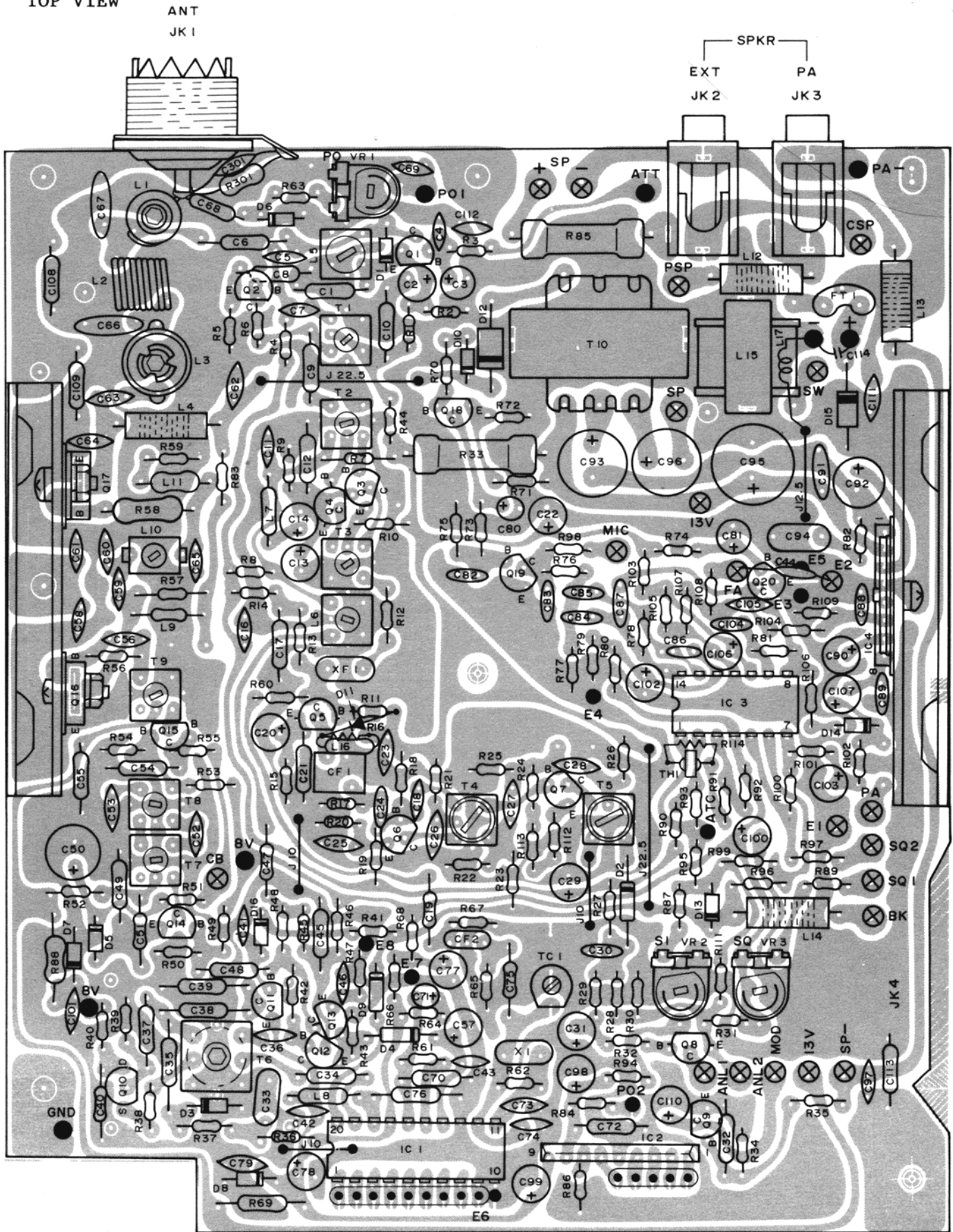


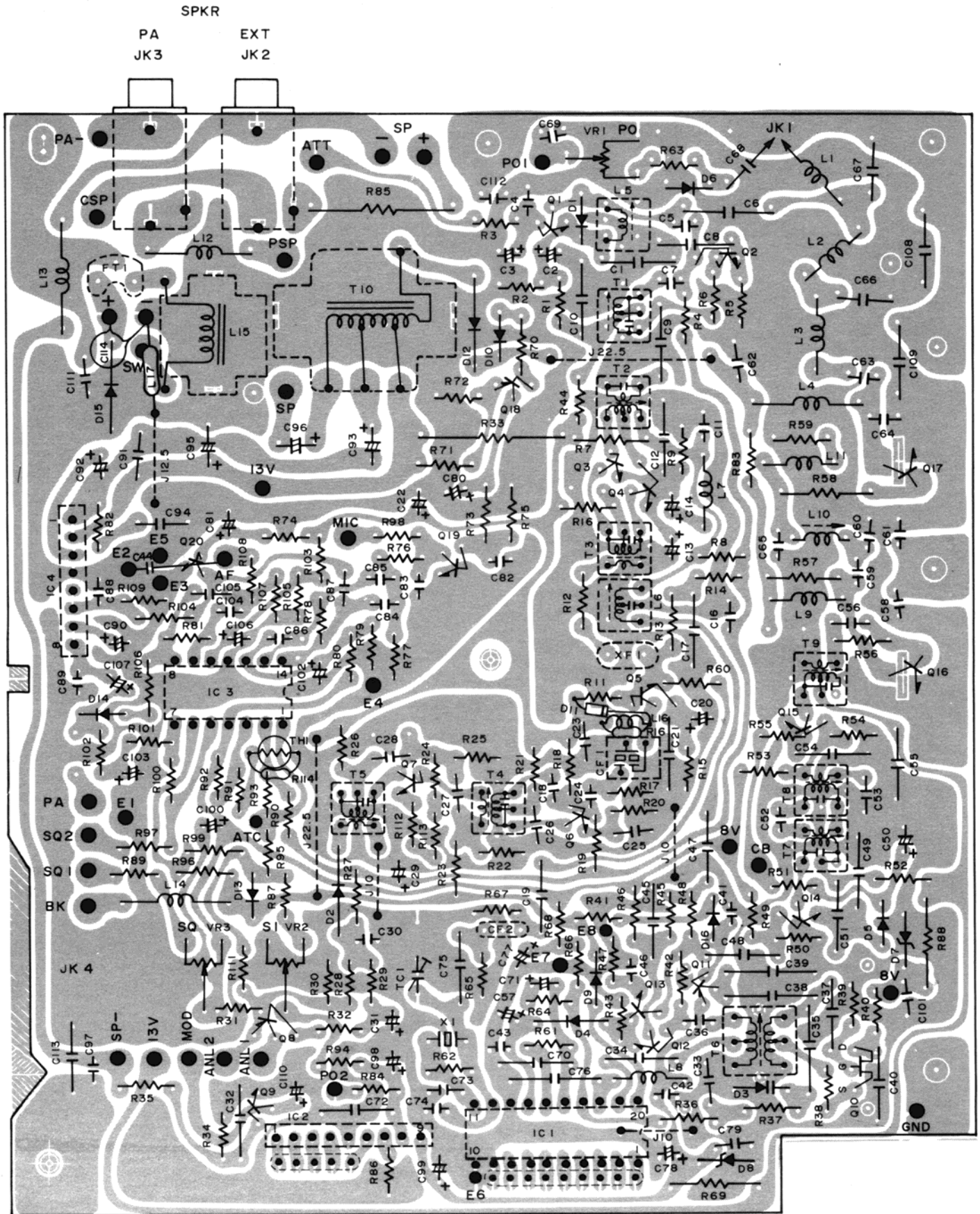
MEMO

MAIN PCB  
TOP VIEW

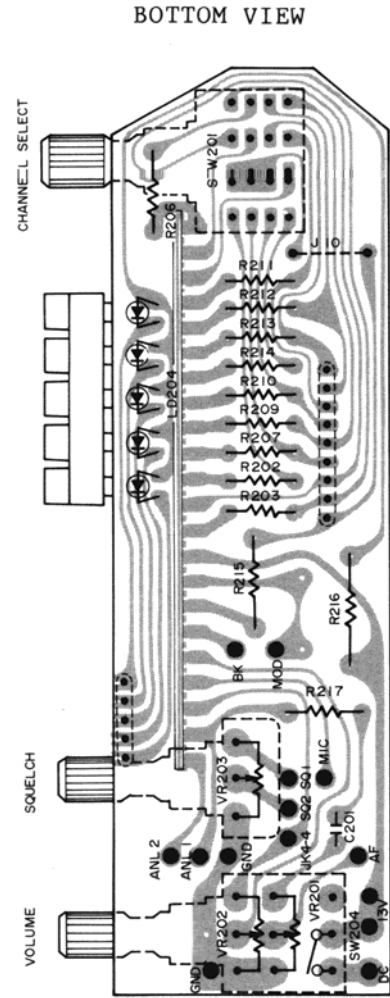
