



SERVICE MANUAL

VHF TRANSCEIVERS

IC-V86

IC-V86-T

S-15514XZ-C1

April 2019

Icom Inc.

INTRODUCTION

This service manual describes the latest technical information for the IC-V86/IC-V86-T VHF TRANSCEIVERS at the time of publication.

| MODEL | VERSION | VERSION NUMBER | TX POWER |
|----------|---------|----------------|----------|
| IC-V86 | EXP-01 | #11 | 7.0 W |
| | USA-01 | #12 | |
| | EXP-03 | #13 | |
| IC-V86-T | THA-01 | #31 | 5.0 W |

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

SERVICE CAUTION

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

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

DO NOT reverse the polarity of the DC power cable when directly applying power to the transceiver.

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

ORDERING PARTS

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

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

<ORDER EXAMPLE>

1110010140 TLV9002IDGKR IC-V86 MAIN UNIT 5 pieces
8930101260 4066 SIDE PLATE IC-V86 CHASSIS 1 piece



IC-V86

IC-V86-T

REPAIR NOTES

1. Make sure that the problem is internal before disassembling the transceiver.
2. **DO NOT** open the transceiver until the transceiver is disconnected from its power source.
3. **DO NOT** short any circuits or electronic parts.
4. **DO NOT** keep power ON for a long time when the transceiver is defective.
5. **NEVER** directly transmit power into any test equipment such as Standard Signal Generator or a Sweep Generator, otherwise the RF power may damage them.
6. **ALWAYS** connect a 30 dB to 40 dB attenuator between the transceiver and such test equipment.
7. **READ** the instructions of the test equipment thoroughly before connecting it to the transceiver.

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SECTION 1

SPECIFICATIONS

| | | [USA-01] | [EXP-01], [EXP-03] | [THA-01] | | |
|--|--|---|--------------------|--------------------------------|-------------|--|
| GENERAL | Frequency range | RX | 136~174 MHz | | 144~147 MHz | |
| | | TX | 144~148 MHz | 136~174 MHz | 144~147 MHz | |
| | Operating mode | F2D, F3E | | | | |
| | Number of memory channels | 207 channels (200 memory channels, 1 call channel, and 6 scan edge channels) | | | | |
| | Scan types | Full, Program, Priority, Memory channel, Skip, and Tone | | | | |
| | Selectable tuning setps | 5, 10, 12.5, 15, 20, 25, 30, and 50 kHz | | | | |
| | Usable temperature range | -20°C~+60°C (-4°F~+140°F) | | | | |
| | Frequency stability | ±2.5 ppm (-20°C~+60°C) | | | | |
| | Power supply | Specified Icom's battery packs and case only 7.5 V DC (negative ground) | | | | |
| | Current drain (at 7.5 V DC) | RX | Internal speaker | 450 mA typical (Maximum audio) | | |
| | | | External speaker | 200 mA typical (Maximum audio) | | |
| | | TX | Extra high power | 1600 mA typical | - | |
| | | | High power | 1400 mA typical | | |
| | | | Middle power | 1000 mA typical | | |
| Low power | | | 500 mA typical | | | |
| Antenna connector | BNC (50 Ω) | | | | | |
| Dimensions (projections not included) | With BP-298 | 58.6 (W)×112 (H)×30.5 (D) mm (2.3 (W)×4.4 (H)×1.2 (D) inches) | | | | |
| | With BP-264 | 58.6 (W)×112 (H)×26.0 (D) mm (2.3 (W)×4.4 (H)×1.0 (D) inches) | | | | |
| Weight (approximate) | 300 g (10.6 oz, with BP-298 and FA-B57V) 360 g (12.7 oz, with BP-264 and FA-B57V) | | | | | |
| TRANSMITTER | Output power (at 7.5 V DC) | Extra high power | 7.0 W | 7.0 W*1 | - | |
| | | High power | 5.5 W | | 5.0 W | |
| | | Middle power | 2.5 W | | | |
| | | Low power | 0.5 W | | | |
| | Modulation system | Frequency shift keying modulation | | | | |
| | Maximum frequency deviation | Wide | ±5.0 kHz | | | |
| | | Narrow | ±2.5 kHz | | | |
| Spurious emissions | Less than -60 dB | | | | | |
| Microphone impedance | 2200 Ω | | | | | |
| RECEIVER | Receive system | Direct Conversion | | | | |
| | Sensitivity*2 (at 12 dB SINAD) | 0.14 μV typical | | | | |
| | Squelch sensitivity*2 (threshold) | 0.11 μV typical | | | | |
| | Adjacent channel selectivity | Wide | 75 dB typical | | | |
| | | Narrow | 70 dB typical | | | |
| | Intermodulation | 65 dB typical | | | | |
| Audio output power | Internal speaker | 1.5 W typical (at 5% distortion into the 8 Ω load) | | | | |
| | External speaker | 0.55 W typical (at 5% distortion into an 8 Ω load) | | | | |

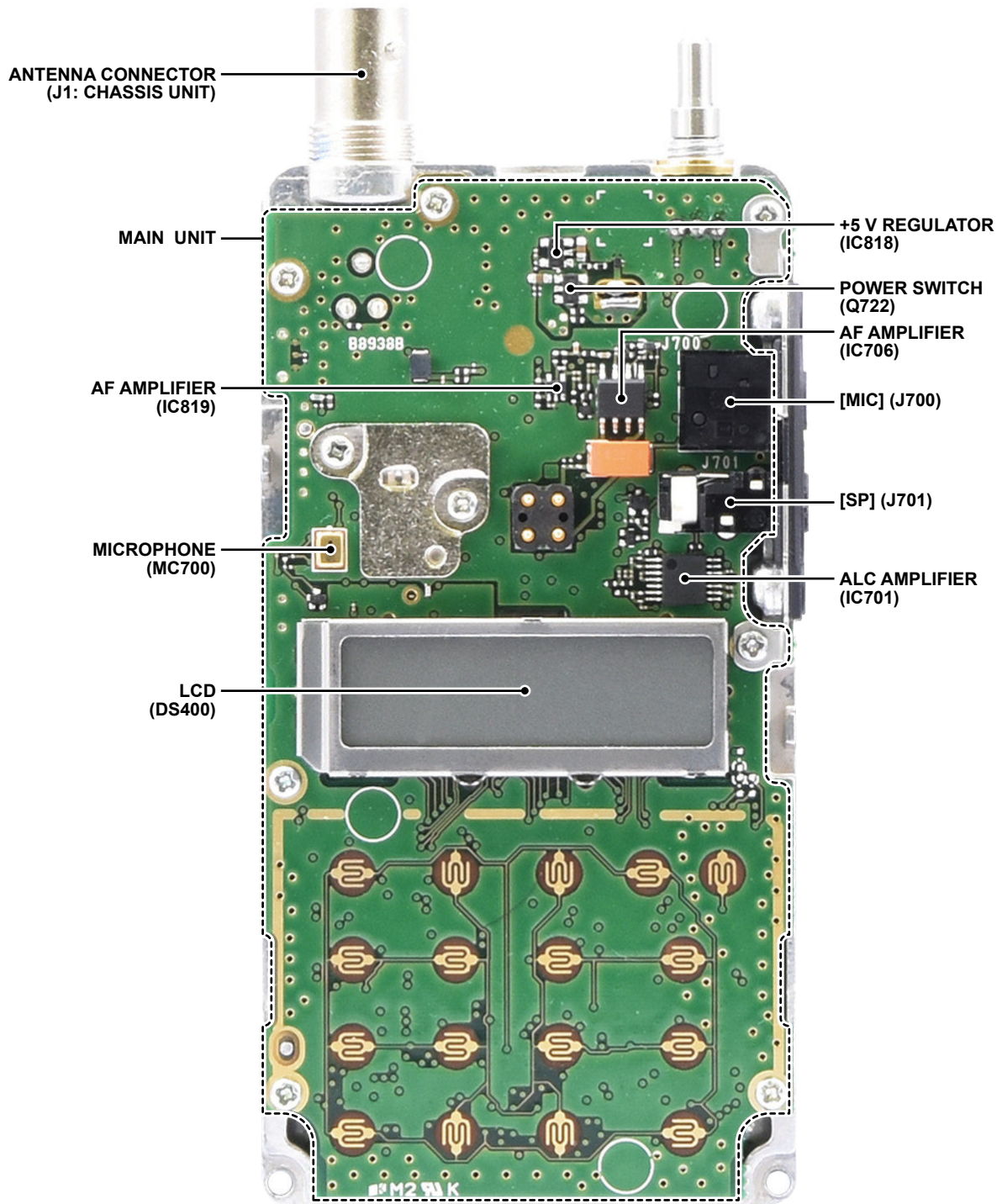
*1 For 144~160 MHz only.

*2 The input signal strength level of this receive sensitivity is measured at the load end (PD).

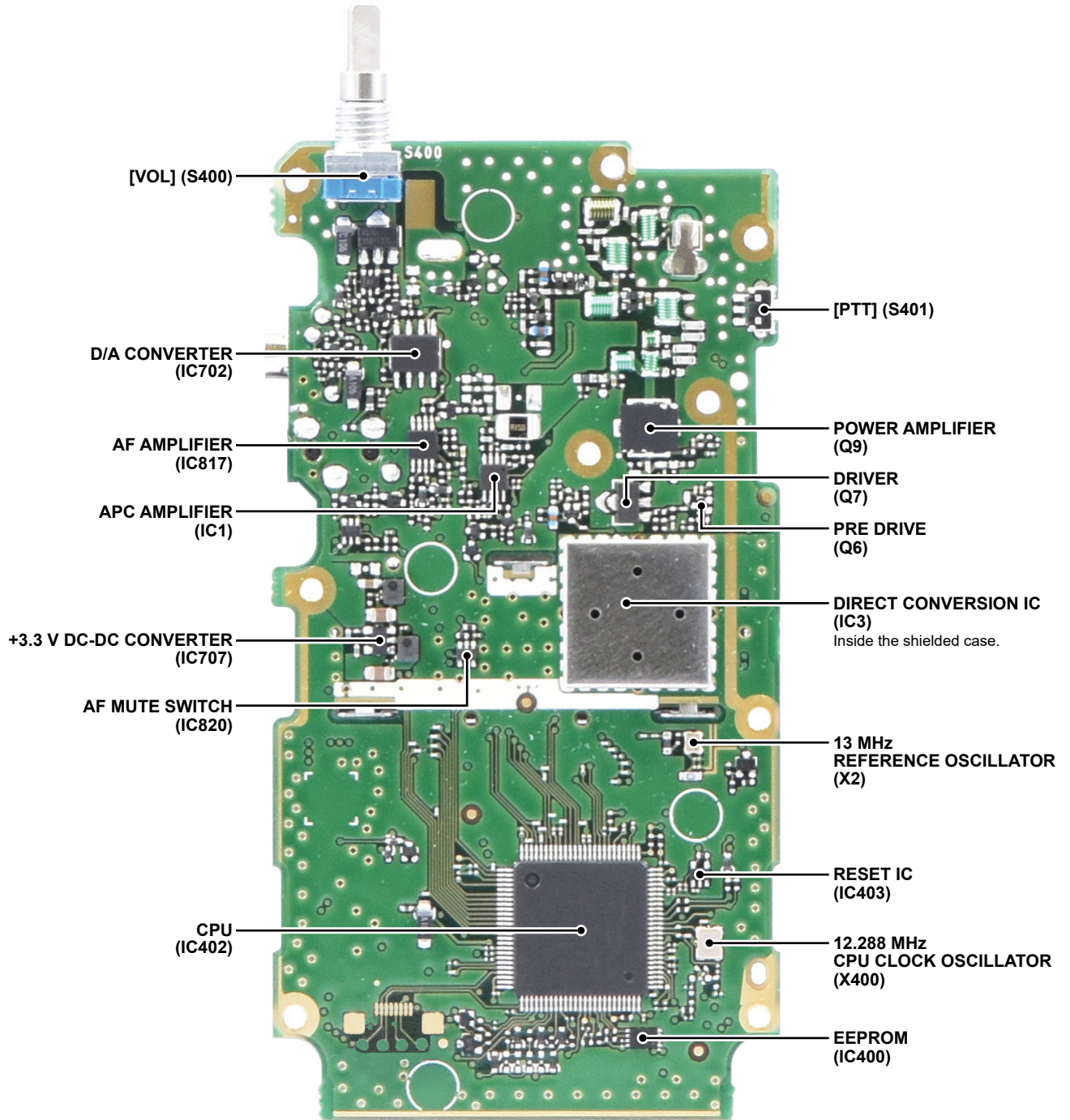
SECTION 2

INSIDE VIEWS

• MAIN UNIT (TOP VIEW)



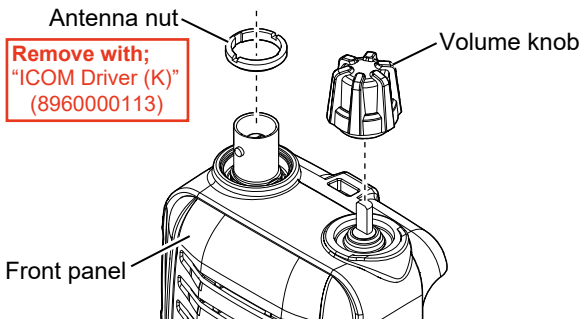
• MAIN UNIT (BOTTOM VIEW)



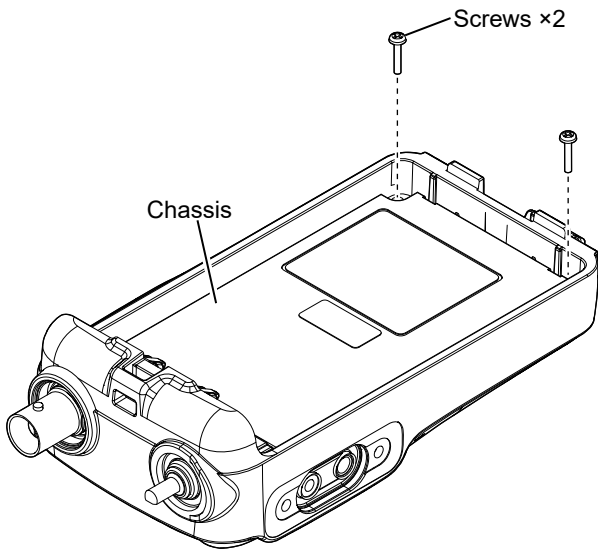
SECTION 3 DISASSEMBLY INSTRUCTIONS

1. REMOVING THE FRONT PANEL

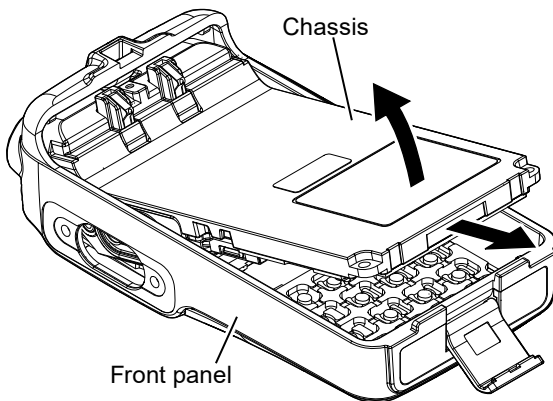
- 1) Remove the volume knob and antenna nut from the top of the front panel.



