



# SERVICE MANUAL

COMMUNICATIONS RECEIVER

# IC-R75

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## INTRODUCTION

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This service manual describes the latest service information for the IC-R75 at the time of publication.

| VERSION  | SYMBOL |
|----------|--------|
| U.S.A.   | USA    |
| Europe   | EUR    |
| U.K.     | UK     |
| S.E.Asia | SEA    |
| Other    | OTH    |

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

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## DANGER

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**NEVER** connect the receiver to an AC outlet or to a DC power supply that uses more than 16 V. Such a connection could cause a fire hazard and/or electric.

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

**DO NOT** reverse the polarities of the power supply when connecting the receiver.

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




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## ORDERING PARTS

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

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

<SAMPLE ORDER>

|                  |             |        |          |           |
|------------------|-------------|--------|----------|-----------|
| 0910051123 PCB   | B-5274C     | IC-R75 | PLL UNIT | 1 pieces  |
| 8810005770 Screw | Bih M3x8 ZK | IC-R75 | Chassis  | 10 pieces |

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

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## REPAIR NOTES

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

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## SECTION 1 SPECIFICATIONS

### ■ GENERAL

- Frequency range :

| Version              | Frequency coverage            |
|----------------------|-------------------------------|
| USA, EUR,<br>UK, OTH | 30 kHz – 60 MHz* <sup>1</sup> |
| SEA                  | 30 kHz – 30 MHz* <sup>2</sup> |

\*<sup>1</sup> Specifications guaranteed for 0.1 – 29.99 MHz and 50 – 54 MHz

\*<sup>2</sup> Specifications guaranteed for 0.1 – 29.99 MHz

- Mode : SSB (LSB, USB), AM, FM, CW, RTTY, S-AM
- Receive system : Triple-conversion superheterodyne

- Intermediate frequencies :

|           | SSB     | CW      | RTTY    | AM, S-AM | FM      |
|-----------|---------|---------|---------|----------|---------|
| 1st (MHz) | 69.0115 | 69.0106 | 69.0105 | 69.0100  | 69.0115 |
| 2nd (MHz) | 9.0115  | 9.0106  | 9.0105  | 9.0100   | 9.0115  |
| 3rd (MHz) | 0.4550  | 0.4559  | 0.4560  | 0.4500   | 0.4500  |

May differ according to selected IF filter.

- Sensitivity :

0.1 MHz – 1.799 MHz (Preamplifiers are OFF)

SSB, CW, RTTY less than 2.0  $\mu$ V for 10 dB S/N

AM, S-AM less than 13.0  $\mu$ V for 10 dB S/N

1.8 MHz – 27.99 MHz (The preamplifier 1 is ON)

SSB, CW, RTTY less than 0.16  $\mu$ V for 10 dB S/N (typical)

AM, S-AM less than 2.0  $\mu$ V for 10 dB S/N

28 MHz – 29.99 MHz (The preamplifier 1 is ON)

SSB, CW, RTTY less than 0.16  $\mu$ V for 10 dB S/N (typical)

AM, S-AM less than 2.0  $\mu$ V for 10 dB S/N

FM less than 0.5  $\mu$ V for 12 dB SINAD

50 MHz – 54 MHz (The preamplifier 2 is ON)

SSB, CW, RTTY less than 0.13  $\mu$ V for 10 dB S/N (typical)

AM, S-AM less than 1.0  $\mu$ V for 10 dB S/N

FM less than 0.25  $\mu$ V for 12 dB SINAD

- selectivity :

SSB, CW, RTTY More than 2.1 kHz/–6 dB  
Less than 4.0 kHz/–60 dB

AM, S-AM More than 6.0 kHz/–6 dB  
less than 20.0 kHz/–50 dB

FM More than 12.0 kHz/–6 dB  
less than 30.0 kHz/–40 dB

- Audio output power : More than 2.0 W at 10 % distortion with an 8  $\Omega$  load

- Antenna impedance : 50  $\Omega$  or 450  $\Omega$

- Squelch sensitivity (threshold) :

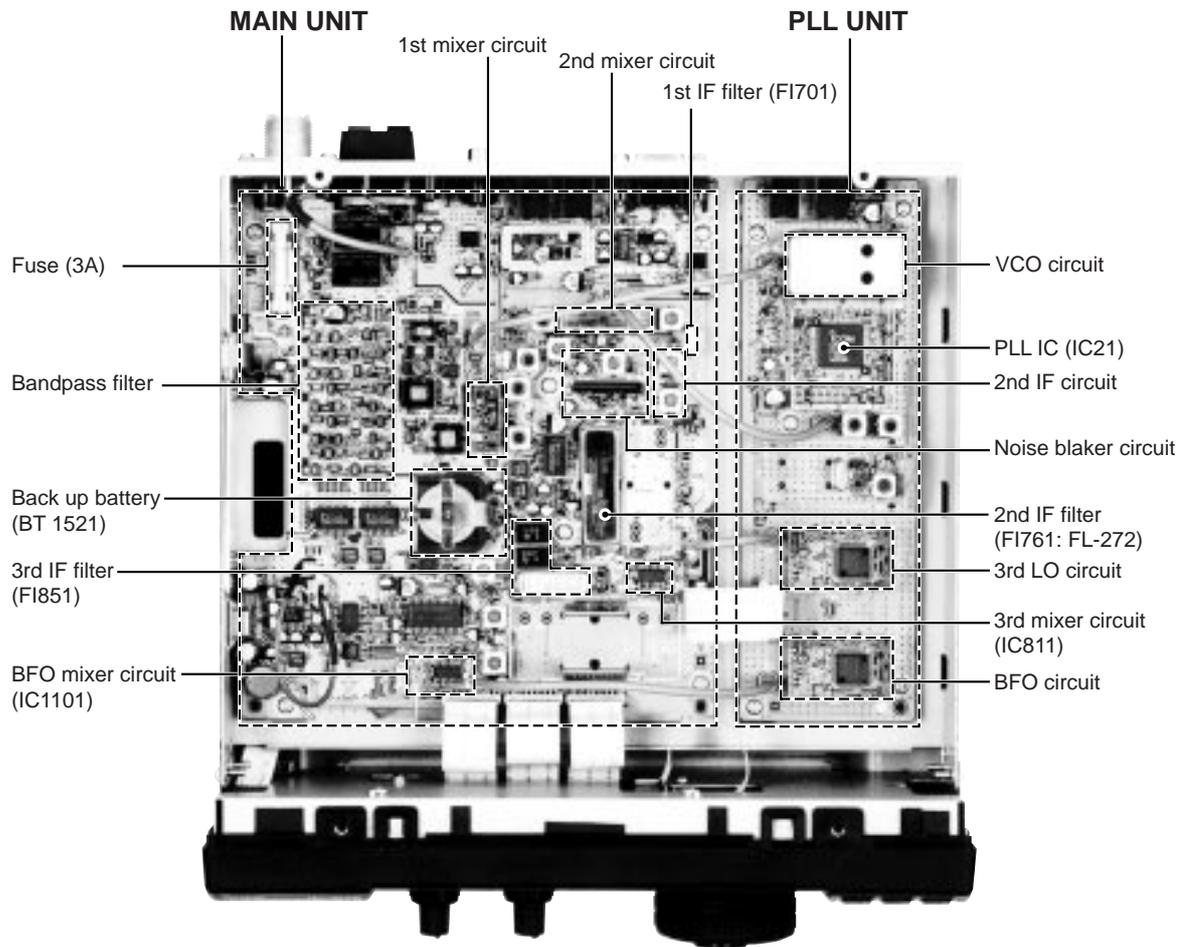
| Frequency (MHz) | SSB                                 | FM                                   |
|-----------------|-------------------------------------|--------------------------------------|
| 0.1 – 1.799     | less than 71 $\mu$ V*               | –                                    |
| 1.8 – 27.99     | less than 5.6 $\mu$ V* <sup>1</sup> | –                                    |
| 28 – 29.99      | –                                   | less than 0.32 $\mu$ V* <sup>1</sup> |
| 50 – 54         | less than 5.6 $\mu$ V* <sup>2</sup> | less than 0.32 $\mu$ V* <sup>2</sup> |

\*Preamplifiers are OFF; \*<sup>1</sup>Preamplifier 1 is ON; \*<sup>2</sup>Preamplifier 2 is ON

- Current drain (13.8 V DC) : Less than 1.3 A (Standby), Less than 1.5 A (Max. audio out)
- Spurious and image rejection : More than 70 dB (0.1 – 1.799 MHz SSB, AM, S-AM are more than 60 dB)
- Dimensions : 241(W)×94(H)×229(D) mm; 9½(W)×3½(H)×9¼(D) inch (projection not included)
- Weight (approximate) : 3.0 kg; 6 lb 10 oz (AC adaptor “AD-55/A/V” is not included)
- Antenna connector : SO-239 (50  $\Omega$ ), push connection terminal (450  $\Omega$ )
- CI-V connector : 2-conductor 3.5 (d) mm (1/8")/8  $\Omega$
- PHONES connector : 3-conductor 6.35 (d) mm (1/8")
- External speaker connector : 2-conductor 3.5 (d) mm (1/8")/8  $\Omega$

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

**SECTION 2    INSIDE VIEWS**



## SECTION 3 CIRCUIT DESCRIPTION

### 3-1 RECEIVER CIRCUITS

#### 3-1-1 RF SWITCHING CIRCUIT (MAIN UNIT)

The IC-R75 has two antenna connectors. RF signals enter either the [50 Ω ANT.] or [450 Ω ANT.] connector.

RF signals from the [50 Ω ANT.] connector are applied to the antenna switching circuit (RL121), and then pass through the low-pass filter (L131, L132, C131–C136).

RF signals from the [450 Ω ANT.] connector are passed through the L101 to exchange the impedance value, and are then applied to the antenna switching circuit (RL121). The signals are applied to the low-pass filter (L131, L132, C131–C136).

Each RF signals from the [50 Ω ANT.] connector or [450 Ω ANT.] connector are chosen by the antenna switching circuit (RL121).

#### 3-1-2 RF FILTER CIRCUIT (MAIN UNIT)

The filtered signals are applied to the RX attenuator switching circuit (RL141). Either the signals bypass or pass through the attenuator circuit. The signals are attenuated at 20 dB when passing through the attenuators. The attenuator system excludes non-linear components between an antenna connector and an attenuator to prevent strong signals from causing distortion. The signals are then applied to the RF filters. The MAIN UNIT has 8 RF bandpass filters for signals above 2.0 MHz and 2 low-pass filters for signals below 2.0 MHz.

#### (1) Below 1.6 MHz

The signals are applied to the low-pass filter consisting of C170–C175, L171–L173 via the limiter circuit (D141, D142). A diode is removed at the entrance of the low-pass filter. This device prevents the diode from causing distortion when receiving very strong signals. A switching diode (D172) is turned on when the “B0” line is “HIGH”.

#### (2) Above 1.6 MHz

The signals are applied to the high-pass filter consisting of C161–C163, L161–L164. This filter suppresses strong signals below 1.6 MHz such as broadcasting stations.

The filtered signal between 1.6 MHz and 2.0 MHz are applied to the low-pass filter (C182–C187, L182, L183) via the switching diode (D181). The switching diodes (D181, D182) are turned ON when the “B1” line is “HIGH”.

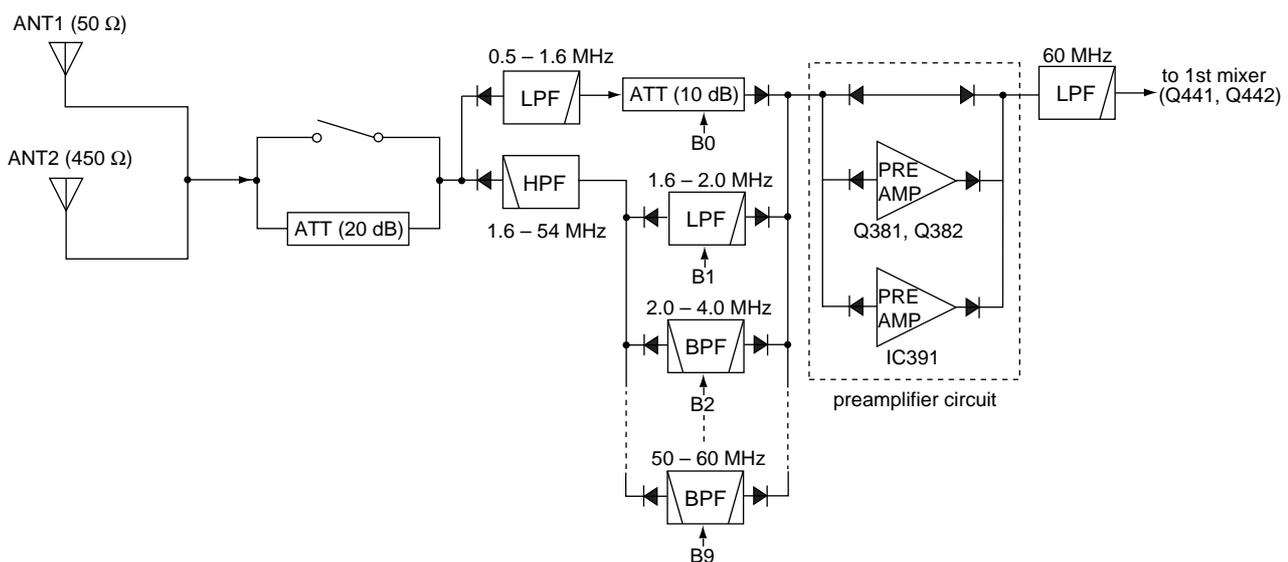
The filtered signals above 2.0 MHz are applied to one of 8 bandpass filters depending on the receive frequencies.

After passing through a bandpass or low-pass filter, the signals are applied to the pre-amplifier circuit (Q381, Q382, IC391).

#### (3) FILTER SWITCHING CIRCUIT

The RF bandpass filter corresponds to the BPF switching voltage (B0–B9) based on the CPU via the shift register (IC551, IC552) and driver (IC561, IC562). The switching voltage of the BPF exit to improve multi-signal and strong signal characteristics.

#### • RF bandpass and preamplifier circuit



**3-1-3 PRE-AMPLIFIER CIRCUIT (MAIN UNIT)**

The pre-amplifier circuit uses low noise junction FETs (Q381, Q382) or wideband amplifier (IC391) to provide gain over a wide frequency range.

When the [P.AMP] switch is turned "PREAMP 1", the signals from the RF filter are amplified by the junction FETs pre-amplifier circuit (Q381, Q382).

When the [P.AMP] switch is turned "PREAMP 2", the signals from the RF filter are amplified by the wideband pre-amplifier circuit (IC391).

When the [P.AMP] switch is turned "PREAMP OFF", the signals from the RF filter bypass the pre-amplifiers through D371 and D372.

The amplified or bypassed signals are applied to the 1st mixer circuit (Q441, Q442) via the low-pass filter (L431, L432 and C431–CC436). The low-pass filter attenuates at 50 MHz to suppress image frequency.

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

The filtered signals are mixed with a 69.0415–129.0115 MHz 1st LO signal to produce a 69.01 MHz 1st IF signal at the 1st mixer circuit (Q441, Q442).

**1ST IF FREQUENCY**

| MODE         | FREQUENCY   |
|--------------|-------------|
| LSB, USB, FM | 69.0115 MHz |
| CW           | 69.0106 MHz |
| RTTY         | 69.0105 MHz |
| AM, S-AM     | 69.0100 MHz |

The 1st mixer circuit employs a balanced mixer using low-noise junction FETs (Q441, Q442) to expand the dynamic range.

The 69.0415–129.0115 MHz 1st LO signal is applied to an LO amplifier (Q411) from the PLL unit via J411, and then passes through the low-pass filter (L421, L422, C422–C425). The filtered signal is applied to the 1st mixer circuit.

The 1st IF signal is applied to the crystal bandpass filter(FI-461) to suppress out-of-band signals. The filtered signal is amplified at a 1st IF amplifier (Q471), and then applied to a 2nd mixer circuit (D491)

**3-1-5 2ND MIXER AND IF CIRCUITS (MAIN UNIT)**

The 1st IF signal is mixed with a 60.0 MHz 2nd LO signal to produce 9 MHz 2nd IF signal at the 2nd mixer (D491, C492, L491, L492). The 60.0 MHz 2nd LO signal is applied to the 2nd mixer from the PLL unit via J491.

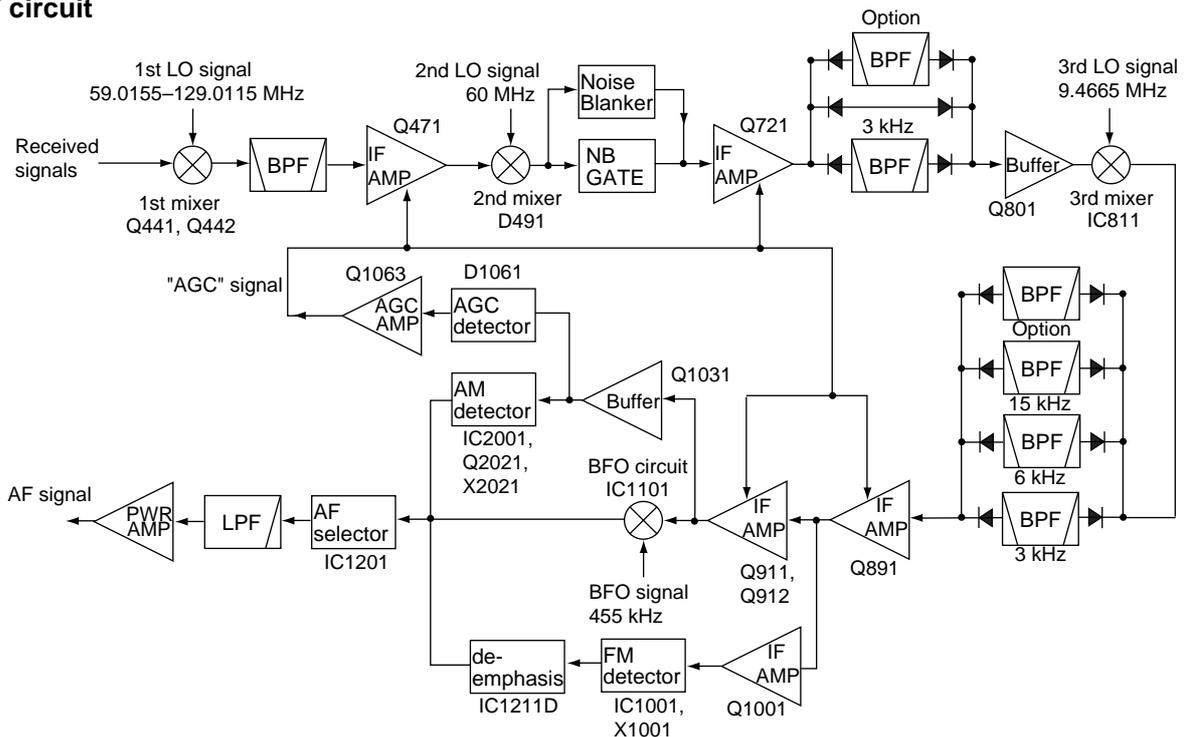
**2ND IF FREQUENCY**

| MODE         | FREQUENCY  |
|--------------|------------|
| LSB, USB, FM | 9.0115 MHz |
| CW           | 9.0106 MHz |
| RTTY         | 9.0105 MHz |
| AM, S-AM     | 9.0100 MHz |

The 9 MHz 2nd IF signal is applied to the crystal bandpass filter (FI701) to suppress unwanted signals.

The filtered signal enters the noise blanker gate (D711–D714). The signal is applied to L712 to obtain clear reception and is then amplified at the 2nd IF amplifier (Q721). The signal passes through a loose resonator circuit (C726, L721) and then is applied to one of the two crystal bandpass filters.

**• IF circuit**



When the [FIL] switch is turned "2F3K", the filter is selected FI761 which covering the 2.4 kHz bandwidth.

When the [FIL] switch is turned "2FOP", the filter is selected an optional filter.

When the [FIL] switch is turned "2FTH", the signal from the 2nd IF amplifier bypass the crystal bandpass filters through D771 and D773.

The filtered or bypassed signal is amplified at the buffer amplifier (Q801) and applied to the 3rd mixer circuit (IC811).

### 3-1-6 NOISE BLANKER CIRCUITS (MAIN UNIT)

The IC-R75 uses a trigger noise blanker circuit which removes pulse-type noise signals at the noise blanker gate (D711–D714).

The 2nd IF signal passes through the crystal bandpass filter (FI701) to suppress unwanted signals. A portion of the output signal is applied to a noise amplifier circuit (IC731, Q731, Q733) and detected at a noise detector circuit (D731). The detected voltage is applied to a noise blanker gate control circuit (Q735–Q737, D732).

The threshold level of the noise blanker gate control circuit (Q735–Q737, D732) is set at 1.0 V on SSB mode (In case of AM mode, is set at 1.6 V). When the detected voltage exceeds the threshold level, Q737 outputs a blanking signal to activate the noise blanker gate (D711–D714).

A portion of the detected voltage is applied to the noise blanker AGC circuit (Q732, Q734). The noise components are fed back to the noise amplifier (IC731). The time constant of the noise blanker AGC circuit is determined by R737, R744 and C739. This AGC circuit does not operate to detect pulse-type noise.

When the operating frequency or mode is changed, the "UNLC" signal is applied to the noise blanker gate control circuit (D732). The noise blanker gate prevents PLL click noise.

### 3-1-7 3RD MIXER AND IF CIRCUITS (MAIN UNIT)

The 2nd IF signal is mixed with a 9.4665 MHz 3rd LO signal to produce a 450–456 kHz 3rd IF signal at the 3rd mixer (IC811).

#### 3RD IF FREQUENCY

| MODE     | FREQUENCY |
|----------|-----------|
| LSB, USB | 455.0 kHz |
| CW       | 455.9 kHz |
| RTTY     | 456.0 kHz |
| AM, S-AM | 450.0 kHz |

The 9.4665 MHz 3rd LO signal is applied to the 3rd mixer IC (IC811, pin 10) from the PLL unit via J811. The 450–456 kHz 3rd IF signal is applied either to one of the 3 ceramic bandpass filters (FI851, FI861, FI871) or to an optional crystal bandpass filter to suppress unwanted signals.

When the [FIL] switch is turned "3F3K", the filter is selected FI851 which covering the 2.4 kHz bandwidth.

When the [FIL] switch is turned "3F6K", the filter is selected FI861 which covering the 6 kHz bandwidth.

When the [FIL] switch is turned "3F15", the filter is selected FI871 which covering the 15 kHz bandwidth.

When the [FIL] switch is turned "3FOP", the filter is selected an optional crystal bandpass filter.

When the mode is selected SSB mode, the filtered 3rd IF signal is amplified at the 3rd IF amplifier (Q891), and is then applied to the 3rd IF amplifier (Q911) via the receiver total gain control circuit (R898). The amplified signal is applied to the SSB demodulator circuit.

When the mode is selected FM mode, the filtered 3rd IF signal is amplified at the 3rd IF amplifier (Q891), and is then applied to the FM demodulator circuit.

When the mode is selected AM mode, the filtered 3rd IF signal is amplified at the 3rd IF amplifier (Q891), and is then applied to the 3rd IF amplifier (Q911) via the receiver total gain control circuit (R898). The amplified signal is applied to the AM demodulator circuit.

1st, 2nd and 3rd IF amplifiers (Q471, Q721, Q891) are controlled by AGC bias voltage.

### 3-1-8 BFO CIRCUIT (PLL UNIT)

The BFO (Beat Frequency Oscillator) circuit consists of Q1, X1, Q201 and IC 201 on PLL unit. The oscillator provides a beat frequency signal to the SSB demodulator circuit (MAIN UNIT; IC1101) for demodulating the 3rd IF signal into an AF signal.

The 30 MHz signal is oscillated at Q1 and X1 for the system clock signal of the DDS IC (IC201). The oscillated signal is amplified at Q201 and is applied to the DDC IC (IC201, pin 7) to produce the 455 kHz BFO signal.

The 455 kHz signal passes through the low-pass filter (L201, L202, C202–C207) via the D/A converter, and is then mixed with the 3rd IF signal at the SSB demodulator circuit (MAIN unit; IC1101).

### 3-1-9 DEMODULATOR CIRCUIT (MAIN UNIT)

The demodulator circuit consists of 3 detector circuits.

#### (1) SSB DEMODULATOR CIRCUIT

A product detector (IC1101) demodulates SSB, RTTY and CW signals into an AF signal. The 3rd IF signal from the IF amplifier (Q911) is mixed with the BFO signal at the product detector (IC1101) to be demodulated into an AF signal. The AF signal passes through the AF input mode selector switch (IC1201).

#### (2) FM DEMODULATOR CIRCUIT

A FM detector (IC1001, X1001) demodulates the FM signal into an AF signal. The 3rd IF signal from the IF amplifier (Q891) is amplified at the 3rd IF amplifier (Q1001), and is then applied to the FM detector (IC1001, X1001) to demodulate the 3rd IF signal. The demodulated signal is applied to the de-emphasis circuit (IC1211D) to produce the FM AF signal. The AF signal passes through the AF input mode selector switch (IC1201).

The FM detector outputs “FMNL” signal from IC1001, pin 14 is applied to the CPU (LOGIC unit; IC101, pin 94) to control the noise squelch level.

### **(3) AM DEMODULATOR CIRCUIT**

The AM demodulator circuit (IC2001) has the envelope detect function and the synchronous detect function.

An AM detector (IC2001) demodulates the AM signal into an AF signal. The 3rd IF signal from the IF amplifier (Q911) is amplified at the buffer amplifier (Q1031), and is then applied to the AM demodulator circuit (IC2001) to demodulate the 3rd IF signal into the AM AF signal. The AF signal which is the AM envelope detect the AF signal or the AM synchronous detect AF signal passes through the AF input mode selector switch (IC1201).

### **3-1-10 AF INPUT MODE SELECTOR SWITCH (MAIN AND LOGIC UNITS)**

The AF input mode selector switch (MAIN unit; IC1201) consists of 4 analog switches. The switches are selected mode signals of “AFS1” and “AFS2” from the CPU (LOGIC unit; IC101) via the shift register (MAIN unit; IC1601), and are selected by the squelch control signal from the CPU (LOGIC unit; IC101). The AF signal is output from IC1201 (MAIN unit; pin 13).

### **3-1-11 AF AMPLIFIER CIRCUIT (MAIN AND FRONT UNITS)**

The AF signal output is passed through the low-pass filter (IC1211) to suppress unwanted signals. The filtered signal is mixed with “BEEP” signal at the AF level variable circuit (MAIN unit; IC1251), and is then applied to the AF amplifier circuit and the AF level variable circuit (IC1251).

The AF level variable circuit controls the AF level by the “AF GAIN” (R141) on the VR BOARD. The AF signal is applied to the AF mute circuit to suppress the noise when “AF GAIN” (R141) level is minimum, and is then power-amplified at IC1291 on the MAIN unit to drive the speaker.

The one of the AF amplified signal is output “AAFO” signal to record the AF signal to the AF recording jack (PLL unit; J3).

### **3-1-12 AGC AND S-METER CIRCUITS (MAIN UNIT)**

The AGC (Automatic Gain Control) circuit reduces signal fading and keep the audio output level constant. The receiver gain is determined by voltage on the AGC line (Q1063, collector). When strong signals are received, the AGC circuit decreases the voltage on this line.

The 3rd IF signal is amplified at the IF amplifier (Q911). A portion of the 3rd IF signal is applied to the buffer amplifier (Q1031) to convert the impedance. The amplified IF signal is detected at the AGC detector (D1061) via the C1061, and enters the base of the AGC amplifier (Q1063) to control the voltage on the AGC line.

The AGC mode is selected by the receiver mode or AGC switch on the front panel using the delay control circuit (Q1064–Q1066). The MDAT signal from the CPU (LOGIC board; IC101, pin 21) is applied to the shift resistor (IC1601, pin 2) to produce the AGSS and the AGFS signals. The AGSS signal is applied to the Q1064, the AGFS signal is applied to the Q1065, the AGRS signal from the CPU (LOGIC unit; IC101, pin 80) is applied to the Q1066 to control the delay control circuit.

The AGRS signal resets the AGC circuit when IC-R75 is working the memory scanning.

When the AGC switch is selected “OFF”, the Q1061 do not supply the voltage to the AGC amplifier (Q1063) via the “AGOS” line, determining the time constant to deactivate the AGC circuit.

A portion of the AGC bias voltage is amplified at the S-Meter amplifier circuit (IC1211C, D831), and then applied to the CPU (LOGIC unit; IC101, pin 95) via the “SML” line. Thus, the CPU controls S-Meter display.

### **3-1-13 SQUELCH CIRCUIT (MAIN AND LOGIC UNIT)**

The “SML” signal is applied to the CPU (LOGIC unit; IC101, pin 91) from the meter amplifier circuit (IC1211C, D831). The CPU compares “SML” signal with the level of SQL volume on the VR BOARD to control the “SQL” signal.

The CPU is output the “SQLS” signal from pin 81, and then applied to the AF selector circuit (MAIN unit; IC1201, pin 6) which has also the squelch gate circuit.

## **3-2 PLL CIRCUITS**

### **3-2-1 GENERAL DESCRIPTION**

The PLL unit generates a 1st LO signal (69.0415–129.0115 MHz variable), 2nd LO signal (60 MHz), 3rd LO signal (9.4665 MHz) and BFO signal (455 kHz) used in the MAIN unit.

The IC-R75 uses a DDS (Direct Digital synthesizer) system. The DDS system provides rapid lockup time and high quality frequency oscillation.

### **3-2-2 REFERENCE OSCILLATOR CIRCUIT (PLL CIRCUIT)**

The 30 MHz reference oscillator circuit consists of X1 and Q1. The 30 MHz reference frequency is oscillated to produce all of the LO signals.

### **3-2-3 1ST LO CIRCUIT (PLL AND MAIN UNIT)**

The 30 MHz reference frequency is applied to the DDS-IC (PLL unit; IC21, pin 40) to oscillate the 1st LO signal. The reference frequency is compared to the DDS output signal (PLL unit; IC21, pin 46) to oscillate the PLL lock voltage. The PLL lock voltage controls the oscillate frequency of the VCO1 and VCO2 circuit.

The oscillated signal at the VCO1 and VCO2 circuit is amplified at the LO-amplifier (PLL unit; Q91), and passes through the low-pass filter (PLL unit; Q92, D91, D92, L91, L93, C96–C100, C102, C103) to suppress high harmonic components. The low-pass filter controls the cut-off frequency of less than 29.999 MHz and more than 30.000 MHz by switching C102 and C103 "ON" and "OFF" respectively.

The filtered signal is applied to the LO-amplifier (MAIN unit; Q411), and is then applied to the 1st mixer circuit (MAIN unit; Q441, Q442) via the low-pass filter (MAIN unit; L421, L422, C422–C425).

The reference frequency from the LO-amplifier (PLL unit; Q91) is also divided by 4 at IC22, and is applied to the DDS-IC (PLL unit; IC21, pin 88) for the clock signal.

**3-2-4 2ND LO CIRCUIT (PLL AND MAIN UNIT)**

The 30 MHz reference frequency from the Q1 and X1 on the PLL unit is multiplied by 2 at Q2 on the PLL unit. The 60 MHz 2nd LO signal is obtained at the L4 and L5 on the MAIN unit, and is then applied to the 2nd mixer circuit (MAIN unit; D491) via the 3dB attenuator (MAIN UNIT; R491–R493).

**3-2-5 3RD LO CIRCUIT (PLL AND MAIN UNIT)**

The 30 MHz reference frequency is oscillated at the Q1 and X1 on the PLL unit, and is then amplified at the Q151 on the PLL unit. The amplified signal is applied to the 10 bits DDS-IC (PLL unit; IC151, pin 7) for the clock signal to produce the 9.4665 MHz 3rd LO signal. The 3rd LO signal is applied to the D/A converter circuit, and passes through the low-pass filter (PLL unit; L151, L152, C152–C157) to suppress spurious components. The filtered 9.4665 MHz 3rd LO signal is applied to the 3rd mixer circuit (MAIN unit; IC811, pin 10)

**3-2-6 BFO CIRCUIT (PLL AND MAIN UNIT)**

The 30 MHz reference frequency is amplified at the Q201 on the PLL unit, and is applied to the 10 bits DDS-IC (PLL unit; IC201, pin 7) for the clock signal to produce the 455 kHz BFO signal. The BFO signal is applied to the D/A converter circuit, and passes through the low-pass filter (PLL unit, L201, L202, C202–C207) to suppress spurious components. The filtered 455 kHz BFO signal is applied to the BFO mixer circuit (MAIN unit; IC1101, pin 10).

**3-2-7 VCO CIRCUIT**

The VCO circuit consists of the VCO1 circuit (PLL unit; Q71, Q72, D71) and VCO2 circuit (PLL unit; Q81, Q82, D81). The VCO1 controls less than displayed frequency of 29.999 MHz to use the PLL lock voltage from the DDS-IC. The VCO2 controls more than displayed frequency of 30.000 MHz to use the PLL lock voltage from the DDS-IC.