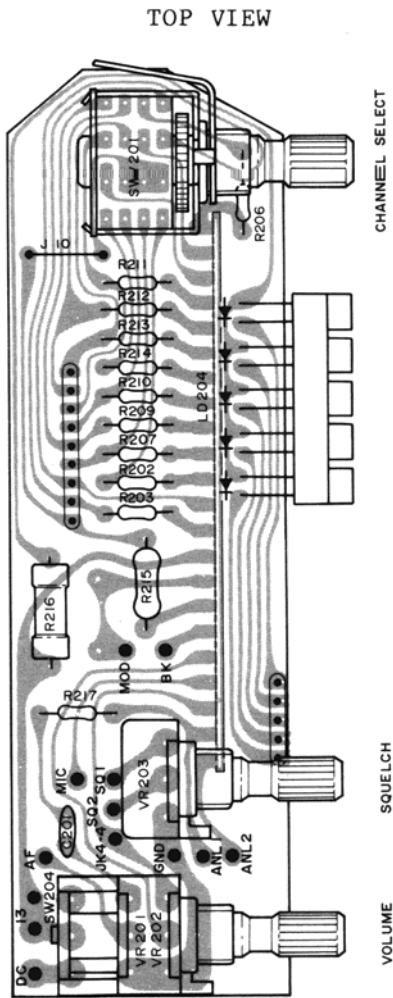
PRINTED CIRCUIT BOARD (TOP & BOTTOM VIEWS)



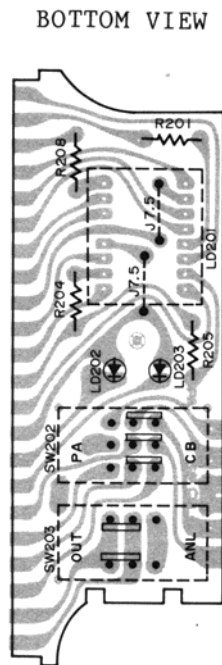
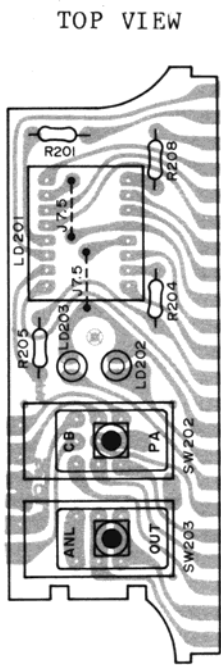
BOTTOM VIEW



