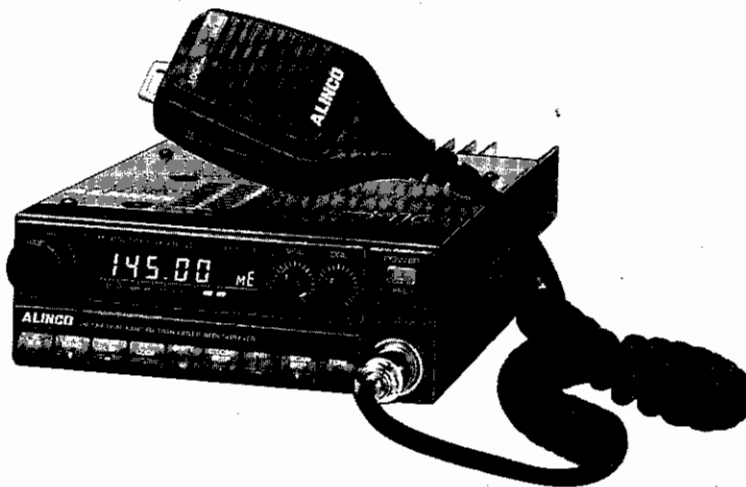


DR-510T/E

Service Manual

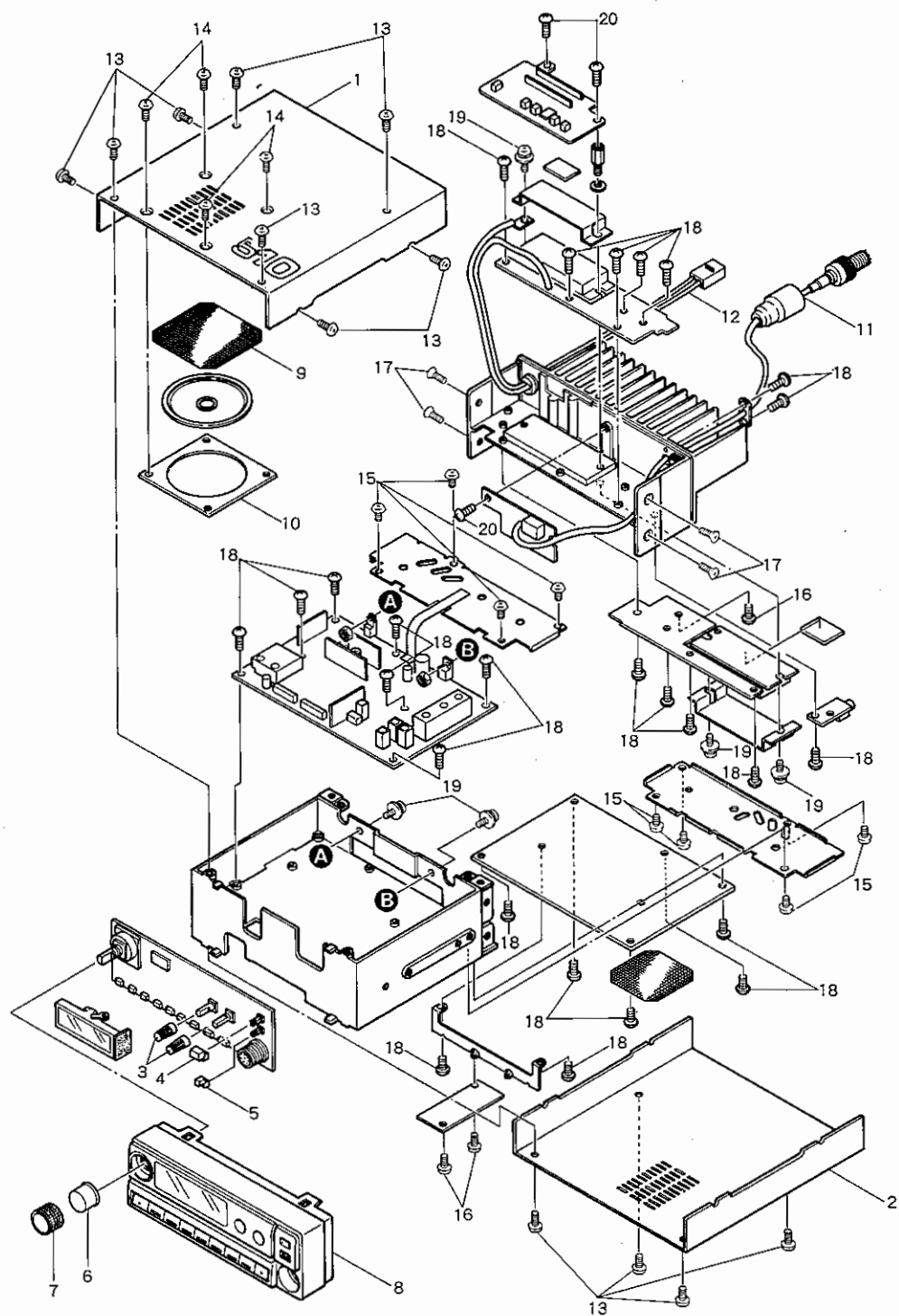


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**ALINCO ELECTRONICS INC.**

CABINET PARTS LOCATION



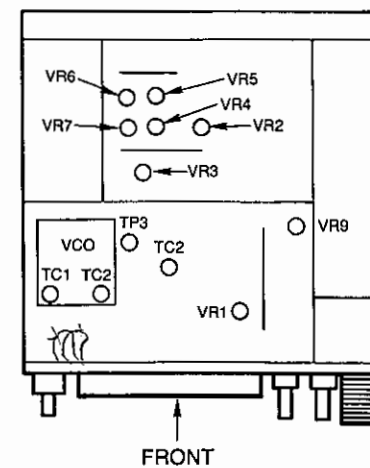
Ref. No.	Part Code	Part Name and Number
Mechanical Parts		
1	KU0059	Upper Case
2	KS0031	Lower Case
3	NK0010	Vol Knob
4	NP0015	Power Knob
5	NP0016	HI/LO Knob
6	NK0009	Dial Knob
7	ND0004	Dial Cover
8	KM0055	Front Panel
9	FF0013	SP Sheet
10	ST0009	SP Metal Crasp
11	UE0053	Coaxial Cable
12	UA0002	DC Power Cable

Screws		
13	AA0031	M2.6×5
14	AA0003	M2.6×5
15	AF0011	M2.6×4
16	AF0027	M2×4
17	AA0022	M3×6
18	AJ0015	2.6×6 (tap)
19	AD0001	M3×8
20	AA0028	M2.6×5

ADJUSTMENT (VHF)

Item	Adjustment point	Adjustment method
VCO P/D Voltage (RX)	TC2 (VCO Box)	Adjust TC2 so that the voltage of TP3 is 4V on the receiving mode.
VCO P/D Voltage (TX)	TC1 (VCO Box)	Adjust TC1 so that the voltage of TP3 is 3V on the transmission mode.
Frequency	TC2 (Main Board)	Set the unit in the transmission mode at 145.00 MHz and adjust TC2.
Power output	VR6 (Hi)	On "HI" position, turn VR6 for 45 W output at 145.00 MHz.
	VR7 (Lo)	On "LO" position, turn VR7 for 5 W output at 145.00 MHz.
RF Power Meter	VR4	Turn VR4 so that three segments will light on "LO" position.
Deviation	VR3	Input a signal of 1 KHz/25 mV into the MIC jack and adjust VR3 so that you obtain 4.9 KHz/Dev in the transmission mode.
MIC Gain	VR2	Input a signal of 1 KHz/10 mV into the MIC jack and adjust VR2 so that you obtain 4.0 KHz/Dev in the transmission mode.
Protection Circuit	VR5	Disconnect the antenna in the transmission mode and adjust VR5 so that the current consumption will be 5A.
Subaudible Tone Deviation (DR-510T)	VR1 (Tone squelch board)	On the "ENC" mode at 146.00 MHz, turn VR1 so that the deviation is 0.7 KHz.
1750 Hz Tone Deviation (DR-510E)	VR1 (Tone burst board)	Pressing Tone button at 145.00 MHz, turn VR1 so that the deviation is 3.5 KHz.
S-Meter (SG output: 3 dBμ EMF)	VR1	Turn VR1 so that the 1 begins to light.
Squelch Sensitivity (SG output: -6 dBμ EMF)	VR9	Turn the squelch control fully clockwise and turn VR9 so that the squelch will be closed at the SG output of -6 dBμ.

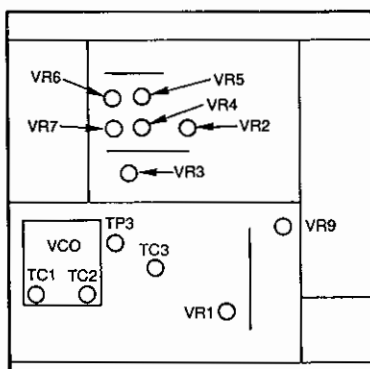
Upper Side View



■ ADJUSTMENT (UHF)

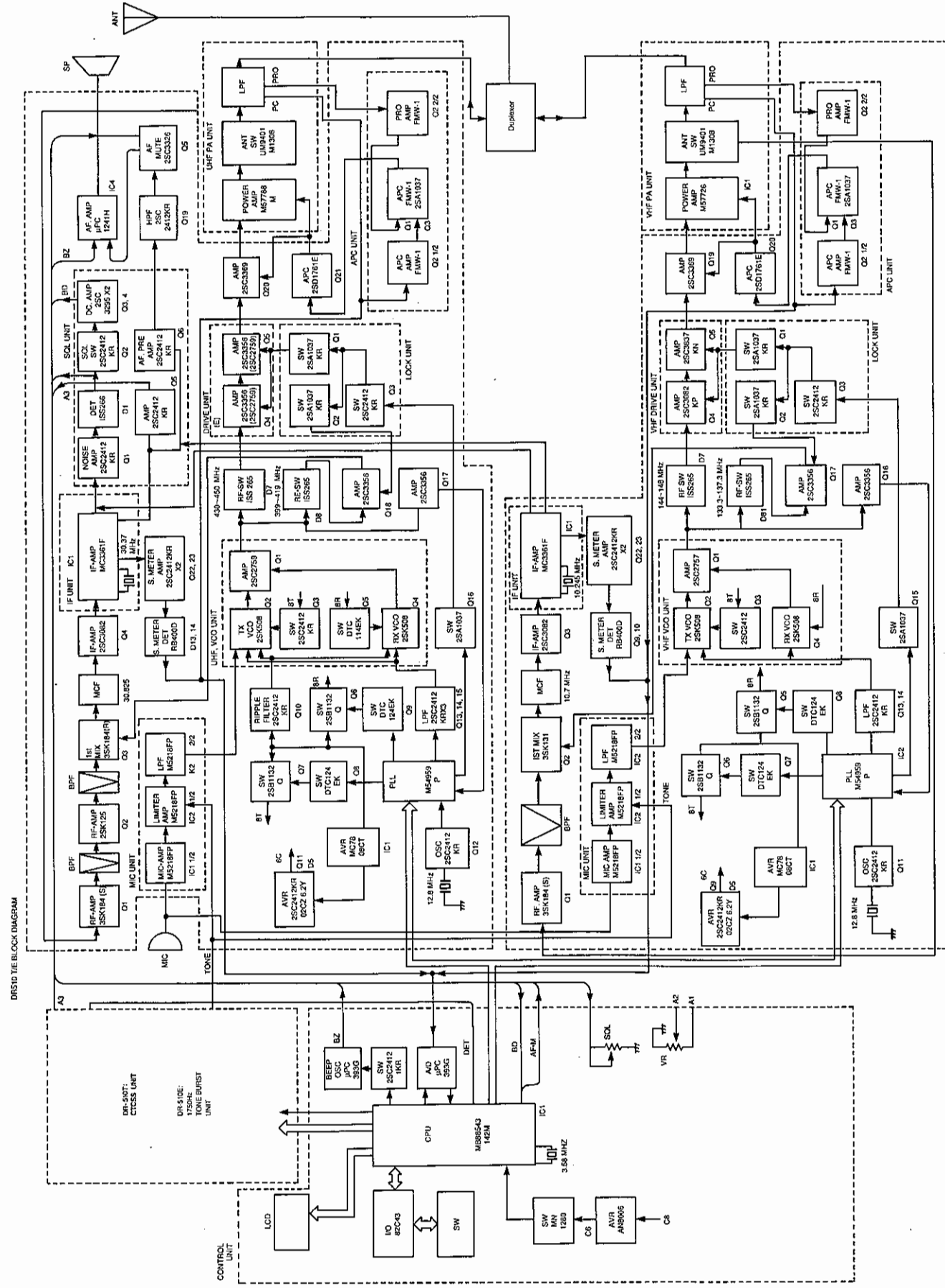
Item	Adjustment point	Adjustment method
VCO P/D Voltage (RX)	TC2 (VCO Box)	Adjust TC2 so that the voltage of TP3 is 2 V on the receiving mode.
VCO P/D Voltage (TX)	TC1 (VCO Box)	Adjust TC1 so that the voltage of TP3 is 1 V on the transmission mode.
Frequency	TC3 (Main Board)	Set the unit in the transmission mode at 435.00 MHz (T: 445.00 MHz) and adjust TC3.
Power output	VR6 (Hi)	On "HI" position, turn VR6 for 35 W output at 435 (T: 445) MHz.
	VR7 (Lo)	On "LO" position, turn VR7 for 5 W output at 145.00 MHz.
RF Power Meter	VR4	Turn VR4 so that three segments will light on "LO" position.
Deviation	VR3	Input a signal of 1 KHz/25 mV into the MIC jack and adjust VR3 so that you obtain 4.9 KHz/Dev in the transmission mode.
MIC Gain	VR2	Input a signal of 1 KHz/10 mV into the MIC jack and adjust VR2 so that you obtain 4.0 KHz/Dev in the transmission mode.
Protection Circuit	VR5	Disconnect the antenna in the transmission mode and adjust VR5 so that the current consumption will be 4A.
Subaudible Tone Deviation (DR-510T)	VR1 (Tone squelch board)	On the "ENC" mode at 435.00 MHz, (T: 445.00 MHz), turn VR1 so that the deviation is 0.7 KHz.
1750 Hz Tone Deviation (DR-510E)	VR1 (Tone burst board)	Pressing Tone button at 435.00 MHz (T: 445.00 MHz), turn VR1 so that the deviation is 3.5 KHz.
S-Meter (SG output: 3 dB μ EMF)	VR1	Turn VR1 so that the <input type="checkbox"/> begins to light.
Squelch Sensitivity (SG output: -6 dB μ EMF)	VR9	Turn the squelch control fully clockwise and turn VR9 so that the squelch will be closed at the SG output of -6 dB μ .

