



# SERVICE MANUAL

HF MARINE TRANSCEIVER

**IC-M800**

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## INTRODUCTION

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This service manual describes the latest service information for the **IC-M800** HF MARINE TRANSCEIVER at the time of going to press.

If you require assistance or further information regarding the operation and capabilities of the **IC-M800**, contact your nearest authorized Icom Dealer or Icom Service Center.

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## DANGER

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**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.



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## ORDERING PARTS

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

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

### <SAMPLE ORDER>

1110000540 IC NJM4558D IC-M800 MAIN UNIT 5 pieces  
8810000230 Screw PH M3×6 IC-M800 Back panel 10 pieces

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

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## REPAIR NOTE

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1. Make sure a problem is internal before disassembling the transceiver.
2. **DO NOT** open the transceiver until the transceiver is disconnected from a power source.
3. **DO NOT** force any of the variable components. Turn them slowly and smoothly.
4. **DO NOT** short any circuits or electronic parts. An insulated tuning tool **MUST** be used for all adjustments.
5. **DO NOT** keep power ON for a long time when the transceiver is defective.
6. **DO NOT** transmit power into a signal generator or a sweep generator.
7. **ALWAYS** connect a 30 dB~40 dB attenuator between the transceiver and a deviation meter or spectrum analyzer when using such test equipment.
8. **READ** the instructions of test equipment thoroughly before connecting equipment to the transceiver.

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# SECTION 1 SPECIFICATIONS

## ■ GENERAL

- Frequency coverage : Receive : 0.5~30.0 MHz continuously  
Transmit : 2.0000~2.9999 MHz  
4.0000~4.9999 MHz  
6.0000~6.9999 MHz  
8.0000~8.9999 MHz  
12.0000~13.999 MHz  
16.0000~16.999 MHz  
22.0000~22.999 MHz
- Mode : J3E (USB, LSB), H3E, R3E, A3E (receive only), A1A, J2B
- Antenna impedance : 50  $\Omega$  (unbalanced)
- Power supply requirement : 13.6 V  $\pm$  15 % DC (negative ground)
- Current drain : Receive : 2 A at max. audio output  
Transmit : 30 A at max. RF output power
- Usable temperature range :  $-30^{\circ}\text{C} \sim +60^{\circ}\text{C}$  ( $-22^{\circ}\text{F} \sim +140^{\circ}\text{F}$ )\*
- Frequency stability :  $\pm 15$  Hz for 0.5~23 MHz ( $-30^{\circ}\text{C} \sim +60^{\circ}\text{C}$ ;  $-22^{\circ}\text{F} \sim +140^{\circ}\text{F}$ )
- Dimensions : Transceiver : 287 (W)  $\times$  112 (H)  $\times$  325 (D) mm  
11.3 (W)  $\times$  4.4 (H)  $\times$  12.8 (D) in  
Remote controller: 287 (W)  $\times$  112 (H)  $\times$  62 (D) mm  
11.3 (W)  $\times$  4.4 (H)  $\times$  2.4 (D) in (Projections not included)
- Weight : Transceiver : 6.5 kg (14.3 lb)  
Remote controller: 1.0 kg (2.2 lb)

## ■ TRANSMITTER

- Output power : 150 W
- Spurious emissions : 65 dB below peak output power
- Carrier suppression (SSB) : 50 dB below peak output power
- Unwanted sideband suppression : 55 dB below peak output power (with 1000 Hz AF input)
- Microphone impedance : 600  $\Omega$

## ■ RECEIVER

- Sensitivity (for 12 dB SINAD) : SSB, CW, FSK : 0.5~1.8 MHz 6.3  $\mu\text{V}$  ( $-91$  dBm)  
1.8~30.0 MHz 0.5  $\mu\text{V}$  ( $-113$  dBm)  
AM : 0.5~1.8 MHz 30  $\mu\text{V}$  ( $-77$  dBm)  
1.8~30.0 MHz 3.16  $\mu\text{V}$  ( $-97$  dBm)
- Spurious response rejection :  $-70$  dB
- Audio output power : 5.0 W with a 4  $\Omega$  load
- Audio output impedance : 4~8  $\Omega$
- Clarity variable range :  $\pm 150$  Hz in 10 Hz steps

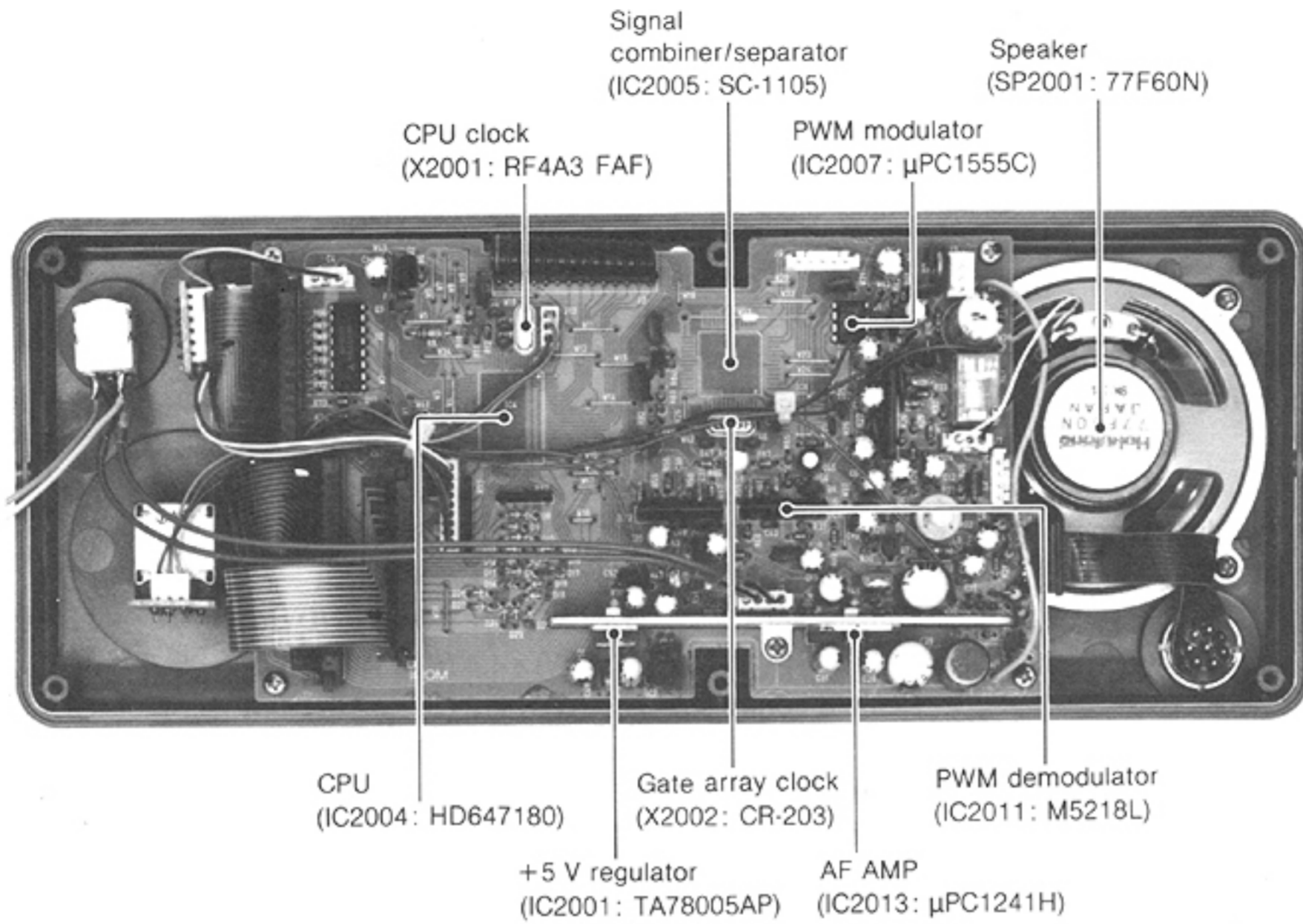
\* The function display on the remote controller may not indicate characters clearly under extremely low temperatures around  $-30^{\circ}\text{C}$  ( $-22^{\circ}\text{F}$ ) due to LCD characteristics. However, transmitting and receiving with the IC-M800 function normally around this temperature.

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

## SECTION 2 INSIDE VIEWS

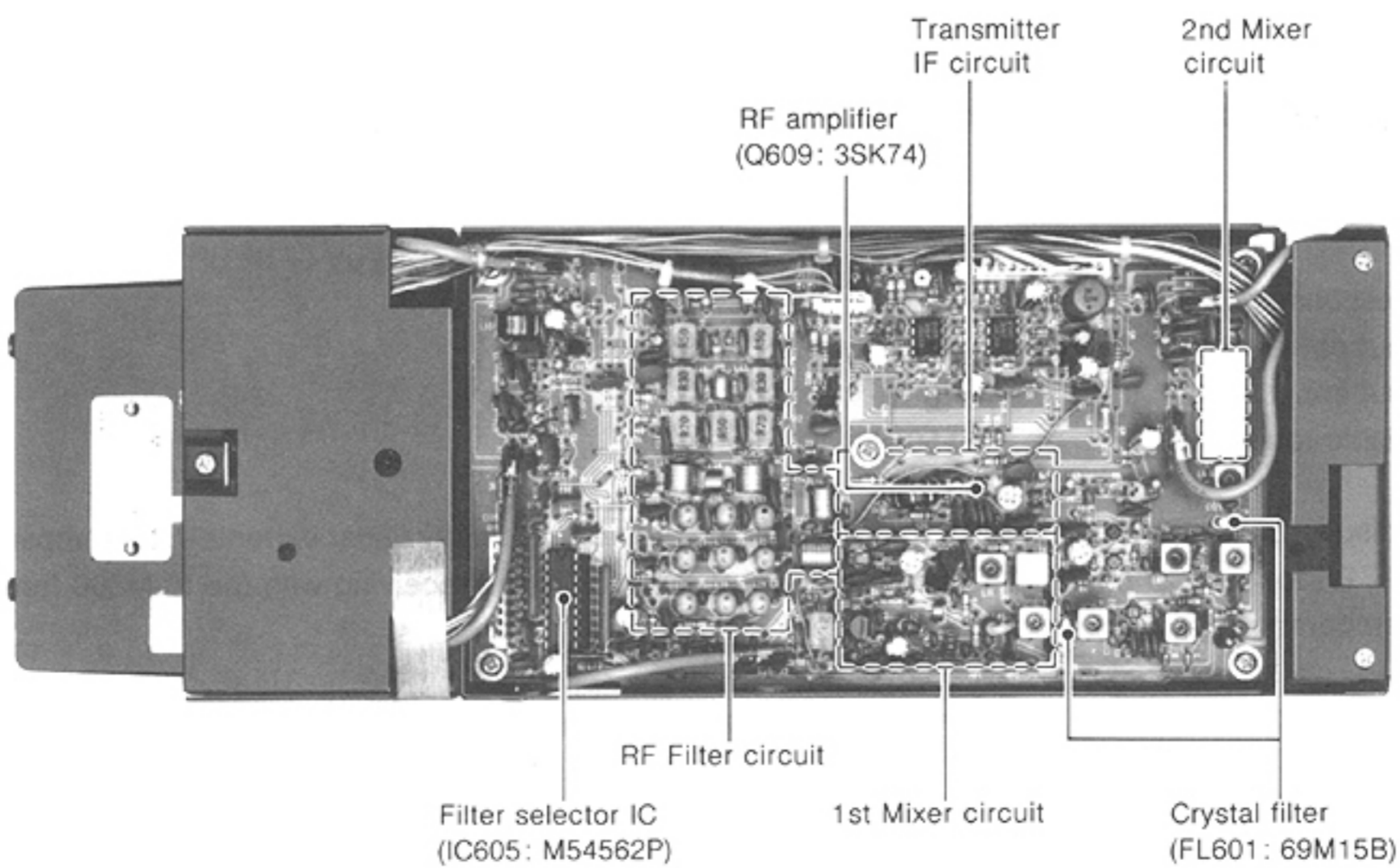
### 2-1 REMOTE CONTROLLER

#### • IF UNIT

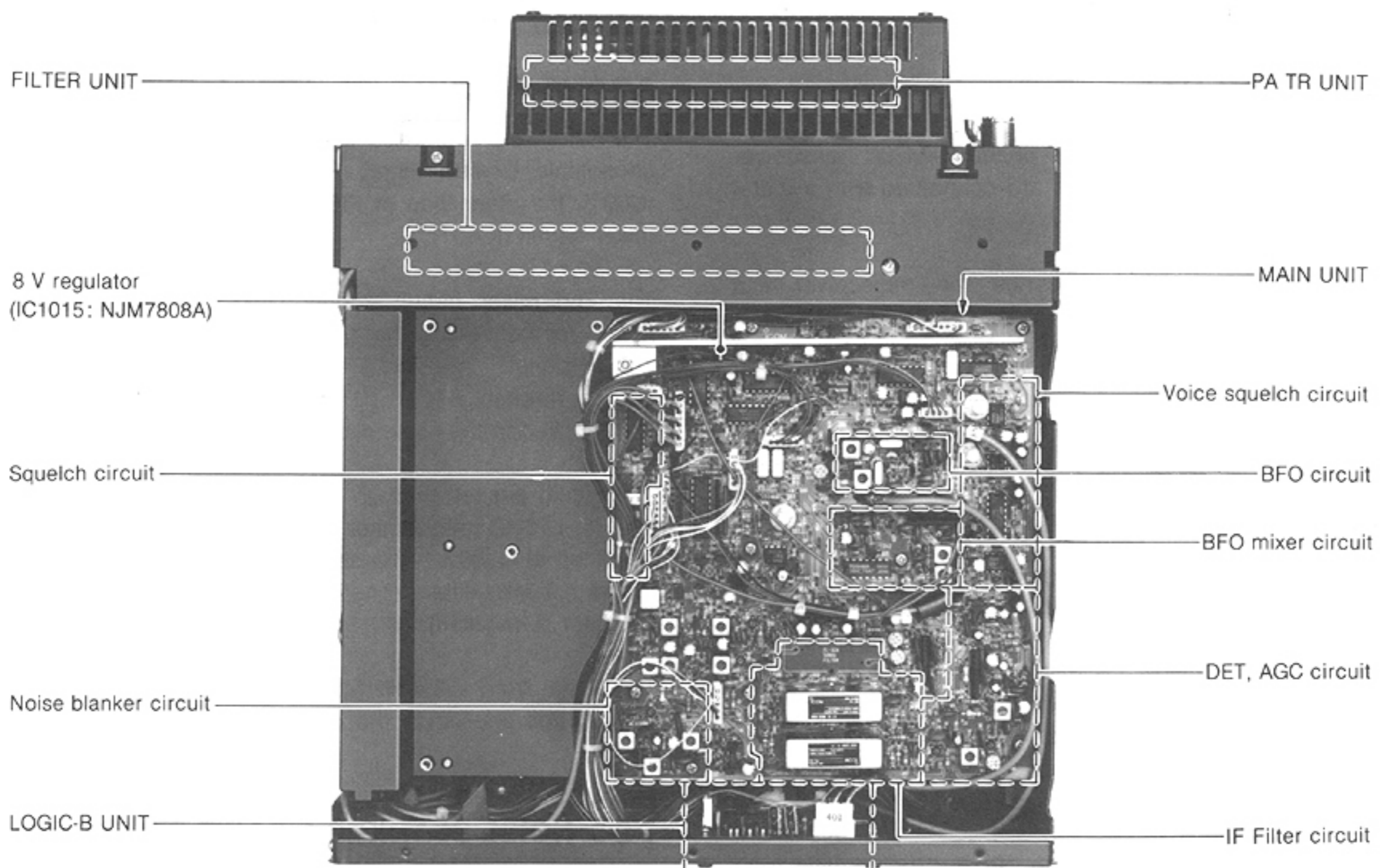


### 2-2 TRANSCEIVER

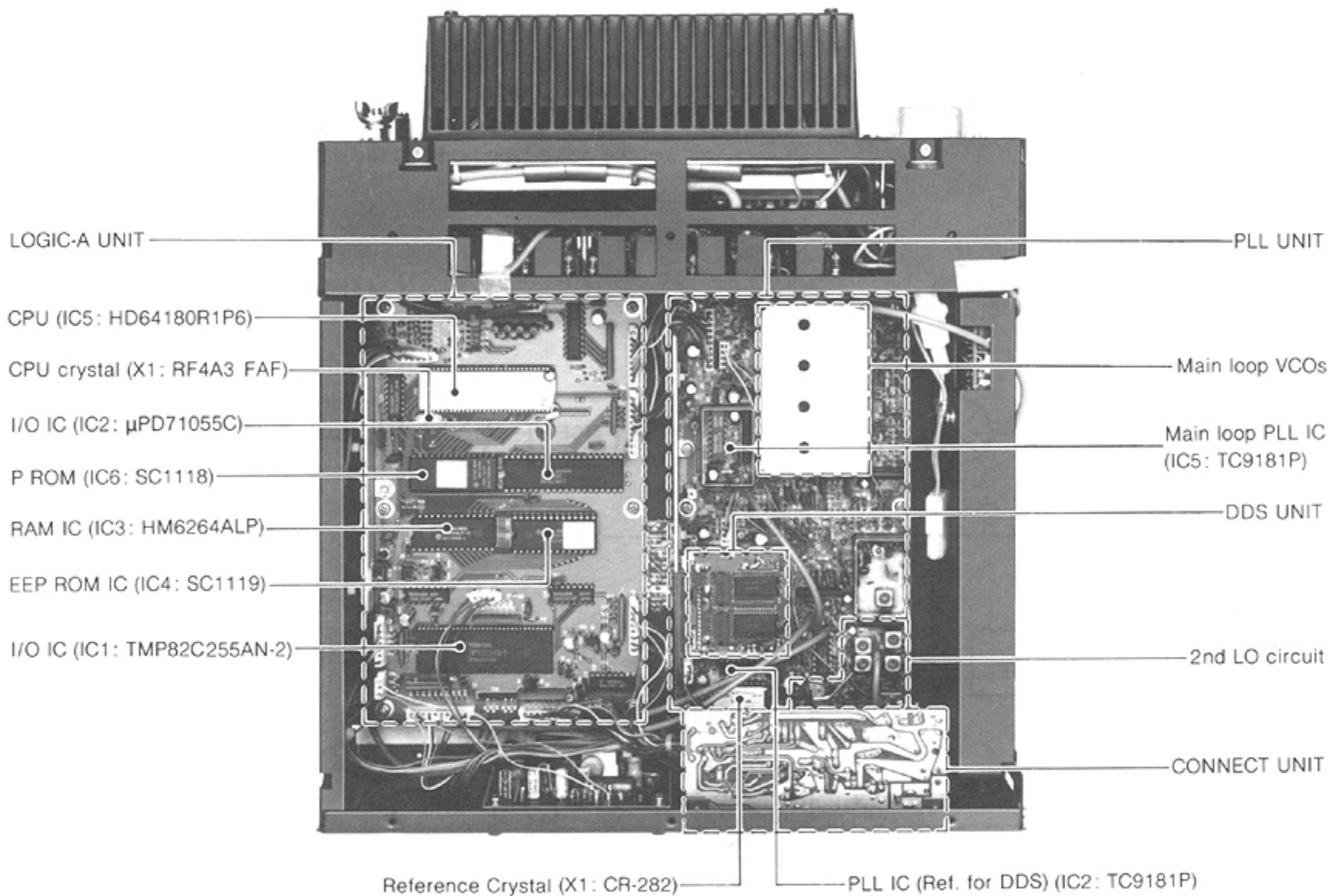
#### • SIDE VIEW



• TOP VIEW



• BOTTOM VIEW



# SECTION 3 CIRCUIT DESCRIPTION

## 3-1 GENERAL

The IC-M800 mainly consists of the IC-M800 transceiver and remote controller, which are connected with a state-of-the-art optical fiber cable.

The following sections describe the transceiver and remote controller.

## 3-2 RECEIVER CIRCUITS

### 3-2-1 RF CIRCUITS (RF UNIT)

Incoming signals pass through the FILTER and ANT SW UNITS and then enter the RF UNIT via J604. The incoming signals are applied to the 1.6 MHz cut-off high-pass filter and the signals below 1.6 MHz are attenuated at 20 dB by L678 and R624. The RF UNIT has 8 RF high-pass filters for signals above 2 MHz and 1 low-pass filter for signals below 2 MHz. The incoming signals pass through one of the high-pass filters or low-pass filter.

These filters are selected with "B0"~"B8" signals from the CPU via the voltage buffer (IC605).

The filtered signals are applied to the 30 MHz cut-off low-pass filter to suppress the image signals. The signals then enter the 1st mixer circuit (Q602, Q603) to be converted to a 69.0115 MHz 1st IF signal. The 1st mixer circuit employs a balanced mixer using low-noise junction FETs (2SK125 x 2) to expand the dynamic range.

### 3-2-2 IF CIRCUITS (RF AND MAIN UNITS)

The 1st IF signal passes through one of a pair of MCF (Monolithic Crystal Filter; FI601), the 1st IF amplifier (Q601), the other side of FI601 and then enters the 2nd mixer circuit (IC601).

The 2nd mixer circuit adopts DBM (Double Balanced Mixer) for converting the 1st IF signal to a 9.0115 MHz 2nd IF signal. The 2nd IF signal enters the MAIN UNIT, passes through D1007 (D1008 for transmitting) and is then applied to the noise blanker circuits.

The signal passes through the double resonance circuit (L1005, L1006), the blanker gate (D1009~D1012), and is amplified at Q1007. The signal is then applied to one of the two 9 MHz filters (one of 3 filters when an optional CW filter is installed).

The signal from a 9 MHz filter is amplified at Q1045 and Q1046, and applied to the demodulator circuit and AGC circuit.

### 3-2-3 NOISE BLANKER CIRCUIT (MAIN UNIT)

The IC-M800 uses the noise trigger noise blanker circuit. A portion of the signal from L1005 is amplified at the noise amplifier (Q1001~Q1003), detected at the noise detector (D1001, D1002), and is then separately applied to the noise AGC circuit (Q1004) and the noise gate control.

The noise AGC circuit does not operate for pulse-type noise. The noise AGC circuit reduces the gain of the noise amplifier with only normal signal strength by applying the pulse-type noise to the noise gate control.

## RECEIVER CIRCUITS

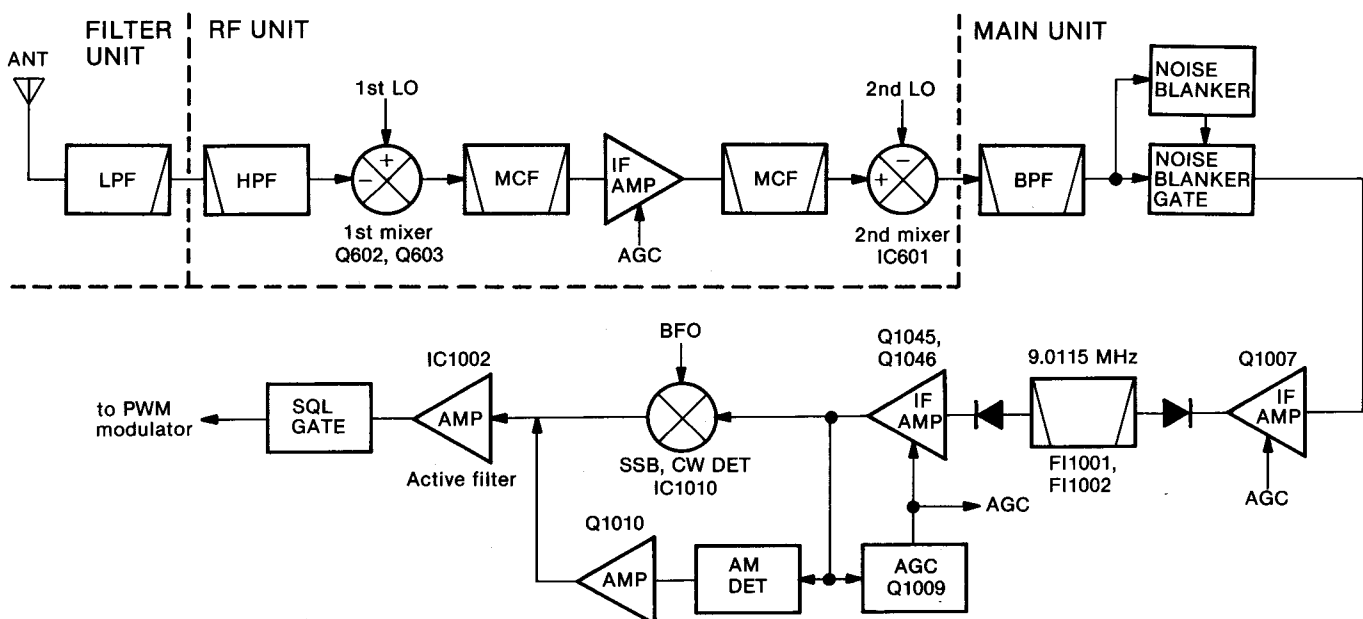


Fig. 1

The noise gate control consists of a pulse amplifier (Q1005) and gate drive (Q1006). When the detected voltage exceeds a threshold level, Q1006 outputs a blanking signal to activate the noise blanker gate (D1009~D1012).

### 3-2-4 AF CIRCUITS (MAIN UNIT)

The 2nd IF signal from the 9 MHz filter is applied to the product detector (IC1010) while in SSB, CW or FSK mode or to the diode detector (D1006) while in AM mode. The detected AF signal is applied to the active low-pass filter (IC1002b) where 3 kHz signals and above are attenuated. The AF signal enters the LOGIC B UNIT via the squelch gate (IC1008a).

The squelch gate is controlled by the voice squelch control circuit in AM and SSB modes, or the S-meter squelch circuit in CW and FSK modes.

### 3-2-5 OPTICAL INTERFACE CIRCUIT (LOGIC B UNIT)

The AF signal from the MAIN UNIT is modulated into a PWM (Pulse Width Modulation) signal at IC402, IC404, Q401 and Q402. A PWM modulation trigger signal, generated at IC401, is applied to IC402 pin 2. The resulting PWM signal is re-applied to IC401 to be combined with the serial data from the transceiver CPU (LOGIC A UNIT, IC305).

IC401 is a gate array IC and contains a PWM signal/serial data separator and mixer, PWM modulation trigger signal generator, clock generator, etc.

### 3-2-6 AF AMPLIFIER (IF UNIT)

The combined signal (PWM signal and serial data) from IC401 on the LOGIC B UNIT is converted into an optical signal at IC503 in the CONNECTOR UNIT to apply the signal to the IC-M800 remote controller. The optical signal is re-converted to the combined signal in the remote controller and is then separated to the PWM signal and serial data at the gate array IC (IC2005).

The PWM signal is demodulated at the active low-pass filters (IC2011a, IC2012b, IC2012a). The demodulated signal passes through the mute switch (Q2010) and the volume control (R2091) and is then power-amplified at IC2013 to drive the speaker.

### 3-2-7 BFO OSCILLATOR (MAIN UNIT)

The BFO oscillator circuit consists of Q1038, X1001, X1002. The BFO-oscillated frequency is a 5.26 MHz band signal (5.260~5.263) and is mixed with a 3.75 MHz frequency to obtain a 9.01 MHz BFO frequency. The 3.75 MHz frequency is obtained by dividing the 7.5 MHz signal from the PLL UNIT by 2.

This BFO frequency is used for the product detector (IC1010) and balanced modulator (IC1007). The oscillated frequency is shifted by the mode voltages using Q1040~Q1043.

### 3-2-8 VOICE SQUELCH CIRCUIT (MAIN UNIT)

This circuit detects the audio signal during AM or SSB mode receiving, and squelches inconvenient signals such as signals with no modulation, beat signals and noise component signals.

A portion of the AF signal from the active filter (IC1002b) is limiter-amplified at IC1002a and triggers the one-shot multivibrator (IC1004). IC1004 functions as an F-V converter and outputs a voltage corresponding to pulse numbers.

The output from IC1004 is applied to the 3 Hz cut-off low-pass filter (IC1003a) to detect audio signals. The resulting signal is applied to the comparator (IC1003b). IC1003b outputs a "HIGH" signal when an audio signal is detected.

## AF CIRCUITS

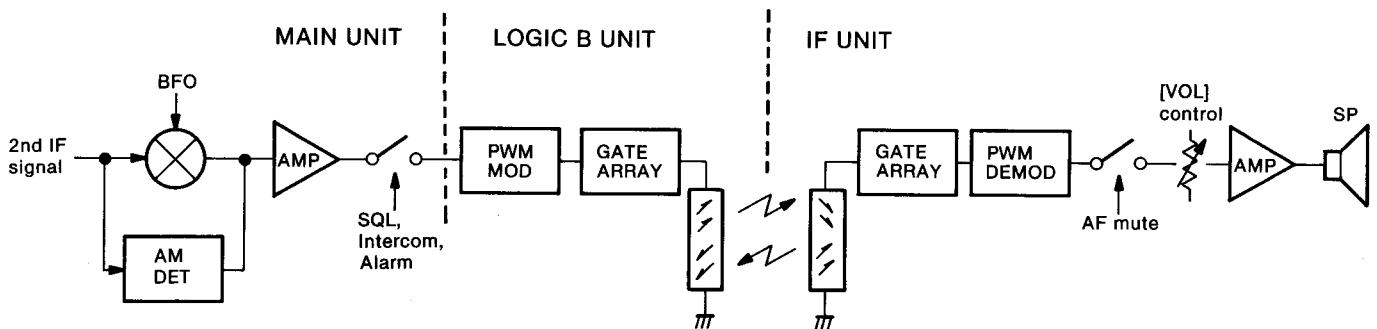


Fig. 2



### 3-3 TRANSMITTER CIRCUITS

#### 3-3-1 MIC AMPLIFIER (IF UNIT)

Audio signals from the [MIC] connector are amplified at the mic amplifier (IC2010b) in the remote controller and applied to the active low-pass filter (IC2010a) where the 3 kHz signals and above are attenuated. Microphone gain is controlled by the mic AGC circuit (D2005, D2006, Q2007).

The resulting signals are modulated into a PWM signal at IC2007, IC2011a, Q2008 and Q2009, and applied to the gate array IC (IC2005) to be combined with the serial data from the remote controller CPU (IC2004). The combined signal is applied to IC2015 to be converted to optical signals. The optical signal is then applied to the IC-M800 transceiver and then enters the gate array IC (IC401) after converting to an electric signal. IC401 separates the PWM signal and serial data in the signal.

The PWM signal is demodulated at the active low-pass filters (IC403b, IC403a, IC404b) and is then applied to the MAIN UNIT.

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

The signal passes through the modulation gate (IC1009a), and is applied to the balanced modulator circuit (IC1007) to be converted to a 9.01 MHz IF signal.

R1136 and R1138 adjust the balance level of IC1007 for maximum carrier suppression. In CW or while tuning the antenna, a mode voltage (CW or TUNE) upsets the balance to create a carrier signal.

IC1007 outputs a double sideband signal and passes through a 9.01 MHz filter to create an SSB signal. The signal is amplified at the IF amplifiers (Q1013~Q1015) and is then applied to the RF UNIT via P1001 (RF UNIT, J601).

In H3E (AM) or R3E (USB) mode, the 9.01 MHz BFO signal amplified at Q1016, is applied to the IF amplifier (Q1014) as a carrier signal. In R3E, Q1044 is turned ON, and the gain of Q1016 is reduced to obtain an appropriate carrier level.

In CW mode, a keying control signal from IC1005 is applied to the IF amplifiers (Q1014, Q1015) and intermits the IF signal to obtain a CW signal.

#### 3-3-3 IF CIRCUITS (RF UNIT)

The 9.01 MHz IF signal enters the RF UNIT, passes through a 10 MHz cut-off low-pass filter, and is then converted to a 69.0115 MHz IF signal at IC601. IC601 is also used in receiving.

The IF signal passes through the MCF (F1601) and is then converted to the displayed frequency (RF signal) at the balanced mixer (Q607, Q608).

#### 3-3-4 RF CIRCUITS (RF, PA TR AND PA UNITS)

The RF signal from Q607 and Q608 is amplified at Q609. The 1st and 2nd gate bias voltages of Q609 are controlled by the transmit gain control and APC circuits respectively. The amplified signal passes through one of the 7 high-pass filters (2.0~22.999 MHz HF marine bands), is amplified at the predrive amplifier (Q618), and is then applied to the PA TR UNIT. Output level from the RF UNIT is approx. +6 dBm.

The entering signal from the RF UNIT is amplified at the 1st drive amplifier (Q801), the 2nd drive amplifier (Q802, Q803) and the power amplifier (Q804, Q805) to obtain stable 150 W RF output power. The 1st drive amplifier consists of a class A amplifier, and both the 2nd drive amplifier and the power amplifier consist of a class AB push-pull amplifier.

### TRANSMITTER CIRCUITS

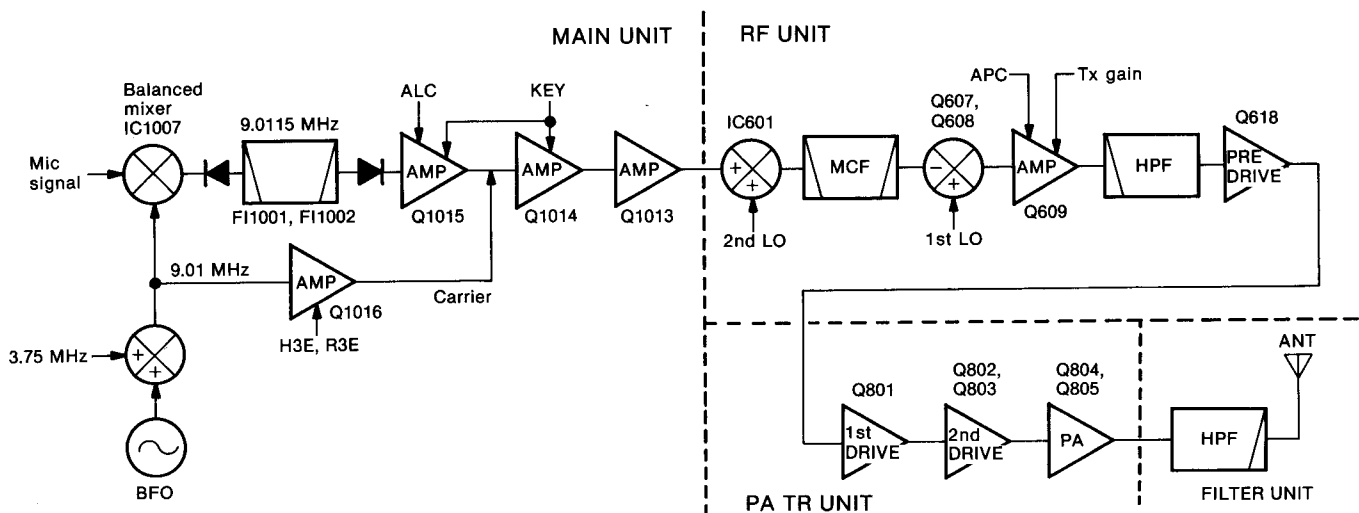


Fig. 3

The resulting signal is applied to the ANT SW UNIT, FILTER UNIT and then to the antenna connector.

A 0.012  $\Omega$  resistor (PA UNIT, R871), inserted in the HV line, is provided for the IC APC circuit. A voltage generated at both terminals of R871 is applied to the RF UNIT via the "IC+" and "IC-" signal line.

Thermal switches S801 and S802 detect the temperature of the power amplifier (Q804, Q805), and control the cooling fan speed.

TEMPERATURE °C (°F)		Below 50 (122)	50~90 (122~194)	Above 90 (194)
THERMAL SWITCH	S801	OFF	OFF	ON
	S802	OFF	ON	ON
COOLING FAN SPEED	RECEIVE	STOP	LOW	MID LOW
	TRANSMIT	STOP	MID HIGH	HIGH

Table 1

### 3-3-5 ANTENNA SWITCHING CIRCUIT (ANT SW UNIT)

The RF signal from the PA TR UNIT passes through a diode switch (D921) and the FILTER UNIT, and is then applied to the antenna connector through this unit again. Approx. 200 mA bias current is supplied from Q922 and Q924 to D921 to prevent rectification of the RF signal. A surge absorber (R933) protects the transceiver from a lightning surge voltage.

### 3-3-6 FILTER UNIT

The FILTER UNIT has 8 low-pass filters. The signal from the PA TR UNIT, applied to one of the low-pass filters depending on the transmit frequency range, suppresses high harmonic components.

The filtered signal passes through the SWR detector circuit (L1521) and is then applied to the ANT SW UNIT. The forward signal from L1521 is detected at D1508 and applied to the IF UNIT as the "FOR" voltage. The reflection signal from L1521 is detected at D1508 and applied to the IF UNIT as the "REF" voltage.

### SWR DETECTOR CIRCUIT

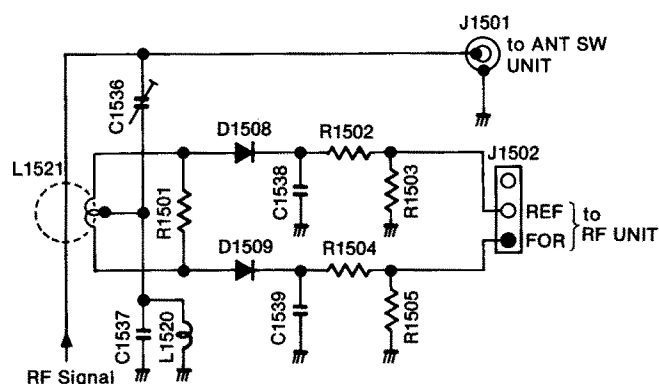


Fig. 4

### 3-3-7 ALC CIRCUIT (MAIN UNIT)

A portion of the IF signal from the IF amplifier (Q1013) is detected at D1044 and D1045, amplified at IC1006a, and is applied to IC1006b pin 2. The reference voltage, determined by R1187, is applied to IC1006b pin 3. The output voltage from IC1006b pin 1 is applied to the 1st gate of Q1015.

The output voltage from IC1006a (pin 7) is applied to the RF UNIT as a reference voltage for the transmit gain control circuit via J1002 ("FORA" line).

An external ALC input from the [ACC] sockets is applied to Q1020. ALC operation is identical to that of the internal ALC.

### 3-3-8 TRANSMIT GAIN CONTROL CIRCUIT (RF UNIT)

The "FOR" voltage from the FILTER UNIT is applied to IC603 pin 3. To control the RF output power in some versions, the "POL" or "LOW2" signal is also applied to IC603 pin 2 as the reference voltage.

IC603 pin 1 outputs RF meter voltage, and is applied to both the transmit gain control circuit (IC603 pin 6) and meter switching IC (MAIN UNIT, IC1016). The "FORA" voltage from the MAIN UNIT is also applied to IC603 pin 5 as the reference voltage.

When the "FOR" voltage exceeds the reference voltage, IC603 controls the RF amplifier (Q609) to reduce the output power until the "FOR" and reference voltages are equalized.

### 3-3-9 APC CIRCUITS (RF UNIT)

The APC circuits protect the final transistors from high SWR and excessive current. The "REF" voltage from the FILTER UNIT is applied to Q613. The amplified signal is applied to IC604 pin 2. The reference voltage, determined by R661 and R662, is applied to IC604 pin 3. The output voltage from IC604 pin 1 is applied to the 2nd gate of Q609 via D631 to reduce the output power.

The output voltage of the IC APC amplifier (IC604 pin 7) is also applied to IC604 pin 2 to prevent the excessive current.

## 3-4 PLL CIRCUITS

### 3-4-1 GENERAL DESCRIPTION

The IC-M800 uses a dual loop PLL system. A main loop PLL uses 4 VCO circuits for all HF marine frequency coverage within 500 kHz steps. A sub loop PLL uses DDS (Direct Digital Synthesizer) System for 500 kHz coverage within 10 Hz steps. The DDS System provides a rapid lockup time and high quality frequency oscillation.

### 3-4-2 REFERENCE OSCILLATOR CIRCUIT (PLL UNIT)

The IC-M800 uses a constant temperature oven-type crystal unit (CR-282) which oscillates 30 MHz with 0.5 ppm stabilization ( $-30^{\circ}\text{C}\sim+60^{\circ}\text{C}$ ;  $-22^{\circ}\text{F}\sim+140^{\circ}\text{F}$ ). The CR-282 generates the reference frequency for the PLL UNIT and MAIN UNIT BFO circuit (through P1001).

### 3-4-3 2nd LOCAL OSCILLATOR CIRCUITS (PLL UNIT)

A 2nd local oscillator frequency is used for the 2nd mixer circuit in the RF UNIT. Q2 is a multiplier circuit that multiplies the 30 MHz reference frequency by 2 to 60 MHz. The resulting 60 MHz signal is applied to the RF UNIT.

### 3-4-4 MAIN LOOP (PLL UNIT)

The main loop generates the 69.5115~99.0115 MHz 1st LO frequency for the RF UNIT.

An oscillated signal at one of the 4 VCOs (Q16~Q19; see Section 3-4-5 for details) is amplified at Q24, and Q28, and is then mixed with  $f_{LO}$  (Sub loop output) to obtain a frequency of 3~33 MHz. The converted signal, passed through D17 or D18, is applied to an appropriate bandpass filter, amplified at Q14 and Q15 and is applied to the prescaler (IC6).

The signal, divided by 4 at the prescaler, is applied to the PLL IC (IC5). IC5 includes a phase detector, programmable divider and swallow counter in the IC chip. The phase detected signal from IC5 is converted to the lock voltage at the loop filter (Q12, Q13), and is then applied to a VCO.

The oscillated signal is obtained by the following calculation:

$$f_V = f_{LO} + 4 \times N_T \times f_{REF}$$

$f_V$  : Main loop output

$f_{LO}$  : Sub loop output

$N_T$  : N-data from the LOGIC A UNIT (6~66)

$f_{REF}$  : Reference frequency (125 kHz)

### 3-4-5 VCO CIRCUIT (PLL UNIT)

The transceiver's C/N ratio is determined by the VCO and the loop filter. 4 VCO circuits keep the low noise and reduce spurious emissions. Q20~Q23 are VCO switches which select the operating VCO with "VCO1"~"VCO4" lines. The "VCO1"~"VCO4" lines are also used for the bandpass filter in the PLL circuits.

## PLL CIRCUITS

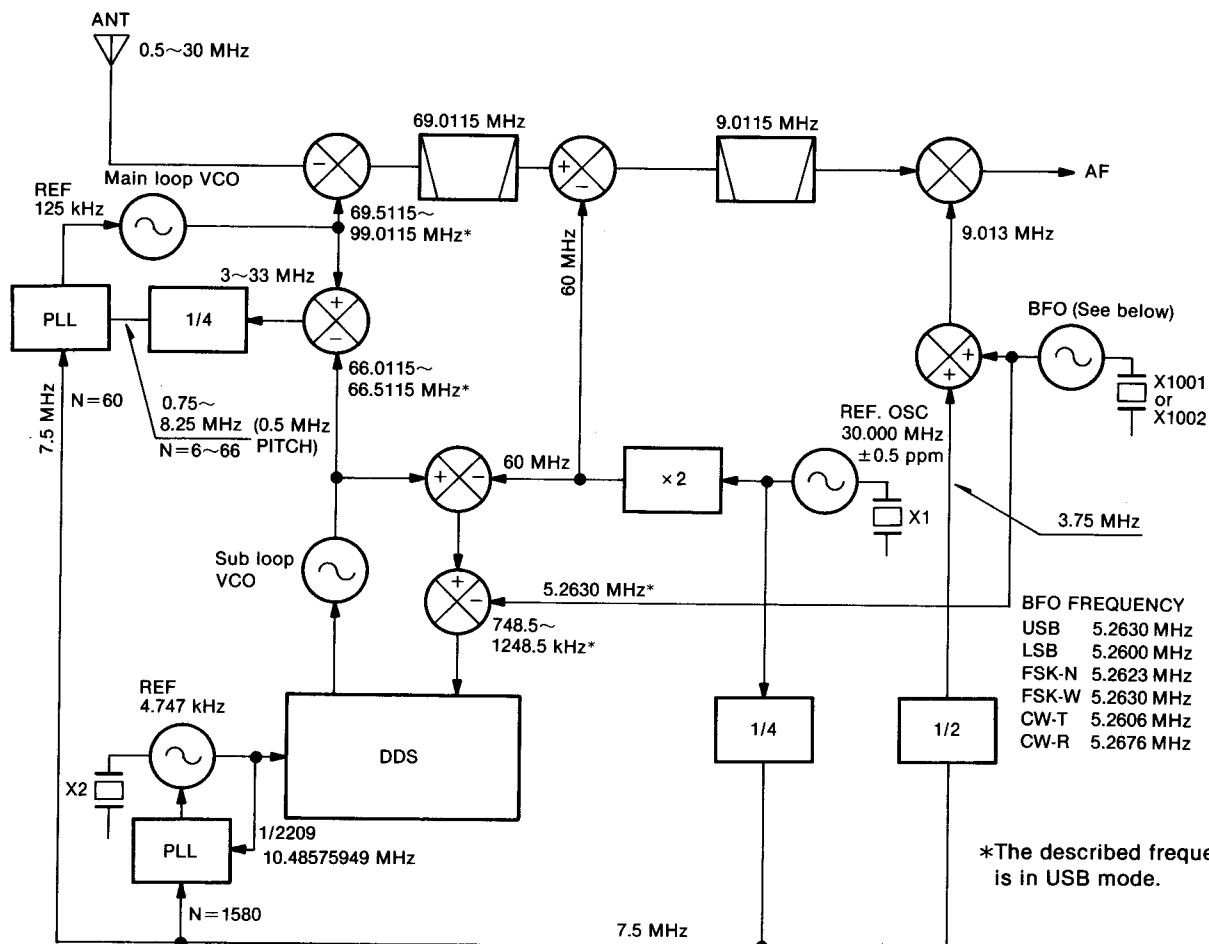


Fig. 5

### 3-4-6 SUB LOOP (PLL UNIT)

The sub loop uses the DDS (Direct Digital Synthesizer) System to generate a 66.0115~66.5115 MHz signal in 10 Hz steps. The BFO shift signal is mixed in the sub loop for compensating for the center frequency.

The generated signal at the VCO (Q9) is amplified at Q6 and is mixed with the 60 MHz signal (reference oscillator multiplied by 2) to be converted into a 6.0115~6.5115 MHz signal at IC4.

The converted signal passes through a bandpass filter and is then mixed with the BFO oscillator signal to obtain a 748.5~1248.5 kHz signal. The signal is then applied to the DDS UNIT to be converted to the lock voltage using N-data from the LOGIC A UNIT. The BFO oscillator signal, "5.3M" line, is 5.2630 MHz  $\pm$  mode shift frequency.

### 3-4-7 DDS REFERENCE OSCILLATOR (PLL UNIT)

X2 oscillates a 10.48575949 MHz signal as a DDS reference frequency. The PLL circuit provides frequency control and consists of the PLL IC (IC2), loop filter (R34, C48) and varactor diode (D2). The PLL reference frequency (7.5 MHz) is obtained from dividing the 30 MHz signal by 4 at IC1.

## 3-5 LOGIC CIRCUITS

### 3-5-1 TRANSCEIVER LOGIC CIRCUIT (LOGIC A UNIT)

IC311 resets the CPU (IC305) when the power is turned ON. The CPU starts working after reading a program from the PROM (IC306). The RAM (IC303) provides a CPU working area.

IC304 is an EEPROM (Electrically Erasable and Programmable ROM) which stores memory information with no backup power source.

IC308 is an A/D converter and converts an S/RF indicator signal into 8-bit serial data. The serial data are applied to the gate array IC (LOGIC B UNIT, IC401) and then to the remote controller.

### 3-5-2 REMOTE CONTROLLER LOGIC CIRCUIT (IF UNIT)

IC2006 resets the CPU (IC2004) when the power is turned ON. The CPU starts working after reading an inside program.

The CPU receives the control signals from the front panel switches and controls. The signals are converted into serial data to send to the IC-M800 transceiver.

The CPU also receives serial data from the IC-M800 transceiver and outputs signals such as an S/RF indicator signal or AF mute signal.

### 3-5-3 ALARM CIRCUIT (LOGIC B UNIT)

IC407 is an IC chip for generating alarm signals (1300 Hz and 2200 Hz). The frequency is changed in 250 msec. cycles and is generated for 50 sec. "ALM" and "ALH" signals are applied to IC407 for controlling.

## 3-6 GATE ARRAY PORT ALLOCATIONS (LOGIC B UNIT IC401 AND IF UNIT IC2005)

#### • INPUT PORT

PORT NAME	PIN NUMBER	DESCRIPTION
OPT IN	1	Inputs a signal from the photocoupler.
XT1, XT2	4, 5	Connects a crystal for generating a gate array clock signal.
RST	18	Inputs a reset signal for initializing the gate array.
AFS	24	Inputs a sampling signal for transferring the PWM signals.
DATA IN	34	Inputs serial data from the transceiver or remote controller CPU.
PWMA, PWMB	40, 41	Inputs a PWM signal received or a microphone signal.

#### • OUTPUT PORT

PORT NAME	PIN NUMBER	DESCRIPTION
MIC	29	Outputs a PWM signal separated from the photocoupler signal.
DATA OUT	38	Outputs separated serial data from the transceiver or remote controller CPU.
Q14B	47	Outputs a trigger signal to the PWM modulator.
OPT OUT	48	Outputs serial data combined with a PWM signal to the photocoupler.

## SECTION 4 MECHANICAL PARTS AND DISASSEMBLY

### 4-1 REMOTE CONTROLLER AND ACCESSORIES

#### • REMOTE CONTROLLER

LABEL NUMBER	ORDER NO.	DESCRIPTION	QTY.	LABEL NUMBER	ORDER NO.	DESCRIPTION	QTY.
①	8810000610	PH M3 × 12 SUS	2	⑰	8930015270	LCD cover	1
②	8930016950	Interface plate	1	⑱	8810001000	PH B0 M2 × 6	4
③	8810000600	PH M3 × 10 SUS	2	⑲	8810001100	PH B0 M3 × 5	4
④	8930015240	Connector plate	1	⑳	8930015220	Speaker plate	1
⑤	8810005940	PH A0 M3 × 30 SUS	6	㉑	8930017110	MIC connector plate	1
⑥	8850000690	Flat washer M3 (3 × 7 × 0.5) SUS	6	㉒	8830000050	VR nut (B)	2
⑦	8810002170	FH M3 × 6	2	㉓	8830000040	VR nut (A)	1
⑧	8010008740	Controller rear panel	1	㉔	8210004760	Controller front panel	1
⑨	8930015230	Lock plate	2	㉕	8610005760	Knob N149 [CLARITY, PWR/VOL]	2
⑩	8930015250	Panel rubber seal	1	㉖	8610005770	knob N148 [MAIN]	1
⑪	8930015210	JACK P.C. Board plate	1	㉗	8210004741	611 Membrane switch-1	1
⑫	8810003360	Set screw (C) M3 × 6	2	㉘	2510000440	Speaker 77F60N	1
⑬	8930002970	Rubber seal (B)	1	㉙	2210000590	Switch SRRS1S017A	1
⑭	8930004220	Rubber seal plate (B)	1	㉚	7210000330	Variable resistor RK1241212005A	1
⑮	8810001110	PH B0 M3 × 6	4	㉛	2250000020	Rotary encoder SRB18100 25KC	1
⑯	8850000110	Flat washer M2 Ni BS	4	㉜	9061100120	Flat cable UL2468	1

**Screw abbreviations** PH: Pan head FH: Flat head A0, B0: Self-tapping screw  
ZK: Black Ni: Nickel

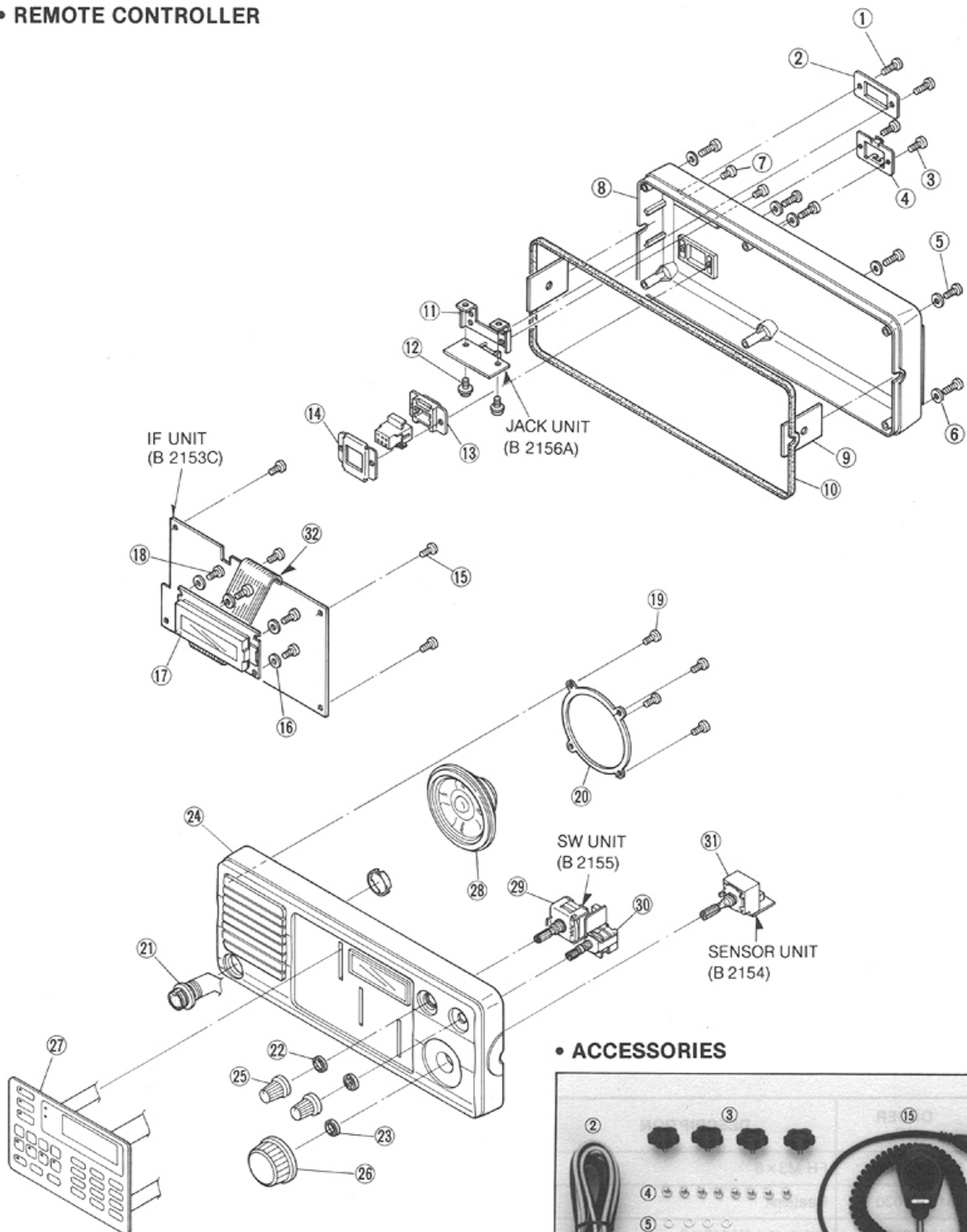
#### • Accessories for the transceiver

#### • Accessories for the remote controller

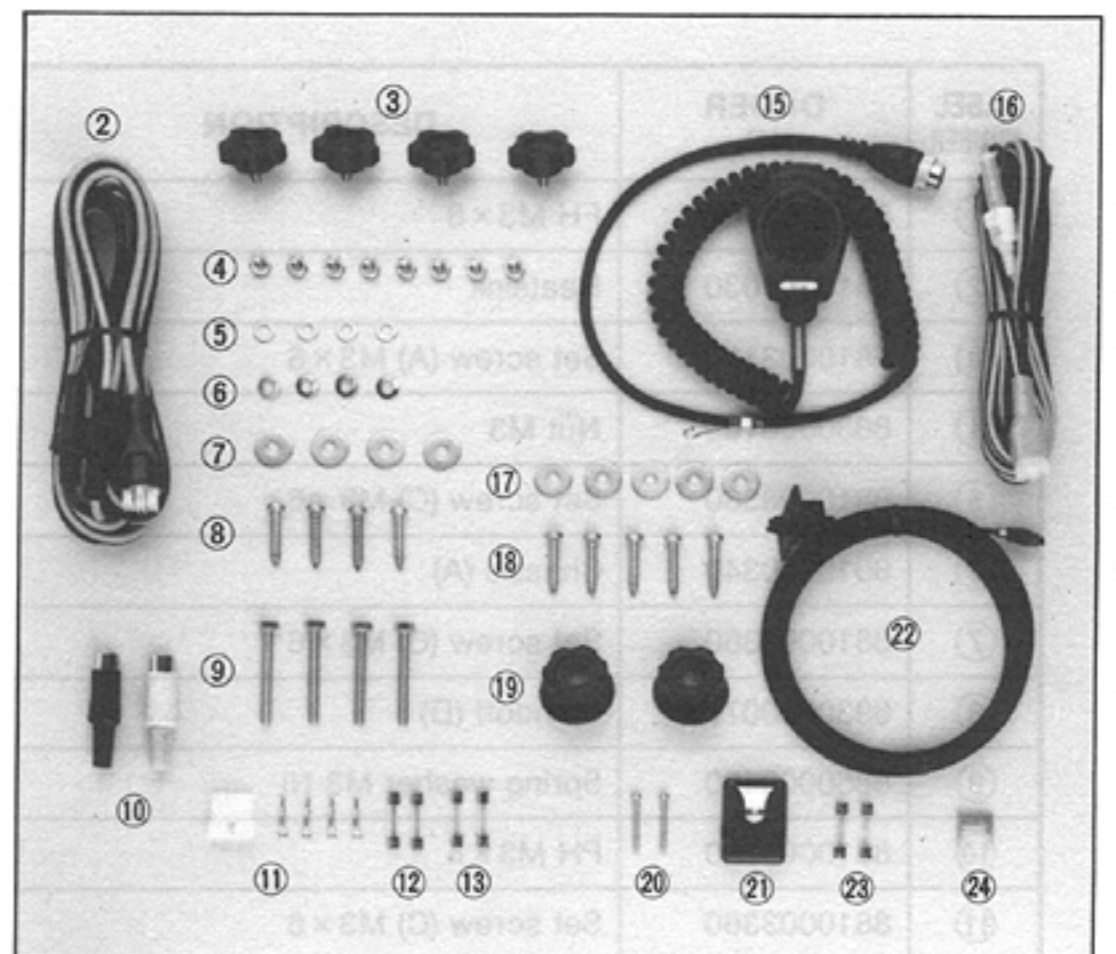
LABEL NUMBER	ORDER NO.	DESCRIPTION	QTY.
①	8010001810	Mounting bracket	1
②	Optional product	DC power cable (OPC-077)	1
③	8820000170	Mounting knobs (A) M5 × 10 SUS	4
④	8830000260	Nut M6 SUS	8
⑤	8850000180	Flat washer M5 SUS	4
⑥	8850000510	Spring washer M6 SUS	4
⑦	8850000200	Flat washer M6 (6 × 20 × 1.5) SUS	4
⑧	8810001500	PH A M6 × 30 SUS	4
⑨	8810003500	Hex bolt M6 × 50 SUS	4
⑩	6450000440	DIN plug 7-pin (TCP0577-01-0201)	1
	6450000450	DIN plug 8-pin (TCP0587-01-0401)	1
⑪	6510002050	4-pin connector (1190T L)	4
⑫	5210000090	Spare fuse FGB 30A	2
⑬	5210000060	Spare fuse FGB 5A	2

LABEL NUMBER	ORDER NO.	DESCRIPTION	QTY.
⑭	8010008730	Mounting bracket	1
⑮	Optional product	Microphone EM-48	1
⑯	Optional product	DC power cable (OPC-089A)	1
⑰	8850000200	Flat washer M6 (6 × 20 × 1.5) SUS	5
⑱	8810001500	PH A0 M6 × 30 SUS	5
⑲	8820000570	Mounting knobs G1-5-15	2
⑳	8810001470	PH A0 M3.5 × 30 SUS	2
㉑	8930009120	Microphone hanger	1
㉒	8900001841	Optical fiber cable (OPC-172A) (GP-1C205B)	1
㉓	5210000050	Spare fuse FGB 3A	2
㉔	8930010820	Cable stopper	1
㉕	8930016940	Cable clamp	1

• REMOTE CONTROLLER

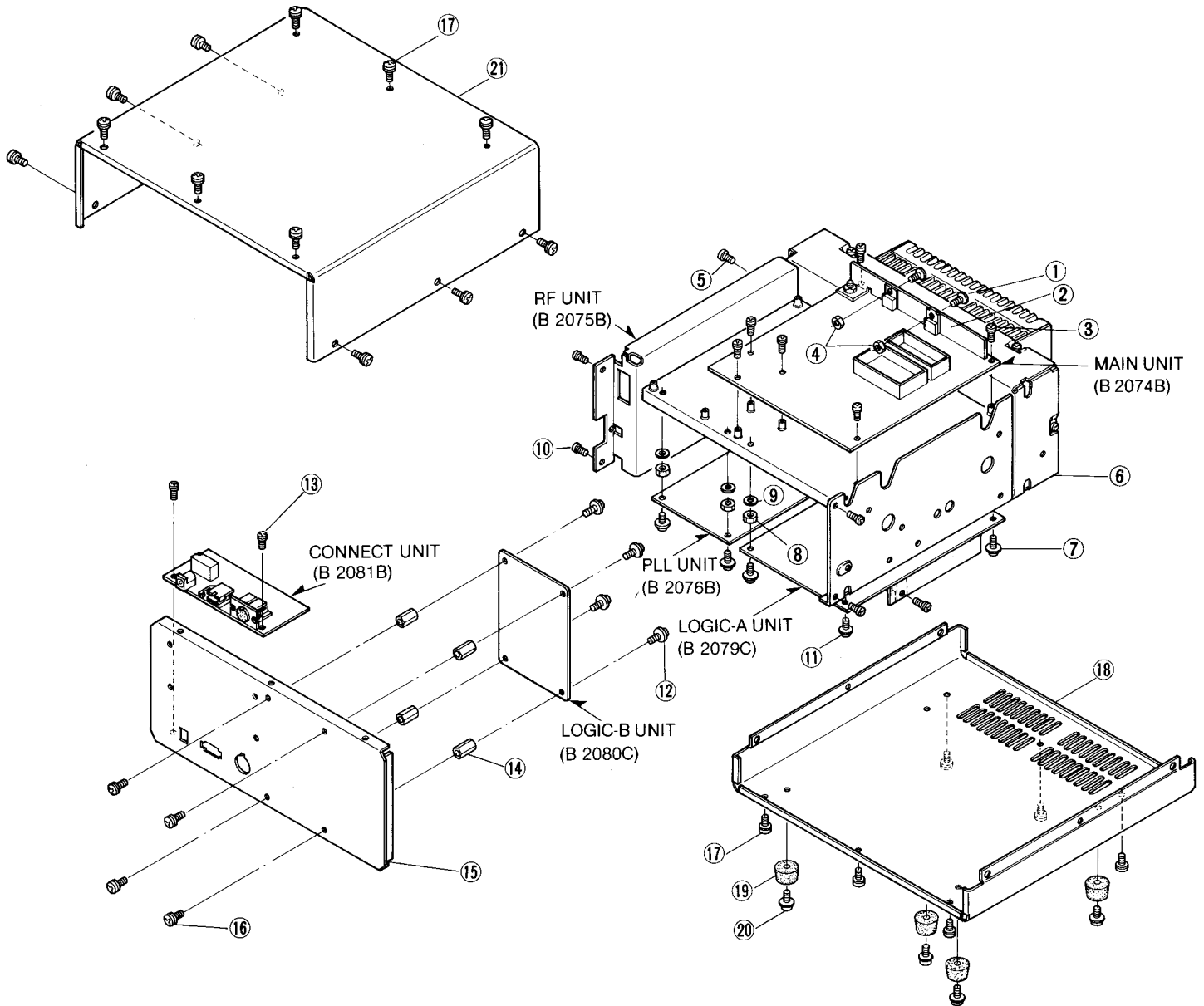


• ACCESSORIES



Mounting brackets for the transceiver ① and remote controller and the cable clamp ② are not shown in the picture above.

