# OICOM

# SERVICE MANUAL

HF/VHF	TRANSCEIVER
IC-	-706

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# INTRODUCTION

This service manual describes the latest service information for the IC-706 HF/VHF TRANSCEIVER at the time of publication.

VERSION NO.	VERSION	SYMBOL
#02	Europe	EUR
#03	France	FRA
#04	Denmark	DEN
#05	U.S.A.	USA

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

# DANGER

**NEVER** connect the transceiver to an AC outlet or to a DC power supply that uses more than 16 V. This will ruin the transceiver.

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

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

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



### ORDERING PARTS

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

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

#### <SAMPLE ORDER>

1110004080 S.IC μPC2709T-E3 IC-706 MAIN UNIT 5 pieces 8810008960 Screw OH M2.6 x 5 ZK IC-706 Top cover 10 pieces

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

### REPAIR NOTES

- Make sure a problem is internal before disassembling the transceiver.
- DO NOT open the transceiver until the transceiver is disconnected from its power source.
- DO NOT force any of the variable components. Turn them slowly and smoothly.
- DO NOT short any circuits or electronic parts. An insulated tuning tool MUST be used for all adjustments.
- DO NOT keep power ON for a long time when the transceiver is defective.
- DO NOT transmit power into a signal generator or a sweep generator.
- ALWAYS connect a 50 dB to 60 dB attenuator between the transceiver and a deviation meter or spectrum analyzer when using such test equipment.
- READ the instructions of test equipment thoroughly before connecting equipment to the transceiver.

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### SECTION 1 SPECIFICATIONS

#### **GENERAL** • Frequency coverage: Receive 30 kHz-200 MHz Range restricted in some versions Specifications guaranteed: 500 kHz-4.00 MHz 4.50 MHz-8.00 MHz 9.0 MHz-29.955 MHz 50 MHz-54 MHz 144 MHz-148 MHz Transmit 1.800-1.99999 MHz\*1 3.500-3.9999 MHz\*2 7.000-7.300 MHz\*3 10.100-10.150 MHz 14.000-14.350 MHz 18.068-18.168 MHz 21.000-21.450 MHz 24.890-24.990 MHz 28.000-29.700 MHz 50.000-50.400 MHz\*4 144.000-148.000 MHz\*5 \*1 1.810-1.850 MHz France version \*2 3.500-3.800 MHz France version \*3 7.000-7.100 MHz France version \*4 5.000-5.200 MHz Denmark version \*5 144.000-146.000 MHz all European versions : SSB, CW, AM, FM, WFM, RTTY Mode (WFM is for receiver only) • Number of memory: 102 (split memory: 99; scan edge: 2; channels call channel: 1) Antenna impedance : 50 Ω nominal • Usable temperature : -10°C to +60°C (+14°F to +140°F) • Frequency stability : Less than ±0.0007% from 1 min. to 60 min. after power ON. After that, rate of stability change is less than ±0.0001%/hr. at +25°C (+77°F). Temperature fluctuations (0°C to +50°C; +32°F to +122°F) less than ±0.0005%. : 13.8 V DC ± 15% (20 A) Power supply requirement Current drain : Transmit 20 A Receiver squelched 1.7 A (at 13.8 V DC) max. audio 1.9 A : $167(W) \times 200(D) \times 58(H) \text{ mm}$ Dimensions $6^{9}/16(W) \times 7^{7}/8(D) \times 2^{9}/32(H)$ in (projections not included) Weight : 2.5 kg (5.5 lb) **TRANSMITTER** Output power HF, 50 MHz SSB, CW, FM, RTTY 5-100 W

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• Receive system

SSB, CW, AM, RTTY, Double-conversion superheterodyne

WFM

FM Triple-conversion superheterodyne

• Intermediate frequencies:

MODE	1st	2nd	3rd
SSB	69.0115 MHz	9.0115 MHz	_
AM	69.0100 MHz	9.0100 MHz	_
CW	69.0106 MHz	9.0106 MHz	_
FM	69.0115 MHz	9.0115 MHz	455 kHz
RTTY	69.0105 MHz	9.0105 MHz	_
WFM	70.7000 MHz	10.0115 MHz	_

Sensitivity (preamp ON):

SSB, CW 1.8–29.9950 MHz\* (for 10 dB S/N) Less than 0.16  $\mu$ V

50-54 MHz

Less than 0.16 μV 144–148 MHz Less than 0.16 μV

AM 0.5–1.8 MHz

(for 10 dB S/N) Less than 31.6  $\mu$ V

1.8–29.9950 MHz\* Less than 2.0 μV 50–54 MHz Less than 2.0 μV 144–148 MHz Less than 2.0 μV

FM 28.0–29.7 MHz (for 12 dB SINAD) Less than 0.5  $\mu$ V

50-54 MHz

Less than 0.3 μV 144–148 MHz Less than 0.3 μV 76–108 MHz

(for 12 dB SINAD) Less than 10.0 μV

\*Some frequency ranges outside of the ham bands are not guaranteed.

• Squelch sensitivity (preamp ON) :

SSB Less than 5.6 μV at threshold FM Less than 0.5 μV at threshold

• Selectivity (normal filter selection):

SSB, CW, RTTY More than 2.3 kHz/-6 dB

Less than 4.0 kHz/-60 dB More than 6.0 kHz/-6 dB Less than 20.0 kHz/-40 dB More than 12.0 kHz/-6 dB Less than 30.0 kHz/-50 dB row More than 8.0 kHz/-6 dB

FM narrow More than 8.0 kHz/–6 dB

• Spurious and image: More than 70 dB (HF bands only)

rejection ratio

ΑM

FΜ

WFM

• Audio output power : More than 2.0 W

(at 10% distortionwith an 8  $\Omega$  load)

• RIT variable range : ±1.0 kHz max.

The variable range . ±1.0 kHz max.

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2-40 W

1-10 W

1-4 W

SSB, CW, FM, RTTY

Less than -50 dB

Less than -60 dB

Less than -60 dB

AM

:  $600 \Omega$ 

144 MHz

• Spurious emissions :

50 MHz

144 MHz

Carrier suppression: More than 40 dB
Unwanted sideband: More than 50 dB

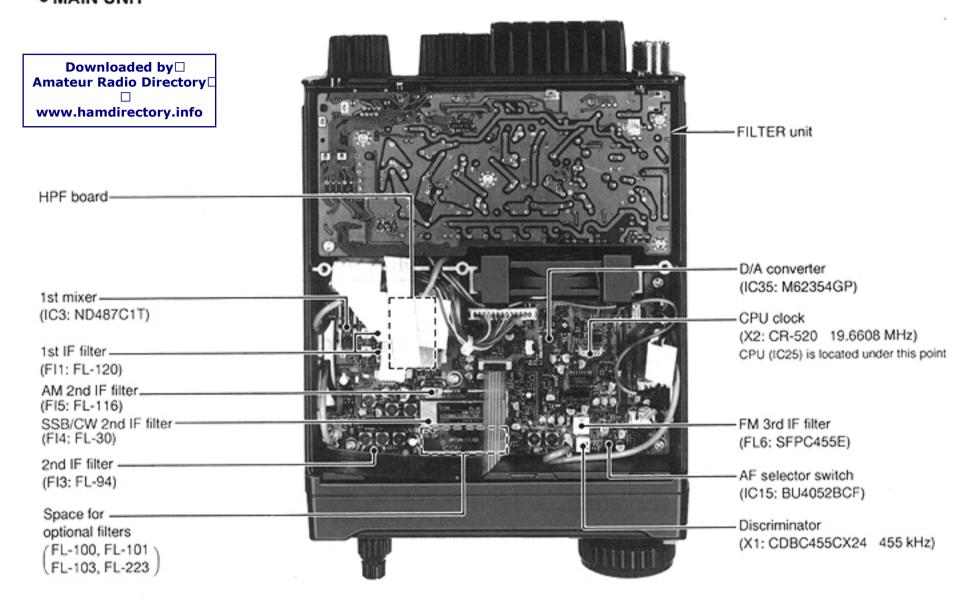
HF

• Microphone

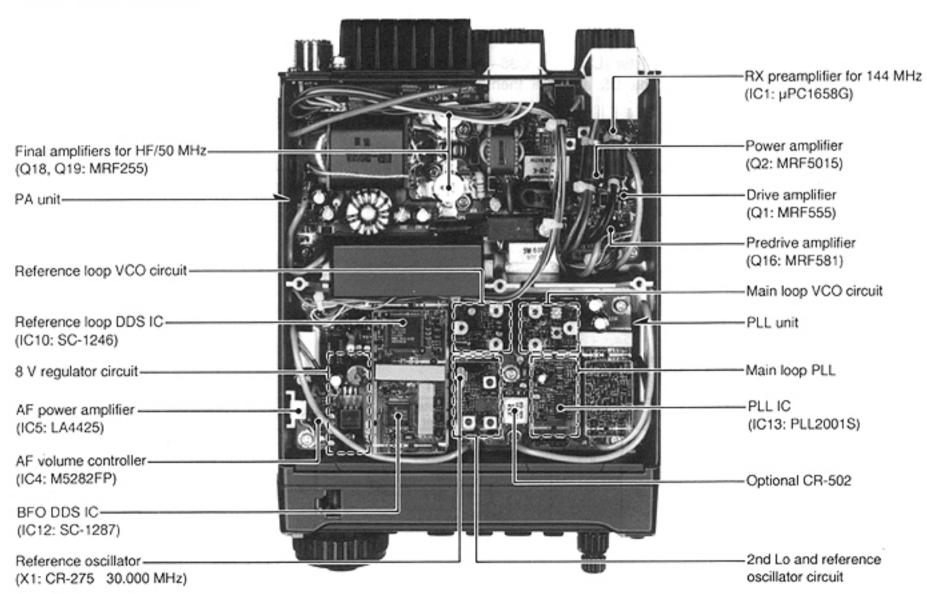
impedance

# SECTION 2 INSIDE VIEWS

### MAIN UNIT



### PA AND PLL UNITS



### SECTION 3 CIRCUIT DESCRIPTION

#### 3-1 RECEIVER CIRCUITS

# 3-1-1 HF/50 MHz RF CIRCUIT (FILTER AND MAIN UNITS, HPF BOARD)

HF/50 MHz RF filters pass only the desired band signals and suppress any undesired band signals. The HF/50 MHz RF circuit has 7 low-pass filters and 6 high-pass filters for specified band use.

HF/50 MHz RF signals from the [ANT1] connector, pass through one of 7 low-pass filters as below, the transmit/receive switching relay (RL1) and low-pass filter (L1, L2, C1-C5), and are then applied to the MAIN unit via P1 (MAIN unit J1).

#### Used RF low-pass filter (FILTER unit)

Band	Control signal	Input relay	Band	Control signal	Input relay
0.03-2 MHz	L1	RL15	1522 MHz	L5	RL11
2-4 MHz	L2	RL13	22-30 MHz	L6	RL7
4-8 MHz	L3	RL5	30-60 MHz	L7	RL3
8-15 MHz	L4	RL9			

The signals from the FILTER unit are applied to or bypass the 20 dB attenuator (R3, R4, Q1, D1). The signals pass through the high-pass filter (L3–L7, C3–C7, R5–R7) to suppress strong signals below 1.6 MHz and are then applied to the HPF board via the "TOAT" terminal.

#### (1) 0.03-2 MHz and 30-40 MHz

The signals pass through a low-pass filter (L23, L24, C38–C42), bypass the high-pass filters via D5 and are then applied to the preamplifier circuit.

#### (2) 2-30 MHz

The signals pass through the low-pass filter (L23, L24, C38-C42). The filtered signals are applied to one of 5 high-pass filters as at right above and are then applied to the preamplifier circuit.

#### (3) 40-60 MHz

The signals pass through the high-pass filter (L29–L31, C47–C51) via D12 and are then applied to the preamplifier circuit.

Used RF high-pass filter (HPF board)

Band	Control signal	Input diode	Band	Control signal	Input diode
0.03-2 MHz	TH	D5	15–22 MHz	H5	D21
2-4 MHz	H2	D16	22-30 MHz	Н6	D7
4-8 MHz	НЗ	D20	30-40 MHz	TH	D5
8–15 MHz	H4	D17	40-60 MHz	BV, T8	D12

#### 3-1-2 VHF RF CIRCUIT (PA UNIT)

VHF RF bandpass filters pass only the desired band signals and suppress any undesired band signals. The VHF RF circuit has 2 bandpass filters.

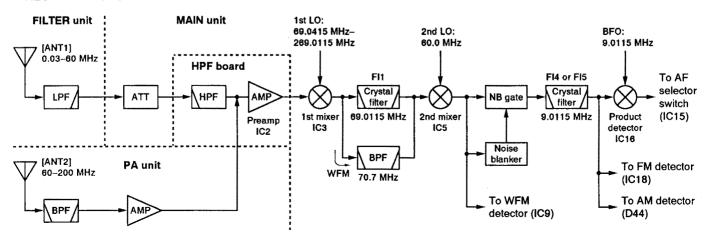
VHF RF signals from the [ANT2] connector, pass through a low-pass filter, antenna switching circuit (D4, D14, D15) and one of 2 bandpass filters. The signals within 144–148 MHz pass through one bandpass filter (L29, L30, C45–C49) and the signals within 60–144 MHz or 148–200 MHz pass through another bandpass filter (L25, L26, L40, L49, C52–C57, C151–C154).

The filtered signals pass through the RF attenuator (R27, Q24), are amplified at the RF amplifier (IC1), applied to the MAIN unit via P2 (MAIN unit J3) and are then applied to the preamplifier circuit in the HPF board.

#### 3-1-3 PREAMPLIFIER CIRCUIT (HPF BOARD)

The preamplifier circuit in the IC-706 has approx. 15 dB gain over a wideband frequency range.

#### • RECEIVER CONSTRUCTION



When the preamplifier is turned ON, the signals from the RF circuit are applied to the preamplifier (IC1) via D25. Amplified or bypassed signals enter the MAIN unit via the "AMPI" terminal and are applied to the 1st mixer circuit (IC3).

#### 3-1-4 1st MIXER CIRCUIT (MAIN UNIT)

The 1st mixer circuit mixes the receive signals with the 1st LO signal to convert the receive signal frequencies to a 69 or 70.7 MHz 1st IF.

The signals from the preamplifier circuit, or signals which bypass the preamplifier, are applied to a low-pass filter and then to the 1st mixer (IC3).

The 1st LO signal (69.0415–269.0115 MHz) enters the MAIN unit from the PLL unit via J4. The LO signal is amplified at Q4, filtered by a low-pass filter, and then, applied to the 1st mixer.

1st IF frequency

Mode	Frequency
SSB, FM	69.0115 MHz
CW, RTTY	69.0106 MHz
AM	69.0100 MHz
WFM	70.7000 MHz

#### 3-1-5 1st IF CIRCUIT (MAIN UNIT)

The 1st IF circuit filters and amplifies the 1st IF signals. The 1st IF signals are applied to an MCF (Monolithic Crystal Filter; Fl1a, Fl1b) to suppress out-of-band signals.

While in non-WFM modes, the 69 MHz 1st IF signals pass through the pair of MCF's (FI1) and are applied to the IF amplifier (IC4). While in WFM mode, the 70.7 MHz 1st IF signal pass through a bandpass filter (L104–L108, C358–C361) and are applied to the IF amplifier (IC4).

The AGC voltage is supplied to the transmit/receive switching circuit (D13, D14) and D13/D14 function as PIN attenuators for AGC operation.

The amplified signals are then applied to the 2nd mixer (IC5).

#### 3-1-6 2nd MIXER CIRCUIT (MAIN UNIT)

The 2nd mixer circuit mixes the amplified 1st IF signals and 2nd LO signal (60.00 MHz) to convert the 1st IF to a 2nd IF.

The 1st IF signals from IC4 are converted to 9 MHz or 10.7 MHz 2nd IF signals at the 2nd mixer (IC5).

The 2nd IF signals are applied to FI3 to suppress undesired signals such as the 2nd LO signal, and are then applied to the noise blanker gate (D20, D21).

2nd IF frequency

Mode	Frequency
SSB, FM	9.0115 MHz
CW, RTTY	9.0106 MHz
AM	9.0100 MHz
WFM	10.7000 MHz

While in FM (normal) mode, the IF signals pass through the low-pass filter (L52, C82–C84) bypassing FI1 and the noise blanker gate and are then applied to the 2nd IF circuit.

While in WFM mode, the IF signals pass through the low-pass filter (L52, C82–C84), IF amplifier (Q5), ceramic filter (FI2) and IF amplifier (Q52). The signals are then applied to the FM IF IC (IC9) for demodulation into AF signals.

#### 3-1-7 NOISE BLANKER CIRCUIT (MAIN UNIT)

The noise blanker circuit detects pulse type noise, and turns OFF the signal line when noise appears.

The 2nd IF signals from FI3 are applied to the noise blanker gate (D20, D21). A portion of the signals from FI3 are amplified at the noise amplifiers (Q10, Q12, amplifier section of IC9), then detected at the noise detector (D39) to convert the noise components to DC voltages.

The signals are then applied to the noise blanker switch (Q13, Q14). At the moment the detected voltage exceeds the Q13's threshold level, Q14 outputs a blanking signal to close the noise blanker gate (D20, D21) by applying reverse-biased voltage.

The detected voltage from D39 is also applied to the noise blanker AGC circuit (Q11, Q16) and is then fed back to the amplifier (IC9) as a bias voltage. The noise AGC circuit prevents closure of the noise blanker gate for long periods by non-pulse-type noise. The time constant of the noise blanker AGC circuit is determined by R143 and C459.

The signals from the noise blanker gate are then applied to the 2nd IF circuit.

#### 3-1-8 2nd IF CIRCUIT (MAIN UNIT)

The 2nd IF circuit amplifies and filters the 2nd IF signals.

Both the signals passed through and bypassing the noise blanker gate (D20, D21) are amplified at IC6 via D22 and applied to a 2nd IF filter as shown in the following table.

2nd IF filters

Mode	Used filter	Control signal
SSB med., CW med., RTTY med., AM nar.	FL-30 (FI4)	2F23
AM	FL-116 (FI5)	2F60
FM, FM nar.	Bypassed	2NTH
SSB nar.	Optional FL-223	2FOP
CW nar., RTTY nar.	Optional FL-100, FL-101, FL-223	2FOP
SSB wide, CW wide, RTTY wide	Optional FL-103	2FOP

The AGC voltage is supplied to the transmit/receive switching circuit (D22, D23) and D22/D23 function as PIN attenuators for AGC operation.

The filtered or bypassed signals are applied to the buffer amplifier (Q65), IF amplifiers (Q42, Q43) and buffer amplifier (Q44) to obtain a detectable level. The AGC voltage is supplied to the 2nd gate of Q42 for AGC operation.

Output signals from Q44 are shared between the SSB/CW/RTTY detector (IC16), AM detector (D44) and AGC detector (D43). Output signals from Q65 are applied to the FM IF IC (IC18).

#### 3-1-9 IF SHIFT CIRCUIT (MAIN UNIT)

The IF shift circuit shifts the center frequency of IF signals to electronically shift the center frequency.

The IF shift circuit shifts the 1st LO and BFO within  $\pm$  1.2 kHz in SSB/CW/RTTY modes or  $\pm$  250 Hz in CW-N/RTTY-N modes. As a result, the 2nd IF (also 1st IF) is shifted from the center frequency of the 2nd IF filter (FI4, FI5 or an optional IF filter). This means 2nd IF signals do not pass through the center of the 2nd IF filter because the passband width is fixed in the 2nd IF filter. Therefore, the higher or lower frequency components of the IF are cut out. Since the BFO frequency is also shifted the same value as the 1st IF, frequency is corrected at the detector.

In the IC-706, the 1st LO frequency is shifted to change the 2nd IF because a fixed 2nd LO frequency (60 MHz) is used. The 1st IF filter (FI1) and crystal filter (FI3) have 15 kHz and 8 kHz passband widths, respectively, and do not affect IF shift operation.

#### 3-1-10 AGC CIRCUIT (MAIN UNIT)

The AGC (Automatic Gain Control) circuit reduces IF amplifier gain to keep the audio output at a constant level. The receiver gain is determined by the voltage on the AGC line (Q9 collector).

The 2nd IF signal from the buffer amplifier (Q44) is detected at the AGC detector (D43) and applied to the AGC amplifiers (Q21, IC12a, Q9). IC12a sets the receiver gain with the [RF/SQL] control via the "RFGC" signal line.

When receiving strong signals, the detected voltage increases and the AGC voltage decreases via the DC amplifier (Q9). The AGC voltage is used for the bias voltage of the transmit/receive switching PIN diodes (D13/14, D22/D23) to attenuate the received signals.

AGC circuit

AGC Squetch signal

8 V

2nd IF signal

1/1/2)

2nd IF D43 Signal

1/1/2)

RFGC voltage

AGC Squetch signal

8 V

AGC Squetch signal

When AGC slow is selected, C141 and R152 are connected in parallel to obtain appropriate AGC characteristics.

#### 3-1-11 S-METER CIRCUIT (MAIN UNIT)

The S-meter circuit indicates the relative received signal strength while receiving by utilizing the AGC voltage which changes depending on the received signal strength.

The output voltage of the AGC amplifier (IC12a pin 1) is applied to the main CPU (IC25 pin 30) as an S-meter signal via the "SMV" signal line. The FM S-meter signal from the FM IF IC (IC18 pin 12) is also applied to the "SMV" signal line via Q68.

The S-meter signal is applied to the sub CPU and is then displayed on the S-meter readout.

#### 3-1-12 SQUELCH CIRCUIT (MAIN UNIT)

The squelch circuit mutes audio output when the S-meter signal is lower than the [RF/SQL] control setting level.

The S-meter signal is applied to the main CPU (IC25 pin 30) and is compared with the threshold level set by the [RF/SQL] control. The [RF/SQL] setting is picked up at the sub CPU (DISPLAY unit IC1 pin 99). The CPU compares the S-meter signal and [RF/SQL] setting to close or open the squelch.

In addition, the noise squelch signal from the FM IF IC (IC18 pin 14) is applied to the main CPU (pin 31) in FM mode. A portion of the AF signals from the FM IF IC (IC18 pin 9) are applied to the active filter section (pin 8) where noise components above 20 kHz are amplified. The signals are rectified at the noise detector section and then output from pin 14. The resulting signal is applied to the main CPU via the "NSQV" signal line.

# 3-1-13 DEMODULATOR CIRCUITS (MAIN UNIT)

#### (1) SSB/CW/RTTY modes

The 2nd IF signals from Q44 are mixed with the BFO signal from the PLL unit at the product detector (IC16 pin 6). The detected AF signal from IC16 (pin 3) is applied to the AF selector switch (IC15 pin 12).

#### (2) AM mode

The 2nd IF signals from Q44 are detected at D44. The detected AF signal is applied to the AF selector switch (IC15 pin 14).

#### (3) FM/FM narrow modes

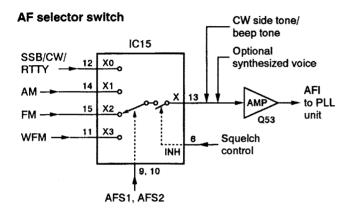
The 2nd IF signals from the buffer amplifier (Q65) are applied to the FM IF IC (IC15 pin 16) where the IF signals are converted into 455 kHz IF signals. The signals pass through FI6 and are applied to the quadrature detector section. X1 is used for quadrature detector. The detected AF signals from pin 9 are then applied to the AF selector switch (IC15 pin 15) via the de-emphasis circuit (IC12b).

#### (4) WFM mode

The 2nd IF signals from the IF amplifier (Q5) pass through FI2, are amplified at Q52 and are then applied to the FM IF IC (IC9 pins 2, 3) where the IF signals are converted into AF signals. The detected AF signals from pin 8 are then applied to the AF selector switch (IC15 pin 11).

#### 3-1-14 AF SELECTOR SWITCH (MAIN UNIT)

The AF signal from one of the detector circuits is applied to the AF selector switch (IC15). IC15 consists of dual 4-channel analog switches which are selected with a mode signal and the squelch control signal.



# 3-1-15 AF AMPLIFIER CIRCUIT (MAIN AND PLL UNITS)

The AF amplifier amplifies the AF input signal to a suitable driving level for the speaker.

The AF signal from the AF selector switch (IC15) is applied to the AF amplifier (Q53). The CW side tone/beep tone and optional synthesized voice are also applied to Q53. The amplified signal is then applied to the PLL unit.

The signals from the MAIN unit are applied to the VCA (Voltage Controlled Amplifier, IC4) circuit. The AF gain setting from the main CPU is converted to DC voltage at the D/A converter (MAIN unit IC35) and applied to the VCA control terminal (IC4 pin 8) via the "AFGC" signal line. The AF signal from IC4 (pin 9) is power-amplified at IC5 to drive the speaker.

#### 3-2 TRANSMITTER CIRCUITS

# 3-2-1 MICROPHONE AMPLIFIER CIRCUIT (MAIN UNIT)

The microphone amplifier circuit amplifies microphone input signals and outputs the amplified signals to the balanced modulator or FM modulation circuit.

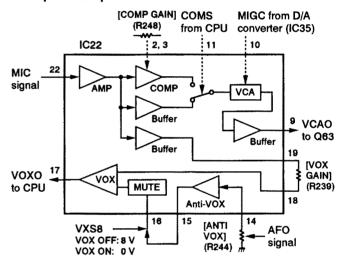
Audio signals from the front or rear panel [MIC] connector enter the microphone amplifier IC (IC22 pin 22) and are then amplified at the microphone amplifier or speech compressor section. Compression level is adjusted with the [COMP GAIN] control (R248).

The amplified or compressed signals are applied to the VCA section of IC22. The microphone gain setting from the D/A converter (IC35 pin 11) is applied to the VCA control terminal (IC22 pin 10). The resulting signals from pin 9 are then applied to the buffer amplifier (Q63). External modulation input from the [ACC] socket (pin 11) is also applied to Q63.

While in SSB mode, the amplified signals from Q63 are applied to the AF selector switch (IC23) and then to the balanced modulator (IC17).

While in FM/AM mode, the amplified signals from Q63 are applied to the limiter amplifier (IC24a) and splatter filter (IC24b). The signals are then applied to the AF selector switch (IC23) in AM mode or to the varactor diode (D67) in FM mode.

#### Microphone amplifier



#### 3-2-2 VOX CIRCUIT (MAIN UNIT)

The VOX (Voice-Operated-Transmission) circuit sets transmitting conditions according to voice input. The microphone amplifier IC (IC22) includes the VOX circuit.

The microphone signals from IC22 (pin 19) pass through the [VOX GAIN] control (R239) and are then applied to the VOX comparator section (IC22 pin 18) to switch the keying input of the main CPU (IC25 pin 14). When voice levels exceed the reference level, the VOX circuit sets the transceiver to transmit.

On the other hand, a speaker drive signal from the AF power amplifier (PLL unit IC5) is applied to the anti-VOX comparator section (IC22 pin 14) via the [ANTI VOX] control (R244). When the audio output level increases, this comparator cuts out the VOX comparator via the MUTE terminal (IC22 pin 16).

#### 3-2-3 BALANCED MODULATOR (MAIN UNIT)

The balanced modulator converts the AF signal from the microphone amplifier to a 9 MHz IF signal with a BFO (Beat Frequency Oscillator) signal.

Microphone signals from the AF selector switch (IC23) are applied to the balanced modulator (IC17 pin 6). The BFO signal from the PLL unit is applied to IC17 (pin 8) as a carrier signal.

IC17 is a double balanced mixer IC and outputs a double side band (DSB) signal with -40 dB of carrier suppression. R191 and R193 adjust the balanced level of IC17 for maximum carrier suppression. The resulting signal passes through a 9 MHz IF filter (FI4 in SSB/CW/RTTY modes) to suppress unwanted sideband signals.

In AM mode, R195 is connected to upset the balance of IC17 via Q23 for leaking the BFO signal as a carrier signal. The CW keying/RTTY TX signal is applied to IC17 pin 6.

#### 3-2-4 FM MODULATION CIRCUIT (MAIN UNIT)

The microphone signals from Q63 are applied to the limiter amplifier (IC24a) and the splatter filter (IC24b). The 1750 Hz European tone signal from the main CPU (IC25 pin 40) is also applied to IC24a pin 2 for European repeaters. The subaudible tone signal (67.0–254.1 Hz) from the main CPU (IC25 pin 37) is also applied to IC24b pin 2 for repeater use.

The resulting signals are applied to the VCO circuit (Q40, D67) via R274 to change the reactance of the varactor diode (D67) for FM modulation. The modulated signal is buffer-amplified at Q41 and bypasses the 9 MHz IF filter.

#### 3-2-5 IF AMPLIFIER (MAIN UNIT)

The 9 MHz IF signal from a modulation circuit passes through the 9 MHz IF filter (FI4 in SSB/CW/RTTY modes; FI5 in AM mode; through in FM mode). The signal is amplified at IC6, passes through R511 and L55, and the low-pass filter (L52, C82–C84) in non-FM modes or FI3 in FM mode. The signal is then applied to the mixer (IC5).

The signal is mixed with the 2nd LO signal (60 MHz) and converted to a 69 MHz IF signal at IC5. The 69 MHz IF signal passes through a bandpass filter, the IF amplifier (IC4) and the 69 MHz IF filter (FI1) and is then converted to the displayed frequency at the balanced mixer (IC3) with the 1st LO signal. The mixers (IC3, IC5) and IF amplifiers (IC4, IC6) are used in both receiving and transmitting commonly.

The ALC voltage is supplied to the transmit/receive switching circuit (D13/D14 and D22/D23) of IF amplifiers. D13/D14 and D22/D23 function as PIN attenuators for ALC operation.

# 3-2-6 RF CIRCUIT (MAIN AND PA UNITS, HPF BOARD)

The RF circuit amplifies the displayed frequency signal to obtain 100 W of RF output power for HF/50 MHz bands and 10 W for 144 MHz band.

The HF/50 MHz RF signal from the balanced mixer (IC3) enters the HPF board and then passes through one of 6 high-pass filters. (Refer to p. 3-1 for used RF high-pass filter.) The 50 MHz RF signal passes through a low-pass filter additionally. The filtered signal returns to the MAIN unit, is amplified at IC1, and is then applied to the PA unit.

The 144 MHz RF signal from the balanced mixer (IC3) bypasses the filters in the HPF board via "TOTR" line and passes through the bandpass filter (L99–L101, C329–C333) in the MAIN unit. The signal is amplified at IC38 and IC1 and is then applied to the PA unit.

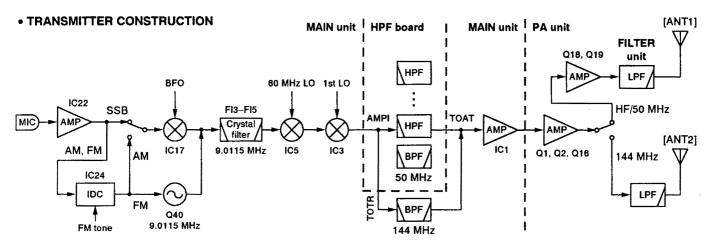
The signal from IC1 enters the PA unit and is amplified at the predrive amplifiers (Q16, Q1) and drive amplifier (Q2) in sequence. For the 144 MHz RF signal, 10 W of RF output power is obtained at Q2 and the signal is applied to the low-pass filter circuit via RL1.

The HF/50 MHz RF signal from Q2 is amplified at power amplifier (Q18, Q19) to obtain a stable 100 W of RF output power. The signal is then applied to one of the low-pass filters in the FILTER unit.

# 3-2-7 LOW-PASS FILTER CIRCUIT (FILTER AND PA UNITS)

The low-pass filter circuit consists of 8 Chebyschev low-pass filters to suppress the higher harmonic components.

The HF/50 MHz RF signal from the power amplifier passes through the transmit/receive switching circuit (FILTER unit RL1) is applied to one of the 7 low-pass filters. According to the operating frequency, the band signals (L1–L7) from the MAIN unit select a low-pass filter. The filtered signal is then applied to the [ANT1] connector.



The 144 MHz RF signal from Q2 (PA unit) passes through the band selector relay (RL1), the RF power detector circuit (L12, D2, D3), transmit/receive switching circuit (D4, D14, D15) and is then applied to the low-pass filter (L16, L17, C35–C39). The filtered signal is then applied to the [ANT2] connector

#### 3-2-8 ALC CIRCUIT (MAIN UNIT)

The ALC (Automatic Level Control) circuit reduces the gain of IF amplifiers in order for the transceiver to output a constant RF power set by the RF power setting even when the supplied voltage shifts, etc.

The HF/50 MHz RF power signal level is detected at D9 (FILTER unit), buffer-amplified at IC1b and applied to the MAIN unit as the "FOR" voltage. The 144 MHz RF power signal level is detected at D2 and D3 (PA unit) and applied to the MAIN unit as the "VFOR" voltage.

The "FOR" and "VFOR" voltages are combined to "FORV" voltage and it is then applied to IC7b (pin 6). The "POC" voltage from the D/A converter (IC35 pin 12), determined by the RF power setting, is applied to IC7b (pin 5) as the reference voltage.

When the "FORV" voltage exceeds the "POC" voltage, ALC bias voltage from IC7a (pin 1) controls the PIN diodes (D13, D14, D22, D23) using Q39. This adjusts the output power to the determined level by the RF power setting until the "FORV" and "POC" voltages are equalized.

In AM mode, IC7a operates as an averaging ALC amplifier with Q7 and C116. Q64 turns ON and the "POC" voltage is shifted for 40 W AM output power (maximum, 4 W for 144 MHz band) through R499.

The ALC bias voltage from IC7a is also applied to the main CPU (IC25 pin 34) as "ALCV" voltage for ALC meter indication.

An external ALC input (minus voltage) from the [ACC] socket (pin 6) is shifted to plus voltage at D70 and is applied to the buffer amplifier (Q8). External ALC operation is identical to that of the internal ALC.

#### 3-2-9 APC CIRCUIT (MAIN UNIT)

The APC (Automatic Power Control) circuit protects the power amplifiers on the PA unit from high SWR and excessive current for HF/50 MHz bands.

The reflected wave signal appears and increases on the antenna connector when the antenna is mismatched. The HF/50 MHz reflected signal level is detected at D10 (FILTER unit), buffer-amplified at IC1a and applied to the MAIN unit as the "REFV" voltage.

When the "REFV" signal level increases, IC7c decreases the ALC voltage via IC7a to activate the ALC.

For the current APC, the power transistor current is obtained by detecting the voltages ("ICH" and "ICL") which appear at both terminals of a 0.012  $\Omega$  resistor (R35) on the PA unit. The detected voltage is applied to the differential amplifier (IC7d pins 12, 13). When the current of the final transistors is more than 22 A, IC7d controls the ALC line via IC7a to prevent excessive current flow.

# 3-2-10 RF, ALC, SWR METER CIRCUITS (MAIN UNIT)

While transmitting, RF, ALC or SWR meter readings are available and can be selected with the [MET] switch.

#### (1) Power meter

The "FOR" and "VFOR" voltages are combined to "FORV" voltage and it is then applied to the main CPU (IC25 pin 32) for indicating the output power.

#### (2) ALC meter

The ALC bias voltage from IC7a pin 1 is applied to the main CPU (IC25 pin 34) for indicating the ALC level.

#### (3) SWR meter

The "FORV" and "REFV" voltages are applied to the main CPU pins 32 and 33, respectively. The main CPU compares the ratio of "FORV" to "REFV" voltage and indicates the SWR for the [ANT1] connector.

#### 3-3 PLL CIRCUITS

#### 3-3-1 GENERAL

The PLL unit generates a 1st LO frequency (69.0415–269.0115 MHz), a 2nd LO frequency (60 MHz), a BFO frequency (9.01 MHz), FM 3rd LO frequency (9.4665/9.4650 MHz) and a TX FM PLL reference frequency (9.0115/9.0100 MHz).

The 1st LO PLL adopts a mixerless dual loop PLL system and has 2 VCO circuits. The BFO uses a DDS and the 2nd LO uses a fixed frequency double that of the crystal oscillator

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

The 1st LO PLL contains a main loop and reference loop forming a dual loop system.

The reference loop generates a 10.6605 to 10.683 MHz frequency using a DDS circuit, and the main loop generates a 69.0415 to 134.50575 MHz frequency using the reference loop frequency.

While operating on 60 MHz and above, the output is doubled by 2 at D8 for oscillating a wide frequency range.

#### (1) REFERENCE LOOP PLL

The oscillated signal at the reference VCO (Q12, D13) is amplified at the amplifiers (Q13, Q16) and is then applied to the DDS IC (IC10 pin 46). The signal is then divided and detected on phase with the DDS generated frequency.

The detected signal output from IC10 (pin 56) is converted into a DC voltage (lock voltage) at the loop filter (R88, R203, C132) and then fed back to the varactor diode (D13) in the VCO circuit.

#### (2) MAIN LOOP PLL

The oscillated signal at one of the main loop VCOs (Q6, Q8) is amplified at the buffer amplifiers (Q10, Q36) and is then applied to the PLL IC (IC13 pin 8). The signal is then divided and detected on phase with the reference loop output frequency.

The detected signal output from IC13 (pin 12) is converted into a DC voltage (lock voltage) at the active loop filter (Q47–Q49) and then fed back to one of the varactor diodes (D4, D6) in the VCO circuits. While operating on 60 MHz and above, the VCO output is doubled by 2 at D8 and amplified at Q37.

The oscillated signal passes through a low-pass or bandpass filter and is then applied to the MAIN unit as a 1st LO signal.

# 3-3-3 2ND LO AND REFERENCE OSCILLATOR CIRCUITS

The reference oscillator (X1, Q14) generates a 30.0 MHz frequency used for the 2 DDS ICs as a system clock and for the LO output. The oscillated signal is buffer-amplified at Q27, doubled by 2 at Q15 and the 60 MHz frequency is picked up at the bandpass filter (L37, L38). The 60 MHz signal is applied to the IF unit as a 2nd LO signal.

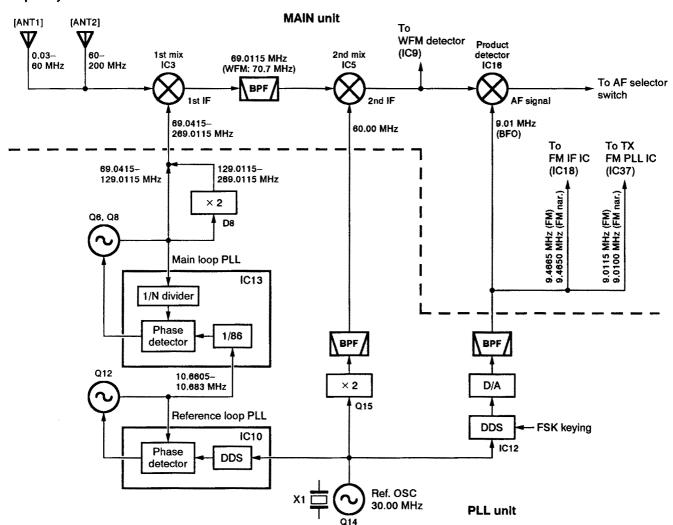
#### 3-3-4 BFO CIRCUIT

The DDS IC (IC12) generates a 10-bit digital signal. The signal is converted to an analog wave signal at the D/A converter. The analog wave is passed through the high-pass filter and low-pass filter. The 9 MHz BFO signal passes through the bandpass filter and is then applied to the MAIN unit via the "BFO" signal line.

While transmitting in RTTY mode, the RTTY keying signal is applied to IC12 pin 3 to shift the generated frequency and to obtain 2 frequencies for FSK operation.

While receiving in FM or FM narrow mode, the BFO circuit generates a 9.4665 MHz or 9.4650 MHz frequency as the 3rd LO signal, respectively.

#### Frequency construction



While transmitting in FM or FM narrow mode, the BFO circuit generates a 9.0115 MHz or 9.0100 MHz frequency as the TX FM PLL reference frequency, respectively.

Mode	RX BFO/3rd LO frequency [MHz]	TX BFO/FM PLL ref. frequency [MHz]
USB	9.0130	9.0130
LSB	9.0100	9.0100
cw	9.0106 ( – CW pitch frequency)	9.0106 ( – CW pitch frequency)
CW-R	9.0106 (+CW pitch frequency)	9.0106 (+CW pitch frequency)
RTTY	9.008375 (2125 Hz tone) 9.008885 (1615 Hz tone)	9.0105 (MARK)
AM	No output	9.0100
FM	9.4665 (3rd LO)	9.0115 (PLL ref.)
FM nar.	9.4650 (3rd LO)	9.0100 (PLL ref.)
WFM	No output	No output

IF shift: Center RTTY: Normal polarity

#### 3-4 LOGIC CIRCUITS

# 3-4-1 BAND SELECTION DATA (MAIN AND PLL UNITS)

To select the correct RF low-pass filter, high-pass filter and VCOs on the PLL unit, the CPU outputs the following band selection data from the I/O expander (MAIN unit IC31, IC32), the A/D converter (MAIN unit IC35) or DDS IC (PLL unit IC10) depending on the displayed frequency.

The A/D converter output from IC35 pin 5 is doubled by 2 at IC34a to obtain the band voltage for external equipment.

#### Band selection data

Frequency	IC31, (MA		IC35 (MAIN)	IC10 (PLL)	
(MHz)	HPF BPF	LPF	1/2 band voltage	vco	LPF BPF
0.03-1.999	L1	L1	3.76 V		
2.0-3.999	L2	L2	3.08 V		
4.0-7.999	L3	L3	2.57 V	-	
8.0-10.999	L4	L4	0 V	VCO1	LOF1
11.0–14.999	L4	L4	2.06 V		
15.0–21.999	L5	L5	1.61 V		
22.0–29.999	L6	L6	1.12 V		
30.0-39.999	B7W	17		VCO2	LOF2
40.0-59.999	B7	Li		VCOZ	LOIZ
60.0-128.999	B8W			VCO1	LOF3
129.0-143.999	DOVV		0.61 V		LOF4
144.0–148.000	B8	L8		VCO2	LOF5
148.000001- 200.000000	B8W				LOF4

# 3-4-2 MAIN CPU PORT ALLOCATIONS (MAIN UNIT IC25)

Pin number	Port name	Description			
9	SPS (P52)	Outputs a mute signal for AF power amplifier according to the [PHONES] jack.			
13	DASH (P97)	Input port for DASH signal of the paddle to the internal keyer.			
14	DOT (P96)	Input port for DOT signal of the paddle to the internal keyer.			
15	SNDL (P95)	Input port for transmit/receive switching signals. This port becomes "High" while transmitting.			
16	TKEY (P94)	Input port for the keying signal of optional AT-180/AH-3 antenna tuners.			
17	TCON (P93)	Input port for the optional AH-3 antenna tuner.			
19	PWK (P91)	Input port for the [POWER] switch.			
20	POWS (P90)	Outputs a power ON signal.			
21	ATST (P60)	Outputs start signal for the optional AT-180 antenna tuner.			
22	BEEP (P61)	Outputs beep tone and CW side tone signals.			
23	AHST (P62)	Outputs start signal for the optional AH-3 antenna tuner.			
24	SQSS (P63)	Outputs a squelch control signal.			
30	SMV (P70)	S-meter level input for squelch control.			
31	NSQV (P71)	FM noise level input for squelch control.			
32	FORV (P72)	Forward RF power level input for Po and SWR meter indications.			
33	REFV (P73)	Reflected RF power level input for SWR meter indication.			
34	ALCV (P74)	ALC level input for ALC meter indication.			
37	TONE (P77)	Outputs subaudible tone signals.			
39	BUSY (P40)	Input port for the optional UT-102 busy signal. This port becomes "High" during speech synthesis.			
40	ETON (P40)	Outputs tone burst signals for European repeaters.			
41	SPST (P42)	Outputs a strobe signal for the optional UT-102.			
42	IDT (P43)	Outputs serial data for the I/O expanders, optional AT-180/UT-102.			
43	ICK (P44)	Outputs a clock signal for the I/O expanders, optional AT-180/UT-102.			

#### **MAIN CPU PORT ALLOCATIONS (Continued)**

Pin number	Port name	Description
44	IBST (P45)	Outputs a strobe signal for the I/O expander ICs (IC31, IC32).
45	IMST (P46)	Outputs a strobe signal for the I/O expander IC (IC30).
46	IAST (P47)	Outputs a strobe signal for the D/A converter IC (IC35).
48	PBST (P27)	Outputs a strobe signal for the BFO DDS IC (IC12).
49–51	CON2- CON0 (P26-P24)	Output mode control signals for the 1st LO DDS IC (IC10).
52	PDST (P23)	Outputs a strobe signal for the 1st LO DDS IC (IC10).
53	PCE (P22)	Outputs a strobe signal for the 1st LO PLL IC (IC13).
54	PDT (P21)	Outputs serial data for the DDS ICs and PLL IC.
55	PCK (P20)	Outputs a clock signal for the DDS ICs and PLL IC.
65	MCK (P30)	Inputs a clock signal for microphone up/down switches.
66	MUD (P31)	Input port for microphone up/down switches.
74	SNDS (P80)	Input port for transmit/receive switching signals for the [ACC] socket. This port becomes "Low" while transmitting.
75	KDS (P81)	Outputs a CW keying signal or RTTY TX signal.
78	TXD1 (P84)	Output port for CI-V bus line.
79	RXD1 (P85)	Input port for CI-V bus line.