**3-3 LOGIC CIRCUITS**

The LOGIC circuit consists of the CPU, the reset circuit, backup battery circuit, and so on.

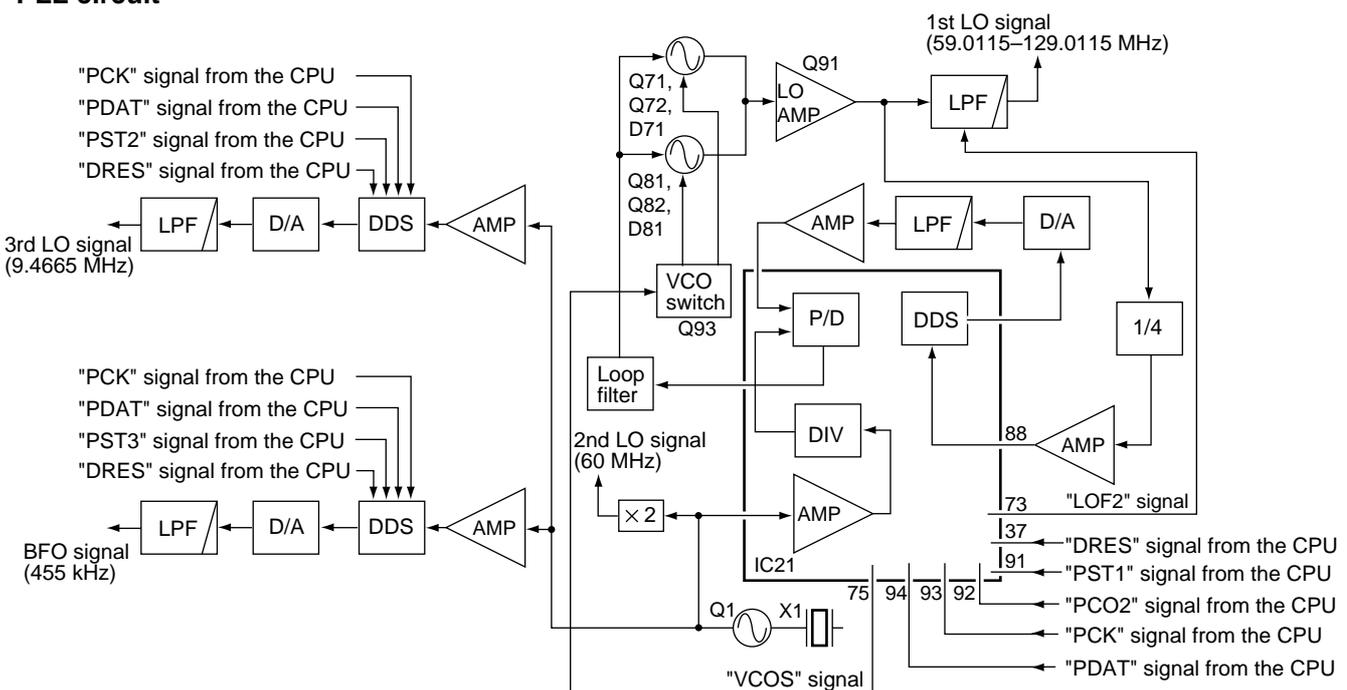
**3-3-1 CPU (LOGIC UNIT)**

The CPU (IC101) contains 8-bit one chip CPU. The CPU controls the operating frequency, mode, function, display, panel switches, panel volumes.

The panel switches are connected the CPU input port to the function of the panel switch or are connected some functions of panel switches to the A/D converter input port in the CPU.

The CI-V signal which is used for communicate to the personal computer is controlled by the level control circuit (IC401A, IC401B, Q401 and so on).

**• PLL circuit**



The CPU has the clock function. Thus, the CPU and the clock function have the crystal separately. The CPU has the 9.8304 MHz crystal (X112) for the CPU clock, and then the oscillated 9.8304 MHz signal is applied to the IC101, pin 7 and 8. The clock function has the 32.768 kHz crystal (X111). The oscillated 32.768 kHz signal is applied to the CPU (IC101, pin 4 and 5).

When the power is "OFF", the EEPROM (IC231) is used for keep on saving the data of memory channels, and so on.

### 3-3-2 RESET CIRCUIT (LOGIC UNIT)

The reset circuit consists of Q391, D381, D382, D393, IC391 and IC392. When IC-R75 is supplied 13.8 V to connect the AC adapter, the "HV" signal is applied to the IC391, pin 2. The signal which is output from the IC391, pin 1 is applied to the IC392, pin 1. The signal is applied to the Q391, and is then output to the CPU (IC101, pin 9) as "CRES" reset signal.

A portion of the output signal from the IC392 is input to the CPU (IC101, pin 82) as "BKUP" signal to backup the clock data.

### 3-3-3 BACKUP SWITCH CIRCUIT (LOGIC UNIT)

IC-R75 has a backup switch circuit (Q511 and Q512). When IC-R75 is supplied to 13.8 V to connect the AC adapter, the "H5V" signal is applied to Q512, pin 4, and then Q511 is OFF. When the AC adapter is disconnected, the "BATT" signal from the battery (MAIN unit; BT1521) is applied to the Q511, and then Q512 is OFF.

The output signal is applied to the CPU (IC101, pin 31) as "B5V" signal to keep on working the clock function.

The backup battery is not used while the AC adapter is connected.

## 3-4 POWER SUPPLY CIRCUITS

### 3-4-1 VOLTAGE LINES (MAIN UNIT)

| Line | Description  |
|------|--|
| HVR  | The voltage from the connected DC power supply.  |
| H5V  | Common 5 V converted from the "HVR" line by the +5 regulator circuit (IC1361).   |
| 14V  | Common 14 V converted from the "HVR" line by the regulator circuit (IC1371 and D1371). The output voltage is applied to the pre-amplifier (Q381 and Q382) via the PRE1 regulator circuit (Q383) and the IF-amplifier (Q471) via the R14V regulator circuit (Q472).                                     |
| R8V  | Receive 8 V converted from the "14V" line by the R8 regulator circuit (Q1381, Q1382 and D1381). The output voltage is applied to the IF-amplifier (Q912, Q471), the switch control circuit (Q151), and the driver circuit (IC561 and IC562, pin 9).  |
| 8V   | Common 8 V converted from the "14V" line by the +8 regulator circuit (IC1391). The output signal is applied to the low-pass filter (IC1211A, pin 4), buffer amplifiers (Q1051 and Q801), the pre-amplifier (IC391) via the REG2 regulator circuit (Q391) and the AM detector circuit (IC2001, pin 25). |
| 5V   | Common 5 V converted from the "14V" line by the +5 regulator circuit (IC1401).   |
| -5V  | Common -5 V converted from the "14V" line by the -5 V DC-DC convertor circuit (IC1411, D1412 and D1413).   |

**3-5 PORT ALLOCATIONS****3-5-1 CPU (LOGIC UNIT; IC101)**

| Pin number | Port name | Description   |
|------------|-----------|---|
| 1          | KEY6      | Input port for [0] and [ENT] switch from the 10-key.  |
| 9          | CRES      | Input port for the reset signal.<br>Low : While the reset switch is pushed.                   |
| 11         | PWRK      | Input for the [POWER] switch.<br>Low : While [POWER] switch is pushed.                        |
| 12         | DUD       | Input port for the UP signal from the [MAIN DIAL].  |
| 14         | DAST      | Outputs strobe signals for the D/A converter (LOGIC unit; IC351).                             |
| 15         | RSTB      | Outputs strobe signals for the shift register (MAIN unit; IC551, IC552).                      |
| 16         | ISTB      | Outputs strobe signals for the shift register (MAIN unit; IC1602).                            |
| 17         | ASTB      | Outputs strobe signals for the shift register (MAIN unit; IC1601).                            |
| 18         | ECS       | Outputs ECS signals for the EEPROM (LOGIC unit; IC231).                                       |
| 19         | MCK       | Outputs clock signal to the EEPROM and shift registers.                                       |
| 21         | MDAT      | Outputs data signals to the EEPROM, shift registers, etc.                                     |
| 22         | PCK       | Outputs clock signals to the PLL IC (PLL unit; IC21) and the DDS IC (PLL unit; IC151, IC201). |
| 23         | PST1      | Outputs strobe signals for the PLL IC.  |
| 24         | PDAT      | Outputs data signals to the PLL IC and the DDS IC.  |
| 25         | PST2      | Outputs strobe signals for the DDS IC (IC151).  |
| 26         | PST3      | Outputs strobe signals for the DDS IC (IC201).  |
| 36         | SSBK      | Input port for the [SSB] switch.  |
| 37         | CWK       | Input port for the [CW] switch.   |
| 38         | AMK       | Input port for the [AM] switch.   |
| 39         | FMK       | Input port for the [FM] switch.   |
| 40         | FILK      | Input port for the [FIL] switch.  |
| 41         | TSK       | Input port for the [TS] switch.   |
| 42         | PREK      | Input port for the [P.AMP] switch.  |
| 43         | ATTK      | Input port for the [ATT] switch.  |
| 44         | NRK       | Input port for the [NR] switch.   |
| 45         | ANFK      | Input port for the [ANF] switch.  |
| 46         | NBK       | Input port for the [NB] switch.   |
| 47         | AGCK      | Input port for the [AGC] switch.  |
| 48         | VMK       | Input port for the [V/M] switch.  |

| Pin number | Port name | Description  |
|------------|-----------|--|
| 49         | MWK       | Input port for the [MW] switch.  |
| 50         | CLRK      | Input port for the [CLR] switch.   |
| 51         | SELK      | Input port for the [SEL] switch.   |
| 52         | SCAK      | Input port for the [SCAN] switch.  |
| 53         | UPK       | Input port for the [UP] switch.  |
| 54         | DNK       | Input port for the [DN] switch.  |
| 55         | LOCK      | Input port for the [LOCK] switch.  |
| 56         | SETK      | Input port for the [SET] switch.   |
| 57         | CLKK      | Input port for the [CLOCK] switch.   |
| 63         | DRES      | Outputs reset signal to the PLL IC and DDS IC.<br>Low: PLL IC and DDS IC is reset.   |
| 77         | PWRS      | Outputs control signal for the regulator circuit (MAIN unit; IC1371 and D1371).  |
| 78         | BEEP      | Outputs beep audio signals.  |
| 79         | RXS       | Outputs control signal for the R8 regulator circuit (MAIN unit; Q1381, Q1382, D1381).  |
| 80         | AGRS      | <ul style="list-style-type: none"> <li>• Outputs AGC reset signal to the AGC delay control circuit (MAIN unit; Q1066).</li> <li>• Outputs control signal for the AGC delay control circuit (MAIN unit; Q1061, Q1064–Q1066).</li> </ul> |
| 81         | SQLS      | Outputs squelch control signal to the AF selector circuit (MAIN unit; IC1201).   |
| 82         | BKUP      | Input port for the BKUP signal from the reset circuit (LOGIC unit; IC391).   |
| 83         | DCK       | Input port for the UP signal from the [MAIN DIAL].   |
| 84         | RECS      | Outputs control signal for the remote recording driver.  |
| 90         | AFGL      | Input port for the AF gain signal from the [AF] volume on the front panel.   |
| 91         | RFGL      | Input port for the SQL/RF gain signal from the [SQL/RF] volume on the front panel.   |
| 92         | PB1L      | Input port for the PBT1 signal from the [TWIN PBT] volume on the front panel.  |
| 93         | PB2L      | Input port for the PBT2 signal from the [TWIN PBT] volume on the front panel.  |
| 94         | FMNL      | Input port for the FM noise squelch signal from the FM detector circuit (MAIN unit; IC1001 and X1001).   |

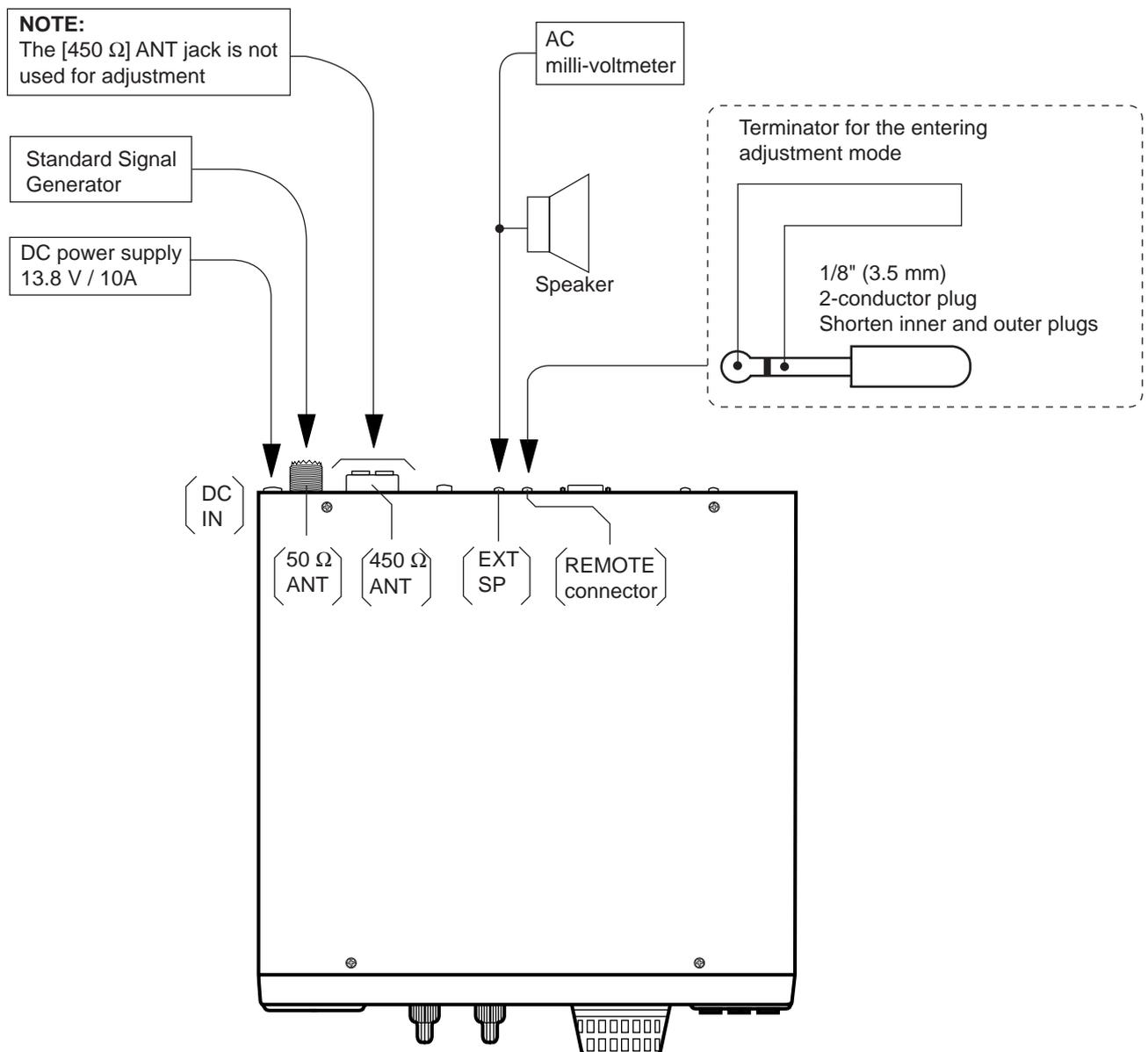
# SECTION 4 ADJUSTMENT PROCEDURES

## 4-1 PREPARATION

### ■ REQUIRED TEST EQUIPMENT

| EQUIPMENT         | GRADE AND RANGE  | EQUIPMENT                       | GRADE AND RANGE  |
|-------------------|--|---------------------------------|--|
| DC power supply   | Output voltage : 13.8 V DC<br>Current capacity : 2 A or more   | Oscilloscope                    | Frequency range : DC–20 MHz<br>Measuring range : 0.01–20 V                             |
| Frequency counter | Frequency range : 0.1–60 MHz<br>Frequency accuracy : $\pm 1$ ppm or better<br>Sensitivity : 100 mV or better | AC millivoltmeter               | Measuring range : 10 mV–10 V   |
| Audio generator   | Frequency range : 0.1–60 Hz<br>Measuring range : 0.01–10 mV  | External speaker                | Input impedance : 8 $\Omega$<br>Capacity : 4 W or more                                 |
| DC Voltmeter      | Input impedance : 50 k $\Omega$ /V DC or better  | Standard signal generator (SSG) | Frequency range : 0.1–300 MHz<br>Output level : 0.1 $\mu$ V–32 mV<br>(–127 to –17 dBm) |

### ■ CONNECTION

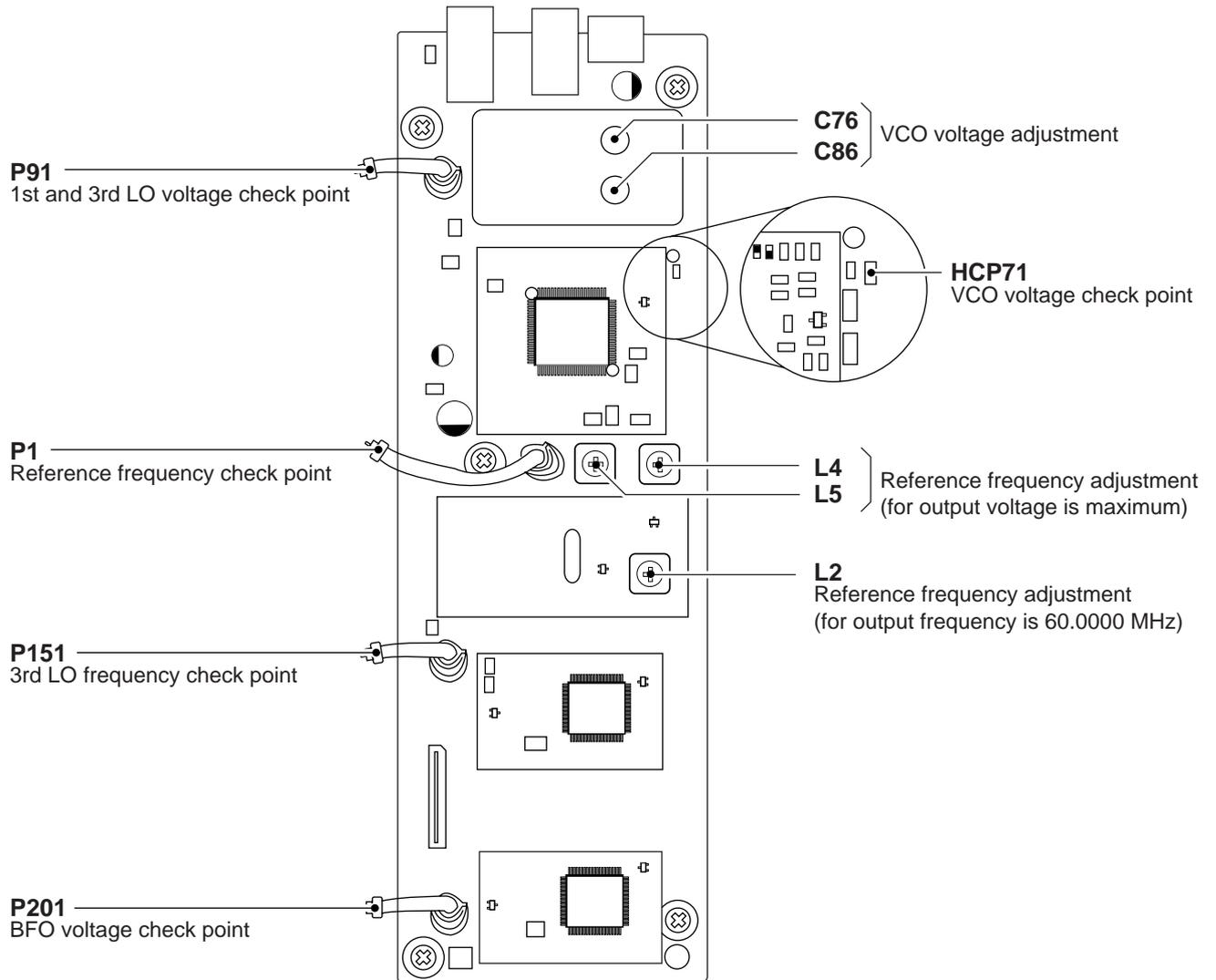


## 4-2 PLL ADJUSTMENT

| ADJUSTMENT          | ADJUSTMENT CONDITION                                      | MEASUREMENT |  | VALUE                           | ADJUSTMENT POINT |                 |
|---------------------|---|-------------|--|---------------------------------|------------------|-----------------|
|                     |   | UNIT        | LOCATION                               |                                 | UNIT             | ADJUST          |
| REFERENCE FREQUENCY | 1 • Displayed frequency : 29.99999 MHz<br>• Mode : USB    | PLL         | Connect the frequency counter to P1.   | 60.00000 MHz                    | PLL              | L2              |
|                     | 2   |             |  | Connect the RF voltmeter to P1. |                  | Maximum voltage |
| VCO VOLTAGE         | 1 • Displayed frequency : 29.99999 MHz<br>• Mode : USB    | PLL         | Connect the DC voltmeter to HCP71.     | 4.0 V                           | PLL              | C86             |
|                     | 2 • Displayed frequency : 0.03000 MHz<br>• Mode : USB     |             |  | More than 0.8 V                 |                  | Verify          |
|                     | 3 • Displayed frequency : 60.00000 MHz<br>• Mode : USB    |             |  | 4.0 V                           | PLL              | C76             |
|                     | 4 • Displayed frequency : 30.00000 MHz<br>• Mode: USB     |             |  | More than 0.8 V                 |                  | Verify          |
| 1ST LO VOLTAGE      | 1 • Displayed frequency : 30–60.00000 MHz<br>• Mode : USB | PLL         | Connect the RF voltmeter to P91.       | More than 0.18 V                |                  | Verify          |
| 3RD LO VOLTAGE      | 1 • Displayed frequency : 30–60.00000 MHz<br>• Mode : USB | PLL         | Connect the RF voltmeter to P91.       | More than 0.022 V               |                  | Verify          |
| 3RD LO FREQUENCY    | 1 • Displayed frequency : 9.4615 MHz<br>• Mode : FM       | PLL         | Connect the frequency counter to P151. | 9.4614–9.4616 MHz               |                  | Verify          |
| BFO VOLTAGE         | 1 • Displayed frequency : 14.100000 MHz<br>• Mode : USB   | PLL         | Connect the RF voltmeter to P201.      | More than 0.022 V               |                  | Verify          |
|                     | 2 • Displayed frequency : 14.100000 MHz<br>• Mode : AM    |             |  | Less than 280 $\mu$ V           |                  |                 |

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

• PLL UNIT

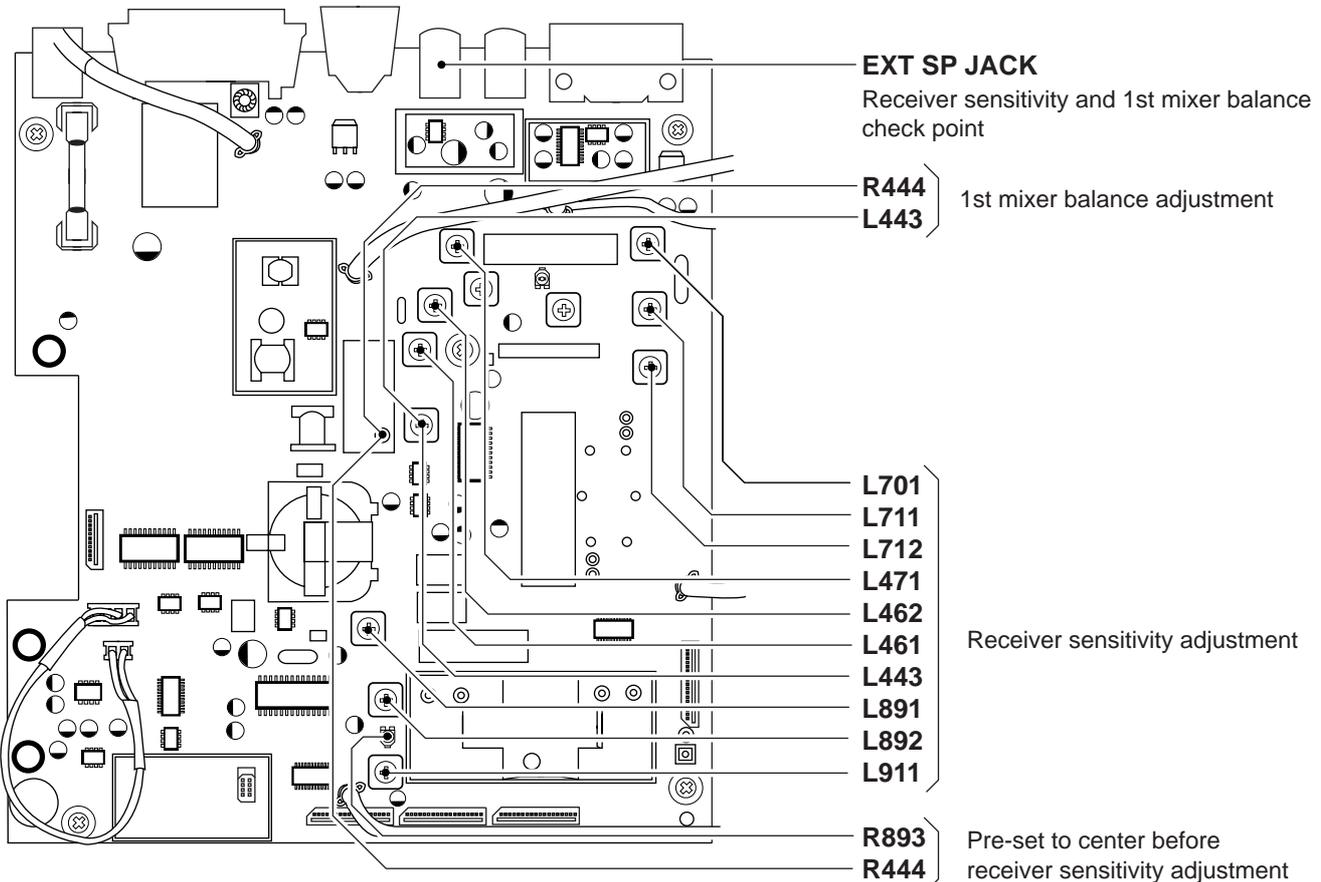


### 4-3 RECEIVER ADJUSTMENTS

| ADJUSTMENT           | ADJUSTMENT CONDITION | MEASUREMENT   |            | VALUE  | ADJUSTMENT POINT     |        |   |
|----------------------|----------------------|---|------------|--|----------------------|--------|---|
|                      |                      | UNIT  | LOCATION   |  | UNIT                 | ADJUST |   |
| RECEIVER SENSITIVITY | 1                    | <ul style="list-style-type: none"> <li>• Displayed frequency : 14.10000 MHz</li> <li>• Mode : USB</li> <li>• PREAMP1 : ON</li> <li>• ANT select : ANT1</li> <li>• AGC : FAST</li> <li>• NOISE BLANKER : OFF</li> <li>• RF/SQL : CENTER</li> <li>• PBT1/PBT2 : CENTER</li> <li>• IF FILTER1 : 2.4 kHz</li> <li>• IF FILTER2 : 2.4 kHz</li> </ul> | Rear Panel | Connect the AC milli-volt meter to the [EXT SP] jack with an 8 Ω load. | Pre-set to center    | MAIN   | R444<br>R898  |
|                      | 2                    | <ul style="list-style-type: none"> <li>• Connect an SSG to the antenna connector1 and set as:<br/>               Frequency : 14.10150 MHz<br/>               Level : 22 μV*<br/>               (-13 dBμ)<br/>               Modulation : OFF</li> <li>• Receiving</li> </ul>  |            |  | Maximum output level | MAIN   | L443,<br>L461,<br>L462,<br>L471,<br>L701,<br>L711,<br>L712,<br>L891,<br>L892,<br>L911 |
| 1ST MIXER BALANCE    | 1                    | <ul style="list-style-type: none"> <li>• Displayed frequency : 0.10000 MHz</li> <li>• PREAMP1 : OFF</li> <li>• set an SSG level as : OFF</li> <li>• Receiving</li> </ul>  | Rear panel | Connect an oscilloscope to the [EXT SP] jack with 8 Ω load.            | Minimum noise level  | MAIN   | L443,<br>R444   |

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

• MAIN UNIT

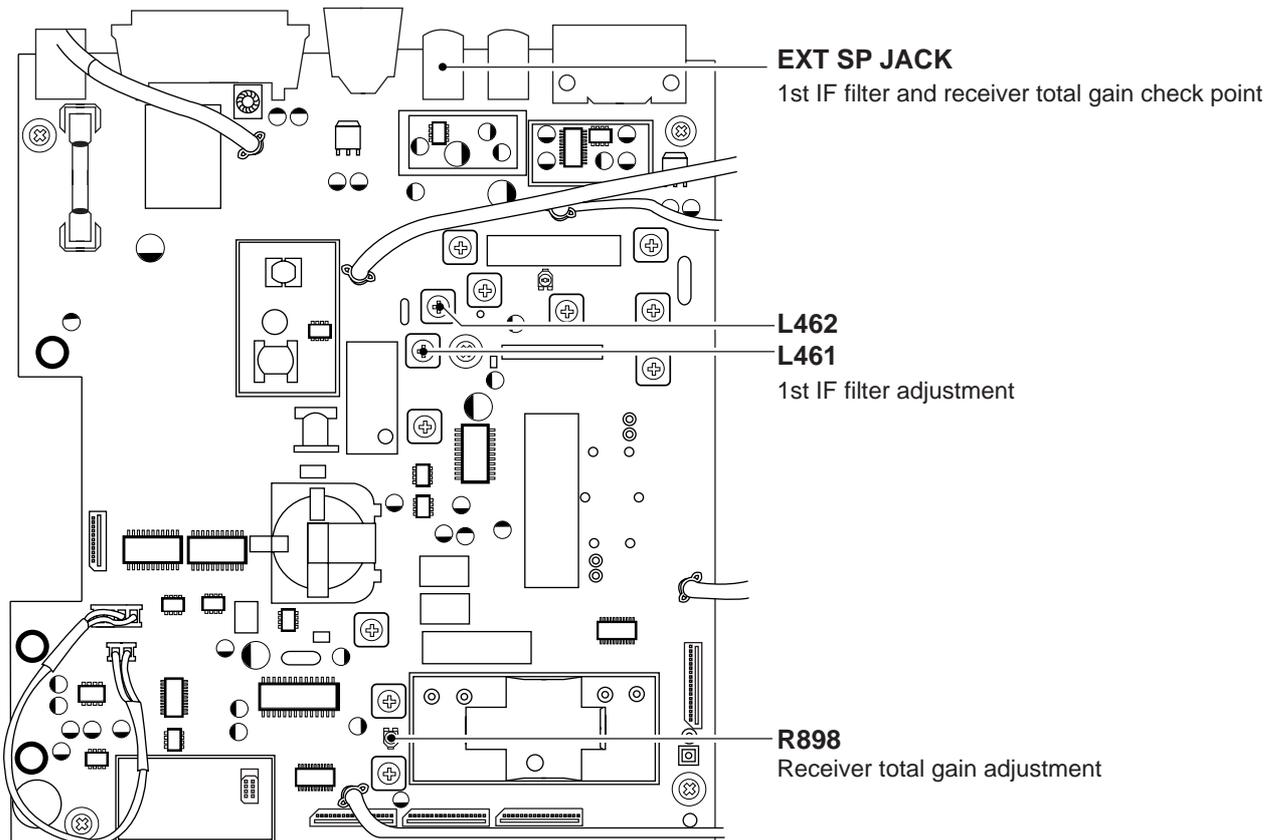


**RECEIVER ADJUSTMENTS (continued)**

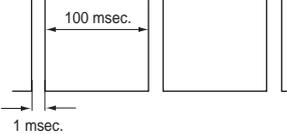
| ADJUSTMENT          | ADJUSTMENT CONDITION  | MEASUREMENT |   | VALUE                | ADJUSTMENT POINT |                   |
|---------------------|---|-------------|---|----------------------|------------------|-------------------|
|                     |   | UNIT        | LOCATION  |                      | UNIT             | ADJUST            |
| 1ST IF FILTER       | 1 • Displayed frequency : 14.10000 MHz<br>• Mode : FM<br>• PREAMP1 : ON<br>• IF FILTER1 : 15 kHz<br>• IF FILTER2 : 6 kHz<br>• set an SSG as<br>Frequency : 14.10000 MHz<br>Level : 0.32 $\mu$ V*<br>(-10 dB $\mu$ )<br>Deviation : $\pm$ 3.5 kHz<br>Modulation : 1 kHz<br>• Receiving | Rear panel  | Connect the AC milli-volt meter to the [EXT SP] jack with an 8 $\Omega$ load. | Maximum output level | MAIN             | L461, L462        |
| RECEIVER TOTAL GAIN | 1 • Displayed frequency : 14.10000 MHz<br>• Mode : USB<br>• PREAMP1 : OFF<br>• IF FILTER1 : 2.4 kHz<br>• IF FILTER2 : 2.4 kHz<br>• Set an SSG as<br>Frequency : 14.10150 MHz<br>Level : 500 $\mu$ V*<br>(54 dB $\mu$ )<br>Modulation : OFF<br>• Receiving                             | Rear panel  | Connect the AC milli-volt meter to the [EXT SP] jack with an 8 $\Omega$ load. | 0 dB (1.0 V)         | Front panel      | [AF GAIN] control |
|                     | 2 • Set an SSG level as : OFF<br>• Receiving  |             |   | -30 dB (10 mV)       | MAIN             | R898              |