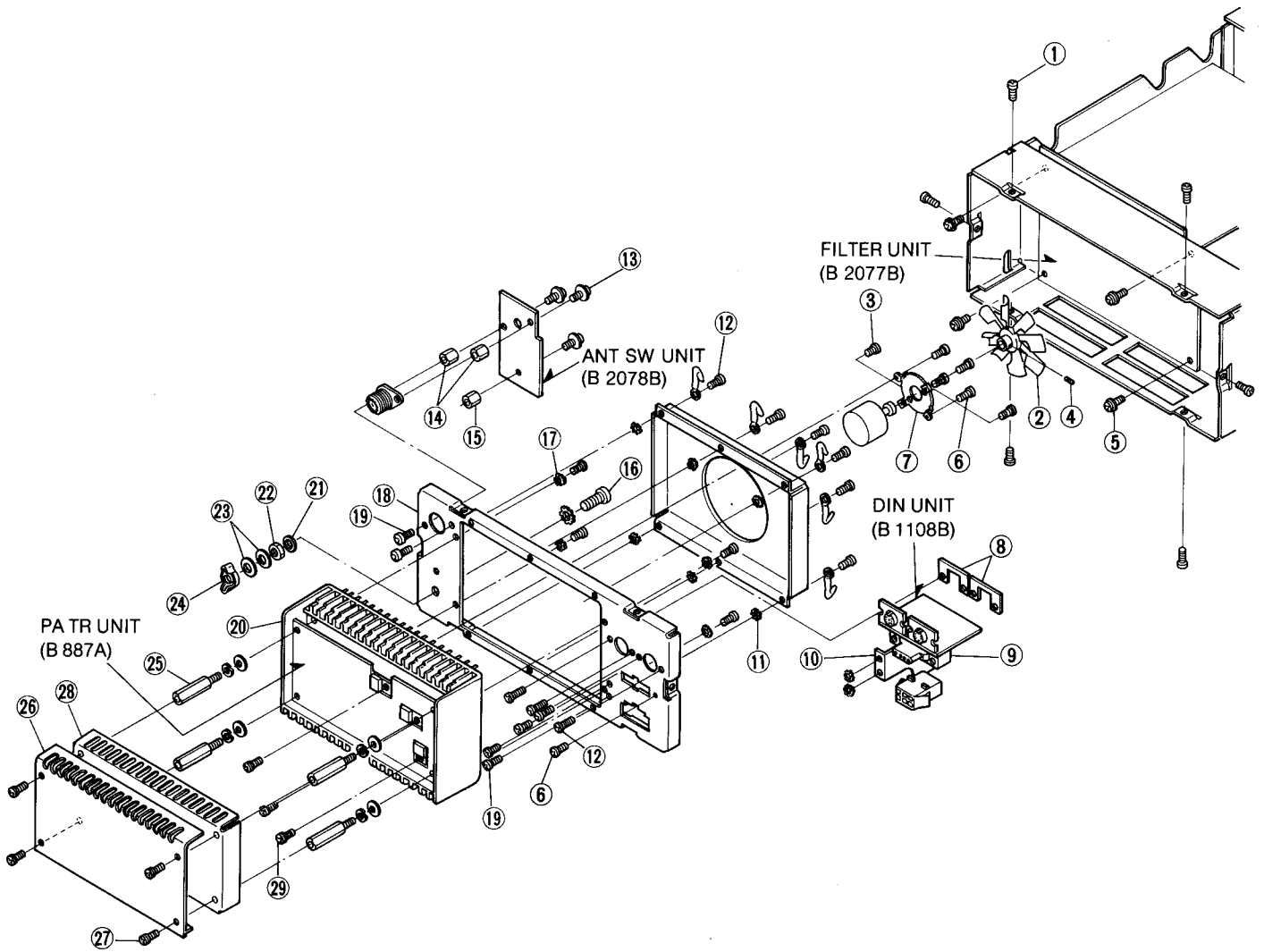
## 4-2 TRANSCEIVER AND REAR PANEL



### • TRANSCEIVER

LABEL NUMBER	ORDER NO.	DESCRIPTION	QTY.	LABEL NUMBER	ORDER NO.	DESCRIPTION	QTY.
①	8810002180	FH M3 × 8	2	⑫	8810004140	Set screw (F) M3 × 7 ZK SUS	4
②	8410001030	Heatsink	1	⑬	8810003160	Set screw (A) M3 × 6	2
③	8810003160	Set screw (A) M3 × 6	10	⑭	8930000540	Thread spacer (D)	4
④	8830000100	Nut M3	2	⑮	8010008720	Blind panel	1
⑤	8810003360	Set screw (C) M3 × 6	5	⑯	8810003350	Set screw (C) M3 × 5	4
⑥	8010000340	Chassis (A)	1	⑰	8810004140	Set screw (F) M3 × 7 ZK SUS	18
⑦	8810003360	Set screw (C) M3 × 6	6	⑱	8930002900	Rubber foot (A) SK1912A	4
⑧	8930000070	Standoff (D)	12	⑳	8810001550	PH B1 M4 × 10 SUS	4
⑨	8850000420	Spring washer M3 Ni	12	㉑	8110003380	Top cover	1
⑩	8810000220	PH M3 × 5	4				
⑪	8810003360	Set screw (C) M3 × 6	6				

**Screw abbreviations** PH: Pan head FH: Flat head B0: Self-tapping screw  
ZK: Black Ni: Nickel



• REAR PANEL

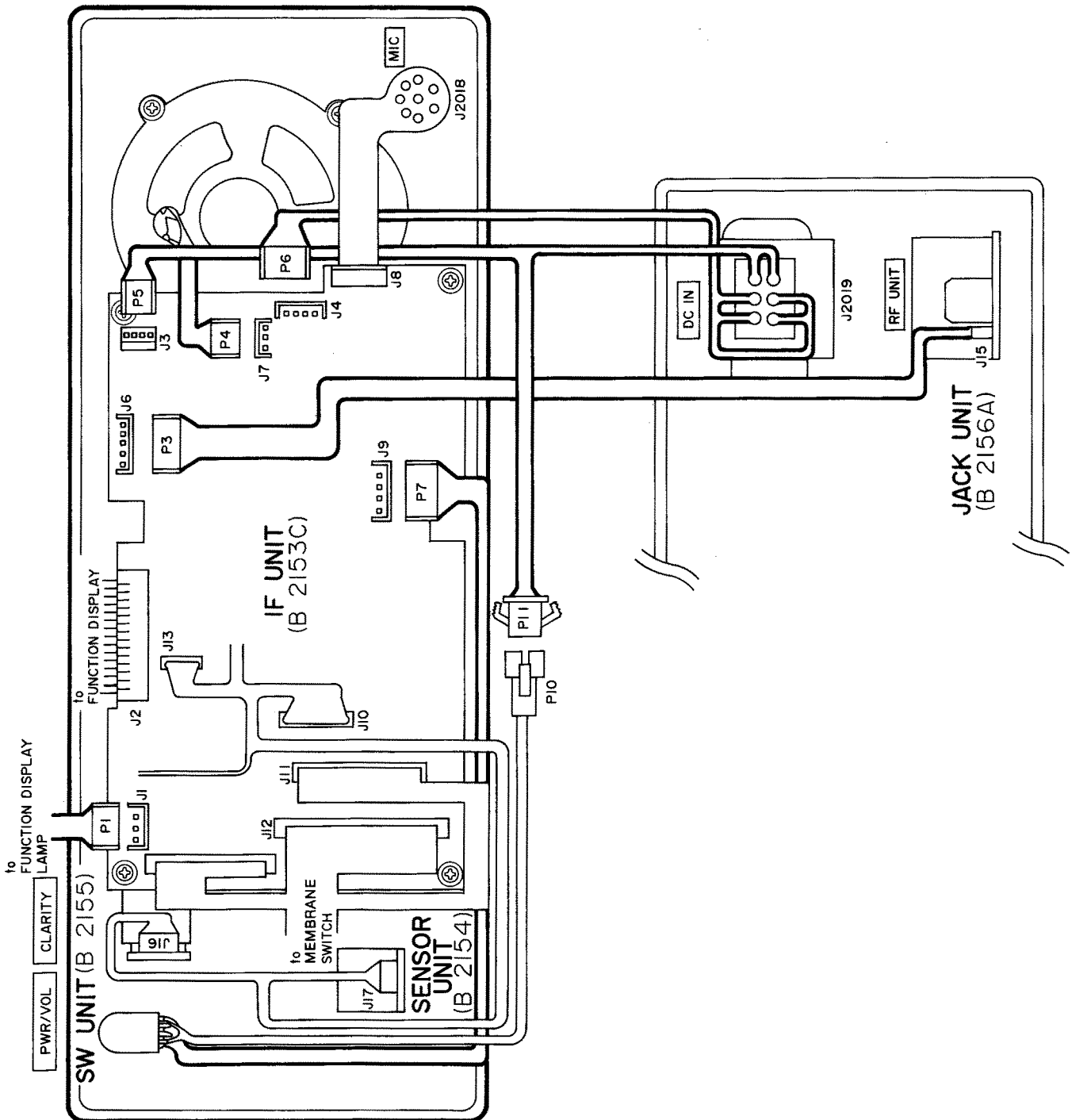
LABEL NUMBER	ORDER NO.	DESCRIPTION	QTY.	LABEL NUMBER	ORDER NO.	DESCRIPTION	QTY.
①	8810000230	PH M3 × 6	6	⑬	8810000690	PH M5 × 16 SUS	1
②	8010002470	Propeller (A)	1	⑭	8850000590	Star washer M5	1
③	8810001810	Motor screw (A) M2 × 2.3	2	⑮	8010008670	Rear panel (A)	1
④	8810003520	HS M3 × 3 ZK	1	⑯	8810002950	BiH M3 × 6 SUS	4
⑤	8810003360	Set screw (C) M3 × 6	4	⑰	8410000411	263 Heatsink-2	1
⑥	8810000140	PH M2.6 × 5	6	⑱	8850000500	Spring washer M5 SUS	1
⑦	8010002070	Motor plate	1	⑲	8830000210	Nut M5 Ni BS	1
⑧	8930008230	DIN plate	2	⑳	8850000150	Flat washer M5 Ni BS	2
⑨	8930004150	Connector plate	1	㉑	8830000360	Wing nut M5 Ni	1
⑩	8310004880	C plate	1	㉒	8930000140	Standoff (J)	4
⑪	8850000570	Star washer M3	12	㉓	8510001660	PA cover	1
⑫	8810000240	PH M3 × 8	10	㉔	8810004140	Set screw (F) M3 × 7 ZK SUS	4
⑬	8810003360	Set screw (C) M3 × 6	3	㉕	8510001590	PA shield plate	1
⑭	8930000660	Thread spacer (P)	2	㉖	8810003160	Set screw (A) M3 × 6	4
⑮	8930000540	Thread spacer (D)	1				

**Screw abbreviations** PH: Pan head    BiH: Binding head    HS: Hex socket  
 BO: Self-tapping screw  
 ZK: Black    Ni: Nickel



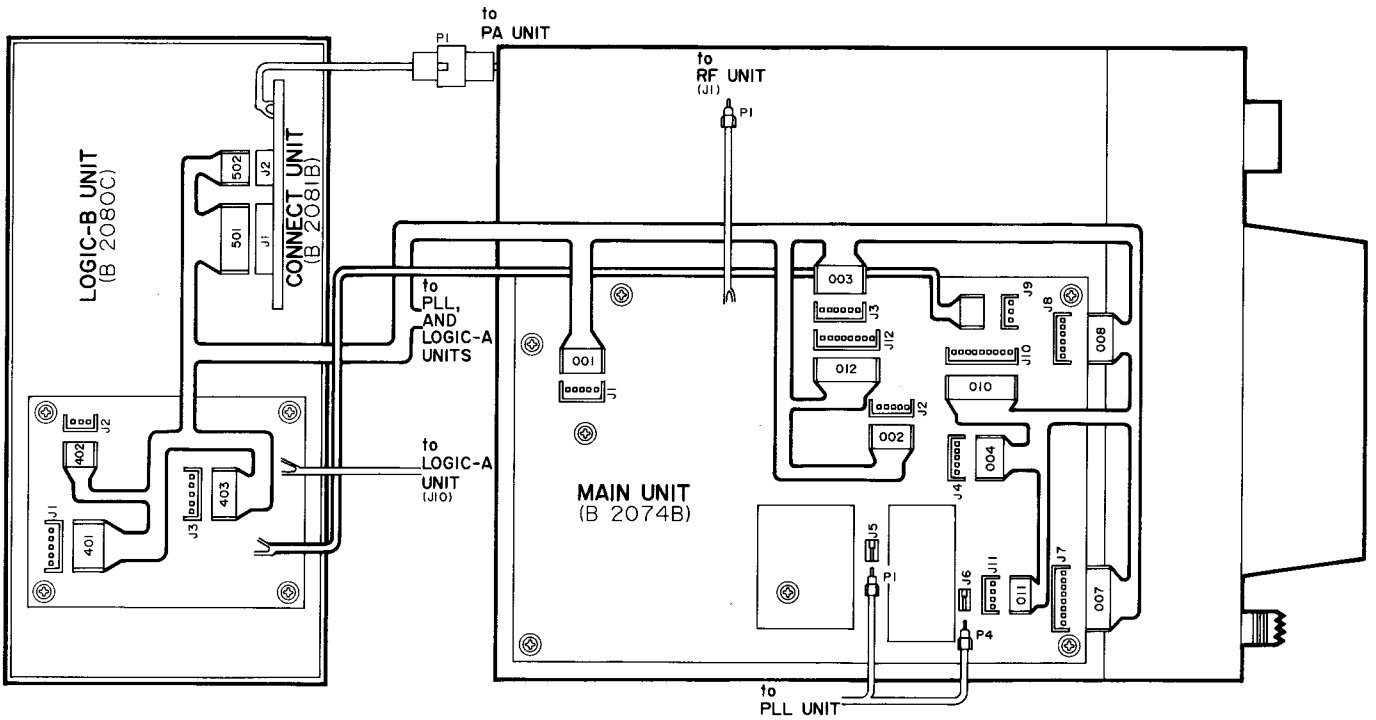
# 4-3 REMOTE CONTROLLER AND TRANSCIVER CONNECTOR ASSEMBLY

## • REMOTE CONTROLLER

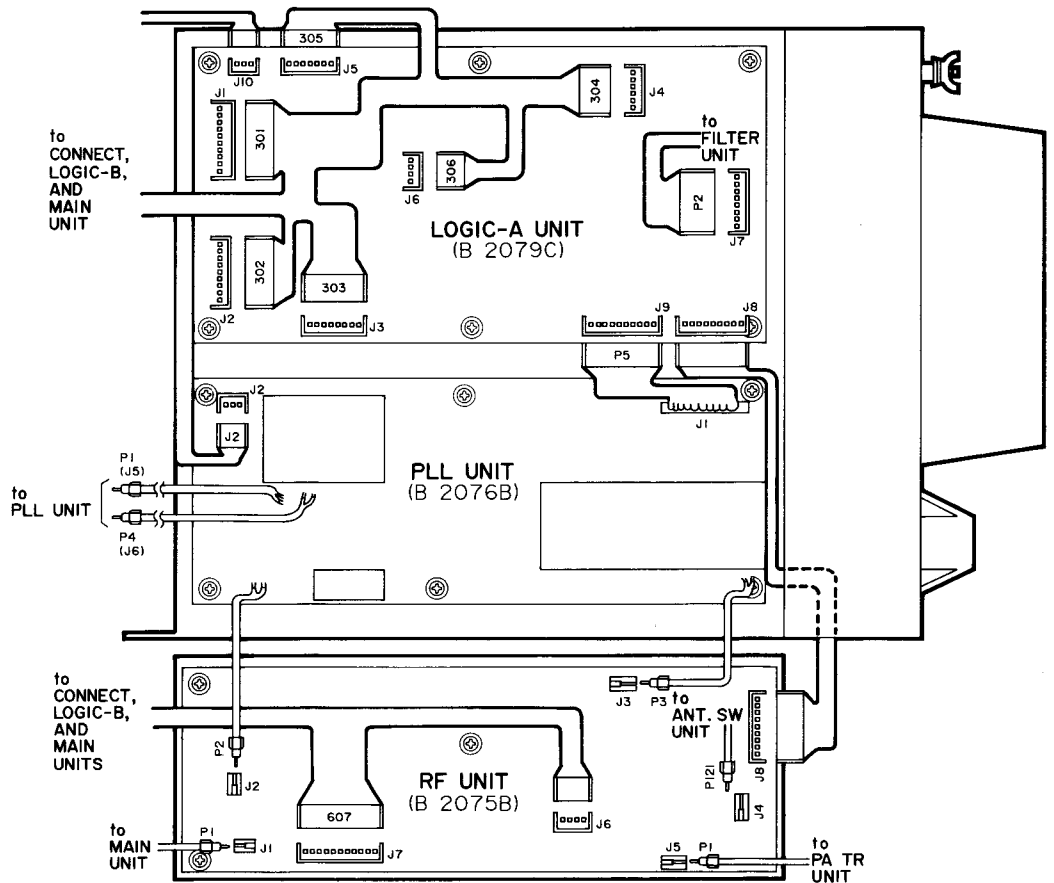


• TRANSCEIVER

TOP



BOTTOM



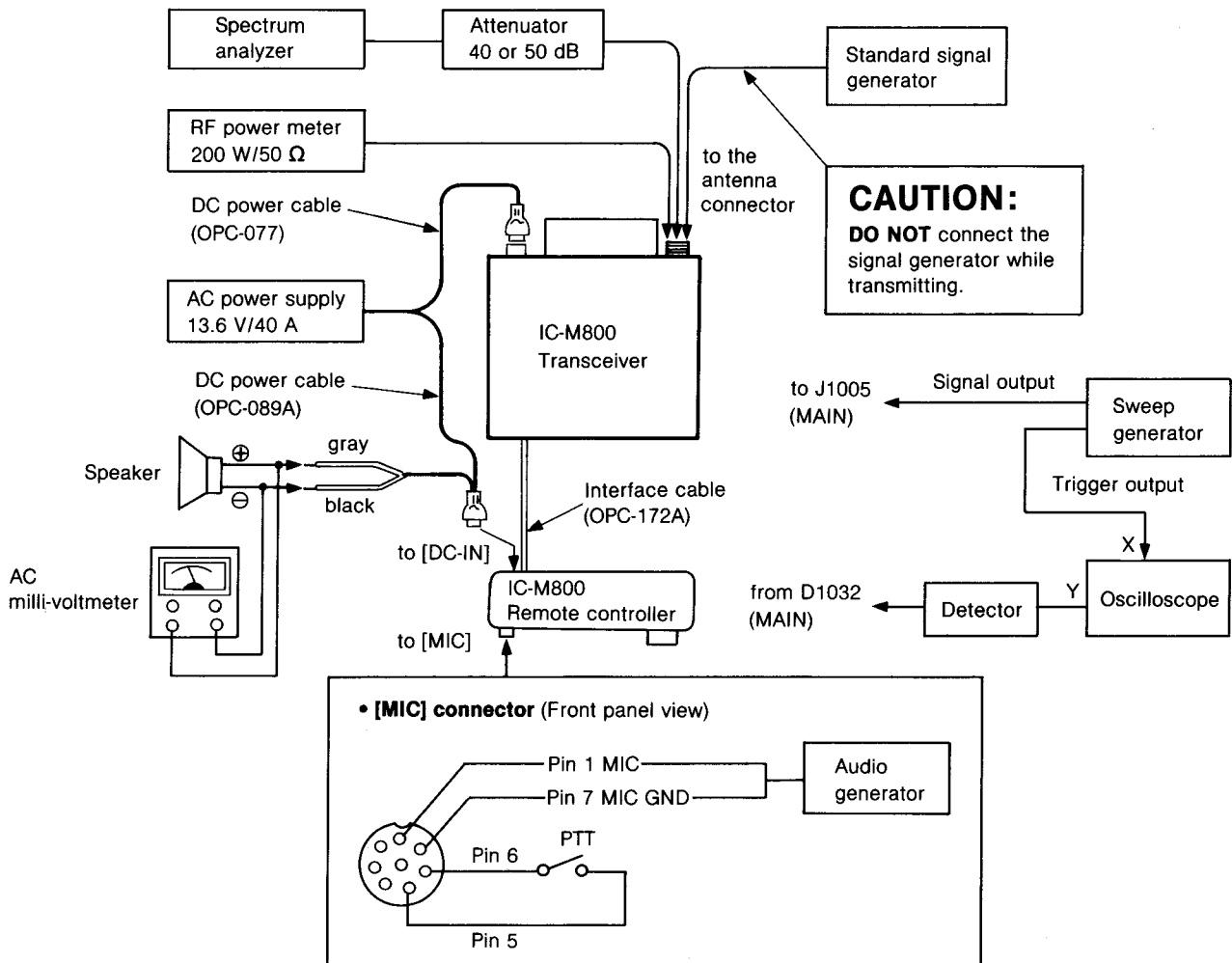
# SECTION 5 ADJUSTMENT PROCEDURES

## 5-1 PREPARATION BEFORE SERVICING

### REQUIRED TEST EQUIPMENT

EQUIPMENT	GRADE AND RANGE	EQUIPMENT	GRADE AND RANGE
AC power supply	Output voltage : 13.6 V DC Current capacity : 40 A or more	External speaker	Impedance : 4 Ω
RF power meter (terminated type)	Measuring range : 10~200 W Frequency range : 1.8~30 MHz Impedance : 50 Ω SWR : Less than 1.2 : 1	Ammeter	Measurement capability: 1 A
Frequency counter	Frequency range : 0.1~100 MHz Frequency accuracy : ±1 ppm or better Sensitivity : 100 mV or better	Audio generator	Frequency range : 300~3000 Hz Output level : 1~500 mV
RF voltmeter	Frequency range : 0.1~100 MHz Measuring range : 0.01~10 V	Attenuator	Power attenuation : 40 or 50 dB Capacity : 150 W or more
Oscilloscope	Frequency range : DC~20 MHz Measuring range : 0.01~10 V	Spectrum analyzer	Frequency minimum : At least 30 MHz Spectrum bandwidth : ±100 kHz or more
Standard signal generator (SSG)	Frequency range : 0.1~30 MHz Output level : -127~-17 dBm (0.1 μV~32 mV)	Sweep generator	Frequency range : 0.1~100 MHz Sweep bandwidth : At least 10 MHz Output impedance : 50 Ω
DC voltmeter	Input impedance : 50 kΩ/DC or better	Detector	
AC milli-voltmeter	Measuring range : 10 mV~10 V		

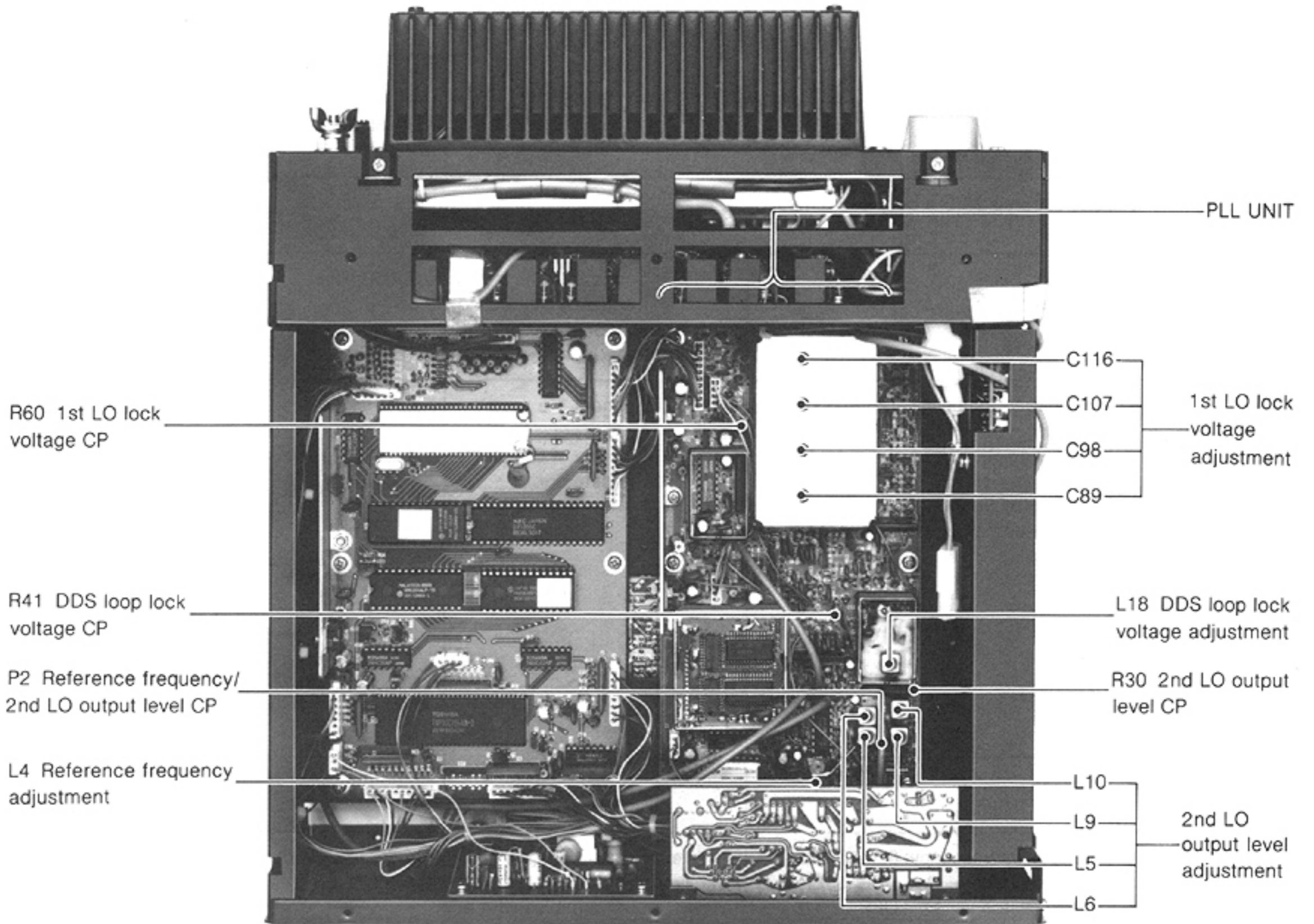
### CONNECTION



## 5-2 PLL ADJUSTMENT

ADJUSTMENT	ADJUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT POINT	
		UNIT	LOCATION		UNIT	ADJUST
REFERENCE FREQUENCY	1 <ul style="list-style-type: none"> <li>• Displayed frequency: 2182.0 kHz</li> <li>• Mode : USB (J3E)</li> <li>• Unplug P2 from J602 (RF UNIT).</li> <li>• Receiving</li> </ul>	PLL	Terminate P2 to ground with a 50 Ω resistor. Connect the frequency counter to P2.	60.000020 MHz	PLL	L4
2ND LO OUTPUT LEVEL	1 <ul style="list-style-type: none"> <li>• Displayed frequency: 2182.0 kHz</li> <li>• Mode : USB (J3E)</li> <li>• Unplug P2 from J602 (RF UNIT).</li> <li>• Receiving</li> </ul>	PLL	Terminate P2 to ground with a 50 Ω resistor. Connect the RF voltmeter to P2.	Adjust for maximum output. (+2~+5 dBm)	PLL	L5, L6
	2		Connect the RF voltmeter to R30.	Maximum level		L9, L10
	3	After adjustment, remove the resistor and re-plug P2.				
DDS LOOP LOCK VOLTAGE	1 <ul style="list-style-type: none"> <li>• Displayed frequency: 7000.0 kHz</li> <li>• Mode : USB (J3E)</li> <li>• [CLARITY] control : Center</li> <li>• Receiving</li> </ul>	PLL	Connect the oscilloscope to R41.	1.0 V DC	PLL	L18
	2 <ul style="list-style-type: none"> <li>• Displayed frequency: 6999.9 kHz</li> </ul>			Approx. 3.0 V DC		Verify
1ST LO LOCK VOLTAGE	1 <ul style="list-style-type: none"> <li>• Displayed frequency: 6999.9 kHz</li> <li>• Mode : USB (J3E)</li> <li>• Receiving</li> </ul>	PLL	Connect the oscilloscope to R60.	6.5 V DC	PLL	C89
	2 <ul style="list-style-type: none"> <li>• Displayed frequency: 13999.9 kHz</li> </ul>			6.5 V DC		C98
	3 <ul style="list-style-type: none"> <li>• Displayed frequency: 21999.9 kHz</li> </ul>			6.5 V DC		C107
	4 <ul style="list-style-type: none"> <li>• Displayed frequency: 30000.0 kHz</li> </ul>			6.5 V DC		C116
	5 <ul style="list-style-type: none"> <li>• Displayed frequencies: 500.0 kHz, 7000.0 kHz, 14000.0 kHz and 22000.0 kHz</li> </ul>			More than 1.0 V DC (PLL is locked.)		Verify

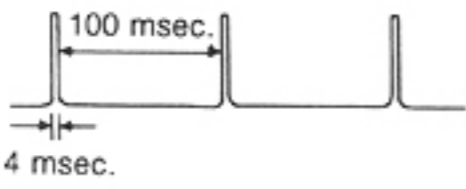
PLL UNIT



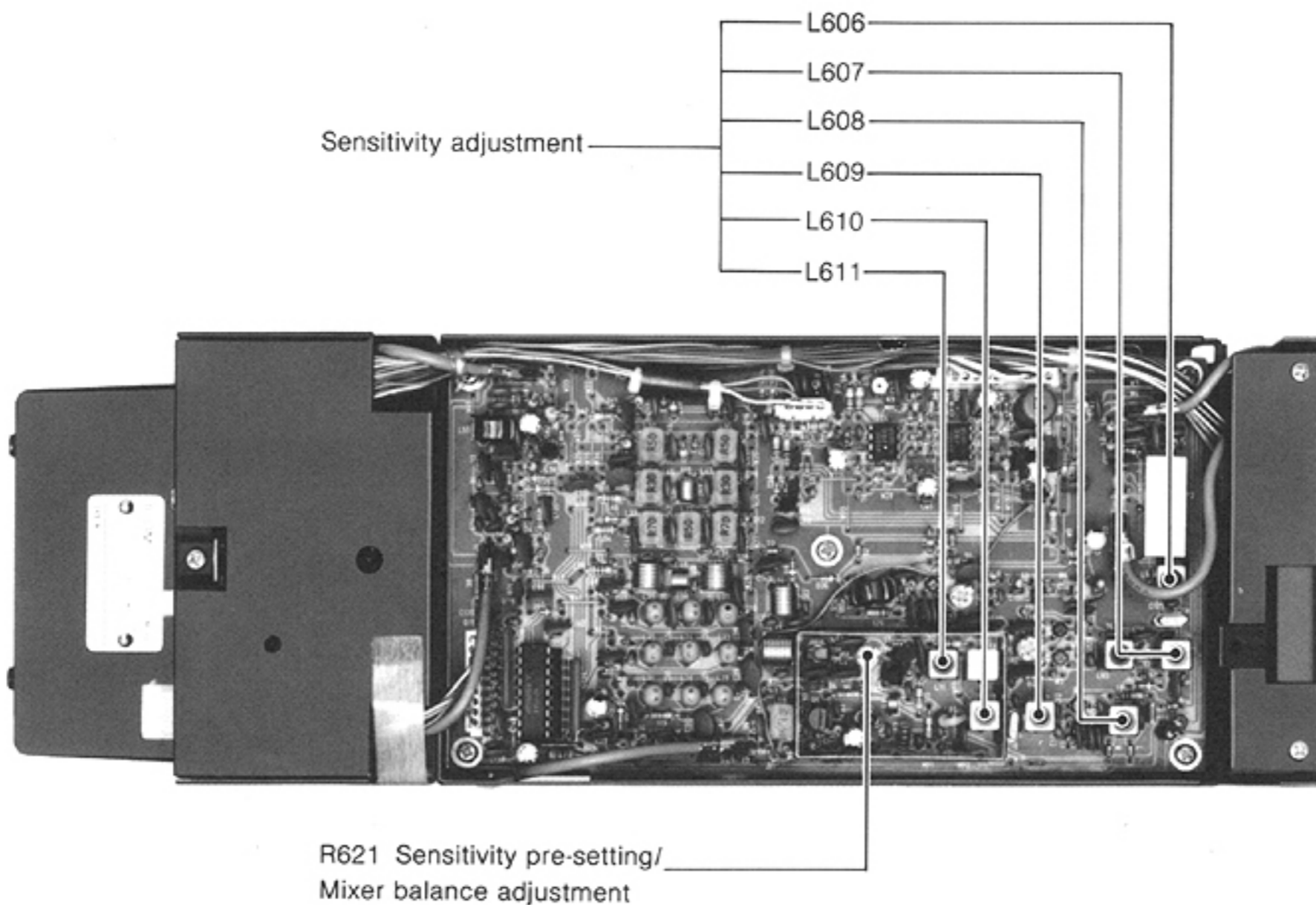
## 5-3 RECEIVER ADJUSTMENT

ADJUSTMENT	ADJUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT POINT				
		UNIT	LOCATION		UNIT	ADJUST			
BFO FREQUENCY	1	<ul style="list-style-type: none"> <li>Displayed frequency: 12500.0 kHz</li> <li>Mode : FSN (J2B)</li> <li>Receiving</li> </ul>	MAIN	Connect the frequency counter to J1006.	Pre-set to center.	MAIN	C1160		
	2						5.26230 MHz	L1019	
	3						<ul style="list-style-type: none"> <li>Mode : USB (J3E)</li> </ul>	5.26300 MHz	R1264
	4						<ul style="list-style-type: none"> <li>Mode : LSB</li> </ul>	5.26000 MHz	L1020
	5						<ul style="list-style-type: none"> <li>Mode : CW (A1A)</li> </ul>	5.26160 MHz	C1160
	6	Repeat step 2~5 a couple of times.							
	7	<ul style="list-style-type: none"> <li>Mode : CW (A1A)</li> <li>Transmitting</li> </ul>	MAIN	Connect the frequency counter to J1006.	5.26060 MHz		Verify		
BFO OUTPUT LEVEL	1	<ul style="list-style-type: none"> <li>Displayed frequency: 12500.0 kHz</li> <li>Mode : USB (J3E)</li> <li>Apply an RF sweep signal to J1005.                             <ul style="list-style-type: none"> <li>Sweep level: 0.22 V (0 dBm)</li> <li>Center frequency: 7.5 MHz</li> <li>Sweep bandwidth: 1 MHz</li> </ul> </li> <li>Receiving</li> </ul>	MAIN	Connect the oscilloscope to the cathode of D1032 via the detector.	Adjust as follows:	MAIN	L1014, L1015		
	2						<ul style="list-style-type: none"> <li>Mode : AM (H3E)</li> </ul>	No output	Verify
SENSITIVITY	1	<ul style="list-style-type: none"> <li>Displayed frequency: 8200.0 kHz</li> <li>Mode : USB (J3E)</li> <li>[NB] switch : OFF</li> <li>[SQL] switch : OFF</li> <li>Set the signal generator;                             <ul style="list-style-type: none"> <li>Level : 0.5 <math>\mu</math>V</li> <li>(-113 dBm)</li> <li>Modulation : OFF</li> </ul> </li> <li>Connect a jumper wire between R1037 and R1038.</li> <li>[SP OFF] switch : ON</li> <li>Receiving</li> </ul>	Remote controller rear panel	Connect the AC millivoltmeter to the AF output cables with a 4 $\Omega$ load.	Pre-set to center	RF	R621		
	2				Pre-set to max. CW.	MAIN	R1144		
	3				Maximum audio output level adjusting several times	RF	Adjust in sequence L611, L610, L609, L608, L607, L606		
	4				Maximum audio output level adjusting several times	MAIN	Adjust in sequence L1005, L1006, L1007, L1013, L1004		
	5				After adjustment, remove the jumper wire from R1037 and R1038.				

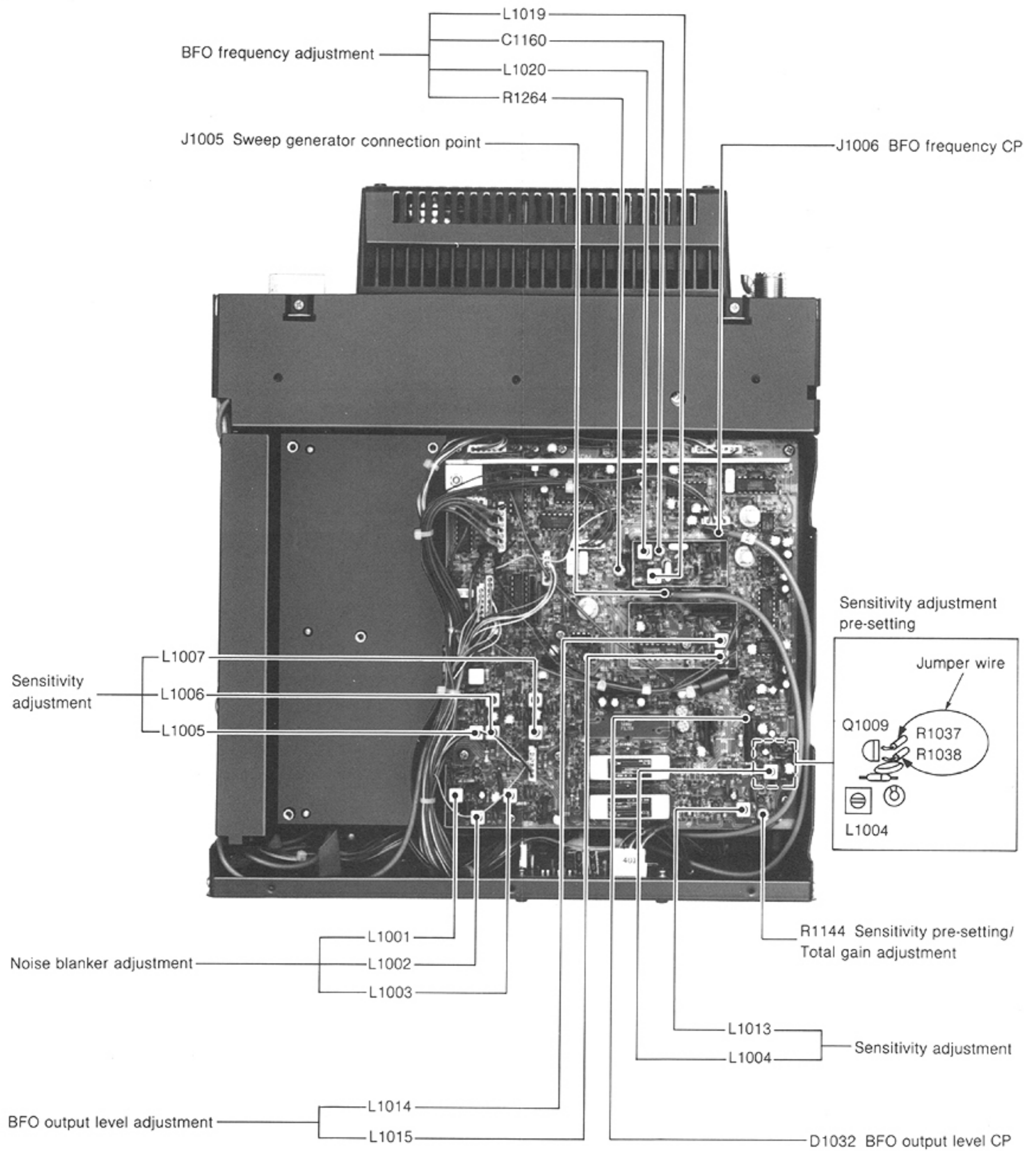
## RECEIVER ADJUSTMENT (CONTINUED)

ADJUSTMENT	ADJUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT POINT		
		UNIT	LOCATION		UNIT	ADJUST	
MIXER BALANCE	1 <ul style="list-style-type: none"> <li>• Displayed frequency: 500.0 kHz</li> <li>• Mode : USB (J3E)</li> <li>• Set the signal generator; Level : OFF</li> <li>• Receiving</li> </ul>	Remote controller rear panel	Connect the AC millivoltmeter to the AF output cables with a 4 Ω load.	Minimum level	RF	R621	
TOTAL GAIN	1 <ul style="list-style-type: none"> <li>• Displayed frequency: 8200.0 kHz</li> <li>• Mode : USB (J3E)</li> <li>• Set the signal generator; Level : 0.32 mV (-57 dBm)</li> <li>• Modulation : OFF</li> </ul>	Remote controller rear panel	Connect the AC millivoltmeter to the AF output cables with a 4 Ω load.	0 dB	Remote controller front panel	[VOL] control	
	2 <ul style="list-style-type: none"> <li>• Set the signal generator; Level : OFF</li> </ul>			-30 dB			MAIN
		When above adjustment cannot obtain -30 dB, set R1144 for maximum. (-35 dB or more)					
NOISE BLANKER	1 <ul style="list-style-type: none"> <li>• Displayed frequency: 8200.0 kHz</li> <li>• Mode : USB (J3E)</li> <li>• [NB] switch : ON</li> <li>• Apply an RF signal including the following pulse noise to the antenna connector. RF signal level : 3.2 μV (-97 dBm)</li> </ul> 	Remote controller rear panel	Connect the oscilloscope to the AF output cables with a 4 Ω load.	Adjust for minimum waveform on the oscilloscope.	MAIN	L1001, L1002, L1003	

## RF UNIT

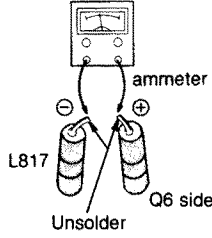
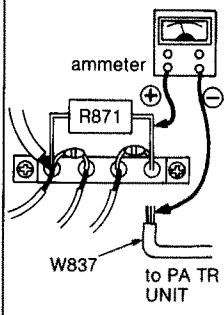


# MAIN UNIT

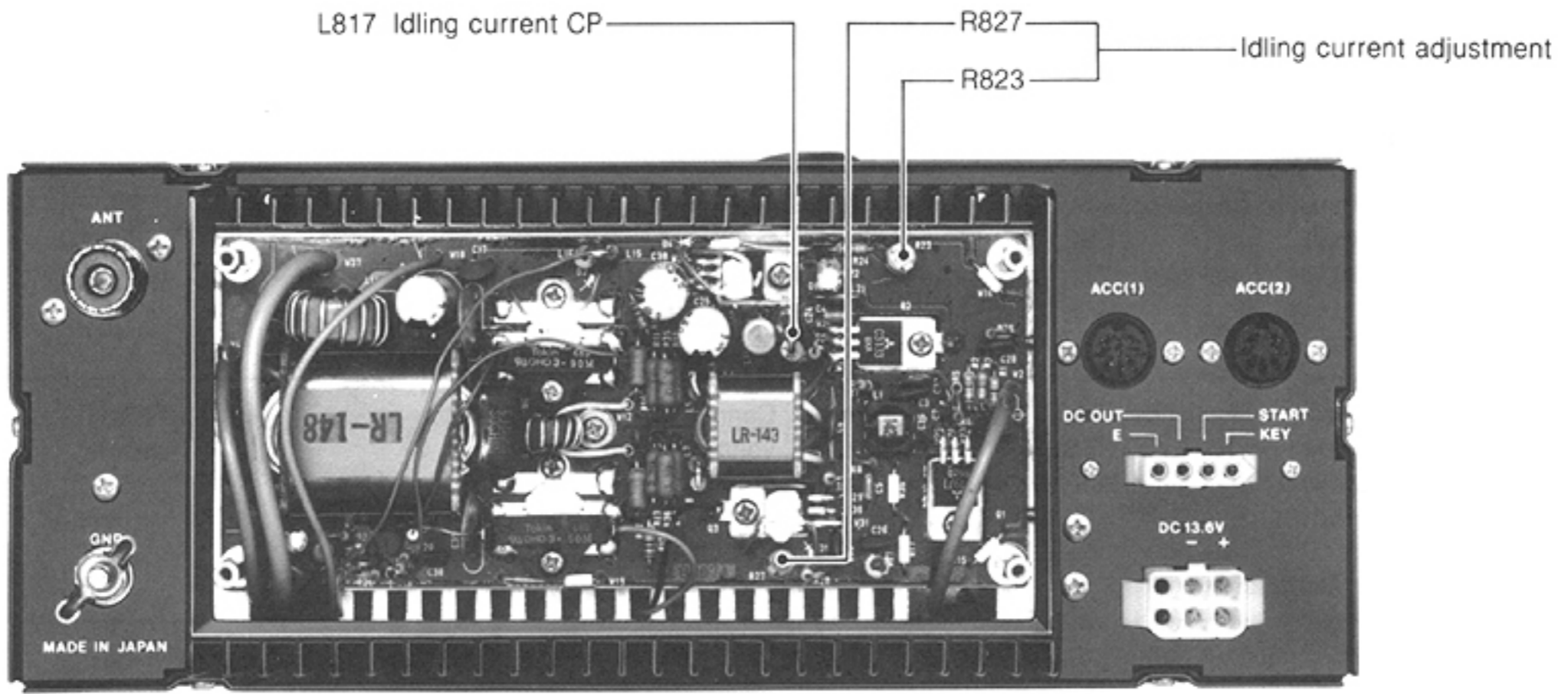




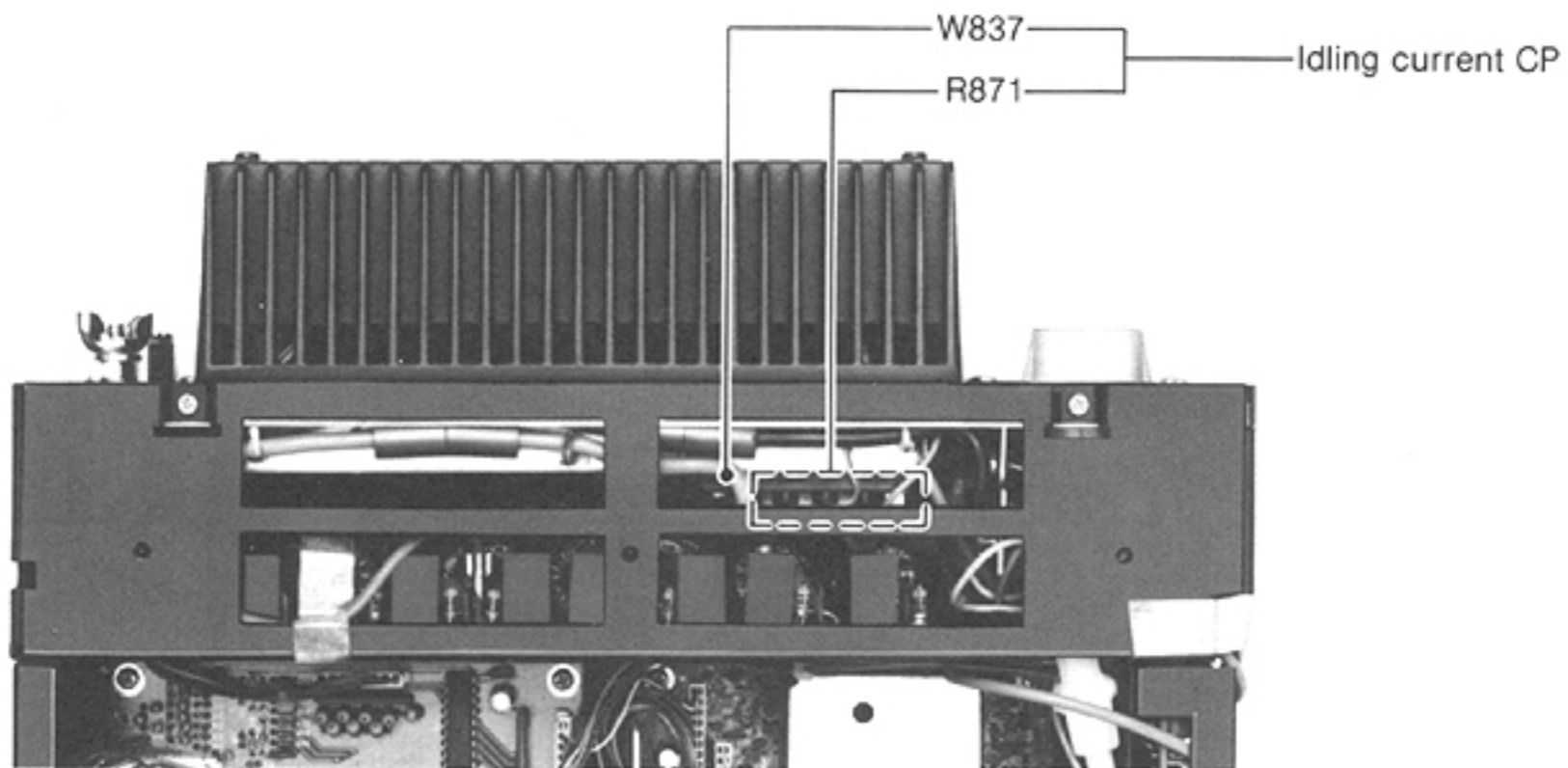
## 5-4 TRANSMITTER ADJUSTMENT

ADJUSTMENT	ADJUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT POINT	
		UNIT	LOCATION		UNIT	ADJUST
IDLING CURRENT Ⓐ For drive transistors	<ul style="list-style-type: none"> <li>• Displayed frequency: 12500.0 kHz</li> <li>• Mode : USB (J3E)</li> <li>• Apply no AF signal to the [MIC] connector.</li> <li>• Transmitting</li> </ul>	PA TR	Unsolder L817 and connect the ammeter to the unsoldering points.  	100 mA	PA TR	R827
		PA	Unsolder W837 and connect the ammeter between R871 and W837.  	600 mA		R823
After adjustment, re-solder L817 and W837.						
SWR DETECTOR	<ul style="list-style-type: none"> <li>• Displayed frequency: 2000.0 kHz</li> <li>• Mode : AM (A3E)</li> <li>• Transmitting</li> </ul>	RF	Connect the DC voltmeter to R659.	Minimum	FILTER	C1536
TX RF FILTER	<ul style="list-style-type: none"> <li>• Displayed frequency: 12500.0 kHz</li> <li>• Mode : USB (J3E)</li> <li>• Apply an AF signal to the [MIC] connector Level : 1~5 mV/1 kHz</li> <li>• Transmitting</li> </ul>	Transceiver rear panel	Connect the RF power meter to the antenna connector.	Pre-set to max. CCW.	RF	R657
				Pre-set to center.	IF	R2022
					RF	R681
					MAIN	R1187
				Pre-set to 2/3 CW rotation.	RF	R688
				Pre-set to max. CW.	MAIN	R1290
Maximum level	MAIN	L1011, L1010				
					RF	L665
NOTE: Adjust the AG output level so that the RF output power does not become 100 W or more.						

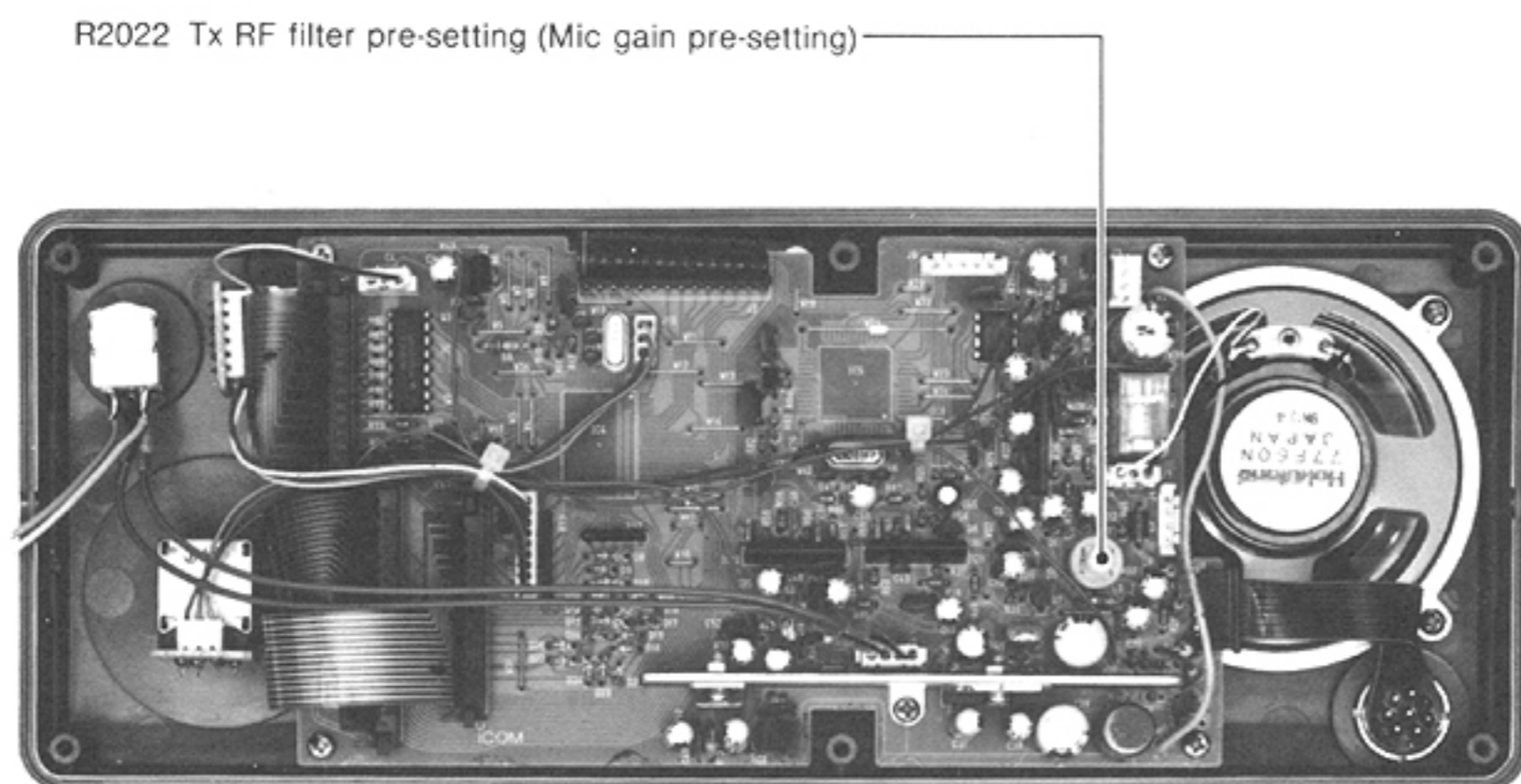
## PA TR UNIT



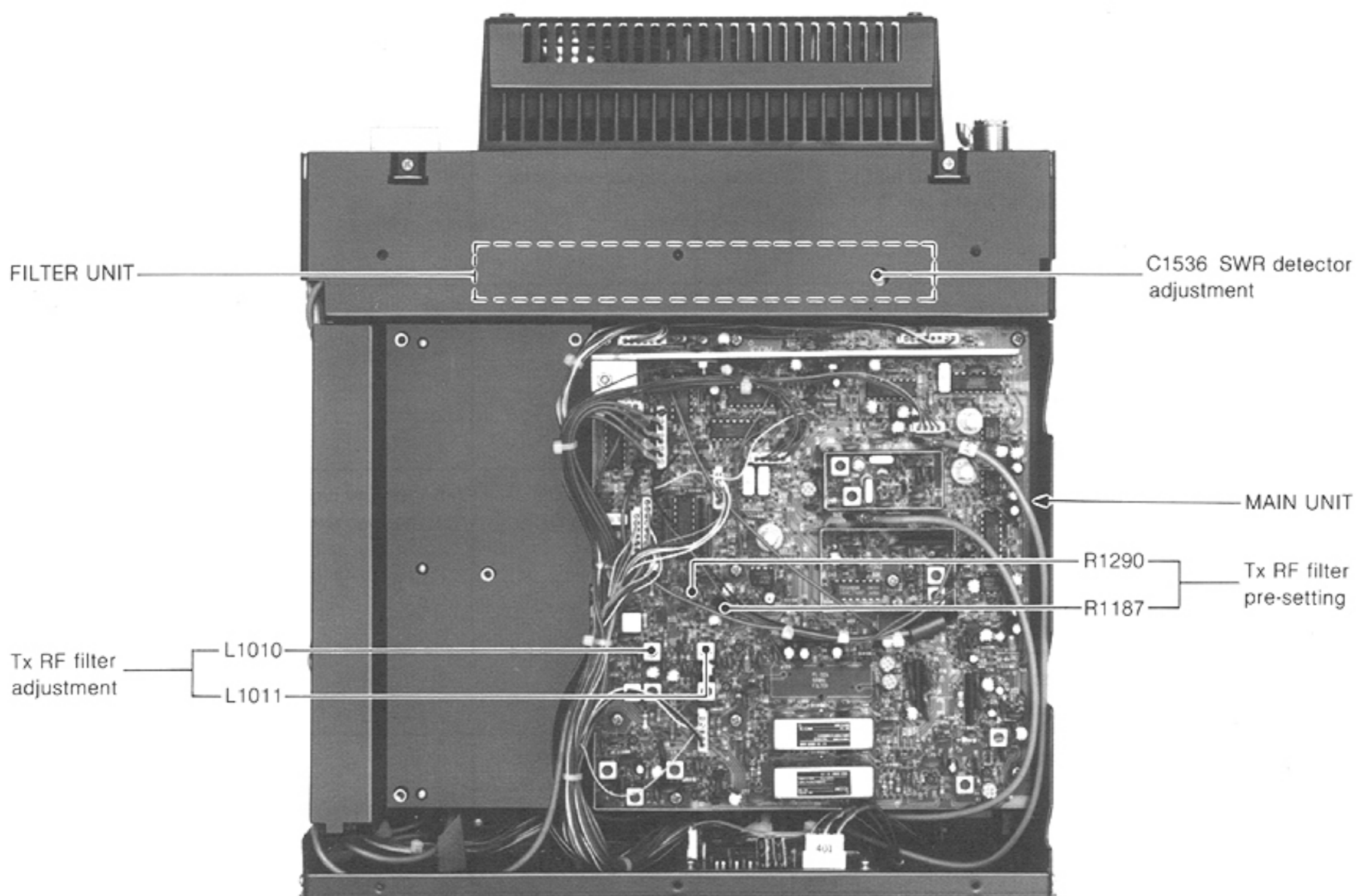
## PA UNIT



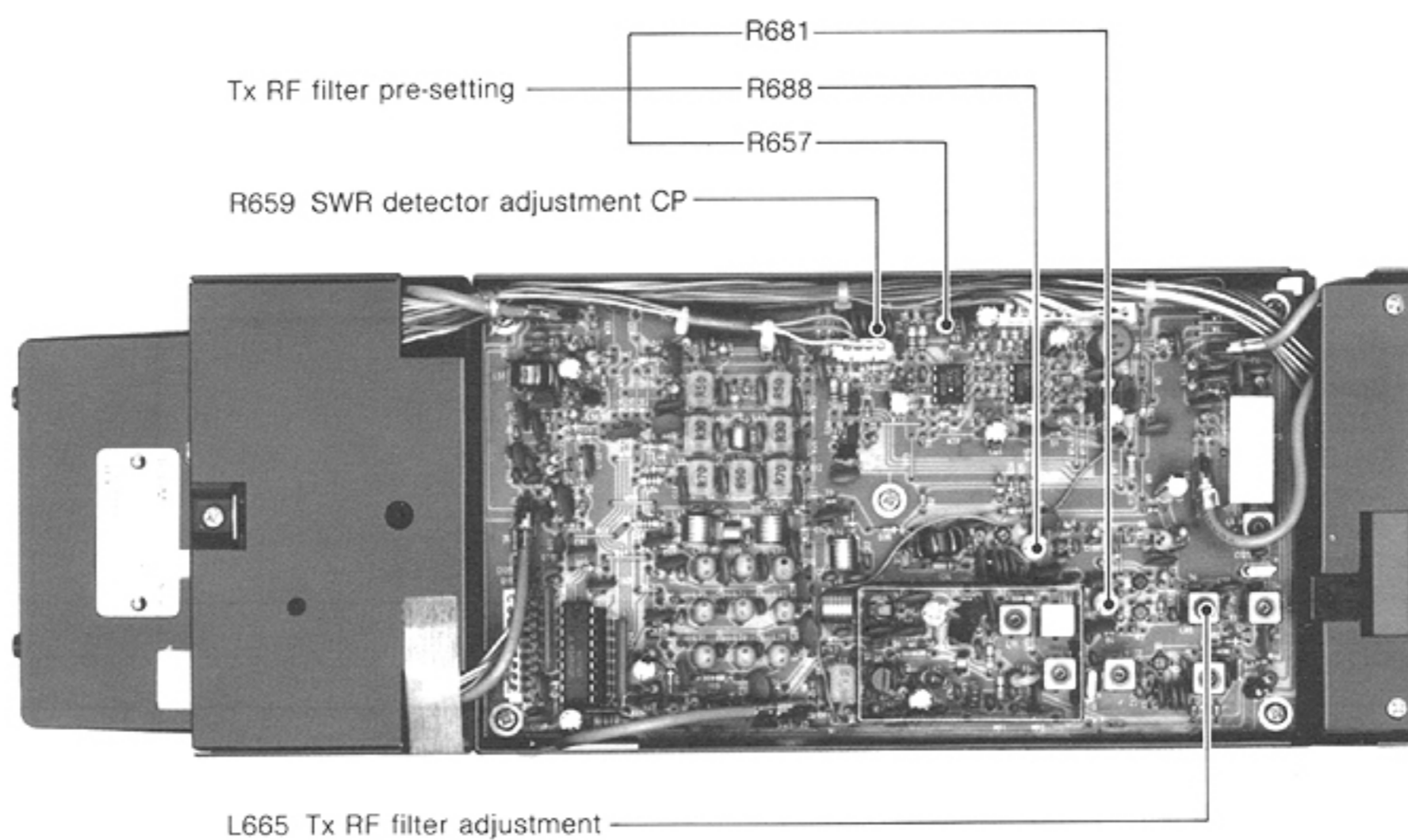
## IF UNIT



## FILTER AND MAIN UNITS



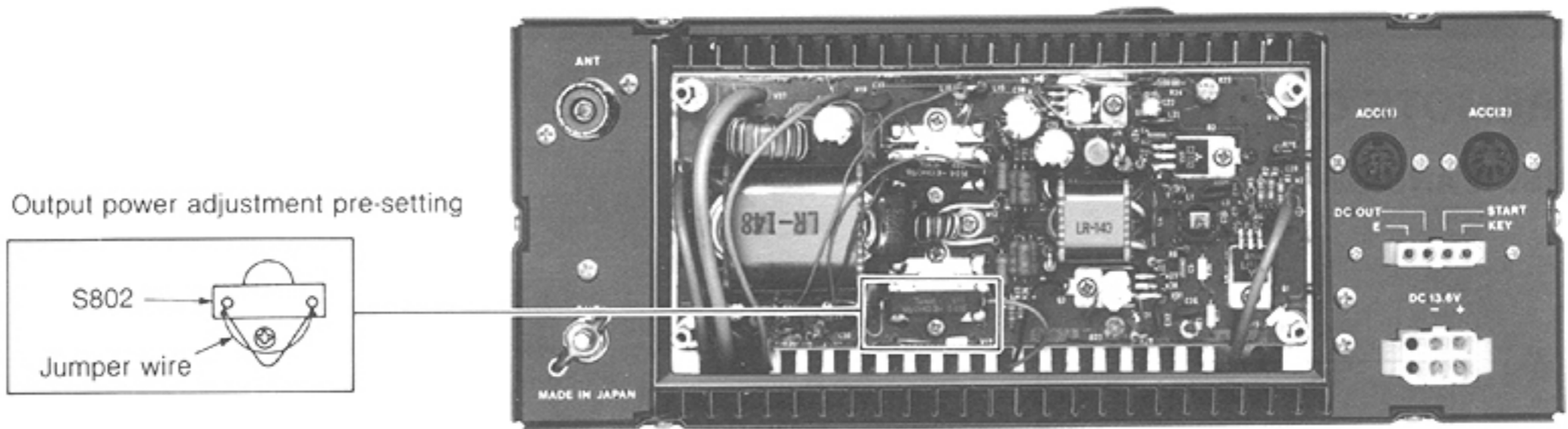
## RF UNIT



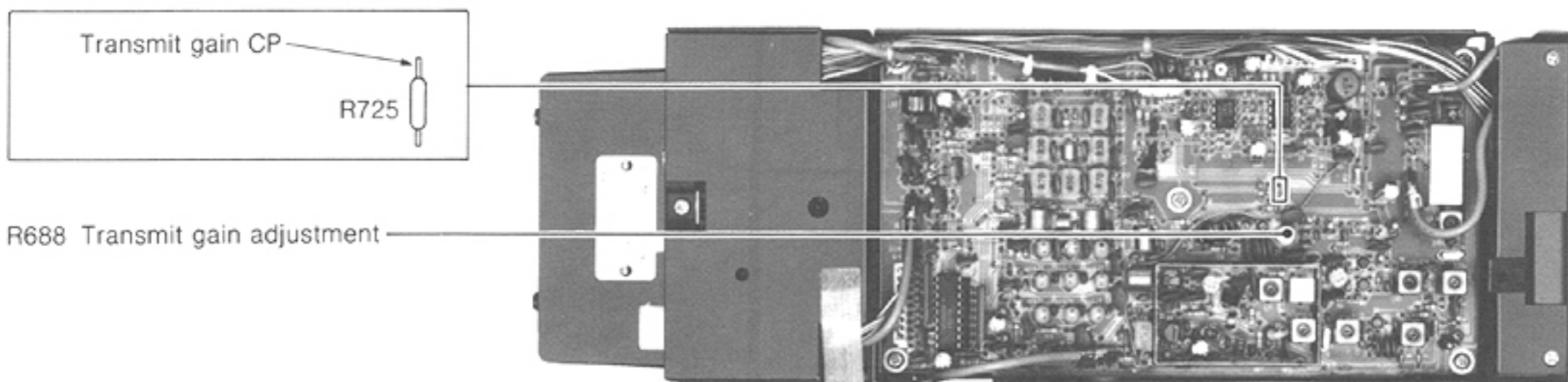
## TRANSMITTER ADJUSTMENT (CONTINUED)

