



**REALISTIC<sup>®</sup>**

# Service Manual

**20-145A**

## **ADDENDUM TO SERVICE MANUAL FOR Cat. No. 20-145 PRO-2006 Programmable Scanner Catalog Number: 20-145A**

The 20-145A is very much like the 20-145. This addendum only notes how the 20-145A is different from the 20-145. A separate, complete service manual for the 20-145A will not be issued. Refer to the 20-145 service manual for items not covered in this addendum.

Parts marked  and  are different from the basic manual.

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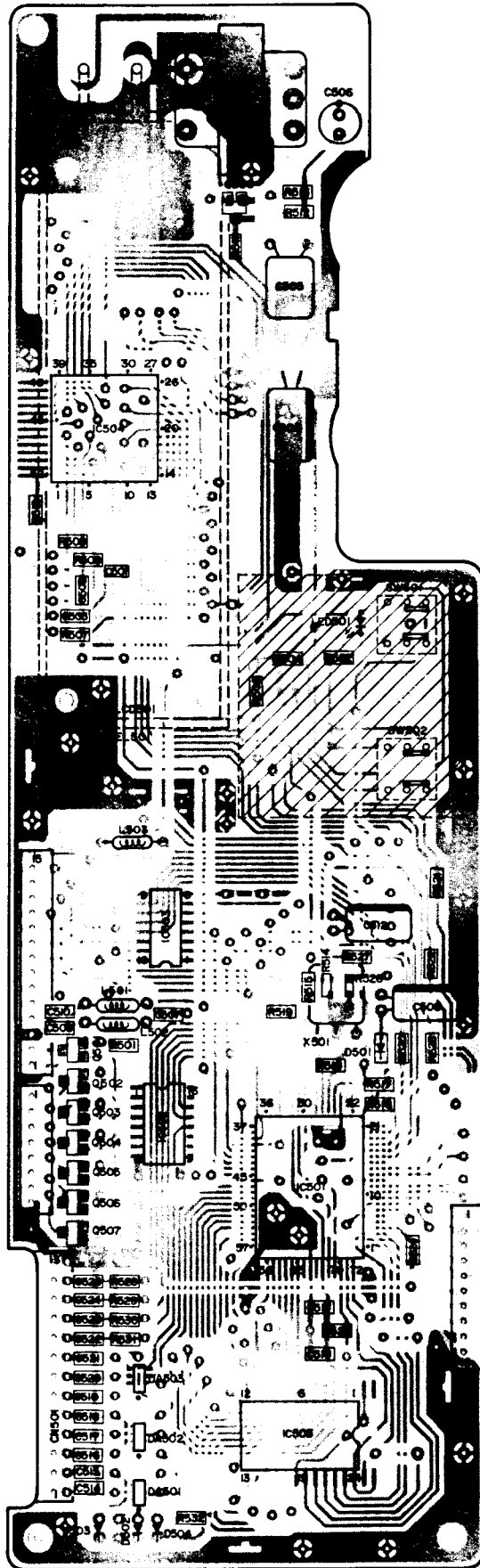
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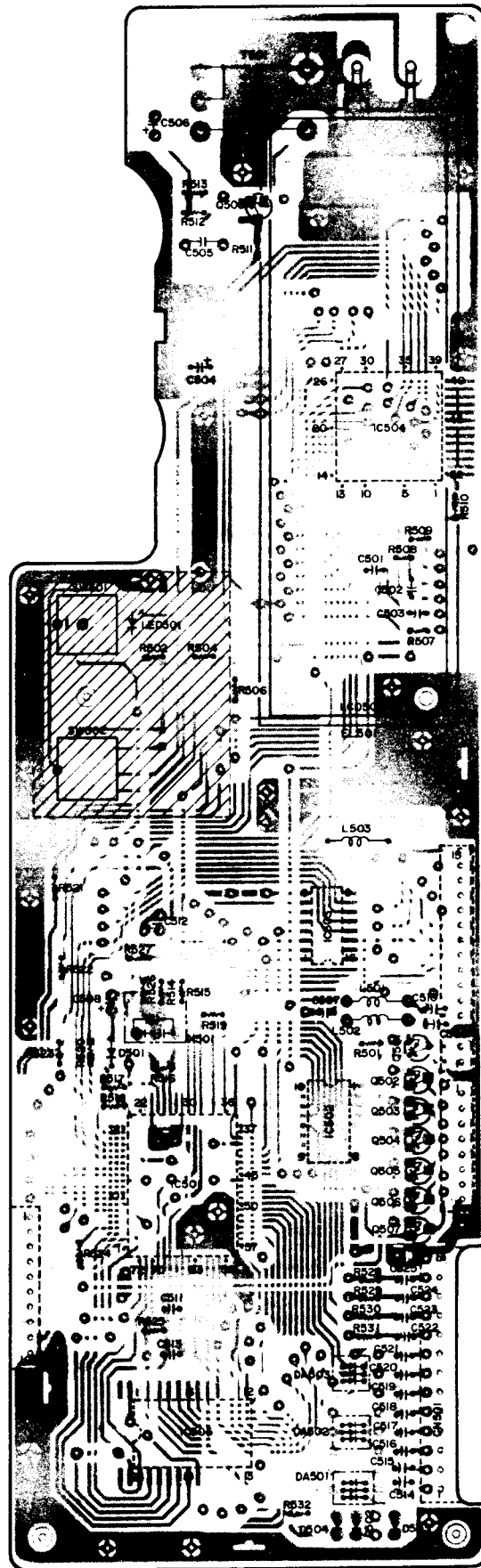
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# LOGIC & DISPLAY PCB (Top View)