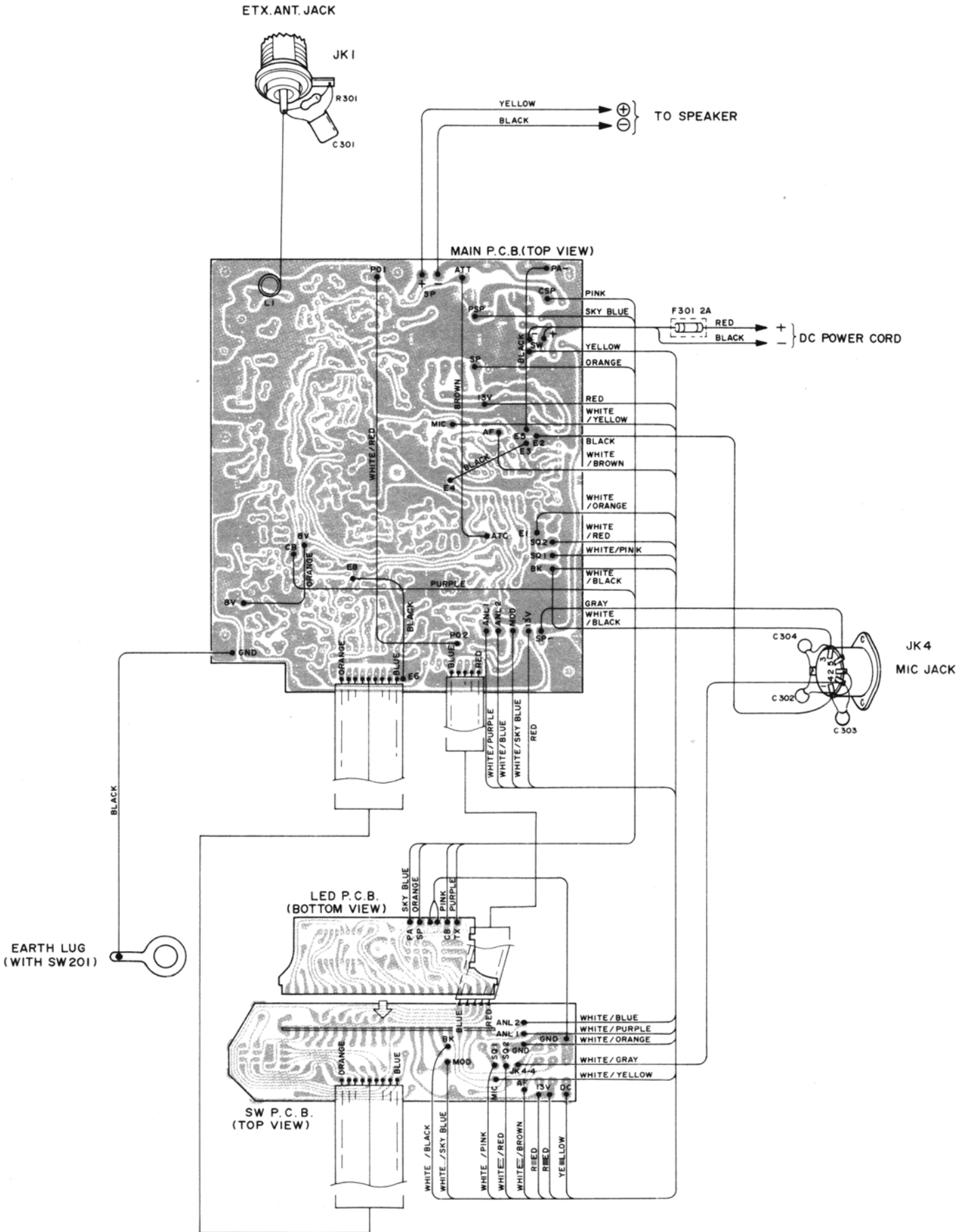
SW PCB



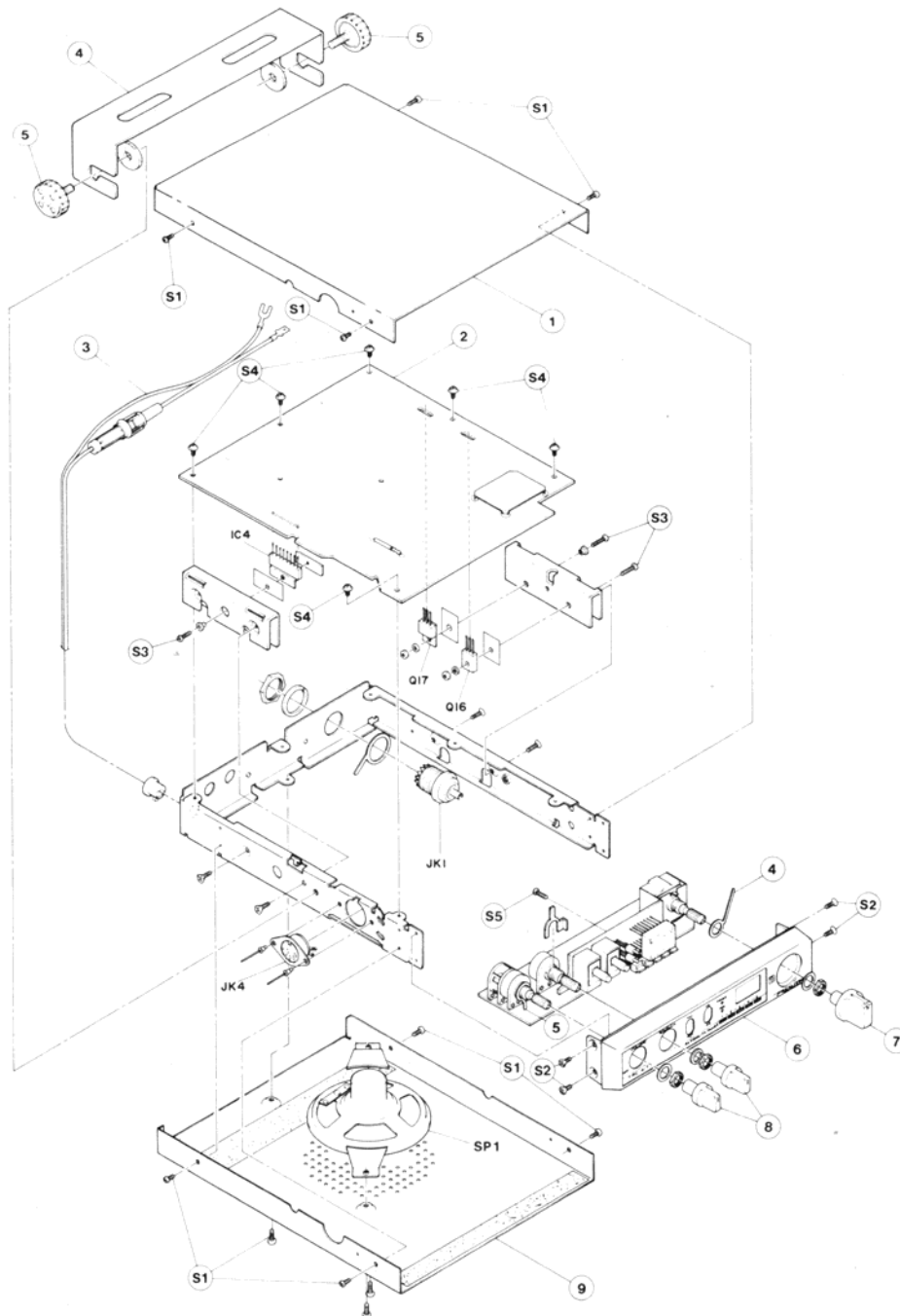
LED PCB



# WIRING DIAGRAM



## EXPLODED VIEW/DISASSEMBLY INSTRUCTIONS



### DISASSEMBLY INSTRUCTIONS

#### To Remove Cabinet:

Remove 9 screws (S1) from the top and bottom cabinets.

#### To Remove PCB:

Remove 3 screws (S3) from the heat sink.

Remove 6 screws (S4) from the main PCB.

Unsolder some parts from the Ant. Jack and Din Jack.

Remove 4 screws (S2) from the front PCB assembly.

Remove 1 screw (S5) and 3 VR nuts from the front PCB assembly.

**CAUTION:** Some wires are attached to the bottom cover.



ELECTRICAL PARTS LIST

CAPACITORS						
Ref. No.	Description			RS Part No.	Mfr's Part No.	
C1	Ceramic	0.01 $\mu$ F	25V +-30%	CC-103NFCA	CGBXI103NT	
C2	Electrolytic	22 $\mu$ F	25V +-20%	CC-226MFAP	CEACI226M*	
C3	Electrolytic	4.7 $\mu$ F	25V +-20%	CC-475MFAP	CEACI475M*	
C4	Ceramic	0.01 $\mu$ F	25V +-10%	CC-103KFCP	CGJXI103KT	or
				CC-103KFCP	CGJHI103KK	