ADJUSTMENT	ADJUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT POINT	
		UNIT	LOCATION		UNIT	ADJUST
CARRIER SUPPRESSION PRE-ADJUSTMENT	1 <ul style="list-style-type: none"> <li>• Displayed frequency: 12500.0 kHz</li> <li>• Mode : FSN (J2B) or USB (J3E)</li> <li>• Apply no signal to the [MIC] connector.</li> <li>• Transmitting</li> </ul>	Transceiver rear panel	Connect the RF power meter to the antenna connector.	Minimum level	MAIN	R1136, R1138
TRANSMIT GAIN	1 <ul style="list-style-type: none"> <li>• Displayed frequency: 8200.0 kHz</li> <li>• Mode : USB (J3E)</li> <li>• Apply an AF signal to the [MIC] connector. Level : 0.1 mV/1 kHz</li> <li>• Transmitting</li> </ul>	Transceiver rear panel	Connect the RF power meter to the antenna connector.	5 W	Audio generator	Output level
	2 <ul style="list-style-type: none"> <li>• Displayed frequencies: 2000.0 kHz and 22000.0 kHz</li> </ul>	RF	Connect the DC voltmeter to R725.	0.5 V on the higher voltage frequency	RF	R688
NOTE: Adjust above adjustment a couple of times.						
OUTPUT POWER	1 <ul style="list-style-type: none"> <li>• Displayed frequency: 8200.0 kHz</li> <li>• Mode : CW (A1A)</li> <li>• Connect a key to the [ACC (1)] socket pin 1 and 2, and keep the key down.</li> <li>• Transmitting</li> </ul>	Transceiver rear panel	Connect the RF power meter to the antenna connector.	140 W	MAIN	R1187
	2 <ul style="list-style-type: none"> <li>• Mode : AM (H3E)</li> <li>• Apply no AF signal to the [MIC] connector.</li> </ul>			55 W		R1290
	3 <ul style="list-style-type: none"> <li>• Mode : A3A (R3E)</li> </ul>			5 W		R1291
	4 <ul style="list-style-type: none"> <li>• Mode : CW (A1A)</li> <li>• Connect a jumper wire to both terminals of S802.</li> <li>• Connect a key to the [ACC (1)] socket pins 1 and 2, and keep the key down.</li> </ul>			60 W		Verify
	5	After adjustment, remove the jumper wire from S802.				
	6 <ul style="list-style-type: none"> <li>• Unplug J1012 (MAIN UNIT)</li> <li>• Connect a jumper wire between L1025 and J1012 pin 3. CAUTION: Be careful the jumper wire (13.6 V line) does not touch the heatsink.</li> <li>• Transmitting</li> </ul>	Transceiver rear panel	Connect the RF power meter to the antenna connector.	10 W		R1190
	7	After adjustment, remove the jumper wire from L1025 and J1012.				
CARRIER SUPPRESSION	1 <ul style="list-style-type: none"> <li>• Displayed frequency: 12500.0 kHz</li> <li>• Mode : USB and LSB</li> <li>• Apply no signal to the [MIC] connector.</li> <li>• Transmitting</li> </ul>	Transceiver rear panel	Connect the spectrum analyzer to the antenna connector via the attenuator.	Minimum carrier level (Less than -50 dB)	MAIN	R1136, R1138 (Alternately adjust)

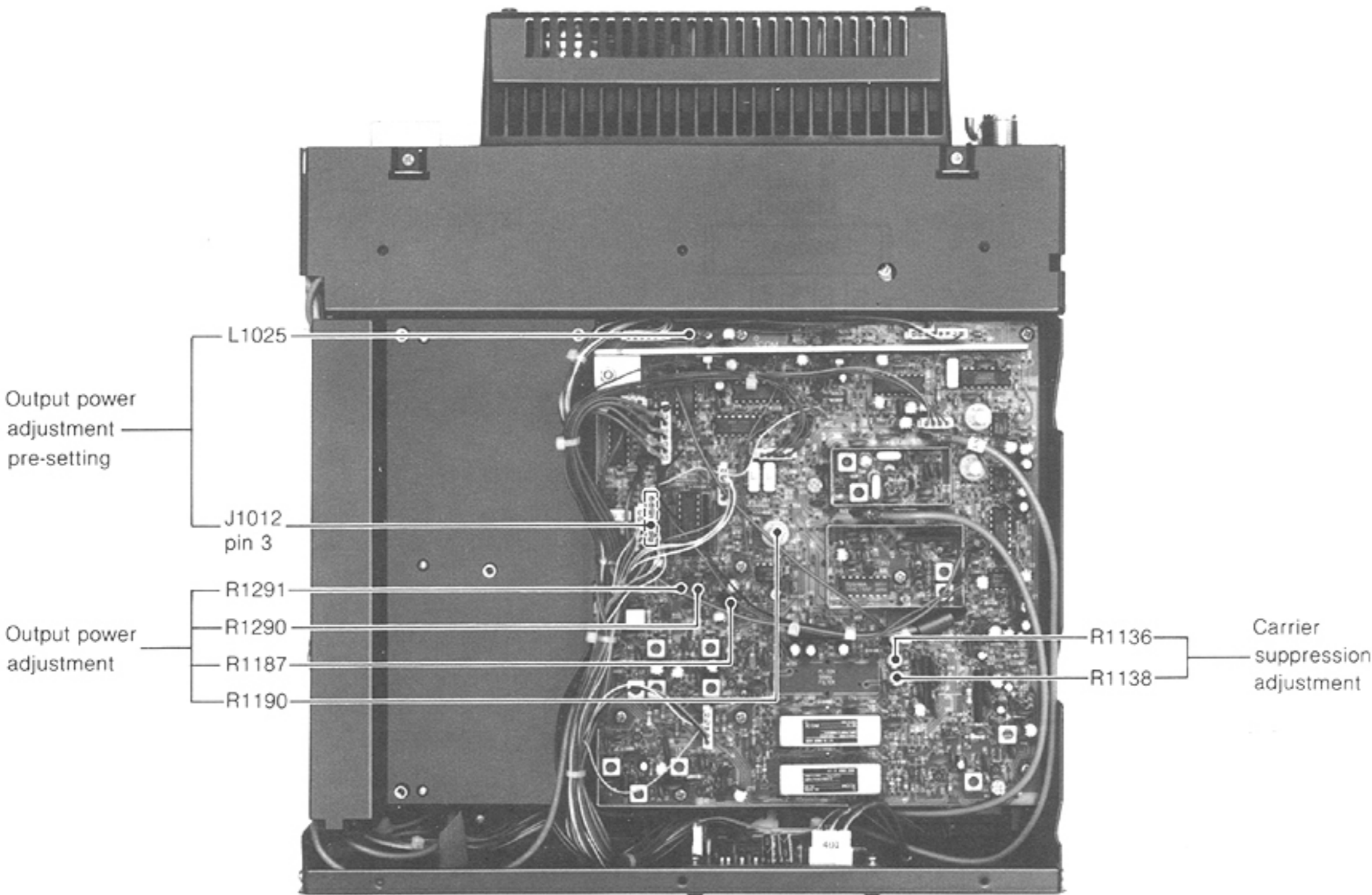
## PA TR UNIT



## RF UNIT



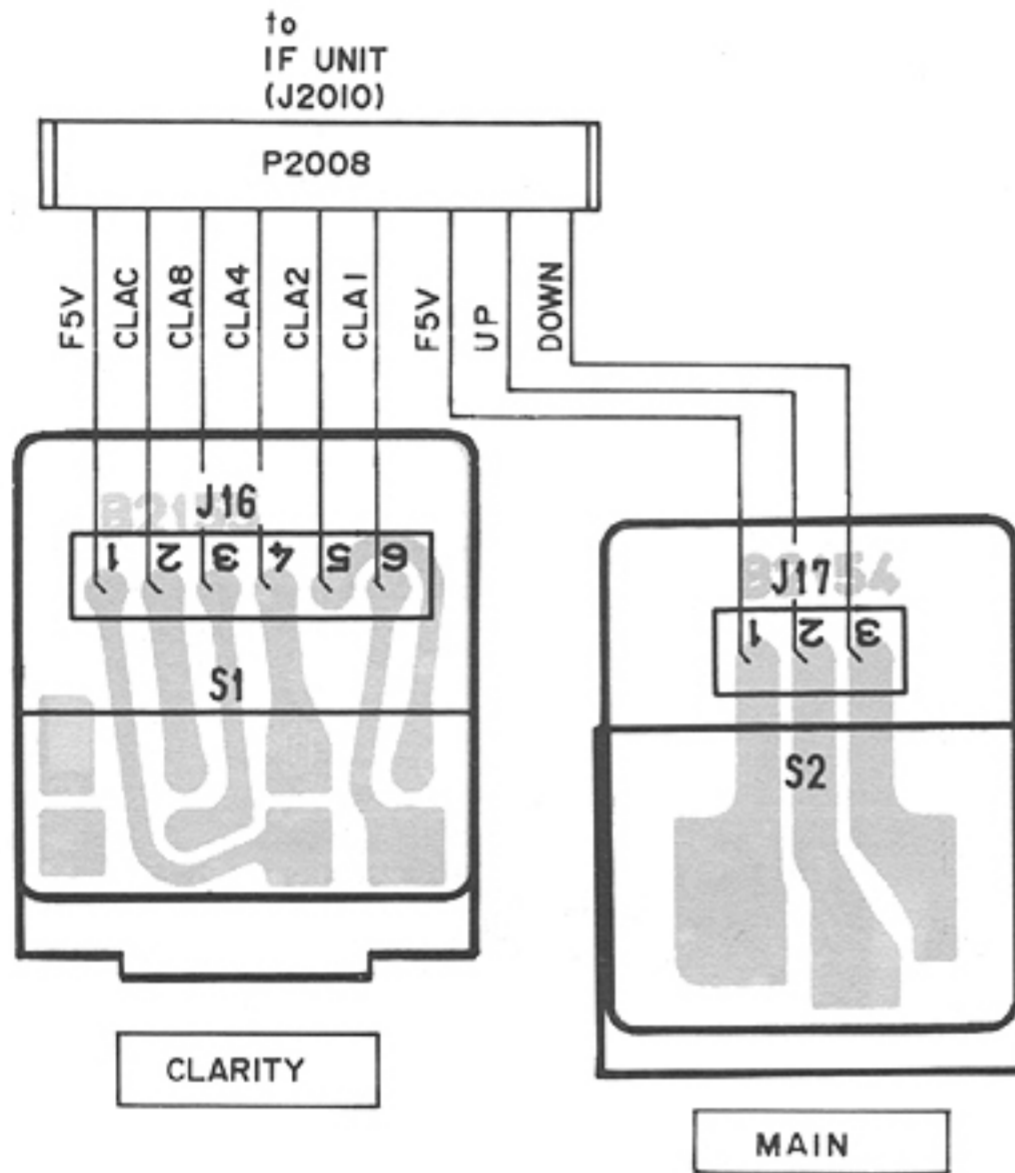
## MAIN UNIT



# SECTION 6 BOARD LAYOUTS

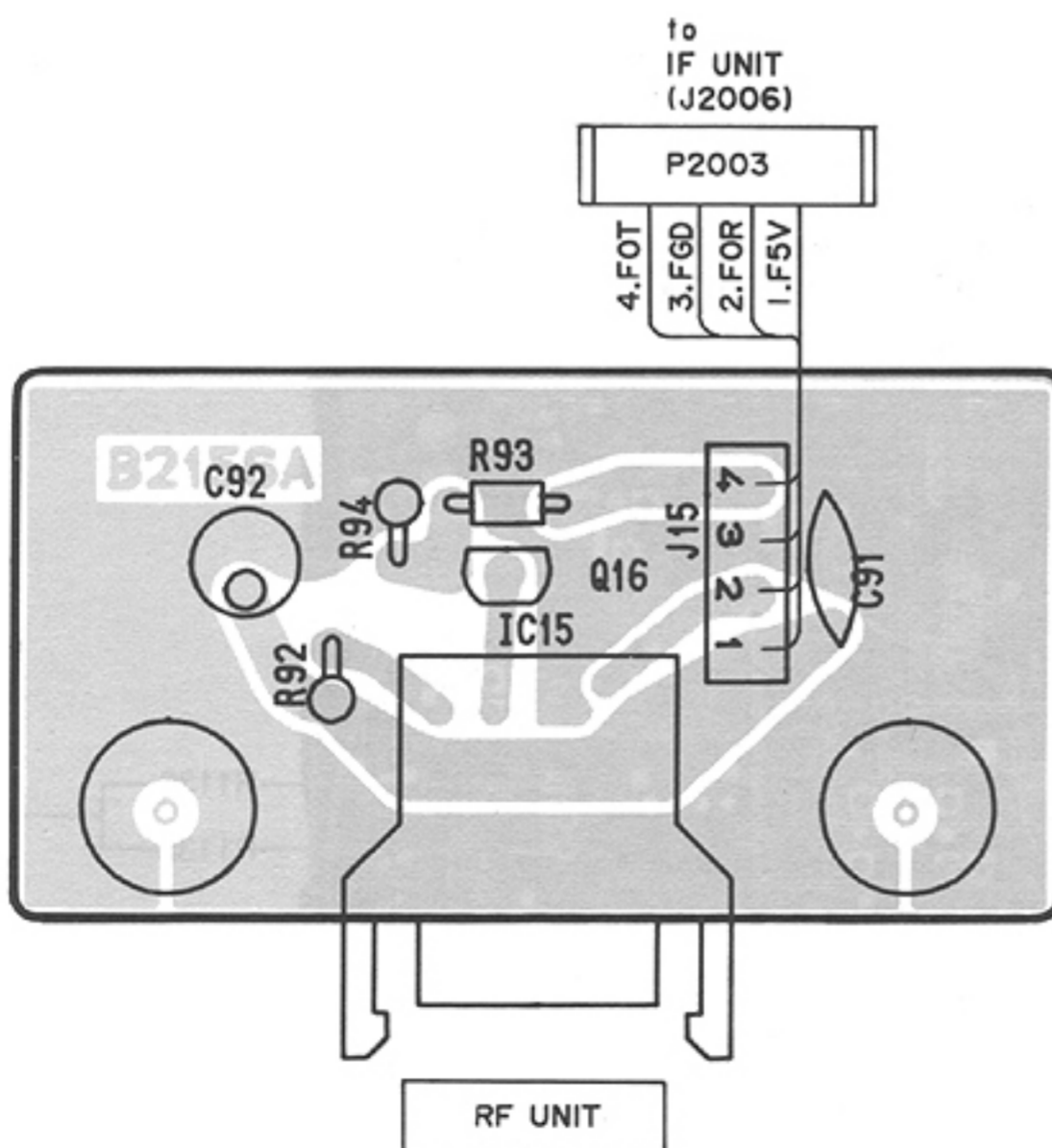
## 6-1 REMOTE CONTROLLER

### • SENSOR AND SW UNITS

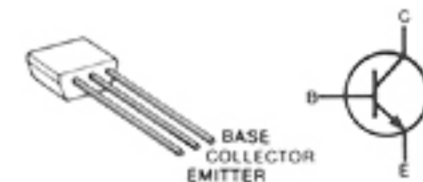


**NOTE:** Add "2000" to the indicated number on the unit for actual part number respectively.

### • JACK UNITS

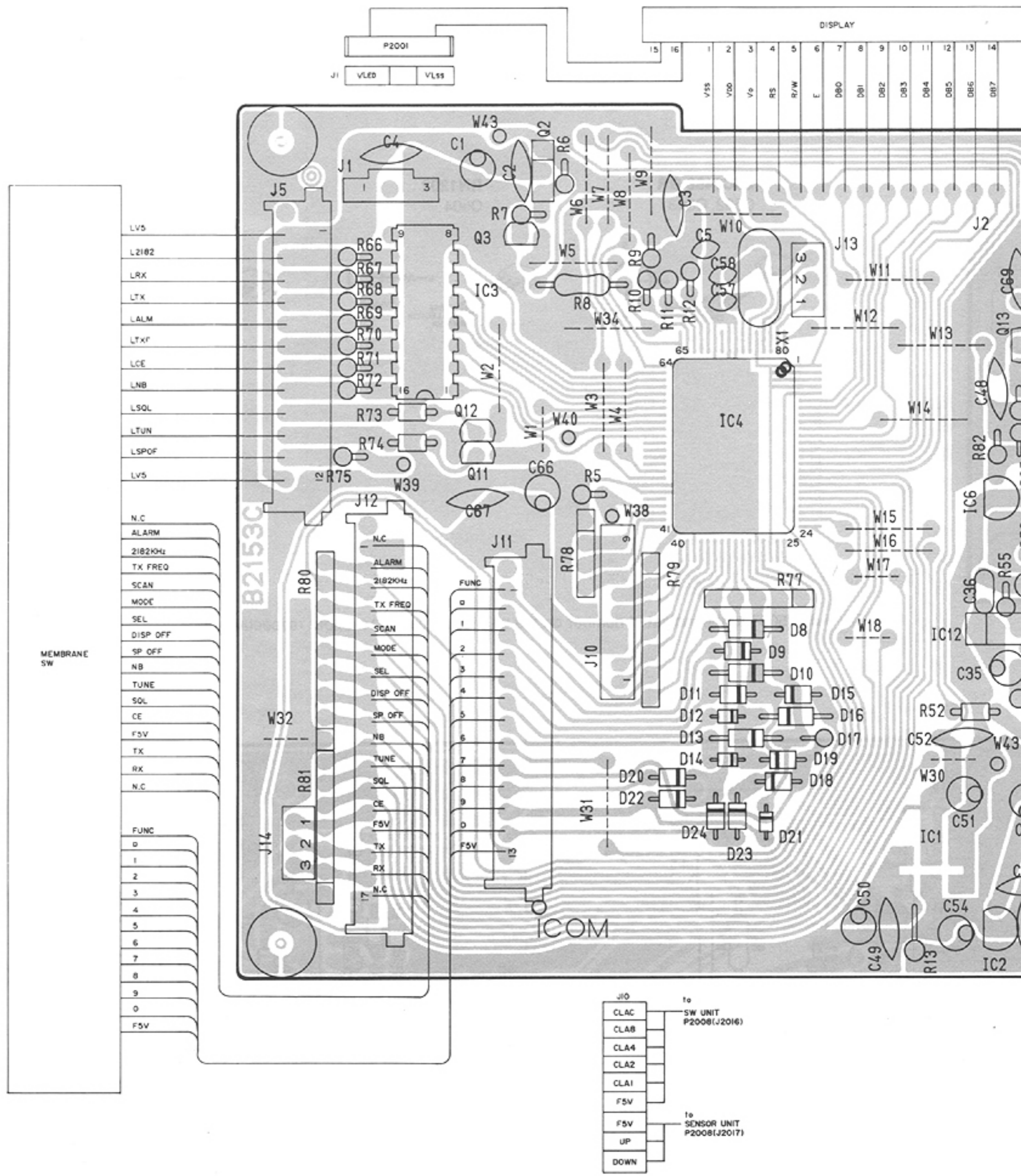


2SC2458-GR  
Q2016



**NOTE:** Add "2000" to the indicated number on the unit for actual part number respectively.

• IF UNIT

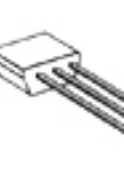
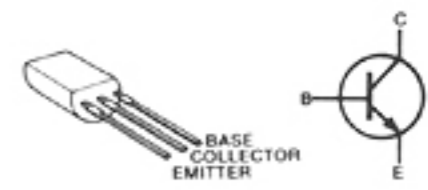
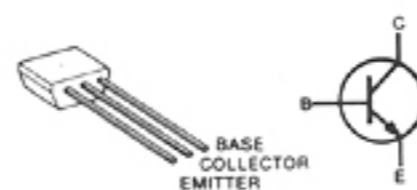


2SA1048-GR  
Q2008

2SB909M Q  
Q2002

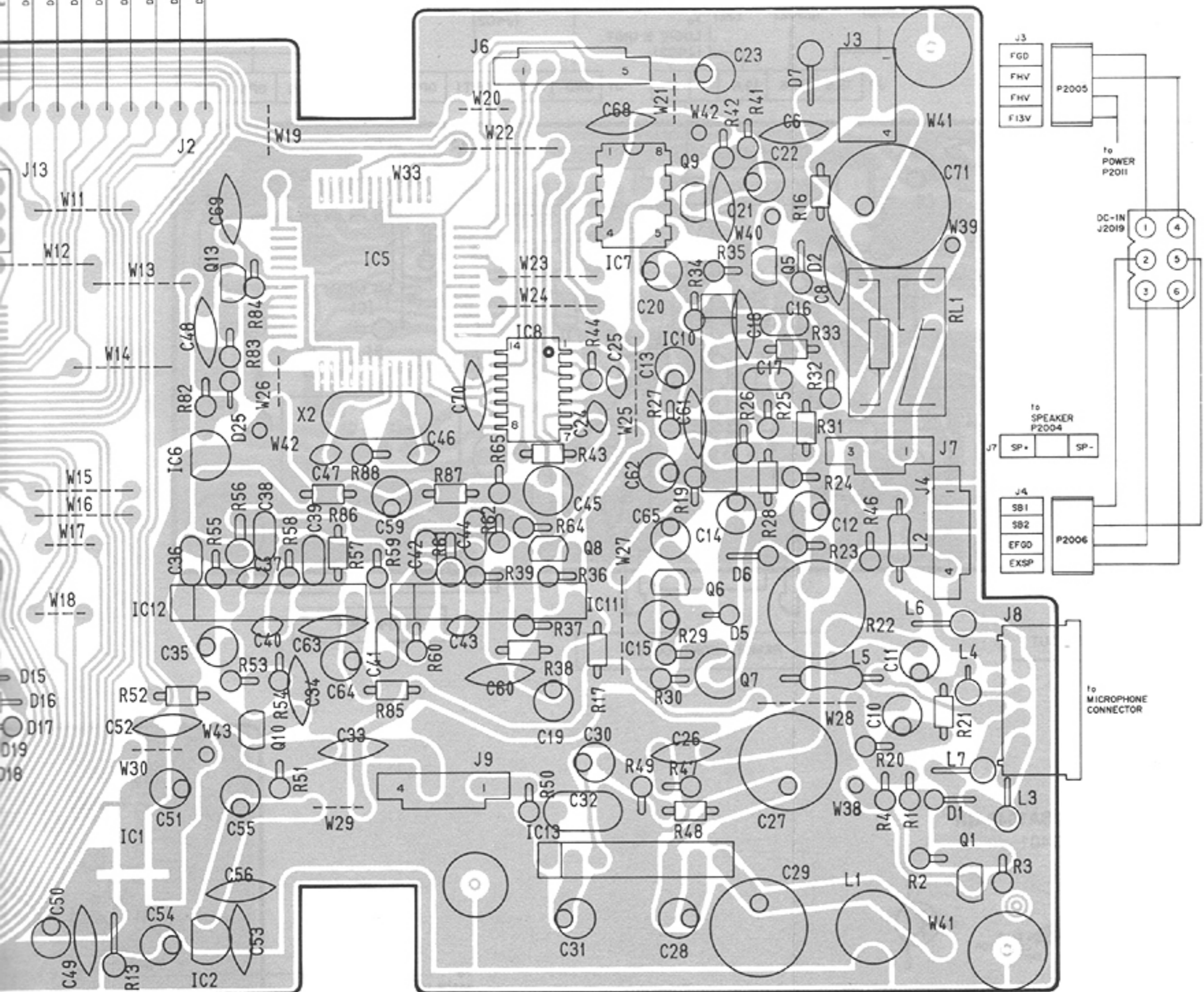
2SC2458-Y  
Q2001

2SC2878-A  
Q2007



DISPLAY													
6	7	8	9	10	11	12	13	14					
DB0	DB1	DB2	DB3	DB4	DB5	DB6	DB7						

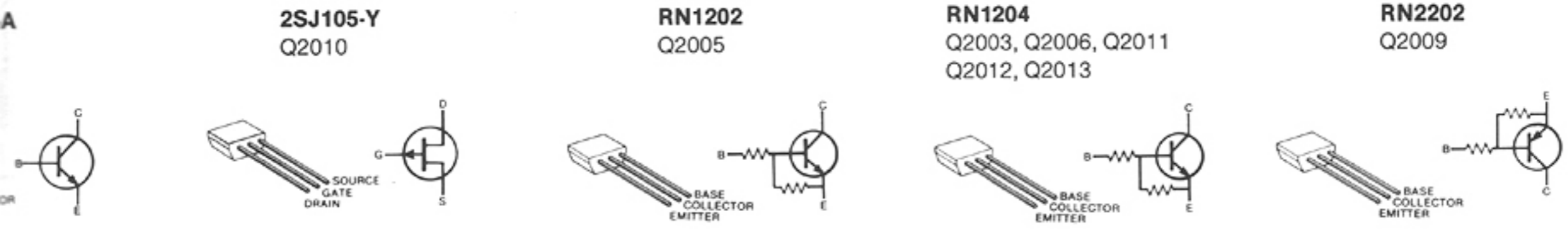
to JACK UNIT P2003(J2015)				
J6	F0T	F0R	F0D	F5V



J9			
F0D	V0L1	F0D	V0L2

to VOLUME P2007

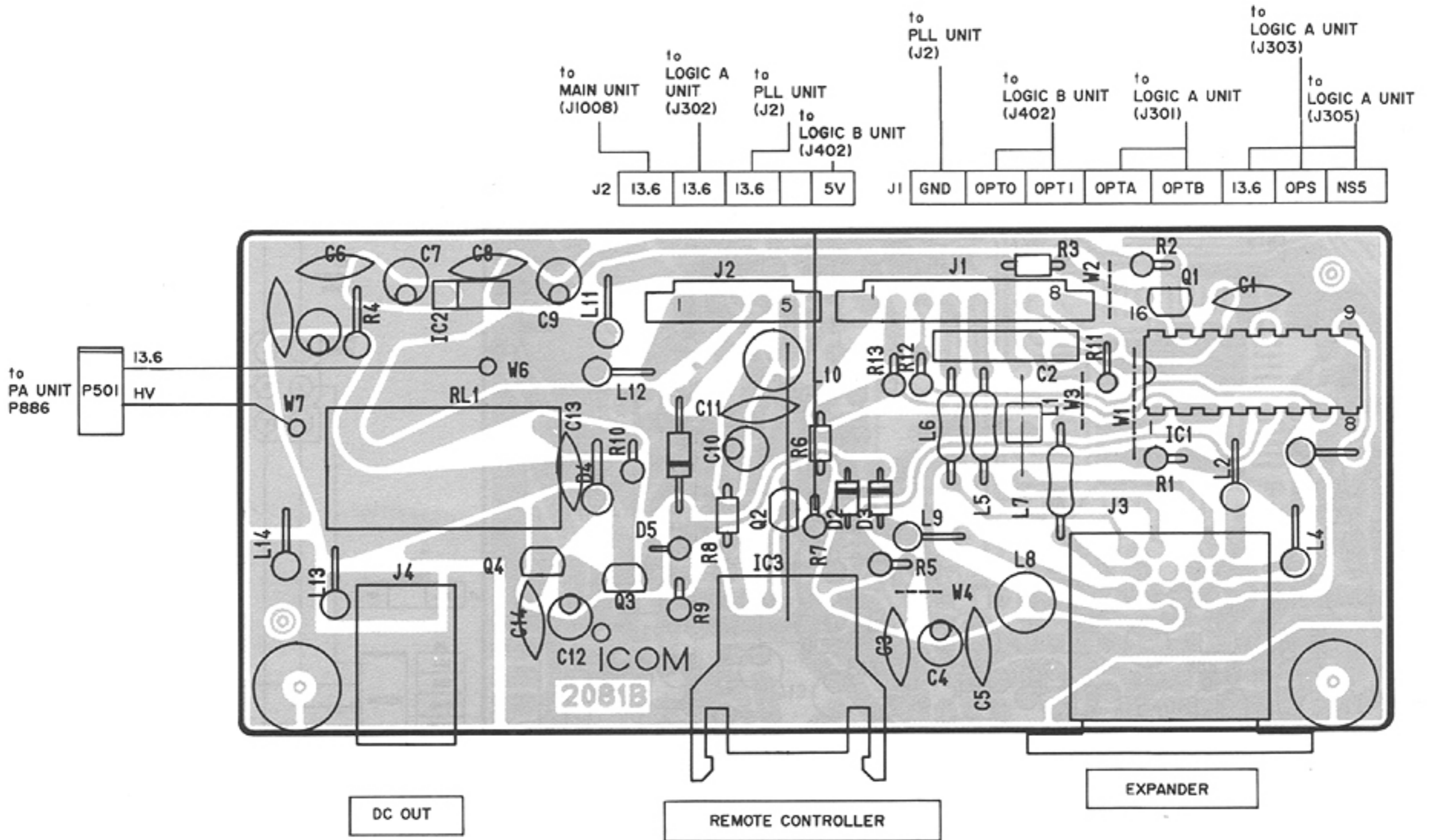
**NOTE:** Add "2000" to the indicated number on the unit for actual part number respectively.



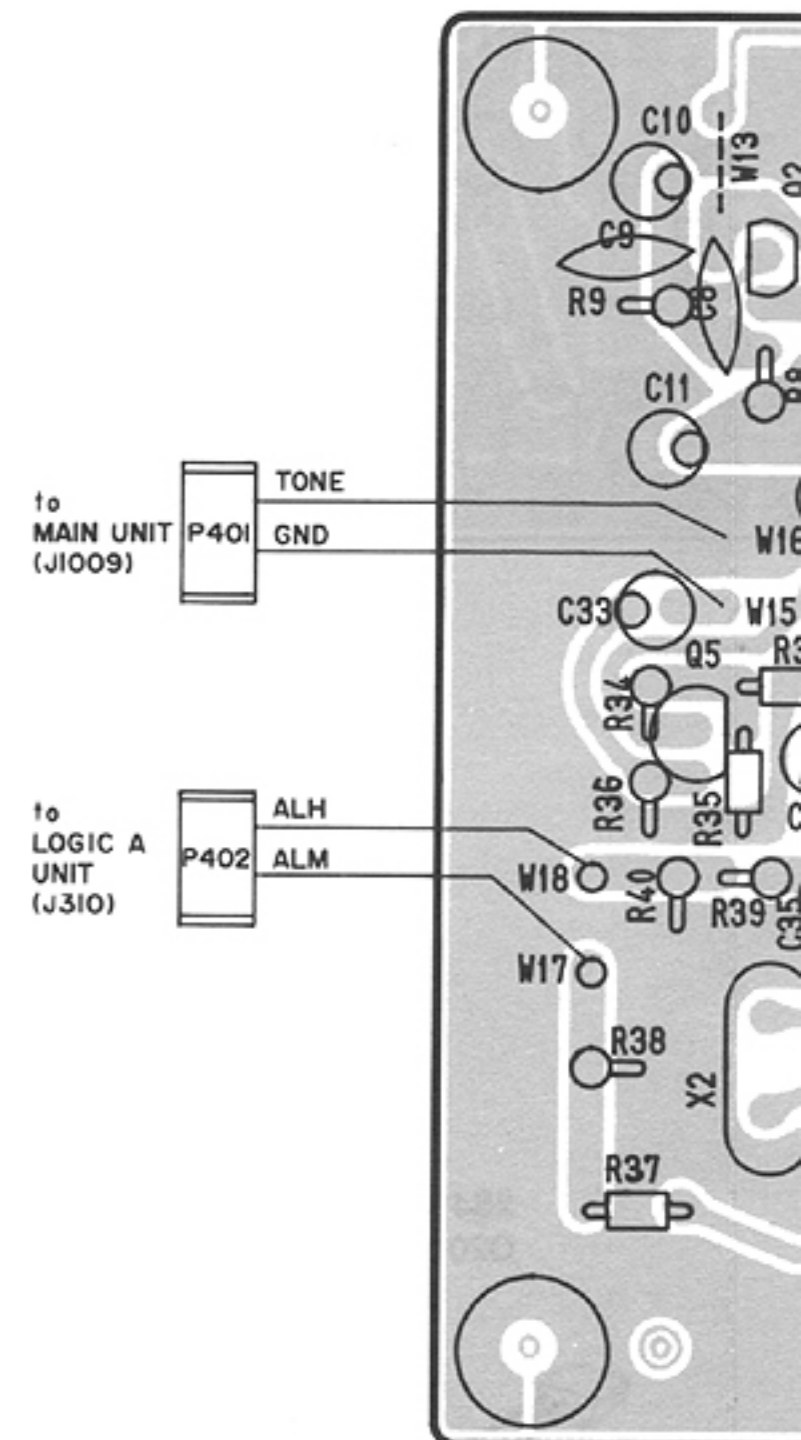
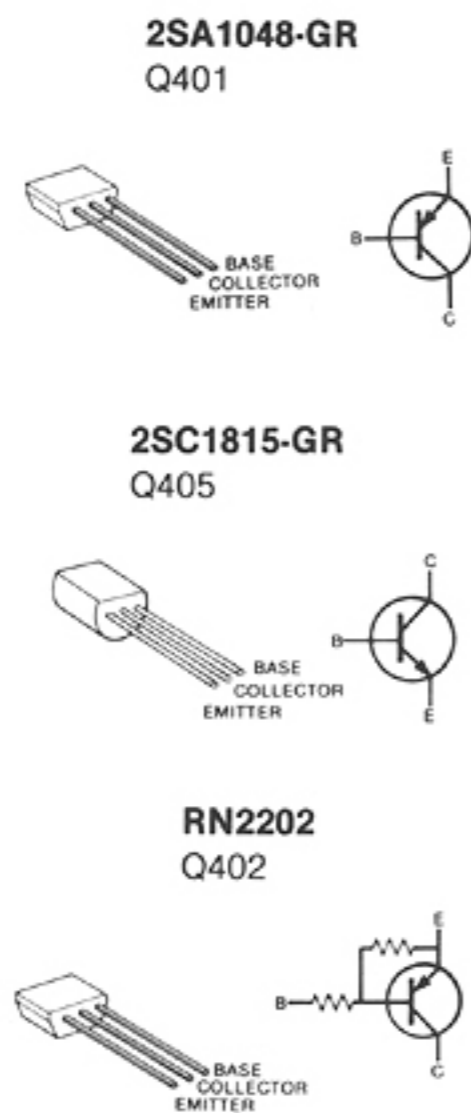


## 6-2 TRANSCEIVER (1)

### • CONNECT UNIT



### • LOGIC-B UNIT



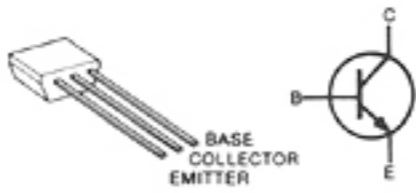
**NOTE:** Add "400" to the indicated number on the unit for actual part number respectively.

A UNIT

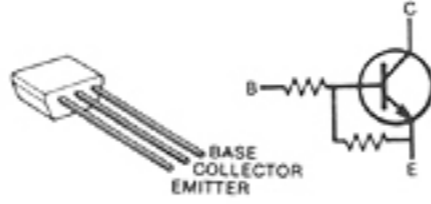
to LOGIC A UNIT (J305)

NS5

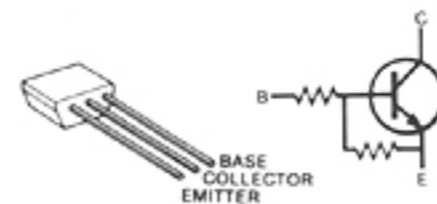
2SC2458-GR  
Q502, Q503



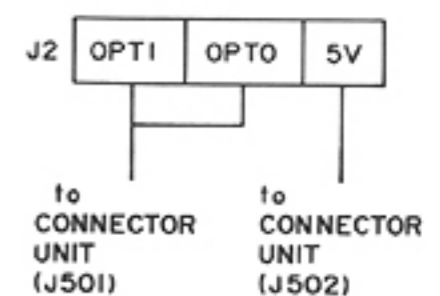
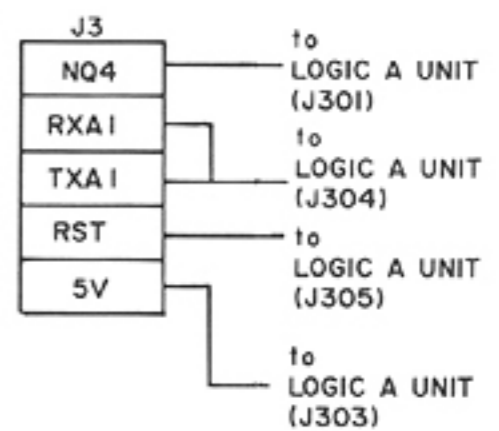
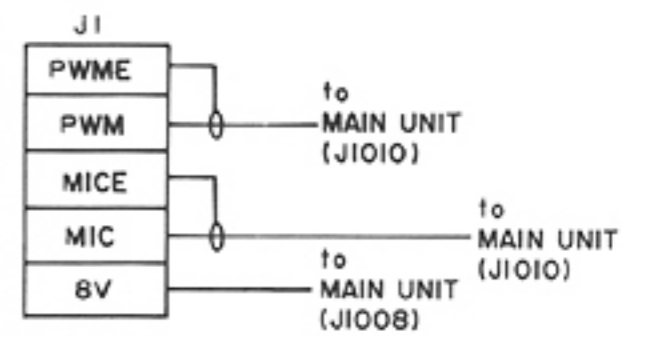
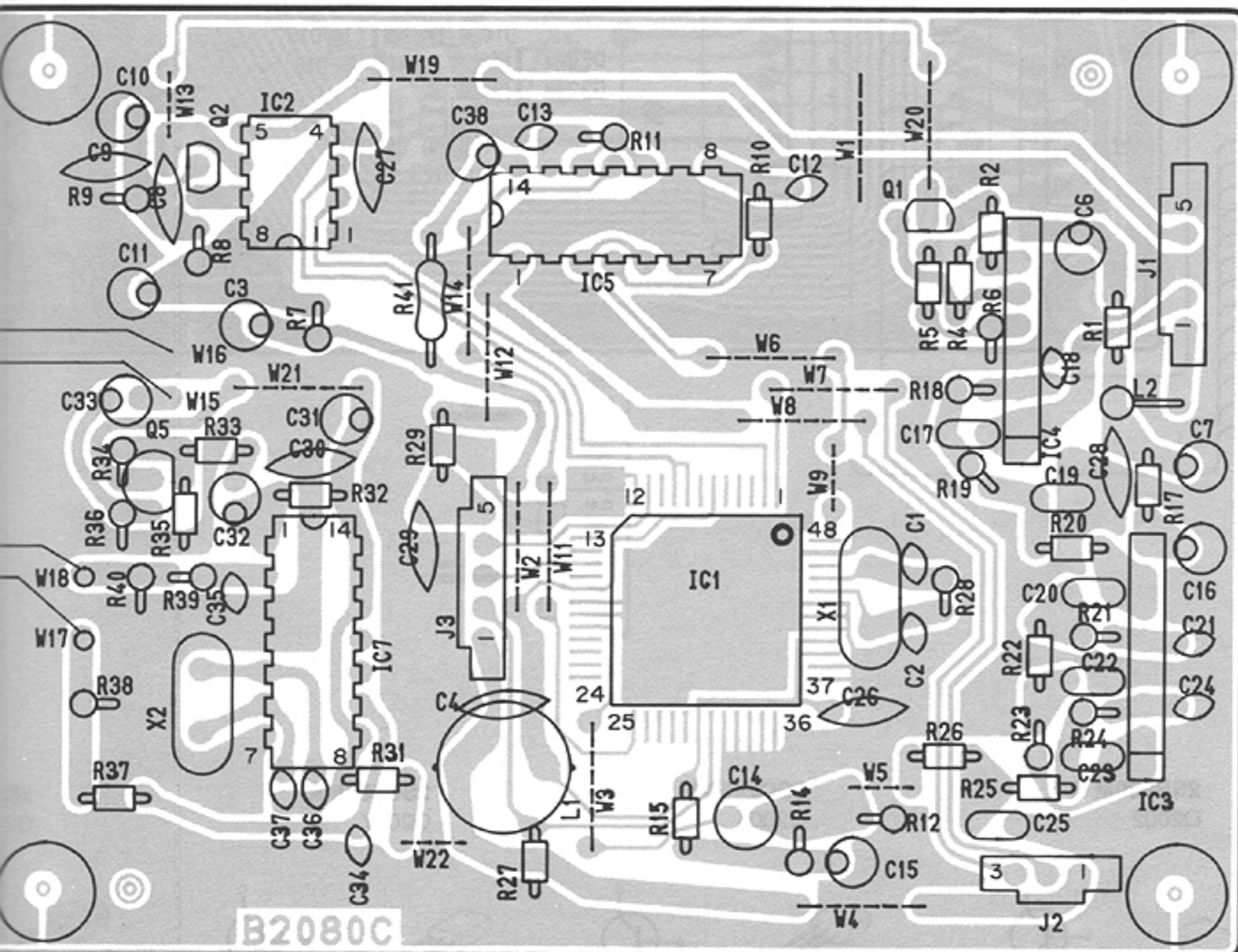
RN1202  
Q504



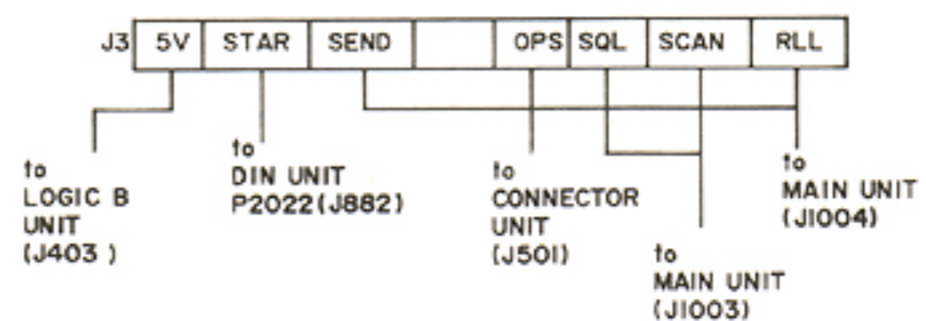
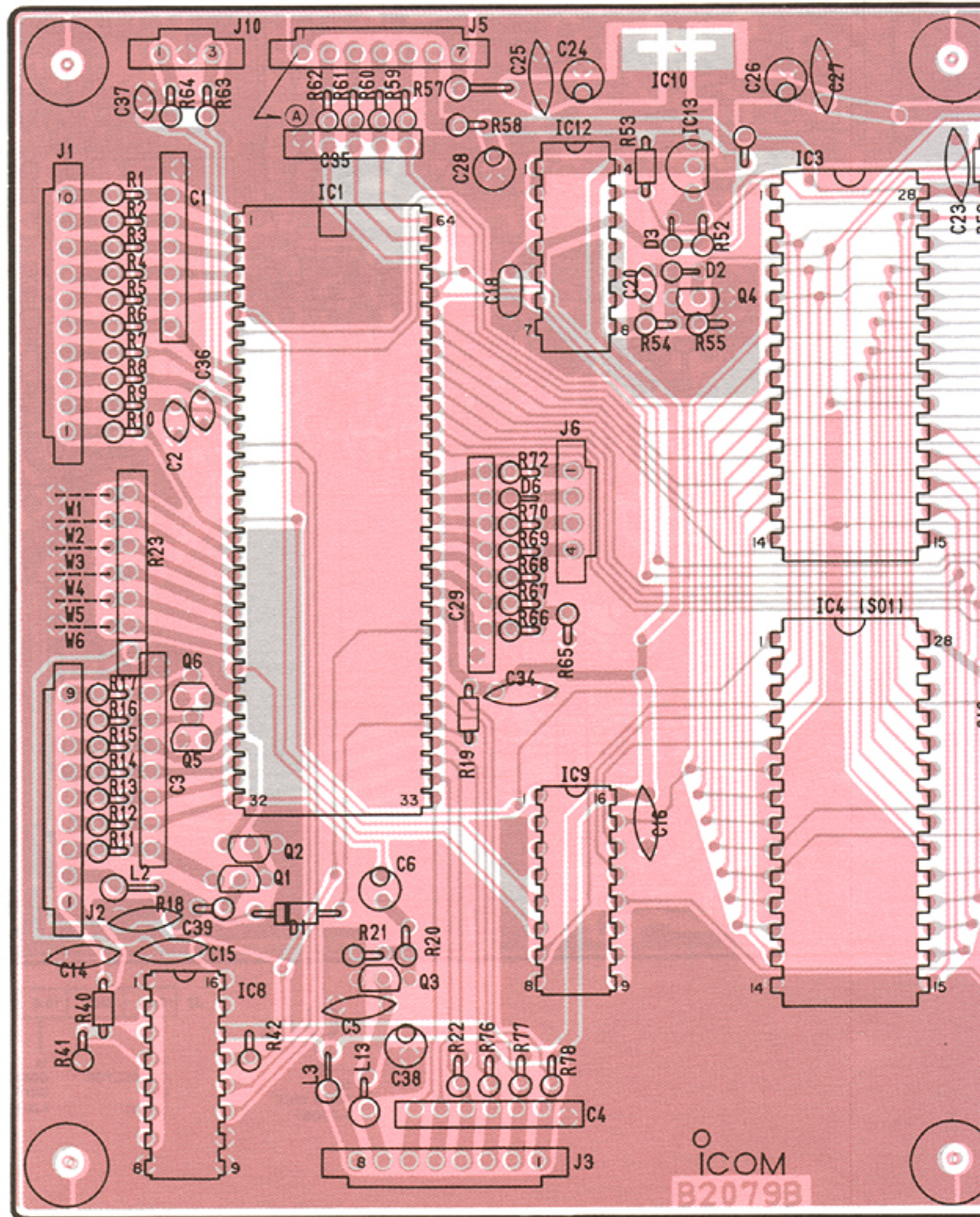
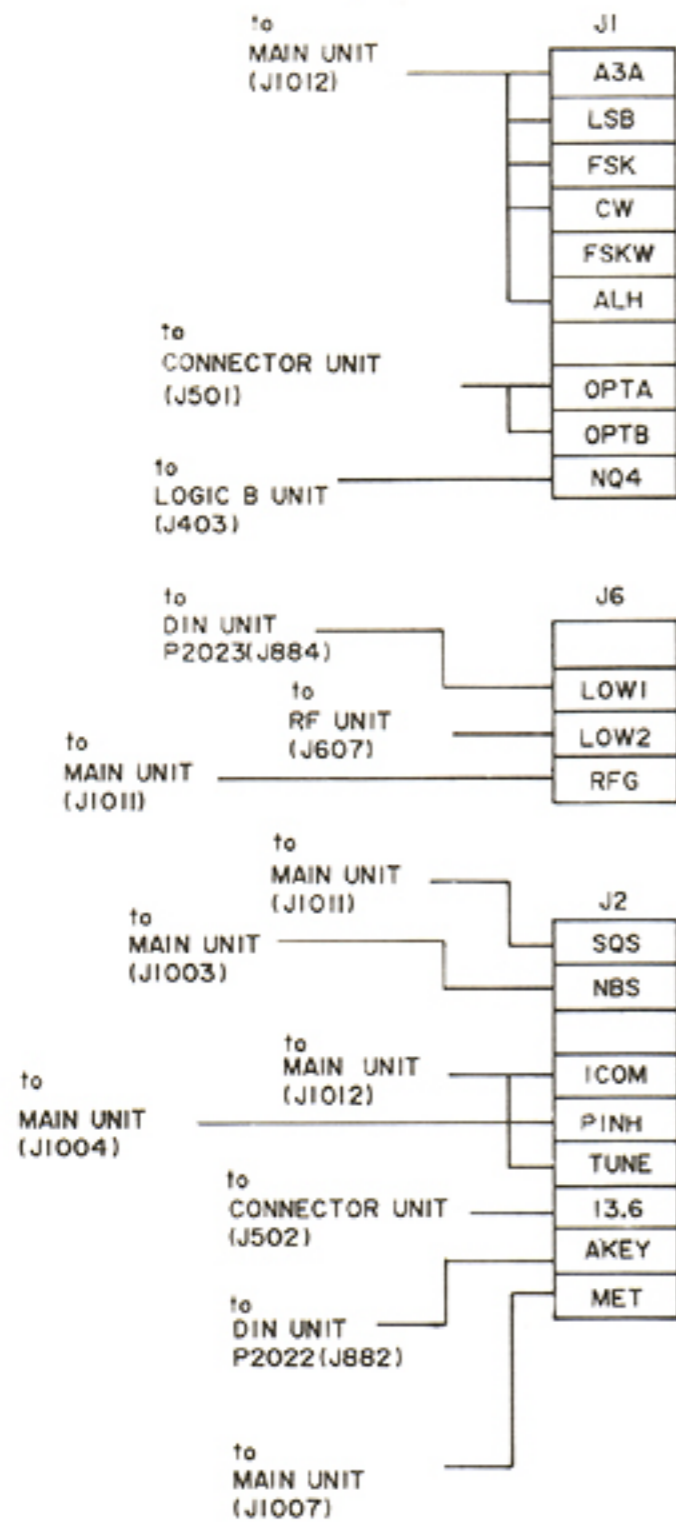
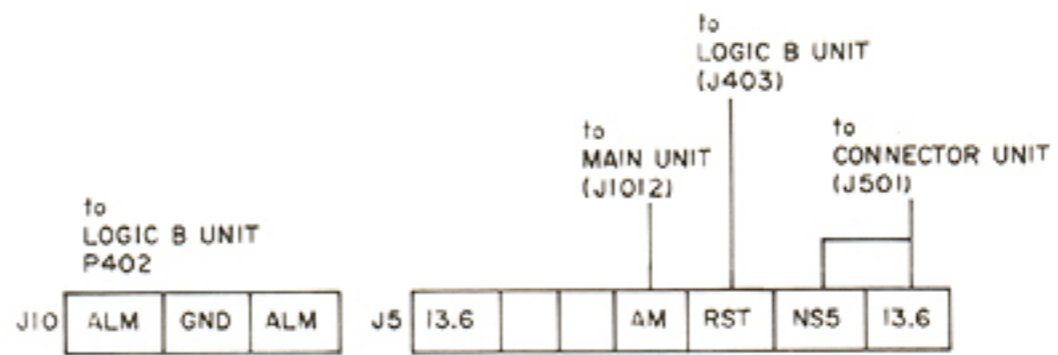
RN1204  
Q501



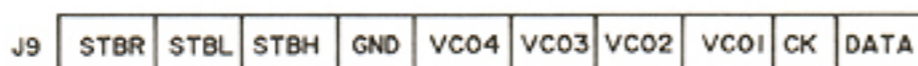
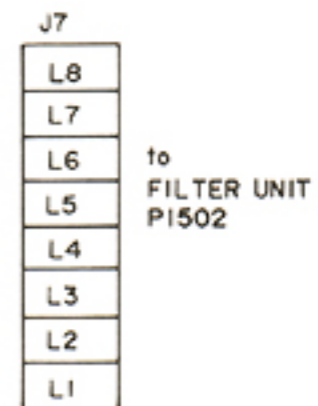
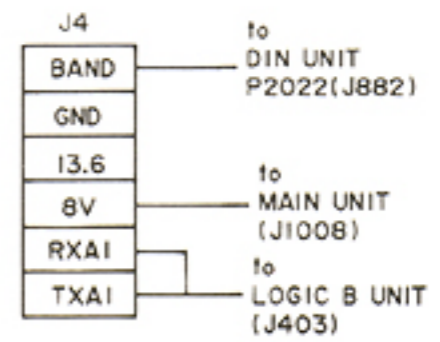
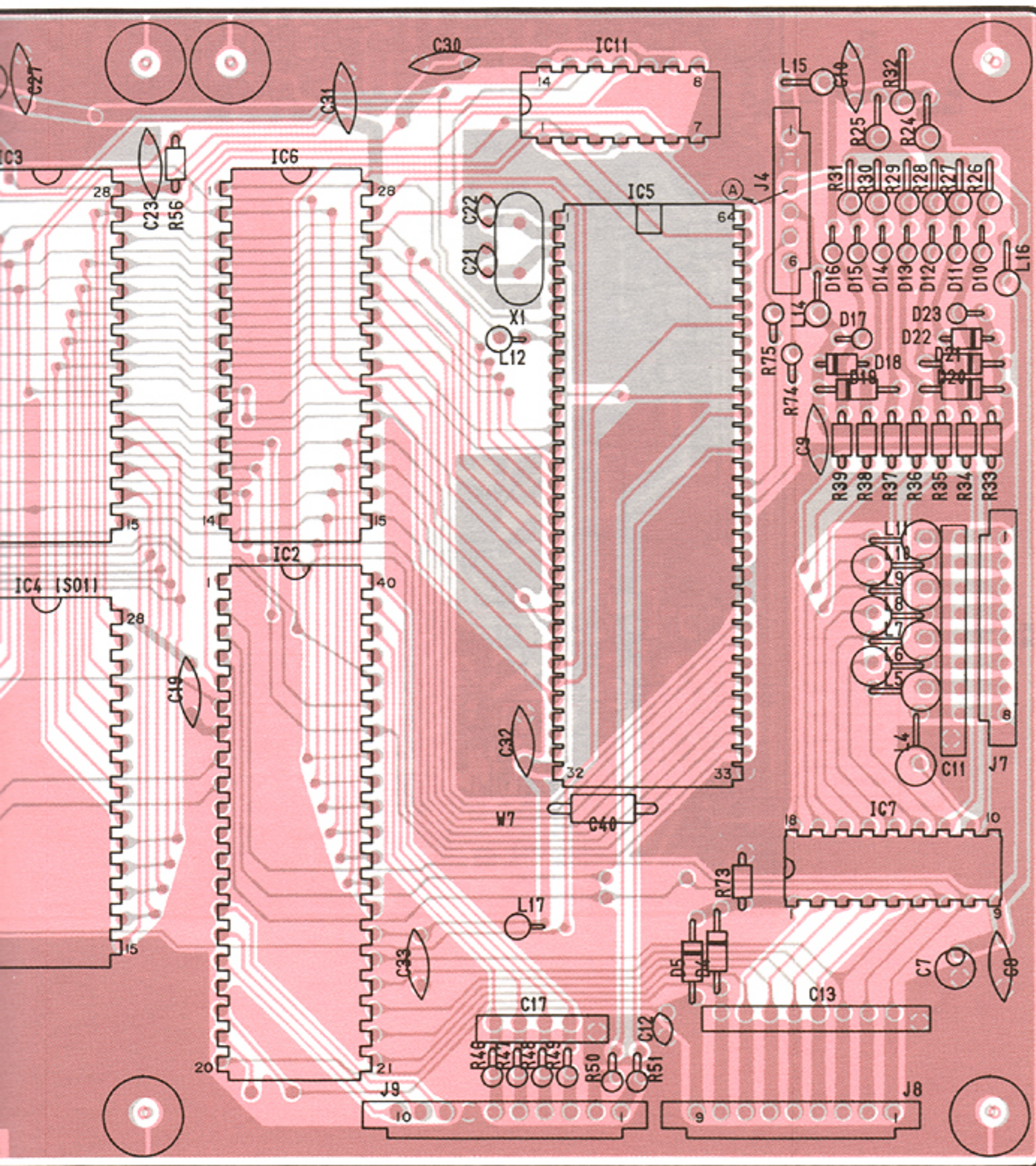
NOTE: Add "500" to the indicated number on the unit for actual part number respectively.



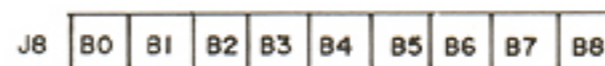
• LOGIC-A UNIT



NOTE: Add "300" to the indicated number on the unit for actual part number respectively.