Lower Side View

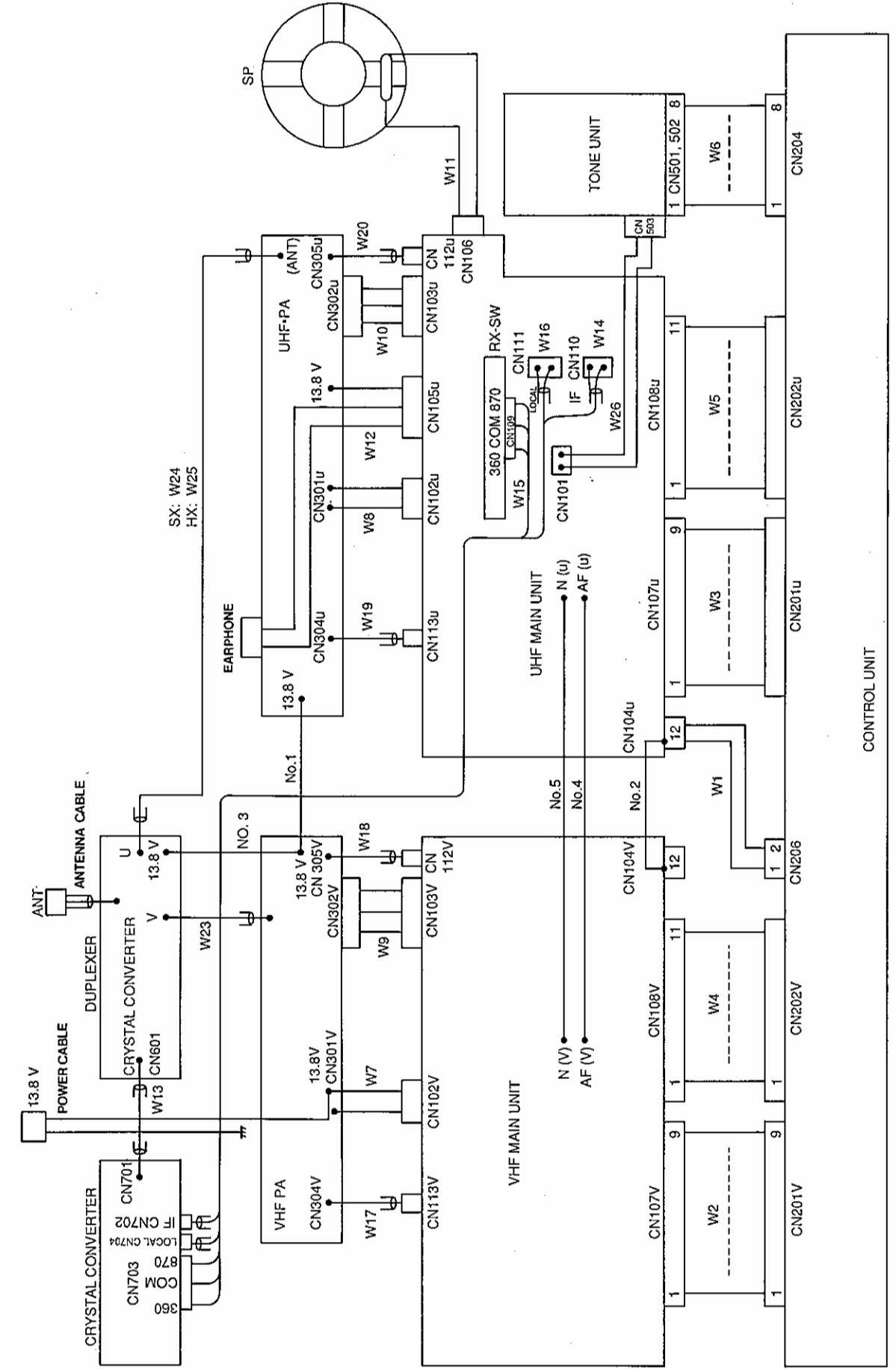


FRONT

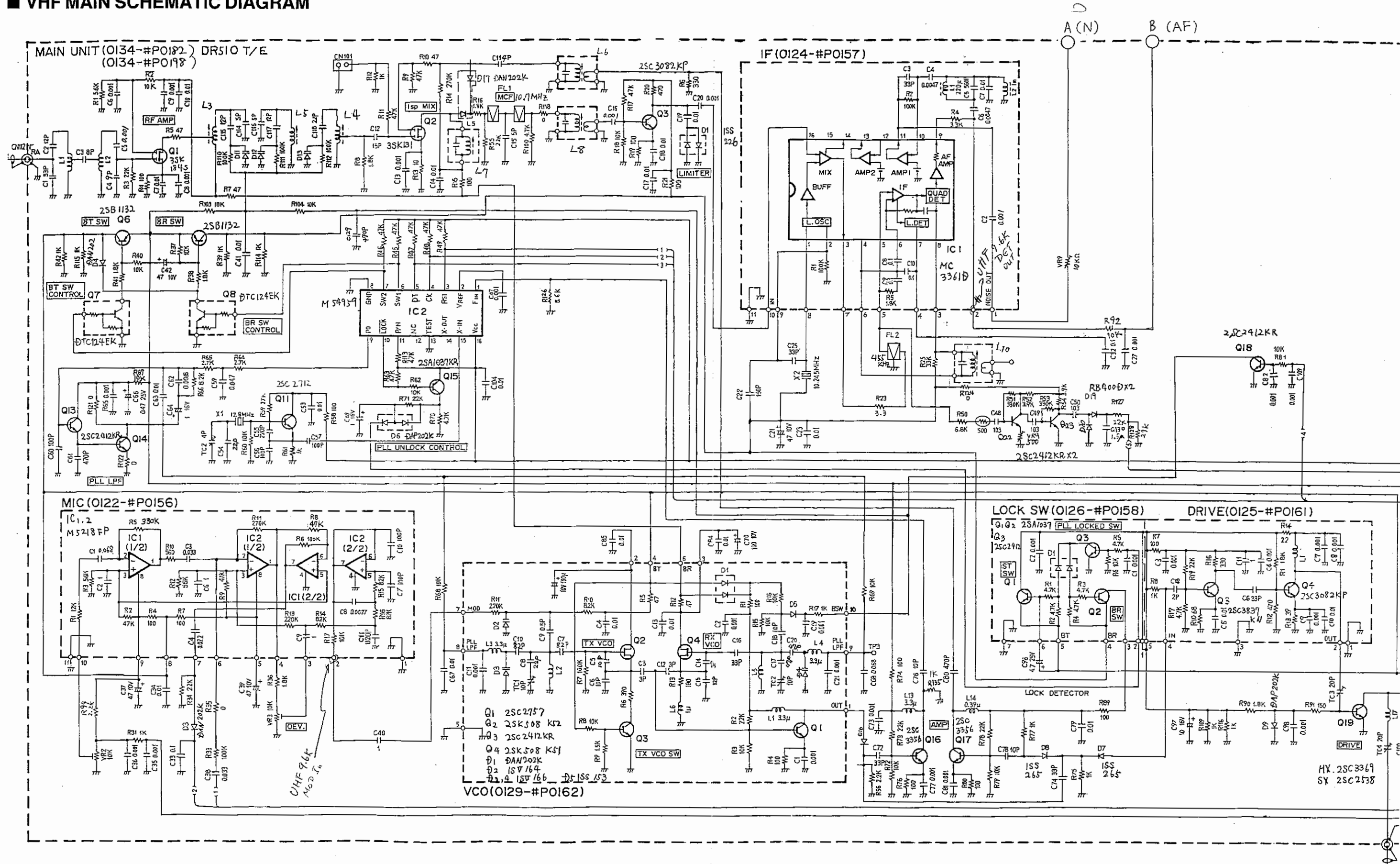
■ BLOCK DIAGRAM



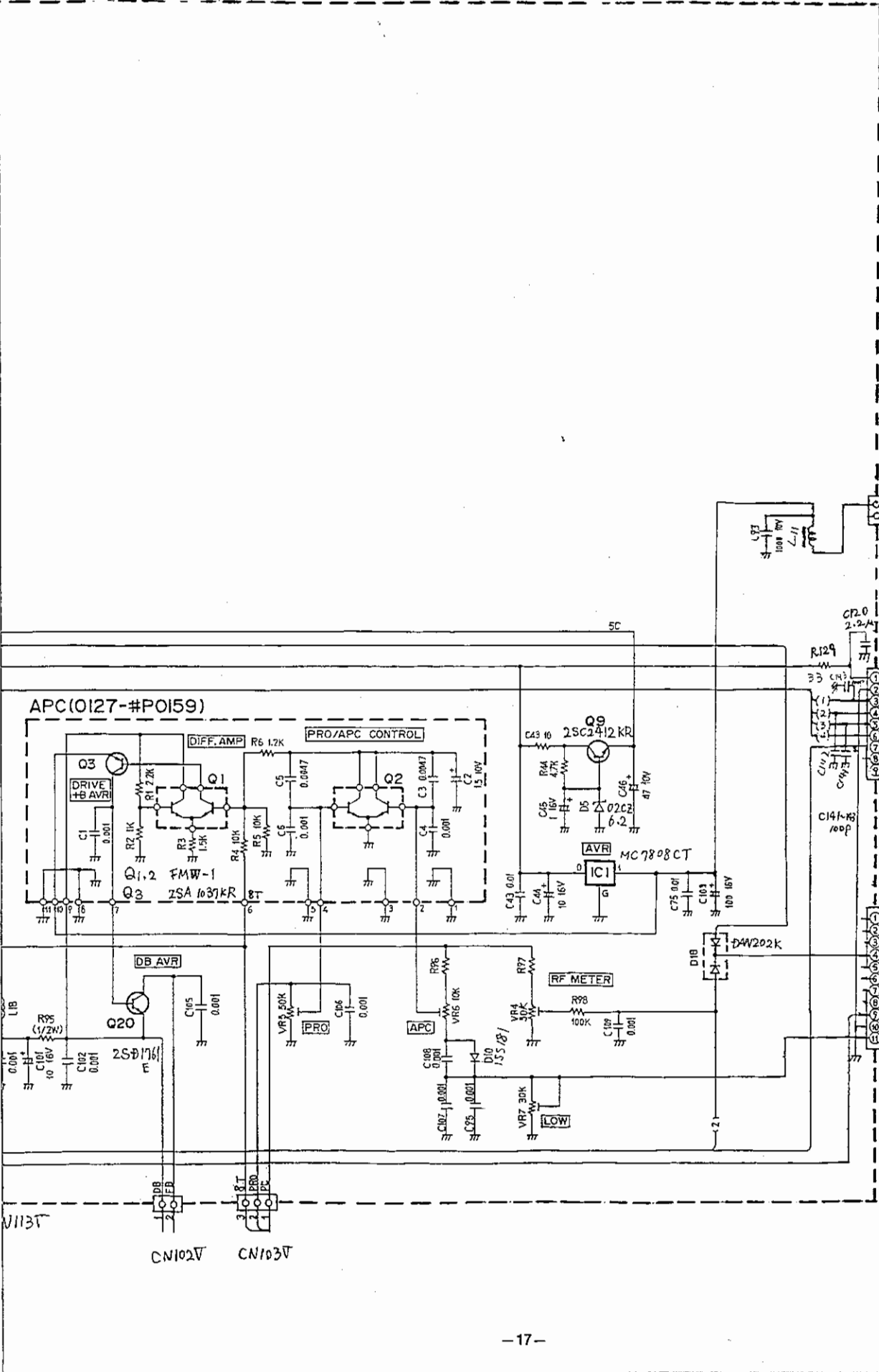
■ CONNECTION DIAGRAM



■ VHF MAIN SCHEMATIC DIAGRAM



VP 9



APC(0127-#P0159)