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

• MAIN UNIT

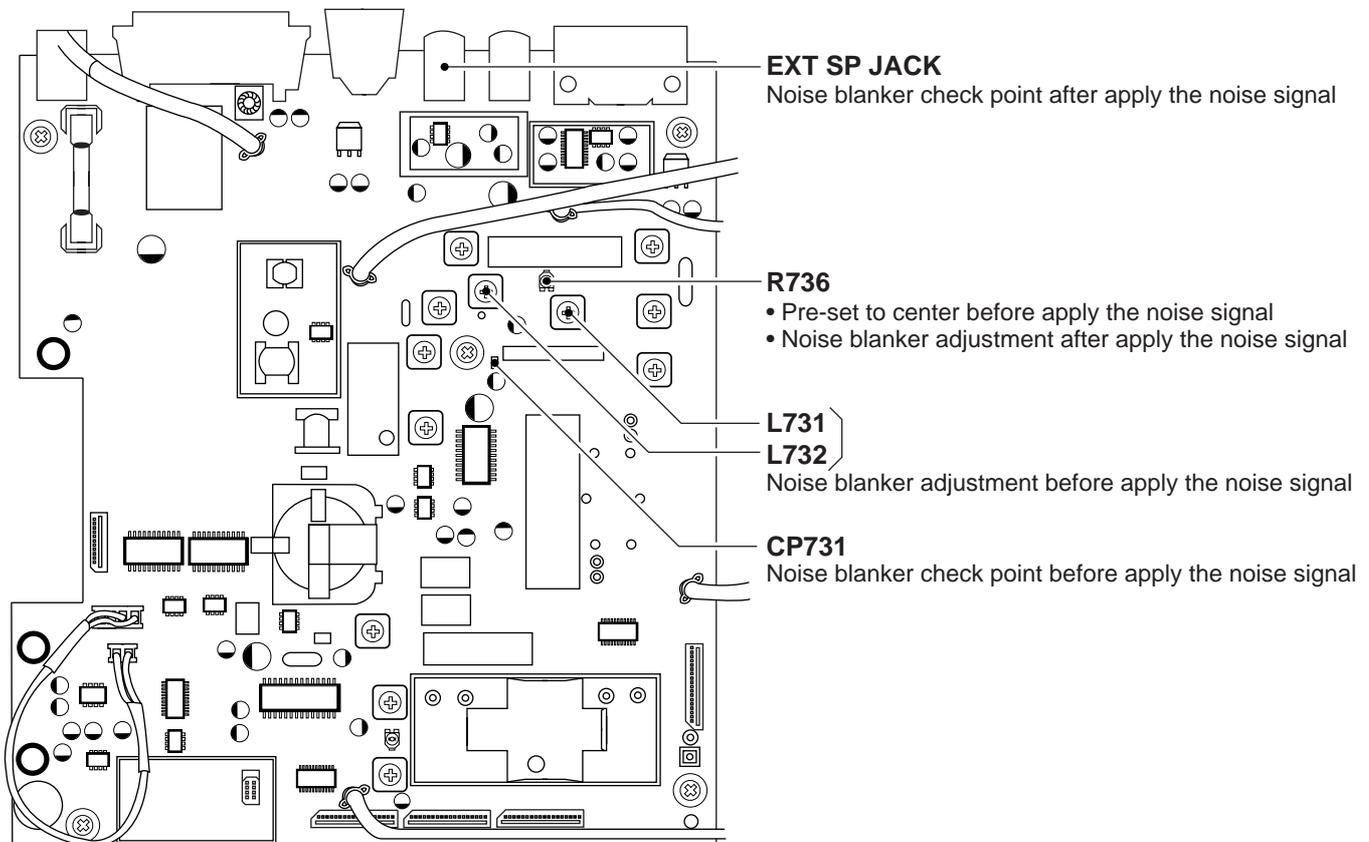


RECEIVER ADJUSTMENTS (CONTINUED)

| ADJUSTMENT    | ADJUSTMENT CONDITION   | MEASUREMENT |  | VALUE  | ADJUSTMENT POINT |        |
|---------------|--|-------------|--|--|------------------|--------|
|               |  | UNIT        | LOCATION   |  | UNIT             | ADJUST |
| NOISE BLANKER | 1 • Displayed frequency : 14.10000 MHz<br>• Mode : USB<br>• Noise Blanker : OFF<br>• PREAMP1. : ON<br>• Set an SSG as<br>Frequency : 14.10000 MHz<br>Level : 18 $\mu$ V*<br>(25 dB $\mu$ )<br>Modulation : OFF | MAIN        | Connect the oscilloscope to the check point CP731.                     | Pre-set to center                            | MAIN             | R736   |
|               | Minimum voltage  |             |  | L731,<br>L732                                |                  |        |
|               | 2 • Apply the following signal to the [ANT1] connector<br>  | Rear Panel  | Connect the oscilloscope to the [EXT SP] jack with an 8 $\Omega$ load. | Noise is blanked when the [NB] switch is ON. | MAIN             | R736   |

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

• MAIN UNIT



## 4-4 SET MODE ADJUSTMENT

| ADJUSTMENT                   | ADJUSTMENT CONDITION  | DISPLAY | OPERATION   |
|------------------------------|---|---------|---|
| ENTERING ADJUSTMENT SET MODE | <ul style="list-style-type: none"> <li>• Turn power OFF</li> <li>• Connect a terminator to the [REMOTE] connector on the rear panel.</li> <li>• While pushing "SET[ANT] and "CLOCK" keys, and turn power ON.</li> </ul>   | PBT SET | <ul style="list-style-type: none"> <li>• When success entering adjustment set mode, shown "PBT SET" on the display.</li> <li>• Then advance to the following setting, or push "UP" key to scroll the display.</li> </ul>        |
| PBT VOLUME                   | 1 <ul style="list-style-type: none"> <li>• Connect an SSG to the antenna connector1 and set as:<br/>               Frequency : 14.15150 MHz<br/>               Level : 50 mV*<br/>               (-13 dBm)<br/>               Modulation : OFF</li> <li>• Preset both the inner and outer "TWIN PBT" controls to 12 o'clock position.</li> <li>• Receiving</li> </ul> | GOOD    | <ul style="list-style-type: none"> <li>• Push "SET[ANT]" key.to set the PBT level.</li> <li>• When the PBT level is true, shown "GOOD" on the display.</li> </ul>   |
| S-METER                      | 1 <ul style="list-style-type: none"> <li>• Set an SSG level as : OFF</li> </ul>   | S0 LV   | <ul style="list-style-type: none"> <li>• When S0 level of S-meter adjustment mode entering, displayed "S0 LV".</li> <li>• Push the "SET[ANT]" key to set the S0 level.</li> </ul>   |
|                              | 2 <ul style="list-style-type: none"> <li>• Set an SSG level as : 35 <math>\mu</math>V*<br/>               (31 dB<math>\mu</math>)</li> </ul>  | S9 LV   | <ul style="list-style-type: none"> <li>• When S9 level of S-meter adjustment mode entering, displayed "S9 LV".</li> <li>• Push the "SET[ANT]" key to set the S9 level.</li> </ul>   |
|                              | 3 <ul style="list-style-type: none"> <li>• Set an SSG level as : 28 mV*<br/>               (89 dB<math>\mu</math>)</li> </ul>   | +60 LV  | <ul style="list-style-type: none"> <li>• When +60 dB level of S-meter adjustment mode entering, displayed "+60 LV".</li> <li>• Push the "SET[ANT]" key to set the 60 dB level.</li> </ul>                                       |
|                              | 4   | END     | <ul style="list-style-type: none"> <li>• When the S-meter adjustment is end, displayed "END".</li> </ul>  |
| FILTER CALIBRATION           | 1 <ul style="list-style-type: none"> <li>• Set an SSG level as : 10 <math>\mu</math>V*<br/>               (20 dB<math>\mu</math>)</li> </ul>  | FIL CAL | <ul style="list-style-type: none"> <li>• When filter calibration adjustment mode entering, displayed "FIL CAL".</li> <li>• Push the "SET[ANT]" key to set the filter calibration.</li> <li>• Emit to the beep audio.</li> </ul> |
|                              | 2 <ul style="list-style-type: none"> <li>• Turn power OFF to exit the adjustment set mode.</li> </ul>   |         |   |

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

## SECTION 5 PARTS LIST

## [VR BOARD]

| REF NO. | ORDER NO.  | DESCRIPTION |                         |
|---------|------------|-------------|-------------------------|
| R131    | 7210003040 | VARIABLE    | TP96D26-22F-10KBX2-2240 |
| R141    | 7210003030 | VARIABLE    | TP96D00-22F-10KBX2-2240 |
| R143    | 7030003540 | S.RESISTOR  | ERJ3GEYJ 682 V (6.8 kΩ) |
| J101    | 6510020710 | S.CONNECTOR | 52793-1090              |
| EP1     | 0910051172 | PCB         | B 5271B                 |

## [PHONE BOARD]

| REF NO. | ORDER NO.  | DESCRIPTION |                      |
|---------|------------|-------------|----------------------|
| L121    | 6200003950 | S.COIL      | HF50ACC 322513-T     |
| R121    | 7030006070 | S.RESISTOR  | ERJ12YJ101H (100 Ω)  |
| R122    | 7030006070 | S.RESISTOR  | ERJ12YJ101H (100 Ω)  |
| C121    | 4030006880 | S.CERAMIC   | C1608 JB 1H 472K-T-A |
| C122    | 4030006880 | S.CERAMIC   | C1608 JB 1H 472K-T-A |
| C123    | 4030006880 | S.CERAMIC   | C1608 JB 1H 472K-T-A |
| J101    | 6510020710 | S.CONNECTOR | 52793-1090           |
| J121    | 6510021480 | CONNECTOR   | HLJ2307-01-3070      |
| EP1     | 0910051182 | PCB         | B 5272B              |

## [LOGIC BOARD]

| REF NO. | ORDER NO.  | DESCRIPTION  |                        |
|---------|------------|--------------|------------------------|
| IC101   | 1140008250 | S.IC         | HD6433837SC58H         |
| IC231   | 1140005880 | S.IC         | X25320S8I-2.7T6        |
| IC351   | 1110003690 | S.IC         | M62354GP 75EC          |
| IC391   | 1130009110 | S.IC         | S-80942ANMP-DD6-T2     |
| IC392   | 1130006440 | S.IC         | TC7S08F (TE85R)        |
| IC401   | 1130004921 | S.IC         | TC74HC04AF (TP1)       |
| Q351    | 1590000680 | S.TRANSISTOR | DTC114EUA T106         |
| Q391    | 1530002850 | S.TRANSISTOR | 2SC4116-BL (TE85R)     |
| Q401    | 1590001650 | S.TRANSISTOR | XP4601 (TX)            |
| Q421    | 1590000720 | S.TRANSISTOR | DTA144EUA T106         |
| Q511    | 1510000510 | S.TRANSISTOR | 2SA1576A T106R         |
| Q512    | 1590001650 | S.TRANSISTOR | XP4601 (TX)            |
| D381    | 1730002320 | S.ZENER      | MA8051-M (TX)          |
| D382    | 1790000970 | S.DIODE      | MA729 (TX)             |
| D393    | 1750000550 | S.DIODE      | 1SS355 TE-17           |
| D401    | 1750000550 | S.DIODE      | 1SS355 TE-17           |
| D461    | 1730002530 | S.ZENER      | NNCD6.2G-T1            |
| X111    | 6050009460 | S.XTAL       | CM200S SMD (32.768KHZ) |
| X112    | 6050009870 | S.XTAL       | CR-567 (9.8304 MHz)    |
| L491    | 6200003950 | S.COIL       | HF50ACC 322513-T       |
| L492    | 6200003950 | S.COIL       | HF50ACC 322513-T       |
| L501    | 6200002970 | S.COIL       | NL 322522T-121J        |
| L502    | 6200002970 | S.COIL       | NL 322522T-121J        |

## [LOGIC BOARD]

| REF NO. | ORDER NO.  | DESCRIPTION |                         |
|---------|------------|-------------|-------------------------|
| L503    | 6200003950 | S.COIL      | HF50ACC 322513-T        |
| R112    | 7030003800 | S.RESISTOR  | ERJ3GEYJ 105 V (1 MΩ)   |
| R121    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R122    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R123    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R124    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R125    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R126    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R127    | 7030003360 | S.RESISTOR  | ERJ3GEYJ 221 V (220 Ω)  |
| R128    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R129    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R130    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R131    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R141    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R142    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R143    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R144    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R145    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R146    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R147    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R148    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R149    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R150    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R151    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R152    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R153    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R154    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R155    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R161    | 7030003640 | S.RESISTOR  | ERJ3GEYJ 473 V (47 kΩ)  |
| R162    | 7030003640 | S.RESISTOR  | ERJ3GEYJ 473 V (47 kΩ)  |
| R163    | 7030003640 | S.RESISTOR  | ERJ3GEYJ 473 V (47 kΩ)  |
| R171    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R172    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R173    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R174    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R175    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R176    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R177    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R178    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R179    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R191    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R192    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R193    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R194    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R195    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R196    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R197    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R198    | 7030003680 | S.RESISTOR  | ERJ3GEYJ 104 V (100 kΩ) |
| R201    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R202    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R203    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R204    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R205    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R206    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R208    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R209    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R210    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R211    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R221    | 7030003400 | S.RESISTOR  | ERJ3GEYJ 471 V (470 Ω)  |
| R223    | 7030003560 | S.RESISTOR  | ERJ3GEYJ 103 V (10 kΩ)  |
| R224    | 7030003560 | S.RESISTOR  | ERJ3GEYJ 103 V (10 kΩ)  |
| R225    | 7030003560 | S.RESISTOR  | ERJ3GEYJ 103 V (10 kΩ)  |
| R231    | 7030003680 | S.RESISTOR  | ERJ3GEYJ 104 V (100 kΩ) |
| R251    | 7030003540 | S.RESISTOR  | ERJ3GEYJ 682 V (6.8 kΩ) |
| R252    | 7030003540 | S.RESISTOR  | ERJ3GEYJ 682 V (6.8 kΩ) |
| R253    | 7030003540 | S.RESISTOR  | ERJ3GEYJ 682 V (6.8 kΩ) |
| R254    | 7030003540 | S.RESISTOR  | ERJ3GEYJ 682 V (6.8 kΩ) |
| R255    | 7030003540 | S.RESISTOR  | ERJ3GEYJ 682 V (6.8 kΩ) |
| R256    | 7030003540 | S.RESISTOR  | ERJ3GEYJ 682 V (6.8 kΩ) |
| R257    | 7030003540 | S.RESISTOR  | ERJ3GEYJ 682 V (6.8 kΩ) |
| R258    | 7030003540 | S.RESISTOR  | ERJ3GEYJ 682 V (6.8 kΩ) |
| R259    | 7030003540 | S.RESISTOR  | ERJ3GEYJ 682 V (6.8 kΩ) |
| R260    | 7030003540 | S.RESISTOR  | ERJ3GEYJ 682 V (6.8 kΩ) |
| R261    | 7030003540 | S.RESISTOR  | ERJ3GEYJ 682 V (6.8 kΩ) |

S.=Surface mount

[LOGIC BOARD]

| REF NO. | ORDER NO.  | DESCRIPTION    |                         |
|---------|------------|----------------|-------------------------|
| R262    | 7030003540 | S.RESISTOR     | ERJ3GEYJ 682 V (6.8 kΩ) |
| R271    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R272    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R273    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R274    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R275    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R276    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R277    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R278    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R279    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R280    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R281    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R282    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R283    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R284    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R285    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R286    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R287    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R288    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R289    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R290    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R291    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R292    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R335    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R351    | 7030003540 | S.RESISTOR     | ERJ3GEYJ 682 V (6.8 kΩ) |
| R352    | 7030003540 | S.RESISTOR     | ERJ3GEYJ 682 V (6.8 kΩ) |
| R361    | 7030003720 | S.RESISTOR     | ERJ3GEYJ 224 V (220 kΩ) |
| R362    | 7030003720 | S.RESISTOR     | ERJ3GEYJ 224 V (220 kΩ) |
| R381    | 7030009720 | S.RESISTOR     | ERJ12YJ102H (1 kΩ)      |
| R382    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R391    | 7030003630 | S.RESISTOR     | ERJ3GEYJ 393 V (39 kΩ)  |
| R392    | 7030003650 | S.RESISTOR     | ERJ3GEYJ 563 V (56 kΩ)  |
| R393    | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R394    | 7030003440 | S.RESISTOR     | ERJ3GEYJ 102 V (1 kΩ)   |
| R395    | 7030003760 | S.RESISTOR     | ERJ3GEYJ 474 V (470 kΩ) |
| R396    | 7030003720 | S.RESISTOR     | ERJ3GEYJ 224 V (220 kΩ) |
| R397    | 7030003720 | S.RESISTOR     | ERJ3GEYJ 224 V (220 kΩ) |
| R398    | 7030003680 | S.RESISTOR     | ERJ3GEYJ 104 V (100 kΩ) |
| R399    | 7030003560 | S.RESISTOR     | ERJ3GEYJ 103 V (10 kΩ)  |
| R401    | 7030003620 | S.RESISTOR     | ERJ3GEYJ 333 V (33 kΩ)  |
| R402    | 7030003540 | S.RESISTOR     | ERJ3GEYJ 682 V (6.8 kΩ) |
| R403    | 7030003680 | S.RESISTOR     | ERJ3GEYJ 104 V (100 kΩ) |
| R404    | 7030003580 | S.RESISTOR     | ERJ3GEYJ 153 V (15 kΩ)  |
| R405    | 7030003680 | S.RESISTOR     | ERJ3GEYJ 104 V (100 kΩ) |
| R421    | 7030003400 | S.RESISTOR     | ERJ3GEYJ 471 V (470 Ω)  |
| R422    | 7030003680 | S.RESISTOR     | ERJ3GEYJ 104 V (100 kΩ) |
| R423    | 7030003560 | S.RESISTOR     | ERJ3GEYJ 103 V (10 kΩ)  |
| R424    | 7030003840 | S.RESISTOR     | ERJ3GEYJ 225 V (2.2 MΩ) |
| R512    | 7030003560 | S.RESISTOR     | ERJ3GEYJ 103 V (10 kΩ)  |
| R513    | 7030003630 | S.RESISTOR     | ERJ3GEYJ 393 V (39 kΩ)  |
| R514    | 7030003540 | S.RESISTOR     | ERJ3GEYJ 682 V (6.8 kΩ) |
| C101    | 4030008630 | S.CERAMIC      | C1608 JF 1C 104Z-T-A    |
| C102    | 4030008630 | S.CERAMIC      | C1608 JF 1C 104Z-T-A    |
| C103    | 4550006250 | S.TANTALUM     | TEMSVA 1A 106M-8L       |
| C104    | 4030008630 | S.CERAMIC      | C1608 JF 1C 104Z-T-A    |
| C105    | 4030008630 | S.CERAMIC      | C1608 JF 1C 104Z-T-A    |
| C111    | 4030009990 | S.CERAMIC      | C1608 CH 1H 200J-T-A    |
| C112    | 4030007050 | S.CERAMIC      | C1608 CH 1H 220J-T-A    |
| C113    | 4030008560 | S.CERAMIC      | C1608 CH 1H 300J-T-A    |
| C114    | 4030008560 | S.CERAMIC      | C1608 CH 1H 300J-T-A    |
| C201    | 4030008630 | S.CERAMIC      | C1608 JF 1C 104Z-T-A    |
| C202    | 4030008630 | S.CERAMIC      | C1608 JF 1C 104Z-T-A    |
| C203    | 4030008630 | S.CERAMIC      | C1608 JF 1C 104Z-T-A    |
| C204    | 4030008630 | S.CERAMIC      | C1608 JF 1C 104Z-T-A    |
| C205    | 4030008630 | S.CERAMIC      | C1608 JF 1C 104Z-T-A    |
| C206    | 4030008630 | S.CERAMIC      | C1608 JF 1C 104Z-T-A    |
| C221    | 4030008630 | S.CERAMIC      | C1608 JF 1C 104Z-T-A    |
| C231    | 4030008630 | S.CERAMIC      | C1608 JF 1C 104Z-T-A    |
| C251    | 4030008630 | S.CERAMIC      | C1608 JF 1C 104Z-T-A    |
| C252    | 4030008630 | S.CERAMIC      | C1608 JF 1C 104Z-T-A    |
| C253    | 4030008630 | S.CERAMIC      | C1608 JF 1C 104Z-T-A    |
| C254    | 4030008630 | S.CERAMIC      | C1608 JF 1C 104Z-T-A    |
| C255    | 4030008630 | S.CERAMIC      | C1608 JF 1C 104Z-T-A    |
| C256    | 4030008630 | S.CERAMIC      | C1608 JF 1C 104Z-T-A    |
| C351    | 4030008630 | S.CERAMIC      | C1608 JF 1C 104Z-T-A    |
| C352    | 4510005430 | S.ELECTROLYTIC | ECEV0JA220SR            |
| C392    | 4030013720 | S.CERAMIC      | GRM39 B 224K 10PT       |
| C393    | 4030013720 | S.CERAMIC      | GRM39 B 224K 10PT       |
| C394    | 4030007050 | S.CERAMIC      | C1608 CH 1H 220J-T-A    |
| C395    | 4030008630 | S.CERAMIC      | C1608 JF 1C 104Z-T-A    |

[LOGIC BOARD]

| REF NO. | ORDER NO.  | DESCRIPTION |                           |
|---------|------------|-------------|---------------------------|
| C401    | 4030008630 | S.CERAMIC   | C1608 JF 1C 104Z-T-A      |
| C451    | 4030008630 | S.CERAMIC   | C1608 JF 1C 104Z-T-A      |
| C452    | 4030008630 | S.CERAMIC   | C1608 JF 1C 104Z-T-A      |
| C453    | 4030008630 | S.CERAMIC   | C1608 JF 1C 104Z-T-A      |
| C454    | 4030008630 | S.CERAMIC   | C1608 JF 1C 104Z-T-A      |
| C461    | 4030008630 | S.CERAMIC   | C1608 JF 1C 104Z-T-A      |
| C502    | 4030008630 | S.CERAMIC   | C1608 JF 1C 104Z-T-A      |
| C503    | 4030008630 | S.CERAMIC   | C1608 JF 1C 104Z-T-A      |
| C505    | 4030008630 | S.CERAMIC   | C1608 JF 1C 104Z-T-A      |
| J411    | 6510019980 | S.CONNECTOR | 52808-1690                |
| J451    | 6510019970 | S.CONNECTOR | 52808-1090                |
| J461    | 6510018970 | S.CONNECTOR | B4B-PH-SM3-TB             |
| J471    | 6510019970 | S.CONNECTOR | 52808-1090                |
| J491    | 6510018960 | S.CONNECTOR | B2B-PH-SM3-TB             |
| J501    | 6510019980 | S.CONNECTOR | 52808-1690                |
| J521    | 6510019980 | S.CONNECTOR | 52808-1690                |
| J541    | 6510019980 | S.CONNECTOR | 52808-1690                |
| W161    | 7030003860 | S.JUMPER    | ERJ3GE JPW V [SEA] only   |
| W162    | 7030003860 | S.JUMPER    | ERJ3GE JPW V [SEA] only   |
| W163    | 7030003860 | S.JUMPER    | ERJ3GE JPW V [SEA] only   |
| W401    | 7030003860 | S.JUMPER    | ERJ3GE JPW V              |
| WS1     | 8970023370 | CABLE       | RX2240 J lead set (1) /LO |
| EP1     | 0910051163 | PCB         | B 5270C                   |
| EP501   | 6910012350 | S.BEAD      | MMZ1608Y 102BT            |
| EP502   | 6910012350 | S.BEAD      | MMZ1608Y 102BT            |
| EP521   | 6910012350 | S.BEAD      | MMZ1608Y 102BT            |
| EP522   | 6910012350 | S.BEAD      | MMZ1608Y 102BT            |
| EP523   | 6910012350 | S.BEAD      | MMZ1608Y 102BT            |
| EP524   | 6910012350 | S.BEAD      | MMZ1608Y 102BT            |
| EP525   | 6910012350 | S.BEAD      | MMZ1608Y 102BT            |
| EP526   | 6910012350 | S.BEAD      | MMZ1608Y 102BT            |
| EP527   | 6910012350 | S.BEAD      | MMZ1608Y 102BT            |

[FRONT UNIT]

| REF NO. | ORDER NO.  | DESCRIPTION |                  |
|---------|------------|-------------|------------------|
| SP1     | 2510000670 | SPEAKER     | VS-50-0827       |
| W3      | 8900008930 | CABLE       | OPC-885          |
| W4      | 8900008940 | CABLE       | OPC-886          |
| W5      | 8900007000 | CABLE       | OPC-684          |
| WS1     | 8600036530 | CABLE       | RX2240 P01FR     |
| EP1     | 6910012480 | E.OTHER     | RMS20-250-201-1R |
| EP2     | 6450001230 | E.OTHER     | HLJ0999-01-480   |

[DISPLAY BOARD]

| REF NO. | ORDER NO.  | DESCRIPTION  |                    |
|---------|------------|--------------|--------------------|
| IC101   | 1140005130 | S.IC         | HD66100F           |
| Q11     | 1530002850 | S.TRANSISTOR | 2SC4116-BL (TE85R) |
| Q21     | 1530002850 | S.TRANSISTOR | 2SC4116-BL (TE85R) |
| Q31     | 1530002850 | S.TRANSISTOR | 2SC4116-BL (TE85R) |
| Q41     | 1530002850 | S.TRANSISTOR | 2SC4116-BL (TE85R) |
| Q51     | 1530002850 | S.TRANSISTOR | 2SC4116-BL (TE85R) |
| Q61     | 1530002850 | S.TRANSISTOR | 2SC4116-BL (TE85R) |

S.=Surface mount

**[DISPLAY BOARD]**

| REF NO. | ORDER NO.  | DESCRIPTION  |                        |
|---------|------------|--------------|------------------------|
| Q71     | 1530002850 | S.TRANSISTOR | 2SC4116-BL (TE85R)     |
| Q81     | 1530002850 | S.TRANSISTOR | 2SC4116-BL (TE85R)     |
| R11     | 7030000320 | S.RESISTOR   | MCR10EZHZ 330 Ω (331)  |
| R12     | 7030000360 | S.RESISTOR   | ERJ3GEYJ 221 V (220 Ω) |
| R21     | 7030000320 | S.RESISTOR   | MCR10EZHZ 330 Ω (331)  |
| R22     | 7030000360 | S.RESISTOR   | ERJ3GEYJ 221 V (220 Ω) |
| R31     | 7030000320 | S.RESISTOR   | MCR10EZHZ 330 Ω (331)  |
| R32     | 7030000360 | S.RESISTOR   | ERJ3GEYJ 221 V (220 Ω) |
| R41     | 7030000320 | S.RESISTOR   | MCR10EZHZ 330 Ω (331)  |
| R42     | 7030000360 | S.RESISTOR   | ERJ3GEYJ 221 V (220 Ω) |
| R51     | 7030000320 | S.RESISTOR   | MCR10EZHZ 330 Ω (331)  |
| R52     | 7030000360 | S.RESISTOR   | ERJ3GEYJ 221 V (220 Ω) |
| R61     | 7030000320 | S.RESISTOR   | MCR10EZHZ 330 Ω (331)  |
| R62     | 7030000360 | S.RESISTOR   | ERJ3GEYJ 221 V (220 Ω) |
| R71     | 7030000320 | S.RESISTOR   | MCR10EZHZ 330 Ω (331)  |
| R72     | 7030000360 | S.RESISTOR   | ERJ3GEYJ 221 V (220 Ω) |
| R81     | 7030000320 | S.RESISTOR   | MCR10EZHZ 330 Ω (331)  |
| R82     | 7030000360 | S.RESISTOR   | ERJ3GEYJ 221 V (220 Ω) |
| C101    | 4030008630 | S.CERAMIC    | C1608 JF 1C 104Z-T-A   |
| J101    | 6510019980 | S.CONNECTOR  | 52808-1690             |
| DS11    | 5040002510 | S.LED        | TLYE1002               |
| DS12    | 5040002510 | S.LED        | TLYE1002               |
| DS13    | 5040002510 | S.LED        | TLYE1002               |
| DS21    | 5040002510 | S.LED        | TLYE1002               |
| DS22    | 5040002510 | S.LED        | TLYE1002               |
| DS23    | 5040002510 | S.LED        | TLYE1002               |
| DS31    | 5040002510 | S.LED        | TLYE1002               |
| DS32    | 5040002510 | S.LED        | TLYE1002               |
| DS33    | 5040002510 | S.LED        | TLYE1002               |
| DS41    | 5040002510 | S.LED        | TLYE1002               |
| DS42    | 5040002510 | S.LED        | TLYE1002               |
| DS43    | 5040002510 | S.LED        | TLYE1002               |
| DS51    | 5040002510 | S.LED        | TLYE1002               |
| DS52    | 5040002510 | S.LED        | TLYE1002               |
| DS53    | 5040002510 | S.LED        | TLYE1002               |
| DS61    | 5040002510 | S.LED        | TLYE1002               |
| DS62    | 5040002510 | S.LED        | TLYE1002               |
| DS63    | 5040002510 | S.LED        | TLYE1002               |
| DS71    | 5040002510 | S.LED        | TLYE1002               |
| DS72    | 5040002510 | S.LED        | TLYE1002               |
| DS73    | 5040002510 | S.LED        | TLYE1002               |
| DS81    | 5040002510 | S.LED        | TLYE1002               |
| DS82    | 5040002510 | S.LED        | TLYE1002               |
| DS83    | 5040002510 | S.LED        | TLYE1002               |
| DS101   | 5030001690 | LCD          | HLC7395-012400         |
| EP1     | 0910051372 | PCB          | B 5303B                |
| EP2     | 8930049630 | LCD CONTACT  | SRCN-2240-SP-N-W       |