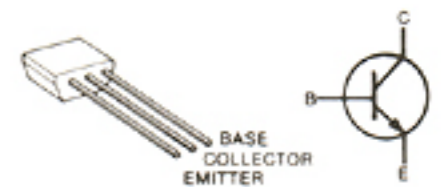


to PLL UNIT P5(J1)

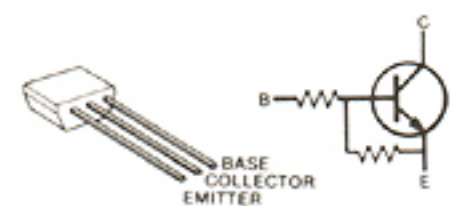


to RF UNIT (J608)

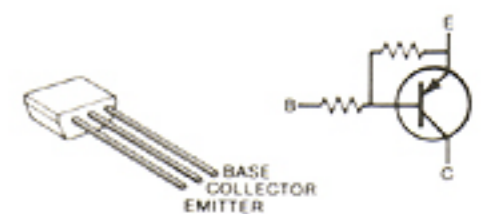
**2SC2458-Y**  
Q303, Q304



**RN1204**  
Q302, Q305, Q306

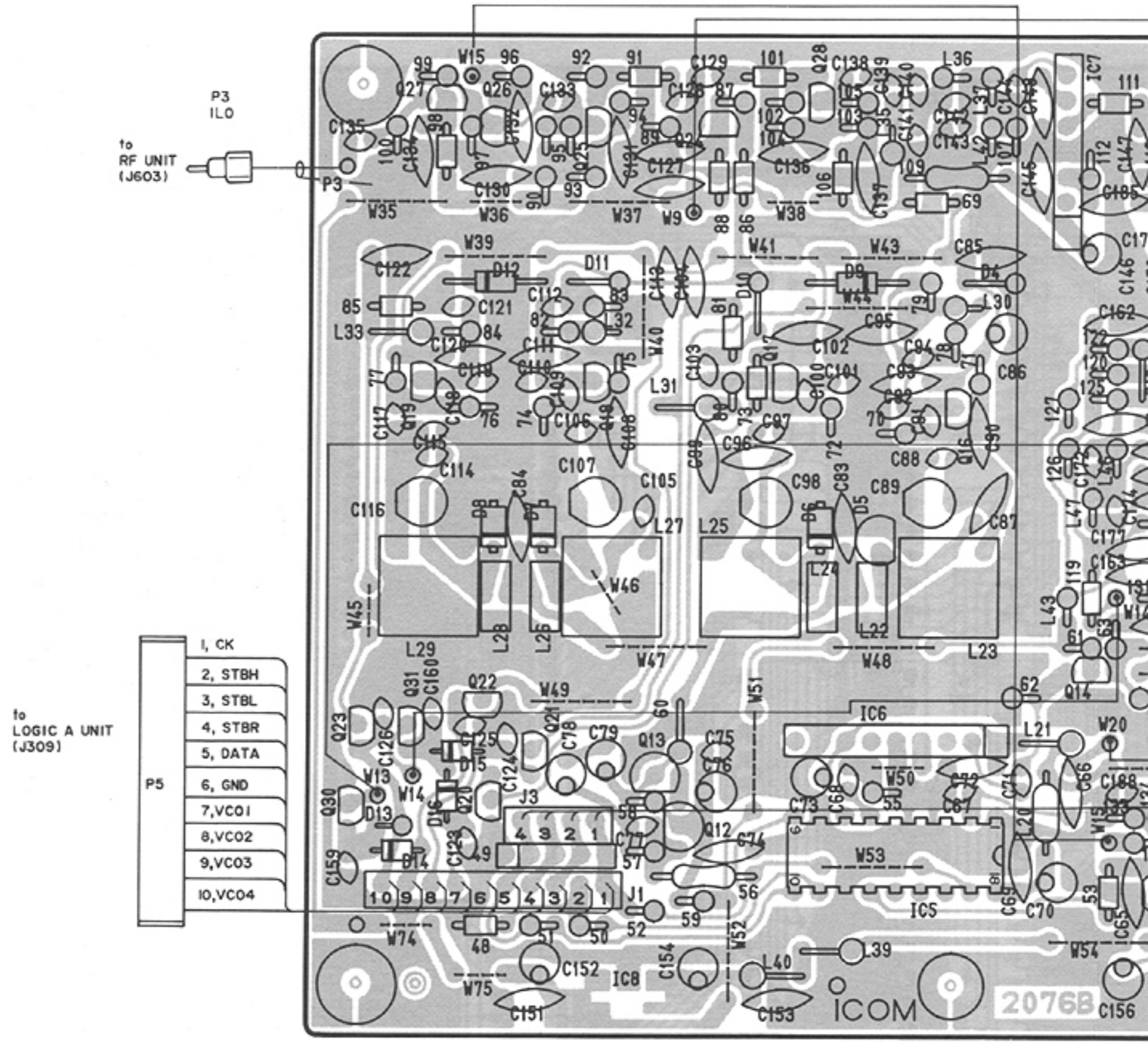


**RN2202**  
Q301

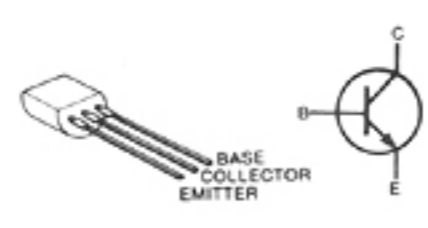


# 6-3 TRANSCEIVER (2)

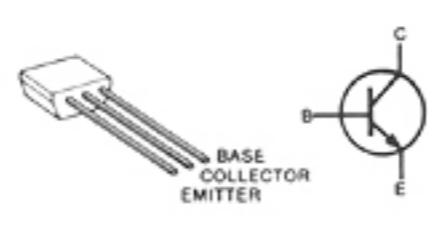
## • PLL UNIT



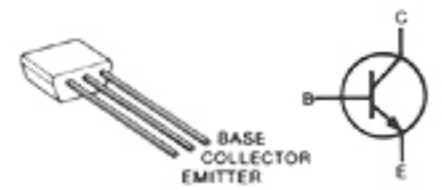
**2SC1571G**  
Q12, Q13



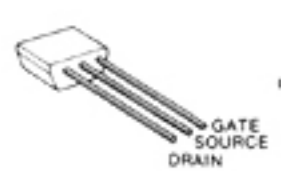
**2SC2458-GR**  
Q5

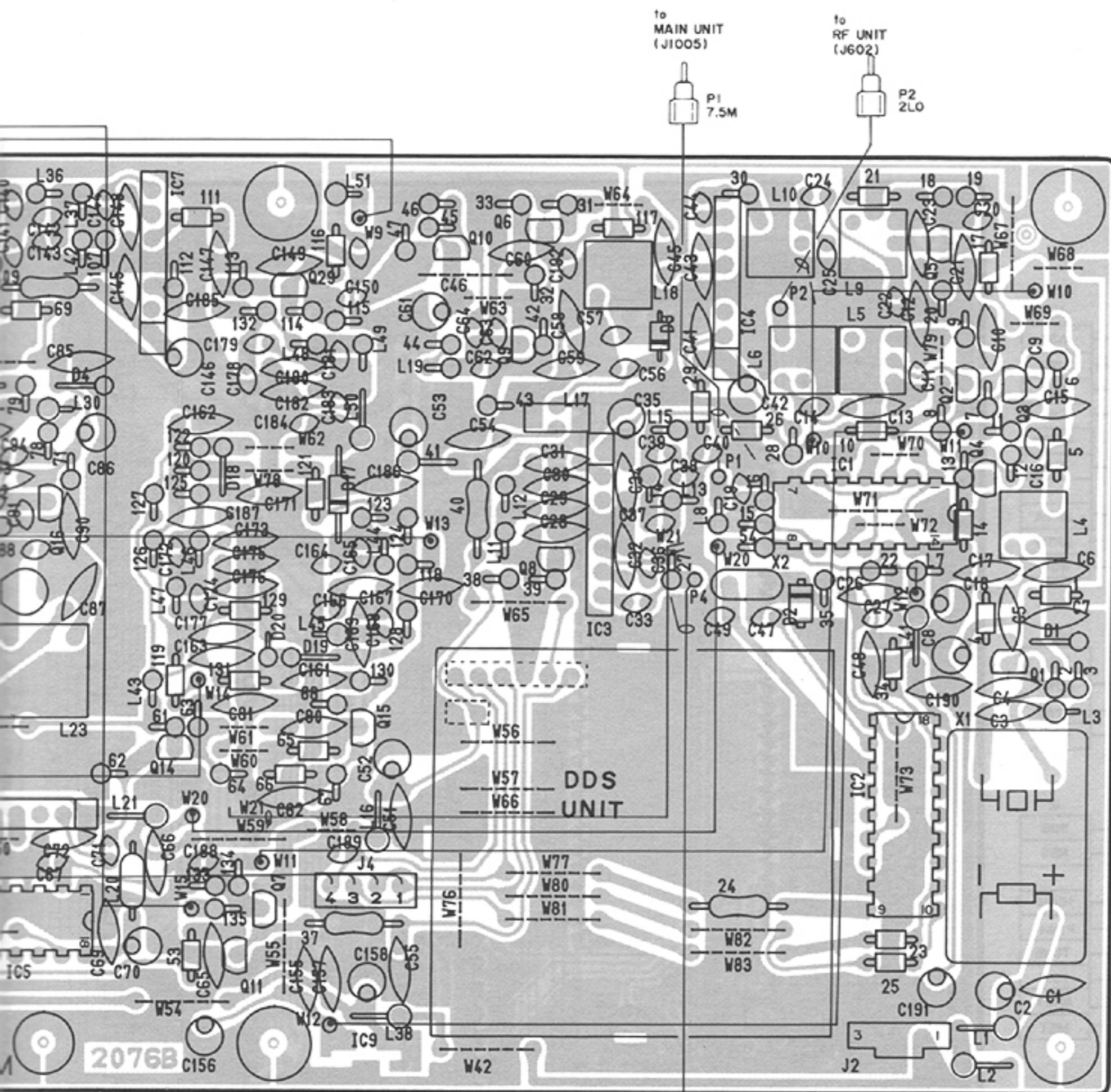


**2SC2668-O**  
Q1, Q10, Q14  
Q15, Q2, Q24  
Q25, Q27, Q28  
Q29, Q4, Q6  
Q8

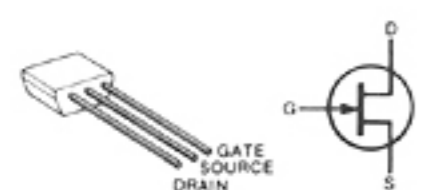


**2SK192A-C**  
Q16, Q17, Q19, Q9

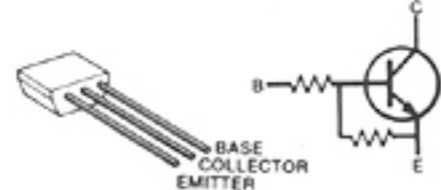




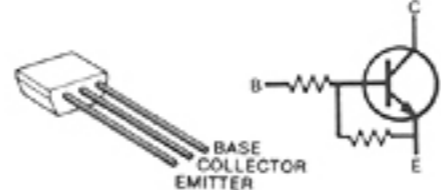
**2SK192A-GR**  
Q16, Q17, Q18  
Q19, Q9



**RN1202**  
Q20, Q21, Q22  
Q23



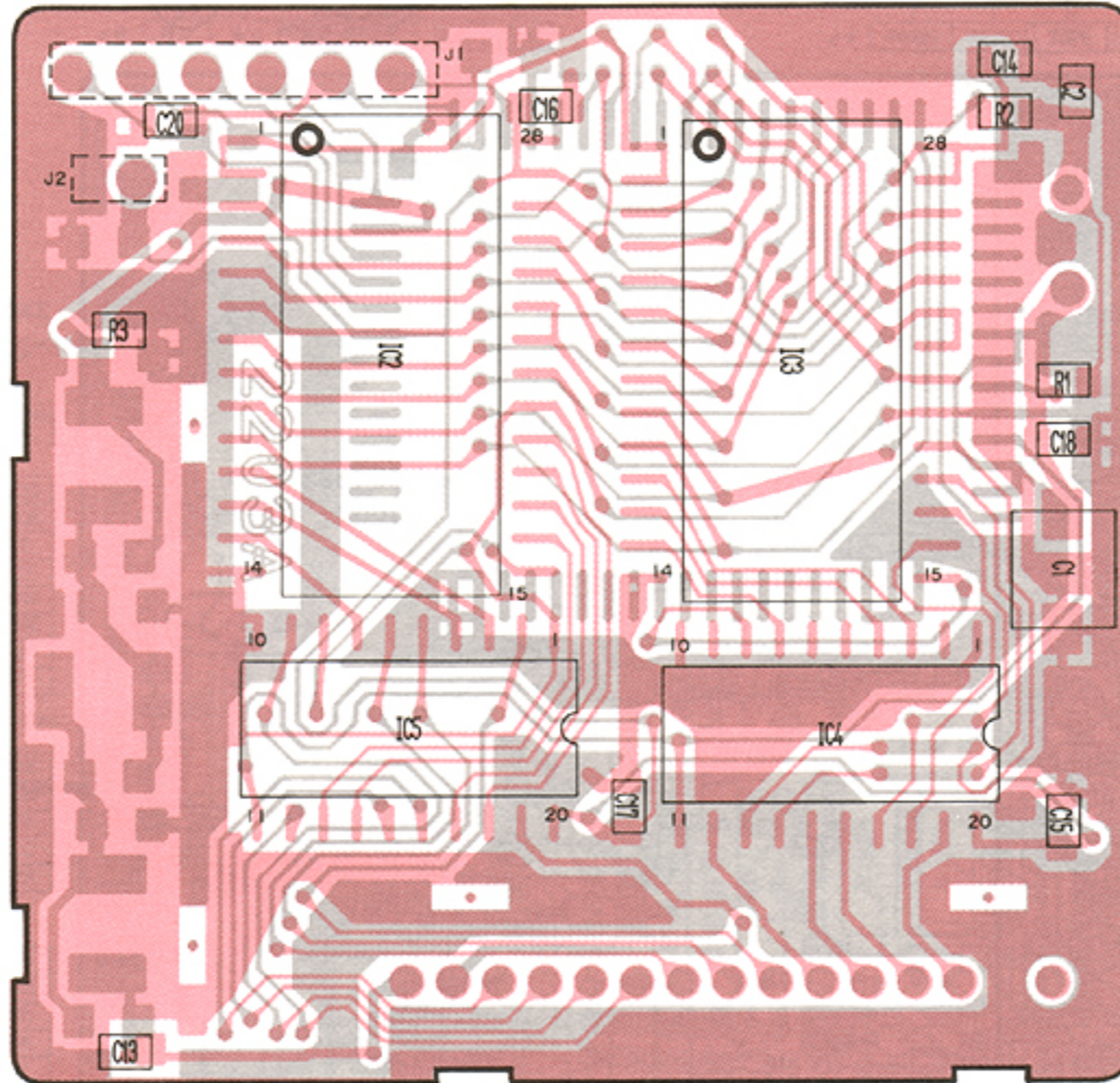
**RN1204**  
Q11, Q26, Q3  
Q30, Q31



**RN2204**  
Q7

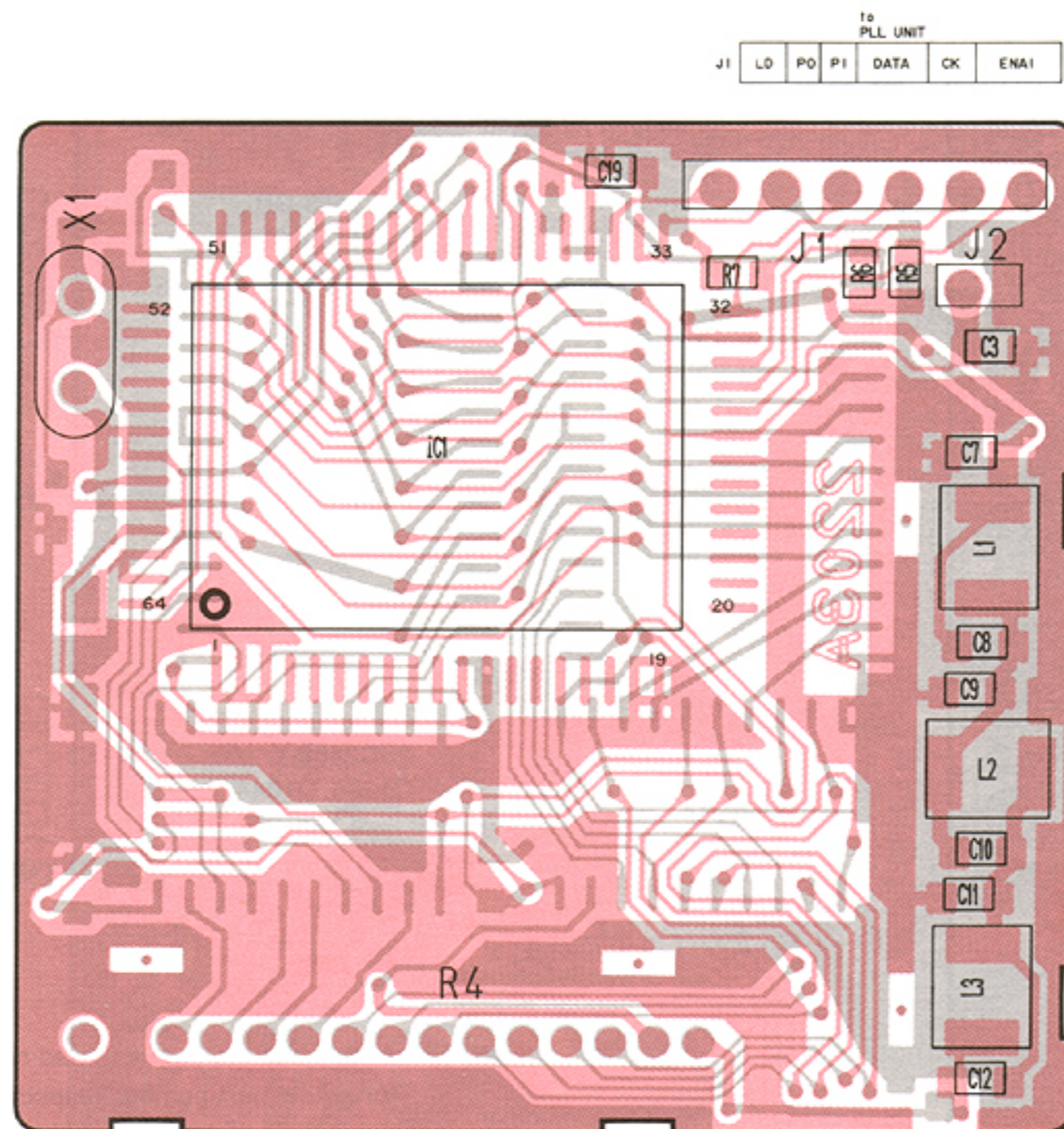


• DDS UNIT  
COMPONENT SIDE



FOIL SIDE  
COMPONENT SIDE

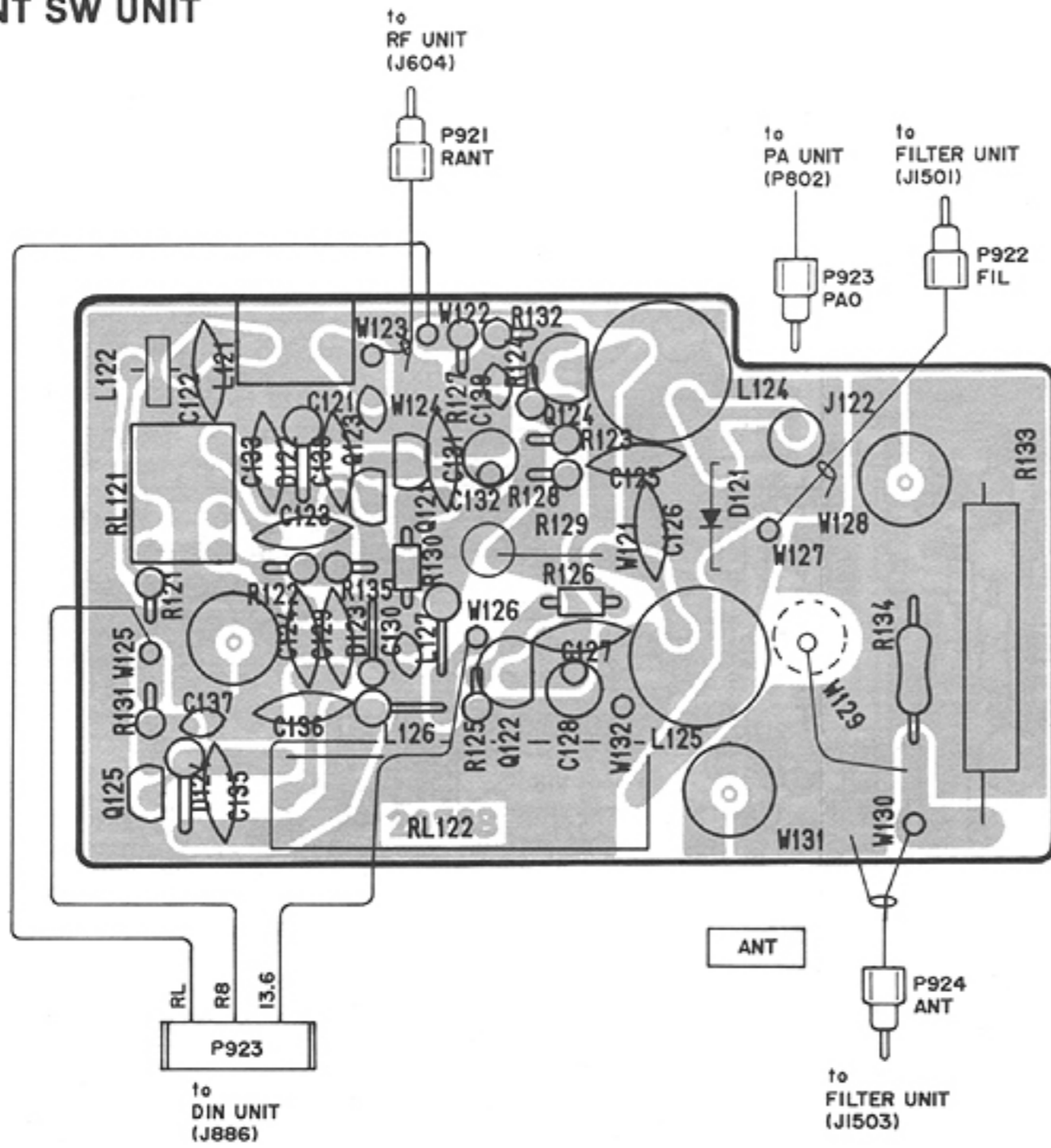
FOIL SIDE



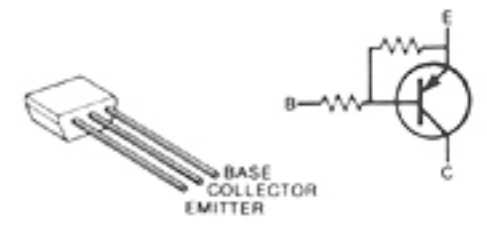
FOIL SIDE  
COMPONENT SIDE

**NOTE:** Add "200" to the indicated number on the unit for actual part number respectively.

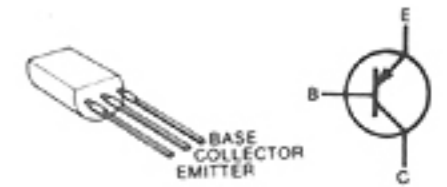
• ANT SW UNIT



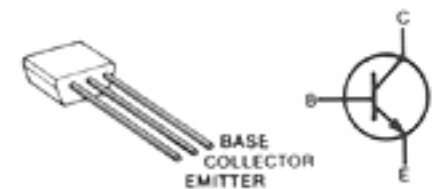
2SA1345  
Q923



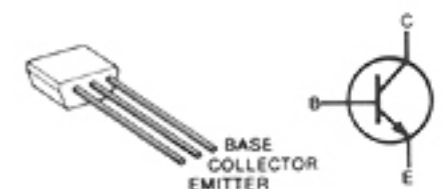
2SB562C  
Q924



2SC2458-GR  
Q921

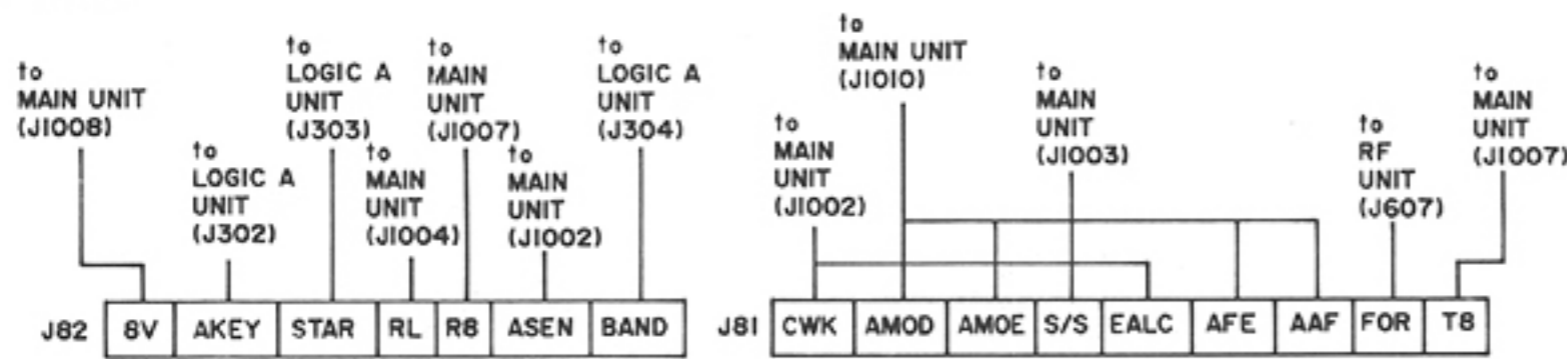


2SC3402  
Q925

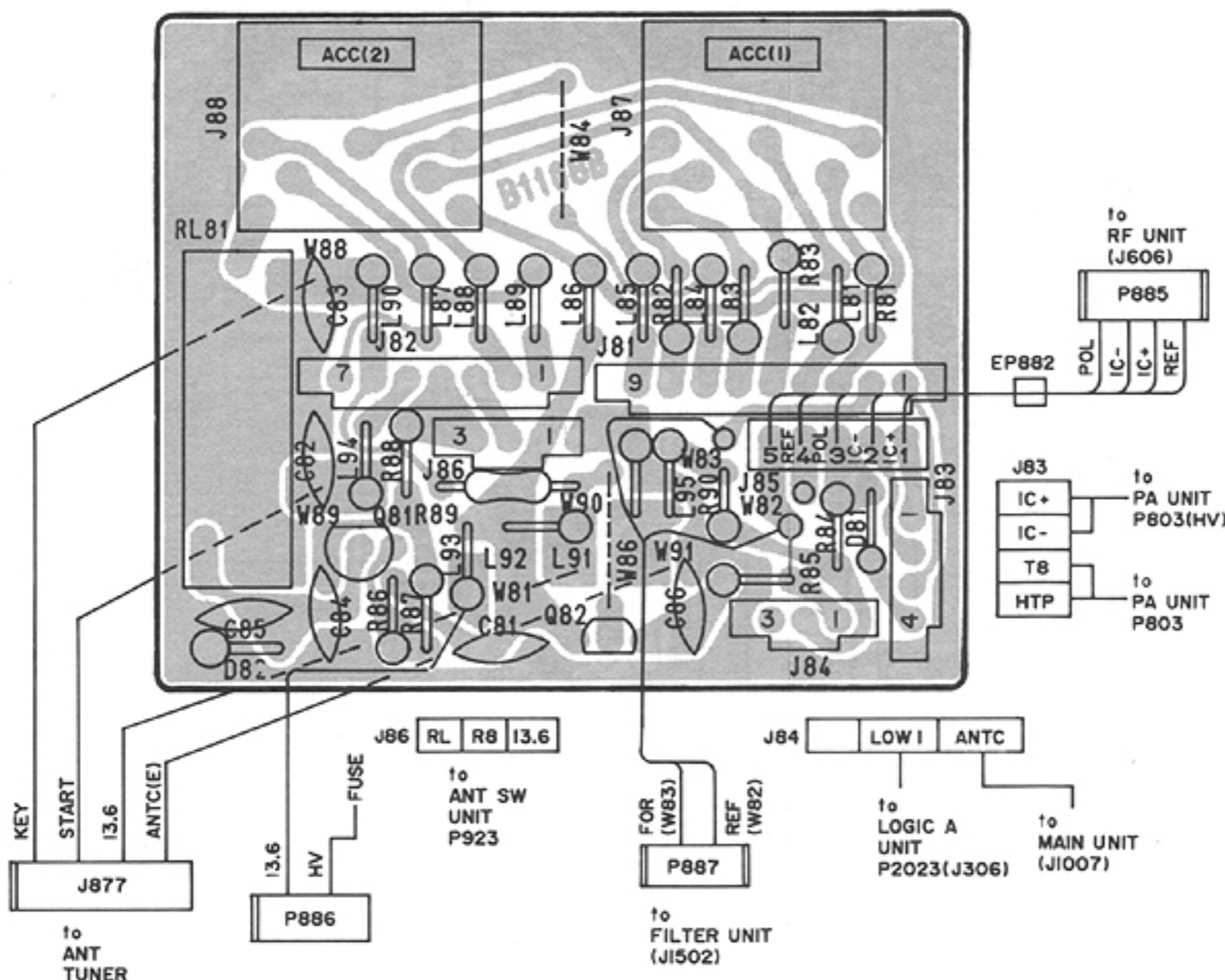
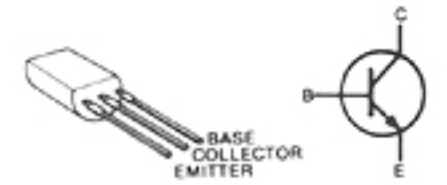


NOTE: Add "800" to the indicated number on the unit for actual part number respectively.

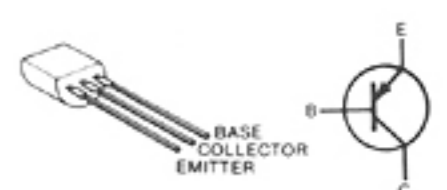
• DIN UNIT



2SD468C  
Q922



2SA1015-Y  
Q881

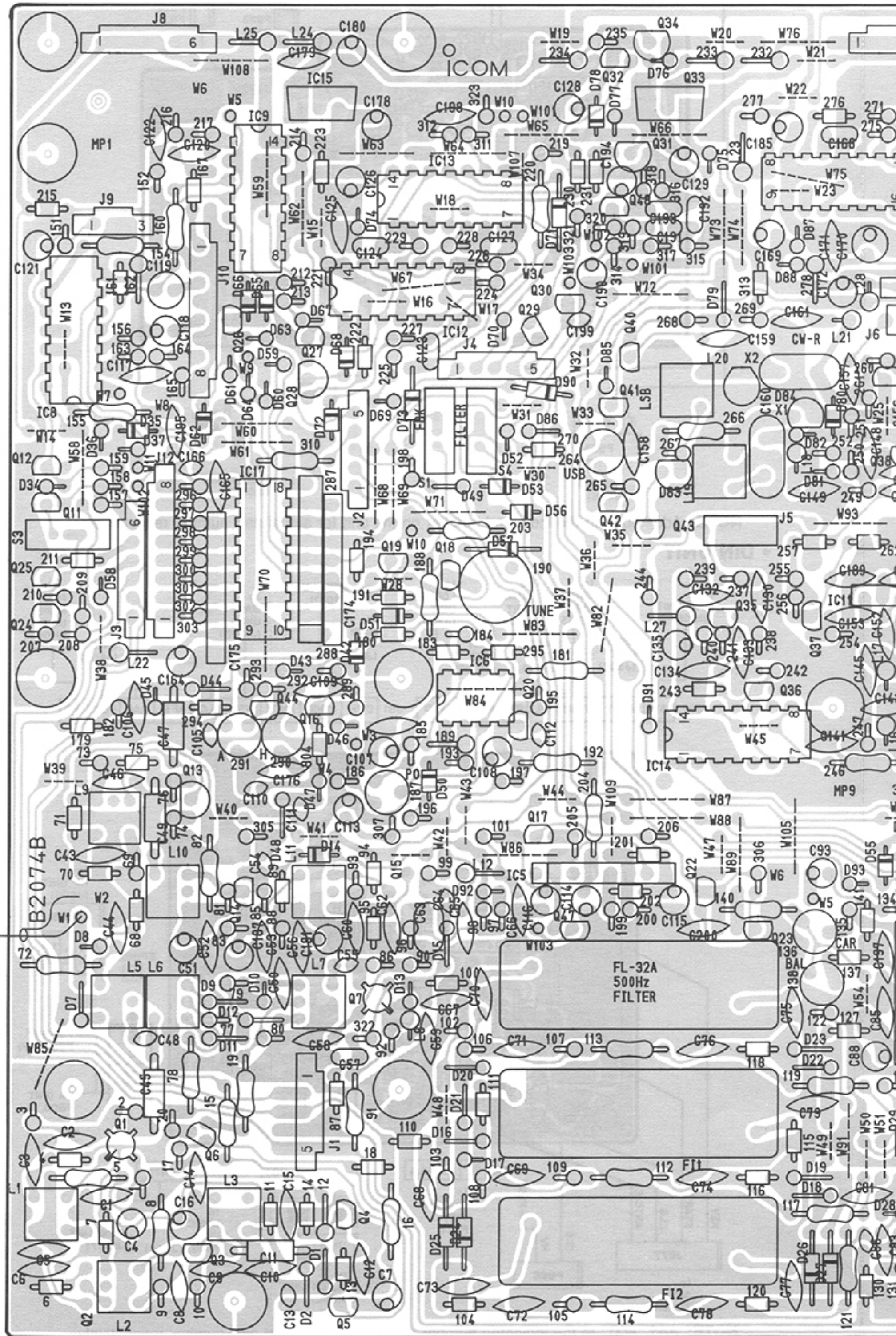
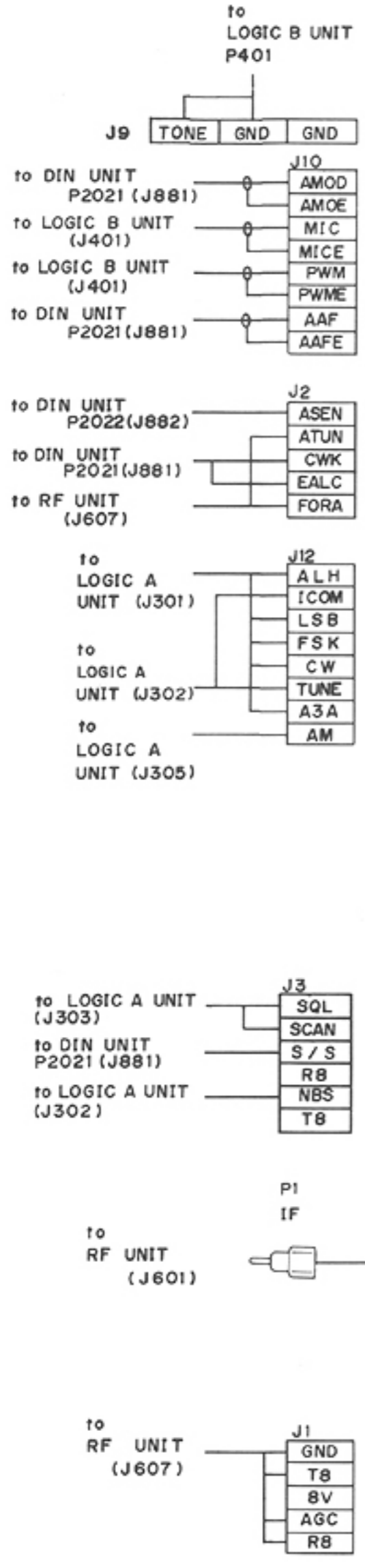
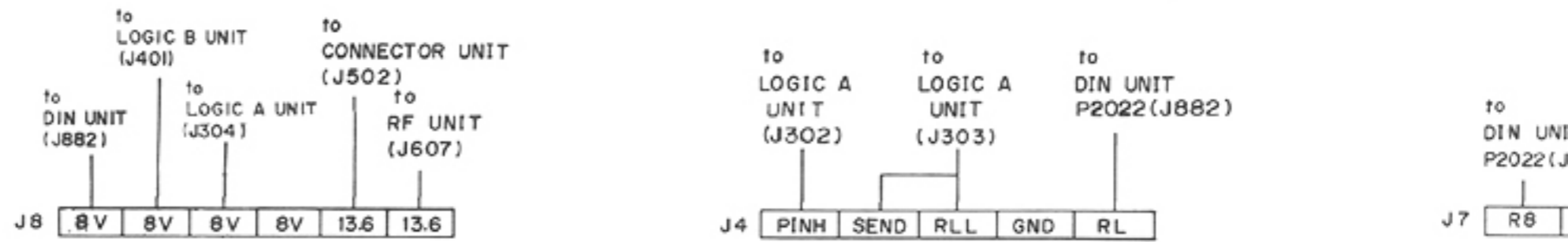


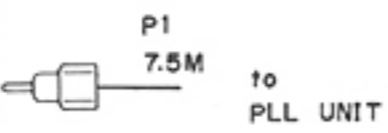
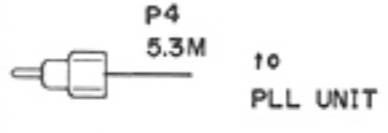
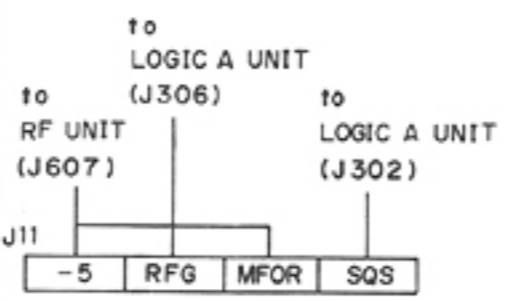
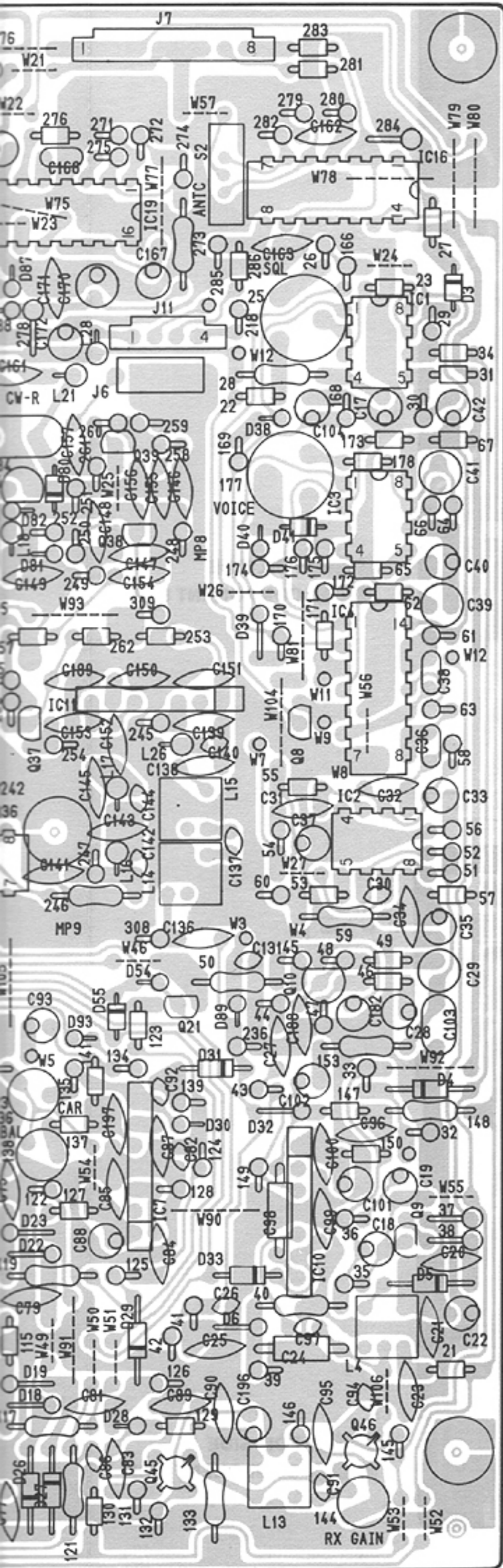
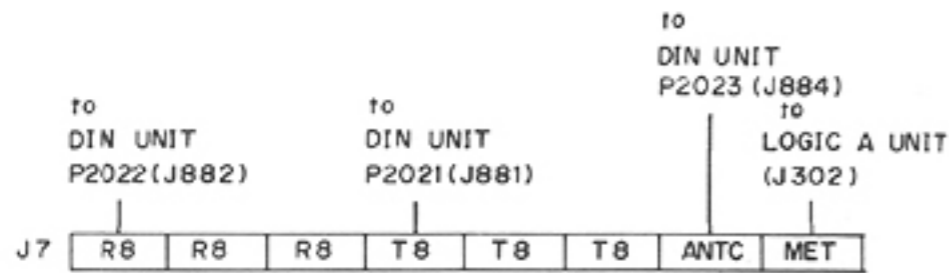
NOTE: Add "800" to the indicated number on the unit for actual part number respectively.



# 6-4 TRANSCEIVER (3)

## • MAIN UNIT

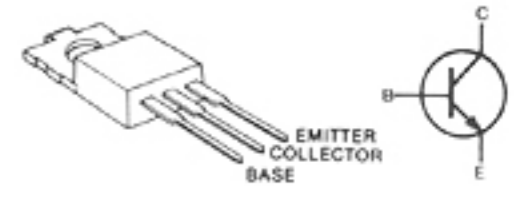




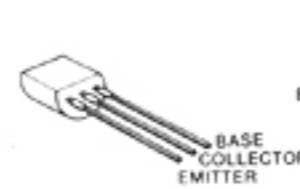
**2SA1048-Y**  
Q1020



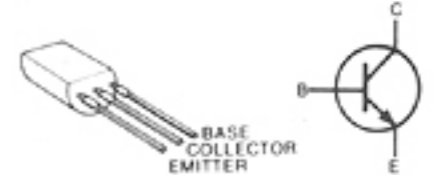
**2SD1406 Y**  
Q1033



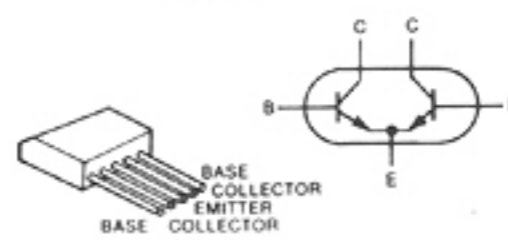
**2SC1571G**  
Q1010



**2SD468C**  
Q1034



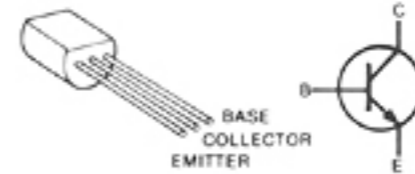
**2SC1583 G**  
Q1002



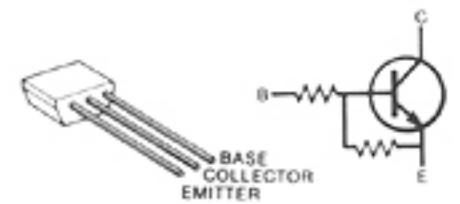
**3SK74 M**  
Q1001, Q1007  
Q1015, Q1045  
Q1046



**2SC1645B**  
Q1028, Q1031



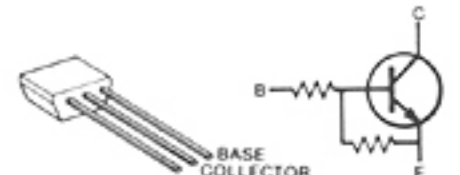
**RN1202**  
Q1030, Q1040  
Q1042



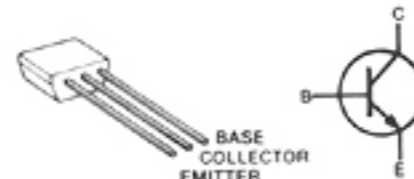
**2SC2053**  
Q1013



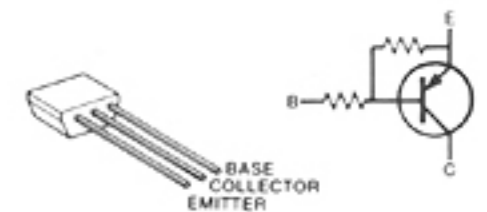
**RN1204**  
Q1008, Q1011  
Q1012, Q1018  
Q1023, Q1025  
Q1026, Q1027  
Q1029, Q1041  
Q1043, Q1047



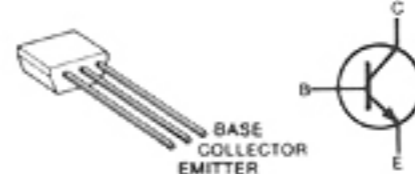
**2SC2458-GR**  
Q1003, Q1004  
Q1005, Q1009  
Q1014, Q1016  
Q1017, Q1022  
Q1024, Q1032  
Q1035, Q1036  
Q1037, Q1039  
Q1048



**RN2202**  
Q1006, Q1021

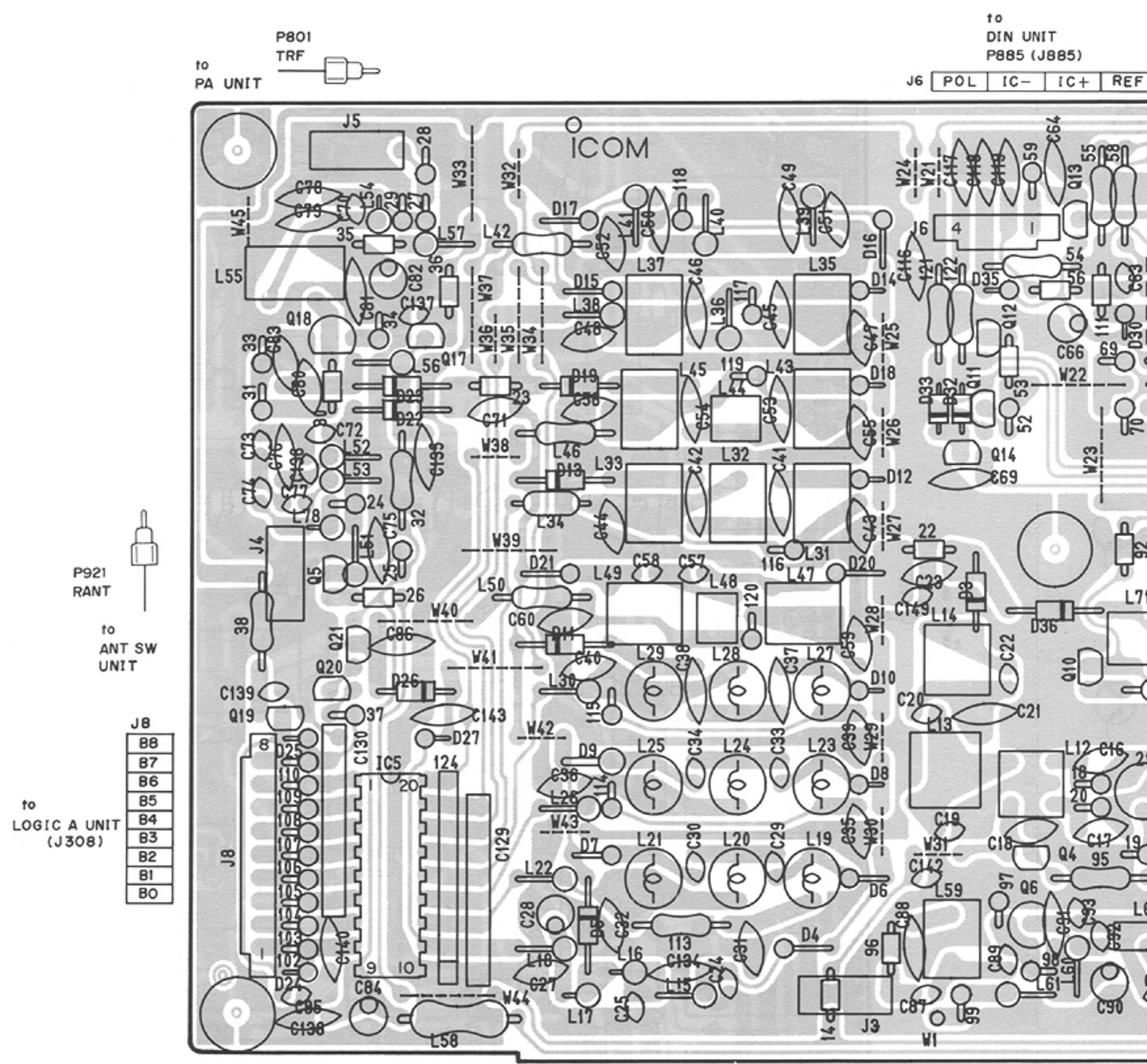


**2SC2458-Y**  
Q1038, Q1044

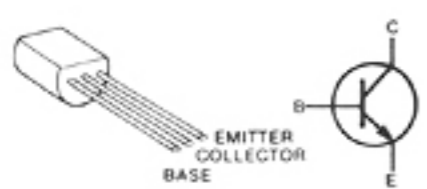


**NOTE:** Add "1000" to the indicated number on the unit for actual part number respectively.

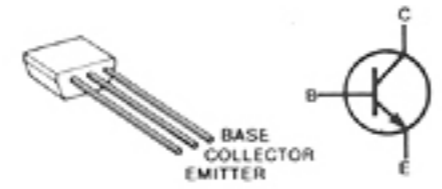
• RF UNIT



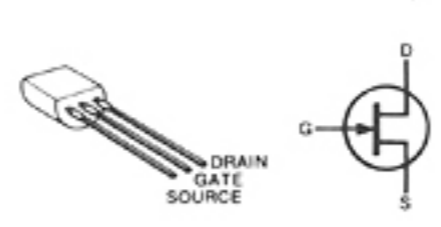
**2SC2053**  
Q606, Q618



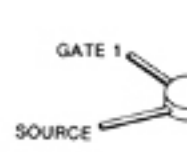
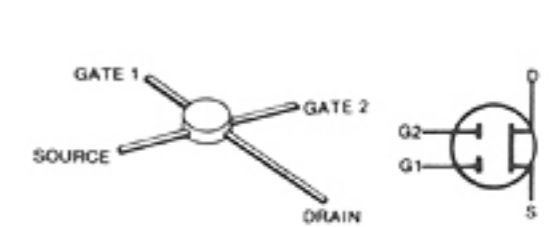
**2SC2458-Y**  
Q613

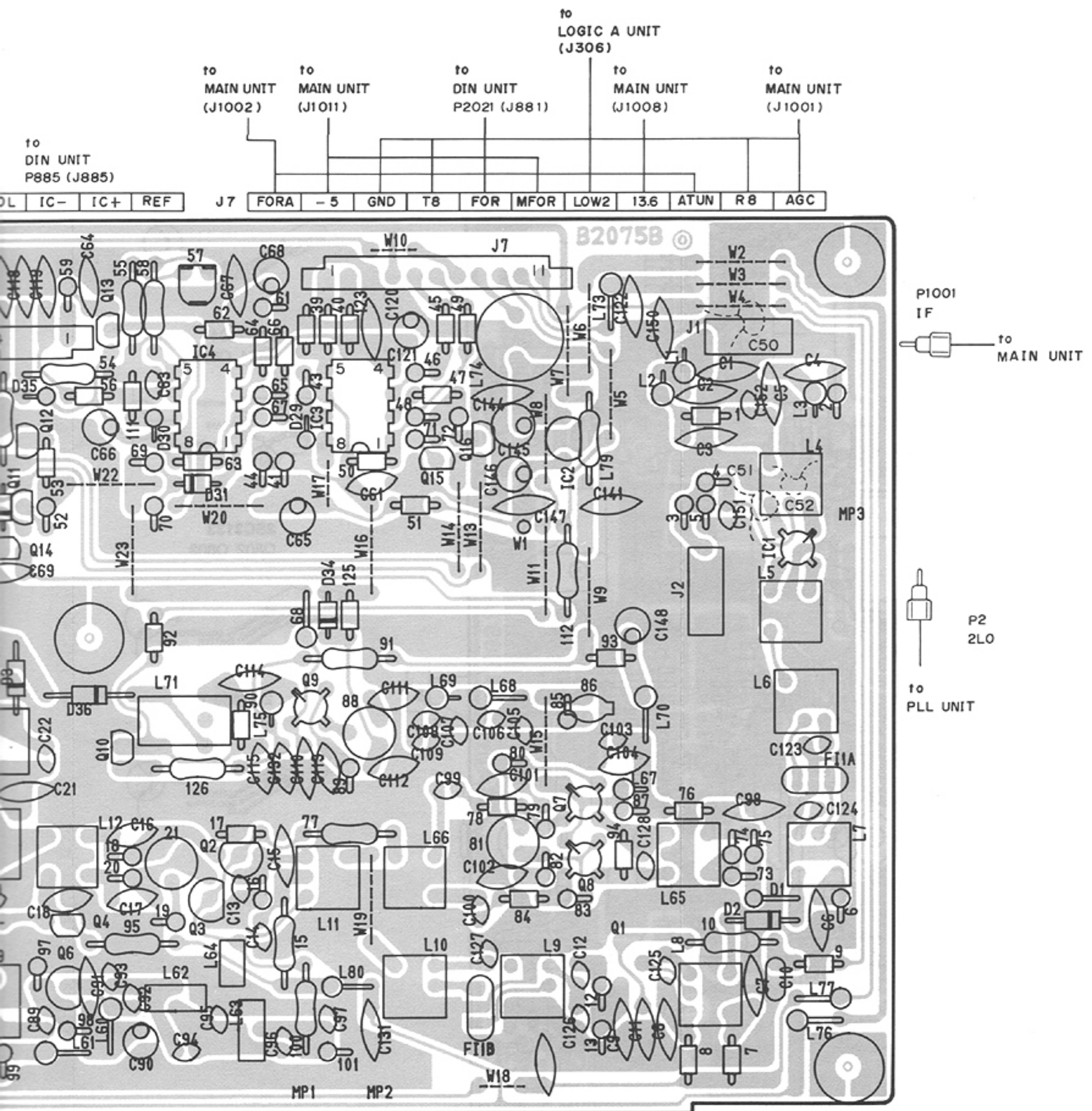


**2SK125**  
Q602, Q603



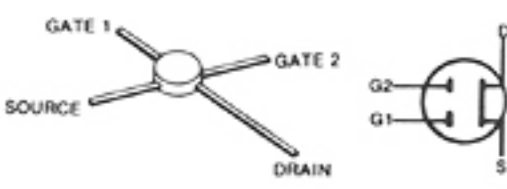
**3SK74 K**  
Q607, Q608



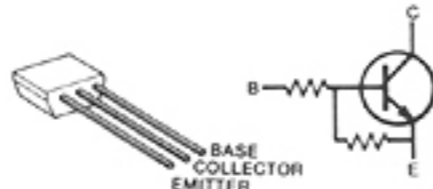


**NOTE:** Add "600" to the indicated number on the unit for actual part number respectively.

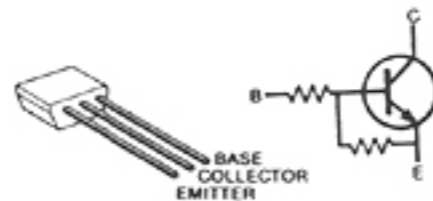
**3SK74 M**  
Q601, Q609



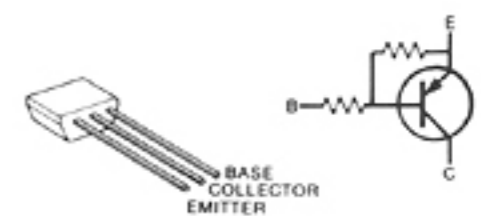
**RN1202**  
Q604, Q605, Q610  
Q617



**RN1204**  
Q611, Q612, Q614  
Q615, Q616, Q619  
Q620

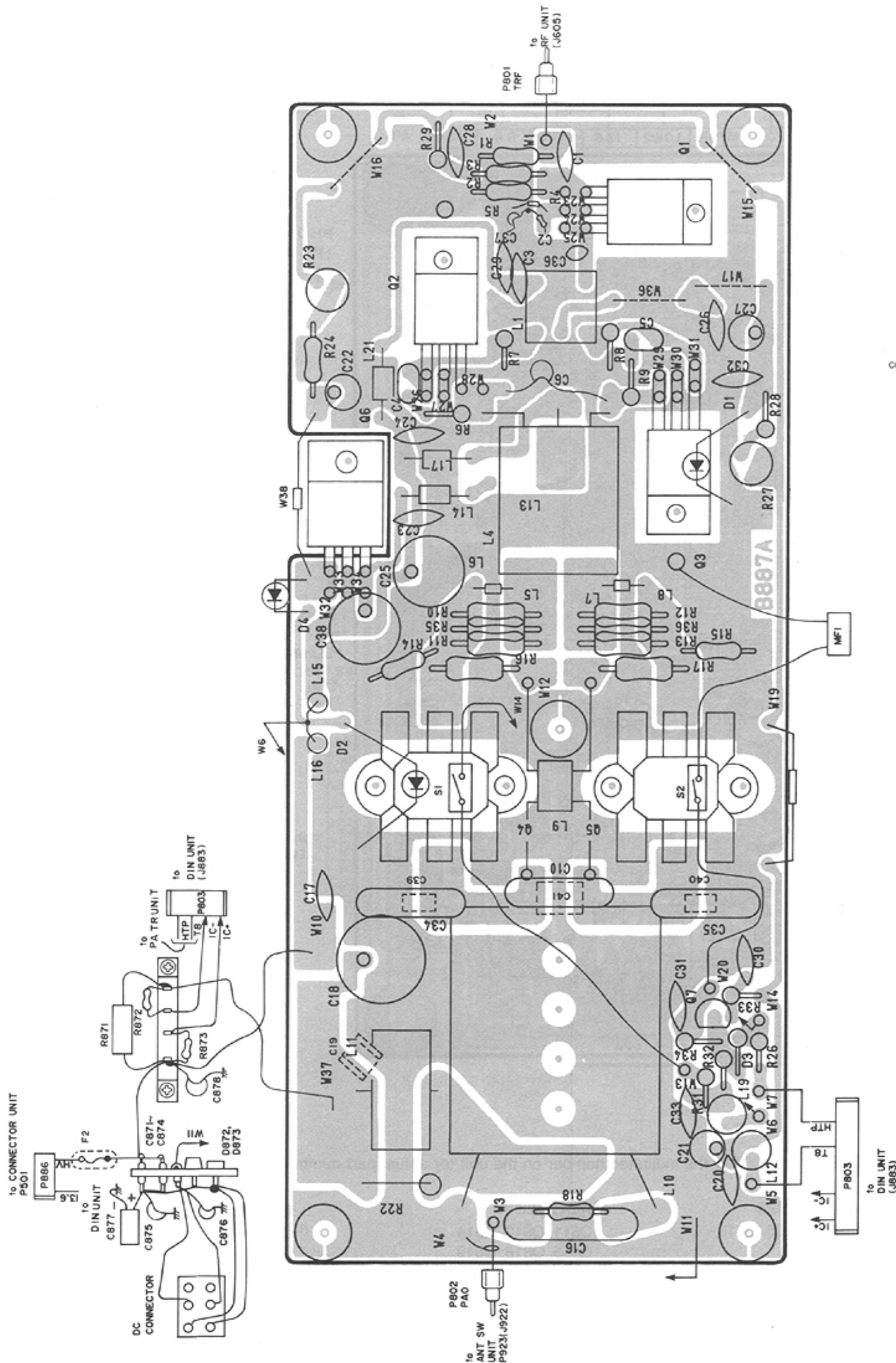


**RN2202**  
Q621

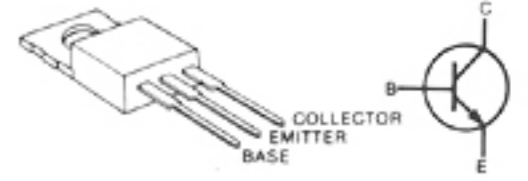


# 6-5 TRANSCEIVER (4)

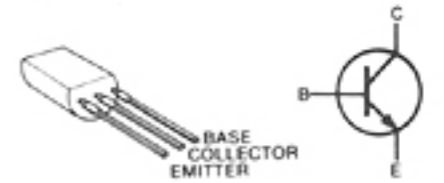
## • PA TR UNIT



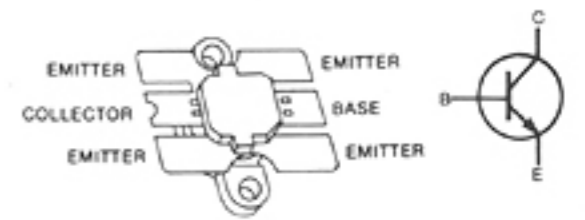
**2SC1971**  
Q801



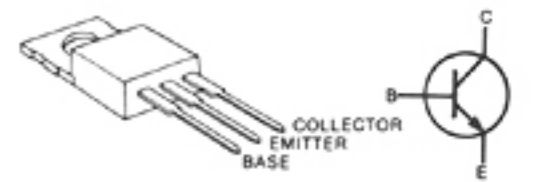
**2SC2120-Y**  
Q807



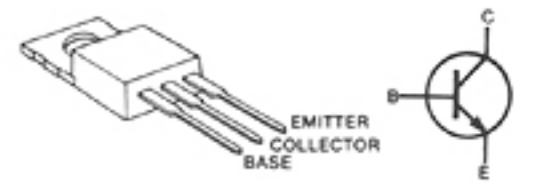
**2SC2904**  
Q804, Q805



**2SC3133**  
Q802, Q803

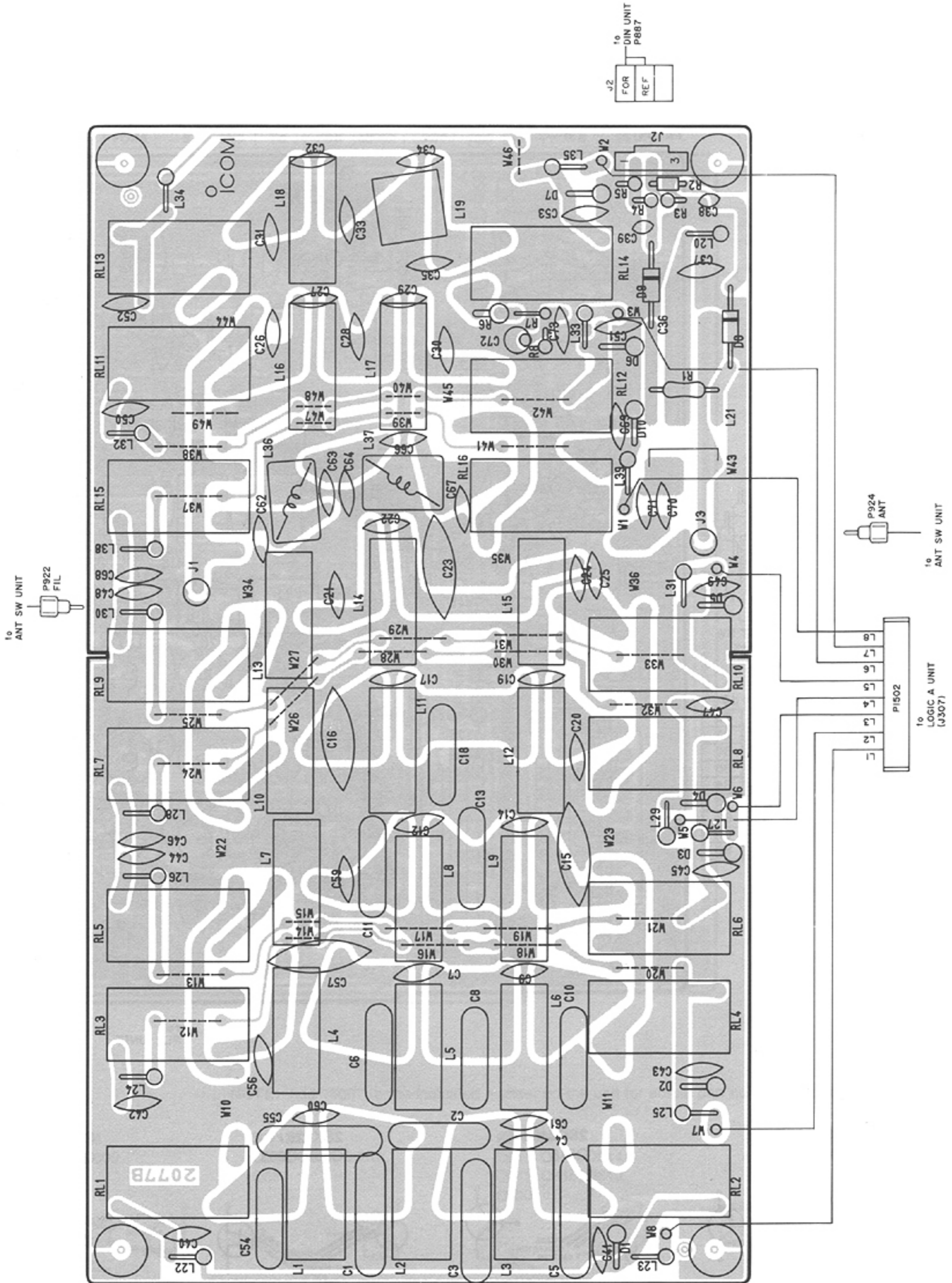


**2SD880-Y**  
Q806



**NOTE:** Add "800" to the indicated number on the unit for actual part number respectively.

• FILTER UNIT



**NOTE:** Add "1500" to the indicated number on the unit for actual part number respectively.

# SECTION 7 PARTS LIST

## [SENSOR UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
S2002	2250000020	Switch	SRB18100 25KC
EP2002	0910022670	P.C. Board	B 2154