	D502	D504
U.S.A., CANADA MODELS	USED	NOT USED
AUSTRALIA, UK, BELGIUM, FRANCE MODELS	NOT USED	USED

# LOGIC & DISPLAY PCB (Bottom View)

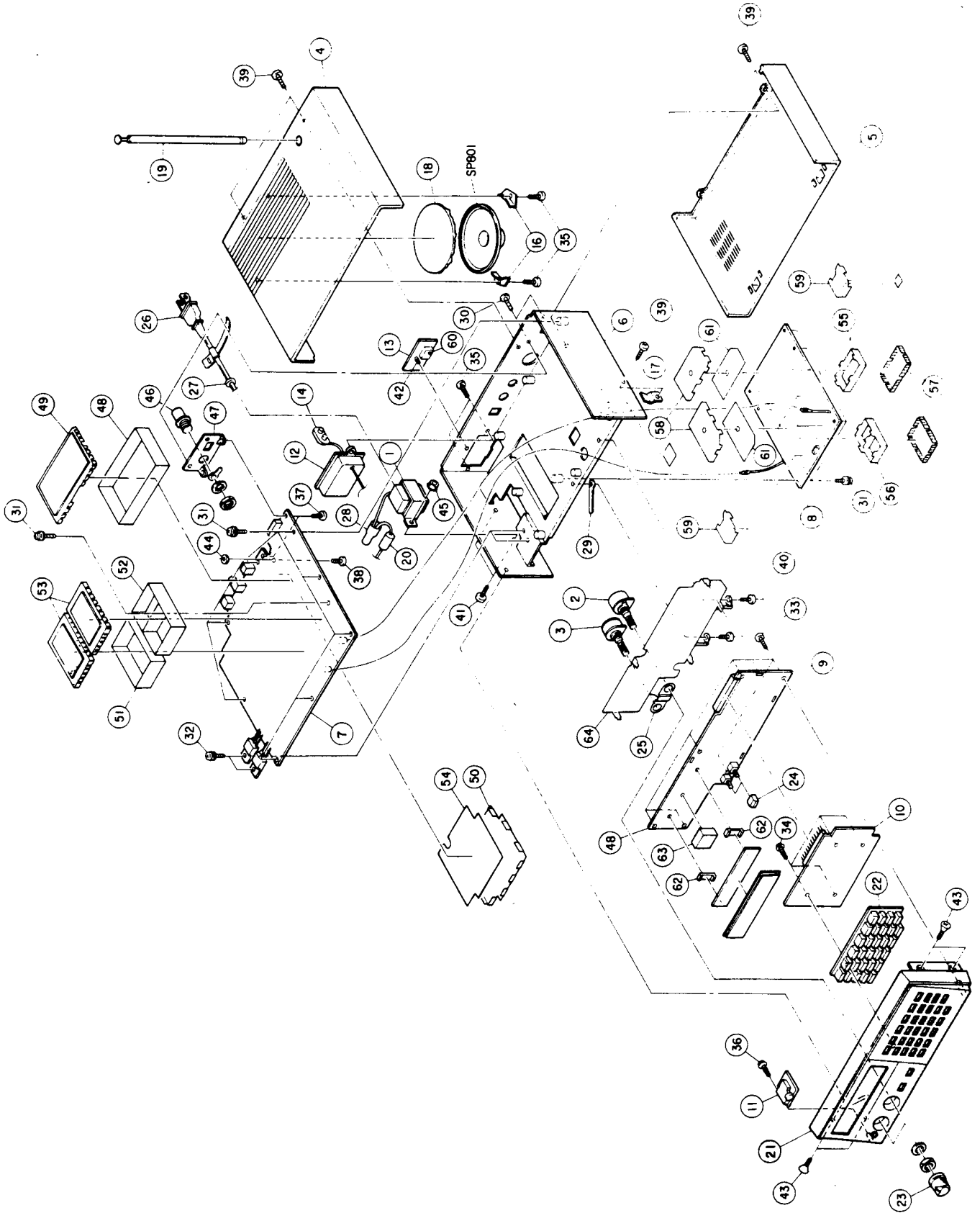


	D502	D504
U.S.A., CANADA MODELS	USED	NOT USED
AUSTRALIA, UK, BELGIUM, FRANCE MODELS	NOT USED	USED

# ELECTRICAL PARTS LIST

Ref. No.	Description	RS Part No.	MFR's Part No.
<b>EL</b>			
EL501	Electro Luminescent		GE-88D-7738
<b>ICs</b>			
IC501	GRE-0918 CPU (C-MOS)		GRE-0918
IC502	SN74LS145NS Decoder (Bipolar)		SN74LS145NS
IC503	TD62504F Driver (Bipolar)		TD62504F
IC504	$\mu$ PD-7225G LCD Cont. (C-MOS)		$\mu$ PD-7225G
IC505	LC3517BM-10,12,15 Memory (C-MOS) or LC3517BML-10,12, 15 or UM6116M-2D or CXK5816M-10L,12L, 15L		LC3517BM-10,12,15 or LC3517BML-10,12, 15 or UM6116M-2D or CXK5816M-10L,12L, 15L
<b>Inductors</b>			