PRO/APC CONTROL

DIFF. AMP

DRIVE +B AVR

Q9 2SC2412KR

AVR MC7808CT

Q1, 2 FMW-1

Q3 2SA 1037KR

DB AVR

Q20 2SB176

PRO

APC

RF METER

LOW

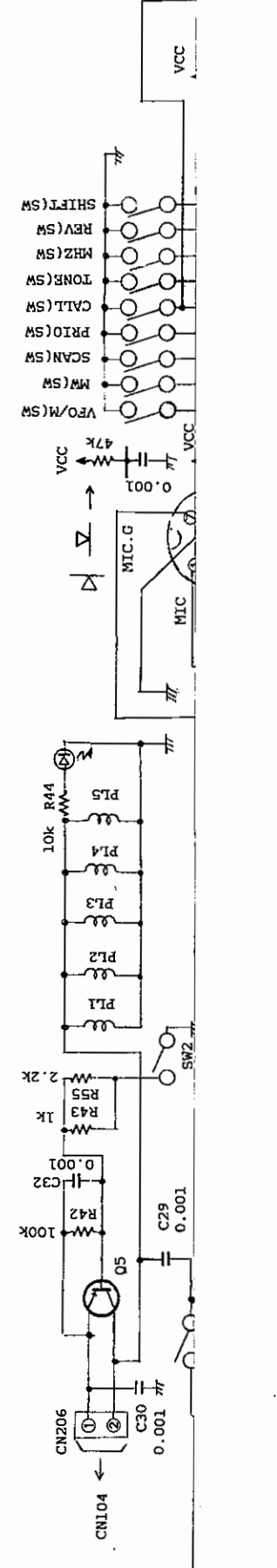
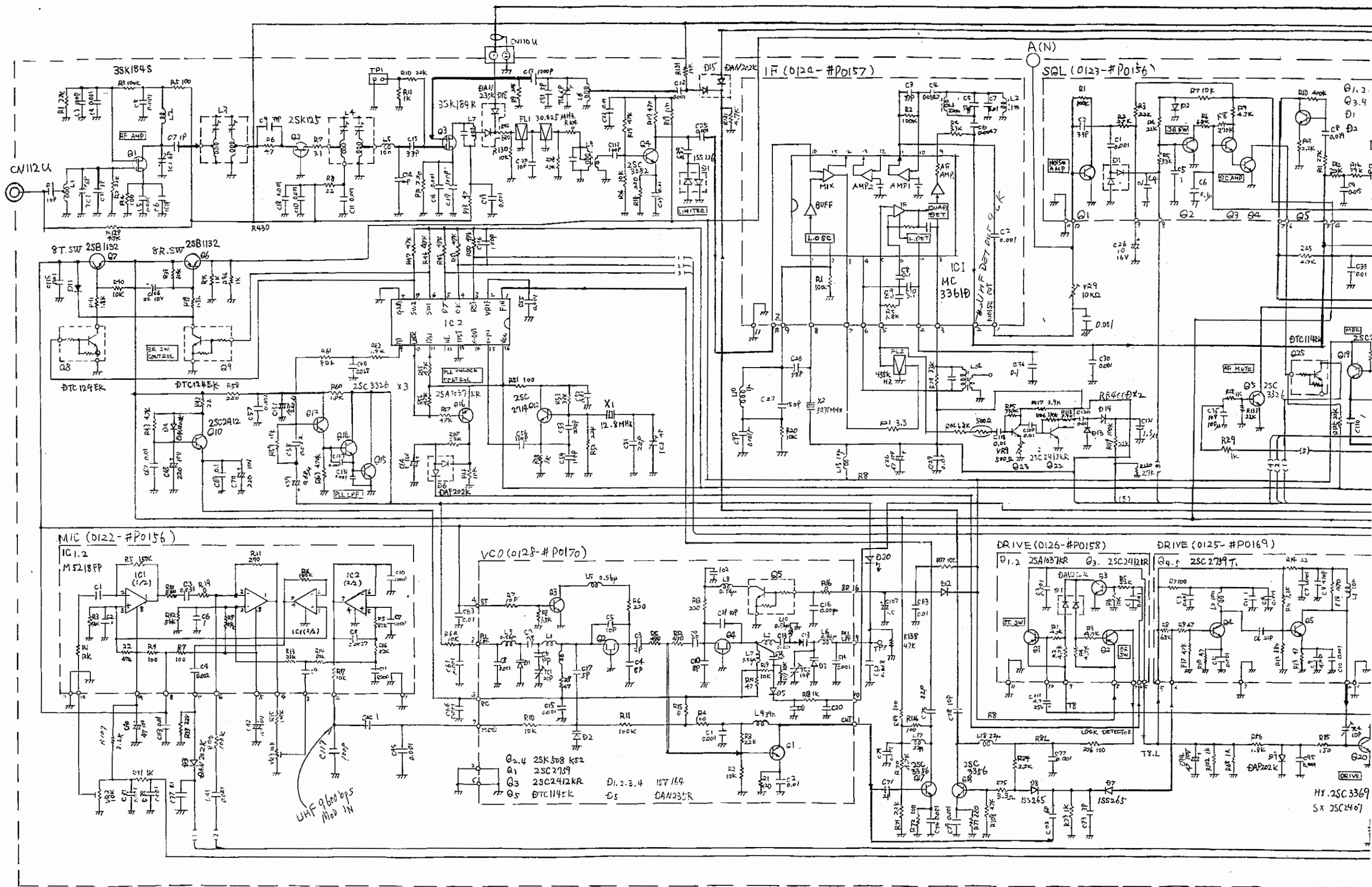
CN104V

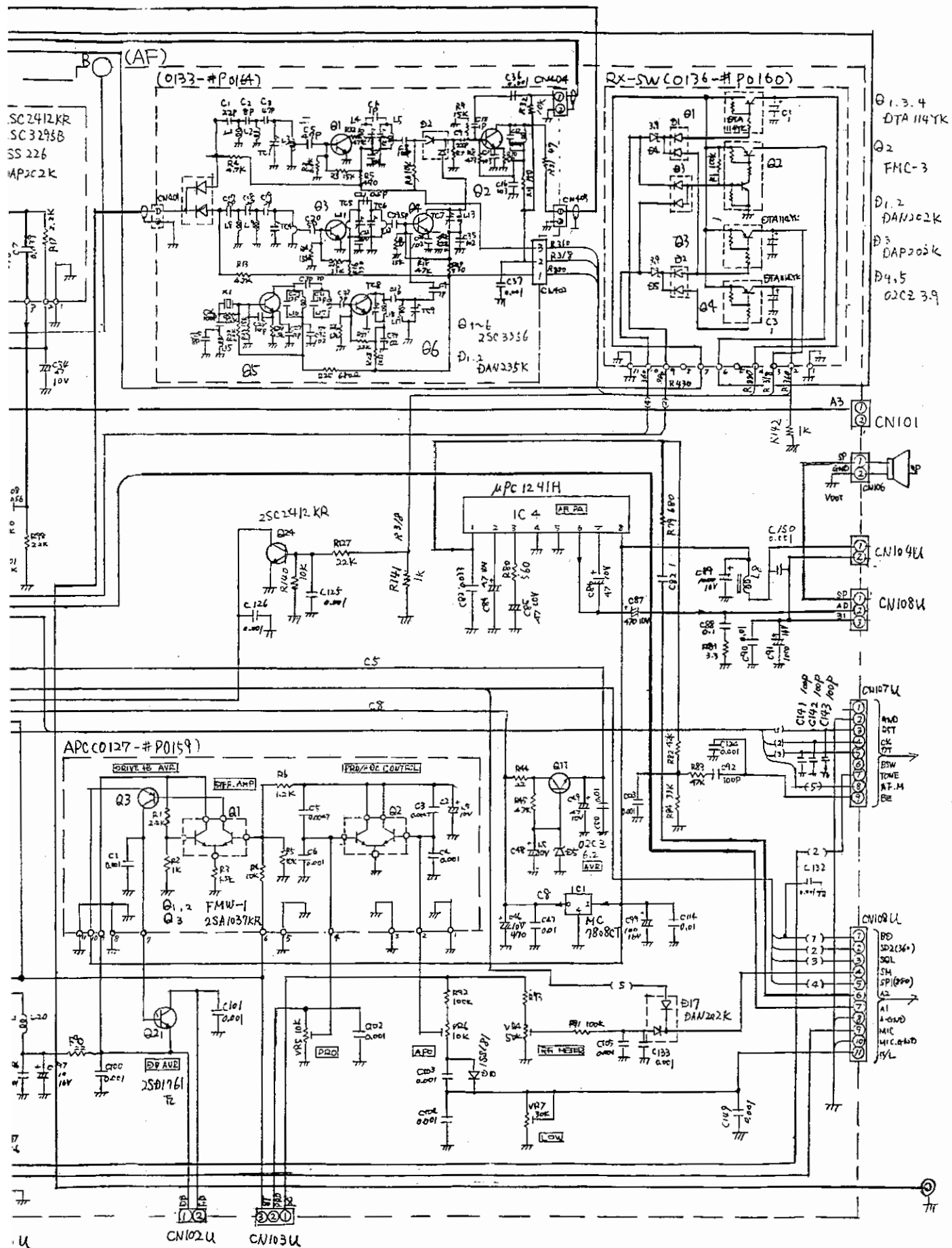
CN107V

CN108V

CN102V

CN103V





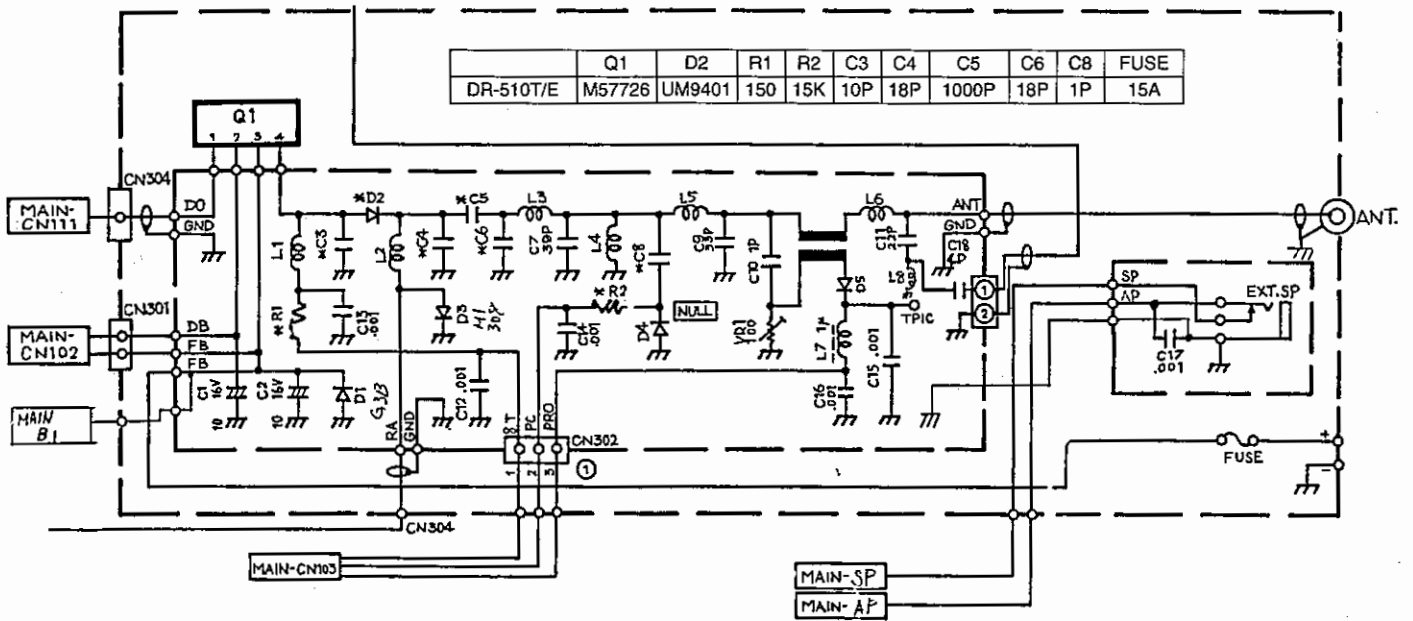
- Q1,3,4 DTA 114TK
- Q2 FMC-3
- D1,2 DAN202K
- D3 DAP202K
- D4,5 Q2C2 3.9