## [JACK UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
IC2015	1170000110	IC	GP-1F01D
Q2016	1530000110	Transistor	2SC2458-GR
R2092	7010003320	Resistor	ELR20J 220 Ω
R2093	7010004320	Resistor	R20J 10 kΩ
R2094	7010003530	Resistor	ELR20J 10 kΩ
C2091	4010000520	Ceramic	DD108 B 472K 50V
C2092	4510003040	Electrolytic	16 SS 100 μF
EP2005	0910022661	P.C. Board	B 2156A

## [SW UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
S2001	2210000590	Switch	SRRS1S017A
EP2003	0910022640	P.C. Board	B 2155

## [IF UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
IC2001	1180000340	IC	TA78005AP
IC2002	1180000030	IC	TA78L008AP
IC2003	1120000240	IC	M54519P
IC2004	1140001150	IC	HD647180
IC2005	1140001050	IC	SC1105
IC2006	1110001680	IC	S-8054ALB
IC2007	1110001460	IC	μPC1555C
IC2008	1130004520	IC	TC4030BF
IC2010	1110000330	IC	M5218L
IC2011	1110000330	IC	M5218L
IC2012	1110000330	IC	M5218L
IC2013	1110000890	IC	μPC1241H

## [IF UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
Q2001	1530000100	Transistor	2SC2458-Y
Q2002	1520000230	Transistor	2SB909M Q
Q2003	1590000350	Transistor	RN1204
Q2005	1590000340	Transistor	RN1202
Q2006	1590000350	Transistor	RN1204
Q2007	1530000170	Transistor	2SC2878-A
Q2008	1510000080	Transistor	2SA1048-GR
Q2009	1590000360	Transistor	RN2202
Q2010	1590000280	FET	2SJ105-Y
Q2011	1590000350	Transistor	RN1204
Q2012	1590000350	Transistor	RN1204
Q2013	1590000350	Transistor	RN1204
D2001	1710000050	Diode	1SS53
D2002	1710000350	Diode	1N4002
D2005	1710000160	Diode	1SS133
D2006	1710000160	Diode	1SS133
D2007	1710000530	Diode	S3V-10
D2008	1710000160	Diode	1SS133
D2009	1710000160	Diode	1SS133
D2010	1710000160	Diode	1SS133
D2011	1710000160	Diode	1SS133
D2012	1710000160	Diode	1SS133
D2013	1710000160	Diode	1SS133
D2014	1710000160	Diode	1SS133
D2015	1710000160	Diode	1SS133
D2016	1710000160	Diode	1SS133
D2017	1710000160	Diode	1SS133
D2018	1710000160	Diode	1SS133
D2019	1710000160	Diode	1SS133
D2020	1710000160	Diode	1SS133
D2021	1710000160	Diode	1SS133
D2022	1710000160	Diode	1SS133
D2023	1710000160	Diode	1SS133
D2024	1710000160	Diode	1SS133
D2025	1710000160	Diode	1SS133
X2001	6050003350	Crystal	RF-4A3 FAF NKD (9.270800M)
X2002	6050003660	Crystal	CR-203
L2001	6170000140	Coil	LW-15
L2002	6910000670	Coil	BT01RN1-A61-001
L2003	6180000900	Coil	LAL 03NA 101K
L2004	6180000900	Coil	LAL 03NA 101K
L2005	6180000900	Coil	LAL 03NA 101K
L2006	6910000670	Coil	BT01RN1-A61-001
L2007	6910000670	Coil	BT01RN1-A61-001
R2001	7010003480	Resistor	ELR20J 4.7 kΩ
R2002	7010003620	Resistor	ELR20J 47 kΩ
R2003	7010003550	Resistor	ELR20J 15 kΩ
R2004	7010003600	Resistor	ELR20J 33 kΩ
R2005	7010003620	Resistor	ELR20J 47 kΩ
R2006	7010003620	Resistor	ELR20J 47 kΩ
R2007	7010003400	Resistor	ELR20J 1 kΩ
R2008	7010001400	Resistor	R25J 100 kΩ
R2009	7010003390	Resistor	ELR20J 820 Ω
R2010	7010003490	Resistor	ELR20J 5.6 kΩ
R2011	7010003540	Resistor	ELR20J 12 kΩ
R2012	7010003580	Resistor	ELR20J 22 kΩ
R2013	7010004830	Resistor	R50XJ 4.7 Ω
R2016	7010004030	Resistor	R20J 47 Ω
R2017	7010004110	Resistor	R20J 220 Ω
R2019	7010003320	Resistor	ELR20J 220 Ω
R2020	7010003280	Resistor	ELR20J 100 Ω

## (IF UNIT)

REF. NO.	ORDER NO.	DESCRIPTION	
R2021	7010004250	Resistor	R20J 3.3 kΩ
R2022	7310000870	Trimmer	RH1051D14J0PA (103)
R2023	7010003580	Resistor	ELR20J 22 kΩ
R2024	7010003650	Resistor	ELR20J 82 kΩ
R2025	7010003660	Resistor	ELR20J 100 kΩ
R2026	7010003720	Resistor	ELR20J 330 kΩ
R2027	7010003400	Resistor	ELR20J 1 kΩ
R2028	7010004150	Resistor	R20J 470 Ω
R2029	7010003710	Resistor	ELR20J 270 kΩ
R2030	7010003640	Resistor	ELR20J 68 kΩ
R2031	7010004320	Resistor	R20J 10 kΩ
R2032	7010003540	Resistor	ELR20J 12 kΩ
R2033	7010004330	Resistor	R20J 12 kΩ
R2034	7010003520	Resistor	ELR20J 8.2 kΩ
R2035	7010003380	Resistor	ELR20J 680 Ω
R2036	7010003400	Resistor	ELR20J 1 kΩ
R2037	7010003630	Resistor	ELR20J 56 kΩ
R2038	7010004230	Resistor	R20J 2.2 kΩ
R2039	7010003490	Resistor	ELR20J 5.6 kΩ
R2041	7010003440	Resistor	ELR20J 2.2 kΩ
R2042	7010003440	Resistor	ELR20J 2.2 kΩ
R2043	7010004390	Resistor	R20J 33 kΩ
R2044	7010003600	Resistor	ELR20J 33 kΩ
R2046	7010003530	Resistor	ELR20J 10 kΩ
R2047	7010003040	Resistor	ELR20J 1 Ω
R2048	7010004190	Resistor	R20J 1 kΩ
R2049	7010003100	Resistor	ELR20J 3.3 Ω
R2050	7010003280	Resistor	ELR20J 100 Ω
R2051	7010003740	Resistor	ELR20J 470 kΩ
R2052	7010004450	Resistor	R20J 100 kΩ
R2053	7010003400	Resistor	ELR20J 1 kΩ
R2054	7010003740	Resistor	ELR20J 470 kΩ
R2055	7010003630	Resistor	ELR20J 56 kΩ
R2056	7010003630	Resistor	ELR20J 56 kΩ
R2057	7010004420	Resistor	R20J 56 kΩ
R2058	7010003630	Resistor	ELR20J 56 kΩ
R2059	7010003630	Resistor	ELR20J 56 kΩ
R2060	7010003630	Resistor	ELR20J 56 kΩ
R2061	7010003630	Resistor	ELR20J 56 kΩ
R2062	7010003630	Resistor	ELR20J 56 kΩ
R2064	7010003630	Resistor	ELR20J 56 kΩ
R2065	7010003740	Resistor	ELR20J 470 kΩ
R2066	7010003340	Resistor	ELR20J 330 Ω
R2067	7010003340	Resistor	ELR20J 330 Ω
R2068	7010003340	Resistor	ELR20J 330 Ω
R2069	7010003340	Resistor	ELR20J 330 Ω
R2070	7010003340	Resistor	ELR20J 330 Ω
R2071	7010003340	Resistor	ELR20J 330 Ω
R2072	7010003340	Resistor	ELR20J 330 Ω
R2073	7010004130	Resistor	R20J 330 Ω
R2074	7010004130	Resistor	R20J 330 Ω
R2075	7010003340	Resistor	ELR20J 330 Ω
R2077	7410000080	Resistor Array	RMX- 4 473K
R2078	7410000290	Resistor Array	RMX- 3 473K
R2079	7410000150	Resistor Array	RMX- 6 473K
R2080	7410000220	Resistor Array	RMX- 8 473K
R2081	7410000150	Resistor Array	RMX- 6 473K
R2082	7010003550	Resistor	ELR20J 15 kΩ
R2083	7010003660	Resistor	ELR20J 100 kΩ
R2084	7010003620	Resistor	ELR20J 47 kΩ
R2085	7010004110	Resistor	R20J 220 Ω
R2086	7010004310	Resistor	R20J 8.2 kΩ
R2087	7010004190	Resistor	R20J 1 kΩ
R2088	7010003660	Resistor	ELR20J 100 kΩ
C2001	4510002790	Electrolytic	16 SS 22 μF
C2002	4040000250	Barrier Layer	UAT 08X 473M
C2003	4040000250	Barrier Layer	UAT 08X 473M
C2005	4010000500	Ceramic	DD104 B 102K 50V
C2006	4010000520	Ceramic	DD108 B 472K 50V
C2008	4010000520	Ceramic	DD108 B 472K 50V
C2010	4510002790	Electrolytic	16 SS 22 μF
C2011	4510002950	Electrolytic	50 SS 2R2 μF
C2012	4510002940	Electrolytic	50 SS 1 μF

## (IF UNIT)

REF. NO.	ORDER NO.	DESCRIPTION	
C2013	4510002940	Electrolytic	50 SS 1 μF
C2014	4510002640	Electrolytic	25 SS 47 μF
C2015	4510002840	Electrolytic	25 SS 10 μF
C2016	4310000090	Mylar	F2D 50V 333K
C2017	4310000020	Mylar	F2D 50V 103K
C2018	4010000430	Ceramic	DD109 SL 471J 50V
C2019	4510002790	Electrolytic	16 SS 22 μF
C2020	4510002840	Electrolytic	25 SS 10 μF
C2021	4040000440	Barrier Layer	RAU 06SA 561K
C2022	4510002840	Electrolytic	25 SS 10 μF
C2023	4510003040	Electrolytic	16 SS 100 μF
C2024	4010000260	Ceramic	DD104 SL 470J 50V
C2025	4010000260	Ceramic	DD104 SL 470J 50V
C2026	4310000030	Mylar	F2D 50V 104K
C2027	4510002380	Electrolytic	16 SS 470 μF (10X12.5)
C2028	4510002810	Electrolytic	16 SS 47 μF
C2029	4510002380	Electrolytic	16 SS 470 μF (10X12.5)
C2030	4510003040	Electrolytic	16 SS 100 μF
C2031	4510002810	Electrolytic	16 SS 47 μF
C2032	4310000120	Mylar	F2D 50V 473K
C2033	4310000030	Mylar	F2D 50V 104K
C2034	4040000260	Barrier Layer	UZE 08X 104M
C2035	4510002940	Electrolytic	50 SS 1 μF
C2036	4310000170	Mylar	F2D 50V 682K
C2037	4010000320	Ceramic	DD104 SL 820J 50V
C2038	4310000690	Mylar	F2D 50V 152K
C2039	4310000170	Mylar	F2D 50V 682K
C2040	4010000320	Ceramic	DD104 SL 820J 50V
C2041	4310000690	Mylar	F2D 50V 152K
C2042	4310000170	Mylar	F2D 50V 682K
C2043	4010000320	Ceramic	DD104 SL 820J 50V
C2044	4310000690	Mylar	F2D 50V 152K
C2045	4510001740	Electrolytic	50 RBP 1 μF
C2046	4010000180	Ceramic	DD104 SL 220J 50V
C2047	4010000180	Ceramic	DD104 SL 220J 50V
C2048	4040000260	Barrier Layer	UZE 08X 104M
C2049	4010000520	Ceramic	DD108 B 472K 50V
C2050	4510002810	Electrolytic	16 SS 47 μF
C2051	4510002810	Electrolytic	16 SS 47 μF
C2052	4040000250	Barrier Layer	UAT 08X 473M
C2053	4010000520	Ceramic	DD108 B 472K 50V
C2054	4510002810	Electrolytic	16 SS 47 μF
C2055	4510002790	Electrolytic	16 SS 22 μF
C2056	4040000250	Barrier Layer	UAT 08X 473M
C2057	4010000150	Ceramic	DD104 SL 150J 50V
C2058	4010000150	Ceramic	DD104 SL 150J 50V
C2059	4510002790	Electrolytic	16 SS 22 μF
C2060	4010000520	Ceramic	DD108 B 472K 50V
C2061	4010000520	Ceramic	DD108 B 472K 50V
C2062	4510002790	Electrolytic	16 SS 22 μF
C2063	4010000520	Ceramic	DD108 B 472K 50V
C2064	4510002790	Electrolytic	16 SS 22 μF
C2065	4510002830	Electrolytic	25 SS 4R7 μF
C2066	4510002790	Electrolytic	16 SS 22 μF
C2067	4010000520	Ceramic	DD108 B 472K 50V
C2068	4010000520	Ceramic	DD108 B 472K 50V
C2069	4010000520	Ceramic	DD108 B 472K 50V
C2070	4040000250	Barrier Layer	UAT 08X 473M
C2071	4510002820	Electrolytic	16 SS 1000 μF
RL2001	6330000720	Relay	DS1-M-DC12V (AG2013)
EP2001	0910022493	P.C. Board	B 2153C



**[FRONT UNIT]**

REF. NO.	ORDER NO.	DESCRIPTION	
R2091	7210000330	Variable Resistor	RK1241212005A [PWR/VOL]
DS2001	5030000450	LCD	LM-16X21A
SP2001	2510000440	Speaker	77F60N
EP2004 EP2006	0910022270 8210004741	P.C. Board Membrane Switch	B 2158 C-03481A

**[CONNECT UNIT]**

REF. NO.	ORDER NO.	DESCRIPTION	
C507	4510002640	Electrolytic	25 SS 47 μF
C508	4040000250	Barrier Layer	UAT 08X 473M
C509	4510002780	Electrolytic	16 SS 10 μF
C510	4510002730	Electrolytic	10 SS 100 μF
C511	4010000520	Ceramic	DD108 B 472K 50V
C512	4510002810	Electrolytic	16 SS 47 μF
C513	4010000520	Ceramic	DD108 B 472K 50V
C514	4010000520	Ceramic	DD108 B 472K 50V
RL501	6330000820	Relay	AJK 3341
EP501	0910022652	P.C. Board	B 2081B

**[CONNECT UNIT]**

REF. NO.	ORDER NO.	DESCRIPTION	
IC501	1130004400	IC	TC74HC157AP
IC502	1180000440	IC	LVC550C
IC503	1170000110	IC	GP-1F01D
Q501	1590000350	Transistor	RN1204
Q502	1530000110	Transistor	2SC2458-GR
Q503	1530000110	Transistor	2SC2458-GR
Q504	1590000340	Transistor	RN1202
D502	1710000160	Diode	1SS133
D503	1710000160	Diode	1SS133
D504	1710000350	Diode	1N4002
D505	1710000160	Diode	1SS133
L501	6180000880	Coil	LAL 03NA 100K
L502	6180000850	Coil	LAL 03NA 4R7K
L504	6180000850	Coil	LAL 03NA 4R7K
L505	6180000880	Coil	LAL 03NA 100K
L506	6180000880	Coil	LAL 03NA 100K
L507	6910000670	Coil	BT01RN1-A61-001
L508	6180001520	Coil	FL 5H 100K
L509	6180000880	Coil	LAL 03NA 100K
L510	6180001520	Coil	FL 5H 100K
L511	6910000670	Coil	BT01RN1-A61-001
L512	6910000670	Coil	BT01RN1-A61-001
L513	6910000670	Coil	BT01RN1-A61-001
L514	6910000670	Coil	BT01RN1-A61-001
R501	7010003530	Resistor	ELR20J 10 kΩ
R502	7010003530	Resistor	ELR20J 10 kΩ
R503	7010004270	Resistor	R20J 4.7 kΩ
R504	7010004660	Resistor	R50XJ 15 Ω
R505	7010003480	Resistor	ELR20J 4.7 kΩ
R506	7010004320	Resistor	R20J 10 kΩ
R507	7010003530	Resistor	ELR20J 10 kΩ
R508	7010004110	Resistor	R20J 220 Ω
R509	7010003620	Resistor	ELR20J 47 kΩ
R510	7010003240	Resistor	ELR20J 47 Ω
R511	7010003360	Resistor	ELR20J 470 Ω
R512	7010003360	Resistor	ELR20J 470 Ω
R513	7010003360	Resistor	ELR20J 470 Ω
C501	4040000250	Barrier Layer	UAT 08X 473M
C502	4530000030	Capacitor Array	B5RC0124-32N
C503	4040000260	Barrier Layer	UZE 08X 104M
C504	4510002720	Electrolytic	10 SS 47 μF
C505	4010000520	Ceramic	DD108 B 472K 50V
C506	4010000520	Ceramic	DD108 B 472K 50V

**[LOGIC-B UNIT]**

REF. NO.	ORDER NO.	DESCRIPTION	
IC401	1140001050	IC	LC92018B-286/SC1105
IC402	1110001460	IC	μPC1555C
IC403	1110000330	IC	M5218L
IC404	1110000330	IC	M5218L
IC405	1130000080	IC	TC4030BP
IC407	1130000950	IC	S7116A
Q401	1510000080	Transistor	2SA1048-GR
Q402	1590000360	Transistor	RN2202
Q405	1530000050	Transistor	2SC1815-GR
X401	6050003660	Crystal	CR-203
X402	6060000060	Crystal	CSA3.58MG18
L401	6170000110	Coil	LW-12A
L402	6180000900	Coil	LAL 03NA 101K
R401	7010004110	Resistor	R20J 220 Ω
R402	7010004190	Resistor	R20J 1 kΩ
R404	7010004430	Resistor	R20J 68 kΩ
R405	7010004230	Resistor	R20J 2.2 kΩ
R406	7010003490	Resistor	ELR20J 5.6 kΩ
R407	7010003280	Resistor	ELR20J 100 Ω
R408	7010003440	Resistor	ELR20J 2.2 kΩ
R409	7010003440	Resistor	ELR20J 2.2 kΩ
R410	7010004390	Resistor	R20J 33 kΩ
R411	7010003600	Resistor	ELR20J 33 kΩ
R412	7010003660	Resistor	ELR20J 100 kΩ
R414	7010003400	Resistor	ELR20J 1 kΩ
R415	7010004320	Resistor	R20J 10 kΩ
R417	7010004110	Resistor	R20J 220 Ω
R418	7010003630	Resistor	ELR20J 56 kΩ
R419	7010003630	Resistor	ELR20J 56 kΩ
R420	7010004420	Resistor	R20J 56 kΩ
R421	7010003630	Resistor	ELR20J 56 kΩ
R422	7010004420	Resistor	R20J 56 kΩ
R423	7010003630	Resistor	ELR20J 56 kΩ
R424	7010003630	Resistor	ELR20J 56 kΩ
R425	7010004420	Resistor	R20J 56 kΩ
R426	7010004420	Resistor	R20J 56 kΩ
R427	7010004530	Resistor	R20J 470 kΩ
R428	7010003660	Resistor	ELR20J 100 kΩ
R429	7010004320	Resistor	R20J 10 kΩ
R431	7010004030	Resistor	R20J 47 Ω
R432	7010004410	Resistor	R20J 47 kΩ
R433	7010004190	Resistor	R20J 1 kΩ
R434	7010003660	Resistor	ELR20J 100 kΩ

**[LOGIC-B UNIT]**

REF. NO.	ORDER NO.	DESCRIPTION	
R435	7010004480	Resistor	R20J 180 kΩ
R436	7010003400	Resistor	ELR20J 1 kΩ
R437	7010004190	Resistor	R20J 1 kΩ
R438	7010003620	Resistor	ELR20J 47 kΩ
R439	7010003400	Resistor	ELR20J 1 kΩ
R440	7010003620	Resistor	ELR20J 47 kΩ
R441	7010004150	Resistor	R20J 470 Ω
C401	4010000150	Ceramic	DD104 SL 150J 50V
C402	4010000150	Ceramic	DD104 SL 150J 50V
C403	4510002740	Electrolytic	10 SS 220 μF
C404	4010000520	Ceramic	DD108 B 472K 50V
C406	4510002790	Electrolytic	16 SS 22 μF
C407	4510002790	Electrolytic	16 SS 22 μF
C408	4040000440	Barrier Layer	RAU 06SA 561K
C409	4010000520	Ceramic	DD108 B 472K 50V
C410	4510002840	Electrolytic	25 SS 10 μF
C411	4510002740	Electrolytic	10 SS 220 μF
C412	4010000260	Ceramic	DD104 SL 470J 50V
C413	4010000260	Ceramic	DD104 SL 470J 50V
C414	4510001740	Electrolytic	50 RBP 1 μF
C415	4510002780	Electrolytic	16 SS 10 μF
C416	4510002790	Electrolytic	16 SS 22 μF
C417	4310000170	Mylar	F2D 50V 682K
C418	4010000320	Ceramic	DD104 SL 820J 50V
C419	4310000690	Mylar	F2D 50V 152K
C420	4310000170	Mylar	F2D 50V 682K
C421	4010000320	Ceramic	DD104 SL 820J 50V
C422	4310000690	Mylar	F2D 50V 152K
C423	4310000170	Mylar	F2D 50V 682K
C424	4010000320	Ceramic	DD104 SL 820J 50V
C425	4310000690	Mylar	F2D 50V 152K
C426	4010000520	Ceramic	DD108 B 472K 50V
C427	4010000520	Ceramic	DD108 B 472K 50V
C429	4010000530	Ceramic	DD112 B 103K 50V
C430	4010000520	Ceramic	DD108 B 472K 50V
C431	4510002780	Electrolytic	16 SS 10 μF
C432	4510002930	Electrolytic	50 SS R47 μF
C433	4510002940	Electrolytic	50 SS 1 μF
C434	4010000460	Ceramic	DD104 B 471K 50V
C435	4010000500	Ceramic	DD104 B 102K 50V
C436	4010000120	Ceramic	DD104 SL 100D 50V
C437	4010000120	Ceramic	DD104 SL 100D 50V
C438	4510002720	Electrolytic	10 SS 47 μF
EP401	0910022503	P.C. Board	B 2080C

**[LOGIC-A UNIT]**

REF. NO.	ORDER NO.	DESCRIPTION	
Q303	1530000100	Transistor	2SC2458-Y
Q304	1530000100	Transistor	2SC2458-Y
Q305	1590000350	Transistor	RN1204
Q306	1590000350	Transistor	RN1204
D301	1710000050	Diode	1SS53
D302	1710000160	Diode	1SS133
D303	1710000160	Diode	1SS133
D304	1710000160	Diode	1SS133
D305	1710000160	Diode	1SS133
D310	1710000160	Diode	1SS133
D311	1710000160	Diode	1SS133
D312	1710000160	Diode	1SS133
D313	1710000160	Diode	1SS133
D314	1710000160	Diode	1SS133
D315	1710000160	Diode	1SS133
D316	1710000160	Diode	1SS133
D317	1710000160	Diode	1SS133
D318	1710000160	Diode	1SS133
D319	1710000160	Diode	1SS133
D320	1710000160	Diode	1SS133
D321	1710000160	Diode	1SS133
D322	1710000160	Diode	1SS133
D323	1710000160	Diode	1SS133
X301	6050003350	Crystal	RF-4A3 FAF NKD (9.270800M)
L301	6910000600	Ferrite Bead	FSOH050RN
L302	6910000670	Coil	BT01RN1-A61-001
L303	6910000670	Coil	BT01RN1-A61-001
L304	6180000990	Coil	LAL 04NA 101K
L305	6180000990	Coil	LAL 04NA 101K
L306	6180000990	Coil	LAL 04NA 101K
L307	6180000990	Coil	LAL 04NA 101K
L308	6180000990	Coil	LAL 04NA 101K
L309	6180000990	Coil	LAL 04NA 101K
L310	6180000990	Coil	LAL 04NA 101K
L311	6180000990	Coil	LAL 04NA 101K
L312	6910000670	Coil	BT01RN1-A61-001
L313	6180000900	Coil	LAL 03NA 101K
L314	6180000900	Coil	LAL 03NA 101K
L315	6180000900	Coil	LAL 03NA 101K
L316	6910000670	Coil	BT01RN1-A61-001
L317	6910000670	Coil	BT01RN1-A61-001
R301	7010003280	Resistor	ELR20J 100 Ω
R302	7010003280	Resistor	ELR20J 100 Ω
R303	7010003280	Resistor	ELR20J 100 Ω
R304	7010003280	Resistor	ELR20J 100 Ω
R305	7010003280	Resistor	ELR20J 100 Ω
R306	7010003280	Resistor	ELR20J 100 Ω
R307	7010003280	Resistor	ELR20J 100 Ω
R308	7010003280	Resistor	ELR20J 100 Ω
R309	7010003280	Resistor	ELR20J 100 Ω
R310	7010003160	Resistor	ELR20J 10 Ω
R311	7010003160	Resistor	ELR20J 10 Ω
R312	7010003360	Resistor	ELR20J 470 Ω
R313	7010003320	Resistor	ELR20J 220 Ω
R314	7010003360	Resistor	ELR20J 470 Ω
R315	7010003360	Resistor	ELR20J 470 Ω
R316	7010003360	Resistor	ELR20J 470 Ω
R317	7010003360	Resistor	ELR20J 470 Ω
R318	7010003400	Resistor	ELR20J 1 kΩ
R319	7010004270	Resistor	R20J 4.7 kΩ
R320	7010003530	Resistor	ELR20J 10 kΩ
R321	7010003620	Resistor	ELR20J 47 kΩ
R322	7010003620	Resistor	ELR20J 47 kΩ
R323	7410000150	Resistor Array	RMX- 6 473K
R324	7080001150	Resistor	CRB25FX 2.2 kΩ
R325	7080000220	Resistor	CRB25FX 1 kΩ

**[LOGIC-A UNIT]**

REF. NO.	ORDER NO.	DESCRIPTION	
IC301	1140000940	IC	TMP82C255AN-2-Z
IC302	1130002640	IC	μPD71055C
IC303	1130003770	IC	HM6264ALP15LL
IC304	1140001160	IC	SC1119
IC305	1140001220	IC	HD64180R1P6
IC306	1130004550	IC	SC1118
IC307	1120000970	IC	M54562P
IC308	1130003860	IC	MB4052M-G
IC309	1130004460	IC	TC74HC42AP
IC310	1180000340	IC	TA78005AP
IC311	1130002551	IC	TC74HC32AP
IC312	1130004270	IC	TC74HC00AP
IC313	1110001680	IC	S-8054ALB
Q301	1590000360	Transistor	RN2202
Q302	1590000350	Transistor	RN1204

[LOGIC-A UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
R326	7080001160	Resistor	CRB25FX 12 kΩ
R327	7080000750	Resistor	CRB25FX 8.2 kΩ
R328	7080000260	Resistor	CRB25FX 4.7 kΩ
R329	7080000250	Resistor	CRB25FX 3.3 kΩ
R330	7080001140	Resistor	CRB25FX 1.5 kΩ
R331	7080001130	Resistor	CRB25FX 330 Ω
R332	7080000260	Resistor	CRB25FX 4.7 kΩ
R333	7010004190	Resistor	R20J 1 kΩ
R334	7010004190	Resistor	R20J 1 kΩ
R335	7010004190	Resistor	R20J 1 kΩ
R336	7010004190	Resistor	R20J 1 kΩ
R337	7010004190	Resistor	R20J 1 kΩ
R338	7010004190	Resistor	R20J 1 kΩ
R339	7010004190	Resistor	R20J 1 kΩ
R340	7010004190	Resistor	R20J 1 kΩ
R341	7010003740	Resistor	ELR20J 470 kΩ
R342	7010003530	Resistor	ELR20J 10 kΩ
R346	7010003400	Resistor	ELR20J 1 kΩ
R347	7010003400	Resistor	ELR20J 1 kΩ
R348	7010003400	Resistor	ELR20J 1 kΩ
R349	7010003400	Resistor	ELR20J 1 kΩ
R350	7010003360	Resistor	ELR20J 470 Ω
R351	7010003360	Resistor	ELR20J 470 Ω
R352	7010003620	Resistor	ELR20J 47 kΩ
R353	7010004320	Resistor	R20J 10 kΩ
R354	7010004320	Resistor	R20J 10 kΩ
R355	7010003480	Resistor	ELR20J 4.7 kΩ
R356	7010004210	Resistor	R20J 1.5 kΩ
R357	7010004830	Resistor	R50XJ 4.7 Ω
R358	7010003160	Resistor	ELR20J 10 Ω
R359	7010003160	Resistor	ELR20J 10 Ω
R360	7010003280	Resistor	ELR20J 100 Ω
R361	7010003280	Resistor	ELR20J 100 Ω
R362	7010003280	Resistor	ELR20J 100 Ω
R363	7010003320	Resistor	ELR20J 220 Ω
R364	7010003320	Resistor	ELR20J 220 Ω
R373	7010004320	Resistor	R20J 10 kΩ
R374	7010003360	Resistor	ELR20J 470 Ω
R375	7010003360	Resistor	ELR20J 470 Ω
R376	7010003620	Resistor	ELR20J 47 kΩ
R377	7010003480	Resistor	ELR20J 4.7 kΩ
R378	7010003480	Resistor	ELR20J 4.7 kΩ
C301	4530000190	Capacitor Array	B7ZC0716-32N
C302	4010000500	Ceramic	DD104 B 102K 50V
C303	4530000270	Capacitor Array	B8XC0114-32N
C304	4530000190	Capacitor Array	B7ZC0716-32N
C305	4010000520	Ceramic	DD108 B 472K 50V
C306	4510002810	Electrolytic	16 SS 47 μF
C307	4510002870	Electrolytic	25 SS 100 μF
C308	4010000520	Ceramic	DD108 B 472K 50V
C309	4010000520	Ceramic	DD108 B 472K 50V
C310	4010000520	Ceramic	DD108 B 472K 50V
C311	4530000390	Capacitor Array	B9HC0117-33N
C312	4010000500	Ceramic	DD104 B 102K 50V
C313	4530000390	Capacitor Array	B9HC0117-33N
C314	4010000520	Ceramic	DD108 B 472K 50V
C315	4010000520	Ceramic	DD108 B 472K 50V
C316	4010000520	Ceramic	DD108 B 472K 50V
C317	4530000040	Capacitor Array	B5RC0125-32N
C318	4310000060	Mylar	F2D 50V 223K
C319	4010000520	Ceramic	DD108 B 472K 50V
C320	4010000260	Ceramic	DD104 SL 470J 50V
C321	4010000150	Ceramic	DD104 SL 150J 50V
C322	4010000150	Ceramic	DD104 SL 150J 50V
C323	4010000520	Ceramic	DD108 B 472K 50V
C324	4510002640	Electrolytic	25 SS 47 μF
C325	4010000520	Ceramic	DD108 B 472K 50V
C326	4510002730	Electrolytic	10 SS 100 μF
C327	4010000520	Ceramic	DD108 B 472K 50V
C328	4510002810	Electrolytic	16 SS 47 μF
C329	4530000270	Capacitor Array	B8XC0114-32N
C330	4040000250	Barrier Layer	UAT 08X 473M
C331	4040000250	Barrier Layer	UAT 08X 473M

[LOGIC-A UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C332	4040000260	Barrier Layer	UZE 08X 104M
C333	4010000520	Ceramic	DD108 B 472K 50V
C334	4010000520	Ceramic	DD108 B 472K 50V
C335	4530000030	Capacitor Array	B5RC0124-32N
C336	4010000500	Ceramic	DD104 B 102K 50V
C337	4010000500	Ceramic	DD104 B 102K 50V
C338	4510002810	Electrolytic	16 SS 47 μF
C339	4010000520	Ceramic	DD108 B 472K 50V
C340	4020000250	Cylinder	UP125 X 472M
SO301	2610000200	Socket	ICC05-028 360T
EP301	0910021513	P.C. Board	B 2079C

[PLL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
IC1	1120001620	IC	M74ALS74AP
IC2	1130002960	IC	TC9181P
IC3	1110001320	IC	μPC1037HA
IC4	1110001320	IC	μPC1037HA
IC5	1130002960	IC	TC9181P
IC6	1130004120	IC	TD6102P
IC7	1110001320	IC	μPC1037HA
IC8	1180000090	IC	NJM78M08A
IC9	1180000270	IC	NJM78M05A
Q1	1530000150	Transistor	2SC2668-O
Q2	1530000150	Transistor	2SC2668-O
Q3	1590000350	Transistor	RN1204
Q4	1530000150	Transistor	2SC2668-O
Q5	1530000110	Transistor	2SC2458-GR
Q6	1530000150	Transistor	2SC2668-O
Q7	1590000370	Transistor	RN2204
Q8	1530000150	Transistor	2SC2668-O
Q9	1560000090	FET	2SK192A-GR
Q10	1530000150	Transistor	2SC2668-O
Q11	1590000350	Transistor	RN1204
Q12	1530000940	Transistor	2SC1571G
Q13	1530000940	Transistor	2SC1571G
Q14	1530000150	Transistor	2SC2668-O
Q15	1530000150	Transistor	2SC2668-O
Q16	1560000090	FET	2SK192A-GR
Q17	1560000090	FET	2SK192A-GR
Q18	1560000090	FET	2SK192A-GR
Q19	1560000090	FET	2SK192A-GR
Q20	1590000340	Transistor	RN1202
Q21	1590000340	Transistor	RN1202
Q22	1590000340	Transistor	RN1202
Q23	1590000340	Transistor	RN1202
Q24	1530000150	Transistor	2SC2668-O
Q25	1530000150	Transistor	2SC2668-O
Q26	1590000350	Transistor	RN1204
Q27	1530000150	Transistor	2SC2668-O
Q28	1530000150	Transistor	2SC2668-O
Q29	1530000150	Transistor	2SC2668-O
Q30	1590000350	Transistor	RN1204
Q31	1590000350	Transistor	RN1204
D1	1730000100	Zener	RD5.1E B2
D2	1720000050	Varicap	1SV50E
D3	1720000050	Varicap	1SV50E
D4	1730000100	Zener	RD5.1E B2
D5	1720000120	Varicap	FC52M
D6	1720000050	Varicap	1SV50E

[PLL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
D7	1720000050	Varicap	1SV50E
D8	1720000050	Varicap	1SV50E
D9	1710000050	Diode	1SS53
D10	1710000050	Diode	1SS53
D11	1710000050	Diode	1SS53
D12	1710000050	Diode	1SS53
D13	1710000160	Diode	1SS133
D14	1710000160	Diode	1SS133
D15	1710000160	Diode	1SS133
D16	1710000160	Diode	1SS133
D17	1710000050	Diode	1SS53
D18	1710000050	Diode	1SS53
D19	1710000050	Diode	1SS53
D20	1710000050	Diode	1SS53
X1	6050005770	Crystal	CR-282
X2	6050003230	Crystal	CR-180
L1	6910000670	Coil	BT01RN1-A61-001
L2	6910000670	Coil	BT01RN1-A61-001
L3	6170000230	Coil	LW-25
L4	6150000760	Coil	LS-94
L5	6150000990	Coil	LS-114
L6	6150000990	Coil	LS-114
L7	6180000900	Coil	LAL 03NA 101K
L8	6180000830	Coil	LAL 03NA 3R3K
L9	6150000990	Coil	LS-114
L10	6150000990	Coil	LS-114
L11	6180001500	Coil	LAL 03NA 390K
L12	6180001500	Coil	LAL 03NA 390K
L13	6180001480	Coil	LAL 03NA 120K
L14	6180001480	Coil	LAL 03NA 120K
L15	6180001480	Coil	LAL 03NA 120K
L16	6180000990	Coil	LAL 04NA 101K
L17	6140000580	Coil	LR-79
L18	6150001820	Coil	LS-204
L19	6180000850	Coil	LAL 03NA 4R7K
L20	6180000900	Coil	LAL 03NA 101K
L21	6180000900	Coil	LAL 03NA 101K
L22	6140000580	Coil	LR-79
L23	6130000990	Coil	LB-135
L24	6140000580	Coil	LR-79
L25	6130000990	Coil	LB-135
L26	6140000580	Coil	LR-79
L27	6130000990	Coil	LB-135
L28	6140000580	Coil	LR-79
L29	6130000990	Coil	LB-135
L30	6170000230	Coil	LW-25
L31	6170000230	Coil	LW-25
L32	6170000230	Coil	LW-25
L33	6170000230	Coil	LW-25
L35	6180000740	Coil	LAL 03NA R56M
L36	6180000700	Coil	LAL 03NA R27M
L37	6180000710	Coil	LAL 03NA R33M
L38	6910000670	Coil	BT01RN1-A61-001
L39	6910000670	Coil	BT01RN1-A61-001
L40	6910000670	Coil	BT01RN1-A61-001
L41	6180000900	Coil	LAL 03NA 101K
L42	6180000690	Coil	LAL 03NA R22M
L43	6180000900	Coil	LAL 03NA 101K
L44	6180000690	Coil	LAL 03NA R22M
L45	6180000750	Coil	LAL 03NA R68M
L46	6180000730	Coil	LAL 03NA R47M
L47	6180000720	Coil	LAL 03NA R39M
L48	6180000690	Coil	LAL 03NA R22M
L49	6180000710	Coil	LAL 03NA R33M
L50	6180000710	Coil	LAL 03NA R33M
L51	6180000880	Coil	LAL 03NA 100K
R1	7010004110	Resistor	R20J 220 Ω
R2	7010003530	Resistor	ELR20J 10 kΩ
R3	7010003480	Resistor	ELR20J 4.7 kΩ

[PLL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
R4	7010004150	Resistor	R20J 470 Ω
R5	7010004030	Resistor	R20J 47 Ω
R6	7010003200	Resistor	ELR20J 22 Ω
R7	7010003530	Resistor	ELR20J 10 kΩ
R8	7010003580	Resistor	ELR20J 22 kΩ
R9	7010003320	Resistor	ELR20J 220 Ω
R10	7010004070	Resistor	R20J 100 Ω
R11	7010003530	Resistor	ELR20J 10 kΩ
R12	7010003240	Resistor	ELR20J 47 Ω
R13	7010003550	Resistor	ELR20J 15 kΩ
R14	7010004190	Resistor	R20J 1 kΩ
R15	7010003400	Resistor	ELR20J 1 kΩ
R16	7010003390	Resistor	ELR20J 820 Ω
R17	7010003990	Resistor	R20J 22 Ω
R18	7010003580	Resistor	ELR20J 22 kΩ
R19	7010003530	Resistor	ELR20J 10 kΩ
R20	7010003320	Resistor	ELR20J 220 Ω
R21	7010004070	Resistor	R20J 100 Ω
R22	7010003420	Resistor	ELR20J 1.5 kΩ
R23	7010004190	Resistor	R20J 1 kΩ
R24	7010001150	Resistor	R25J 1 kΩ
R25	7010004190	Resistor	R20J 1 kΩ
R26	7010004090	Resistor	R20J 150 Ω
R27	7010003400	Resistor	ELR20J 1 kΩ
R28	7010003320	Resistor	ELR20J 220 Ω
R29	7010004090	Resistor	R20J 150 Ω
R30	7010003280	Resistor	ELR20J 100 Ω
R31	7010003400	Resistor	ELR20J 1 kΩ
R32	7010003580	Resistor	ELR20J 22 kΩ
R33	7010003580	Resistor	ELR20J 22 kΩ
R34	7010004370	Resistor	R20J 22 kΩ
R35	7010003530	Resistor	ELR20J 10 kΩ
R37	7010001280	Resistor	R25J 10 kΩ
R38	7010003440	Resistor	ELR20J 2.2 kΩ
R39	7010003620	Resistor	ELR20J 47 kΩ
R40	7010001230	Resistor	R25J 4.7 kΩ
R41	7010001020	Resistor	R25J 82 Ω
R42	7010003660	Resistor	ELR20J 100 kΩ
R43	7010003660	Resistor	ELR20J 100 kΩ
R44	7010003300	Resistor	ELR20J 150 Ω
R45	7010003580	Resistor	ELR20J 22 kΩ
R46	7010003580	Resistor	ELR20J 22 kΩ
R47	7010003400	Resistor	ELR20J 1 kΩ
R48	7010004410	Resistor	R20J 47 kΩ
R49	7410000080	Resistor Array	RMX- 4 473K
R50	7010003400	Resistor	ELR20J 1 kΩ
R51	7010003400	Resistor	ELR20J 1 kΩ
R52	7010003400	Resistor	ELR20J 1 kΩ
R53	7010004320	Resistor	R20J 10 kΩ
R54	7010003440	Resistor	ELR20J 2.2 kΩ
R55	7010003440	Resistor	ELR20J 2.2 kΩ
R56	7010001210	Resistor	R25J 3.3 kΩ
R57	7010003410	Resistor	ELR20J 1.2 kΩ
R58	7010003400	Resistor	ELR20J 1 kΩ
R59	7010003400	Resistor	ELR20J 1 kΩ
R60	7010001190	Resistor	R25J 2.2 kΩ
R61	7010003320	Resistor	ELR20J 220 Ω
R62	7010003400	Resistor	ELR20J 1 kΩ
R63	7010003530	Resistor	ELR20J 10 kΩ
R64	7010003480	Resistor	ELR20J 4.7 kΩ
R65	7010004200	Resistor	R20J 1.2 kΩ
R66	7010004370	Resistor	R20J 22 kΩ
R67	7010003490	Resistor	ELR20J 5.6 kΩ
R68	7010003320	Resistor	ELR20J 220 Ω
R69	7010004100	Resistor	R20J 180 Ω
R70	7010003660	Resistor	ELR20J 100 kΩ
R71	7010003680	Resistor	ELR20J 150 kΩ
R72	7010003660	Resistor	ELR20J 100 kΩ
R73	7010004470	Resistor	R20J 150 kΩ
R74	7010003660	Resistor	ELR20J 100 kΩ
R75	7010003680	Resistor	ELR20J 150 kΩ
R76	7010003660	Resistor	ELR20J 100 kΩ
R77	7010003680	Resistor	ELR20J 150 kΩ
R78	7010003300	Resistor	ELR20J 150 Ω
R79	7010003460	Resistor	ELR20J 3.3 kΩ

## [PLL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
R80	7010003300	Resistor	ELR20J 150 Ω
R81	7010004250	Resistor	R20J 3.3 kΩ
R82	7010003300	Resistor	ELR20J 150 Ω
R83	7010003460	Resistor	ELR20J 3.3 kΩ
R84	7010003300	Resistor	ELR20J 150 Ω
R85	7010004250	Resistor	R20J 3.3 kΩ
R86	7010004010	Resistor	R20J 33 Ω
R87	7010003480	Resistor	ELR20J 4.7 kΩ
R88	7010004110	Resistor	R20J 220 Ω
R89	7010003340	Resistor	ELR20J 330 Ω
R90	7010003280	Resistor	ELR20J 100 Ω
R91	7010003990	Resistor	R20J 22 Ω
R92	7010003320	Resistor	ELR20J 220 Ω
R93	7010003580	Resistor	ELR20J 22 kΩ
R94	7010003530	Resistor	ELR20J 10 kΩ
R95	7010003360	Resistor	ELR20J 470 Ω
R96	7010003530	Resistor	ELR20J 10 kΩ
R97	7010003530	Resistor	ELR20J 10 kΩ
R98	7010004070	Resistor	R20J 100 Ω
R99	7010003530	Resistor	ELR20J 10 kΩ
R100	7010003320	Resistor	ELR20J 220 Ω
R101	7010004030	Resistor	R20J 47 Ω
R102	7010003320	Resistor	ELR20J 220 Ω
R103	7010003580	Resistor	ELR20J 22 kΩ
R104	7010003530	Resistor	ELR20J 10 kΩ
R105	7010003360	Resistor	ELR20J 470 Ω
R106	7010004070	Resistor	R20J 100 Ω
R107	7010003400	Resistor	ELR20J 1 kΩ
R109	7010001030	Resistor	R25J 100 Ω
R111	7010004110	Resistor	R20J 220 Ω
R112	7010003440	Resistor	ELR20J 2.2 kΩ
R113	7010003400	Resistor	ELR20J 1 kΩ
R114	7010003580	Resistor	ELR20J 22 kΩ
R115	7010003580	Resistor	ELR20J 22 kΩ
R116	7010004070	Resistor	R20J 100 Ω
R117	7010004070	Resistor	R20J 100 Ω
R118	7010003280	Resistor	ELR20J 100 Ω
R119	7010004070	Resistor	R20J 100 Ω
R120	7010003530	Resistor	ELR20J 10 kΩ
R121	7010004320	Resistor	R20J 10 kΩ
R122	7010003440	Resistor	ELR20J 2.2 kΩ
R123	7010003440	Resistor	ELR20J 2.2 kΩ
R124	7010003320	Resistor	ELR20J 220 Ω
R125	7010003440	Resistor	ELR20J 2.2 kΩ
R126	7010003320	Resistor	ELR20J 220 Ω
R127	7010003320	Resistor	ELR20J 220 Ω
R128	7010003440	Resistor	ELR20J 2.2 kΩ
R129	7010004230	Resistor	R20J 2.2 kΩ
R130	7010003200	Resistor	ELR20J 22 Ω
R131	7010004230	Resistor	R20J 2.2 kΩ
R132	7010003200	Resistor	ELR20J 22 Ω
R133	7010003620	Resistor	ELR20J 47 kΩ
R134	7010003400	Resistor	ELR20J 1 kΩ
R135	7010003400	Resistor	ELR20J 1 kΩ
C1	4010000520	Ceramic	DD108 B 472K 50V
C2	4510001910	Electrolytic	25 MS7 10 μF
C3	4010000860	Ceramic	DD106 CH 470J 50V
C4	4010003100	Ceramic	DD106 TH 820J 50V
C5	4010000520	Ceramic	DD108 B 472K 50V
C6	4010003100	Ceramic	DD106 TH 820J 50V
C7	4010000520	Ceramic	DD108 B 472K 50V
C8	4510003730	Electrolytic	10 MS7 22 μF
C9	4010000500	Ceramic	DD104 B 102K 50V
C10	4010000520	Ceramic	DD108 B 472K 50V
C11	4010000150	Ceramic	DD104 SL 150J 50V
C12	4010000520	Ceramic	DD108 B 472K 50V
C13	4010003770	Ceramic	DD06 SL 0R5C 500V
C14	4010000120	Ceramic	DD104 SL 100D 50V
C15	4010000520	Ceramic	DD108 B 472K 50V
C16	4010000260	Ceramic	DD104 SL 470J 50V
C17	4010000520	Ceramic	DD108 B 472K 50V
C18	4510001100	Electrolytic	16 MS7 10 μF
C19	4010000340	Ceramic	DD105 SL 121J 50V

## [PLL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C20	4010000500	Ceramic	DD104 B 102K 50V
C21	4010000520	Ceramic	DD108 B 472K 50V
C22	4010000150	Ceramic	DD104 SL 150J 50V
C23	4010000520	Ceramic	DD108 B 472K 50V
C24	4010000010	Ceramic	DD104 SL 0R5C 50V
C25	4010000120	Ceramic	DD104 SL 100D 50V
C26	4010000520	Ceramic	DD108 B 472K 50V
C27	4010000280	Ceramic	DD104 SL 560J 50V
C28	4010000410	Ceramic	DD107 SL 331J 50V
C29	4010000430	Ceramic	DD109 SL 471J 50V
C30	4010000410	Ceramic	DD107 SL 331J 50V
C31	4040000250	Barrier Layer	UAT 08X 473M
C32	4040000250	Barrier Layer	UAT 08X 473M
C33	4040000350	Barrier Layer	UAT 05V 472K
C34	4010000520	Ceramic	DD108 B 472K 50V
C35	4510001100	Electrolytic	16 MS7 10 μF
C36	4010000280	Ceramic	DD104 SL 560J 50V
C37	4010000280	Ceramic	DD104 SL 560J 50V
C38	4010000330	Ceramic	DD105 SL 101J 50V
C39	4010000340	Ceramic	DD105 SL 121J 50V
C40	4010000330	Ceramic	DD105 SL 101J 50V
C41	4010000520	Ceramic	DD108 B 472K 50V
C42	4510001100	Electrolytic	16 MS7 10 μF
C43	4010000520	Ceramic	DD108 B 472K 50V
C44	4010000500	Ceramic	DD104 B 102K 50V
C45	4010000520	Ceramic	DD108 B 472K 50V
C46	4020000250	Cylinder	UP125 X 472M
C47	4010000260	Ceramic	DD104 SL 470J 50V
C48	4010000520	Ceramic	DD108 B 472K 50V
C49	4010000200	Ceramic	DD104 SL 270J 50V
C51	4010000520	Ceramic	DD108 B 472K 50V
C52	4510003700	Electrolytic	25 MS7 22 μF
C53	4550000390	Tantalum	DN 1V R22M
C54	4010000520	Ceramic	DD108 B 472K 50V
C55	4040000390	Barrier Layer	UAT 06V 103K
C56	4010000770	Ceramic	DD104 CH 200J 50V
C57	4010000640	Ceramic	DD104 CH 040C 50V
C58	4010000900	Ceramic	DD107 CH 680J 50V
C59	4010000870	Ceramic	DD106 CH 510J 50V
C60	4010000520	Ceramic	DD108 B 472K 50V
C61	4510002840	Electrolytic	25 SS 10 μF
C62	4010000720	Ceramic	DD104 CH 120J 50V
C63	4010000780	Ceramic	DD104 CH 220J 50V
C64	4010000600	Ceramic	DD104 CK 010C 50V
C65	4010000520	Ceramic	DD108 B 472K 50V
C66	4010000520	Ceramic	DD108 B 472K 50V
C67	4010000260	Ceramic	DD104 SL 470J 50V
C68	4010000260	Ceramic	DD104 SL 470J 50V
C69	4010000520	Ceramic	DD108 B 472K 50V
C70	4510001910	Electrolytic	25 MS7 10 μF
C71	4040000350	Barrier Layer	UAT 05V 472K
C72	4010000520	Ceramic	DD108 B 472K 50V
C73	4510001910	Electrolytic	25 MS7 10 μF
C74	4040000250	Barrier Layer	UAT 08X 473M
C75	4010000500	Ceramic	DD104 B 102K 50V
C76	4510001110	Electrolytic	16 MS7 47 μF
C77	4010000500	Ceramic	DD104 B 102K 50V
C78	4550002310	Tantalum	DN 1E 1R5M
C79	4550002310	Tantalum	DN 1E 1R5M
C80	4040000250	Barrier Layer	UAT 08X 473M
C81	4040000250	Barrier Layer	UAT 08X 473M
C82	4040000250	Barrier Layer	UAT 08X 473M
C83	4040000250	Barrier Layer	UAT 08X 473M
C84	4040000250	Barrier Layer	UAT 08X 473M
C85	4010000520	Ceramic	DD108 B 472K 50V
C86	4510003730	Electrolytic	10 MS7 22 μF
C87	4010000880	Ceramic	DD106 CH 560J 50V
C88	4010000790	Ceramic	DD104 CH 240J 50V
C89	4610001130	Trimmer	CVSSA1001
C90	4010000880	Ceramic	DD106 CH 560J 50V
C91	4010000720	Ceramic	DD104 CH 120J 50V
C92	4010000720	Ceramic	DD104 CH 120J 50V
C93	4010000520	Ceramic	DD108 B 472K 50V
C94	4010000020	Ceramic	DD104 SL 010C 50V
C95	4010000520	Ceramic	DD108 B 472K 50V

[PLL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION
C96	4010000880	Ceramic DD106 CH 560J 50V
C97	4010000740	Ceramic DD104 CH 150J 50V
C98	4610001130	Trimmer CVSSA1001
C99	4010000860	Ceramic DD106 CH 470J 50V
C100	4010000720	Ceramic DD104 CH 120J 50V
C101	4010000720	Ceramic DD104 CH 120J 50V
C102	4010000520	Ceramic DD108 B 472K 50V
C103	4010000020	Ceramic DD104 SL 010C 50V
C104	4010000520	Ceramic DD108 B 472K 50V
C105	4010000860	Ceramic DD106 CH 470J 50V
C106	4010000700	Ceramic DD104 CH 100D 50V
C107	4610001000	Trimmer CVSSA0701
C108	4010000860	Ceramic DD106 CH 470J 50V
C109	4010000720	Ceramic DD104 CH 120J 50V
C110	4010000720	Ceramic DD104 CH 120J 50V
C111	4010000520	Ceramic DD108 B 472K 50V
C112	4010000020	Ceramic DD104 SL 010C 50V
C113	4010000520	Ceramic DD108 B 472K 50V
C114	4010000840	Ceramic DD105 CH 390J 50V
C115	4010000670	Ceramic DD104 CH 070D 50V
C116	4610001000	Trimmer CVSSA0701
C117	4010000820	Ceramic DD105 CH 330J 50V
C118	4010000720	Ceramic DD104 CH 120J 50V
C119	4010000650	Ceramic DD104 CH 050C 50V
C120	4010000520	Ceramic DD108 B 472K 50V
C121	4010000020	Ceramic DD104 SL 010C 50V
C122	4010000520	Ceramic DD108 B 472K 50V
C123	4010000500	Ceramic DD104 B 102K 50V
C124	4010000500	Ceramic DD104 B 102K 50V
C125	4010000500	Ceramic DD104 B 102K 50V
C126	4010000500	Ceramic DD104 B 102K 50V
C127	4010000520	Ceramic DD108 B 472K 50V
C128	4010000500	Ceramic DD104 B 102K 50V
C129	4010000500	Ceramic DD104 B 102K 50V
C130	4010000520	Ceramic DD108 B 472K 50V
C131	4010000520	Ceramic DD108 B 472K 50V
C132	4010000520	Ceramic DD108 B 472K 50V
C133	4010000260	Ceramic DD104 SL 470J 50V
C134	4010000520	Ceramic DD108 B 472K 50V
C135	4010000500	Ceramic DD104 B 102K 50V
C136	4010000520	Ceramic DD108 B 472K 50V
C137	4010000520	Ceramic DD108 B 472K 50V
C138	4010000200	Ceramic DD104 SL 270J 50V
C139	4010000260	Ceramic DD104 SL 470J 50V
C140	4010000100	Ceramic DD104 SL 080D 50V
C141	4010000070	Ceramic DD104 SL 050C 50V
C142	4010000050	Ceramic DD104 SL 030C 50V
C143	4010000140	Ceramic DD104 SL 120J 50V
C144	4010000500	Ceramic DD104 B 102K 50V
C145	4010000520	Ceramic DD108 B 472K 50V
C146	4510001100	Electrolytic 16 MS7 10 µF
C147	4010000520	Ceramic DD108 B 472K 50V
C148	4040000250	Barrier Layer UAT 08X 473M
C149	4010000520	Ceramic DD108 B 472K 50V
C150	4010000500	Ceramic DD104 B 102K 50V
C151	4010000520	Ceramic DD108 B 472K 50V
C152	4510001110	Electrolytic 16 MS7 47 µF
C153	4010000520	Ceramic DD108 B 472K 50V
C154	4510001910	Electrolytic 25 MS7 10 µF
C155	4010000520	Ceramic DD108 B 472K 50V
C156	4510002640	Electrolytic 25 SS 47 µF
C157	4010000520	Ceramic DD108 B 472K 50V
C158	4510001910	Electrolytic 25 MS7 10 µF
C159	4010000500	Ceramic DD104 B 102K 50V
C160	4010000500	Ceramic DD104 B 102K 50V
C161	4040000250	Barrier Layer UAT 08X 473M
C162	4040000250	Barrier Layer UAT 08X 473M
C163	4040000250	Barrier Layer UAT 08X 473M
C164	4010000340	Ceramic DD105 SL 121J 50V
C165	4010000170	Ceramic DD104 SL 200J 50V
C166	4010000340	Ceramic DD105 SL 121J 50V
C167	4010000360	Ceramic DD106 SL 181J 50V
C168	4010000500	Ceramic DD104 B 102K 50V
C169	4010000360	Ceramic DD106 SL 181J 50V
C170	4010000520	Ceramic DD108 B 472K 50V

[PLL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION
C171	4010000390	Ceramic DD107 SL 271J 50V
C172	4010000180	Ceramic DD104 SL 220J 50V
C173	4010000420	Ceramic DD108 SL 391J 50V
C174	4010000300	Ceramic DD104 SL 680J 50V
C175	4010000380	Ceramic DD107 SL 221J 50V
C176	4040000250	Barrier Layer UAT 08X 473M
C177	4040000250	Barrier Layer UAT 08X 473M
C178	4010000320	Ceramic DD104 SL 820J 50V
C179	4010000180	Ceramic DD104 SL 220J 50V
C180	4010000350	Ceramic DD106 SL 151J 50V
C181	4010000140	Ceramic DD104 SL 120J 50V
C182	4010000360	Ceramic DD106 SL 181J 50V
C183	4010000080	Ceramic DD104 SL 060D 50V
C184	4010000330	Ceramic DD105 SL 101J 50V
C185	4040000250	Barrier Layer UAT 08X 473M
C186	4010000520	Ceramic DD108 B 472K 50V
C187	4040000250	Barrier Layer UAT 08X 473M
C188	4010000500	Ceramic DD104 B 102K 50V
C189	4010000460	Ceramic DD104 B 471K 50V
C190	4010000520	Ceramic DD108 B 472K 50V
C191	4510001910	Electrolytic 25 MS7 10 µF
C192	4010000500	Ceramic DD104 B 102K 50V
C193	4010000500	Ceramic DD104 B 102K 50V
EP1	0910022532	P.C. Board B 2076B

[DDS UNIT]

REF. NO.	ORDER NO.	DESCRIPTION
IC201	1140000500	IC SC1051
IC202	1130002600	IC SC1052
IC203	1130002610	IC SC1053
IC204	1130002461	IC TC74HCT374AF
IC205	1130002461	IC TC74HCT374AF
L201	6200000040	Coil LQN 5N 331K
L202	6200000040	Coil LQN 5N 331K
L203	6200000040	Coil LQN 5N 331K
R203	7030000420	Resistor MCR10EZHZ 2.2 kΩ (222)
R204	7410000320	Resistor Array GF 5096
R205	7030000500	Resistor MCR10EZHZ 10 kΩ (103)
R206	7030000500	Resistor MCR10EZHZ 10 kΩ (103)
R207	7030000500	Resistor MCR10EZHZ 10 kΩ (103)
C203	4030001150	Ceramic GRM40 F 104Z 25PT
C207	4030000720	Ceramic GRM40 SL 680J 50PT
C208	4030000560	Ceramic GRM40 SL 020C 50PT
C209	4030000750	Ceramic GRM40 SL 121J 50PT
C210	4030000610	Ceramic GRM40 SL 070D 50PT
C211	4030000750	Ceramic GRM40 SL 121J 50PT
C212	4030000640	Ceramic GRM40 SL 120J 50PT
C213	4030000720	Ceramic GRM40 SL 680J 50PT
C214	4030001150	Ceramic GRM40 F 104Z 25PT
C215	4030001150	Ceramic GRM40 F 104Z 25PT
C216	4030001150	Ceramic GRM40 F 104Z 25PT
C217	4030001150	Ceramic GRM40 F 104Z 25PT
C219	4030001100	Ceramic GRM40 B 102K 50PT
C220	4030001100	Ceramic GRM40 B 102K 50PT
EP201	0910022511	P.C. Board B 2203A

[ANT SW UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
Q921	1530000110	Transistor	2SC2458-GR
Q922	1540000070	Transistor	2SD468C
Q923	1510000220	Transistor	2SA1345
Q924	1520000060	Transistor	2SB562C
Q925	1530000970	Transistor	2SC3402
D921	1710000590	Diode	GM-3B
D922	1710000350	Diode	1N4002
D923	1710000330	Diode	1K60
D924	1710000350	Diode	1N4002
L921	6180000070	Coil	LB4-R36J
L922	6140001260	Coil	LR-151
L924	6180001190	Coil	FL 9H 102J
L925	6180001190	Coil	FL 9H 102J
L926	6180000900	Coil	LAL 03NA 101K
L927	6180000990	Coil	LAL 04NA 101K
R921	7010003530	Resistor	ELR20J 10 kΩ
R922	7010003530	Resistor	ELR20J 10 kΩ
R923	7010003120	Resistor	ELR20J 4.7 Ω
R924	7010003400	Resistor	ELR20J 1 kΩ
R925	7010003440	Resistor	ELR20J 2.2 kΩ
R926	7010004230	Resistor	R20J 2.2 kΩ
R927	7010003280	Resistor	ELR20J 100 Ω
R928	7010003380	Resistor	ELR20J 680 Ω
R929	7100000230	Resistor	SRW5P 56 Ω (560)
R930	7010004370	Resistor	R20J 22 kΩ
R931	7010003580	Resistor	ELR20J 22 kΩ
R932	7010003400	Resistor	ELR20J 1 kΩ
R933	7540000010	Absorber	DSA-301LA
R934	7010001360	Resistor	R25J 47 kΩ
R935	7010003400	Resistor	ELR20J 1 kΩ
C921	4010000330	Ceramic	DD105 SL 101J 50V
C922	4010000360	Ceramic	DD106 SL 181J 50V
C923	4010000520	Ceramic	DD108 B 472K 50V
C924	4040000260	Barrier Layer	UZE 08X 104M
C925	4040000250	Barrier Layer	UAT 08X 473M
C926	4040000250	Barrier Layer	UAT 08X 473M
C927	4040000250	Barrier Layer	UAT 08X 473M
C928	4510002840	Electrolytic	25 SS 10 μF
C929	4010003860	Ceramic	DD06 SL 100D 500V
C930	4010000220	Ceramic	DD104 SL 330J 50V
C931	4040000250	Barrier Layer	UAT 08X 473M
C932	4510002950	Electrolytic	50 SS 2R2 μF
C933	4010000520	Ceramic	DD108 B 472K 50V
C935	4010000520	Ceramic	DD108 B 472K 50V
C936	4040000250	Barrier Layer	UAT 08X 473M
C937	4010000500	Ceramic	DD104 B 102K 50V
C938	4040000250	Barrier Layer	UAT 08X 473M
C939	4010000500	Ceramic	DD104 B 102K 50V
RL921	6330000110	Relay	FBR22D12-P
RL922	6330000530	Relay	UPM-12912Y
EP802	0910022472	P.C. Board	B 2078B

[DIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
Q881	1510000050	Transistor	2SA1015-Y
D881	1710000050	Diode	1SS53
D882	1710000350	Diode	1N4002
L881	6910000670	Coil	BT01RN1-A61-001
L884	6910000670	Coil	BT01RN1-A61-001
L885	6910000670	Coil	BT01RN1-A61-001
L886	6910000670	Coil	BT01RN1-A61-001
L887	6910000670	Coil	BT01RN1-A61-001
L888	6910000670	Coil	BT01RN1-A61-001
L889	6910000670	Coil	BT01RN1-A61-001
L890	6910000670	Coil	BT01RN1-A61-001
L891	6910000670	Coil	BT01RN1-A61-001
L892	6910000600	Ferrite Bead	FSOH050RN
L893	6910000670	Coil	BT01RN1-A61-001
L894	6910000670	Coil	BT01RN1-A61-001
R881	7010000370	Resistor	ELR25J 1 kΩ
R882	7010000370	Resistor	ELR25J 1 kΩ
R883	7010000370	Resistor	ELR25J 1 kΩ
R884	7010000290	Resistor	ELR25J 220 Ω
R885	7010000290	Resistor	ELR25J 220 Ω
R886	7010000290	Resistor	ELR25J 220 Ω
R887	7010000450	Resistor	ELR25J 4.7 kΩ
R888	7010000450	Resistor	ELR25J 4.7 kΩ
R891	7010000290	Resistor	ELR25J 220 Ω
C881	4010000520	Ceramic	DD108 B 472K 50V
C882	4010000520	Ceramic	DD108 B 472K 50V
C883	4010000520	Ceramic	DD108 B 472K 50V
C884	4010000520	Ceramic	DD108 B 472K 50V
C885	4010000520	Ceramic	DD108 B 472K 50V
RL881	6330000540	Relay	OMR-109F
EP803	0910012312	P.C. Board	B 1108B

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
IC1001	1110000540	IC	NJM4558D
IC1002	1110000540	IC	NJM4558D
IC1003	1110000540	IC	NJM4558D
IC1004	1130000600	IC	μPD4001BC
IC1005	1110000330	IC	M5218L
IC1006	1110000540	IC	NJM4558D
IC1007	1110001320	IC	μPC1037HA
IC1008	1130001000	IC	μPD4066BC
IC1009	1130001000	IC	μPD4066BC
IC1010	1110001320	IC	μPC1037HA
IC1011	1110001320	IC	μPC1037HA
IC1012	1130000600	IC	μPD4001BC
IC1013	1130000620	IC	μPD4011BC
IC1014	1130004480	IC	TC74HC74AP
IC1015	1180000470	IC	NJM7808A
IC1016	1130001000	IC	μPD4066BC
IC1017	1120000970	IC	M54562P
IC1019	1110001950	IC	μPC494C
Q1001	1580000110	FET	3SK74 M
Q1002	1530000340	Transistor	2SC1583 G

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
Q1003	1530000110	Transistor	2SC2458-GR
Q1004	1530000110	Transistor	2SC2458-GR
Q1005	1530000110	Transistor	2SC2458-GR
Q1006	1590000360	Transistor	RN2202
Q1007	1580000110	FET	3SK74 M
Q1008	1590000350	Transistor	RN1204
Q1009	1530000110	Transistor	2SC2458-GR
Q1010	1530000940	Transistor	2SC1571G
Q1011	1590000350	Transistor	RN1204
Q1012	1590000350	Transistor	RN1204
Q1013	1530000810	Transistor	2SC2053
Q1014	1530000110	Transistor	2SC2458-GR
Q1015	1580000110	FET	3SK74 M
Q1016	1530000110	Transistor	2SC2458-GR
Q1017	1530000110	Transistor	2SC2458-GR
Q1018	1590000350	Transistor	RN1204
Q1020	1510000070	Transistor	2SA1048-Y
Q1021	1590000360	Transistor	RN2202
Q1022	1530000110	Transistor	2SC2458-GR
Q1023	1590000350	Transistor	RN1204
Q1024	1530000110	Transistor	2SC2458-GR
Q1025	1590000350	Transistor	RN1204
Q1026	1590000350	Transistor	RN1204
Q1027	1590000350	Transistor	RN1204
Q1028	1530000660	Transistor	2SC1645B
Q1029	1590000350	Transistor	RN1204
Q1030	1590000340	Transistor	RN1202
Q1031	1530000660	Transistor	2SC1645B
Q1032	1530000110	Transistor	2SC2458-GR
Q1033	1540000200	Transistor	2SD1406 Y
Q1034	1540000070	Transistor	2SD468C
Q1035	1530000110	Transistor	2SC2458-GR
Q1036	1530000110	Transistor	2SC2458-GR
Q1037	1530000110	Transistor	2SC2458-GR
Q1038	1530000100	Transistor	2SC2458-Y
Q1039	1530000110	Transistor	2SC2458-GR
Q1040	1590000340	Transistor	RN1202
Q1041	1590000350	Transistor	RN1204
Q1042	1590000340	Transistor	RN1202
Q1043	1590000350	Transistor	RN1204
Q1044	1530000100	Transistor	2SC2458-Y
Q1045	1580000110	FET	3SK74 M
Q1046	1580000110	FET	3SK74 M
Q1047	1590000350	Transistor	RN1204
Q1048	1530000110	Transistor	2SC2458-GR
D1001	1710000330	Diode	1K60
D1002	1710000330	Diode	1K60
D1003	1710000160	Diode	1SS133
D1004	1710000160	Diode	1SS133
D1005	1710000330	Diode	1K60
D1006	1710000330	Diode	1K60
D1007	1710000050	Diode	1SS53
D1008	1710000050	Diode	1SS53
D1009	1710000050	Diode	1SS53
D1010	1710000050	Diode	1SS53
D1011	1710000050	Diode	1SS53
D1012	1710000050	Diode	1SS53
D1013	1710000050	Diode	1SS53
D1014	1710000160	Diode	1SS133
D1015	1710000270	Diode	MI204
D1016	1710000050	Diode	1SS53
D1017	1710000050	Diode	1SS53
D1018	1710000050	Diode	1SS53
D1019	1710000050	Diode	1SS53
D1020	1710000050	Diode	1SS53
D1021	1710000050	Diode	1SS53
D1022	1710000050	Diode	1SS53
D1023	1710000050	Diode	1SS53
D1024	1710000050	Diode	1SS53
D1025	1710000050	Diode	1SS53
D1026	1710000050	Diode	1SS53
D1027	1710000050	Diode	1SS53
D1028	1710000050	Diode	1SS53

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
D1029	1710000050	Diode	1SS53
D1030	1710000160	Diode	1SS133
D1031	1710000050	Diode	1SS53
D1032	1710000050	Diode	1SS53
D1033	1710000160	Diode	1SS133
D1034	1710000160	Diode	1SS133
D1035	1710000160	Diode	1SS133
D1036	1710000160	Diode	1SS133
D1037	1710000160	Diode	1SS133
D1038	1710000160	Diode	1SS133
D1039	1710000050	Diode	1SS53
D1040	1710000160	Diode	1SS133
D1041	1710000160	Diode	1SS133
D1042	1710000160	Diode	1SS133
D1043	1710000160	Diode	1SS133
D1044	1710000330	Diode	1K60
D1045	1710000330	Diode	1K60
D1046	1710000050	Diode	1SS53
D1047	1710000050	Diode	1SS53
D1048	1710000050	Diode	1SS53
D1049	1710000160	Diode	1SS133
D1050	1710000160	Diode	1SS133
D1051	1710000160	Diode	1SS133
D1052	1710000160	Diode	1SS133
D1053	1710000160	Diode	1SS133
D1054	1710000160	Diode	1SS133
D1055	1710000160	Diode	1SS133
D1056	1710000160	Diode	1SS133
D1057	1710000160	Diode	1SS133
D1058	1710000160	Diode	1SS133
D1059	1710000160	Diode	1SS133
D1060	1710000160	Diode	1SS133
D1061	1710000160	Diode	1SS133
D1062	1710000160	Diode	1SS133
D1063	1710000160	Diode	1SS133
D1064	1710000160	Diode	1SS133
D1065	1710000160	Diode	1SS133
D1066	1710000160	Diode	1SS133
D1067	1710000160	Diode	1SS133
D1068	1710000160	Diode	1SS133
D1069	1710000160	Diode	1SS133
D1070	1710000160	Diode	1SS133
D1071	1710000160	Diode	1SS133
D1072	1710000160	Diode	1SS133
D1073	1710000160	Diode	1SS133
D1074	1730000070	Zener	RD3.9E B2
D1075	1710000050	Diode	1SS53
D1076	1710000050	Diode	1SS53
D1077	1710000160	Diode	1SS133
D1078	1710000160	Diode	1SS133
D1079	1730000070	Zener	RD3.9E B2
D1080	1790000250	Diode	1SS97
D1081	1730000050	Zener	RD3.0E B2
D1082	1710000050	Diode	1SS53
D1083	1720000110	Varicap	FC51M
D1084	1720000110	Varicap	FC51M
D1085	1710000160	Diode	1SS133
D1086	1710000160	Diode	1SS133
D1087	1710000040	Diode	1S953
D1088	1710000040	Diode	1S953
D1089	1710000050	Diode	1SS53
D1090	1710000050	Diode	1SS53
D1091	1710000050	Diode	1SS53
D1092	1710000160	Diode	1SS133
D1093	1710000160	Diode	1SS133
FI1001	2010000320	Filter	9M22D2 (FL-30)
FI1002	2010000810	Filter	9M 6C1 (FL-33)
X1001	6050005810	Crystal	CR-283
X1002	6050005820	Crystal	CR-284



[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
L1001	6150001590	Coil	LS-175
L1002	6150001590	Coil	LS-175
L1003	6150001590	Coil	LS-175
L1004	6150001250	Coil	LS-137
L1005	6150001470	Coil	LS-163
L1006	6150000700	Coil	LS-90A
L1007	6150000700	Coil	LS-90A
L1008	6180000900	Coil	LAL 03NA 101K
L1009	6140001600	Coil	LR-178
L1010	6150001590	Coil	LS-175
L1011	6150001590	Coil	LS-175
L1012	6180000900	Coil	LAL 03NA 101K
L1013	6150001590	Coil	LS-175
L1014	6150000700	Coil	LS-90A
L1015	6150001470	Coil	LS-163
L1016	6180000890	Coil	LAL 03NA 180K
L1017	6180000930	Coil	LAL 03NA 220K
L1018	6180001710	Coil	LAL 03NA 561K
L1019	6150002490	Coil	LS-267
L1020	6150002490	Coil	LS-267
L1021	6180001710	Coil	LAL 03NA 561K
L1022	6180000990	Coil	LAL 04NA 101K
L1023	6180000900	Coil	LAL 03NA 101K
L1024	6910000670	Coil	BT01RN1-A61-001
L1025	6910000670	Coil	BT01RN1-A61-001
L1026	6180000760	Coil	LAL 03NA R82M
L1027	6180002470	Coil	LAL 03NA 471K
L1028	6180000900	Coil	LAL 03NA 101K
R1001	7010003780	Resistor	ELR20J 1 MΩ
R1002	7010003660	Resistor	ELR20J 100 kΩ
R1003	7010003340	Resistor	ELR20J 330 Ω
R1004	7010004070	Resistor	R20J 100 Ω
R1005	7010001320	Resistor	R25J 22 kΩ
R1006	7010004190	Resistor	R20J 1 kΩ
R1007	7010004070	Resistor	R20J 100 Ω
R1008	7010001420	Resistor	R25J 150 kΩ
R1009	7010003660	Resistor	ELR20J 100 kΩ
R1010	7010003400	Resistor	ELR20J 1 kΩ
R1011	7010004070	Resistor	R20J 100 Ω
R1012	7010001260	Resistor	R25J 6.8 kΩ
R1013	7010004410	Resistor	R20J 47 kΩ
R1014	7010004430	Resistor	R20J 68 kΩ
R1015	7010001090	Resistor	R25J 330 Ω
R1016	7010001280	Resistor	R25J 10 kΩ
R1017	7010003580	Resistor	ELR20J 22 kΩ
R1018	7010004450	Resistor	R20J 100 kΩ
R1019	7010001030	Resistor	R25J 100 Ω
R1020	7010003240	Resistor	ELR20J 47 Ω
R1021	7010004070	Resistor	R20J 100 Ω
R1022	7010004190	Resistor	R20J 1 kΩ
R1023	7010004270	Resistor	R20J 4.7 kΩ
R1025	7310000870	Trimmer	RH1051D14J0PA (103)
R1026	7010003440	Resistor	ELR20J 2.2 kΩ
R1027	7010004400	Resistor	R20J 39 kΩ
R1028	7010001070	Resistor	R25J 220 Ω
R1029	7010003810	Resistor	ELR20J 2.2 MΩ
R1030	7010003790	Resistor	ELR20J 1.2 MΩ
R1031	7010004600	Resistor	R20J 2.2 MΩ
R1032	7010003530	Resistor	ELR20J 10 kΩ
R1033	7010003530	Resistor	ELR20J 10 kΩ
R1034	7010004570	Resistor	R20J 1 MΩ
R1035	7010003820	Resistor	ELR20J 3.3 MΩ
R1036	7010003430	Resistor	ELR20J 1.8 kΩ
R1037	7010001070	Resistor	R25J 220 Ω
R1038	7010001280	Resistor	R25J 10 kΩ
R1039	7010003480	Resistor	ELR20J 4.7 kΩ
R1040	7010001400	Resistor	R25J 100 kΩ
R1041	7010003480	Resistor	ELR20J 4.7 kΩ
R1042	7010003620	Resistor	ELR20J 47 kΩ
R1043	7010003660	Resistor	ELR20J 100 kΩ
R1044	7010003610	Resistor	ELR20J 39 kΩ
R1045	7010003660	Resistor	ELR20J 100 kΩ
R1046	7010004070	Resistor	R20J 100 Ω

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
R1047	7010003340	Resistor	ELR20J 330 Ω
R1048	7010003400	Resistor	ELR20J 1 kΩ
R1049	7010004250	Resistor	R20J 3.3 kΩ
R1050	7010001070	Resistor	R25J 220 Ω
R1051	7010003550	Resistor	ELR20J 15 kΩ
R1052	7010003420	Resistor	ELR20J 1.5 kΩ
R1053	7010004320	Resistor	R20J 10 kΩ
R1054	7010003480	Resistor	ELR20J 4.7 kΩ
R1055	7010004490	Resistor	R20J 220 kΩ
R1056	7010003300	Resistor	ELR20J 150 Ω
R1057	7010004070	Resistor	R20J 100 Ω
R1058	7010003700	Resistor	ELR20J 220 kΩ
R1059	7010001110	Resistor	R25J 470 Ω
R1060	7010003370	Resistor	ELR20J 560 Ω
R1061	7010003550	Resistor	ELR20J 15 kΩ
R1062	7010004320	Resistor	R20J 10 kΩ
R1063	7010003550	Resistor	ELR20J 15 kΩ
R1064	7010003660	Resistor	ELR20J 100 kΩ
R1065	7010004450	Resistor	R20J 100 kΩ
R1066	7010003530	Resistor	ELR20J 10 kΩ
R1067	7010004070	Resistor	R20J 100 Ω
R1068	7010004020	Resistor	R20J 39 Ω
R1069	7010004020	Resistor	R20J 39 Ω
R1070	7010003970	Resistor	R20J 15 Ω
R1071	7010004270	Resistor	R20J 4.7 kΩ
R1072	7010001190	Resistor	R25J 2.2 kΩ
R1073	7010003200	Resistor	ELR20J 22 Ω
R1074	7010003150	Resistor	ELR20J 8.2 Ω
R1075	7010004280	Resistor	R20J 5.6 kΩ
R1076	7010003400	Resistor	ELR20J 1 kΩ
R1077	7010003440	Resistor	ELR20J 2.2 kΩ
R1078	7010001190	Resistor	R25J 2.2 kΩ
R1079	7010003320	Resistor	ELR20J 220 Ω
R1080	7010003400	Resistor	ELR20J 1 kΩ
R1081	7010003620	Resistor	ELR20J 47 kΩ
R1082	7010001030	Resistor	R25J 100 Ω
R1083	7010003400	Resistor	ELR20J 1 kΩ
R1085	7010003340	Resistor	ELR20J 330 Ω
R1086	7010003620	Resistor	ELR20J 47 kΩ
R1087	7010004370	Resistor	R20J 22 kΩ
R1088	7010003530	Resistor	ELR20J 10 kΩ
R1089	7010004390	Resistor	R20J 33 kΩ
R1090	7010003320	Resistor	ELR20J 220 Ω
R1091	7010001030	Resistor	R25J 100 Ω
R1092	7010003420	Resistor	ELR20J 1.5 kΩ
R1093	7010003530	Resistor	ELR20J 10 kΩ
R1094	7010004070	Resistor	R20J 100 Ω
R1095	7010004130	Resistor	R20J 330 Ω
R1096	7010003700	Resistor	ELR20J 220 kΩ
R1097	7010003660	Resistor	ELR20J 100 kΩ
R1098	7010003660	Resistor	ELR20J 100 kΩ
R1099	7010003420	Resistor	ELR20J 1.5 kΩ
R1100	7010004320	Resistor	R20J 10 kΩ
R1101	7010003440	Resistor	ELR20J 2.2 kΩ
R1102	7010003530	Resistor	ELR20J 10 kΩ
R1103	7010003380	Resistor	ELR20J 680 Ω
R1104	7010004210	Resistor	R20J 1.5 kΩ
R1105	7010003440	Resistor	ELR20J 2.2 kΩ
R1106	7010003440	Resistor	ELR20J 2.2 kΩ
R1107	7010003440	Resistor	ELR20J 2.2 kΩ
R1108	7010003440	Resistor	ELR20J 2.2 kΩ
R1109	7010003440	Resistor	ELR20J 2.2 kΩ
R1110	7010004320	Resistor	R20J 10 kΩ
R1111	7010004070	Resistor	R20J 100 Ω
R1112	7010001030	Resistor	R25J 100 Ω
R1113	7010001030	Resistor	R25J 100 Ω
R1114	7010001030	Resistor	R25J 100 Ω
R1115	7010004070	Resistor	R20J 100 Ω
R1116	7010004230	Resistor	R20J 2.2 kΩ
R1117	7010001030	Resistor	R25J 100 Ω
R1118	7010004230	Resistor	R20J 2.2 kΩ
R1119	7010001030	Resistor	R25J 100 Ω
R1120	7010004230	Resistor	R20J 2.2 kΩ
R1121	7010001030	Resistor	R25J 100 Ω
R1122	7010003530	Resistor	ELR20J 10 kΩ

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION
R1123	7010004110	Resistor R20J 220 Ω
R1124	7010003530	Resistor ELR20J 10 kΩ
R1125	7010003400	Resistor ELR20J 1 kΩ
R1126	7010003480	Resistor ELR20J 4.7 kΩ
R1127	7010004320	Resistor R20J 10 kΩ
R1128	7010003440	Resistor ELR20J 2.2 kΩ
R1129	7010004320	Resistor R20J 10 kΩ
R1130	7010004370	Resistor R20J 22 kΩ
R1131	7010003440	Resistor ELR20J 2.2 kΩ
R1132	7010003320	Resistor ELR20J 220 Ω
R1133	7010001030	Resistor R25J 100 Ω
R1134	7010004390	Resistor R20J 33 kΩ
R1135	7010003620	Resistor ELR20J 47 kΩ
R1136	7310000750	Trimmer RH0651C14J2WA (103)
R1137	7010004450	Resistor R20J 100 kΩ
R1138	7310000750	Trimmer RH0651C14J2WA (103)
R1139	7010003480	Resistor ELR20J 4.7 kΩ
R1140	7010000990	Resistor R25J 47 Ω
R1141	7010004190	Resistor R20J 1 kΩ
R1144	7310000760	Trimmer RH0651CJ4J01A (223)
R1145	7010003580	Resistor ELR20J 22 kΩ
R1146	7010003280	Resistor ELR20J 100 Ω
R1147	7010004270	Resistor R20J 4.7 kΩ
R1148	7010001070	Resistor R25J 220 Ω
R1149	7010003460	Resistor ELR20J 3.3 kΩ
R1150	7010004070	Resistor R20J 100 Ω
R1151	7010003660	Resistor ELR20J 100 kΩ
R1152	7010003660	Resistor ELR20J 100 kΩ
R1153	7010001210	Resistor R25J 3.3 kΩ
R1154	7010001230	Resistor R25J 4.7 kΩ
R1155	7010001200	Resistor R25J 2.7 kΩ
R1156	7010003420	Resistor ELR20J 1.5 kΩ
R1157	7010003560	Resistor ELR20J 18 kΩ
R1158	7010003480	Resistor ELR20J 4.7 kΩ
R1159	7010003660	Resistor ELR20J 100 kΩ
R1160	7010001150	Resistor R25J 1 kΩ
R1161	7010004450	Resistor R20J 100 kΩ
R1162	7010001190	Resistor R25J 2.2 kΩ
R1163	7010003550	Resistor ELR20J 15 kΩ
R1164	7010003520	Resistor ELR20J 8.2 kΩ
R1165	7010003490	Resistor ELR20J 5.6 kΩ
R1166	7010003660	Resistor ELR20J 100 kΩ
R1167	7010004250	Resistor R20J 3.3 kΩ
R1168	7010003790	Resistor ELR20J 1.2 MΩ
R1169	7010003400	Resistor ELR20J 1 kΩ
R1170	7010003400	Resistor ELR20J 1 kΩ
R1171	7010004520	Resistor R20J 390 kΩ
R1172	7010003640	Resistor ELR20J 68 kΩ
R1173	7010004390	Resistor R20J 33 kΩ
R1174	7010003480	Resistor ELR20J 4.7 kΩ
R1175	7010003580	Resistor ELR20J 22 kΩ
R1176	7010003550	Resistor ELR20J 15 kΩ
R1177	7310000870	Trimmer RH1051D14J0PA (103)
R1178	7010004230	Resistor R20J 2.2 kΩ
R1179	7010004370	Resistor R20J 22 kΩ
R1180	7010004460	Resistor R20J 120 kΩ
R1181	7010001030	Resistor R25J 100 Ω
R1182	7010003400	Resistor ELR20J 1 kΩ
R1183	7010004460	Resistor R20J 120 kΩ
R1184	7010003670	Resistor ELR20J 120 kΩ
R1185	7010003580	Resistor ELR20J 22 kΩ
R1186	7010003550	Resistor ELR20J 15 kΩ
R1187	7310000750	Trimmer RH0651C14J2WA (103)
R1188	7010001070	Resistor R25J 220 Ω
R1189	7010001400	Resistor R25J 100 kΩ
R1190	7310000870	Trimmer RH1051D14J0PA (103)
R1191	7010004450	Resistor R20J 100 kΩ
R1192	7010001070	Resistor R25J 220 Ω
R1193	7010003700	Resistor ELR20J 220 kΩ
R1194	7010004370	Resistor R20J 22 kΩ
R1195	7010003440	Resistor ELR20J 2.2 kΩ
R1196	7010003320	Resistor ELR20J 220 Ω
R1197	7010003320	Resistor ELR20J 220 Ω
R1198	7010003440	Resistor ELR20J 2.2 kΩ
R1199	7010003530	Resistor ELR20J 10 kΩ

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION
R1200	7010003530	Resistor ELR20J 10 kΩ
R1201	7010004320	Resistor R20J 10 kΩ
R1202	7010004320	Resistor R20J 10 kΩ
R1203	7010001280	Resistor R25J 10 kΩ
R1204	7010001070	Resistor R25J 220 Ω
R1205	7010003560	Resistor ELR20J 18 kΩ
R1206	7010003320	Resistor ELR20J 220 Ω
R1207	7010003550	Resistor ELR20J 15 kΩ
R1208	7010003620	Resistor ELR20J 47 kΩ
R1209	7010003480	Resistor ELR20J 4.7 kΩ
R1210	7010003580	Resistor ELR20J 22 kΩ
R1211	7010004110	Resistor R20J 220 Ω
R1212	7010003660	Resistor ELR20J 100 kΩ
R1213	7010003660	Resistor ELR20J 100 kΩ
R1214	7010003660	Resistor ELR20J 100 kΩ
R1215	7010004190	Resistor R20J 1 kΩ
R1216	7010003400	Resistor ELR20J 1 kΩ
R1217	7010003660	Resistor ELR20J 100 kΩ
R1218	7010003360	Resistor ELR20J 470 Ω
R1219	7010003710	Resistor ELR20J 270 kΩ
R1220	7010001430	Resistor R25J 180 kΩ
R1221	7010003390	Resistor ELR20J 820 Ω
R1222	7010004320	Resistor R20J 10 kΩ
R1223	7010004150	Resistor R20J 470 Ω
R1224	7010003480	Resistor ELR20J 4.7 kΩ
R1225	7010003580	Resistor ELR20J 22 kΩ
R1226	7010003660	Resistor ELR20J 100 kΩ
R1227	7010003640	Resistor ELR20J 68 kΩ
R1228	7010004490	Resistor R20J 220 kΩ
R1229	7010003700	Resistor ELR20J 220 kΩ
R1230	7010004320	Resistor R20J 10 kΩ
R1231	7010004320	Resistor R20J 10 kΩ
R1232	7010000090	Resistor ELR25J 4.7 Ω
R1233	7010004780	Resistor R50XJ 470 Ω
R1234	7010000090	Resistor ELR25J 4.7 Ω
R1235	7010003400	Resistor ELR20J 1 kΩ
R1236	7010003400	Resistor ELR20J 1 kΩ
R1237	7010003200	Resistor ELR20J 22 Ω
R1238	7010003340	Resistor ELR20J 330 Ω
R1239	7010003580	Resistor ELR20J 22 kΩ
R1240	7010003620	Resistor ELR20J 47 kΩ
R1241	7010003400	Resistor ELR20J 1 kΩ
R1242	7010003690	Resistor ELR20J 180 kΩ
R1243	7010004190	Resistor R20J 1 kΩ
R1244	7010003320	Resistor ELR20J 220 Ω
R1245	7010003400	Resistor ELR20J 1 kΩ
R1246	7010001210	Resistor R25J 3.3 kΩ
R1247	7010003370	Resistor ELR20J 560 Ω
R1248	7010003400	Resistor ELR20J 1 kΩ
R1249	7010003580	Resistor ELR20J 22 kΩ
R1250	7010003580	Resistor ELR20J 22 kΩ
R1251	7010003510	Resistor ELR20J 6.8 kΩ
R1252	7010003360	Resistor ELR20J 470 Ω
R1253	7010004030	Resistor R20J 47 Ω
R1254	7010003400	Resistor ELR20J 1 kΩ
R1255	7010003620	Resistor ELR20J 47 kΩ
R1256	7010003580	Resistor ELR20J 22 kΩ
R1257	7010004300	Resistor R20J 6.8 kΩ
R1258	7010003440	Resistor ELR20J 2.2 kΩ
R1259	7010003580	Resistor ELR20J 22 kΩ
R1260	7010003580	Resistor ELR20J 22 kΩ
R1261	7010003400	Resistor ELR20J 1 kΩ
R1262	7010004110	Resistor R20J 220 Ω
R1264	7310000750	Trimmer RH0651C14J2WA (103)
R1265	7010003530	Resistor ELR20J 10 kΩ
R1266	7010001400	Resistor R25J 100 kΩ
R1267	7010003660	Resistor ELR20J 100 kΩ
R1268	7010003530	Resistor ELR20J 10 kΩ
R1269	7010003320	Resistor ELR20J 220 Ω
R1270	7010004370	Resistor R20J 22 kΩ
R1271	7010003480	Resistor ELR20J 4.7 kΩ
R1272	7010003480	Resistor ELR20J 4.7 kΩ
R1273	7010001300	Resistor R25J 15 kΩ
R1274	7010003480	Resistor ELR20J 4.7 kΩ
R1275	7010003700	Resistor ELR20J 220 kΩ

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
R1276	7010004370	Resistor	R20J 22 kΩ
R1277	7010003120	Resistor	ELR20J 4.7 Ω
R1278	7010000990	Resistor	R25J 47 Ω
R1279	7010003660	Resistor	ELR20J 100 kΩ
R1280	7010003720	Resistor	ELR20J 330 kΩ
R1281	7010004110	Resistor	R20J 220 Ω
R1282	7010003660	Resistor	ELR20J 100 kΩ
R1283	7010004190	Resistor	R20J 1 kΩ
R1284	7010001340	Resistor	R25J 33 kΩ
R1285	7010003600	Resistor	ELR20J 33 kΩ
R1286	7010004300	Resistor	R20J 6.8 kΩ
R1287	7410000210	Resistor Array	RMX- 8 472K
R1288	7010003320	Resistor	ELR20J 220 Ω
R1289	7010003580	Resistor	ELR20J 22 kΩ
R1290	7310000640	Trimmer	RH0621CJ3J1GA (222)
R1291	7310001600	Trimmer	RH0621C12J01A (101)
R1292	7010003530	Resistor	ELR20J 10 kΩ
R1293	7010003530	Resistor	ELR20J 10 kΩ
R1294	7010004410	Resistor	R20J 47 kΩ
R1295	7010004610	Resistor	R20J 3.3 MΩ
R1296	7010003530	Resistor	ELR20J 10 kΩ
R1297	7010003530	Resistor	ELR20J 10 kΩ
R1298	7010003530	Resistor	ELR20J 10 kΩ
R1299	7010003530	Resistor	ELR20J 10 kΩ
R1300	7010003530	Resistor	ELR20J 10 kΩ
R1301	7010003530	Resistor	ELR20J 10 kΩ
R1302	7010003530	Resistor	ELR20J 10 kΩ
R1303	7010003530	Resistor	ELR20J 10 kΩ
R1304	7010004230	Resistor	R20J 2.2 kΩ
R1305	7010003440	Resistor	ELR20J 2.2 kΩ
R1306	7010003480	Resistor	ELR20J 4.7 kΩ
R1307	7010003820	Resistor	ELR20J 3.3 MΩ
R1308	7010003320	Resistor	ELR20J 220 Ω
R1309	7010003320	Resistor	ELR20J 220 Ω
R1310	7010001070	Resistor	R25J 220 Ω
R1311	7010003720	Resistor	ELR20J 330 kΩ
R1312	7010003730	Resistor	ELR20J 390 kΩ
R1313	7010004410	Resistor	R20J 47 kΩ
R1314	7010003320	Resistor	ELR20J 220 Ω
R1315	7010003490	Resistor	ELR20J 5.6 kΩ
R1316	7010003490	Resistor	ELR20J 5.6 kΩ
R1317	7010003560	Resistor	ELR20J 18 kΩ
R1318	7010003490	Resistor	ELR20J 5.6 kΩ
R1319	7010003400	Resistor	ELR20J 1 kΩ
R1320	7010003600	Resistor	ELR20J 33 kΩ
R1321	7010003340	Resistor	ELR20J 330 Ω
R1322	7010003280	Resistor	ELR20J 100 Ω
R1323	7010003530	Resistor	ELR20J 10 kΩ
C1001	4040000260	Barrier Layer	UZE 08X 104M
C1002	4010000520	Ceramic	DD108 B 472K 50V
C1003	4010000520	Ceramic	DD108 B 472K 50V
C1004	4510001180	Electrolytic	50 MS7 3R3 μF
C1005	4010000520	Ceramic	DD108 B 472K 50V
C1006	4010000520	Ceramic	DD108 B 472K 50V
C1007	4510002840	Electrolytic	25 SS 10 μF
C1008	4010000520	Ceramic	DD108 B 472K 50V
C1009	4010000520	Ceramic	DD108 B 472K 50V
C1010	4010000520	Ceramic	DD108 B 472K 50V
C1011	4020000250	Cylinder	UP125 X 472M
C1012	4040000250	Barrier Layer	UAT 08X 473M
C1013	4010000260	Ceramic	DD104 SL 470J 50V
C1014	4040000260	Barrier Layer	UZE 08X 104M
C1015	4010000520	Ceramic	DD108 B 472K 50V
C1016	4510002810	Electrolytic	16 SS 47 μF
C1017	4510002790	Electrolytic	16 SS 22 μF
C1018	4510001140	Electrolytic	50 MS7 R22 μF
C1019	4510001170	Electrolytic	50 MS7 2R2 μF
C1020	4010000410	Ceramic	DD107 SL 331J 50V
C1021	4010000520	Ceramic	DD108 B 472K 50V
C1022	4510002810	Electrolytic	16 SS 47 μF
C1023	4010000520	Ceramic	DD108 B 472K 50V
C1024	4020000250	Cylinder	UP125 X 472M
C1025	4010000410	Ceramic	DD107 SL 331J 50V

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C1026	4010000500	Ceramic	DD104 B 102K 50V
C1027	4040000260	Barrier Layer	UZE 08X 104M
C1028	4510001940	Electrolytic	16 MS7 22 μF
C1029	4510001730	Electrolytic	50 RBP 0.47 μF
C1030	4040000290	Barrier Layer	UAT 04V 152K
C1031	4310000110	Mylar	F2D 50V 472K
C1032	4010000380	Ceramic	DD107 SL 221J 50V
C1033	4510002830	Electrolytic	25 SS 4R7 μF
C1034	4010000520	Ceramic	DD108 B 472K 50V
C1035	4510002810	Electrolytic	16 SS 47 μF
C1036	4310000020	Mylar	F2D 50V 103K
C1037	4510002730	Electrolytic	10 SS 100 μF
C1038	4310000020	Mylar	F2D 50V 103K
C1039	4510001770	Electrolytic	16 RBP 10 μF
C1040	4510001190	Electrolytic	50 MS7 4R7 μF
C1041	4510001730	Electrolytic	50 RBP 0.47 μF
C1042	4510002810	Electrolytic	16 SS 47 μF
C1043	4010000520	Ceramic	DD108 B 472K 50V
C1044	4010000520	Ceramic	DD108 B 472K 50V
C1045	4020000050	Cylinder	UP125 SL 4R7K
C1046	4010000520	Ceramic	DD108 B 472K 50V
C1047	4020000810	Cylinder	UP125 SL 121J
C1048	4010000040	Ceramic	DD104 SL 020C 50V
C1049	4020000250	Cylinder	UP125 X 472M
C1050	4010000520	Ceramic	DD108 B 472K 50V
C1051	4510002790	Electrolytic	16 SS 22 μF
C1052	4010000520	Ceramic	DD108 B 472K 50V
C1053	4010000520	Ceramic	DD108 B 472K 50V
C1054	4010000260	Ceramic	DD104 SL 470J 50V
C1055	4010000500	Ceramic	DD104 B 102K 50V
C1056	4010000520	Ceramic	DD108 B 472K 50V
C1057	4310000090	Mylar	F2D 50V 333K
C1058	4010000520	Ceramic	DD108 B 472K 50V
C1059	4010000520	Ceramic	DD108 B 472K 50V
C1060	4010000520	Ceramic	DD108 B 472K 50V
C1062	4010000520	Ceramic	DD108 B 472K 50V
C1063	4310000130	Mylar	F2D 50V 563K
C1064	4010000500	Ceramic	DD104 B 102K 50V
C1065	4010000520	Ceramic	DD108 B 472K 50V
C1066	4010000520	Ceramic	DD108 B 472K 50V
C1067	4010000520	Ceramic	DD108 B 472K 50V
C1068	4010000520	Ceramic	DD108 B 472K 50V
C1069	4010000520	Ceramic	DD108 B 472K 50V
C1070	4010000520	Ceramic	DD108 B 472K 50V
C1071	4010000520	Ceramic	DD108 B 472K 50V
C1072	4010000520	Ceramic	DD108 B 472K 50V
C1073	4010000520	Ceramic	DD108 B 472K 50V
C1074	4010000520	Ceramic	DD108 B 472K 50V
C1075	4010000520	Ceramic	DD108 B 472K 50V
C1076	4010000520	Ceramic	DD108 B 472K 50V
C1077	4010000520	Ceramic	DD108 B 472K 50V
C1078	4010000520	Ceramic	DD108 B 472K 50V
C1079	4010000520	Ceramic	DD108 B 472K 50V
C1081	4010000520	Ceramic	DD108 B 472K 50V
C1082	4010000500	Ceramic	DD104 B 102K 50V
C1083	4010000520	Ceramic	DD108 B 472K 50V
C1084	4010000520	Ceramic	DD108 B 472K 50V
C1085	4010000520	Ceramic	DD108 B 472K 50V
C1086	4040000190	Barrier Layer	UAT 05X 103K
C1087	4040000260	Barrier Layer	UZE 08X 104M
C1088	4510002810	Electrolytic	16 SS 47 μF
C1089	4010000520	Ceramic	DD108 B 472K 50V
C1090	4010000520	Ceramic	DD108 B 472K 50V
C1091	4010000500	Ceramic	DD104 B 102K 50V
C1092	4010000260	Ceramic	DD104 SL 470J 50V
C1093	4510002950	Electrolytic	50 SS 2R2 μF
C1094	4310000020	Mylar	F2D 50V 103K
C1095	4010000520	Ceramic	DD108 B 472K 50V
C1096	4010000520	Ceramic	DD108 B 472K 50V
C1097	4010000180	Ceramic	DD104 SL 220J 50V
C1098	4020000120	Cylinder	UP125 SL 470J
C1099	4040000260	Barrier Layer	UZE 08X 104M
C1100	4010000520	Ceramic	DD108 B 472K 50V
C1101	4510002810	Electrolytic	16 SS 47 μF
C1102	4510001150	Electrolytic	50 MS7 R47 μF

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C1103	4310000130	Mylar	F2D 50V 563K
C1104	4510001170	Electrolytic	50 MS7 2R2 μF
C1105	4010000460	Ceramic	DD104 B 471K 50V
C1106	4010000520	Ceramic	DD108 B 472K 50V
C1107	4510002840	Electrolytic	25 SS 10 μF
C1108	4510001910	Electrolytic	25 MS7 10 μF
C1109	4010000520	Ceramic	DD108 B 472K 50V
C1110	4010000500	Ceramic	DD104 B 102K 50V
C1111	4010000330	Ceramic	DD105 SL 101J 50V
C1112	4010000500	Ceramic	DD104 B 102K 50V
C1113	4510002930	Electrolytic	50 SS R47 μF
C1114	4510001910	Electrolytic	25 MS7 10 μF
C1115	4510001910	Electrolytic	25 MS7 10 μF
C1116	4510001910	Electrolytic	25 MS7 10 μF
C1117	4040000260	Barrier Layer	UZE 08X 104M
C1118	4510002970	Electrolytic	50 SS 4R7 μF
C1119	4510001760	Electrolytic	25 RBP 4.7 μF
C1120	4040000260	Barrier Layer	UZE 08X 104M
C1121	4510001110	Electrolytic	16 MS7 47 μF
C1122	4010000520	Ceramic	DD108 B 472K 50V
C1123	4310000060	Mylar	F2D 50V 223K
C1124	4310000060	Mylar	F2D 50V 223K
C1125	4010000520	Ceramic	DD108 B 472K 50V
C1126	4510001910	Electrolytic	25 MS7 10 μF
C1127	4310000060	Mylar	F2D 50V 223K
C1128	4510002950	Electrolytic	50 SS 2R2 μF
C1129	4510001180	Electrolytic	50 MS7 3R3 μF
C1130	4010000520	Ceramic	DD108 B 472K 50V
C1131	4010000260	Ceramic	DD104 SL 470J 50V
C1132	4010000520	Ceramic	DD108 B 472K 50V
C1133	4010000350	Ceramic	DD106 SL 151J 50V
C1134	4010000520	Ceramic	DD108 B 472K 50V
C1135	4510002840	Electrolytic	25 SS 10 μF
C1136	4010000520	Ceramic	DD108 B 472K 50V
C1137	4010000040	Ceramic	DD104 SL 020C 50V
C1138	4010000400	Ceramic	DD107 SL 301J 50V
C1139	4010000400	Ceramic	DD107 SL 301J 50V
C1140	4040000290	Barrier Layer	UAT 04V 152K
C1141	4010000350	Ceramic	DD106 SL 151J 50V
C1142	4010000190	Ceramic	DD104 SL 240J 50V
C1143	4010000380	Ceramic	DD107 SL 221J 50V
C1144	4010000110	Ceramic	DD104 SL 090D 50V
C1145	4010000350	Ceramic	DD106 SL 151J 50V
C1146	4010004610	Ceramic	DD360 YL 201J 50V
C1147	4010004610	Ceramic	DD360 YL 201J 50V
C1148	4010000900	Ceramic	DD107 CH 680J 50V
C1149	4010000520	Ceramic	DD108 B 472K 50V
C1150	4040000250	Barrier Layer	UAT 08X 473M
C1151	4040000250	Barrier Layer	UAT 08X 473M
C1152	4010000520	Ceramic	DD108 B 472K 50V
C1153	4010000520	Ceramic	DD108 B 472K 50V
C1154	4010000520	Ceramic	DD108 B 472K 50V
C1155	4010000520	Ceramic	DD108 B 472K 50V
C1156	4040000250	Barrier Layer	UAT 08X 473M
C1157	4010000520	Ceramic	DD108 B 472K 50V
C1158	4010000520	Ceramic	DD108 B 472K 50V
C1159	4010000520	Ceramic	DD108 B 472K 50V
C1160	4610000130	Trimmer	CV05E3001
C1161	4010000520	Ceramic	DD108 B 472K 50V
C1162	4010000520	Ceramic	DD108 B 472K 50V
C1163	4010000520	Ceramic	DD108 B 472K 50V
C1164	4510002850	Electrolytic	25 SS 22 μF
C1165	4010000520	Ceramic	DD108 B 472K 50V
C1166	4010000500	Ceramic	DD104 B 102K 50V
C1167	4510002810	Electrolytic	16 SS 47 μF
C1168	4310000010	Mylar	F2D 50V 102K
C1169	4510002850	Electrolytic	25 SS 22 μF
C1170	4510002730	Electrolytic	10 SS 100 μF
C1171	4010000520	Ceramic	DD108 B 472K 50V
C1172	4510002810	Electrolytic	16 SS 47 μF
C1174	4530000350	Capacitor Array	B8ZC0111-32N
C1175	4530000350	Capacitor Array	B8ZC0111-32N
C1176	4010000350	Ceramic	DD106 SL 151J 50V
C1178	4510001110	Electrolytic	16 MS7 47 μF
C1179	4010000520	Ceramic	DD108 B 472K 50V

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C1180	4510002850	Electrolytic	25 SS 22 μF
C1181	4510002950	Electrolytic	50 SS 2R2 μF
C1182	4510002810	Electrolytic	16 SS 47 μF
C1185	4510002850	Electrolytic	25 SS 22 μF
C1187	4510002850	Electrolytic	25 SS 22 μF
C1188	4040000250	Barrier Layer	UAT 08X 473M
C1189	4010000520	Ceramic	DD108 B 472K 50V
C1190	4550000340	Tantalum	DN 1C 100M
C1191	4310000200	Mylar	F2D 50V 153K
C1192	4310000200	Mylar	F2D 50V 153K
C1193	4310000200	Mylar	F2D 50V 153K
C1194	4550000340	Tantalum	DN 1C 100M
C1195	4040000260	Barrier Layer	UZE 08X 104M
C1196	4510001100	Electrolytic	16 MS7 10 μF
C1197	4040000260	Barrier Layer	UZE 08X 104M
C1198	4040000250	Barrier Layer	UAT 08X 473M
C1199	4010000500	Ceramic	DD104 B 102K 50V
C1200	4010000520	Ceramic	DD108 B 472K 50V
S1001	2220000400	Switch	SW-108 (SSSS91685A)
S1002	2220000400	Switch	SW-108 (SSSS91685A)
S1003	2220000400	Switch	SW-108 (SSSS91685A)
S1004	2220000400	Switch	SW-108 (SSSS91685A)
EP1001	0910022482	P.C. Board	B 2074B
EP1002	6910000630	Ferrite Bead	FSOH070RN

[RF UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
IC601	1790000050	IC	ND487C1-3R
IC602	1180000070	IC	NJM78L08A
IC603	1110000540	IC	NJM4558D
IC604	1110000540	IC	NJM4558D
IC605	1120000970	IC	M54562P
Q601	1580000110	FET	3SK74 M
Q602	1560000130	FET	2SK125
Q603	1560000130	FET	2SK125
Q604	1590000340	Transistor	RN1202
Q605	1590000340	Transistor	RN1202
Q606	1530000810	Transistor	2SC2053
Q607	1580000100	FET	3SK74 K
Q608	1580000100	FET	3SK74 K
Q609	1580000110	FET	3SK74 M
Q610	1590000340	Transistor	RN1202
Q611	1590000350	Transistor	RN1204
Q612	1590000350	Transistor	RN1204
Q613	1530000100	Transistor	2SC2458-Y
Q614	1590000350	Transistor	RN1204
Q615	1590000350	Transistor	RN1204
Q616	1590000350	Transistor	RN1204
Q617	1590000340	Transistor	RN1202
Q618	1530000810	Transistor	2SC2053
Q619	1590000350	Transistor	RN1204
Q620	1590000350	Transistor	RN1204
Q621	1590000360	Transistor	RN2202
D601	1710000050	Diode	1SS53
D602	1710000050	Diode	1SS53
D603	1710000050	Diode	1SS53
D604	1710000050	Diode	1SS53
D605	1710000050	Diode	1SS53
D606	1710000050	Diode	1SS53
D607	1710000050	Diode	1SS53

## [RF UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
D608	1710000050	Diode	1SS53
D609	1710000050	Diode	1SS53
D610	1710000050	Diode	1SS53
D611	1710000050	Diode	1SS53
D612	1710000050	Diode	1SS53
D613	1710000050	Diode	1SS53
D614	1710000050	Diode	1SS53
D615	1710000050	Diode	1SS53
D616	1710000050	Diode	1SS53
D617	1710000050	Diode	1SS53
D618	1710000050	Diode	1SS53
D619	1710000050	Diode	1SS53
D620	1710000050	Diode	1SS53
D621	1710000050	Diode	1SS53
D622	1710000050	Diode	1SS53
D623	1710000050	Diode	1SS53
D624	1710000160	Diode	1SS133
D625	1710000160	Diode	1SS133
D626	1710000160	Diode	1SS133
D627	1710000160	Diode	1SS133
D629	1710000160	Diode	1SS133
D630	1710000160	Diode	1SS133
D631	1710000160	Diode	1SS133
D632	1710000160	Diode	1SS133
D633	1710000160	Diode	1SS133
D634	1710000160	Diode	1SS133
D635	1710000160	Diode	1SS133
D636	1710000050	Diode	1SS53
F1601	2010001010	Filter	69M15B (FL-120)
L601	6180000780	Coil	LAL 03NA 1R2M
L602	6180000780	Coil	LAL 03NA 1R2M
L603	6180000700	Coil	LAL 03NA R27M
L604	6140000930	Coil	LR-116
L605	6140000930	Coil	LR-116
L606	6150002430	Coil	LS-254
L607	6150002430	Coil	LS-254
L608	6150000990	Coil	LS-114
L609	6150002430	Coil	LS-254
L610	6150002430	Coil	LS-254
L611	6150001770	Coil	LS-198
L612	6140000930	Coil	LR-116
L613	6110001790	Coil	LA-268
L614	6110001720	Coil	LA-258
L615	6180000850	Coil	LAL 03NA 4R7K
L616	6180000860	Coil	LAL 03NA 5R6K
L617	6180001000	Coil	LAL 04NA 102K
L618	6180001710	Coil	LAL 03NA 561K
L619	6180002050	Coil	EL0606SKI-2R7K
L620	6180002020	Coil	EL0606SKI-1R5K
L621	6180002050	Coil	EL0606SKI-2R7K
L622	6180002470	Coil	LAL 03NA 471K
L623	6180002030	Coil	EL0606SKI-1R8K
L624	6180002010	Coil	EL0606SKI-1R2K
L625	6180002030	Coil	EL0606SKI-1R8K
L626	6180000900	Coil	LAL 03NA 101K
L627	6180002000	Coil	EL0606SKI-1R0K
L628	6180002490	Coil	EL0606SKI-R82K
L629	6180002010	Coil	EL0606SKI-1R2K
L630	6180000900	Coil	LAL 03NA 101K
L631	6180000130	Coil	LB4-R70J
L632	6180000100	Coil	LB4-R50J
L633	6180000130	Coil	LB4-R70J
L634	6180000900	Coil	LAL 03NA 101K
L635	6180000100	Coil	LB4-R50J
L636	6180000710	Coil	LAL 03NA R33M
L637	6180000100	Coil	LB4-R50J
L638	6180000880	Coil	LAL 03NA 100K
L639	6180000720	Coil	LAL 03NA R39M
L640	6180000700	Coil	LAL 03NA R27M
L641	6180000720	Coil	LAL 03NA R39M
L642	6180000900	Coil	LAL 03NA 101K

## [RF UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
L643	6180000050	Coil	LB4-R30J
L644	6110001650	Coil	LA-248
L645	6180000050	Coil	LB4-R30J
L646	6180000900	Coil	LAL 03NA 101K
L647	6110001780	Coil	LA-267
L648	6110001640	Coil	LA-247
L649	6110001780	Coil	LA-267
L650	6180000900	Coil	LAL 03NA 101K
L651	6180001710	Coil	LAL 03NA 561K
L652	6180000850	Coil	LAL 03NA 4R7K
L653	6180000860	Coil	LAL 03NA 5R6K
L654	6180000690	Coil	LAL 03NA R22M
L655	6140000060	Coil	LR-18
L656	6180001710	Coil	LAL 03NA 561K
L657	6180002510	Coil	LAL 04NA 471K
L658	6180000990	Coil	LAL 04NA 101K
L659	6180000030	Coil	LB4-R15J
L660	6180000880	Coil	LAL 03NA 100K
L661	6180000880	Coil	LAL 03NA 100K
L662	6140001260	Coil	LR-151
L663	6140001460	Coil	LR-170
L664	6110001610	Coil	LA-244
L665	6150001770	Coil	LS-198
L666	6140001600	Coil	LR-178
L667	6180000960	Coil	LAL 03NA 102K
L668	6180000820	Coil	LAL 03NA 2R7M
L669	6180000800	Coil	LAL 03NA 1R8M
L670	6180000900	Coil	LAL 03NA 101K
L671	6140000060	Coil	LR-18
L673	6180002470	Coil	LAL 03NA 471K
L674	6180001180	Coil	FL 9H 471K
L675	6180002470	Coil	LAL 03NA 471K
L676	6910000670	Coil	BT01RN1-A61-001
L677	6910000670	Coil	BT01RN1-A61-001
L678	6180000910	Coil	LAL 03NA 121K
L679	6180000900	Coil	LAL 03NA 101K
L680	6180000990	Coil	LAL 04NA 101K
R601	7010004270	Resistor	R20J 4.7 kΩ
R602	7010003240	Resistor	ELR20J 47 Ω
R603	7010003150	Resistor	ELR20J 8.2 Ω
R604	7010003150	Resistor	ELR20J 8.2 Ω
R605	7010003300	Resistor	ELR20J 150 Ω
R606	7010003480	Resistor	ELR20J 4.7 kΩ
R607	7010004230	Resistor	R20J 2.2 kΩ
R608	7010004070	Resistor	R20J 100 Ω
R609	7010004570	Resistor	R20J 1 MΩ
R610	7010001280	Resistor	R25J 10 kΩ
R612	7010003470	Resistor	ELR20J 3.9 kΩ
R613	7010003280	Resistor	ELR20J 100 Ω
R614	7010004320	Resistor	R20J 10 kΩ
R615	7010000990	Resistor	R25J 47 Ω
R616	7010003530	Resistor	ELR20J 10 kΩ
R617	7010004110	Resistor	R20J 220 Ω
R618	7010003370	Resistor	ELR20J 560 Ω
R619	7010003280	Resistor	ELR20J 100 Ω
R620	7010003370	Resistor	ELR20J 560 Ω
R621	7310000740	Trimmer	RH0651CS3J2KA (472)
R622	7010004170	Resistor	R20J 680 Ω
R623	7010004160	Resistor	R20J 560 Ω
R624	7010003390	Resistor	ELR20J 820 Ω
R625	7010003580	Resistor	ELR20J 22 kΩ
R626	7010004270	Resistor	R20J 4.7 kΩ
R627	7010003170	Resistor	ELR20J 12 Ω
R628	7010003350	Resistor	ELR20J 390 Ω
R629	7010003350	Resistor	ELR20J 390 Ω
R630	7010004170	Resistor	R20J 680 Ω
R631	7010003490	Resistor	ELR20J 5.6 kΩ
R632	7010001320	Resistor	R25J 22 kΩ
R633	7010003400	Resistor	ELR20J 1 kΩ
R634	7010003150	Resistor	ELR20J 8.2 Ω
R635	7010003990	Resistor	R20J 22 Ω
R636	7010004270	Resistor	R20J 4.7 kΩ
R637	7010003580	Resistor	ELR20J 22 kΩ

## [RF UNIT]

REF. NO.	ORDER NO.	DESCRIPTION
R638	7010001340	Resistor R25J 33 kΩ
R639	7010004610	Resistor R20J 3.3 MΩ
R640	7010004490	Resistor R20J 220 kΩ
R641	7010003610	Resistor ELR20J 39 kΩ
R643	7010003820	Resistor ELR20J 3.3 MΩ
R644	7010003540	Resistor ELR20J 12 kΩ
R645	7010004110	Resistor R20J 220 Ω
R646	7010003740	Resistor ELR20J 470 kΩ
R647	7010004530	Resistor R20J 470 kΩ
R648	7010003590	Resistor ELR20J 27 kΩ
R649	7010004110	Resistor R20J 220 Ω
R650	7010004490	Resistor R20J 220 kΩ
R651	7010004070	Resistor R20J 100 Ω
R652	7010003510	Resistor ELR20J 6.8 kΩ
R653	7010004310	Resistor R20J 8.2 kΩ
R654	7080000350	Resistor CRB25FX 68 kΩ
R655	7080000330	Resistor CRB25FX 39 kΩ
R656	7080000350	Resistor CRB25FX 68 kΩ
R657	7310001840	Trimmer RH0421CS3J08A (472)
R658	7080000330	Resistor CRB25FX 39 kΩ
R659	7010001400	Resistor R25J 100 kΩ
R661	7010003480	Resistor ELR20J 4.7 kΩ
R662	7010004340	Resistor R20J 15 kΩ
R663	7010004510	Resistor R20J 330 kΩ
R664	7010004410	Resistor R20J 47 kΩ
R665	7010003720	Resistor ELR20J 330 kΩ
R666	7010004330	Resistor R20J 12 kΩ
R667	7010003600	Resistor ELR20J 33 kΩ
R668	7010001280	Resistor R25J 10 kΩ
R669	7010003530	Resistor ELR20J 10 kΩ
R670	7010003530	Resistor ELR20J 10 kΩ
R671	7010003620	Resistor ELR20J 47 kΩ
R672	7010003550	Resistor ELR20J 15 kΩ
R673	7010003170	Resistor ELR20J 12 Ω
R674	7010003350	Resistor ELR20J 390 Ω
R675	7010003350	Resistor ELR20J 390 Ω
R676	7010004230	Resistor R20J 2.2 kΩ
R677	7010000970	Resistor R25J 33 Ω
R678	7010004050	Resistor R20J 68 Ω
R679	7010003660	Resistor ELR20J 100 kΩ
R680	7010003280	Resistor ELR20J 100 Ω
R681	7310000680	Trimmer RH0651C12J04A (101)
R682	7010003280	Resistor ELR20J 100 Ω
R683	7010003660	Resistor ELR20J 100 kΩ
R684	7010004050	Resistor R20J 68 Ω
R685	7010003350	Resistor ELR20J 390 Ω
R686	7510000160	Thermistor ERT-D2FGL301S
R687	7010003350	Resistor ELR20J 390 Ω
R688	7310000700	Trimmer RH0651CS2J1HA (471)
R689	7010003320	Resistor ELR20J 220 Ω
R690	7010004150	Resistor R20J 470 Ω
R691	7010001030	Resistor R25J 100 Ω
R692	7010004370	Resistor R20J 22 kΩ
R693	7010004070	Resistor R20J 100 Ω
R694	7010004320	Resistor R20J 10 kΩ
R695	7010001320	Resistor R25J 22 kΩ
R696	7010004320	Resistor R20J 10 kΩ
R697	7010003380	Resistor ELR20J 680 Ω
R698	7010003480	Resistor ELR20J 4.7 kΩ
R699	7010003240	Resistor ELR20J 47 Ω
R700	7010000970	Resistor R25J 33 Ω
R701	7010003400	Resistor ELR20J 1 kΩ
R702	7010003530	Resistor ELR20J 10 kΩ
R703	7010003530	Resistor ELR20J 10 kΩ
R704	7010003530	Resistor ELR20J 10 kΩ
R705	7010003530	Resistor ELR20J 10 kΩ
R706	7010003530	Resistor ELR20J 10 kΩ
R707	7010003530	Resistor ELR20J 10 kΩ
R708	7010003530	Resistor ELR20J 10 kΩ
R709	7010003530	Resistor ELR20J 10 kΩ
R710	7010003530	Resistor ELR20J 10 kΩ
R711	7010004570	Resistor R20J 1 MΩ
R712	7010001360	Resistor R25J 47 kΩ
R713	7010001070	Resistor R25J 220 Ω
R714	7010003320	Resistor ELR20J 220 Ω

## [RF UNIT]

REF. NO.	ORDER NO.	DESCRIPTION
R715	7010003320	Resistor ELR20J 220 Ω
R716	7010003320	Resistor ELR20J 220 Ω
R717	7010003320	Resistor ELR20J 220 Ω
R718	7010003320	Resistor ELR20J 220 Ω
R719	7010003320	Resistor ELR20J 220 Ω
R720	7010003320	Resistor ELR20J 220 Ω
R721	7010001280	Resistor R25J 10 kΩ
R722	7010001280	Resistor R25J 10 kΩ
R723	7010004070	Resistor R20J 100 Ω
R724	7410000180	Resistor Array RMX- 8 103K
R725	7010004370	Resistor R20J 22 kΩ
R726	7010001280	Resistor R25J 10 kΩ
C601	4010000410	Ceramic DD107 SL 331J 50V
C602	4010000430	Ceramic DD109 SL 471J 50V
C603	4010000520	Ceramic DD108 B 472K 50V
C604	4010000390	Ceramic DD107 SL 271J 50V
C605	4010000420	Ceramic DD108 SL 391J 50V
C606	4010000520	Ceramic DD108 B 472K 50V
C607	4010000520	Ceramic DD108 B 472K 50V
C608	4010000520	Ceramic DD108 B 472K 50V
C609	4010000520	Ceramic DD108 B 472K 50V
C610	4310000020	Mylar F2D 50V 103K
C611	4010000520	Ceramic DD108 B 472K 50V
C612	4010000500	Ceramic DD104 B 102K 50V
C613	4010000060	Ceramic DD104 SL 040C 50V
C614	4010000500	Ceramic DD104 B 102K 50V
C615	4040000260	Barrier Layer UZE 08X 104M
C616	4040000260	Barrier Layer UZE 08X 104M
C617	4040000260	Barrier Layer UZE 08X 104M
C618	4040000260	Barrier Layer UZE 08X 104M
C619	4010000320	Ceramic DD104 SL 820J 50V
C620	4010000120	Ceramic DD104 SL 100D 50V
C621	4010000350	Ceramic DD106 SL 151J 50V
C622	4010000210	Ceramic DD104 SL 300J 50V
C623	4040000260	Barrier Layer UZE 08X 104M
C624	4040000300	Barrier Layer UAT 04V 182K
C625	4040000310	Barrier Layer UAT 04V 222K
C627	4010000520	Ceramic DD108 B 472K 50V
C628	4510002840	Electrolytic 25 SS 10 μF
C629	4040000310	Barrier Layer UAT 04V 222K
C630	4040000290	Barrier Layer UAT 04V 152K
C631	4040000250	Barrier Layer UAT 08X 473M
C632	4040000250	Barrier Layer UAT 08X 473M
C633	4040000270	Barrier Layer UAT 04V 102K
C634	4040000270	Barrier Layer UAT 04V 102K
C635	4040000250	Barrier Layer UAT 08X 473M
C636	4040000250	Barrier Layer UAT 08X 473M
C637	4040000440	Barrier Layer RAU 06SA 561K
C638	4010000430	Ceramic DD109 SL 471J 50V
C639	4040000250	Barrier Layer UAT 08X 473M
C640	4040000250	Barrier Layer UAT 08X 473M
C641	4010000430	Ceramic DD109 SL 471J 50V
C642	4010000410	Ceramic DD107 SL 331J 50V
C643	4040000250	Barrier Layer UAT 08X 473M
C644	4040000250	Barrier Layer UAT 08X 473M
C645	4010000390	Ceramic DD107 SL 271J 50V
C646	4010000390	Ceramic DD107 SL 271J 50V
C647	4040000250	Barrier Layer UAT 08X 473M
C648	4040000250	Barrier Layer UAT 08X 473M
C649	4010000370	Ceramic DD106 SL 201J 50V
C650	4010000370	Ceramic DD106 SL 201J 50V
C651	4040000250	Barrier Layer UAT 08X 473M
C652	4040000250	Barrier Layer UAT 08X 473M
C653	4010000360	Ceramic DD106 SL 181J 50V
C654	4010000360	Ceramic DD106 SL 181J 50V
C655	4040000250	Barrier Layer UAT 08X 473M
C656	4040000250	Barrier Layer UAT 08X 473M
C657	4010000340	Ceramic DD105 SL 121J 50V
C658	4010000340	Ceramic DD105 SL 121J 50V
C659	4040000250	Barrier Layer UAT 08X 473M
C660	4040000250	Barrier Layer UAT 08X 473M
C661	4010000520	Ceramic DD108 B 472K 50V
C663	4010000330	Ceramic DD105 SL 101J 50V

