EP4	6510018330	F4053A	1
EP5	6510018330	F4053A	1

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

** : Refer to "GENERAL WIRING" for the connection.

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

[FILTER UNIT] (FIT)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
RL101*	6330001721	ATN207-K1	1
RL102*	6330001721	ATN207-K1	1
RL151*	6330001721	ATN207-K1	1
RL152*	6330001721	ATN207-K1	1
RL201*	6330001721	ATN207-K1	1
RL202*	6330001721	ATN207-K1	1
RL251*	6330001721	ATN207-K1	1
RL252*	6330001721	ATN207-K1	1
RL301*	6330001721	ATN207-K1	1
RL302*	6330001721	ATN207-K1	1
RL351*	6330001721	ATN207-K1	1
RL352*	6330001721	ATN207-K1	1
RL401*	6330001721	ATN207-K1	1
RL402*	6330001721	ATN207-K1	1
J1	6510007020	TMP-J01X-V6	1
J2	6510007020	TMP-J01X-V6	1
J3*	6510022621	10FMN-BMTTR-A-TBT (LF) (SN)	1
W9	8900009621	OPC-961A	1
W10	8900009631	OPC-962A	1
EP501	6510018330	F4053A	1
EP502	6510018330	F4053A	1

[CTRL UNIT] (CTR)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
RL101*	6330000800	G5A-237P DC12V	1
RL102*	6330001770	SIP-1A-12Y	1
RL103*	6330001770	SIP-1A-12Y	1
RL104*	6330001460	FTR-F1 CA012V	1
RL105*	6330001460	FTR-F1 CA012V	1
CP1*	6910009670	HK3-S-T	1
J3	6510017150	TMP-S01X-C1	1
J101	6510017150	TMP-S01X-C1	1
J102	6510017150	TMP-S01X-C1	1
J103	6510017150	TMP-S01X-C1	1
J151*	6510022591	22FMN-BMTTR-A-TBT (LF) (SN)	1
J241*	6510022031	B10B-ZR-SM4-TF (LF) (SN)	1
J261*	6510022621	10FMN-BMTTR-A-TBT (LF) (SN)	1
J262*	6510022581	24FMN-BMTTR-A-TBT (LF) (SN)	1
J291*	6510018971	B4B-PH-SM4-TB (LF) (SN)	1
W1	7120000490	ERD25T0	1
W2	7120000490	ERD25T0	1
MP1*	8510002020	MIXSHIELD CASE (SX-155)	1

[MAIN UNIT] (MA)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
RL2301*	6330001721	ATN207-K1	1
RL2302*	6330001721	ATN207-K1	1
CP1253*	6910009670	HK3-S-T	1
J1002*	6510024151	50FY-BMT-TB (LF) (SN)	1
J1003	6510021861	BH-800-4GG	1
J1051*	6510024151	50FY-BMT-TB (LF) (SN)	1
J1501*	6510022601	30FMN-BMTTR-A-TBT (LF) (SN)	1
J1601*	6510022581	24FMN-BMTTR-A-TBT (LF) (SN)	1
J1701*	6510022581	24FMN-BMTTR-A-TBT (LF) (SN)	1
J1801*	6510022581	24FMN-BMTTR-A-TBT (LF) (SN)	1
J1901	6510024311	B4B-PH-K-S (LF) (SN)	1
J2001	6510023671	TCS4480-0141577	1
J2002	6510023661	TCS4470-0141577	1
J2101	6510026540	UBB-4R-D14T-4D (LF) (SN)	1
J2201	6510023720	LG Y6501-0600C	1
J2301	6510024311	B4B-PH-K-S (LF) (SN)	1
J2302	6510023720	LG Y6501-0600C	1
J2401	6510023720	LG Y6501-0600C	1
J2501	6510023900	LGR4619-7000	1
J2502	6510024311	B4B-PH-K-S (LF) (SN)	1
J3001	6510007020	TMP-J01X-V6	1
J3401	6510007020	TMP-J01X-V6	1
J3701	6510007020	TMP-J01X-V6	1
J3702	6510007020	TMP-J01X-V6	1
J4101*	6510022801	B10B-PH-SM4-TB (LF) (SN)	1
J6001	6510007020	TMP-J01X-V6	1
J6002	6510007020	TMP-J01X-V6	1
J6102	6510026920	IMSA-9180B-12B-PT1	1
BT1001	3020000110	CR2032	1
W6001	7120000490	ERD25T0	1

[MAIN UNIT] (MA)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
MP2101	8510015720	2590 DC-DC A-CASE	1
MP2201	8930065741	2590 D-EARTH SPRING-1	1
MP2301	8930065741	2590 D-EARTH SPRING-1	1
MP2501	8930065741	2590 D-EARTH SPRING-1	1
MP3001*	8510015900	2590 M-2LO CASE	1
MP3201*	8510012400	2177 D/A CASE	1
MP3202*	8510012400	2177 D/A CASE	1
MP3601*	6910001130	10M SHIELD CASE	1
MP3602*	8510005150	602 SHIELD CASE	1
MP3603	8510005160	602 SHIELD CASE COVER	1
MP3604	8510002280	VCOSHIELD PLATE (A) (FX-15)	1
MP3605	8930059380	SHIELD SPONGE (X)	1
MP3606	8930058840	SHIELD SPONGE (T)	1
MP4501	8510010460	1691 MAIN SHIELD PLATE	1
MP4502	8510002280	VCOSHIELD PLATE (A) (FX-15)	1
MP4503	8930065720	SHIELD SPONGE (AP)	1
MP5001	8930065741	2590 D-EARTH SPRING-1	1
MP5101	8930065741	2590 D-EARTH SPRING-1	1
MP6001*	8510012400	2177 D/A CASE	1
MP6002*	8510012400	2177 D/A CASE	1
MP6003*	8510013140	2241 DC-A CASE	1
MP6004*	8510013140	2241 DC-A CASE	1
MP6005*	8510019400	3073 M-CASE	1
MP6006	8510019410	3073 M-COVER	1
MP6007	8510013820	2356 A-SHIELD PLATE	1
MP6008	8930065741	2590 D-EARTH SPRING-1	1
MP6009	8930065741	2590 D-EARTH SPRING-1	1

[MCF-N UNIT] (M-N)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
EP6001*	6910002161	CASE-BM7H-LF	1
EP6002*	6910002161	CASE-BM7H-LF	1

[MCF-M UNIT] (M-M)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
EP5001*	6910002161	CASE-BM7H-LF	1
EP5002*	6910002161	CASE-BM7H-LF	1
EP7001*	6910002161	CASE-BM7H-LF	1
EP7002*	6910002161	CASE-BM7H-LF	1

[MCF-W UNIT] (M-W)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
EP7001*	6910002161	CASE-BM7H-LF	1
EP7002*	6910002161	CASE-BM7H-LF	1

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** : Refer to "GENERAL WIRING" for the connection.

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

[RF UNIT] (RF)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
RL101	6330001860	UA2-12NU	1
RL102	6330001860	UA2-12NU	1
RL103	6330001860	UA2-12NU	1
RL104	6330001860	UA2-12NU	1
RL105	6330001860	UA2-12NU	1
RL161	6330000540	OMR-109F	1
J101	6510007020	TMP-J01X-V6	1
J102	6450001130	JPJ2042-01-110	1
J103	6450001800	JPJ1044-01-010	1
J161	6450001130	JPJ2042-01-110	1
J201	6510007020	TMP-J01X-V6	1
J451*	6510022581	24FMN-BMTTR-A-TBT (LF) (SN)	1
J801	6910016430	IMSA-9210B-1-05Z869-PT1	1
J802	6910016430	IMSA-9210B-1-05Z869-PT1	1
J803	6910016430	IMSA-9210B-1-05Z869-PT1	1
J804	6910016430	IMSA-9210B-1-05Z869-PT1	1
J805	6910016430	IMSA-9210B-1-05Z869-PT1	1
J807	6910016430	IMSA-9210B-1-05Z869-PT1	1
J809	6910016430	IMSA-9210B-1-05Z869-PT1	1
J951	6510007020	TMP-J01X-V6	1
J1101	6510007020	TMP-J01X-V6	1
J1301	6510007020	TMP-J01X-V6	1
J1651	6510007020	TMP-J01X-V6	1
J1701	6510007020	TMP-J01X-V6	1
J1702	6910004741	IMSA-9202B-1-03Z041-PT1	1
J1703	6910004741	IMSA-9202B-1-03Z041-PT1	1
J1704	6910004741	IMSA-9202B-1-03Z041-PT1	1
J1705	6910004741	IMSA-9202B-1-03Z041-PT1	1
J1706	6910004741	IMSA-9202B-1-03Z041-PT1	1
J1707	6910004741	IMSA-9202B-1-03Z041-PT1	1
J1708	6910004741	IMSA-9202B-1-03Z041-PT1	1
J1709	6910004741	IMSA-9202B-1-03Z041-PT1	1
J2001	6510007020	TMP-J01X-V6	1
MP1	8930065741	2590 D-EARTH SPRING-1	1
MP2	8930065741	2590 D-EARTH SPRING-1	1
MP3	8930065741	2590 D-EARTH SPRING-1	1
MP1001*	8510016730	2178 1MIX CASE	1
MP1002	8510016721	2178 1MIX COVER-1	1
MP1201*	8510016730	2178 1MIX CASE	1
MP1202	8510016721	2178 1MIX COVER-1	1
MP1203	8930055981	SHIELD SPONGE (F)-1	1
MP1451*	8510012400	2177 D/A CASE	1

[PLL UNIT] (PLL)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1*	6510022581	24FMN-BMTTR-A-TBT (LF) (SN)	1
J51	6510007020	TMP-J01X-V6	1
J81	6510007020	TMP-J01X-V6	1
J351	6510007020	TMP-J01X-V6	1
J651	6510007020	TMP-J01X-V6	1
J701	6510007020	TMP-J01X-V6	1
J831	6510007020	TMP-J01X-V6	1
J851	6510007020	TMP-J01X-V6	1
MP1	8930065741	2590 D-EARTH SPRING-1	1
MP51	8510015900	2590 M-2LO CASE	1
MP101*	8510018770	3009 PLL CASE	1
MP102	8510002280	VCOSHIELD PLATE (A) (FX-15)	1
MP103	8930078840	SHIELD SPONGE (CM)	1
MP201*	8510012541	2178 VCO CASE-1	1
MP202	8510011521	2072 VCO COVER-1	1
MP203	8510011710	2072 VCO SHIELD	1
MP204	8810003961	SETScrew (A) 2.6X5 ZC3	8
MP205	8930077460	RUBBER SHEET (CF)	1
MP206	8930078840	SHIELD SPONGE (CM)	1
MP207	8930078840	SHIELD SPONGE (CM)	1
MP208	8930078840	SHIELD SPONGE (CM)	1
MP209	8930078840	SHIELD SPONGE (CM)	1
MP301*	8510019110	3073 PLL CASE	1
MP381*	8510012550	2178 DDS CASE	1
MP382	8510012580	2178 DDS COVER	1
MP401	8510010760	1876 DDS CASE	1
MP402	8510010770	1876 DDS COVER	1
MP403*	8510010850	1897 D/A CASE	1
MP451*	8510012550	2178 DDS CASE	1
MP452	8510012580	2178 DDS COVER	1
MP501	8510012541	2178 VCO CASE-1	1
MP502	8510011521	2072 VCO COVER-1	1
MP503	8510011710	2072 VCO SHIELD	1
MP601*	8510019110	3073 PLL CASE	1
MP701*	8510018770	3009 PLL CASE	1
MP702	8930078840	SHIELD SPONGE (CM)	1
MP821*	8510012400	2177 D/A CASE	1

[DCDC UNIT] (DC)

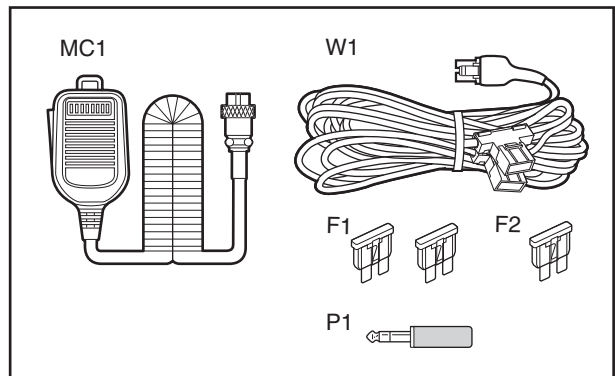
REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6910020210	IMSA-9180S-12A	1
F1	5210001050	ICP-S0.5	1
MP1*	8510019150	3073 DC-DC SHIELD	1
MP2*	8510019140	3073 DC-DC CASE	1
MP3	8510019300	3073 DC-DC PLATE	1

[TUNER UNIT] (TUN)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
RL1	6330001610	NY-12W-K-IE	1
RL2	6330001610	NY-12W-K-IE	1
RL3	6330001610	NY-12W-K-IE	1
RL4	6330001610	NY-12W-K-IE	1
RL5	6330001610	NY-12W-K-IE	1
RL6	6330001610	NY-12W-K-IE	1
RL7	6330001610	NY-12W-K-IE	1
RL8	6330001610	NY-12W-K-IE	1
RL9	6330001610	NY-12W-K-IE	1
RL10	6330001610	NY-12W-K-IE	1
RL11	6330001610	NY-12W-K-IE	1
RL12	6330001610	NY-12W-K-IE	1
RL13	6330001610	NY-12W-K-IE	1
RL14	6330001610	NY-12W-K-IE	1
RL15	6330001610	NY-12W-K-IE	1
RL16	6330001610	NY-12W-K-IE	1
J3	6510007020	TMP-J01X-V6	1
J4	6510007020	TMP-J01X-V6	1
J5*	6510022591	22FMN-BMTTR-A-TBT (LF) (SN)	1
MF1	2710000800	MP24ZA	1
MF2	2710000800	MP24ZA	1
W1	8900018420	OPC-1889	1
MP1	8930041091	1876 A-ANGLE-1	1
MP2	8810008661	SCREW BT B0 3X8 NI-ZC3 (BT)	1
MP3	8810009061	SCREW M3X6 ZK3	4
MP4	8930041111	1876 B-ANGLE-1	1
MP5	8810009061	SCREW M3X6 ZK3	2
MP6	8820000881	1528 SCREW-1	4
MP7	8930030112	1414 PLATE-2	2
MP8	8950003200	UJ6-5 (UNIVERSAL COUPLINGS)	2
MP9*	8930051580	2178 TUNER PLATE	1
MP10	8930079540	3073 TUNER PLATE	1

[ACCESSORIES] (ACC)

REF NO.	ORDER NO.	DESCRIPTION	QTY.
P1	5610000410	AP-319	1
MC1	(Optional)	HM-36-1	1
F1	5210000840	ATC 30	2
F2	5210000940	1205	1
W1	8900013980	OPC-1457	1

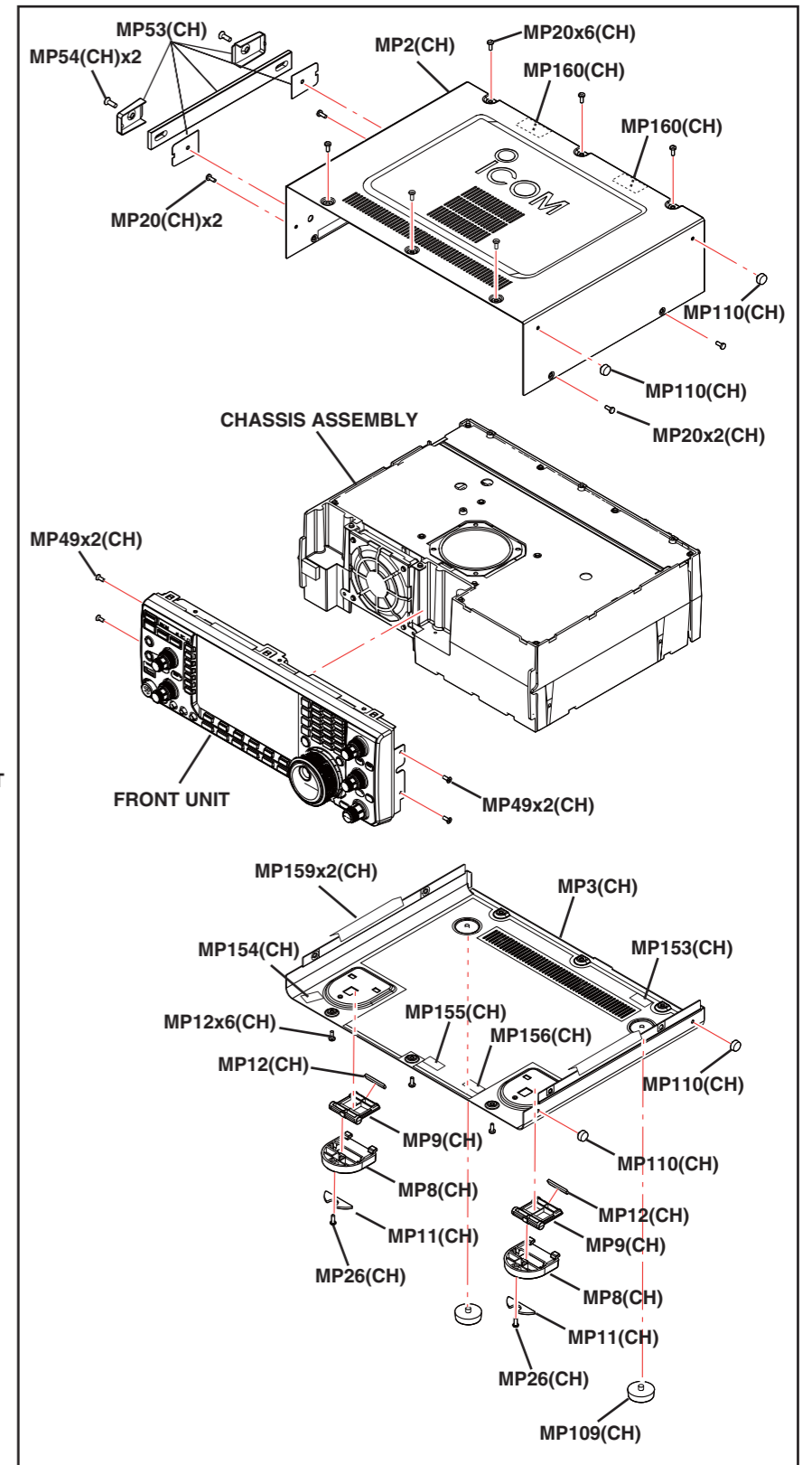
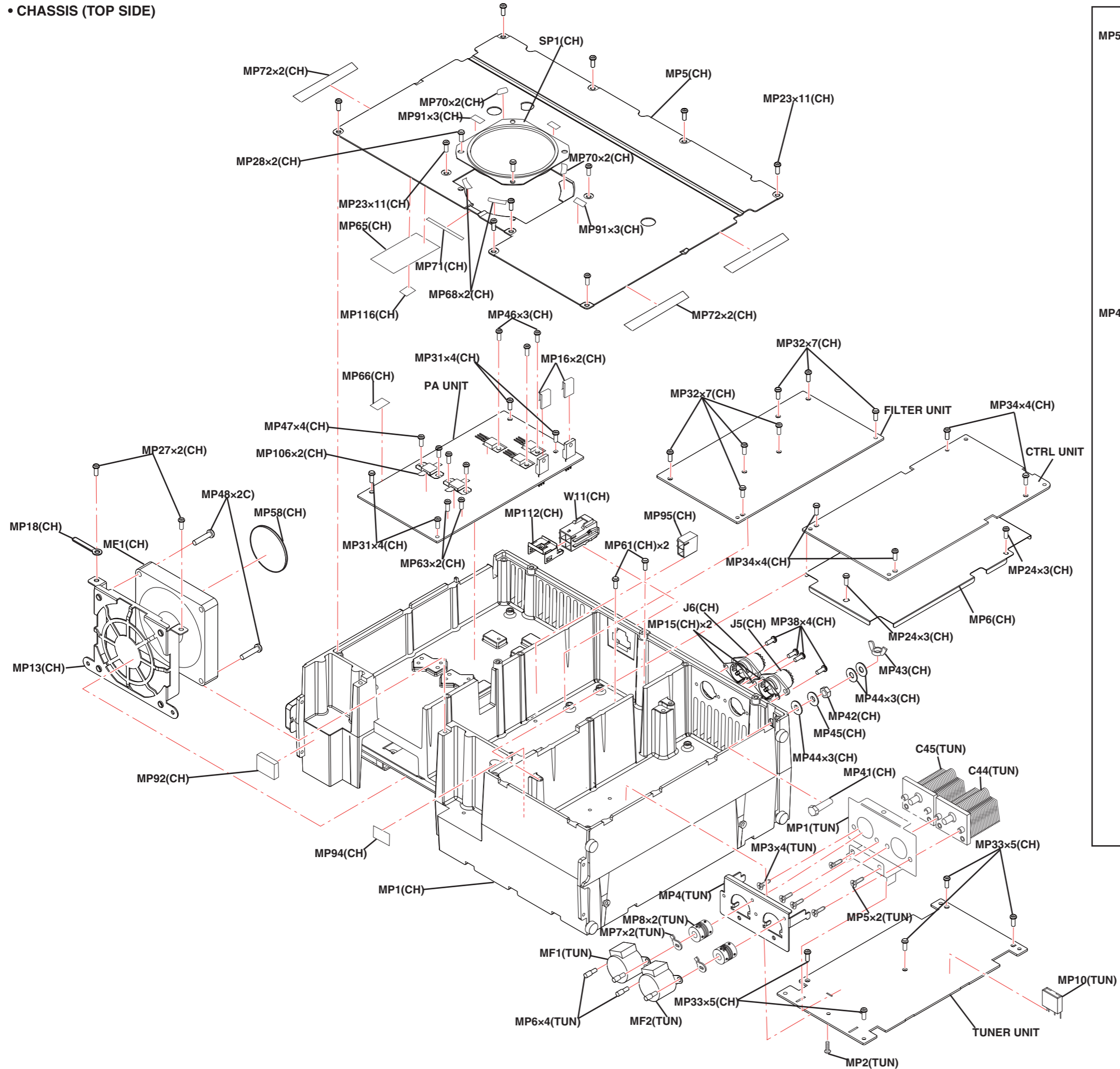


*: Refer to "BOARD LAYOUTS" for the location.

** : Refer to "GENERAL WIRING" for the connection.

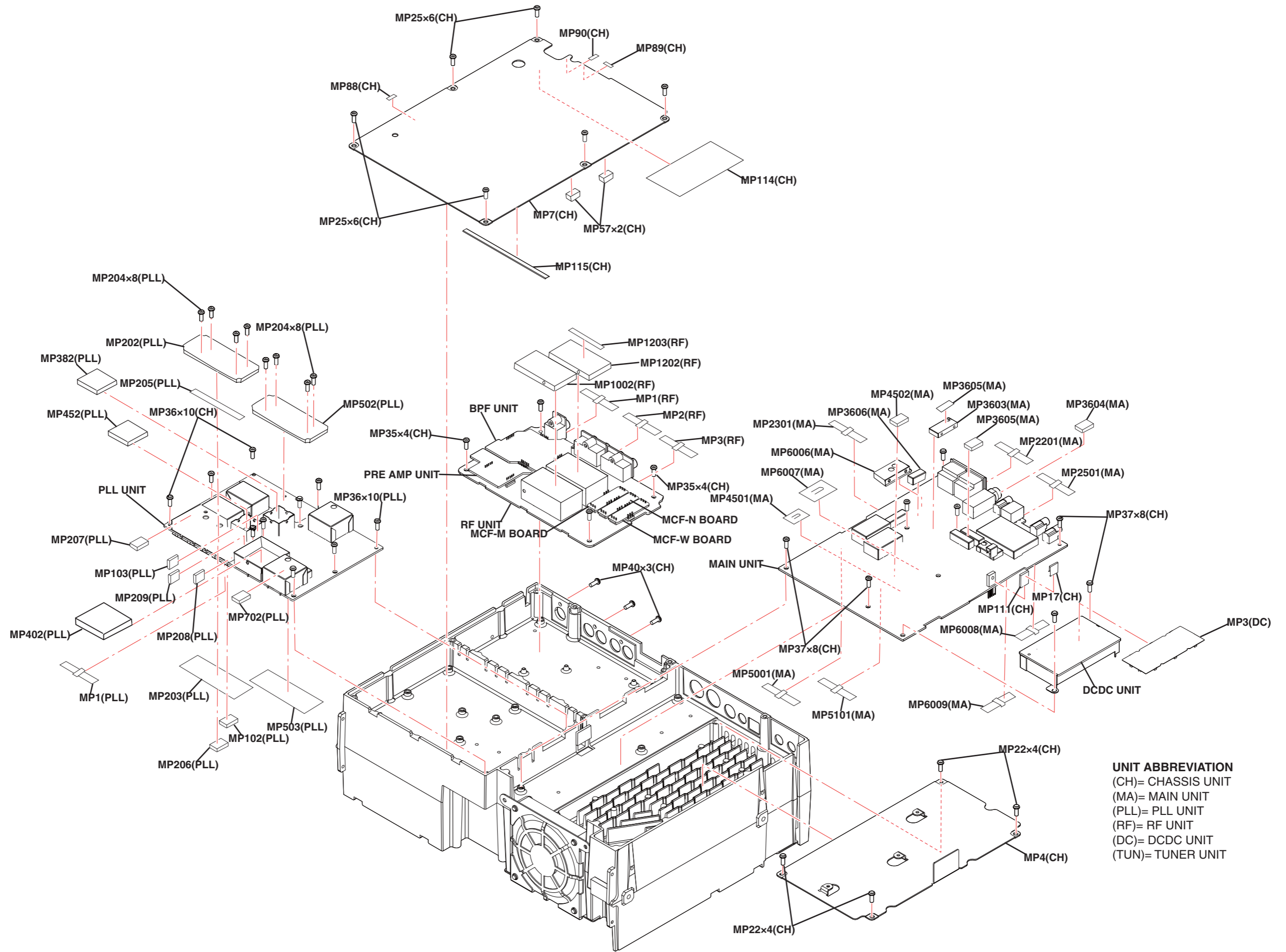
Screw abbreviations A, B0, BT: Self-tapping PH: Pan head ZK: Black NI-ZU: Nickel-Zinc SUS: Stainless

• CHASSIS (TOP SIDE)



UNIT ABBREVIATION
 (CH)= CHASSIS UNIT
 (PA)= PA UNIT
 (CTR)= CTRL UNIT
 (TUN)= TUNER UNIT

• CHASSIS (BOTTOM SIDE)

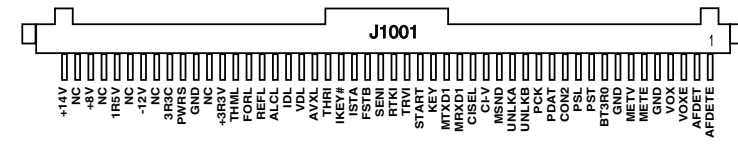
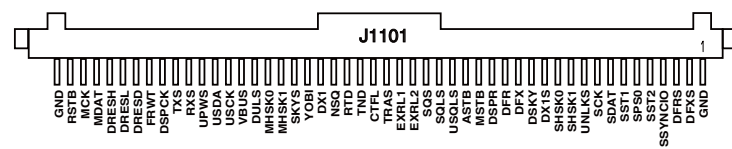
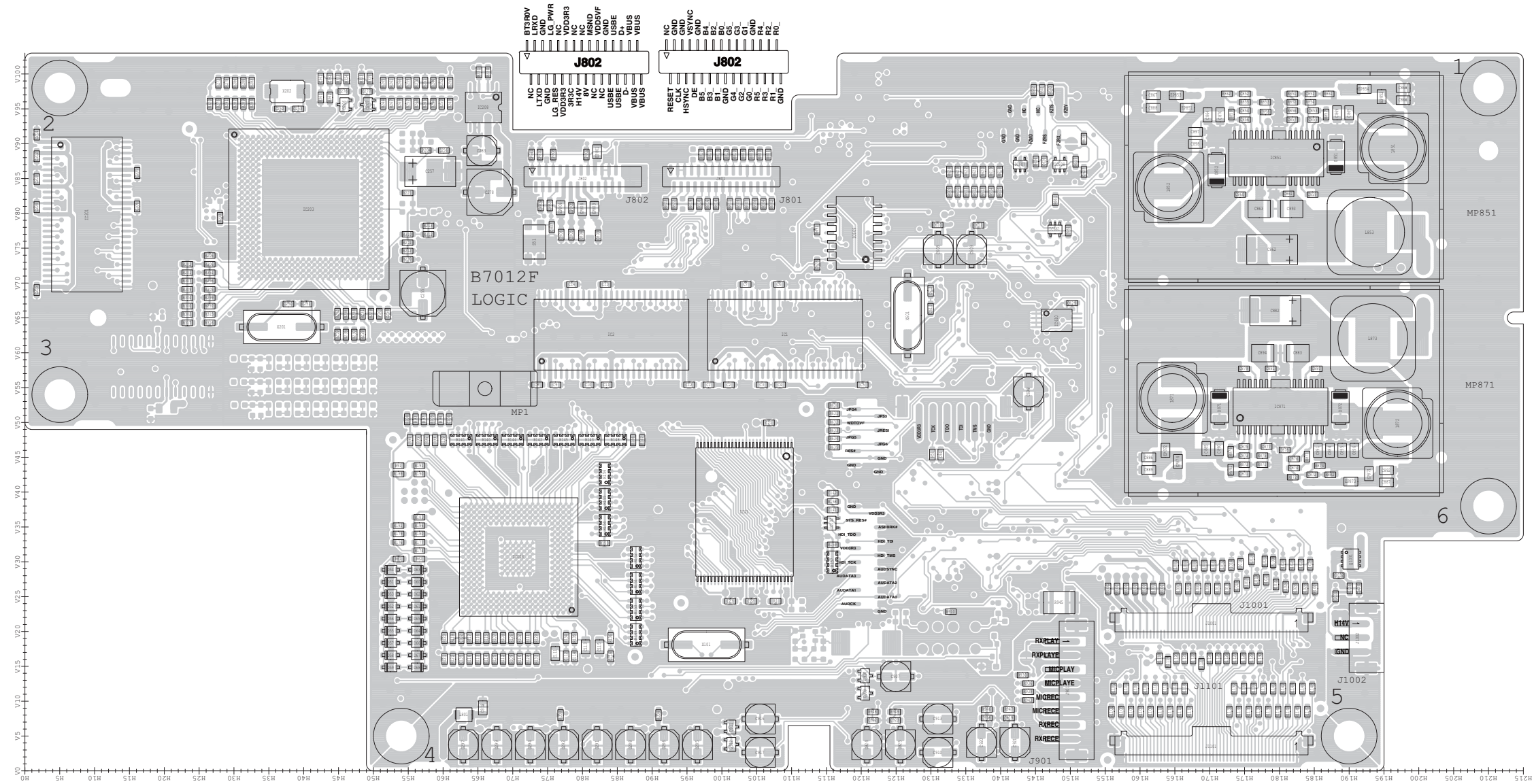


SECTION 7

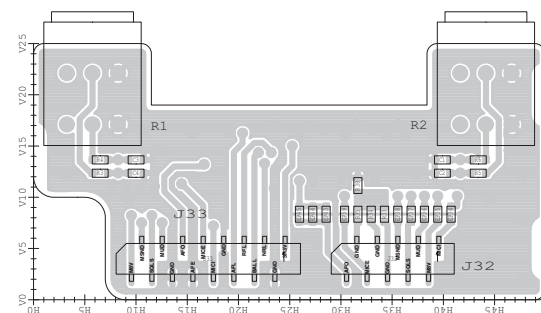
BOARD LAYOUTS

The combination of this side and the bottom side shows the board layout in the same configuration as the actual P.C.Board.