- Q1,2 2SC3356
- D1,2 DAN335K

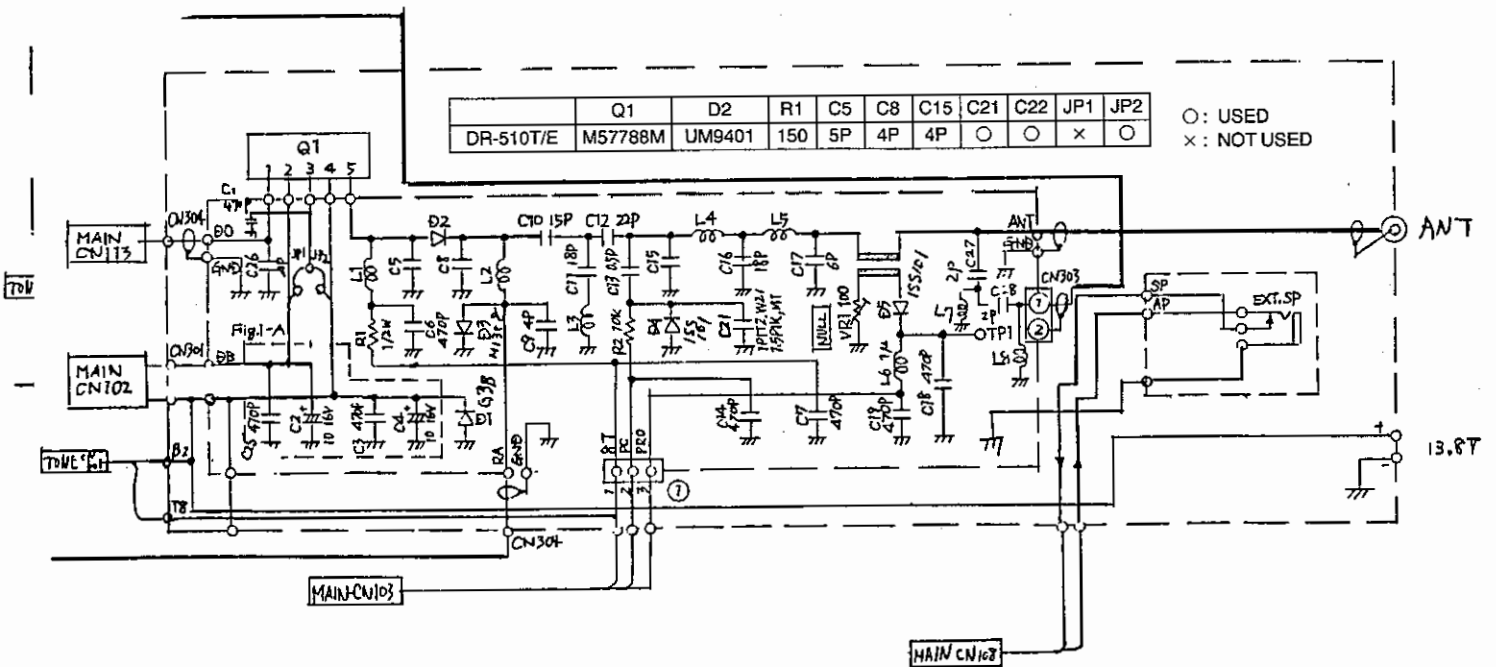
- BD 3D2(36+)
- SOL
- SH
- SP(250)
- A2
- A1 1-5V0
- MIC
- MIC. 0-5V0
- SYL

PA SCHEMATIC DIAGRAM

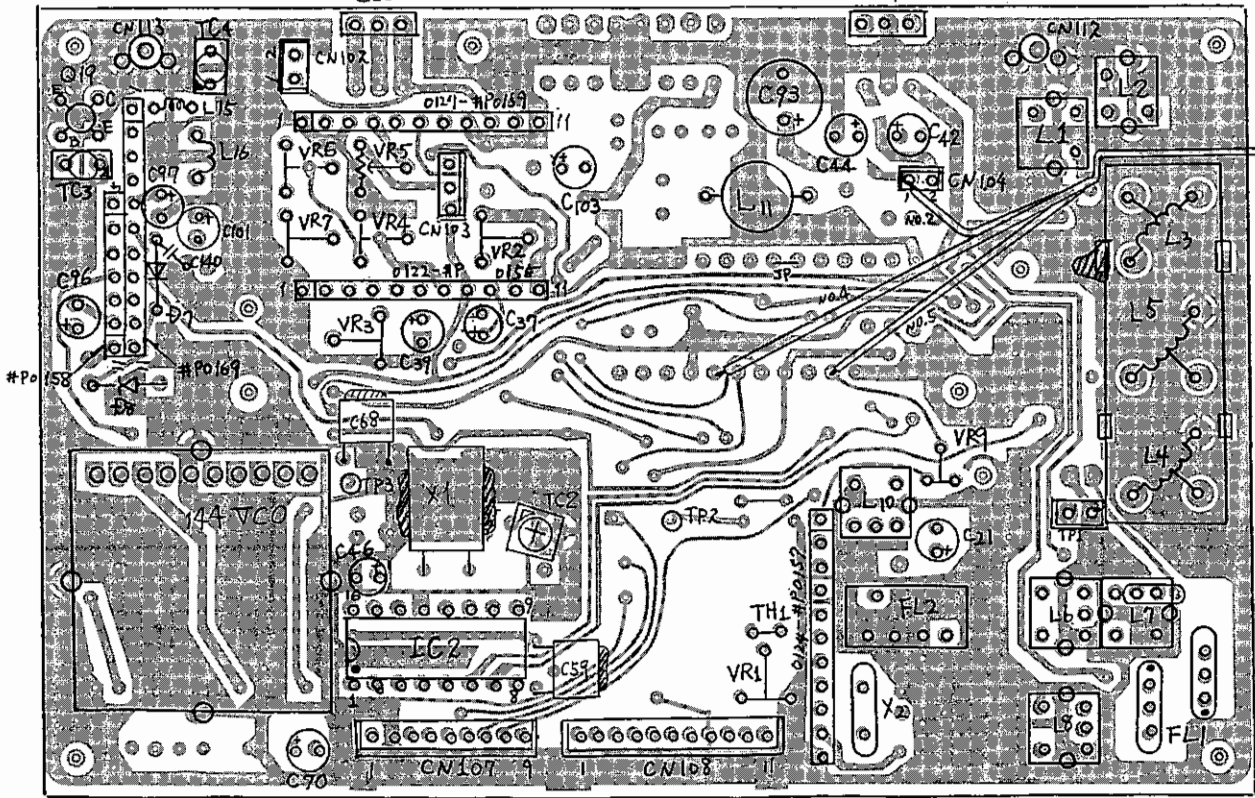
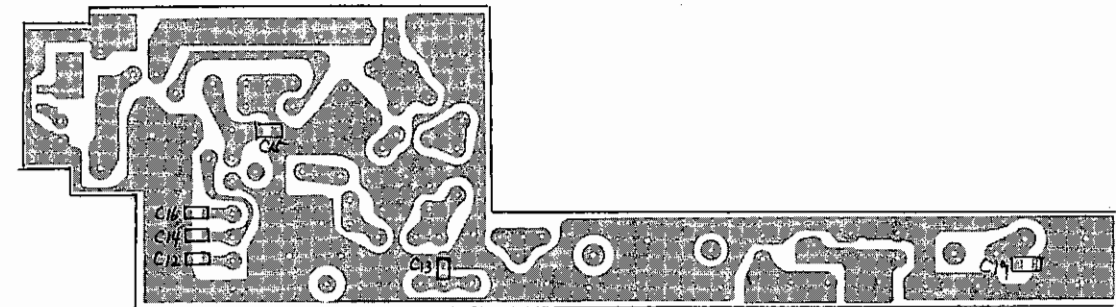
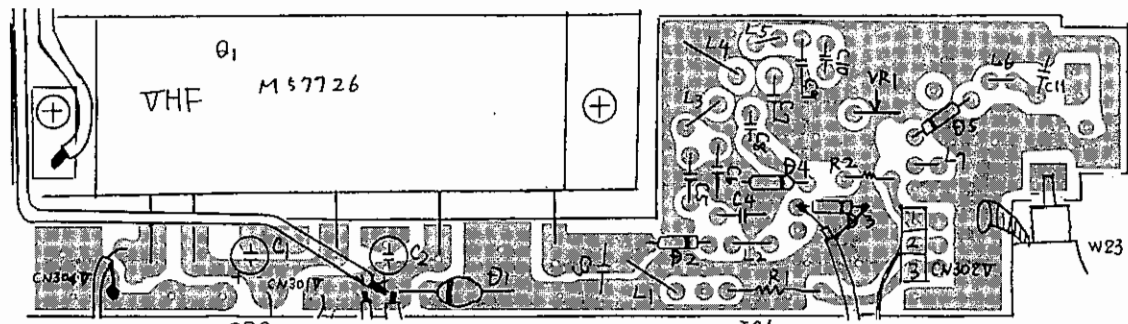
(VHF)



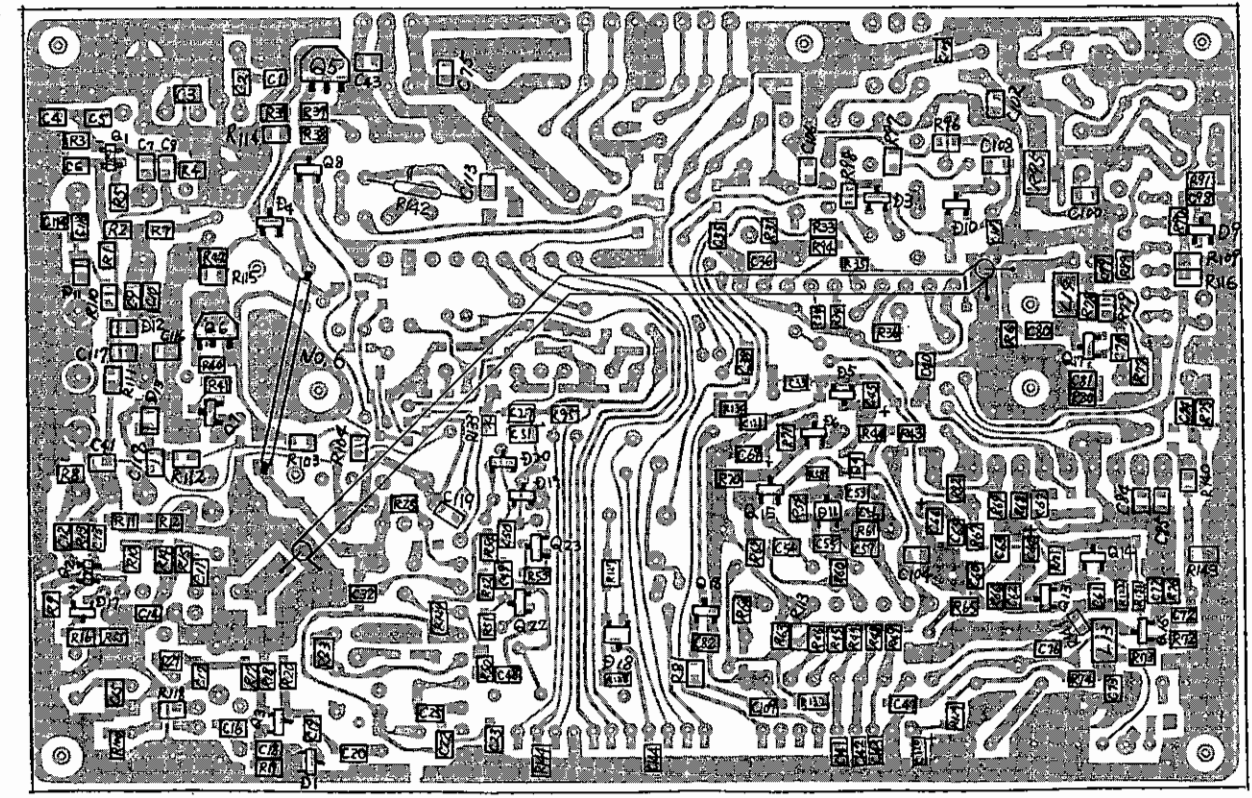
(UHF)