[RF UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C664	4010000380	Ceramic	DD107 SL 221J 50V
C665	4510002850	Electrolytic	25 SS 22 μF
C666	4510002970	Electrolytic	50 SS 4R7 μF
C667	4010000520	Ceramic	DD108 B 472K 50V
C668	4510002840	Electrolytic	25 SS 10 μF
C669	4010000520	Ceramic	DD108 B 472K 50V
C670	4010000180	Ceramic	DD104 SL 220J 50V
C671	4040000260	Barrier Layer	UZE 08X 104M
C672	4040000290	Barrier Layer	UAT 04V 152K
C673	4040000270	Barrier Layer	UAT 04V 102K
C674	4040000300	Barrier Layer	UAT 04V 182K
C675	4040000260	Barrier Layer	UZE 08X 104M
C676	4040000390	Barrier Layer	UAT 06V 103K
C677	4040000350	Barrier Layer	UAT 05V 472K
C678	4010000350	Ceramic	DD106 SL 151J 50V
C679	4010000350	Ceramic	DD106 SL 151J 50V
C680	4040000250	Barrier Layer	UAT 08X 473M
C681	4010000520	Ceramic	DD108 B 472K 50V
C682	4510002940	Electrolytic	50 SS 1 μF
C683	4040000250	Barrier Layer	UAT 08X 473M
C684	4510002840	Electrolytic	25 SS 10 μF
C685	4010000500	Ceramic	DD104 B 102K 50V
C686	4010000520	Ceramic	DD108 B 472K 50V
C687	4010000240	Ceramic	DD104 SL 390J 50V
C688	4010000380	Ceramic	DD107 SL 221J 50V
C689	4010000240	Ceramic	DD104 SL 390J 50V
C690	4510002980	Electrolytic	50 SS 10 μF
C691	4010000520	Ceramic	DD108 B 472K 50V
C692	4010000500	Ceramic	DD104 B 102K 50V
C693	4010000100	Ceramic	DD104 SL 080D 50V
C694	4010000070	Ceramic	DD104 SL 050C 50V
C695	4010000150	Ceramic	DD104 SL 150J 50V
C696	4010000020	Ceramic	DD104 SL 010C 50V
C697	4010000120	Ceramic	DD104 SL 100D 50V
C698	4010000520	Ceramic	DD108 B 472K 50V
C699	4010000500	Ceramic	DD104 B 102K 50V
C700	4010000500	Ceramic	DD104 B 102K 50V
C701	4040000250	Barrier Layer	UAT 08X 473M
C702	4040000250	Barrier Layer	UAT 08X 473M
C703	4010000500	Ceramic	DD104 B 102K 50V
C704	4040000250	Barrier Layer	UAT 08X 473M
C705	4010000100	Ceramic	DD104 SL 080D 50V
C706	4010000040	Ceramic	DD104 SL 020C 50V
C707	4010000170	Ceramic	DD104 SL 200J 50V
C708	4010000090	Ceramic	DD104 SL 070D 50V
C709	4010000070	Ceramic	DD104 SL 050C 50V
C710	4010000520	Ceramic	DD108 B 472K 50V
C711	4040000250	Barrier Layer	UAT 08X 473M
C712	4040000250	Barrier Layer	UAT 08X 473M
C713	4040000250	Barrier Layer	UAT 08X 473M
C714	4040000250	Barrier Layer	UAT 08X 473M
C715	4040000250	Barrier Layer	UAT 08X 473M
C716	4010000520	Ceramic	DD108 B 472K 50V
C717	4010000520	Ceramic	DD108 B 472K 50V
C718	4010000520	Ceramic	DD108 B 472K 50V
C719	4010000520	Ceramic	DD108 B 472K 50V
C720	4010000520	Ceramic	DD108 B 472K 50V
C721	4510002850	Electrolytic	25 SS 22 μF
C722	4010000520	Ceramic	DD108 B 472K 50V
C723	4010000100	Ceramic	DD104 SL 080D 50V
C724	4010000100	Ceramic	DD104 SL 080D 50V
C725	4010000100	Ceramic	DD104 SL 080D 50V
C726	4010000050	Ceramic	DD104 SL 030C 50V
C727	4010000100	Ceramic	DD104 SL 080D 50V
C728	4010000070	Ceramic	DD104 SL 050C 50V
C729	4530000350	Capacitor Array	B8ZC0111-32N
C730	4530000350	Capacitor Array	B8ZC0111-32N
C731	4010000520	Ceramic	DD108 B 472K 50V
C732	4040000250	Barrier Layer	UAT 08X 473M
C734	4010000390	Ceramic	DD107 SL 271J 50V
C735	4010000520	Ceramic	DD108 B 472K 50V
C736	4040000330	Barrier Layer	UAT 05V 332K
C737	4010000500	Ceramic	DD104 B 102K 50V
C738	4010000520	Ceramic	DD108 B 472K 50V
C739	4010000500	Ceramic	DD104 B 102K 50V

[RF UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C740	4010000520	Ceramic	DD108 B 472K 50V
C741	4010000520	Ceramic	DD108 B 472K 50V
C742	4010000500	Ceramic	DD104 B 102K 50V
C743	4010000520	Ceramic	DD108 B 472K 50V
C744	4010000520	Ceramic	DD108 B 472K 50V
C745	4510001100	Electrolytic	16 MS7 10 μF
C746	4510002850	Electrolytic	25 SS 22 μF
C747	4010000520	Ceramic	DD108 B 472K 50V
C748	4510002860	Electrolytic	25 SS 33 μF
C749	4010000320	Ceramic	DD104 SL 820J 50V
C750	4010000520	Ceramic	DD108 B 472K 50V
C751	4010000160	Ceramic	DD104 SL 180J 50V
C752	4010000280	Ceramic	DD104 SL 560J 50V
EP601	0910022312	P.C. Board	B 2075B

[PA TR UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
Q801	1530000790	Transistor	2SC1971
Q802	1530000190	Transistor	2SC3133
Q803	1530000190	Transistor	2SC3133
Q804	1530000200	Transistor	2SC2904
Q805	1530000200	Transistor	2SC2904
Q806	1540000060	Transistor	2SD880-Y
Q807	1530000070	Transistor	2SC2120-Y
D801	1790000010	Diode	MV5
D802	1790000010	Diode	MV5
D803	1710000350	Diode	1N4002
D804	1790000010	Diode	MV5
L801	6140001170	Coil	LR-142
L804	6140001180	Coil	LR-143
L805	6910000670	Coil	BT01RN1-A61-001
L806	6910000670	Coil	BT01RN1-A61-001
L807	6910000670	Coil	BT01RN1-A61-001
L808	6910000670	Coil	BT01RN1-A61-001
L809	6140000610	Coil	LR-83
L810	6140001230	Coil	LR-148
L811	6140001210	Coil	LR-146
L812	6180001100	Coil	FL 4H 100K
L813	6910000670	Coil	BT01RN1-A61-001
L814	6170000110	Coil	LW-12A
L815	6910000670	Coil	BT01RN1-A61-001
L816	6910000600	Ferrite Bead	FSOH050RN
L817	6910000600	Ferrite Bead	FSOH050RN
L819	6180001120	Coil	FL 5H 101K
L821	6910000670	Coil	BT01RN1-A61-001
R801	7010001020	Resistor	R25J 82 Ω
R802	7010001060	Resistor	R25J 180 Ω
R803	7010001110	Resistor	R25J 470 Ω
R804	7010000850	Resistor	R25J 3.3 Ω
R805	7010000100	Resistor	ELR25J 5.6 Ω
R806	7010004720	Resistor	R50XJ 100 Ω
R807	7010000210	Resistor	ELR25J 47 Ω
R808	7010000210	Resistor	ELR25J 47 Ω
R809	7010004720	Resistor	R50XJ 100 Ω
R810	7080000650	Resistor	RSS1P 3R3 Ω
R811	7080000650	Resistor	RSS1P 3R3 Ω
R812	7080000650	Resistor	RSS1P 3R3 Ω
R813	7080000650	Resistor	RSS1P 3R3 Ω
R814	7010004650	Resistor	R50XJ 10 Ω
R815	7010004650	Resistor	R50XJ 10 Ω

[PA TR UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
R816	7080000010	Resistor	RSS1P 2R2 Ω
R817	7080000010	Resistor	RSS1P 2R2 Ω
R818	7010001340	Resistor	R25J 33 kΩ
R822	7070000250	Resistor	CRH200 R-02J 4.7 Ω (4R7)
R823	7310000710	Trimmer	RH0651C13J1YA (102)
R824	7010001050	Resistor	R25J 150 Ω
R826	7010000500	Resistor	ELR25J 10 kΩ
R827	7310003140	Trimmer	RH0621CN2J (331)
R828	7010004700	Resistor	R50XJ 68 Ω
R829	7010000130	Resistor	ELR25J 10 Ω
R831	7010000170	Resistor	ELR25J 22 Ω
R832	7010004720	Resistor	R50XJ 100 Ω
R833	7010000410	Resistor	ELR25J 2.2 kΩ
R834	7010004730	Resistor	R50XJ 120 Ω
R835	7080000650	Resistor	RSS1P 3R3 Ω
R836	7080000650	Resistor	RSS1P 3R3 Ω
R837	7010001060	Resistor	R25J 180 Ω
C801	4010000520	Ceramic	DD108 B 472K 50V
C803	4040000260	Barrier Layer	UZE 08X 104M
C804	4310000020	Mylar	F2D 50V 103K
C805	4310000020	Mylar	F2D 50V 103K
C806	4010000410	Ceramic	DD107 SL 331J 50V
C808	4030001370	Ceramic	GR44 CH 682K
C809	4030001370	Ceramic	GR44 CH 682K
C810	4320000270	Dip Mica	DM20C 102J5
C811	4030001330	Ceramic	GR43 CH 471K
C812	4030001330	Ceramic	GR43 CH 471K
C813	4030001340	Ceramic	GR44 CH 102K
C814	4320000290	Dip Mica	DM20C 152J5
C816	4320000340	Dip Mica	DM20C 472J5
C817	4040000250	Barrier Layer	UAT 08X 473M
C818	4510002820	Electrolytic	16 SS 1000 μF
C819	4030001420	Ceramic	GR44 Y5V 684Z
C820	4040000250	Barrier Layer	UAT 08X 473M
C821	4510002840	Electrolytic	25 SS 47 μF
C822	4510002840	Electrolytic	25 SS 10 μF
C823	4040000250	Barrier Layer	UAT 08X 473M
C824	4040000250	Barrier Layer	UAT 08X 473M
C825	4510002900	Electrolytic	25 SS 470 μF
C826	4040000250	Barrier Layer	UAT 08X 473M
C827	4510002840	Electrolytic	25 SS 10 μF
C828	4040000250	Barrier Layer	UAT 08X 473M
C829	4010000520	Ceramic	DD108 B 472K 50V
C830	4040000250	Barrier Layer	UAT 08X 473M
C831	4040000260	Barrier Layer	UZE 08X 104M
C832	4040000250	Barrier Layer	UAT 08X 473M
C833	4040000250	Barrier Layer	UAT 08X 473M
C834	4010004100	Ceramic	DD14 SL 331K 500V
C835	4010004100	Ceramic	DD14 SL 331K 500V
C836	4010000820	Ceramic	DD105 CH 330J 50V
C837	4040000110	Barrier Layer	UAT 04X 222K
C838	4510002820	Electrolytic	16 SS 1000 μF
C839	4030001330	Ceramic	GR43 CH 471K
C840	4030001330	Ceramic	GR43 CH 471K
C841	4030001340	Ceramic	GR44 CH 102K
C842	4010000460	Ceramic	DD104 B 471K 50V
S801	6910000060	Thermostat	OHD-3 90M
S802	6910000050	Thermostat	OHD-3 50M
MF801	2710000050	Fan Motor	M6B12U22
EP801	0910007051	P.C. Board	B 887A
EP804	6510003080	RT Pin	RT01T-1.0B
EP805	6510003080	RT Pin	RT01T-1.0B
EP807	6910000970	Ferrite Bead	DL 20P 2.6-3-1.2H
EP871	6910000640	Ferrite Bead	FSOH090RN
EP872	6910000640	Ferrite Bead	FSOH090RN
EP881	6910000630	Ferrite Bead	FSOH070RN

[PA PARTS]

REF. NO.	ORDER NO.	DESCRIPTION	
D872	1710000010	Diode	15CD11
D873	1710000010	Diode	15CD11
R871	7100000510	Resistor	CP-5AJ 0.012 Ω
R872	7010001150	Resistor	R25J 1 kΩ
R873	7010001150	Resistor	R25J 1 kΩ
C871	4050000140	Feed through	TF318-450E102GMV
C872	4050000140	Feed through	TF318-450E102GMV
C873	4050000140	Feed through	TF318-450E102GMV
C874	4050000140	Feed through	TF318-450E102GMV
C875	4040000250	Barrier Layer	UAT 08X 473M
C876	4040000250	Barrier Layer	UAT 08X 473M
C877	4510003650	Electrolytic	25 SS 2200 μF
C878	4040000250	Barrier Layer	UAT 08X 473M
F872	5210000060	Fuse	FGB 5A
EP873	6910000640	Ferrite Bead	FSOH090RN
EP874	6510000430	Terminal	ML-3182 4P

[FILTER UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
D1501	1710000350	Diode	1N4002
D1502	1710000350	Diode	1N4002
D1503	1710000350	Diode	1N4002
D1504	1710000350	Diode	1N4002
D1505	1710000350	Diode	1N4002
D1506	1710000350	Diode	1N4002
D1507	1710000350	Diode	1N4002
D1508	1710000330	Diode	1K60
D1509	1710000330	Diode	1K60
D1510	1710000350	Diode	1N4002
L1501	6140000310	Coil	LR-51
L1502	6140000300	Coil	LR-50
L1503	6140000290	Coil	LR-49
L1504	6140001160	Coil	LR-141
L1505	6140001130	Coil	LR-138
L1506	6140001130	Coil	LR-138
L1507	6140001150	Coil	LR-140
L1508	6140001240	Coil	LR-149
L1509	6140001240	Coil	LR-149
L1510	6140000330	Coil	LR-53
L1511	6140001150	Coil	LR-140
L1512	6140001150	Coil	LR-140
L1513	6140000340	Coil	LR-54
L1514	6140000690	Coil	LR-91
L1515	6140000690	Coil	LR-91
L1516	6140000350	Coil	LR-55
L1517	6140000360	Coil	LR-56
L1518	6140000360	Coil	LR-56
L1519	6110001280	Coil	LA-168
L1520	6180000450	Coil	RFC L6 222K
L1521	6140000100	Coil	LR-22A
L1522	6180000990	Coil	LAL 04NA 101K
L1523	6180000990	Coil	LAL 04NA 101K
L1524	6180000990	Coil	LAL 04NA 101K
L1525	6180000990	Coil	LAL 04NA 101K
L1526	6180000990	Coil	LAL 04NA 101K
L1527	6180000990	Coil	LAL 04NA 101K
L1528	6180000990	Coil	LAL 04NA 101K
L1529	6180000990	Coil	LAL 04NA 101K



[FILTER UNIT]

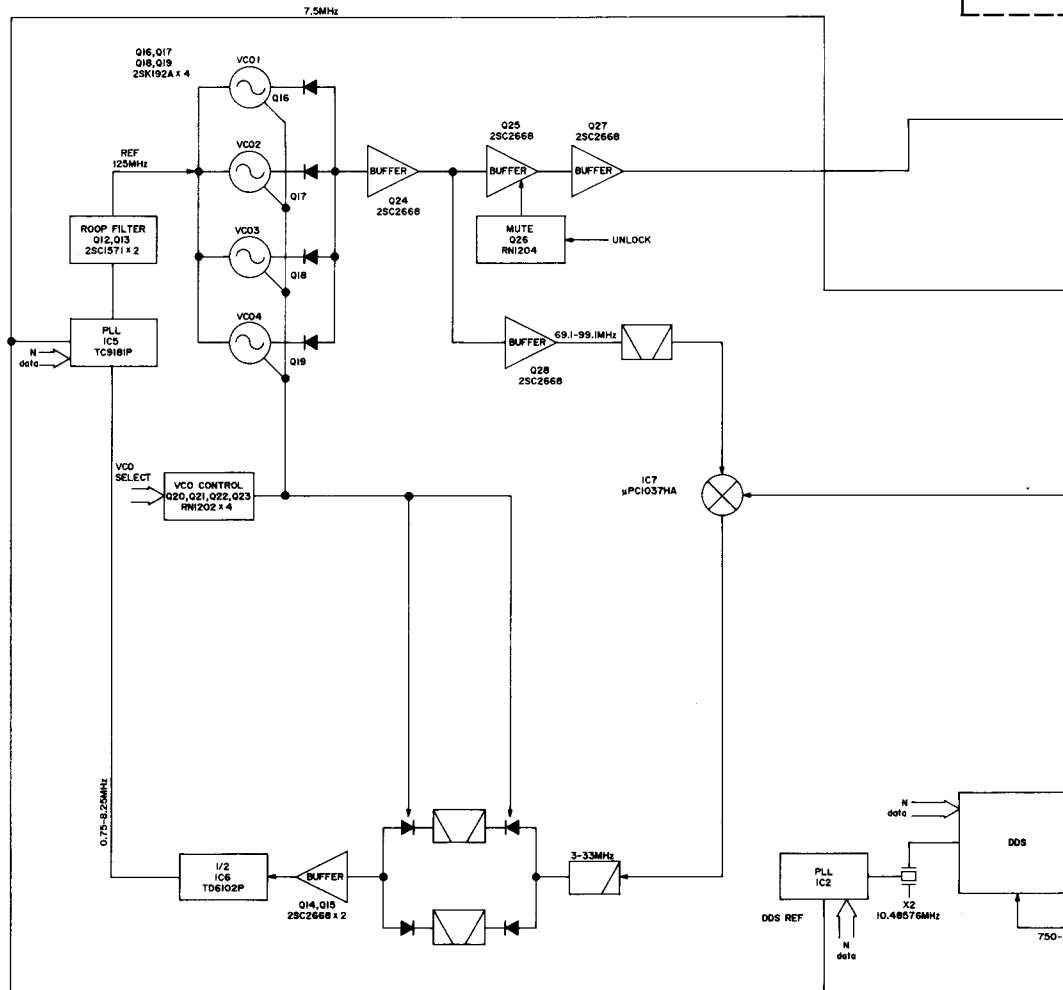
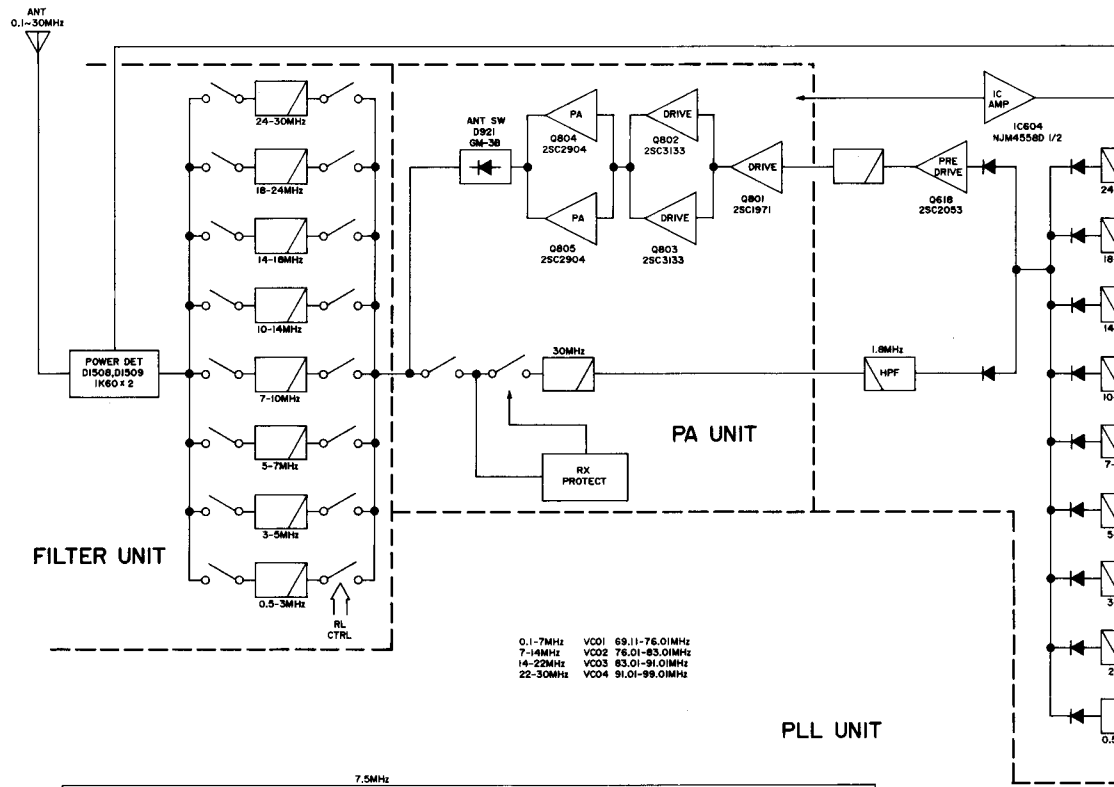
REF. NO.	ORDER NO.	DESCRIPTION	
L1530	6180001220	Coil	LAL 04NA 100K
L1531	6180001220	Coil	LAL 04NA 100K
L1532	6180001220	Coil	LAL 04NA 100K
L1533	6180001220	Coil	LAL 04NA 100K
L1534	6180001220	Coil	LAL 04NA 100K
L1535	6180001220	Coil	LAL 04NA 100K
L1536	6110001490	Coil	LA-196
L1537	6110001500	Coil	LA-197
L1538	6180001220	Coil	LAL 04NA 100K
L1539	6180001220	Coil	LAL 04NA 100K
R1501	7010004700	Resistor	R50XJ 68 Ω
R1502	7010004370	Resistor	R20J 22 kΩ
R1503	7010003660	Resistor	ELR20J 100 kΩ
R1504	7010003580	Resistor	ELR20J 22 kΩ
R1505	7010003620	Resistor	ELR20J 47 kΩ
R1506	7010005000	Resistor	R50XJ 4.7 kΩ
R1507	7010005000	Resistor	R50XJ 4.7 kΩ
R1508	7010003780	Resistor	ELR20J 1 MΩ
C1501	4320000290	Dip Mica	DM20C 152J5
C1502	4320000210	Dip Mica	DM19C 561J5
C1503	4320000290	Dip Mica	DM20C 152J5
C1504	4010004050	Ceramic	DD12 SL 181K 500V
C1505	4320000280	Dip Mica	DM20C 122J5
C1506	4320000220	Dip Mica	DM19C 681J5
C1507	4010004050	Ceramic	DD12 SL 181K 500V
C1508	4320000450	Dip Mica	DM19C 821J5
C1509	4010004030	Ceramic	DD10 SL 121K 500V
C1510	4320000200	Dip Mica	DM19C 471J5
C1511	4320000200	Dip Mica	DM19C 471J5
C1512	4010004030	Ceramic	DD10 SL 121K 500V
C1513	4320000210	Dip Mica	DM19C 561J5
C1514	4010003990	Ceramic	DD09 SL 680K 500V
C1515	4010004090	Ceramic	DD14 SL 301K 500V
C1516	4010004100	Ceramic	DD14 SL 331K 500V
C1517	4010004020	Ceramic	DD09 SL 111K 500V
C1518	4320000190	Dip Mica	DM19C 391J5
C1519	4010003980	Ceramic	DD09 SL 560K 500V
C1520	4010004070	Ceramic	DD12 SL 221K 500V
C1521	4010004080	Ceramic	DD12 SL 271K 500V
C1522	4010003980	Ceramic	DD09 SL 560K 500V
C1523	4010004100	Ceramic	DD14 SL 331K 500V
C1524	4010003950	Ceramic	DD06 SL 330K 500V
C1525	4010004050	Ceramic	DD12 SL 181K 500V
C1526	4010004040	Ceramic	DD10 SL 151K 500V
C1527	4010003910	Ceramic	DD06 SL 220K 500V
C1528	4010004080	Ceramic	DD12 SL 271K 500V
C1529	4010003980	Ceramic	DD09 SL 560K 500V
C1530	4010004010	Ceramic	DD09 SL 101K 500V
C1531	4010004010	Ceramic	DD09 SL 101K 500V
C1532	4010003860	Ceramic	DD06 SL 100D 500V
C1533	4010004060	Ceramic	DD12 SL 201K 500V
C1534	4010003970	Ceramic	DD07 SL 470K 500V
C1535	4010004010	Ceramic	DD09 SL 101K 500V
C1536	4610000240	Trimmer	ECV1ZW 20X40
C1537	4010000380	Ceramic	DD107 SL 221J 50V
C1538	4010000330	Ceramic	DD105 SL 101J 50V
C1539	4010000330	Ceramic	DD105 SL 101J 50V
C1540	4040000250	Barrier Layer	UAT 08X 473M
C1541	4040000250	Barrier Layer	UAT 08X 473M
C1542	4040000250	Barrier Layer	UAT 08X 473M
C1543	4040000250	Barrier Layer	UAT 08X 473M
C1544	4040000250	Barrier Layer	UAT 08X 473M
C1545	4040000250	Barrier Layer	UAT 08X 473M
C1546	4040000250	Barrier Layer	UAT 08X 473M
C1547	4040000250	Barrier Layer	UAT 08X 473M
C1548	4010000520	Ceramic	DD108 B 472K 50V
C1549	4010000520	Ceramic	DD108 B 472K 50V
C1550	4010000520	Ceramic	DD108 B 472K 50V
C1551	4010000520	Ceramic	DD108 B 472K 50V
C1552	4010000520	Ceramic	DD108 B 472K 50V
C1553	4010000520	Ceramic	DD108 B 472K 50V

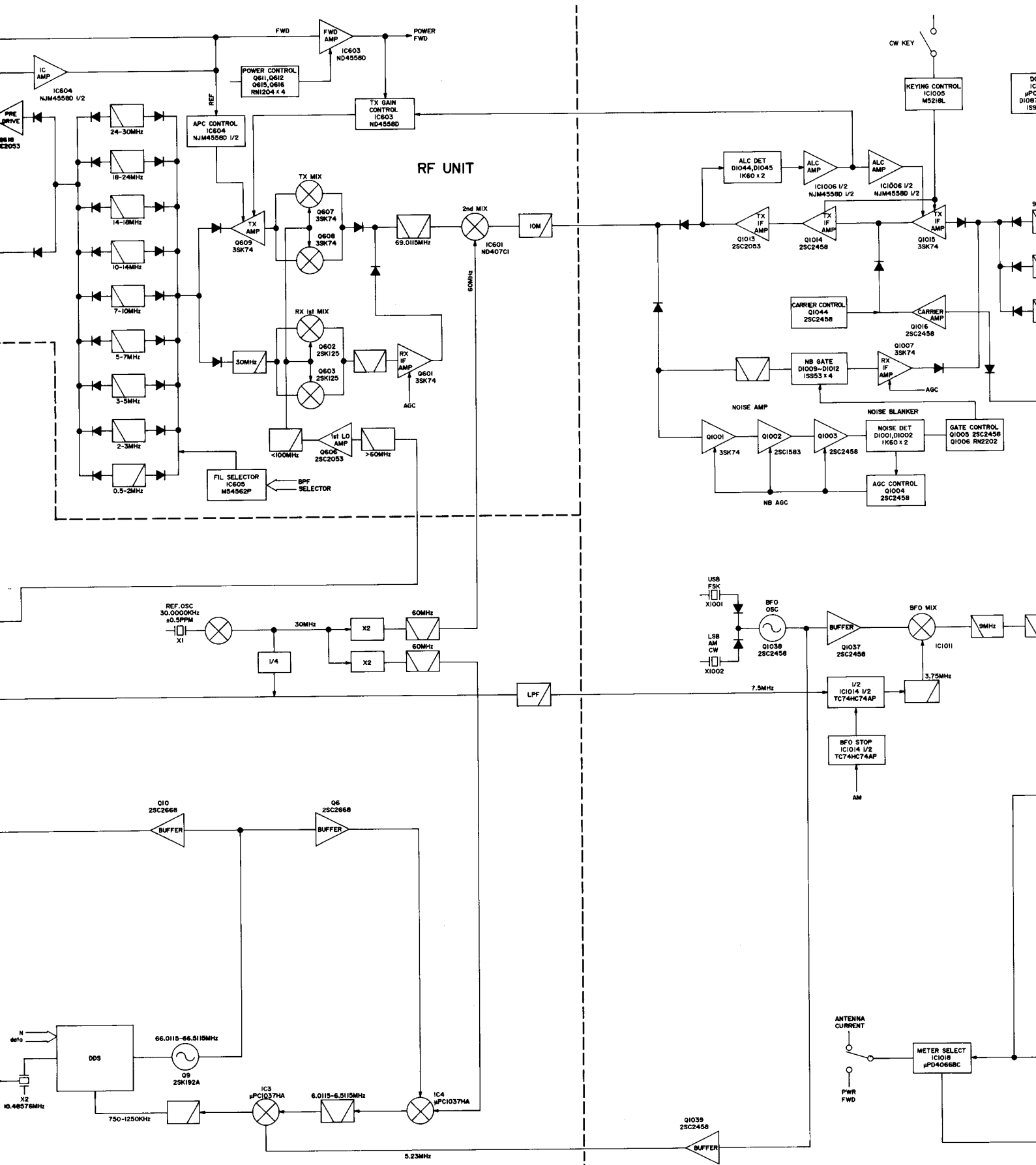
[FILTER UNIT]

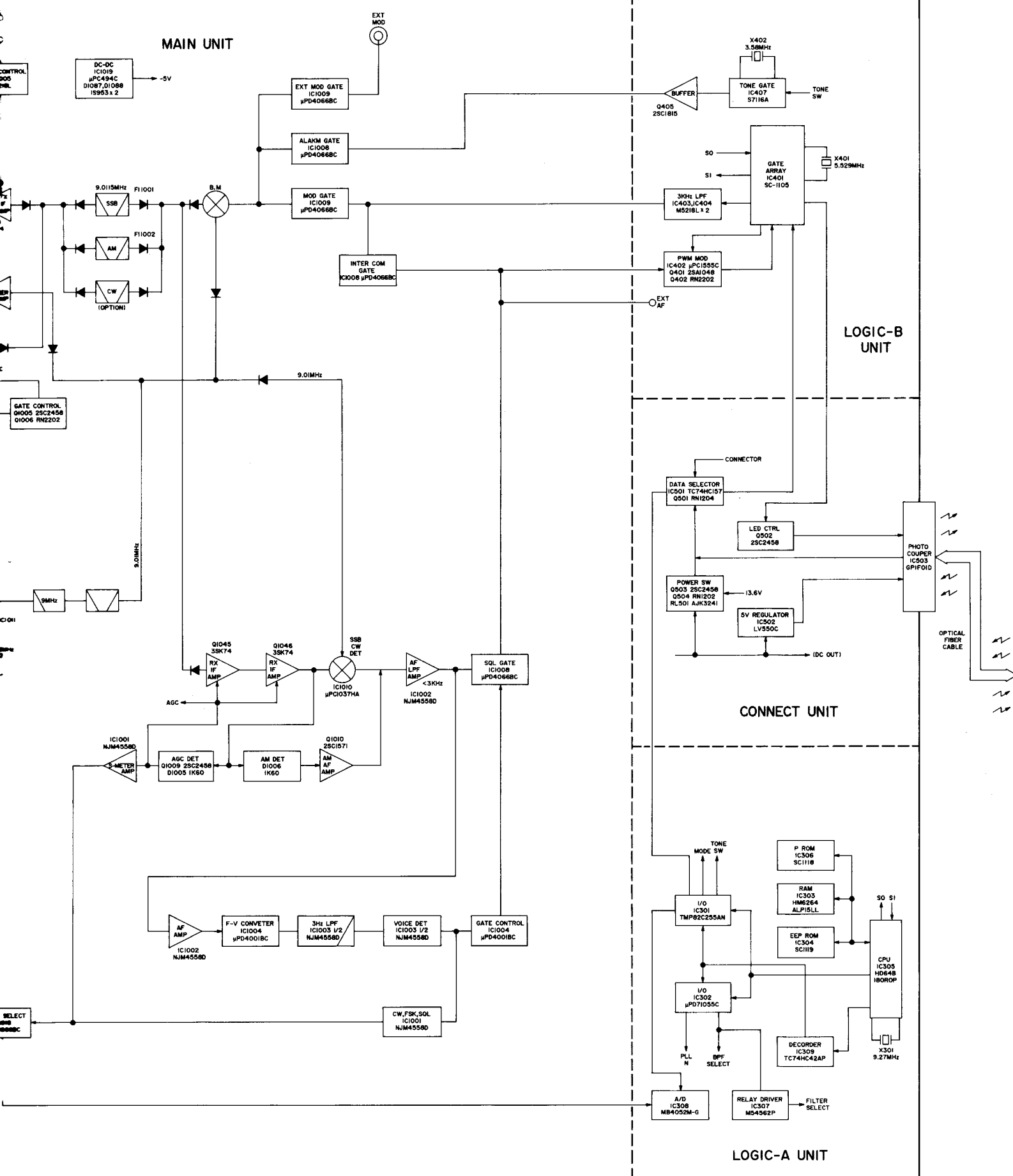
REF. NO.	ORDER NO.	DESCRIPTION	
C1554	4320000450	Dip Mica	DM19C 821J5
C1555	4320000270	Dip Mica	DM20C 102J5
C1556	4010004080	Ceramic	DD12 SL 271K 500V
C1557	4320000190	Dip Mica	DM19C 391J5
C1559	4010003980	Ceramic	DD09 SL 560K 500V
C1560	4010004040	Ceramic	DD10 SL 151K 500V
C1561	4010004010	Ceramic	DD09 SL 101K 500V
C1562	4010003990	Ceramic	DD09 SL 680K 500V
C1563	4010003960	Ceramic	DD06 SL 390K 500V
C1564	4010004040	Ceramic	DD10 SL 151K 500V
C1566	4010003870	Ceramic	DD06 SL 120K 500V
C1567	4010004000	Ceramic	DD09 SL 820K 500V
C1568	4010000520	Ceramic	DD108 B 472K 50V
C1569	4010000520	Ceramic	DD108 B 472K 50V
C1570	4010000590	Ceramic	DD110 F 473Z 50V
C1571	4010000590	Ceramic	DD110 F 473Z 50V
C1572	4510002840	Electrolytic	25 SS 10 μF
C1573	4040000250	Barrier Layer	UAT 08X 473M
RL1501	6330000820	Relay	AJK 3341
RL1502	6330000820	Relay	AJK 3341
RL1503	6330000820	Relay	AJK 3341
RL1504	6330000820	Relay	AJK 3341
RL1505	6330000820	Relay	AJK 3341
RL1506	6330000820	Relay	AJK 3341
RL1507	6330000820	Relay	AJK 3341
RL1508	6330000820	Relay	AJK 3341
RL1509	6330000820	Relay	AJK 3341
RL1510	6330000820	Relay	AJK 3341
RL1511	6330000820	Relay	AJK 3341
RL1512	6330000820	Relay	AJK 3341
RL1513	6330000820	Relay	AJK 3341
RL1514	6330000820	Relay	AJK 3341
RL1515	6330000820	Relay	AJK 3341
RL1516	6330000820	Relay	AJK 3341
EP1501	0910022542	P.C. Board	B 2077B

# SECTION 8 BLOCK DIAGRAMS

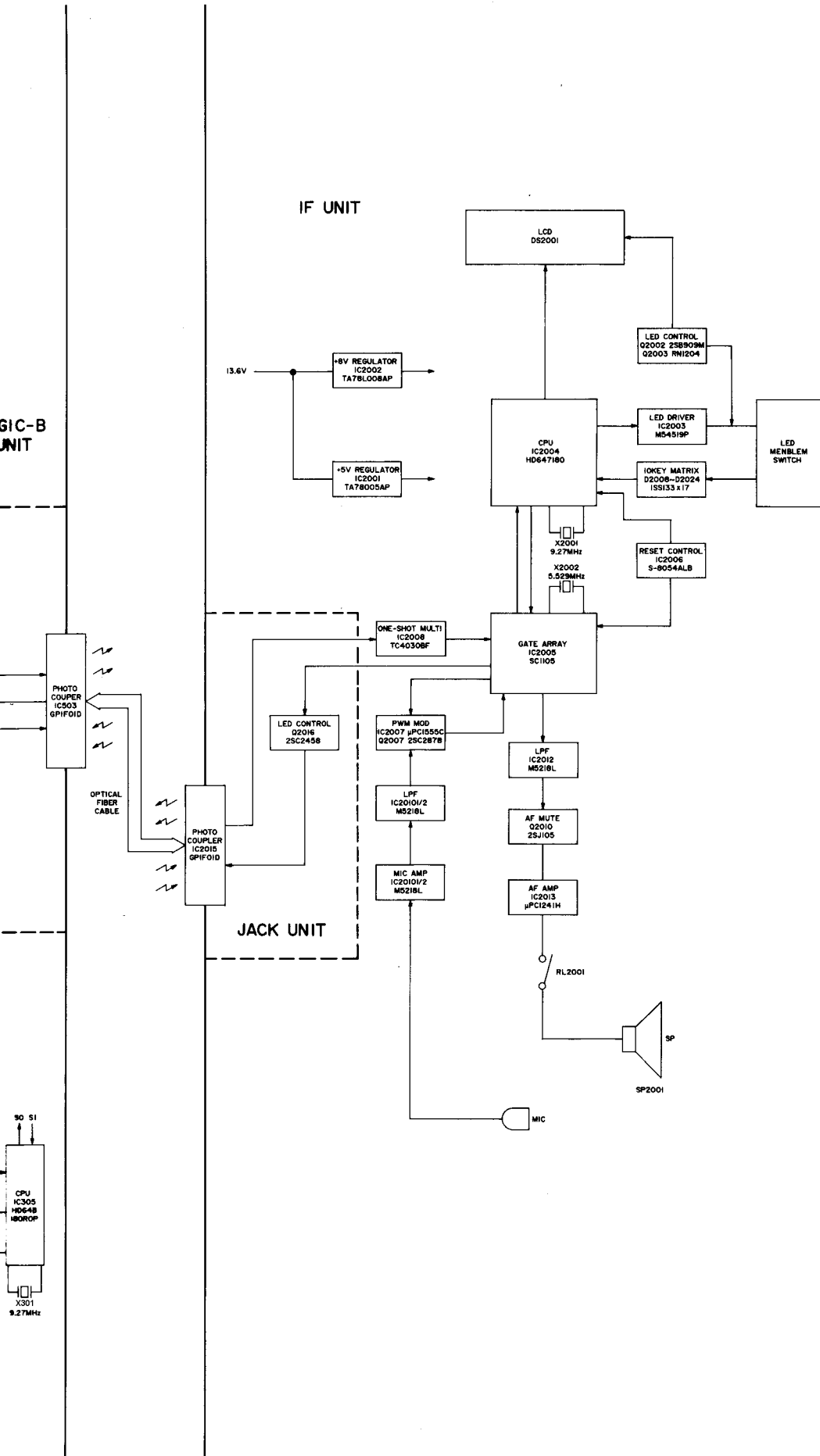
## • TRANSCIVER







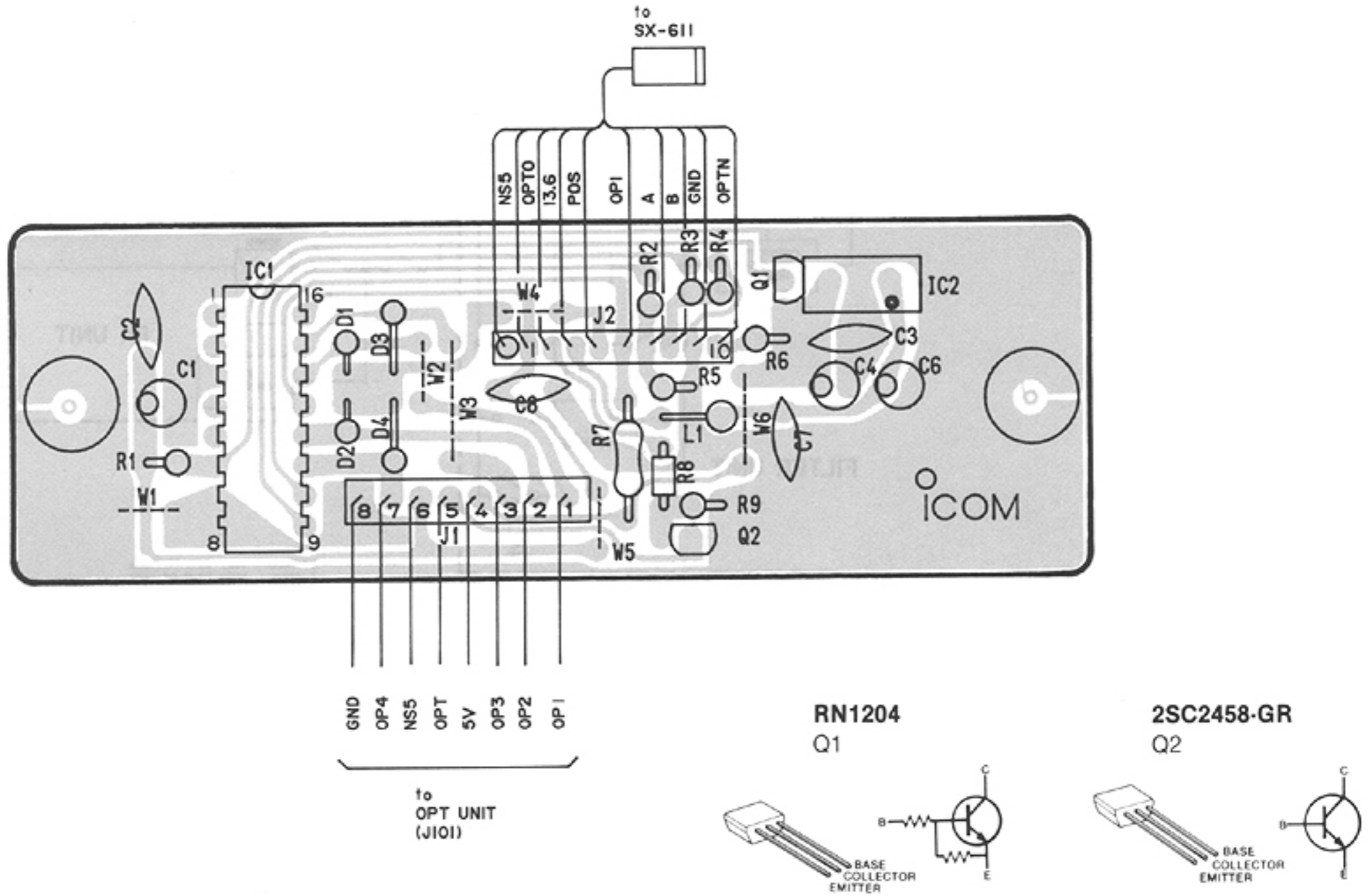
• REMOTE CONTROLLER



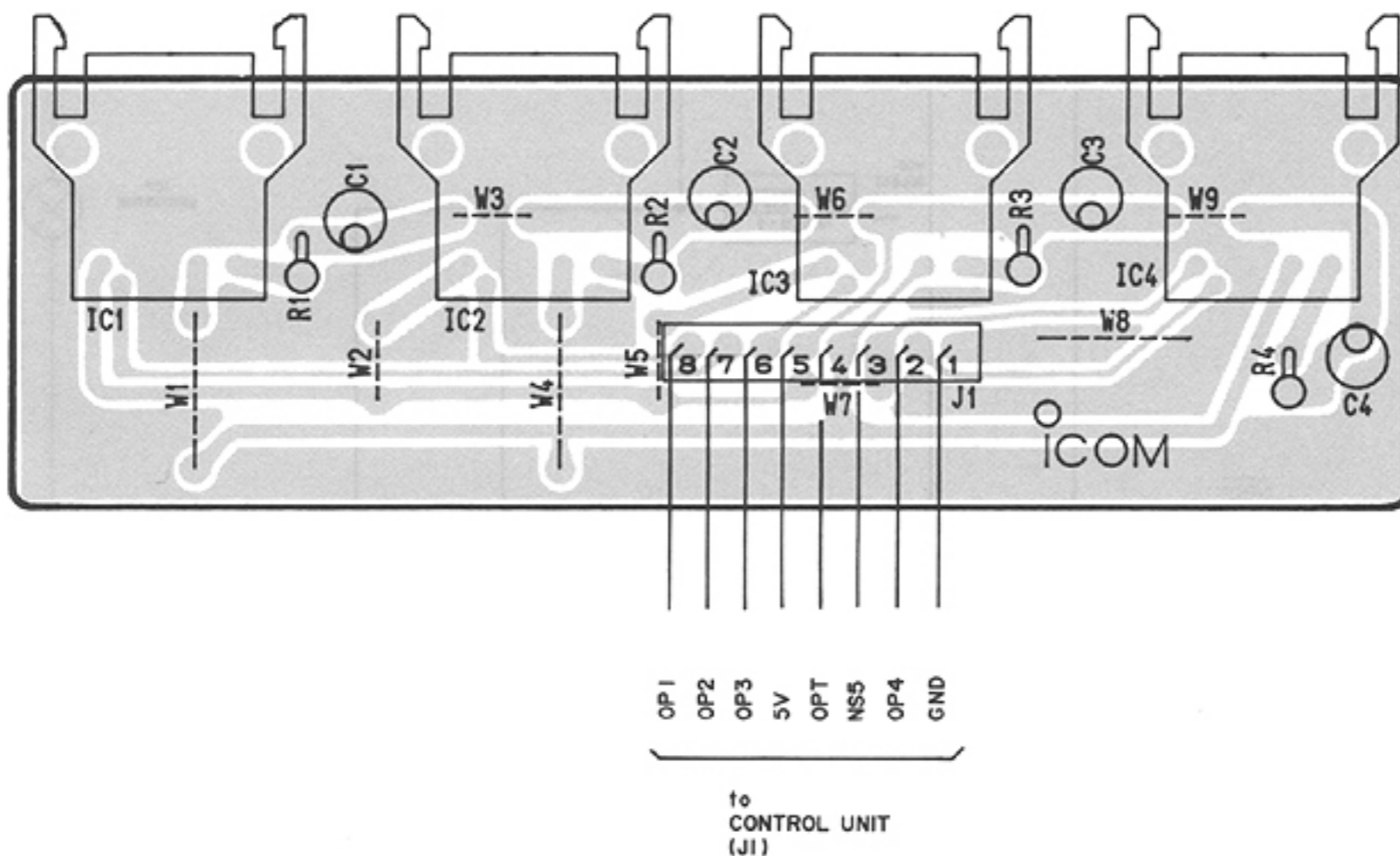
# SECTION 9 EX-804 EXPANDER UNIT

## 9-1 BOARD LAYOUTS

### • CONTROL UNIT

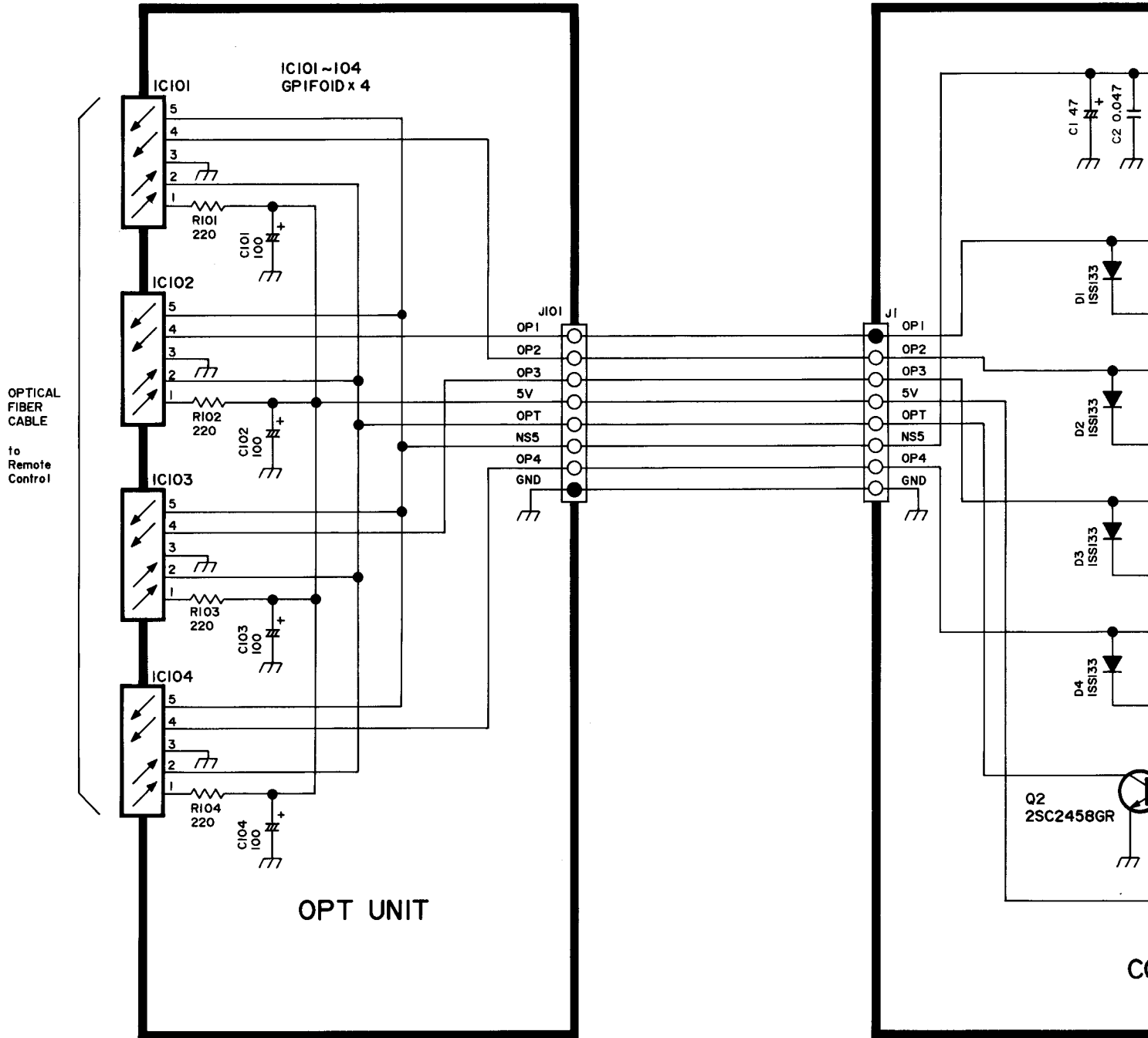


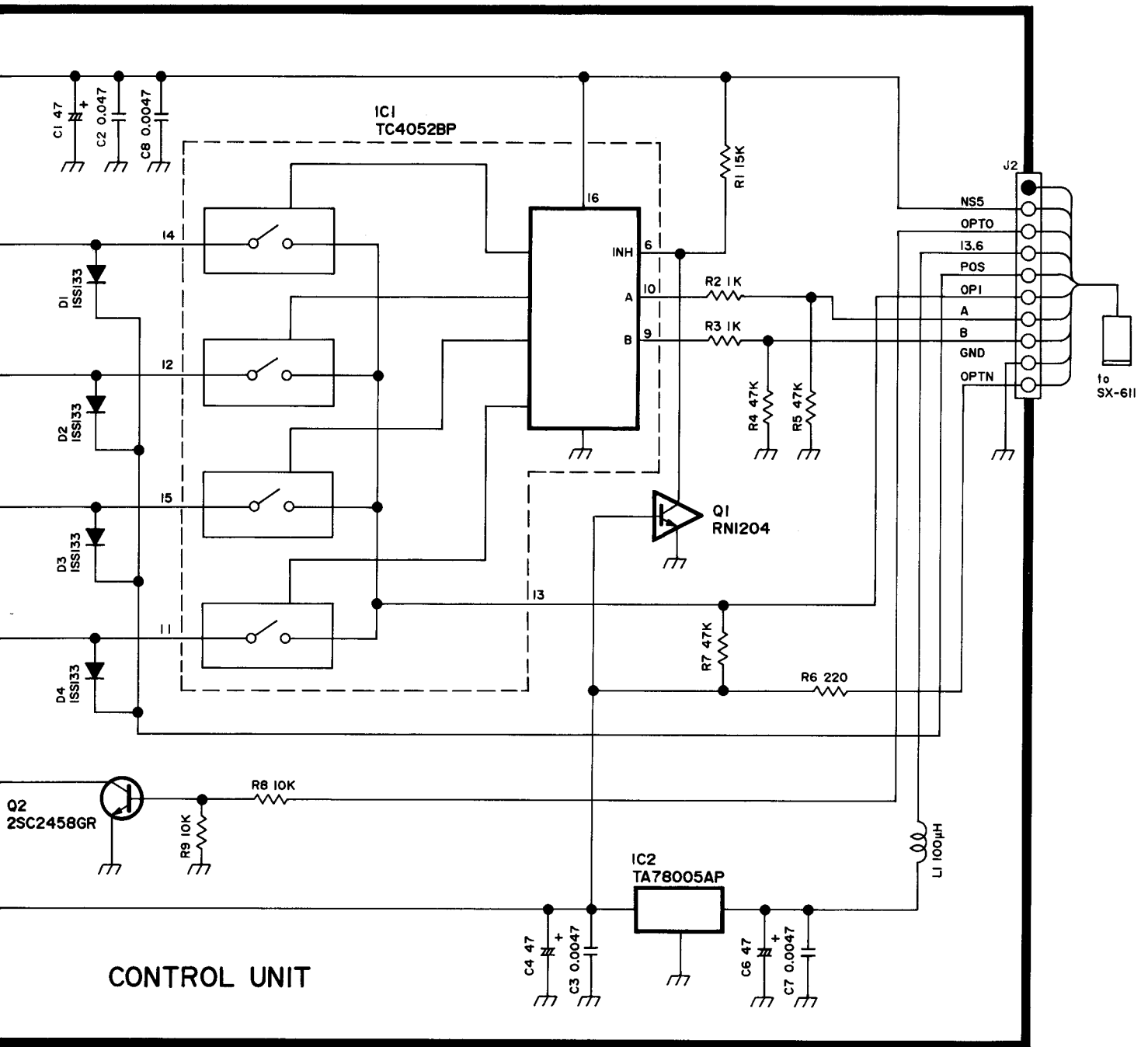
### • OPT UNIT



**NOTE:** Add "100" to the indicated number on the unit for actual part number respectively.

# 9-2 SCHEMATIC DIAGRAM

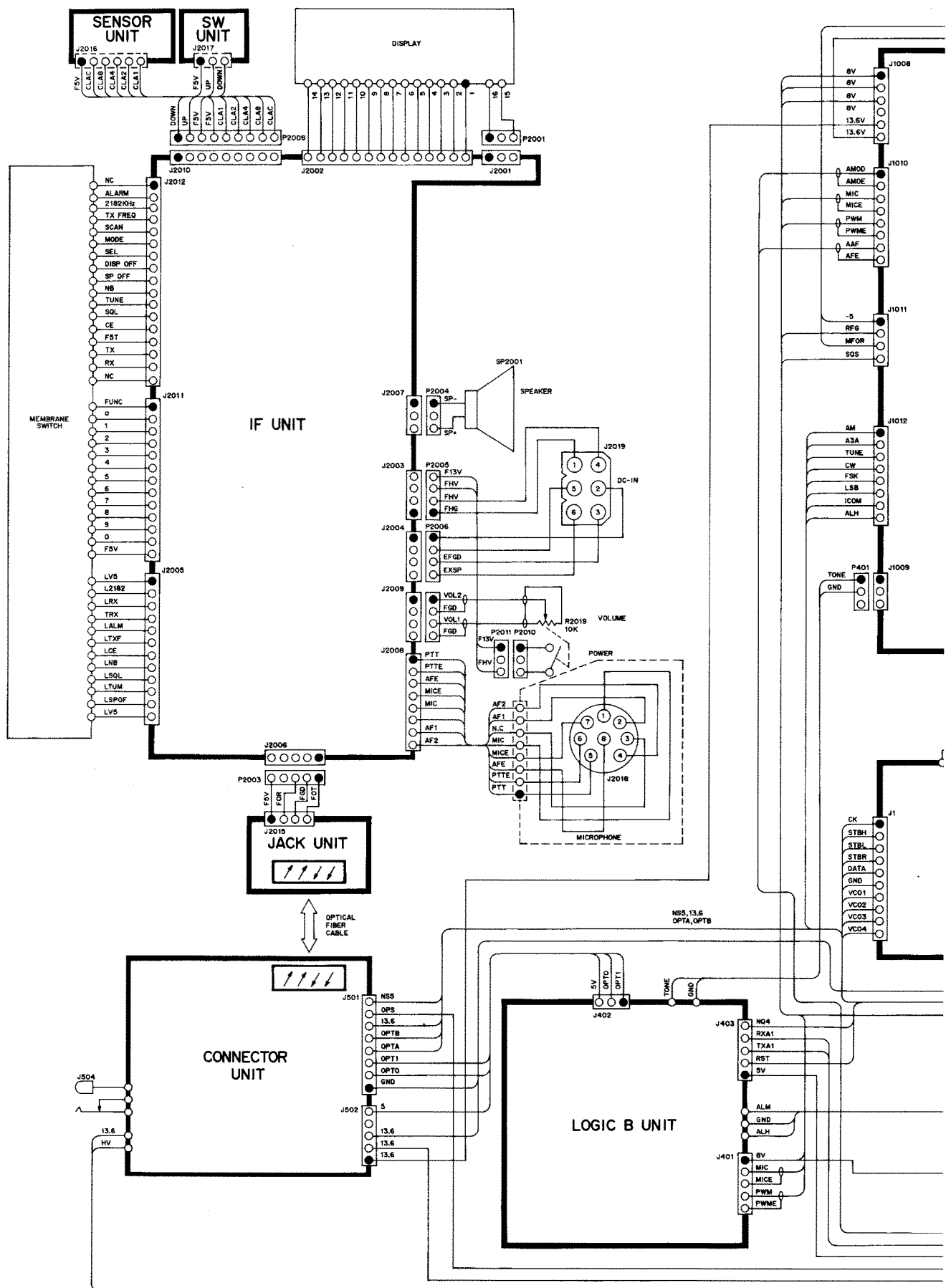


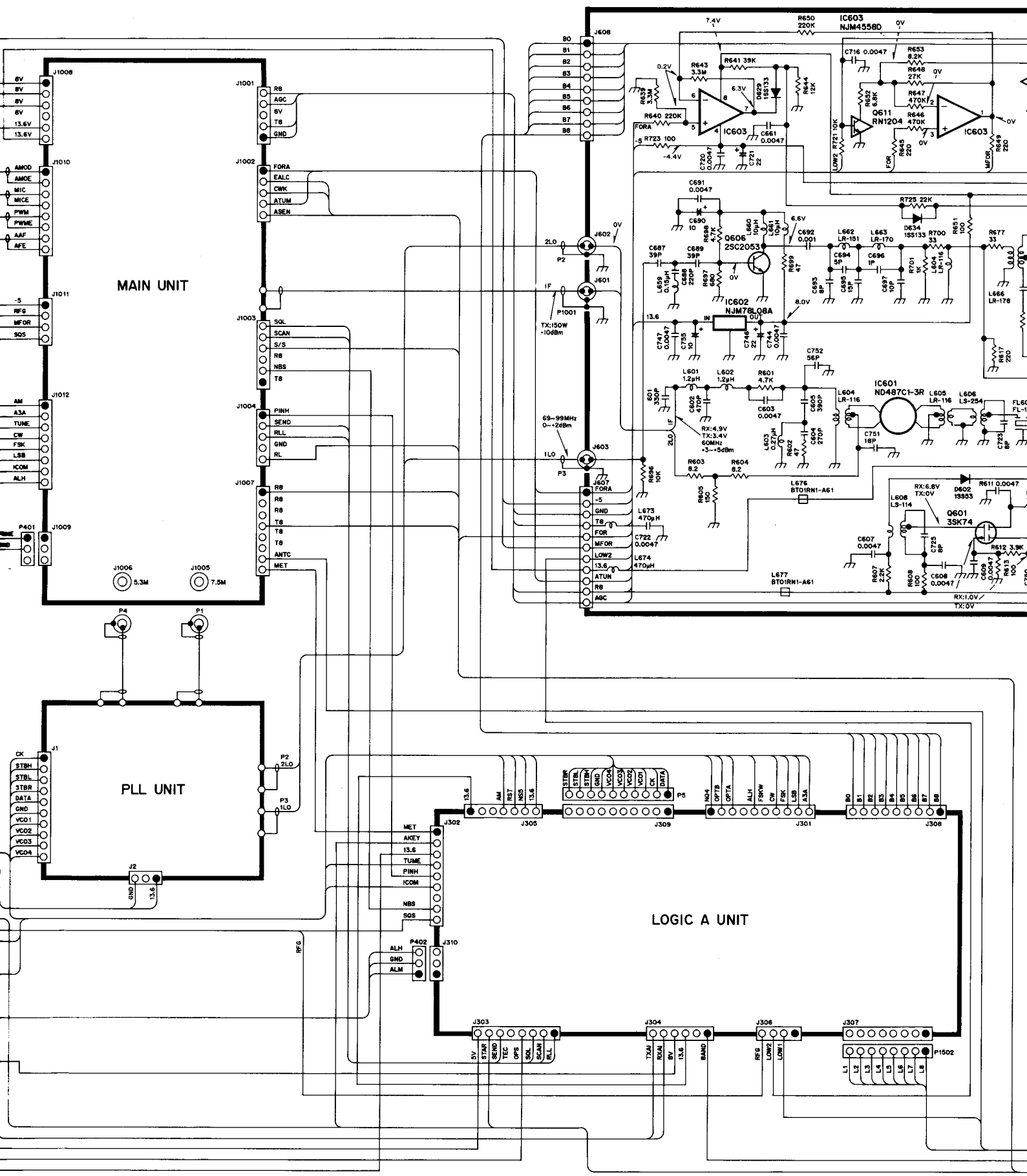


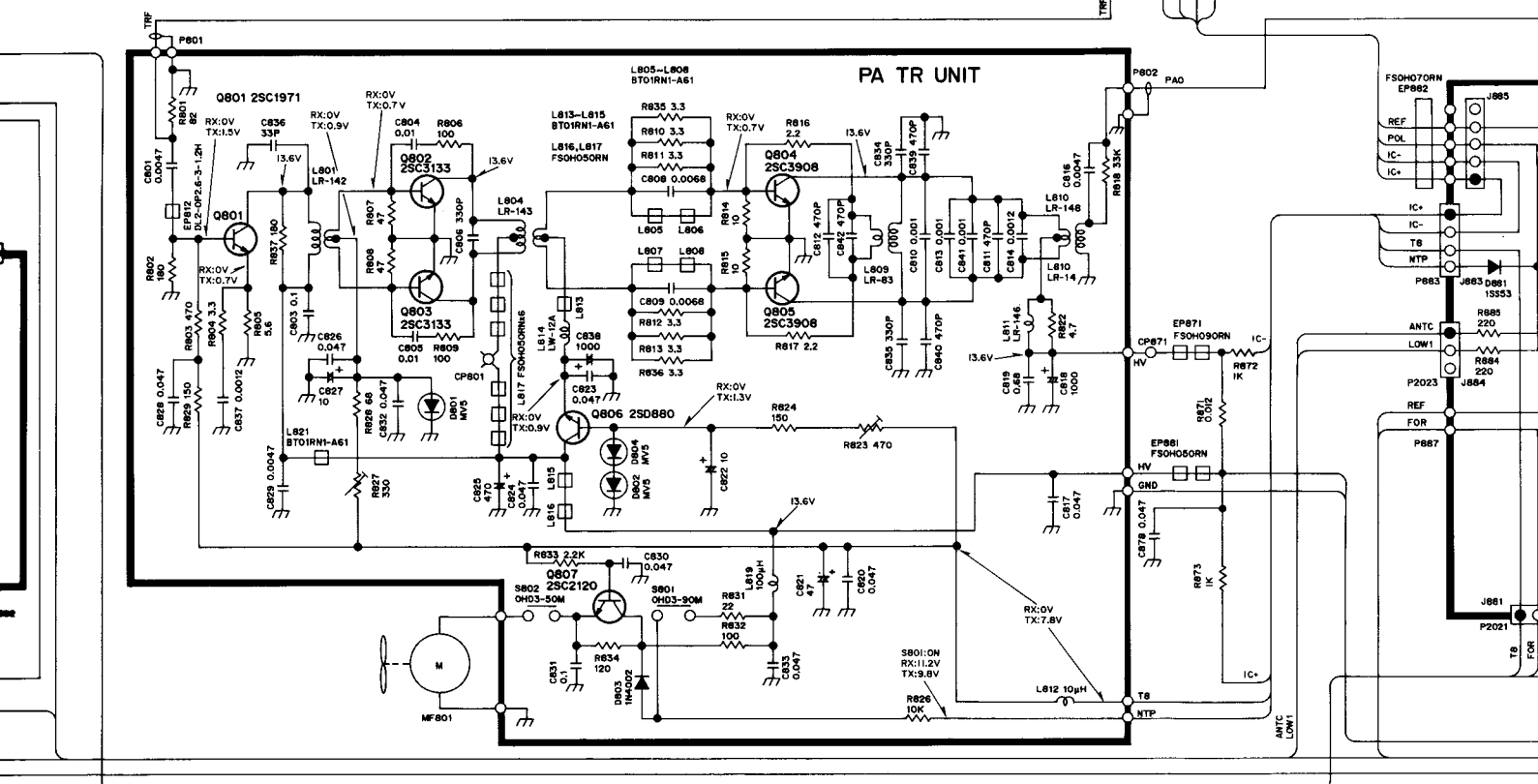
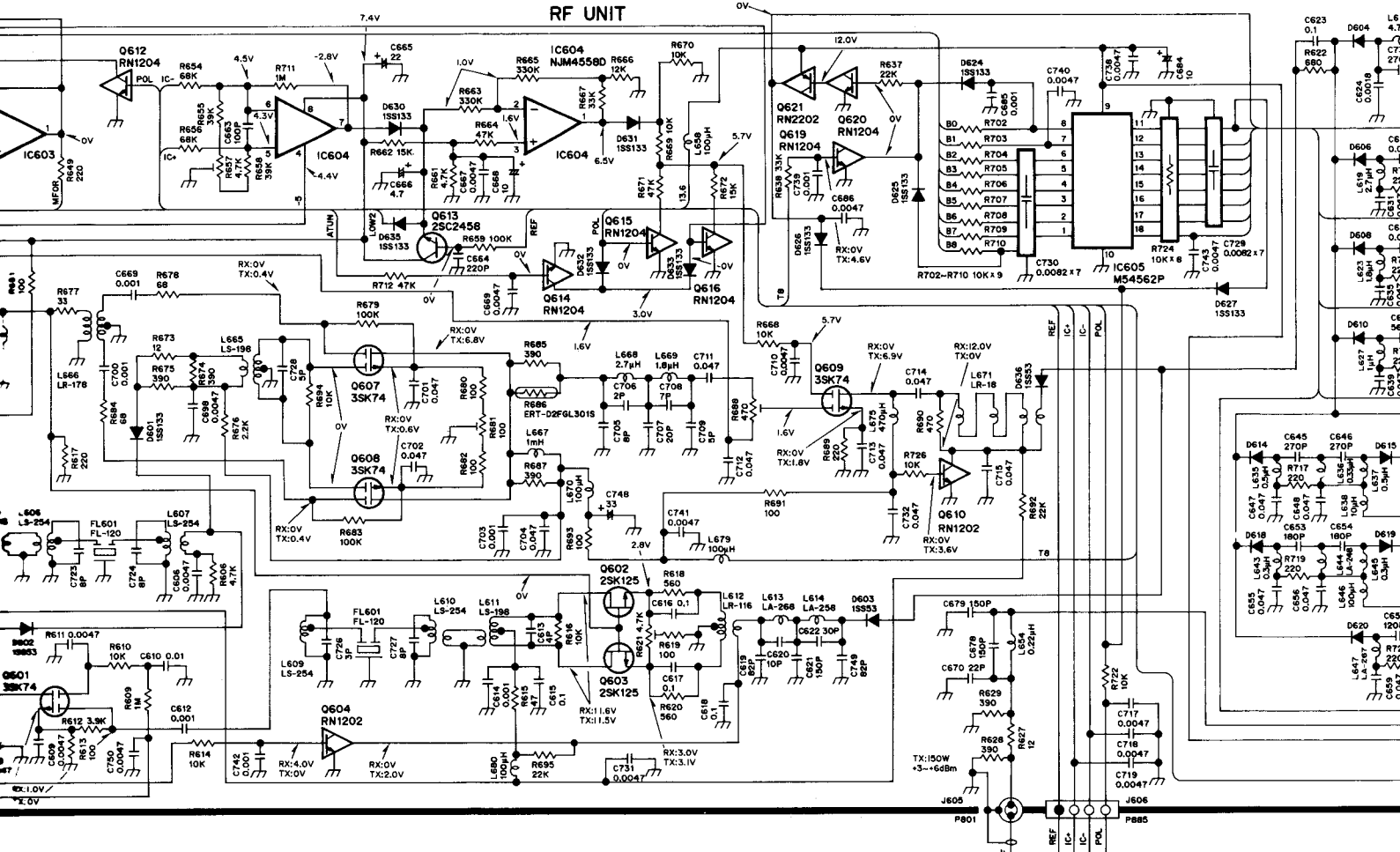