L501	Coil, Choke 100 $\mu$ H		LAL03NA101K
L502	Coil, Choke 100 $\mu$ H		LAL03NA101K
L503	Coil, Choke 100 $\mu$ H		LAL03NA101K
<b>LCD</b>			
LCD501	LCD		LTP8E3011A
<b>LED</b>			
LED501	TLR226		TLR226
<b>Transistor</b>			
Q501	RN2401 (Marked YA) PNP		RN2401
Q502	RN2401 (Marked YA) PNP		RN2401
Q503	RN2401 (Marked YA) PNP		RN2401
Q504	RN2401 (Marked YA) PNP		RN2401
Q505	RN2401 (Marked YA) PNP		RN2401
Q506	RN2401 (Marked YA) PNP		RN2401
Q507	RN2401 (Marked YA) PNP		RN2401
Q508	2SC1623 (Marked L5) NPN		2SC1623
<b>Resistor</b>			
R501	Metal Glaze 100 ohm 1/10 W $\pm$ 5%		RCM101J55
R502	Metal Glaze 3.3 kohm 1/10 W $\pm$ 5%		RCM332J55
R504	Metal Glaze 82 ohm 1/10 W $\pm$ 5%		RCM820J55
R506	Metal Glaze 100 kohm 1/10 W $\pm$ 5%		RCM104J55
R507	Metal Glaze 10 kohm 1/10 W $\pm$ 5%		RCM103J55