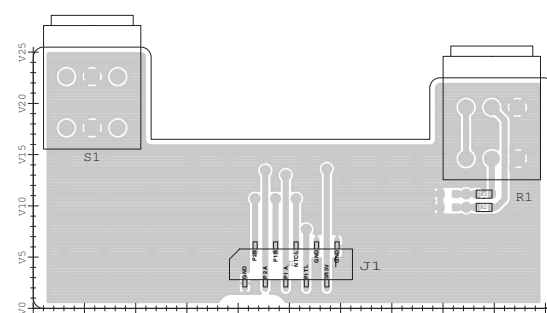
• LOGIC UNIT
(TOP VIEW)



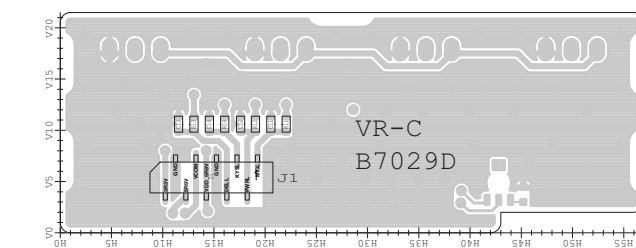
• VR-A BOARD
(TOP VIEW)



• VR-B BOARD
(TOP VIEW)

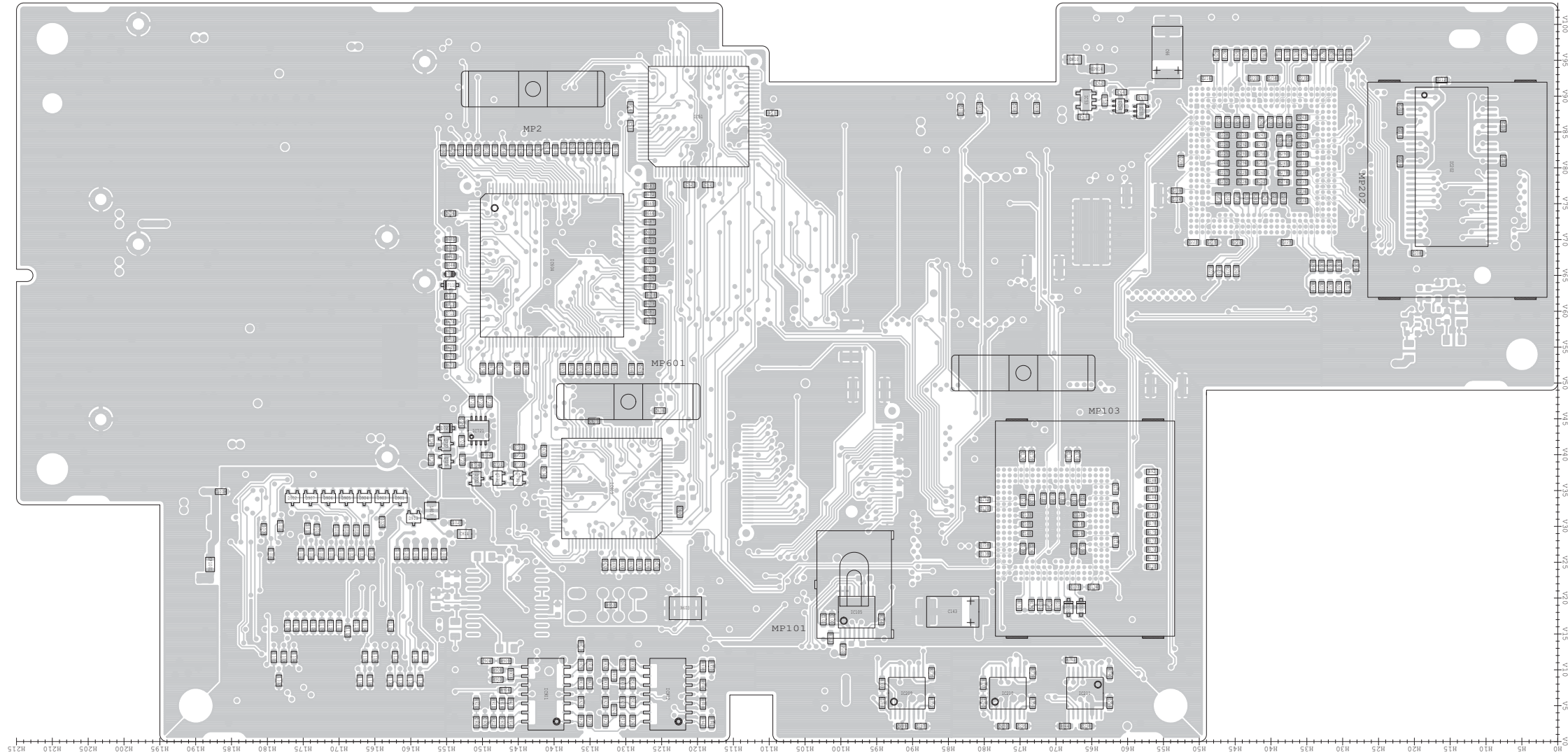


• VR-C BOARD
(TOP VIEW)

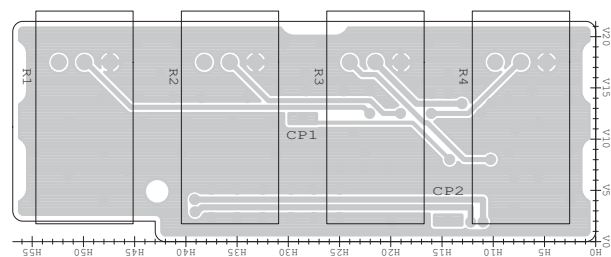


• LOGIC UNIT
(BOTTOM VIEW)

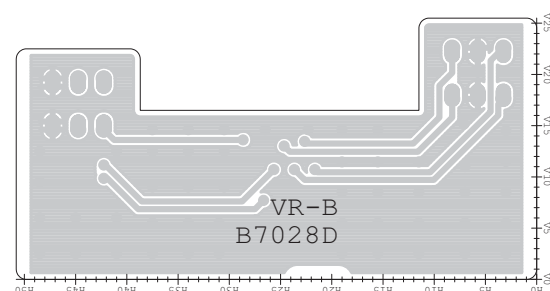
The combination of this side and the bottom side shows the board layout in the same configuration as the actual P.C.Board.



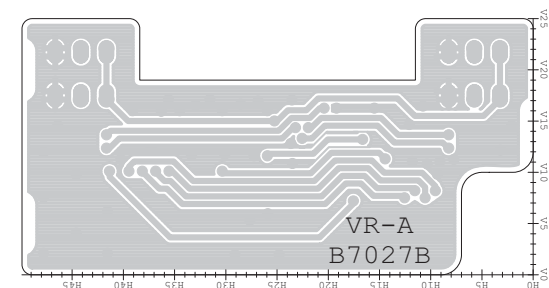
• VR-C BOARD
(BOTTOM VIEW)



• VR-B BOARD
(BOTTOM VIEW)

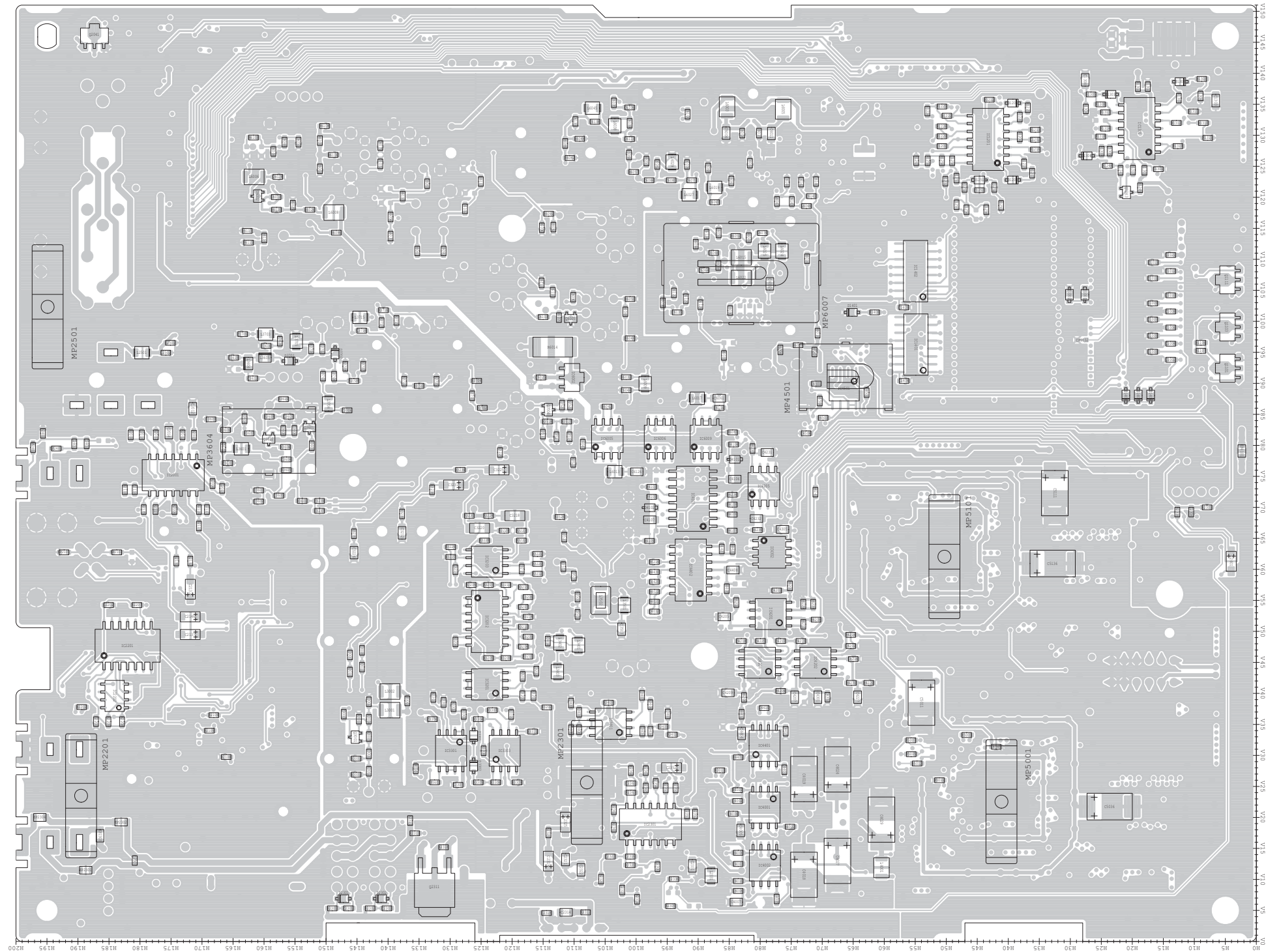


• VR-A BOARD
(BOTTOM VIEW)



• MAIN UNIT
(BOTTOM VIEW)

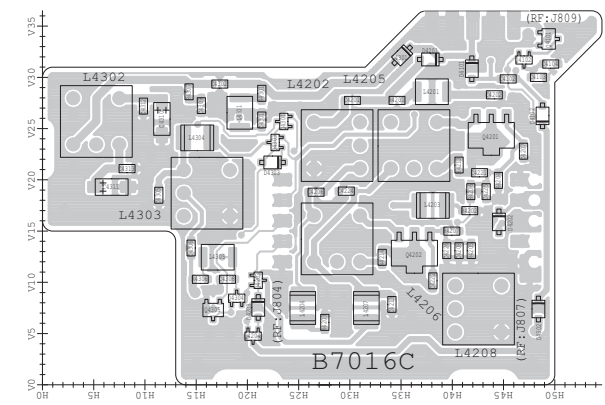
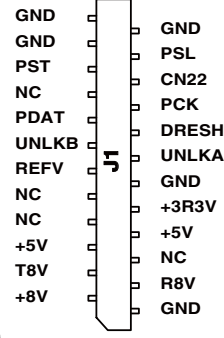
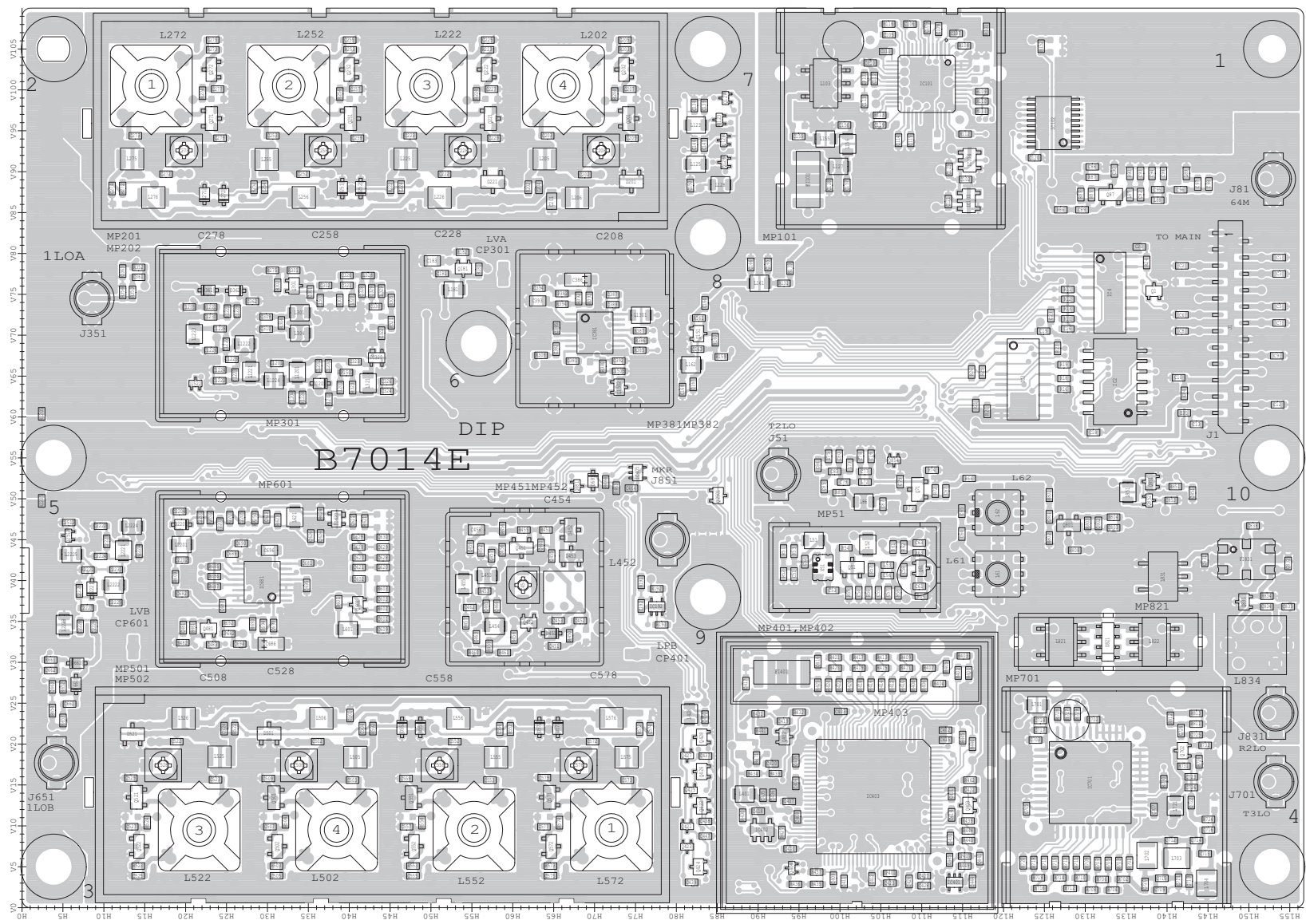
The combination of this side and the bottom side shows the board layout in the same configuration as the actual P.C.Board.



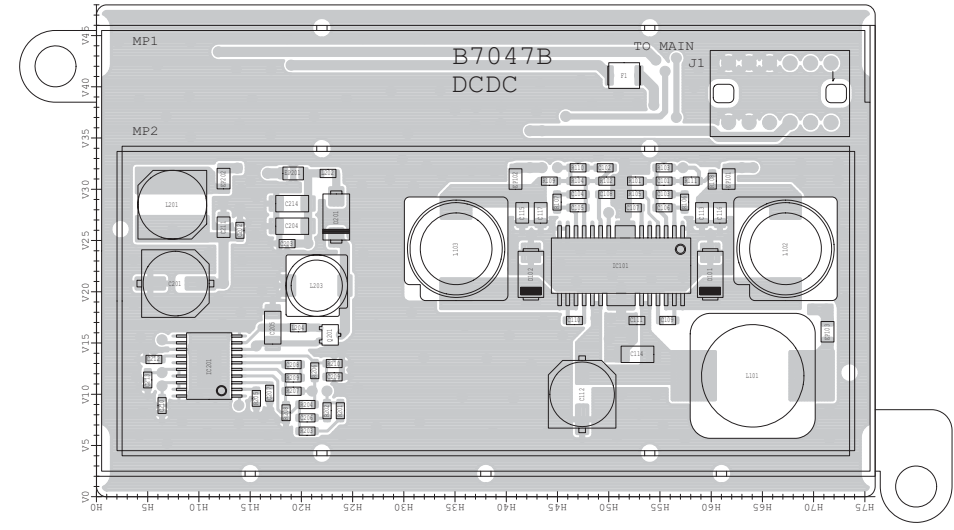
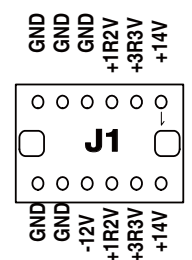
• PLL UNIT
(TOP VIEW)

The combination of this side and the bottom side shows the board layout in the same configuration as the actual P.C.Board.

• PRE AMP BOARD
(TOP VIEW)

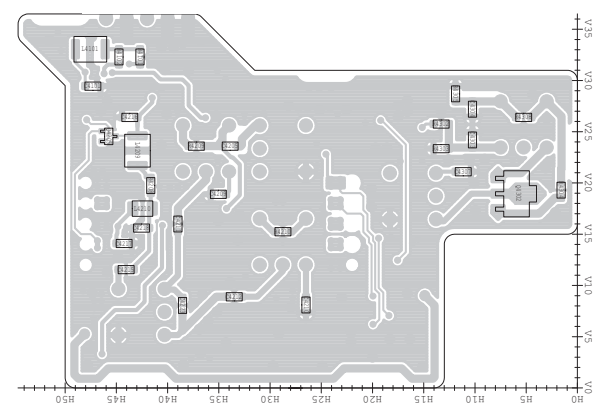


• DCDC BOARD
(TOP VIEW)

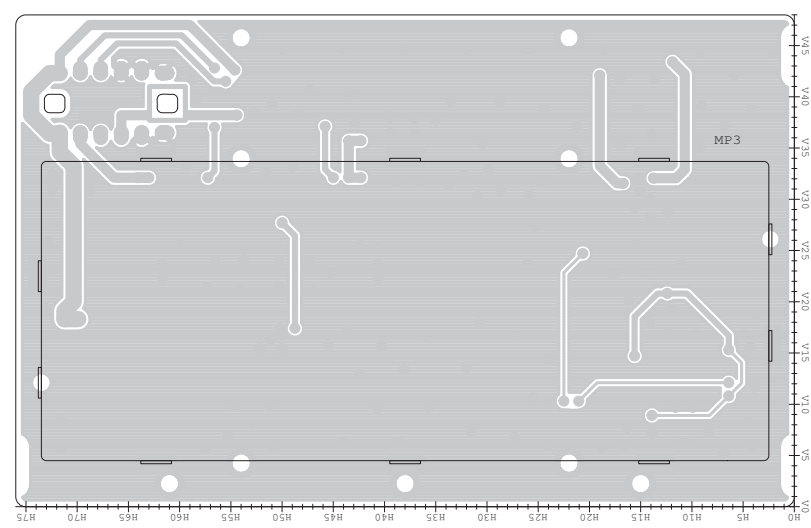


The combination of this side and the bottom side shows the board layout in the same configuration as the actual P.C.Board.

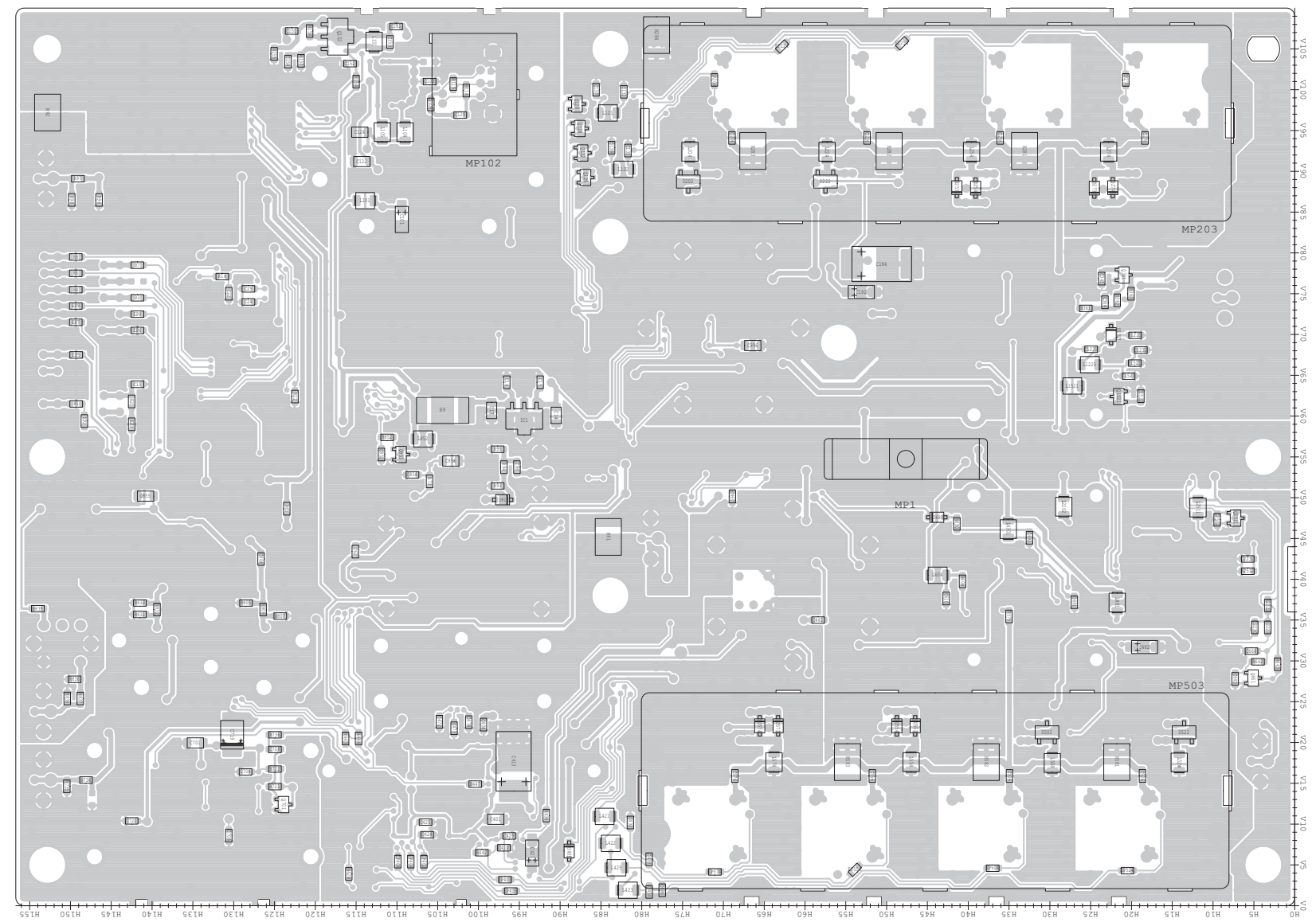
• PRE AMP BOARD
(BOTTOM VIEW)



• DCDC BOARD
(BOTTOM VIEW)

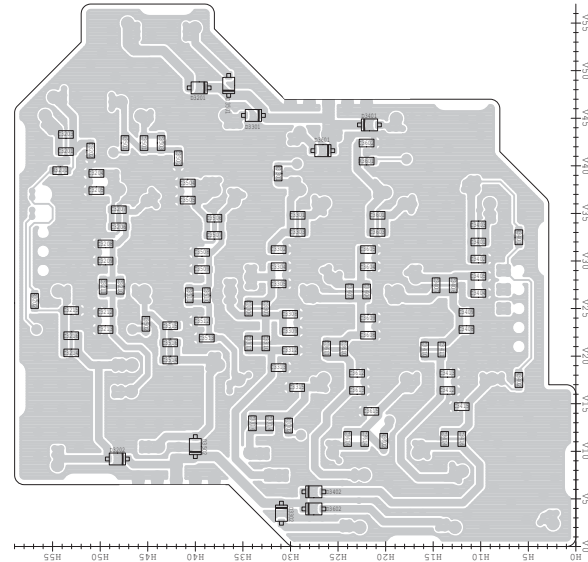


• PLL UNIT
(BOTTOM VIEW)

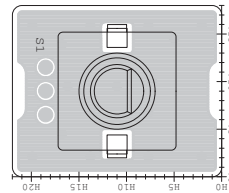


The combination of this side and the bottom side shows the board layout in the same configuration as the actual P.C.Board.