VHF PA AND MAIN PC BOARD

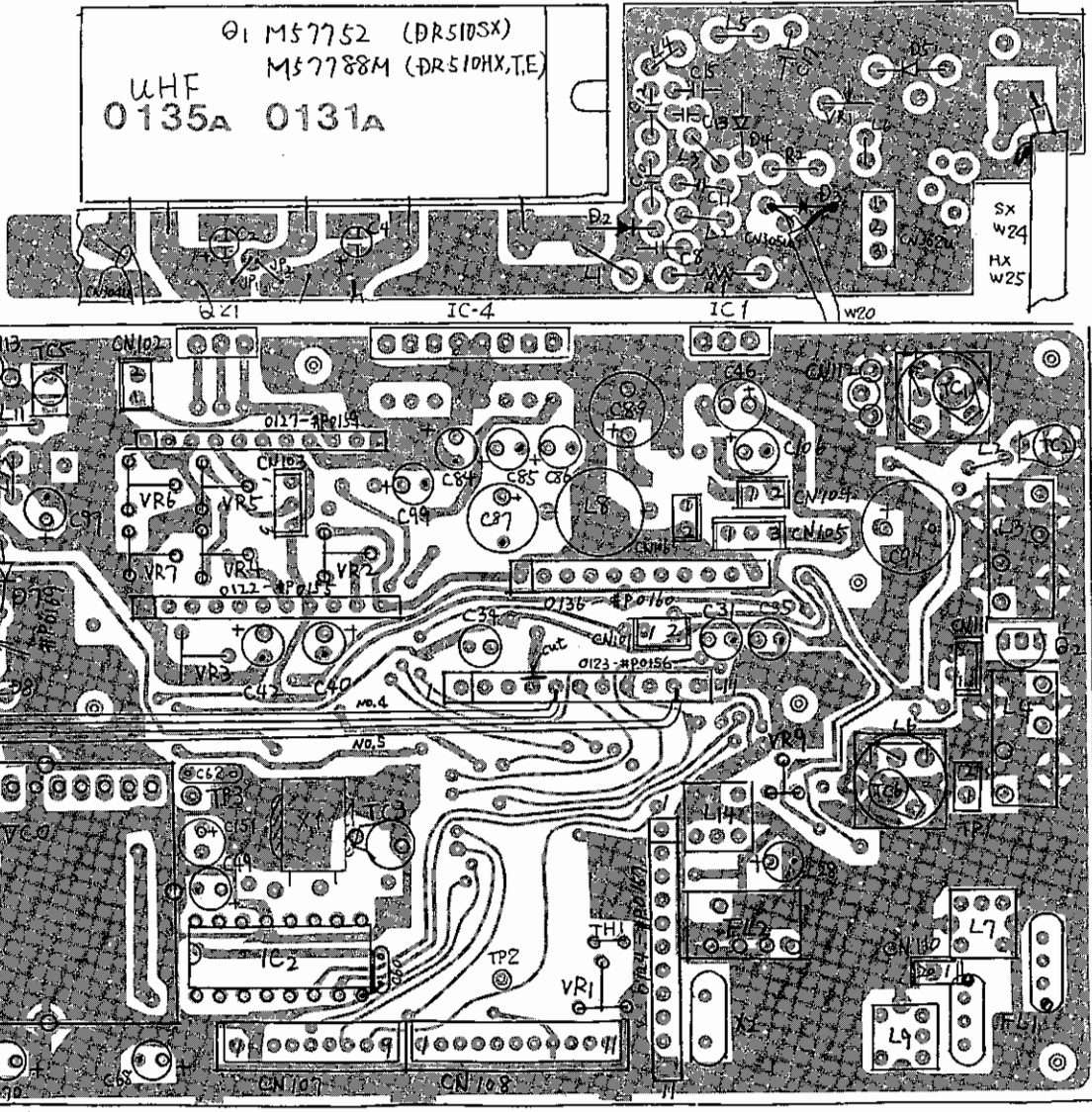


(Part)

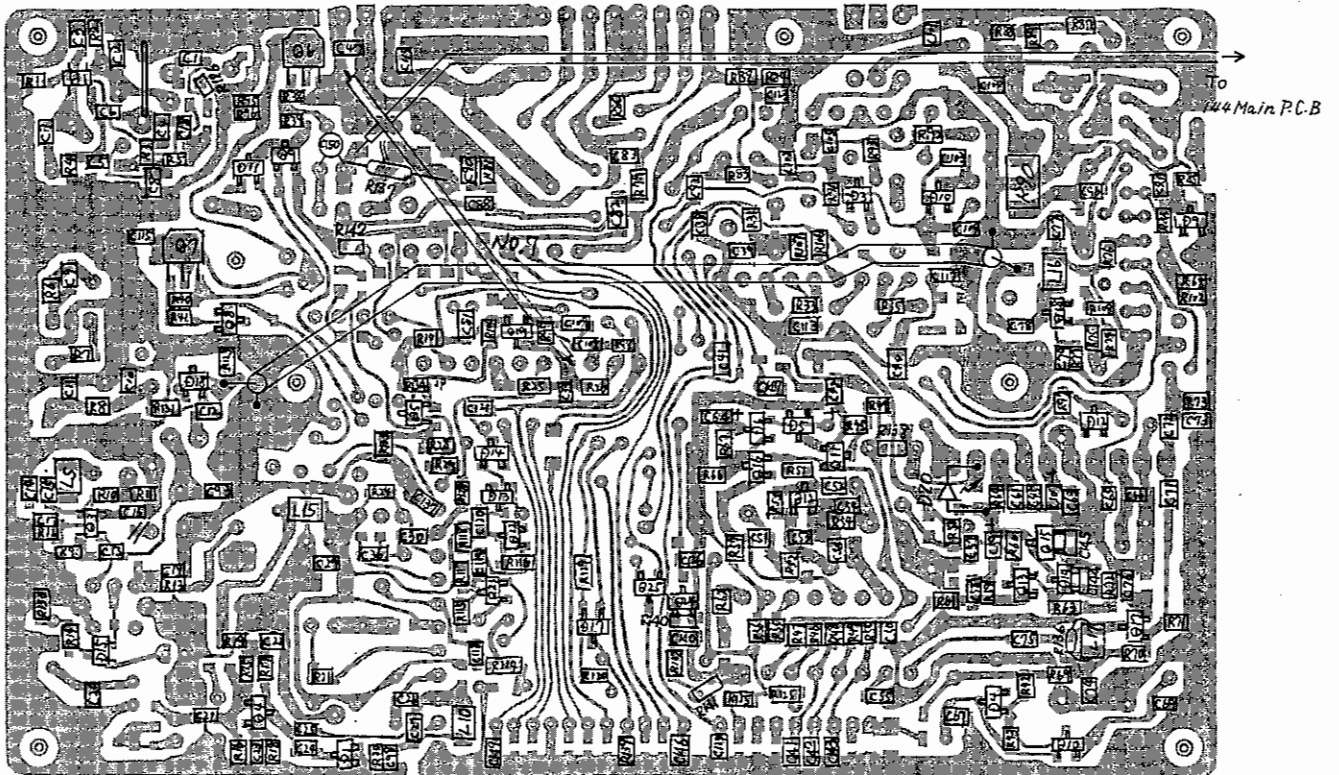
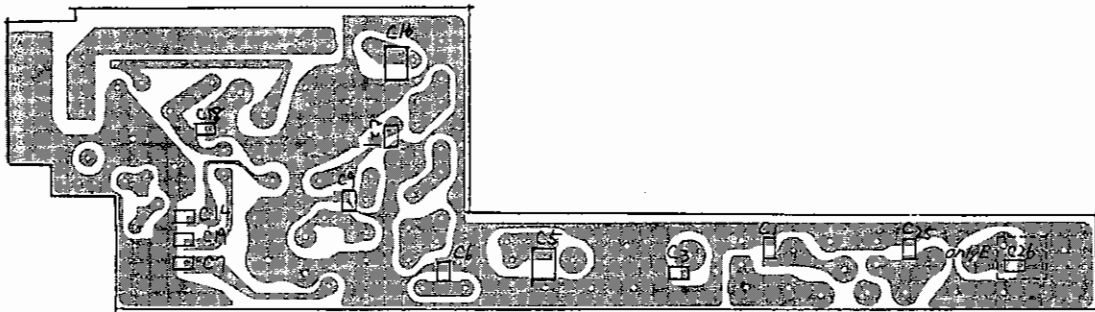


(Solder)