**[MAIN UNIT]**

| REF NO. | ORDER NO.  | DESCRIPTION  |                   |
|---------|------------|--------------|-------------------|
| IC1371  | 1180001530 | IC           | PQ30RV31          |
| IC1391  | 1180001250 | S.IC         | TA7808F (TE16L)   |
| IC1401  | 1180001070 | S.IC         | TA7805F (TE16L)   |
| IC1411  | 1110001400 | S.IC         | μPC1555G2-T1      |
| IC1601  | 1130007570 | S.IC         | BU4094BCFV-E2     |
| IC1602  | 1130007570 | S.IC         | BU4094BCFV-E2     |
| IC1603  | 1160000130 | S.IC         | TD62783AF (TP1)   |
| IC1751  | 1120002510 | S.IC         | DS14C232TM        |
| IC1771  | 1130005720 | S.IC         | TC7W04F (TE12L)   |
| IC2001  | 1110004940 | S.IC         | MC13022ADWR3      |
| Q151    | 1590000680 | S.TRANSISTOR | DTC114EUA T106    |
| Q381    | 1560000720 | S.FET        | 2SK2171-4-TD      |
| Q382    | 1560000720 | S.FET        | 2SK2171-4-TD      |
| Q383    | 1590001960 | S.TRANSISTOR | XP4311 (TX)       |
| Q391    | 1590001960 | S.TRANSISTOR | XP4311 (TX)       |
| Q411    | 1530003150 | S.TRANSISTOR | 2SC4673D-TD       |
| Q441    | 1560000640 | S.FET        | 2SK1740-TA        |
| Q442    | 1560000640 | S.FET        | 2SK1740-TA        |
| Q471    | 1580000620 | S.FET        | 3SK131-T2 MAS     |
| Q472    | 1590001960 | S.TRANSISTOR | XP4311 (TX)       |
| Q721    | 1580000620 | S.FET        | 3SK131-T2 MAS     |
| Q731    | 1560000560 | S.FET        | 2SK882-GR (TE85L) |
| Q732    | 1510000510 | S.TRANSISTOR | 2SA1576A T106R    |
| Q733    | 1530002060 | S.TRANSISTOR | 2SC4081 T107 R    |
| Q734    | 1530002060 | S.TRANSISTOR | 2SC4081 T107 R    |
| Q735    | 1530002060 | S.TRANSISTOR | 2SC4081 T107 R    |
| Q736    | 1590000680 | S.TRANSISTOR | DTC114EUA T106    |
| Q737    | 1590001960 | S.TRANSISTOR | XP4311 (TX)       |
| Q801    | 1530002060 | S.TRANSISTOR | 2SC4081 T107 R    |
| Q891    | 1580000620 | S.FET        | 3SK131-T2 MAS     |
| Q911    | 1560000560 | S.FET        | 2SK882-GR (TE85L) |
| Q912    | 1530002060 | S.TRANSISTOR | 2SC4081 T107 R    |
| Q1001   | 1560000560 | S.FET        | 2SK882-GR (TE85L) |
| Q1031   | 1530002060 | S.TRANSISTOR | 2SC4081 T107 R    |
| Q1051   | 1530002060 | S.TRANSISTOR | 2SC4081 T107 R    |
| Q1061   | 1590001960 | S.TRANSISTOR | XP4311 (TX)       |
| Q1063   | 1530002060 | S.TRANSISTOR | 2SC4081 T107 R    |
| Q1064   | 1590001960 | S.TRANSISTOR | XP4311 (TX)       |
| Q1065   | 1590001960 | S.TRANSISTOR | XP4311 (TX)       |
| Q1066   | 1590001960 | S.TRANSISTOR | XP4311 (TX)       |
| Q1311   | 1530002060 | S.TRANSISTOR | 2SC4081 T107 R    |
| Q1381   | 1540000550 | S.TRANSISTOR | 2SD1664 T100Q     |
| Q1382   | 1590000680 | S.TRANSISTOR | DTC114EUA T106    |
| Q1771   | 1510000510 | S.TRANSISTOR | 2SA1576A T106R    |
| Q1772   | 1530002060 | S.TRANSISTOR | 2SC4081 T107 R    |
| Q2021   | 1590000680 | S.TRANSISTOR | DTC114EUA T106    |
| D141    | 1750000300 | S.DIODE      | 1SS302 (TE85R)    |
| D142    | 1750000300 | S.DIODE      | 1SS302 (TE85R)    |
| D151    | 1750000450 | S.DIODE      | 1SV265-TL         |
| D172    | 1790000620 | S.DIODE      | MA77 (TX)         |
| D181    | 1750000450 | S.DIODE      | 1SV265-TL         |
| D182    | 1790000620 | S.DIODE      | MA77 (TX)         |
| D202    | 1790000620 | S.DIODE      | MA77 (TX)         |
| D221    | 1750000450 | S.DIODE      | 1SV265-TL         |
| D222    | 1790000620 | S.DIODE      | MA77 (TX)         |
| D242    | 1790000620 | S.DIODE      | MA77 (TX)         |
| D261    | 1750000450 | S.DIODE      | 1SV265-TL         |
| D262    | 1790000620 | S.DIODE      | MA77 (TX)         |
| D282    | 1790000620 | S.DIODE      | MA77 (TX)         |
| D301    | 1750000450 | S.DIODE      | 1SV265-TL         |
| D302    | 1790000620 | S.DIODE      | MA77 (TX)         |
| D322    | 1790000620 | S.DIODE      | MA77 (TX)         |
| D341    | 1750000440 | S.DIODE      | 1SV263-TL         |
| D342    | 1790000620 | S.DIODE      | MA77 (TX)         |
| D371    | 1790000620 | S.DIODE      | MA77 (TX)         |
| D372    | 1790000620 | S.DIODE      | MA77 (TX)         |
| D381    | 1790000620 | S.DIODE      | MA77 (TX)         |
| D382    | 1790000620 | S.DIODE      | MA77 (TX)         |
| D391    | 1790000620 | S.DIODE      | MA77 (TX)         |
| D392    | 1790000620 | S.DIODE      | MA77 (TX)         |
| D491    | 1750000430 | S.DIODE      | HSB88WSTR         |
| D711    | 1790000620 | S.DIODE      | MA77 (TX)         |
| D712    | 1790000620 | S.DIODE      | MA77 (TX)         |
| D713    | 1790000620 | S.DIODE      | MA77 (TX)         |
| D714    | 1790000620 | S.DIODE      | MA77 (TX)         |
| D731    | 1790001210 | S.DIODE      | 1SS375-TL         |
| D732    | 1750000550 | S.DIODE      | 1SS355 TE-17      |
| D761    | 1790000620 | S.DIODE      | MA77 (TX)         |

**[MAIN UNIT]**

| REF NO. | ORDER NO.  | DESCRIPTION |                 |
|---------|------------|-------------|-----------------|
| IC391   | 1110003970 | S.IC        | μPC1658G-E1     |
| IC551   | 1130007570 | S.IC        | BU4094BCFV-E2   |
| IC552   | 1130007570 | S.IC        | BU4094BCFV-E2   |
| IC561   | 1160000130 | S.IC        | TD62783AF (TP1) |
| IC562   | 1160000130 | S.IC        | TD62783AF (TP1) |
| IC731   | 1110003140 | IC          | LA1150N         |
| IC811   | 1110002600 | S.IC        | MC1496 D        |
| IC1001  | 1110003200 | S.IC        | TA31136FN (EL)  |
| IC1101  | 1110002600 | S.IC        | MC1496 D        |
| IC1201  | 1130009100 | S.IC        | BU4052BCFV-E2   |
| IC1211  | 1110003870 | S.IC        | NJM2058M-T1     |
| IC1251  | 1110003300 | S.IC        | M5282FP 70CD    |
| IC1281  | 1130009100 | S.IC        | BU4052BCFV-E2   |
| IC1291  | 1110003090 | IC          | LA4425A         |
| IC1361  | 1180000970 | S.IC        | AN78L05M-(E1)   |

S.=Surface mount

## [MAIN UNIT]

| REF NO. | ORDER NO.  | DESCRIPTION   |                      |
|---------|------------|---------------|----------------------|
| D762    | 1790000620 | S.DIODE       | MA77 (TX)            |
| D763    | 1790000620 | S.DIODE       | MA77 (TX)            |
| D764    | 1790000620 | S.DIODE       | MA77 (TX)            |
| D771    | 1790000620 | S.DIODE       | MA77 (TX)            |
| D772    | 1790000620 | S.DIODE       | MA77 (TX)            |
| D773    | 1790000620 | S.DIODE       | MA77 (TX)            |
| D774    | 1790000620 | S.DIODE       | MA77 (TX)            |
| D781    | 1790000620 | S.DIODE       | MA77 (TX)            |
| D782    | 1790000620 | S.DIODE       | MA77 (TX)            |
| D783    | 1790000620 | S.DIODE       | MA77 (TX)            |
| D784    | 1790000620 | S.DIODE       | MA77 (TX)            |
| D831    | 1750000300 | S.DIODE       | 1SS302 (TE85R)       |
| D851    | 1790000620 | S.DIODE       | MA77 (TX)            |
| D852    | 1790000620 | S.DIODE       | MA77 (TX)            |
| D861    | 1790000620 | S.DIODE       | MA77 (TX)            |
| D862    | 1790000620 | S.DIODE       | MA77 (TX)            |
| D871    | 1790000620 | S.DIODE       | MA77 (TX)            |
| D872    | 1790000620 | S.DIODE       | MA77 (TX)            |
| D881    | 1790000620 | S.DIODE       | MA77 (TX)            |
| D882    | 1790000620 | S.DIODE       | MA77 (TX)            |
| D1051   | 1790001210 | S.DIODE       | 1SS375-TL            |
| D1061   | 1790001210 | S.DIODE       | 1SS375-TL            |
| D1311   | 1750000550 | S.DIODE       | 1SS355 TE-17         |
| D1351   | 1790000700 | DIODE         | DSA3A1               |
| D1371   | 1750000550 | S.DIODE       | 1SS355 TE-17         |
| D1381   | 1750000300 | S.DIODE       | 1SS302 (TE85R)       |
| D1412   | 1750000300 | S.DIODE       | 1SS302 (TE85R)       |
| D1413   | 1730002320 | S.ZENER       | MA8051-M (TX)        |
| D1771   | 1750000550 | S.DIODE       | 1SS355 TE-17         |
| FI461   | 2010002090 | FILTER        | FL-261 (69.0115 MHz) |
| FI701   | 2010000270 | FILTER        | 9M15A (FL-23)        |
| FI761   | 2010002130 | D.FILTER      | FL-272 (9.0115 MHz)  |
| FI851   | 2020000210 | CERAMIC       | CFJ45K5 (FL-65)      |
| FI861   | 2020001460 | CERAMIC       | CFWS450HT            |
| FI871   | 2020001210 | CERAMIC       | CFWS450E             |
| X1001   | 6070000200 | DISCRIMINATOR | CDB450C24            |
| X2021   | 6060000720 | CERAMIC       | CSA3.60MGF103        |
| L101    | 6140002070 | COIL          | LR-233               |
| L131    | 6200003430 | S.COIL        | NL 322522T-R10J      |
| L132    | 6200003420 | S.COIL        | NL 322522T-R15J-3    |
| L151    | 6200005490 | S.COIL        | NL 322522T-331J      |
| L161    | 6200005490 | S.COIL        | NL 322522T-331J      |
| L162    | 6200008790 | S.COIL        | ACL3225S-4R7K        |
| L163    | 6200008800 | S.COIL        | ACL3225S-5R6K        |
| L171    | 6200005490 | S.COIL        | NL 322522T-331J      |
| L172    | 6200002960 | S.COIL        | NL 322522T-4R7J-3    |
| L173    | 6200003110 | S.COIL        | NL 322522T-6R8J      |
| L181    | 6200005490 | S.COIL        | NL 322522T-331J      |
| L182    | 6200003090 | S.COIL        | NL 322522T-2R7J-3    |
| L183    | 6200003100 | S.COIL        | NL 322522T-3R9J-3    |
| L184    | 6200005490 | S.COIL        | NL 322522T-331J      |
| L201    | 6200005490 | S.COIL        | NL 322522T-331J      |
| L202    | 6200002990 | S.COIL        | NL 322522T-2R2J-3    |
| L203    | 6200002990 | S.COIL        | NL 322522T-2R2J-3    |
| L204    | 6200003320 | S.COIL        | NL 322522T-3R3J-3    |
| L205    | 6200002960 | S.COIL        | NL 322522T-4R7J-3    |
| L221    | 6200003240 | S.COIL        | NL 322522T-221J      |
| L222    | 6200003080 | S.COIL        | NL 322522T-1R8J-3    |
| L223    | 6200003060 | S.COIL        | NL 322522T-1R2J-3    |
| L224    | 6200003070 | S.COIL        | NL 322522T-1R5J-3    |
| L225    | 6200003070 | S.COIL        | NL 322522T-1R5J-3    |
| L241    | 6200003240 | S.COIL        | NL 322522T-221J      |
| L242    | 6200003060 | S.COIL        | NL 322522T-1R2J-3    |
| L243    | 6200003330 | S.COIL        | NL 322522T-1R0J-3    |
| L244    | 6200003330 | S.COIL        | NL 322522T-1R0J-3    |
| L245    | 6200003080 | S.COIL        | NL 322522T-1R8J-3    |
| L261    | 6200003240 | S.COIL        | NL 322522T-221J      |
| L262    | 6200003250 | S.COIL        | NL 322522T-R39J-3    |
| L263    | 6200002980 | S.COIL        | NL 322522T-R56J-3    |
| L264    | 6200003040 | S.COIL        | NL 322522T-R68J-3    |
| L265    | 6200003330 | S.COIL        | NL 322522T-1R0J-3    |
| L281    | 6200001830 | S.COIL        | NL 322522T-100J      |
| L282    | 6200003020 | S.COIL        | NL 322522T-R33J-3    |
| L283    | 6200003250 | S.COIL        | NL 322522T-R39J-3    |
| L284    | 6200003030 | S.COIL        | NL 322522T-R47J-3    |
| L285    | 6200003030 | S.COIL        | NL 322522T-R47J-3    |

## [MAIN UNIT]

| REF NO. | ORDER NO.  | DESCRIPTION |                         |
|---------|------------|-------------|-------------------------|
| L301    | 6200001830 | S.COIL      | NL 322522T-100J         |
| L302    | 6200003020 | S.COIL      | NL 322522T-R33J-3       |
| L303    | 6200003010 | S.COIL      | NL 322522T-R27J-3       |
| L304    | 6200003020 | S.COIL      | NL 322522T-R33J-3       |
| L305    | 6200003030 | S.COIL      | NL 322522T-R47J-3       |
| L321    | 6200001830 | S.COIL      | NL 322522T-100J         |
| L322    | 6200003000 | S.COIL      | NL 322522T-R22J-3       |
| L323    | 6200003420 | S.COIL      | NL 322522T-R15J-3       |
| L324    | 6180002960 | S.COIL      | NL 322522T-R18J-3       |
| L325    | 6200003000 | S.COIL      | NL 322522T-R22J-3       |
| L326    | 6200003000 | S.COIL      | NL 322522T-R22J-3       |
| L341    | 6200001830 | S.COIL      | NL 322522T-100J         |
| L342    | 6200001470 | S.COIL      | NL 322522T-R12J-3       |
| L343    | 6200003420 | S.COIL      | NL 322522T-R15J-3       |
| L345    | 6200003420 | S.COIL      | NL 322522T-R15J-3       |
| L346    | 6200001470 | S.COIL      | NL 322522T-R12J-3       |
| L361    | 6200005490 | S.COIL      | NL 322522T-331J         |
| L362    | 6200005490 | S.COIL      | NL 322522T-331J         |
| L371    | 6200003240 | S.COIL      | NL 322522T-221J         |
| L381    | 6140000640 | COIL        | LR-86                   |
| L382    | 6200003070 | S.COIL      | NL 322522T-1R5J-3       |
| L383    | 6140001500 | COIL        | LR-171                  |
| L384    | 6200005490 | S.COIL      | NL 322522T-331J         |
| L385    | 6170000290 | COIL        | LW-30                   |
| L391    | 6200003240 | S.COIL      | NL 322522T-221J         |
| L392    | 6200003240 | S.COIL      | NL 322522T-221J         |
| L401    | 6200005490 | S.COIL      | NL 322522T-331J         |
| L411    | 6200003000 | S.COIL      | NL 322522T-R22J-3       |
| L412    | 6200003020 | S.COIL      | NL 322522T-R33J-3       |
| L413    | 6200001830 | S.COIL      | NL 322522T-100J         |
| L421    | 6200003430 | S.COIL      | NL 322522T-R10J         |
| L422    | 6200003420 | S.COIL      | NL 322522T-R15J-3       |
| L431    | 6200003430 | S.COIL      | NL 322522T-R10J         |
| L432    | 6200003420 | S.COIL      | NL 322522T-R15J-3       |
| L441    | 6140001500 | COIL        | LR-171                  |
| L442    | 6200003430 | S.COIL      | NL 322522T-R10J         |
| L443    | 6150004270 | COIL        | LS-483A (C-14924)       |
| L444    | 6200001830 | S.COIL      | NL 322522T-100J         |
| L461    | 6150004270 | COIL        | LS-483A (C-14924)       |
| L462    | 6150004270 | COIL        | LS-483A (C-14924)       |
| L471    | 6150004280 | COIL        | LS-484B (C-14927)       |
| L491    | 6140002810 | S.COIL      | LR-317                  |
| L492    | 6140002810 | S.COIL      | LR-317                  |
| L701    | 6150000711 | COIL        | LS-452                  |
| L711    | 6150000711 | COIL        | LS-452                  |
| L712    | 6150000711 | COIL        | LS-452                  |
| L721    | 6200001830 | S.COIL      | NL 322522T-100J         |
| L731    | 6150004050 | COIL        | LS-466                  |
| L732    | 6150004050 | COIL        | LS-466                  |
| L733    | 6200003240 | S.COIL      | NL 322522T-221J         |
| L891    | 6150002291 | COIL        | LS-450                  |
| L892    | 6150002291 | COIL        | LS-450                  |
| L911    | 6150002291 | COIL        | LS-450                  |
| L1001   | 6200003240 | S.COIL      | NL 322522T-221J         |
| L1291   | 6170000140 | COIL        | LW-15                   |
| L1311   | 6200003240 | S.COIL      | NL 322522T-221J         |
| L1321   | 6200003950 | S.COIL      | HF50ACC 322513-T        |
| L1411   | 6200003240 | S.COIL      | NL 322522T-221J         |
| L1412   | 6200005490 | S.COIL      | NL 322522T-331J         |
| L1771   | 6200003240 | S.COIL      | NL 322522T-221J         |
| L2011   | 6200005490 | S.COIL      | NL 322522T-331J         |
| L2041   | 6200003240 | S.COIL      | NL 322522T-221J         |
| R101    | 7030003640 | S.RESISTOR  | ERJ3GEYJ 473 V (47 kΩ)  |
| R102    | 7540000090 | ABSORBER    | DSP-201M-S00B           |
| R111    | 7030003640 | S.RESISTOR  | ERJ3GEYJ 473 V (47 kΩ)  |
| R112    | 7540000090 | ABSORBER    | DSP-201M-S00B           |
| R141    | 7030003480 | S.RESISTOR  | ERJ3GEYJ 222 V (2.2 kΩ) |
| R142    | 7030003400 | S.RESISTOR  | ERJ3GEYJ 471 V (470 Ω)  |
| R143    | 7030003380 | S.RESISTOR  | ERJ3GEYJ 331 V (330 Ω)  |
| R144    | 7030003300 | S.RESISTOR  | ERJ3GEYJ 680 V (68 Ω)   |
| R151    | 7030006260 | S.RESISTOR  | ERJ12YJ471H (470 Ω)     |
| R152    | 7030003560 | S.RESISTOR  | ERJ3GEYJ 103 V (10 kΩ)  |
| R171    | 7030003370 | S.RESISTOR  | ERJ3GEYJ 271 V (270 Ω)  |
| R172    | 7030003230 | S.RESISTOR  | ERJ3GEYJ 180 V (18 Ω)   |
| R173    | 7030003370 | S.RESISTOR  | ERJ3GEYJ 271 V (270 Ω)  |
| R174    | 7030003200 | S.RESISTOR  | ERJ3GEYJ 100 V (10 Ω)   |
| R181    | 7030003320 | S.RESISTOR  | ERJ3GEYJ 101 V (100 Ω)  |
| R201    | 7030003320 | S.RESISTOR  | ERJ3GEYJ 101 V (100 Ω)  |
| R221    | 7030003320 | S.RESISTOR  | ERJ3GEYJ 101 V (100 Ω)  |
| R241    | 7030003320 | S.RESISTOR  | ERJ3GEYJ 101 V (100 Ω)  |

S.=Surface mount

## [MAIN UNIT]

| REF NO. | ORDER NO.  | DESCRIPTION                          |
|---------|------------|--------------------------------------|
| R261    | 7030003320 | S.RESISTOR ERJ3GEYJ 101 V (100 Ω)    |
| R281    | 7030003320 | S.RESISTOR ERJ3GEYJ 101 V (100 Ω)    |
| R301    | 7030003320 | S.RESISTOR ERJ3GEYJ 101 V (100 Ω)    |
| R321    | 7030003320 | S.RESISTOR ERJ3GEYJ 101 V (100 Ω)    |
| R341    | 7030003320 | S.RESISTOR ERJ3GEYJ 101 V (100 Ω)    |
| R361    | 7030006260 | S.RESISTOR ERJ12YJ471H (470 Ω)       |
| R362    | 7030006260 | S.RESISTOR ERJ12YJ471H (470 Ω)       |
| R371    | 7030003320 | S.RESISTOR ERJ3GEYJ 101 V (100 Ω)    |
| R372    | 7030003320 | S.RESISTOR ERJ3GEYJ 101 V (100 Ω)    |
| R381    | 7030003320 | S.RESISTOR ERJ3GEYJ 101 V (100 Ω)    |
| R382    | 7030003280 | S.RESISTOR ERJ3GEYJ 470 V (47 Ω)     |
| R383    | 7030003280 | S.RESISTOR ERJ3GEYJ 470 V (47 Ω)     |
| R384    | 7030003320 | S.RESISTOR ERJ3GEYJ 101 V (100 Ω)    |
| R385    | 7030003320 | S.RESISTOR ERJ3GEYJ 101 V (100 Ω)    |
| R386    | 7030003320 | S.RESISTOR ERJ3GEYJ 101 V (100 Ω)    |
| R391    | 7030003320 | S.RESISTOR ERJ3GEYJ 101 V (100 Ω)    |
| R392    | 7030003400 | S.RESISTOR ERJ3GEYJ 471 V (470 Ω)    |
| R393    | 7030003320 | S.RESISTOR ERJ3GEYJ 101 V (100 Ω)    |
| R394    | 7030003370 | S.RESISTOR ERJ3GEYJ 271 V (270 Ω)    |
| R395    | 7030003230 | S.RESISTOR ERJ3GEYJ 180 V (18 Ω)     |
| R396    | 7030003370 | S.RESISTOR ERJ3GEYJ 271 V (270 Ω)    |
| R401    | 7030006260 | S.RESISTOR ERJ12YJ471H (470 Ω)       |
| R411    | 7030003300 | S.RESISTOR ERJ3GEYJ 680 V (68 Ω)     |
| R412    | 7030003520 | S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)   |
| R413    | 7030003410 | S.RESISTOR ERJ3GEYJ 561 V (560 Ω)    |
| R414    | 7030003200 | S.RESISTOR ERJ3GEYJ 100 V (10 Ω)     |
| R415    | 7030003280 | S.RESISTOR ERJ3GEYJ 470 V (47 Ω)     |
| R442    | 7030003410 | S.RESISTOR ERJ3GEYJ 561 V (560 Ω)    |
| R443    | 7030003410 | S.RESISTOR ERJ3GEYJ 561 V (560 Ω)    |
| R444    | 7310002720 | S.TRIMMER RV-148 (RH03A3AS3X0DA) 472 |
| R445    | 7030003280 | S.RESISTOR ERJ3GEYJ 470 V (47 Ω)     |
| R446    | 7030003560 | S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)    |
| R447    | 7030003280 | S.RESISTOR ERJ3GEYJ 470 V (47 Ω)     |
| R448    | 7030003400 | S.RESISTOR ERJ3GEYJ 471 V (470 Ω)    |
| R449    | 7030003320 | S.RESISTOR ERJ3GEYJ 101 V (100 Ω)    |
| R471    | 7030003760 | S.RESISTOR ERJ3GEYJ 474 V (470 kΩ)   |
| R472    | 7030003280 | S.RESISTOR ERJ3GEYJ 470 V (47 Ω)     |
| R473    | 7030003200 | S.RESISTOR ERJ3GEYJ 100 V (10 Ω)     |
| R474    | 7030003520 | S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)   |
| R475    | 7030003580 | S.RESISTOR ERJ3GEYJ 153 V (15 kΩ)    |
| R476    | 7030003480 | S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)   |
| R477    | 7030003340 | S.RESISTOR ERJ3GEYJ 151 V (150 Ω)    |
| R478    | 7030003480 | S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)   |
| R479    | 7030003280 | S.RESISTOR ERJ3GEYJ 470 V (47 Ω)     |
| R491    | 7030003370 | S.RESISTOR ERJ3GEYJ 271 V (270 Ω)    |
| R492    | 7030003230 | S.RESISTOR ERJ3GEYJ 180 V (18 Ω)     |
| R493    | 7030003370 | S.RESISTOR ERJ3GEYJ 271 V (270 Ω)    |
| R563    | 7030003640 | S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)    |
| R564    | 7030003640 | S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)    |
| R565    | 7030003640 | S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)    |
| R566    | 7030003640 | S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)    |
| R567    | 7030003640 | S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)    |
| R568    | 7030003640 | S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)    |
| R569    | 7030003640 | S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)    |
| R570    | 7030003640 | S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)    |
| R571    | 7030003200 | S.RESISTOR ERJ3GEYJ 100 V (10 Ω)     |
| R572    | 7030003200 | S.RESISTOR ERJ3GEYJ 100 V (10 Ω)     |
| R573    | 7030003200 | S.RESISTOR ERJ3GEYJ 100 V (10 Ω)     |
| R574    | 7030003200 | S.RESISTOR ERJ3GEYJ 100 V (10 Ω)     |
| R575    | 7030003200 | S.RESISTOR ERJ3GEYJ 100 V (10 Ω)     |
| R576    | 7030003200 | S.RESISTOR ERJ3GEYJ 100 V (10 Ω)     |
| R577    | 7030003200 | S.RESISTOR ERJ3GEYJ 100 V (10 Ω)     |
| R578    | 7030003200 | S.RESISTOR ERJ3GEYJ 100 V (10 Ω)     |
| R579    | 7030003640 | S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)    |
| R580    | 7030003640 | S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)    |
| R583    | 7030003640 | S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)    |
| R587    | 7030003200 | S.RESISTOR ERJ3GEYJ 100 V (10 Ω)     |
| R588    | 7030003200 | S.RESISTOR ERJ3GEYJ 100 V (10 Ω)     |
| R589    | 7030003200 | S.RESISTOR ERJ3GEYJ 100 V (10 Ω)     |
| R590    | 7030003200 | S.RESISTOR ERJ3GEYJ 100 V (10 Ω)     |
| R591    | 7030003200 | S.RESISTOR ERJ3GEYJ 100 V (10 Ω)     |
| R592    | 7030003200 | S.RESISTOR ERJ3GEYJ 100 V (10 Ω)     |
| R593    | 7030003200 | S.RESISTOR ERJ3GEYJ 100 V (10 Ω)     |
| R711    | 7030003480 | S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)   |
| R712    | 7030003480 | S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)   |
| R713    | 7030003360 | S.RESISTOR ERJ3GEYJ 221 V (220 Ω)    |
| R721    | 7030003520 | S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)   |
| R722    | 7030003610 | S.RESISTOR ERJ3GEYJ 273 V (27 kΩ)    |
| R723    | 7030003760 | S.RESISTOR ERJ3GEYJ 474 V (470 kΩ)   |
| R724    | 7030003340 | S.RESISTOR ERJ3GEYJ 151 V (150 Ω)    |
| R725    | 7030003320 | S.RESISTOR ERJ3GEYJ 101 V (100 Ω)    |
| R731    | 7030003680 | S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)   |

## [MAIN UNIT]

| REF NO. | ORDER NO.  | DESCRIPTION                          |
|---------|------------|--------------------------------------|
| R732    | 7030003520 | S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)   |
| R733    | 7030003320 | S.RESISTOR ERJ3GEYJ 101 V (100 Ω)    |
| R734    | 7030003320 | S.RESISTOR ERJ3GEYJ 101 V (100 Ω)    |
| R735    | 7030003600 | S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)    |
| R736    | 7310002740 | S.TRIMMER RV-150 (RH03A3A14X0FC) 103 |
| R737    | 7030003640 | S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)    |
| R738    | 7030003640 | S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)    |
| R739    | 7030003640 | S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)    |
| R740    | 7030003440 | S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)     |
| R741    | 7030003520 | S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)   |
| R742    | 7030003320 | S.RESISTOR ERJ3GEYJ 101 V (100 Ω)    |
| R743    | 7030003640 | S.RESISTOR ERJ3GEYJ 473 V (47 kΩ)    |
| R744    | 7030003520 | S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)   |
| R745    | 7030003680 | S.RESISTOR ERJ3GEYJ 104 V (100 kΩ)   |
| R746    | 7030003540 | S.RESISTOR ERJ3GEYJ 682 V (6.8 kΩ)   |
| R747    | 7030003440 | S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)     |
| R748    | 7030003400 | S.RESISTOR ERJ3GEYJ 471 V (470 Ω)    |
| R749    | 7030003600 | S.RESISTOR ERJ3GEYJ 223 V (22 kΩ)    |
| R750    | 7030003440 | S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)     |
| R751    | 7030003280 | S.RESISTOR ERJ3GEYJ 470 V (47 Ω)     |
| R761    | 7030003480 | S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)   |
| R762    | 7030003360 | S.RESISTOR ERJ3GEYJ 221 V (220 Ω)    |
| R763    | 7030003360 | S.RESISTOR ERJ3GEYJ 221 V (220 Ω)    |
| R764    | 7030003480 | S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)   |
| R765    | 7030003560 | S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)    |
| R771    | 7030003480 | S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)   |
| R772    | 7030003360 | S.RESISTOR ERJ3GEYJ 221 V (220 Ω)    |
| R773    | 7030003360 | S.RESISTOR ERJ3GEYJ 221 V (220 Ω)    |
| R774    | 7030003480 | S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)   |
| R775    | 7030003560 | S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)    |
| R781    | 7030003480 | S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)   |
| R782    | 7030003360 | S.RESISTOR ERJ3GEYJ 221 V (220 Ω)    |
| R783    | 7030003360 | S.RESISTOR ERJ3GEYJ 221 V (220 Ω)    |
| R784    | 7030003480 | S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)   |
| R785    | 7030003560 | S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)    |
| R791    | 7030003480 | S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)   |
| R792    | 7030003520 | S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)   |
| R793    | 7030003480 | S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)   |
| R794    | 7030003480 | S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)   |
| R795    | 7030003520 | S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)   |
| R796    | 7030003480 | S.RESISTOR ERJ3GEYJ 222 V (2.2 kΩ)   |
| R801    | 7030003440 | S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)     |
| R802    | 7030003320 | S.RESISTOR ERJ3GEYJ 101 V (100 Ω)    |
| R811    | 7030003460 | S.RESISTOR ERJ3GEYJ 152 V (1.5 kΩ)   |
| R812    | 7030003400 | S.RESISTOR ERJ3GEYJ 471 V (470 Ω)    |
| R813    | 7030003400 | S.RESISTOR ERJ3GEYJ 471 V (470 Ω)    |
| R814    | 7030003500 | S.RESISTOR ERJ3GEYJ 332 V (3.3 kΩ)   |
| R815    | 7030003500 | S.RESISTOR ERJ3GEYJ 332 V (3.3 kΩ)   |
| R816    | 7030003490 | S.RESISTOR ERJ3GEYJ 272 V (2.7 kΩ)   |
| R817    | 7030003490 | S.RESISTOR ERJ3GEYJ 272 V (2.7 kΩ)   |
| R818    | 7030003490 | S.RESISTOR ERJ3GEYJ 272 V (2.7 kΩ)   |
| R819    | 7030003440 | S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)     |
| R820    | 7030003440 | S.RESISTOR ERJ3GEYJ 102 V (1 kΩ)     |
| R821    | 7030003500 | S.RESISTOR ERJ3GEYJ 332 V (3.3 kΩ)   |
| R822    | 7030003200 | S.RESISTOR ERJ3GEYJ 100 V (10 Ω)     |
| R823    | 7030003200 | S.RESISTOR ERJ3GEYJ 100 V (10 Ω)     |
| R824    | 7030003360 | S.RESISTOR ERJ3GEYJ 221 V (220 Ω)    |
| R825    | 7510001270 | S.THERMISTOR NTCCM1608 3NH 681KC     |
| R831    | 7030004710 | S.RESISTOR ERJ3GEYJ 475 V (4.7 MΩ)   |
| R832    | 7030004710 | S.RESISTOR ERJ3GEYJ 475 V (4.7 MΩ)   |
| R833    | 7030004710 | S.RESISTOR ERJ3GEYJ 475 V (4.7 MΩ)   |
| R834    | 7030004710 | S.RESISTOR ERJ3GEYJ 475 V (4.7 MΩ)   |
| R835    | 7030003820 | S.RESISTOR ERJ3GEYJ 155 V (1.5 MΩ)   |
| R836    | 7030003520 | S.RESISTOR ERJ3GEYJ 472 V (4.7 kΩ)   |
| R841    | 7030003560 | S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)    |
| R851    | 7030003560 | S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)    |
| R852    | 7030003360 | S.RESISTOR ERJ3GEYJ 221 V (220 Ω)    |
| R853    | 7030003360 | S.RESISTOR ERJ3GEYJ 221 V (220 Ω)    |
| R854    | 7030003560 | S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)    |
| R855    | 7030003560 | S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)    |
| R861    | 7030003560 | S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)    |
| R862    | 7030003360 | S.RESISTOR ERJ3GEYJ 221 V (220 Ω)    |
| R863    | 7030003360 | S.RESISTOR ERJ3GEYJ 221 V (220 Ω)    |
| R864    | 7030003560 | S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)    |
| R865    | 7030003560 | S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)    |
| R871    | 7030003510 | S.RESISTOR ERJ3GEYJ 392 V (3.9 kΩ)   |
| R872    | 7030003360 | S.RESISTOR ERJ3GEYJ 221 V (220 Ω)    |
| R873    | 7030003360 | S.RESISTOR ERJ3GEYJ 221 V (220 Ω)    |
| R874    | 7030003510 | S.RESISTOR ERJ3GEYJ 392 V (3.9 kΩ)   |
| R875    | 7030003560 | S.RESISTOR ERJ3GEYJ 103 V (10 kΩ)    |
| R881    | 7030003510 | S.RESISTOR ERJ3GEYJ 392 V (3.9 kΩ)   |
| R882    | 7030003360 | S.RESISTOR ERJ3GEYJ 221 V (220 Ω)    |