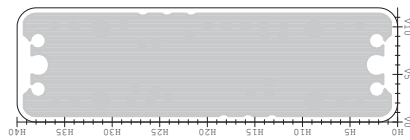
• BPF BOARD
(BOTTOM VIEW)



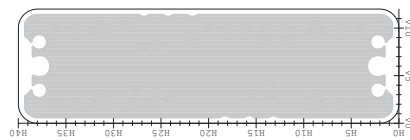
• RIT BOARD
(BOTTOM VIEW)



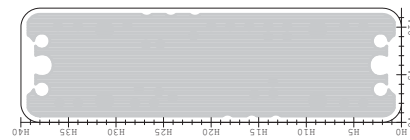
• MCF-M BOARD
(BOTTOM VIEW)



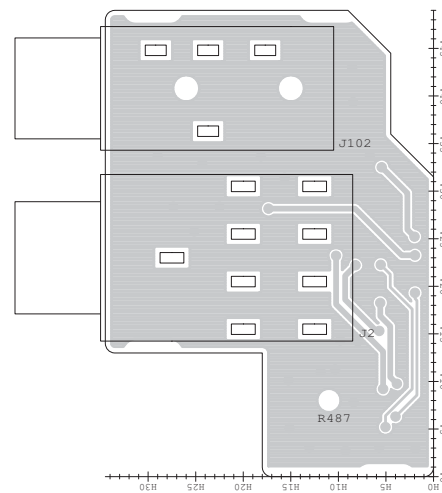
• MCF-N BOARD
(BOTTOM VIEW)



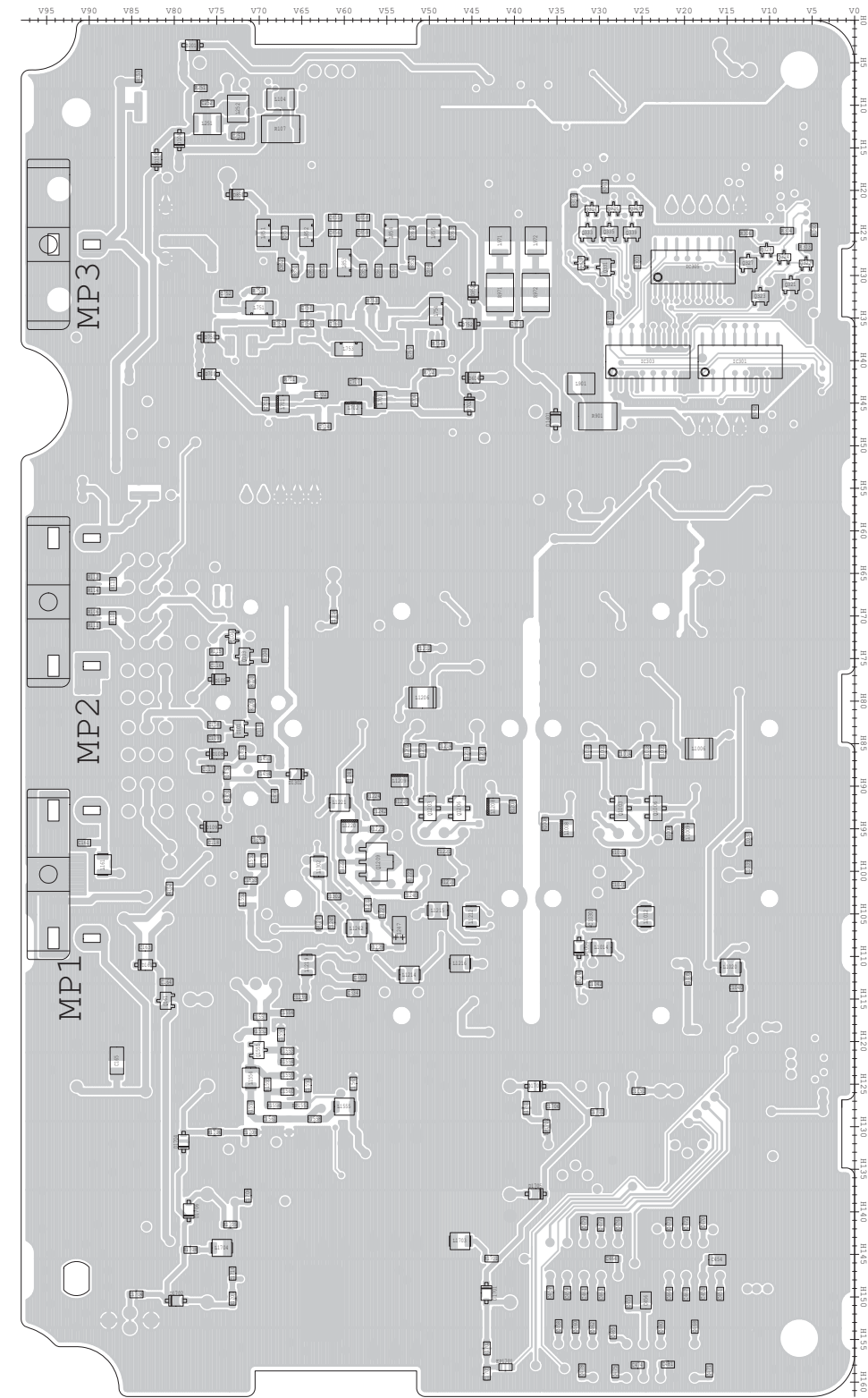
• MCF-W BOARD
(BOTTOM VIEW)



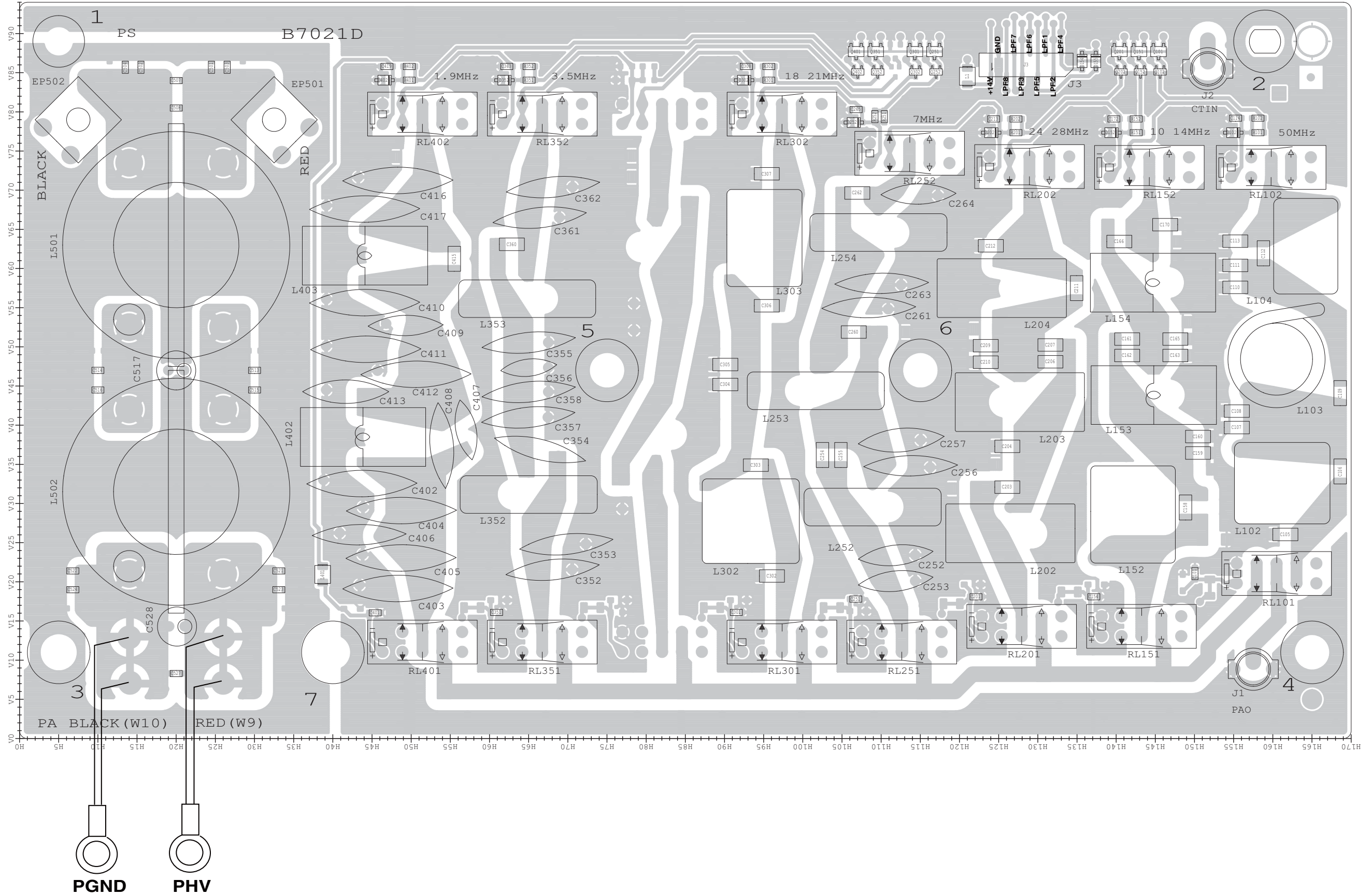
• JACK BOARD
(BOTTOM VIEW)



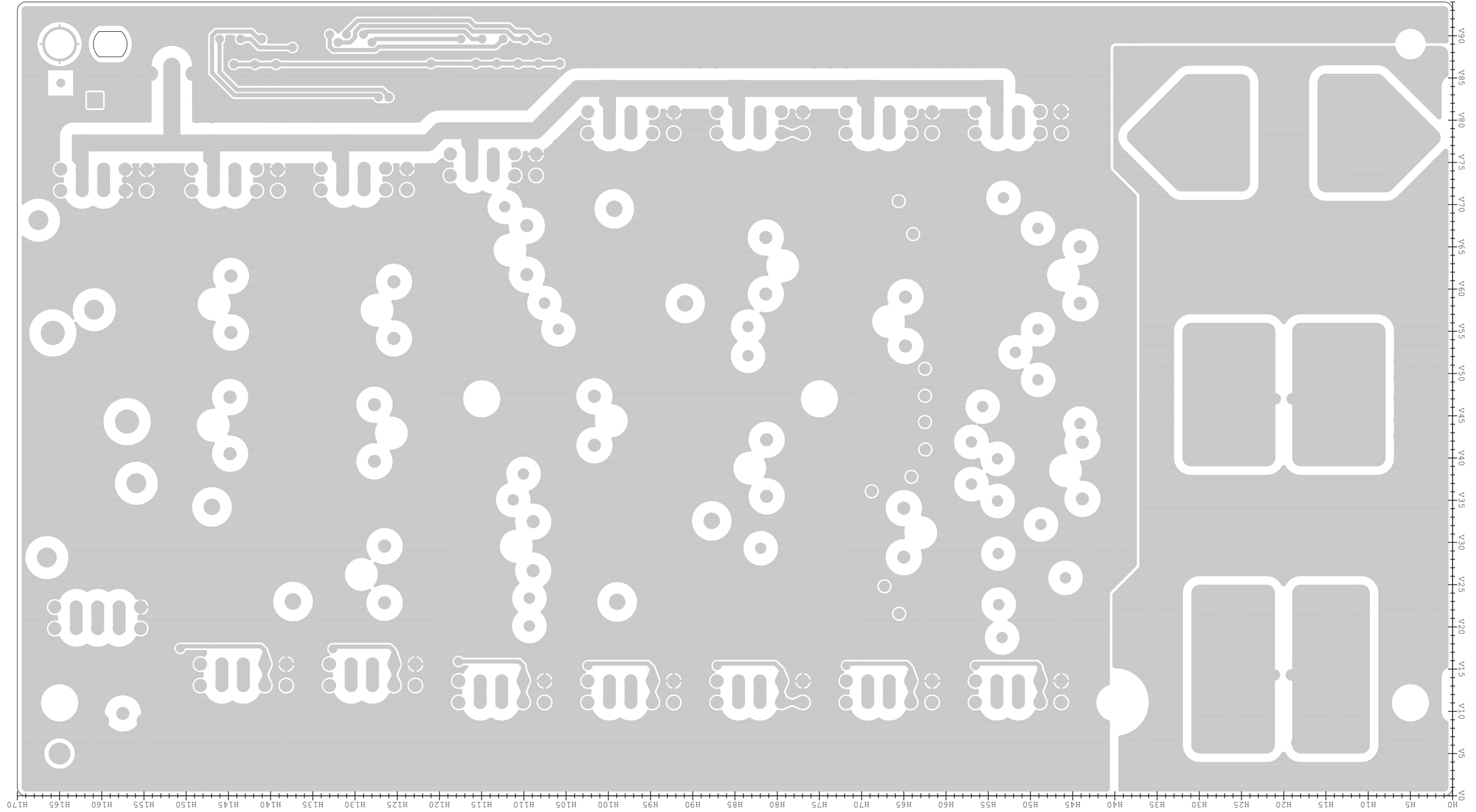
• RF UNIT
(BOTTOM VIEW)



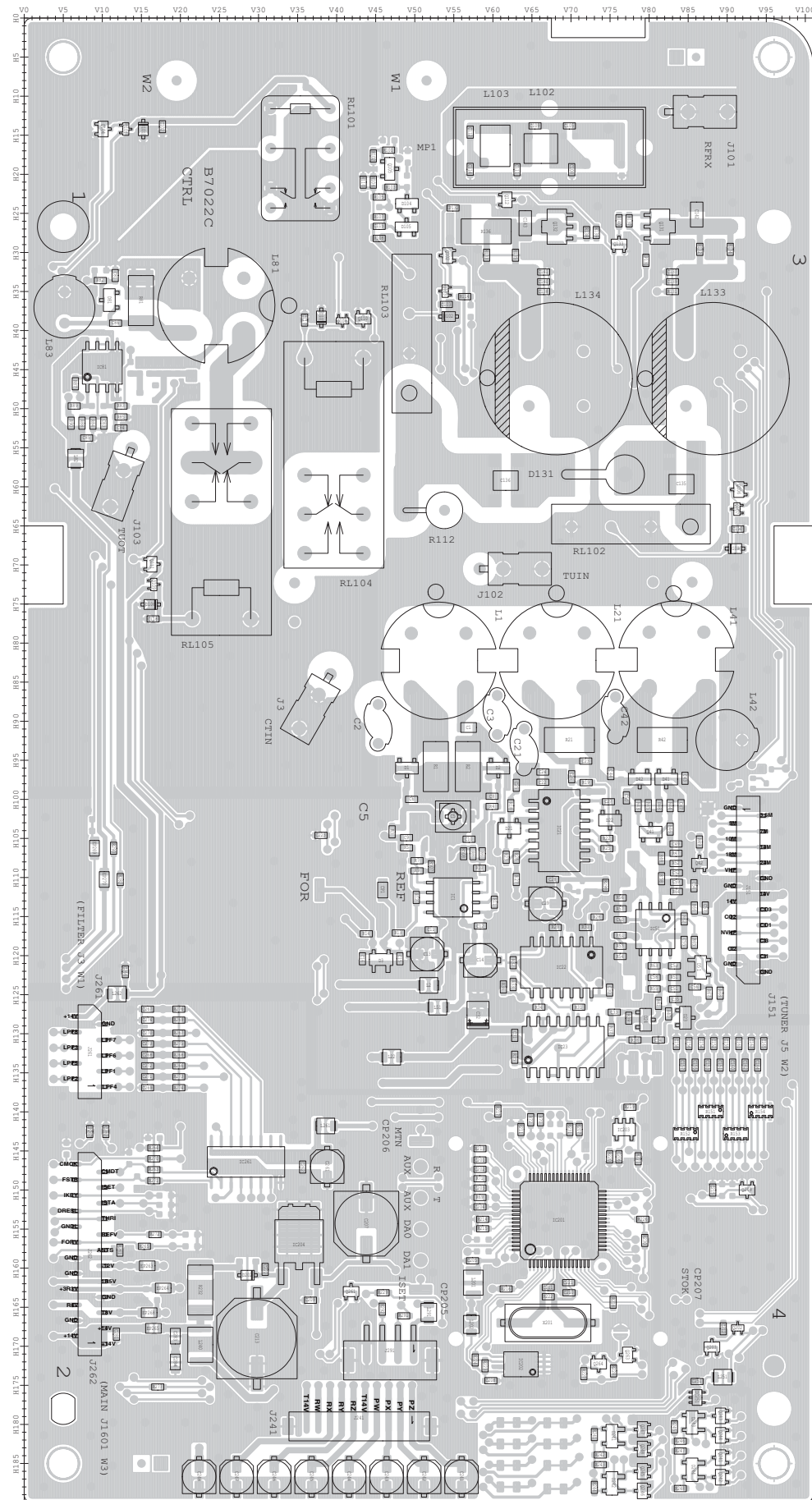
• **FILTER UNIT
(TOP VIEW)**



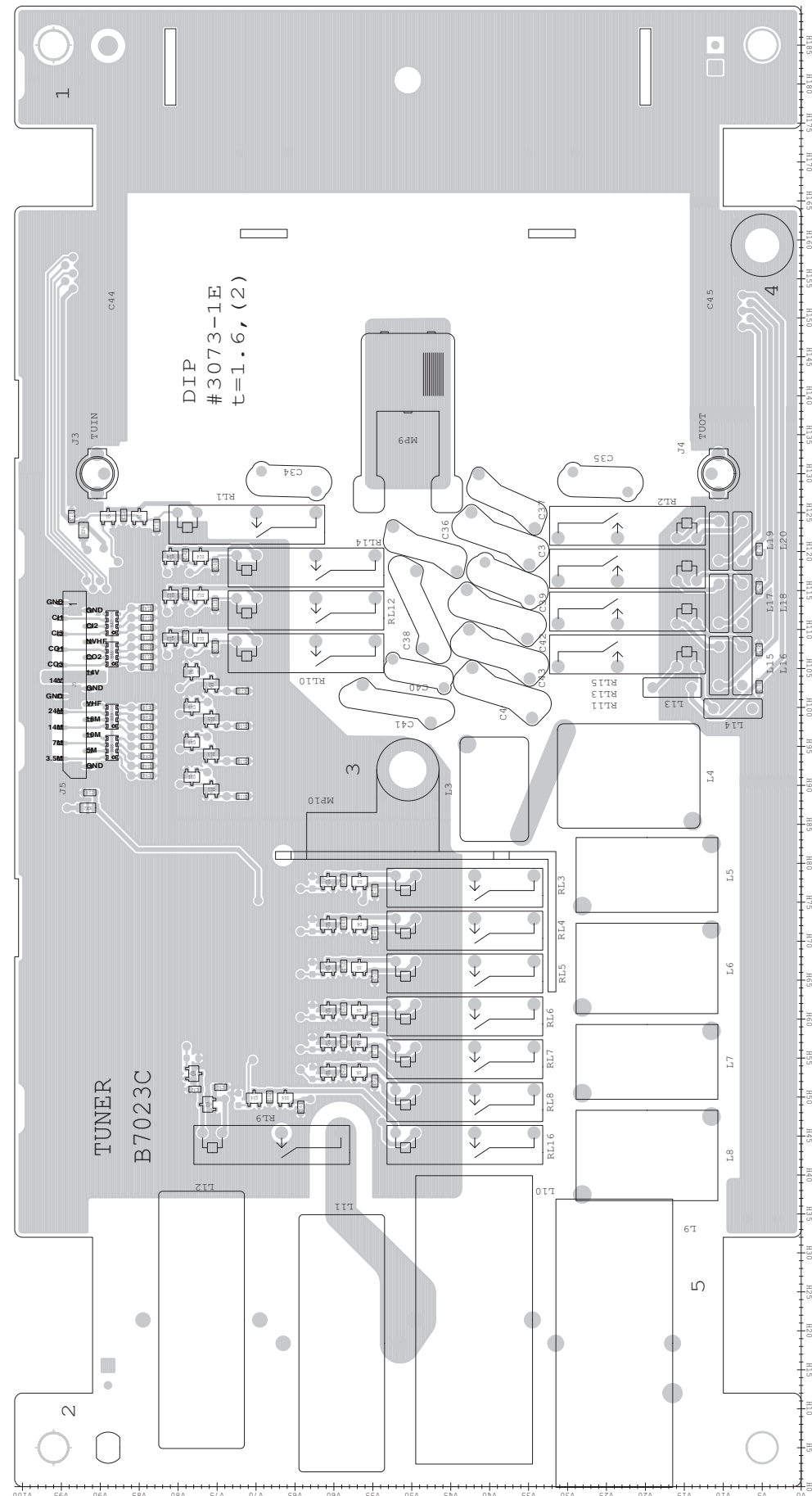
• FILTER UNIT
(BOTTOM VIEW)



• CTRL UNIT
(TOP VIEW)

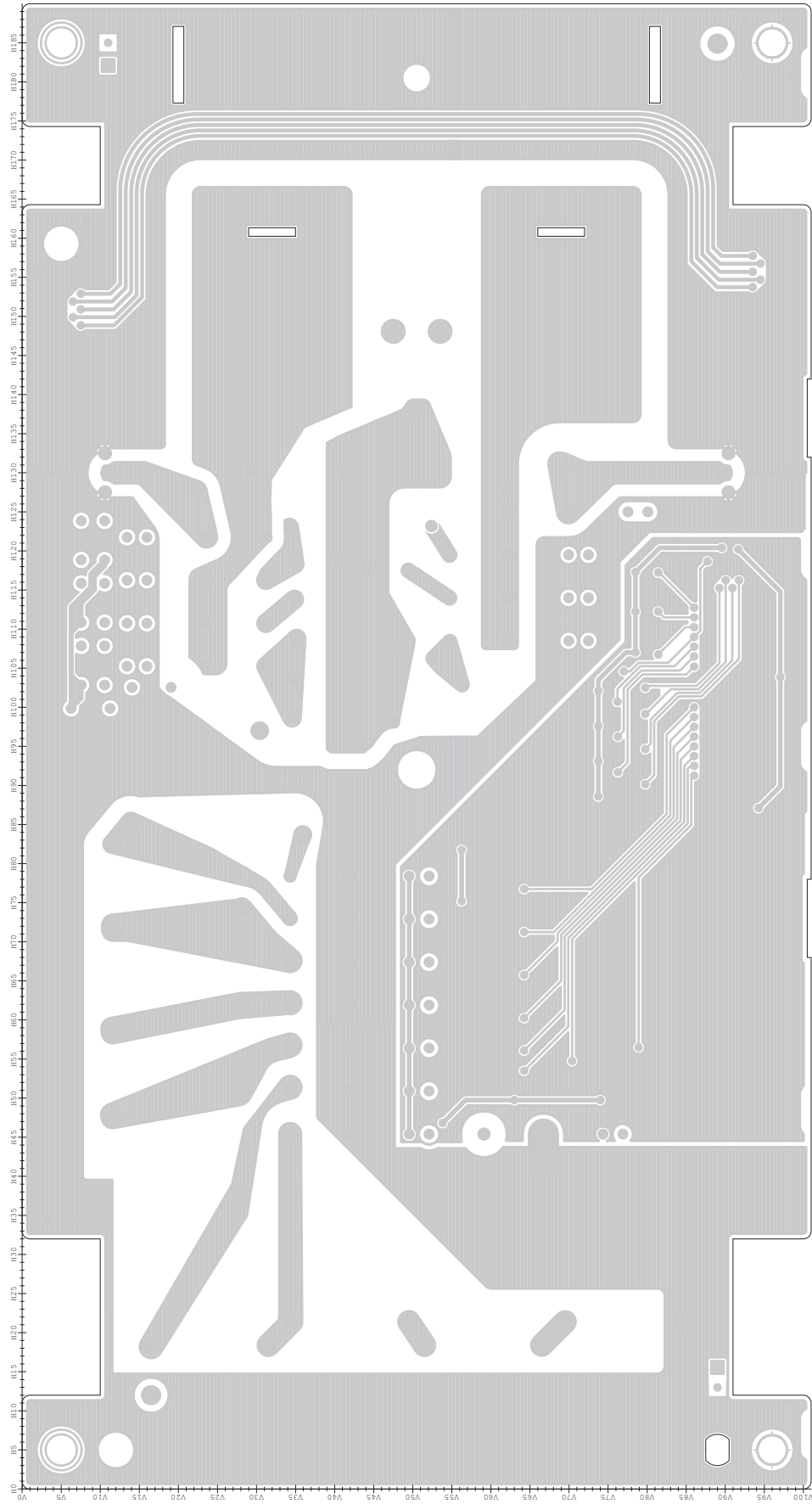


• TUNER UNIT
(TOP VIEW)

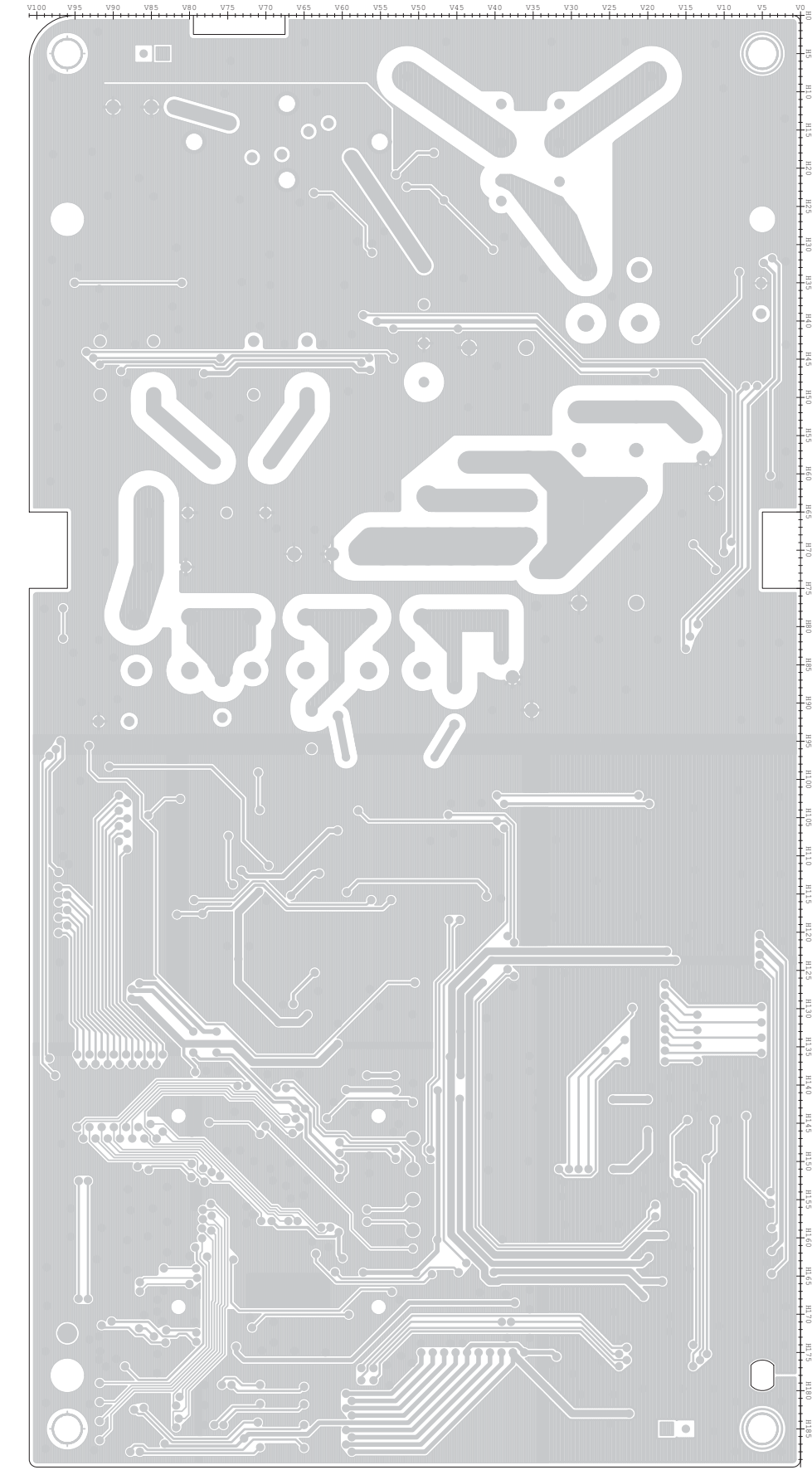


The combination of this side and the bottom side shows the board layout in the same configuration as the actual P.C.Board.