- 2) Remove the 2 screws from the bottom of the chassis.

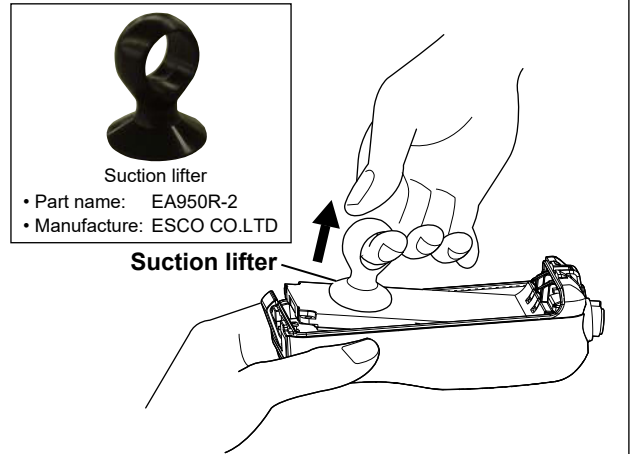


- 3) Remove the chassis from the front panel.



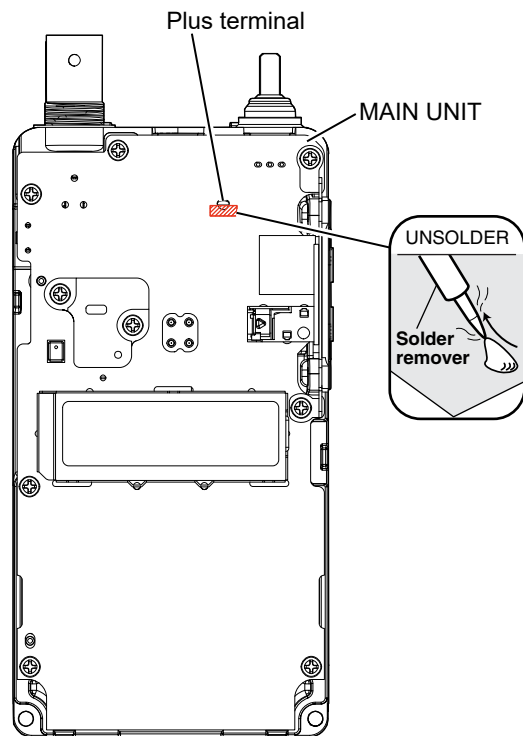
For easy separation of the CHASSIS

Use a suction lifter to lift the bottom of the CHASSIS up.

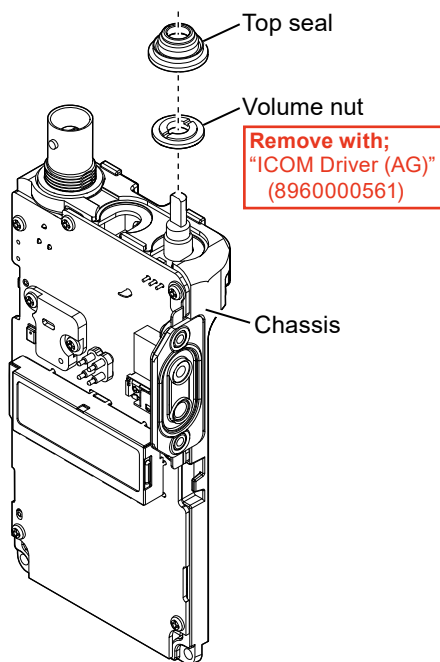


2. REMOVING THE MAIN UNIT

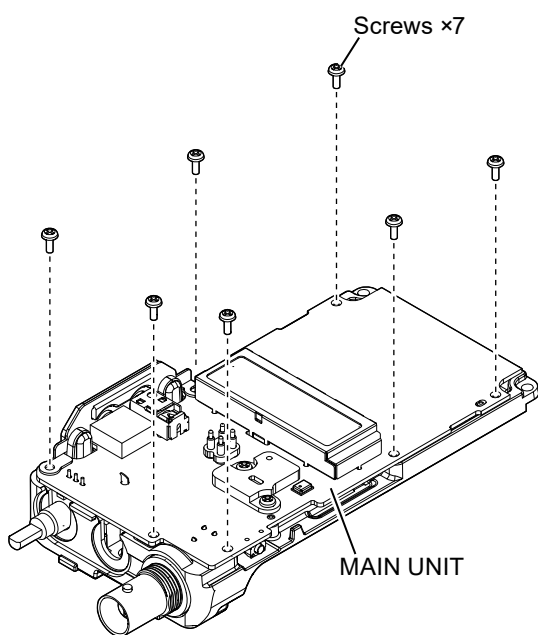
- 1) Unsolder a point at the plus terminal.



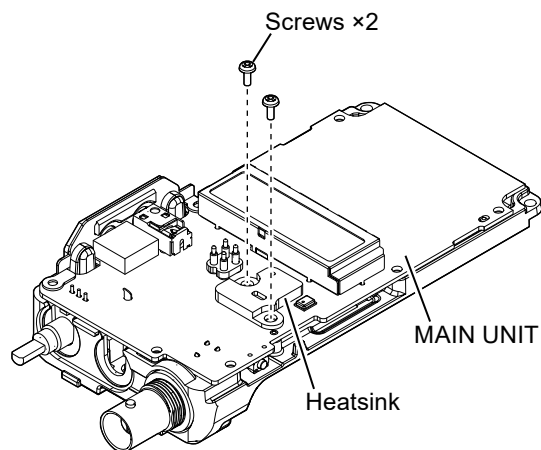
2) Remove the top seal and volume nut from the top of the chassis.



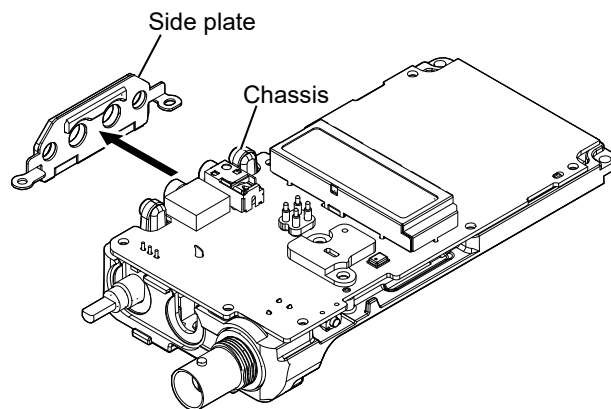
3) Remove the 7 screws from the MAIN UNIT.



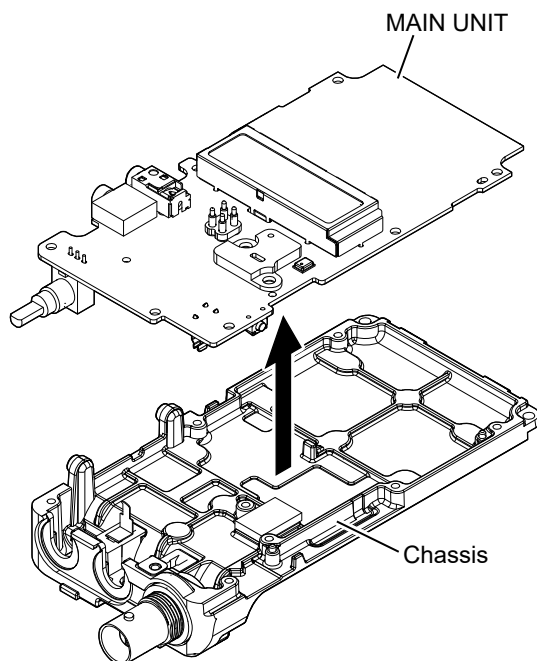
4) Remove the 2 screws from the heatsink of MAIN UNIT.



5) Remove the side plate from the chassis.



6) Remove the MAIN UNIT from the chassis.



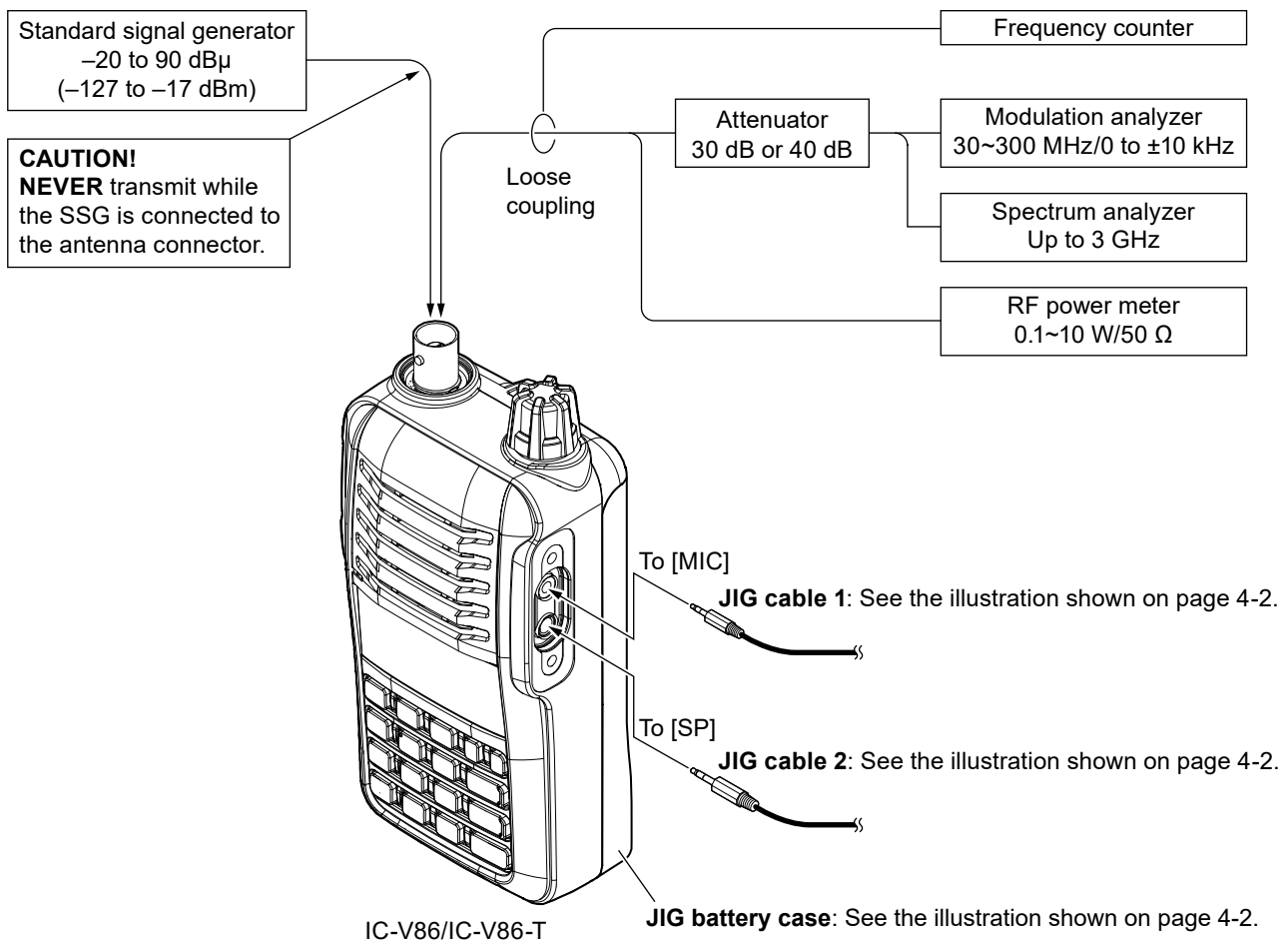
SECTION 4 ADJUSTMENT PROCEDURE

4-1 PREPARATION

■ REQUIRED EQUIPMENT

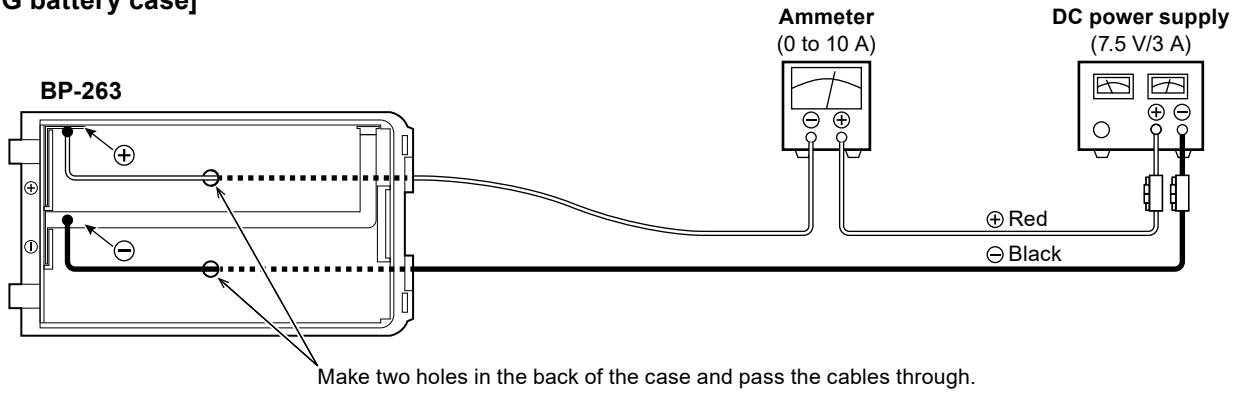
| EQUIPMENT | GRADE AND RANGE | EQUIPMENT | GRADE AND RANGE |
|---|---|---------------------------------|--|
| DC power supply | Output voltage: 7.5 V Current capacity: 3 A or more | JIG battery case | Modified BP-263. (See the illustration shown on page 4-2.) |
| Frequency counter | Range: 0.1~300 MHz Accuracy: ± 1 ppm or better | JIG plug | Modified 3.5 mm ($\frac{1}{8}$ inch) stereo plug. (See the illustration shown on page 4-2.) |
| Attenuator | Attenuation: 30 dB or 40 dB Capacity: More than 10 W | JIG cable 1 | Modified 2.5 mm ($\frac{1}{10}$ inch) stereo plug. (See the illustration shown on page 4-2.) |
| Audio generator (AG) | Frequency range: 300~3000 Hz Output level: 1~500 mV | JIG cable 2 | Modified 3.5 mm ($\frac{1}{8}$ inch) stereo plug. (See the illustration shown on page 4-2.) |
| RF power meter (50 Ω terminated) | Measuring range: 0.1~10 W Frequency range: 100~300 MHz SWR: Less than 1.2 : 1 | Standard signal generator (SSG) | Frequency range: 0.1~300 MHz Output level: -20 to 90 dB μ (-127 to -17 dBm) |
| AC millivoltmeter | Measuring range: 10 mV to 10 V | Distortion meter | Measuring accuracy: 3% or less at 1 kHz Input level: 50 mV to 10 V |
| Modulation analyzer | Frequency range: 30~300 MHz Measuring range: 0 to ± 10 kHz | External speaker | Input impedance: 8 Ω Capacity: More than 1 W |
| Spectrum analyzer | Measuring range: Up to 3 GHz | Ammeter | Measuring range: 0 to 10 A |