S.=Surface mount

[MAIN UNIT]

| REF NO. | ORDER NO.  | DESCRIPTION |                            |
|---------|------------|-------------|----------------------------|
| R883    | 7030003360 | S.RESISTOR  | ERJ3GEYJ 221 V (220 Ω)     |
| R884    | 7030003510 | S.RESISTOR  | ERJ3GEYJ 392 V (3.9 kΩ)    |
| R885    | 7030003560 | S.RESISTOR  | ERJ3GEYJ 103 V (10 kΩ)     |
| R891    | 7030003560 | S.RESISTOR  | ERJ3GEYJ 103 V (10 kΩ)     |
| R892    | 7030003320 | S.RESISTOR  | ERJ3GEYJ 101 V (100 Ω)     |
| R893    | 7030003480 | S.RESISTOR  | ERJ3GEYJ 222 V (2.2 kΩ)    |
| R894    | 7030003600 | S.RESISTOR  | ERJ3GEYJ 223 V (22 kΩ)     |
| R895    | 7030003380 | S.RESISTOR  | ERJ3GEYJ 331 V (330 Ω)     |
| R896    | 7030003500 | S.RESISTOR  | ERJ3GEYJ 332 V (3.3 kΩ)    |
| R897    | 7030003320 | S.RESISTOR  | ERJ3GEYJ 101 V (100 Ω)     |
| R898    | 7310002740 | S.TRIMMER   | RV-150 (RH03A3A14X0FC) 103 |
| R911    | 7030003320 | S.RESISTOR  | ERJ3GEYJ 101 V (100 Ω)     |
| R912    | 7030003480 | S.RESISTOR  | ERJ3GEYJ 222 V (2.2 kΩ)    |
| R913    | 7030003320 | S.RESISTOR  | ERJ3GEYJ 101 V (100 Ω)     |
| R914    | 7030003560 | S.RESISTOR  | ERJ3GEYJ 103 V (10 kΩ)     |
| R915    | 7030003560 | S.RESISTOR  | ERJ3GEYJ 103 V (10 kΩ)     |
| R1001   | 7030003520 | S.RESISTOR  | ERJ3GEYJ 472 V (4.7 kΩ)    |
| R1002   | 7030003320 | S.RESISTOR  | ERJ3GEYJ 101 V (100 Ω)     |
| R1003   | 7030003700 | S.RESISTOR  | ERJ3GEYJ 154 V (150 kΩ)    |
| R1004   | 7030003500 | S.RESISTOR  | ERJ3GEYJ 332 V (3.3 kΩ)    |
| R1005   | 7030003720 | S.RESISTOR  | ERJ3GEYJ 224 V (220 kΩ)    |
| R1006   | 7030003460 | S.RESISTOR  | ERJ3GEYJ 152 V (1.5 kΩ)    |
| R1007   | 7030003360 | S.RESISTOR  | ERJ3GEYJ 221 V (220 Ω)     |
| R1008   | 7030003720 | S.RESISTOR  | ERJ3GEYJ 224 V (220 kΩ)    |
| R1021   | 7030003560 | S.RESISTOR  | ERJ3GEYJ 103 V (10 kΩ)     |
| R1022   | 7030003630 | S.RESISTOR  | ERJ3GEYJ 393 V (39 kΩ)     |
| R1023   | 7030003660 | S.RESISTOR  | ERJ3GEYJ 683 V (68 kΩ)     |
| R1024   | 7030003640 | S.RESISTOR  | ERJ3GEYJ 473 V (47 kΩ)     |
| R1031   | 7030003360 | S.RESISTOR  | ERJ3GEYJ 221 V (220 Ω)     |
| R1032   | 7030003720 | S.RESISTOR  | ERJ3GEYJ 224 V (220 kΩ)    |
| R1033   | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)      |
| R1051   | 7030003490 | S.RESISTOR  | ERJ3GEYJ 272 V (2.7 kΩ)    |
| R1052   | 7030003520 | S.RESISTOR  | ERJ3GEYJ 472 V (4.7 kΩ)    |
| R1053   | 7030003400 | S.RESISTOR  | ERJ3GEYJ 471 V (470 Ω)     |
| R1061   | 7030003680 | S.RESISTOR  | ERJ3GEYJ 104 V (100 kΩ)    |
| R1062   | 7030003600 | S.RESISTOR  | ERJ3GEYJ 223 V (22 kΩ)     |
| R1063   | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)      |
| R1064   | 7030003780 | S.RESISTOR  | ERJ3GEYJ 684 V (680 kΩ)    |
| R1065   | 7030003520 | S.RESISTOR  | ERJ3GEYJ 472 V (4.7 kΩ)    |
| R1066   | 7030003600 | S.RESISTOR  | ERJ3GEYJ 223 V (22 kΩ)     |
| R1067   | 7030003740 | S.RESISTOR  | ERJ3GEYJ 334 V (330 kΩ)    |
| R1068   | 7030003560 | S.RESISTOR  | ERJ3GEYJ 103 V (10 kΩ)     |
| R1081   | 7030003360 | S.RESISTOR  | ERJ3GEYJ 221 V (220 Ω)     |
| R1082   | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)      |
| R1084   | 7030003640 | S.RESISTOR  | ERJ3GEYJ 473 V (47 kΩ)     |
| R1101   | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)      |
| R1102   | 7030003460 | S.RESISTOR  | ERJ3GEYJ 152 V (1.5 kΩ)    |
| R1103   | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)      |
| R1104   | 7030003500 | S.RESISTOR  | ERJ3GEYJ 332 V (3.3 kΩ)    |
| R1105   | 7030003480 | S.RESISTOR  | ERJ3GEYJ 222 V (2.2 kΩ)    |
| R1106   | 7030003200 | S.RESISTOR  | ERJ3GEYJ 100 V (10 Ω)      |
| R1107   | 7030003460 | S.RESISTOR  | ERJ3GEYJ 152 V (1.5 kΩ)    |
| R1108   | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)      |
| R1109   | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)      |
| R1110   | 7030003480 | S.RESISTOR  | ERJ3GEYJ 222 V (2.2 kΩ)    |
| R1111   | 7030003200 | S.RESISTOR  | ERJ3GEYJ 100 V (10 Ω)      |
| R1201   | 7030003660 | S.RESISTOR  | ERJ3GEYJ 683 V (68 kΩ)     |
| R1202   | 7030003480 | S.RESISTOR  | ERJ3GEYJ 222 V (2.2 kΩ)    |
| R1204   | 7030003640 | S.RESISTOR  | ERJ3GEYJ 473 V (47 kΩ)     |
| R1205   | 7030003640 | S.RESISTOR  | ERJ3GEYJ 473 V (47 kΩ)     |
| R1211   | 7030003640 | S.RESISTOR  | ERJ3GEYJ 473 V (47 kΩ)     |
| R1212   | 7030003630 | S.RESISTOR  | ERJ3GEYJ 393 V (39 kΩ)     |
| R1213   | 7030003630 | S.RESISTOR  | ERJ3GEYJ 393 V (39 kΩ)     |
| R1214   | 7030003630 | S.RESISTOR  | ERJ3GEYJ 393 V (39 kΩ)     |
| R1215   | 7030003630 | S.RESISTOR  | ERJ3GEYJ 393 V (39 kΩ)     |
| R1231   | 7030003400 | S.RESISTOR  | ERJ3GEYJ 471 V (470 Ω)     |
| R1232   | 7030003400 | S.RESISTOR  | ERJ3GEYJ 471 V (470 Ω)     |
| R1233   | 7030003400 | S.RESISTOR  | ERJ3GEYJ 471 V (470 Ω)     |
| R1234   | 7030003400 | S.RESISTOR  | ERJ3GEYJ 471 V (470 Ω)     |
| R1235   | 7030003400 | S.RESISTOR  | ERJ3GEYJ 471 V (470 Ω)     |
| R1236   | 7030003400 | S.RESISTOR  | ERJ3GEYJ 471 V (470 Ω)     |
| R1251   | 7030003680 | S.RESISTOR  | ERJ3GEYJ 104 V (100 kΩ)    |
| R1252   | 7030003680 | S.RESISTOR  | ERJ3GEYJ 104 V (100 kΩ)    |
| R1253   | 7030003680 | S.RESISTOR  | ERJ3GEYJ 104 V (100 kΩ)    |
| R1254   | 7310002720 | S.TRIMMER   | RV-148 (RH03A3AS3X0DA) 472 |
| R1255   | 7030003400 | S.RESISTOR  | ERJ3GEYJ 471 V (470 Ω)     |
| R1256   | 7030003640 | S.RESISTOR  | ERJ3GEYJ 473 V (47 kΩ)     |
| R1257   | 7030003560 | S.RESISTOR  | ERJ3GEYJ 103 V (10 kΩ)     |
| R1258   | 7030003520 | S.RESISTOR  | ERJ3GEYJ 472 V (4.7 kΩ)    |
| R1259   | 7030003520 | S.RESISTOR  | ERJ3GEYJ 472 V (4.7 kΩ)    |
| R1260   | 7030003320 | S.RESISTOR  | ERJ3GEYJ 101 V (100 Ω)     |
| R1261   | 7030003480 | S.RESISTOR  | ERJ3GEYJ 222 V (2.2 kΩ)    |

[MAIN UNIT]

| REF NO. | ORDER NO.  | DESCRIPTION    |                         |
|---------|------------|----------------|-------------------------|
| R1262   | 7030003550 | S.RESISTOR     | ERJ3GEYJ 822 V (8.2 kΩ) |
| R1263   | 7030003610 | S.RESISTOR     | ERJ3GEYJ 273 V (27 kΩ)  |
| R1271   | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R1272   | 7030003440 | S.RESISTOR     | ERJ3GEYJ 102 V (1 kΩ)   |
| R1281   | 7030003680 | S.RESISTOR     | ERJ3GEYJ 104 V (100 kΩ) |
| R1291   | 7030003550 | S.RESISTOR     | ERJ3GEYJ 822 V (8.2 kΩ) |
| R1292   | 7030003400 | S.RESISTOR     | ERJ3GEYJ 471 V (470 Ω)  |
| R1293   | 7030003400 | S.RESISTOR     | ERJ3GEYJ 471 V (470 Ω)  |
| R1311   | 7030003520 | S.RESISTOR     | ERJ3GEYJ 472 V (4.7 kΩ) |
| R1312   | 7030003620 | S.RESISTOR     | ERJ3GEYJ 333 V (33 kΩ)  |
| R1313   | 7030003580 | S.RESISTOR     | ERJ3GEYJ 153 V (15 kΩ)  |
| R1314   | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R1351   | 7030003200 | S.RESISTOR     | ERJ3GEYJ 100 V (10 Ω)   |
| R1371   | 7030003520 | S.RESISTOR     | ERJ3GEYJ 472 V (4.7 kΩ) |
| R1372   | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R1374   | 7030003520 | S.RESISTOR     | ERJ3GEYJ 472 V (4.7 kΩ) |
| R1381   | 7030003280 | S.RESISTOR     | ERJ3GEYJ 470 V (47 Ω)   |
| R1382   | 7030003480 | S.RESISTOR     | ERJ3GEYJ 222 V (2.2 kΩ) |
| R1401   | 7070001060 | RESISTOR       | ERG2SJ 120              |
| R1411   | 7030003320 | S.RESISTOR     | ERJ3GEYJ 101 V (100 Ω)  |
| R1412   | 7030003560 | S.RESISTOR     | ERJ3GEYJ 103 V (10 kΩ)  |
| R1413   | 7030003680 | S.RESISTOR     | ERJ3GEYJ 104 V (100 kΩ) |
| R1414   | 7030003320 | S.RESISTOR     | ERJ3GEYJ 101 V (100 Ω)  |
| R1415   | 7030003320 | S.RESISTOR     | ERJ3GEYJ 101 V (100 Ω)  |
| R1416   | 7030003320 | S.RESISTOR     | ERJ3GEYJ 101 V (100 Ω)  |
| R1771   | 7030003540 | S.RESISTOR     | ERJ3GEYJ 682 V (6.8 kΩ) |
| R1772   | 7030003620 | S.RESISTOR     | ERJ3GEYJ 333 V (33 kΩ)  |
| R1773   | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R1774   | 7030003580 | S.RESISTOR     | ERJ3GEYJ 153 V (15 kΩ)  |
| R2001   | 7030003560 | S.RESISTOR     | ERJ3GEYJ 103 V (10 kΩ)  |
| R2002   | 7030003360 | S.RESISTOR     | ERJ3GEYJ 221 V (220 Ω)  |
| R2011   | 7030003560 | S.RESISTOR     | ERJ3GEYJ 103 V (10 kΩ)  |
| R2012   | 7030003680 | S.RESISTOR     | ERJ3GEYJ 104 V (100 kΩ) |
| R2021   | 7030003510 | S.RESISTOR     | ERJ3GEYJ 392 V (3.9 kΩ) |
| R2022   | 7030003440 | S.RESISTOR     | ERJ3GEYJ 102 V (1 kΩ)   |
| R2031   | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R2032   | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| R2051   | 7030003640 | S.RESISTOR     | ERJ3GEYJ 473 V (47 kΩ)  |
| C101    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N     |
| C111    | 4030010210 | S.CERAMIC      | C3216 JB 1C 105M-T-A    |
| C121    | 4030006900 | S.CERAMIC      | C1608 JB 1E 103K-T-A    |
| C131    | 4030007070 | S.CERAMIC      | C1608 CH 1H 330J-T-A    |
| C132    | 4030007070 | S.CERAMIC      | C1608 CH 1H 330J-T-A    |
| C133    | 4030007040 | S.CERAMIC      | C1608 CH 1H 180J-T-A    |
| C134    | 4030007120 | S.CERAMIC      | C1608 CH 1H 820J-T-A    |
| C135    | 4030007040 | S.CERAMIC      | C1608 CH 1H 180J-T-A    |
| C136    | 4030007100 | S.CERAMIC      | C1608 CH 1H 560J-T-A    |
| C141    | 4030006900 | S.CERAMIC      | C1608 JB 1E 103K-T-A    |
| C151    | 4030010210 | S.CERAMIC      | C3216 JB 1C 105M-T-A    |
| C152    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N     |
| C161    | 4030008470 | S.CERAMIC      | C1608 JB 1H 272K-T-A    |
| C162    | 4030009880 | S.CERAMIC      | C1608 JB 1H 682K-T-A    |
| C163    | 4030009980 | S.CERAMIC      | C1608 JB 1H 152K-T-A    |
| C164    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N     |
| C170    | 4510004640 | S.ELECTROLYTIC | ECEV1CA470SP            |
| C171    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N     |
| C172    | 4030008650 | S.CERAMIC      | C1608 JB 1H 332K-T-A    |
| C173    | 4030010240 | S.CERAMIC      | C1608 JB 1H 391K-T-A    |
| C174    | 4030008650 | S.CERAMIC      | C1608 JB 1H 332K-T-A    |
| C175    | 4030010210 | S.CERAMIC      | C3216 JB 1C 105M-T-A    |
| C176    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N     |
| C181    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N     |
| C182    | 4030006860 | S.CERAMIC      | C1608 JB 1H 102K-T-A    |
| C183    | 4030009580 | S.CERAMIC      | C1608 JB 1H 681K-T-A    |
| C184    | 4030006870 | S.CERAMIC      | C1608 JB 1H 222K-T-A    |
| C185    | 4030007170 | S.CERAMIC      | C1608 CH 1H 221J-T-A    |
| C186    | 4030010020 | S.CERAMIC      | C1608 JB 1H 122K-T-A    |
| C187    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N     |
| C188    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N     |
| C201    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N     |
| C202    | 4030010020 | S.CERAMIC      | C1608 JB 1H 122K-T-A    |
| C203    | 4030007130 | S.CERAMIC      | C1608 CH 1H 101J-T-A    |
| C204    | 4030010020 | S.CERAMIC      | C1608 JB 1H 122K-T-A    |
| C205    | 4030009880 | S.CERAMIC      | C1608 JB 1H 682K-T-A    |
| C206    | 4030009880 | S.CERAMIC      | C1608 JB 1H 682K-T-A    |
| C207    | 4030009980 | S.CERAMIC      | C1608 JB 1H 152K-T-A    |
| C208    | 4030009980 | S.CERAMIC      | C1608 JB 1H 152K-T-A    |
| C209    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N     |
| C221    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N     |
| C222    | 4030010240 | S.CERAMIC      | C1608 JB 1H 391K-T-A    |

S.=Surface mount

## [MAIN UNIT]

| REF NO. | ORDER NO.  | DESCRIPTION                    |
|---------|------------|--------------------------------|
| C223    | 4030007140 | S.CERAMIC C1608 CH 1H 121J-T-A |
| C224    | 4030007130 | S.CERAMIC C1608 CH 1H 101J-T-A |
| C225    | 4030006850 | S.CERAMIC C1608 JB 1H 471K-T-A |
| C226    | 4030006870 | S.CERAMIC C1608 JB 1H 222K-T-A |
| C227    | 4030006880 | S.CERAMIC C1608 JB 1H 472K-T-A |
| C228    | 4030006860 | S.CERAMIC C1608 JB 1H 102K-T-A |
| C229    | 4030009580 | S.CERAMIC C1608 JB 1H 681K-T-A |
| C230    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C241    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C242    | 4030010760 | S.CERAMIC C1608 CH 1H 331J-T-A |
| C243    | 4030007090 | S.CERAMIC C1608 CH 1H 470J-T-A |
| C244    | 4030007160 | S.CERAMIC C1608 CH 1H 181J-T-A |
| C245    | 4030010040 | S.CERAMIC C1608 JB 1H 561K-T-A |
| C246    | 4030008470 | S.CERAMIC C1608 JB 1H 272K-T-A |
| C247    | 4030010760 | S.CERAMIC C1608 CH 1H 331J-T-A |
| C248    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C261    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C262    | 4030011280 | S.CERAMIC C1608 CH 1H 271J-T-A |
| C263    | 4030007090 | S.CERAMIC C1608 CH 1H 470J-T-A |
| C264    | 4030007150 | S.CERAMIC C1608 CH 1H 151J-T-A |
| C265    | 4030006850 | S.CERAMIC C1608 JB 1H 471K-T-A |
| C266    | 4030010020 | S.CERAMIC C1608 JB 1H 122K-T-A |
| C267    | 4030007140 | S.CERAMIC C1608 CH 1H 121J-T-A |
| C268    | 4030007140 | S.CERAMIC C1608 CH 1H 121J-T-A |
| C269    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C281    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C282    | 4030007160 | S.CERAMIC C1608 CH 1H 181J-T-A |
| C283    | 4030007030 | S.CERAMIC C1608 CH 1H 150J-T-A |
| C284    | 4030007030 | S.CERAMIC C1608 CH 1H 150J-T-A |
| C285    | 4030007130 | S.CERAMIC C1608 CH 1H 101J-T-A |
| C286    | 4030007150 | S.CERAMIC C1608 CH 1H 151J-T-A |
| C287    | 4030007150 | S.CERAMIC C1608 CH 1H 151J-T-A |
| C288    | 4030010020 | S.CERAMIC C1608 JB 1H 122K-T-A |
| C289    | 4030007150 | S.CERAMIC C1608 CH 1H 151J-T-A |
| C290    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C301    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C302    | 4030006990 | S.CERAMIC C1608 CH 1H 080D-T-A |
| C303    | 4030007160 | S.CERAMIC C1608 CH 1H 181J-T-A |
| C304    | 4030007060 | S.CERAMIC C1608 CH 1H 270J-T-A |
| C305    | 4030007140 | S.CERAMIC C1608 CH 1H 121J-T-A |
| C306    | 4030007160 | S.CERAMIC C1608 CH 1H 181J-T-A |
| C307    | 4030010020 | S.CERAMIC C1608 JB 1H 122K-T-A |
| C308    | 4030007130 | S.CERAMIC C1608 CH 1H 101J-T-A |
| C309    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C321    | 4030006900 | S.CERAMIC C1608 JB 1E 103K-T-A |
| C322    | 4030007110 | S.CERAMIC C1608 CH 1H 680J-T-A |
| C323    | 4030007080 | S.CERAMIC C1608 CH 1H 390J-T-A |
| C324    | 4030007110 | S.CERAMIC C1608 CH 1H 680J-T-A |
| C325    | 4030007010 | S.CERAMIC C1608 CH 1H 100D-T-A |
| C326    | 4030007010 | S.CERAMIC C1608 CH 1H 100D-T-A |
| C327    | 4030007110 | S.CERAMIC C1608 CH 1H 680J-T-A |
| C328    | 4030007170 | S.CERAMIC C1608 CH 1H 221J-T-A |
| C329    | 4030010240 | S.CERAMIC C1608 JB 1H 391K-T-A |
| C330    | 4030007100 | S.CERAMIC C1608 CH 1H 560J-T-A |
| C331    | 4030007050 | S.CERAMIC C1608 CH 1H 220J-T-A |
| C332    | 4030006900 | S.CERAMIC C1608 JB 1E 103K-T-A |
| C333    | 4030007070 | S.CERAMIC C1608 CH 1H 330J-T-A |
| C341    | 4030006900 | S.CERAMIC C1608 JB 1E 103K-T-A |
| C342    | 4030007110 | S.CERAMIC C1608 CH 1H 680J-T-A |
| C344    | 4030007020 | S.CERAMIC C1608 CH 1H 120J-T-A |
| C345    | 4030007080 | S.CERAMIC C1608 CH 1H 390J-T-A |
| C346    | 4030006900 | S.CERAMIC C1608 JB 1E 103K-T-A |
| C349    | 4030007100 | S.CERAMIC C1608 CH 1H 560J-T-A |
| C350    | 4030007160 | S.CERAMIC C1608 CH 1H 181J-T-A |
| C351    | 4030007090 | S.CERAMIC C1608 CH 1H 470J-T-A |
| C352    | 4030006900 | S.CERAMIC C1608 JB 1E 103K-T-A |
| C361    | 4030010210 | S.CERAMIC C3216 JB 1C 105M-T-A |
| C371    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C372    | 4030007010 | S.CERAMIC C1608 CH 1H 100D-T-A |
| C381    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C382    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C383    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C384    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C385    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C386    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C391    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C392    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C393    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C394    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C395    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C396    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C397    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |

## [MAIN UNIT]

| REF NO. | ORDER NO.  | DESCRIPTION                    |
|---------|------------|--------------------------------|
| C401    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C411    | 4030007080 | S.CERAMIC C1608 CH 1H 390J-T-A |
| C412    | 4030007130 | S.CERAMIC C1608 CH 1H 101J-T-A |
| C413    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C414    | 4030006860 | S.CERAMIC C1608 JB 1H 102K-T-A |
| C415    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C422    | 4030006970 | S.CERAMIC C1608 CH 1H 060D-T-A |
| C423    | 4030007040 | S.CERAMIC C1608 CH 1H 180J-T-A |
| C424    | 4030006920 | S.CERAMIC C1608 CH 1H 010C-T-A |
| C425    | 4030007040 | S.CERAMIC C1608 CH 1H 180J-T-A |
| C431    | 4030007070 | S.CERAMIC C1608 CH 1H 330J-T-A |
| C432    | 4030007070 | S.CERAMIC C1608 CH 1H 330J-T-A |
| C433    | 4030007040 | S.CERAMIC C1608 CH 1H 180J-T-A |
| C434    | 4030007120 | S.CERAMIC C1608 CH 1H 820J-T-A |
| C435    | 4030007040 | S.CERAMIC C1608 CH 1H 180J-T-A |
| C436    | 4030007100 | S.CERAMIC C1608 CH 1H 560J-T-A |
| C442    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C443    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C444    | 4030006990 | S.CERAMIC C1608 CH 1H 080D-T-A |
| C445    | 4030006950 | S.CERAMIC C1608 CH 1H 040C-T-A |
| C446    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C447    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C448    | 4030007130 | S.CERAMIC C1608 CH 1H 101J-T-A |
| C461    | 4030006980 | S.CERAMIC C1608 CH 1H 070D-T-A |
| C462    | 4030006930 | S.CERAMIC C1608 CH 1H 020C-T-A |
| C471    | 4030007050 | S.CERAMIC C1608 CH 1H 220J-T-A |
| C472    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C473    | 4030006880 | S.CERAMIC C1608 JB 1H 472K-T-A |
| C474    | 4030006880 | S.CERAMIC C1608 JB 1H 472K-T-A |
| C475    | 4030007020 | S.CERAMIC C1608 CH 1H 120J-T-A |
| C476    | 4030006880 | S.CERAMIC C1608 JB 1H 472K-T-A |
| C492    | 4030007110 | S.CERAMIC C1608 CH 1H 680J-T-A |
| C551    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C552    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C561    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C562    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C701    | 4030006930 | S.CERAMIC C1608 CH 1H 020C-T-A |
| C711    | 4030006880 | S.CERAMIC C1608 JB 1H 472K-T-A |
| C712    | 4030006880 | S.CERAMIC C1608 JB 1H 472K-T-A |
| C721    | 4030006880 | S.CERAMIC C1608 JB 1H 472K-T-A |
| C722    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C723    | 4030006880 | S.CERAMIC C1608 JB 1H 472K-T-A |
| C724    | 4030007050 | S.CERAMIC C1608 CH 1H 220J-T-A |
| C725    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C726    | 4030006880 | S.CERAMIC C1608 JB 1H 472K-T-A |
| C731    | 4030006880 | S.CERAMIC C1608 JB 1H 472K-T-A |
| C732    | 4030006880 | S.CERAMIC C1608 JB 1H 472K-T-A |
| C733    | 4030006880 | S.CERAMIC C1608 JB 1H 472K-T-A |
| C734    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C735    | 4030006880 | S.CERAMIC C1608 JB 1H 472K-T-A |
| C736    | 4030006880 | S.CERAMIC C1608 JB 1H 472K-T-A |
| C737    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C738    | 4030007150 | S.CERAMIC C1608 CH 1H 151J-T-A |
| C739    | 4510004430 | S.ELECTROLYTIC ECEV1CV220WR    |
| C740    | 4030007050 | S.CERAMIC C1608 CH 1H 220J-T-A |
| C741    | 4510004640 | S.ELECTROLYTIC ECEV1CA470SP    |
| C742    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C743    | 4510004630 | S.ELECTROLYTIC ECEV1CA100SR    |
| C761    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C762    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C771    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C772    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C773    | 4030007030 | S.CERAMIC C1608 CH 1H 150J-T-A |
| C781    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C782    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C791    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C792    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C801    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C811    | 4030006880 | S.CERAMIC C1608 JB 1H 472K-T-A |
| C813    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C814    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C816    | 4030006880 | S.CERAMIC C1608 JB 1H 472K-T-A |
| C818    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C831    | 4030008650 | S.CERAMIC C1608 JB 1H 332K-T-A |
| C841    | 4030006880 | S.CERAMIC C1608 JB 1H 472K-T-A |
| C851    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C852    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C861    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C862    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C871    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C872    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |
| C881    | 4030011600 | S.CERAMIC C1608 JB 1C 104KT-N  |

S.=Surface mount

**[MAIN UNIT]**

| REF NO. | ORDER NO.  | DESCRIPTION    |                      |
|---------|------------|----------------|----------------------|
| C882    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C891    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C892    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C893    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C894    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C895    | 4030007050 | S.CERAMIC      | C1608 CH 1H 220J-T-A |
| C896    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C897    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C911    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C912    | 4030007170 | S.CERAMIC      | C1608 CH 1H 221J-T-A |
| C913    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C914    | 4510005860 | S.ELECTROLYTIC | ECEV1HA2R2SR         |
| C1001   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1002   | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C1003   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1004   | 4030007170 | S.CERAMIC      | C1608 CH 1H 221J-T-A |
| C1005   | 4030007170 | S.CERAMIC      | C1608 CH 1H 221J-T-A |
| C1006   | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C1007   | 4030007130 | S.CERAMIC      | C1608 CH 1H 101J-T-A |
| C1008   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C1009   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1010   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1021   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1022   | 4030006900 | S.CERAMIC      | C1608 JB 1E 103K-T-A |
| C1023   | 4030006900 | S.CERAMIC      | C1608 JB 1E 103K-T-A |
| C1024   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1031   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1051   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C1061   | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C1062   | 4030007130 | S.CERAMIC      | C1608 CH 1H 101J-T-A |
| C1063   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C1064   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1065   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C1066   | 4510005860 | S.ELECTROLYTIC | ECEV1HA2R2SR         |
| C1067   | 4510004430 | S.ELECTROLYTIC | ECEV1CV220WR         |
| C1081   | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C1085   | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C1089   | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C1090   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1101   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1102   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1103   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1201   | 4030006900 | S.CERAMIC      | C1608 JB 1E 103K-T-A |
| C1202   | 4030006900 | S.CERAMIC      | C1608 JB 1E 103K-T-A |
| C1211   | 4030009980 | S.CERAMIC      | C1608 JB 1H 152K-T-A |
| C1212   | 4030010020 | S.CERAMIC      | C1608 JB 1H 122K-T-A |
| C1213   | 4030008650 | S.CERAMIC      | C1608 JB 1H 332K-T-A |
| C1214   | 4030010040 | S.CERAMIC      | C1608 JB 1H 561K-T-A |
| C1215   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1216   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1217   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1231   | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C1251   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1253   | 4030010760 | S.CERAMIC      | C1608 CH 1H 331J-T-A |
| C1254   | 4510005860 | S.ELECTROLYTIC | ECEV1HA2R2SR         |
| C1255   | 4030006900 | S.CERAMIC      | C1608 JB 1E 103K-T-A |
| C1256   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1257   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C1258   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C1259   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C1260   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C1261   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C1262   | 4510005860 | S.ELECTROLYTIC | ECEV1HA2R2SR         |
| C1271   | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C1272   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1281   | 4030006900 | S.CERAMIC      | C1608 JB 1E 103K-T-A |
| C1282   | 4030006900 | S.CERAMIC      | C1608 JB 1E 103K-T-A |
| C1292   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C1293   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1294   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1295   | 4510004590 | ELECTROLYTIC   | 16 MV 470 HC         |
| C1296   | 4510004590 | ELECTROLYTIC   | 16 MV 470 HC         |
| C1311   | 4030006900 | S.CERAMIC      | C1608 JB 1E 103K-T-A |
| C1312   | 4030006900 | S.CERAMIC      | C1608 JB 1E 103K-T-A |
| C1321   | 4030006900 | S.CERAMIC      | C1608 JB 1E 103K-T-A |
| C1351   | 4030006900 | S.CERAMIC      | C1608 JB 1E 103K-T-A |
| C1352   | 4030006900 | S.CERAMIC      | C1608 JB 1E 103K-T-A |
| C1353   | 4510004510 | ELECTROLYTIC   | 25 MV 470 HC         |
| C1361   | 4510005860 | S.ELECTROLYTIC | ECEV1HA2R2SR         |
| C1362   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1363   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1364   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |

**[MAIN UNIT]**

| REF NO. | ORDER NO.  | DESCRIPTION    |                      |
|---------|------------|----------------|----------------------|
| C1365   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C1371   | 4510005860 | S.ELECTROLYTIC | ECEV1HA2R2SR         |
| C1372   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1373   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1374   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1375   | 4510004590 | ELECTROLYTIC   | 16 MV 470 HC         |
| C1376   | 4030010210 | S.CERAMIC      | C3216 JB 1C 105M-T-A |
| C1381   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1382   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1391   | 4510004590 | ELECTROLYTIC   | 16 MV 470 HC         |
| C1392   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1393   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1394   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C1401   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C1402   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1403   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1404   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C1411   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1412   | 4510004640 | S.ELECTROLYTIC | ECEV1CA470SP         |
| C1413   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1414   | 4510004430 | S.ELECTROLYTIC | ECEV1CV220WR         |
| C1415   | 4030006860 | S.CERAMIC      | C1608 JB 1H 102K-T-A |
| C1416   | 4030006900 | S.CERAMIC      | C1608 JB 1E 103K-T-A |
| C1417   | 4510004640 | S.ELECTROLYTIC | ECEV1CA470SP         |
| C1418   | 4510004640 | S.ELECTROLYTIC | ECEV1CA470SP         |
| C1419   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1420   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C1421   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1422   | 4510004640 | S.ELECTROLYTIC | ECEV1CA470SP         |
| C1502   | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C1521   | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C1601   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1602   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1603   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1751   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C1752   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C1753   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C1754   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C1755   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C1756   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C1771   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C2001   | 4030006860 | S.CERAMIC      | C1608 JB 1H 102K-T-A |
| C2011   | 4030010760 | S.CERAMIC      | C1608 CH 1H 331J-T-A |
| C2012   | 4030007070 | S.CERAMIC      | C1608 CH 1H 330J-T-A |
| C2013   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C2014   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C2015   | 4030006900 | S.CERAMIC      | C1608 JB 1E 103K-T-A |
| C2016   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C2021   | 4030006860 | S.CERAMIC      | C1608 JB 1H 102K-T-A |
| C2022   | 4030007080 | S.CERAMIC      | C1608 CH 1H 390J-T-A |
| C2023   | 4030007020 | S.CERAMIC      | C1608 CH 1H 120J-T-A |
| C2024   | 4510004640 | S.ELECTROLYTIC | ECEV1CA470SP         |
| C2031   | 4030006860 | S.CERAMIC      | C1608 JB 1H 102K-T-A |
| C2032   | 4030006860 | S.CERAMIC      | C1608 JB 1H 102K-T-A |
| C2033   | 4030006860 | S.CERAMIC      | C1608 JB 1H 102K-T-A |
| C2034   | 4030006860 | S.CERAMIC      | C1608 JB 1H 102K-T-A |
| C2035   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C2036   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C2041   | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C2042   | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C2051   | 4510005860 | S.ELECTROLYTIC | ECEV1HA2R2SR         |
| RL121   | 6330000180 | RELAY          | MZ-12HG              |
| RL141   | 6330000180 | RELAY          | MZ-12HG              |
| CP731   | 6910009670 | S.CHECK P      | HK3-S-T              |
| J101    | 6510021460 | CONNECTOR      | PT-C02P01            |
| J111    | 6510007020 | CONNECTOR      | TMP-J01X-V6          |
| J411    | 6510007020 | CONNECTOR      | TMP-J01X-V6          |
| J491    | 6510007020 | CONNECTOR      | TMP-J01X-V6          |
| J781    | 6450001560 | CONNECTOR      | PD-72                |
| J782    | 6450001560 | CONNECTOR      | PD-72                |
| J783    | 6450001560 | CONNECTOR      | PD-72                |
| J784    | 6450001560 | CONNECTOR      | PD-72                |
| J811    | 6510007020 | CONNECTOR      | TMP-J01X-V6          |
| J881    | 6450001560 | CONNECTOR      | PD-72                |
| J882    | 6450001560 | CONNECTOR      | PD-72                |
| J883    | 6450001560 | CONNECTOR      | PD-72                |