# 3-4-3 SUB CPU PORT ALLOCATIONS (DISPLAY UNIT IC1)

Pin number	Port name	Description
1	SFTV (PC3)	Input port for the [SHIFT] control.
18	PTTS (P27)	Outputs a PTT signal. Becomes "Low" while transmitting.
19	AMBS (P30)	Outputs a control signal for backlighting.
20	DIMS (P31)	Outputs a dimmer control signal for backlighting.
80	PHNL (P13)	Input port for the connection signal of the [PHONES] jack.

#### **SUB CPU PORT ALLOCATIONS (Continued)**

Pin number	Port name	Description
81	RITK (P14)	Input port for the [RIT] switch.
90-95	KI0-KI5 (PB0- PB5)	Input ports for the [P.AMP/ATT], [TUNER/CALL], [MENU], [F-1]-[F-3], [DISP], [LOCK], [MODE], [TS], [UP] and [DN] switches on the front panel.
96	PTTV (PB6)	Input port for the [PTT] switch on the microphone.
97	MUDV (PB7)	Input port for the up/down switches on the microphone.
98	AFGV (PC0)	Input port for the [AF] control.
99	SQLV (PC1)	Input port for the [RF/SQL] control.
100	RITV (PC2)	Input port for the [RIT] control.

#### 3-4-4 I/O EXPANDER PORT ALLOCATIONS

#### (1) Output ports (MAIN unit IC30)

Pin number	Port name	Description
4	MODS (Q1)	Outputs selection signal for the modulation signal.
5	AMS (Q2)	Outputs selection signal for AM mode.
6	FMS (Q3)	Outputs selection signal for FM and FM narrow modes.
7	WFMS (Q3)	Outputs selection signal for WFM mode.
11, 12	AFS1, AFS2 (Q8, Q7)	Output selection signals for the AF signal.
13	UNFM (Q6)	Outputs selection signal for SSB/CW/RTTY/AM modes.
14	MINH (Q5)	Outputs an inhibit signal for the microphone mute circuit (IC23).

#### (2) Output ports (MAIN unit IC31)

Pin number	Port name	Description
6, 7, 13, 14	B7, B7W, B8W, B8 (Q3, Q4, Q6, Q5)	Output selection signals for the bandpass filters.
11, 12	2N80, 1S15 (Q8, Q7)	Output selection signals for the IF filters.

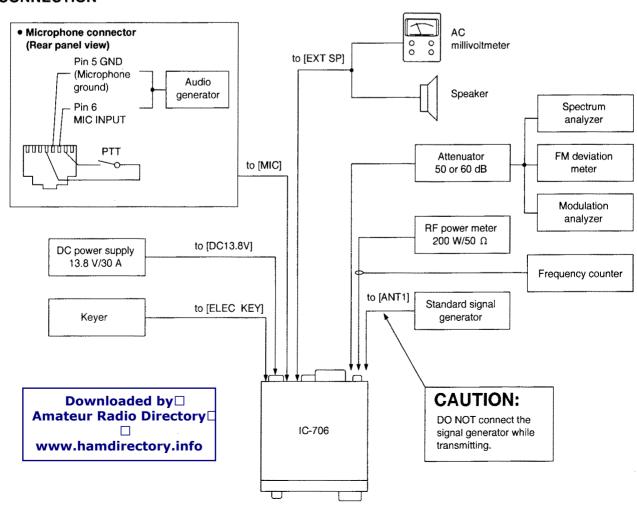
# SECTION 4 ADJUSTMENT PROCEDURES

#### 4-1 PREPARATION BEFORE SERVICING

#### REQUIRED TEST EQUIPMENT

EQUIPMENT	GRADE A	ND RANGE	EQUIPMENT	GRADE AND RANGE
DC power supply	Output voltage	: 13.8 V DC	AC millivoltmeter	Measuring range : 10 mV-10 V
	Current capacity	: 30 A or more	DC voltmeter	Input Impedance : 50 kΩ/DC or better
RF power meter	rminated type)  Measuring range : 10-200 W  Frequency range : 1.8-30 MHz		Ammeter	Measurement capability: 1 A and 30 A
(terminated type)	Impedance SWR	: 50 Ω : Less than 1.2:1	Audio generator	Frequency range : 300—3000 Hz Output level : 1—500 mV
Frequency counter	Frequency range Frequency accuracy	: 0.1-100 MHz : ±1 ppm or better	Attenuator	Power attenuation : 50 or 60 dB Capacity : 150 W or more
	Sensitivity	: 100 mV or better	Spectrum analyzer	Frequency range : At least 400 MHz
RF voltmeter	Frequency range	: 0.1-100 MHz		Spectrum bandwidth : ±100 MHz or more
	Measuring range	: 0.01—10 V	FM deviation meter	Frequency range : At least 200 MHz
Digital multimeter	Input impedance	: 10 MΩ/DC or better		Measuring range : 0 to ±10 kHz
Standard signal generator (SSG)	Frequency range Output level	: 0.1—100 MHz : 0.1µV—32 mV	Modulation analyzer	Frequency range : At least 150 MHz Measuring range : 0—100%
3.		(-127 to -17 dBm)	External speaker	Impedance : 8 Ω
Distortion meter	Frequency range Measuring range	: 1 kHz±10% : 1—100%		Max. Input power : 5 W
Oscilloscope	Frequency range Measuring range	: DC-20 MHz : 0.01-10 V		

#### **CONNECTION**



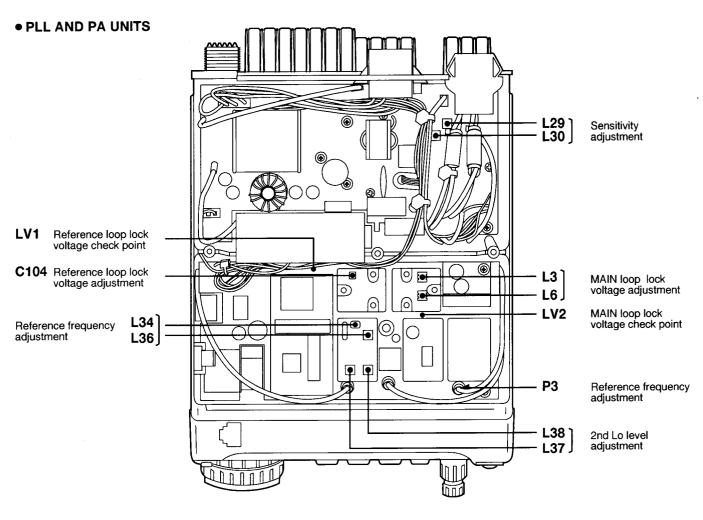
# 4-2 PLL ADJUSTMENT

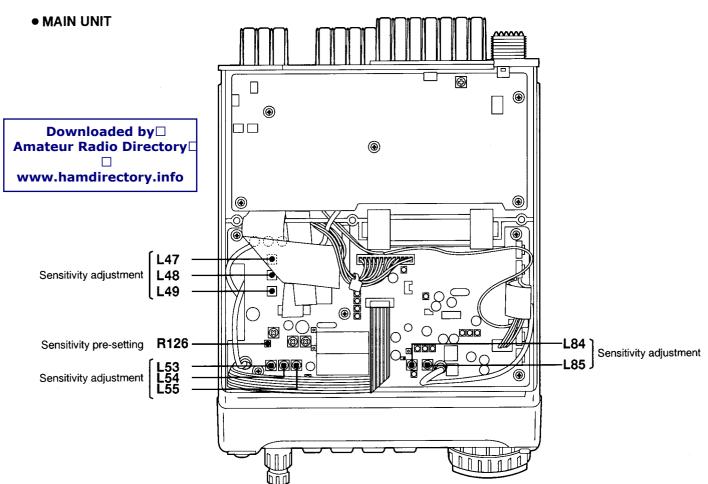
ADJUST <b>M</b> EN <b>T</b>		ADJUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT POINT	
				LOCATION		UNIT	ADJUST
REFERENCE FREQUENCY	1	Displayed frequency: Any     L36 (PLL unit) : Center     Receiving	PLL	Connect an RF voltmeter to P3.	Maximum level (0 dBm or more)	PLL	L37, L38
	2			Connect a frequency counter to P3.	60.000000 MHz		L34, L36
REFERENCE LOOP LOCK VOLTAGE	1	Displayed frequency: 0.03000 MHz     Mode : USB     Receiving	PLL	Connect a digital multi- meter or oscilloscope to LV1.	2.0 V	PLL	C104
MAIN LOOP LOCK VOLTAGE	1	Displayed frequency: 30.00000 MHz     Mode : USB     Receiving	PLL	Connect a digital multi- meter or oscilloscope to LV2.	1.1 V	PLL	L6
	2	Displayed frequency: 60.00000 MHz			1.1 V		L3

# 4-3 RECEIVER ADJUSTMENT

ADJUSTMEN	T	ADJUSTMENT CONDITIONS	MEASUREMENT				VALUE		STMENT DINT
			UNIT	LOCATION		UNIT	ADJUST		
SENSITIVITY		<ul> <li>Displayed frequency: 14.10000 MHz</li> <li>Mode : USB</li> <li>[RIT] : OFF</li> <li>[M4 AGC] : Fast (F AGC)</li> <li>[M3 NB] : OFF</li> <li>[P.AMP/ATT] : Preamp</li> <li>[COMP GAIN] : Center</li> <li>[BEEP/SIDE T] : Center</li> <li>[VOX GAIN] : Center</li> <li>[ANTI VOX] : Max. counterclockwise</li> <li>R126 (MAIN unit): Max. counterclockwise</li> <li>Connect a standard signal generator to [ANT 1] and set as:         <ul> <li>Frequency: 14.10150 MHz</li> <li>Level : 0.5 μV* (-113 dBm)</li> <li>Modulation: OFF</li> </ul> </li> <li>Receiving</li> </ul>	Rear panel	Connect an AC millivolt-meter to [EXT SP] jack with an 8 Ω dummy load.	Maximum output level	MAIN	Adjust repeatedly L47, L48 L49, L53 L54, L55 L84, L85		
	2	Mode: FM  Mathematical FM  Mode: FM  Mathematical FM  Mode: FM  M		Connect a distortion meter to [EXT SP] jack.	Minimum distortion level		Adjust repeatedly L47, L48, L49		
	3	[M3 NAR] : ON     Set the standard signal generator as:     Deviation : ±4 kHz					Adjust repeatedly L53, L54		
	4	Displayed frequency: 146.00000 MHz  M3 NAR]: OFF  Connect the standard signal generator to [ANT 2] and set as: Frequency: 146.00000 MHz Deviation: ±3.5 kHz				PA	Adjust repeatedly L29, L30		

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





# RECEIVER ADJUSTMENT (CONTINUED)

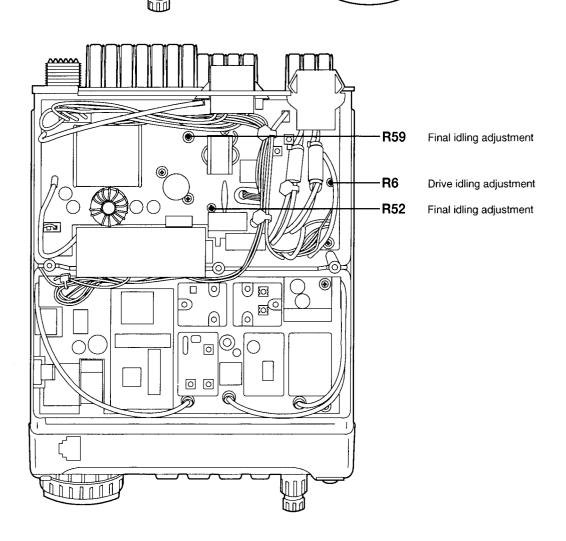
ADJUSTMEN	T	ADJUSTMENT CONDITIONS		MEASUREMENT	VALUE		ADJUSTMENT POINT	
			UNIT	LOCATION		UNIT	ADJUST	
RECEIVER TOTAL GAIN	4-1	Displayed frequency: 14.1000 MHz  Mode: USB  [P.AMP/ATT]: OFF  Connect a standard signal generator to [ANT 1] and set as: Frequency: 14.1015 MHz Level: 0.5 mV * (-53 dBm) and OFF Modulation: OFF	Rear panel	Connect an AC millivoltmeter to [EXT SP] jack with an 8 $\Omega$ dummy load.	30 dB of AF level difference	MAIN	R401	
WFM RECEIVING	1	Displayed frequency: 80.00000 MHz  Mode: WFM  Connect a standard signal generator to [ANT 2] and set as: Frequency: 80.00000 MHz Level: 0.5 mV * (-53 dBm)  Receiving	MAIN	Connect a digital multi- meter or oscilloscope to CP1.	4.0 V	MAIN	L63	
NOISE BLANKER	1	Displayed frequency: 14.10000 MHz  Mode: USB  [M3 NB]: OFF  [P.AMP/ATT]: Preamp  R126 (MAIN unit): Center  Connect a standard signal generator to [ANT 1] and set as: Frequency: 14.1015 MHz Level: 1.8 µV * (–82 dBm)	MAIN	Connect an oscilloscope to CP2.	Maximum voltage	MAIN	L61, L64	
	2	• [M3 NB] : ON			Noise just reduces.		R126	
S-METER	Se	e p. 4-9 METER ADJASTMENT						

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

# 4-4 TRANSMITTER ADJUSTMENT

ADJUSTMENT		ADJUSTMENT CONDITIONS		MEASUREMENT	VALUE	ADJUSTMENT POINT	
			UNIT	LOCATION		UNIT	ADJUST
IDLING CURRENT (for drive amplifiers)	1	Displayed frequency: 14.10000 MHz     Mode : USB     [Q2 MIC GAIN] : 1 (minimum)     R6 (PA unit) : Max. counterclockwise     R52 (PA unit) : Max. counterclockwise	Rear panel	Connect a DC ammeter between the DC power supply and transceiver's DC power socket.	1 A increase from that R6 is in max. counterclockwise	PA	R6
(for final amplifiers)	2	T			0.5 A increase from step 1		R52
	3				0.5 A increase from step 2	R5	R59
SWR DETECTOR	1	Displayed frequency: 14.10000 MHz     Mode : USB     Ground pin 11 of J10 (MAIN unit).     Connect an audio generator to [MIC] connector and set as:	Rear panel	Connect an RF power meter to [ANT 1] connector.	100 W	Quick set mode	Q2 MIC GAIN
<b>†</b>	2	10 mV / 1.5 kHz	MAIN	Connect a digital multi- meter to pin 1 of J7.	Minimum voltage	FILTER	C58
	Aft	er adjustment, remove the jumper wire from J1	0.	1			

#### • MAIN AND FILTER UNITS J10(pin11) SWR detector check point C58 SWR detector adjustment ( •0000000000000000000 **③ (4)** Jamper wire (GND) pin11 **(4) (** 0 L64 CP2 Noise blanker check point Noise blanker L61 adjustment R126 WFM receiving L63 adjustment R401 Receiver total gain adjustment CP1 WFM receiving check point

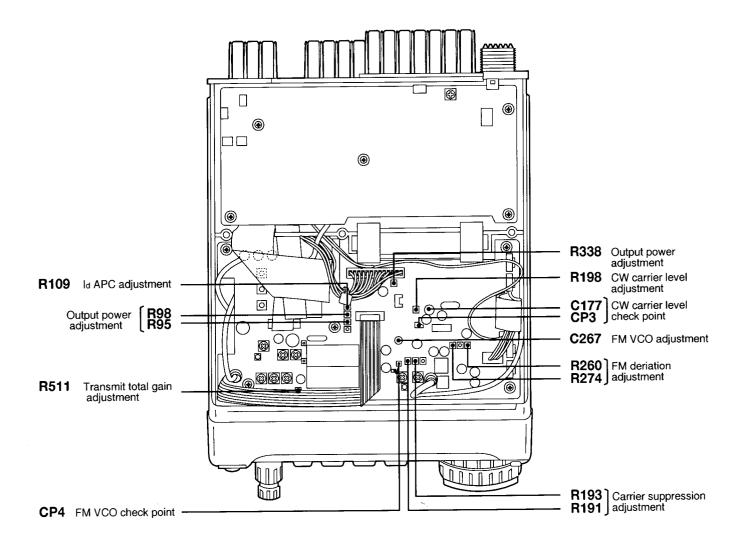


• PA UNIT

### TRANSMITTER ADJUSTMENT (CONTINUED)

ADJUSTMENT		ADJUSTMENT CONDITIONS MEASUREMENT		MEASUREMENT	VALUE	ADJUSTMENT POINT	
			UNIT	LOCATION		UNIT	ADJUST
Id APC	1	Displayed frequency: 3.50000 MHz  Mode: RTTY  [Q1 RF POWER]: H  R95 (MAIN unit): 3 o'clock position  R109 (MAIN unit): 3 o'clock position  R198 (MAIN unit): Max. clockwise  Ground CP6 with a jumper wire.  Transmitting	Rear panel	Ammeter on the DC power supply	22 A	MAIN	R109
		After adjustment, remove the jumper wire from	m CP6.				
TRANSMIT TOTAL GAIN	1	Displayed frequency: 14.10000 MHz  Mode: USB  [Q1 RF POWER]: H  [Q2 MIC GAIN]: 5  Connect an audio generator to [MIC] connector and set as: 10 mV / 1.5 kHz  Transmitting	Rear panel	Connect an RF power meter to [ANT 1] connector.	50 W	MAIN	R511
CARRIER SUPPRESSION	1	Displayed frequency: 14.10000 MHz     Mode : USB and LSB     Apply no signal to [MIC] connector.     Transmitting	Rear panel	Connect a spectrum analyzer to [ANT 1] via an attenuator.	Minimum carrier level	MAIN	Adjust repeatedly R191, R193
OUTPUT POWER	1	Displayed frequency: 14.10000 MHz  Mode: USB  [Q2 MIC GAIN]: 5  Connect an audio generator to [MIC] connector and set as: 100 mV / 1.5 kHz  Transmitting	Rear panel	Connect an RF power meter to [ANT 1] connector.	100 W	MAIN	R95
	2	Displayed frequency: 52.00000 MHz			100 W		R98
	3	Displayed frequency: 145.00000 MHz		Connect an RF power meter to [ANT 2] connector.	10 W		R338
CW CARRIER LEVEL	1	Displayed frequency: 14.10000 MHz  Mode: CW  [Q1 RF POWER]: H  [Q5 KEY SPEED]: 60  [M4 BRK]: BK (semi break-in)  Transmit dots for a while using a paddle.	MAIN	Connect an oscilloscope to CP3 and C177.	Adjust as follows: Keying (C177)  CP3  10 meec.	MAIN	R198
FM VCO	1	Displayed frequency: 29.10000 MHz Mode: FM [M4 TON]: OFF [Q1 RF POWER]: H Apply no signal to [MIC] connector. Transmitting	MAIN	Connect a digital multi- meter to CP4.	1.5 V	MAIN	C267
FM DEVIATION	1	Displayed frequency: 29.10000 MHz  Mode: FM  Image: FM	Rear panel	Connect an FM deviation meter to [ANT1] via an attenuator.	± 4.8 kHz	MAIN	R274
	2	Set the audio generator as:     10 mV / 1 kHz			± 3.5 kHz		R260

#### MAIN UNIT

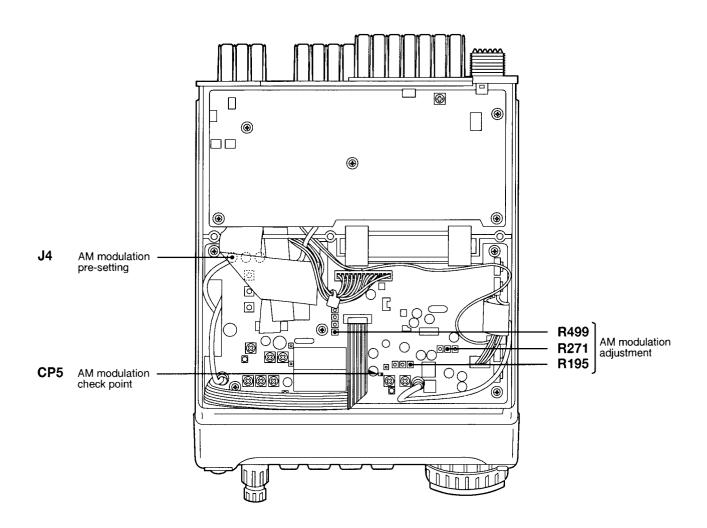


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#### TRANSMITTER ADJUSTMENT (CONTINUED)

ADJUSTMEN	т	ADJUSTMENT CONDITIONS	JUSTMENT CONDITIONS  WEASUREMENT  UNIT LOCATION		VALUE	VALUE PO	
						UNIT	ADJUST
AM MODULATION	1	Displayed frequency: 14.10000 MHz  Mode: AM  [Q1 RF POWER]: H  [Q2 MIC GAIN]: 5 Disconnect the plug from J4 (MAIN unit).	MAIN	Connect an oscilloscope to CP5.	200 mVp-p	MAIN	R195
	2	<ul> <li>Connect the plug to J4 (MAIN unit).</li> <li>Apply no signal to [MIC] connector.</li> <li>Transmitting</li> </ul>	Rear panel	Connect an RF power meter to [ANT 1] connector.	35 W		R499
	3	Connect an audio generator to [MIC] connector and set as:     100 mV / 1 kHz		Connect a modulation analyzer to [ANT1] via an attenuator.	85% modulation		R271

#### • MAIN UNIT



# 4-5 METER ADJUSTMENT (METER SET MODE)

ADJUSTMEN	T	ADJUSTMENT CONDITIONS	DISPLAY	OPERATION
S-METER	1	Enter Meter set mode:     -Turn power OFF.     -Terminate the [REMOTE] jack with a 3.5(d) mm mini-plug.     -While pushing [P.AMP/ATT] and [TUNE/CALL], turn power ON.	SEL UP  E <sub>MT</sub> RX TX	Push [F-2(RX)] to enter S-meter setting mode.  Then advance to the following setting, or push [UP]/[DN] to scroll the display.
	2	Connect a standard signal generator to [ANT 1] and set as: Frequency: 14.15150 MHz Level: OFF	RJ SØ LEVEL	Push [MENU] to set the "S0" level.
	3	Set the standard signal generator as:     Level : 50 μV * (-73 dBm)     Modulation: OFF	RM S9 LEVEL	Push [MENU] to set the "S9" level.
	4	Set the standard signal generator as:     Level : 50 mV * (-13 dBm)	<b>₹</b> # +60dB LEVEL	Push [MENU] to set the "+60 dB" level.  The display returns to the same as that in step 1.
	5	Push [MENU (EXIT)] to exit meter set mode, or	advance to transmit meter setting f	rom step 2 below.
TRANSMIT METERS	1	Enter Meter set mode:     See "S-METER" item, step 1 above.	SEL LP	Push [F-3(TX)] to enter transmit meter setting mode.  Then advance to the following setting, or push [UP]/[DN] to scroll the display.
Filter calibration	2	Connect an RF power meter to [ANT 1].	GO FILTER CAL	Push [MENU(GO)] to make the calibration.  Transceiver transmits for a while.
Power meter	3	Transmit using an external PTT switch.	<b>₽.</b> SET 90W	Set to <b>90 W</b> using main dial, then push [MENU].
	4	Transmit using an external PTT switch.	RW SET 50W	Set to <b>50 W</b> using main dial, then push [MENU].
	5	Connect the RF power meter to [ANT 2].     Transmit using an external PTT switch.	R.M SET 9W	Set to <b>9 W</b> using main dial, then push [MENU].
	6	Transmit using an external PTT switch.	RA SET 5W	Set to <b>5 W</b> using main dial, then push [MENU].
ALC meter	7	<ul> <li>Connect the RF power meter to [ANT 1].</li> <li>Wait for 2 sec. while receiving for the ALC function to engage.</li> </ul>	R.M ALC START	Push [MENU] to set ALC reference level.  • Transceiver transmits for a while.
	8	Connect an audio generator to [MIC] connector and set as:     Level : 100 mV / 1.5 kHz     Transmit using an external PTT switch.	<b>₹</b> # +20d8 LEVEL	Push [MENU] to set ALC zone level.
SWR meter	9	Connect a 50 Ω dummy load or power meter to [ANT 1].	KN SWR 1 LOAD	Push [MENU] to set SWR reference level.  • Transceiver transmits for a while.
	9	• Connect a 100 $\Omega$ or 25 $\Omega$ dummy load to [ANT 1].	RN SWR 2 LOAD	Push [MENU] to set SWR 2 level.  •Transceiver transmits for a while.  •The display returns to the same as that in step 1.
	10	Push [F-1 (EXIT)] to exit Meter set mode.		

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

# SECTION 5 PARTS LIST

# 5-1 IC-706

#### [DISPLAY UNIT]

REF. NO.	ORDER NO.	DESCRIPTION		
IC1 IC2	1140005390 1130007960	S.IC S.IC	HD6433834A41H SED1522F0C (QFP15-100PIN)	
1C3	1130002660	s.ic	μPD4030BG-T1	
IC4 IC5	1110001550 1180001080	S.IC S.IC	S-8054ALB-LM-T1 S-81250PG-PD-T1	
IC6	1140003630	S.IC	X24C01S-2.7	
IC7	1130005820	S.IC	TC4S584F(TE85R)	
Q1 Q2 Q3 Q4 Q5 Q6	1590000680 1520000200 1590001150 1540000440 1530002690 1540000250 1530003090	S.TRANSISTOR S.TRANSISTOR S.TRANSISTOR S.TRANSISTOR S.TRANSISTOR S.TRANSISTOR S.TRANSISTOR	DTC114EU T107 2SB798-T2 DK UN9211(TX) 2SD1619-T-TD 2SC4116-GR (TE85R) 2SD999-T2 CK 2SC4213-B (TE85R)	
Q8	1590001150	S.TRANSISTOR	UN9211(TX)	
Q9	1590001870	S.TRANSISTOR	DTA114EE TL	
Q10 Q11	1530002060	S.TRANSISTOR TRANSISTOR	2SC4081 T107 R 2SB1143 S	
D1	1750000370	s.DIODE	DA221 TL	
D2	1750000370	S.DIODE	DA221 TL	
D3 D5	1750000370 1160000140	S.DIODE S.DIODE	DA221 TL DAP222 TL	
D6	1160000140	S.DIODE	DAP222 TL	
D7	1160000140	S.DIODE	DAP222 TL	
D8 D9	1160000140	S.DIODE S.DIODE	DAP222 TL DAP222 TL	
X1	6050008160	S,XTAL	CR-410 (9.8304MHz)	
L1	6200003280	S.COIL	NL 322522T-101J	
L2	8200003590	S.COIL	EXCCL3225U1	
L3	6200003590	S.COIL	EXCCL3225U1	
L4 L5	6200003590 6200003590	S.COIL S.COIL	EXCCL3225U1 EXCCL3225U1	
R1	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)	
R2	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)	
R3 R4	7030003400 7030003440	S.RESISTOR S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)	
R5	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ) ERJ3GEYJ 151 V (150 Ω)	
R6	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)	
R7 R8	7030003440 7030003590	S.RESISTOR S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ) ERJ3GEYJ 183 V (18 kΩ)	
R9	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)	
R10	7030003590	S.RESISTOR	ERJ3GEYJ 183 V (18 kΩ)	
R11 R12	7030003560 7030003590	S.RESISTOR S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ) ERJ3GEYJ 183 V (18 kΩ)	
R13	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)	
R14 R15	7030003590 7030003560	S.RESISTOR S.RESISTOR	ERJ3GEYJ 183 V (18 kΩ) ERJ3GEYJ 103 V (10 kΩ)	
R16	7030003590	S.RESISTOR	ERJ3GEYJ 183 V (18 kΩ)	
R17 R18	7030003560 7030003590	S.RESISTOR S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ) ERJ3GEYJ 183 V (18 kΩ)	
R19	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)	
R20	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)	
R21	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)	

#### [DISPLAY UNIT]

REF.	ORDER		
NO.	NO.		DESCRIPTION
R22	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R23	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R24	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R25	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R26 R27	7030003640 7030003640	S.RESISTOR S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ) ERJ3GEYJ 473 V (47 kΩ)
R28	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R29	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R30	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R31	7030000240	S.RESISTOR	MCR10EZHJ 68 Ω (680)
R32	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R33 R34	7010003830 7030003200	RESISTOR S.RESISTOR	R20J 1 Ω ERJ3GEYJ 100 V (10 Ω)
R35	7030003200	S.RESISTOR	MCR10EZHJ 88 Ω (880)
R36	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R37	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R38	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R39	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R40	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R41 R42	7030003640	S.RESISTOR S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ) ERJ3GEYJ 102 V (1 kΩ)
R44	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kQ)
R45	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R46	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R47	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R49 R50	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R51	7030003880	S.RESISTOR S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ) ERJ3GEYJ 104 V (100 kΩ)
R52	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R53	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R54	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R55	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R56 R57	7030003720	S.RESISTOR S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R58	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ) ERJ3GEYJ 105 V (1 MΩ)
R59	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R60	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R61	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R62	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R63 R64	7030003720	S.RESISTOR S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ) ERJ3GEYJ 224 V (220 kΩ)
R65	7030003720	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R66	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R67	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R68	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R69	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R70 R71	7030003520	S.RESISTOR S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ) ERJ3GEYJ 472 V (4.7 kΩ)
R72	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R73	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R74	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R75	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R76	7030003840	S.RESISTOR	ERJ3GEYJ 225 V (2.2 MΩ)
R83 R84	7030003600	S.RESISTOR S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ) ERJ3GEYJ 223 V (22 kΩ)
R85	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 KΩ) ERJ3GEYJ 104 V (100 kΩ)
R86	7010003830	RESISTOR	R20J 1 Ω
R89	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R90	7030000240	S.RESISTOR	MCR10EZHJ 68 Ω (680)
R91	7030000240	S.RESISTOR	MCR10EZHJ 68 Ω (680)
R92 R93	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R93	7030003440	S.RESISTOR S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ) ERJ3GEYJ 100 V (10 Ω)
R95	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R96	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R97	7030003390	S.RESISTOR	ERJ3GEYJ 391 V (390 Ω)
R98	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
I	-		
-		<del></del>	S -Surface mount

#### [DISPLAY UNIT] ORDER DESCRIPTION NO NO. S.CERAMIC C1608 JB 1H 472K-T-A 4030006880 C<sub>1</sub> C2 4030006880 S.CERAMIC C1608 JB 1H 472K-T-A СЗ 4030006880 S.CERAMIC C1608 JB 1H 472K-T-A 4030006880 S.CERAMIC C1608 JB 1H 472K-T-A C4 C5 4030009110 S.CERAMIC C3216 JB 1C 474K-T-A 4030006880 S.CERAMIC C1608 JB 1H 472K-T-A **C7** S.CERAMIC C1608 JB 1H 472K-T-A C8 4030006880 C9 4030006880 S.CERAMIC C1608 JB 1H 472K-T-A C10 4030007020 S.CERAMIC C1608 CH 1H 120J-T-A S.CERAMIC C1608 CH 1H 120J-T-A 4030007020 C11 4030010070 S.CERAMIC C1808 X7S 1C 104K-T-A C12 S.CERAMIC C1608 X7S 1C 104K-T-A 4030010070 C13 S.CERAMIC C14 4030010070 C1608 X7S 1C:104K-T-A C15 4030006860 S.CERAMIC C1608 JB 1H 102K-T-A

S.CERAMIC

S CERAMIC

S.CERAMIC

S.LED

S.LED

S.LED

LCD

LED

**S.SWITCH** 

S.SWITCH

S SWITCH

S.SWITCH

**S.SWITCH** 

S.SWITCH

S.SWITCH

S.SWITCH

S.SWITCH

S SWITCH

S.SWITCH

**S.SWITCH** 

S.SWITCH

S.SWITCH

CONNECTOR

S.JUMPER

LCD CONTACT

**PCB** 

S.ELECTROLITIC ECEV1CA100SR

S.ELECTROLITIC ECEV1CA100SR

C1608 JB 1H 102K-T-A

C1608 JF 1C 224Z-T-A C2012 JF 1C 225Z-T-A

C1608 X7S 1C 104K-T-A

C1608 X7S 1C 104K-T-A

C1608 X7S 1C 104K-T-A

C1808 X7S 1C 104K-T-A

C1608 X7S 1C 104K-T-A

C2012 JF 1C 225Z-T-A

C2012 JF 1C 225Z-T-A

C1608 JB 1H 472K-T-A

C1608 JB 1H 472K-T-A

C1608 JB 1H 472K-T-A

C1608 JB 1H 472K-T-A

C1608 JB 1H 471K-T-A

CL-170UR-CD-T

CL-170PG-CD-T

CL-170UR-CD-T

DLC-7973YBGF-1

LS22BB-2SD-PG-T

LS21BB-2SD-T

SKODPA

**SKQDPA** 

**SKQDPA** 

SKQDPA SKQDPA

SKQDPA

SKODPA

SKQDPA

**SKQDPA** 

**SKQDPA** 

**SKQDPA** 

S.CONNECTOR S8B-PH-SM3-TB

S.CONNECTOR 52559-1390

LS21BB-2SD-T

HSJ1406-01-050

**ERJ3GE JPW V** 

SRCN-1691-ZNN-505-1

B 4558G

D2264

C1608 X7S 1C 104K-T-A

C2012 JF 1C 225Z-T-A

4030006860

4030009860

4030009590

4030010070

4030009590

4510004630

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4510004630

4030010070

4030010070

4030009590

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4030006880 4030006880

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5040002020

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5040002020

5010000171

5030001290

2260002250

2280002240

2260001890

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2260002240

2260001890

6510019120

6450001630

6510018890

7030003860

0910045617

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C16

C18

C19 C20

C21

C22

C23

C24

C25

C26 C27

C28

C29

C30

C31

C32

C33

C34

DS1

DS2

DS3

DS4

DS5

S1

S2

S3

**S4** 

S5

S6

S7

S8

S9

S10

**S11** 

**S12** 

S13

S14

J1

J2

.13

W<sub>1</sub>

EP1

EP2

### [VR UNIT]

VR UNIT]			
REF. NO.	ORDER NO.	ı	DESCRIPTION
R1 R2	7210002780 7210002790	VARIABLE VARIABLE	RV-300 (RK0972210) 10KB/10KB RV-301 (RK097221) 10KB/10KB
\$1	2220000540	switch	SW-162 (SSSS22-2-11)
J1	6510018890	S.CONNECTOR	52559-1390
EP1	0910045622	РСВ	B 4559B
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#### [MAIN UNIT]

1 3					NO.	NO.		
3		1				ļ		
	1110004080	S.IC	μPC2709T-E3		Q52	1530002060		2SC4081 T107 R
	1110003280	S.IC	ND487C1T-E3		Q53	1530002060	S.TRANSISTOR	
4	1110003310	S.IC	μPC1688G-T1		Q55	1590001540	S.TRANSISTOR	
5	1110003280	S.IC	ND487C1T-E3		Q56	1590001540	S.TRANSISTOR	
3	1110003960	S.IC	μPC2713T-E3		Q63	1530002060		2SC4081 T107 R
7	1110003780	S.IC	NJM2902V-TE1		Q64	1590001940	S.TRANSISTOR	
9	1110003140	IC	LA1150N		Q65	1530002060	S.TRANSISTOR	2SC4081 T107 R
0	1160000130	S.IC	TD62783AF (TP1)		Q66	1590001940	S.TRANSISTOR	DTC144EE TL
11	1160000130	s.ic	TD62783AF (TP1)		Q87	1590001920	S.TRANSISTOR	UN911F(TX)
12	1110002700	s.ic	NJM2904M-T1	l	Q68	1530002060		2SC4081 T107 R
5	1130007820	S.IC	BU4052BCF-T1					
6	1110003350	S.IC	μPC1037GR-E1(MS)	1	l	1		
17	1110003350	S.IC	μPC1037GR-E1(MS)		D1	1750000450	S.DIODE	1SV265-TR
18	1110003330	S.IC	TA31136FN(EL)		D2	1750000210	S.DIODE	
			• •				I .	1SV237 (TE85R)
22	1140005280	S.IC	μPC5023GS-077-E1	ļ	D13	1750000450	S.DIODE	1SV265-TR
3	1130006220	S.IC	TC4W53FU (TE12L)		D14	1750000450	S.DIODE	1SV265-TR
4	1110002490	S.IC	M5218FP-73A		D15	1750000210	S.DIODE	1SV237 (TE85R)
5	1140005700	S.IC	HD6433378A77F		D16	1790000450	S.DIODE	MA862(TX)
3	1110001550	S.IC	S-8054ALB-LM-T1	ŀ	D17	1790000450	S.DIODE	MA862(TX)
7	1130005720	s.ic	TC7W04F (TE12L)		D18	1790000450	S.DIODE	MA862(TX)
<b>.</b>	1140004620	s.ic	X24C16S8-2.7	1	D19	1790000620	S.DIODE	MA77(TW)
9	1140004620	S.IC	X24C16S8-2.7	- 1	D20	1790000450	S.DIODE	MA862(TX)
ŏ	1130000830	S.IC	μPD4094BG-T1	ı	D20	1		
			· ·	ı		1790000450	S.DIODE	MA862(TX)
1	1130000830	S.IC	μPD4094BG-T1	ı	D22	1750000450	S.DIODE	1SV265-TR
2	1130000830	S.IC	μPD4094BG-T1	ı	D23	1750000450	S.DIODE	1SV265-TR
3	1130003760	S.IC	TC4S81F (TE85R)	ı	D24	1790000450	S.DIODE	MA862(TX)
4	1110002700	S.IC	NJM2904M-T1	- 1	D25	1790000450	S.DIODE	MA862(TX)
5	1110003690	s.ic	M62354GP 75EC	- 1	D26	1790000450	S.DIODE	MA862(TX)
6	1160000130	S.IC	TD62783AF (TP1)	ı	D27	1790000450	S.DIODE	MA862(TX)
7	1130007660	S.IC	LC7153M-TLM	- 1	D28	1790000450	S.DIODE	MA862(TX)
8	1110004100	S.IC	TA4001F (TE85L)	ı	D29			• •
-	, , , , , , , , , , , , , , , , , , , ,	3.13	MADON (IEDSE)	ı		1790000450	S.DIODE	MA862(TX)
				1	D30	1790000450	S.DIODE	MA862(TX)
ŀ					D31	1790000450	S.DIODE	MA862(TX)
	1590001940	S.TRANSISTOR	DTC144EE TL	ı	D36	1160000140	S.DIODE	DAP222 TL
l	1590001150	S.TRANSISTOR	, .	ı	D37	1160000140	S.DIODE	DAP222 TL
l	1590001150	S.TRANSISTOR	UN9211(TX)	J	D38	1790000450	S.DIODE	MA862(TX)
I	1530003150	S.TRANSISTOR	2SC4673D-TD	1	D39	1790000490	S.DIODE	HSM88AS-TR
I	1530002060	S.TRANSISTOR	2SC4081 T107 R	ı	D42	1160000140	S.DIODE	DAP222 TL
I	1590001940	S.TRANSISTOR	DTC144EE TL	1	D43	1790000490	S.DIODE	HSM88AS-TR
l	1590001940	S.TRANSISTOR	DTC144EE TL	ŀ	D43	1790000490	S.DIODE	HSM88AS-TR
l	1510000510	S.TRANSISTOR	2SA1576 T107 R	ı	D46	1790000450	S.DIODE	
	1530002060	S.TRANSISTOR	2SC4081 T107 R	ı				MA862(TX)
		· ·		- [	D47	1160000140	S.DIODE	DAP222 TL
- 1	1560000560	S.FET	2SK882-GR (TE85L)	ı	D48	1790000450	S.DIODE	MA862(TX)
l	1510000510		2SA1576 T107 R		D50	1750000520	S.DIODE	DAN222TL
-	1560000560	S.FET	2SK882-GR (TE85L)		D51	1750000370	S.DIODE	DA221 TL
	1530002060	IN CONTRACTOR OF THE CONTRACTO	2SC4081 T107 R	- 1	D52	1160000140	S.DIODE	DAP222 TL
.	1590001870	S.TRANSISTOR	DTA114EE TL	1	D53	1750000520	S.DIODE	DAN222TL
	1590001940	S.TRANSISTOR	DTC144EE TL		D54	1160000140	S.DIODE	DAP222 TL
	1530002060	4	2SC4081 T107 R		D55	1160000140	S.DIODE	DAP222 TL
	1530002060		2SC4081 T107 R	ı	D57	1750000520	S.DIODE	DAN222TL
	1590001940	S.TRANSISTOR			557	1733000320	3.51006	
					l 555	475000000	0.0000	[FRA], [DEN] only
- 1	1530003090		2SC4213-B (TE85R)		D58	1750000520	S.DIODE	DAN222TL
	1530002060	I .	2SC4081 T107 R		l	1	1	[EUR], [FRA] only
	1510000510		2SA1576 T107 R		D59	1750000520	S.DIODE	DAN222TL
	1590001940	S.TRANSISTOR	DTC144EE TL	- 1	D60	1750000520	S.DIODE	DAN222TL [USA]
	1590001870	S.TRANSISTOR	DTA114EE TL		D61	1750000520	S.DIODE	DAN222TL
	1540000450	S.TRANSISTOR			D62	1750000520	S.DIODE	DAN222TL
	1530002060	S.TRANSISTOR	2SC4081 T107 R		D63	1790000490	S.DIODE	HSM88AS-TR
	1530002060		2SC4081 T107 R		D64	1790000490	S.DIODE	HSM88AS-TR
	1510000510	I	2SA1576 T107 R		D65			
		I			ľ	1750000520	S.DIODE	DAN222TL
	1530002060	I	2SC4081 T107 R		D66	1750000520	S.DIODE	DAN222TL
	1590001940	S.TRANSISTOR		İ	D67	1720000490	S.VARICAP	SVC252-TA
	1510000510	I	2SA1576 T107 R	ı	D68	1790000490	S.DIODE	HSM88AS-TR
	1530002060	S.TRANSISTOR	2SC4081 T107 R	- 1	D69	1790000490	S.DIODE	HSM88AS-TR
i	1560000330	S.FET	2SK210-GR (TE85R)		D70	1730000620	S.ZENER	RD3.6M-T2B2
	1530002060	1	2SC4081 T107 R	1	D71	1160000140	S.DIODE	DAP222 TL
	1580000620	S.FET	3SK131-T2 MAS	ı	D72	1750000520	S.DIODE	DAN222TL
	1560000560	S.FET	2SK882-GR (TE85L)	1	D75	l .		
				ı		1790000620	S.DIODE	MA77(TW)
	1530002060		2SC4081 T107 R	l	D76	1790000620	S.DIODE	MA77(TW)
	1590001940	S.TRANSISTOR			D78	1750000520	S.DIODE	DAN222TL
	1590001150	S.TRANSISTOR		1	D80	1750000520	S.DIODE	DAN222TL
i	1590001150	S.TRANSISTOR	UN9211(TX)		D81	1750000520	S.DIODE	DAN222TL
·	1530002060	S.TRANSISTOR	2SC4081 T107 R	1	D82	1750000520	S.DIODE	DAN222TL
- 1	1590001150	S.TRANSISTOR			D83	1750000520	S.DIODE	DAN222TL
	1590001940	S.TRANSISTOR	DTC144EE TL		D84	1750000520	S.DIODE	DAN222TL [FRA]
		,						CONTRACT [FRA]