■ CONNECTIONS

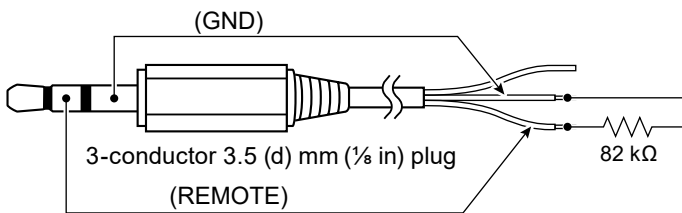


■ JIG

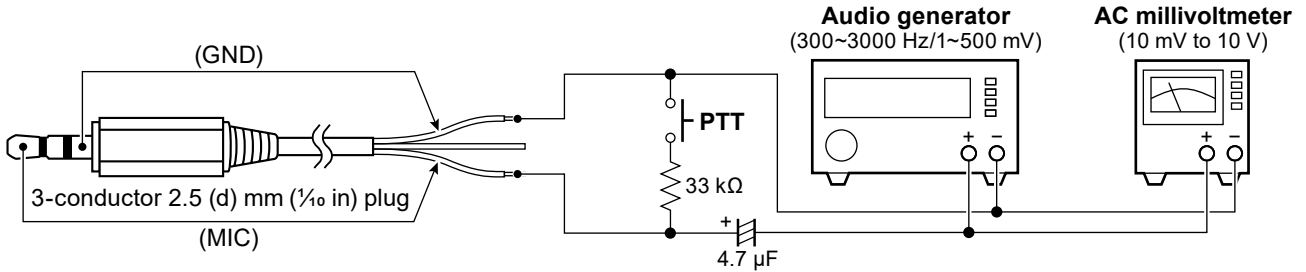
[JIG battery case]



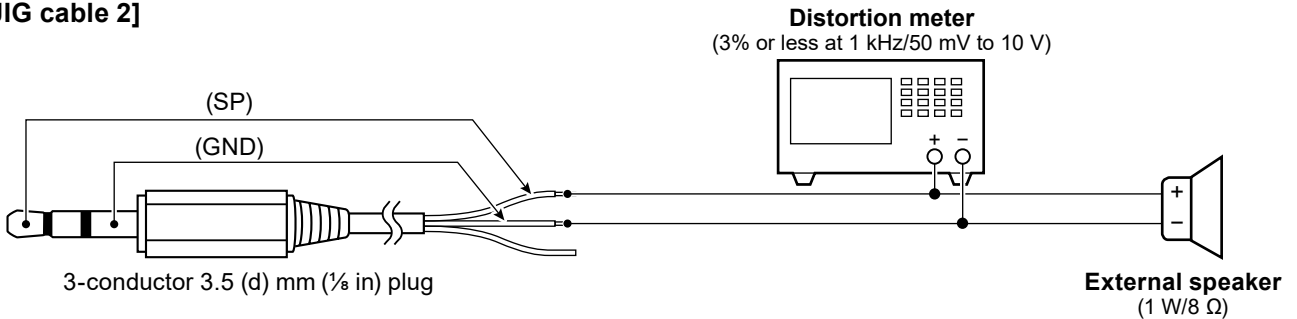
[JIG plug]



[JIG cable 1]

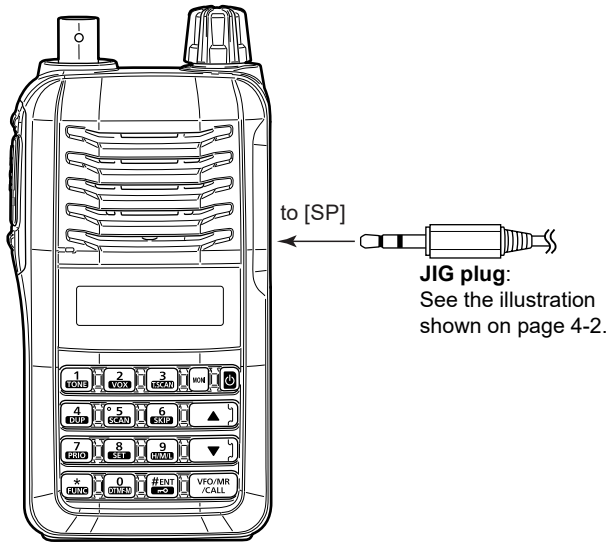


[JIG cable 2]

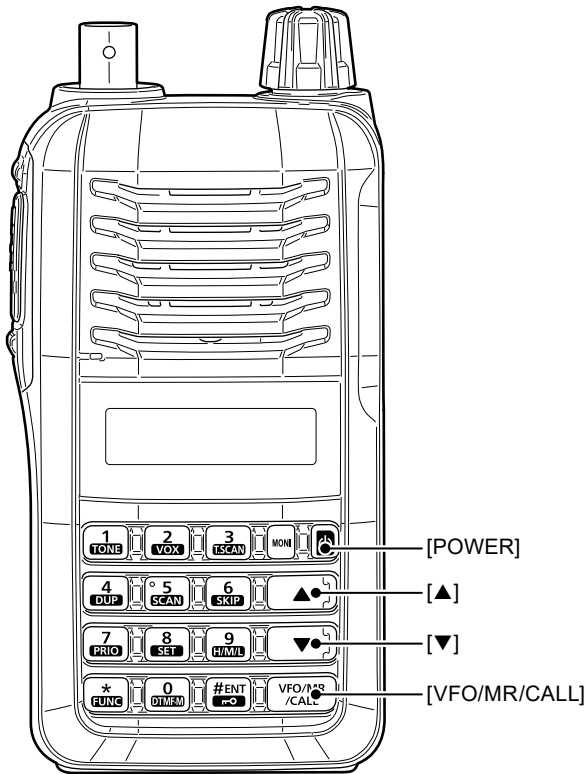


■ ENTERING THE ADJUST MODE

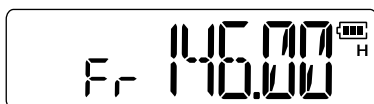
1. Turn OFF the power.
2. Connect the JIG plug to the [SP] connector.



3. While holding down all [▲]/[▼] and [VFO/MR/CALL], turn ON the transceiver power to enter the adjust mode.

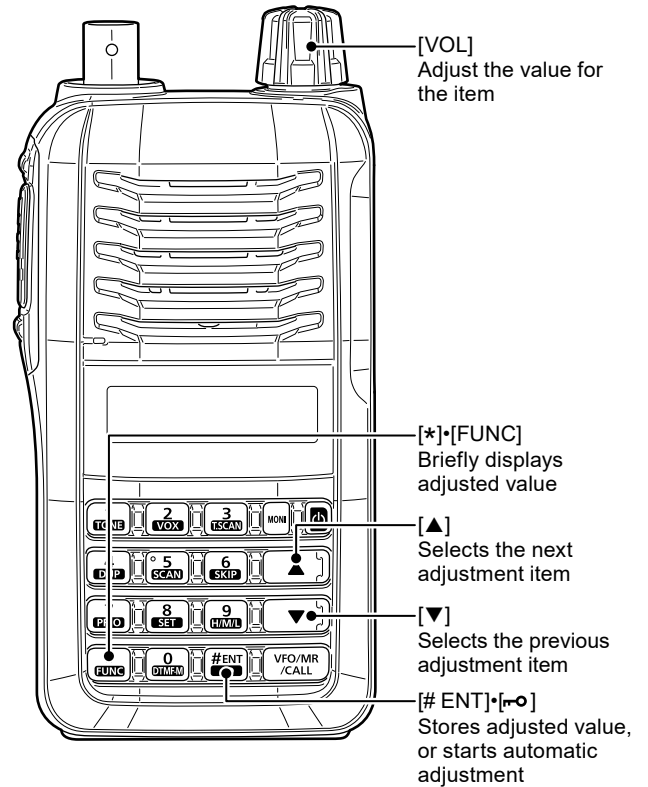


4. The adjust mode is displayed.

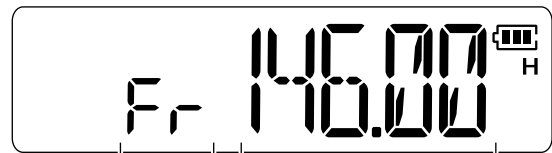


■ KEY ASSIGNMENTS FOR THE ADJUST MODE

- Push [▲] to select the next adjustment item, push [▼] to select the previous adjustment item.
- Rotate [VOL] to set or modify the adjustment value.
- Push [# ENT]•[↵] to store the adjusted value, or start automatic adjustment.
- Push [*]•[FUNC] to briefly display the adjustment value.



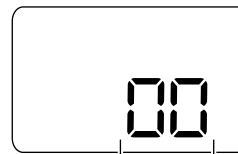
■ ADJUST MODE SCREENS



Adjustment item Adjustment frequency



While rotating [VOL],
or when [*]•[FUNC] is pushed



Adjusted value



4-2 TRANSMIT ADJUSTMENTS

| ADJUSTMENT | ADJUSTMENT ITEM DISPLAY | SETTING CONDITION | OPERATION |
|--|-------------------------|--|---|
| FREQUENCY -Verification- | 1 | <ul style="list-style-type: none"> Connect the RF power meter or the dummy load to the antenna connector. Loosely couple the frequency counter to the antenna connector. Transmitting | 146.000 MHz \pm 365 Hz (If out of the specified range, adjust the frequency by [VOL], then push [# ENT]•[F0].) |
| TRANSMIT OUTPUT POWER -Adjustment- (Extra High) | 1 | <ul style="list-style-type: none"> Connect the RF power meter to the antenna connector. While transmitting, adjust the connected DC power supply voltage to 7.5 V. Transmitting | Set the transmit output power to 7.0 W \pm 0.2 W by [VOL], then push [# ENT]•[F0]. Note the adjusted value as the reference value A. |
| (High) | 2 | | Set the transmit output power to 5.5 W \pm 0.2 W by [VOL], then push [# ENT]•[F0]. Note the adjusted value as the reference value B. |
| (Middle) | 3 | | Set the transmit output power to 2.5 W \pm 0.2 W by [VOL], then push [# ENT]•[F0]. Note the adjusted value as the reference value C. |
| (Low) | 4 | | Set the transmit output power to 0.5 W \pm 0.1 W by [VOL], then push [# ENT]•[F0]. Note the adjusted value as the reference value D. |
| (Extra High) | 5 | • Receiving | Set the adjustment value to the value that add 2 to the reference value B, then push [# ENT]•[F0]. |
| | 6 | | Set the adjustment value to the value that add 6 to the reference value A, then push [# ENT]•[F0]. |
| | 7 | | Set the adjustment value to the value that add 10 to the reference value B, then push [# ENT]•[F0]. |
| (High) | 8 | | Set the adjustment value to the value that add 2 to the reference value B, then push [# ENT]•[F0]. |
| | 9 | | Set the adjustment value to the value that subtract 2 to the reference value B, then push [# ENT]•[F0]. |
| | 10 | | Set the adjustment value to the value that add 10 to the reference value B, then push [# ENT]•[F0]. |
| (Middle) | 11 | | Set the adjustment value to the reference value C, then push [# ENT]•[F0]. |
| | 12 | | Set the adjustment value to the value that add 1 to the reference value C, then push [# ENT]•[F0]. |
| | 13 | | Set the adjustment value to the value that add 13 to the reference value C, then push [# ENT]•[F0]. |
| (Low) | 14 | | Set the adjustment value to the reference value D, then push [# ENT]•[F0]. |
| | 15 | | Set the adjustment value to the value that add 2 to the reference value D, then push [# ENT]•[F0]. |
| | 16 | | Set the adjustment value to the value that add 10 to the reference value D, then push [# ENT]•[F0]. |




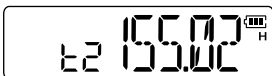



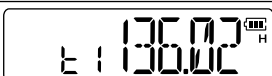



4-2 TRANSMIT ADJUSTMENTS (CONTINUED)

| ADJUSTMENT | ADJUSTMENT ITEM DISPLAY | SETTING CONDITION | OPERATION | |
|--|-------------------------|-------------------|--|--|
| TRANSMIT OUTPUT POWER -Verification- (Extra High) | 1 | | <ul style="list-style-type: none"> Connect the RF power meter to the antenna connector. While transmitting, adjust the connected DC power supply voltage to 7.5 V. Transmitting | 4.5~6.5 W (If out of the specified range, adjust the output power by [VOL], then push [# ENT]•[←•].) |
| | 2 | | | 6.0~8.0 W (If out of the specified range, adjust the output power by [VOL], then push [# ENT]•[←•].) |
| | 3 | | | 4.5~6.5 W (If out of the specified range, adjust the output power by [VOL], then push [# ENT]•[←•].) |
| (High) | 4 | | | |
| | 5 | | | |
| | 6 | | | |
| (Middle) | 7 | | | 2.0~3.0 W (If out of the specified range, adjust the output power by [VOL], then push [# ENT]•[←•].) |
| | 8 | | | |
| | 9 | | | |
| (Low) | 10 | | | 0.25~1.5 W (If out of the specified range, adjust the output power by [VOL], then push [# ENT]•[←•].) |
| | 11 | | | |
| | 12 | | | |
| TRANSMITTING CURRENT -Verification- | 1 | | <ul style="list-style-type: none"> Connect the ammeter between the JIG battery case and the DC power supply. Transmitting | Less than 2.0 A |
| | 2 | | | |
| | 3 | | | |
| | 4 | | | |
| SPURIOUS EMISSION -Verification- | 1 | | <ul style="list-style-type: none"> Connect the spectrum analyzer to the antenna connector through the attenuator. Transmitting | Less than -60 dBc |
| | 2 | | | |
| | 3 | | | |
| | 4 | | | |