S.=Surface mount

**[MAIN UNIT]**

| REF NO. | ORDER NO.  | DESCRIPTION |                      |
|---------|------------|-------------|----------------------|
| J884    | 6450001560 | CONNECTOR   | PD-72                |
| J1081   | 6510007020 | CONNECTOR   | TMP-J01X-V6          |
| J1221   | 6510018970 | S.CONNECTOR | B4B-PH-SM3-TB        |
| J1231   | 6510019970 | S.CONNECTOR | 52808-1090           |
| J1271   | 6510019190 | S.CONNECTOR | 52365-0891           |
| J1311   | 6450001800 | CONNECT     | JPJ1044-01-010       |
| J1321   | 6450000140 | CONNECTOR   | HSJ0807-01-010       |
| J1351   | 6450001700 | CONNECTOR   | HEC0740-010010       |
| J1501   | 6510019980 | S.CONNECTOR | 52808-1690           |
| J1521   | 6510019980 | S.CONNECTOR | 52808-1690           |
| J1522   | 6510008370 | CONNECTOR   | BBH-1                |
| J1541   | 6510019980 | S.CONNECTOR | 52808-1690           |
| J1561   | 6510019980 | S.CONNECTOR | 52808-1690           |
| J1701   | 6450000140 | CONNECTOR   | HSJ0807-01-010       |
| J1751   | 6510021240 | CONNECTOR   | DELX-J9SAF-23L9      |
| F1351   | 5210000050 | FUSE        | FGB 3A               |
| F1352   | 5220000230 | HOLDER      | S-N5054 #01          |
| F1353   | 5220000230 | HOLDER      | S-N5054 #01          |
| BT1521  | 3020000110 | LITHIUM     | CR2032               |
| WS1     | 8600036540 | CABLE       | RX2240 P1241*J1241MA |
| EP1     | 0910051114 | PCB         | B 5273D              |

**[PLL UNIT]**

| REF NO. | ORDER NO.  | DESCRIPTION  |                        |
|---------|------------|--------------|------------------------|
| IC21    | 1140003641 | S.IC         | SC-1246                |
| IC22    | 1110004460 | S.IC         | μPB1509GV-E1           |
| IC23    | 1130003830 | S.IC         | TC7S04F (TE85R)        |
| IC151   | 1140004550 | S.IC         | M65343FP/SC1287        |
| IC201   | 1140004550 | S.IC         | M65343FP/SC1287        |
| Q1      | 1530002570 | S.TRANSISTOR | 2SC4405-3-TL           |
| Q2      | 1530002570 | S.TRANSISTOR | 2SC4405-3-TL           |
| Q3      | 1590000680 | S.TRANSISTOR | DTC114EUA T106         |
| Q4      | 1590000680 | S.TRANSISTOR | DTC114EUA T106         |
| Q21     | 1530003000 | S.TRANSISTOR | 2SC4117-BL (TE85R)     |
| Q71     | 1560000490 | S.FET        | 2SK508 K52 T2B         |
| Q72     | 1590000680 | S.TRANSISTOR | DTC114EUA T106         |
| Q81     | 1560000490 | S.FET        | 2SK508 K52 T2B         |
| Q82     | 1590000680 | S.TRANSISTOR | DTC114EUA T106         |
| Q91     | 1530002570 | S.TRANSISTOR | 2SC4405-3-TL           |
| Q92     | 1590001330 | S.TRANSISTOR | DTA114EUA T106         |
| Q93     | 1590000680 | S.TRANSISTOR | DTC114EUA T106         |
| Q96     | 1530003000 | S.TRANSISTOR | 2SC4117-BL (TE85R)     |
| Q97     | 1530003000 | S.TRANSISTOR | 2SC4117-BL (TE85R)     |
| Q151    | 1530003000 | S.TRANSISTOR | 2SC4117-BL (TE85R)     |
| Q201    | 1530003000 | S.TRANSISTOR | 2SC4117-BL (TE85R)     |
| D1      | 1750000520 | S.DIODE      | DAN222TL               |
| D2      | 1750000550 | S.DIODE      | 1SS355 TE-17           |
| D71     | 1720000390 | S.VARICAP    | KV1470TL               |
| D72     | 1790000620 | S.DIODE      | MA77 (TX)              |
| D81     | 1720000390 | S.VARICAP    | KV1470TL               |
| D82     | 1790000620 | S.DIODE      | MA77 (TX)              |
| D91     | 1790000620 | S.DIODE      | MA77 (TX)              |
| D92     | 1790000620 | S.DIODE      | MA77 (TX)              |
| D93     | 1790001640 | S.DIODE      | 1SS373 (TPH3)          |
| D94     | 1790001640 | S.DIODE      | 1SS373 (TPH3)          |
| X1      | 6050005711 | XTAL         | CR-275A (30.00000 MHz) |
| L1      | 6170000230 | COIL         | LW-25                  |
| L2      | 6150004370 | COIL         | LS-472C (C-15045)      |
| L3      | 6200003950 | S.COIL       | HF50ACC 322513-T       |
| L4      | 6150004250 | COIL         | LS-471A (C-14922)      |

**[PLL UNIT]**

| REF NO. | ORDER NO.  | DESCRIPTION |                         |
|---------|------------|-------------|-------------------------|
| L5      | 6150004250 | COIL        | LS-471A (C-14922)       |
| L22     | 6200003170 | S.COIL      | NL 322522T-330J         |
| L23     | 6200003180 | S.COIL      | NL 322522T-390J         |
| L24     | 6200003180 | S.COIL      | NL 322522T-390J         |
| L25     | 6200001830 | S.COIL      | NL 322522T-100J         |
| L26     | 6200003190 | S.COIL      | NL 322522T-470J         |
| L27     | 6200003190 | S.COIL      | NL 322522T-470J         |
| L71     | 6170000230 | COIL        | LW-25                   |
| L72     | 6190001370 | COIL        | E544GN-110254           |
| L73     | 6170000230 | COIL        | LW-25                   |
| L81     | 6170000230 | COIL        | LW-25                   |
| L82     | 6190001280 | COIL        | E544GN-110248           |
| L83     | 6170000230 | COIL        | LW-25                   |
| L91     | 6180002960 | S.COIL      | NL 322522T-R18J-3       |
| L92     | 6180002980 | S.COIL      | NL 322522T-056J         |
| L93     | 6180002970 | S.COIL      | NL 322522T-068J         |
| L94     | 6200001830 | S.COIL      | NL 322522T-100J         |
| L151    | 6200003130 | S.COIL      | NL 322522T-120J         |
| L152    | 6200003140 | S.COIL      | NL 322522T-150J         |
| L153    | 6200001830 | S.COIL      | NL 322522T-100J         |
| L201    | 6200005490 | S.COIL      | NL 322522T-331J         |
| L202    | 6200008640 | S.COIL      | NL 322522T-391J         |
| L203    | 6200001830 | S.COIL      | NL 322522T-100J         |
| L204    | 6200003640 | S.COIL      | MLF1608K 100K-T         |
| L205    | 6200003640 | S.COIL      | MLF1608K 100K-T         |
| R1      | 7030003320 | S.RESISTOR  | ERJ3GEYJ 101 V (100 Ω)  |
| R2      | 7030003580 | S.RESISTOR  | ERJ3GEYJ 153 V (15 kΩ)  |
| R3      | 7030003520 | S.RESISTOR  | ERJ3GEYJ 472 V (4.7 kΩ) |
| R4      | 7030003400 | S.RESISTOR  | ERJ3GEYJ 471 V (470 Ω)  |
| R5      | 7030003360 | S.RESISTOR  | ERJ3GEYJ 221 V (220 Ω)  |
| R6      | 7030003320 | S.RESISTOR  | ERJ3GEYJ 101 V (100 Ω)  |
| R7      | 7030003600 | S.RESISTOR  | ERJ3GEYJ 223 V (22 kΩ)  |
| R8      | 7030003560 | S.RESISTOR  | ERJ3GEYJ 103 V (10 kΩ)  |
| R9      | 7030003370 | S.RESISTOR  | ERJ3GEYJ 271 V (270 Ω)  |
| R10     | 7030003640 | S.RESISTOR  | ERJ3GEYJ 473 V (47 kΩ)  |
| R11     | 7030003290 | S.RESISTOR  | ERJ3GEYJ 560 V (56 Ω)   |
| R12     | 7030003200 | S.RESISTOR  | ERJ3GEYJ 100 V (10 Ω)   |
| R21     | 7030003360 | S.RESISTOR  | ERJ3GEYJ 221 V (220 Ω)  |
| R22     | 7030003560 | S.RESISTOR  | ERJ3GEYJ 103 V (10 kΩ)  |
| R23     | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R24     | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R25     | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R26     | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R27     | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R28     | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R29     | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R30     | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R31     | 7030005370 | S.RESISTOR  | RR0816P-202-B (2 kΩ)    |
| R32     | 7030005370 | S.RESISTOR  | RR0816P-202-B (2 kΩ)    |
| R33     | 7030005370 | S.RESISTOR  | RR0816P-202-B (2 kΩ)    |
| R34     | 7030005370 | S.RESISTOR  | RR0816P-202-B (2 kΩ)    |
| R35     | 7030005370 | S.RESISTOR  | RR0816P-202-B (2 kΩ)    |
| R36     | 7030005390 | S.RESISTOR  | RR0816P-102-D (1 kΩ)    |
| R37     | 7030005390 | S.RESISTOR  | RR0816P-102-D (1 kΩ)    |
| R38     | 7030005390 | S.RESISTOR  | RR0816P-102-D (1 kΩ)    |
| R39     | 7030005390 | S.RESISTOR  | RR0816P-102-D (1 kΩ)    |
| R40     | 7030005390 | S.RESISTOR  | RR0816P-102-D (1 kΩ)    |
| R41     | 7030005390 | S.RESISTOR  | RR0816P-102-D (1 kΩ)    |
| R42     | 7030005380 | S.RESISTOR  | RR0816P-102-B (1 kΩ)    |
| R43     | 7030005380 | S.RESISTOR  | RR0816P-102-B (1 kΩ)    |
| R44     | 7030005380 | S.RESISTOR  | RR0816P-102-B (1 kΩ)    |
| R45     | 7030005380 | S.RESISTOR  | RR0816P-102-B (1 kΩ)    |
| R46     | 7030005380 | S.RESISTOR  | RR0816P-102-B (1 kΩ)    |
| R47     | 7030003400 | S.RESISTOR  | ERJ3GEYJ 471 V (470 Ω)  |
| R48     | 7030003720 | S.RESISTOR  | ERJ3GEYJ 224 V (220 kΩ) |
| R49     | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R50     | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R51     | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R52     | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R53     | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R54     | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R55     | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R71     | 7030003490 | S.RESISTOR  | ERJ3GEYJ 272 V (2.7 kΩ) |
| R72     | 7030003780 | S.RESISTOR  | ERJ3GEYJ 684 V (680 kΩ) |
| R73     | 7030003260 | S.RESISTOR  | ERJ3GEYJ 330 V (33 Ω)   |
| R75     | 7030003390 | S.RESISTOR  | ERJ3GEYJ 391 V (390 Ω)  |
| R76     | 7030003250 | S.RESISTOR  | ERJ3GEYJ 270 V (27 Ω)   |
| R78     | 7030003370 | S.RESISTOR  | ERJ3GEYJ 271 V (270 Ω)  |
| R79     | 7030003580 | S.RESISTOR  | ERJ3GEYJ 153 V (15 kΩ)  |
| R80     | 7030003570 | S.RESISTOR  | ERJ3GEYJ 123 V (12 kΩ)  |

S.=Surface mount

## [PLL UNIT]

| REF NO. | ORDER NO.  | DESCRIPTION |                         |
|---------|------------|-------------|-------------------------|
| R81     | 7030003560 | S.RESISTOR  | ERJ3GEYJ 103 V (10 kΩ)  |
| R83     | 7030003480 | S.RESISTOR  | ERJ3GEYJ 222 V (2.2 kΩ) |
| R85     | 7030003430 | S.RESISTOR  | ERJ3GEYJ 821 V (820 Ω)  |
| R86     | 7030003350 | S.RESISTOR  | ERJ3GEYJ 181 V (180 Ω)  |
| R91     | 7030003260 | S.RESISTOR  | ERJ3GEYJ 330 V (33 Ω)   |
| R92     | 7030003550 | S.RESISTOR  | ERJ3GEYJ 822 V (8.2 kΩ) |
| R93     | 7030003510 | S.RESISTOR  | ERJ3GEYJ 392 V (3.9 kΩ) |
| R94     | 7030003320 | S.RESISTOR  | ERJ3GEYJ 101 V (100 Ω)  |
| R95     | 7030003280 | S.RESISTOR  | ERJ3GEYJ 470 V (47 Ω)   |
| R96     | 7030003680 | S.RESISTOR  | ERJ3GEYJ 104 V (100 kΩ) |
| R97     | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R98     | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R99     | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R100    | 7030003510 | S.RESISTOR  | ERJ3GEYJ 392 V (3.9 kΩ) |
| R101    | 7030003370 | S.RESISTOR  | ERJ3GEYJ 271 V (270 Ω)  |
| R102    | 7030003230 | S.RESISTOR  | ERJ3GEYJ 180 V (18 Ω)   |
| R103    | 7030003370 | S.RESISTOR  | ERJ3GEYJ 271 V (270 Ω)  |
| R104    | 7030003400 | S.RESISTOR  | ERJ3GEYJ 471 V (470 Ω)  |
| R107    | 7030003280 | S.RESISTOR  | ERJ3GEYJ 470 V (47 Ω)   |
| R108    | 7030003320 | S.RESISTOR  | ERJ3GEYJ 101 V (100 Ω)  |
| R109    | 7030003360 | S.RESISTOR  | ERJ3GEYJ 221 V (220 Ω)  |
| R110    | 7030003360 | S.RESISTOR  | ERJ3GEYJ 221 V (220 Ω)  |
| R111    | 7030003490 | S.RESISTOR  | ERJ3GEYJ 272 V (2.7 kΩ) |
| R112    | 7030003560 | S.RESISTOR  | ERJ3GEYJ 103 V (10 kΩ)  |
| R113    | 7030003360 | S.RESISTOR  | ERJ3GEYJ 221 V (220 Ω)  |
| R114    | 7030003230 | S.RESISTOR  | ERJ3GEYJ 180 V (18 Ω)   |
| R115    | 7030003670 | S.RESISTOR  | ERJ3GEYJ 823 V (82 kΩ)  |
| R116    | 7030003620 | S.RESISTOR  | ERJ3GEYJ 333 V (33 kΩ)  |
| R117    | 7030003300 | S.RESISTOR  | ERJ3GEYJ 680 V (68 Ω)   |
| R151    | 7030003400 | S.RESISTOR  | ERJ3GEYJ 471 V (470 Ω)  |
| R152    | 7030003720 | S.RESISTOR  | ERJ3GEYJ 224 V (220 kΩ) |
| R153    | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R154    | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R155    | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R156    | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R157    | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R158    | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R159    | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R160    | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R161    | 7030005370 | S.RESISTOR  | RR0816P-202-B (2 kΩ)    |
| R162    | 7030005370 | S.RESISTOR  | RR0816P-202-B (2 kΩ)    |
| R163    | 7030005370 | S.RESISTOR  | RR0816P-202-B (2 kΩ)    |
| R164    | 7030005390 | S.RESISTOR  | RR0816P-102-D (1 kΩ)    |
| R165    | 7030005390 | S.RESISTOR  | RR0816P-102-D (1 kΩ)    |
| R166    | 7030005390 | S.RESISTOR  | RR0816P-102-D (1 kΩ)    |
| R167    | 7030005390 | S.RESISTOR  | RR0816P-102-D (1 kΩ)    |
| R168    | 7030005390 | S.RESISTOR  | RR0816P-102-D (1 kΩ)    |
| R169    | 7030005390 | S.RESISTOR  | RR0816P-102-D (1 kΩ)    |
| R170    | 7030005380 | S.RESISTOR  | RR0816P-102-B (1 kΩ)    |
| R171    | 7030005380 | S.RESISTOR  | RR0816P-102-B (1 kΩ)    |
| R172    | 7030005380 | S.RESISTOR  | RR0816P-102-B (1 kΩ)    |
| R178    | 7030003430 | S.RESISTOR  | ERJ3GEYJ 821 V (820 Ω)  |
| R180    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R181    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R182    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R183    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R201    | 7030003400 | S.RESISTOR  | ERJ3GEYJ 471 V (470 Ω)  |
| R202    | 7030003720 | S.RESISTOR  | ERJ3GEYJ 224 V (220 kΩ) |
| R203    | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R204    | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R205    | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R206    | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R207    | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R208    | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R209    | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R210    | 7030005400 | S.RESISTOR  | RR0816P-202-D (2 kΩ)    |
| R211    | 7030005370 | S.RESISTOR  | RR0816P-202-B (2 kΩ)    |
| R212    | 7030005370 | S.RESISTOR  | RR0816P-202-B (2 kΩ)    |
| R213    | 7030005370 | S.RESISTOR  | RR0816P-202-B (2 kΩ)    |
| R214    | 7030005390 | S.RESISTOR  | RR0816P-102-D (1 kΩ)    |
| R215    | 7030005390 | S.RESISTOR  | RR0816P-102-D (1 kΩ)    |
| R216    | 7030005390 | S.RESISTOR  | RR0816P-102-D (1 kΩ)    |
| R217    | 7030005390 | S.RESISTOR  | RR0816P-102-D (1 kΩ)    |
| R218    | 7030005390 | S.RESISTOR  | RR0816P-102-D (1 kΩ)    |
| R219    | 7030005390 | S.RESISTOR  | RR0816P-102-D (1 kΩ)    |
| R220    | 7030005380 | S.RESISTOR  | RR0816P-102-B (1 kΩ)    |
| R221    | 7030005380 | S.RESISTOR  | RR0816P-102-B (1 kΩ)    |
| R222    | 7030005380 | S.RESISTOR  | RR0816P-102-B (1 kΩ)    |
| R228    | 7030003430 | S.RESISTOR  | ERJ3GEYJ 821 V (820 Ω)  |
| R230    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R231    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |
| R232    | 7030003440 | S.RESISTOR  | ERJ3GEYJ 102 V (1 kΩ)   |

## [PLL UNIT]

| REF NO. | ORDER NO.  | DESCRIPTION    |                        |
|---------|------------|----------------|------------------------|
| R233    | 7030003440 | S.RESISTOR     | ERJ3GEYJ 102 V (1 kΩ)  |
| R235    | 7030003440 | S.RESISTOR     | ERJ3GEYJ 102 V (1 kΩ)  |
| R236    | 7030003320 | S.RESISTOR     | ERJ3GEYJ 101 V (100 Ω) |
| C1      | 4030007070 | S.CERAMIC      | C1608 CH 1H 330J-T-A   |
| C3      | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C4      | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C5      | 4030007140 | S.CERAMIC      | C1608 CH 1H 121J-T-A   |
| C6      | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C7      | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C8      | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C9      | 4030007170 | S.CERAMIC      | C1608 CH 1H 221J-T-A   |
| C10     | 4030007030 | S.CERAMIC      | C1608 CH 1H 150J-T-A   |
| C11     | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C12     | 4030006910 | S.CERAMIC      | C1608 CH 1H 0R5C-T-A   |
| C13     | 4030007030 | S.CERAMIC      | C1608 CH 1H 150J-T-A   |
| C14     | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C15     | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C16     | 4030007120 | S.CERAMIC      | C1608 CH 1H 820J-T-A   |
| C21     | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C23     | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N    |
| C24     | 4510006220 | S.ELECTROLYTIC | ECEV1CA101UP           |
| C25     | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N    |
| C26     | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N    |
| C27     | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N    |
| C28     | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N    |
| C29     | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N    |
| C30     | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N    |
| C31     | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N    |
| C32     | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N    |
| C33     | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N    |
| C34     | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N    |
| C35     | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N    |
| C36     | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N    |
| C37     | 4030007070 | S.CERAMIC      | C1608 CH 1H 330J-T-A   |
| C38     | 4030007010 | S.CERAMIC      | C1608 CH 1H 100D-T-A   |
| C39     | 4030011540 | S.CERAMIC      | C1608 CH 1H 750J-T-A   |
| C40     | 4030006980 | S.CERAMIC      | C1608 CH 1H 070D-T-A   |
| C41     | 4030007120 | S.CERAMIC      | C1608 CH 1H 820J-T-A   |
| C42     | 4030006930 | S.CERAMIC      | C1608 CH 1H 020C-T-A   |
| C43     | 4030007100 | S.CERAMIC      | C1608 CH 1H 560J-T-A   |
| C44     | 4030007010 | S.CERAMIC      | C1608 CH 1H 100D-T-A   |
| C50     | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C51     | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N    |
| C52     | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C53     | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C54     | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C55     | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C56     | 4030007110 | S.CERAMIC      | C1608 CH 1H 680J-T-A   |
| C57     | 4030007090 | S.CERAMIC      | C1608 CH 1H 470J-T-A   |
| C58     | 4030007100 | S.CERAMIC      | C1608 CH 1H 560J-T-A   |
| C59     | 4030011840 | S.CERAMIC      | C1608 CH 1H 241J-T-A   |
| C60     | 4030009580 | S.CERAMIC      | C1608 JB 1H 681K-T-A   |
| C71     | 4550006250 | S.TANTALUM     | TEMSVA 1A 106M-8L      |
| C72     | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N    |
| C73     | 4030006850 | S.CERAMIC      | C1608 JB 1H 471K-T-A   |
| C74     | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR           |
| C75     | 4030007140 | S.CERAMIC      | C1608 CH 1H 121J-T-A   |
| C76     | 4610001830 | S.TRIMMER      | TZBX4N100BA110T00      |
| C77     | 4030007010 | S.CERAMIC      | C1608 CH 1H 100D-T-A   |
| C78     | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C79     | 4030006930 | S.CERAMIC      | C1608 CH 1H 020C-T-A   |
| C80     | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C81     | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C82     | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N    |
| C83     | 4030006850 | S.CERAMIC      | C1608 JB 1H 471K-T-A   |
| C84     | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR           |
| C85     | 4030006850 | S.CERAMIC      | C1608 JB 1H 471K-T-A   |
| C86     | 4610001830 | S.TRIMMER      | TZBX4N100BA110T00 10P  |
| C87     | 4030006950 | S.CERAMIC      | C1608 CH 1H 040C-T-A   |
| C88     | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C89     | 4030010780 | S.CERAMIC      | C1608 CH 1H 1R5C-T-A   |
| C90     | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C91     | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C92     | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C93     | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C94     | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N    |
| C95     | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A   |
| C96     | 4030007080 | S.CERAMIC      | C1608 CH 1H 390J-T-A   |
| C97     | 4030006990 | S.CERAMIC      | C1608 CH 1H 080D-T-A   |
| C98     | 4030007090 | S.CERAMIC      | C1608 CH 1H 470J-T-A   |

S.=Surface mount

[PLL UNIT]

| REF NO. | ORDER NO.  | DESCRIPTION    |                      |
|---------|------------|----------------|----------------------|
| C99     | 4030006930 | S.CERAMIC      | C1608 CH 1H 020C-T-A |
| C100    | 4030007080 | S.CERAMIC      | C1608 CH 1H 390J-T-A |
| C101    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C102    | 4030007020 | S.CERAMIC      | C1608 CH 1H 120J-T-A |
| C103    | 4030006970 | S.CERAMIC      | C1608 CH 1H 060D-T-A |
| C104    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C105    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C106    | 4510006220 | S.ELECTROLYTIC | ECEV1CA101UP         |
| C107    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C108    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C110    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C111    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C112    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C113    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C114    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C115    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C116    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C117    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C118    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C119    | 4510004430 | S.ELECTROLYTIC | ECEV1CV220WR         |
| C120    | 4030006850 | S.CERAMIC      | C1608 JB 1H 471K-T-A |
| C121    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C122    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C123    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C124    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C125    | 4030007090 | S.CERAMIC      | C1608 CH 1H 470J-T-A |
| C126    | 4550006250 | S.TANTALUM     | TEMSVA 1A 106M-8L    |
| C127    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C128    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C151    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C152    | 4030007040 | S.CERAMIC      | C1608 CH 1H 180J-T-A |
| C153    | 4030006960 | S.CERAMIC      | C1608 CH 1H 050C-T-A |
| C154    | 4030007070 | S.CERAMIC      | C1608 CH 1H 330J-T-A |
| C155    | 4030006930 | S.CERAMIC      | C1608 CH 1H 020C-T-A |
| C156    | 4030007040 | S.CERAMIC      | C1608 CH 1H 180J-T-A |
| C157    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C164    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C165    | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C167    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C201    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C202    | 4030006850 | S.CERAMIC      | C1608 JB 1H 471K-T-A |
| C203    | 4030007120 | S.CERAMIC      | C1608 CH 1H 820J-T-A |
| C204    | 4030009490 | S.CERAMIC      | C1608 JB 1H 821K-T-A |
| C205    | 4030007070 | S.CERAMIC      | C1608 CH 1H 330J-T-A |
| C206    | 4030010040 | S.CERAMIC      | C1608 JB 1H 561K-T-A |
| C207    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C214    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C215    | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C217    | 4030011600 | S.CERAMIC      | C1608 JB 1C 104KT-N  |
| C305    | 4510004630 | S.ELECTROLYTIC | ECEV1CA100SR         |
| C310    | 4030007090 | S.CERAMIC      | C1608 CH 1H 470J-T-A |
| C311    | 4030007090 | S.CERAMIC      | C1608 CH 1H 470J-T-A |
| C312    | 4030007090 | S.CERAMIC      | C1608 CH 1H 470J-T-A |
| C313    | 4030007090 | S.CERAMIC      | C1608 CH 1H 470J-T-A |
| C314    | 4030007090 | S.CERAMIC      | C1608 CH 1H 470J-T-A |
| C315    | 4030007090 | S.CERAMIC      | C1608 CH 1H 470J-T-A |
| C316    | 4030007090 | S.CERAMIC      | C1608 CH 1H 470J-T-A |
| C317    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C318    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C319    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C320    | 4030006850 | S.CERAMIC      | C1608 JB 1H 471K-T-A |
| C321    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C322    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C323    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C324    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C325    | 4030007100 | S.CERAMIC      | C1608 CH 1H 560J-T-A |
| C326    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| C327    | 4030006880 | S.CERAMIC      | C1608 JB 1H 472K-T-A |
| RL1     | 6330001320 | RELAY          | AHY103               |
| J2      | 6510019980 | S.CONNECTOR    | 52808-1690           |
| J3      | 6450000140 | CONNECTOR      | HSJ0807-01-010       |
| J4      | 6450000140 | CONNECTOR      | HSJ0807-01-010       |
| W1      | 7030003860 | S.JUMPER       | ERJ3GE JPW V         |
| W2      | 7030003860 | S.JUMPER       | ERJ3GE JPW V         |
| W18     | 7030003860 | S.JUMPER       | ERJ3GE JPW V         |
| W19     | 7030003860 | S.JUMPER       | ERJ3GE JPW V         |

[PLL UNIT]

| REF NO. | ORDER NO.  | DESCRIPTION |                           |
|---------|------------|-------------|---------------------------|
| WS1     | 8970023350 | M.OTHER     | RX2240 1.5DCOAXIAL (4)/PL |
| EP1     | 0910051124 | PCB         | B 5274D                   |
| EP2     | 6910012350 | S.BEAD      | MMZ1608Y 102BT            |
| EP3     | 6910012350 | S.BEAD      | MMZ1608Y 102BT            |
| EP4     | 6910012350 | S.BEAD      | MMZ1608Y 102BT            |
| EP5     | 6910012350 | S.BEAD      | MMZ1608Y 102BT            |
| EP6     | 6910012350 | S.BEAD      | MMZ1608Y 102BT            |
| EP7     | 6910012350 | S.BEAD      | MMZ1608Y 102BT            |
| EP8     | 6910012350 | S.BEAD      | MMZ1608Y 102BT            |

S.=Surface mount

## SECTION 6 MECHANICAL PARTS AND DISASSEMBLY

### [CHASSIS PARTS]

| REF. NO. | ODER NO.   | DESCRIPTION                  | QTY. |
|----------|------------|------------------------------|------|
| J1       | 6510000370 | Connector MR-DS              | 1    |
| W3       | 8900007000 | Cable OPC-684                | 1    |
| W4       | 8900007000 | Cable OPC-684                | 1    |
| W5       | 8900007000 | Cable OPC-684                | 1    |
| W6       | 8900007000 | Cable OPC-684                | 1    |
| MP1      | 8010017710 | 2240 main Chassis            | 1    |
| MP2      | 8110006700 | 2240 U-cover                 | 1    |
| MP3      | 8110006690 | 2240 L-cover                 | 1    |
| MP4      | 8930005790 | Collar foot (A)              | 1    |
| MP5      | 8930005800 | Collar foot (B)              | 1    |
| MP6      | 8010001520 | Stand (C)                    | 1    |
| MP7      | 8930002900 | Rubbr foot (A)               | 2    |
| MP8      | 8930035240 | 1546 TR-B Clip               | 1    |
| MP9      | 8930049600 | 2240 IC Clip                 | 1    |
| MP10     | 8810008660 | Screw PH BO M3x8 NI-ZU (BT)  | 4    |
| MP11     | 8810008660 | Screw PH BO M3x8 NI-ZU (BT)  | 2    |
| MP12     | 8810008660 | Screw PH BO M3x8 NI-ZU (BT)  | 2    |
| MP13     | 8810005770 | Screw Bih M3x8 ZK            | 8    |
| MP14     | 8810005770 | Screw Bih M3x8 ZK            | 2    |
| MP15     | 8810008660 | Screw PH BO M3x8 NI-ZU (BT)  | 6    |
| MP16     | 8810008660 | Screw PH BO M3x8 NI-ZU (BT)  | 5    |
| MP17     | 8810008660 | Screw PH BO M3x8 NI-ZU (BT)  | 2    |
| MP18     | 8810008660 | Screw PH BO M3x8 NI-ZU (BT)  | 1    |
| MP19     | 8930037001 | 1691 Earth plate             | 1    |
| MP20     | 8810008660 | Screw PH BO M3x8 NI-ZU (BT)  | 2    |
| MP22     | 8810009130 | Screw PH BO M3x12 NI-ZU (BT) | 2    |
| MP23     | 8410002310 | 2240 Heatsink                | 1    |
| MP24     | 8810008660 | Screw PH BO M3x8 NI-ZU (BT)  | 2    |
| MP25     | 8930049610 | 2240 Unit holder             | 1    |
| MP26     | 8810003960 | Screw M2.6x5                 | 2    |