#### [MAIN UNIT]

REF. ORDER				
REF. NO.	NO.		DESCRIPTION	
D86	1160000140	S.DIODE	DAP222 TL	
D87	1750000210	S.DIODE	1SV237 (TE85R)	
D89	1730000030	S.ZENER	RD5.6M-T2B2	
D90	1750000520	S.DIODE	DAN222TL	
D92	1730000840	S.ZENER	RD9.1M-T2B2	
D93	1730000230	ZENER	RD11E B1	
D94	1790000450	S.DIODE	MA862(TX)	
D97	1750000520	S.DIODE	DAN222TL	
D97	1750000520	S.DIODE	DAN222TL	
D100	1750000520	S.DIODE	DAN222TL	
D100	1750000520	S.DIODE	DAN222TL	
			DAP222 TL	
D103	1160000140	S.DIODE	DAN222TL	
D105	1750000520	S.DIODE		
D106	1790001250	S.DIODE	MA2S111-(TX)	
D107	1730002300	S.ZENER	MA8082-M(TX)	
FI1	2010001010	FILTER	FL-120	
F12	2020001140	S.CERAMIC	SFECA10.7MA-5-A	
F12 F13	2010000730	FILTER	FL-94	
		FILTER	FL-94 FL-30	
FI4	2010000320			
FI5	2010000950	FILTER	FL-116	
FI6	2020001050	S.CERAMIC	SFPC455E-TC01	
X1 X2	6070000150 6050009520	S.Discriminator S.XTAL	CDBC455CX24-TC CR-520 (19.6608MHz)	
^2	300000000000000000000000000000000000000	SINTAL	5.1 020 (10.0000min)	
L1	6200003240	S.COIL	NL 322522T-221J	
L2	6200003240	S.COIL	NL 322522T-221J	
L3	6200003240	S.COIL	NL 322522T-221J	
L4	6200000510	S.COIL	MLF3216E 5R6M-T	
L5	6200000500	S.COIL	MLF3216A 4R7M-T	
L6	6200003240	S.COIL	NL 322522T-221J	
L7	6200003240	S.COIL	NL 322522T-470J	
L8	6200003190	S.COIL	NL 322522T-221J	
Lo L9	6200003240	S.COIL	NL 322522T-221J	
L30	6200001710	S.COIL	NL 322522T-2203	
L35	6200003240	S.COIL	LQN 1A 33NJ04	
L36	6200002360	S.COIL	LQN 1A 47NJ04	
L30	6140002810	S.COIL	LR-317	
L37 L38	6200003000	S.COIL S.COIL	NL 322522T-R22J-3	
		S.COIL	NL 322522T-R22J-3 NL 322522T-R47J-3	
L39	6200003030		NL 322522T-R47J-3 NL 322522T-100J	
L40	6200001830	S.COIL S.COIL		
L41	6140002810		LR-317	
L42	6200002990	S.COIL	NL 322522T-2R2J-3	
L43	6200002990	S.COIL	NL 322522T-2R2J-3	
L44	6200002990	S.COIL	NL 322522T-2R2J-3	
L45	6200002990	S.COIL	NL 322522T-2R2J-3	
L46	6200001830	S.COIL	NL 322522T-100J	
L47	6150004390	S.COIL	LS-492	
L48	6150004390	S.COIL	LS-492	
L49	6150004390	S.COIL	LS-492	
L50	6140002810	S.COIL	LR-317	
L51	6140002810	S.COIL	LR-317	
L52	6200003030	S.COIL	NL 322522T-R47J-3	
L53	6150004870	S.COIL	LS-512	
L54	6150004870	S.COIL	LS-512	
L55	6150004900	S.COIL	LS-512	
L57	6200001710	S.COIL	NL 322522T-220J	
L58	6200003260	S.COIL	NL 322522T-101J	
L59	6200003260	S.COIL	NL 322522T-101J	
L60	6200003260	S.COIL	NL 322522T-101J	
L61	6150004880	S.COIL	LS-513	
L62	6200003190	S.COIL	NL 322522T-470J	
L63	6150004890	S.COIL	LS-514	
L64	6150004880	S.COIL	LS-513	
L65	6200003260	S.COIL	NL 322522T-101J	
L66	6200003260	S.COIL	NL 322522T-1010	
L70	6200003260	S.COIL	NL 322522T-101J	
L70	6200003280	S.COIL	NL 322522T-1013	
L71 L72	6200001830	S.COIL S.COIL	NL 322522T-100J	
	6200003260	S.COIL	NL 322522T-101J	
L74	6200003260	S.COIL S.COIL	NL 322522T-101J NL 322522T-2R2J-3	
L75 L76	6200002990	S.COIL	NL 322522T-2H2J-3 NL 322522T-100J	
1,0	0200001830	3.00IL	11L JZZJZZ 1-100J	

MAIN UNIT]				
REF.	ORDER		DESCRIPTION	
NO.	NO.			
L77	6200003260	S.COIL	NL 322522T-101J	
L78	6200002990	S.COIL	NL 322522T-2R2J-3	
L81	6200003100	S.COIL	NL 322522T-3R9J-3	
L82	6200003260	S.COIL	NL 322522T-101J	
L84	6150004910	S.COIL	LS-516	
L85	6150004910	S.COIL	LS-516	
L87	6200003160	S.COIL	NL 322522T-270J	
L88 L89	6200003160 6200001830	S.COIL S.COIL	NL 322522T-270J NL 322522T-100J	
L90	6200001830	S.COIL	NL 322522T-1000 NL 322522T-2R2J-3	
L91	6200001830	S.COIL	NL 322522T-100J	
L92	6200002990	S.COIL	NL 322522T-2R2J-3	
L93	6200002900	S.COIL	ELJSC 680K-F	
L94	6200002900	S.COIL	ELJSC 680K-F	
L95	6200003260 6200003260	S.COIL S.COIL	NL 322522T-101J NL 322522T-101J	
L96 L99	6200003260	S.COIL	ELJNC R18K-F	
L100	6180002960	S.COIL	NL 322522T-R18J-3	
L101	6180002960	S.COIL	NL 322522T-R18J-3	
L104	6200005190	S.COIL	MLF1608D R56K-T	
L105	6200005190	S.COIL	MLF1608D R56K-T	
L106	6200004940	S.COIL	MLF1608D R27K-T	
L107	6200004070 6200004220	S.COIL	MLR1608M 22NJ-T MLR1608M 27NJ-T	
L108 L109	6200004220	S.COIL S.COIL	MLF1608M 27NJ-1 MLF1608D R39K-T	
L110	6200003180	S.COIL	MLF1608D R15K-T	
L111	6200002340	S.COIL	LQN 1A 23NJ04	
L112	6200002340	S.COIL	LQN 1A 23NJ04	
L113	6200001650	S.COIL	ELJNC 18NK-F	
L124	6200001710	S.COIL	NL 322522T-220J	
L125	6200001830	S.COIL	NL 322522T-100J	
L126	6200001710	S.COIL	NL 322522T-220J	
L128 L130	6200003540 6200002460	S.COIL S.COIL	MLF1608D R22K-T ELJNC 82NK-F	
L131	6200002400	S.COIL	MLR1608M 56NJ-T	
L132	6200004070	S.COIL	MLR1608M 22NJ-T	
1				
l				
R1	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)	
R2	7030006250 7030003390	S.RESISTOR S.RESISTOR	ERJ12YJ271H (270 Ω) ERJ3GEYJ 391 V (390 Ω)	
R3 R4	7030003390	S.RESISTOR	ERJ3GEYJ 580 V (58 Ω)	
R5	7030006260	S.RESISTOR	ERJ12YJ471H (470 Ω)	
R6	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)	
R7	7030006260	S.RESISTOR	ERJ12YJ471H (470 Ω)	
R8	7030008280	S.RESISTOR	ERJ12YJ471H (470 Ω)	
R9	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)	
R10 R11	7030003230 7030003370	S.RESISTOR S.RESISTOR	ERJ3GEYJ 180 V (18 Ω) ERJ3GEYJ 271 V (270 Ω)	
R27	7030003370	S.RESISTOR	ERJ12YJ471H (470 Ω)	
R34	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)	
R35	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)	
R36	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)	
R37	7030003510	S.RESISTOR	ERJ3GEYJ 392 V (3.9 kΩ)	
R38	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)	
R39 R40	7030006070 7030003400	S.RESISTOR	ERJ12YJ101H (100 Ω)	
R41	7030003400	S.RESISTOR S.RESISTOR	ERJ3GEYJ 471 V (470 Ω) ERJ3GEYJ 221 V (220 Ω)	
R42	7030003360	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)	
R43	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)	
R45	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)	
R46	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)	
R47	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)	
R48	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)	
R50	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)	
R51 R52	7030003230 7030003370	S.RESISTOR S.RESISTOR	ERJ3GEYJ 180 V (18 Ω) ERJ3GEYJ 271 V (270 Ω)	
R53	7030003370	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)	
R54	7030003400	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)	
R55	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)	
R56	7030003570	S.RESISTOR	ERJ3GEYJ 123 V (12 kΩ)	
R57	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)	
R58	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)	
R59	7030003280 7030003400	S.RESISTOR S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)	
R60 R61	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω) ERJ3GEYJ 331 V (330 Ω)	
l	. 555500500	320.01011		

#### [MAIN UNIT]

REF.	ORDER NO.		DESCRIPTION
R63	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R64	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R66	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R67	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R68	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R70	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R71 R73	7030003320	S.RESISTOR S.RESISTOR	ERJ3GEYJ 101 V (100 Ω) ERJ3GEYJ 103 V (10 kΩ)
R74	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R75	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R76	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R77	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R78	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R79 R80	7030003480	S.RESISTOR S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ) ERJ3GEYJ 101 V (100 Ω)
R81	7030003320	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R82	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R83	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R85	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R86	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R87	7030003480	S.RESISTOR S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R88 R89	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω) ERJ3GEYJ 222 V (2.2 kΩ)
R90	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kQ)
R91	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R92	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R93	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R94	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R95	7310002760	S.TRIMMER	RV-152 (RH03A3AJ4X0HA) 223
R99	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R100	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R101	7030003840	S.RESISTOR	ERJ3GEYJ 225 V (2.2 MΩ)
R102	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R103	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R104	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R105 R106	7030003800 7030003470	S.RESISTOR S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ) ERJ3GEYJ 182 V (1.8 kΩ)
R107	7030003470	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R108	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R109	7310002740	S.TRIMMER	RV-150 (RH03A3A14X0FC) 103
R110	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R111	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R112	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R113	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R114	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R115	7030003680 7030003440	S.RESISTOR S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ) ERJ3GEYJ 102 V (1 kΩ)
R116 R117	7030003440	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)
R118	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R119	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R120	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R121	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R122	7030003420 7030003560	S.RESISTOR S.RESISTOR	ERJ3GEYJ 681 V (680 Ω) ERJ3GEYJ 103 V (10 kΩ)
R123 R124	7030003360	S.RESISTOR	ERJ3GEYJ 100 V (10 KΩ)
R125	7030003610	S.RESISTOR	ERJ3GEYJ 273 V (27 kΩ)
R126	7310002740	S.TRIMMER	RV-150 (RH03A3A14X0FC)
R127	7030003680	S.RESISTOR	103 ERJ3GEYJ 104 V (100 kΩ)
R128	7030003380	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R129	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R130	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R131	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R132	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R133	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R135 R136	7030003360 7030003520	S.RESISTOR S.RESISTOR	ERJ3GEYJ 221 V (220 Ω) ERJ3GEYJ 472 V (4.7 kΩ)
R136	7030003520	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R138	7030003320	S.RESISTOR	ERJ3GEYJ 393 V (39 kΩ)
R139	7030003540	S.RESISTOR	ERJ3GEYJ 682 V (6.8 kΩ)
R140	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R141	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R142	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R143	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)

[MAIN U	MAIN UNIT]				
REF.	ORDER NO.		DESCRIPTION		
	110.				
R144	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)		
R151	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)		
R152 R153	7030003560	S.RESISTOR S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ) ERJ3GEYJ 102 V (1 kΩ)		
R154	7030003440	S.RESISTOR	ERJ3GEYJ 682 V (6.8 kΩ)		
R155	7030003490	S.RESISTOR	ERJ3GEYJ 272 V (2.7 kΩ)		
R156	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)		
R157	7510000860	S.THERMISTOR	NTCCF2012 3FH 222KC-T		
R158	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)		
R159	7030003440	S.RESISTOR S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ) ERJ3GEYJ 472 V (4.7 kΩ)		
R160 R161	7030003520 7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)		
R162	7030003540	S.RESISTOR	ERJ3GEYJ 682 V (6.8 kΩ)		
R163	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)		
R164	7030003860	S.RESISTOR	ERJ3GEYJ 683 V (68 kΩ)		
R165	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)		
R175	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)		
R177 R178	7030003440	S.RESISTOR S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ) ERJ3GEYJ 103 V (10 kΩ)		
R179	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)		
R180	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)		
R182	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)		
R183	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)		
R184	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)		
R185 R186	7030003320	S.RESISTOR S.RESISTOR	ERJ3GEYJ 101 V (100 Ω) ERJ3GEYJ 101 V (100 Ω)		
R187	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)		
R188	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)		
R191	7310002740	S.TRIMMER	RV-150 (RH03A3A14X0FC) 103		
R192 R193	7030003680 7310002740	S.RESISTOR S.TRIMMER	ERJ3GEYJ 104 V (100 kΩ) RV-150 (RH03A3A14X0FC) 103		
R194	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)		
R195	7310002600	S.TRIMMER	RV-110 (RH03A3AS4X0AA) 473		
R196 R197	7030003480	S.RESISTOR S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ) ERJ3GEYJ 103 V (10 kΩ)		
R198	7310002590	S.TRIMMER	RV-109 (RH03A3AJ3X0BA) 222		
R199	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)		
R200	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)		
R201 R202	7030003700 7030003700	S.RESISTOR S.RESISTOR	ERJ3GEYJ 154 V (150 kΩ) ERJ3GEYJ 154 V (150 kΩ)		
R203	7030003830	S.RESISTOR	ERJ3GEYJ 393 V (39 kΩ)		
R206	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)		
R208	7030003740	S.RESISTOR	ERJ3GEYJ 334 V (330 kΩ)		
R209	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)		
R212	7030003700	S.RESISTOR	ERJ3GEYJ 154 V (150 kΩ)		
R213 R214	7030003460 7030003440	S.RESISTOR S.RESISTOR	ERJ3GEYJ 152 V (1.5 kΩ) ERJ3GEYJ 102 V (1 kΩ)		
R215	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)		
R234	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)		
R235	7030003530	S.RESISTOR	ERJ3GEYJ 562 V (5.6 kΩ)		
R236	7030003610	S.RESISTOR	ERJ3GEYJ 273 V (27 kΩ)		
R237 R238	7030003460 7030003660	S.RESISTOR S.RESISTOR	ERJ3GEYJ 152 V (1.5 kΩ) ERJ3GEYJ 683 V (68 kΩ)		
R239	7310004280	TRIMMER	EVN-D2AA03 B54		
R240	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)		
R241	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)		
R242	7030003740	S.RESISTOR	ERJ3GEYJ 334 V (330 kΩ)		
R243	7030003630	S.RESISTOR	ERJ3GEYJ 393 V (39 kΩ)		
R244	7310003820	TRIMMER	EVN-D2AA03 B14		
R245 R246	7030003520 7030003540	S.RESISTOR S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ) ERJ3GEYJ 682 V (6.8 kΩ)		
R247	7030003540	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)		
R248	7310004250	TRIMMER	EVN-D2AA03 B25		
R249	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)		
R250	7030003290	S.RESISTOR	ERJ3GEYJ 560 V (56 Ω)		
R251	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)		
R252 R253	7030003720	S.RESISTOR S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ) ERJ3GEYJ 153 V (15 kΩ)		
R254	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)		
R256	7030003590	S.RESISTOR	ERJ3GEYJ 183 V (18 kΩ)		
R258	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)		
R259	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)		
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REF. NO.	ORDER NO.		DESCRIPTION
R260	7310002720	S.TRIMMER	RV-148 (RH03A3AS3X0DA)
R261	7030003370	S.RESISTOR	472 ERJ3GEYJ 271 V (270 Ω)
R262	7030003370	S.RESISTOR	ERJ3GEYJ 684 V (680 kΩ)
R263	7030003700	S.RESISTOR	ERJ3GEYJ 184 V (180 kΩ)
R264	7030003700	S.RESISTOR	ERJ3GEYJ 154 V (150 kΩ)
R265	7030003700	S.RESISTOR	ERJ3GEYJ 154 V (150 kΩ)
R266	7030003700	S.RESISTOR	ERJ3GEYJ 154 V (150 kΩ)
R268	7030003670	S.RESISTOR	ERJ3GEYJ 823 V (82 kΩ)
R269	7030003670	S.RESISTOR	ERJ3GEYJ 823 V (82 kΩ)
R270	7030003450	S.RESISTOR	ERJ3GEYJ 122 V (1.2 kΩ)
R271	7310002740	S.TRIMMER	RV-150 (RH03A3A14X0FC) 103
R272	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R273	7030003440 7310002720	S.RESISTOR S.TRIMMER	ERJ3GEYJ 102 V (1 kΩ) RV-148 (RH03A3AS3X0DA)
R274			472
R275 R276	7030003520 7030003200	S.RESISTOR S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ) ERJ3GEYJ 100 V (10 Ω)
R276	7030003200	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R278	7030003480	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R279	7030003520	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R280	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R281	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R282	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R283	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R284	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R285	7030003490	S.RESISTOR	ERJ3GEYJ 272 V (2.7 kΩ)
R286	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R287 R288	7030003800 7030003440	S.RESISTOR S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ) ERJ3GEYJ 102 V (1 kΩ)
R289	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R290	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R291	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R292	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R293	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R294	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R295	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R298	7030003640	S.RESISTOR S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ) ERJ3GEYJ 473 V (47 kΩ)
R300 R301	7030003640 7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R302	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R303	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R304	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R305	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R306	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R307	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R308	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ) ERJ3GEYJ 224 V (220 kΩ)
R309 R310	7030003720	S.RESISTOR S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R311	7030003500	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R312	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R313	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R314	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R315	7030003540	S.RESISTOR	ERJ3GEYJ 682 V (6.8 kΩ)
R316	7030003590	S.RESISTOR	ERJ3GEYJ 183 V (18 kΩ)
R317	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R318 R319	7030003800 7030003800	S.RESISTOR S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ) ERJ3GEYJ 223 V (22 kΩ)
R319	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R321	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R322	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R323	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R324	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R325	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R326	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R327	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R328	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R337 R338	7030003560 7310002760	S.RESISTOR S.TRIMMER	ERJ3GEYJ 103 V (10 kΩ) RV-152 (RH03A3AJ4X0HA)
R341	7030003440	S.RESISTOR	223 ERJ3GEYJ 102 V (1 kΩ)
R341	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R343	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R344	7030903440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R345	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)

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REF. NO.	ORDER NO.		DESCRIPTION		
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R346 R347	7030003440 7030003440	S.RESISTOR S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ) ERJ3GEYJ 102 V (1 kΩ)		
R348	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)		
R349	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)		
R350	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)		
R351	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)		
R352 R353	7030003480	S.RESISTOR S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ) ERJ3GEYJ 102 V (1 kΩ)		
R354	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)		
R355	7310003820	TRIMMER	EVN-D2AA03 B14		
R356	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)		
R358 R359	7030003520 7030003560	S.RESISTOR S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ) ERJ3GEYJ 103 V (10 kΩ)		
R360	7030003550	S.RESISTOR	ERJ3GEYJ 822 V (8.2 kΩ)		
R361	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)		
R362	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)		
R383	7030003200	S.RESISTOR S.RESISTOR	ERJ3GEYJ 100 V (10 Ω) ERJ3GEYJ 472 V (4.7 kΩ)		
R366 R367	7030003520	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)		
R368	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)		
R369	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)		
R370	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)		
R371 R372	7030003320 7030003340	S.RESISTOR S.RESISTOR	ERJ3GEYJ 101 V (100 Ω) ERJ3GEYJ 151 V (150 Ω)		
R372	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)		
R374	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)		
R375	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)		
R376	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)		
R377 R378	7030003480	S.RESISTOR S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ) ERJ3GEYJ 470 V (47 Ω)		
R379	7030003280	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)		
R383	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)		
R384	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)		
R386	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)		
R388 R389	7030003480	S.RESISTOR S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ) ERJ3GEYJ 103 V (10 kΩ)		
R390	7030003800	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)		
R391	7030003420	S.RESISTOR	ERJ3GEYJ 681 V (680 Ω)		
R392	7030003420	S.RESISTOR	ERJ3GEYJ 681 V (680 Ω)		
R393 R395	7030003440 7030003280	S.RESISTOR S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ) ERJ3GEYJ 470 V (47 Ω)		
R396	7030003200	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)		
R397	7030003590	S.RESISTOR	ERJ3GEYJ 183 V (18 kΩ)		
R398	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)		
R399 R401	7030003280	S.RESISTOR S.TRIMMER	ERJ3GEYJ 470 V (47 Ω) RV-148 (RH03A3AS3X0DA)		
11701	7510002720	J. T.	472		
R402	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)		
R403	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)		
R404 R405	7030003360	S.RESISTOR S.RESISTOR	ERJ3GEYJ 221 V (220 Ω) ERJ3GEYJ 471 V (470 Ω)		
R406	7030003400	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)		
R407	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)		
R409	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)		
R415 R416	7030003580 7030003560	S.RESISTOR S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ) ERJ3GEYJ 103 V (10 kΩ)		
R418	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)		
R419	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)		
R420	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)		
R421	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)		
R422 R423	7030003440	S.RESISTOR S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ) ERJ3GEYJ 103 V (10 kΩ)		
R425	7030003360	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)		
R426	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)		
R428	7030003730	S.RESISTOR	ERJ3GEYJ 274 V (270 kΩ)		
R429	7030003650	S.RESISTOR	ERJ3GEYJ 563 V (56 kΩ)		
R430 R431	7030003640	S.RESISTOR S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ) ERJ3GEYJ 475 V (4.7 MΩ)		
R432	7030004710	S.RESISTOR	ERJ3GEYJ 475 V (4.7 MΩ)		
R433	7030003570	S.RESISTOR	ERJ3GEYJ 123 V (12 kΩ)		
R434	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)		
R435	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)		
R436 R437	7030003280	S.RESISTOR S.RESISTOR	ERJ3GEYJ 470 V (47 Ω) ERJ3GEYJ 474 V (470 kΩ)		
R438	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)		
R439	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)		
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REF. NO.	ORDER NO.		DESCRIPTION
R440	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R441	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R442	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R443 R444	7030003760 7030003760	S.RESISTOR S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ) ERJ3GEYJ 474 V (470 kΩ)
R445	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R446	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R447 R448	7030003720 7030003440	S.RESISTOR S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ) ERJ3GEYJ 102 V (1 kΩ)
R450	7030003440	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R451	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R452 R453	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω) ERJ3GEYJ 331 V (330 Ω)
R454	7030003380 7030003640	S.RESISTOR S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R455	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R456	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R457 R458	7030003400 7030003360	S.RESISTOR S.RESISTOR	ERJ3GEYJ 471 V (470 Ω) ERJ3GEYJ 221 V (220 Ω)
R459	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R460	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R461 R462	7030003740 7030003750	S.RESISTOR S.RESISTOR	ERJ3GEYJ 334 V (330 kΩ) ERJ3GEYJ 394 V (390 kΩ)
R462 R465	7030003750	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kQ)
R466	7030003220	S.RESISTOR	ERJ3GEYJ 150 V (15 Ω)
R467 R468	7030003370 7030003230	S.RESISTOR S.RESISTOR	ERJ3GEYJ 271 V (270 Ω) ERJ3GEYJ 180 V (18 Ω)
R468 R469	7030003230	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R470	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R471	7030003830	S.RESISTOR	ERJ3GEYJ 185 V (1.8 MΩ)
R472 R474	7030003520 7030003640	S.RESISTOR S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ) ERJ3GEYJ 473 V (47 kΩ)
R475	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R476	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R477 R478	7030003480	S.RESISTOR S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ) ERJ3GEYJ 101 V (100 Ω)
R479	7030003320	S.RESISTOR	ERJ3GEYJ 273 V (27 kΩ)
R480	7030003610	S.RESISTOR	ERJ3GEYJ 273 V (27 kΩ)
R481	7030003640	S.RESISTOR S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ) MCR10EZHJ 10 Ω (100)
R482 R483	7030000140 7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R484	7030003230	S.RESISTOR	ERJ3GEYJ 180 V (18 Ω)
R485	7030003370 7030003580	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω) ERJ3GEYJ 153 V (15 kΩ)
R491 R492	7030003380	S.RESISTOR S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R493	7030003540	S.RESISTOR	ERJ3GEYJ 682 V (6.8 kΩ)
R494	7030003360	S.RESISTOR S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R495 R496	7030003620 7030003320	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ) ERJ3GEYJ 101 V (100 Ω)
R497	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R498	7030006230	S.RESISTOR	ERJ12YJ151H (150 Ω)
R499	7310002740	S.TRIMMER	RV-150 (RH03A3A14X0FC) 103
R500	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R501	7030003530	S.RESISTOR	ERJ3GEYJ 562 V (5.6 kΩ)
R502 R504	7030003420 7030003560	S.RESISTOR S.RESISTOR	ERJ3GEYJ 681 V (680 Ω) ERJ3GEYJ 103 V (10 kΩ)
R505	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R506	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R507 R510	7030003440 7030003320	S.RESISTOR S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ) ERJ3GEYJ 101 V (100 Ω)
R511	7310003320	S.TRIMMER	RV-143 (RH03A3A\$2 )471
R512	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R514	7030003560 7030003440	S.RESISTOR S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ) ERJ3GEYJ 102 V (1 kΩ)
R515 R516	7030003440	S.RESISTOR	ERJ3GEYJ 475 V (4.7 MΩ)
R517	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R518	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R519 R520	7030003560 7030003560	S.RESISTOR S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ) ERJ3GEYJ 103 V (10 kΩ)
R521	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R522	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R523 R524	7030003480 7030003280	S.RESISTOR S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ) ERJ3GEYJ 470 V (47 Ω)
R525	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R526	7030003550	S.RESISTOR	ERJ3GEYJ 822 V (8.2 kΩ)
R527	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
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REF.	ORDER NO.	DESCRIPTION		
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R528	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)	
R529 R530	7030003840 7030003420	S.RESISTOR S.RESISTOR	ERJ3GEYJ 225 V (2.2 MΩ) ERJ3GEYJ 681 V (680 Ω)	
R531	7030003420	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)	
R532	7030003690	S.RESISTOR	ERJ3GEYJ 124 V (120 kΩ)	
R533	7030006520	S.RESISTOR	RR0816P-561-D (560 Ω)	
R534	7080001130	RESISTOR	CRB25FX 330 Ω	
C1	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C2	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C3 C4	4030008470	S.CERAMIC	C1608 JB 1H 272K-T-A	
C5	4030006880 4030010020	S.CERAMIC S.CERAMIC	C1608 JB 1H 472K-T-A C1608 JB 1H 122K-T-A	
C6	4030008850	S.CERAMIC	C1608 JB 1C 123K-T-A	
C7	4030006870	S.CERAMIC	C1608 JB 1H 222K-T-A	
C8 C9	4030010070 4030010070	S.CERAMIC S.CERAMIC	C1608 X7S 1C 104K-T-A C1608 X7S 1C 104K-T-A	
C10	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C11	4030010070	S.CERAMIC	C1808 X7S 1C 104K-T-A	
C57	4030007070	S.CERAMIC	C1608 CH 1H 330J-T-A	
C58 C59	4030007040 4030007050	S.CERAMIC S.CERAMIC	C1608 CH 1H 180J-T-A C1608 CH 1H 220J-T-A	
C60	4030007030	S.CERAMIC S.CERAMIC	C1608 X7S 1C 104K-T-A	
C61	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A	
C62	4030007130	S.CERAMIC	C1608 CH 1H 101J-T-A	
C63 C64	4030006880 4030006880	S.CERAMIC S.CERAMIC	C1608 JB 1H 472K-T-A C1608 JB 1H 472K-T-A	
C65	4030007130	S.CERAMIC	C1608 CH 1H 101J-T-A	
C66	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C67	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C68 C69	4030006880 4030006880	S.CERAMIC S.CERAMIC	C1608 JB 1H 472K-T-A C1608 JB 1H 472K-T-A	
C70	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C71	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C72	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C74 C75	4030006880 4030006880	S.CERAMIC S.CERAMIC	C1608 JB 1H 472K-T-A C1608 JB 1H 472K-T-A	
C76	4030007000	S.CERAMIC	C1608 CH 1H 090D-T-A	
C77	4030006980	S.CERAMIC	C1608 CH 1H 070D-T-A	
C78 C81	4030007000 4030006880	S.CERAMIC S.CERAMIC	C1608 CH 1H 090D-T-A C1608 JB 1H 472K-T-A	
C82	4030007150	S.CERAMIC	C1608 CH 1H 151J-T-A	
C83	4030007060	S.CERAMIC	C1608 CH 1H 270J-T-A	
C84	4030007150	S.CERAMIC	C1608 CH 1H 151J-T-A	
C85 C86	4030006880 4030006880	S.CERAMIC S.CERAMIC	C1608 JB 1H 472K-T-A C1608 JB 1H 472K-T-A	
C87	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C88	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C89	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A C1608 JB 1H 472K-T-A	
C90 C91	4030006880 4030006880	S.CERAMIC S.CERAMIC	C1608 JB 1H 472K-T-A	
C92	4030007040	S.CERAMIC	C1608 CH 1H 180J-T-A	
C93	4030007030	S.CERAMIC	C1608 CH 1H 150J-T-A	
C94 C95	4030006950 4030006880	S.CERAMIC S.CERAMIC	C1808 CH 1H 040C-T-A C1608 JB 1H 472K-T-A	
C95	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C98	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C99	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C100 C101	4030006880 4030006880	S.CERAMIC S.CERAMIC	C1608 JB 1H 472K-T-A C1608 JB 1H 472K-T-A	
C101	4030006880	S.CERAMIC S.CERAMIC	C1608 JB 1H 472K-T-A	
C104	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C105	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C108 C107	4030010070 4030006880	S.CERAMIC S.CERAMIC	C1608 X7S 1C 104K-T-A C1608 JB 1H 472K-T-A	
C108	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C109	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C111	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C112 C113	4030006880 4030010070	S.CERAMIC S.CERAMIC	C1608 JB 1H 472K-T-A C1608 X7S 1C 104K-T-A	
C114	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C115	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A	
C116	4510004630	S.ELECTROLITIC		
C117 C118	4550002980 4550000450	S.TANTALUM S.TANTALUM	TEMSVA 1C 225M-8L TESVC 1C 106M-12L	
L	L			

# [MAIN UNIT]

MAIN UNIT					
REF.	ORDER	DESCRIPTION			
NO.	NO.				
C119	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A			
C120	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A			
C121	4030006880 4030006880	S.CERAMIC C1608 JB 1H 472K-T-A S.CERAMIC C1608 JB 1H 472K-T-A			
C122 C123	4030006880	S.CERAMIC C1608 JB 1H 472K-1-A S.CERAMIC C1608 JB 1H 472K-T-A			
C123	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A			
C125	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A			
C126	4030007040 4030007010	S.CERAMIC C1608 CH 1H 180J-T-A S.CERAMIC C1608 CH 1H 100D-T-A			
C127 C128	4030007010	S.CERAMIC C1608 CH 1H 100D-1-A			
C129	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A			
C130	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A			
C131 C132	4030006880 4030010070	S.CERAMIC C1608 JB 1H 472K-T-A S.CERAMIC C1608 X7S 1C 104K-T-A			
C132	4030070070	S.CERAMIC C1608 X73 10 104K-1-A			
C134	4030006850	S.CERAMIC C1608 JB 1H 471K-T-A			
C135	4510004640 4510004630	S.ELECTROLITIC ECEV1CA470SP S.ELECTROLITIC ECEV1CA100SR			
C136 C137	4510004630 4550000450	S.ELECTROLITIC ECEVICATIONS S.TANTALUM TESVC 1C 106M-12L			
C138	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A			
C141	4510004630	S.ELECTROLITIC ECEV1CA100SR			
C142 C143	4030009110 4030007130	S.CERAMIC C3216 JB 1C 474K-T-A S.CERAMIC C1608 CH 1H 101J-T-A			
C143	4030007130	S.CERAMIC C1608 CH 14 1013-1-4 S.CERAMIC C1608 JB 1C 223K-T-A			
C145	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A			
C148	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A			
C147 C148	4030006880 4030007150	S.CERAMIC C1608 JB 1H 472K-T-A S.CERAMIC C1608 CH 1H 151J-T-A			
C148 C158	4030007150	S.CERAMIC C1608 CH 1H 1513-1-A			
C159	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A			
C160	4030006860	S.CERAMIC C1608 JB 1H 102K-T-A			
C161 C162	4030009110 4030010070	S.CERAMIC C3216 JB 1C 474K-T-A S.CERAMIC C1608 X7S 1C 104K-T-A			
C162	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A			
C164	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A			
C165 C166	4510004630 4030006880	S.ELECTROLITIC ECEV1CA100SR S.CERAMIC C1608 JB 1H 472K-T-A			
C166	4030008880	S.CERAMIC C1608 JB 1H 472K-1-A			
C168	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A			
C169	4030010210	S.CERAMIC C3216 JB 1C 105M-T-A S.CERAMIC C1608 JB 1H 472K-T-A			
C170 C171	4030006880 4510004630	S.CERAMIC C1608 JB 1H 472K-1-A S.ELECTROLITIC ECEV1CA100SR			
C171	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A			
C173	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A			
C174 C175	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A S.CERAMIC C1608 X7S 1C 104K-T-A			
C175	4030010070	S.CERAMIC C1608 JB 1H 472K-T-A			
C177	4510004440	S.ELECTROLITIC ECEV1HA010SR			
C178	4510005860	S.ELECTROLITIC ECEV1HA2R2SR S.CERAMIC C1608 X7S 1C 104K-T-A			
C179 C180	4030010070 4510004630	S.CERAMIC C1608 X7S 1C 104K-T-A S.ELECTROLITIC ECEV1CA100SR			
C181	4030006900	S.CERAMIC C1608 JB 1E 103K-T-A			
C182	4030006900	S.CERAMIC C1608 JB 1E 103K-T-A			
C184	4030010070 4030006900	S.CERAMIC C1608 X7S 1C 104K-T-A S.CERAMIC C1608 JB 1E 103K-T-A			
C187 C189	4030006900	S.CERAMIC C1608 JB 1E 103R-1-A  S.CERAMIC C1608 CH 1H 221J-T-A			
C190	4030007170	S.CERAMIC C1608 CH 1H 221J-T-A			
C191	4030007130	S.CERAMIC C1608 CH 1H 101J-T-A			
C192 C193	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A S.CERAMIC C1608 JB 1H 472K-T-A			
C193	40300000000	S.CERAMIC C1608 X7S 1C 104K-T-A			
C195	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A			
C208	4510005860 4510005860	S.ELECTROLITIC ECEV1HA2R2SR S.ELECTROLITIC ECEV1HA2R2SR			
C209 C210	4030011340	S.ELECTHOLITIC ECEVITAZEZSK S.CERAMIC C1608 CH 1H 471J-T-A			
C211	4510005860	S.ELECTROLITIC ECEV1HA2R2SR			
C212	4030009000	S.CERAMIC C2012 JB 1C 224K-T-A			
C213 C214	4030010760	S.CERAMIC C1608 CH 1H 331J-T-A S.CERAMIC C1608 X7S 1C 104K-T-A			
C214 C215	4030010070	S.CERAMIC C1808 X73 TC 104R-1-A			
C216	4030007080	S.CERAMIC C1608 CH 1H 390J-T-A			
C217	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A S.CERAMIC C1608 JB 1C 333K-T-A			
C218 C219	4030008900 4030010070	S.CERAMIC C1608 JB 1C 333K-1-A S.CERAMIC C1608 X7S 1C 104K-T-A			
C220	4030010210	S.CERAMIC C3216 JB 1C 105M-T-A			
C221	4030009000	S.CERAMIC C2012 JB 1C 224K-T-A			
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MAIN UNIT]						
REF. NO.	ORDER NO.	DESCRIPTION				
C222	4510004630	S.ELECTROLITIC ECEV1CA100SR				
C224	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A				
C225	4030010070	S.CERAMIC C1808 X7S 1C 104K-T-A				
C226	4030010070	S.CERAMIC C1808 X7S 1C 104K-T-A				
C227 C228	4030009110 4030009110	S.CERAMIC C3216 JB 1C 474K-T-A S.CERAMIC C3216 JB 1C 474K-T-A				
C230	4030008110	S.CERAMIC C1608 JB 1H 102K-T-A				
C231	4030006870	S.CERAMIC C1608 JB 1H 222K-T-A				
C232	4030007140	S.CERAMIC C1808 CH 1H 121J-T-A				
C234 C235	4510004630 4030007020	S.ELECTROLITIC ECEV1CA100SR S.CERAMIC C1608 CH 1H 120J-T-A				
C236	4030007020	S.CERAMIC C1608 CH 1H 120J-T-A				
C237	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A				
C238	4030010070 4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A S.CERAMIC C1608 X7S 1C 104K-T-A				
C239 C240	4030010070	S.CERAMIC C1008 X75 TC 104K-1-A				
C241	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A				
C242	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A				
C243 C244	4030010070 4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A S.CERAMIC C1608 X7S 1C 104K-T-A				
C244 C245	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A				
C246	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A				
C247	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A				
C248 C249	4030010070 4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A S.CERAMIC C1608 X7S 1C 104K-T-A				
C250	4030070070	S.CERAMIC C1608 CH 1H 820J-T-A				
C251	4030007120	S.CERAMIC C1608 CH 1H 820J-T-A				
C252	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A				
C255 C256	4030010070 4030006880	S.CERAMIC C1608 X7S 1C 104K-T-A S.CERAMIC C1608 JB 1H 472K-T-A				
C256	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A				
C258	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A				
C259	4030010070	S.CERAMIC C1808 X7S 1C 104K-T-A				
C260 C262	4030011280 4510004630	S.CERAMIC C1608 CH 1H 271J-T-A S.ELECTROLITIC ECEV1CA100SR				
C263	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A				
C264	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A				
C265	4030007110	S.CERAMIC C1608 CH 1H 680J-T-A S.CERAMIC C1608 CH 1H 560J-T-A				
C266 C267	4610001980	S.TRIMMER CTZ3E-30C-W1				
C268	4030007150	S.CERAMIC C1808 CH 1H 151J-T-A				
C269	4030007150	S.CERAMIC C1608 CH 1H 151J-T-A				
C270 C271	4030007150 4030006880	S.CERAMIC C1608 CH 1H 151J-T-A S.CERAMIC C1608 JB 1H 472K-T-A				
C272	4030007010	S.CERAMIC C1608 CH 1H 100D-T-A				
C273	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A				
C274	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A S.CERAMIC C2012 JB 1C 224K-T-A				
C275 C276	4030009000 4030006880	S.CERAMIC C2012 JB 1C 224K-T-A S.CERAMIC C1608 JB 1H 472K-T-A				
C277	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A				
C278	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A				
C279 C280	4030009110	S.CERAMIC C3216 JB 1C 474K-T-A S.CERAMIC C1608 JB 1H 472K-T-A				
C281	4510004630	S.ELECTROLITIC ECEV1CA100SR				
C282	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A				
C283	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A S.CERAMIC C1608 JB 1H 472K-T-A				
C284 C285	4030006880 4030010070	S.CERAMIC C1608 JB 1H 472K-T-A S.CERAMIC C1608 X7S 1C 104K-T-A				
C287	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A				
C288	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A				
C289	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A				
C290 C291	4030007100 4030010070	S.CERAMIC C1608 CH 1H 560J-T-A S.CERAMIC C1608 X7S 1C 104K-T-A				
C292	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A				
C293	4030007100	S.CERAMIC C1608 CH 1H 560J-T-A				
C294	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A S.CERAMIC C1608 CH 1H 221J-T-A				
C295 C296	4030007170	S.CERAMIC C1608 CH 1H 2213-1-A				
C297	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A				
C298	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A				
C299 C300	4030010070 4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A S.CERAMIC C1608 X7S 1C 104K-T-A				
C300	4030010070	S.CERAMIC C1608 X75 1C 104K-T-A				
C304	4030007030	S.CERAMIC C1608 CH 1H 150J-T-A				
C305	4030007030	S.CERAMIC C1608 CH 1H 150J-T-A				
C307	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A				

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REF. NO.	ORDER NO.	DESCRIPTION
C308	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C309	4030009650	S.CERAMIC C1608 CH 1H 240J-T-A
C310	4030009650	S.CERAMIC C1608 CH 1H 240J-T-A
C311 C312	4030006860 4030010070	S.CERAMIC C1608 JB 1H 102K-T-A S.CERAMIC C1608 X7S 1C 104K-T-A
C312	4030006860	S.CERAMIC C1608 JB 1H 102K-T-A
C314	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C315	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A S.CERAMIC C1608 JB 1H 472K-T-A
C316 C317	4030008880 4030007120	S.CERAMIC C1608 CH 1H 820J-T-A
C318	4030007120	S.CERAMIC C1608 CH 1H 820J-T-A
C319	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A S.CERAMIC C1608 X7S 1C 104K-T-A
C320 C321	4030010070 4030010070	S.CERAMIC C1608 X73 1C 104K-T-A
C322	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C328	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A S.CERAMIC C1608 CH 1H 050B-T-A
C329 C330	4030009920 4030007060	S.CERAMIC C1608 CH 1H 270J-T-A
C331	4030009500	S.CERAMIC C1808 CH 1H 0R5B-T-A
C332	4030009500	S.CERAMIC C1608 CH 1H 0R5B-T-A
C333 C334	4030009350 4030009920	S.CERAMIC C1608 CH 1H 3R5B-T-A S.CERAMIC C1608 CH 1H 050B-T-A
C337	4030006860	S.CERAMIC C1608 JB 1H 102K-T-A
C338	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C339 C340	4030008900 4030008880	S.CERAMIC C1808 JB 1E 103K-T-A S.CERAMIC C1808 JB 1H 102K-T-A
C341	4550000460	S.TANTALUM TESVA 1C 105M1-8L
C342	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C343 C344	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A S.CERAMIC C1608 JB 1H 472K-T-A
C350	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C351	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C352 C354	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A S.CERAMIC C1608 X7S 1C 104K-T-A
C355	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C356	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C357 C358	4030007000	S.CERAMIC C1608 CH 1H 090D-T-A S.CERAMIC C1608 CH 1H 090D-T-A
C359	4030007000	S.CERAMIC C1608 CH 1H 180J-T-A
C360	4030007170	S.CERAMIC C1608 CH 1H 221J-T-A
C361 C362	4030007170 4030006880	S.CERAMIC C1608 CH 1H 221J-T-A S.CERAMIC C1608 JB 1H 472K-T-A
C364	4030007020	S.CERAMIC C1608 CH 1H 120J-T-A
C365	4030007070	S.CERAMIC C1608 CH 1H 330J-T-A
C366 C367	4030007170	S.CERAMIC C1608 CH 1H 221J-T-A S.CERAMIC C1608 CH 1H 221J-T-A
C368	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C369	4030007020	S.CERAMIC C1608 CH 1H 120J-T-A S.CERAMIC C1608 CH 1H 080D-T-A
C370 C371	4030006990	S.CERAMIC C1608 CH 1H 080D-T-A S.CERAMIC C1608 CH 1H 120J-T-A
C378	4030007620	S.CERAMIC C1808 JB 1H 472K-T-A
C379	4030006850	S.CERAMIC C1808 JB 1H 471K-T-A
C380 C381	4030006850 4030010070	S.CERAMIC C1808 JB 1H 471K-T-A S.CERAMIC C1808 X7S 1C 104K-T-A
C382	4510005940	ELECTROLITIC 10 MV 470 HC
C383	4510005980	ELECTROLITIC 10 MV 220 HC S.ELECTROLITIC ECEV1CA100SR
C384 C387	4510004630 4030010070	S.CERAMIC C1808 X7S 1C 104K-T-A
C388	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C389	4030006860	S.CERAMIC C1608 JB 1H 102K-T-A
C399 C400	4030006900	S.CERAMIC C1608 JB 1E 103K-T-A S.CERAMIC C1608 CH 1H 470J-T-A
C401	4030007090	S.CERAMIC C1808 CH 1H 470J-T-A
C402	4030010210	S.CERAMIC C3216 JB 1C 105M-T-A
C404 C405	4030006880 4510004630	S.CERAMIC C1808 JB 1H 472K-T-A S.ELECTROLITIC ECEV1CA100SR
C407	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C408	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A S.CERAMIC C1608 X7S 1C 104K-T-A
C409 C410	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A S.CERAMIC C1608 X7S 1C 104K-T-A
C411	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
C412	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A S.CERAMIC C1608 X7S 1C 104K-T-A
C413 C414	4030010070 4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A S.CERAMIC C1608 X7S 1C 104K-T-A
C415	4030010070	S.CERAMIC C1608 X7S 1C 104K-T-A
C418	4030006880	S.CERAMIC C1608 JB 1H 472K-T-A
L		