C5	Mica	22pF	50V +-5%	CC-220JJWP	CMQFK220J*	
C6	Ceramic N220	33pF	50V +-5%		CCBVK330JT	
C7	Ceramic NPO	1pF	50V+-0.25pF	CF-1010	CCJBK1R0CT	
C8	Ceramic	0.01 $\mu$ F	25V +-30%	CC-103NFCA	CGBXI103NT	
C9	Ceramic	1.5pF	50V +-10%		CCBVK1R5MT	
C10	Ceramic	0.01 $\mu$ F	25V +-30%	CC-103NFCA	CGBXI103NT	
C11	Ceramic	1000pF	25V +-10%	CC-102KFCP	CGJXI102KT	or
				CC-102KFCP	CGJHI102KK	
C12	Ceramic	0.01 $\mu$ F	25V +-30%	CC-103NFCA	CGBXI103NT	
C13	Electrolytic	22 $\mu$ F	25V +-20%	CC-226MFAP	CEACI226M*	
C14	Electrolytic	3.3 $\mu$ F	50V +-20%	CC-335MJAP	CEACK335M*	
C15	Not used					
C16	Ceramic	0.01 $\mu$ F	25V +-10%	CC-103KFCP	CGJXI103KT	or
				CC-103KFCP	CGJHI103KK	
C17	Ceramic	0.01 $\mu$ F	25V +-30%	CC-103NFCA	CGBXI103NT	
C18	Ceramic NPO	1pF	50V+-0.25pF	CF-1010	CCJBK1R0CT	
C19	Ceramic	22pF	50V +-5%	CC-220JJCA	CCBVK220JT	
C20	Electrolytic	22 $\mu$ F	25V +-20%	CC-226MFAP	CEACI226M*	
C21	Ceramic	0.01 $\mu$ F	25V +-30%	CC-103NFCA	CGBXI103NT	
C22	Electrolytic	33 $\mu$ F	16V +-20%		CEACG336M*	