### [FRONT UNIT]

| REF. NO. | ODER NO.   | DESCRIPTION                 | QTY. |
|----------|------------|-----------------------------|------|
| SP1      | 2510000670 | VS-50-0827                  | 1    |
| W3       | 8900008940 | Cable OPC-886               | 1    |
| W4       | 8900008930 | Cable OPC-885               | 1    |
| W5       | 8900007000 | Cable OPC-684               | 1    |
| EP1      | 6910012480 | RMS20-250-201-1R            | 1    |
| EP2      | 6450001230 | Snap plate HLJ0999-01-480   | 1    |
| MP1      | 8210016030 | 2240 Front cover            | 1    |
| MP2      | 8930001770 | SP net                      | 1    |
| MP4      | 8930048740 | 2240 9-Key                  | 1    |
| MP5      | 8930048730 | 2240 6-Key                  | 1    |
| MP6      | 8930048750 | 2240 20-Key                 | 1    |
| MP7      | 8930048710 | 2240 Brake plate            | 1    |
| MP9      | 8930049370 | 2240 Brake sheet            | 1    |
| MP10     | 8830001010 | Screw Hex nut (A)           | 1    |
| MP11     | 8830001010 | Screw Hex nut (A)           | 1    |
| MP12     | 8830001410 | 1897 Nut                    | 1    |
| MP13     | 8610010420 | Knob N-261                  | 1    |
| MP14     | 8610010420 | Knob N-261                  | 1    |
| MP15     | 8610010710 | Knob N-272                  | 1    |
| MP16     | 8610010710 | Knob N-272                  | 1    |
| MP17     | 8610009160 | Knob N-213 Base             | 1    |
| MP18     | 8610009170 | Knob N-213 Cover            | 1    |
| MP21     | 8010017770 | 2240 F-Chassis              | 1    |
| MP24     | 8810008660 | Screw PH BO M3x8 NI-ZU (BT) | 5    |
| MP25     | 8810008660 | Screw PH BO M3x8 NI-ZU (BT) | 1    |
| MP26     | 8930048890 | 2240 SP holder              | 1    |
| MP27     | 8810008660 | Screw PH BO M3x8 NI-ZU (BT) | 4    |
| MP28     | 8810008660 | Screw PH BO M3x8 NI-ZU (BT) | 4    |
| MP37     | 8930049870 | 2240 SP sponge              | 1    |
| MP38     | 8930049840 | Knob sheet (B)              | 2    |

### [DISPLAY UNIT]

| REF. NO. | ODER NO.   | DESCRIPTION                  | QTY. |
|----------|------------|------------------------------|------|
| DS101    | 5030001690 | LCD HLCF7395-012400          | 1    |
| EP2      | 8930049630 | LCD contact SRCN-2240-SP-N-W | 1    |
| MP1      | 8210016060 | 2240 Reflector               | 1    |
| MP2      | 8930048880 | 2240 LCD Holder              | 1    |
| MP3      | 8930049380 | 2240 LCD Filter              | 1    |

### [MAIN UNIT]

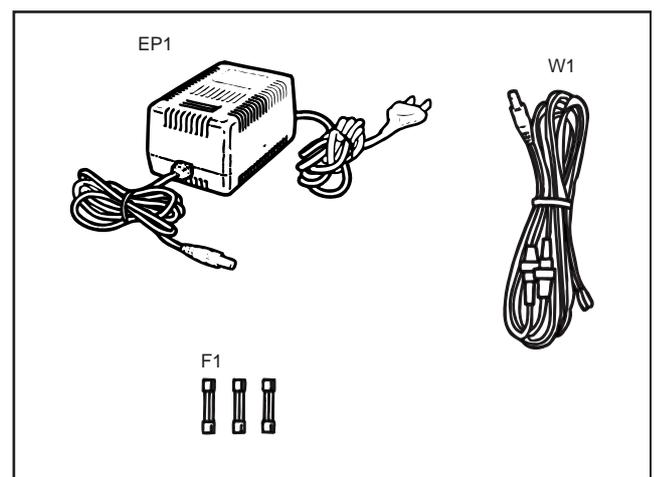
| REF. NO. | ODER NO.   | DESCRIPTION           | QTY. |
|----------|------------|-----------------------|------|
| MP382    | 8510005990 | 724 Shield case cover | 1    |
| MP442    | 8510005160 | 602 Shield case cover | 1    |

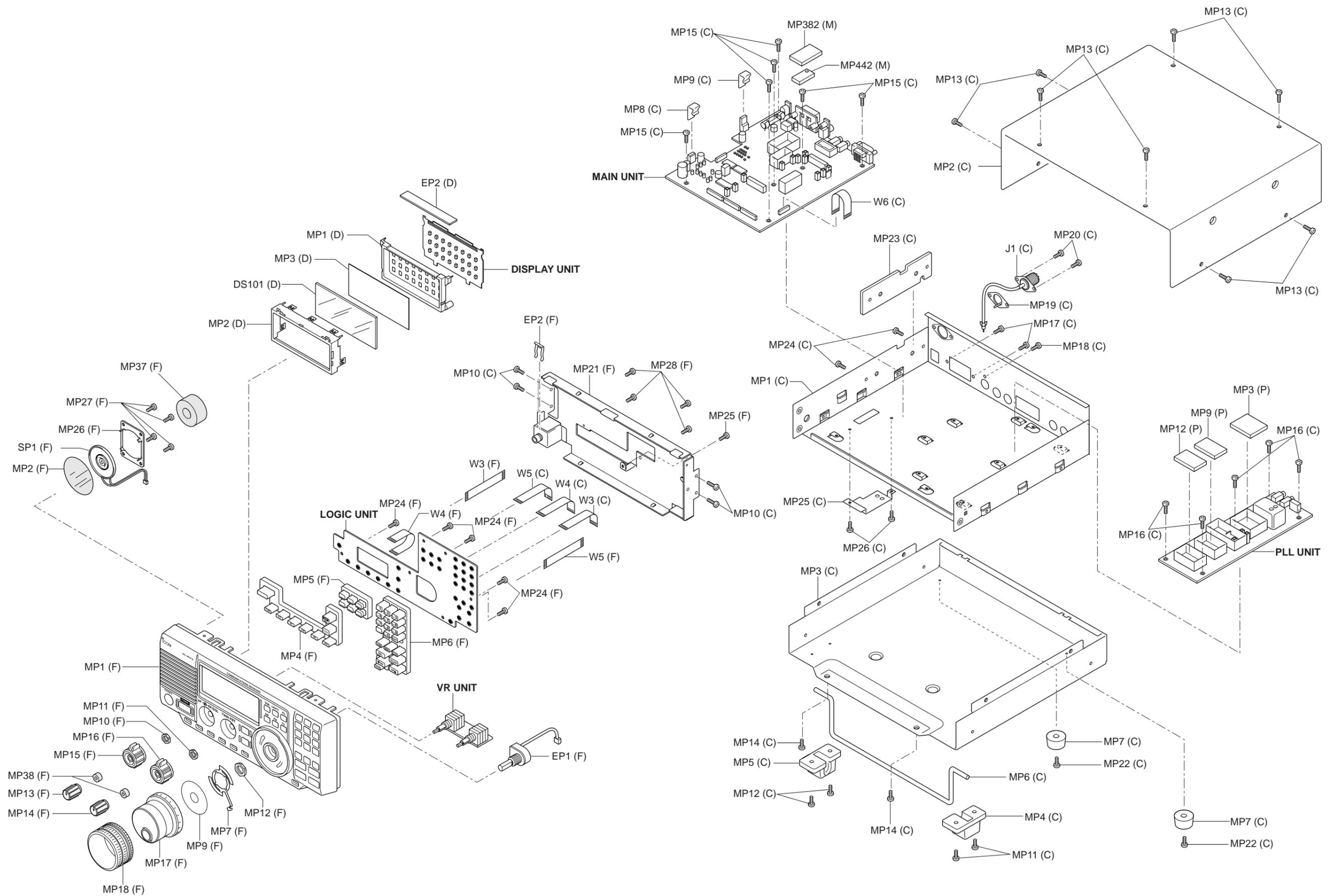
### [PLL UNIT]

| REF. NO. | ODER NO.   | DESCRIPTION           | QTY. |
|----------|------------|-----------------------|------|
| MP3      | 8510010770 | 1876 DDS cover        | 1    |
| MP9      | 8510005990 | 724 Shield case cover | 1    |
| MP12     | 8510005990 | 724 Shield case cover | 1    |

### [ACCESSORIES]

| REF. NO. | ODER NO.         | DESCRIPTION                     | QTY. |
|----------|------------------|---------------------------------|------|
| F1       | Optional product | Fuse FGB 3A [USA], [EUR], [OTH] | 1    |
|          | Optional product | Fuse FGB 3A [UK], [SEA]         | 3    |
| W1       | Optional product | Cable OPC-869 [UK], [SEA]       | 1    |
| EP1      | Optional product | Charger AD-55A [USA]            | 1    |
|          | Optional product | Charger AD-55 [EUR], [OTH]      | 1    |
|          | Optional product | Charger AD-55V [AUS]            | 1    |

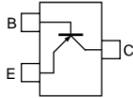
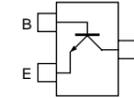
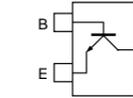
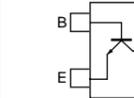
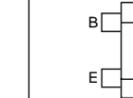
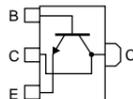
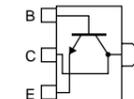
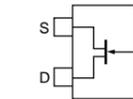
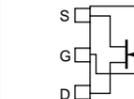
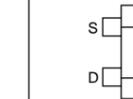
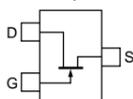
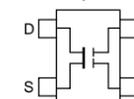
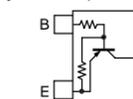
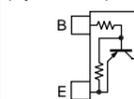
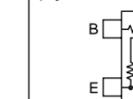
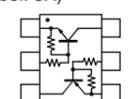
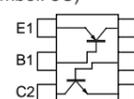




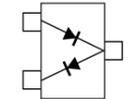
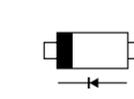
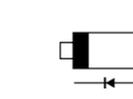
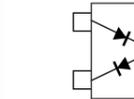
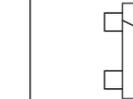
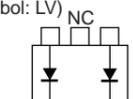
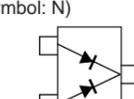
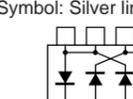
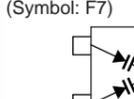
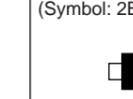
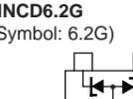
**UNIT abbreviation** (C): CHASSIS PARTS, (P): PLL UNIT, (M): MAIN UNIT, (F): FRONT UNIT, (D): DISPLAY UNIT

## SECTION 7 SEMI-CONDUCTOR INFORMATION

### • TRANSISTOR AND FET'S

|  |   |  |  |   |
|--|---|--|--|---|
| <b>2SA1576 R</b><br>(Symbol: FR)<br>  | <b>2SC4081 R</b><br>(Symbol: BR)<br>   | <b>2SC4116 BL</b><br>(Symbol: LL)<br> | <b>2SC4117 BL</b><br>(Symbol: CL)<br> | <b>2SC4405 3</b><br>(Symbol: OY3)<br>  |
| <b>2SC4673 D</b><br>(Symbol: CO)<br>  | <b>2SD1664 Q</b><br>(Symbol: DA)<br>   | <b>2SK1740</b><br>(Symbol: IJ)<br>    | <b>2SK2171 4</b><br>(Symbol: KM)<br>  | <b>2SK508 K52</b><br>(Symbol: K52)<br> |
| <b>2SK882 GR</b><br>(Symbol: TGR)<br> | <b>3SK131 MAS</b><br>(Symbol: V11)<br> | <b>DTA114 EU</b><br>(Symbol: 14)<br>  | <b>DTA144 EU</b><br>(Symbol: 16)<br>  | <b>DTC114 EU</b><br>(Symbol: 14)<br>   |
| <b>XP4311</b><br>(Symbol: 3X)<br>     | <b>XP4601</b><br>(Symbol: 5C)<br>      |  |  |   |

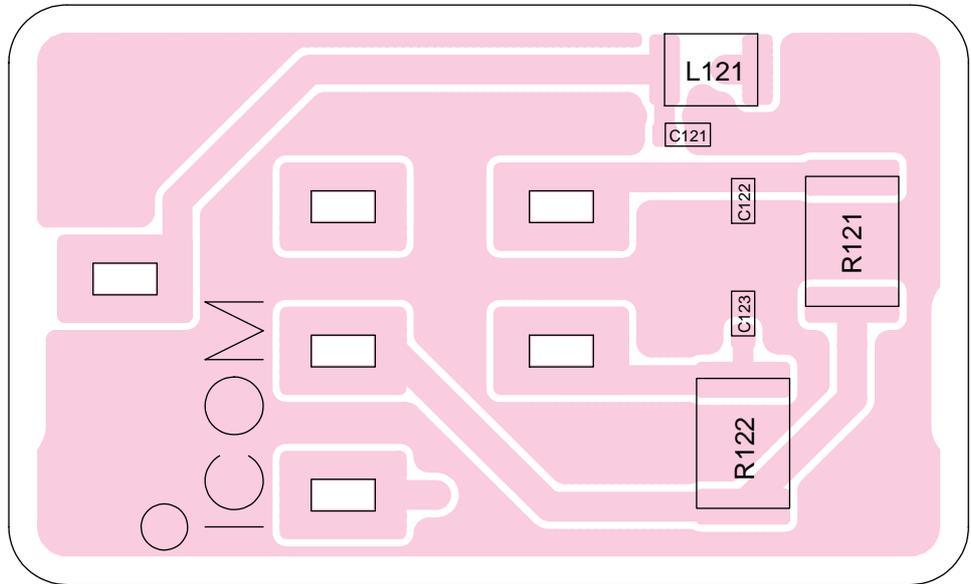
### • DIODES

|  |   |  |  |  |
|--|---|--|--|--|
| <b>1SS302</b><br>(Symbol: C3)<br> | <b>1SS355</b><br>(Symbol: A)<br>     | <b>1SS373</b><br>(Symbol: S4)<br>           | <b>1SS375</b><br>(Symbol: FH)<br> | <b>1SV263</b><br>(Symbol: JV)<br> |
| <b>1SV265</b><br>(Symbol: LV)<br> | <b>DAN222</b><br>(Symbol: N)<br>     | <b>HSB88WS</b><br>(Symbol: Silver line)<br> | <b>KV1470</b><br>(Symbol: F7)<br> | <b>MA729</b><br>(Symbol: 2B)<br>  |
| <b>MA77</b><br>(Symbol: 4B)<br>   | <b>MA8051 M</b><br>(Symbol: 5^1)<br> | <b>NNCD6.2G</b><br>(Symbol: 6.2G)<br>       |  |  |

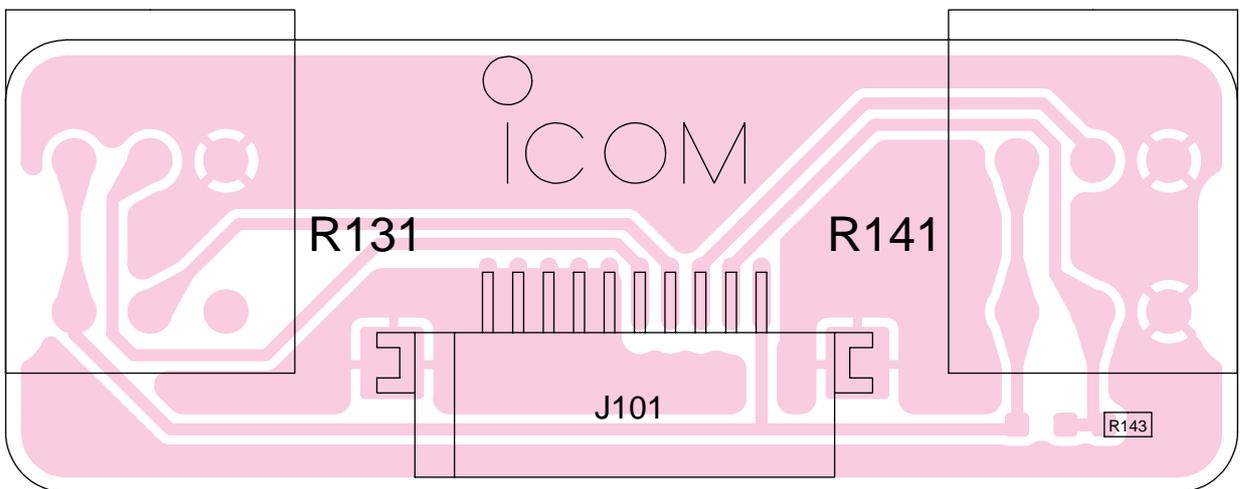
# SECTION 8 BOARD LAYOUTS

## 8-1 PHONE AND VR BOARDS

- PHONE BOARD  
TOP VIEW



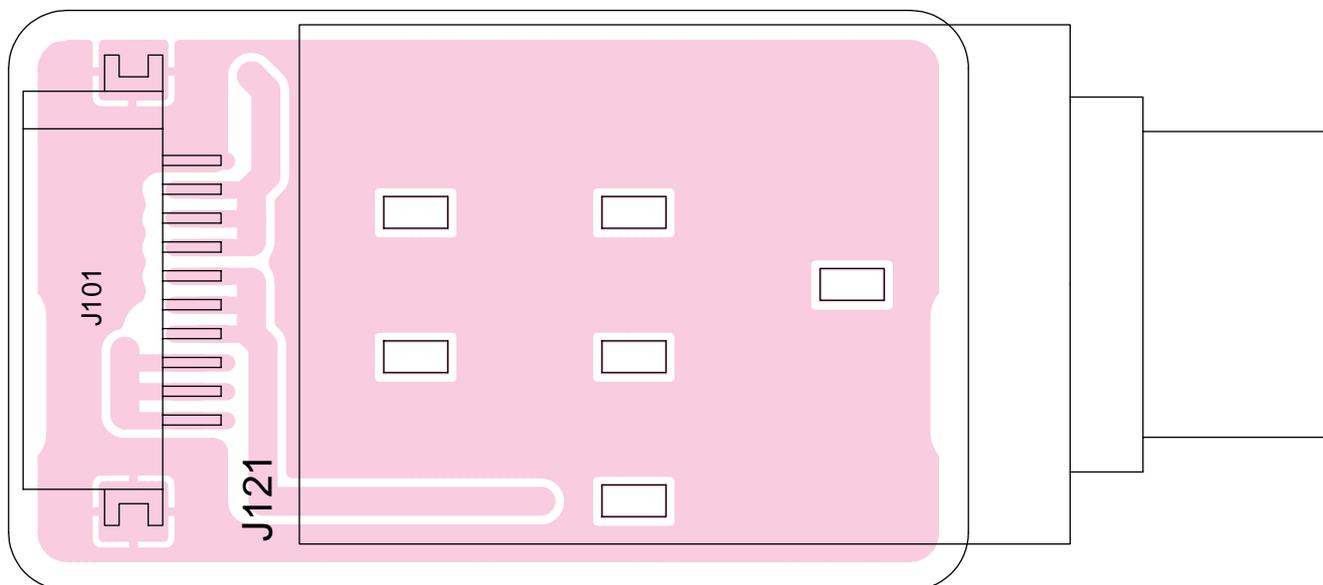
- VR BOARD



|      |      |
|------|------|
| 10   | 1    |
| GND  | GND  |
| PB2L | PB1L |
| RFGL | AFGL |
| 5VL  |      |

J101  
to LOGIC board J451

• PHONE BOARD  
BOTTOM VIEW

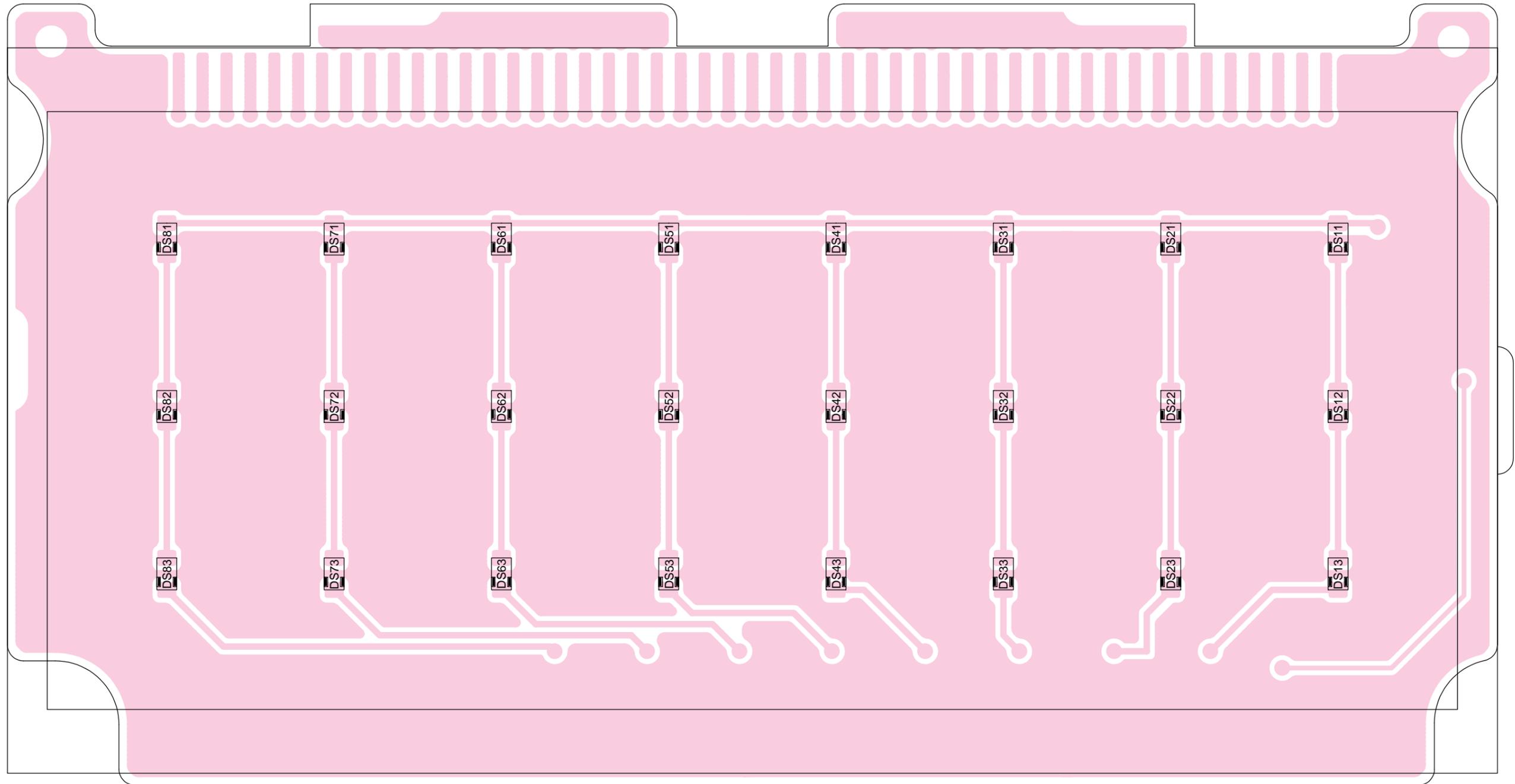


|    |      |
|----|------|
| 10 | GND  |
|    | AFE  |
|    | AFE  |
|    | AFE  |
|    | ESPO |
|    | ESPO |
|    | ESPO |
|    | AFO  |
|    | AFO  |
| 1  | AFO  |

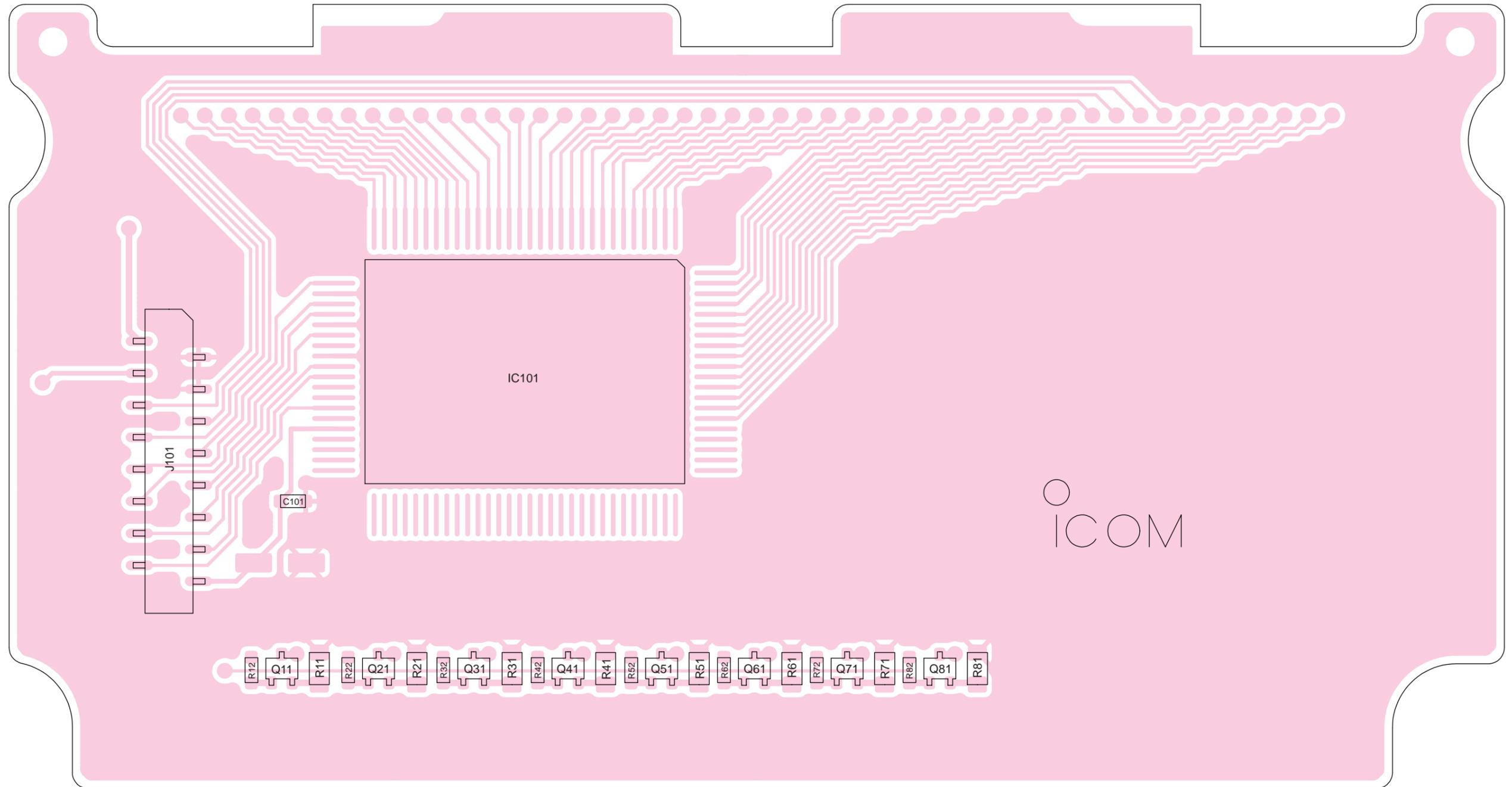
J101  
to LOGIC board J471

## 8-2 DISPLAY BOARD

- TOP VIEW



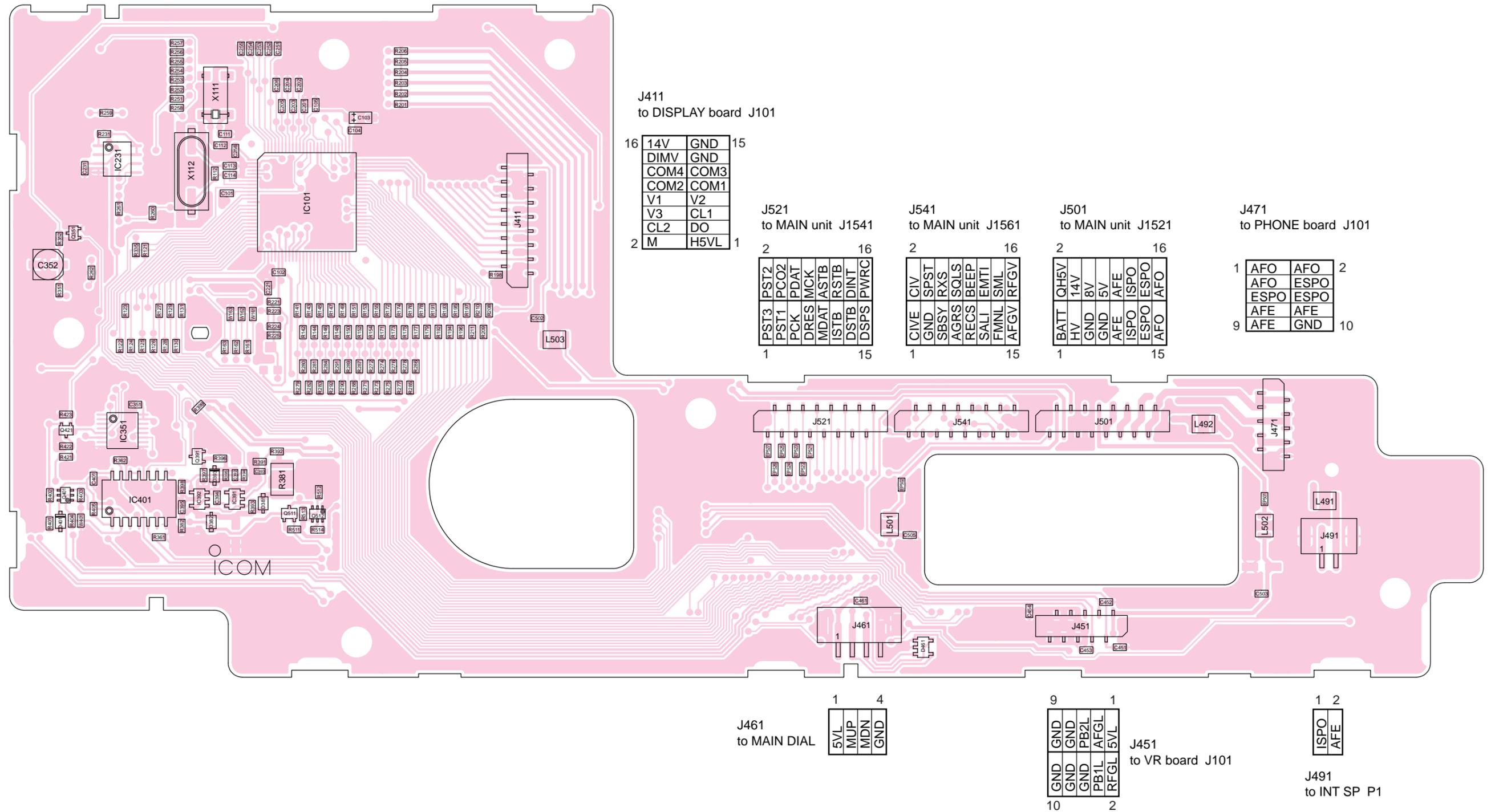
• BOTTOM VIEW



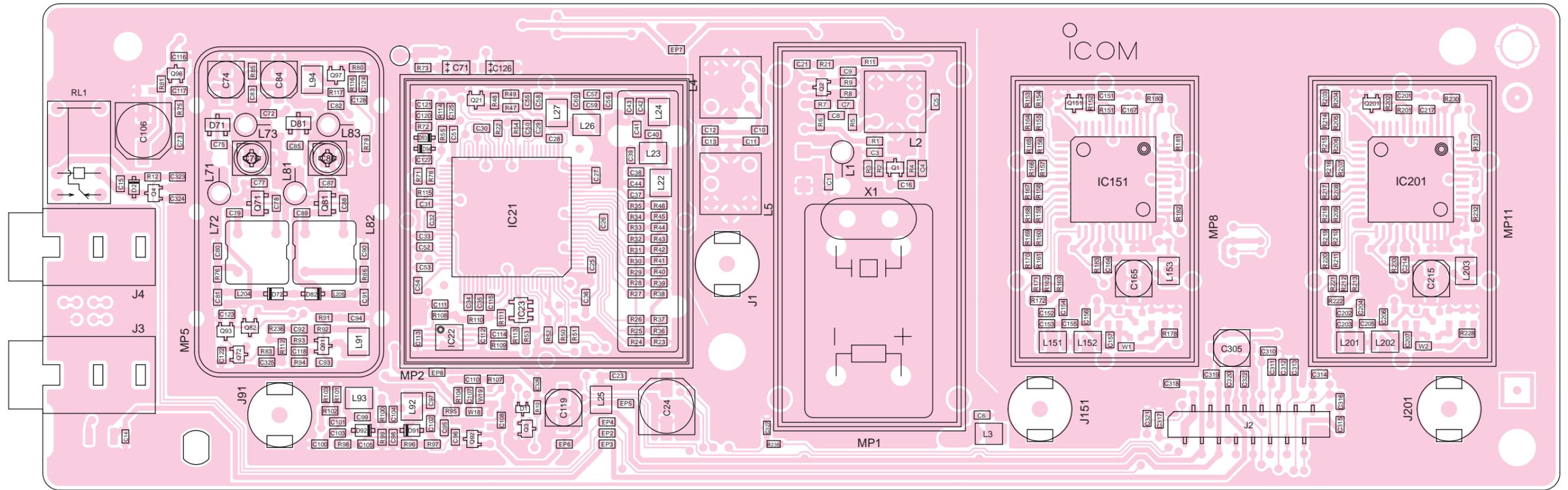
|    |      |      |    |
|----|------|------|----|
| 16 | 14V  | GND  | 15 |
|    | DIMV | GND  |    |
|    | COM4 | COM3 |    |
|    | COM2 | COM1 |    |
|    | V1   | V2   |    |
|    | V3   | CL1  |    |
|    | CL2  | DO   |    |
| 2  | M    | H5VL | 1  |