[MAIN UNIT]				
REF. NO.	ORDER NO.		DESCRIPTION	
C417	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C418 C419	4030010070 4030010070	S.CERAMIC S.CERAMIC	C1608 X7S 1C 104K-T-A C1608 X7S 1C 104K-T-A	
C419	4510005860		ECEV1HA2R2SR	
C421	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C423	4510003830	ELECTROLITIC	50 MV R47 SW	
C427	4550003230	S.TANTALUM	TEMSVB2 1E 225M-8L	
C428	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C429	4510004630		ECEV1CA100SR	
C430	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A C1608 X7S 1C 104K-T-A	
C431 C432	4030010070	S.CERAMIC S.CERAMIC	C1608 X7S 1C 104K-T-A	
C433	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C434	4030006920	S.CERAMIC	C1608 CH 1H 010C-T-A	
C435	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C436	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C437	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A 16 MV 100 HC	
C438 C440	4510004990 4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A	
C441	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A	
C442	4030008880	S.CERAMIC	C1608 JB 1C 223K-T-A	
C443	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C444	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A	
C445	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A	
C446	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C453	4030006880	S.CERAMIC S.CERAMIC	C1608 JB 1H 472K-T-A C1608 JB 1H 472K-T-A	
C454 C455	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A	
C456	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C457	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C458	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C459	4030006900	S.CERAMIC	C1608 JB 1E 103K-T-A	
C484	4030007030	S.CERAMIC	C1608 CH 1H 150J-T-A	
C465 C466	4030010070	S.CERAMIC S.CERAMIC	C1608 X7S 1C 104K-T-A C1608 JB 1C 223K-T-A	
C467	4550006080	S.TANTALUM	TEMSVB2 1C 106M-8L	
C468	4030006950	S.CERAMIC	C1608 CH 1H 040C-T-A	
C469	4550006080	S.TANTALUM	TEMSVB2 1C 106M-8L	
C470	4030007050	S.CERAMIC	C1608 CH 1H 220J-T-A	
C471	4030006990	S.CERAMIC	C1808 CH 1H 080D-T-A	
C474	4030009850	S.CERAMIC	C1608 CH 1H 240J-T-A C1608 CH 1H 390J-T-A	
C475	4030007080	S.CERAMIC	C1000 CH 1H 3903-1-A	
J1	6510007020	CONNECTOR	TMP-J01X-V6	
J2	6510007020	CONNECTOR	TMP-J01X-V6	
J3	6510007020	CONNECTOR	TMP-J01X-V6	
J4	6510007020	CONNECTOR	TMP-J01X-V6	
J5	8510007020	CONNECTOR	TMP-J01X-V6	
J8 J7	6510007020 6510019140	S.CONNECTOR	TMP-J01X-V6 52610-1090	
J8	8510018940	S.CONNECTOR	B13B-PH-SM3-TB	
J9	6510018960	S.CONNECTOR	B2B-PH-SM3-TB	
J10	8510019160	S.CONNECTOR	52610-2090	
J11	6510019150	S.CONNECTOR	52610-0890	
J12	6510018970	S.CONNECTOR	B4B-PH-SM3-TB	
J13	6510019070	S.CONNECTOR	52559-3092 52365-0891	
J14	8510019190	S.CONNECTOR	PD-72	
J15 J16	8450001580 8450001580	CONNECTOR	PD-72 PD-72	
J17	8450001560	CONNECTOR	PD-72	
J18	8450001560	CONNECTOR	PD-72	
J20	6910010370	CONNECTOR	IPS-1340-01	
W4	7030003860	S.JUMPER	ERJ3GE JPW V [USA] only	
W10	7030003860	S.JUMPER	ERJ3GE JPW V	
EP1	0910046395	PCB	8 4688E	

#### [HPF BOARD]

### [HPF BOARD]

REF.	ORDER NO.		DESCRIPTION
		0.10	DO10500 E1
IC1	1110003970	S.IC	μPC1658G-E1
Q1	1590002400	S.TRANSISTOR	IMH3 T110 DTC144TU T107
Q2 Q3	1590000660 1590000790	S.TRANSISTOR S.TRANSISTOR	DTC144T0 T107
D5 D6	1790001260 1790001260	S.DIODE S.DIODE	MA2S077-(TX) MA2S077-(TX)
D7	1790001260	S.DIODE	MA2S077-(TX)
D8	1790001260	S.DIODE	MA2S077-(TX) MA2S077-(TX)
10 D12	1790001260 1790001260	S.DIODE S.DIODE	MA2S077-(TX)
D13	1790001260	S.DIODE	MA2S077-(TX)
D14 D15	1790001280 1790001280	S.DIODE S.DIODE	MA2S077-(TX) MA2S077-(TX)
D18	1790001260	S.DIODE	MA2S077-(TX)
D17	1790001260	S.DIODE	MA2S077-(TX)
D18 D19	1790001260 1790001260	S.DIODE S.DIODE	MA2S077-(TX) MA2S077-(TX)
D20	1790001260	S.DIODE	MA2S077-(TX)
D21	1790001260	S.DIODE S.DIODE	MA2S077-(TX) MA2S077-(TX)
D22 D23	1790001260 1790001260	S.DIODE S.DIODE	MA2S077-(TX)
D24	1790001260	S.DIODE	MA2S077-(TX)
D25 D26	1790001260 1790001260	S.DIODE S.DIODE	MA2S077-(TX) MA2S077-(TX)
D27	1790001260	S.DIODE	MA2S077-(TX)
D28	1790001260	S.DIODE	MA2S077-(TX)
L1	6200005560	S.COIL	ELJSC 101K-F
L2 L3	6200004880 6200004440	S.COIL S.COIL	ELJFC 3R3K-F ELJFC 4R7M-F
L4	6200001620	S.COIL	ELJFC 1R0K-F
L5	6200001620	S.COIL	ELJFC 1R0K-F ELJFC 1R0K-F
L6 L7	6200001620 6200002240	S.COIL S.COIL	ELJFC 1RUK-F ELJFC 2R2K-F
L8	6200002710	S.COIL	ELJFC 1R8K-F
L9 L10	6200002710 6200005560	S.COIL S.COIL	ELJFC 1R8K-F ELJSC 101K-F
L11	6200005540	S.COIL	ELJNC R47K-F
L12	6200001960	S.COIL	ELJFC R56MF
L13 L14	6200005560 6200002920	S.COIL S.COIL	ELJSC 101K-F ELJNC R33K-F
L15	6200004160	S.COIL	ELINC R39K-F
L16	6200005550 6200005550	S.COIL S.COIL	ELJFC 100K-F ELJFC 100K-F
L18	6200003240	S.COIL	NL 322522T-221J
L19	6200005560 6200003240	S.COIL S.COIL	ELJSC 101K-F NL 322522T-221J
L20 L21	6200003240	S.COIL	NL 322522T-221J
L22	6200003240	S.COIL	NL 322522T-221J
L23 L24	6200002920 6200003350	S.COIL S.COIL	ELJNC R33K-F ELJNC R27K-F
L25	6200003670	S.COIL	ELJNC 68NK-F
L26	6200002160 6200005560	S.COIL S.COIL	ELJNC 82NK-F ELJSC 101K-F
L27 L28	6200005560	S.COIL S.COIL	ELJSC 101K-F
L29	6200003300	S.COIL	ELJNC R22K-F
L30 L31	6200001920 6200005550	S.COIL S.COIL	ELJNC R15K-F ELJFC 100K-F
L32	6200005580	S.COIL	ELJSC 101K-F
L33	6200005560	S.COIL	ELJSC 101K-F ELJSC 101K-F
L34 L35	6200005560 6200005560	S.COIL S.COIL	ELJSC 101K-F
L36	6200002800	S.COIL	ELJFC R68M-F
R1	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R5	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R7 R8	7030003320	S.RESISTOR S.RESISTOR	ERJ3GEYJ 101 V (100 Ω) ERJ3GEYJ 471 V (470 Ω)
R9	7030003400	S.RESISTOR	MCR10EZHJ 270 Q (271)
R10	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω) ERJ3GEYJ 470 V (47 Ω)
R11 R12	7030003280	S.RESISTOR S.RESISTOR	MCR10EZHJ 270 Ω (271)

HPF BOARD]					
REF. NO.	ORDER NO.		DESCRIPTION		
R13	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)		
R14	7030003370	S.RESISTOR	ERJ3GEYJ 180 V (18 Ω)		
R15	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)		
R16	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)		
R17	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)		
R18	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)		
R19	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)		
R20	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)		
C1	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A		
C2	4030008470	S.CERAMIC S.CERAMIC	C1608 JB 1H 272K-T-A C1608 JB 1C 153K-T-A		
C3 C4	4030008860 4030009980	S.CERAMIC	C1608 JB 1H 152K-T-A		
C5	4030009980	S.CERAMIC	C1608 X7S 1C 104K-T-A		
C6	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A		
C7	4030006840	S.CERAMIC	C1608 SL 1H 391J-T-A		
C8	4030010030	S.CERAMIC	C1608 SL 1H 511J-T-A		
C8	4030010760	S.CERAMIC	C1608 CH 1H 331J-T-A		
C10	4030008860	S.CERAMIC	C1608 JB 1H 102K-T-A		
C11	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A C1608 JB 1H 681K-T-A		
C12 C13	4030009580 4030009980	S.CERAMIC S.CERAMIC	C1808 JB 1H 681K-1-A C1608 JB 1H 152K-T-A		
C14	4030009580	S.CERAMIC	C1608 JB 1H 681K-T-A		
C15	4030008470	S.CERAMIC	C1608 JB 1H 272K-T-A		
C16	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A		
C17	4030007160	S.CERAMIC	C1608 CH 1H 181J-T-A		
C18	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A		
C19	4030007150	S.CERAMIC	C1608 CH 1H 151J-T-A		
C20	4030006840	S.CERAMIC	C1608 SL 1H 391J-T-A		
C21	4030010210 4030010070	S.CERAMIC S.CERAMIC	C3216 JB 1C 105M-T-A C1608 X7S 1C 104K-T-A		
C22 C23	4030010070	S.CERAMIC	C1608 CH 1H 221J-T-A		
G24	4030010020	S.CERAMIC	C1608 JB 1H 122K-T-A		
C25	4030007130	S.CERAMIC	C1608 CH 1H 101J-T-A		
C26	4030006830	S.CERAMIC	C1608 SL 1H 331J-T-A		
C27	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A		
C28	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A C1608 X7S 1C 104K-T-A		
C29 C30	4030010070 4030010070	S.CERAMIC S.CERAMIC	C1608 X7S 1C 104K-T-A		
C31	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A		
C32	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A		
C33	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A		
C34	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A		
C35 C36	4030010070	S.CERAMIC S.CERAMIC	C1608 X7S 1C 104K-T-A C1608 X7S 1C 104K-T-A		
C37	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A		
C38	4030007120	S.CERAMIC	C1608 CH 1H 820J-T-A		
C39	4030007010	S.CERAMIC	C1608 CH 1H 100D-T-A		
C40	4030007150	S.CERAMIC	C1608 CH 1H 151J-T-A		
C41	4030007040	S.CERAMIC	C1608 CH 1H 180J-T-A		
C42	4030007120	S.CERAMIC S.CERAMIC	C1608 CH 1H 820J-T-A C1608 CH 1H 390J-T-A		
C43 C44	4030007080 4030011540	S.CERAMIC S.CERAMIC	C1608 CH 1H 750J-T-A		
C45	4030007150	S.CERAMIC S.CERAMIC	C1608 CH 1H 151J-T-A		
C48	4030007150	S.CERAMIC	C1608 CH 1H 151J-T-A		
C47	4030007140	S.CERAMIC	C1608 CH 1H 121J-T-A		
C48	4030007130	S.CERAMIC	C1608 CH 1H 101J-T-A		
C49	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A		
C50	4030010760	S.CERAMIC	C1608 CH 1H 331J-T-A C1608 CH 1H 820J-T-A		
C51 C52	4030007120	S.CERAMIC S.CERAMIC	C1608 X7S 1C 104K-T-A		
C52	4030007170	S.CERAMIC S.CERAMIC	C1608 CH 1H 221J-T-A		
C55	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A		
C56	4030009580	S.CERAMIC	C1608 JB 1H 681K-T-A		
C57	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A		
C58	4030007170	S.CERAMIC	C1808 CH 1H 221J-T-A		
C59 C60	4030010070 4030007070	S.CERAMIC S.CERAMIC	C1608 X7S 1C 104K-T-A C1608 CH 1H 330J-T-A		
C61	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A		
C62	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A		
J1 J2	6510019350 6510019350	CONNECTOR CONNECTOR	IMSA-9210B-1-07Z041-T IMSA-9210B-1-07Z041-T		
EP1	0910048692	РСВ	B 4746B		

#### [PLL UNIT]

#### [PLL UNIT]

PLL UN	_			_	[PLL UN			
REF.	ORDER NO.	1	DESCRIPTION	1	REF.	ORDER NO.		DESCRIPTION
				1	<b> </b>	-		
IC1	1180000420	S.IC	TA78L05F (TE12R)		L12	6200001470	S.COIL	NL 322522T-R12J-3
IC2	1180001070	S.IC	TA7805F(TE16L)	1	L13	6200001630	S.COIL	ELJNC R10K-F LR-317
IC3	1180001540	S.IC S.IC	TA78L08F (TE12R) M5282FP 70CD		L15 L16	6140002810 6200001630	S.COIL S.COIL	
IC4 IC5	1110003300	IC	LA4425A	1	L17	8200001830	S.COIL	ELJNC R10K-F ELJNC 82NK-F
IC8	1130003830	S.IC	TC7S04F (TE85R)	-	L18	8200002100	S.COIL	ELJNC 68NK-F
IC9	1130003830	S.IC	TC7S04F (TE85R)	-	L19	8200003870	S.COIL	ELJNC 68NK-F
IC10	1140003641	S.IC	SC-1246		L21	8200002160	S.COIL	ELJNC 82NK-F
IC11	1130003830	S.IC	TC7S04F (TE85R)		L22	6200001770	S.COIL	ELJNC 47NK-F
IC12	1140004550	S.IC	SC-1287	1	L23	6200002120	S.COIL	ELJNC 33NK-F
IC13	1130003650	S.IC	PLL2001S-ET	1	L25	6200002150	S.COIL	ELJNC 56NK-F
				l	L26	6200001940	S.COIL	ELJNC 27NK-F
				1	L27	6200002120	S.COIL	ELJNC 33NK-F
Q5	1590000680	S.TRANSISTOR	DTC114EU T107		L28	6200001830	S.COIL	NL 322522T-100J
Q6	1560000720	S.FET	2\$K2171-4-TD	1	L29	6200001830	S.COIL	NL 322522T-100J
Q7	1530003090	1	2SC4213-B (TE85R)	-	L30	6200003260	S.COIL	NL 322522T-101J
Q8	1560000720	S.FET	2SK2171-4-TD		L31	6130001850	COIL	LB-185
Q9	1530003090		2SC4213-B (TE85R)		L32	6200001830	S.COIL	NL 322522T-100J
Q10	1530002570	S.TRANSISTOR			L34	6130001090	COIL	LB-145
Q12	1560000330	S.FET	2SK210-GR (TE85R)	ı	L35	6180000900	COIL	LAL 03NA 101K
Q13	1530002080	S.TRANSISTOR		1	L36	6150004520	S.COIL	LS-508
Q14	1530002560 1530002560	S.TRANSISTOR S.TRANSISTOR		1	L37 L38	6150004830 6150004830	S.COIL S.COIL	LS-509 LS-509
Q15 Q16	1530002560	1	2SC4403-3-1R 2SC4081 T107 R	1	L38	6200003260	S.COIL	LS-509 NL 322522T-101J
Q18	1590002080	S.TRANSISTOR	DTA114EU T107	1	L39	6200003260	S.COIL	NL 322522T-101J NL 322522T-101J
Q19	1590001330	1	DTA114EU T107	1	L40	8200003260	S.COIL	NL 322522T-101J
Q20	1590001330	S.TRANSISTOR	DTA114EU T107		L42	6200003200	S.COIL	NL 322522T-1013
Q21	1590001330	S.TRANSISTOR	DTA114EU T107		L43	6200003260	S.COIL	NL 322522T-101J
Q22	1590000680	S.TRANSISTOR	DTC114EU T107		L44	8200001830	S.COIL	NL 322522T-100J
Q23	1590001330	S.TRANSISTOR	DTA114EU T107	1	L45	6200003170	S.COIL	NL 322522T-330J
Q24	1530002060	S.TRANSISTOR	2SC4081 T107 R	ı	L46	6200003130	S.COIL	NL 322522T-120J
Q26	1590001330	S.TRANSISTOR	DTA114EU T107	1	L47	6200003140	S.COIL	NL 322522T-150J
Q27	1530002560	S.TRANSISTOR	2SC4403-3-TR	-	L48	6200003670	S.COIL	ELJNC 68NK-F
Q30	1530002690	S.TRANSISTOR	2SC4116-GR (TE85R)	1	L49	8200003670	S.COIL	ELJNC 68NK-F
Q36	1530002560	S.TRANSISTOR	2SC4403-3-TR	ı	L50	8200002150	S.COIL	ELJNC 56NK-F
Q37	1530002920		2SC4226-T2 R25	-	L51	6200001940	S.COIL	ELJNC 27NK-F
Q43	1590000650		DTA144TU T107		L52	6200003320	S.COIL	NL 322522T-3R3J-3
Q44	1590000650	S.TRANSISTOR	DTA144TU T107	ı	L53	8200003100	S.COIL	NL 322522T-3R9J-3
Q45	1520000510	TRANSISTOR	2SB1133 R	1	L54	6200002960	S.COIL	NL 322522T-4R7J-3
Q46	1530002280	S.TRANSISTOR		1	L56	6200001760	S.COIL	ELJNC 22NK-F
Q47	1560000540	S.FET	2SK880-Y (TE85R)	1	L57	6200003960	S.COIL	MLF1608A 1R0K-T
Q48	1530003000	S.TRANSISTOR	2SC4117-BL (TE85R)		L62	6180001510	COIL S.COIL	LAL 02NA 101K
Q49	1530003000	3.1hAN31310h	2SC4117-BL (TE85R)	1	L63 L64	6200003260 6200003260	S.COIL	NL 322522T-101J NL 322522T-101J
				1	L65	6200003540	S.COIL	MLF1608D R22K-T
DЗ	1750000130	S.DIODE	DA204U T107		L66	6200002160	S.COIL	ELJNC 82NK-F
D4	1720000540	S.VARICAP	HVM17-01TR			020002.00	0.00.2	m.10.10 02.1111
D5	1790000620	S.DIODE	MA77(TW)	-				
D6	1720000540	S.VARICAP	HVM17-01TR	1	R3	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
D7	1790000820	S.DIODE	MA77(TW)	1	R4	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
D8	1750000200	S.DIODE	1SS319 (TE85R)	1	R5	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
D9	1790000450	S.DIODE	MA862(TX)	1	R6	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
D11	1790000450	S.DIODE	MA862(TX)	1	R7	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
D12	1790000450	S.DIODE	MA862(TX)	-	R8	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
D13	1720000590	S.VARICAP	MA357(TX)	1	R9	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
D16	1790000620	S.DIODE	MA77(TW)		R10	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
D17	1790000450	S.DIODE	MA862(TX)	1	R11	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
D19	1790000450	S.DIODE	MA862(TX)		R12	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
D20	1750000130	S.DIODE	DA204U T107		R13	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
D21	1790000590	S.DIODE	MA110(TW)		R18	7070000440	RESISTOR	CRH200 R-02J 15 Ω
D22	1750000160	S.DIODE	DA114 T107	-	R24	7030003640 7030003560	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
				1	R25 R26	7030003580	S.RESISTOR S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ) ERJ3GEYJ 473 V (47 kΩ)
FI1	2020001140	S.CERAMIC	SFECA10.7MA-5-A		R28	7030003640	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
	202001140	J.OLIAMIO	AL PARTAN MICHAIN		R29	7030003360	S.RESISTOR	ERJ3GEYJ 821 V (820 Ω)
				1	R30	7030003430	S.RESISTOR	MCR10EZHJ 4.7 Ω (4R7)
X1	8050005710	XTAL	CR-275	1	R32	7030003100	S.RESISTOR	ERJ3GEYJ 220 V (22 Ω)
		l <u>-</u>	<del>-</del>		R33	7030003240	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
				1	R34	7030003240	S.RESISTOR	ERJ3GEYJ 220 V (22 Ω)
L1	6170000140	COIL	LW-15	1	R37	7030003550	S.RESISTOR	ERJ3GEYJ 822 V (8.2 kΩ)
L3	6130002900	COIL	LB-332	1	R38	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
L4	6180000830	COIL	LAL 03NA 3R3K	1	R39	7030003260	S.RESISTOR	ERJ3GEYJ 330 V (33 Ω)
L6	6130002830	COIL	LB-325	1	R48	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
L7	6180000850	COIL	LAL 03NA 4R7K	1	R49	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
L8	6200001830	S.COIL	NL 322522T-100J	1	R50	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
L10	6200002160	S.COIL	ELJNC 82NK-F		R51	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
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### [PLL UNIT]

REF. NO.	ORDER NO.		DESCRIPTION	REF NO.
R52	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)	R133
R53	7030003280	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)	R134
R54	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)	R135
no4 R57	7030003440	S.RESISTOR	ERJ3GEYJ 121 V (120 Ω)	R136
R58	7030003330	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)	R137
R59	7030003280	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)	R138
R60	7310002740	S.TRIMMER	RV-150 (RH03A3A14X0FC)	R142
nou	/310002/40	3. I RIMINILIT	103	R149
R61	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)	R152
	1	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)	R153
R62	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)	R154
Re3	7030003680		• • •	R155
R64	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)	
R65	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)	R156
R66	7030003550	S.RESISTOR	ERJ3GEYJ 822 V (8.2 kΩ)	R157
R67	7030003220	S.RESISTOR	ERJ3GEYJ 150 V (15 Ω)	R158
R68	7030003220	S.RESISTOR	ERJ3GEYJ 150 V (15 Ω)	R159
R69	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)	R160
R70	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)	R161
R71	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)	R162
R72	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)	R163
R73	7030003240	S.RESISTOR	ERJ3GEYJ 220 V (22 Ω)	R167
R74	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)	R173
R75	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)	R176
R76	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)	R177
R77	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)	R178
R78	7030003330	S.RESISTOR	ERJ3GEYJ 121 V (120 Ω)	R179
R79	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)	R180
R80	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)	R181
R81	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)	R182
R82	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)	R183
R86	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)	R184
R88	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)	R186
R89	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)	R187
R90	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)	R188
R91	7030005370	S.RESISTOR	RR0816P-202-B (2 kΩ)	R189
R92	7030005370	S.RESISTOR	RR0816P-202-B (2 kΩ)	R190
R93	7030005370	S.RESISTOR	RR0816P-202-B (2 kΩ)	R192
R94	7030005370	S.RESISTOR	RR0816P-202-B (2 kΩ)	R194
R95	7030005370	S.RESISTOR	RR0816P-202-B (2 kΩ)	R197
R96	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)	R198
R97	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)	R199
R98	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)	R200
R99	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)	R202
R100	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)	R203
R101	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)	R205
R102	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)	R213
R103	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)	R216
R104	7030005400	S.RESISTOR	RR0816P-102-B (1 kΩ)	R217
	7030005380	S.RESISTOR	RR0816P-102-B (1 kΩ)	R218
R105	7030005380	S.RESISTOR	RR0816P-102-B (1 kΩ)	R219
R106		S.RESISTOR	RR0816P-102-B (1 kΩ)	R220
R107	7030005380			R220
R108	7030005380	S.RESISTOR	RR0816P-102-B (1 kΩ)	
R109	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)	R222
R110	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)	R223
R111	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)	R224
R112	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)	R225
R113	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)	R226
R114	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)	R227
R115	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)	R229
R116	7030005370	S.RESISTOR	RR0816P-202-B (2 kΩ)	R230
R117	7030005370	S.RESISTOR	RR0816P-202-B (2 kΩ)	R231
R118	7030005370	S.RESISTOR	RR0816P-202-B (2 kΩ)	R232
R119	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)	R233
R120	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)	R234
R121	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)	R235
R122	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)	R236
R123	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)	R237
R124	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)	
R125	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)	
R126	7030005400	S.RESISTOR	RR0816P-202-D (2 kΩ)	C1
R127	7030005380	S.RESISTOR	RR0816P-102-B (1 kΩ)	C2
R128	7030005380	S.RESISTOR	RR0816P-102-B (1 kΩ)	C3
R129	7030005380	S.RESISTOR	RR0816P-102-B (1 kΩ)	C4
R130	7030005380	S.RESISTOR	RR0816P-102-D (1 kΩ)	C5
R131	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)	C8
	1	į.	• •	C7
R132	17030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)	

REF.	ORDER		
NO.	NO.		DESCRIPTION
R133	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R134	7030005390	S.RESISTOR	RR0816P-102-D (1 kΩ)
R135	7030005390	S.RESISTOR S.RESISTOR	RR0816P-102-D (1 kQ)
R136 R137	7030003620 7030003580	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ) ERJ3GEYJ 153 V (15 kΩ)
R138	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R142	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R149	7030003440 7030003370	S.RESISTOR S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ) ERJ3GEYJ 271 V (270 Ω)
R152 R153	7010003370	RESISTOR	ELR20J 1 kΩ
R154	7030003470	S.RESISTOR	ERJ3GEYJ 182 V (1.8 kΩ)
R155	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R156 R157	7030003360 7030003320	S,RESISTOR S,RESISTOR	ERJ3GEYJ 221 V (220 Ω) ERJ3GEYJ 101 V (100 Ω)
R158	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R159	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R160	7030003580	S.RESISTOR S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ) ERJ3GEYJ 103 V (10 kΩ)
R161 R162	7030003580 7030003220	S.RESISTOR	ERJ3GEYJ 150 V (15 Ω)
R163	7030003220	S.RESISTOR	ERJ3GEYJ 150 V (15 Ω)
R167	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R173 R176	7030003320 7030003540	S.RESISTOR S.RESISTOR	ERJ3GEYJ 101 V (100 Ω) ERJ3GEYJ 682 V (6.8 kΩ)
R177	7030003340	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R178	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R179	7030003280 7030003330	S.RESISTOR S.RESISTOR	ERJ3GEYJ 470 V (47 Ω) ERJ3GEYJ 121 V (120 Ω)
R180 R181	7030003330	S.RESISTOR	ERJ3GEYJ 150 V (15 Ω)
R182	7030003220	S.RESISTOR	ERJ3GEYJ 150 V (15 Ω)
R183	7030003220	S.RESISTOR	ERJ3GEYJ 150 V (15 Ω)
R184 R186	7030003440 7030003840	S.RESISTOR S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ) ERJ3GEYJ 225 V (2.2 MΩ)
R187	7030003260	S.RESISTOR	ERJ3GEYJ 330 V (33 Ω)
R188	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R189	7030003450 7030003280	S.RESISTOR S.RESISTOR	ERJ3GEYJ 122 V (1.2 kΩ) ERJ3GEYJ 470 V (47 Ω)
R190 R192	7030003280	S.RESISTOR	ERJ3GEYJ 152 V (1.5 kΩ)
R194	7030003220	S.RESISTOR	ERJ3GEYJ 150 V (15 Ω)
R197	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω) ERJ3GEYJ 101 V (100 Ω)
R198 R199	7030003320 7030003300	S.RESISTOR S.RESISTOR	ERJ3GEYJ 680 V (68 Ω)
R200	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R202	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R203 R205	7030003840 7030003400	S.RESISTOR S.RESISTOR	ERJ3GEYJ 225 V (2.2 MΩ) ERJ3GEYJ 471 V (470 Ω)
R213	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R216	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R217 R218	7030003400 7030003370	S.RESISTOR S.RESISTOR	ERJ3GEYJ 471 V (470 Ω) ERJ3GEYJ 271 V (270 Ω)
R219	7030003370	S.RESISTOR	ERJ3GEYJ 180 V (18 Ω)
R220	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R221	7030007490	S.RESISTOR	MCR03EZHJ 10 M Ω (106)
R222 R223	7030003480 7030003320	S.RESISTOR S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ) ERJ3GEYJ 101 V (100 Ω)
R224	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R225	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R226 R227	7030003470 7030003440	S.RESISTOR S.RESISTOR	ERJ3GEYJ 182 V (1.8 kΩ) ERJ3GEYJ 102 V (1 kΩ)
R227	7030003440	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)
R230	7030003270	S.RESISTOR	ERJ3GEYJ 390 V (39 Ω)
R231	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R232 R233	7010004150 7010004150	RESISTOR RESISTOR	R20J 470 Ω R20J 470 Ω
R234	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R235	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R236	7030003480	S.RESISTOR S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R237	7030003510	3.NE3131UK	ERJ3GEYJ 392 V (3.9 kΩ)
C1	4030009590	S.CERAMIC	C2012 JF 1C 225Z-T-A
C2	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C3 C4	4030006880 4030006880	S.CERAMIC S.CERAMIC	C1608 JB 1H 472K-T-A C1608 JB 1H 472K-T-A
C5	4030008880	S.CERAMIC S.CERAMIC	C2012 JF 1C 225Z-T-A
C6	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C7	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A

#### **IPLL UNIT**

#### [PLL UNIT]

REF. NO.	ORDER NO.	D	ESCRIPTION	REF. NO.	ORDER NO.	C	ESCRIPTION
C8	4030009590	S.CERAMIC	C2012 JF 1C 225Z-T-A	C100	4510005600	S ELECTROLITIC	ECEV1CS100SR
C8 C9	4030009590		C2012 JF 1C 225Z-T-A	C101	4040000190	BARRIERLAYR	UAT 05X 103K
C10	4030008880		C1608 JB 1H 472K-T-A	C102	4030007080	S.CERAMIC	C1808 CH 1H 390J-7
C11	4030006880	i .	C1608 JB 1H 472K-T-A	C103	4030011570	S.CERAMIC	CM105 CH 101G 50A
C12	4030009590		C2012 JF 1C 225Z-T-A	C104	4610001260	S.TRIMMER	ECR-JA020 E12W
C15	4510005600	S.ELECTROLITIC	la contraction of the contractio	C105	4030007150	S.CERAMIC	C1608 CH 1H 151J-7
C16	4030009110		C3216 JB 1C 474K-T-A	C106	4030007150	S.CERAMIC	C1608 CH 1H 151J-T
017	4030010070	1	C1608 X7S 1C 104K-T-A	C107	4030007150	S.CERAMIC	C1608 CH 1H 151J-7
C18	4030006850	i .	C1608 JB 1H 471K-T-A	C108	4030006880	S.CERAMIC	C1608 JB 1H 472K-T
219	4030009110	1	C3216 JB 1C 474K-T-A	C109	4030008980	S.CERAMIC	C1608 CH 1H 050C-
220	4510005600	S.ELECTROLITIC		C110	4030010070	S.CERAMIC	C1608 X7S 1C 104K
21	4510005600	S.ELECTROLITIC		C111	4510005600	S.ELECTROLITIC	ECEV1CS100SR
222	4510005600	S.ELECTROLITIC	ECEV1CS100SR	C112	4030006880	S.CERAMIC	C1608 JB 1H 472K-T
223	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	C113	4030006880	S.CERAMIC	C1608 JB 1H 472K-T
24	4510005600	S.ELECTROLITIC	ECEV1CS100SR	C114	4030006880	S.CERAMIC	C1608 JB 1H 472K-T
25	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	C115	4030007100	S.CERAMIC	C1608 CH 1H 560J-7
26	4510004590	ELECTROLITIC	16 MV 470 HC	C118	4030007120	S.CERAMIC	C1608 CH 1H 820J-7
27	4510004590	ELECTROLITIC	16 MV 470 HC	C117	4030006880	S.CERAMIC	C1608 JB 1H 472K-T
28	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	C118	4030007110	S.CERAMIC	C1608 CH 1H 680J-7
29	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	C119	4030006880	S.CERAMIC	C1608 JB 1H 472K-7
32	4030008560	1	C1608 CH 1H 300J-T-A	C120	4030006880	S.CERAMIC	C1608 JB 1H 472K-7
33	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	C121	4030006880	S.CERAMIC	C1608 JB 1H 472K-7
34	4030009510	S.CERAMIC	C1608 CH 1H 010B-T-A	C122	4030007060	S.CERAMIC	C1608 CH 1H 270J-
35	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	C123	4030006880	S.CERAMIC	C1608 JB 1H 472K-7
36	4030006880	1	C1608 JB 1H 472K-T-A	C124	4030006920	S.CERAMIC	C1608 CH 1H 010C-
37	4030006850	1	C1608 JB 1H 471K-T-A	C125	4030007060	S.CERAMIC	C1808 CH 1H 270J-
40	4030007110	1	C1608 CH 1H 680J-T-A	C126	4030006880	S.CERAMIC	C1608 JB 1H 472K-7
41	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	C127	4030006880	S.CERAMIC	C1608 JB 1H 472K-7
42	4030009510	S.CERAMIC	C1608 CH 1H 010B-T-A	C128	4030006880	S.CERAMIC	C1608 JB 1H 472K-7
43	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	C130	4030006880	S.CERAMIC	C1608 JB 1H 472K-7
44	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	C132	4550000460	S.TANTALUM	TESVA 1C 105M1-8
45	4030008850	S.CERAMIC	C1608 JB 1H 471K-T-A	C133	4030006880	S.CERAMIC	C1608 JB 1H 472K-7
46	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	C134	4030010070	S.CERAMIC	C1608 X7S 1C 104K
51	4510004590	ELECTROLITIC	16 MV 470 HC	C135	4030010070	S.CERAMIC	C1608 X7S 1C 104K
52	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	C136	4030010070	S.CERAMIC	C1608 X7S 1C 104K
53	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	C137	4030010070	S.CERAMIC	C1608 X7S 1C 104K
54	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	C138	4030010070	S.CERAMIC	C1608 X7S 1C 104K
57	4030007120	S.CERAMIC	C1608 CH 1H 820J-T-A	C139	4030010070	S.CERAMIC	C1608 X7S 1C 104K
58	4030007170	S.CERAMIC	C1608 CH 1H 221J-T-A	C140	4030010070	S.CERAMIC	C1608 X7S 1C 104K
259	4030007120	S.CERAMIC	C1608 CH 1H 820J-T-A	C141	4030010070	S.CERAMIC	C1608 X7S 1C 104K
260	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	C142	4030010070	S.CERAMIC	C1608 X7S 1C 104K
261	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	C143	4030010070	S.CERAMIC	C1608 X7S 1C 104K
062	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	C144	4030010070	S.CERAMIC	C1608 X7S 1C 104K
264	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	C145	4030010070	S.CERAMIC	C1608 X7S 1C 104K
65	4030007070	S.CERAMIC	C1608 CH 1H 330J-T-A	C146	4030010070	S.CERAMIC	C1608 X7S 1C 104K
66	4030007020	S.CERAMIC	C1608 CH 1H 120J-T-A	C147	4030010070	S.CERAMIC	C1608 X7S 1C 104K
67	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A	C148	4030010070	S.CERAMIC	C1808 X7S 1C 104K
88	4030006980	S.CERAMIC	C1608 CH 1H 070D-T-A	C149	4030006880	S.CERAMIC	C1808 JB 1H 472K-
69	4030007060	1	C1608 CH 1H 270J-T-A	C150	4030010070	S.CERAMIC	C1808 X7S 1C 104K
70	4030008560	S.CERAMIC	C1608 CH 1H 300J-T-A	C151	4030010070	S.CERAMIC	C1608 X7S 1C 104K
71	4030007000		C1608 CH 1H 090D-T-A	C152	4030010070	S.CERAMIC	C1608 X7S 1C 104F
72	4030007070	1	C1608 CH 1H 330J-T-A	C153	4030010070	S.CERAMIC	C1608 X7S 1C 104K
73	4030006960		C1608 CH 1H 050C-T-A	C154	4030010070	S.CERAMIC	C1608 X7S 1C 104K
74	4030007040	1	C1608 CH 1H 180J-T-A	C155	4030010070	S.CERAMIC	C1608 X7S 1C 104k
75	4030006930	1	C1808 CH 1H 020C-T-A	C156	4030010070	S.CERAMIC	C1608 X7S 1C 104K
76	4030007110	ł .	C1608 CH 1H 680J-T-A	C157	4030007040	S.CERAMIC	C1608 CH 1H 180J-
77	4030007030	1	C1608 CH 1H 150J-T-A	C158	4030007090	S.CERAMIC	C1608 CH 1H 470J-
78	4030007030	I.	C1608 CH 1H 150J-T-A	C159	4030007040	S.CERAMIC	C1608 CH 1H 180J-
79	4030008940		C1608 CH 1H 030C-T-A	C180	4030007040	S.CERAMIC	C1608 CH 1H 180J-
80	4030007060	1	C1608 CH 1H 270J-T-A	C161	4030006960	S.CERAMIC	C1608 CH 1H 050C-
81	4030006990	1	C1608 CH 1H 080D-T-A	C162	4030007070	S.CERAMIC	C1608 CH 1H 330J-
82	4030007020	ł .	C1608 CH 1H 120J-T-A	C163	4030008930	S.CERAMIC	C1608 CH 1H 020C-
83	4030007050	1	C1608 CH 1H 220J-T-A	C164	4030007040	S.CERAMIC	C1808 CH 1H 180J-
84	4030008560	1	C1608 CH 1H 300J-T-A	C165	4030006880	S.CERAMIC	C1608 JB 1H 472K-
85	4030007050	S.CERAMIC	C1608 CH 1H 220J-T-A	C166	4550000460	S.TANTALUM	TESVA 1C 105M1-8
86	4030006990	1	C1608 CH 1H 080D-T-A	C187	4030010070	S.CERAMIC	C1608 X7S 1C 104K
87	4030006970	S.CERAMIC	C1608 CH 1H 060D-T-A	C169	4030006920	S.CERAMIC	C1608 CH 1H 010C-
88	4030007040	S.CERAMIC	C1608 CH 1H 180J-T-A	C170	4030007030	S.CERAMIC	C1608 CH 1H 150J-
89	4030006930	S.CERAMIC	C1608 CH 1H 020C-T-A	C171	4030007010	S.CERAMIC	C1608 CH 1H 100D-
90	4030007020	S.CERAMIC	C1608 CH 1H 120J-T-A	C172	4030007010	S.CERAMIC	C1608 CH 1H 100D-
91	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	C173	4030006880	S.CERAMIC	C1608 JB 1H 472K-7
94	4030006880	1	C1608 JB 1H 472K-T-A	C174	4030006880	S.CERAMIC	C1608 JB 1H 472K-7
95	4510005600	S.ELECTROLITIC	ECEV1CS100SR	C175	4030006880	S.CERAMIC	C1608 JB 1H 472K-7
	4030006880	\$	C1608 JB 1H 472K-T-A	C176	4030006880	S.CERAMIC	C1608 JB 1H 472K-7
96		I .	The state of the s		4030006980	S.CERAMIC	
:96 :98	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	C177	4030000900	J 3.CERAMIC	C1808 CH 1H 070D-