• TUNER UNIT
(BOTTOM VIEW)



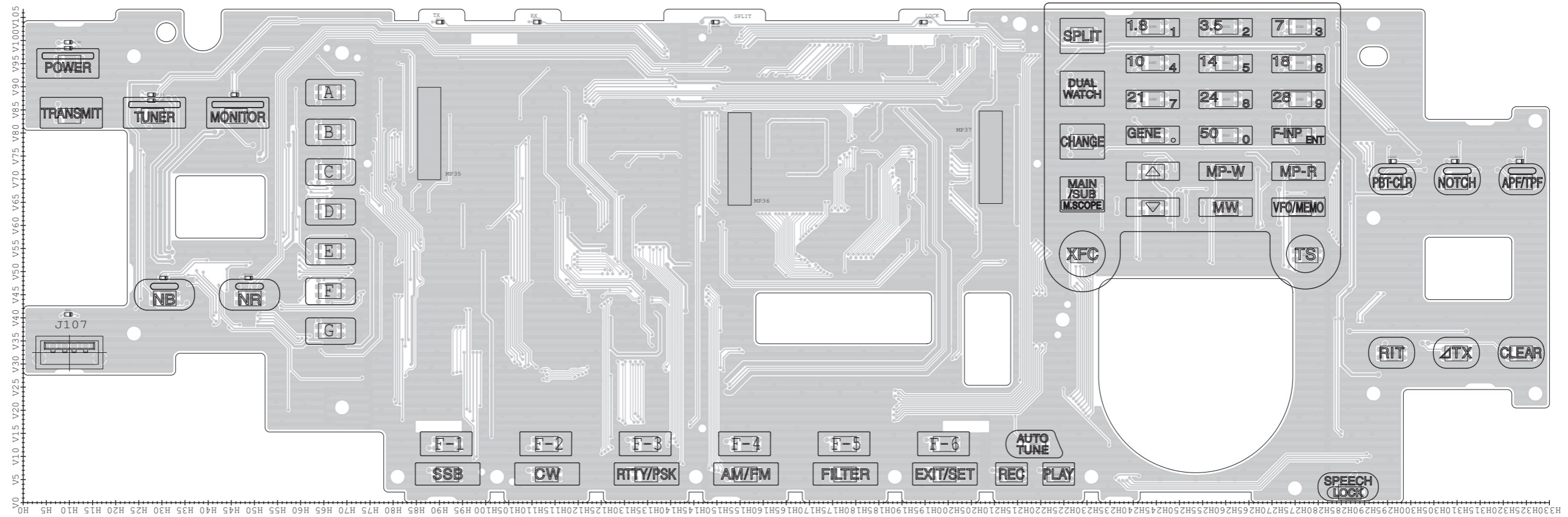
• CTRL UNIT
(BOTTOM VIEW)



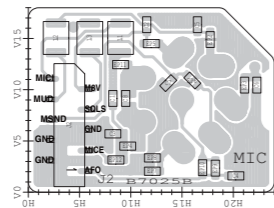
The combination of this side and the bottom side shows the board layout in the same configuration as the actual P.C.Board.

The combination of this side and the bottom side shows the board layout in the same configuration as the actual P.C.Board.

• **DISPLAY UNIT
(TOP VIEW)**

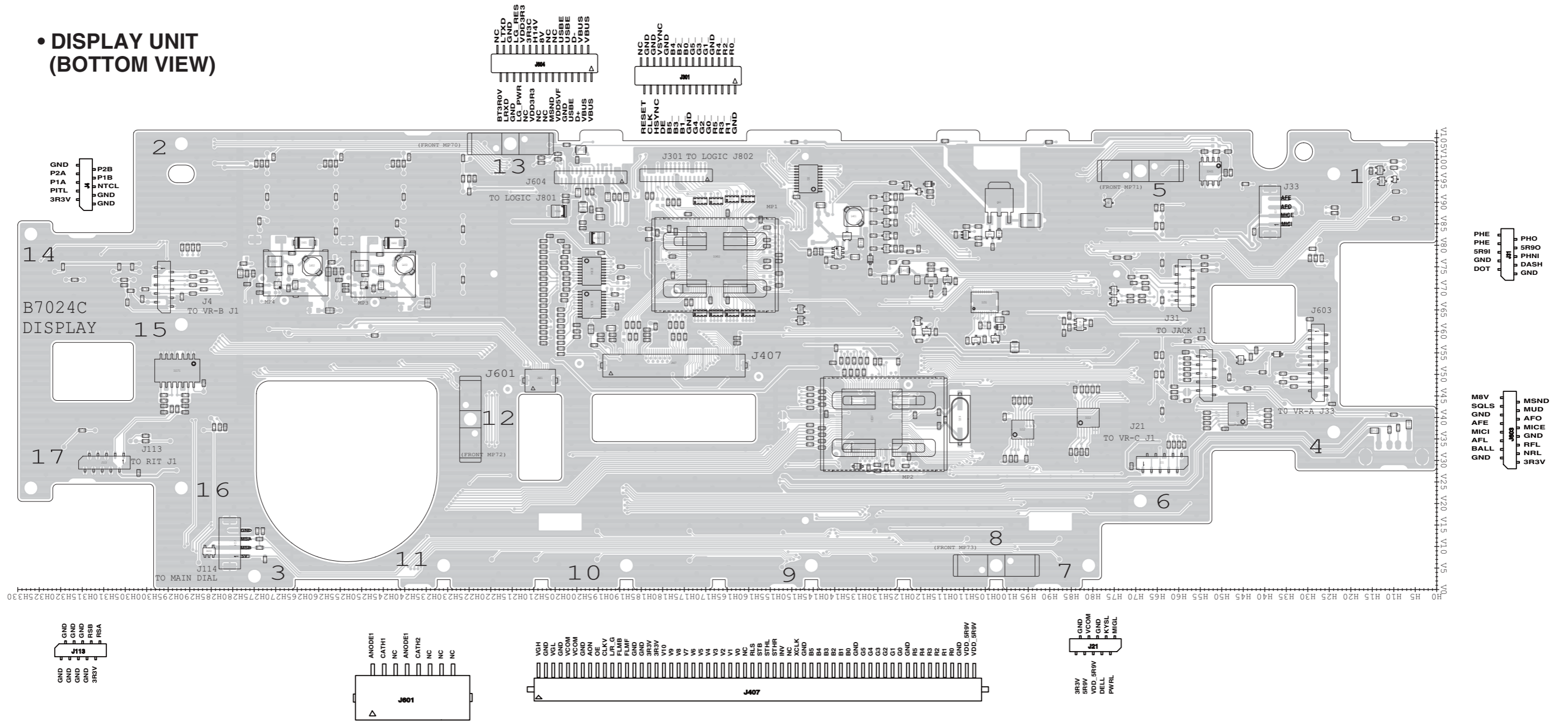


• **MIC BOARD
(TOP VIEW)**

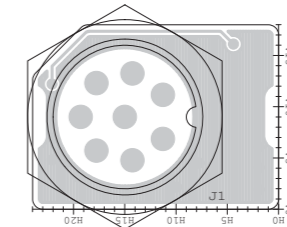


The combination of this side and the bottom side shows the board layout in the same configuration as the actual P.C.Board.

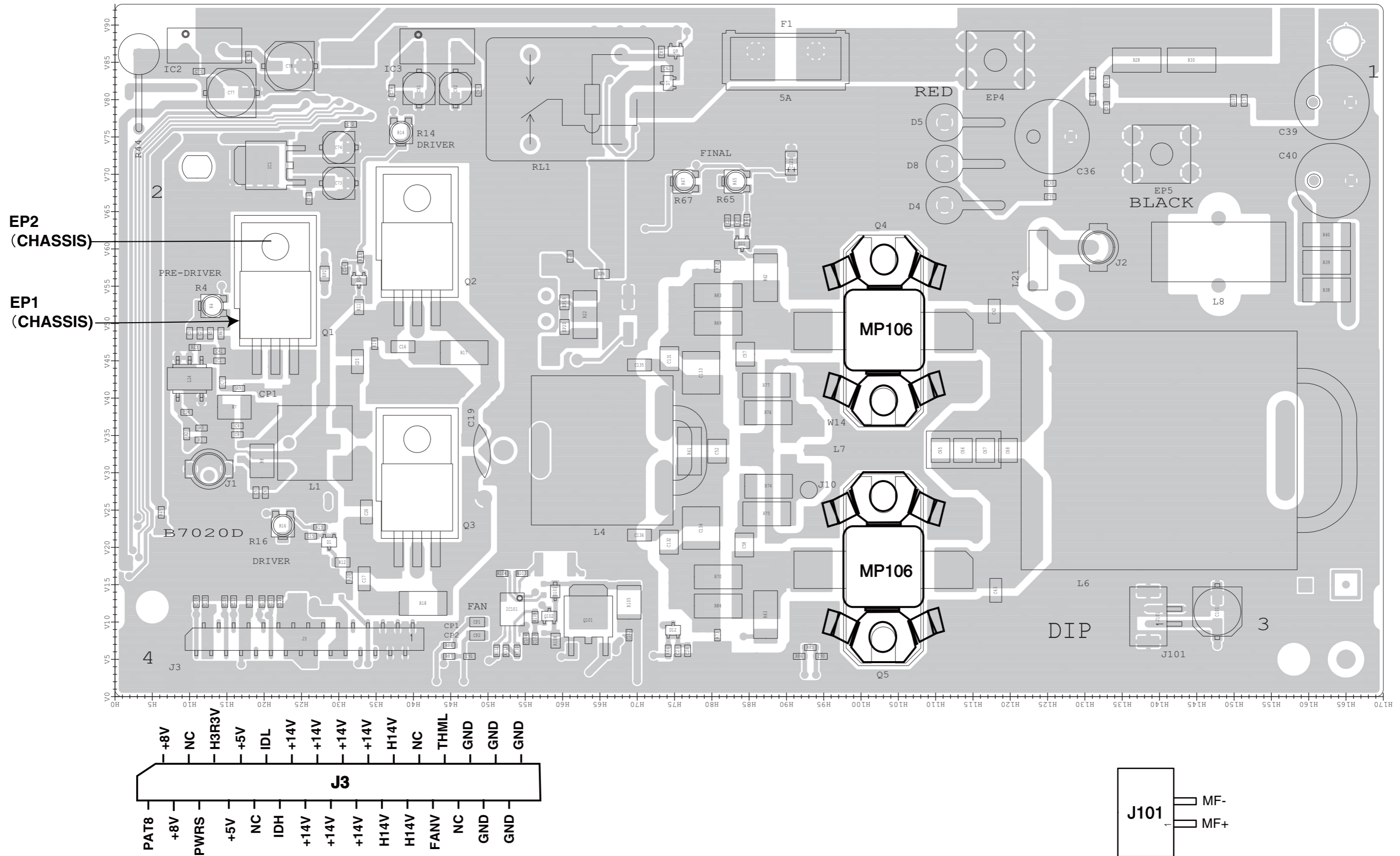
• DISPLAY UNIT (BOTTOM VIEW)



• MIC BOARD (BOTTOM VIEW)

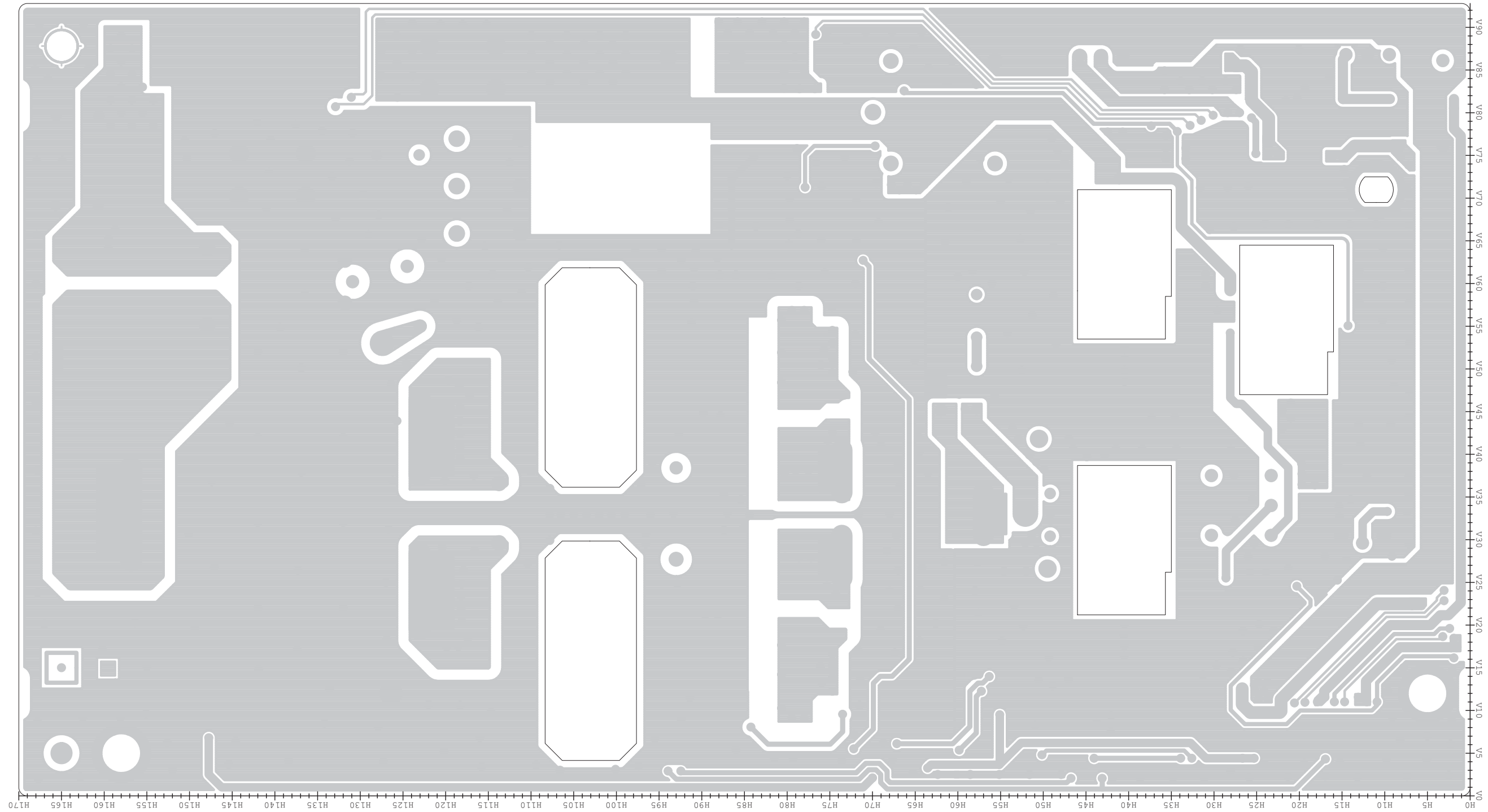


• PA UNIT
(TOP VIEW)

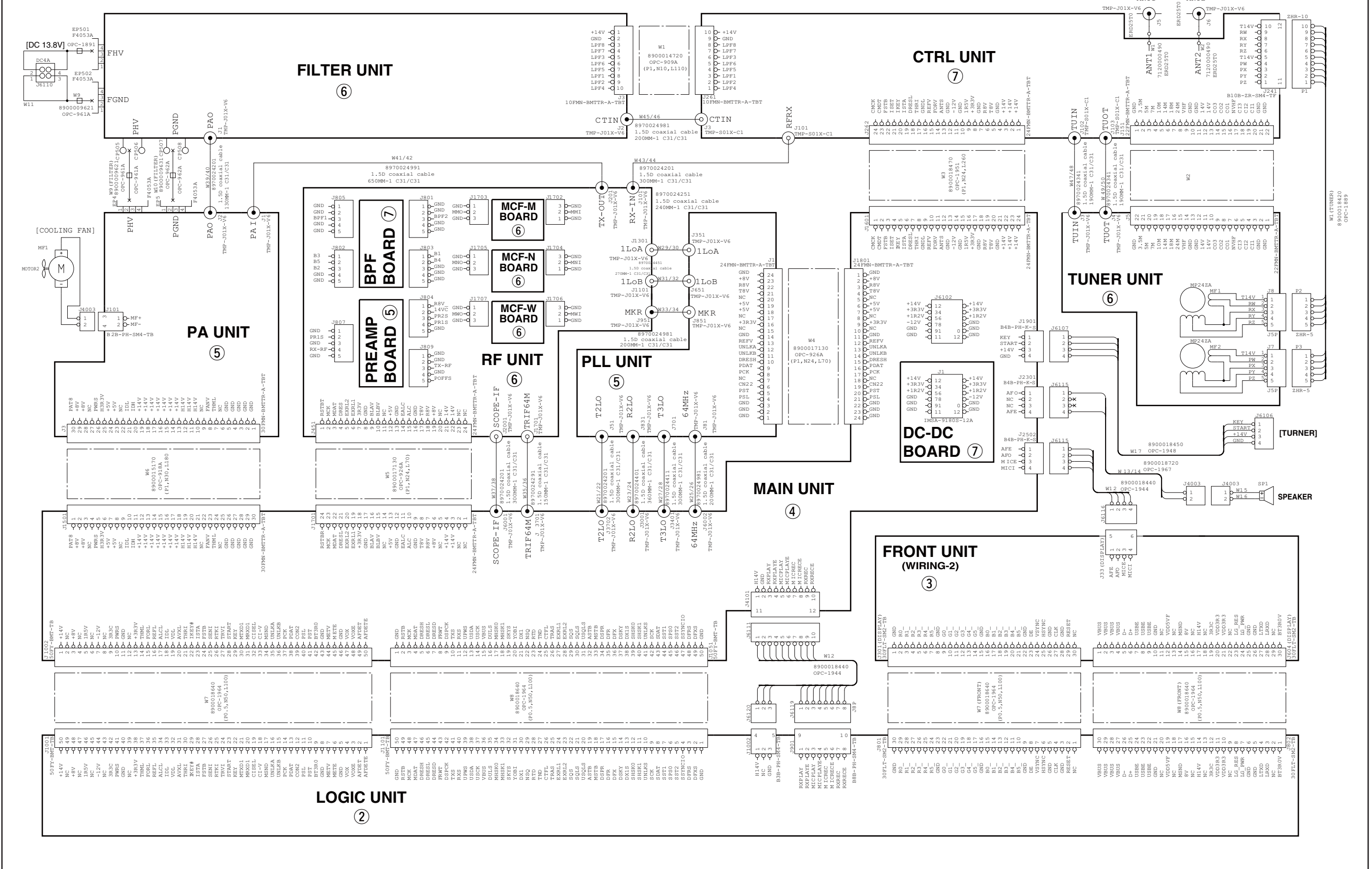


The combination of top side and bottom side of this page shows the actual configuration of P.C. board.

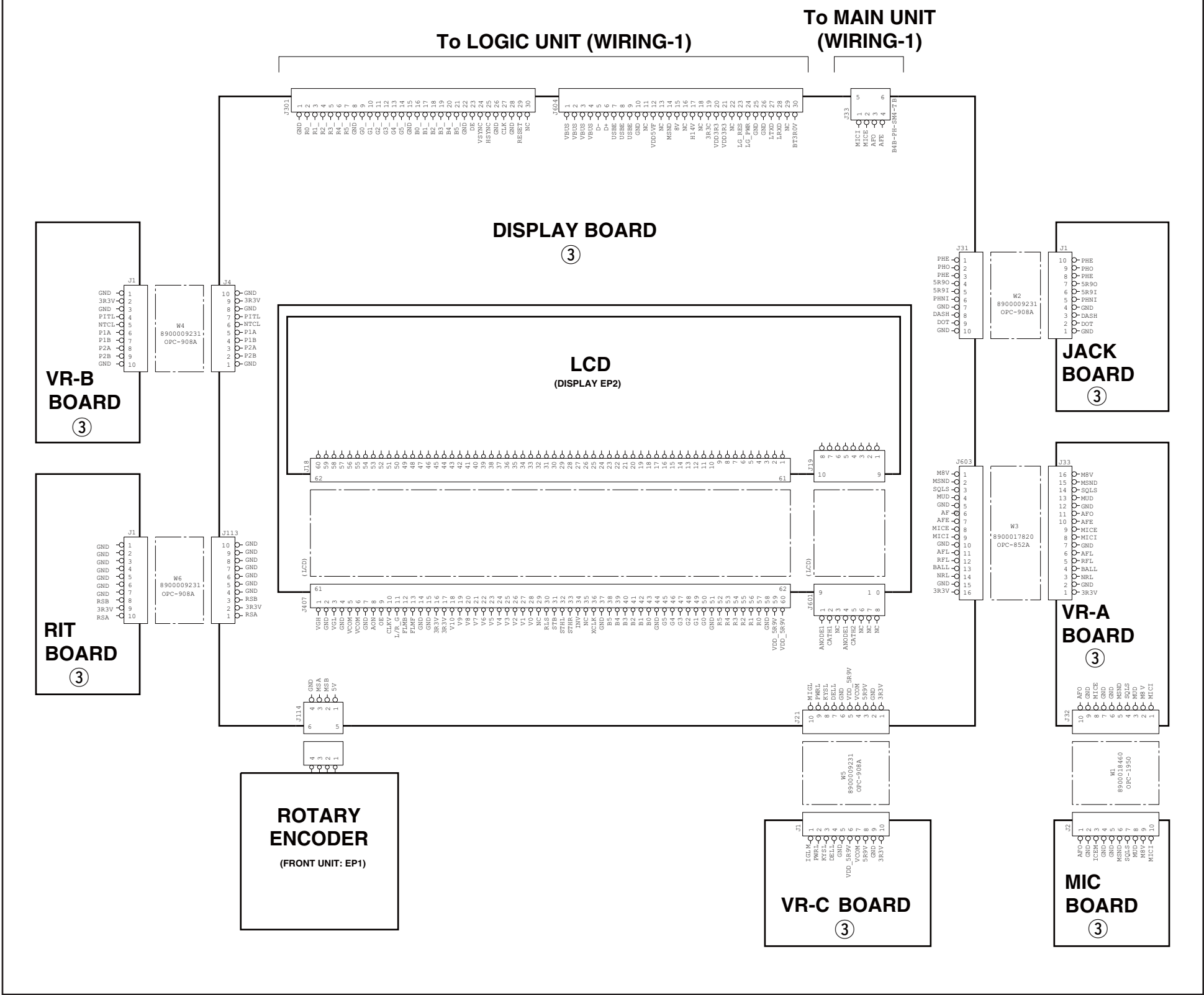
• PA UNIT
(BOTTOM VIEW)



GENERAL WIRING (1/2)



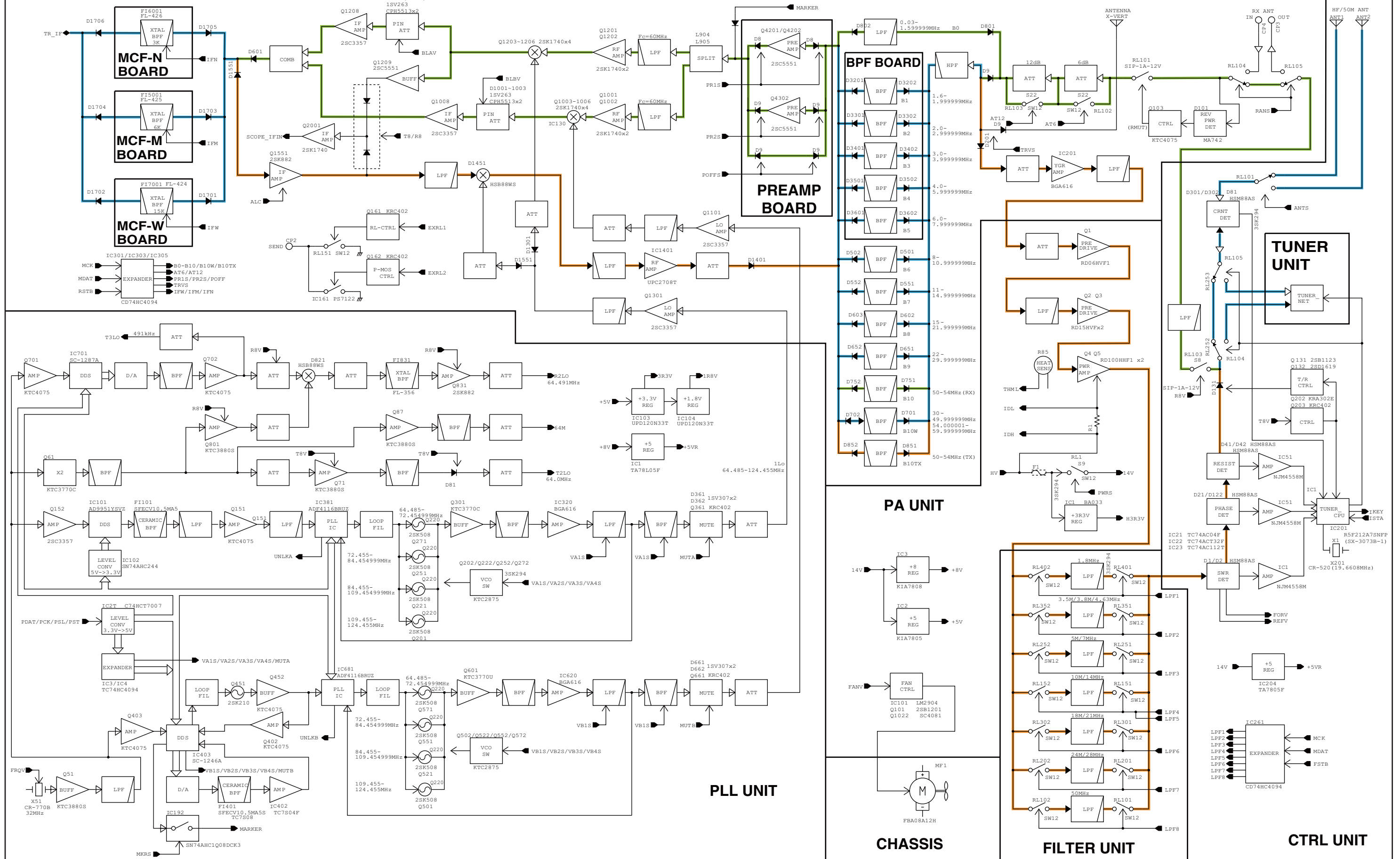
GENERAL WIRING (2/2)