C23	Ceramic	0.022 $\mu$ F	25V +-10%	CC-223KFCP	CGJXI223KT	or
				CC-223KFCP	CGJHI223KK	
C24	Mylar*	1000pF	50V +-10%	CC-102KJMP	CQQMK102K*	
C25-28	Ceramic	0.047 $\mu$ F	25V +-10%	CC-473KFCP	CGJXI473KT	or
				CC-473KFCP	CGJHI473KK	
C29	Electrolytic	10 $\mu$ F	25V +-20%	CC-106MFAP	CEACI106M*	
C30	Mylar	4700pF	50V +-10%	CC-472KJMP	CQQMK472K*	
C31	Electrolytic	1 $\mu$ F	50V +-20%	CC-105MJAP	CEACK105M*	
C32	Ceramic	1000pF	50V +-10%	CC-102KJCA	CKBEK102KT	
C33	Mylar	0.047 $\mu$ F	50V +-10%	CC-473KJMP	CQQMK473K*	
C34	Ceramic	100pF	50V +-5%	CC-101JJCA	CCBVK101JT	
C35	Ceramic	82pF	50V +-5%	CC-820JJCA	CCAHK820JT	
C36	Ceramic	10pF	50V +-1%	CF-1515	CCJVK100F*	
C37	Ceramic NPO	47pF	50V +-5%	CF-1360	CCBBK470JT	
C38	Ceramic	68pF	50V +-5%	CC-680JJCA	CCAHK680JT	
C39	Ceramic	75pF	50V +-5%	CC-750JJCA	CCAHK750JT	
C40	Ceramic	0.01 $\mu$ F	25V +-30%	CC-103NFCA	CGBXI103NT	
C41/42	Ceramic	0.01 $\mu$ F	25V +-10%	CC-103KFCP	CGJXI103KT	or
				CC-103KFCP	CGJHI103KK	