# SECTION 10 VOLTAGE DIAGRAMS

## 10-1 CONNECTION

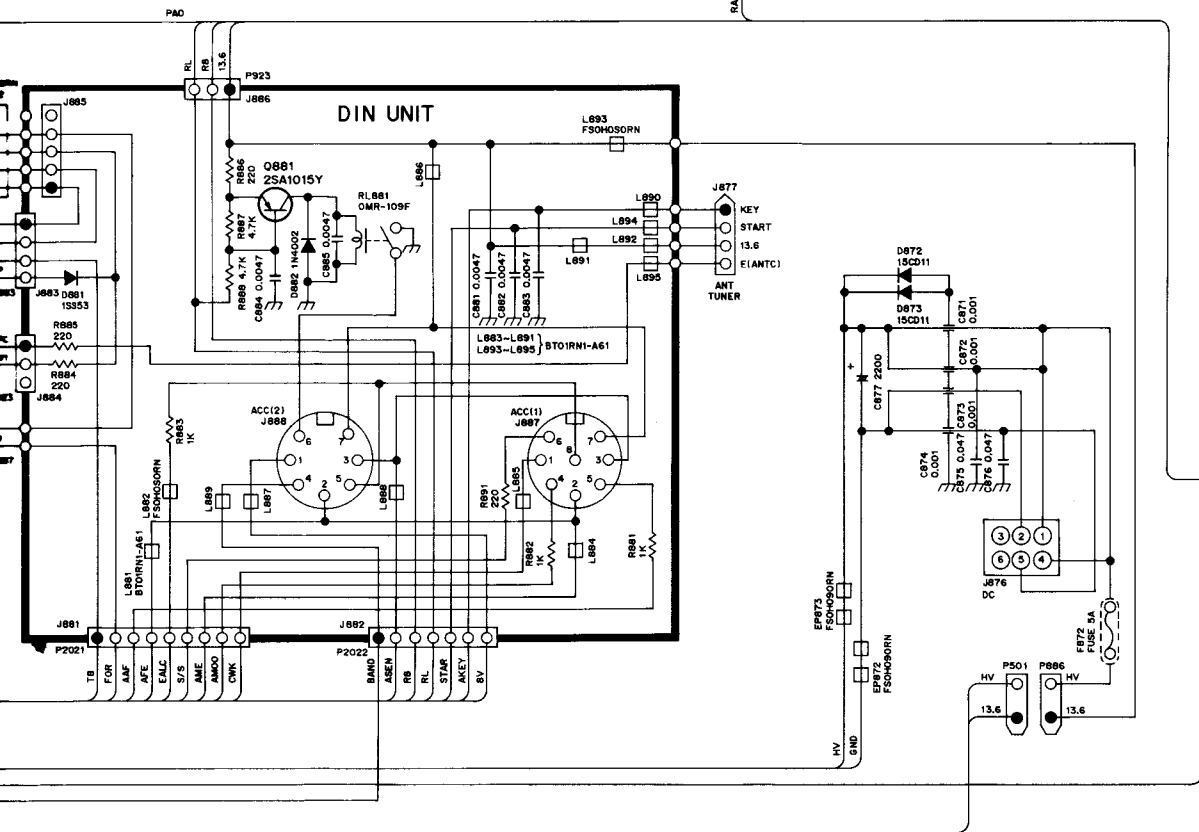
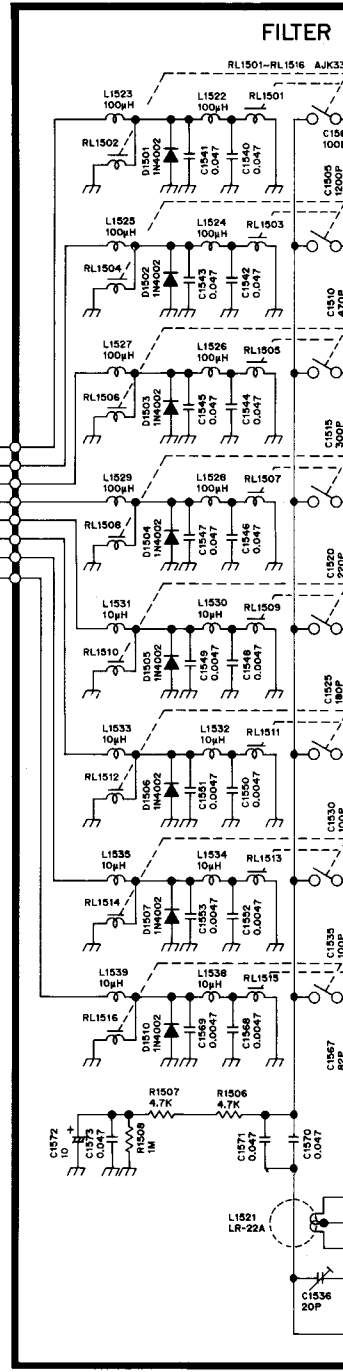






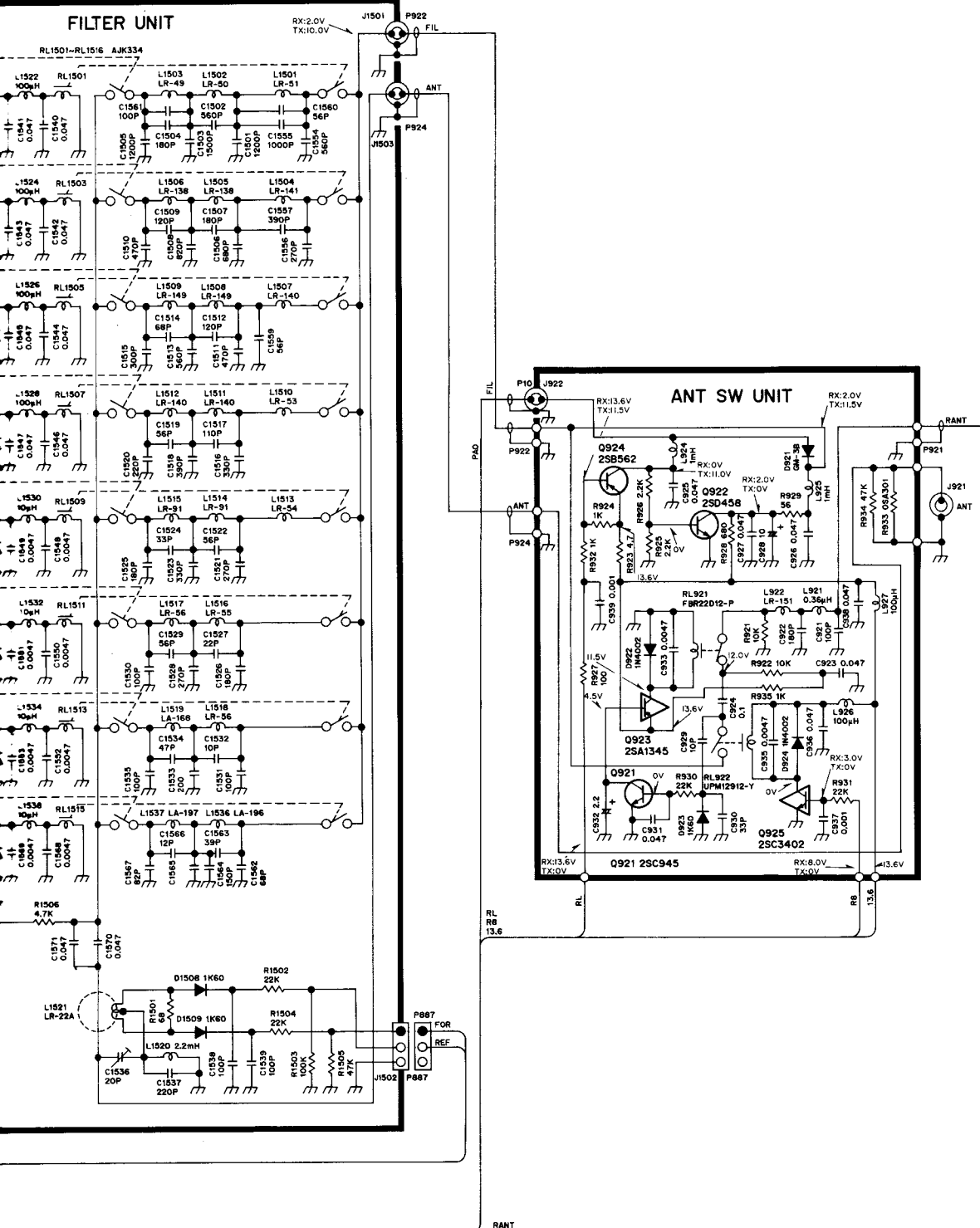


10.5V	
L1	0.1-3.0MHz
L2	3.0-5.0MHz
L3	5.0-7.0MHz
L4	7.0-10.0MHz
L5	10.0-14.0MHz
L6	14.0-18.0MHz
L7	18.0-24.0MHz
L8	24.0-30.0MHz

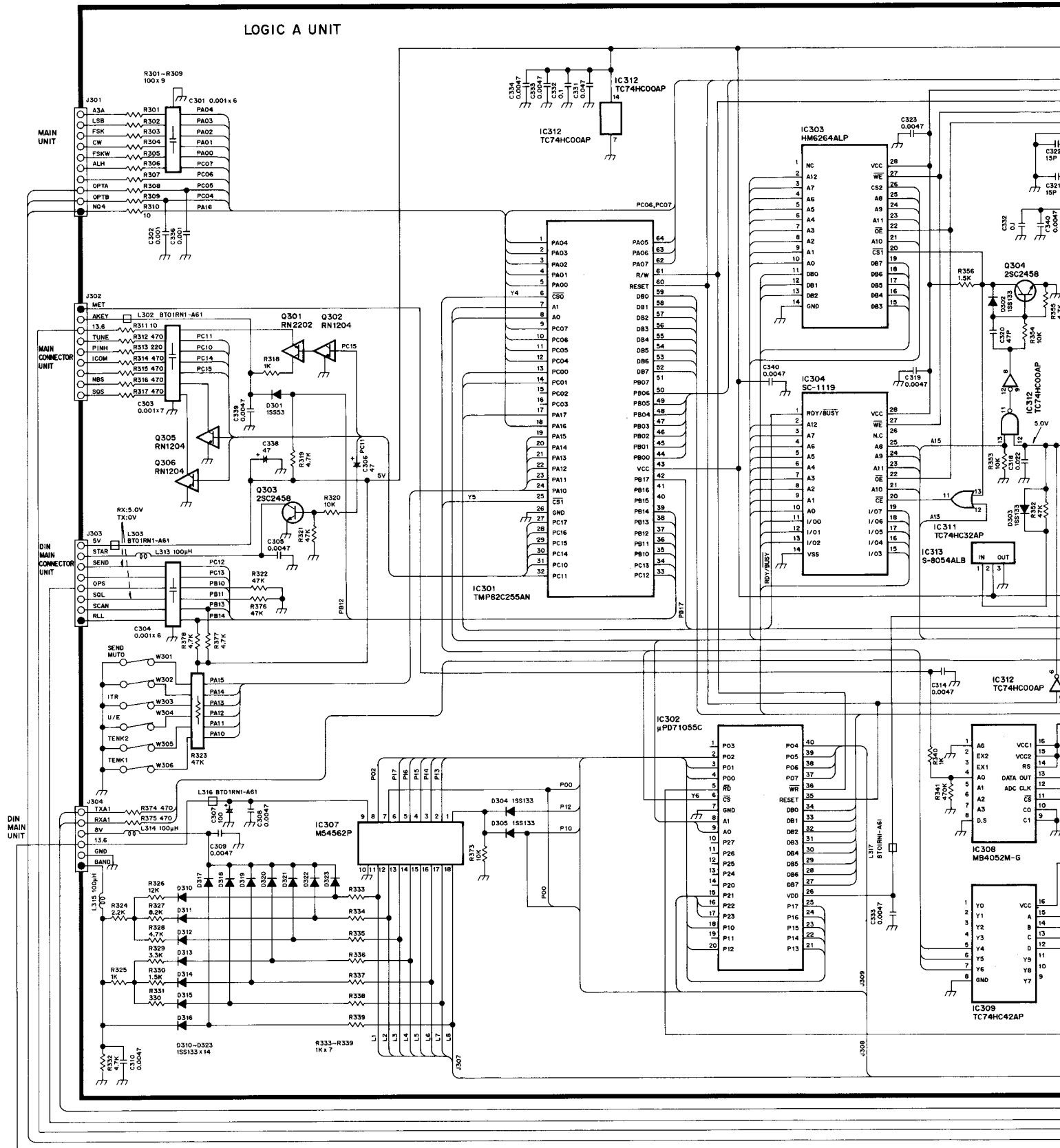


FOR REF

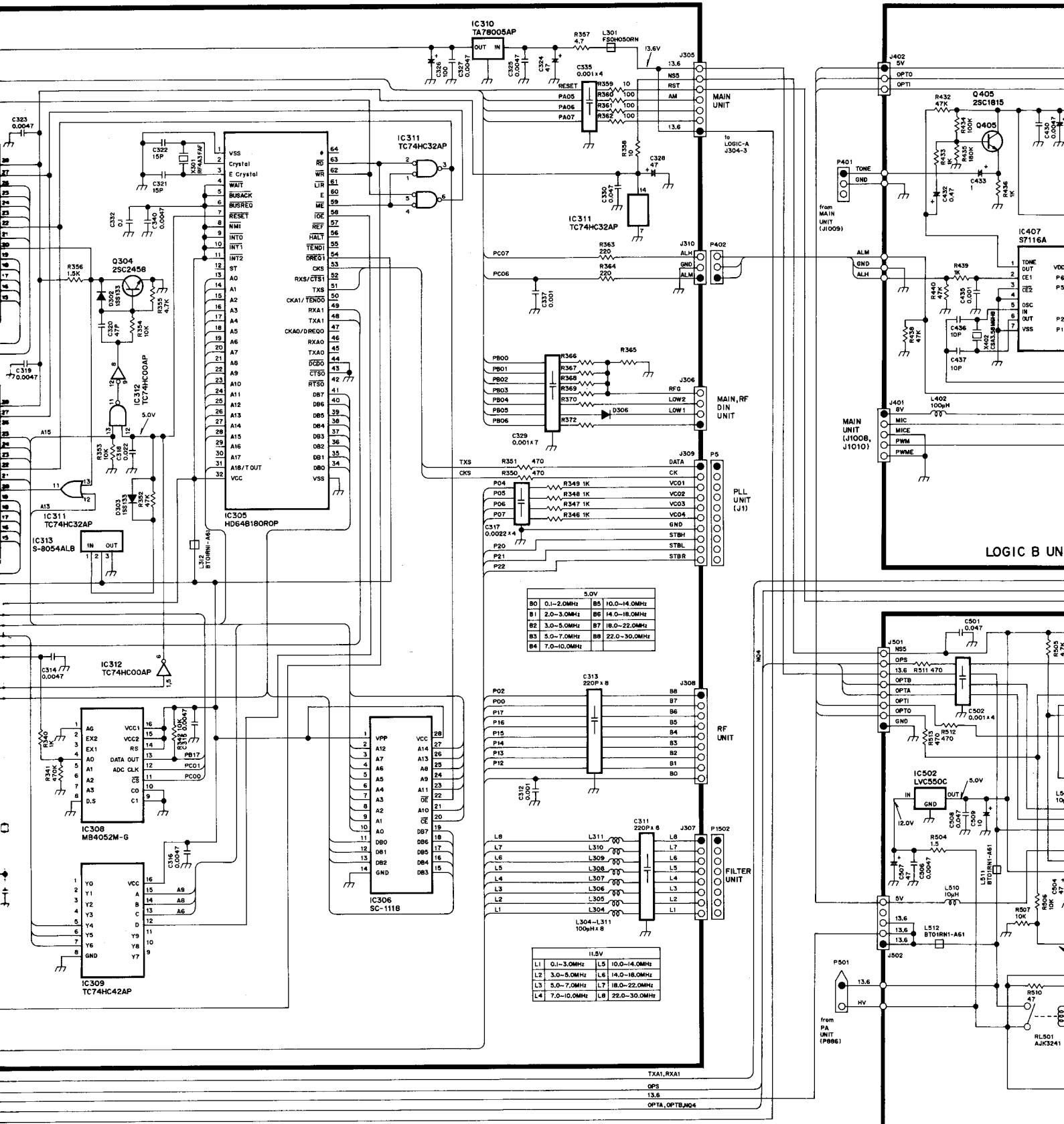
# 10-1 CONNECTION

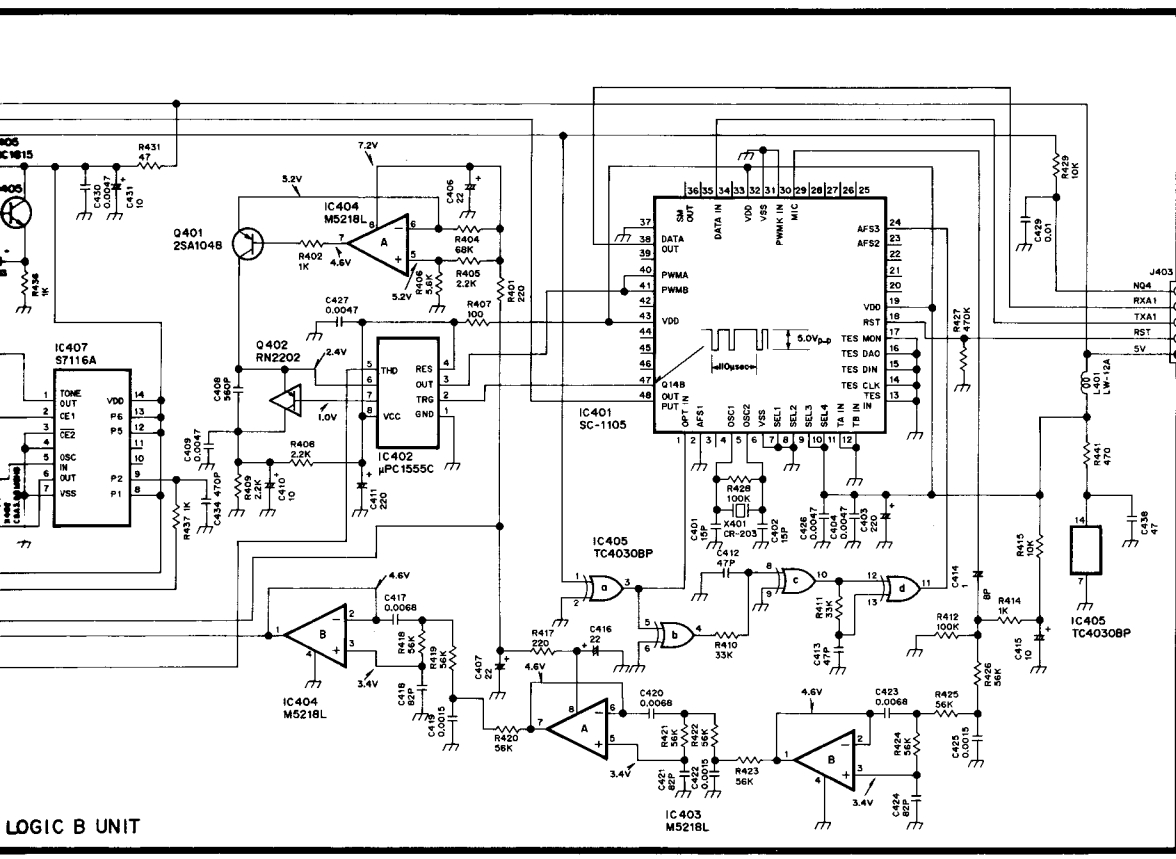


# 10-2 TRANSCEIVER (LOGIC A, B AND CONNECT UNITS) AND REMOTE CONTROLLER (IF,

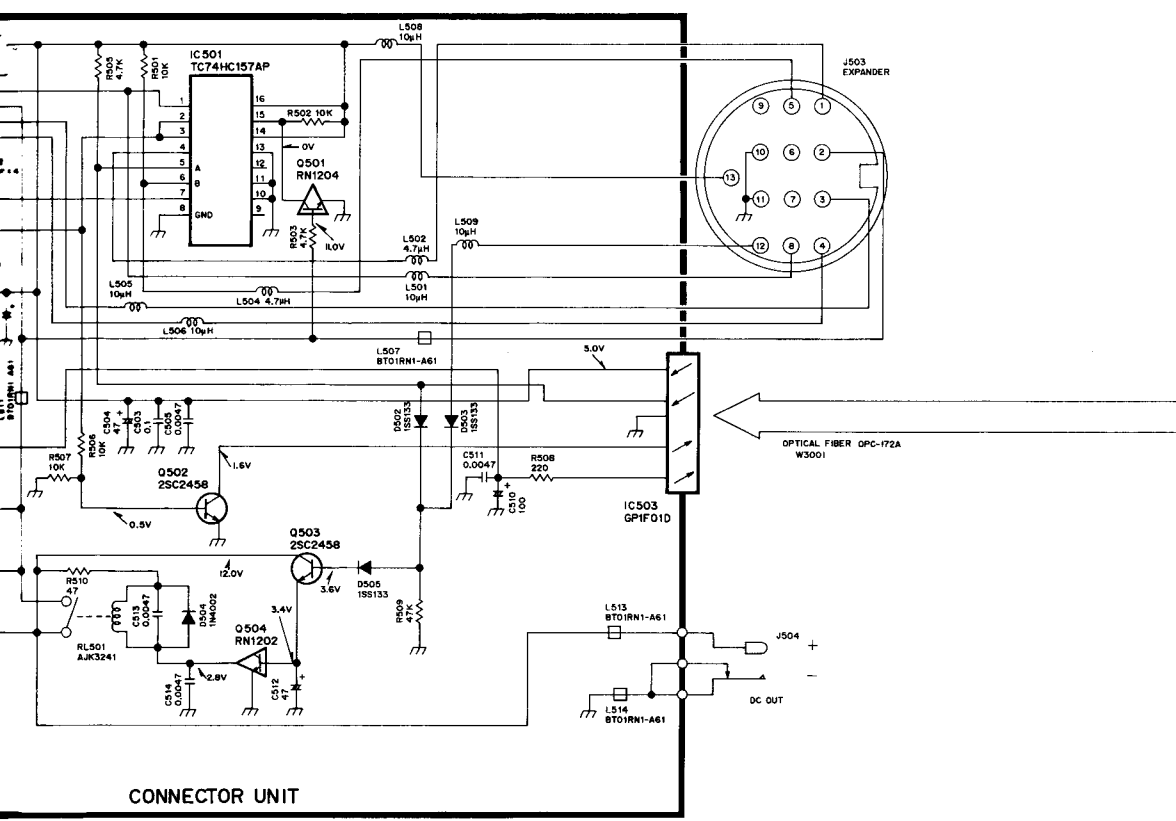


# CONTROLLER (IF, JACK, SENSOR AND SW UNITS)

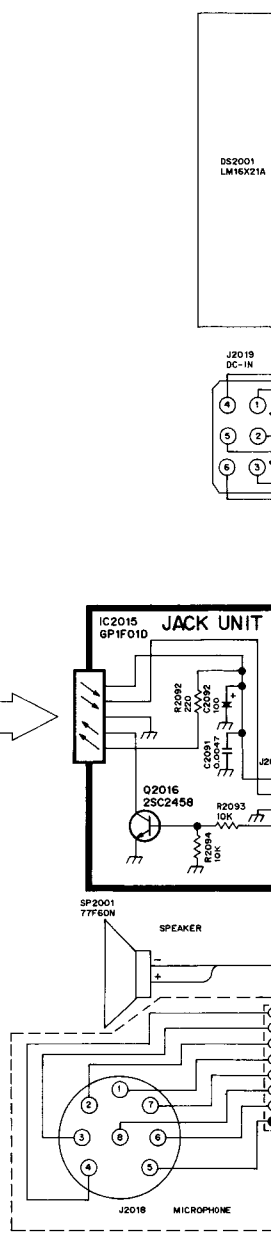




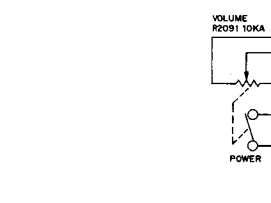
LOGIC B UNIT



CONNECTOR UNIT



JACK UNIT



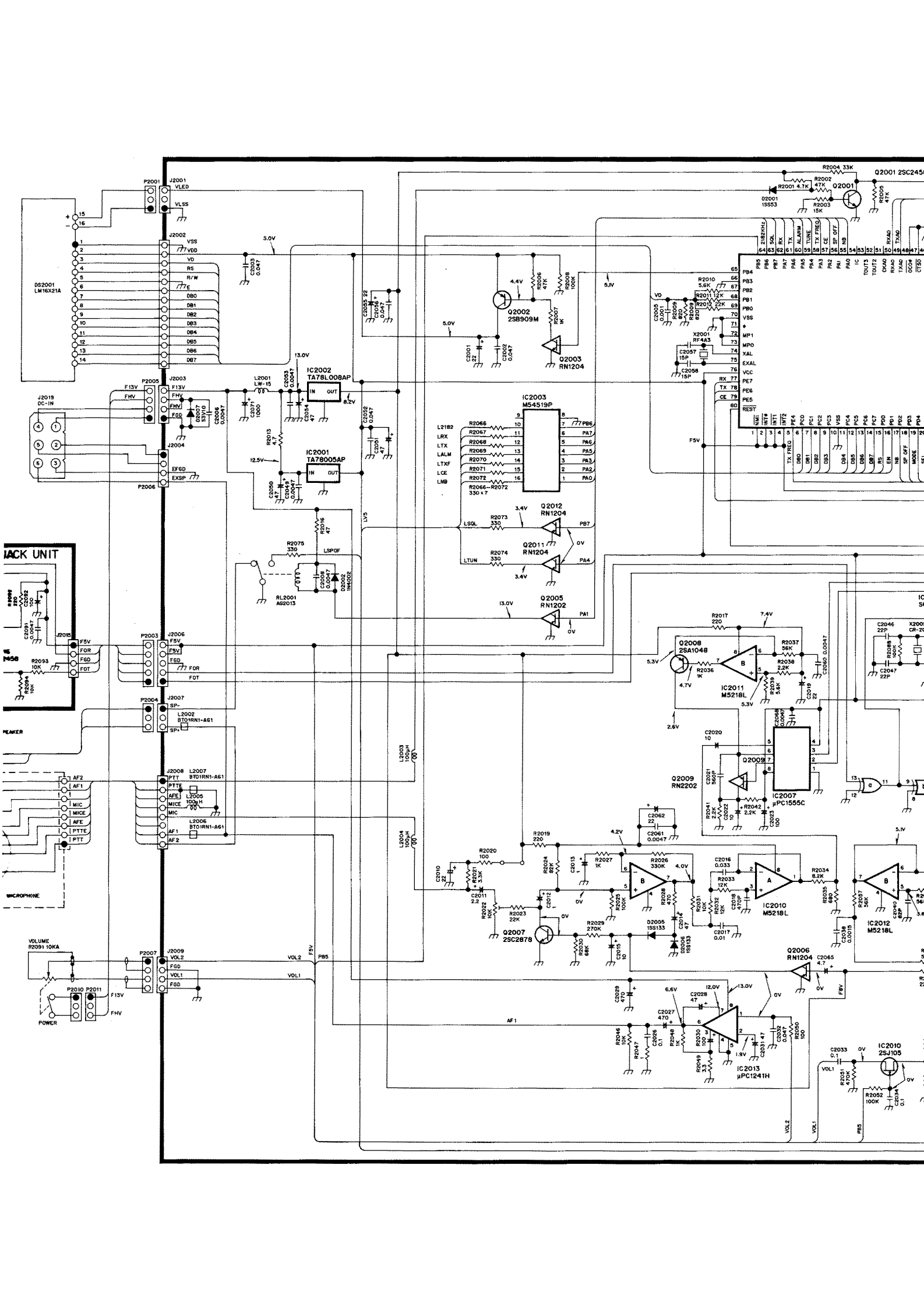
SPEAKER

MICROPHONE

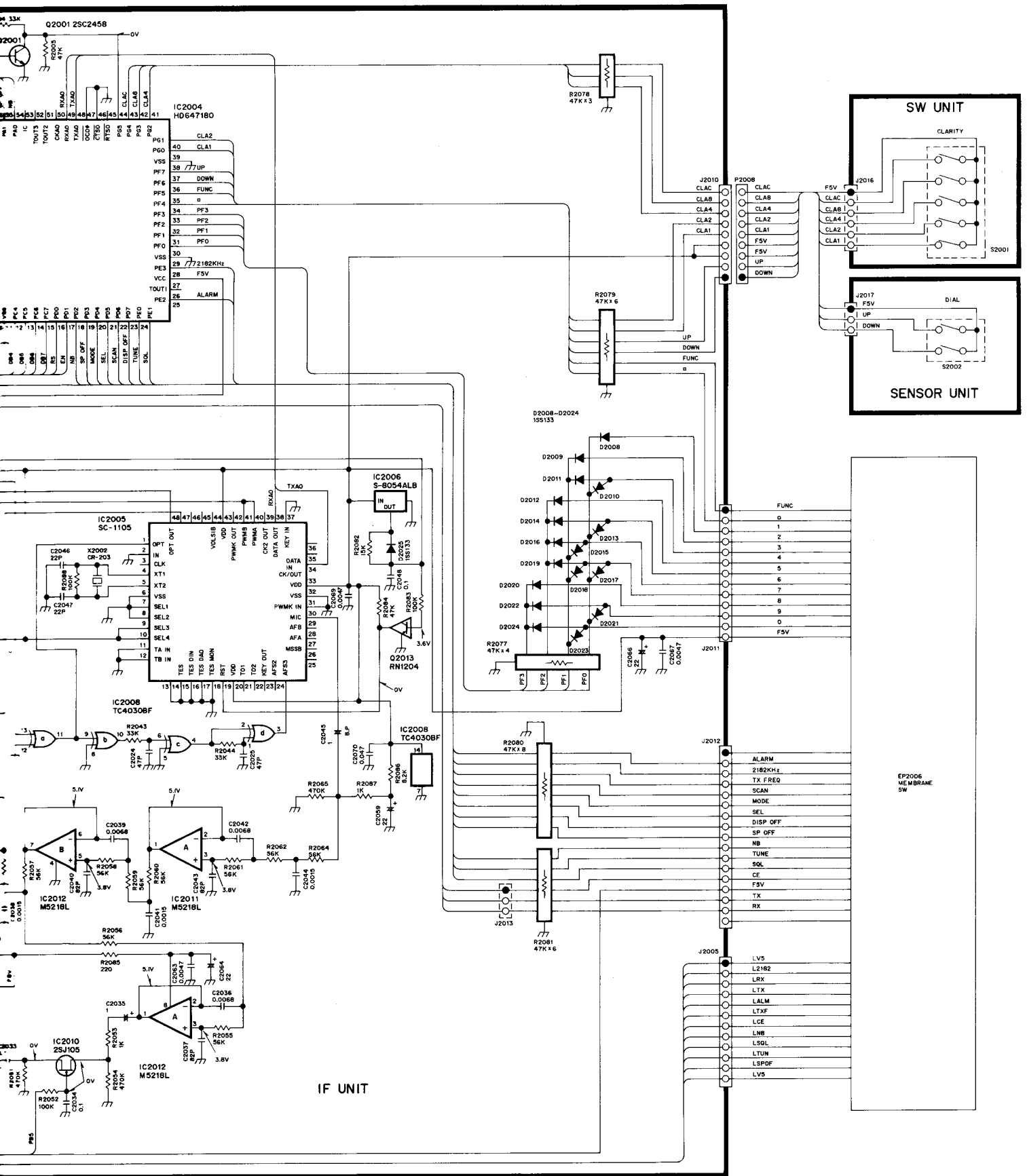
VOLUME

POWER

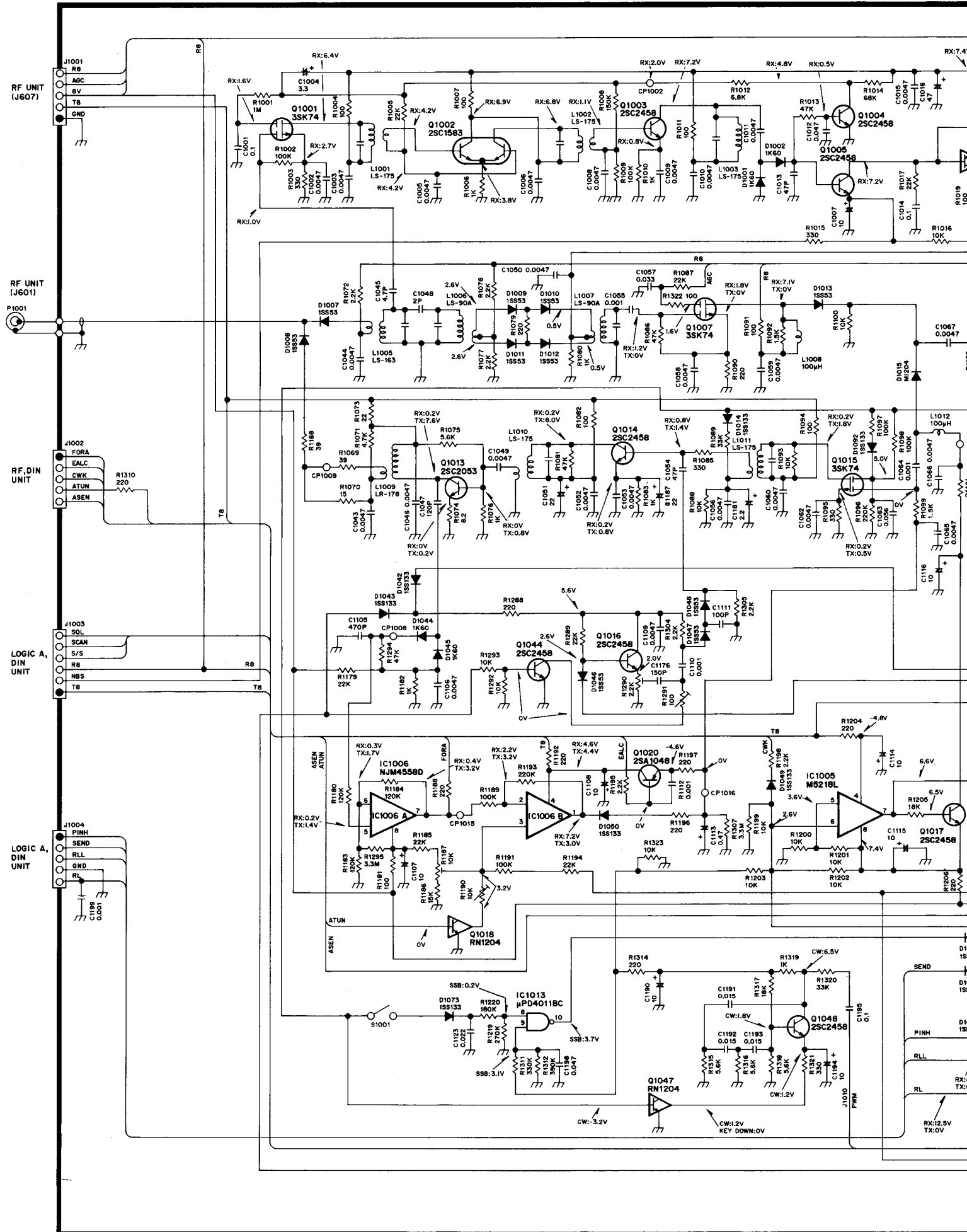


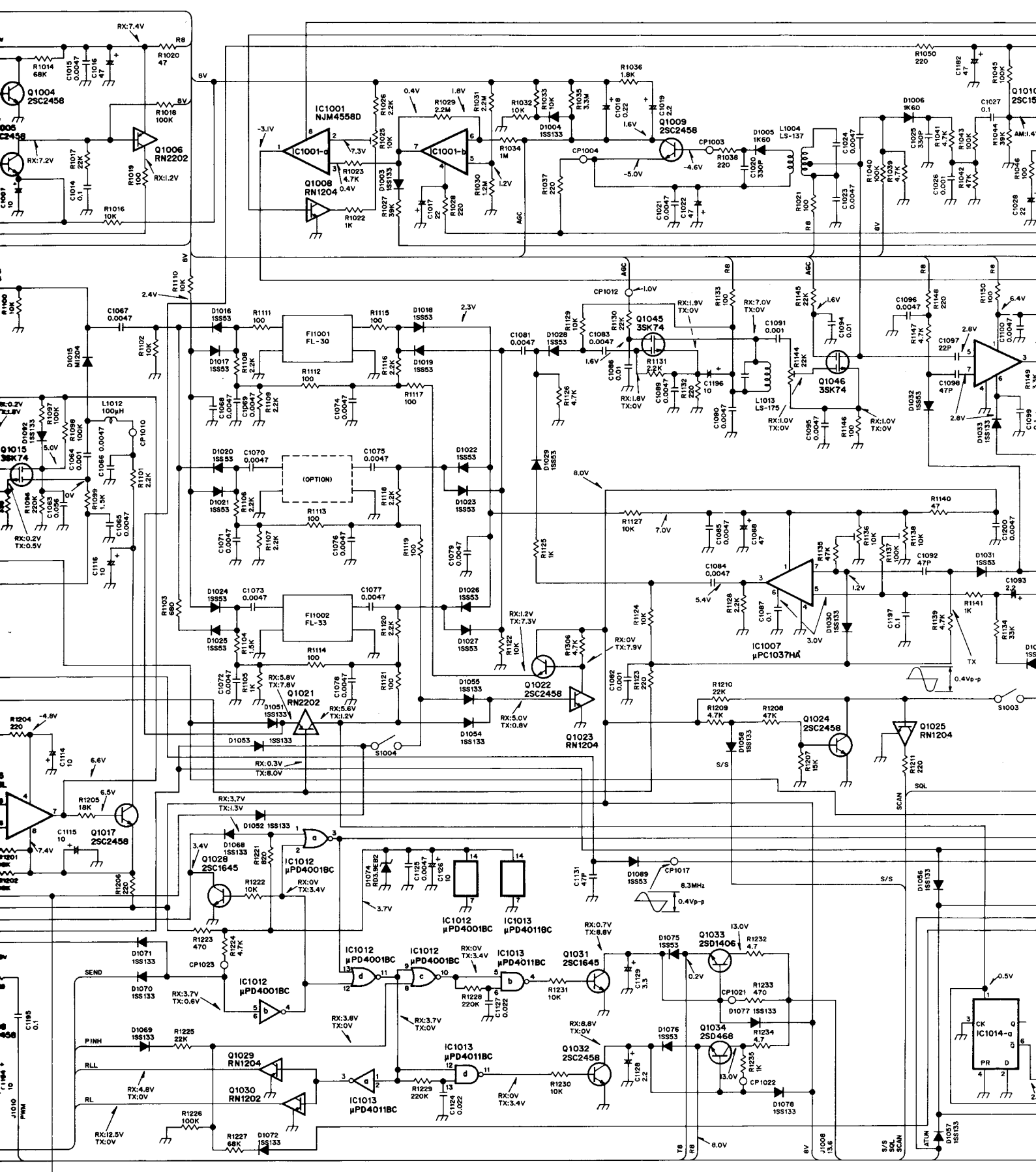


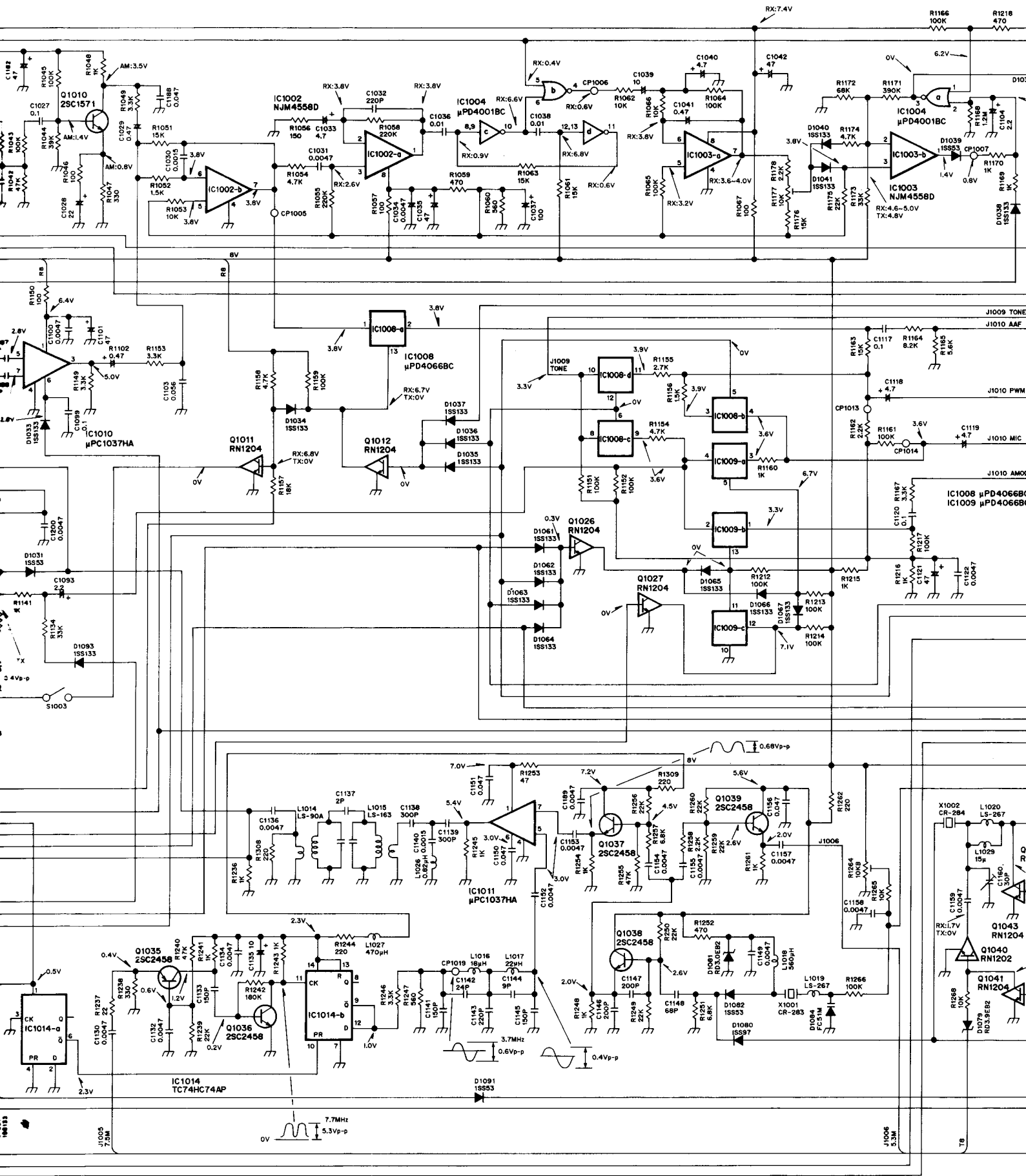
# 10-2 TRANSCEIVER AND REMOTE CONTROLLER

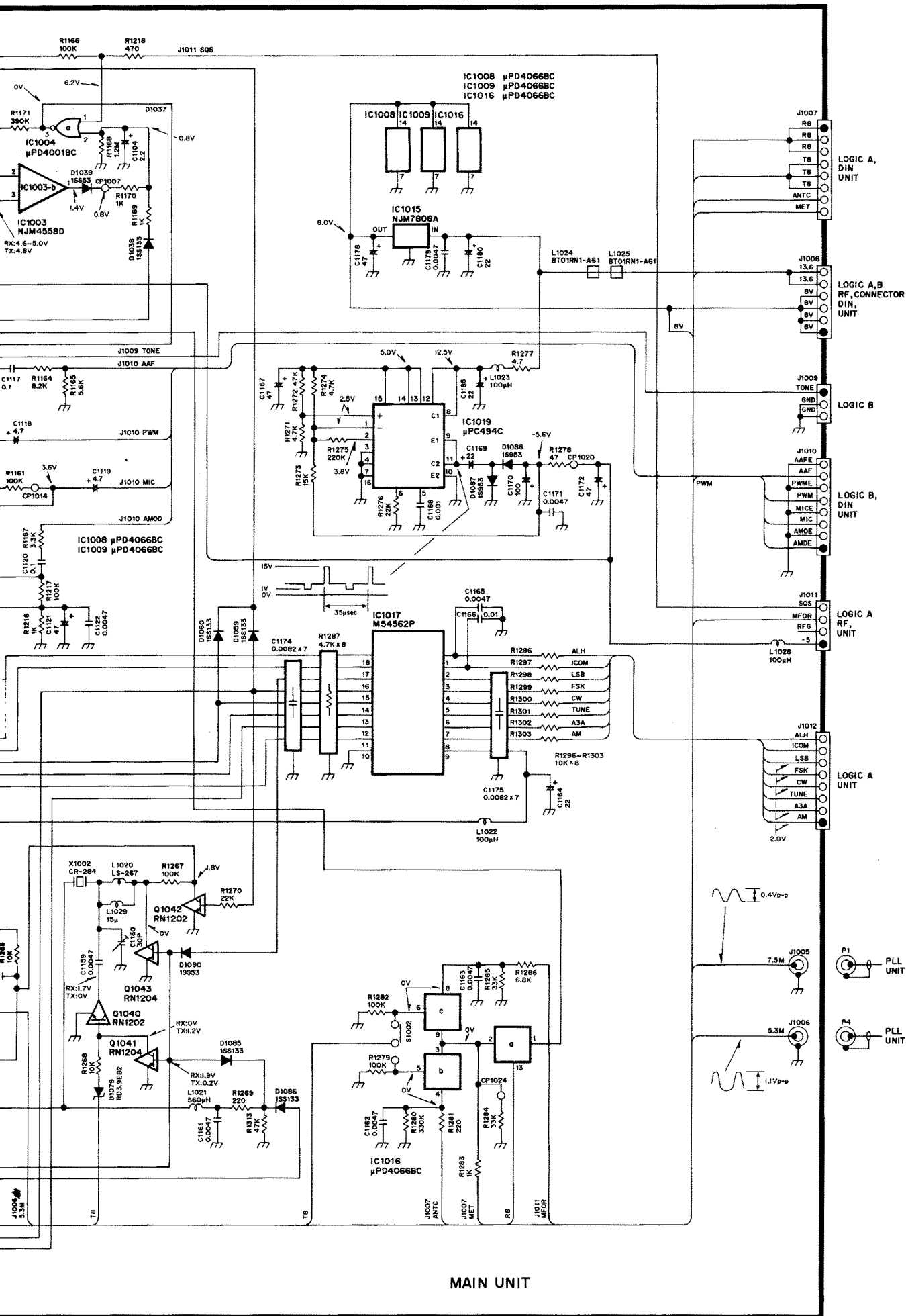


# 10-3 MAIN UNIT



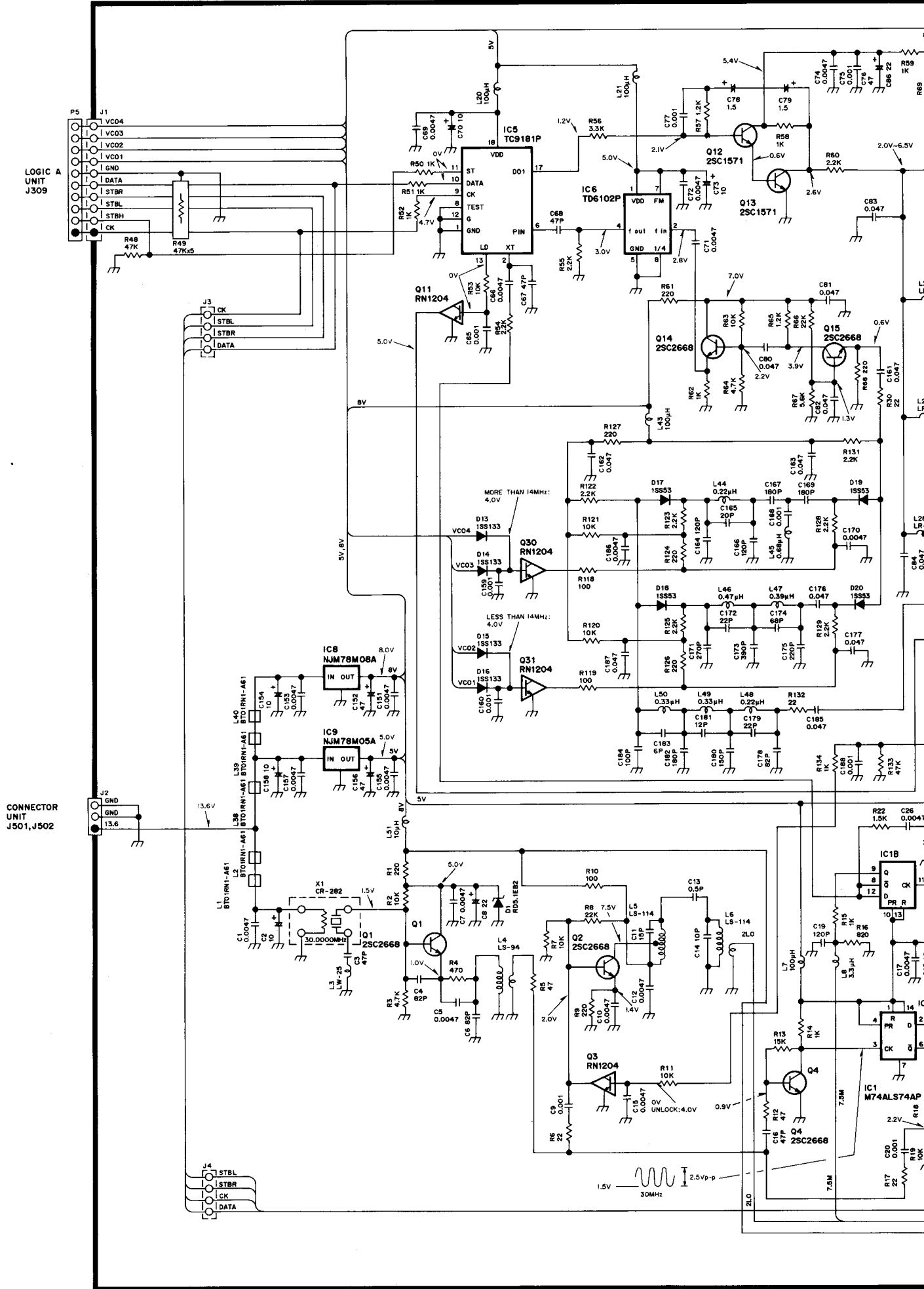


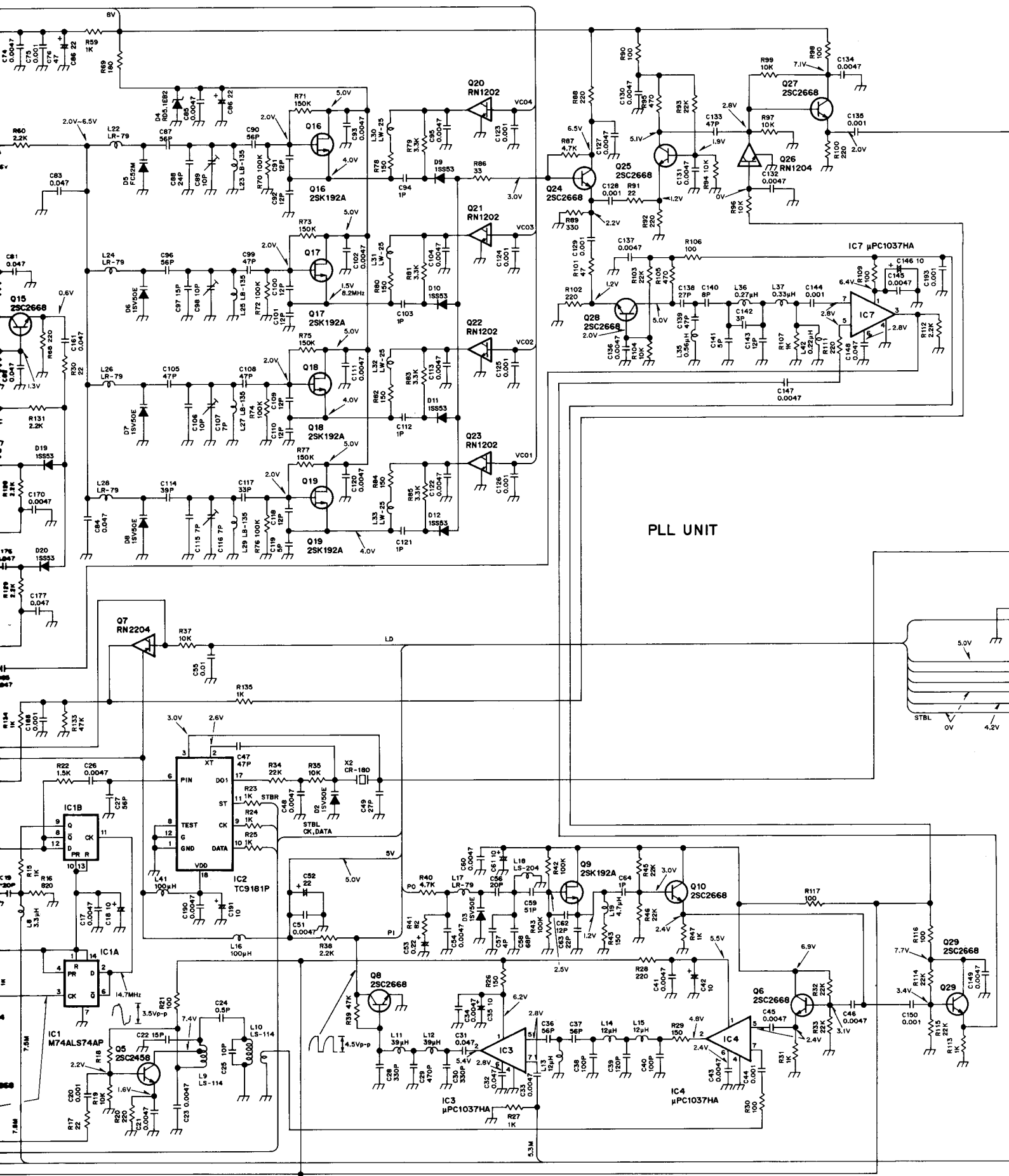




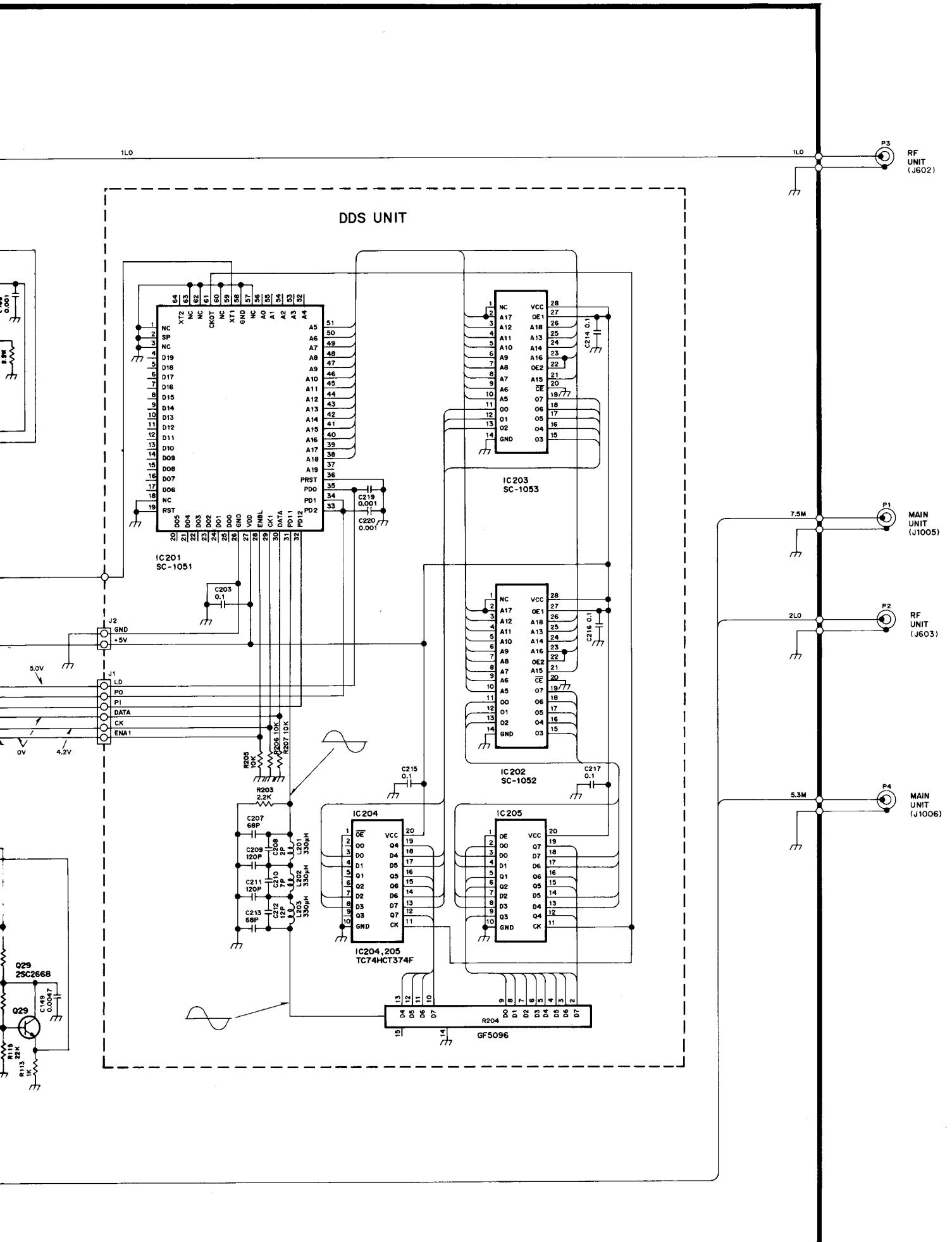
MAIN UNIT

# 10-4 PLL UNIT









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