4-2 TRANSMIT ADJUSTMENTS (CONTINUED)

| ADJUSTMENT | | ADJUSTMENT ITEM DISPLAY | SETTING CONDITION | OPERATION |
|---|---|---|--|--|
| MODULATION SENSITIVITY -Verification- | 1 |  | <ul style="list-style-type: none"> • Connect the modulation analyzer to the antenna connector through the attenuator and set it to: <ul style="list-style-type: none"> HPF: OFF LPF: 20 kHz or 15 kHz De-emphasis: OFF Detector: (P-P)/2 • Connect the audio generator and the AC millivoltmeter to [MIC] through the JIG cable 1, and set it to: <ul style="list-style-type: none"> Frequency: 1 kHz Waveform: Sine wave Level: Adjust to the level so that the modulation analyzer shows ± 1.50 kHz of deviation • Transmitting | 10.0~20.0 mV (Audio generator output level) |
| TRANSMIT S/N RATIO -Verification- | 1 |  | <ul style="list-style-type: none"> • Set the modulation analyzer to: <ul style="list-style-type: none"> HPF: 50 Hz LPF: 3 kHz De-emphasis: ON Detector: (P-P)/2 • Set the audio generator output level so that the modulation analyzer shows ± 1.50 kHz of deviation. • Transmitting • Toggle the audio generator output ON and OFF. | More than 34 dB |

4-3 RECEIVE ADJUSTMENTS

| ADJUSTMENT | ADJUSTMENT ITEM DISPLAY | SETTING CONDITION | OPERATION |
|--|--|---|--|
| NOISE SQUELCH -Adjustment- | 1  | <ul style="list-style-type: none"> Connect the standard signal generator (SSG) to the antenna connector and set it to: <ul style="list-style-type: none"> Frequency: 146.020 MHz Modulation: 1 kHz Deviation: ± 1.5 kHz Level*: -17 dBμ (-124 dBm) Receiving | Push [# ENT]•[0]. (Automatic adjustment) |
| S-METER -Adjustment- | 1  | <ul style="list-style-type: none"> Set the SSG as: <ul style="list-style-type: none"> Level*: -13 dBμ (-120 dBm) Receiving | Push [# ENT]•[0]. (Automatic adjustment) |
| RECEIVE SENSITIVITY -Verification- | 1  | <ul style="list-style-type: none"> Connect the distortion meter and the external speaker to [SP] through the JIG cable 2. Set the SSG as: <ul style="list-style-type: none"> Frequency: 136.020 MHz Level: Set to the level so that the distortion meter shows 12 dB SINAD. Receiving | Less than -10 dB μ * (-117 dBm) (SSG output level) |
| | 2  | <ul style="list-style-type: none"> Set the SSG as: <ul style="list-style-type: none"> Frequency: 155.020 MHz Level: Set to the level so that the distortion meter shows 12 dB SINAD. Receiving | |
| | 3  | <ul style="list-style-type: none"> Set the SSG as: <ul style="list-style-type: none"> Frequency: 173.980 MHz Level: Set to the level so that the distortion meter shows 12 dB SINAD. Receiving | |
| AUDIO OUTPUT LEVEL -Verification- | 1  | <ul style="list-style-type: none"> Set the SSG as: <ul style="list-style-type: none"> Frequency: 155.020 MHz Level*: $+60$ dBμ (-47 dBm) Receiving Adjust the audio output level so that the distortion meter shows 5% of distortion. | More than 0.45 W (More than 1.90 V) |
| RECEIVE S/N RATIO -Verification- | 1  | <ul style="list-style-type: none"> Receiving Adjust the audio output level so that the distortion meter shows 1.34 V. Toggle the SSG's modulation ON and OFF. | More than 34 dB |
| | 2  | <ul style="list-style-type: none"> Set the SSG as: <ul style="list-style-type: none"> Frequency: 136.020 MHz Receiving | |
| | 3  | <ul style="list-style-type: none"> Set the SSG as: <ul style="list-style-type: none"> Frequency: 173.980 MHz Receiving | |
| RECEIVING CURRENT -Verification- (Maximum audio) | 1  | <ul style="list-style-type: none"> Connect the ammeter between the JIG battery case and the DC power supply. Set the SSG modulation ON. Receiving Adjust the audio output to the maximum level. | Less than 0.6 A |
| (Stand-by) | 2 | <ul style="list-style-type: none"> No optional unit is connected. No RF signal is received. Squelch closed. | Less than 80 mA |
| DEFAULT BATTERY PACK SETTING | 1  | - | Select 01 (Ni-MH for #13) or 02 (Li-ion for #11, #12, and #31) by [VOL], then push [# ENT]•[0]. |

*The output level of the standard signal generator (SSG) is measured at the load end (PD).

SECTION 5

PARTS LIST

[MAIN UNIT]

| REF NO. | PART NO. | DESCRIPTION | M. | H/V LOCATION |
|---------|------------|-------------------------------|------------|--------------|
| IC1 | 1110007010 | S.IC NJM12904R-TE1-#ZZZB | B | 34.7/29.4 |
| IC3 | 1110010000 | S.IC AT1846S | B | 47.4/16.1 |
| IC400 | 1130019660 | S.IC BR24G128NUX-5TR | B | 92.2/14.0 |
| IC402 | 1140018490 | S.IC STM32L073VBT6 | B | 81.0/20.5 |
| IC403 | 1110007780 | S.IC NJU7704F3-28A-TE1-#ZZZH | B | 75.4/8.2 |
| IC701 | 1110007630 | S.IC NJM2783V-TE1-#ZZZH | T | 39.6/41.5 |
| IC702 | 1110010010 | S.IC UJ2429G-S08-R | B | 21.9/37.5 |
| IC706 | 1110008450 | S.IC ISD8102SYI T&R | T | 21.7/35.4 |
| IC707 | 6910027810 | S.DC TPS561201DDCR | B | 51.4/41.1 |
| IC817 | 1110010140 | S.IC TLV9002IDGKR | B | 31.2/36.7 |
| IC818 | 1180004950 | S.REG XC6701B502MR-G | T | 7.4/29.0 |
| IC819 | 1110008890 | S.IC NJU7056F3-TE2-#ZZZH | T | 21.0/38.3 |
| IC820 | 1130007021 | S.IC TC7S66FU (TE85LF) | B | 52.8/32.2 |
| Q2 | 1590005410 | S.TRA DTC014YEBTL | B | 42.2/31.7 |
| Q4 | 1590005560 | S.TRA DTA014EEBTL | B | 40.2/31.3 |
| Q6 | 1530003322 | S.TRA 2SC5108-YLF | B | 37.6/8.0 |
| Q7 | 1560002420 | S.FET RD01MUS2B-T513 | B | 37.2/15.8 |
| Q8 | 1530003322 | S.TRA 2SC5108-YLF | B | 38.4/21.4 |
| Q9 | 1560002460 | S.FET RD08MUS2-T512 | B | 29.6/13.4 |
| Q10 | 1560002190 | S.FET RUM002N02T2L | B | 39.2/28.0 |
| Q400 | 1530002851 | S.TRA 2SC4116-BL (TE85RF) | B | 64.2/3.5 |
| Q401 | 1590005430 | S.TRA DTC044TEBTL | B | 90.2/32.4 |
| Q703 | 1590004220 | S.TRA DRA9123YOL | B | 21.6/45.8 |
| Q704 | 1590005410 | S.TRA DTC014YEBTL | T | 41.5/5.3 |
| Q705 | 1590005410 | S.TRA DTC014YEBTL | B | 18.1/41.4 |
| Q706 | 1590004590 | S.TRA DMC506010R | B | 14.5/42.1 |
| Q707 | 1520001010 | S.TRA 2SB1132G-1R-AB3-R | B | 10.1/41.3 |
| Q711 | 1590005410 | S.TRA DTC014YEBTL | B | 17.2/39.4 |
| Q712 | 1590005410 | S.TRA DTC014YEBTL | B | 73.1/38.1 |
| Q716 | 1590005410 | S.TRA DTC014YEBTL | B | 37.4/44.0 |
| Q717 | 1510001270 | S.TRA 2SAR502UBTL | B | 37.3/39.7 |
| Q718 | 1590005410 | S.TRA DTC014YEBTL | T | 35.5/36.2 |
| Q720 | 1510001270 | S.TRA 2SAR502UBTL | B | 31.9/37.1 |
| Q721 | 1590004230 | S.TRA LMUN5213BDW11T1G | B | 40.2/44.1 |
| Q722 | 1550000590 | S.FET UT6401G-AG6-R | T | 10.9/30.4 |
| Q723 | 1560002190 | S.FET RUM002N02T2L | B | 14.6/31.5 |
| D2 | 1750001810 | S.DIO L1SS400T1G | B | 40.4/25.8 |
| D3 | 1790001830 | S.VAR AVR-M1005C270MTAAB | B | 25.5/20.1 |
| D4 | 1720000701 | S.VAR 1SV305 (TPH3F) | B | 18.1/24.6 |
| D5 | 1720000701 | S.VAR 1SV305 (TPH3F) | B | 16.3/25.3 |
| D6 | 1750003940 | S.DIO RN142SMT2R | B | 15.3/15.1 |
| D7 | 1750003940 | S.DIO RN142SMT2R | B | 13.0/20.1 |
| D8 | 1750003940 | S.DIO RN142SMT2R | B | 13.0/21.3 |
| D9 | 1750003830 | S.DIO RB751CM-40T2R | B | 13.3/22.5 |
| D12 | 1750001810 | S.DIO L1SS400T1G | B | 74.4/5.4 |
| D13 | 1750003940 | S.DIO RN142SMT2R | B | 15.3/16.3 |
| D400 | 1750001810 | S.DIO L1SS400T1G | Only [#31] | B 94.7/28.1 |
| D401 | 1750001810 | S.DIO L1SS400T1G | Only [#12] | B 94.7/25.7 |
| D402 | 1750001810 | S.DIO L1SS400T1G | Only [#31] | B 94.7/24.5 |
| D404 | 1750001810 | S.DIO L1SS400T1G | Only [#31] | B 94.7/26.9 |
| D405 | 1750001810 | S.DIO L1SS400T1G | Only [#12] | T 57.3/46.9 |
| D407 | 1750001810 | S.DIO L1SS400T1G | Only [#31] | T 59.9/46.9 |
| D408 | 1750001810 | S.DIO L1SS400T1G | B | 94.7/29.3 |
| D409 | 1750001810 | S.DIO L1SS400T1G | B | 92.2/26.9 |
| D410 | 1750001810 | S.DIO L1SS400T1G | B | 92.2/24.5 |
| D411 | 1750001810 | S.DIO L1SS400T1G | B | 92.2/22.4 |
| D413 | 1750001820 | S.DIO LRB706F-40T1G | B | 92.8/31.9 |
| D700 | 1750003390 | S.ZEN RCLAMP1521P.TCT | T | 8.4/34.9 |
| D705 | 1750001810 | S.DIO L1SS400T1G | B | 36.6/36.8 |
| D706 | 1750001810 | S.DIO L1SS400T1G | B | 35.9/34.9 |
| D708 | 1750001810 | S.DIO L1SS400T1G | T | 16.6/38.1 |
| D711 | 1750003830 | S.DIO RB751CM-40T2R | B | 73.4/40.2 |
| D714 | 1750003830 | S.DIO RB751CM-40T2R | B | 72.0/39.7 |
| D717 | 1750001810 | S.DIO L1SS400T1G | B | 15.3/34.8 |
| X2 | 6050014880 | S.XTA CR-1079 (13 MHz) | B | 61.9/8.9 |
| X400 | 6050014200 | S.XTA CR-1021 (12.288 MHz) | B | 82.5/7.3 |
| L3 | 6200013820 | S.COI MLK1005S27NJT | B | 36.7/9.5 |
| L4 | 6200013830 | S.COI MLK1005S22NJT | B | 33.3/12.3 |
| L5 | 6200017370 | S.COI SDWL1608CR10GSTF 0.1U | B | 38.8/23.3 |
| L6 | 6200012540 | S.COI 0.30-1.2-5TR 16.1N | B | 22.7/16.1 |
| L7 | 6200013010 | S.COI 0.30-0.9-5TL 10.3N | B | 22.9/13.3 |
| L8 | 6200017390 | S.COI SDWL1608C47NJSTF 47N | B | 19.6/24.6 |
| L9 | 6200012390 | S.COI 0.30-0.9-3TR 5.8N | B | 20.4/13.2 |
| L10 | 6200012470 | S.COI 0.30-1.7-TTL 45.3N | B | 17.3/11.6 |
| L11 | 6200002861 | S.COI NLV25T-4RTJ-PF | T | 18.4/17.9 |
| L12 | 6200017390 | S.COI SDWL1608C47NJSTF 47N | B | 14.7/23.9 |
| L13 | 6200013820 | S.COI MLK1005S27NJT | B | 21.8/24.2 |
| L15 | 6200012470 | S.COI 0.30-1.7-TTL 45.3N | B | 9.8/17.0 |
| L16 | 6200012470 | S.COI 0.30-1.7-TTL 45.3N | B | 15.6/18.8 |
| L17 | 6200012780 | S.COI 0.30-1.4-6TL 27.2N | B | 9.0/13.6 |
| L19 | 6200003640 | S.COI MLF1608E 100K-T | B | 43.4/10.6 |
| L22 | 6200003550 | S.COI MLF1608A 4R7K-T | B | 62.0/11.6 |
| L702 | 6200017010 | S.COI VLS252012CX-100M-1 | B | 52.2/38.2 |
| L705 | 6200017010 | S.COI VLS252012CX-100M-1 | B | 46.4/39.7 |
| R1 | 7510001730 | S.THE ERTJ0EP473J | T | 22.0/6.6 |
| R2 | 7030014860 | S.RES RGC1/16SC104DTH (100 k) | T | 21.6/5.3 |
| R4 | 7030021060 | S.RES MCR25ZJHFL R150 (0.15) | B | 29.4/26.9 |