NOTE: \*Mylar is a registered trademark of E. I. Du Pont de Nemours and Company.

Ref. No.	Description	RS Part No.	Mfr's Part No.
C43	Ceramic 0.01 $\mu$ F 25V +-10%	CC-103KFCEP CC-103KFCEP	CGJXI103KT or CGJHI103KK
C44	Mylar 0.01 $\mu$ F 50V +-10%	CC-103KJMP	CQQMK103K*
C45	Ceramic 0.01 $\mu$ F 25V +-30%	CC-103NFCA	CGBXI103NT
C46	Ceramic 0.01 $\mu$ F 25V +-10%	CC-103KFCEP CC-103KFCEP	CGJXI103KT or CGJHI103KK
C47	Ceramic 22pF 50V +-5%	CC-220JJCA	CCBVK220JT
C48	Ceramic 220pF 50V +-10%	CC-221KJCA	CKBEK221KT
C49	Ceramic 0.01 $\mu$ F 25V +-30%	CC-103NFCA	CGBXI103NT
C50	Electrolytic 100 $\mu$ F 16V +-20%	CC-107MDAP	CEACG107M*
C51	Ceramic 0.01 $\mu$ F 25V +-30%	CC-103NFCA	CGBXI103NT
C52	Ceramic NPO 7pF 50V+-0.5pF	CF-1115	CCJBK7ROD*
C53	Ceramic NPO 100pF 50V +-10%	CF-1424	CCJBK101K*
C54/55	Ceramic 0.01 $\mu$ F 25V +-30%	CC-103NFCA	CGBXI103NT
C56	Ceramic 220pF 50V +-5%	CC-221JJCP	CCKVK221J*
C57	Electrolytic 47 $\mu$ F 10V +-20%		CEACE476M*
C58	Ceramic 0.01 $\mu$ F 25V +-10%	CC-103KFCEP CC-103KFCEP	CGJXI103KT or CGJHI103KK
C59	Mica 33pF 50V +-5%	CC-330JJWP	CMQFK330J*
C60	Mica 68pF 50V +-5%	CC-680JJWP	CMQFK680J*
C61	Ceramic 0.01 $\mu$ F 25V +-10%	CC-103KFCEP CC-103KFCEP	CGJXI103KT or CGJHI103KK
C62	Ceramic 4700pF 50V +-10%	CC-472KJCP	CKJEK472K*
C63	Mica 100pF 50V +-5%	CC-101JJWP	CMQFK101J*
C64	Mica 68pF 50V +-5%	CC-680JJWP	CMQFK680J*
C65	Mica 47pF 50V +-5%	CC-470JJWP	CMQFK470J*
C66/67	Mica 330pF 50V +-5%	CC-331JJWP	CMQFK331J*
C68	Ceramic 1pF 50V +-20%	CC-010MJCA	CCBVK1ROMT
C69	Ceramic 0.01 $\mu$ F 25V +-10%	CC-103KFCEP CC-103KFCEP	CGJXI103KT or CGJHI103KK
C70	Ceramic 4700pF 50V +-30%	CC-472NJCA	CGBXK472NT
C71	Tantalum 0.68 $\mu$ F 35V +-10%	CC-684KGTP	CSE EJ684K*
C72	Ceramic 0.01 $\mu$ F 25V +-30%	CC-103NFCA	CGBXI103NT
C73	Ceramic NPO 68pF 50V +-5%	CF-1987	CCJBK680J*
C74	Ceramic NPO 22pF 50V +-5%	CF-1245	CCJBK220J*
C75	Ceramic NPO 10pF 50V +-5%	CF-1893	CCBBK100JT
C76	Ceramic 0.022 $\mu$ F 16V +-30%	CC-223NDCA	CGBUG223NT
C77/78	Electrolytic 47 $\mu$ F 10V +-20%		CEACE476M*
C79	Ceramic 0.022 $\mu$ F 25V +-10%	CC-223KFCEP CC-223KFCEP	CGJXI223KT or CGJHI223KK