SECTION 9

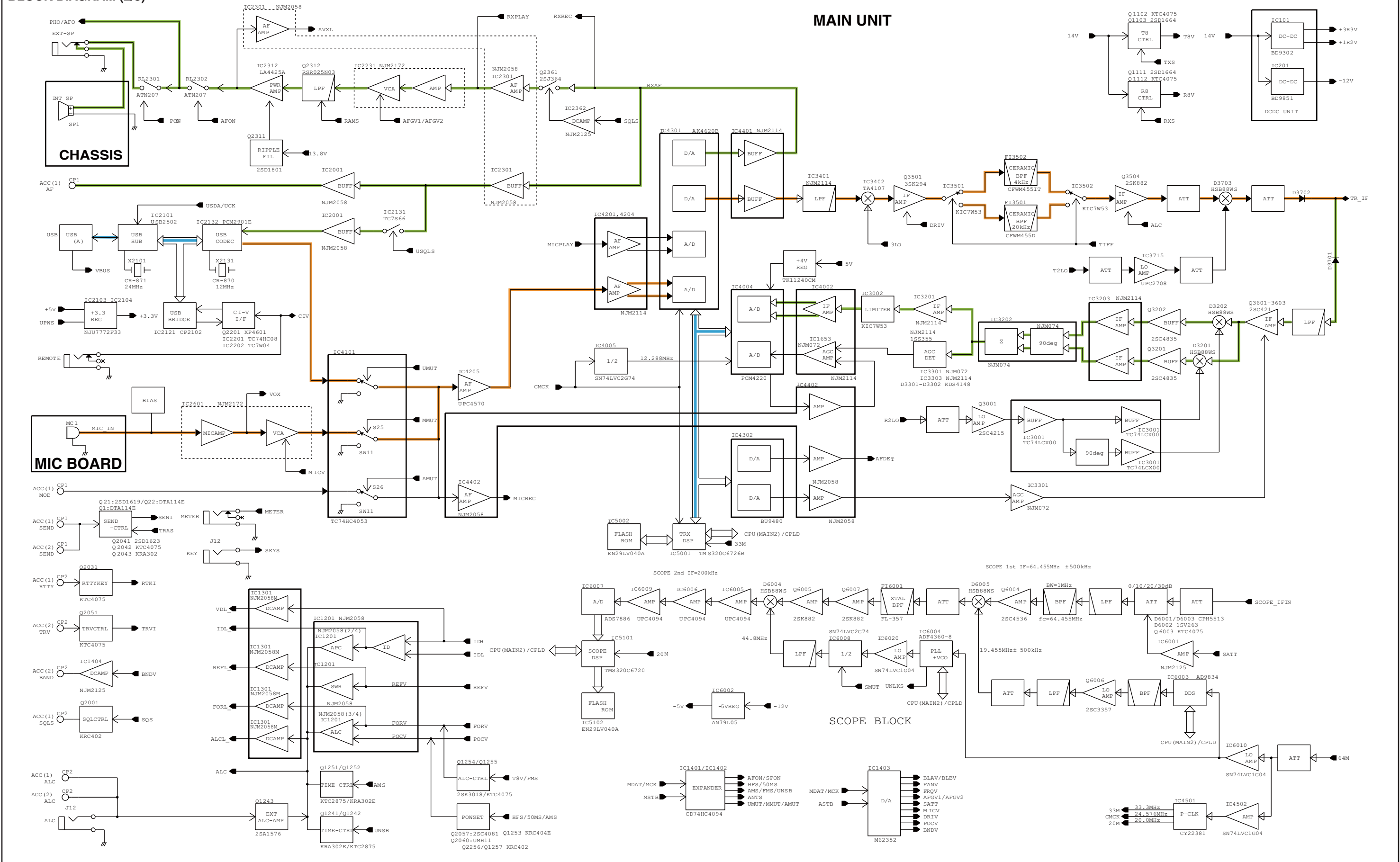
BLOCK DIAGRAM

BLOCK DIAGRAM (1/3)

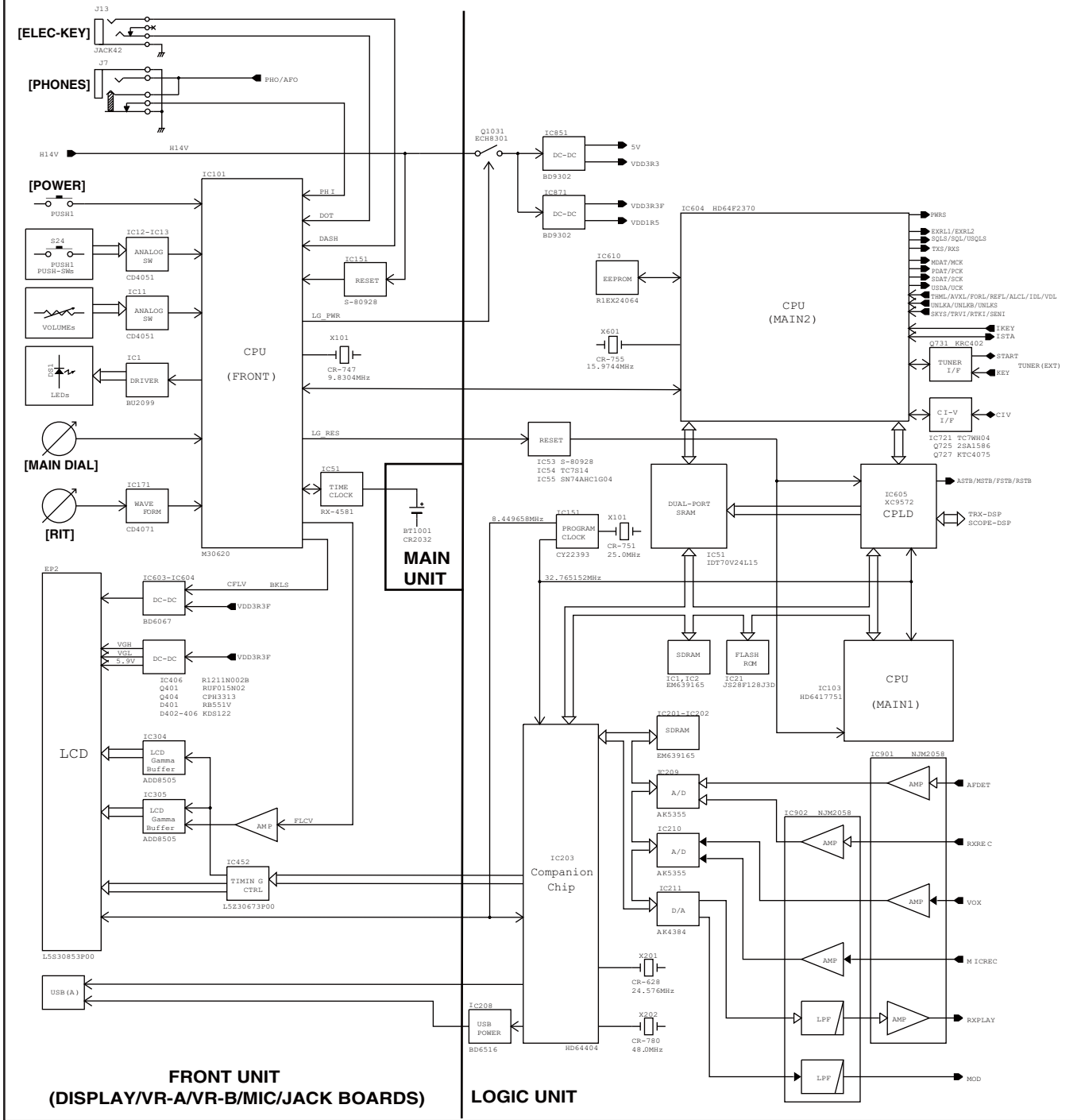


BLOCK DIAGRAM (2/3)

MAIN UNIT



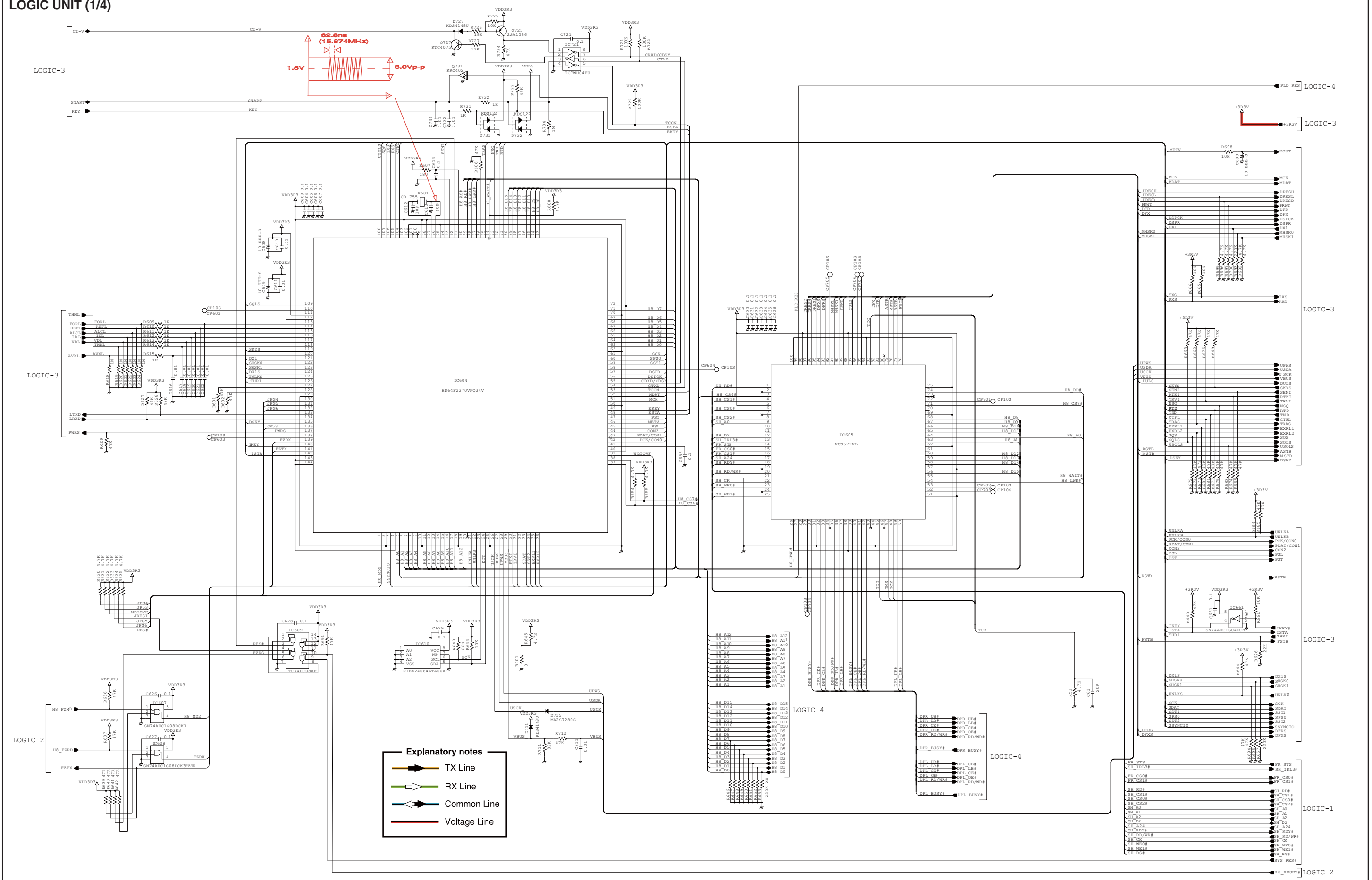
BLOCK DIAGRAM (3/3)



SECTION 10

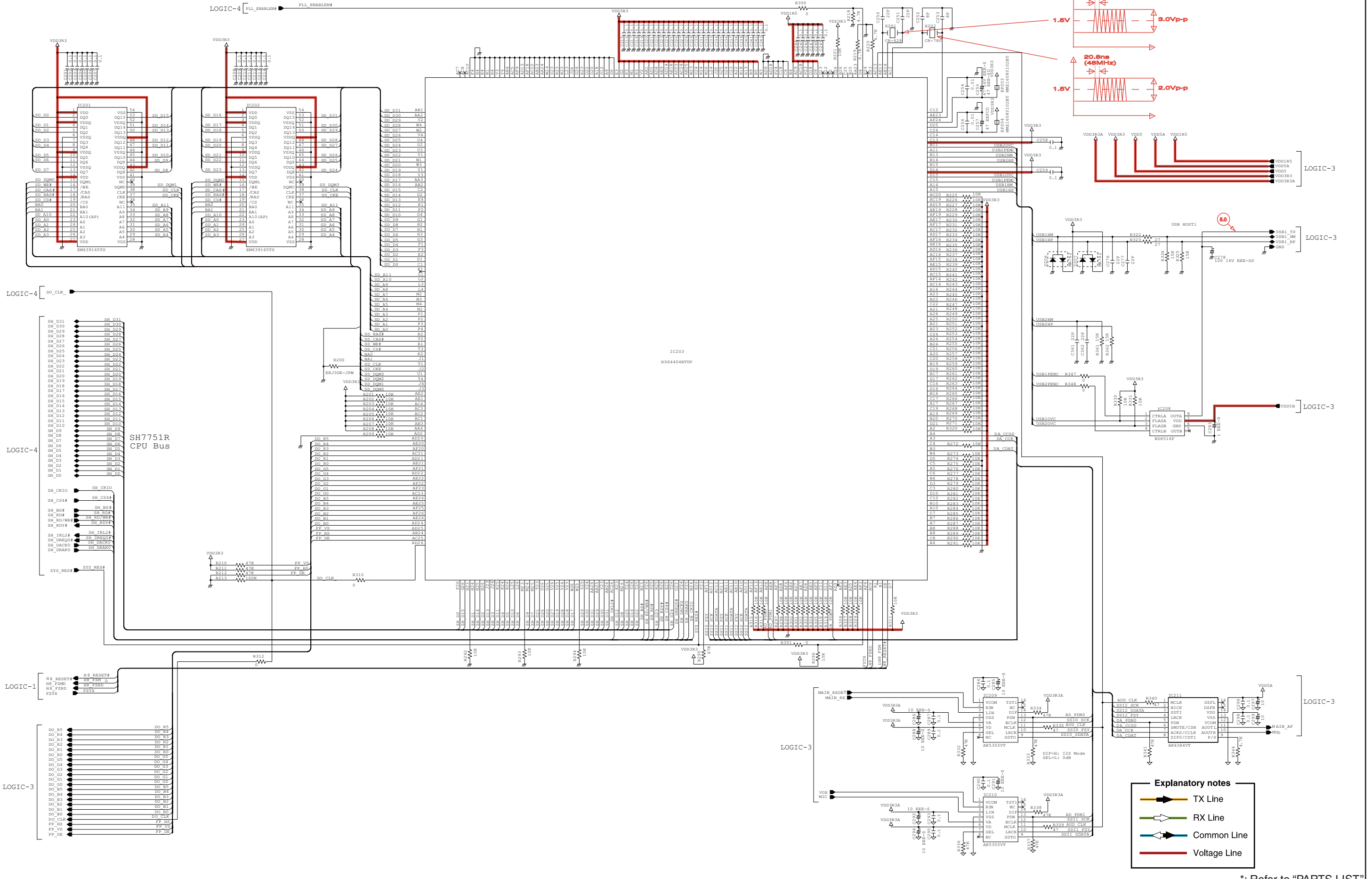
VOLTAGE DIAGRAM

LOGIC UNIT (1/4)



*; Refer to "PARTS LIST."

LOGIC UNIT (2/4)

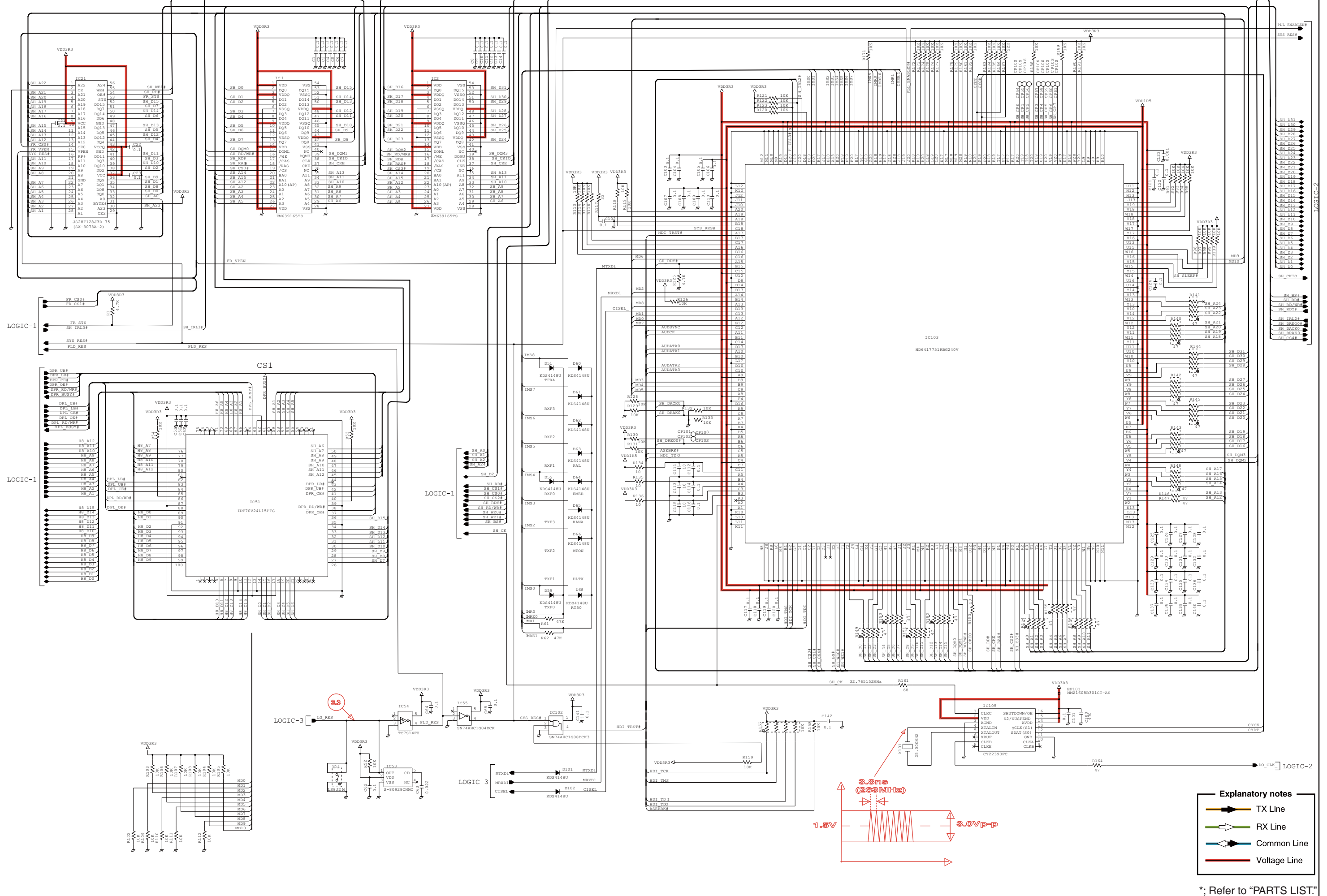


Explanatory notes

- ▶ TX Line
- ▶ RX Line
- ▶ Common Line
- ▶ Voltage Line

*; Refer to "PARTS LIST."

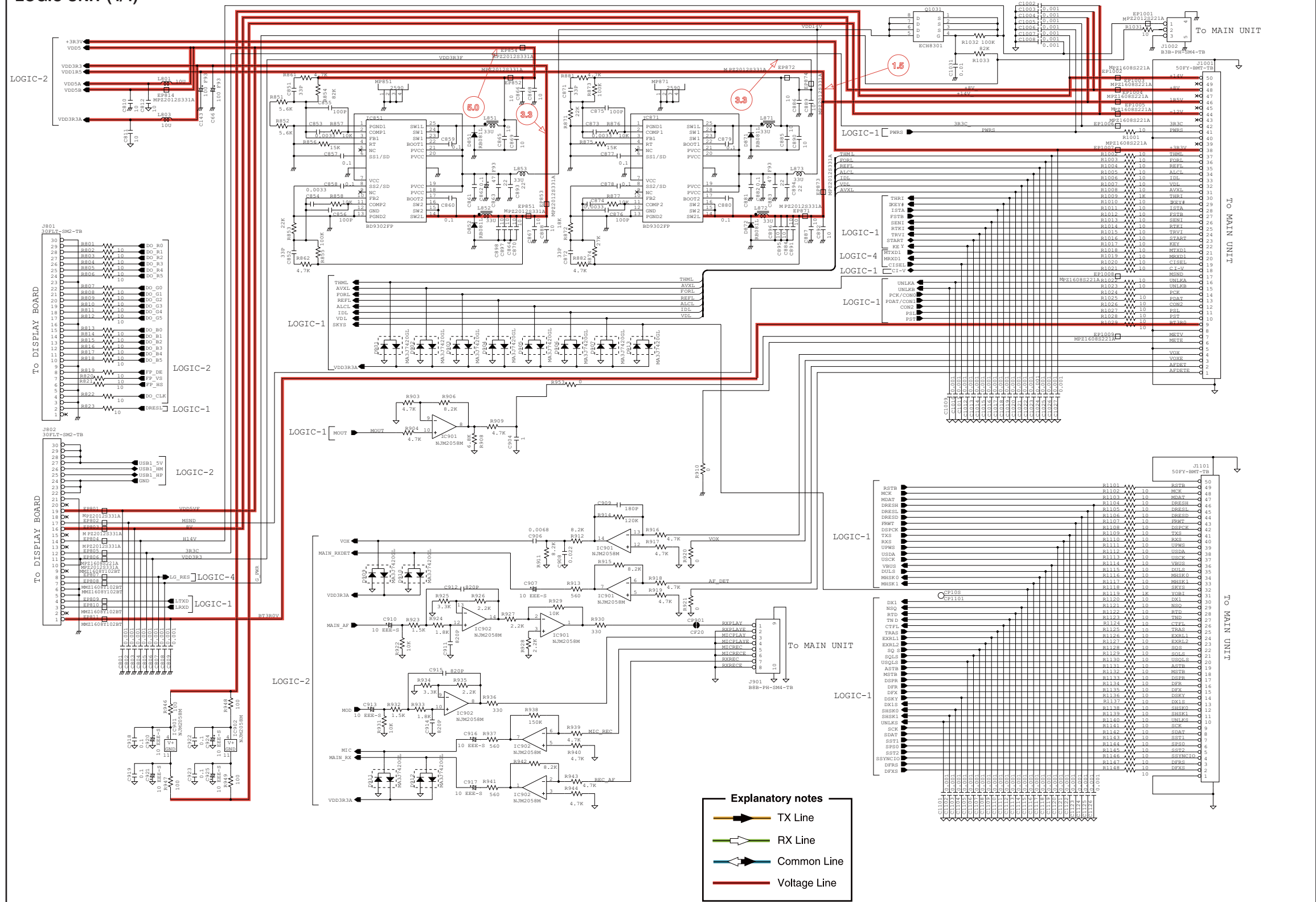
LOGIC UNIT (3/4)



- Explanatory notes**
- ▶ TX Line
 - ▶ RX Line
 - ▶ Common Line
 - ▶ Voltage Line

*; Refer to "PARTS LIST"

LOGIC UNIT (4/4)

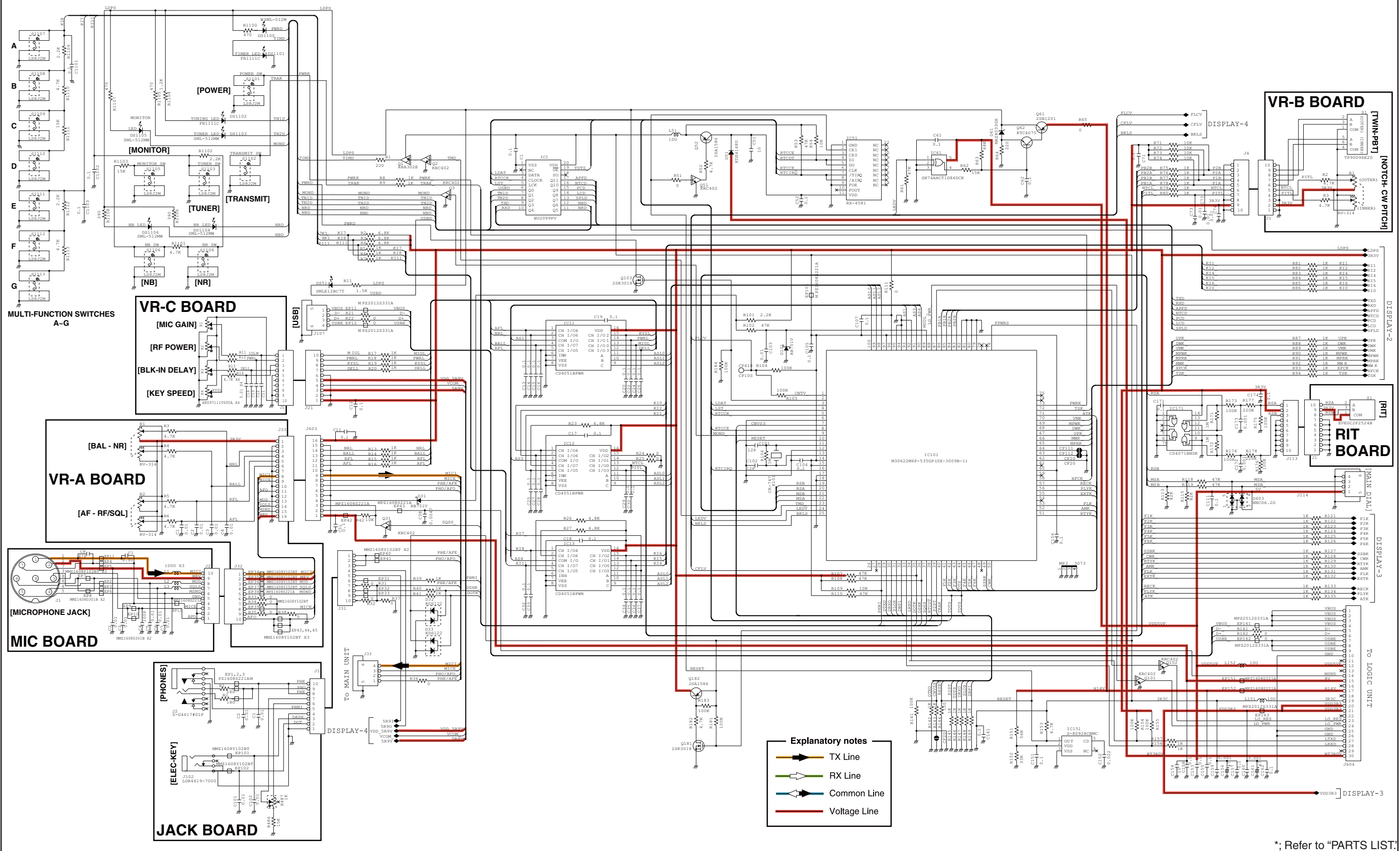


Explanatory notes

- TX Line
- RX Line
- Common Line
- Voltage Line

*; Refer to "PARTS LIST."