[MAIN UNIT]

| REF NO. | PART NO. | DESCRIPTION | M. | H/V LOCATION |
|---------|------------|--------------------------------|----|--------------|
| R8 | 7030015520 | S.RES RMC1/16JPTP | B | 65.4/9.2 |
| R10 | 7030016550 | S.RES RMC1/16SK154FTH (150 k) | B | 31.5/26.4 |
| R11 | 7030016560 | S.RES RMC1/16SJPTH | B | 61.5/10.5 |
| R12 | 7030016550 | S.RES RMC1/16SK154FTH (150 k) | B | 29.8/30.1 |
| R13 | 7030017370 | S.RES RGC1/16SC183DTH (18 k) | B | 31.5/28.0 |
| R14 | 7030015980 | S.RES RMC1/16S-333JTH (33 k) | B | 38.7/31.5 |
| R16 | 7030016030 | S.RES RMC1/16S-154JTH (150 k) | B | 36.7/31.8 |
| R17 | 7030015990 | S.RES RMC1/16S-683JTH (68 k) | B | 36.7/32.7 |
| R18 | 7030015960 | S.RES RMC1/16S-472JTH (4.7 k) | B | 76.5/4.4 |
| R19 | 7030015960 | S.RES RMC1/16S-472JTH (4.7 k) | B | 76.5/5.4 |
| R20 | 7030016740 | S.RES RMC1/16SK474DTH (470 k) | B | 31.6/30.1 |
| R21 | 7030016740 | S.RES RMC1/16SK474DTH (470 k) | B | 33.0/27.2 |
| R23 | 7030016360 | S.RES RMC1/16S-123JTH (12 k) | B | 33.0/25.6 |
| R24 | 7030015900 | S.RES RMC1/16S-470JTH (47 k) | B | 52.9/17.9 |
| R26 | 7030016030 | S.RES RMC1/16S-154JTH (150 k) | B | 37.7/30.0 |
| R27 | 7030016050 | S.RES RMC1/16S-102JTH (1 k) | B | 50.9/14.6 |
| R28 | 7030017370 | S.RES RGC1/16SC183DTH (18 k) | B | 30.7/30.1 |
| R30 | 7030016050 | S.RES RMC1/16S-102JTH (1 k) | B | 37.7/28.4 |
| R32 | 7030016120 | S.RES RMC1/16S-682JTH (6.8 k) | B | 40.9/27.7 |
| R33 | 7030016110 | S.RES RMC1/16S-473JTH (47 k) | B | 43.2/18.0 |
| R36 | 7030015910 | S.RES RMC1/16S-101JTH (100) | B | 39.5/9.1 |
| R37 | 7030016120 | S.RES RMC1/16S-682JTH (6.8 k) | B | 39.0/7.9 |
| R38 | 7030016150 | S.RES RMC1/16S-100JTH (10) | B | 35.8/7.2 |
| R41 | 7030016180 | S.RES RMC1/16S-680JTH (68) | B | 38.3/11.0 |
| R42 | 7030016510 | S.RES RMC1/16S-4R7JTH (4.7 k) | B | 38.2/12.3 |
| R44 | 7030015980 | S.RES RMC1/16S-333JTH (33 k) | B | 39.5/11.9 |
| R45 | 7030016250 | S.RES RMC1/16S-220JTH (22) | B | 38.5/24.6 |
| R46 | 7030015920 | S.RES RMC1/16S-221JTH (220) | B | 36.7/23.3 |
| R47 | 7030015910 | S.RES RMC1/16S-101JTH (100) | B | 36.4/21.7 |
| R48 | 7030016090 | S.RES RMC1/16S-223JTH (22 k) | B | 39.5/12.8 |
| R49 | 7030016390 | S.RES RMC1/16S-184JTH (180 k) | B | 37.8/19.9 |
| R50 | 7030016390 | S.RES RMC1/16S-184JTH (180 k) | B | 36.2/19.9 |
| R51 | 7030016250 | S.RES RMC1/16S-220JTH (22) | B | 32.1/9.3 |
| R52 | 7030015960 | S.RES RMC1/16S-472JTH (4.7 k) | B | 30.9/7.2 |
| R53 | 7030016000 | S.RES RMC1/16S-823JTH (82 k) | B | 30.9/8.1 |
| R55 | 7030016290 | S.RES RMC1/16S-222JTH (2.2 k) | B | 17.5/26.4 |
| R56 | 7030016050 | S.RES RMC1/16S-102JTH (1 k) | B | 17.1/27.6 |
| R57 | 7030016290 | S.RES RMC1/16S-222JTH (2.2 k) | B | 15.9/26.4 |
| R58 | 7030016370 | S.RES RMC1/16S-271JTH (270) | T | 18.8/21.1 |
| R59 | 7030016370 | S.RES RMC1/16S-271JTH (270) | T | 17.9/21.1 |
| R60 | 7030015990 | S.RES RMC1/16S-683JTH (68 k) | T | 14.6/9.0 |
| R67 | 7030016110 | S.RES RMC1/16S-473JTH (47 k) | B | 40.1/29.4 |
| R400 | 7030016290 | S.RES RMC1/16S-222JTH (2.2 k) | B | 64.6/5.3 |
| R401 | 7030016440 | S.RES RMC1/16S-272JTH (2.7 k) | B | 66.5/4.9 |
| R402 | 7030016110 | S.RES RMC1/16S-473JTH (47 k) | B | 92.7/19.8 |
| R403 | 7030016110 | S.RES RMC1/16S-473JTH (47 k) | B | 92.2/18.6 |
| R404 | 7030016050 | S.RES RMC1/16S-102JTH (1 k) | B | 91.2/18.0 |
| R405 | 7030016050 | S.RES RMC1/16S-102JTH (1 k) | B | 91.9/25.7 |
| R406 | 7030016050 | S.RES RMC1/16S-102JTH (1 k) | B | 92.6/23.5 |
| R407 | 7030016050 | S.RES RMC1/16S-102JTH (1 k) | B | 92.5/21.4 |
| R409 | 7030015970 | S.RES RMC1/16S-103JTH (10 k) | B | 90.1/15.8 |
| R410 | 7030015970 | S.RES RMC1/16S-103JTH (10 k) | B | 72.0/12.3 |
| R411 | 7030015970 | S.RES RMC1/16S-103JTH (10 k) | B | 70.0/13.3 |
| R412 | 7030015960 | S.RES RMC1/16S-472JTH (4.7 k) | B | 91.5/17.4 |
| R413 | 7030015960 | S.RES RMC1/16S-472JTH (4.7 k) | B | 92.4/17.4 |
| R416 | 7030015900 | S.RES RMC1/16S-470JTH (47) | B | 79.1/10.0 |
| R417 | 7030015900 | S.RES RMC1/16S-470JTH (47) | B | 78.2/10.0 |
| R421 | 7030016060 | S.RES RMC1/16S-105JTH (1 M) | B | 81.3/10.5 |
| R425 | 7030016110 | S.RES RMC1/16S-473JTH (47 k) | B | 89.4/6.9 |
| R426 | 7030016330 | S.RES RMC1/16S-153JTH (15 k) | B | 90.8/30.8 |
| R427 | 7030016830 | S.RES RGC1/16SC153DTH (15.0 k) | B | 92.3/30.0 |
| R428 | 7030016560 | S.RES RMC1/16SJPTH | B | 69.6/17.4 |
| R429 | 7030015970 | S.RES RMC1/16S-103JTH (10 k) | B | 73.5/7.9 |
| R430 | 7030016180 | S.RES RMC1/16S-680JTH (68) | B | 66.0/3.3 |
| R702 | 7030016500 | S.RES RMC1/16S-562JTH (5.6 k) | B | 29.9/33.9 |
| R703 | 7030016000 | S.RES RMC1/16S-823JTH (82 k) | B | 31.1/34.4 |
| R704 | 7030016110 | S.RES RMC1/16S-473JTH (47 k) | B | 33.4/34.5 |
| R705 | 7030016110 | S.RES RMC1/16S-473JTH (47 k) | B | 34.6/34.8 |
| R706 | 7030015930 | S.RES RMC1/16S-471JTH (470) | B | 23.1/45.6 |
| R708 | 7030015980 | S.RES RMC1/16S-333JTH (33 k) | B | 27.7/36.2 |
| R712 | 7030016190 | S.RES RMC1/16S-273JTH (27 k) | B | 21.4/44.2 |
| R713 | 7030016110 | S.RES RMC1/16S-473JTH (47 k) | B | 21.4/43.0 |
| R715 | 7030015980 | S.RES RMC1/16S-333JTH (33 k) | T | 37.1/2.1 |
| R716 | 7030015970 | S.RES RMC1/16S-103JTH (10 k) | B | 20.1/40.7 |
| R717 | 7030015970 | S.RES RMC1/16S-103JTH (10 k) | B | 24.1/40.7 |
| R720 | 7030016050 | S.RES RMC1/16S-102JTH (1 k) | B | 16.5/43.2 |
| R721 | 7030016110 | S.RES RMC1/16S-473JTH (47 k) | B | 15.3/44.1 |
| R723 | 7030015970 | S.RES RMC1/16S-103JTH (10 k) | B | 37.3/35.7 |
| R724 | 7030016020 | S.RES RMC1/16S-104JTH (100 k) | B | 37.7/34.5 |
| R725 | 7030016340 | S.RES RMC1/16S-393JTH (39 k) | T | 36.3/42.6 |
| R726 | 7030015980 | S.RES RMC1/16S-333JTH (33 k) | T | 40.9/35.4 |
| R727 | 7030016350 | S.RES RMC1/16S-122JTH (1.2 k) | T | 40.0/35.9 |
| R728 | 7030016050 | S.RES RMC1/16S-102JTH (1 k) | T | 40.0/34.3 |
| R729 | 7030015910 | S.RES RMC1/16S-101JTH (100) | T | 19.0/38.8 |
| R731 | 7030016050 | S.RES RMC1/16S-102JTH (1 k) | B | 16.5/41.6 |
| R732 | 7030015970 | S.RES RMC1/16S-103JTH (10 k) | T | 39.6/46.1 |
| R733 | 7030016030 | S.RES RMC1/16S-154JTH (150 k) | B | 34.8/37.4 |
| R734 | 7030016340 | S.RES RMC1/16S-393JTH (39 k) | T | 41.3/37.2 |
| R735 | 7030016050 | S.RES RMC1/16S-102JTH (1 k) | B | 36.1/37.8 |
| R738 | 7030016050 | S.RES RMC1/16S-102JTH (1 k) | B | 13.9/40.3 |
| R739 | 7030016330 | S.RES RMC1/16S-153JTH (15 k) | B | 15.5/40.3 |
| R740 | 7030016910 | S.RES RGC1/16SC393DTH (39 k) | T | 8.7/31.7 |
| R742 | 7030016330 | S.RES RMC1/16S-153JTH (15 | | |

[MAIN UNIT]