■ UHF PA AND MAIN PC BOARD

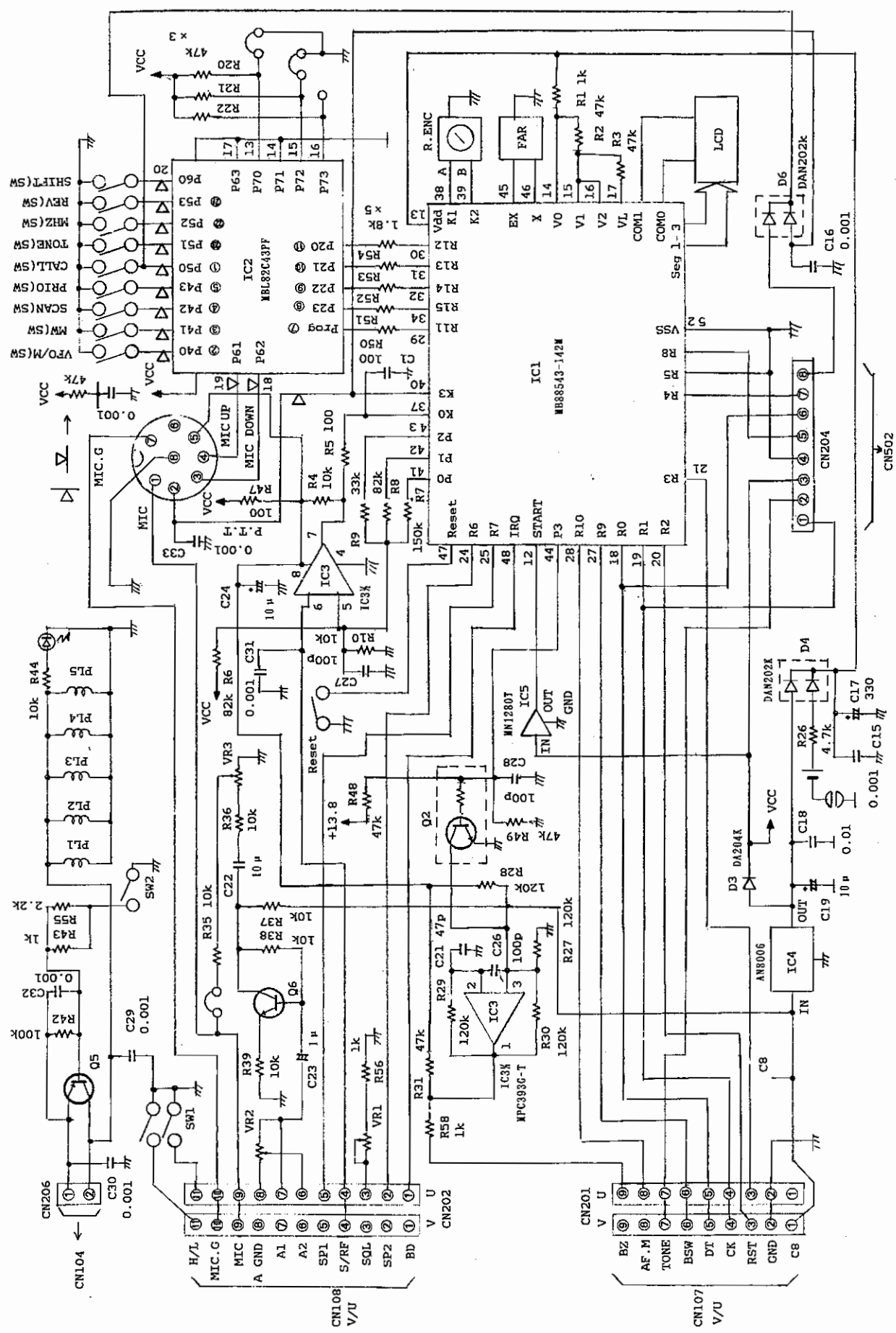


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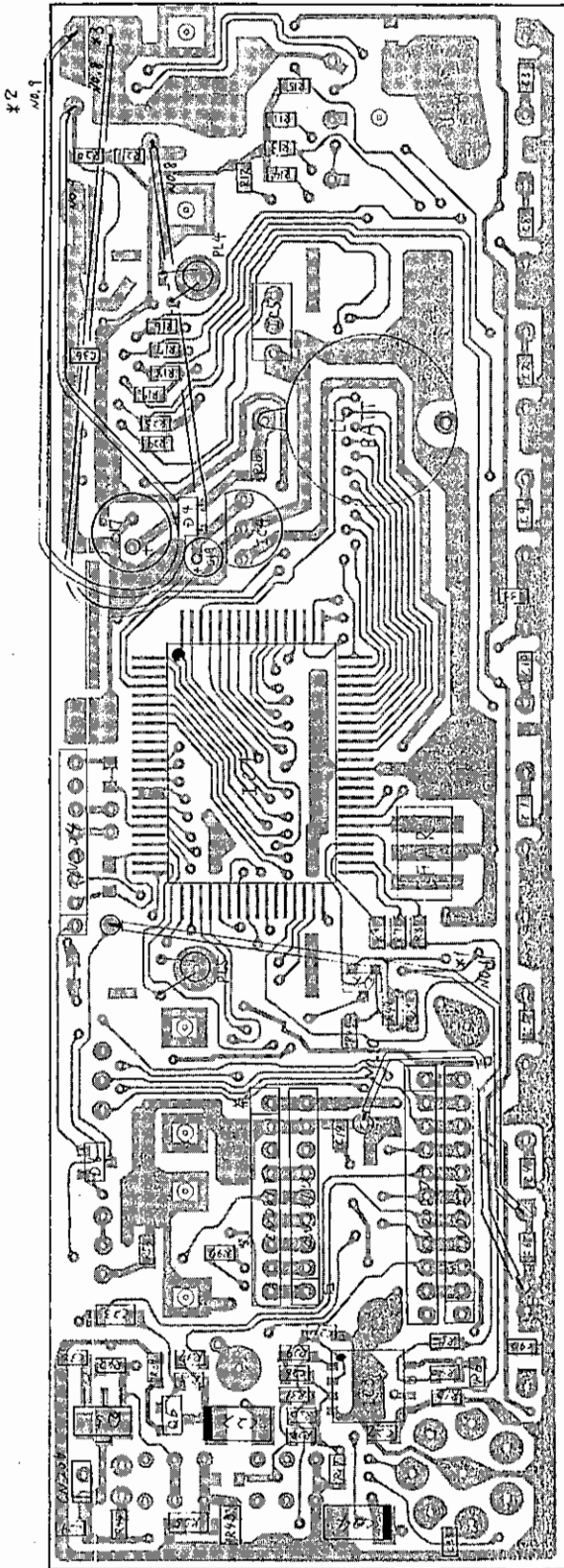


(Solder)

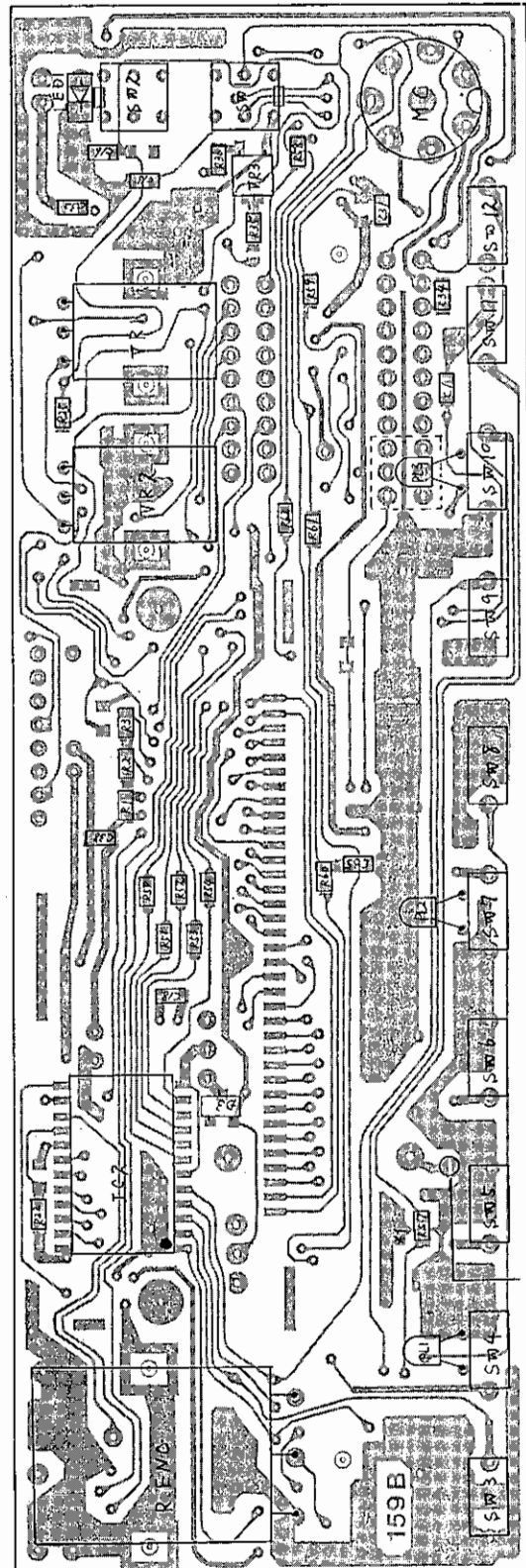
CONTROL SCHEMATIC DIAGRAM



CONTROL PC BOARD

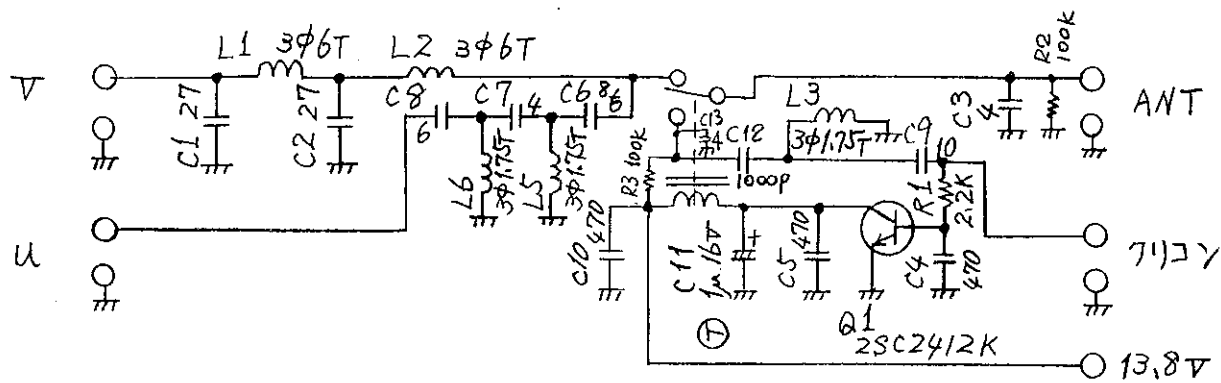


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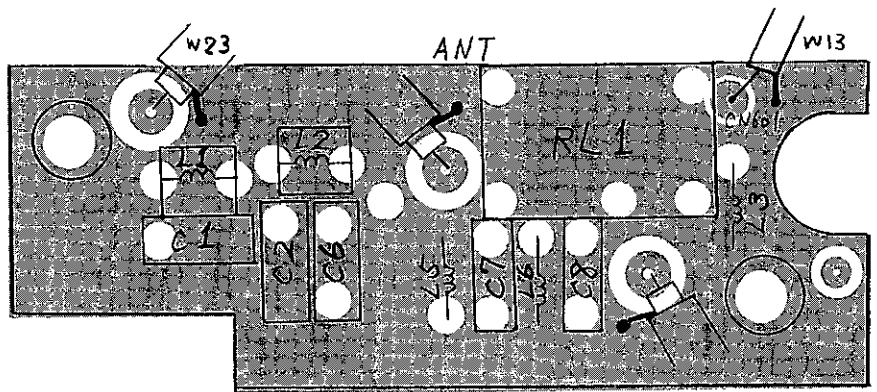
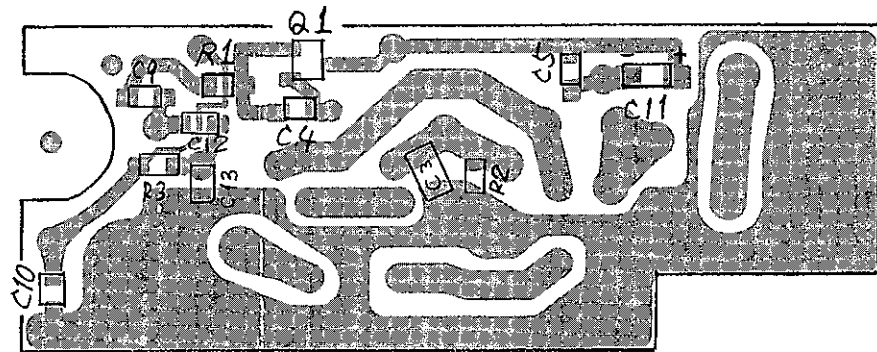


(Solder)