C80	Tantalum 47 $\mu$ F 3.15V +-20%	CC-476MATP	CSEEB476M*
C81	Electrolytic 1 $\mu$ F 50V +-20%	CC-105MJAP	CEACK105M*
C82	Mylar 4700pF 50V +-10%	CC-472KJMP	CQQMK472K*
C83	Mylar 1000pF 50V +-10%	CC-102KJMP	CQQMK102K*
C84	Mylar 1800pF 50V +-10%	CC-182KJMP	CQQMK182K*
C85	Mylar 0.027 $\mu$ F 50V +-10%		CQQMK273K*
C86	Mylar 1000pF 50V +-10%		CQQMK102K*
C87	Mylar 0.022 $\mu$ F 50V +-10%	CC-223KJMP	CQQMK223K*
C88/89	Mylar 4700pF 50V +-10%	CC-472KJMP	CQQMK472K*
C90	Tantalum 3.3 $\mu$ F 25V +-10%		CSEEI335K*
C91	Mylar 0.047 $\mu$ F 50V +-10%	CC-473KJMP	CQQMK473K*
C92	Electrolytic 100 $\mu$ F 10V +-20%		CECCE107M*
C93	Electrolytic 330 $\mu$ F 10V +-20%	CC-337MCAP	CEACE337M*
C94	Mylar 0.1 $\mu$ F 50V +-10%	CC-104KJMP	CQQMK104K*
C95	Electrolytic 1000 $\mu$ F 16V +-20%	CC-108MDAP	CEACG108M*
C96	Electrolytic 220 $\mu$ F 16V +-20%	CC-227MDAP	CEACG227M*



Ref. No.	Description	RS Part No.	Mfr's Part No.
C97	Ceramic 3300pF 25V +-10%	CC-332KFCP	CGJXI332KT or CGJHI332KK
C98	Electrolytic 1μF 50V +-20%	CC-105MJAP	CEACK105M*
C99	Electrolytic 10μF 25V +-20%	CC-105MJAP	CEACI106M*
C100	Electrolytic 47μF 10V +-20%		CEACE476M*
C101	Ceramic 0.022μF 25V +-10%	CC-223KFCP	CGJXI223KT or CGJHI223KK
C102	Electrolytic 10μF 25V +-20%	CC-106MFAP	CEACI106M*
C103	Electrolytic 47μF 10V +-20%		CEACE476M*
C104	Mylar 0.01μF 50V +-10%	CC-103MJMP	CQQMK103K*
C105	Ceramic 150pF 50V +-5%		CCKVK151J*
C106	Electrolytic 47μF 10V +-20%		CEACE476M*
C107	Electrolytic 1μF 50V +-20%	CC-105MJAP	CEACK105M*
C108/109	Ceramic 0.01μF 25V +-30%	CC-103NFCA	CGBXI103NT
C110	Electrolytic 33μF 16V +-20%		CEACG336M*
C111	Ceramic 0.047μF 25V +-10%	CC-473KFCP	CGJXI473KT or CGJHI473KK
C112	Ceramic 0.01μF 25V +-10%	CC-103KFCP	CGJXI103KT or CGJHI103KK
C113	Ceramic 0.01μF 25V +-30%	CC-103NFCA	CGBXI103NT
C114	Ceramic 0.022μF 50V +80-20%	CC-223KFCP	CKJPK223Z*
C201	Mylar 0.01μF 50V +-10%	CC-103KJMP	CQQMK103K*
C301	Mica 220pF 50V +-5%	CC-332KFCP	CMQFK221J*
C302	Ceramic 3300pF 25V +-10%	CC-332KFCP	CGJXI332KT or CGJHI332KK
C303	Ceramic 1000pF 25V +-10%	CC-102KFCP	CGJXI102KT or CGJHI102KK
C304	Ceramic 3300pF 25V +-10%	CC-332KFCP	CGJXI332KT or CGJHI332KK