| REF NO. | PARTS NO. | DESCRIPTION | M. | H/V LOCATION |
|---------|------------|--------------------------------|----|--------------|
| R753 | 7030016020 | S.RES RMC1/16S-104JTH (100 k) | B | 17.7/37.4 |
| R759 | 7030015970 | S.RES RMC1/16S-103JTH (10 k) | B | 47.1/42.1 |
| R762 | 7030016810 | S.RES RGC1/16SC392DTH (3.90 k) | B | 50.9/43.5 |
| R763 | 7030017510 | S.RES RGC1/16SC272DTH (2.7 k) | B | 52.5/43.5 |
| R765 | 7030016050 | S.RES RMC1/16S-102JTH (1 k) | B | 25.8/40.8 |
| R767 | 7030016880 | S.RES RGC1/16SC223DTH (22.0 k) | B | 50.9/44.4 |
| R769 | 7030015910 | S.RES RMC1/16S-101JTH (100) | B | 37.0/45.7 |
| R771 | 7030016110 | S.RES RMC1/16S-473JTH (47 k) | B | 37.1/41.6 |
| R773 | 7030016050 | S.RES RMC1/16S-102JTH (1 k) | B | 37.1/42.5 |
| R780 | 7030016110 | S.RES RMC1/16S-473JTH (47 k) | T | 33.8/37.4 |
| R781 | 7030016050 | S.RES RMC1/16S-102JTH (1 k) | T | 35.0/37.7 |
| R784 | 7030015960 | S.RES RMC1/16S-472JTH (4.7 k) | B | 42.0/40.0 |
| R785 | 7030015950 | S.RES RMC1/16S-152JTH (1.5 k) | B | 41.5/42.4 |
| R786 | 7030016410 | S.RES RMC1/16S-561JTH (560) | B | 41.5/41.5 |
| R787 | 7030016020 | S.RES RMC1/16S-104JTH (100 k) | B | 41.1/40.0 |
| R788 | 7030015970 | S.RES RMC1/16S-103JTH (10 k) | T | 36.9/38.3 |
| R789 | 7030016040 | S.RES RMC1/16S-224JTH (220 k) | T | 37.9/37.1 |
| R790 | 7030016020 | S.RES RMC1/16S-104JTH (100 k) | T | 13.1/31.0 |
| R791 | 7030016020 | S.RES RMC1/16S-104JTH (100 k) | T | 14.0/31.0 |
| R795 | 7030016340 | S.RES RMC1/16S-393JTH (39 k) | T | 17.3/32.1 |
| R796 | 7030016000 | S.RES RMC1/16S-823JTH (82 k) | T | 17.8/30.9 |
| R797 | 7030016110 | S.RES RMC1/16S-473JTH (47 k) | T | 20.5/28.5 |
| R798 | 7030016110 | S.RES RMC1/16S-473JTH (47 k) | T | 22.1/28.5 |
| R799 | 7030016060 | S.RES RMC1/16S-105JTH (1 M) | B | 16.1/32.6 |
| R800 | 7030016060 | S.RES RMC1/16S-105JTH (1 M) | B | 16.3/31.4 |
| R801 | 7030015950 | S.RES RMC1/16S-152JTH (1.5 k) | B | 23.0/47.2 |
| R803 | 7030016410 | S.RES RMC1/16S-561JTH (560) | B | 31.1/33.5 |
| R804 | 7030015990 | S.RES RMC1/16S-683JTH (68 k) | T | 18.3/32.1 |
| R805 | 7030016020 | S.RES RMC1/16S-104JTH (100 k) | T | 20.2/32.1 |
| R806 | 7030016060 | S.RES RMC1/16S-105JTH (1 M) | B | 50.0/31.9 |
| R807 | 7030016060 | S.RES RMC1/16S-105JTH (1 M) | B | 50.9/32.6 |
| R808 | 7030016110 | S.RES RMC1/16S-473JTH (47 k) | B | 34.3/32.6 |
| C19 | 4030022140 | S.CER GRM033B31H102KA12D | B | 37.8/32.1 |
| C20 | 4030022100 | S.CER GRM0332C1H100JA01D | B | 32.8/26.4 |
| C22 | 4030022140 | S.CER GRM033B31H102KA12D | B | 50.2/19.5 |
| C23 | 4030022160 | S.CER GRM033B31A104KE84D | B | 36.3/27.1 |
| C24 | 4030022160 | S.CER GRM033B31A104KE84D | B | 50.8/19.5 |
| C25 | 4030022260 | S.CER GRM033R60J105MEA2D | T | 42.3/8.9 |
| C26 | 4030022160 | S.CER GRM033B31A104KE84D | B | 38.7/30.1 |
| C28 | 4030022160 | S.CER GRM033B31A104KE84D | B | 47.0/12.0 |
| C29 | 4030022140 | S.CER GRM033B31H102KA12D | B | 47.0/12.6 |
| C32 | 4030022160 | S.CER GRM033B31A104KE84D | B | 47.9/12.3 |
| C33 | 4030022160 | S.CER GRM033B31A104KE84D | B | 45.1/12.8 |
| C35 | 4030022140 | S.CER GRM033B31H102KA12D | B | 45.1/12.2 |
| C36 | 4030022260 | S.CER GRM033R60J105MEA2D | B | 39.3/26.7 |
| C37 | 4550007520 | S.TAN F931A106MAABMA | B | 44.6/8.9 |
| C38 | 4030025320 | S.CER GRM0332C1H151JA01D | B | 39.8/7.7 |
| C42 | 4030022140 | S.CER GRM033B31H102KA12D | B | 36.0/8.0 |
| C45 | 4030022140 | S.CER GRM033B31H102KA12D | B | 36.0/8.6 |
| C46 | 4030022080 | S.CER GRM0332C1H101JA01D | B | 37.9/9.8 |
| C47 | 4030022140 | S.CER GRM033B31H102KA12D | B | 39.7/11.0 |
| C49 | 4030022140 | S.CER GRM033B31H102KA12D | B | 36.6/22.5 |
| C52 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 39.8/20.2 |
| C53 | 4030022140 | S.CER GRM033B31H102KA12D | B | 34.3/11.8 |
| C54 | 4030022140 | S.CER GRM033B31H102KA12D | B | 36.6/20.9 |
| C57 | 4030022680 | S.CER 0402N150J500CT | B | 34.2/14.8 |
| C58 | 4030023090 | S.CER 0402B102K500CT | B | 24.7/17.0 |
| C59 | 4030022920 | S.CER 0402N820J500CT | B | 33.5/13.5 |
| C62 | 4030022740 | S.CER 0402N220J500CT | B | 20.9/24.2 |
| C64 | 4030022140 | S.CER GRM033B31H102KA12D | B | 31.1/8.9 |
| C65 | 4030023330 | S.CER 0603N4R0B500CT | B | 21.4/9.8 |
| C67 | 4030023720 | S.CER 0603N470J500CT | B | 22.6/9.8 |
| C68 | 4030022640 | S.CER 0402N101J500CT | B | 19.1/26.4 |
| C69 | 4030023520 | S.CER 0603N180J500CT | B | 20.2/8.9 |
| C71 | 4030022160 | S.CER GRM033B31A104KE84D | B | 16.1/27.8 |
| C73 | 4030023090 | S.CER 0402B102K500CT | B | 16.1/13.8 |
| C75 | 4030022560 | S.CER 0402N5R0B500CT | B | 16.8/23.8 |
| C76 | 4030023520 | S.CER 0603N180J500CT | B | 19.0/8.9 |
| C79 | 4030022140 | S.CER GRM033B31H102KA12D | T | 18.2/20.0 |
| C81 | 4030022740 | S.CER 0402N220J500CT | B | 16.1/9.0 |
| C82 | 4030022640 | S.CER 0402N101J500CT | B | 14.2/25.2 |
| C84 | 4030023090 | S.CER 0402B102K500CT | B | 13.3/16.3 |
| C86 | 4030022680 | S.CER 0402N150J500CT | B | 10.3/19.3 |
| C88 | 4030022520 | S.CER 0402N1R0B500CT | B | 9.1/18.9 |
| C89 | 4030022700 | S.CER 0402N180J500CT | B | 13.3/17.4 |
| C90 | 4030022630 | S.CER 0402N100C500CT | B | 15.0/21.6 |
| C93 | 4030022700 | S.CER 0402N180J500CT | B | 13.3/19.0 |
| C94 | 4030022660 | S.CER 0402N120J500CT | B | 7.3/14.2 |
| C95 | 4030022770 | S.CER 0402N270J500CT | B | 6.0/14.7 |
| C101 | 4030022590 | S.CER 0402N8R0C500CT | B | 7.3/12.6 |
| C109 | 4030022260 | S.CER GRM033R60J105MEA2D | B | 63.6/8.5 |
| C110 | 4030022260 | S.CER GRM033R60J105MEA2D | B | 64.4/8.5 |
| C113 | 4030022140 | S.CER GRM033B31H102KA12D | B | 61.2/12.8 |
| C114 | 4030022090 | S.CER GRM0332C1H330JA01D | B | 61.2/14.0 |
| C115 | 4030022160 | S.CER GRM033B31A104KE84D | B | 42.6/17.1 |
| C116 | 4030022140 | S.CER GRM033B31H102KA12D | B | 42.6/16.5 |
| C117 | 4030022160 | S.CER GRM033B31A104KE84D | B | 52.3/16.3 |
| C118 | 4030022140 | S.CER GRM033B31H102KA12D | B | 52.3/16.9 |
| C120 | 4030022530 | S.CER 0402N2R0B500CT | B | 43.5/14.8 |
| C122 | 4030022530 | S.CER 0402N2R0B500CT | B | 46.0/12.0 |
| C124 | 4030022530 | S.CER 0402N2R0B500CT | T | 40.7/16.2 |
| C405 | 4030022160 | S.CER GRM033B31A104KE84D | B | 71.8/19.6 |
| C408 | 4030025440 | S.CER GRM0332C1E271JA01D | B | 70.8/17.1 |
| C409 | 4030022160 | S.CER GRM033B31A104KE84D | B | 70.7/16.0 |
| C410 | 4030022160 | S.CER GRM033B31A104KE84D | B | 71.8/20.2 |
| C411 | 4030022160 | S.CER GRM033B31A104KE84D | B | 71.0/22.5 |
| C412 | 4030022160 | S.CER GRM033B31A104KE84D | B | 71.0/23.2 |
| C413 | 4030025350 | S.CER GRM0332C1H120JA01D | B | 80.3/7.8 |
| C414 | 4030022160 | S.CER GRM033B31A104KE84D | B | 70.4/15.1 |
| C415 | 4030022160 | S.CER GRM033B31A104KE84D | B | 71.0/26.5 |
| C416 | 4030025350 | S.CER GRM0332C1H120JA01D | B | 81.7/9.5 |
| C417 | 4030022260 | S.CER GRM033R60J105MEA2D | B | 76.8/9.7 |
| C418 | 4030022160 | S.CER GRM033B31A104KE84D | B | 76.8/10.3 |

Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

[MAIN UNIT]

| REF NO. | PARTS NO. | DESCRIPTION | M. | H/V LOCATION |
|---------|------------|---------------------------|----|--------------|
| C420 | 4030022260 | S.CER GRM033R60J105MEA2D | B | 77.3/10.9 |
| C421 | 4030022160 | S.CER GRM033B31A104KE84D | B | 77.3/11.5 |
| C425 | 4030025400 | S.CER GRM033R61A273KE84D | B | 77.1/8.7 |
| C426 | 4030022160 | S.CER GRM033B31A104KE84D | B | 87.6/29.1 |
| C427 | 4030022260 | S.CER GRM033R60J105MEA2D | B | 84.8/11.1 |
| C428 | 4030022160 | S.CER GRM033B31A104KE84D | B | 90.1/14.0 |
| C429 | 4550007520 | S.TAN F931A106MAABMA | B | 80.5/36.5 |
| C430 | 4030022140 | S.CER GRM033B31H102KA12D | B | 64.6/20.2 |
| C437 | 4030022140 | S.CER GRM033B31H102KA12D | B | 83.3/11.1 |
| C446 | 4030022140 | S.CER GRM033B31H102KA12D | B | 84.0/11.1 |
| C451 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 62.6/17.3 |
| C452 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 62.0/18.0 |
| C453 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 71.8/24.5 |
| C454 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 64.0/15.9 |
| C455 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 65.0/15.9 |
| C456 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 87.8/13.1 |
| C457 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 65.9/17.0 |
| C458 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 70.2/20.3 |
| C459 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 64.5/24.1 |
| C460 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 65.4/24.2 |
| C461 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 70.0/22.3 |
| C462 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 69.4/23.4 |
| C463 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 70.8/24.4 |
| C464 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 70.2/25.0 |
| C465 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 72.0/25.8 |
| C466 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 74.7/29.5 |
| C467 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 74.6/33.1 |
| C468 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 60.3/35.3 |
| C469 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 61.3/35.5 |
| C470 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 62.2/35.5 |
| C471 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 63.2/35.5 |
| C472 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 69.0/35.3 |
| C473 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 62.7/37.2 |
| C474 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 62.0/37.8 |
| C475 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 77.4/36.4 |
| C477 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 85.5/33.7 |
| C700 | 4030022260 | S.CER GRM033R60J105MEA2D | B | 24.5/47.1 |
| C702 | 4030022960 | S.CER 0402B333K100CT | B | 32.0/32.5 |
| C703 | 4030022260 | S.CER GRM033R60J105MEA2D | B | 32.3/33.7 |
| C707 | 4030022260 | S.CER GRM033R60J105MEA2D | B | 34.5/34.0 |
| C708 | 4030023190 | S.CER 0402B392K500CT | B | 26.8/36.2 |
| C710 | 4030022160 | S.CER GRM033B31A104KE84D | B | 22.2/43.2 |
| C711 | 4030022260 | S.CER GRM033R60J105MEA2D | B | 25.6/34.7 |
| C724 | 4030022260 | S.CER GRM033R60J105MEA2D | T | 37.0/1.3 |
| C726 | 4030022160 | S.CER GRM033B31A104KE84D | B | 20.3/44.2 |
| C731 | 4030022260 | S.CER GRM033R60J105MEA2D | B | 36.9/34.4 |
| C734 | 4030022160 | S.CER GRM033B31A104KE84D | T | 38.8/46.0 |
| C735 | 4030022260 | S.CER GRM033R60J105MEA2D | B | 14.4/43.9 |
| C738 | 4030022260 | S.CER GRM033R60J105MEA2D | T | 40.4/46.0 |
| C740 | 4030022260 | S.CER GRM033R60J105MEA2D | B | 34.9/36.2 |
| C741 | 4030025440 | S.CER GRM0332C1E271JA01D | T | 41.2/36.4 |
| C742 | 4030022150 | S.CER GRM033B31E103KA12D | B | 14.1/39.5 |
| C744 | 4030022950 | S.CER 0402B273K100CT | T | 17.5/33.7 |
| C745 | 4030022260 | S.CER GRM033R60J105MEA2D | T | 32.9/37.3 |
| C747 | 4030022260 | S.CER GRM033R60J105MEA2D | T | 42.4/37.5 |
| C748 | 4030022260 | S.CER GRM033R60J105MEA2D | B | 37.5/37.8 |
| C749 | 4030022260 | S.CER GRM033R60J105MEA2D | T | 17.7/37.4 |
| C750 | 4030022160 | S.CER GRM033B31A104KE84D | B | 38.7/37.1 |
| C752 | 4030022160 | S.CER GRM033B31A104KE84D | B | 38.4/36.0 |
| C753 | 4030022160 | S.CER GRM033B31A104KE84D | T | 17.1/34.8 |
| C755 | 4030022160 | S.CER GRM033B31A104KE84D | B | 16.8/38.0 |
| C756 | 4030022160 | S.CER GRM033B31A104KE84D | B | 47.0/41.3 |
| C759 | 4550008220 | S.TAN F931C106MAA | B | 10.2/44.8 |
| C760 | 4030022205 | S.CER GRM21BR61C226MEA44L | B | 48.8/41.0 |
| C767 | 4520000020 | S.NIO NOJC227M06RJVJ | T | 27.6/35.2 |
| C768 | 4030022260 | S.CER GRM033R60J105MEA2D | T | 7.4/26.9 |
| C769 | 4030022160 | S.CER GRM033B31A104KE84D | B | 50.1/38.7 |
| C772 | 4030022140 | S.CER GRM033B31H102KA12D | B | 27.2/40.9 |
| C774 | 4030022120 | S.CER GRM0332C1H470JA01D | B | 26.6/40.9 |
| C777 | 4030022205 | S.CER GRM21BR61C226MEA44L | B | 54.8/41.1 |
| C792 | 4030025230 | S.CER TMK107BJ105KAHT | T | 7.0/31.4 |
| Eqv. | 4030025510 | S.CER CL10B105KA8NNPC | | |

[MAIN UNIT]

| REF NO. | PARTS NO. | DESCRIPTION | | M. | H/V LOCATION |
|---------|------------|-------------|-------------------------|----|--------------|
| S400 | 2250001090 | ENC | ED08902OFK150S070C-2015 | | |
| S401 | 2260003490 | S.SWI | TAFG-12W-QR | B | 17.4/1.9 |
| EP1 | 8930101610 | LCD | SRCN-4066-SP-N-W (SHJ) | | |
| EP3 | 6910018460 | S.BEA | MMZ1005Y102C-T | B | 33.3/9.5 |
| EP4 | 6910014690 | S.BEA | MPZ1608S221A-T | B | 24.5/20.0 |
| EP400 | 6910021240 | S.BEA | MMZ1005A152ET | B | 78.9/38.3 |
| EP700 | 6910018460 | S.BEA | MMZ1005Y102C-T | B | 24.0/45.6 |
| EP701 | 6910018460 | S.BEA | MMZ1005Y102C-T | B | 18.7/45.5 |
| EP702 | 6910019900 | S.BEA | MPZ1608S601AT | B | 26.6/42.1 |
| EP703 | 6910016330 | S.BEA | MMZ1005S 601CT-S | B | 38.3/42.0 |

Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

M.= Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)
H/V LOCATION=See the BOARD LAYOUTS for details.