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NO.			ESCRIPTION
ł	NO.		
C179	4030007010	S.CERAMIC	C1608 CH 1H 100D-T-A C1608 CH 1H R75C-T-A
C180	4030009470	S.CERAMIC S.CERAMIC	C1608 CH 1H 080D-T-A
C181 C182	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C183	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C184	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C185	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A
C186	4510004990	ELECTROLITIC	18 MV 100 HC
C188	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A C1608 JB 1H 472K-T-A
C195 C196	4030006880	S.CERAMIC S.CERAMIC	C1608 JB 1H 472K-T-A
C197	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C198	4030007010	S.CERAMIC	C1608 CH 1H 100D-T-A
C200	4510005600	1	ECEVICS100SR
C201	4510005600		ECEVICS100SR
C202	4510005600	S.ELECTROLITIC	C1608 CH 1H 070D-T-A
C204 C205	4030006980	S.CERAMIC S.CERAMIC	C1808 CH 1H 070D-T-A
C206	4030007030	S.CERAMIC	C1608 CH 1H 150J-T-A
C207	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C212	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C213	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C217	4030007030	S.CERAMIC S.CERAMIC	C1608 CH 1H 150J-T-A C1608 CH 1H 080D-T-A
C218	4030006990	S.CERAMIC S.CERAMIC	C1608 CH 1H 150J-T-A
C219 C220	4030007030	S.CERAMIC S.CERAMIC	C1608 JB 1H 472K-T-A
C223	4040000690	BARRIERLAYR	UAT 08X 473K
C224	4510005000	ELECTROLITIC	16 MV 220 HC
C225	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C226	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C227	4030010070 4030010070	S.CERAMIC S.CERAMIC	C1608 X7S 1C 104K-T-A C1608 X7S 1C 104K-T-A
C228 C233	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C236	1 '	ELECTROLITIC	18 MV 470 HC
C237	4030008920	S.CERAMIC	C1608 CH 1H 010C-T-A
C238	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A
C239	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A
C240	4030006880 4550006080	S.CERAMIC S.TANTALUM	C1608 JB 1H 472K-T-A TEMSVB2 1C 106M-8L
C241 C242	1	S.TANTALUM	TEMSVB2 1C 106M-8L
C243	1	BARRIERLAYR	UAT 08X 473K
C244	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C245		S.CERAMIC	C1608 JB 1H 472K-T-A
C246		S.TANTALUM	TESVA 1C 105M1-8L C1608 CH 1H 560J-T-A
C247	1	S.CERAMIC S.CERAMIC	C1608 JB 1H 472K-T-A
C249		S.CERAMIC	C1608 CH 1H 150J-T-A
C250	1	S.CERAMIC	C1608 JB 1H 472K-T-A
C251	5	S.CERAMIC	C1608 JB 1H 472K-T-A
C252	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C253	· ·	S.CERAMIC	C1608 JB 1H 472K-T-A
C254	1	S.CERAMIC S.CERAMIC	C1608 JB 1H 472K-T-A C1608 JB 1H 472K-T-A
C256		S.CERAMIC S.CERAMIC	C1608 JB 1H 472K-T-A
C257	1	S.CERAMIC	C1608 X7S 1C 104K-T-A
C258	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C259	i i	S.CERAMIC	C1608 CH 1H 220J-T-A
C260	i i	S.CERAMIC	C1608 CH 1H 220J-T-A C1608 CH 1H 220J-T-A
C261	4030007050	S.CERAMIC	C1808 CH 1H 220J-1-A
RL1	6330001320	RELAY	AHY103
''-'	2300031020		
J1	6510018950	S.CONNECTOR	B7B-PH-SM3-TB
J2	6510019070	S.CONNECTOR	
J5	6510018960	S.CONNECTOR	B2B-PH-SM3-TB
1110-	9800001000	CARLE	1801 D01 & I04DI
WS1 WS2	8600034620 8970022090	CABLE	1691 P01 **J04PL 1691 1.5D COAXIAL (3)/PL
****	5370022080	VADEL	. Jot and committee to the E
EP1	0910045448	РСВ	B 4561H
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REF. NO.	ORDER NO.	į.	DESCRIPTION
IC1	1110003970	s.ic	μPC1858G-E1
Q1	1590002020	TRANSISTOR	MRF555
Q2	1590002260	TRANSISTOR	MRF5015
Q5	1590001940	S.TRANSISTOR	DTC144EE TL DTA114EE TL
Q6 Q7	1590001870 1590001940	S.TRANSISTOR S.TRANSISTOR	DTC144EE TL
Q8	1590001940	S.TRANSISTOR	DTC144EE TL
Q9	1590001870	S.TRANSISTOR	DTA114EE TL
Q10 Q11	1590000680 1590001940	S.TRANSISTOR S.TRANSISTOR	DTC114EU T107 DTC144EE TL
Q12	1590001870	S.TRANSISTOR	DTA114EE TL
Q14	1590001150	S.TRANSISTOR	UN9211(TX)
Q15 Q16	1540000250 1590002360	S.TRANSISTOR TRANSISTOR	2SD999-T2 CK MRF581
Q17	1590002360	S.TRANSISTOR	DTC144EE TL
Q18	1590002280	FET	MRF255
Q19	1590002280	FET	MRF255
Q20 Q21	1590001940 1590001870	S.TRANSISTOR S.TRANSISTOR	DTC144EE TL DTA114EE TL
Q22	1590001940	S.TRANSISTOR	DTC144EE TL
Q23	1590001870	S.TRANSISTOR	DTA114EE TL
Q24	1590001940 1590001940	S.TRANSISTOR S.TRANSISTOR	DTC144EE TL DTC144EE TL
Q25	1380001840	5.1AA431310A	DICIAACE IE
<b>D.</b>	*******	S.DIODE	DAP222 TL
D1 D2	1160000140 1790000490	S.DIODE	HSM88AS-TR
D3	1790000490	S.DIODE	HSM88AS-TR
D4	1710000730	S.DIODE	MI809-T11
D6 D7	1790000450 1750000450	S.DIODE S.DIODE	MA862(TX) 1SV265-TR
D11	1160000140	S.DIODE	DAP222 TL
D12	1790000700	DIODE	DSA3A1
D13 D14	1790000700 1710000730	DIODE S.DIODE	DSA3A1 MI809-T11
D15	1710000730	S.DIODE	MI809-T11
D16	1750000270	S.DIODE	1SS301 (TE85R)
D17 D18	1750000270 1750000520	S.DIODE S.DIODE	1SS301 (TE85R) DAN222TL
	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
L3	6140002220	COIL	LR-270 (TR6X3X2 3A9)
L4	6140003030	COIL	LR-321B
L5 L9	6140003040 6140002030	COIL	LR-322B LR-230 (SK-10M-15Y 120)
L10	6110001570	COIL	LA-237
L11	6110002150	COIL	LA-385
L12	6110002070	S.COIL	LA-227 NL 252018T-1R2J
L13 L14	6200004740 6200004740	S.COIL	NL 252018T-1R2J
L16	6110002120	COIL	LA-228
L17	6110002070	COIL	LA-227 LA-227
L18 L19	6110002070 6110002070	COIL	LA-227 LA-227
L20	6200004740	S.COIL	NL 252018T-1R2J
L22	6200004740	S.COIL	NL 252018T-1R2J
L25 L26	6200002640 6200002650	S.COIL S.COIL	NL 252018T-R15J NL 252018T-R18J
L27	6200004740	S.COIL	NL 252018T-1R2J
L29	6150002780	COIL	LS-295
L30 L31	6150002780 6200004740	COIL S.COIL	LS-295 NL 252018T-1R2J
L33	6200004740	S.COIL	NL 252018T-1R2J
L35	8200002410	S.COIL	NL 252018T-056J
L37 L40	6200003950 6200002420	S.COIL S.COIL	HF50ACC 322513-T NL 252018T-068J
L40	6200002420	S.COIL	EXCCL3225U1
L42	6180000900	COIL	LAL 03NA 101K
L43	6140003060	COIL	LR-324
L44 L45	6140003060 6140000610	COIL	LR-324 LR-83
L46	6140003051	COIL	LR-323B
L48	6200002630	S.COIL	NL 252018T-R10J
L49	6200002430	S.COIL	NL 252018T-082J
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REF.	ORDER		
NO.	NO.		DESCRIPTION
L50	6910003570	COIL	2943-666663
L51	6910003570	COIL	2943-866663
L52	6200001830	S.COIL S.COIL	NL 322522T-100J NL 322522T-100J
L53 L54	6200001830	S.COIL	NL 252018T-1R2J
L55	6140003070	COIL	LR-355
	•		
R1	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R2	7030003420	S.RESISTOR	ERJ3GEYJ 681 V (680 Ω)
R3	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R4 R6	7030006120 7310003170	S.RESISTOR TRIMMER	ERJ1WYJ4R7H (4.7 Ω) EVN-2ACA00 B53 (502)
R7	7030003460	S.RESISTOR	ERJ3GEYJ 152 V (1.5 kΩ)
R8	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R9	7030006220	S.RESISTOR	ERJ12YJ470H (47 Ω) CRH200 R-02J 4.7 Ω
R16 R17	7070000250 7030003510	RESISTOR S.RESISTOR	ERJ3GEYJ 392 V (3.9 kΩ)
R18	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R19	7030003510	S.RESISTOR	ERJ3GEYJ 392 V (3.9 kΩ)
R20 R21	7030003440 7030003400	S.RESISTOR S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ) ERJ3GEYJ 471 V (470 Ω)
R21	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R25	7030003330	S.RESISTOR	ERJ3GEYJ 121 V (120 Ω)
R26	7030003400	S.RESISTOR S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R27 R28	7030003400 7030003440	S.RESISTOR S.RESISTOR	ERJ3GEYJ 471 V (470 Ω) ERJ3GEYJ 102 V (1 kΩ)
R30	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R33	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R34 R35	7030003500 7100000640	S.RESISTOR RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ) 5 SI 0.012 Ω (J)
R36	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R37	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R38	7540000130	ABSORBER	2P-50A-301
R41 R42	7030006080 7030003440	S.RESISTOR S.RESISTOR	ERJ1WYJ220H (22 Ω) ERJ3GEYJ 102 V (1 kΩ)
R43	7030003470	S.RESISTOR	ERJ3GEYJ 182 V (1.8 kΩ)
R44	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R45 R46	7030000240	S.RESISTOR S.RESISTOR	MCR10EZHJ 68 Ω (680) MCR10EZHJ 68 Ω (680)
R49	7030003530	S.RESISTOR	ERJ3GEYJ 562 V (5.6 kΩ)
R50	7070000540	RESISTOR	CRH200 R-02J 27 Ω
R51 R52	7030003480 7310003200	S.RESISTOR TRIMMER	ERJ3GEYJ 222 V (2.2 kΩ) EVN-2ACA00 B14 (103)
R53	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R54	7070000540	RESISTOR	CRH200 R-02J 27 Ω
R55	7030006080 7030006080	S.RESISTOR	ERJ1WYJ220H (22 Ω) ERJ1WYJ220H (22 Ω)
R56 R59	7310003200	S.RESISTOR TRIMMER	EVN-2ACA00 B14 (103)
R61	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R62	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R63 R64	7030003370 7070000210	S.RESISTOR RESISTOR	ERJ3GEYJ 271 V (270 Ω) CRH100X R-02J 47 Ω
R65	7030007360	S.RESISTOR	ERJ1WYJ470H (470 Ω)
R66	7030003350	S.RESISTOR	ERJ3GEYJ 181 V (180 Ω)
R67	7030003560	S.RESISTOR S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ) ERJ3GEYJ 334 V (330 kΩ)
R68 R69	7030003740	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R70	7030003350	S.RESISTOR	ERJ3GEYJ 181 V (180 Ω)
R71	7030003260	S.RESISTOR	ERJ3GEYJ 330 V (33 Ω)
R72 R73	7030003350	S.RESISTOR S.RESISTOR	ERJ3GEYJ 181 V (180 Ω) ERJ3GEYJ 331 V (330 Ω)
R74	7030003380	S.RESISTOR	ERJ3GEYJ 150 V (15 Ω)
R75	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R76	7010003280 7030000080	RESISTOR S.RESISTOR	ELR20J 100 Ω MCR10EZHJ 3.3 Ω (3R3)
R77 R78	7070000270	RESISTOR	CRH100X R-02J 100 Ω
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C1	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C3	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C4	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C7	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A
C12 C14	4030011260	S.CERAMIC S.CERAMIC	GRM42-8 W5R 102K 500PT GR44 Y5V 684Z
C15	4030011260	S.CERAMIC	GRM42-6 W5R 102K 500PT
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REF.	ORDER		DESCRIPTION	
NO.	NO.			
C20	4010007600	CERAMIC	HM17SJ YB 103K 500V	
C21	4030011260	S.CERAMIC	GRM42-6 W5R 102K 500PT GRM42-6 CH 120J 500PT	
C26 C27	4030011140 4030011180	S.CERAMIC S.CERAMIC	GRM42-6 CH 1203 500P1 GRM42-6 CH 220J 500PT	
C28	4030011180	S.CERAMIC	GRM42-6 CH 220J 500PT	
C29	4030011260	S.CERAMIC	GRM42-6 W5R 102K 500PT	
C31	4030006860	S.CERAMIC S.CERAMIC	C1608 JB 1H 102K-T-A	
C32 C35	4030011260 4030011040	S.CERAMIC S.CERAMIC	GRM42-8 W5R 102K 500PT GRM42-8 CK 020C 500PT	
C36	4030011180	S.CERAMIC	GRM42-6 CH 220J 500PT	
C37	4030011080	S.CERAMIC	GRM42-6 CH 060D 500PT	
C38 C39	4030011210 4030011170	S.CERAMIC S.CERAMIC	GRM42-8 CH 330J 500PT GRM42-8 CH 180J 500PT	
C40	4030011170	S.CERAMIC	GRM42-6 CH 180J 500PT	
C41	4030007080	S.CERAMIC	C1608 CH 1H 390J-T-A	
C42	4030007040	S.CERAMIC	C1608 CH 1H 180J-T-A	
C43 C44	4030006860 4030006860	S.CERAMIC S.CERAMIC	C1608 JB 1H 102K-T-A C1608 JB 1H 102K-T-A	
C45	4030007020	S.CERAMIC	C1608 CH 1H 120J-T-A	
C46	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C47	4030009470	S.CERAMIC	C1608 CH 1H R75C-T-A	
C48 C49	4030010070 4030007020	S.CERAMIC S.CERAMIC	C1608 X7S 1C 104K-T-A C1608 CH 1H 120J-T-A	
C50	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A	
C51	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A	
C52	4030007040	S.CERAMIC	C1608 CH 1H 180J-T-A	
C53 C54	4030009990 4030007170	S.CERAMIC S.CERAMIC	C1608 CH 1H 200J-T-A C1608 CH 1H 221J-T-A	
C55	4030007050	S.CERAMIC	C1608 CH 1H 220J-T-A	
C56	4030007120	S.CERAMIC	C1608 CH 1H 820J-T-A	
C57	4030007060	S.CERAMIC	C1608 CH 1H 270J-T-A	
C58 C59	4030006860 4030006860	S.CERAMIC S.CERAMIC	C1608 JB 1H 102K-T-A C1608 JB 1H 102K-T-A	
C60	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A	
C61	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A	
C63 C64	4030006860 4030007050	S.CERAMIC S.CERAMIC	C1608 JB 1H 102K-T-A C1608 CH 1H 220J-T-A	
C65	4030007050	S.CERAMIC	C1608 CH 1H 220J-T-A	
C66	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A	
C67	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C68 C69	4030010070 4030006880	S.CERAMIC S.CERAMIC	C1608 X7S 1C 104K-T-A C1608 JB 1H 472K-T-A	
C70	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C71	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C72 C73	4030010070	S.CERAMIC S.CERAMIC	C1608 X7S 1C 104K-T-A C1608 X7S 1C 104K-T-A	
C75	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C76	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C77	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C78 C79	4030010070 4030010070	S.CERAMIC S.CERAMIC	C1608 X7S 1C 104K-T-A C1608 X7S 1C 104K-T-A	
C80	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C81	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C82 C83	4510004600 4030008920	S.CERAMIC	16 MV 1000 HC C1608 JB 1C 473K-T-A	
C84	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C89	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C90	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C91 C92	4510004590 4510004590	ELECTROLITIC	16 MV 470 HC 16 MV 470 HC	
C93	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A	
C94	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C95	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C98 C99	4030006860	S.CERAMIC S.CERAMIC	C1608 JB 1H 102K-T-A C1608 X7S 1C 104K-T-A	
C105	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A	
C106	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A	
C109 C110	4510005350 4030006860	S.CERAMIC	25 MV 220 HC C1608 JB 1H 102K-T-A	
C111	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A	
C112	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A	
C113	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A	
C115 C116	4030010070 4030006860	S.CERAMIC S.CERAMIC	C1608 X7\$ 1C 104K-T-A C1608 JB 1H 102K-T-A	
C117	4030001370	S.CERAMIC	GR44 CH 682K	
C118	4030001370	S.CERAMIC	GR44 CH 682K	
	1			

### [PA UNIT]

REF. NO.	ORDER NO.	DESCRIPTION		
C119	4030001370	S.CERAMIC	GR44 CH 682K	
C120	4030001370	S.CERAMIC	GR44 CH 682K	
C126	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C127	4030010070 4030010070	S.CERAMIC S.CERAMIC	C1608 X7S 1C 104K-T-A C1608 X7S 1C 104K-T-A	
C128 C130	4030006880	S.CERAMIC S.CERAMIC	C1808 JB 1H 472K-T-A	
C131	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C134	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A	
C136	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A	
C137	4030006860	S.CERAMIC S.MICA	C1608 JB 1H 102K-T-A UC342H 3900J	
C138 C139	4320001060 4320001060	S.MICA S.MICA	UC342H 3900J	
C141	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C142	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C143	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C144	4030010070	S.CERAMIC S.CERAMIC	C1608 X7S 1C 104K-T-A C1608 X7S 1C 104K-T-A	
C145 C146	4030010070 4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C148	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C149	4030010070	S.CERAMIC	C1808 X7S 1C 104K-T-A	
C150	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C151	4030009650	S.CERAMIC	C1608 CH 1H 240J-T-A	
C152 C153	4030009990	S.CERAMIC S.CERAMIC	C1608 CH 1H 200J-T-A C1608 CH 1H 120J-T-A	
C153	4030007020	S.CERAMIC	C1808 CH 1H 200J-T-A	
C155	4320001070	S.MICA	UC342H 3300J-T	
C157	4030010760	S.CERAMIC	C1808 CH 1H 331J-T-A	
C158	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C159 C160	4510004590 4030006860	S.CERAMIC	16 MV 470 HC C1608 JB 1H 102K-T-A	
C160	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C162	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A	
C163	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A	
C164	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	
C165 C166	4030006880	S.CERAMIC S.CERAMIC	C1608 JB 1H 472K-T-A C1608 X7S 1C 104K-T-A	
C166	4030010070	S.CERAMIC	GR44 Y5V 684Z	
C170	4010005740	CERAMIC	HM60SJ SL 560J 500V	
C171	4010005860	CERAMIC	HM95SJ SL 201J 500V	
C172	4010005860	CERAMIC	HM95SJ SL 201J 500V	
RL1	6330001300	RELAY	UM1-12W-K	
RL2	6330001060	RELAY	APQ 3311	
F1	5210000130	FUSE	FGB 4A	
F2	5220000020	HOLDER	S-N5051	
F3	5220000020	HOLDER	S-N5051	
J1	6510003250	CONNECTOR	TMP-J01X-A2	
J3	6510003400 6450000140	CONNECTOR	B04B-EH-S HSJ0807-01-010	
J8 J13	6510003250	CONNECTOR	TMP-J01X-A2	
J14	6510018960	S.CONNECTOR	B2B-PH-SM3-TB	
J15	6510003080	CONNECTOR	RT01T-1.0B	
W32	9045201001	WIRE	74/98/040/X98/X98	
W35	9045201001	WIRE	74/98/040/X98/X98	
WS1	8970022130	CABLE	1691 J-BOARD SET (1)/PA	
WS2	8600034632	CABLE	1691 J10PA-2	
WS3	8600034470	CABLE	1691 P04 * J02 * 04PA	
WS4	8600034650	CABLE	1691 P05-X-J05PA	
WS5 WS6	8970022141 8600034490	CABLE	1691 1.5D COAXIAL-1 (2)/PA 1 1691 P07 ** J07PA	
WS7	8600034700	CABLE	1691 P03 * J06PA	
EP1	0910045887	РСВ	B 4562G	
EP2	6910000610	BEAD	FSOH050RN01	
EP6	6910000630	BEAD	FSOH070RN	
			i	
		L		

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REF. NO.	ORDER NO.		DESCRIPTION
IC1	1110002700	s.ic	NJM2904M-T1
Q1	1530002060	S.TRANSISTOR	2SC4081 T107 R
Q2	1590000680	S.TRANSISTOR	DTC114EU T107
Q3 Q4	1590000680 1590000680	S.TRANSISTOR S.TRANSISTOR	DTC114EU T107 DTC114EU T107
Q5	1590000680	S.TRANSISTOR	DTC114EU T107
Q6	1590000680	S.TRANSISTOR	DTC114EU T107
Q7	1590000680	S.TRANSISTOR	DTC114EU T107
Q9 Q8	1530002080 1530003090	S.TRANSISTOR S.TRANSISTOR	2SC4081 T107 R 2SC4213-B (TE85R)
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		200,210 2 (1,2001)
D1	1160000140	S.DIODE	DAP222 TL
D2 D3	1160000140 1160000140	S.DIODE S.DIODE	DAP222 TL DAP222 TL
D4	1160000140	S.DIODE	DAP222 TL
D5	1180000140	S.DIODE	DAP222 TL
D6 D7	1160000140 1160000140	S.DIODE S.DIODE	DAP222 TL DAP222 TL
D8	1160000140	S.DIODE	DAP222 TL
D9	1790000490	S.DIODE	HSM88AS-TR
D10	1790000490	S.DIODE S.DIODE	HSM88AS-TR DAP222 TL
D11 D12	1160000140 1160000140	S.DIODE S.DIODE	DAP222 TL
D13	1160000140	S.DIODE	DAP222 TL
D14	1160000140	S.DIODE	DAP222 TL
D15 D16	1180000140 1180000140	S.DIODE S.DIODE	DAP222 TL DAP222 TL
D17	1160000140	S.DIODE	DAP222 TL
D18	1160000140	S.DIODE	DAP222 TL
D19 D20	1160000140 1160000140	S.DIODE S.DIODE	DAP222 TL DAP222 TL
D21	1160000140	S.DIODE	DAP222 TL
D22	1160000140	S.DIODE	DAP222 TL
L1	6110001560	COIL	LA-236
L2 L3	6110001630	COIL	LA-246 LAL 03NA 101K
L4	6180000900	COIL	LAL 03NA 101K
L5	6110002230	COIL	LA-215
L6 L7	8110002230 8110002220	COIL	LA-215 LA-214
L8	6180000900	COIL	LAL 03NA 101K
L9	6200003260	S.COIL	NL 322522T-101J
L10 L11	6140001800	COIL	LR-216 (T50-2) LR-216 (T50-2)
L12	6200003260	S.COIL	NL 322522T-101J
L13	6200003260	S.COIL	NL 322522T-101J
L14 L15	6110002900 6110002890	COIL	LA-479 LA-478
L18	6200003260	S.COIL	NL 322522T-101J
L17	6200003260	S.COIL	NL 322522T-101J
L18 L19	6140002560 6140002560	COIL	LR-293 (T50-10) LR-293 (T50-10)
L20	6200003260	S.COIL	NL 322522T-101J
L21	6200003260	S.COIL	NL 322522T-101J
L22 L23	6110002920 6110002910	COIL	LA-481 LA-480
L24	6200003260	S.COIL	NL 322522T-101J
L25	6200003260	S.COIL	NL 322522T-101J
L26 L27	6140001780 6140001790	COIL	LR-214 (T50-2) LR-215 (T50-2)
L28	8200003260	S.COIL	NL 322522T-101J
L29	6200003260	S.COIL	NL 322522T-101J
L30 L31	6140002570 6140002580	COIL	LR-294 (T50-2) LR-295 (T50-2)
L32	6200003260	S.COIL	NL 322522T-101J
L33	6140002600	COIL	LR-297 (TR10X5X5 3A6)
L34	8200003260	S.COIL	NL 322522T-101J
L35 L36	2040000490 6200003260	S.COIL	EXC-ELDR25C NL 322522T-101J
L37	6200003260	S.COIL	NL 322522T-101J
L39	2040000490	COIL	EXC-ELDR25C
<u> </u>			

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### [FILTER UNIT]

REF.	ORDER		DESCRIPTION	1	REF.	ORDER		DESCRIPTION
<b>10</b> .	NO.			-	NO.	NO.		
11	2040000490	COIL	EXC-ELDR25C	1	C35	4010005770	CERAMIC	HM80SJ SL 820J 500
42	2040000490	COIL	EXC-ELDR25C	1	C36	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
43	2040000490	COIL	EXC-ELDR25C	1	C37	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
44	6200003260	S.COIL	NL 322522T-101J	1	C38	4010005780	CERAMIC	HM60SJ SL 101J 500
45	6200003260	S.COIL	NL 322522T-101J	l	C39	4010005640	CERAMIC	HM80SJ SL 180J 500
46	6200003260	S.COIL	NL 322522T-101J		C40	4010005870	CERAMIC	HM95SJ SL 221J 500
7	6200003260	S.COIL	NL 322522T-101J		C41	4010005720	CERAMIC	HM60SJ SL 390J 500
8	6200003260	S.COIL	NL 322522T-101J	1	C42	4010005830	CERAMIC	HM74SJ SL 151J 500
19	6200003260	S.COIL	NL 322522T-101J	1	C43	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
0	6140002560	COIL	LR-293 (T50-10)	ı	C44	4030006880	S.CERAMIC	C1808 JB 1H 472K-T-
1	2040000490	COIL	EXC-ELDR25C		C45	4010007490	CERAMIC	HM15SJ SL 561J 500
	6200003260	S.COIL	NL 322522T-101J	1	C48	4010007480	CERAMIC	HM95SJ SL 221J 500
54 55	6200003260	S.COIL	NL 322522T-101J	1	C47	4010003570	CERAMIC	HM15SJ SL 881J 500
6	6200001830	S.COIL	NL 322522T-100J	1	C48	4010005750	CERAMIC	HM60SJ SL 680J 500
7	6200003260	S.COIL	NL 322522T-101J	1	C49	4010007490	CERAMIC	HM15SJ SL 581J 500
	2040000490	COIL	EXC-ELDR25C	1	C50	4030006880	S.CERAMIC	C1808 JB 1H 472K-T-
8 9	2040000490	COIL	EXC-ELDR25C	1	C51	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
	\$	1		1	3	4010007500	1	
0	6200003260	S.COIL	NL 322522T-101J	1	C52	1	CERAMIC	HM15SJ SL 751J 500
	1			1	C53	4010006410	CERAMIC	HM13SJ SL 471J 500
	7000007107	e projeton	ED HOVIOOUT TOO O	1	C54	4010007500	CERAMIC	HM15SJ SL 751J 500
2	7030007190	S.RESISTOR	ERJ12YJ220H (22 Ω)	1	C55	4010005820	CERAMIC	HM74SJ SL 121J 500
3	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)	1	C56	4010007500	CERAMIC	HM15SJ SL 751J 500
	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)	1	C57	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
5	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)	1	C58	4610002050	S.TRIMMER	ECR-JC010 A12W
	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)	1	C59	4030007160	S.CERAMIC	C1608 CH 1H 181J-T
•	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)	1	C62	4030006830	S.CERAMIC	C1608 SL 1H 331J-T-
	7540000130	ABSORBER	2P-50A-301		C63	4030006830	S.CERAMIC	C1608 SL 1H 331J-T-
	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)	1	C64	4030007090	S.CERAMIC	C1608 CH 1H 470J-T
0	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)	1	C65	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-
1	7010004030	RESISTOR	R20J 47 Ω	1	C66	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-
3	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)	1	C67	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-
4	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)	1	C69	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
5	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)	l	C70	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
6	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)		C71	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
7	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)	1	C72	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
8	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)	l	C73	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
26	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)		C74	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
7	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)	1	C75	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
28	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)	1	C76	4030006880	S.CERAMIC	C1608 JB 1H 472K-T
2	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)	1	C78	4010005850	CERAMIC	HM95SJ SL 181J 500
	1			ı	C79	4010005860	CERAMIC	HM95SJ SL 201J 500
				1	C80	4010005390	CERAMIC	HM15SJ SL 621J 500
	4030007070	S.CERAMIC	C1608 CH 1H 330J-T-A	1	C81	4010006410	CERAMIC	HM13SJ SL 471J 500
!	4030011540	S.CERAMIC	C1608 CH 1H 750J-T-A	1	C82	4010007500	CERAMIC	HM15SJ SL 751J 500
	4030007120	S.CERAMIC	C1608 CH 1H 820J-T-A	1	C84	4010007490	CERAMIC	HM15SJ SL 561J 500
	4030007030	S.CERAMIC	C1608 CH 1H 150J-T-A	1	C86	4010005700	CERAMIC	HM60SJ SL 330J 500
•	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A	1	C87	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
	4030006880	S.CERAMIC	C1808 JB 1H 472K-T-A	1	C88	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	1	C89	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
	4010005730	CERAMIC	HM60SJ SL 470J 500V	1	C90	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
} }	4010005570	CERAMIC	HM80SJ SL 080D 500V	1	C91	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
0	4010005780	CERAMIC	HM80SJ SL 101J 500V	1	C92	4030006880	S.CERAMIC	
		CERAMIC	HM80SJ SL 150J 500V	1	C92	4030006880		C1608 JB 1H 472K-T-
1 2	4010005630	1		1	1	1	S.CERAMIC	C1808 JB 1H 472K-T-
	4010005770	CERAMIC	HM80SJ SL 820J 500V	1	C94	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
3	4010005680	CERAMIC	HM80SJ SL 270J 500V	1	C95	4030006880	S.CERAMIC	C1808 JB 1H 472K-T-
4	4010005700	CERAMIC	HM60SJ SL 330J 500V		C96	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
5	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	1	C97	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
3	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	1	C98	4030006880	S.CERAMIC	C1808 JB 1H 472K-T-
7	4010005360	CERAMIC	HM11SJ SL 301J 500V	1	C99	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
В	4010005780	CERAMIC	HM60SJ SL 101J 500V	1	C100	4030008880	S.CERAMIC	C1608 JB 1H 472K-T-
9	4010007590	CERAMIC	HM15SJ SL 681J 500V	1	C101	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-
0	4010005700	CERAMIC	HM60SJ SL 330J 500V	1	C102	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
1	4010005930	CERAMIC	HM11SJ SL 391J 500V	1	C103	4030006880	S.CERAMIC	C1808 JB 1H 472K-T-
2	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	Í	C104	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
3	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	1	C105	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
4	4010005700	CERAMIC	HM60SJ SL 330J 500V	1	C110	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
5	4010005620	CERAMIC	HM60SJ SL 120J 500V	1	C111	4030006880	S.CERAMIC	C1808 JB 1H 472K-T-
6	4010005820	CERAMIC	HM74SJ SL 121J 500V	1	C112	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
7	4010005720	CERAMIC	HM60SJ SL 390J 500V	1	C113	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
8	4010005740	CERAMIC	HM60SJ SL 560J 500V	1	C114	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
29	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A	1	C115	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
30	4030008880	S.CERAMIC	C1608 JB 1H 472K-T-A		C116	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
31	4010007610	CERAMIC	HM95SJ SL 241J 500V	1	C117	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
32	4010005780	CERAMIC	HM60SJ SL 101J 500V	1	C118	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
13	4010005780	CERAMIC	HM95SJ SL 271J 500V	1	C118	4030006880	S.CERAMIC	C1808 JB 1H 472K-T-
~	1	1		1	C120	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-
4	4010005720	CERAMIC	HM60SJ SL 390J 500V					

### [FILTER UNIT]

(FILTER	FILTER UNIT]				
REF. NO.	ORDER NO.		DESCRIPTION		
C121	4030006880	S.CERAMIC	C1808 JB 1H 472K-T-A		
C122	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A		
C123	4030009110	S.CERAMIC	C3216 JB 1C 474K-T-A		
C124	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A		
C125	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A		
C126	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A		
C127	4030010070	S.CERAMIC	C1608 X7S 1C 104K-T-A		
C128	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A		
C131	4010005370	CERAMIC	HM11SJ SL 331J 500V		
C132	4010005590	CERAMIC	HM60SJ SL 080D 500V		
C133	4030010070	S.CERAMIC	C1808 X7S 1C 104K-T-A		
C134	4010005820	CERAMIC	HM74SJ SL 121J 500V		
C135	4010005820	CERAMIC	HM74SJ SL 121J 500V		
C136	4030001420	S.CERAMIC	GR44 Y5V 684Z		
C137	4010005730	CERAMIC	HM60SJ SL 470J 500V		
C138	4010005730	CERAMIC	HM60SJ SL 470J 500V		
RL1	6330000720	RELAY	DS1-M-DC12V (AG2013)		
RL2	6330000720	RELAY	DS1-M-DC12V (AG2013)		
RL3	6330000720	RELAY	DS1-M-DC12V (AG2013)		
RL4	6330001320	RELAY	AHY103		
RL5	8330001320	RELAY	AHY103		
RL6	6330001320	RELAY	AHY103		
RL7	6330001320	RELAY	AHY103		
RL8	6330001320	RELAY	AHY103		
RL9	6330001320	RELAY	AHY103		
RL10	6330001320	RELAY	AHY103		
RL11	6330001320	RELAY	AHY103		
RL12	6330001320	RELAY	AHY103		
RL13	6330001320	RELAY	AHY103		
RL14	6330001320	RELAY	AHY103		
RL15	6330001320	RELAY	AHY103		
J4	6450001490	CONNECTOR	HLJ7001-01-3010		
J5	6450001640	CONNECTOR	TCS5044-01-4111		
J7	6450001650	CONNECTOR	HSJ0836-01-500		
J8	6450001660	CONNECTOR	EX345GLB		
J9	6510019160	S.CONNECTOR	52610-2090		
J11	6510016170	CONNECTOR	52018-8835		
J12	6510019140	S.CONNECTOR	52610-1090		
J13	6510003250	CONNECTOR	TMP-J01X-A2		
-14					
W1	7120000010	JUMPER	JPW 02A		
W8	7030003860	S.JUMPER	ERJ3GE JPW V		
W9	7030003860	S.JUMPER	ERJ3GE JPW V		
W10	7030003860	S.JUMPER	ERJ3GE JPW V		
W11	7030003860	S.JUMPER	ERJ3GE JPW V		
W12	7030003860	S.JUMPER	ERJ3GE JPW V		
W13	7030003860	S.JUMPER	ERJ3GE JPW V		
W14	7030003860	S.JUMPER	ERJ3GE JPW V		
W15	7030003860	S.JUMPER	ERJ3GE JPW V		
W16	7030003860	S.JUMPER	ERJ3GE JPW V		
W17	7030003860	S.JUMPER	ERJ3GE JPW V		
WS1	8970022150	CABLE	1691 1.5D COAXIAL (2)/FI		
WS2	8600034510	CABLE	1691 P03*J10FI		
			••		
EP1	0910045636	PCB	B 4563F		

### [FRONT PARTS]

REF. NO.	ORDER NO.	DESCRIPTION		
S1	2250000290	ENCODER	SW-159 (EC24B50B)	
W1 W2	8900006040 8900008250	CABLE CABLE	OPC-593 (N:13 L:50) OPC-610	

### [CHASSIS PARTS]

[CHASSIS PARTS]				
REF. NO.	ORDER NO.		DESCRIPTION	
MF1	2710000580	FAN	FBA06T12HF	
J3 J4	6510000370 6510000370	CONNECTOR CONNECTOR	MR-DS MR-DS	
W1 W2 W3	8900006050 8900006060 8900006150	CABLE CABLE CABLE	OPC-594 (N:30 L:100) OPC-595 (N:20 L:150) OPC-602 (N:10 L:150)	
WS1 WS2 WS3 (2)/CH	8600034803 8600034440 8970022084	CABLE CABLE CABLE	1691 P03CH-3 1691 P01 <del>X</del> J02CH 1691 1.5D COAXIAL-4	
SP1	2510000670	SPEAKER	VS-50-0827	
EP1 EP2 EP8	8930021010 0910045921 9016910500	PLUG FPC TUBE	DOMED PLUG DP-500 B 4598A	
		Amateu	wnloaded by  r Radio Directory   □ amdirectory.info	
			,	

### 5-2 AT-180

### [TUNER UNIT]

- DEE			
REF. NO.	ORDER NO.		DESCRIPTION
IC1 IC2	1120000970 1120000970	IC IC	M54562P M54562P
L1	6110003010	COIL	LA-488
L2	6110003020	COIL	LA-489
L3 L4	6110003020 6110003030	COIL	LA-489 LA-490
L5	6110003020	COIL	LA-489
L6	6110003030	COIL	LA-490
L7	6140002700	COIL	LR-307 (T130-2) LR-306 (T68-6)
L8 L9	6140002690 6140002690	COIL	LR-306 (T68-6)
L10	6140002690	COIL	LR-306 (T68-6)
L11	6140002690	COIL	LR-306 (T68-6)
L13	2040000490	COIL	EXC-ELDR25C
R1	7410000170	ARRAY	RMX- 8 102K
R2	7410000170	ARRAY	RMX- 8 102K
C1	4620000110	VARIABLE	UV35 150P
C2	4010004260	CERAMIC	DE0907 SL 820J 3KV
C3	4010004280	CERAMIC	DE1207 SL 151J 3KV
C4 C5	4010004250 4620000110	CERAMIC VARIABLE	DE1007 SL 101J 3KV UV35 150P
C6	4010004250	CERAMIC	DE1007 SL 101J 3KV
C7	4010004280	CERAMIC	DE1207 SL 151J 3KV
C8	4010004250	CERAMIC	DE1007 SL 101J 3KV UAT 05X 472K
C9 C10	4040000150 4040000150	BARRIERLAYR BARRIERLAYR	UAT 05X 472K
C11	4040000150	BARRIERLAYR	UAT 05X 472K
C12	4040000150	BARRIERLAYR	UAT 05X 472K
C13 C14	4040000150	BARRIERLAYR BARRIERLAYR	UAT 05X 472K UAT 05X 472K
C14 C15	4040000150	BARRIERLAYR	UAT 05X 472K
C16	4040000150	BARRIERLAYR	UAT 05X 472K
C17	4040000150	BARRIERLAYR	UAT 05X 472K
C18 C19	4040000150 4040000150	BARRIERLAYR BARRIERLAYR	UAT 05X 472K UAT 05X 472K
C20	4040000150	BARRIERLAYR	UAT 05X 472K
C21	4040000150	BARRIERLAYR	UAT 05X 472K
C22	4010000520	CERAMIC   BARRIERLAYR	DD107-601 B 472K 50V UAT 05X 472K
C23 C24	4040000150	CERAMIC	DE1007 SL 101J 3KV
C25	4530000250	ARRAY	B8XC0112-32N
C26	4530000250	ARRAY	B8XC0112-32N
C27 C28	4010005070 4010005070	CERAMIC CERAMIC	DE0707 SL 390J 3KV DE0707 SL 390J 3KV
C28	4010003070	CERAMIC	DE1007 SL 101J 3KV
C30	4010000500	CERAMIC	DD104 B 102K 50V
RL1	6330001110	RELAY	NY-12W-K
RL2	6330001110	RELAY	NY-12W-K
RL3	6330001110	RELAY	NY-12W-K
RL4	6330001110	RELAY	NY-12W-K
RL5 RL6	6330001110 6330001110	RELAY	NY-12W-K NY-12W-K
RL7	6330001110	RELAY	NY-12W-K
RL8	6330001110	RELAY	NY-12W-K
RL9	6330001110	RELAY	NY-12W-K
RL10 RL11	6330001110 6330001110	RELAY   RELAY	NY-12W-K NY-12W-K
RL12	6330001110	RELAY	NY-12W-K
RL13	6330001110	RELAY	NY-12W-K
RL14	6330001110	RELAY	NY-12W-K
RL15	6330001110	RELAY	NY-12W-K
J5	6510003100	CONNECTOR	RT01T-1.3B
J6	6510003100	CONNECTOR	RT01T-1.3B

### [TUNER UNIT]

REF. NO.	ORDER NO.	DESCRIPTION		
WS1	8970022230	CABLE	1732 1.5D Coaxial (2)/TU	
WS2	8600034870	CABLE	1732 P01 *J01TU	
WS3	8600034880	CABLE	1732 P02 <del>X</del> J02TU	
EP1	0910046761	РСВ	B 4739A	
MP1	8930030100	ANGLE	1414 ANGLE	
MP2	8810003160	SCREW	Set screw A M3 X 6 [2 pcs]	
MP3	8810003160	SCREW	Set screw A M3 X 6 [4 pcs]	

### [CTRL UNIT]

REF. NO.	ORDER NO.	D	ESCRIPTION
IC1	1110000960	s.ic	NJM4558M(T1)
IC2	1110001850	IC	MC10116 L
IC3	1110001860	IC	MC10125 L
IC4	1120002251	S.IC	TC74ACT32F(TP1)
IC5	1120002241	S.IC	TC74AC112F(TP1)
IC8	1110000960	S.IC	NJM4558M(T1)
IC7	1180001070	S.IC	TA7805F(TE16L)
IC8	1180001140	S.IC	S-8437AF-ZA-T1
IC9	1160000110	S.IC	TD62164AF(TP1)
IC10	1160000110	s.ic	TD62164AF(TP1)
IC11	1140003610	S.IC	X24C04S8-2.7
IC12	1140004120	S.IC	M38022M2-138FP
IC13	1110001550	S.IC	S-8054ALB-LM-T1
IC14	1130003920	\$.IC	TC4S69F (TE85R)
IC18	1130003920	s.ic	TC4S69F (TE85R)
IC17	1180000040	lic	TA78L009AP
IC18	1110002690	\$.IC	NJM2903M-T1
١,,	1580000040	CET.	2SK30ATM-Y
Q1	1580000040	FET S.TRANSISTOR	2SB1119S-TD
Q2	1520000530		
Q3	1590001220	S.TRANSISTOR	RN1302 (TE85R)
Q8	1530002690	S.TRANSISTOR	2SC4118-GR (TE85R)
Q9	1530002690	S.TRANSISTOR	2SC4116-GR (TE85R)
Q10	1510000780	S.TRANSISTOR	2SA1586-Y (TE85R)
Q11	1590001220	S.TRANSISTOR	RN1302 (TE85R)
Q12	1510000780	S.TRANSISTOR	2\$A1586-Y (TE85R)
Q15	1530002690	S.TRANSISTOR	2SC4116-GR (TE85R)
D1	1790000070	DIODE	1\$\$237
D2	1790000070	DIODE	1SS237
D3	1710000580	DIODE	1SS265
D4	1710000580	DIODE	1SS265
D5	1710000580	DIODE	1SS265
D6	1710000580	DIODE	1SS265
D7	1750000220	S.DIODE	DA113W T107
D8	1750000220	S.DIODE	DA113W T107
D9	1790000240	DIODE	18899
D10	1790000240	DIODE	18899
D11	1790000070	DIODE	1SS237
D12	1790000070	DIODE	1\$\$237
D13	1750000220	S.DIODE	DA113W T107
D14	1750000220	S.DIODE	DA113W T107
D20	1710000550	DIODE	1S95 <b>4</b>
D21	1790001130	S.DIODE	D2FS4-4083
D24	1750000220	S.DIODE	DA113W T107
D25	1730000410	S.ZENER	RD5.1M-T2B2
D26	1730000410	S.ZENER	RD5.1M-T2B2
D29	1750000120	S.DIODE	DWA010-TE
D30	1750000120	S.DIODE	DWA010-TE
D31	1750000200	S.DIODE	1SS319 (TE85R)
D32	1790000070	DIODE	1SS237
<u> </u>			

### [MAIN UNIT]

### [MAIN UNIT]

REF.	ORDER NO.		DESCRIPTION
X1	6050009080	XTAL	AT-49 (6.144MHz)
Lı	6180000450	COIL	RFC L6 222K
L2	6140000100	COIL	LR-22A
L3	6200003260	S.COIL	NL 322522T-101J
L4	6200003260	S.COIL	NL 322522T-101J NL 322522T-100J
L5 L8	6200001830 6180000960	S.COIL COIL	LAL 03NA 102K
L7	6140002660	COIL	LR-299
L8	6180000960	COIL	LAL 03NA 102K
L9	6200003260	S.COIL	NL 322522T-101J
L10	6140002650	COIL	LR-298
L11	6200003260	S.COIL	NL 322522T-101J
L12 L13	6200003260 6200003260	S.COIL S.COIL	NL 322522T-101J NL 322522T-101J
L16	6180000990	COIL	LAL 04NA 101K
L18	6180000900	COIL	LAL 03NA 101K
L19	6180000900	COIL	LAL 03NA 101K
L20	6180000900	COIL	LAL 03NA 101K
L21	6180000900	COIL	LAL 03NA 101K
L23 L24	6180000900 6180000900	COIL	LAL 03NA 101K LAL 03NA 101K
L24 L25	6180000900	COIL	LAL 03NA 101K
L26	6180000900	COIL	LAL 03NA 101K
L27	6910000670	COIL	BL01RN1-A62-001
L28	6200003260	S.COIL	NL 322522T-101J
L29	6200003260	S.COIL S.COIL	NL 322522T-101J NL 322522T-101J
L30 L31	6200003260 6200003260	S.COIL	NL 3225221-101J NL 322522T-101J
L32	6200003260	S.COIL	NL 322522T-101J
L33	6200003260	S.COIL	NL 322522T-101J
L34	6200003260	S.COIL	NL 322522T-101J
L35	6200003260	S.COIL	NL 322522T-101J
L36	6200003260	S.COIL S.COIL	NL 322522T-101J NL 322522T-101J
L37 L38	6200003260 6200003260	S.COIL	NL 3225227-1013 NL 322522T-101J
L39	6200003260	S.COIL	NL 322522T-101J
L40	6200003260	S.COIL	NL 322522T-101J
L41	6200003260	S.COIL	NL 322522T-101J
L42	6180000450	COIL	RFC L6 222K
L43 L44	6200003260 6190000220	S.COIL COIL	NL 322522T-101J S0971136-101K
L45	6180000990	COIL	LAL 04NA 101K
L46	6180000990	COIL	LAL 04NA 101K
L47	6140002660	COIL	LR-299
L48	6910000670	COIL	BL01RN1-A62-001
L49 L50	6910000670 6200003260	COIL S.COIL	BL01RN1-A62-001 NL 322522T-101J
	020000200	0.0012	112 022021 1010
R2	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R3	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R4	7030003720	S.RESISTOR S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R5 R7	7030003670	S.RESISTOR	ERJ3GEYJ 823 V (82 kΩ) ERJ3GEYJ 224 V (220 kΩ)
R8	7030003720	S.RESISTOR	ERJ3GEYJ 823 V (82 kΩ)
R9	7030003730	S.RESISTOR	ERJ3GEYJ 274 V (270 kΩ)
R10	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R11	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R12 R13	7030003720 7030003720	S.RESISTOR S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ) ERJ3GEYJ 224 V (220 kΩ)
R14	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R16	7030003430	S.RESISTOR	ERJ3GEYJ 821 V (820 Ω)
R17	7030000080	S.RESISTOR	MCR10EZHJ 3.3 Ω (3R3)
R19	7030003330	S.RESISTOR	ERJ3GEYJ 121 V (120 Ω)
R20 R22	7030003280 7030003410	S.RESISTOR S.RESISTOR	ERJ3GEYJ 470 V (47 Ω) ERJ3GEYJ 561 V (560 Ω)
R23	7030003410	S.RESISTOR	MCR50JZHJ 33 Ω (330)
R24	7030000080	S.RESISTOR	MCR10EZHJ 3.3 Ω (3R3)
R25	7030003330	S.RESISTOR	ERJ3GEYJ 121 V (120 Ω)
R26	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R27	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R28 R30	7030003360	S.RESISTOR S.RESISTOR	ERJ3GEYJ 221 V (220 Ω) MCR50JZHJ 56 Ω (560)
R31	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
			, , , , , , , , , , , , , , , , , , ,

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REF. NO.	ORDER NO.		DESCRIPTION
R32	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R33	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R34	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R35	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R36 R37	7030003440 7030003560	S.RESISTOR S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ) ERJ3GEYJ 103 V (10 kΩ)
R38	7030003300	S.RESISTOR	ERJ3GEYJ 823 V (82 kΩ)
R39	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R40	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R41	7030003780	S.RESISTOR	ERJ3GEYJ 684 V (680 kΩ) ERJ3GEYJ 103 V (10 kΩ)
R42 R43	7030003580 7030003590	S.RESISTOR S.RESISTOR	ERJ3GEYJ 103 V (10 KΩ)
R44	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R45	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R46	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R47 R48	7030003780 7030003560	S.RESISTOR S.RESISTOR	ERJ3GEYJ 684 V (680 kΩ) ERJ3GEYJ 103 V (10 kΩ)
R50	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R51	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R57	7070000510	RESISTOR	CRH100X R-02J 18 Ω
R62	7030003580	S.RESISTOR S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ) ERJ3GEYJ 103 V (10 kΩ)
R63 R64	7030003580 7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R65	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R66	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R67	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R68 R69	7030003440 7030003440	S.RESISTOR S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ) ERJ3GEYJ 102 V (1 kΩ)
R70	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R71	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R72	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R73	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R74 R75	7030003440 7030003440	S.RESISTOR S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ) ERJ3GEYJ 102 V (1 kΩ)
R76	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R77	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R78	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R79	7030003440	S.RESISTOR S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R80 R81	7030003440 7030003680	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ) ERJ3GEYJ 104 V (100 kΩ)
R82	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R83	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R84	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R85 R86	7030003440 7030003580	S.RESISTOR S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ) ERJ3GEYJ 103 V (10 kΩ)
R87	7030003410	S.RESISTOR	ERJ3GEYJ 561 V (560 Ω)
R88	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R89	7030003410	S.RESISTOR	ERJ3GEYJ 581 V (580 Ω)
R90 R92	7030003560 7030003640	S.RESISTOR S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ) ERJ3GEYJ 473 V (47 kΩ)
R93	7030003640	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R94	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R95	7030003650	S.RESISTOR	ERJ3GEYJ 563 V (56 kΩ)
R96	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R97 R100	7030003440 7030003440	S.RESISTOR S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ) ERJ3GEYJ 102 V (1 kΩ)
R101	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R102	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R103	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R104	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R105 R106	7030003440 7030003440	S.RESISTOR S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ) ERJ3GEYJ 102 V (1 kΩ)
R107	7030003440	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R108	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R109	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R110	7030003570	S.RESISTOR	ERJ3GEYJ 123 V (12 kΩ)
R111 R112	7540000100 7030003410	ABSORBER S.RESISTOR	SRYH-350L ERJ3GEYJ 561 V (560 Ω)
R113	7030003410	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R116	7030001090	S.RESISTOR	MCR50JZHJ 47 Ω (470)
R117	7030001090	S.RESISTOR	MCR50JZHJ 47 Ω (470)
R118	7030003440 7030003440	S.RESISTOR S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R119 R120	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ) ERJ3GEYJ 102 V (1 kΩ)
R121	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R122	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
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### [CTRL UNIT]