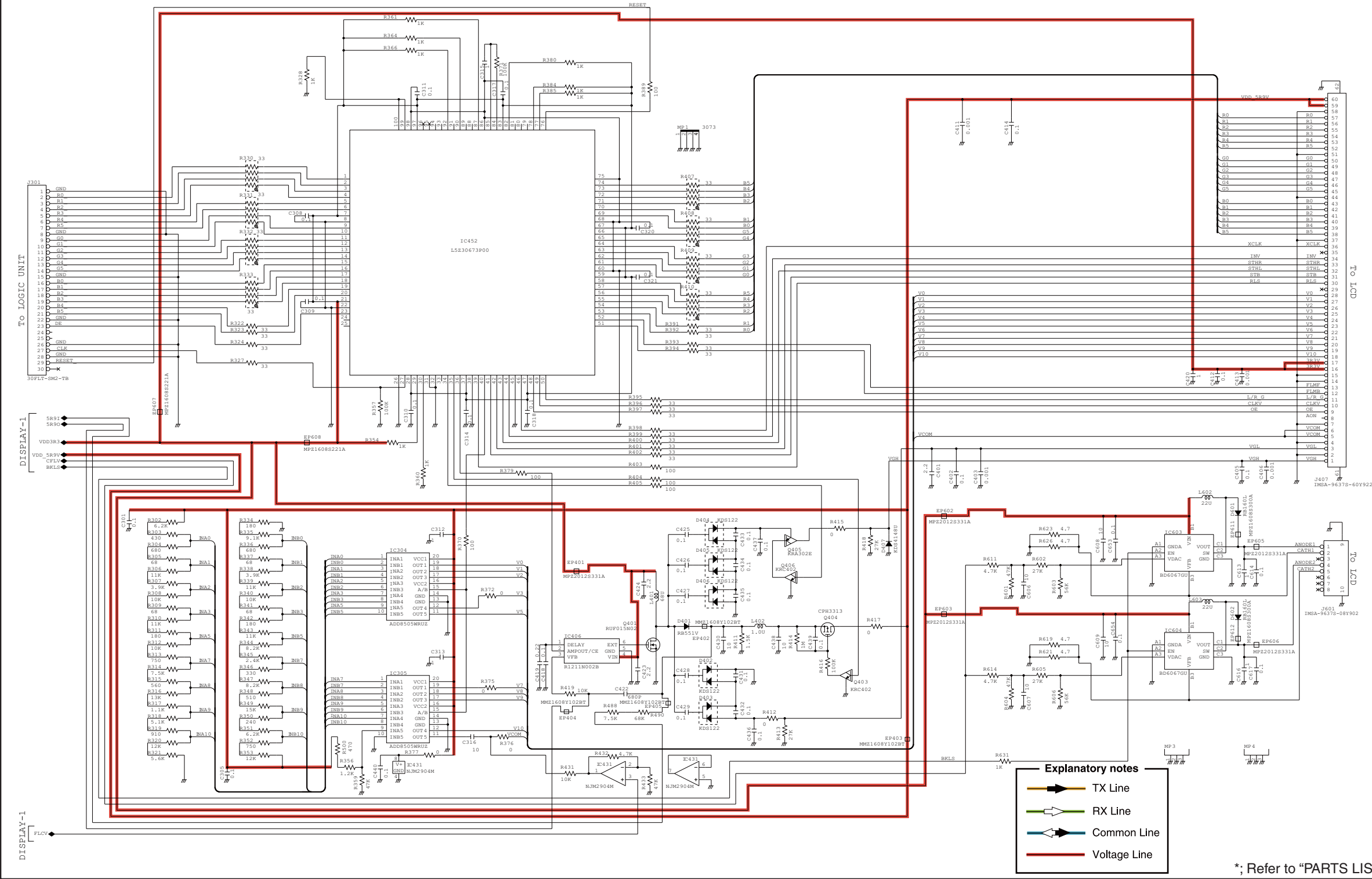
DISPLAY UNIT (1/5)



Explanatory notes

- ▶ TX Line
- ▶ RX Line
- ▶ Common Line
- ▶ Voltage Line

DISPLAY UNIT (2/5)

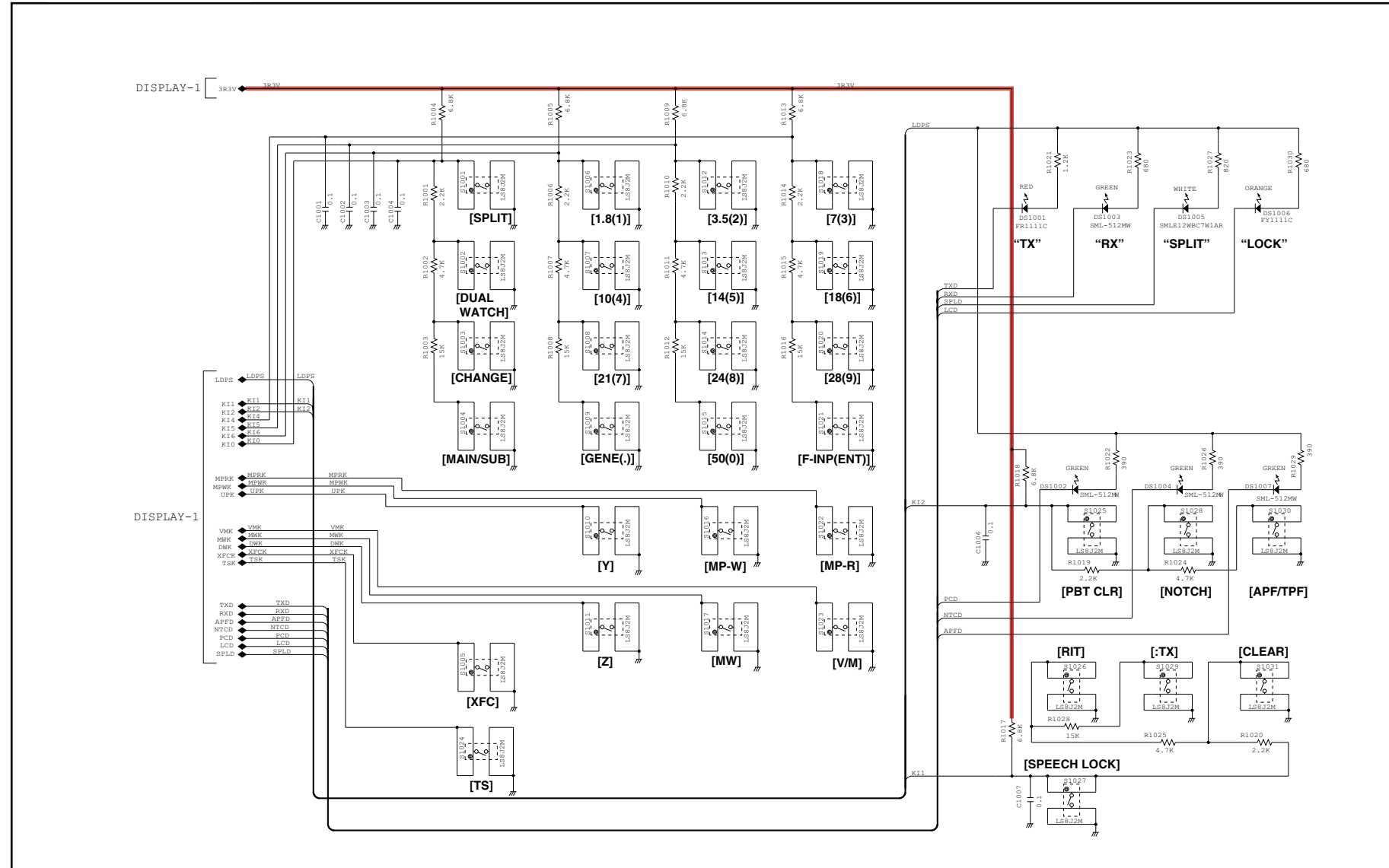


Explanatory notes

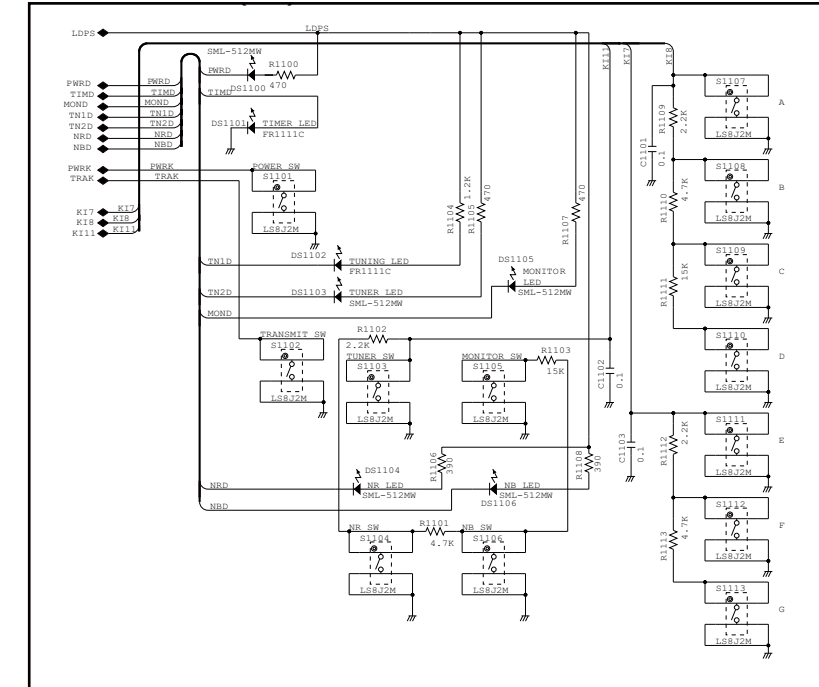
- TX Line
- RX Line
- Common Line
- Voltage Line

*; Refer to "PARTS LIST."

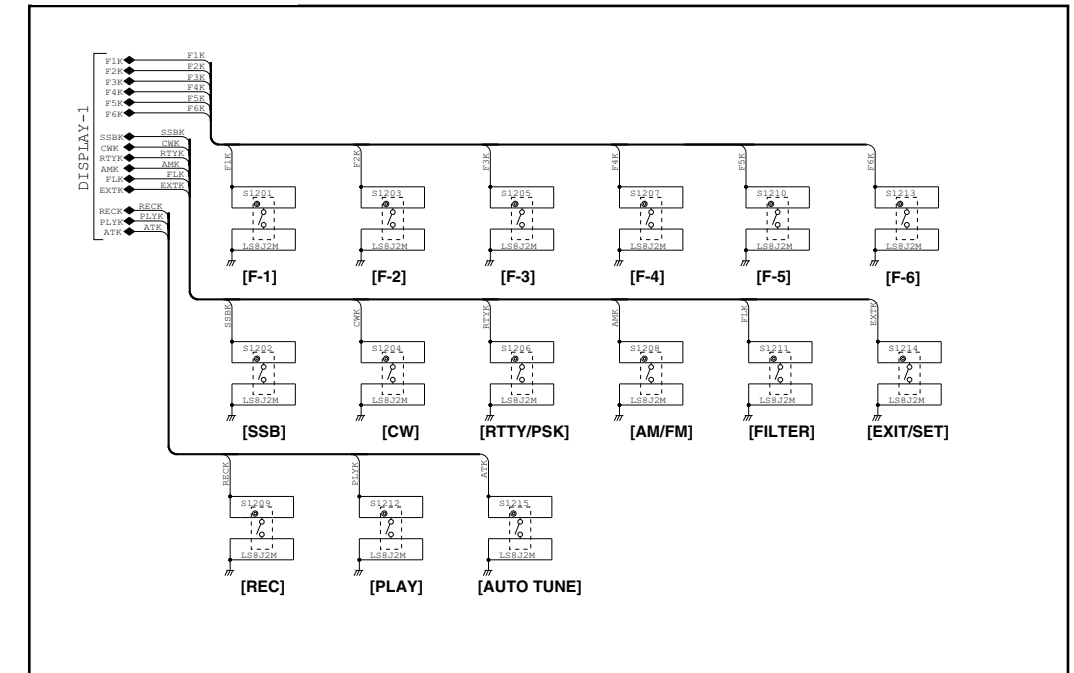
DISPLAY UNIT (1/5)



DISPLAY UNIT (4/5)



DISPLAY UNIT (5/5)

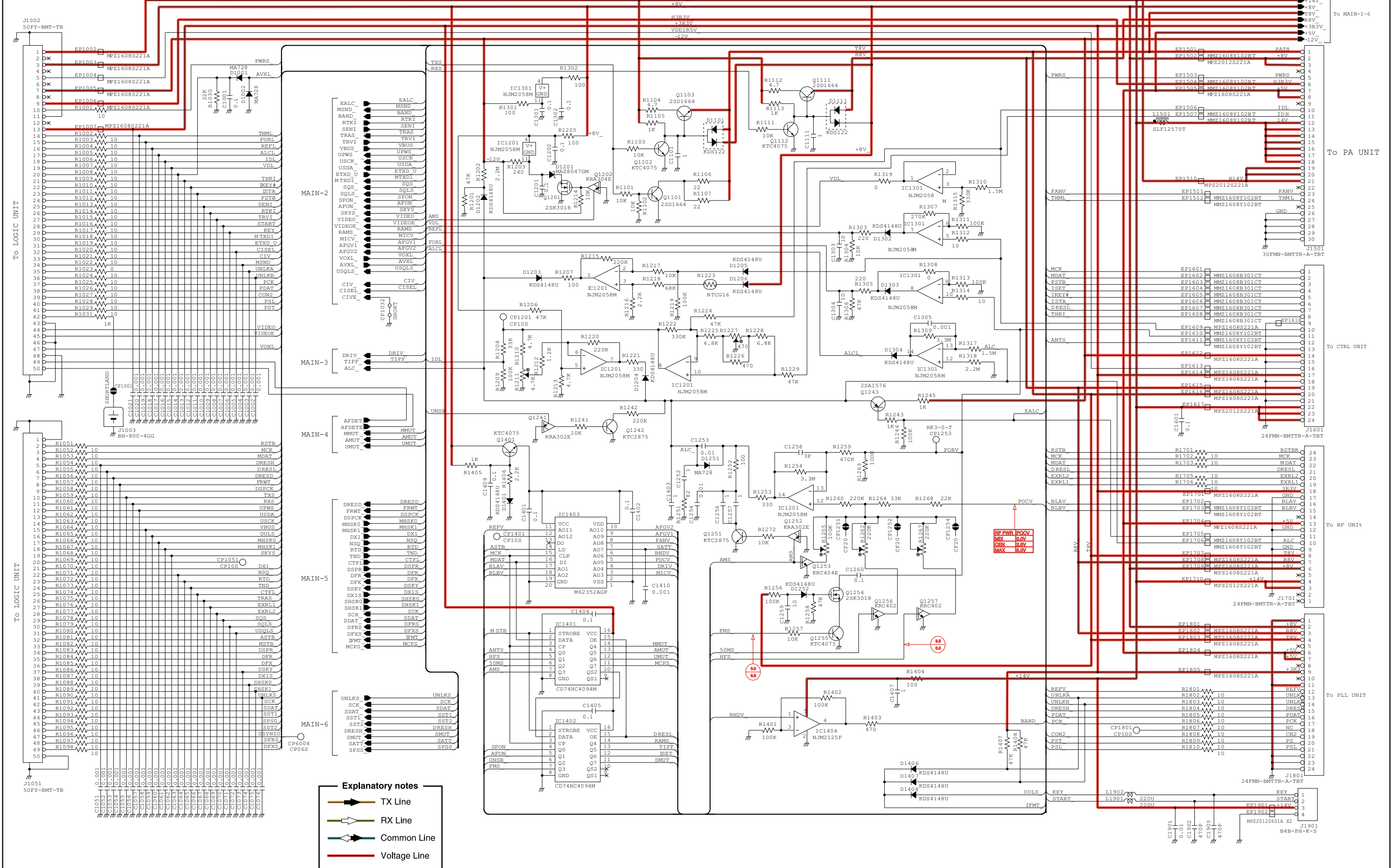


Explanatory notes

- TX Line
- RX Line
- Common Line
- Voltage Line

*; Refer to "PARTS LIST."

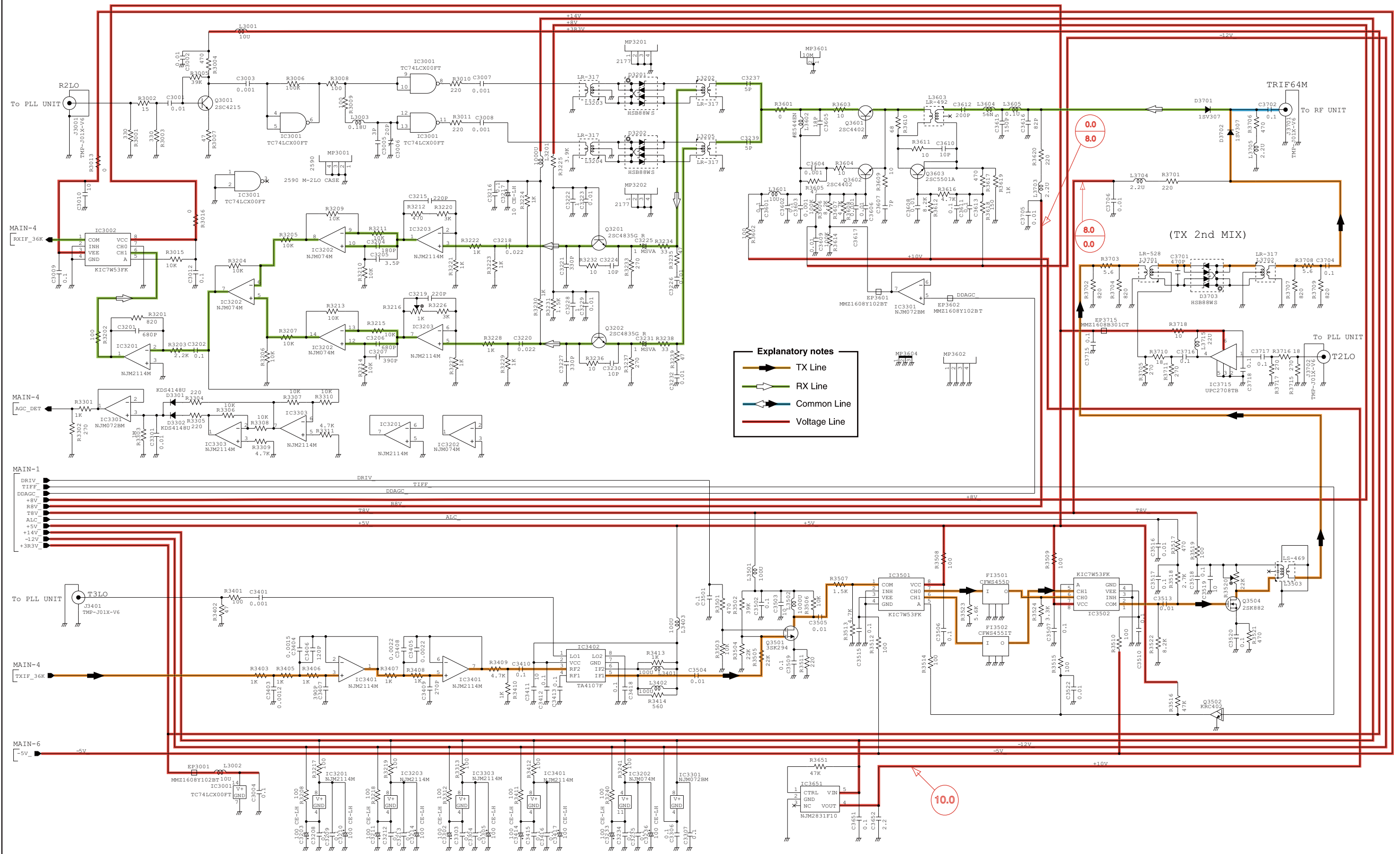
MAIN UNIT (1/6)



- Explanatory notes**
- TX Line
 - RX Line
 - Common Line
 - Voltage Line

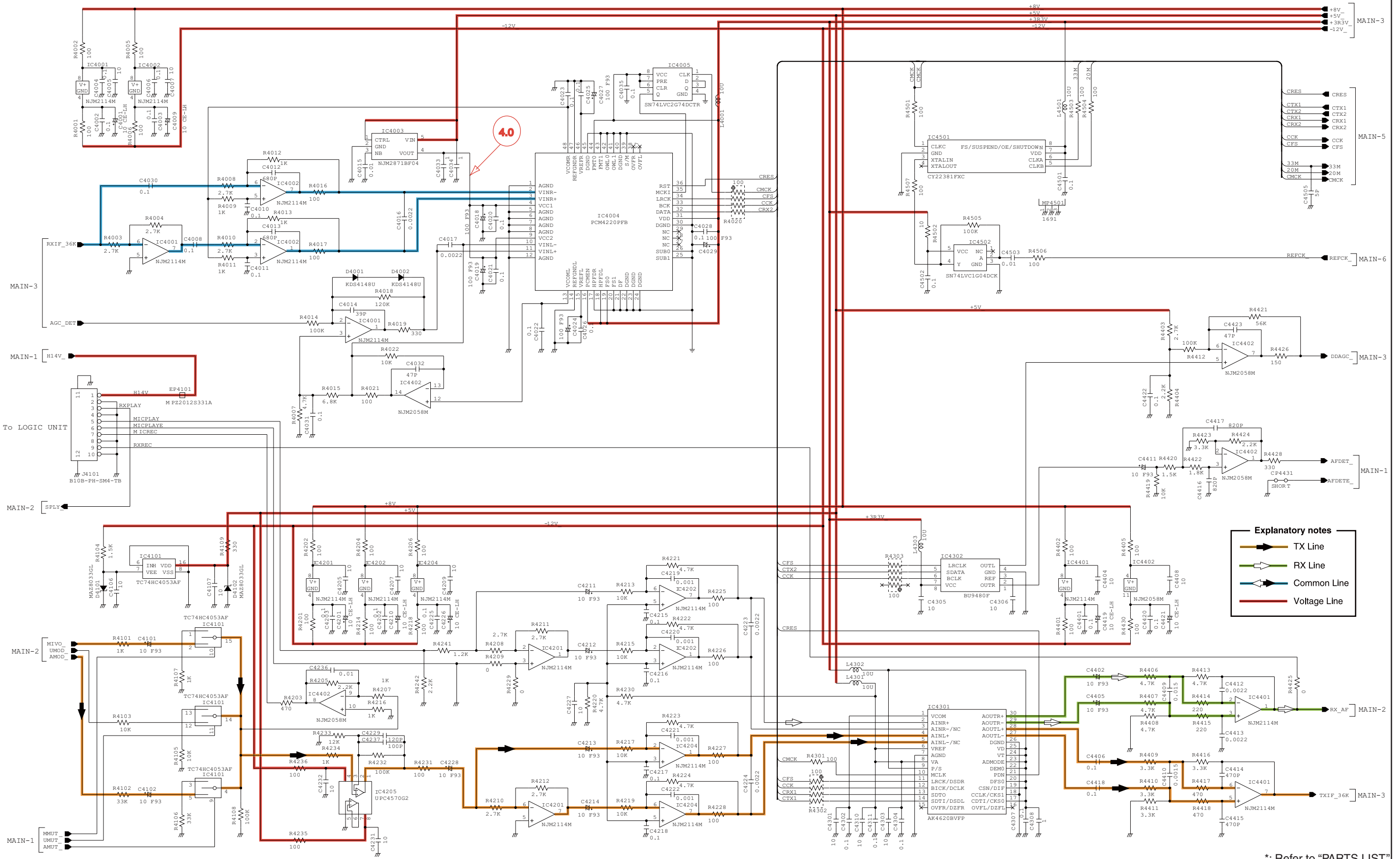
*; Refer to "PARTS LIST"

MAIN UNIT (3/6)



*; Refer to "PARTS LIST."

MAIN UNIT (4/6)

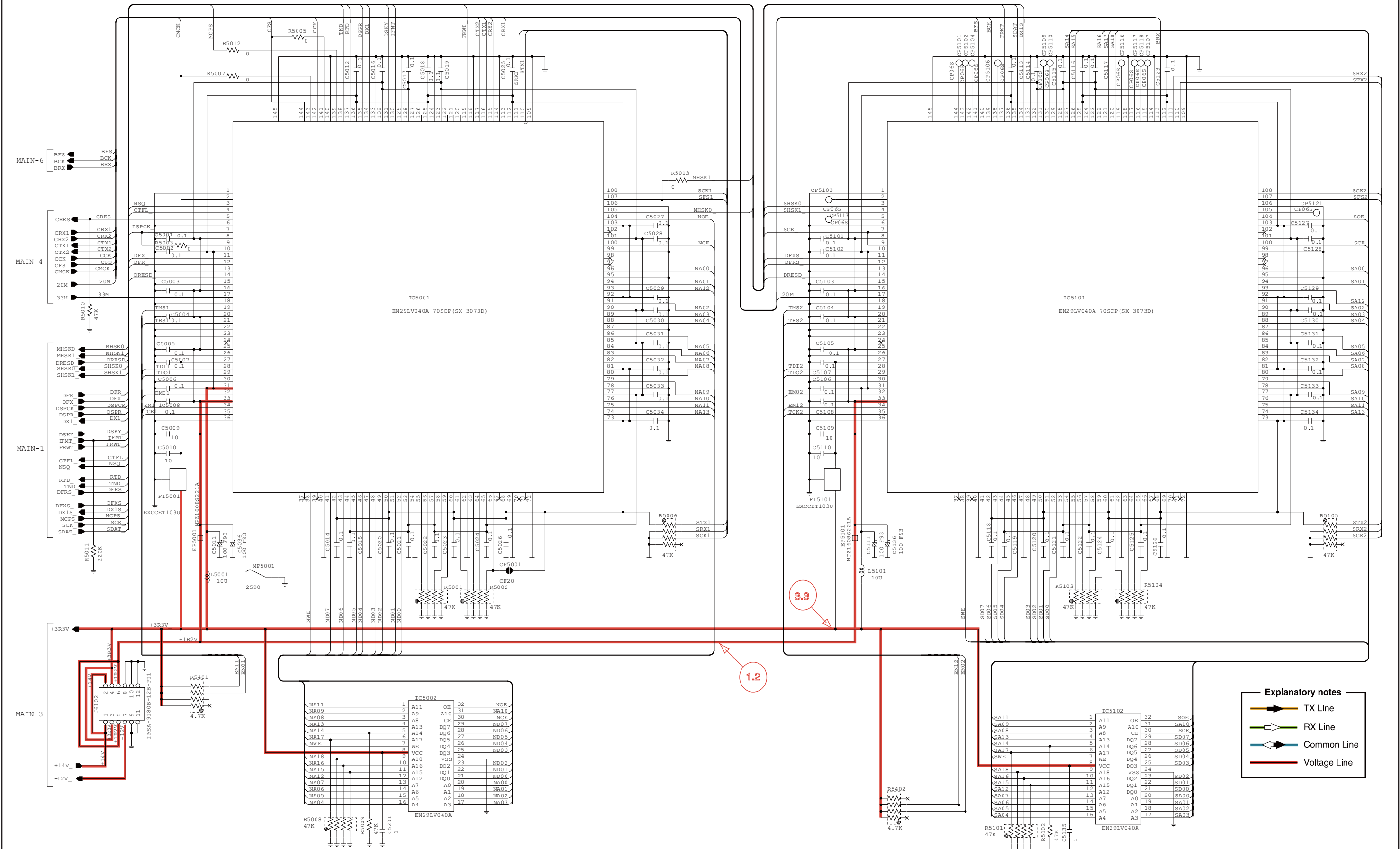


Explanatory notes

- ▶ TX Line
- ▶ RX Line
- ▶ Common Line
- ▶ Voltage Line

*; Refer to "PARTS LIST."