J101  
to LOGIC board J411

### 8-3 LOGIC BOARD



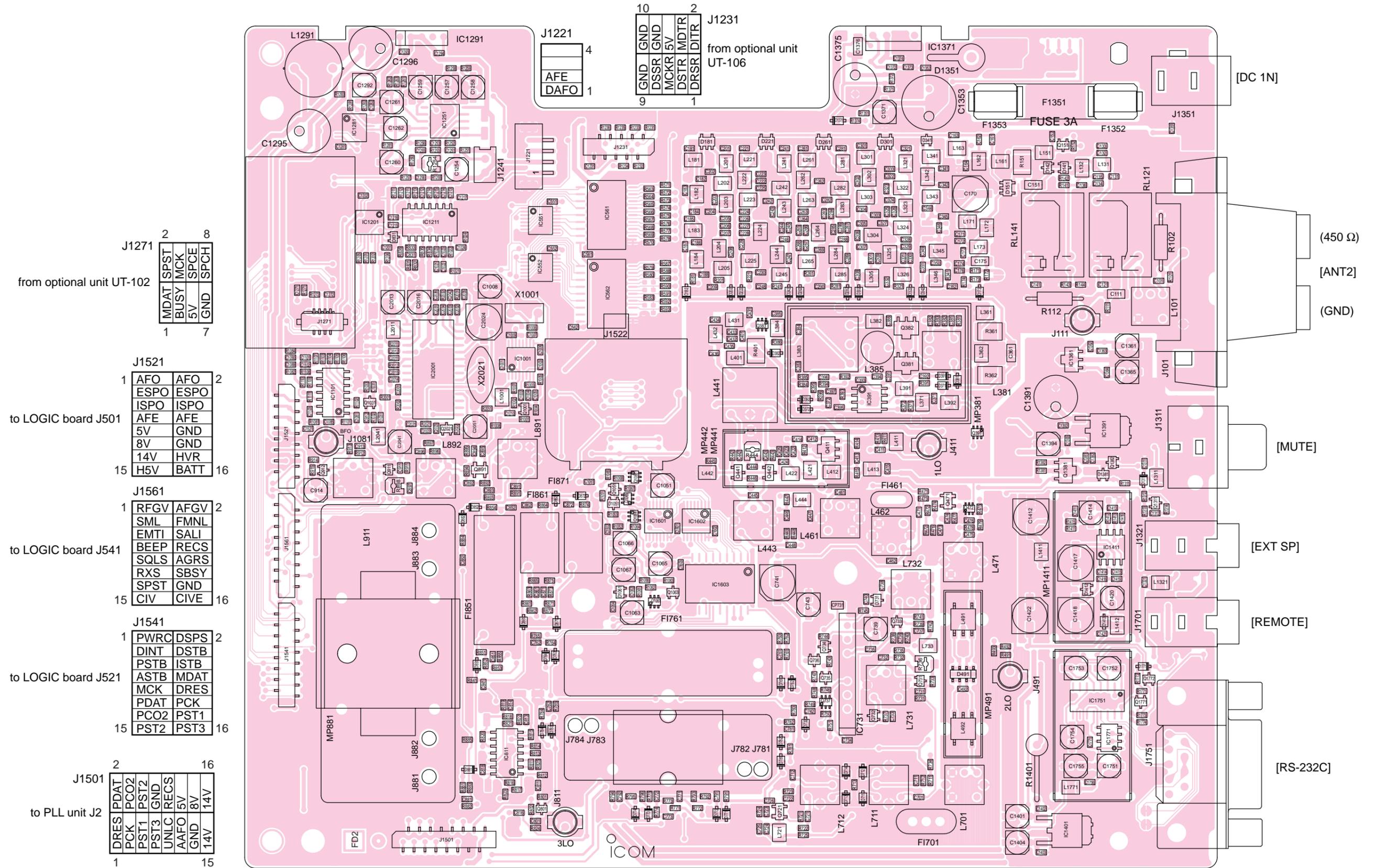
# 8-4 PLL UNIT



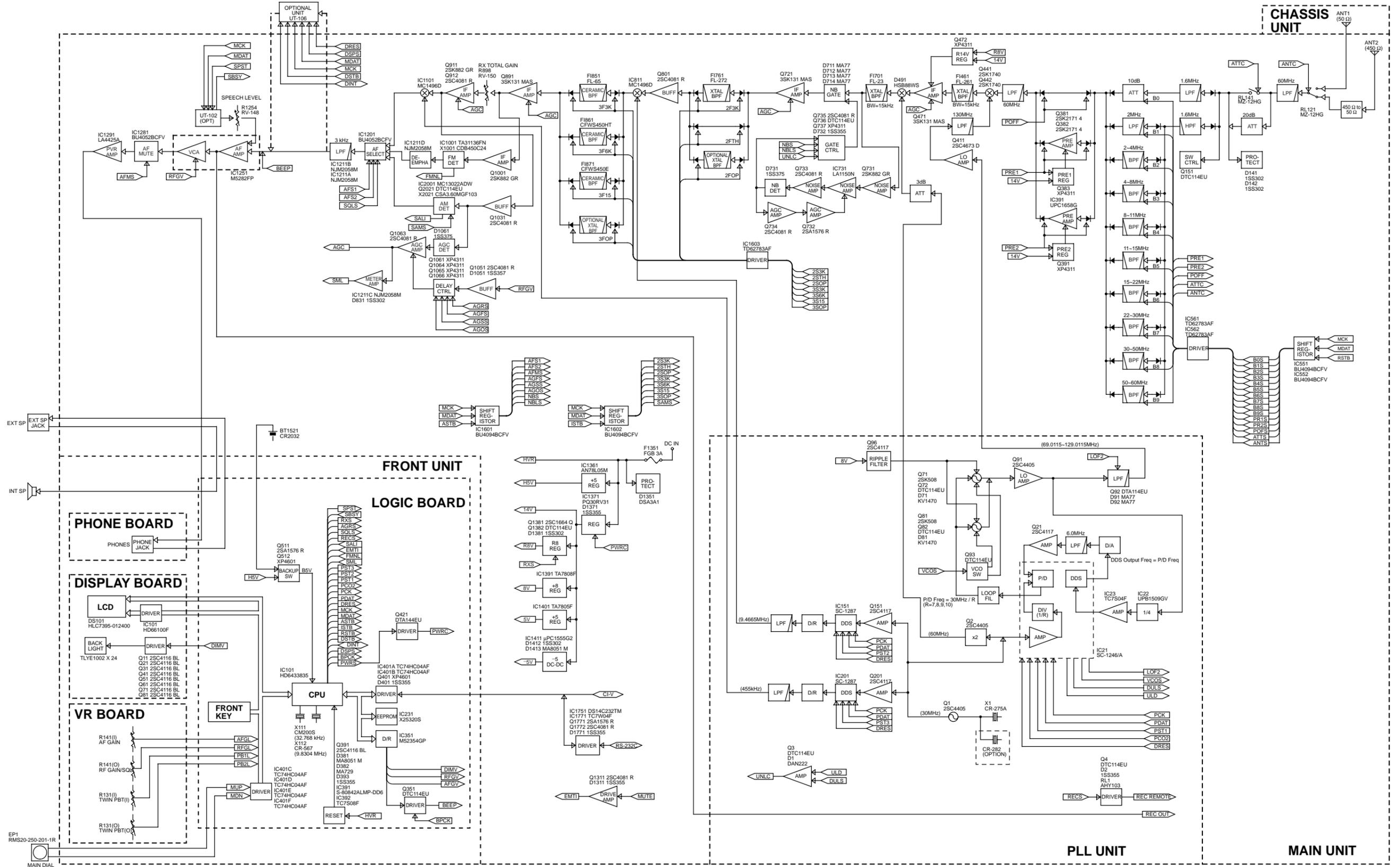
|   |      |      |    |
|---|------|------|----|
| 2 | 14V  | 14V  | 16 |
|   | GND  | GND  |    |
|   | 8V   | AAFO |    |
|   | 5V   | UNLC |    |
|   | RECS | UNLC |    |
|   | GND  | PST3 |    |
|   | PST2 | PST1 |    |
|   | PCO2 | PCK  |    |
|   | PDAT | DRES |    |
| 1 |      |      | 15 |

J2  
to MAIN unit J1501

# 8-5 MAIN UNIT

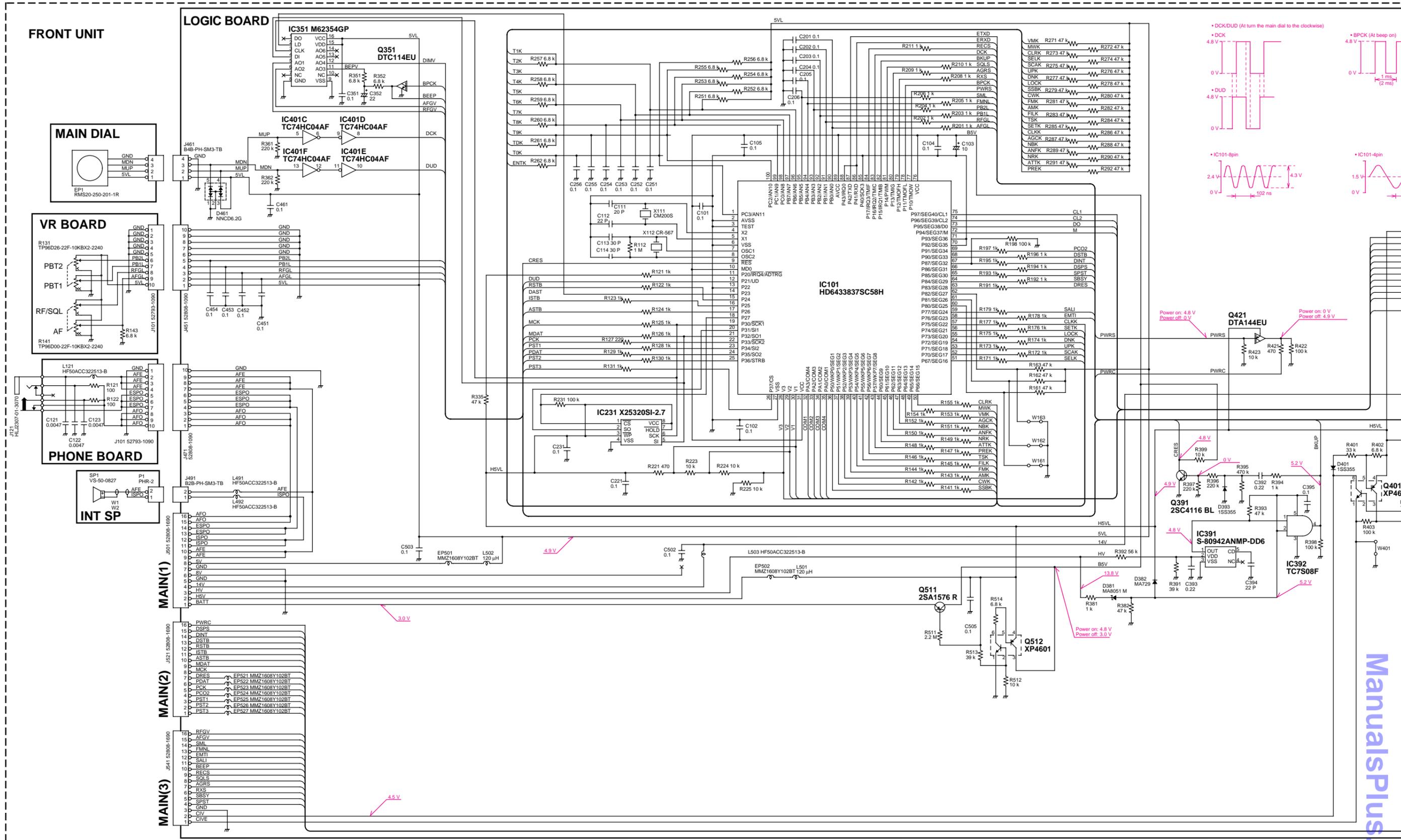


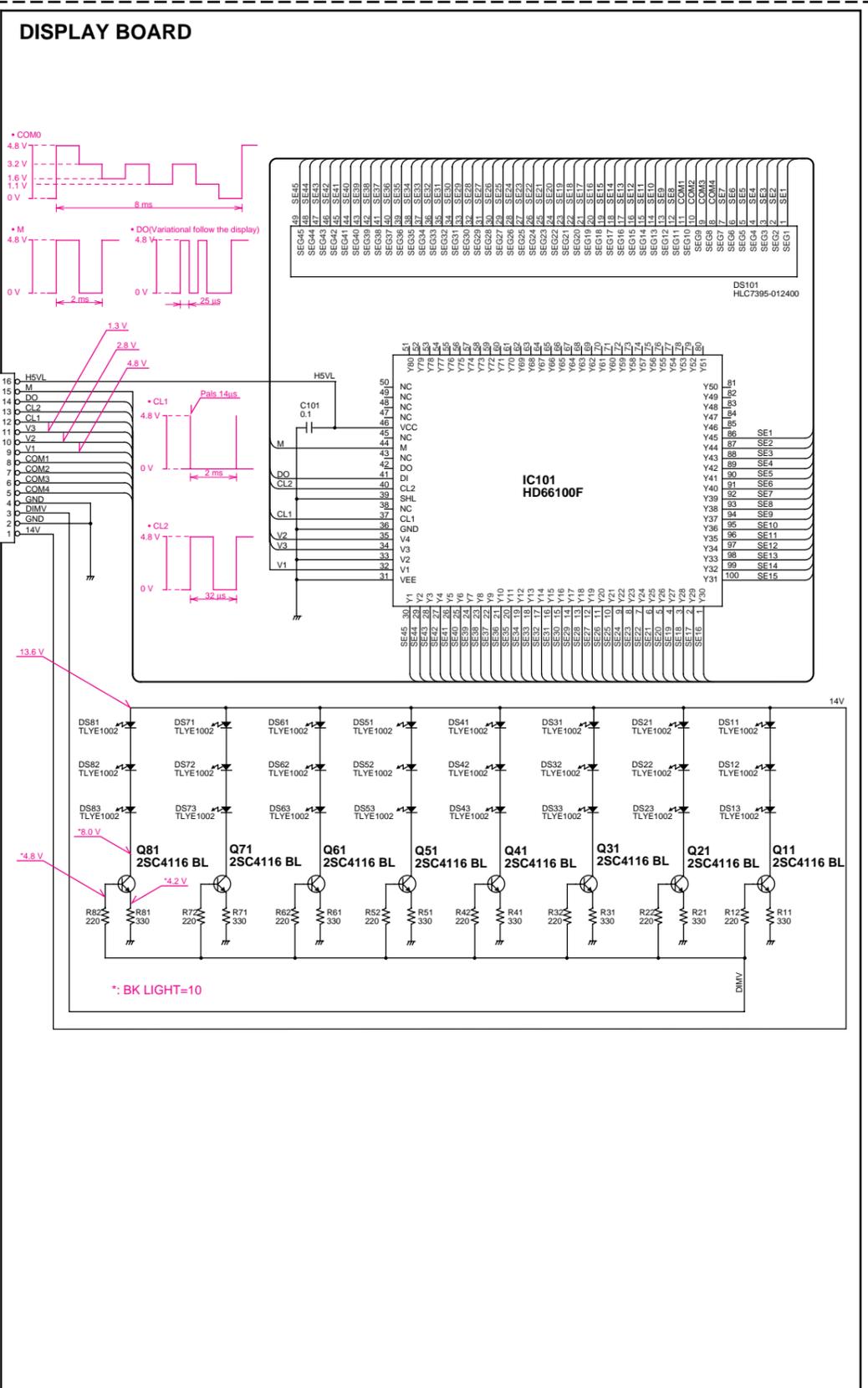
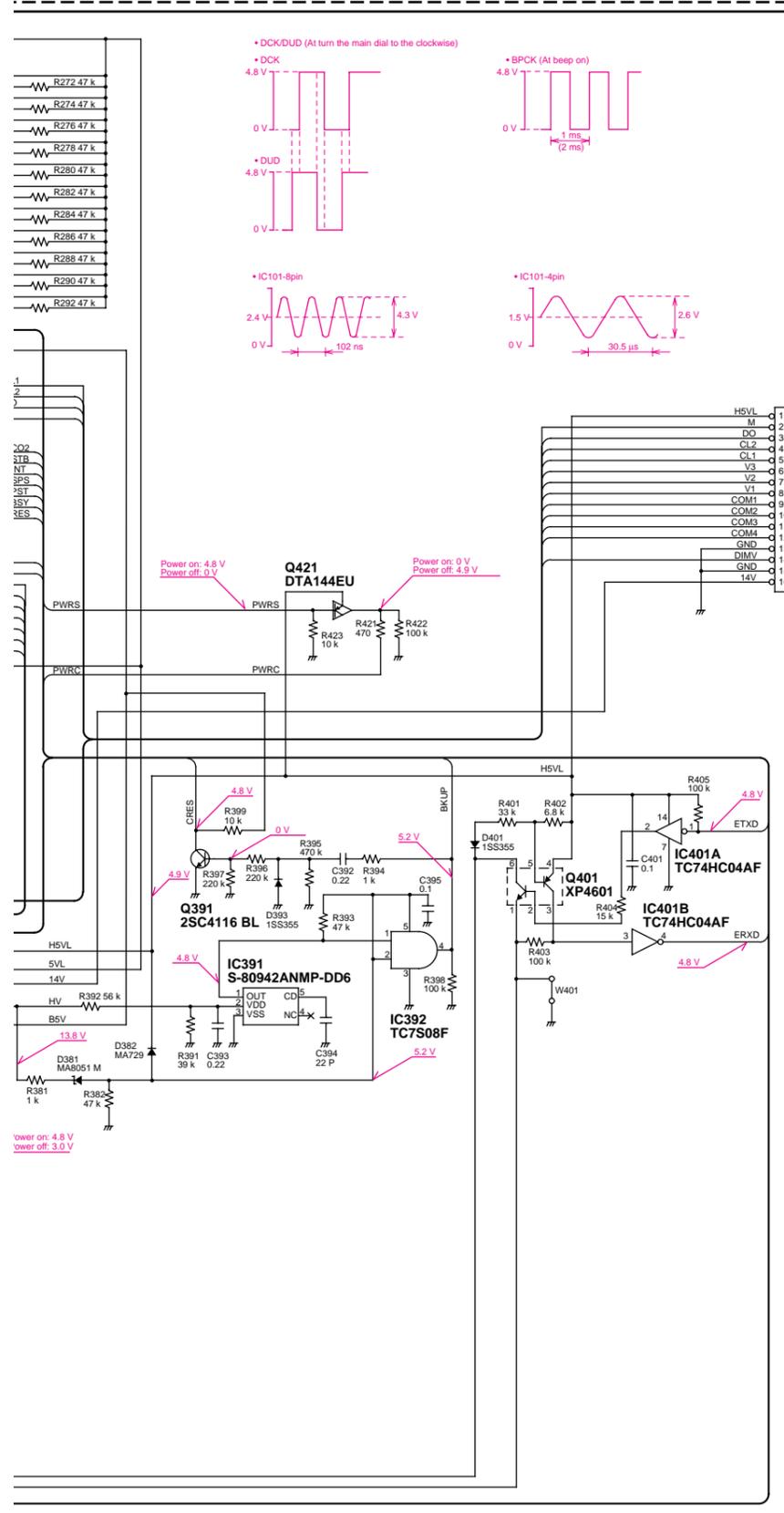
# SECTION 9 BLOCK DIAGRAM



# SECTION 10 VOLTAGE DIAGRAM

## 10-1 FRONT UNIT

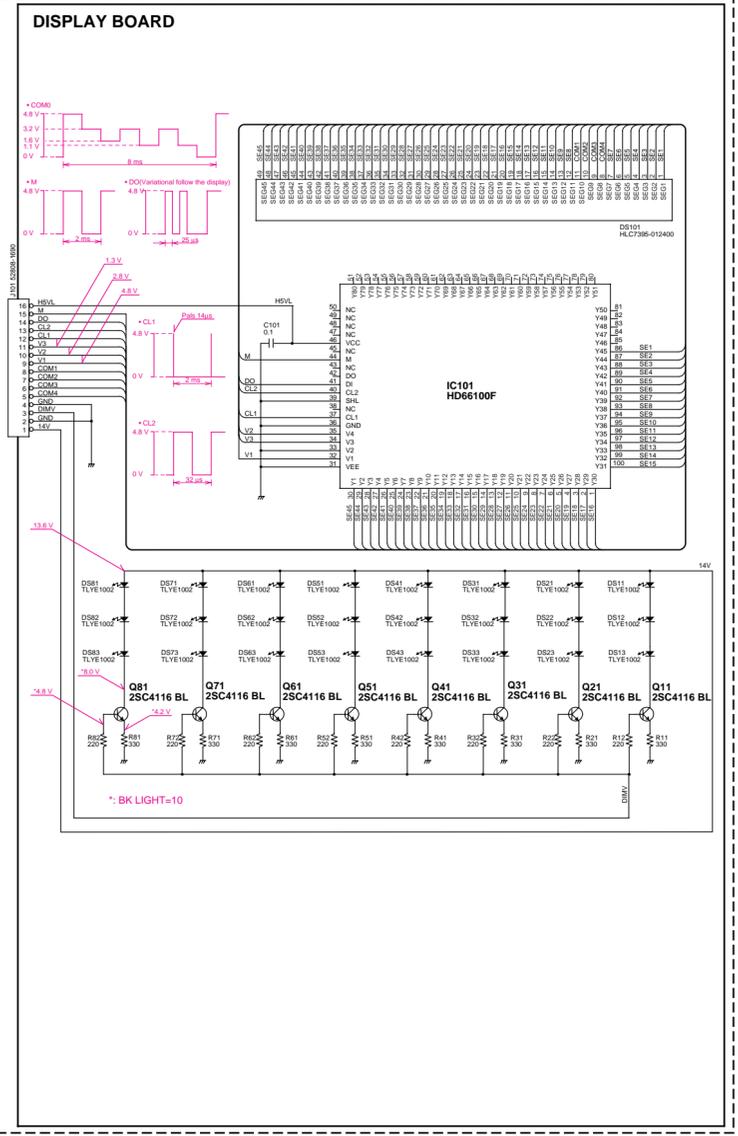
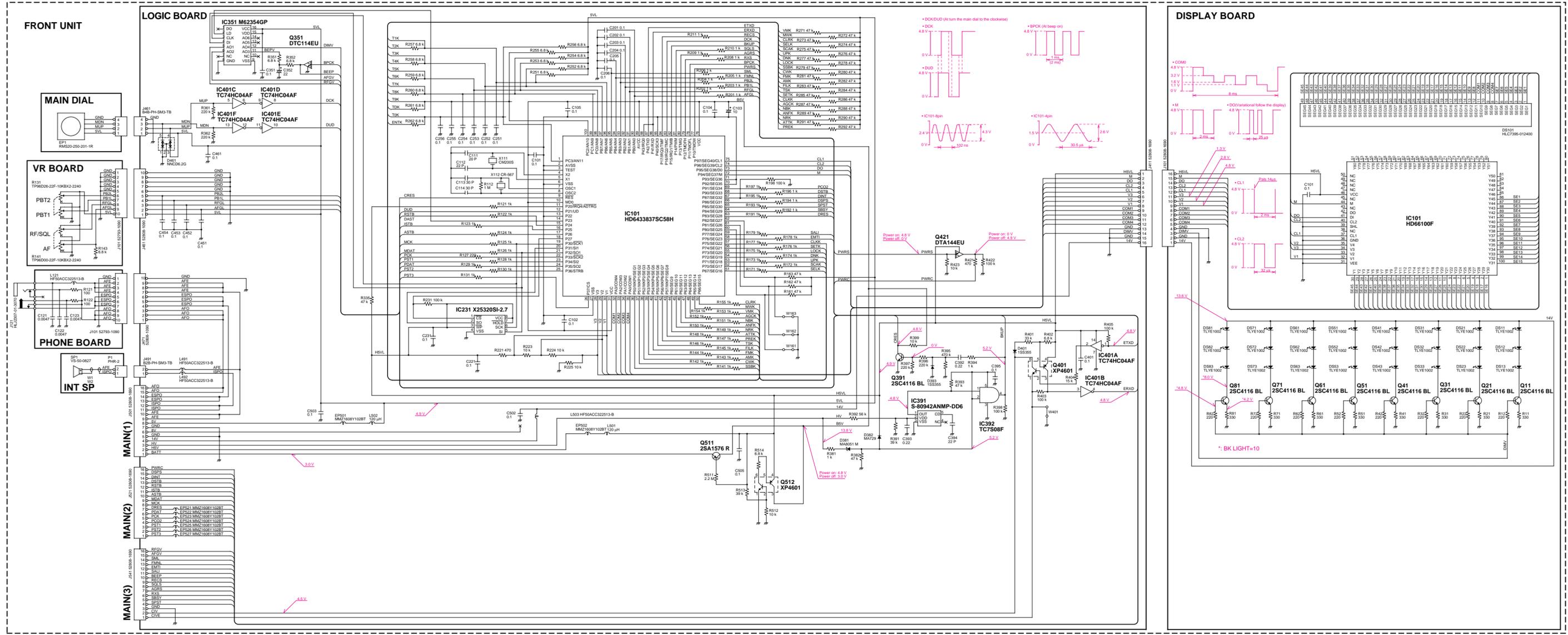




COMPLETE VIEW

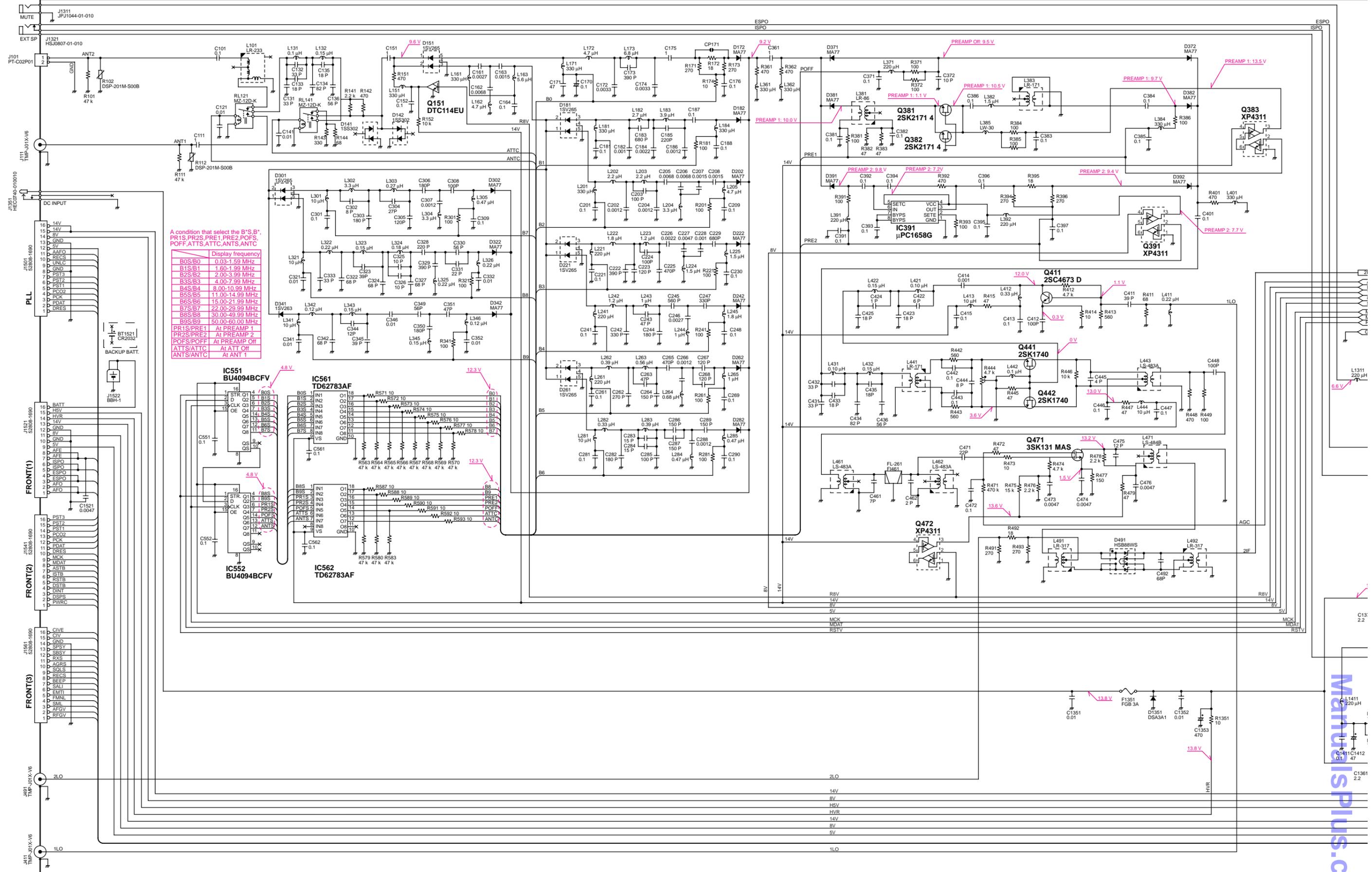
SECTION 10 VOLTAGE DIAGRAM

10-1 FRONT UNIT

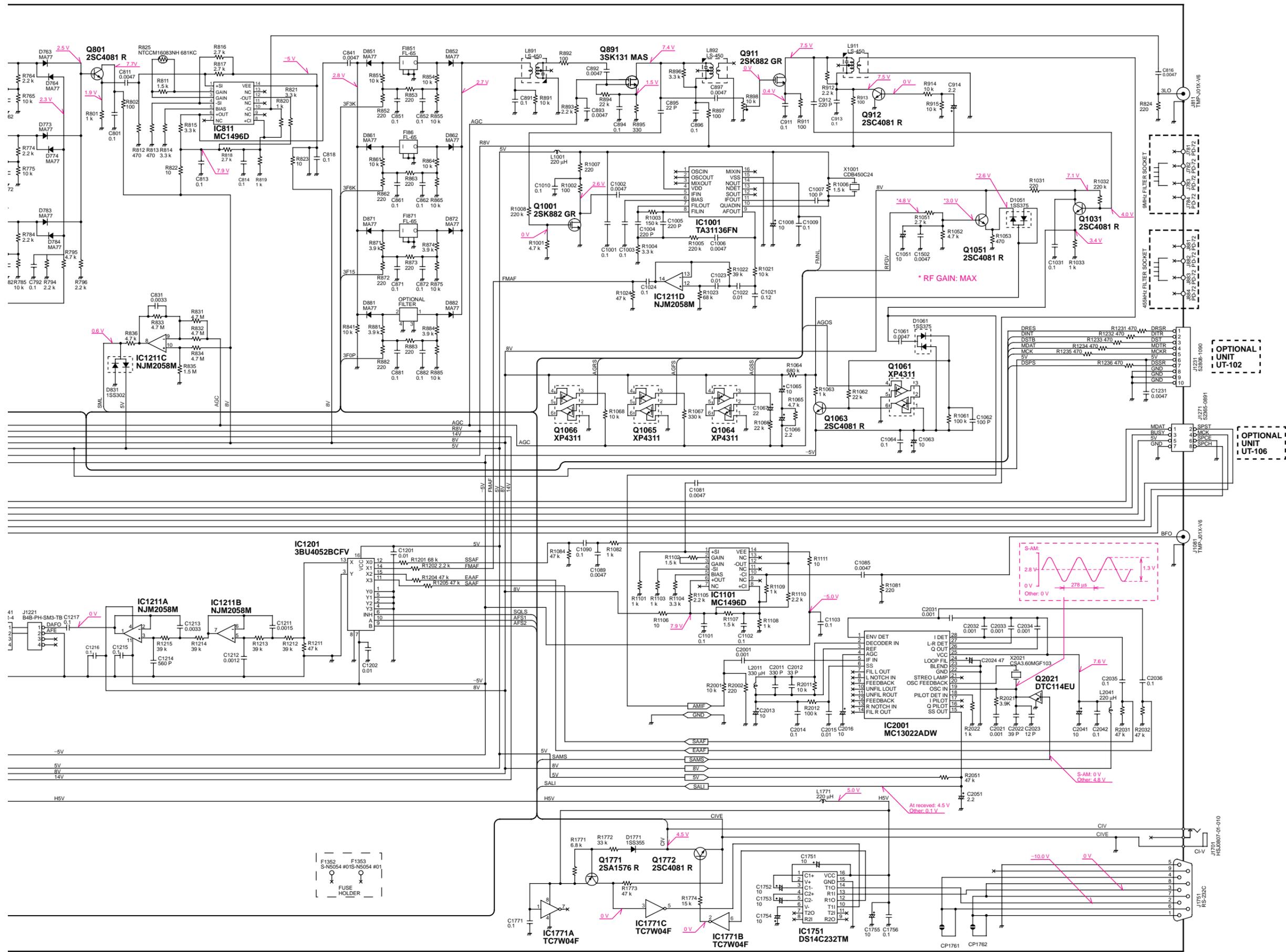




# 10-3 MAIN UNIT







COMPLETE VIEW



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