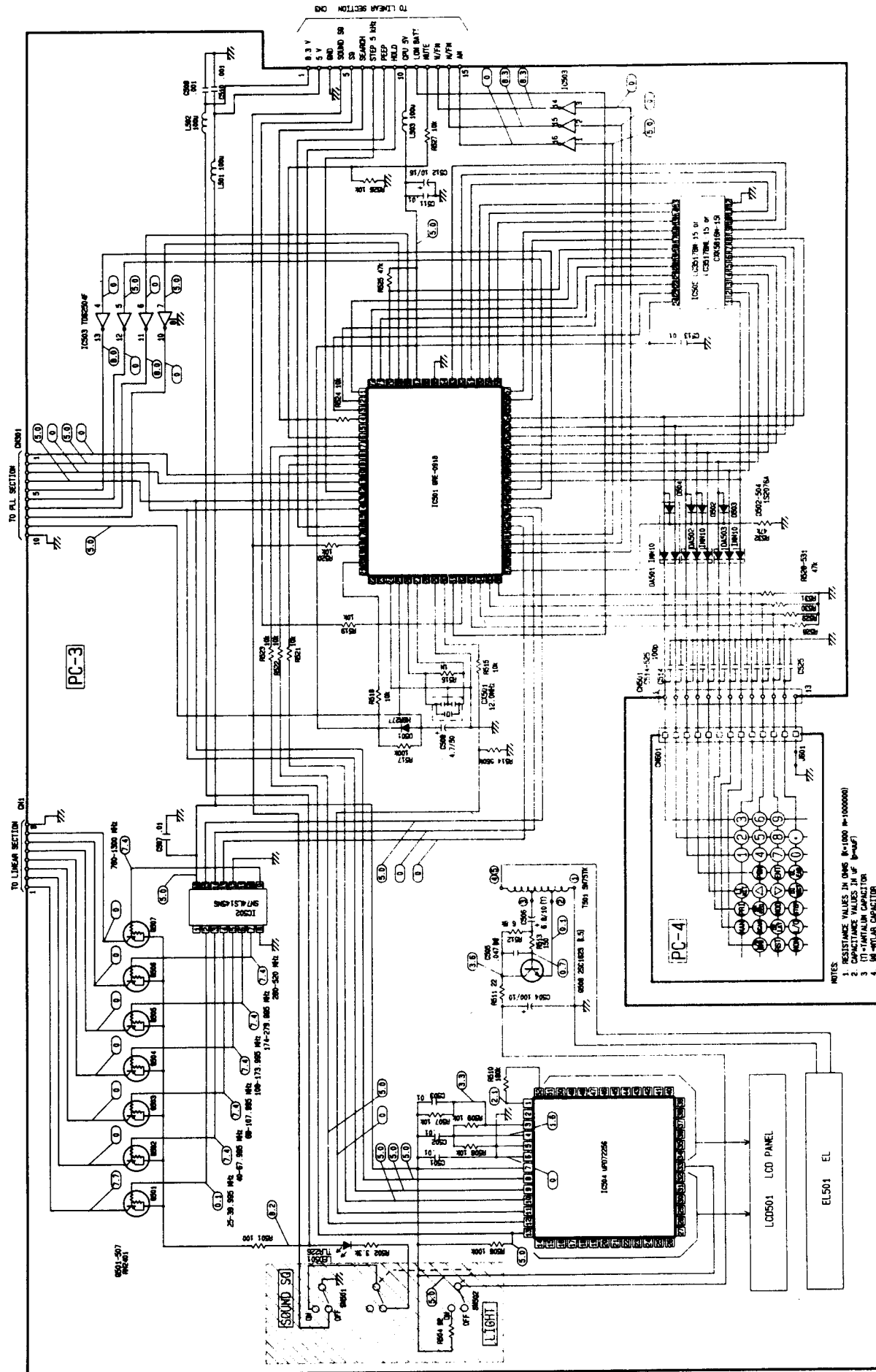
# DISASSEMBLY/EXPLODED VIEW



# EXPLODED VIEW PARTS LIST (Disassembly/Exploded View)

Ref. No.	Description	RS Part No.	MFR's Part No.
SP801	Speaker 8 ohm 1 W		S08J18
① T801	Transformer, Power		GE-84D-5158
② VR801	Pot. Squelch Control 10 kohm (C)		K1611008TE-10KC-20
③ VR802	Pot. Volume Control 50 kohm (A)		VM11A-5M1411
			-50KA-20
④	Cabinet, Top		GE-88A-7603
⑤	A'ssy, Cabinet Bottom		GE-88D-7888
⑥	Chassis		GE-88A-7611
⑫	Box, Battery		GE-21D-5728
⑬	Cover, Battery		GE-79D-0113
⑭	Snap, Battery L=250 mm		I Type
⑯	Holder, Speaker		GE-84D-4580
⑰	Holder, Wire		GE-88D-7892
⑱	Himelon, Speaker		GE-88D-7681
⑲	Antenna, Telescopic		GE-88D-7597
△ ⑳ R801	Solid 1.8 Mohm 1/2 W ± 10%		ERC-12GK185
㉑	A'ssy, Escutcheon Front		GA-910-9189
㉒	Top, Key		GE-88D-7610
㉓	Knob, Volume/Squelch		GE-88D-7607
㉔	Knob, Switch Push		GE-88D-7608
㉕	Plate, Ground		GE-88D-7613
㉖	Cord, AC		APC-7W-SPT1
			AWG2/18
㉗	Strainrelief, Line Cord		SR-3P-4
㉘	Terminal		1-SD
㉙	Lug L=27 mm		3 mm
⑳	Screw, Panhead with SW (Ni)		PM 2.6 x 5
㉑	Screw, Panhead with SW/FW (Ni)		PM 3 x 6