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REF.	ORDER NO.		DESCRIPTION
R123	7030001070	S.RESISTOR	MCR50JZHJ 33 Ω (330)
R124	7030003690	S.RESISTOR	ERJ3GEYJ 124 V (120 kΩ)
R127	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R129	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R129	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ) ERJ3GEYJ 823 V (82 kΩ)
R130 R130	7030003670 7030003690	S.RESISTOR S.RESISTOR	ERJ3GEYJ 124 V (120 kΩ)
R131	7030003090	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R132	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R133	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R134	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R135 R136	7030003560	S.RESISTOR S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ) ERJ3GEYJ 104 V (100 kΩ)
R137	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R138	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R139	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R140	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
C1	4030008560	S.CERAMIC	C1608 CH 1H 300J-T-A
C2	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
СЗ	4010005540	CERAMIC	HM60SJ SL 030C 500V
C4	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C5 C6	4030008920 4510003790	S.CERAMIC ELECTROLITIC	C1608 JB 1C 473K-T-A 16 MV 10 SW
C8	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C9	4510003790	ELECTROLITIC	16 MV 10 SW
C11	4010005530	CERAMIC	HM60SJ SL 020C 500V
C12	4030007040	S.CERAMIC	C1608 CH 1H 180J-T-A
C13 C14	4030007040	S.CERAMIC S.CERAMIC	C1608 CH 1H 180J-T-A C1608 CH 1H 390J-T-A
C15	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C18	4510003790	ELECTROLITIC	16 MV 10 SW
C18	4030007170	S.CERAMIC	C1608 CH 1H 221J-T-A
C19 C20	4030007080 4030006880	S.CERAMIC S.CERAMIC	C1608 CH 1H 390J-T-A C1608 JB 1H 472K-T-A
C21	4030007170	S.CERAMIC	C1608 CH 1H 221J-T-A
C22	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C24	4510003790	ELECTROLITIC	16 MV 10 SW
C25	4030008920	S.CERAMIC S.CERAMIC	C1608 JB 1C 473K-T-A C1608 JB 1C 473K-T-A
C26 C27	4030008920	S.CERAMIC	C1608 CH 1H 221J-T-A
C28	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A
C29	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C30 C31	4010005540 4030007130	CERAMIC S.CERAMIC	HM60SJ SL 030C 500V C1608 CH 1H 101J-T-A
C32	4030007130	S.CERAMIC	C1608 CH 1H 101J-T-A
C33	4030006880	S.CERAMIC	C1808 JB 1H 472K-T-A
C34	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C35	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A C1608 JB 1H 472K-T-A
C36 C37	4030006880 4030008920	S.CERAMIC S.CERAMIC	C1608 JB 1C 473K-T-A
C38	4030007170	S.CERAMIC	C1608 CH 1H 221J-T-A
C39	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A
C40	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C41 C43	4510003790 4030008920	S.CERAMIC	16 MV 10 SW C1608 JB 1C 473K-T-A
C43	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C45	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C51	4510004590	ELECTROLITIC	16 MV 470 HC
C52 C53	4030010070	S.CERAMIC S.CERAMIC	C1608 X7S 1C 104K-T-A C1608 X7S 1C 104K-T-A
C53	4510003790	ELECTROLITIC	16 MV 10 SW
C55	4510004590	ELECTROLITIC	16 MV 470 HC
C56	4510005000	ELECTROLITIC	16 MV 220 HC
C57	4510003910	ELECTROLITIC	16 MV 47 HW
C73 C74	4030010070	S.CERAMIC S.CERAMIC	C1608 X7S 1C 104K-T-A C1608 X7S 1C 104K-T-A
C75	4030009990	S.CERAMIC	C1608 CH 1H 200J-T-A
C76	4030009990	S.CERAMIC	C1608 CH 1H 200J-T-A
C77	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C78 C79	4030008920	S.CERAMIC S.CERAMIC	C1608 JB 1C 473K-T-A C1608 JB 1C 473K-T-A
C80	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C81	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C82	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
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CTRL UNIT]			
REF.	ORDER		DESCRIPTION
NO.	NO.		
C83	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C84	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C85	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C86	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C87 C88	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A C1608 JB 1C 473K-T-A
C89	4030008920	S.CERAMIC S.CERAMIC	C1608 JB 1C 473K-T-A
C90	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C91	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C92	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C93	4550002860	S.TANTALUM	TESVA 1V 224K1-8L
C94 C95	4030006880 4030008920	S.CERAMIC S.CERAMIC	C1608 JB 1H 472K-T-A C1608 JB 1C 473K-T-A
C96	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C97	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C98	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C101	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C102 C103	4030008920 4030008920	S.CERAMIC S.CERAMIC	C1608 JB 1C 473K-T-A C1608 JB 1C 473K-T-A
C103	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C108	4030006900	S.CERAMIC	C1608 JB 1E 103K-T-A
C109	4030006900	S.CERAMIC	C1608 JB 1E 103K-T-A
C110	4030007070	S.CERAMIC	C1608 CH 1H 330J-T-A
C111 C112	4030007100 4030007100	S.CERAMIC S.CERAMIC	C1608 CH 1H 560J-T-A C1608 CH 1H 560J-T-A
C112	4030007100	S.CERAMIC	C1608 JB 1C 473K-T-A
C114	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C115	4510003790	ELECTROLITIC	16 MV 10 SW
C120	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C122	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
RL1	6330001090	RELAY	FXE-12
RL2	6330001090	RELAY	FXE-12
			:
DS1	5040001720	LED	TLG221
S1	2220000420	switch	ESD-11H120
S2	2220000420	SWITCH	ESD-11H120
			TUD IS AV 145
J2 J4	6510007020 6510007020	CONNECTOR	TMP-J01X-V6 TMP-J01X-V6
J5	6510007520	CONNECTOR	S05B-EH-S
J6	6510003530	CONNECTOR	S05B-EH-S
J7	6510003530	CONNECTOR	S05B-EH-S
J8	6510003420	CONNECTOR	B06B-EH-S
J9 J11	6510003460 6510003080	CONNECTOR	B10B-EH-S RT01T-1.0B
311	6510003080	CONNECTOR	N1011-1.0B
W1	7120000010	JUMPER	JPW 02A
W2 W3	7120000010	JUMPER	JPW 02A JPW 02A
W3 W8	7120000010 7030003860	JUMPER S.JUMPER	ERJ3GE JPW V
W12	7120000010	JUMPER	JPW 02A
W13	7120000380	JUMPER	JPW 01 R-01
W14	7120000380	JUMPER	JPW 01 R-01
WS1	8970022240	CABLE	1732 1.5D Coaxial (2)/CT
			(=/,
EP1	0910040207	PCB	B 3932G
		•	5 30024
MP1	8510004470	CASE	331 VCO Case
MP2 MP3	8510008790 8930005410	COVER	VCO Case cover (B) 1414 Insualator A
mrs	3630003410	SHEET	maudiaivi A

### [CON-A BOARD]

REF. NO.	ORDER NO.	DESCRIPTION		
J1 J2	6450001670 6510018890	CONNECTOR S.CONNECTOR	TC\$5093-10-4151 52559-1390	
EP1	0910046642	РСВ	B 4656B	

### [CON-B BOARD]

REF. NO.	ORDER NO.	C	ESCRIPTION
Q1	1510000510	S.TRANSISTOR	2SA1576 T107 R
Q2	1540000450	S.TRANSISTOR	2SD1623-T-TD
Q3	1590000680	S.TRANSISTOR	DTC114EU T107
D1	1750000270	S.DIODE	1SS301 (TE85R)
L1	2040000490	COIL	EXC-ELDR25C
L2	6200000150	S.COIL	NL 322522T-1R0M
L3	6200000150	S.COIL	NL 322522T-1R0M
L4	2040000490	COIL	EXC-ELDR25C
R1	7030007510	S.RESISTOR	ERJ12YJ270H (27 Ω)
R2	7010003440	RESISTOR	ELR20J 2.2 kΩ
R3	7030003410	S.RESISTOR	ERJ3GEYJ 561 V (560 Ω)
R4	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R5	7030003530	S.RESISTOR	ERJ3GEYJ 562 V (5.6 kΩ)
R6	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R7	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
, m'	7030003700	O.H.EGIGTOIT	Ellocation and Carlo Kary
C1	4510003910	ELECTROLITIC	16 MV 47 HW
C2	4510003790	ELECTROLITIC	16 MV 10 SW
C3	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C4	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C5	4510004990	ELECTROLITIC	16 MV 100 HC
C8	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C9	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C10	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C11	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C12	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C13	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C14	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
J3	6510018890	S.CONNECTOR	52559-1390
J4	6450000160	CONNECTOR	TCS4470-01-1111
J5	6450001670	CONNECTOR	TCS5093-10-4151
J7	6510018960	S.CONNECTOR	B2B-PH-SM3-TB
WS1	8600034850	CABLE	1732 P01 **J06CO-B
EP2	0910046652	РСВ	B 4657B

### [CON-C BOARD]

REF. NO.	ORDER NO.		DESCRIPTION
J8 J9	8510007020 8510007020	CONNECTOR CONNECTOR	TMP-J01X-V6 TMP-J01X-V6
W3 WS1	7120000010 8970022220	JUMPER CABLE	JPW 02A 1732 1.5D Coaxial (1)/CO-C
EP3	0910046662	PCB	B 4658B

### [CHASSIS PARTS]

	ORDER		
REF. NO.	NO.		DESCRIPTION
MF1	2710000580	FAN	FBA06T12HF
MF2	2710000460	MOTOR	MP28GA
MF3	2710000460	MOTOR	MP28GA
"" "	27 10000400		
J10	6510000370	CONNECTOR	MR-DS
J11	8510000370	CONNECTOR	MR-DS
P2	6510018980	CONNECTOR	PHR-2
W9	8900006040	CABLE	OPC-593 (N:13 L:50)
MP1	8210012880	PANEL	1732 Front panel
MP2	8010016390	CHASSIS	1732 Chassis
MP3	8110005660	COVER	1732 Cover
MP4	8930038260	ANGLE	1732 Angle
MP5	8930037010	RUBBER	1691 Fan rubber
MP7	8930005230	STAND	Rubber foot (D) [2 pcs]
MP8	8930005790	STAND	Foot (A)
MP9	8930005800	STAND	Foot (B)
MP10	8010001490	STAND	Stand (D)
MP11	8930037000	PLATE	1691 Grounding plate [2 pcs]
MP12	8810008660	SCREW	PH BT M3 X 8 NI-ZU [2 pcs]
MP13	8810009030	SCREW	RFH M3 X 8 ZK [2 pcs]
MP14	8810009030	SCREW	RFH M3 X 8 ZK [2 pcs]
MP15	8810009030	SCREW	RFH M3 X 8 ZK
MP16	8810009030	SCREW	RFH M3 X 8 ZK [4 pcs]
MP17	8810008450	SCREW	BiH M4 X 8 ZK [4 pcs]
MP18	8820000530	SCREW	Flange bolt M4 X 8 NI
MP19	8850000140	WASHER	Flat washer M 4 NI BS
MP20	8850001560	WASHER	Int. tooth washer M 4
MP21	8810008660	SCREW	PH BT M3 X 8 NI-ZU [2 pcs]
MP22	8810008660	SCREW	PH BT M3 X 8 NI-ZU [2 pcs]
MP23	8810008660	SCREW	PH BT M3 X 8 NI-ZU
MP24	8810008660	SCREW	PH BT M3 X 8 NI-ZU [2 pcs]
MP25	8810008660	SCREW	PH BT M3 X 8 NI-ZU [2 pcs]
MP26	8930038280	SHEET	1732 Sheet
MP27	8930038290	SHEET	Insulator EA 1414 U-Chassis-1
MP29	8010015141	CHASSIS	*****
MP30	8010015151	CHASSIS	1414 L-Chassis-1
MP31	8510008592 8930030111	PLATE PLATE	1414 Shield plate-2
MP32	8820000811	SCREW	1414 Plate-1 [2 pcs] 1414 Screw-1 [4 pcs]
MP33			
MP34	8810008630	SCREW	PH BT M3 X 6 NI-ZU [2 pcs] PH BT M3 X 6 NI-ZU [2 pcs]
MP35 MP36	8810008630	SCREW	PH BT M3 X 6 NI-ZU [2 pcs] PH BT M3 X 6 NI-ZU [3 pcs]
MP36 MP37	8810008630 8810008630	SCREW	PH BT M3 X 6 NI-ZU [5 pcs]
MP38	8810007840	SCREW	RFH B1 M3 X 8 ZK [4 pcs]
MP39	8810007840	SCREW	RFH B1 M3 X 8 ZK [3 pcs]
MP40	8810007840	SCREW	RFH B1 M3 X 8 ZK
MP41	8810007840	SCREW	RFH B1 M3 X 8 ZK
MP42	8950003200	Coupling	UJ6-5 [2 pcs]
MP43	8510008750	PLATE	1414 A-Shield plate
MP44	8930038780	SHEET	Insulating seet (H)
MP45	8310037080	PLATE	1732 Name plate
"" "			

### [UNPACKING]

REF. NO.	ORDER NO.		DESCRIPTION	
W1	8900001160	CABLE	OPC-125	
W2	8900006120	CABLE	OPC-597	

# SECTION 6 MECHANICAL PARTS AND DISASSEMBLY

### [CHASSIS PARTS]

	T	I	T
REF. NO.	ORDER NO.	DESCRIPTION	QTY
J2	6510001920	Connector 1490R [TUNER]	1
J3	6510000370	Connector MR-DS [ANT1]	1
J4	6510000370	Connector MR-DS [ANT2]	1
W1	8900006050	Flat cable OPC-594 (N: 30, L: 100)	1
W2	8900006060	Flat cable OPC-595 (N: 20, L: 150)	1
W3	8900006150	Flat cable OPC-602 (N: 10, L: 150)	1
l,			١.
EP1 EP2	8930021010 0910045921	Domed plug DP-500 Flexible PCB B-4598A	1 1
CF2	0910045921	Flexible PCB B-4596A	l '
MF1	2710000580	Fan FBA06T12HF	1
MP1	8410002022	1691 heatsink -2	1
MP2	8110005600	1691 upper cover	1
MP3 MP4	8110005610 8010001490	1691 lower cover Stand (D)	1 1
MP5	8930005790	Plastic foot (A)	¦
MP6	8930005800	Plastic foot (B)	1
MP7	8930037010	1691 fan rubber	1
MP8	8820000530	Flange bolt M4 x 8 NI	1
MP9	8930002820	Rubber foot (D)	2
MP10	8930014980	SP net	1
MP11	8930018520	Tr. clip (A)	1
MP12	8950004180	1691 contact base (A) 1691 SP rubber	1
MP13 MP14	8930036950 8930036960	1691 SP plate	1
MP15	8930036980	1691 ground spring	1
MP16	8930036990	1691 fan guard	1
MP17	8930037000	1691 ground plate	1
MP19	8810008630	Screw PH BT M3 x 6 NI-ZU	5
MP20	8810007410	Screw PH M3 x 6 NI	2
MP21	8810008960	Screw OH M2.6 x 5 ZK	5
MP22 MP23	8850000140	Flat washer M4 NI BS	1
IVIP23	8310036490 8310036500	Serial No. label (AU) 706 FCC (USA) Serial No. label (AU) 706 (other versions)	1
MP24	8810008990	Screw PH BT M2 x 10 ZK	1
MP25	8850001560	Star washer M4	1
MP26	8810008630	Screw PH BT M3 x 6 NI-ZU	4
MP27	8810008630	Screw PH BT M3 x 6 NI-ZU	` 5
MP28	8810008630	Screw PH BT M3 x 6 NI-ZU	5
MP29 MP30	8810004430 8810004430	Screw PH M3 x 6 ZK (for MP9) Screw PH M3 x 6 ZK (for MP5)	2
MP31	8810004430	Screw PH M3 x 6 ZK (for MP6)	2
MP32	8810007410	Screw PH M3 x 6 NI	2
MP33	8810003170	Setscrew A M3 x 8	2
MP34	8810009040	Setscrew H M2.6 x 10 NI	2
MP35	8810009040	Setscrew H M2.6 x 10 NI	2
MP36	8810008960	Screw OH M2.6 x 5 ZK	5
MP37 MP38	8810003170 8930038650	Setscrew A M3 x 8	1
MP38 MP39	8310037390	Sheet (BE) 1691 display label (B)	1
MP40	8930038820	Aluminum sheet V	1
MP41	8950000180	Cable tie -80	2
MP42	8310029180	FCC part 15 label (A) (USA only)	1
MP43	8930001180	Ground plate	1
MP44	8950000010	Tape 9510 12 x 50000 mm	1
MP45	8950000010	Tape 9510 12 x 50000 mm	1
MP46 MP47	8930028840 8930028840	Sponge (DF) Sponge (DF)	1 2
MP48	8930028390	Sheet (AH)	4
MP49	8930039420	1691 A-sheet	4
MP50	8930037890	Sheet (BA)	2
MP51	8930039430	1691 B-sheet	2
MP52	8930039440	1691 SP plate sheet	1
MP53	8930039450	1691 cover sheet	1
MP54	8930032450	1346 SP-T sponge	1
MP55	8930001180	Ground plate	1
SP1	2510000670	Speaker VS-50-0827	1

### [FRONT PARTS]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
S1	2250000290	Encoder SW-159 (incl. nut, washer)	1
W1	8900006040	Flat cable OPC-593 (N: 13, L: 50)	1
W2	8900006250	Cable OPC-610	1
MP1	8210012982	1691 front panel (A) -2 (incl. MP4, 5, 17, 18)	1
MP2	8210012580	1691 rear panel	1
MP3	8930036720	1691 8-key	1
MP4	8930036680	1691 UP/DOWN key	1
MP5	8930036731	1691 4-key -1	1
MP8	8930036751	Spring (Y) -1	1
MP9	8930032340	1424 N-spring	1
MP10	8830001010	Hex nut (A)	2
MP11	8610010000	Knob N237	2
MP12	8610010010	Knob N238	2
MP13	8610010021	Knob N239 base -1	1
MP14	8610010030	Knob N239 cover	1
MP15	8610010040	Knob N239 finger rest	1
MP16	8930036690	1691 release button	1
MP17	8930036700	1691 lens	3
MP18	8310036280	1691 window plate	1
MP19	8310036272	1691 brake plate -2	1
MP20 .	8950004190	1691 contact base (B)	1
MP21	8930036740	1691 brake pad	2
MP22	8930037111	1691 brake sheet -1	1
MP23	8310036583	1691 caution label (S) -3	1
MP24	8810008990	Screw PH BT M2 x 10 ZK	2
MP25	8930038940	Sponge (EF)	1
MP26	8830001100-	Nut (for tube) M9 B11-H2	1

# [DISPLAY UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
J2	6450001630	Connector HSJ1406-01-050 [PHONES]	1
DS4	5010000171	LCD DLC-7973YBGF-1	1
DS5	5030001290	LED D2264	1
EP2	8930037591	LCD contact SRCN-1691-ZNN-505-1	2
MP1	8930036710	1691 LCD holder	1
MP3	8810009040	Setscrew H M2.6 x 10 NI	1
MP4	8830000180	Nut M2.6 NI BS	1
MP5	8930038770	1691 front plate	1
MP7	8930028380	Embossed tape (C)	1

### [MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8930014140	Ground spring (D)	1
MP2	8930024170	Ground spring (G)	1
MP3	8510010150	1691 D/A case	1
MP4	8510010330	1691 amp. shield plate	1 1
MP5	8510010321	1691 connector plate -1	1
MP6	8930034550	Insulation sheet DO	1
MP8	8930020980	Shield plate	2
MP9	8930008680	Insulation sheet AH	2
MP10	8930024170	Ground spring (G)	1

### [HPF BOARD]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8510009180	1346 VCO case	1

### [PLL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8510010050	1691 shield case	1
MP2	8510010060	1691 shield cover	1
MP3	8510005980	724 shield case	1
MP4	8510005990	724 shield case cover	1
MP5	8510005980	724 shield case	1
MP6	8510005990	724 shield case cover	1
MP7	8510010050	1691 shield case	1
MP8	8510010060	1691 shield cover	1
MP9	8510005980	724 shield case	1
MP10	8510005990	724 shield case cover	1
MP11	8510010070	1691 DDS case	1
MP12	8510003510	406 shield case cover	1
MP13	8510005330	Coil case	1
MP14	8510010150	1691 D/A case	1
MP15	8810003960	Setscrew A M2.6 x 5	3
MP16	8810003960	Setscrew A M2.6 x 5	3
MP17	8510010150	1691 D/A case	1
MP18	8930014140	Ground spring (D)	1
MP19	8820000900	1691 screw	1
MP20	8930014140	Ground spring (D)	1
MP21	8930001160	Ground spring	1
MP22	8930028840	Sponge (DF)	1

### [PA UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
J8	6450000140	Connector HSJ0807-01-010 [EXT SP]	1
J10	6510003780	Connector LLR-06 [DC 13.8V]	1
MP1	8950000180	Cable tie -80	1
MP3	8950000180	Cable tie -80	1
MP5	8860000100	Ground lug B 2 (M2.6) AG BS	1
MP6	6910008240	Clip 59TN4772	1
MP7	8860000100	Ground lug B 2 (M2.6) AG BS	1

### [FILTER UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
J4	6450001490	Connector HLJ7001-01-3010 [ELEC-KEY]	1
J5	6450001640	Connector TCS5044-01-4111 [ACC]	1
J7	6450001650	Connector HSJ0836-01-500 [REMOTE]	1
J8	6450001660	Connector EX345GLB [RTTY]	1
J11	6510016170	Connector 52018-8835 [MIC]	1
MP1	8930001160	Ground spring	1
MP2	8930014140	Ground spring (D)	1

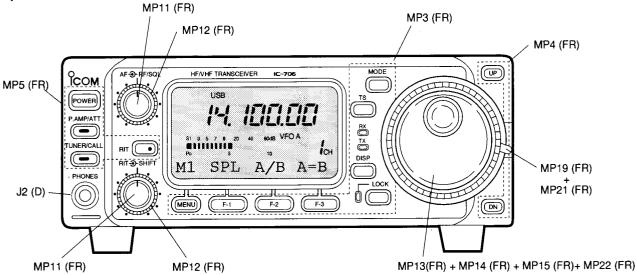
### [UNPACKING]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
F1	5210000090	Spare fuse FGB (30 A)	2
F2	5210000130	Spare fuse FGB (4 A)	1
P1	5610000050	Electronic keyer plug AP330	1
P2	5610000170	RTTY key plug AP370B	1
W1	8900006490	DC power cable OPC-025 D	1
W2	8900006110	ACC cable OPC-596	1
MC1	7700002000	Hand microphone HM-103	1.

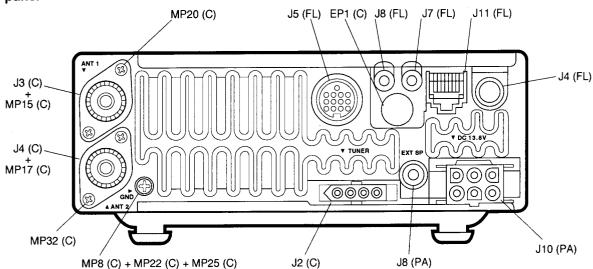
Screw abbreviations

BT: Self-tapping PH: Pan head OH: Oval countersunk head NI: Nickel NI-ZU: Nickel-zinc BS: Brass ZK: Black

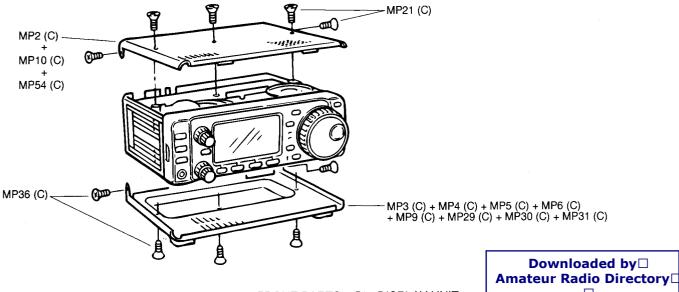
### Front panel



### Rear panel



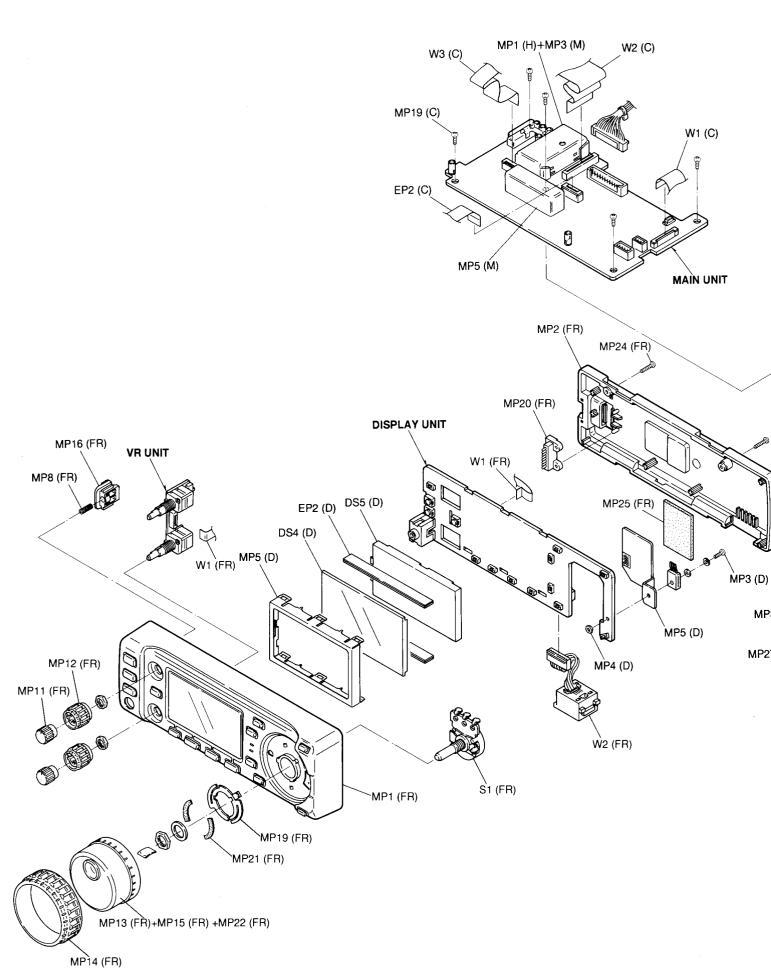
### Top and bottom covers



Unit abbreviations: (C): CHASSIS PARTS (FR): FRONT PARTS (D): DISPLAY UNIT

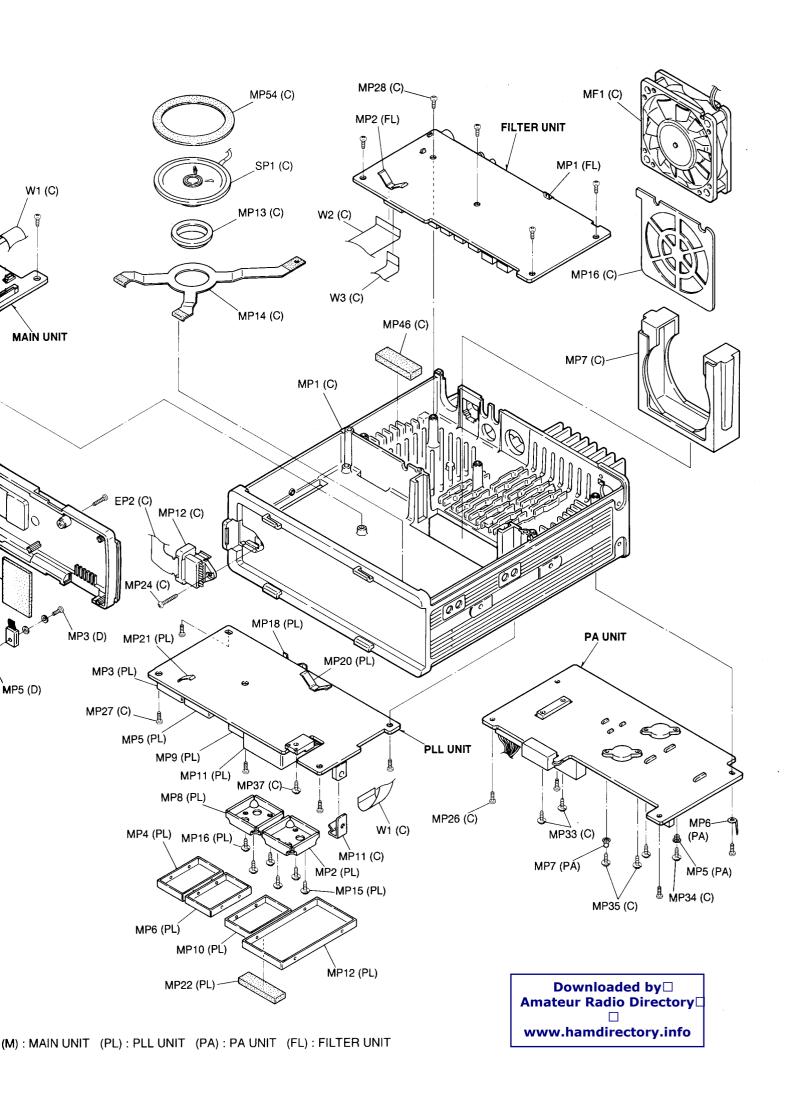
(PA): PA UNIT (FL): FILTER UNIT

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Unit abbreviations: (C): CHASSIS PARTS (FR): FRONT PARTS (D): DISPLAY UNIT (M): MAIN UNIT (FR)

(H): HPF BOARD



# SECTION 7 SEMI-CONDUCTOR INFORMATION

### • TRANSISTORS AND FET'S

2SA1576 R (Symbol: FR)	2SB1133 R	2SB1143 S	2SB798 DK (Symbol: DK)
	B C E	E C B	
2SC4081 R / S (Symbol: BR / BS)	2SC4116 GR (Symbol: LG)	.2SC4117 BL (Symbol: DL)	2SC4213 B (Symbol: AB)
2SC4226 R25 (Symbol: R25)	2SC4403 3 (Symbol: LY3)	2SC4405 3 (Symbol: OY3)	2SC4673D (Symbol: CO)
2SD1619 TD (Symbol: DB)	2SD1623 TD (Symbol: DF)	2SD999 CK (Symbol: CK)	2SK210 GR (Symbol: YG)
			o s
2SK2171 (No symbol)	2SK880 Y (Symbol: XY)	2SK882 GR (Symbol: TG)	<b>35K131 MAS</b> (Symbpl: V11)
SI G	s G	S G	DC 1 G2 SC 1 G1
DTA114 EE / EU (Symbol: 14 / 14)	DTA144TU (Symbol: 96)	DTC114EU (Symbol: 24)	DTC143TU (Symbol: 03)

DTC144 EE / TU (Symbol: 26 / 06)	IMH3 (Symbol: H3)	MRF255	MRF5015 (No symbol)
MRF555	MRF581	UMD6 (Symbol: D6)	UN911F (Symbol: 60)
B E C	B E C		
UN9211 (Symbol: 8A)			

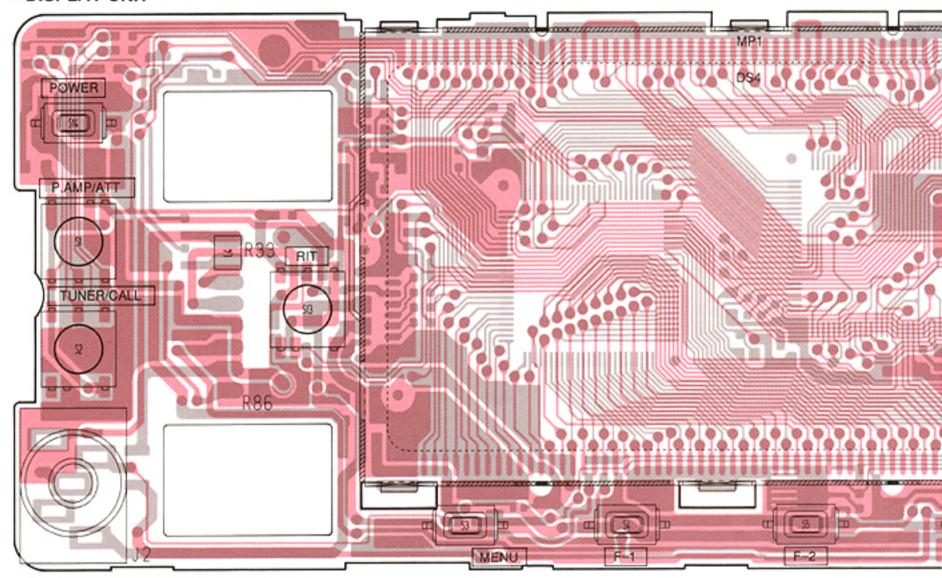
### • DIODES

1SS301	1SS319	1SV237	1SV265
(Symbol: B3)	(Symbol: A4)	(Symbol: BB)	(Symbol: D9)
DA114	DA204U	DA221	DAN222
(Symbol: AV)	(Symbol: K)	(Symbol: K)	(Symbol: N)
DAP222	HSM88AS	HVM17-01	MA357
(Symbol: FR)	(Symbol: C1)	(Symbol: KM 4Q)	(Symbol: NL)
MA862	RD3.6M B2 / RD5.6M B2 / RD9.1M E	32	SVC252
(Symbol: M1I)	(Symbol: 362 / 562 / 912)		(Symbol: HV)

# SECTION 8 BOARD LAYOUTS

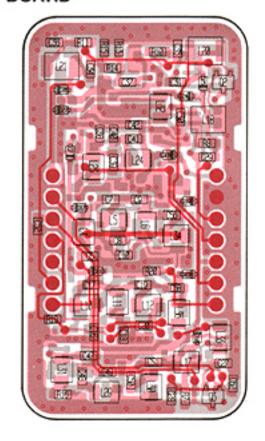
### 8-1 DISPLAY UNIT

DISPLAY UNIT

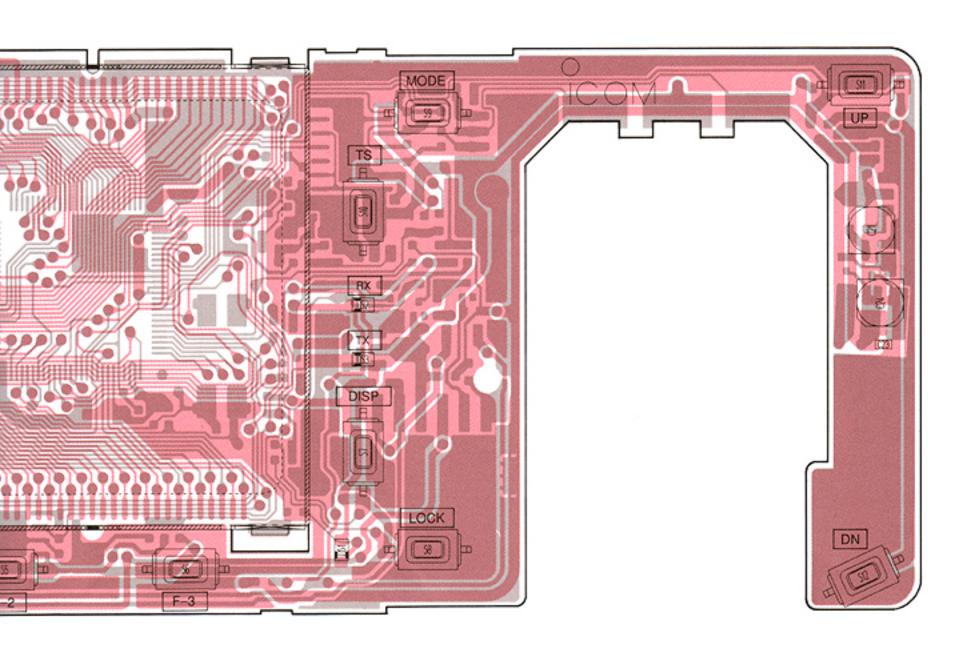


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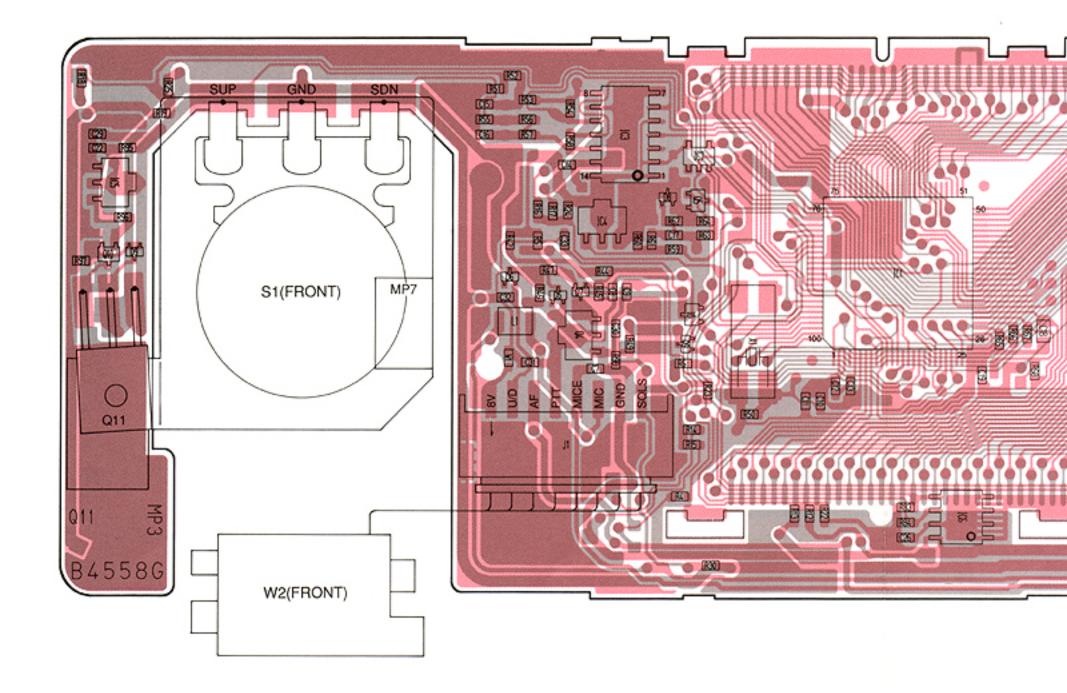
### HPF BOARD



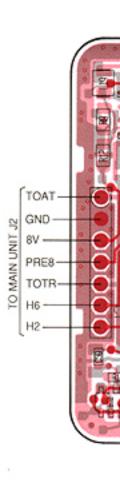
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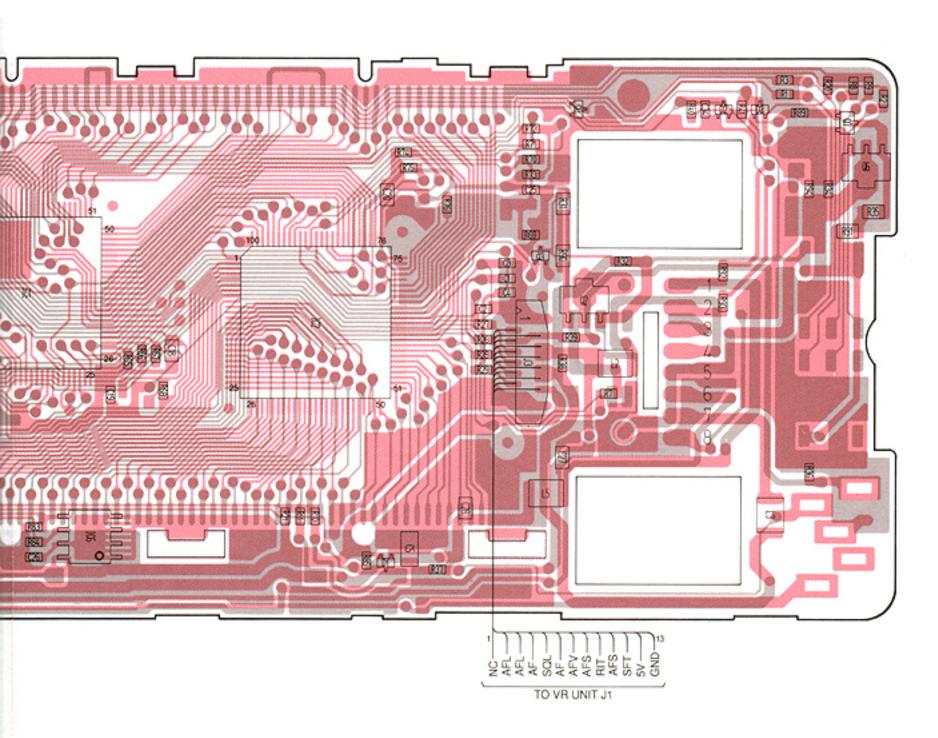