UPLEXER SCHEMATIC DIAGRAM

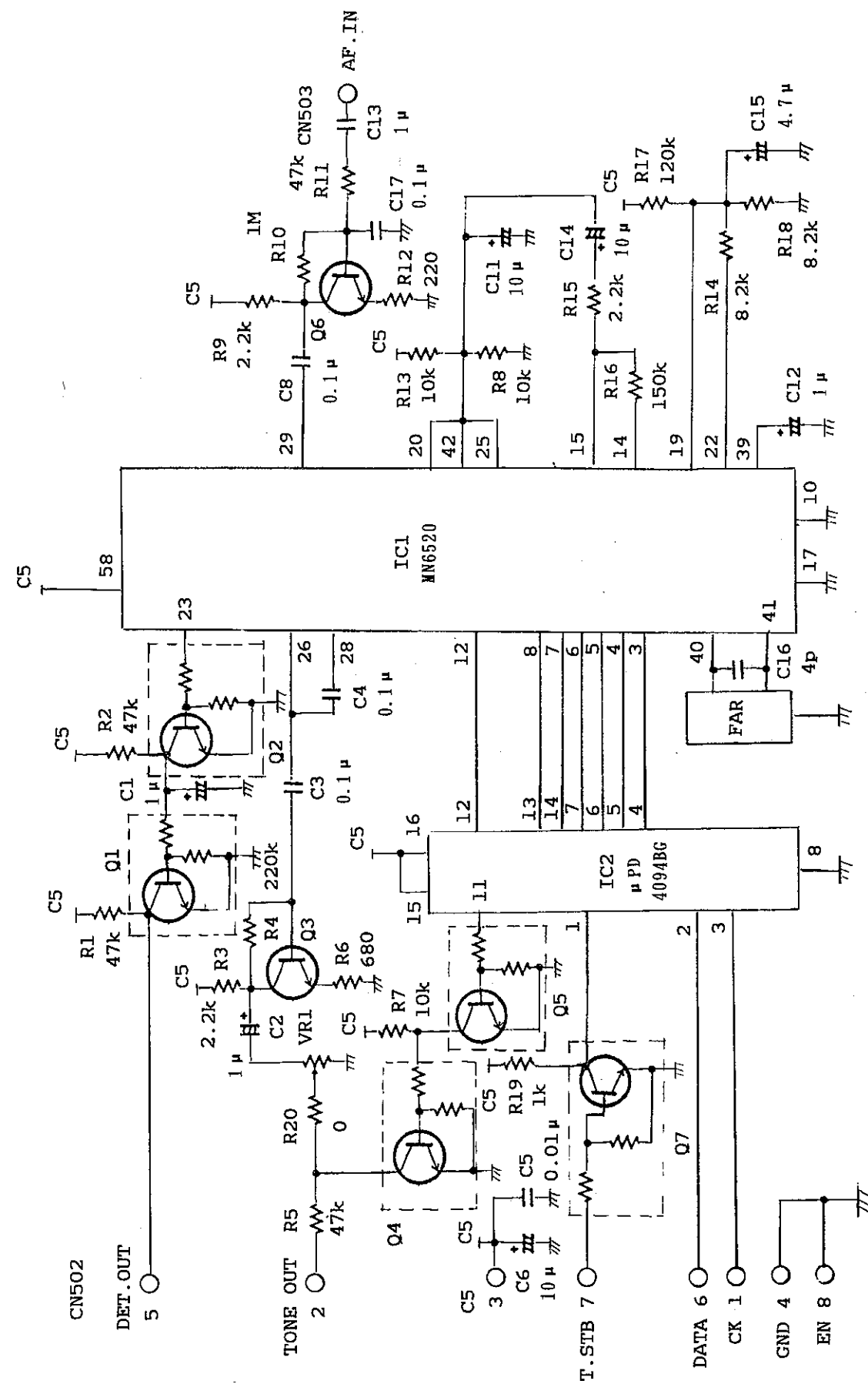


UPLEXER PC BOARD



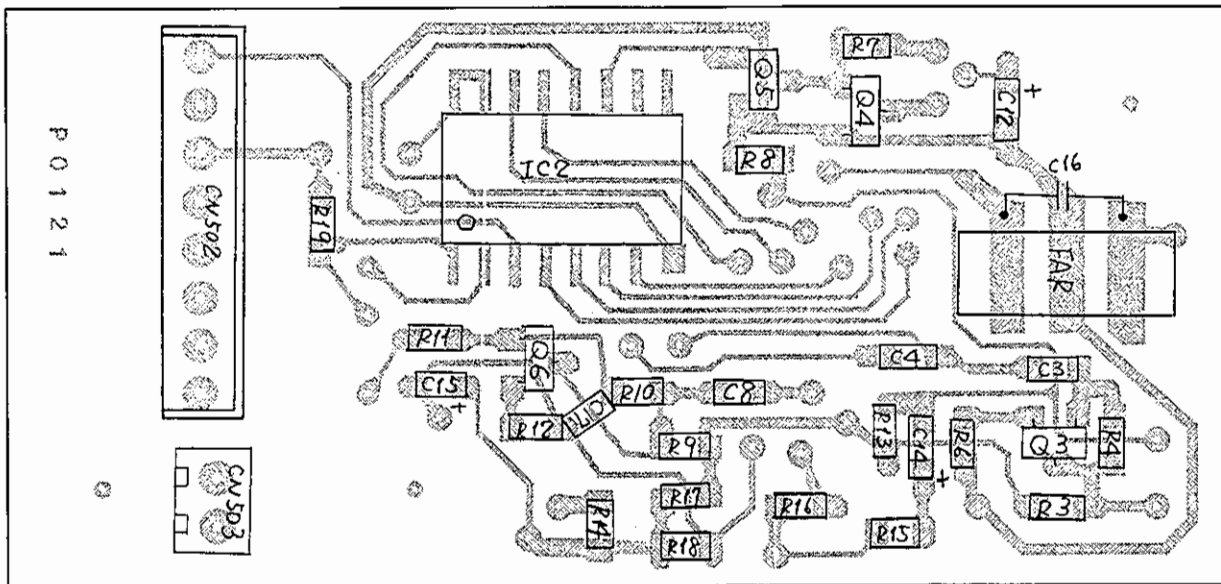
(Solder)

■ TONE SQUELCH SCHEMATIC DIAGRAM

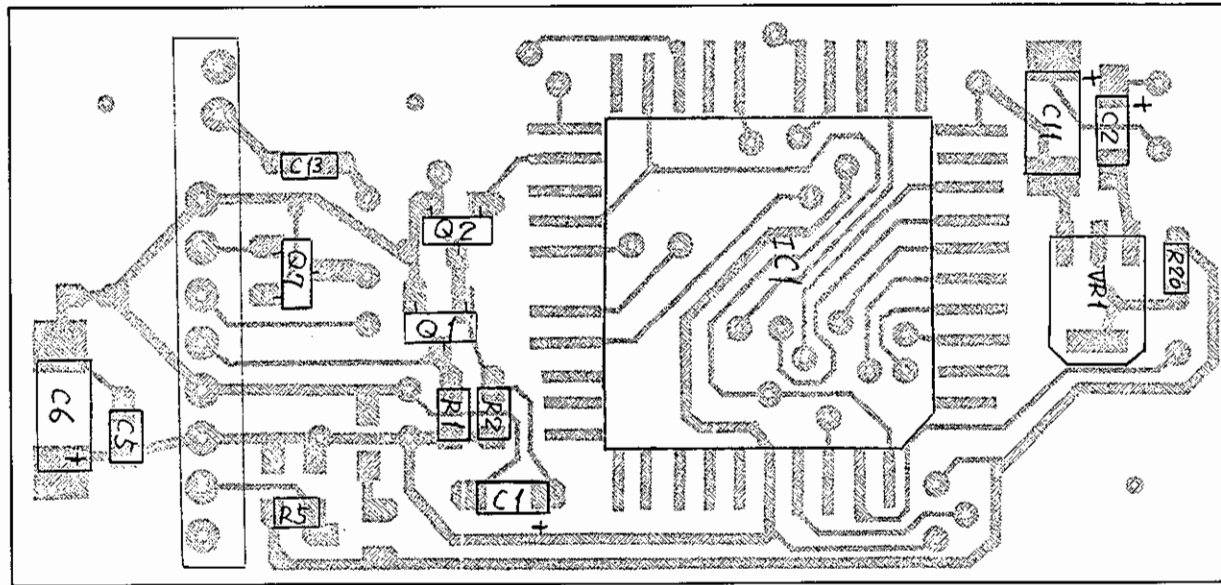
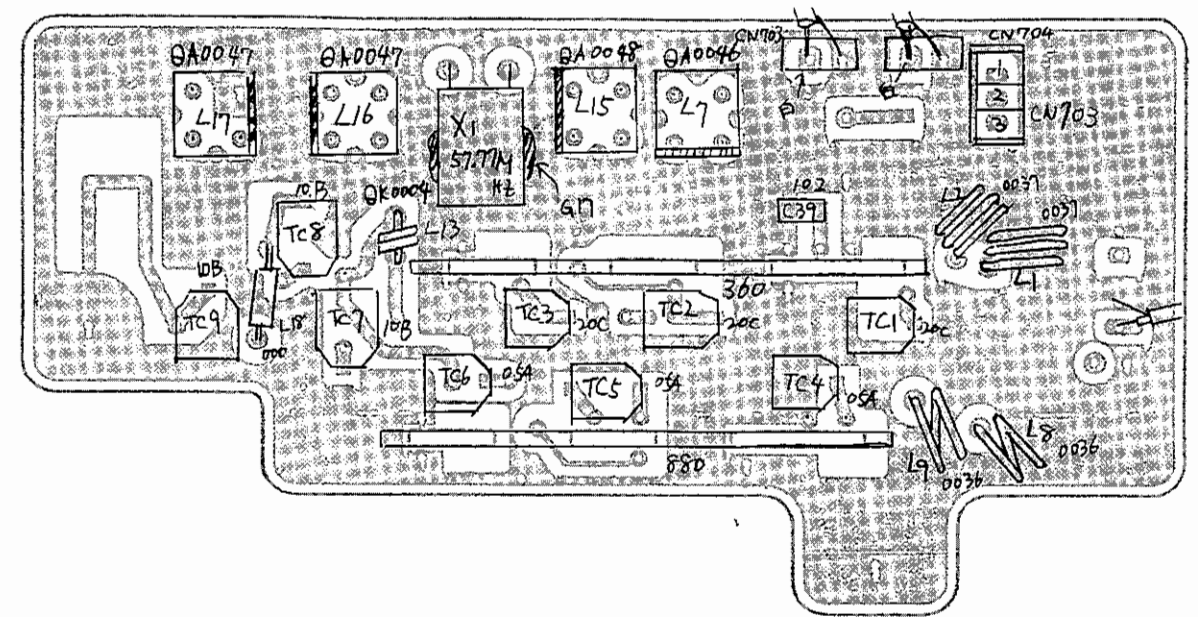


ONE SQUELCH PC BOARD

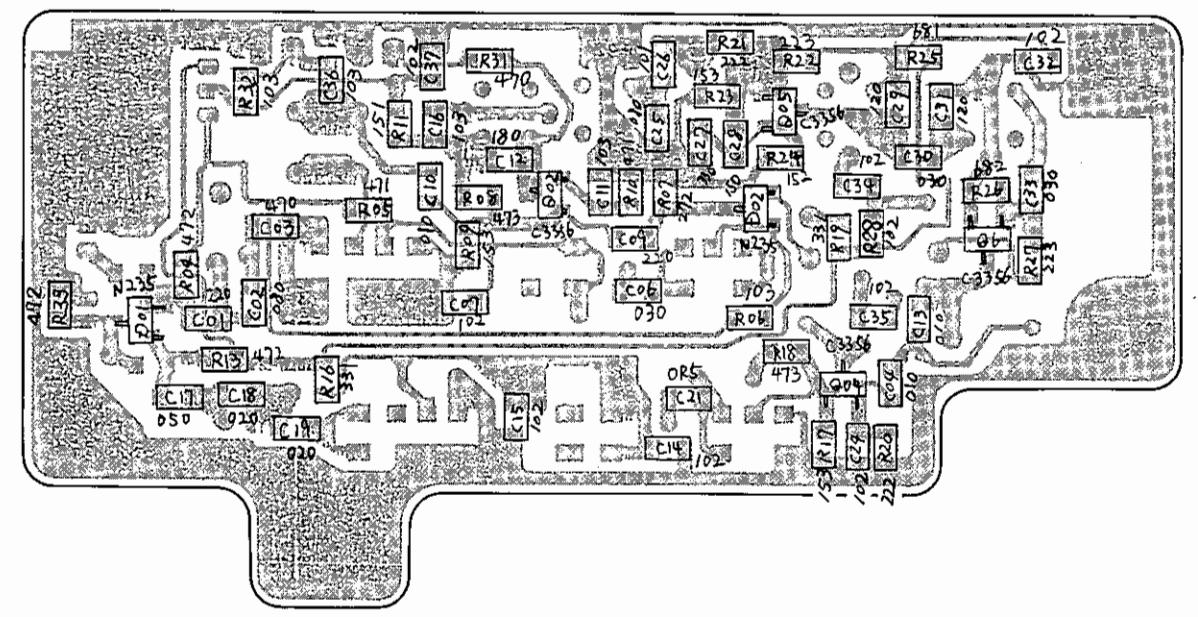
■ X'CON PC BOARD



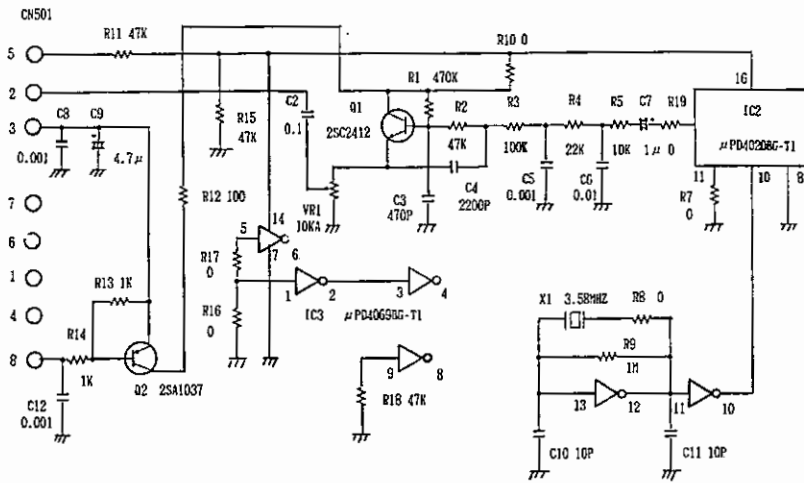
(Parts Side)



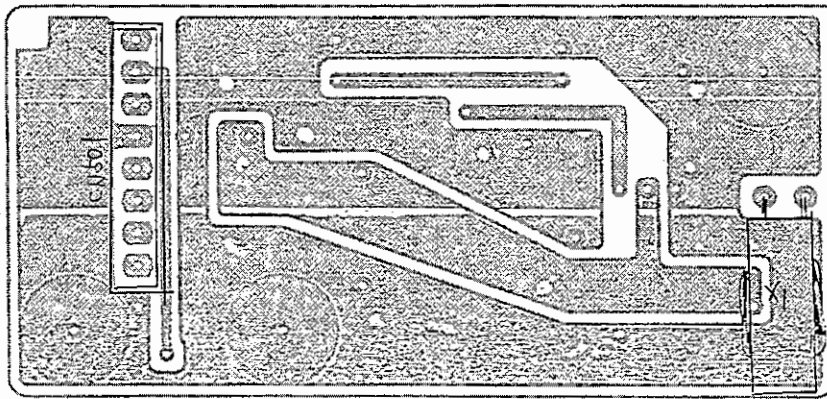
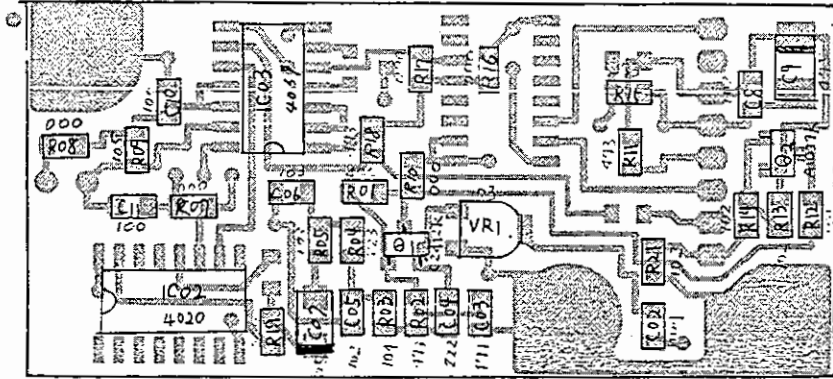
(Solder Side)