MAIN UNIT (5/6)

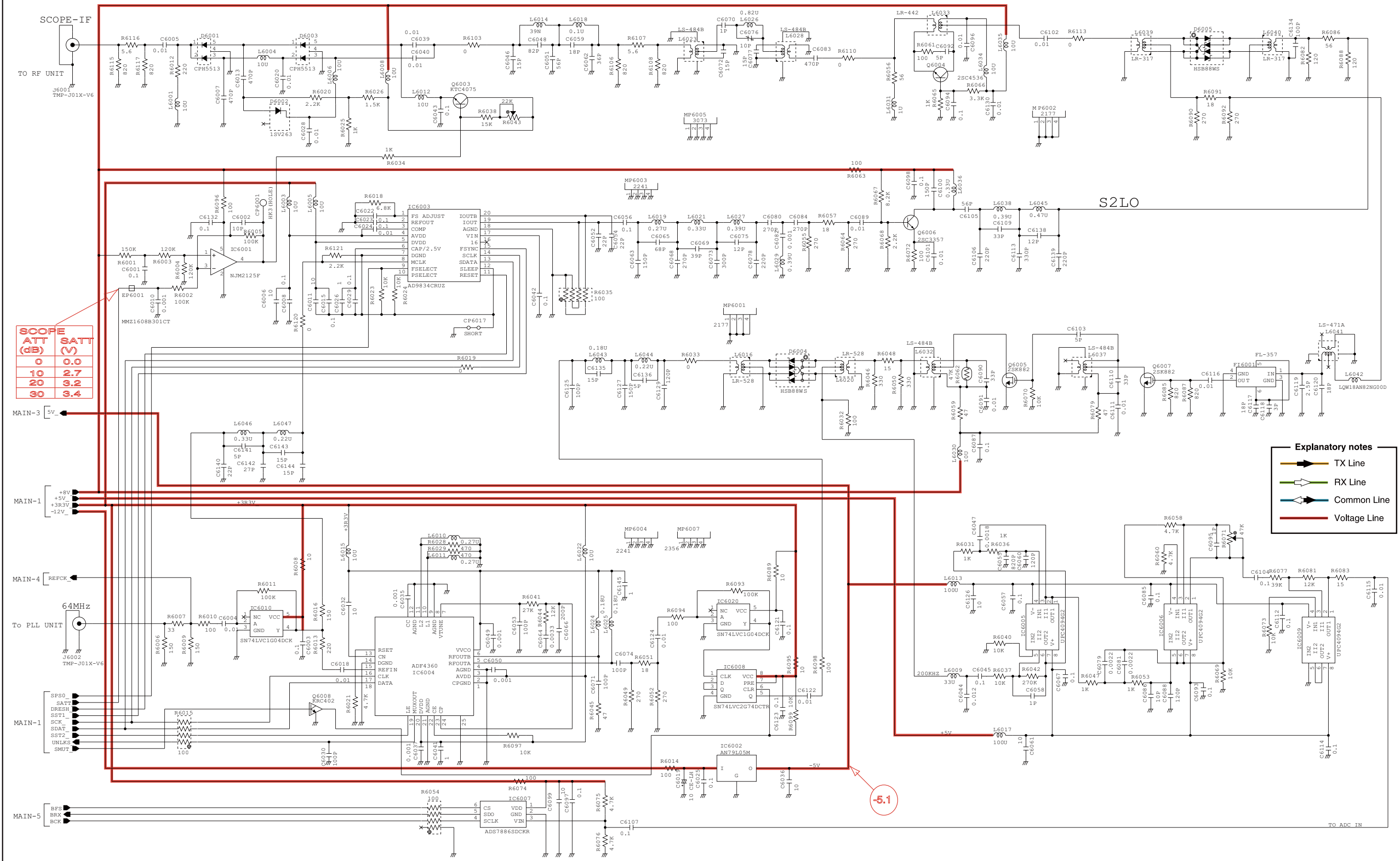


Explanatory notes

- TX Line
- RX Line
- Common Line
- Voltage Line

*; Refer to "PARTS LIST."

MAIN UNIT (6/6)



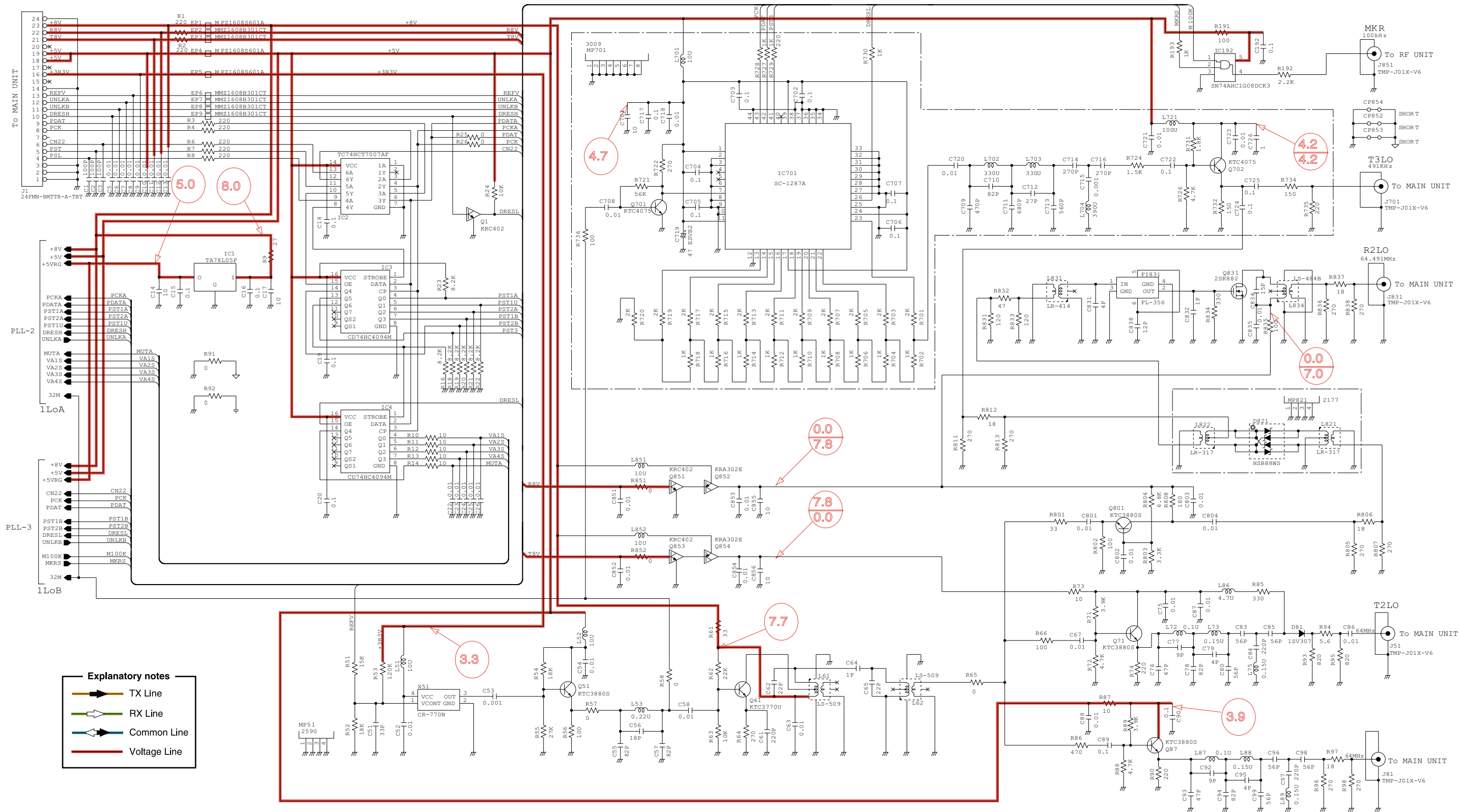
SCOPE ATT (dB)	SATT (V)
0	0.0
10	2.7
20	3.2
30	3.4

Explanatory notes

- TX Line
- RX Line
- Common Line
- Voltage Line

*; Refer to "PARTS LIST"

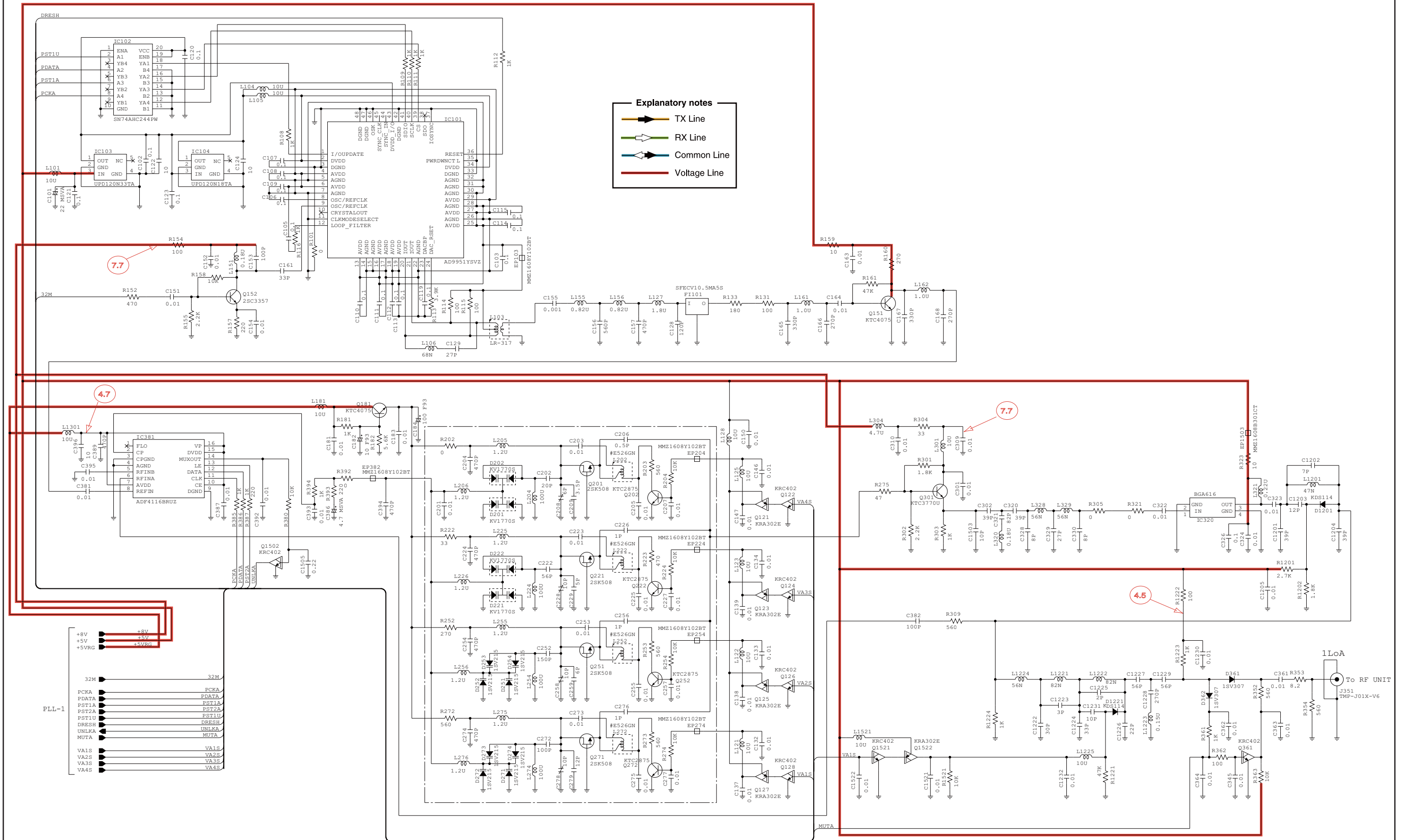
PLL UNIT (1/3)



Explanatory notes

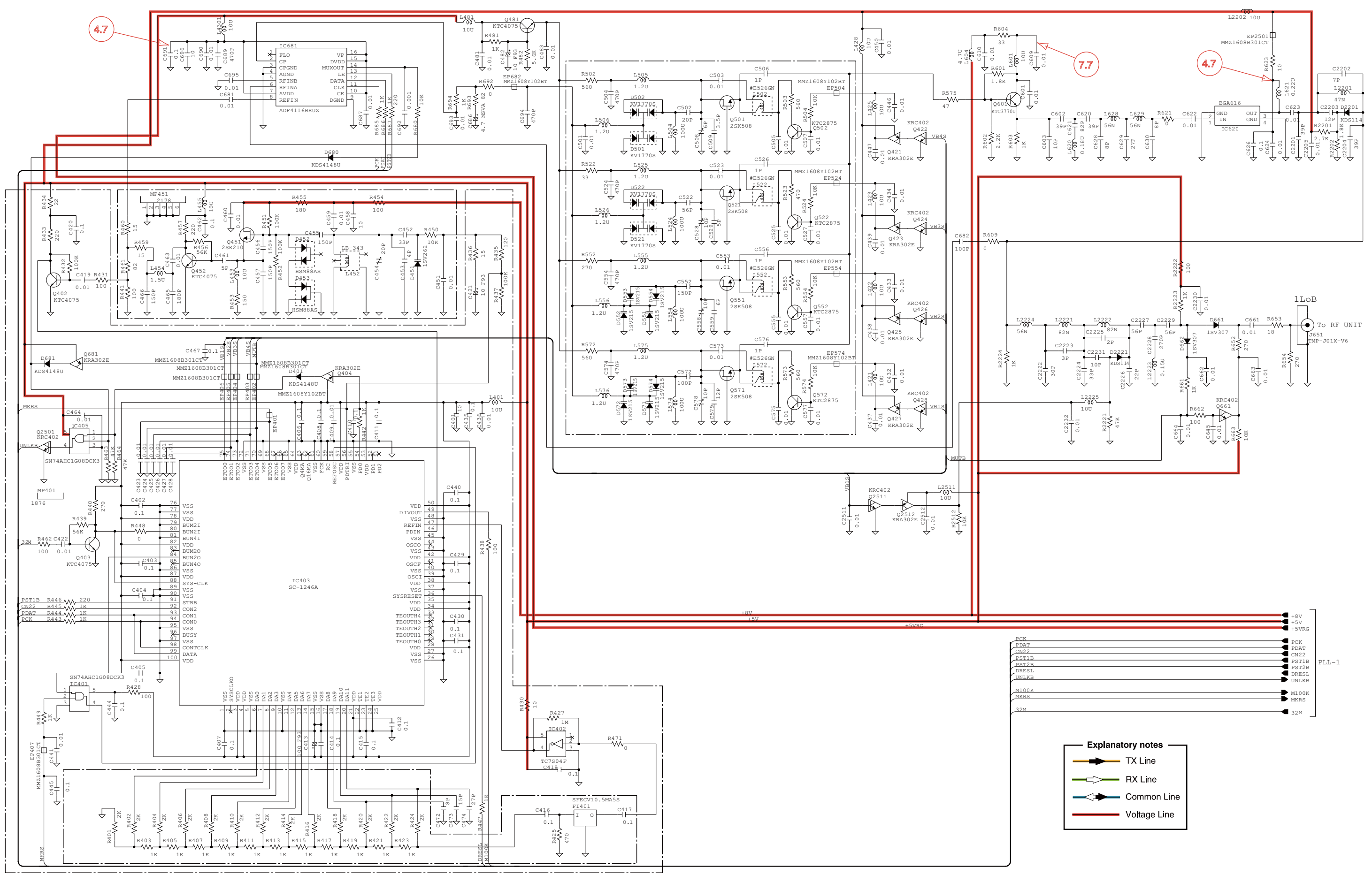
- ▶ TX Line
- ▶ RX Line
- ▶ Common Line
- ▶ Voltage Line

*; Refer to "PARTS LIST."



*; Refer to "PARTS LIST."

PLL UNIT (3/3)

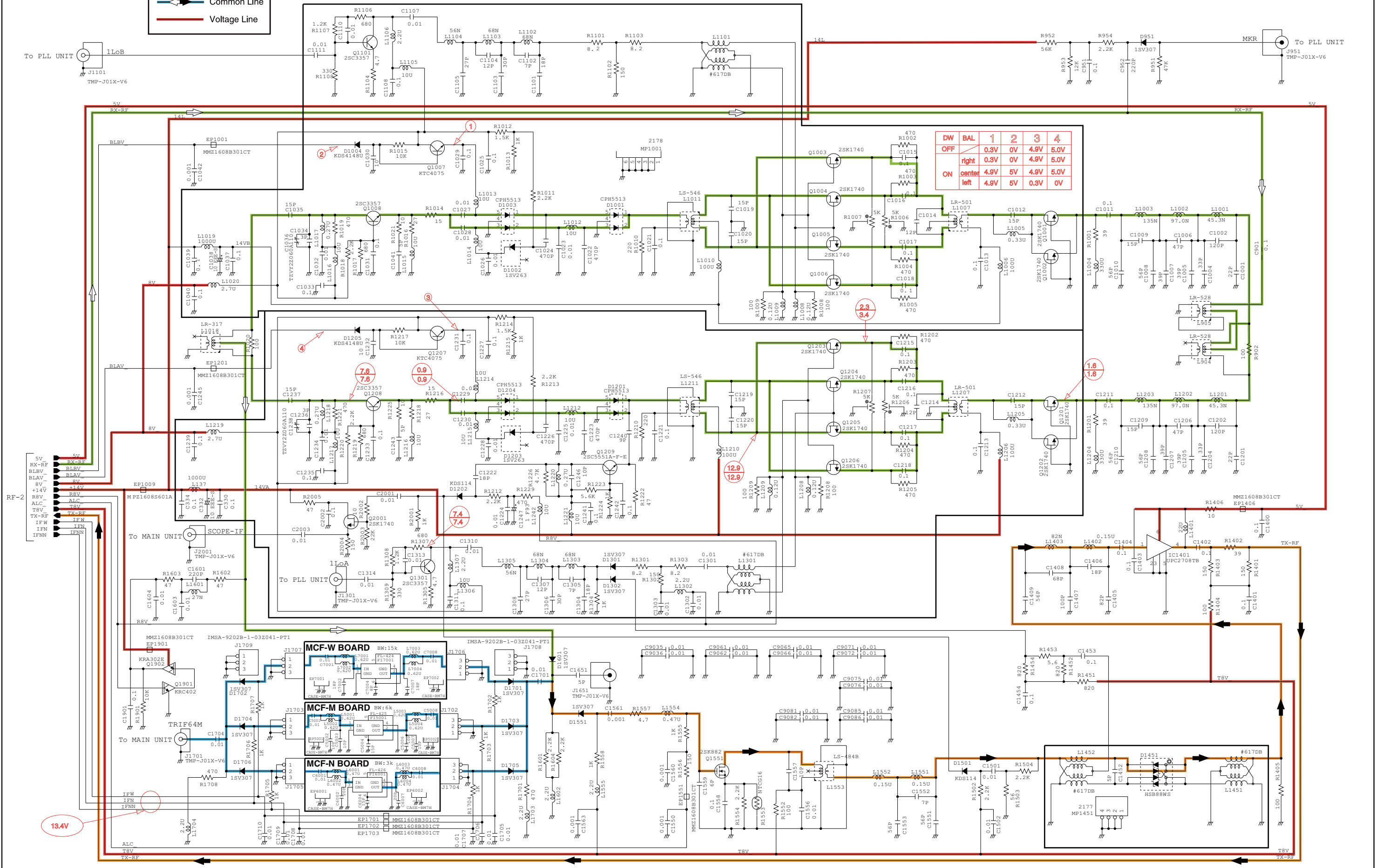
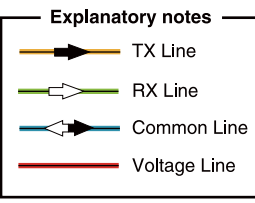


Explanatory notes

- ▶ TX Line
- ▶ RX Line
- ▶ Common Line
- ▶ Voltage Line

*; Refer to "PARTS LIST"

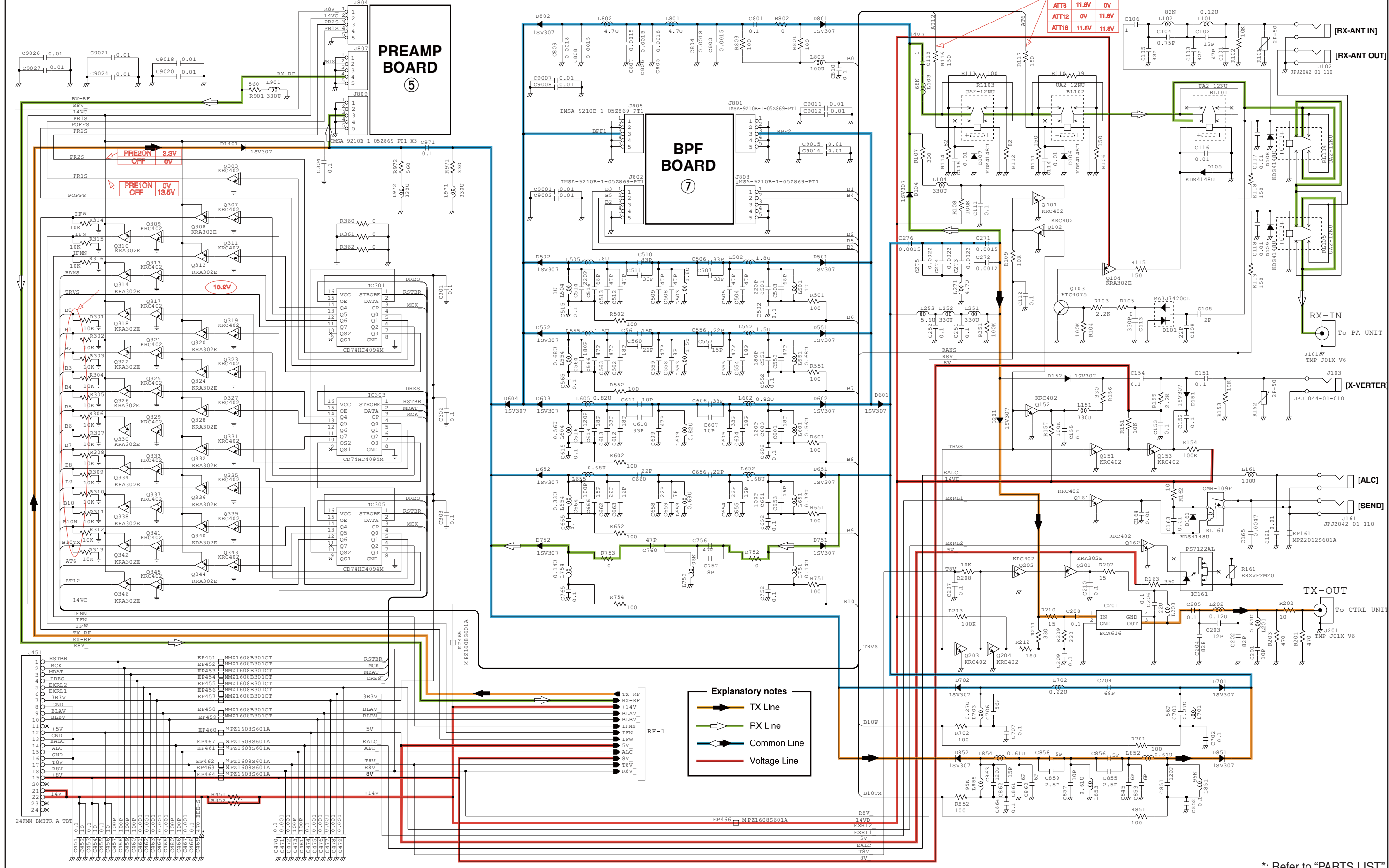
RF UNIT (1/2)



DW	BAL	1	2	3	4
OFF		0.3V	0V	4.9V	5.0V
ON	right	0.3V	0V	4.9V	5.0V
ON	center	4.9V	5V	4.9V	5.0V
ON	left	4.9V	5V	0.3V	0V

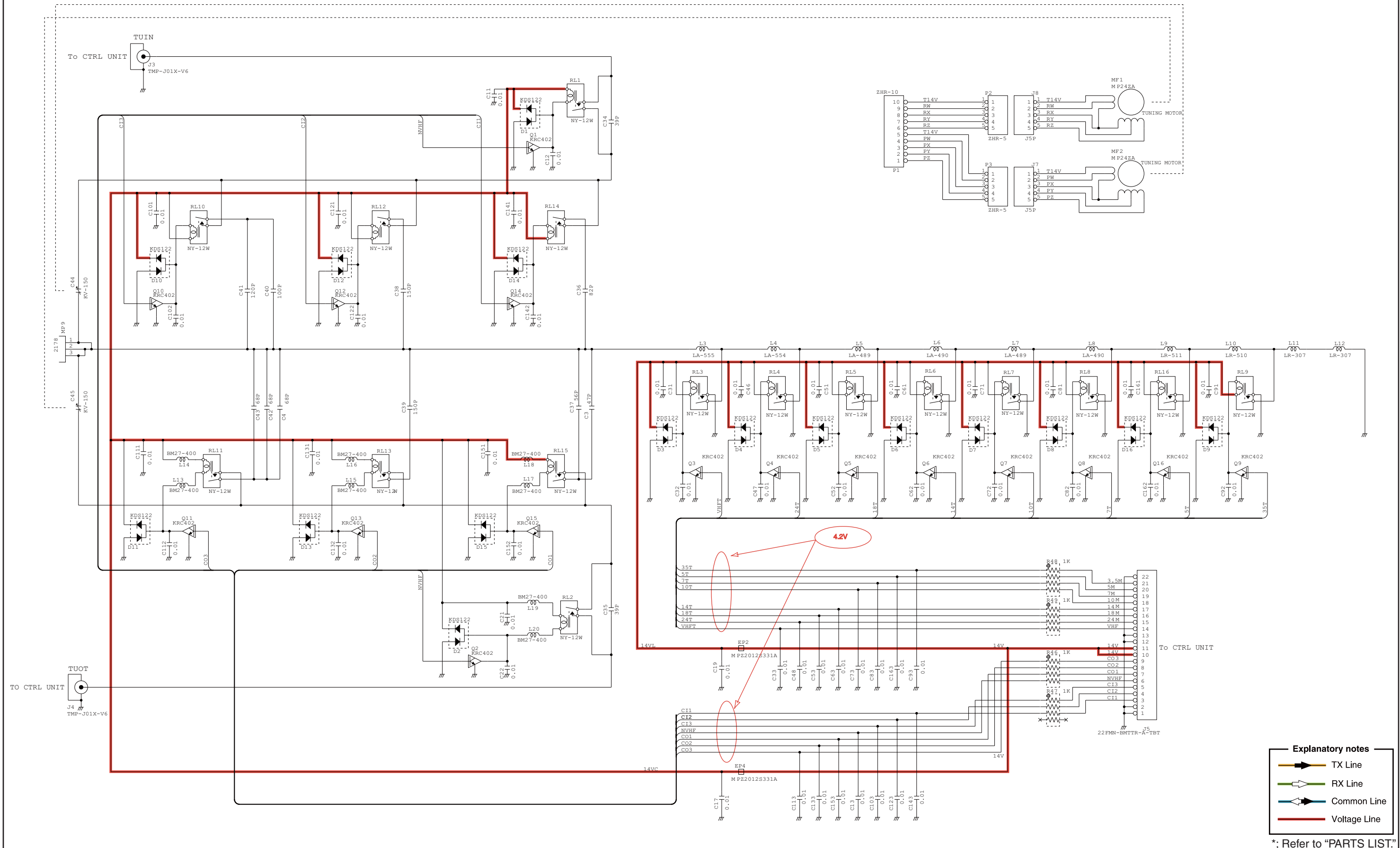
*; Refer to "PARTS LIST"

RF UNIT (2/2)



*; Refer to "PARTS LIST"

TUNER UNIT

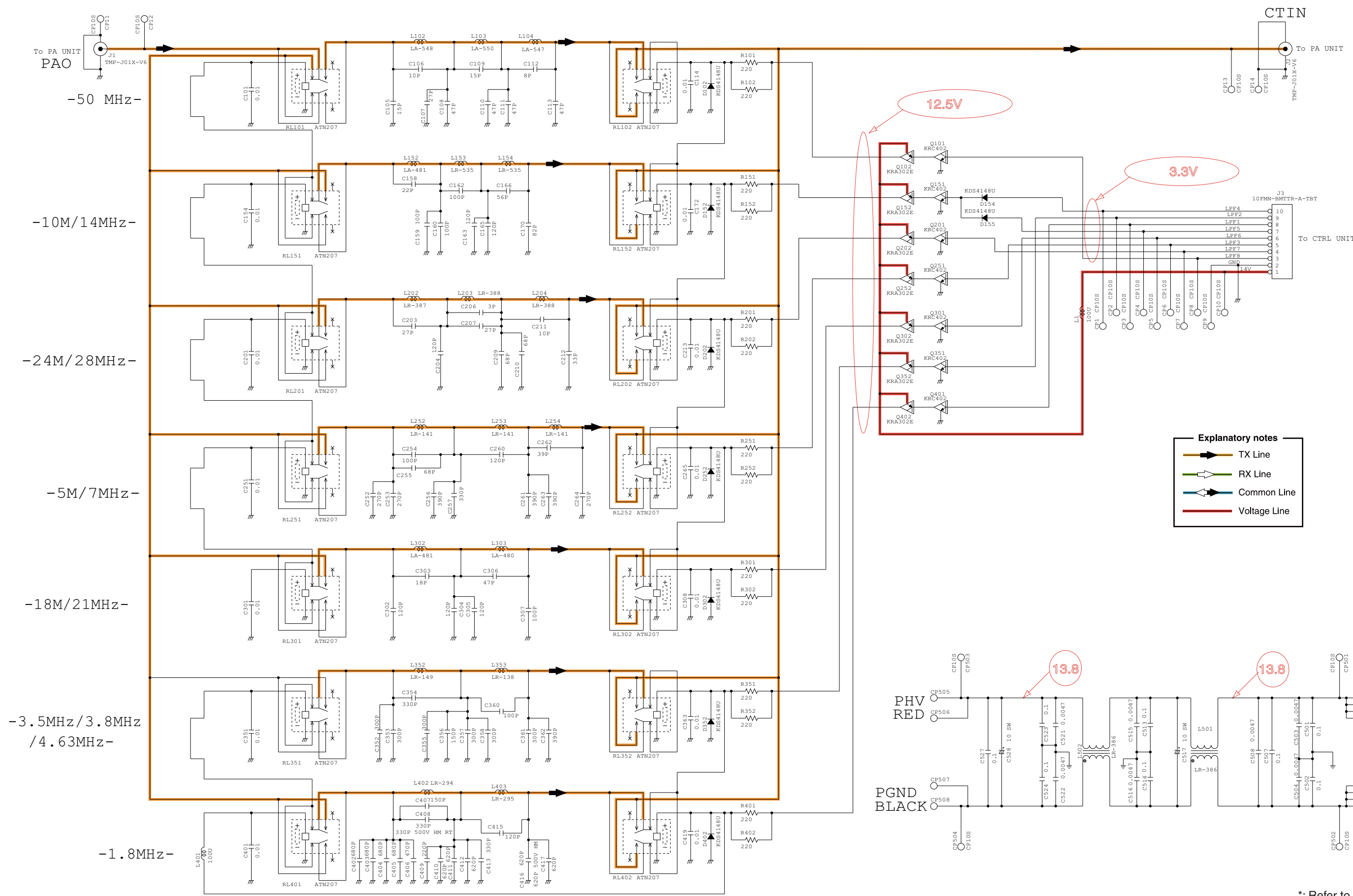


Explanatory notes

- ▶ TX Line
- ▶ RX Line
- ▶ Common Line
- Voltage Line

*; Refer to "PARTS LIST."