SECTION 6

MECHANICAL PARTS

[CHASSIS UNIT]

| REF NO. | PART NO. | DESCRIPTION | QTY. |
|---------|------------|--------------------------------------|---------|
| J1 | 6510032950 | BNC-R4066 | 1 |
| MP1 | 8010021713 | 3285 CHASSIS-3 | 1 |
| MP2 | 8930079900 | 3285 TERMINAL HOLDER | 1 |
| MP5 | 8930080400 | 3285 MINUS TERMINAL | 1 |
| MP9 | 8830003390 | VR NUT (AB) | 1 |
| MP10 | 8610014170 | KNOB N-391 | 1 |
| MP11 | 8930080280 | 3254 TOP SEAL | 1 |
| MP12 | 8810009511 | PH BT M2×4 NI-ZC3 (3.6-4.0) | 9 |
| MP13 | 8810009511 | PH BT M2×4 NI-ZC3 (3.6-4.0) | 1 |
| MP15 | 8810008761 | PH BT M2×8 NI-ZC3 | 2 |
| MP16 | 8210034560 | 4066 FRONT PANEL ASSEMBLY | [#11] 1 |
| | 8210034560 | 4066 FRONT PANEL ASSEMBLY | [#12] 1 |
| | 8210034560 | 4066 FRONT PANEL ASSEMBLY | [#13] 1 |
| | 8210034550 | 4066 FRONT PANEL ASSEMBLY (A) | [#31] 1 |
| MP21 | 8930101250 | 4066 SIDE SEAL (KOB) | 1 |
| MP22 | 8930101260 | 4066 SIDE PLATE | 1 |
| MP24 | 8930101210 | THERMAL SHEET DT TC-200CAT-20 (8×12) | 1 |
| MP26 | 8830004670 | STEP NUT (Q) | 1 |
| MP28 | 8850003421 | SEALING WASHER (AA)-1 (TOT) | 1 |
| MP30 | 8930100760 | 3620 MIC RUBBER (KOB) | 1 |
| MP33 | 8930080100 | 3285 PLUS TERMINAL | 1 |

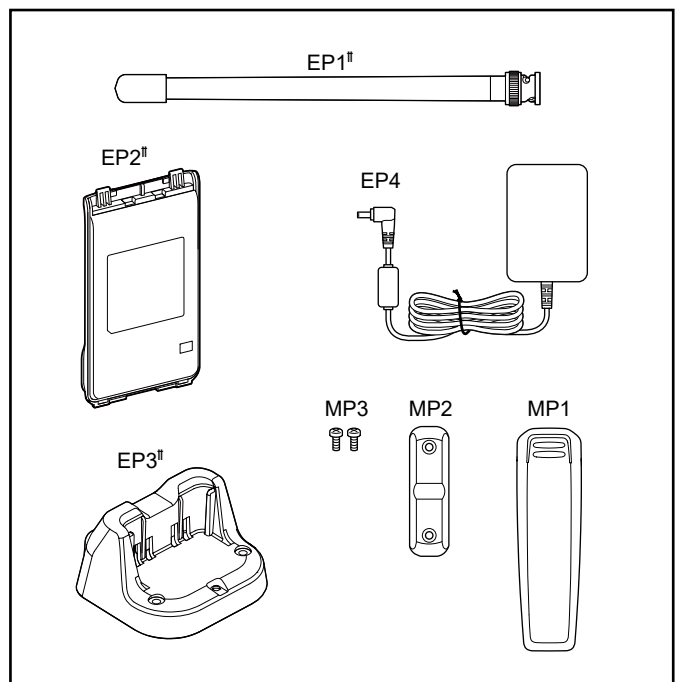
[MAIN UNIT]

| REF NO. | PART NO. | DESCRIPTION | QTY. |
|---------|------------|-------------------------|------|
| DS400 | 5030004550 | GP11538A6 | 1 |
| MC700* | 7700003280 | SPU0410HR5H-PB-7 | 1 |
| S400 | 2250001090 | ED08902OFK150S070C-2015 | 1 |
| S401* | 2260003490 | TAFG-12W-QR | 1 |
| EP1 | 8930101610 | SRCN-4066-SP-N-W (SHJ) | 1 |
| MP1* | 8510022740 | 4066 VCO CASE | 1 |
| MP4* | 8930101081 | 3620 SP SPRING-1 | 1 |
| MP5* | 8930100370 | 4066 ANT SPRING | 1 |
| MP6* | 8410003170 | 4066 PA HEATSINK | 1 |
| MP7 | 8210034210 | 4066 REFLECTOR | 1 |
| MP8 | 8930101200 | 4066 LCD HOLDER | 1 |
| MP9 | 8930080260 | 3254 WHITE SHEET | 1 |

[ACCESSORIES]

| REF NO. | PARTS NO. | DESCRIPTION | QTY. |
|---------|------------|-------------------|---------|
| EP1 | - | FA-B57V† | [#11] 1 |
| | - | FA-B45V† | [#12] 1 |
| | - | FA-B57V† | [#13] 1 |
| | - | FA-B45V† | [#31] 1 |
| EP2 | - | BP-298† | [#11] 1 |
| | - | BP-298† | [#12] 1 |
| | - | BP-264† | [#13] 1 |
| | - | BP-298† | [#31] 1 |
| EP3 | - | BC-240† | [#11] 1 |
| | - | BC-240† | [#12] 1 |
| | - | BC-192† | [#13] 1 |
| | - | BC-240† | [#31] 1 |
| EP4 | - | BC-242† | 1 |
| MP1 | - | MB-124† | 1 |
| MP2 | 8210025841 | 3285 JACK PANEL-1 | 1 |
| MP3 | 8810004861 | PH M2×6 ZK3 | 2 |

† Sold as an option.

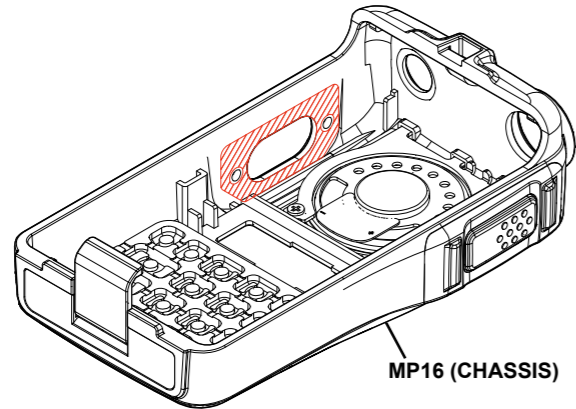


‡ The shape will differ depending on the transceiver version.

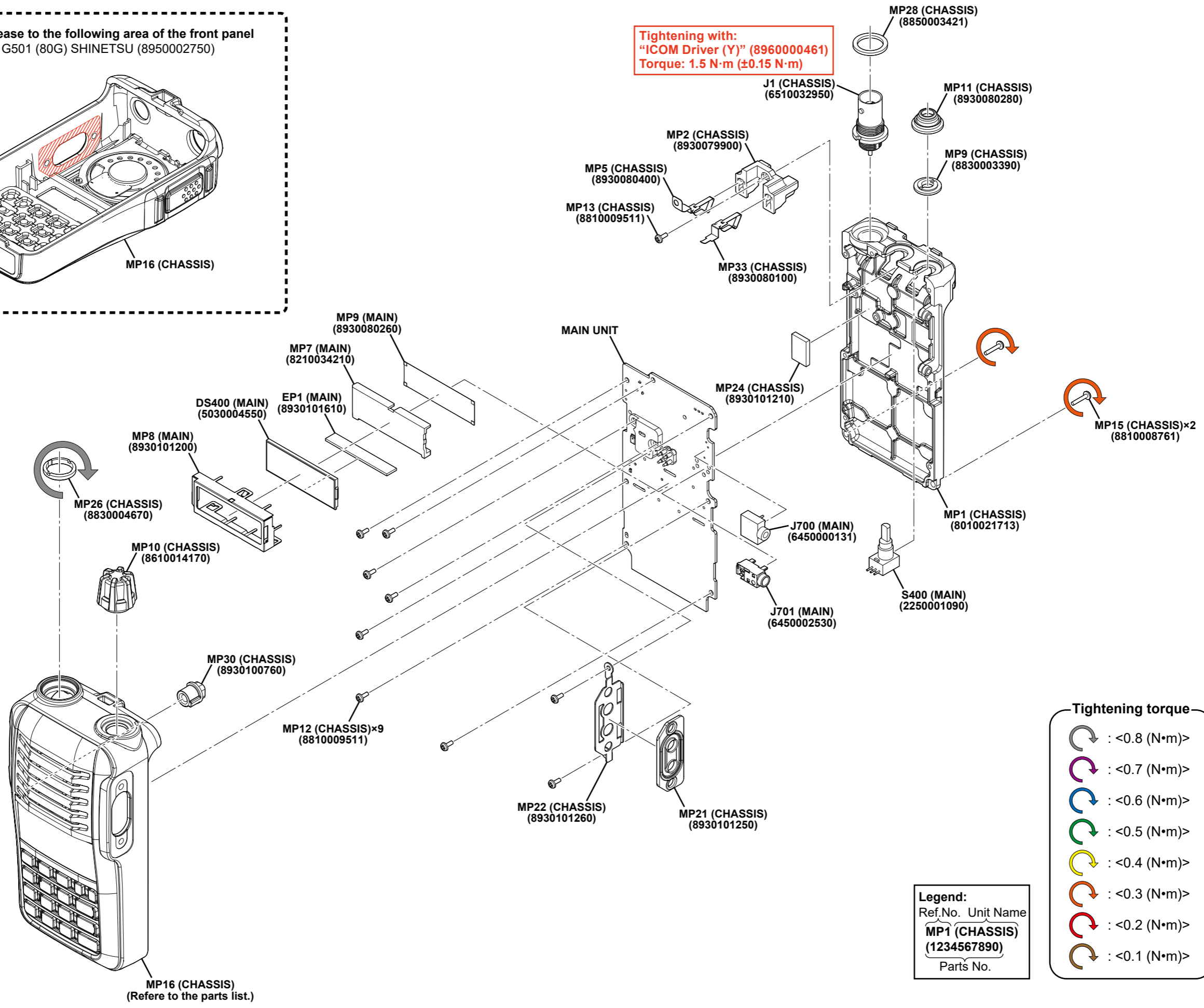
*: Refer to "BOARD LAYOUTS" for the location.

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

Apply the grease to the following area of the front panel
Used grease: G501 (80G) SHINETSU (8950002750)



Tightening with:
"ICOM Driver (Y)" (8960000461)
Torque: 1.5 N·m (±0.15 N·m)



MP16 (CHASSIS)
(Refere to the parts list.)

Legend:

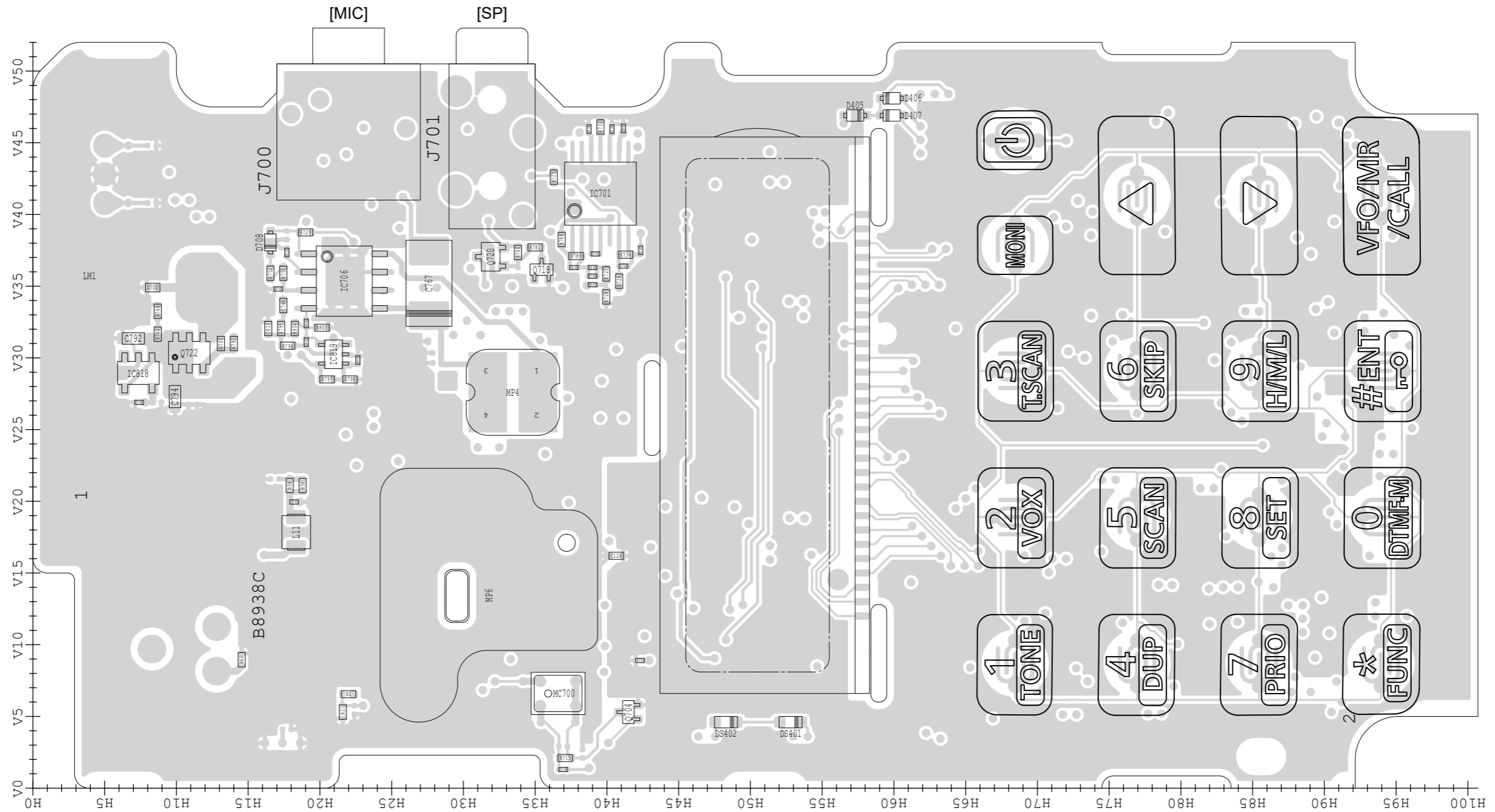
| Ref.No. | Unit Name |
|---------------|--------------|
| MP1 (CHASSIS) | (1234567890) |
| Parts No. | |

Tightening torque

| | |
|--|---------------|
| | : <0.8 (N·m)> |
| | : <0.7 (N·m)> |
| | : <0.6 (N·m)> |
| | : <0.5 (N·m)> |
| | : <0.4 (N·m)> |
| | : <0.3 (N·m)> |
| | : <0.2 (N·m)> |
| | : <0.1 (N·m)> |

The actual configuration of the PC board can be seen by viewing the top and bottom BOARD LAYOUT pages together.