# ● VR UNIT RIT TO DISPLAY UNIT J3 SPEAKER PHONES 
# ISPLAY UNIT

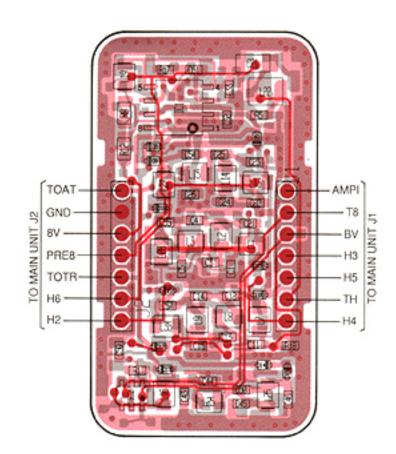


### HPF BOARD

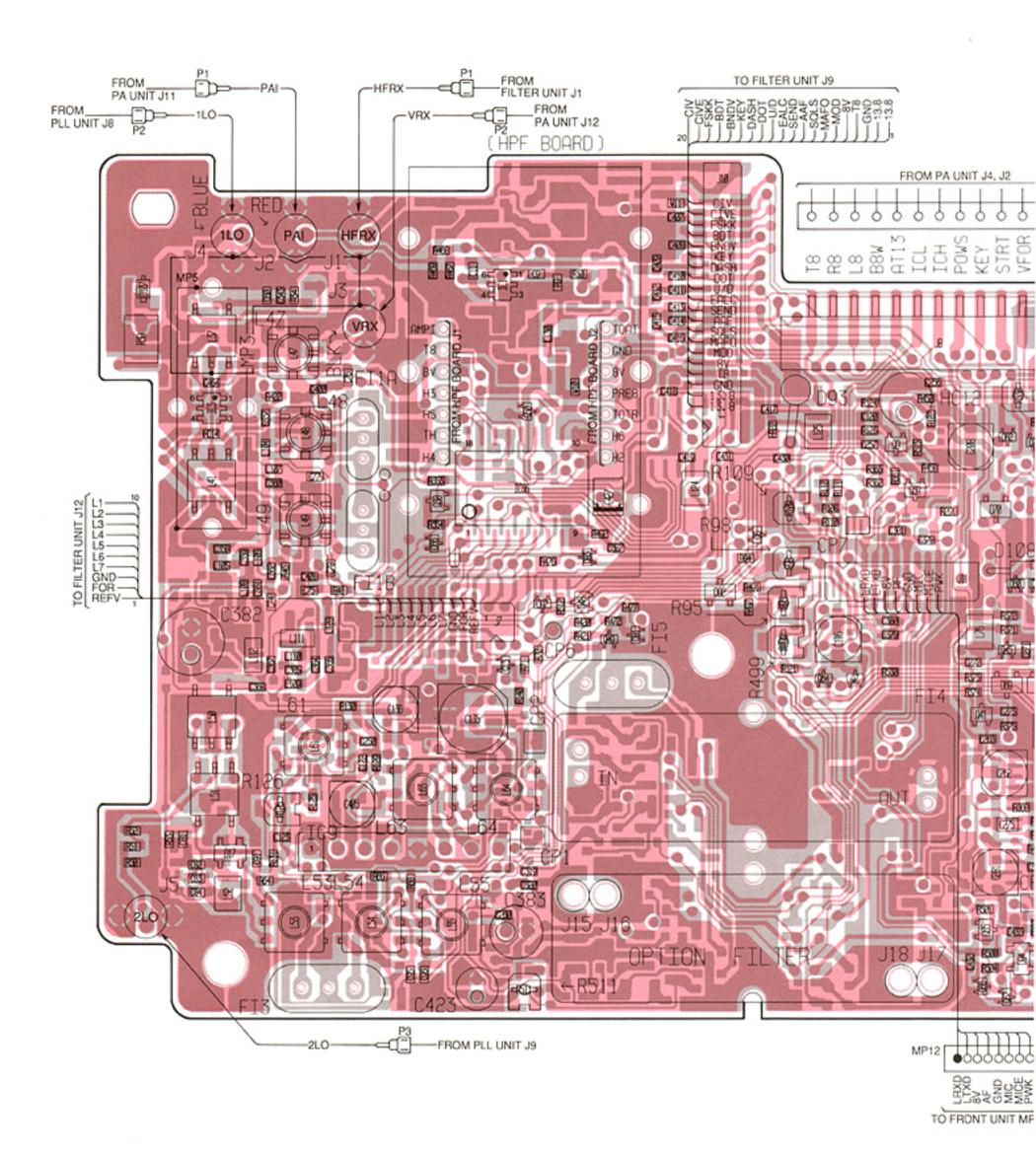




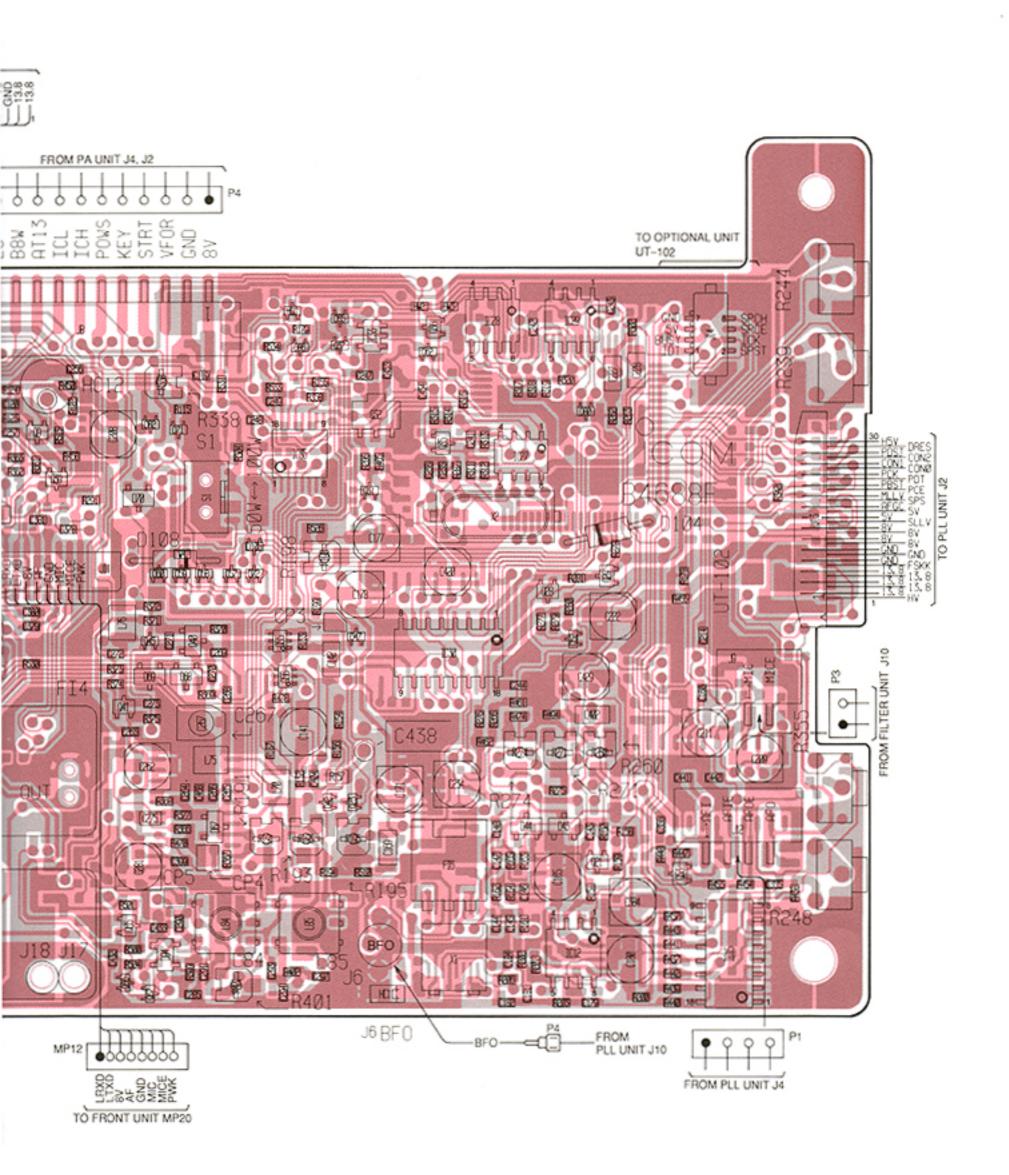
## • HPF BOARD

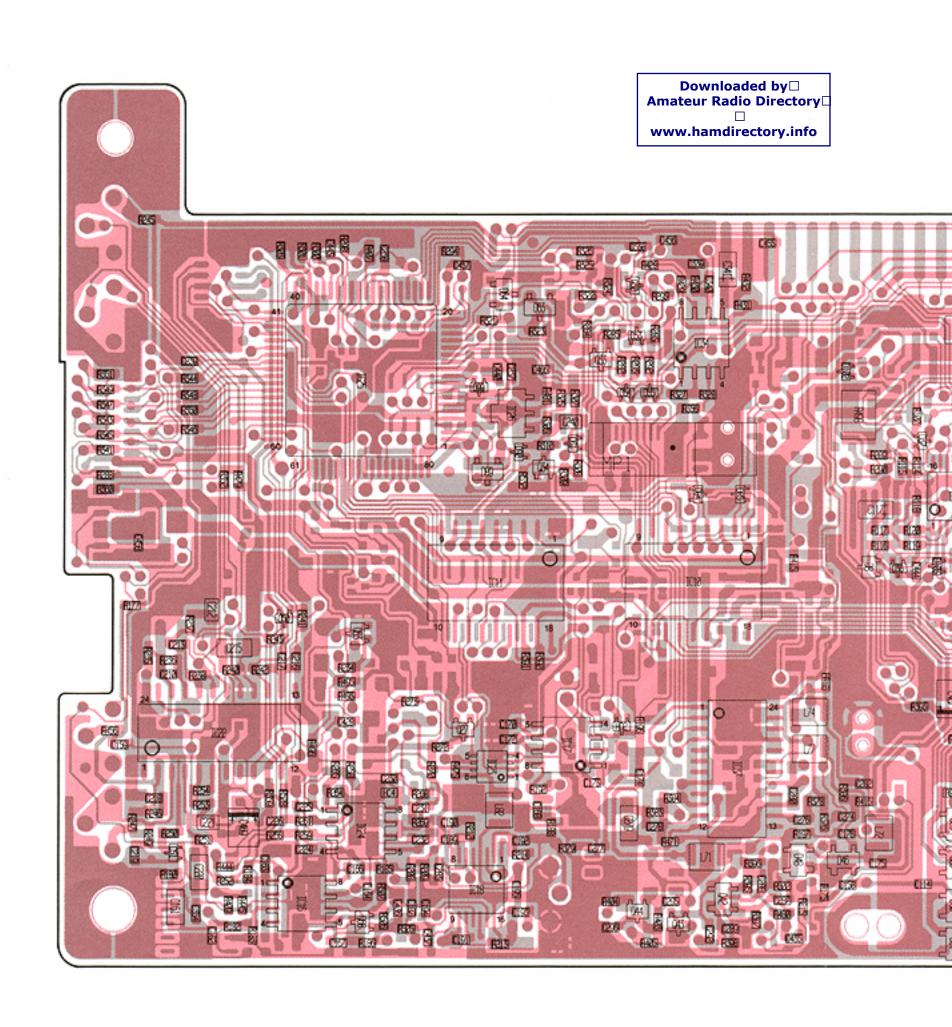


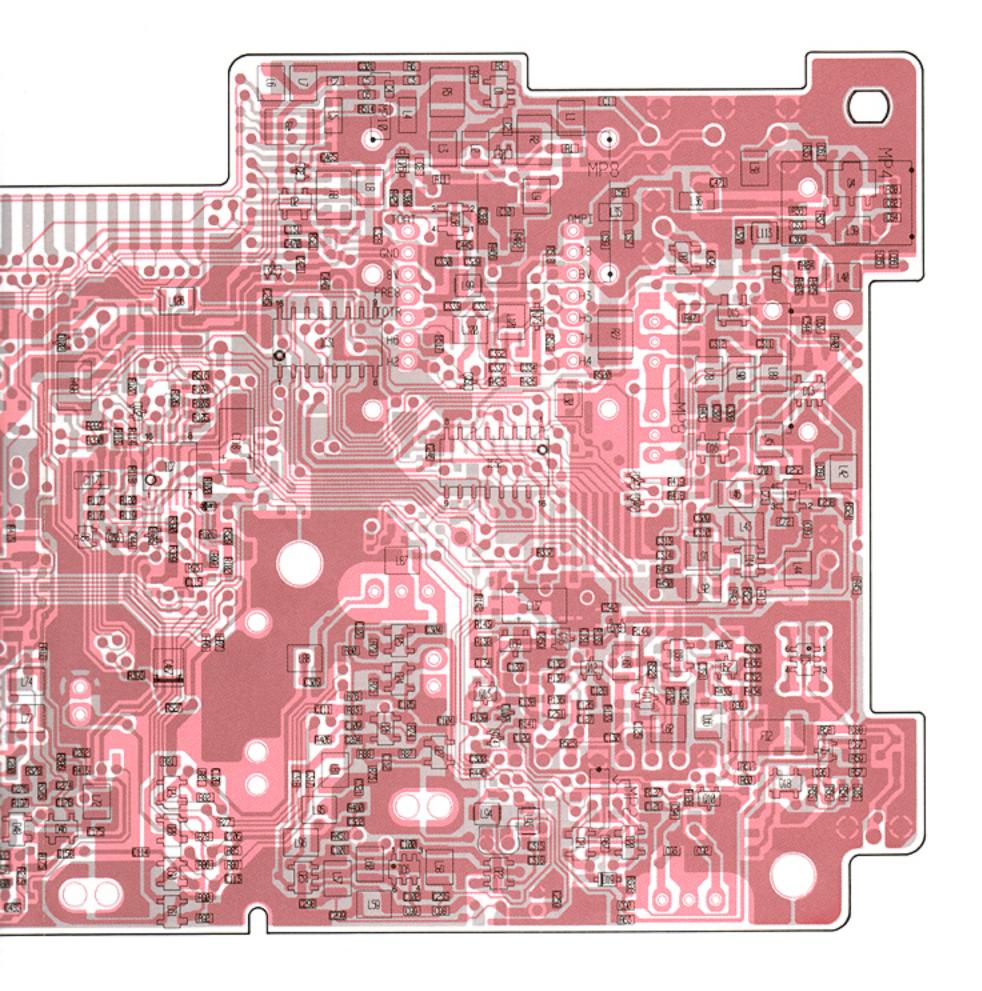
### 8-2 MAIN UNIT



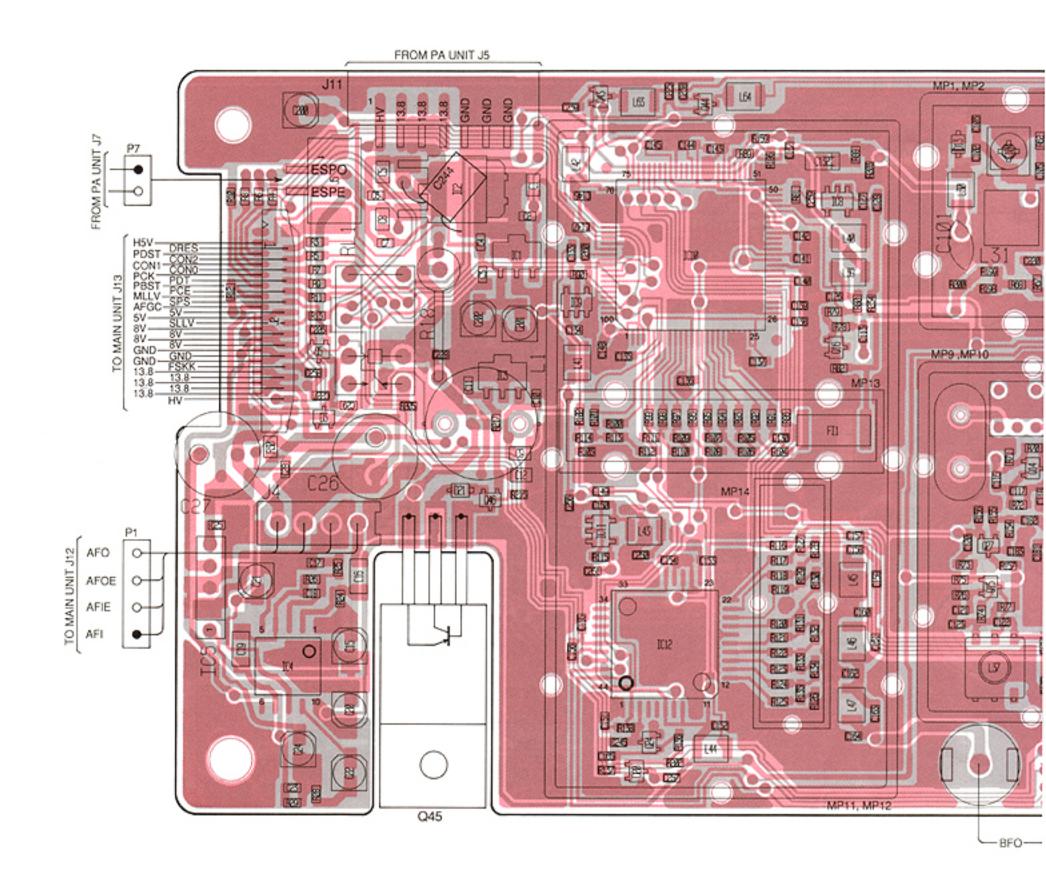
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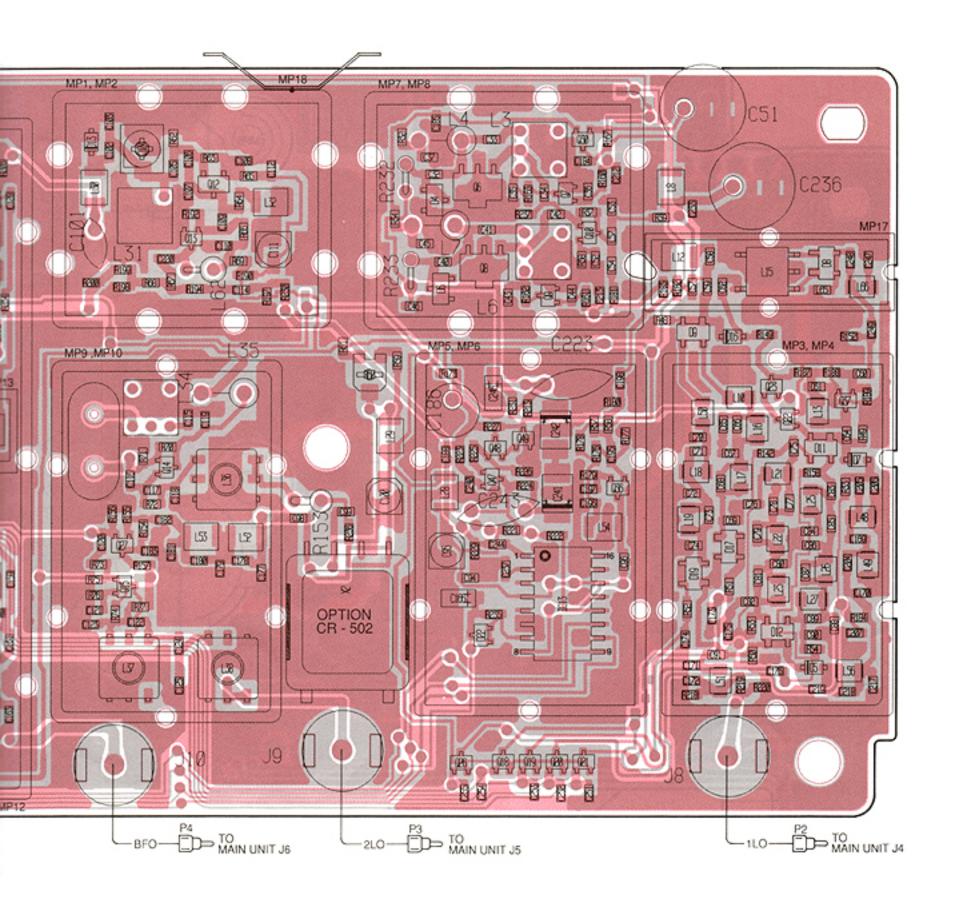