FILTER UNIT

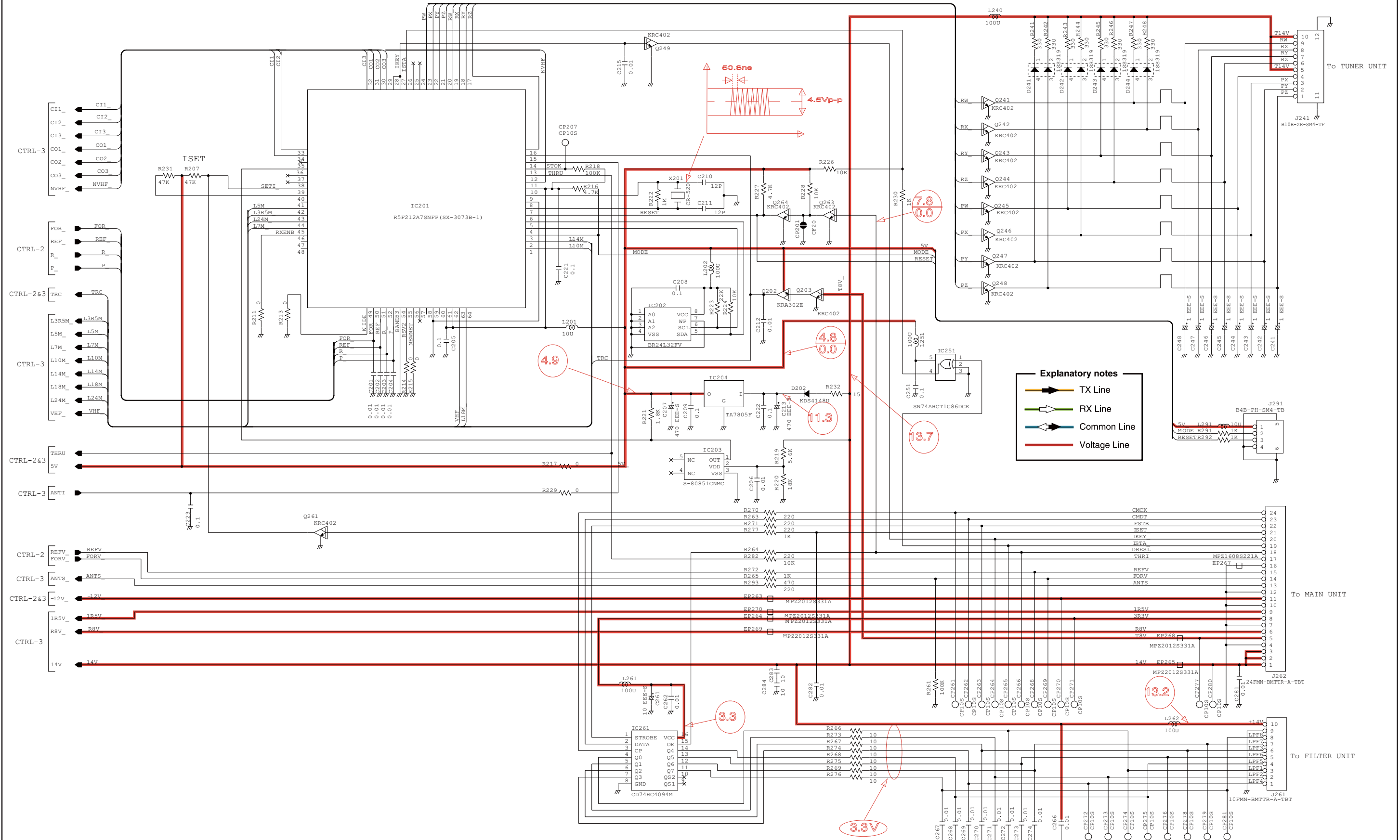


Explanatory notes

- TX Line
- RX Line
- Common Line
- Voltage Line

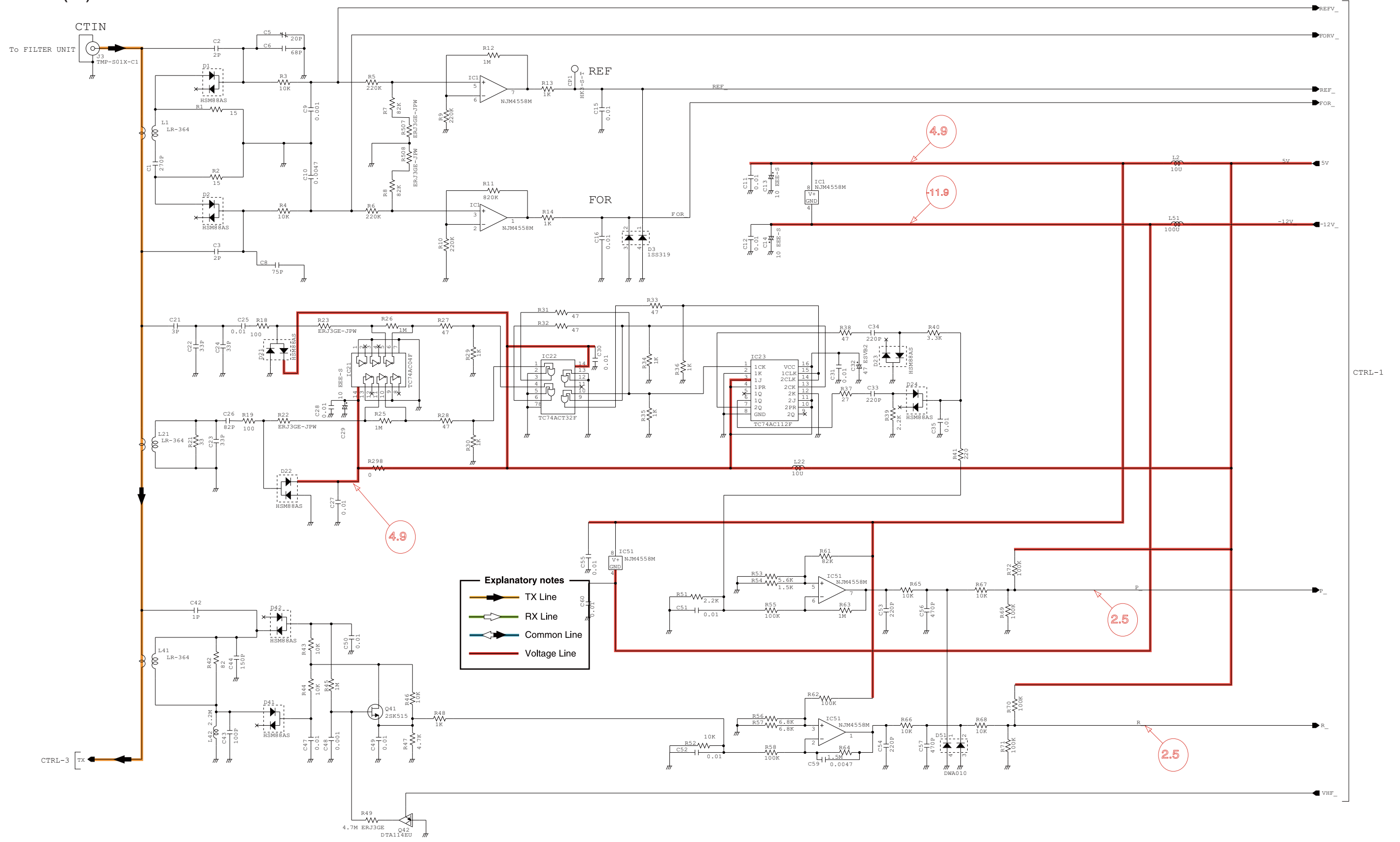
*; Refer to "PARTS LIST."

CTRL UNIT (1/3)



*; Refer to "PARTS LIST"

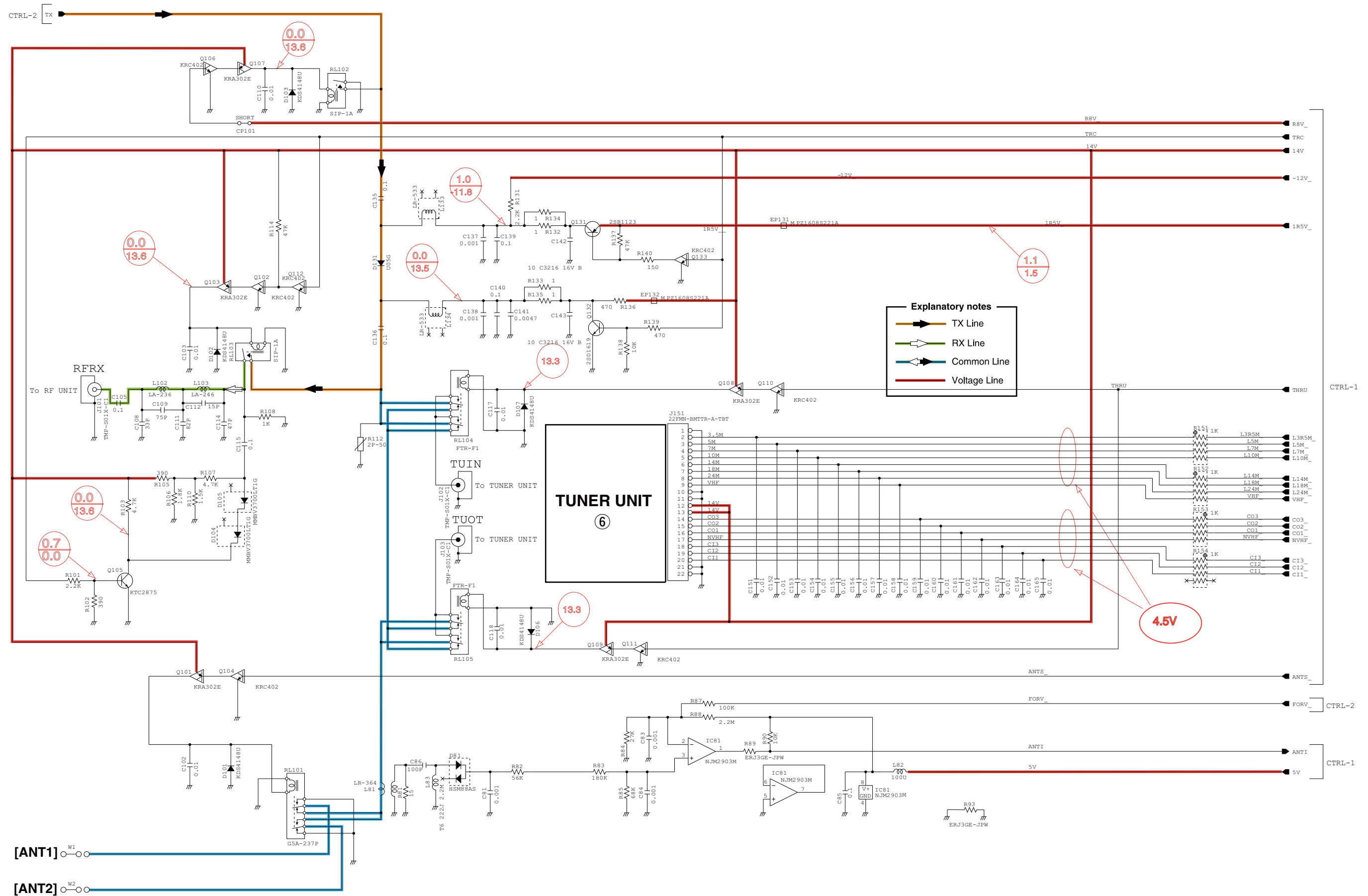
CTRL UNIT (2/3)



CTRL-1

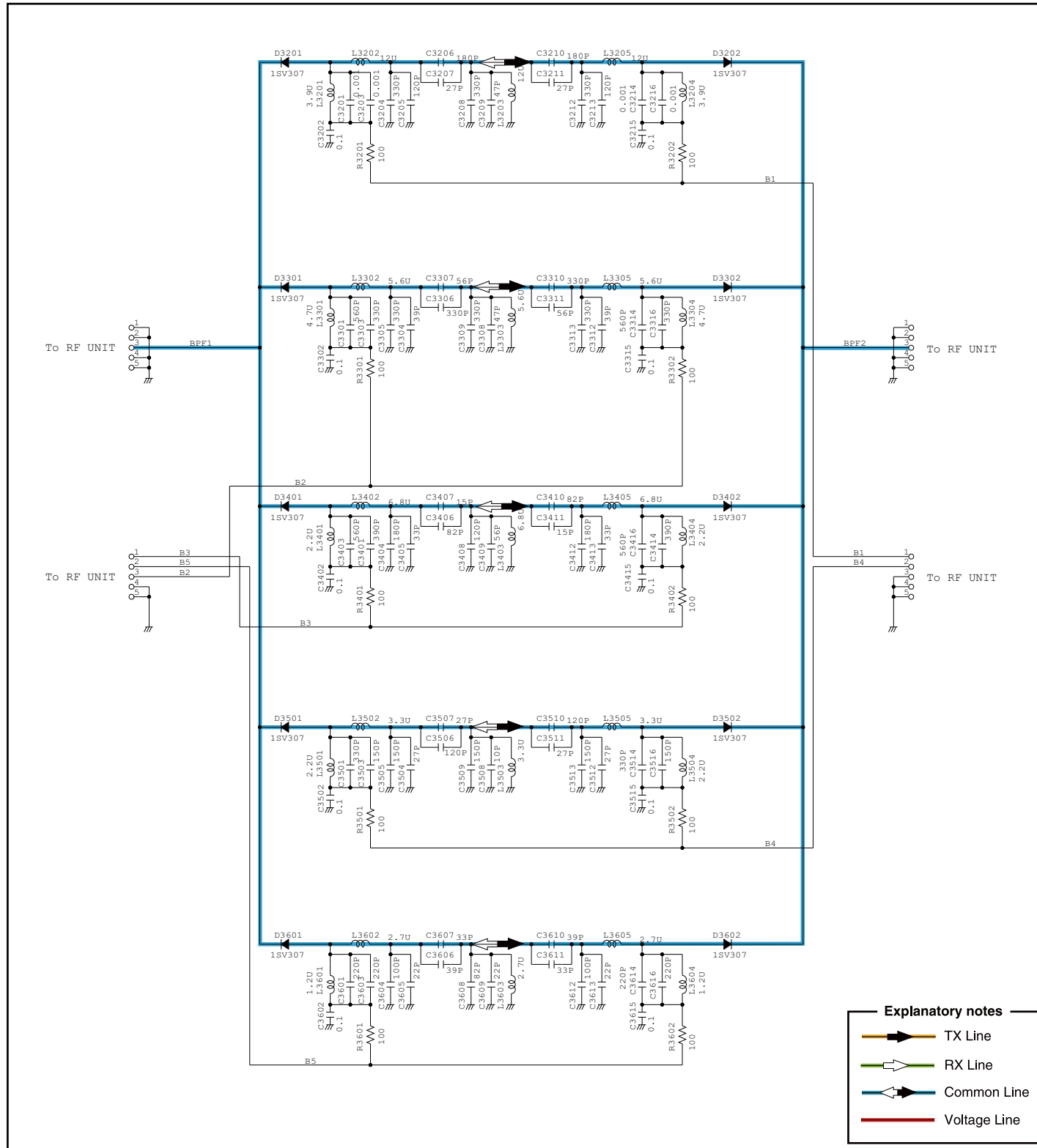
*; Refer to "PARTS LIST"

CTRL UNIT (3/3)



*; Refer to "PARTS LIST."

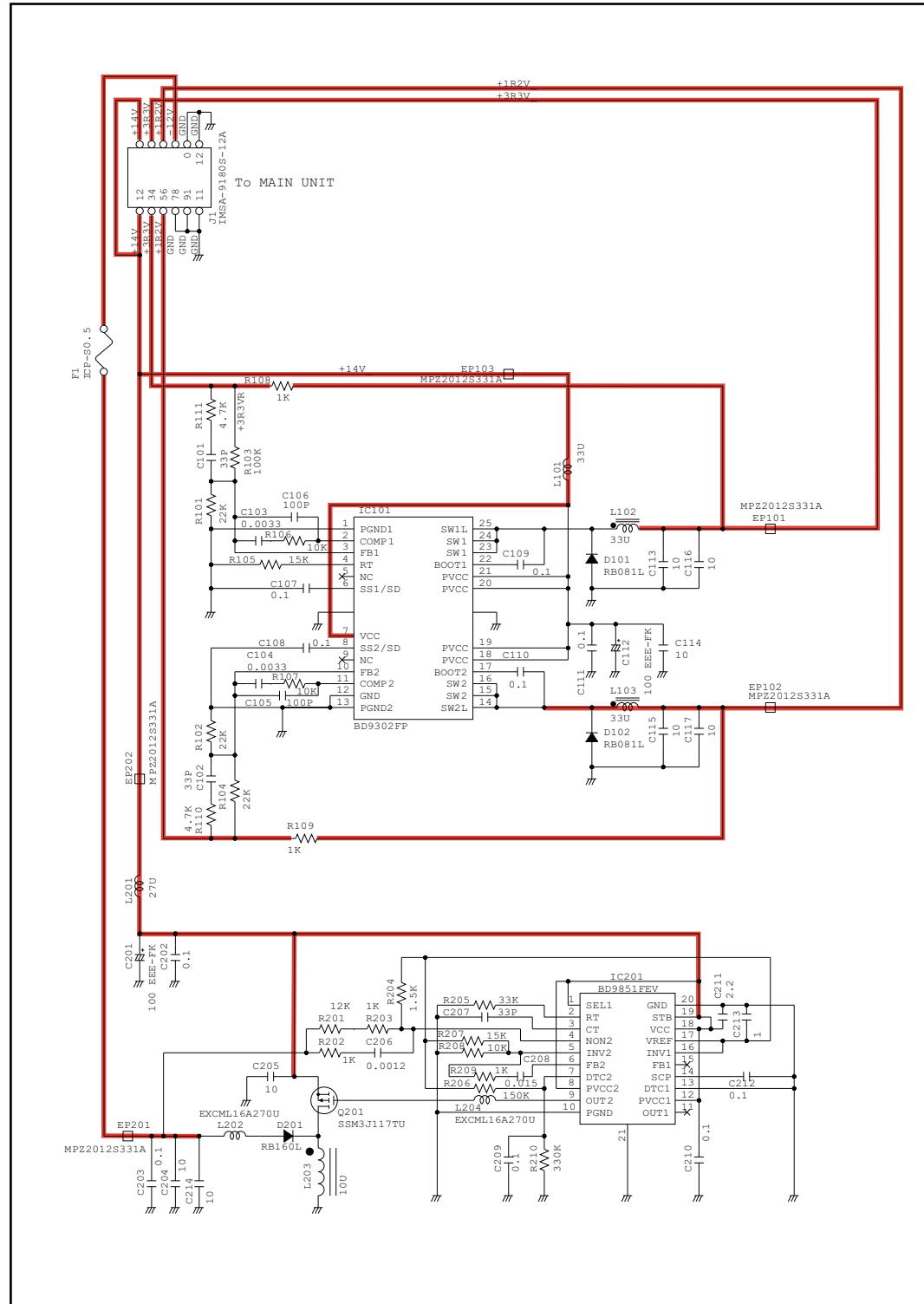
BPF UNIT



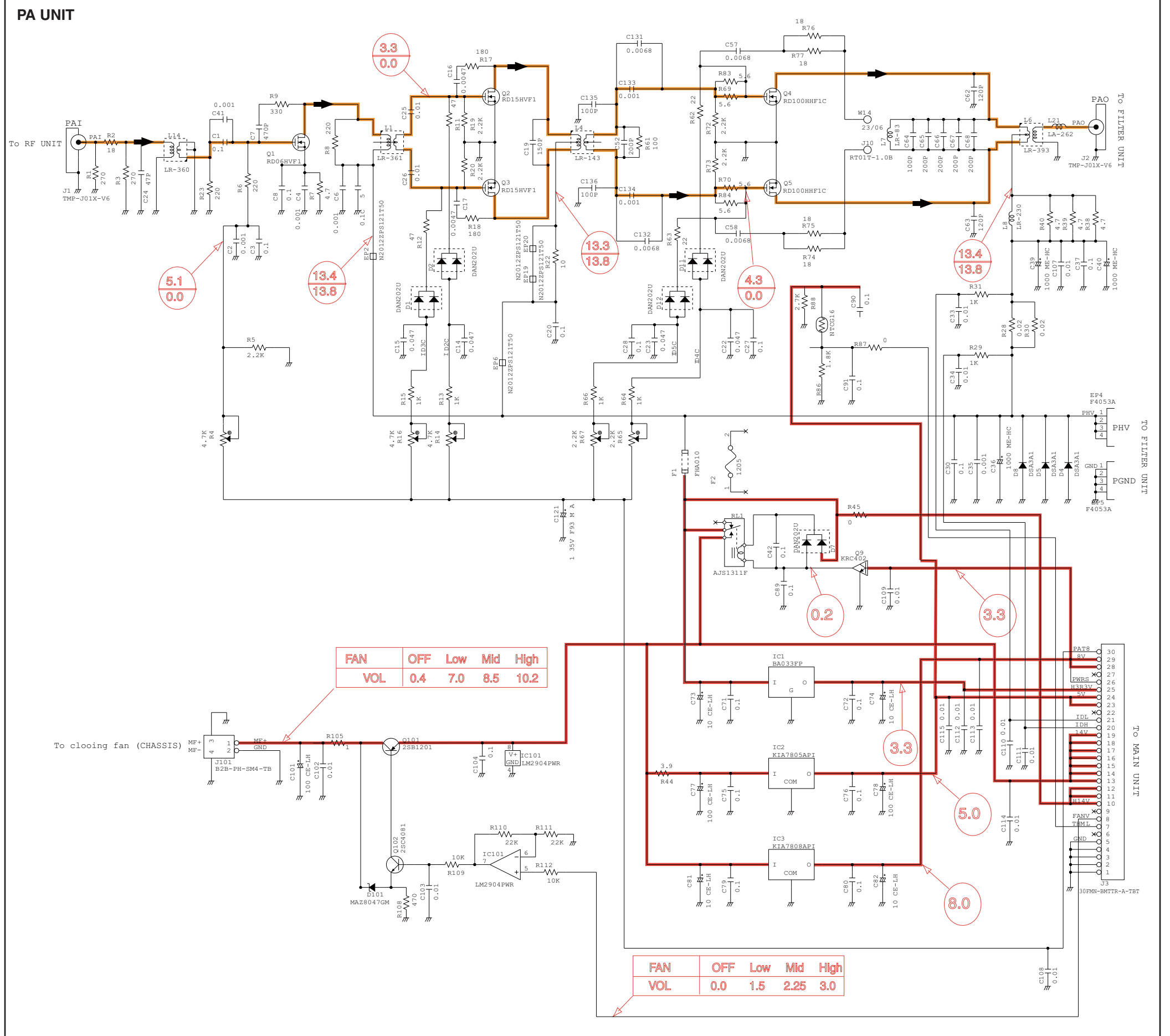
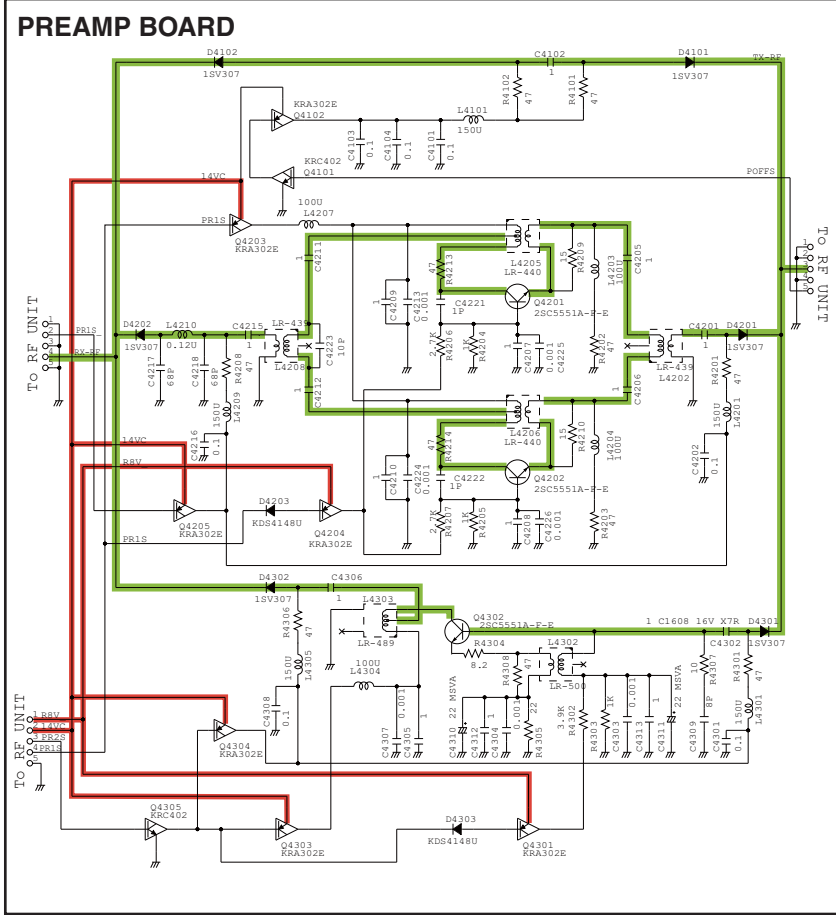
Explanatory notes

- ▶ TX Line
- ▶ RX Line
- ▶ Common Line
- ▶ Voltage Line

DCDC UNIT



*; Refer to "PARTS LIST."



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