㉒	Screw, Panhead with SW/FW (Ni)		PM 3 x 8
㉓	Screw, Panhead P tight		P tight 2.6 x 6
㉔	Screw, Panhead P tight		P tight 2 x 8
㉕	Screw, Panhead P tight		P tight 3 x 8
㉖	Screw, TP Tapping		TP 2 x 6
㉗	Screw, Panhead Tapping		PT 2.6 x 6
㉘	Screw, Panhead (Ni)		PM 3 x 8
㉙	Screw, Bindinghead (Ni)		BM 3 x 6
㉚	Screw, Bindinghead Tapping		BT 3 x 5
㉛	Screw, Special Bindinghead		BM 4 x 8
㉜	Screw, Bindinghead		GE-79D-0541
㉝	Screw, Countersunkhead		CM 3 x 6
㉞	Nut		3-DIA
㉟	Nut Flange Serrated		4-DIA
①	Cushion, Battery		GE-21D-5795
	Wire Kit		#918(A)
	Hardware Kit		#918(B)
	Wire Binder		PLT1M-MorBK-1

# SCHEMATIC DIAGRAM (CPU SECTION)



U.S.A. CANADA MODELS	D502	D504
AUSTRALIA, UK	USED	NOT USED
BELGIUM, FRANCE MODELS	NOT USED	USED

- NOTES
- RESISTOR VALUES IN OHMS (E=1000 M=1000000)
  - CAPACITANCE VALUES IN PFD (P=100)
  - TRAP CAPACITOR
  - 1M = 1000K CAPACITOR
  - NO SUFFICED CRIP CAPACITOR
  - ON 10 BAND AT 250 MHz FOR NORMAL OPERATION. VOLUME AT AIRFLOW AND THERMAL CONTROL.

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**Fort Worth, Texas 76102**