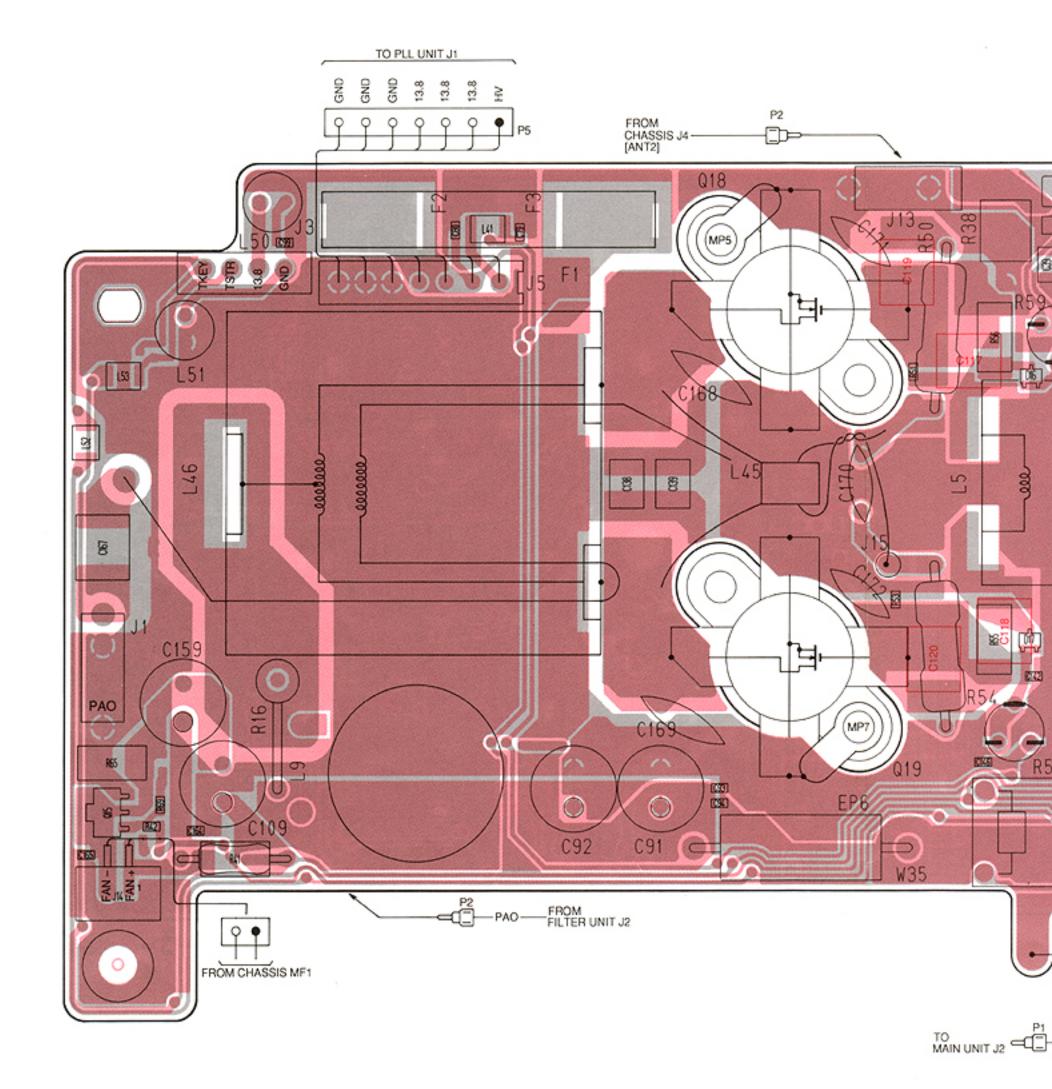


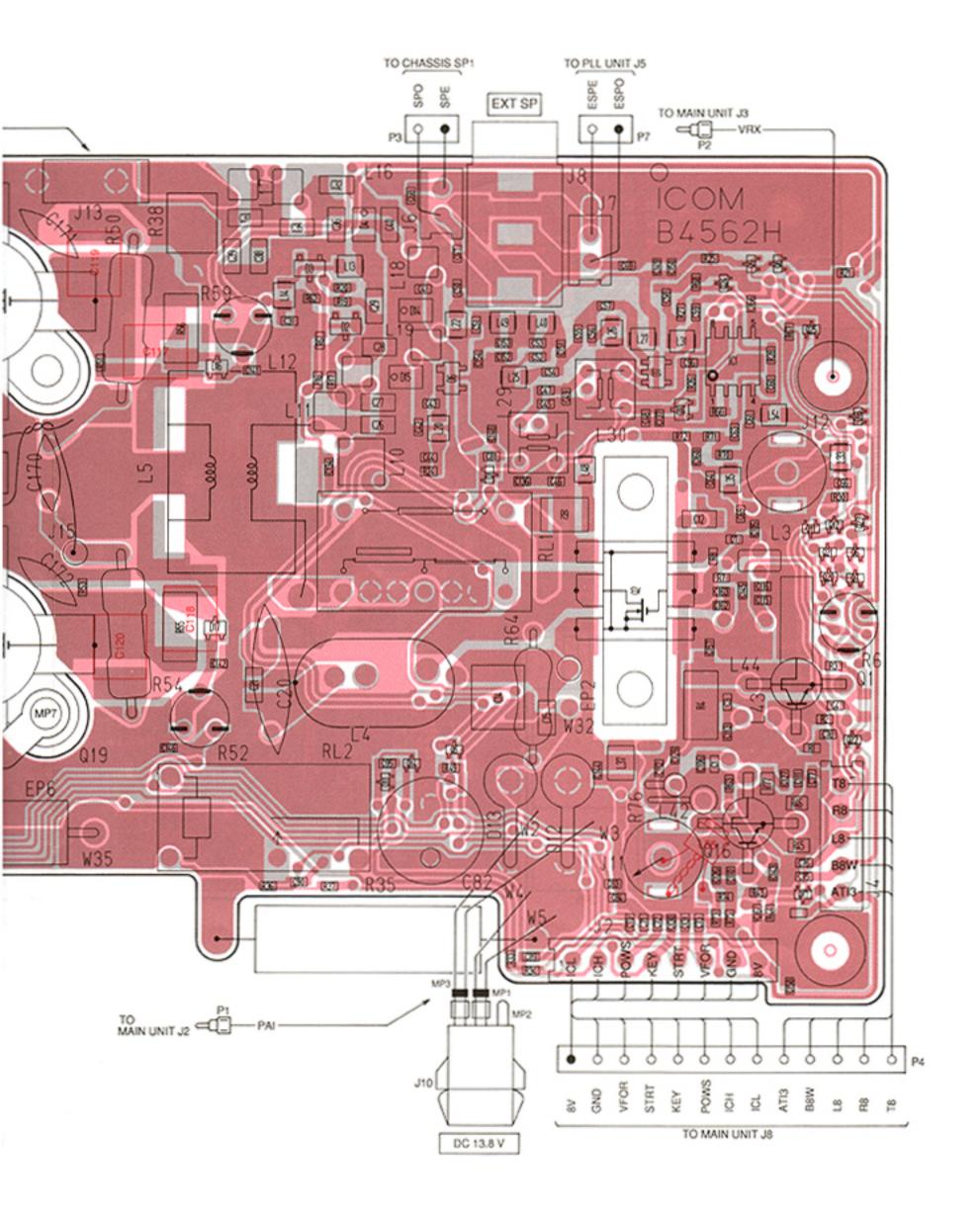
### 8-3 PLL UNIT



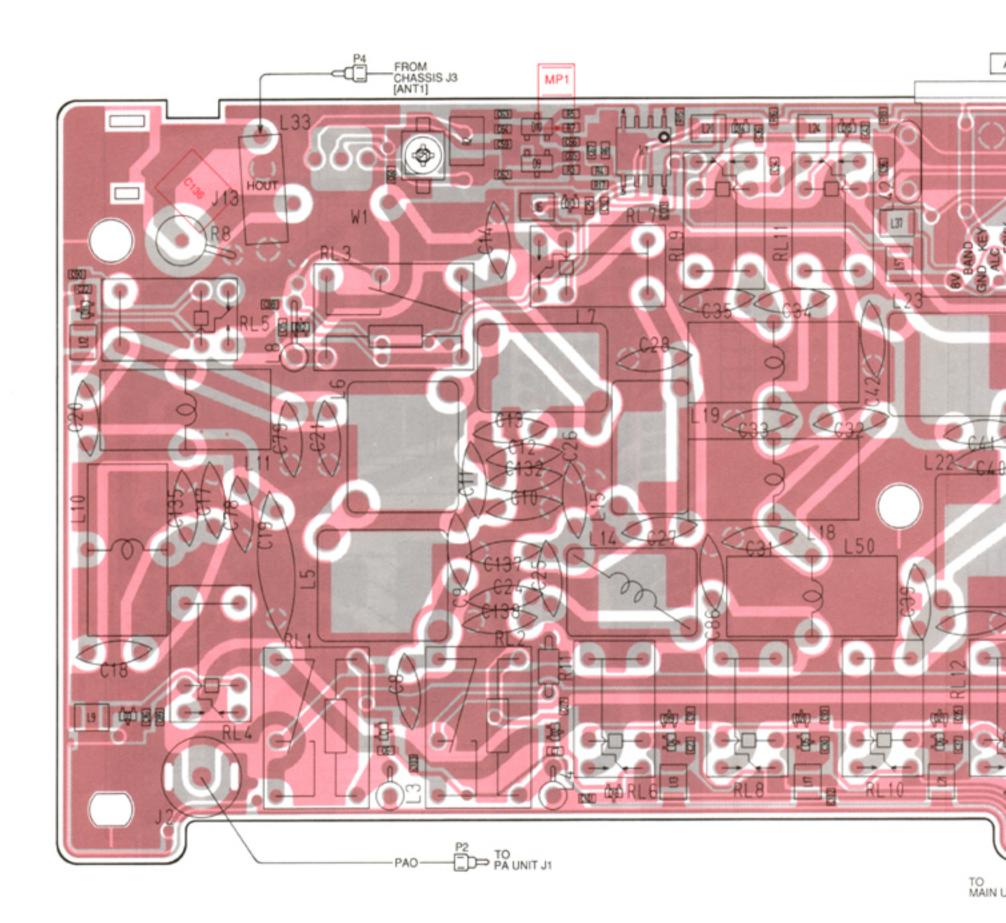


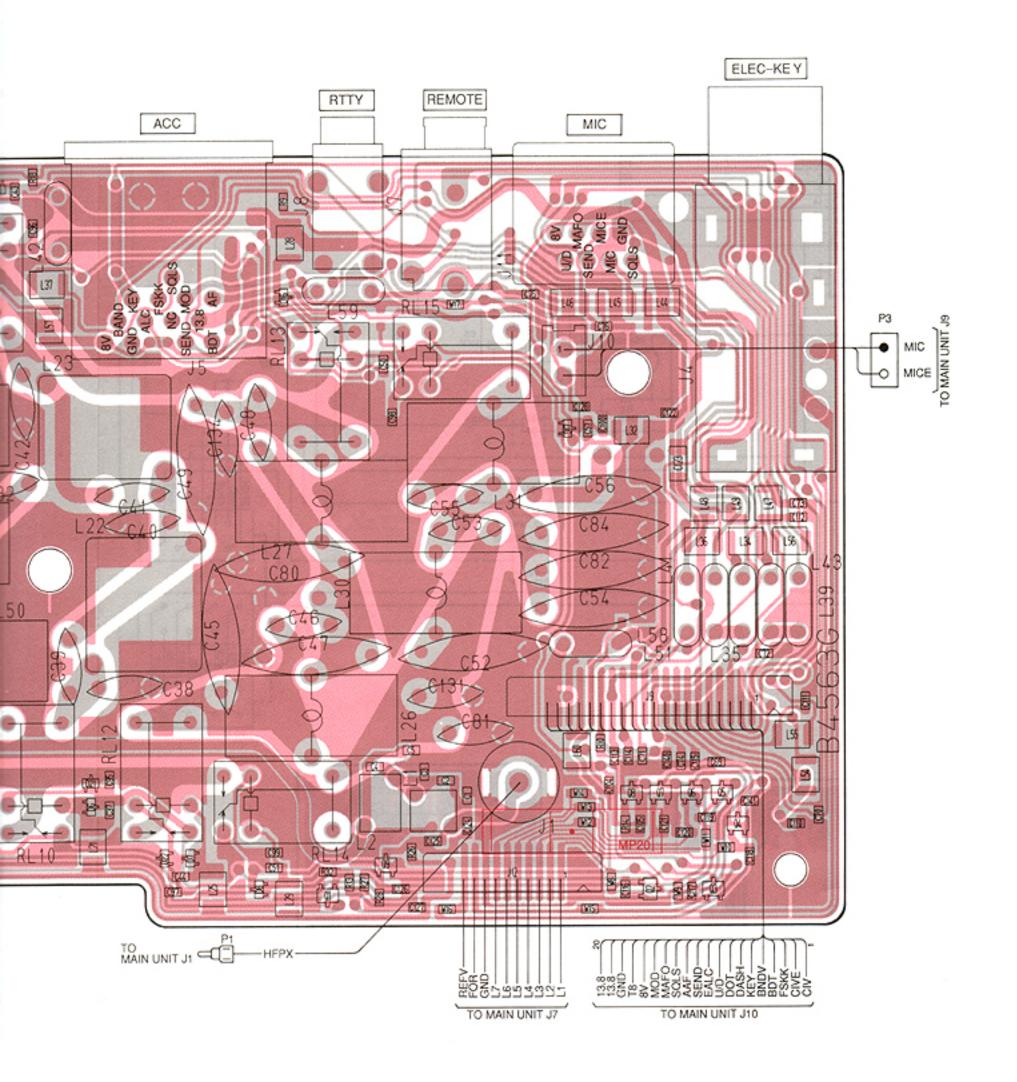
# 4 PA UNIT





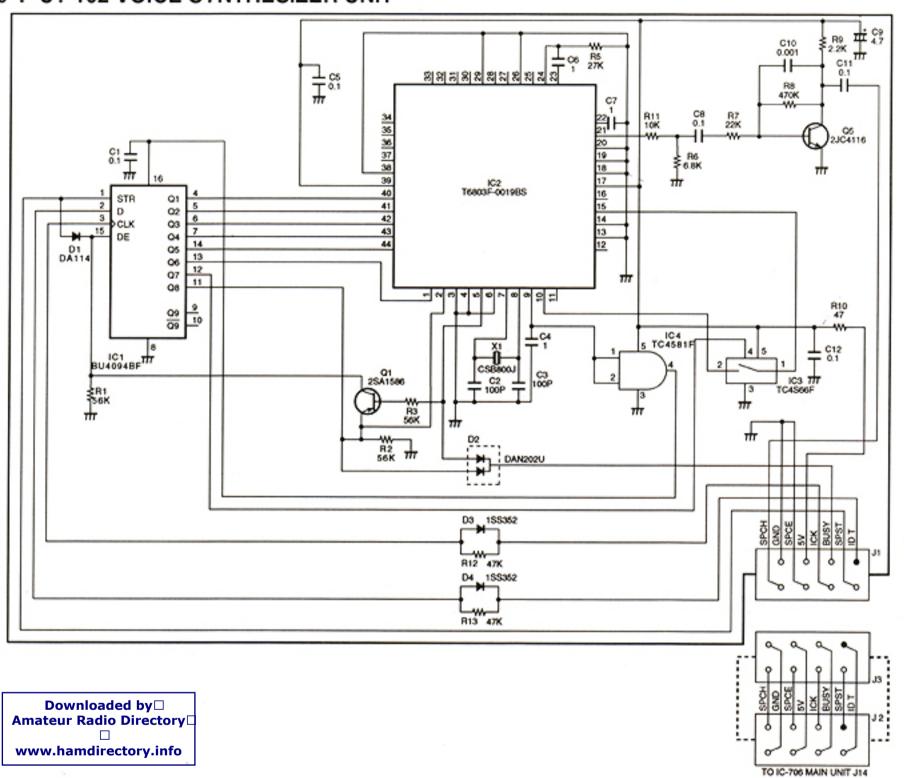
# 8-5 FILTER UNIT

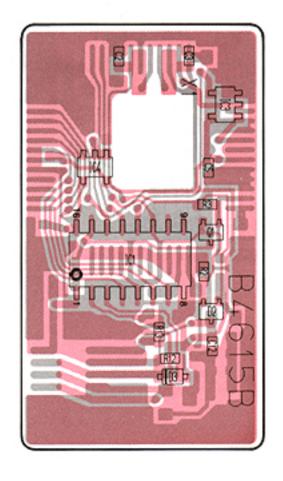


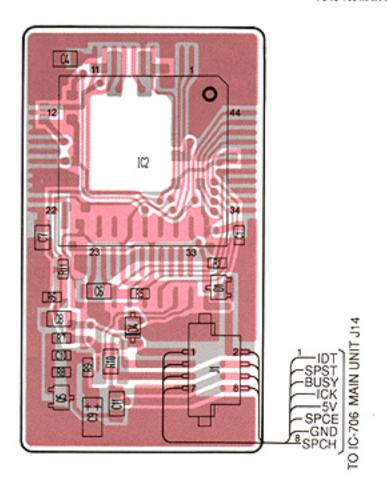


# SECTION 9 OPTIONAL UNITS

# 9-1 UT-102 VOICE SYNTHESIZER UNIT

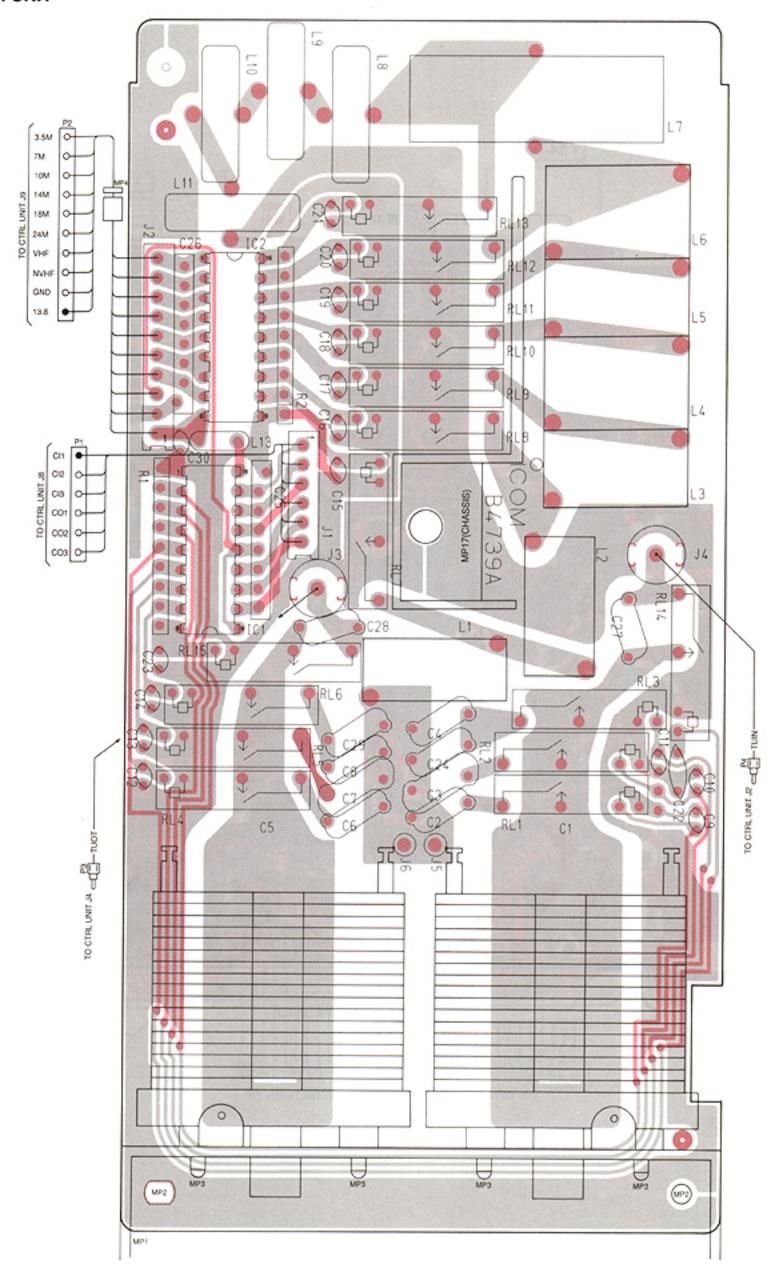




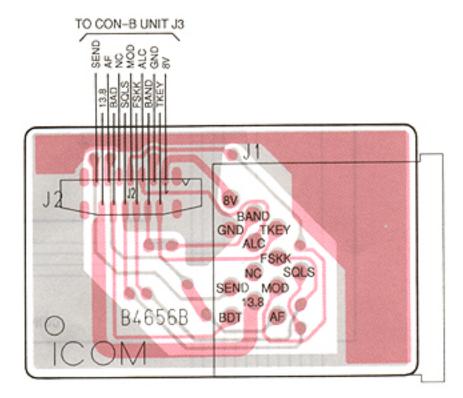


# 9-2 AT-180 HF/50 MHz AUTOMATIC ANTENNA TUNER

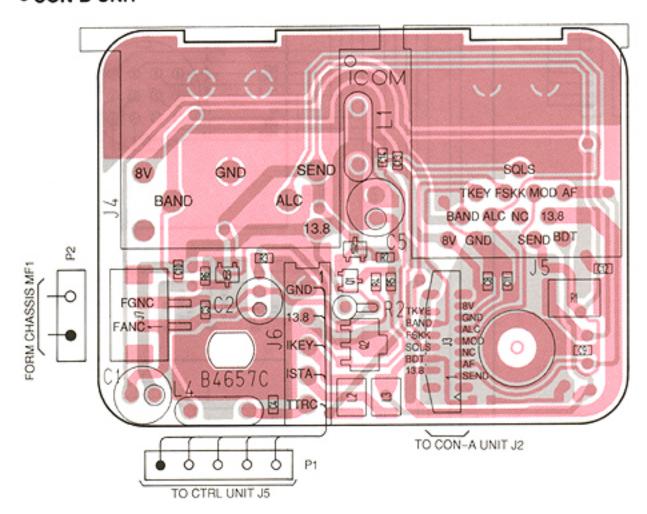
### TUNER UNIT



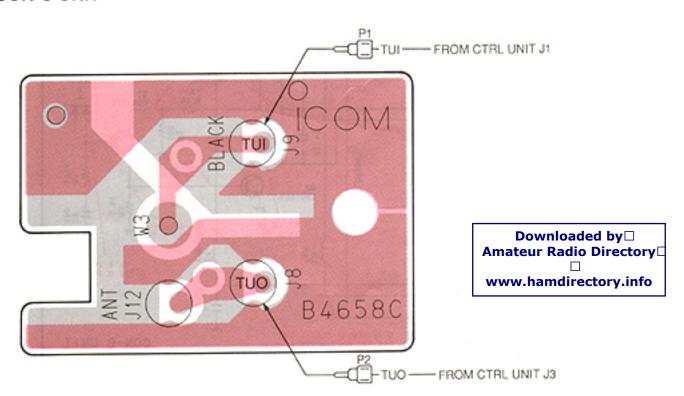
### CON-A UNIT



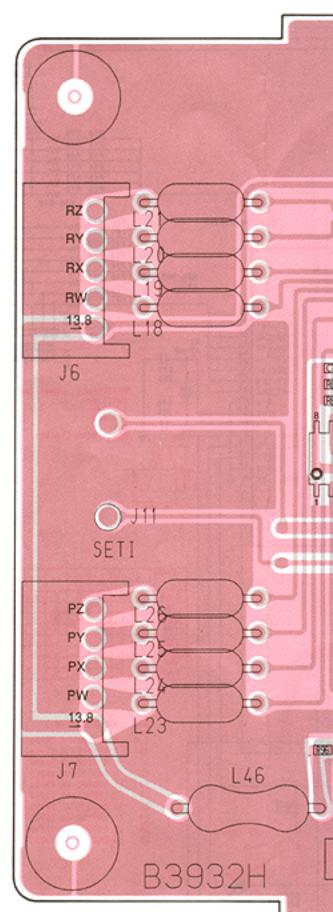
### CON-B UNIT

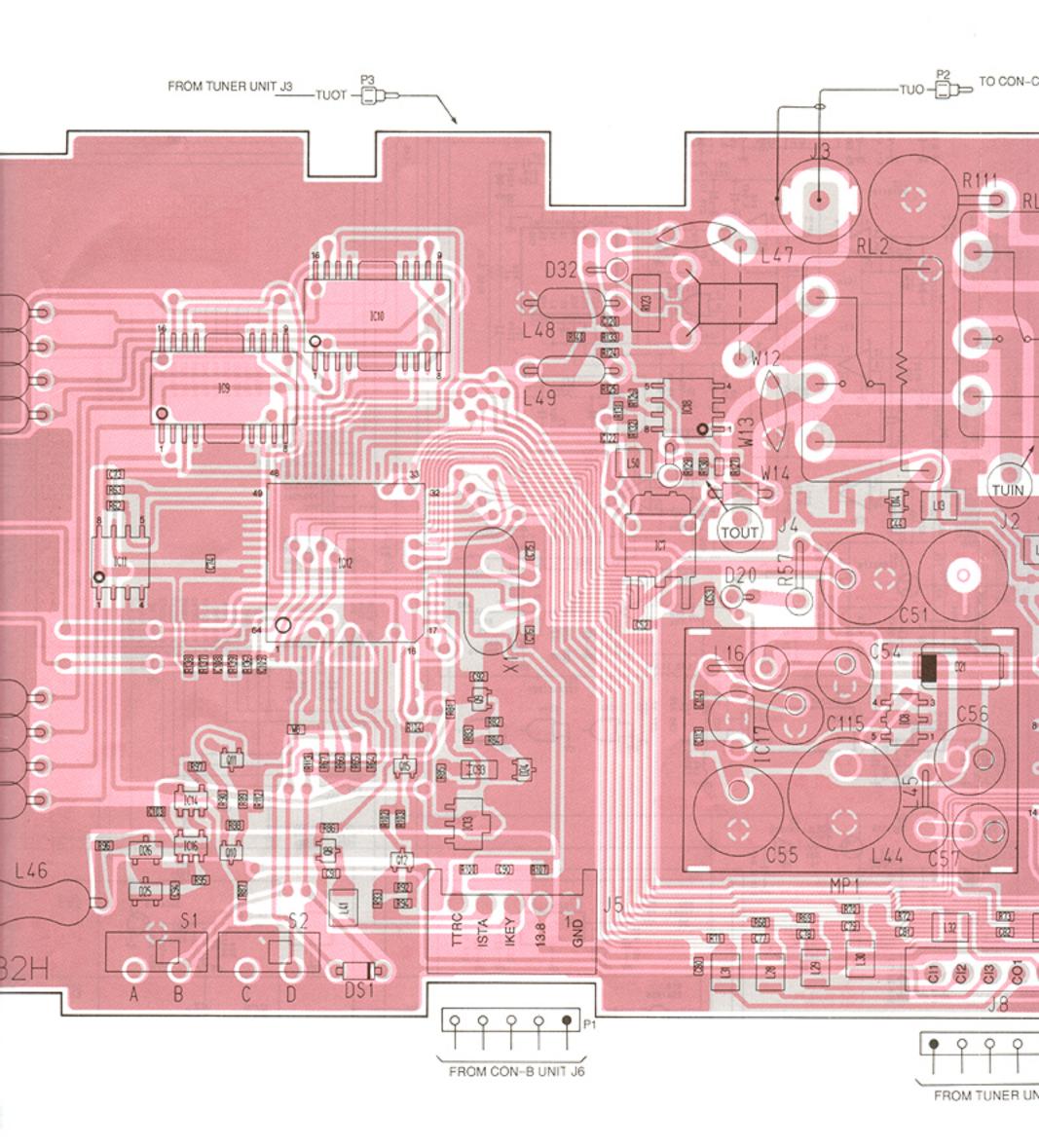


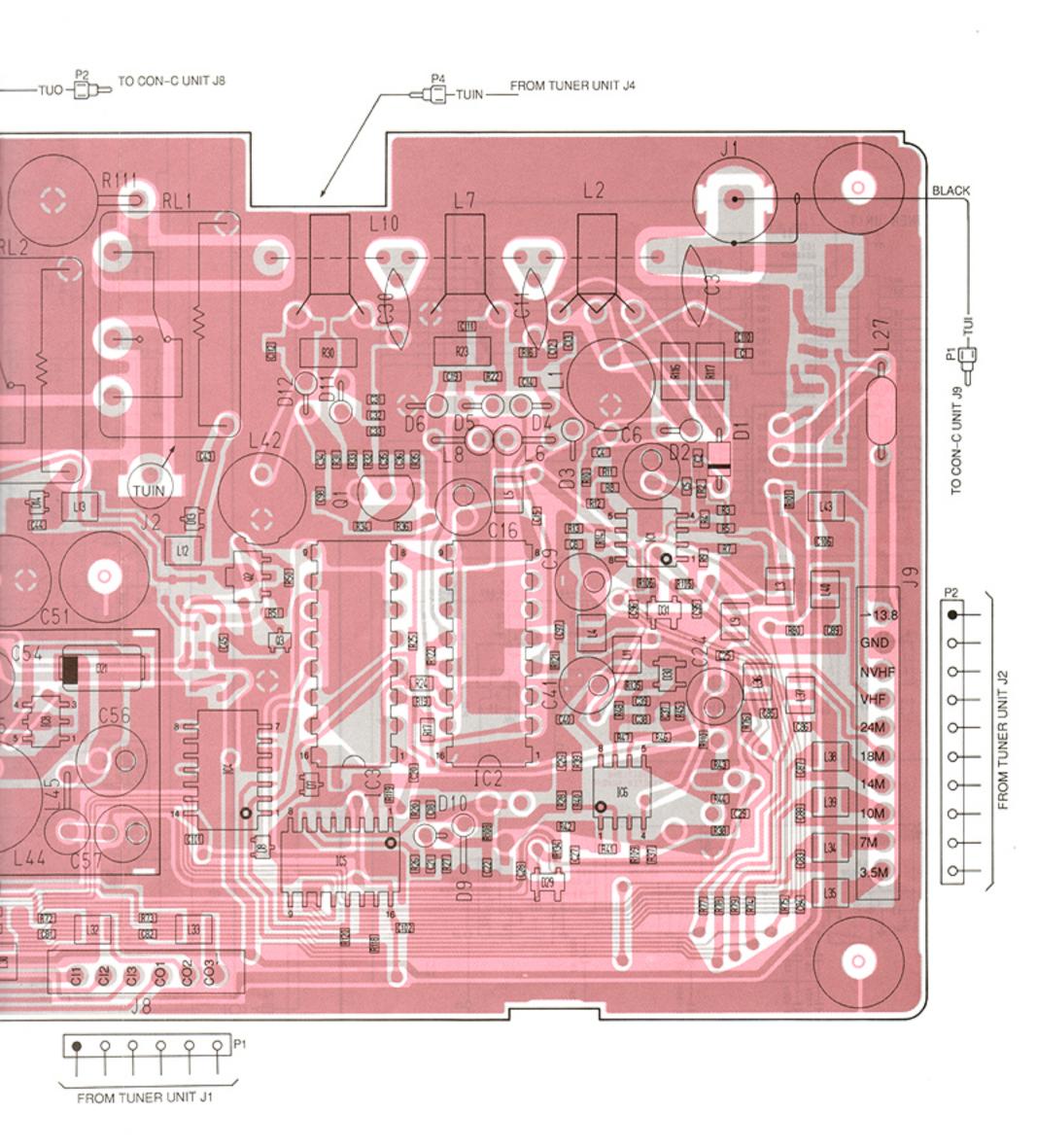
# • CON-C UNIT

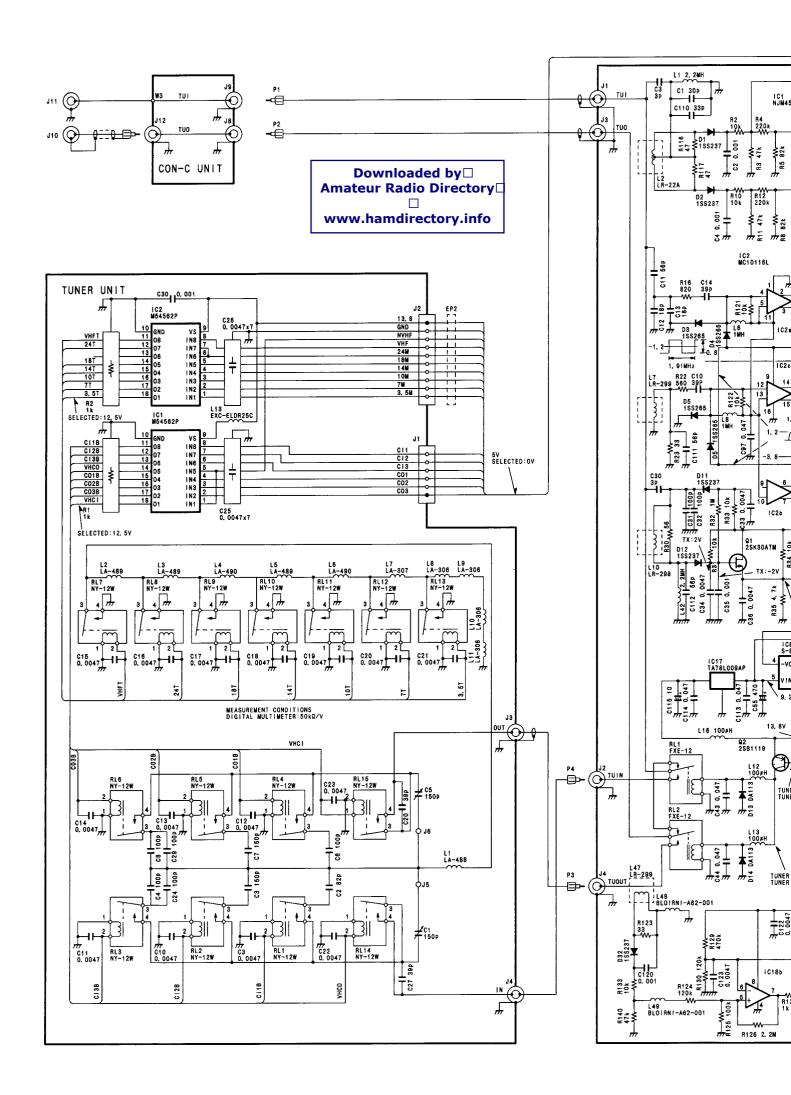


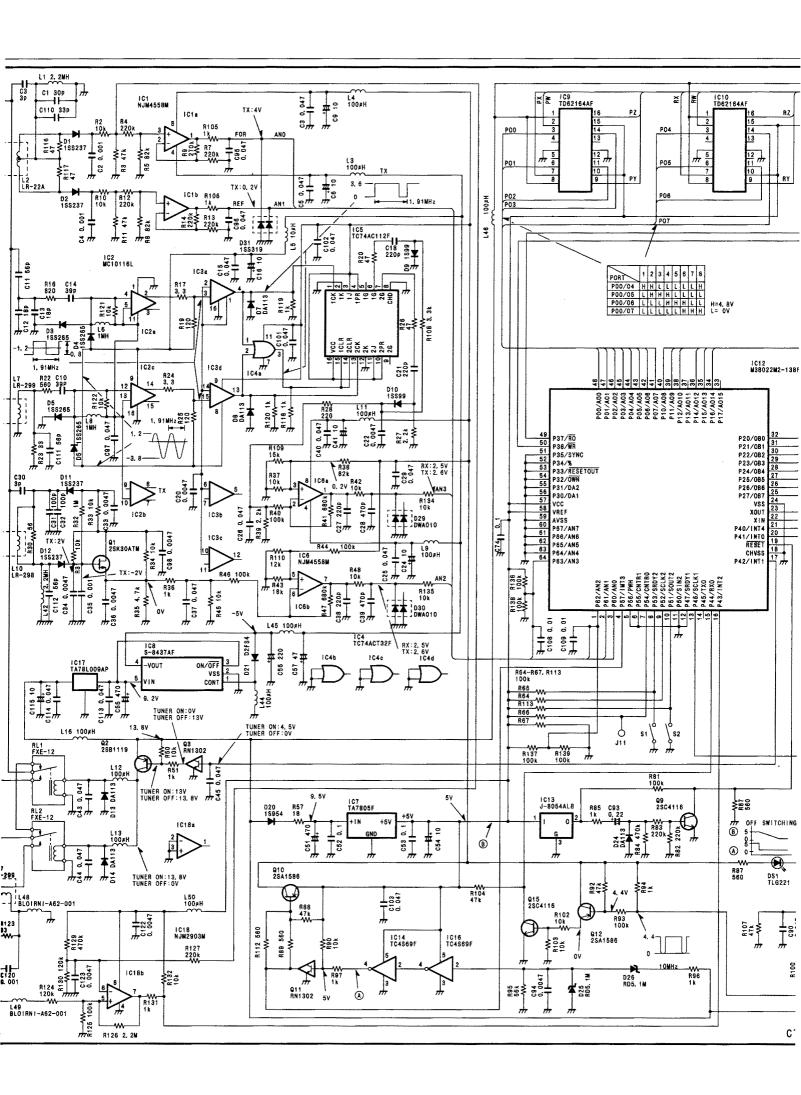
### CTRL UNIT

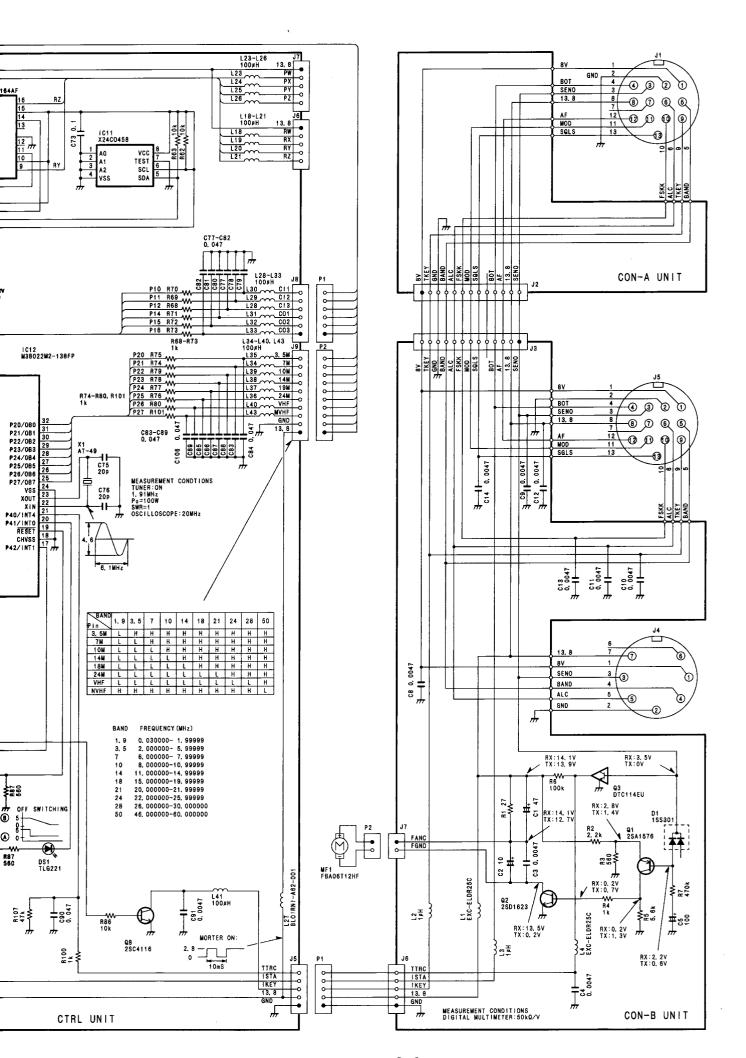






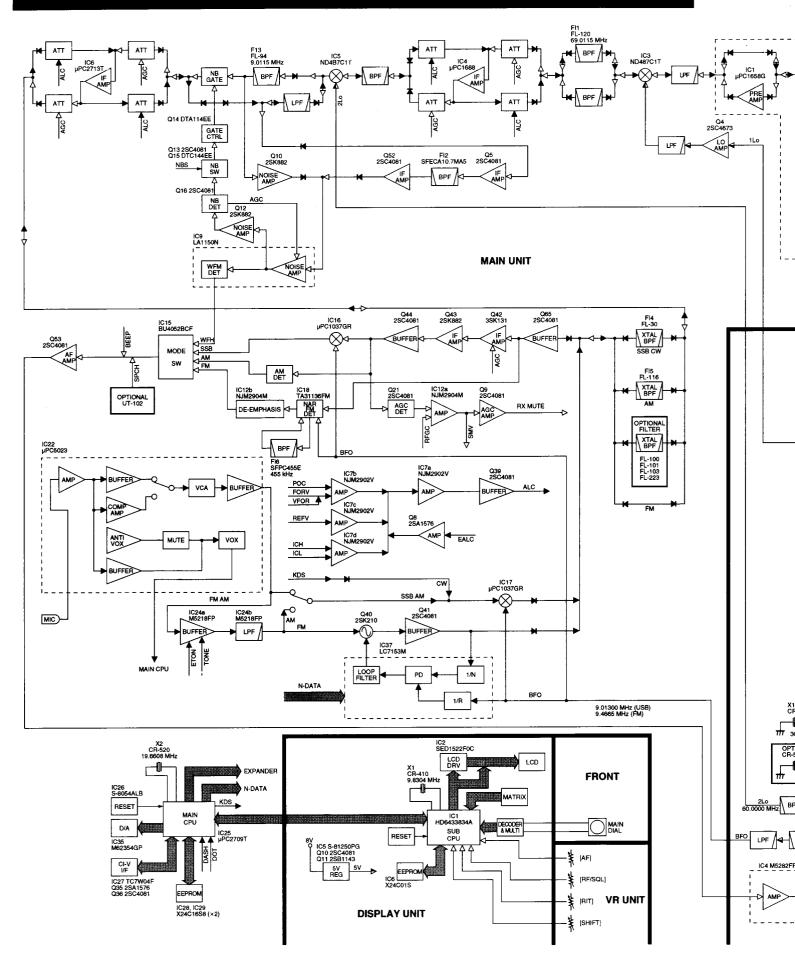


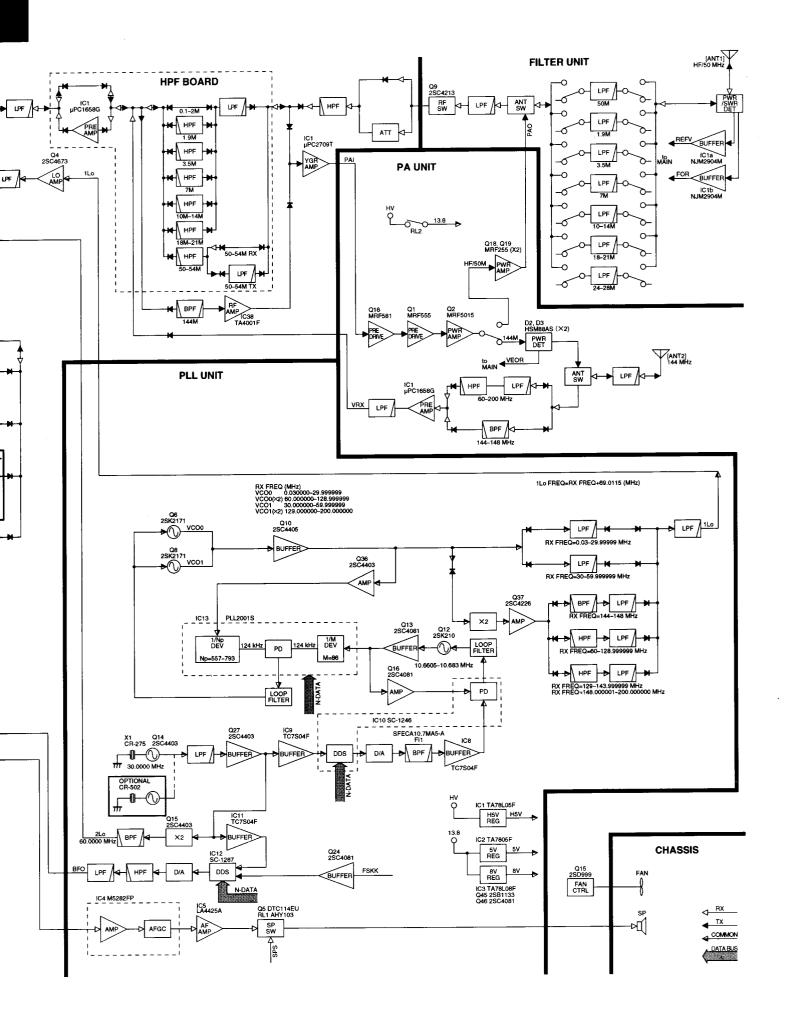


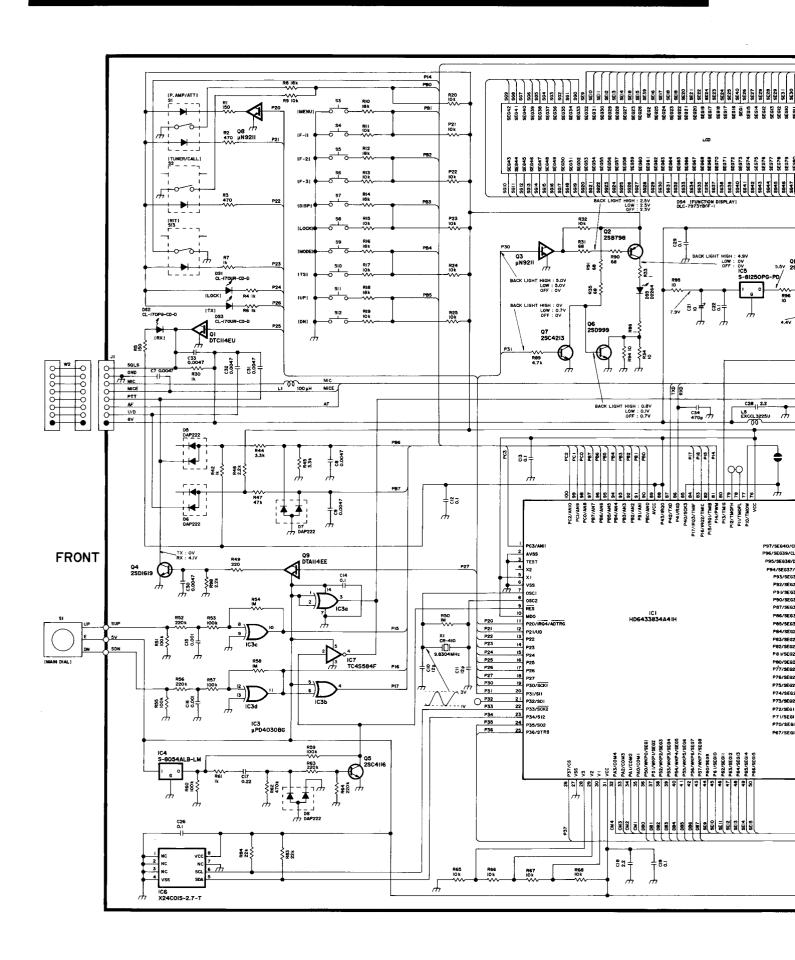


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# SECTION 10 BLOCK DIAGRAM

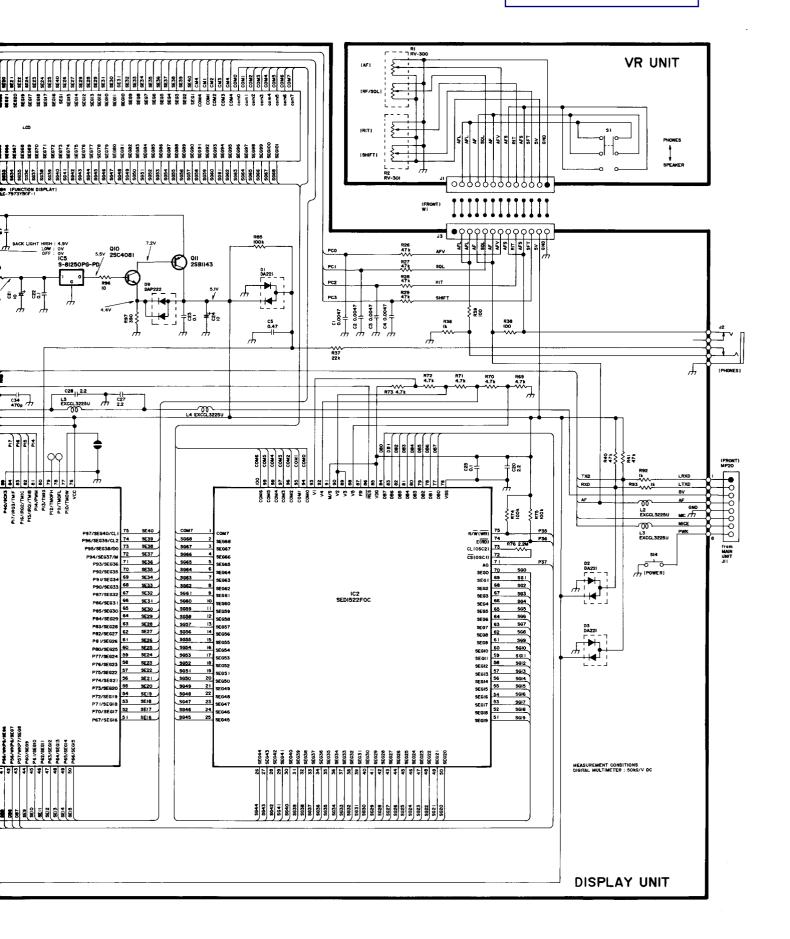


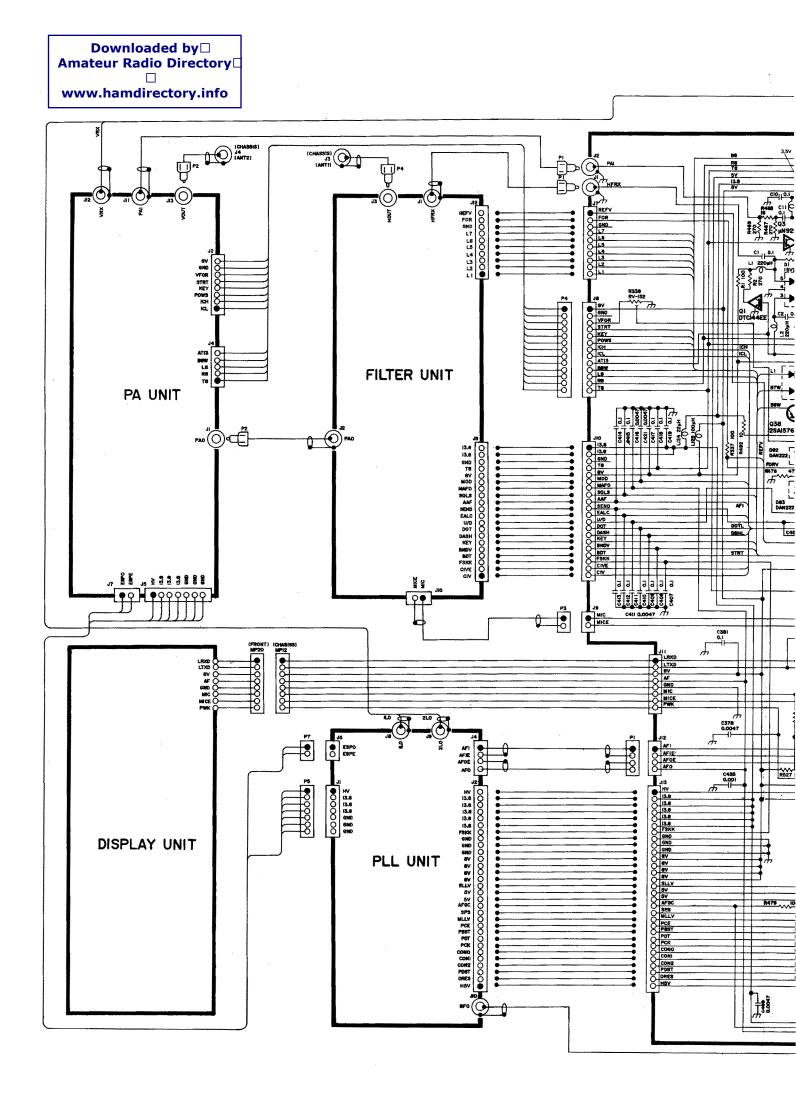


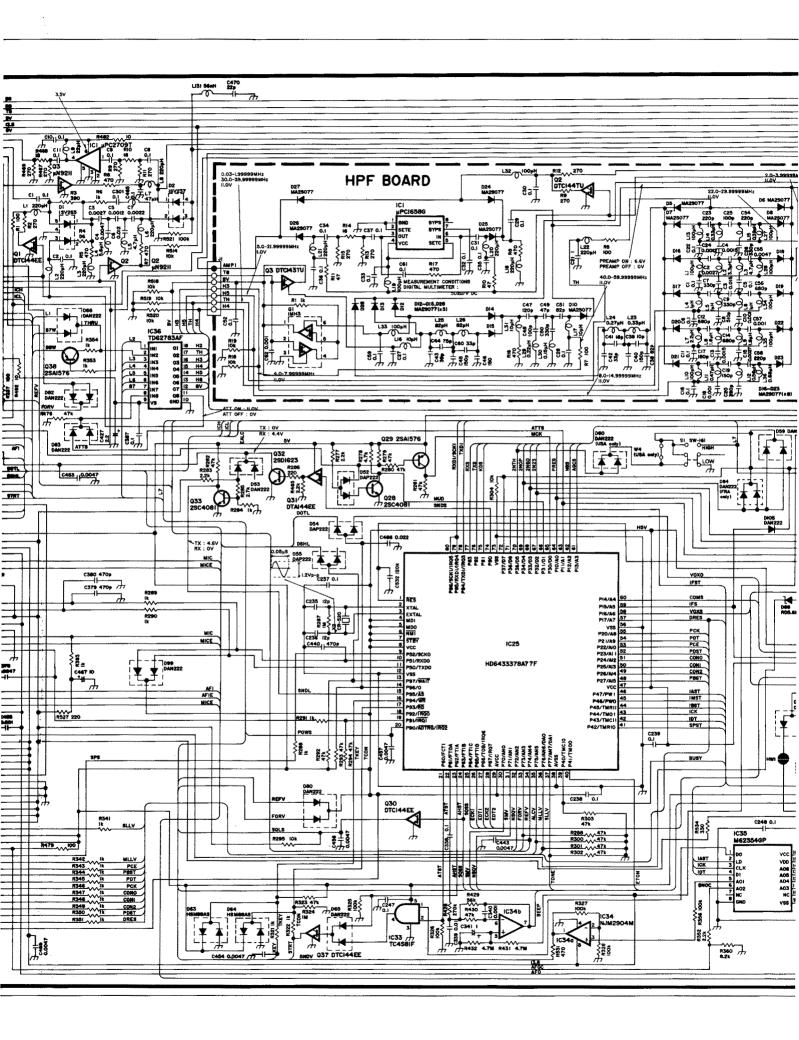


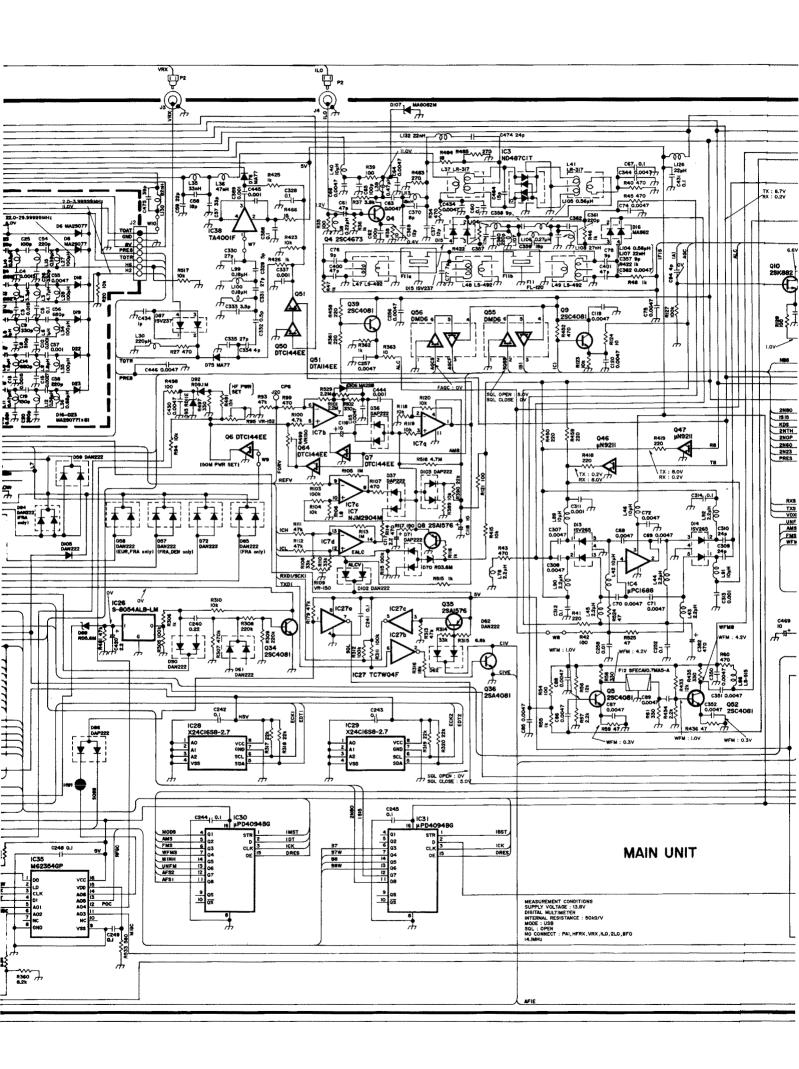
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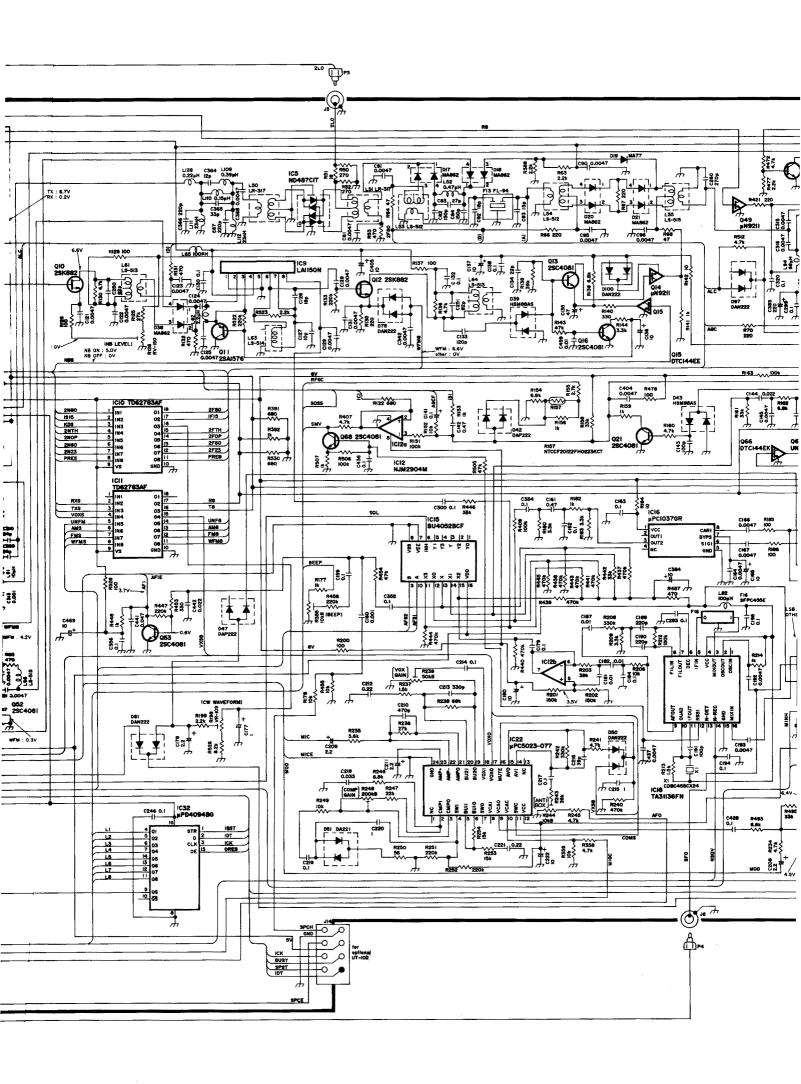
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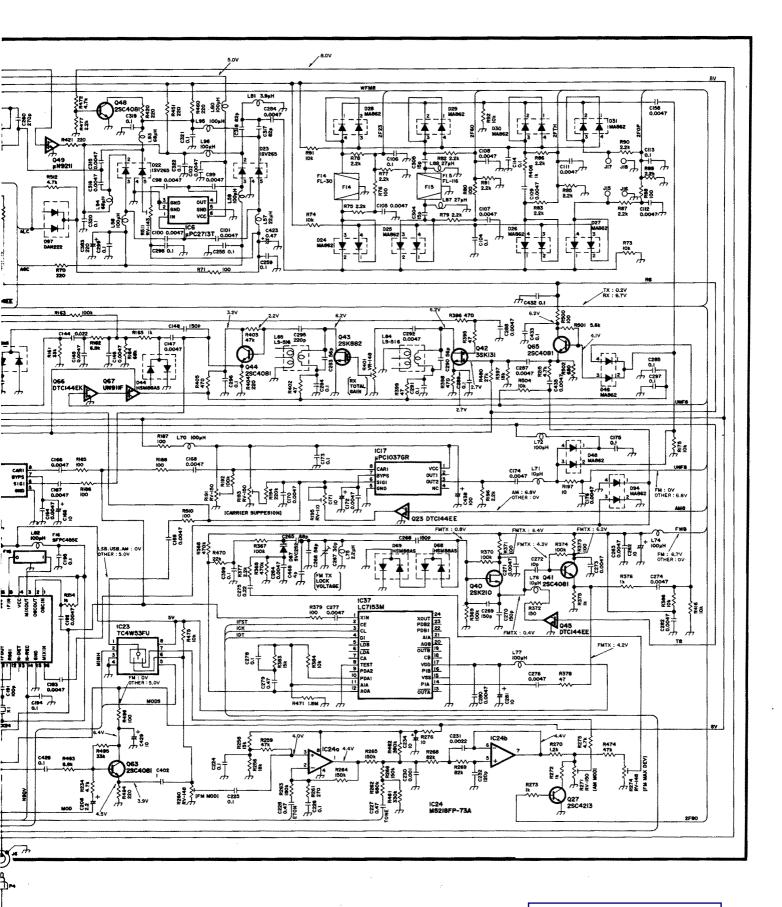


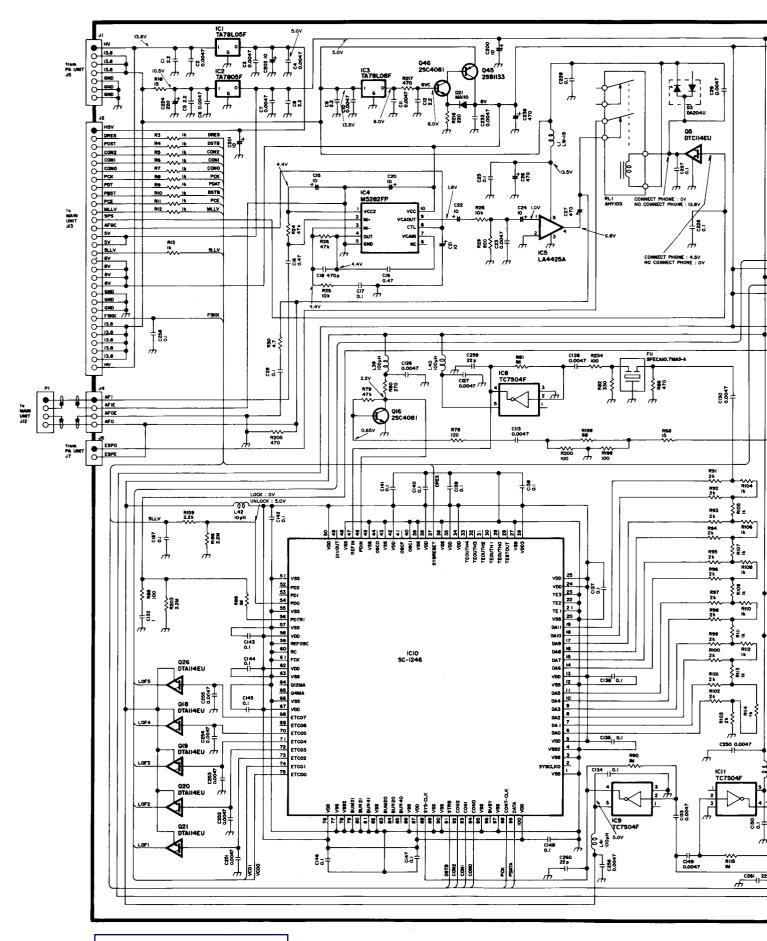






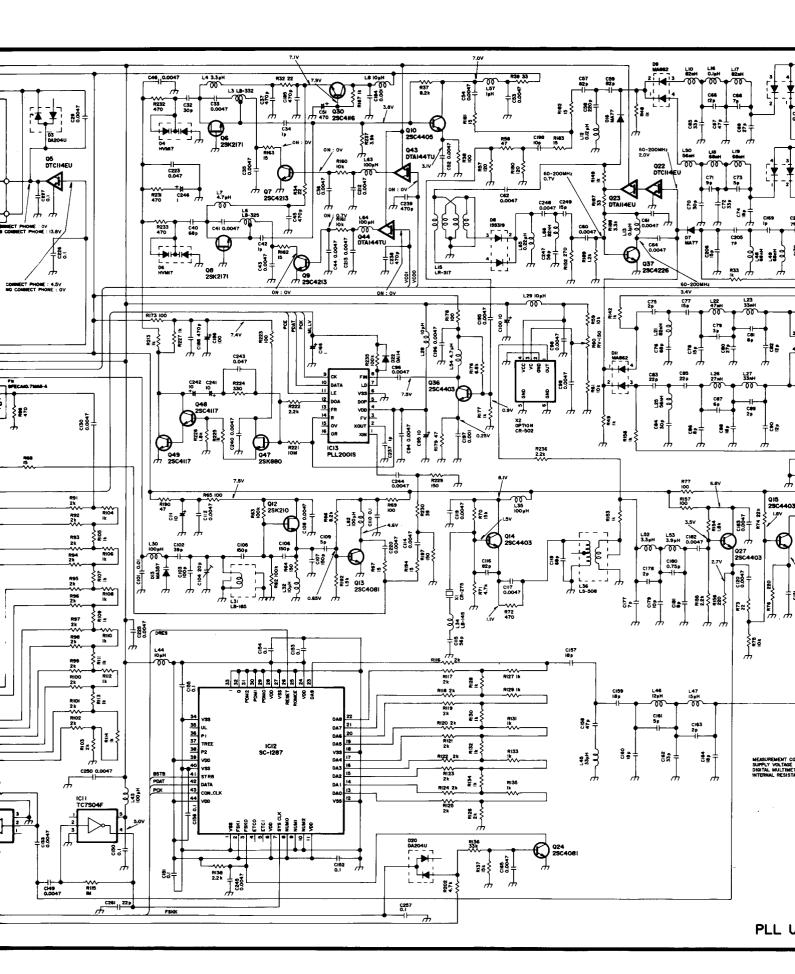


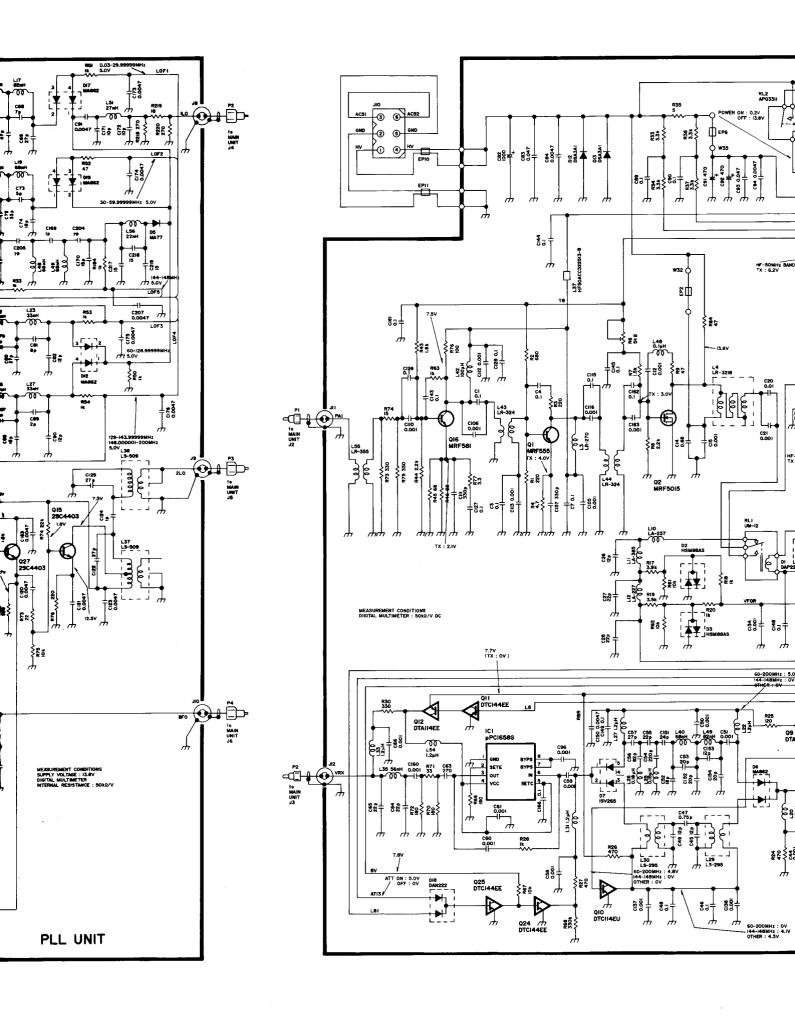


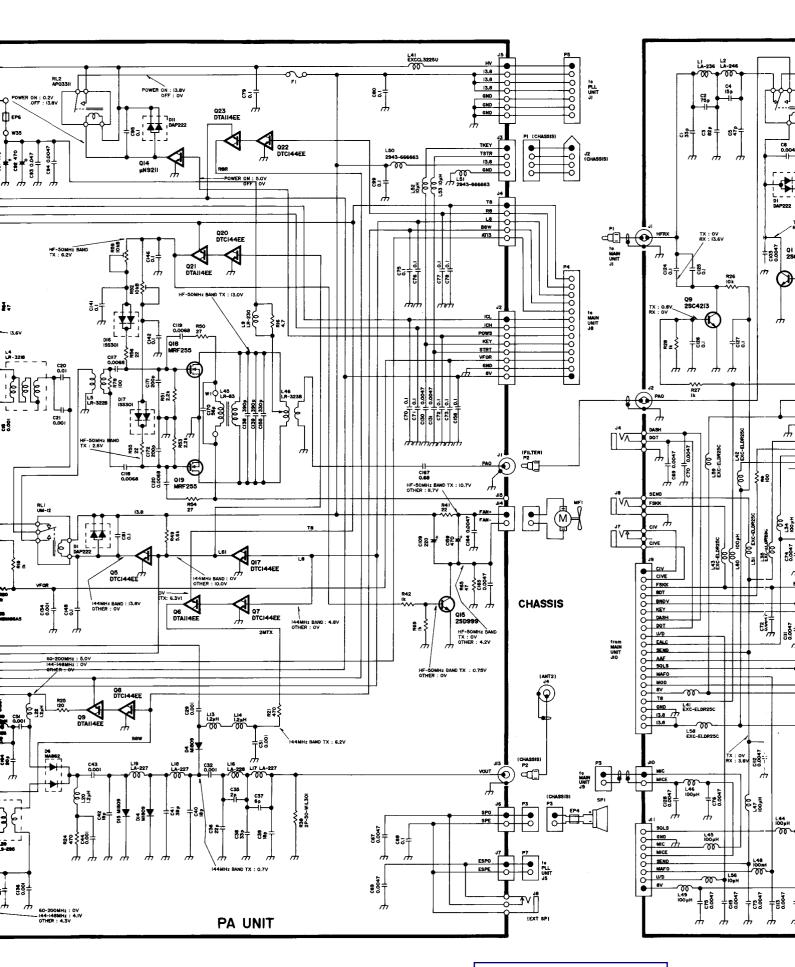


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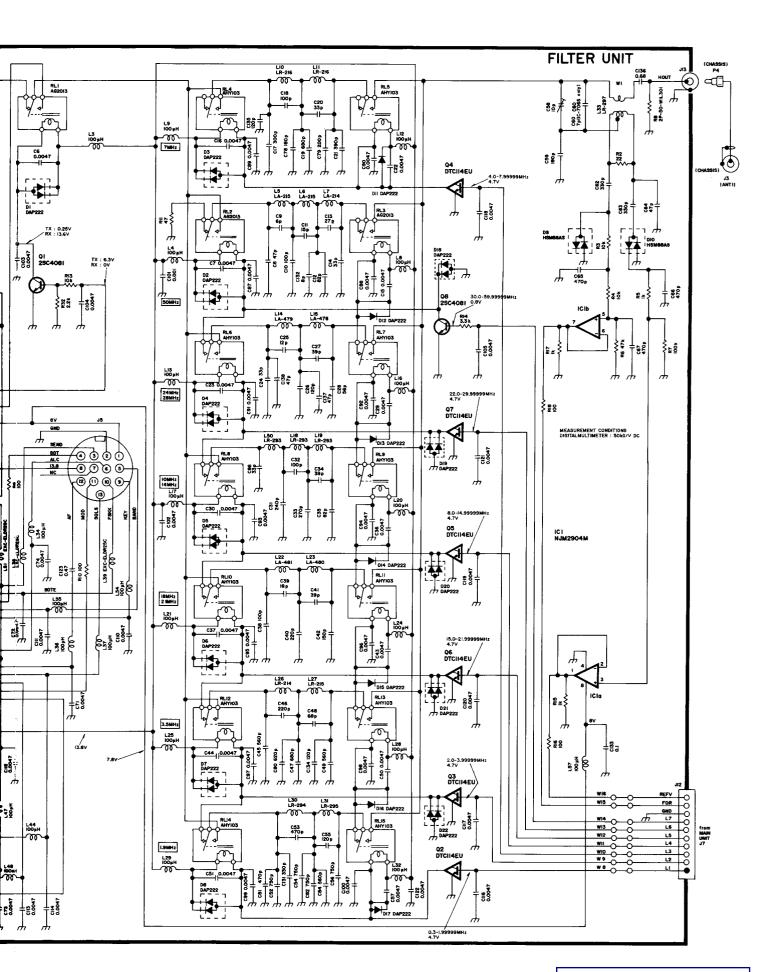
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