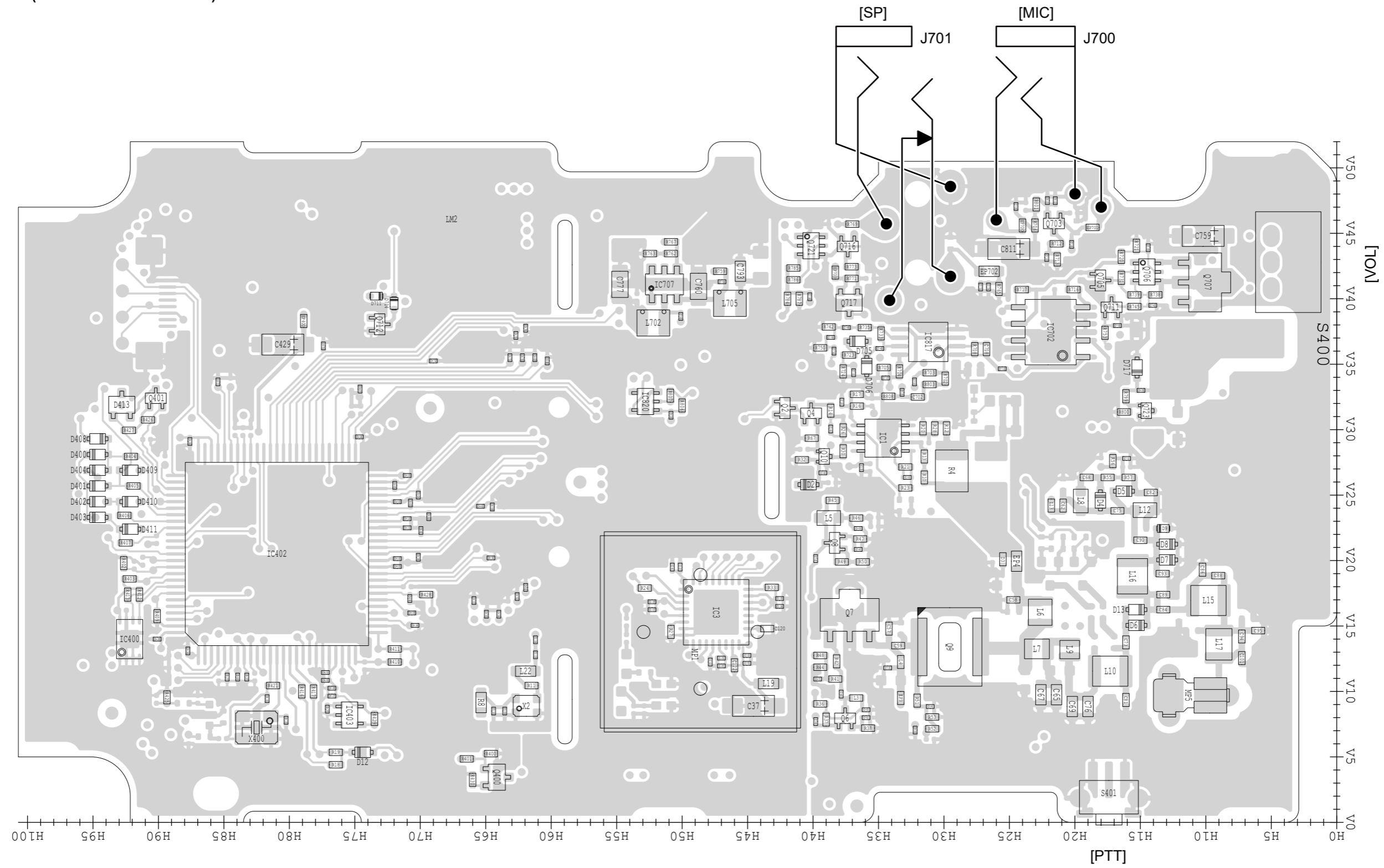
• MAIN UNIT (B-8938C: TOP VIEW)



See the PARTS LIST H/V location on the PARTS LIST for location details.

The actual configuration of the PC board can be seen by viewing the top and bottom BOARD LAYOUT pages together.

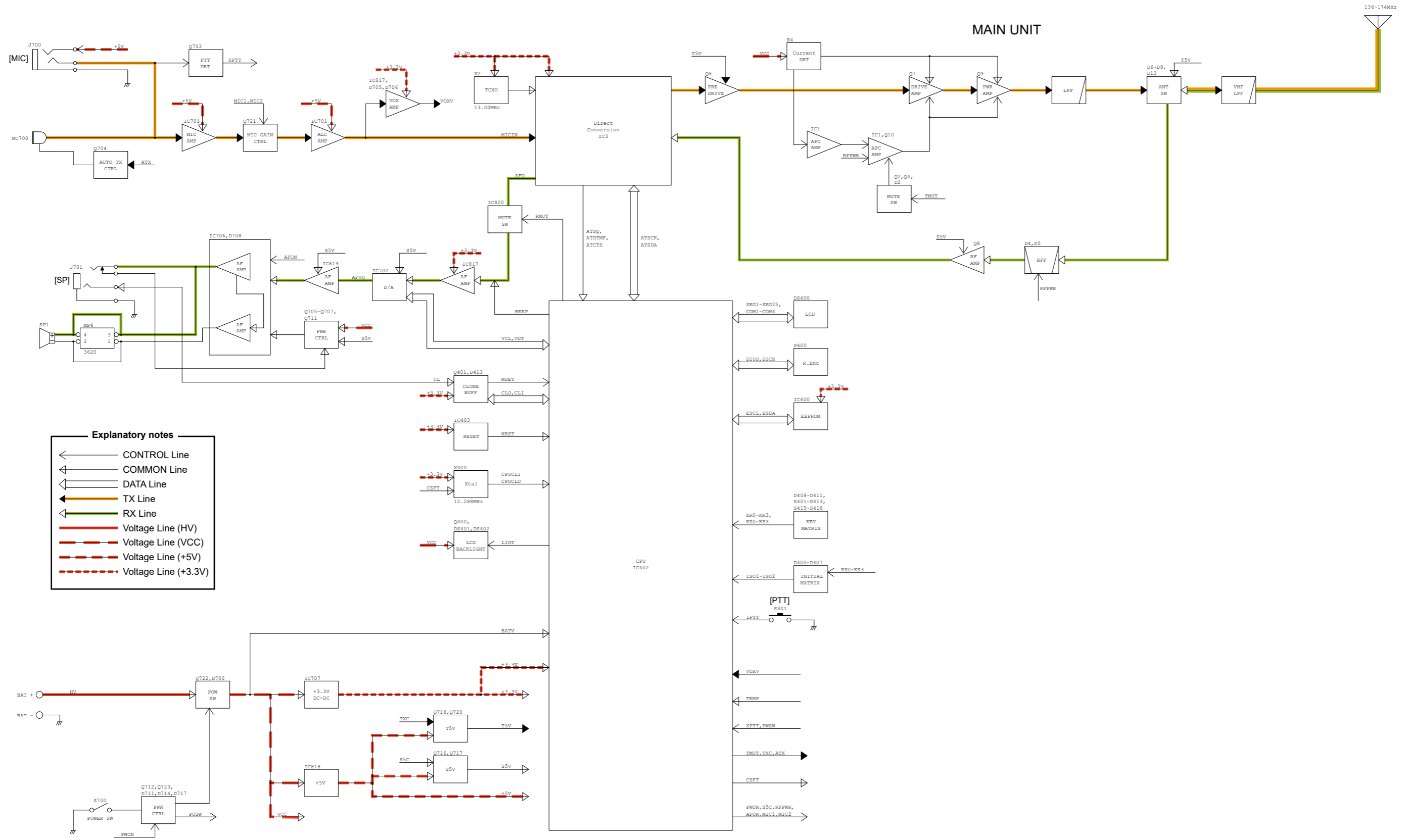
• MAIN UNIT (B-8938C: BOTTOM VIEW)



See the PARTS LIST H/V location on the PARTS LIST for location details.

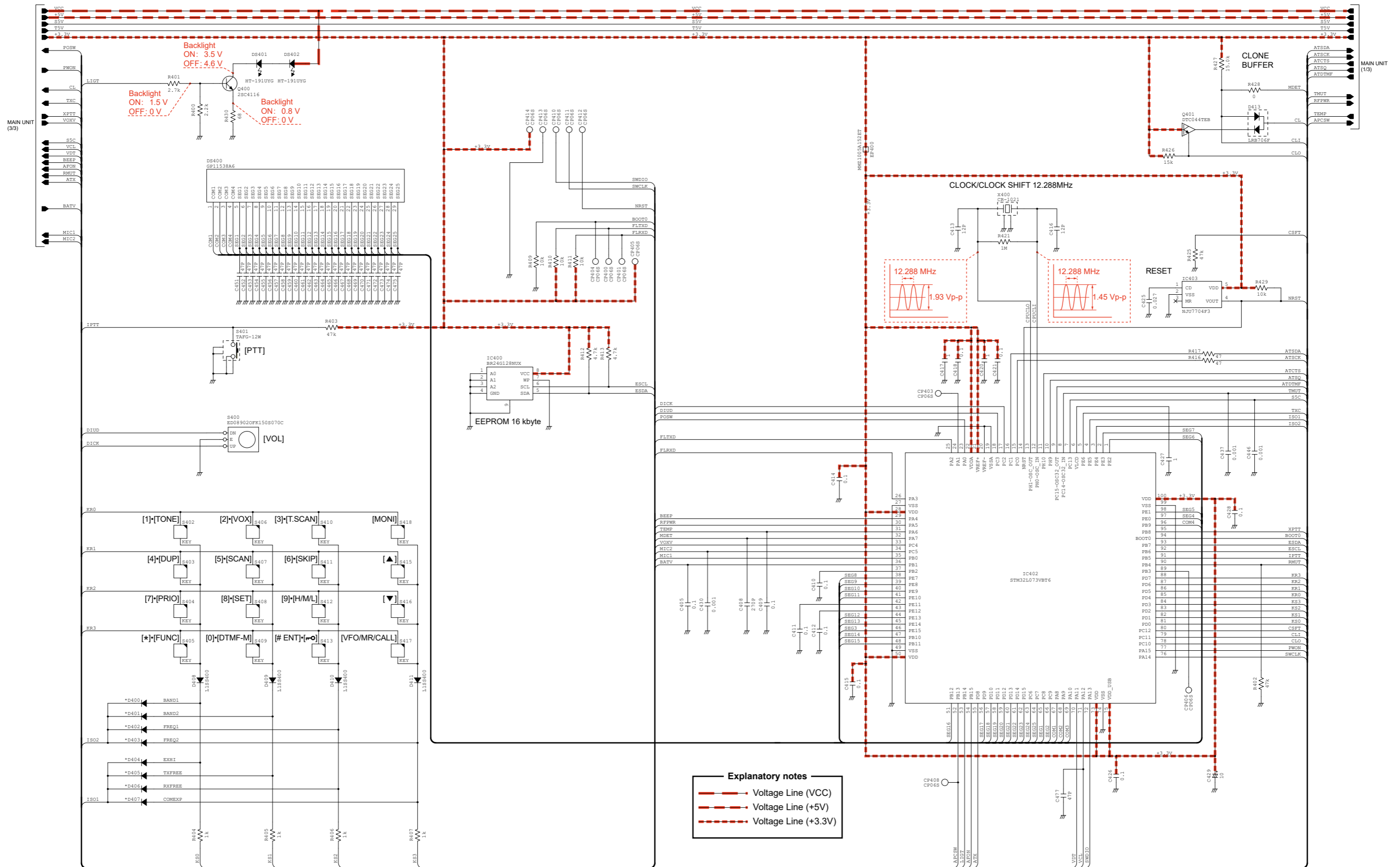
SECTION 8

BLOCK DIAGRAM



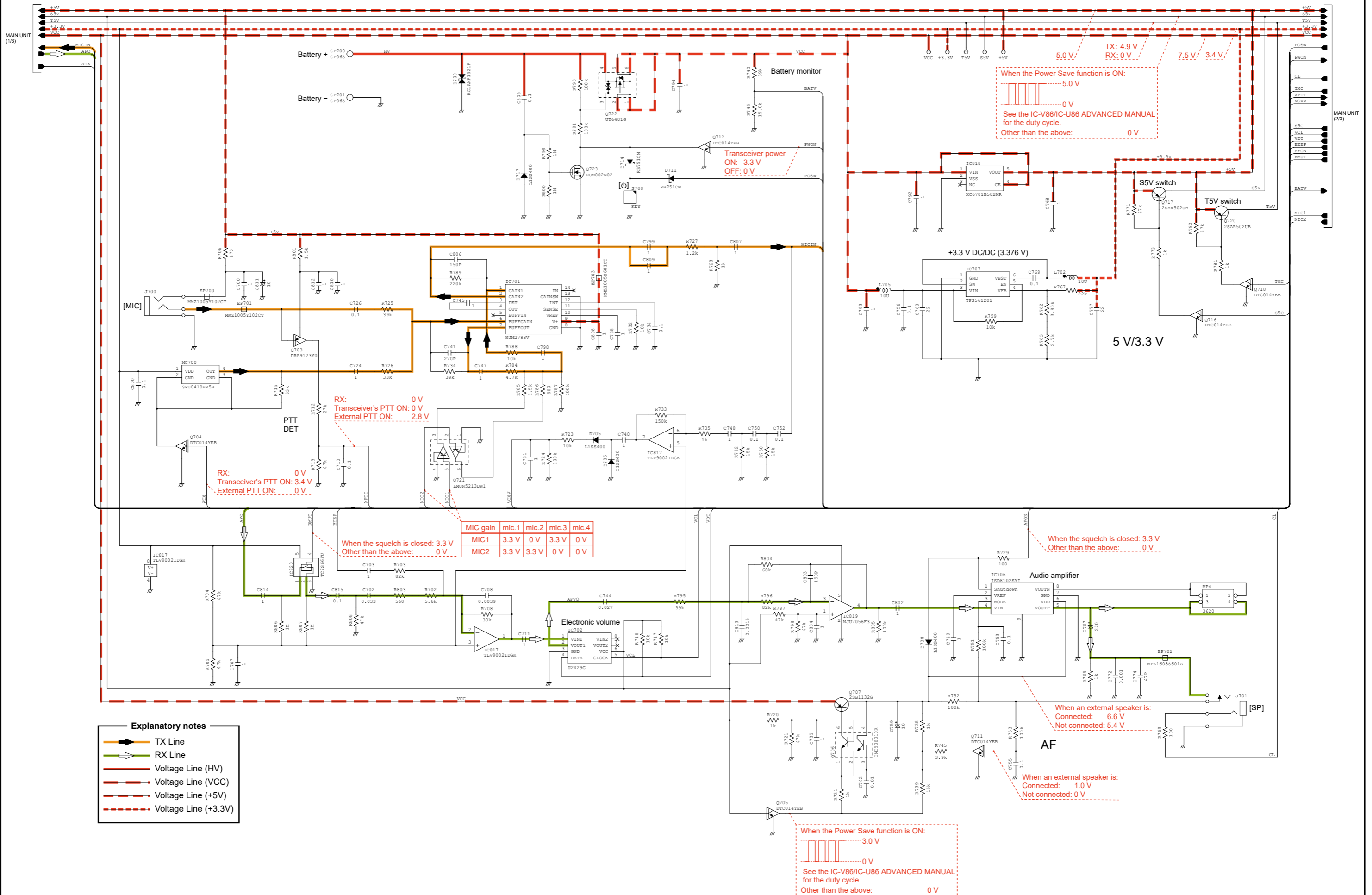
- Explanatory notes**
- ← CONTROL Line
 - ◀ COMMON Line
 - ▶ DATA Line
 - TX Line
 - ← RX Line
 - Voltage Line (HV)
 - - - Voltage Line (VCC)
 - - - Voltage Line (+5V)
 - - - Voltage Line (+3.3V)

• MAIN UNIT (2/3)



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

• MAIN UNIT (3/3)



- Explanatory notes**
- TX Line
 - ← RX Line
 - Voltage Line (HV)
 - Voltage Line (VCC)
 - Voltage Line (+5V)
 - Voltage Line (+3.3V)

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

If you have any inquiries regarding service, contact your distributor. The contact number or E-mail address of your distributor can be found on our website.

<https://www.icomjapan.com/>

Count on us!