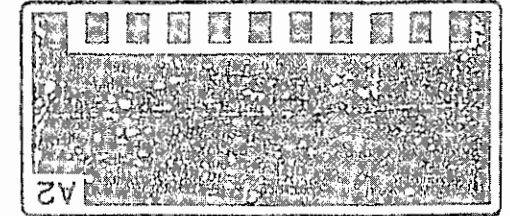
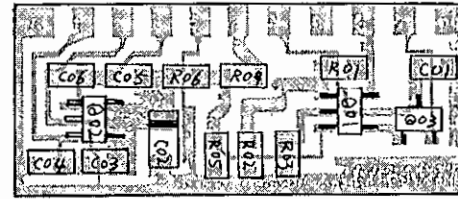
ONE BURST UNIT CIRCUIT DIAGRAM



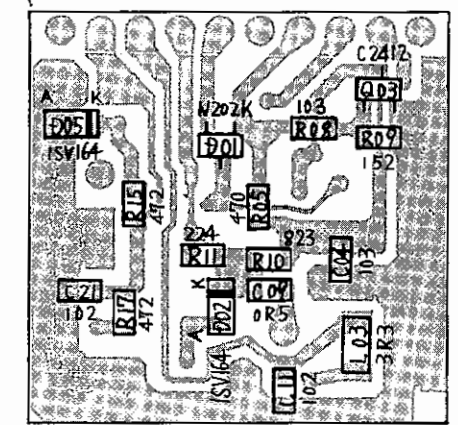
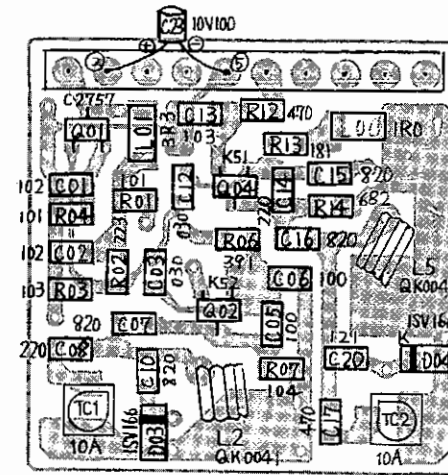
TONE BURST PC BOARD



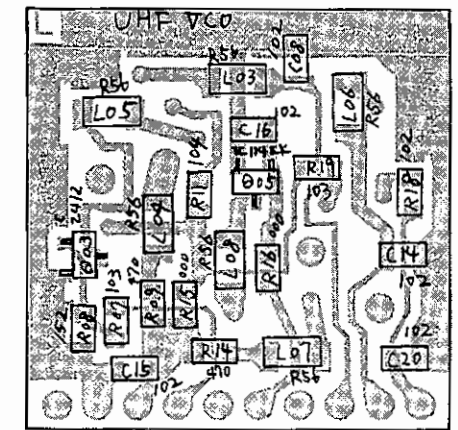
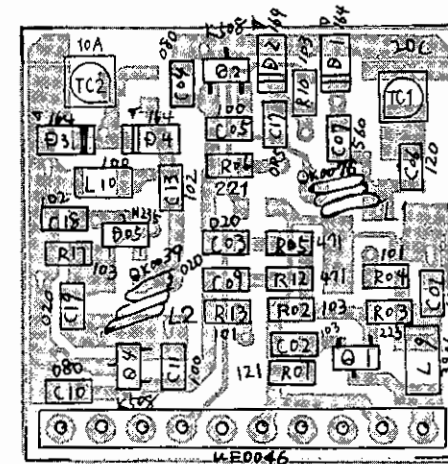
APC PC BOARD



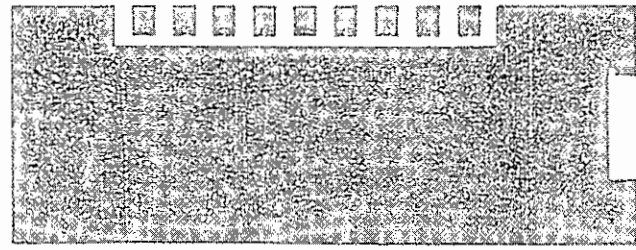
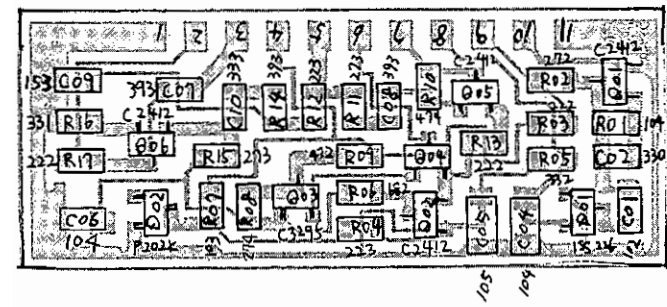
VHF VCO PC BOARD



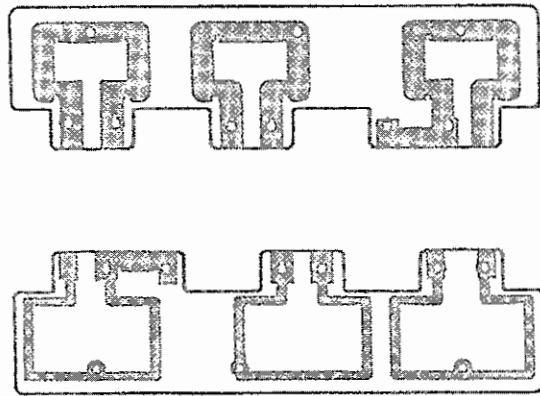
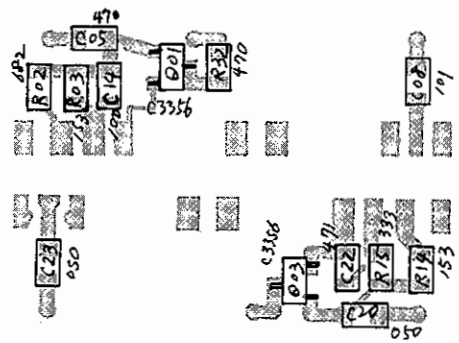
UHF VCO PC BOARD



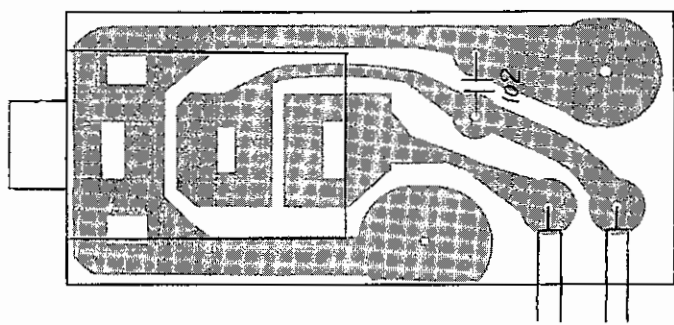
■ SQUELCH PC BOARD



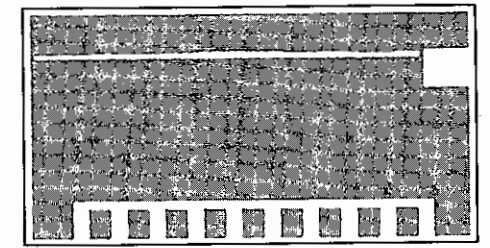
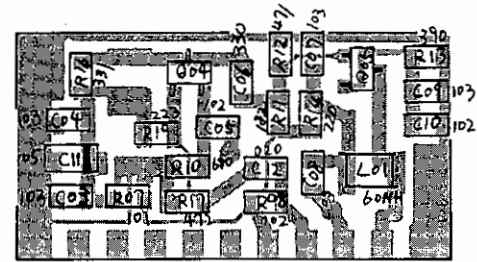
■ X'CON-SUB PC BOARD



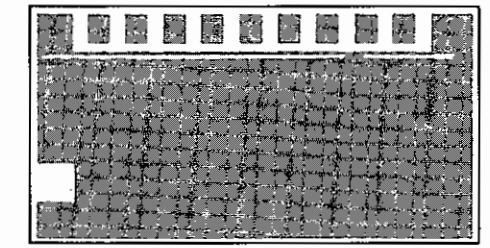
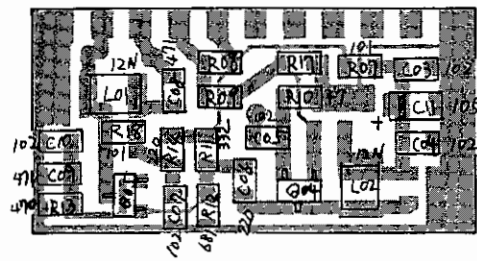
■ EARPHONE JACK PC BOARD



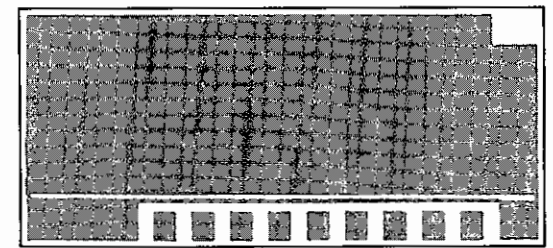
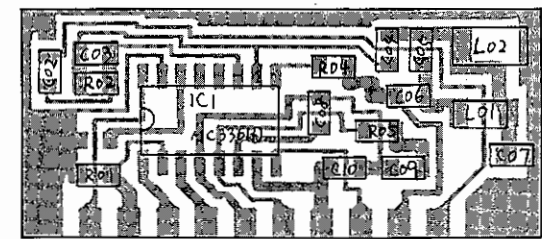
■ VHF DRIVE PC BOARD



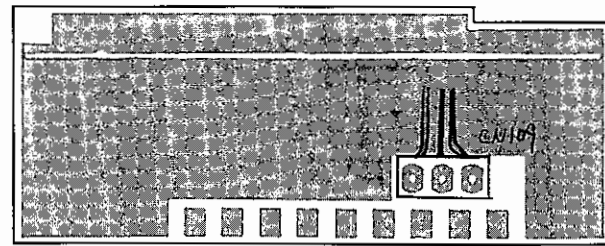
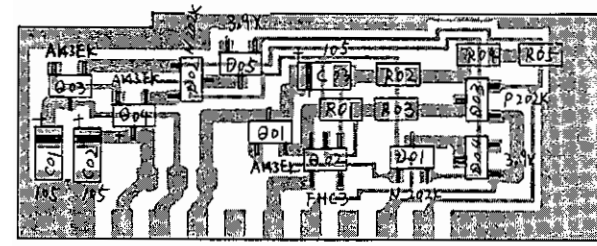
■ UHF DRIVE PC BOARD



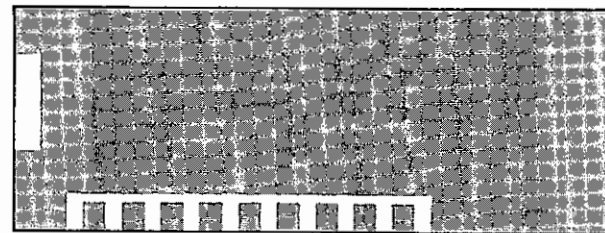
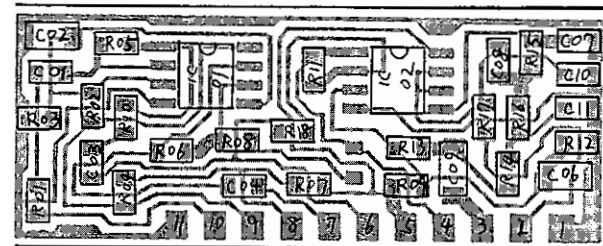
■ IF PC BOARD



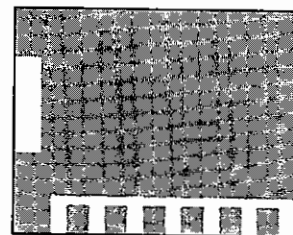
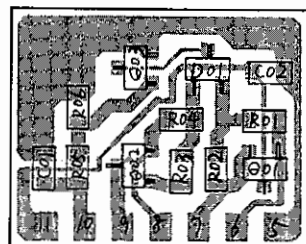
X SW PC BOARD



IC PC BOARD



DCK SW PC BOARD



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Factory: 1-1-1, Mishimae, Takatsuki, Osaka No. 569, Japan



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Phone: 213-618-8616

Dealer/Distributor