#### TRIMMER CAPACITOR

Ref. No.	Description	RS Part No.	Mfr's Part No.
TC1	Trimmer 20pF	C-1446	154010220A

#### DIODES

Ref. No.	Description	RS Part No.	Mfr's Part No.
D1	Silicon 1SS202 Prot./Sw/Det	DX-0022	SDSI00072-
D2	Germanium 1N60 Det./AGC	DX-0161	SDGE00001- or SDGE00003-
D3	Varicap 1SV54-GJ ITT310(S) or	DX-1440	SDVC00015- or
D4-6	Silicon 1SS202 Prot./Sw/Det	DX-1080	SDVC00005S
D7	Zener RD8.2E-B(2) Regulator	DX-0022	SDSI00072-
		DX-1440	SZR8.2EB2

Ref. No.	Description	RS Part No.	Mfr's Part No.
D8	Zener RD6.2E-B(3) Regulator	DX-1247	SZRD6.2EB3
D9-11	Silicon ISS202 Sw/Det/Comp.	DX-0022	SDSI00072-
D12	Silicon DSF10B Feeder/Prot. or IN4002	DX-0022 DX-0206	SDSI00092- or SDSI00007-
D13	Germanium 1N60 Det./AGC	DX-0161	SDGE00001- or SDGE00003-
D14	Silicon 1SS202 Gate/Sw or GMA-01	DX-0022	SDSI00072- or SDSI00097-
D15	Silicon DSF10B Feeder/Prot. or IN4002	DX-0022 DX-0206	SDSI00092- or SDSI00007-
D16	Silicon 1SS202 Gate/Sw GMA-01	DX-0022	SDSI00072- or SDSI00097-

#### LEDs AND MODULE

Ref. No.	Description	RS Part No.	Mfr's Part No.
LD201	LED Channel Display	L-1871	555010121A
LD202	Red SLP-144B	L-1868	SL-R00027-
LD203	Green SLP-244B	L-1869	SL-G00017-
LD204	5 Gang SLP-152B	L-1870	SL-R00020

#### FILTERS

Ref. No.	Description	RS Part No.	Mfr's Part No.
CF1	Ceramic	C-0915	392100611A
CF2	Ceramic	C-0914	392400530B
XF1	Crystal 10.695MHz or	MX-1094 MX-1094	392000540B or 392000541A or 392000542A or 392000543A
FT1	Filter	C-0914	524010180A

#### FUSE

Ref. No.	Description	RS Part No.	Mfr's Part No.
F301	125V, 2A	HF-1274	251001150A

ICs

Ref. No.	Description	RS Part No.	Mfr's Part No.
IC1	LC7132 Linear PLL	MX-6057	SILC7132--
IC2	LB1413 Linear LED Amp	MX-5942	SILB1413--
IC3	NJM2902N Linear OP-Amp	MX-5942	SINM2902N-
IC4	MB3712(H)M Linear Power Amp	MX-4486	SIMB3712MH

CONNECTORS

Ref. No.	Description	RS Part No.	Mfr's Part No.
JK1	M-Type	J-5575	193010011A
JK2/3	3.5mm	J-0957	191201330A
JK4	DIN	J-6572	193401310B

COILS

Ref. No.	Description	RS Part No.	Mfr's Part No.
L1	Filter 0.3 $\mu$ H	CA-9617	143310300A
L2	Air Filter	CA-9618	141110210A
L3	Filter 27MHz	CA-9132	143301570A
L4	Inductor 0.4 $\mu$ H	CA-9619	142310100A
L5	Antenna 27MHz	CA-3543	143100381A
L6	Filter 16MHz	CA-9620	143111150A
L7	Inductor 100 $\mu$ H	ACA-8339	142011510A
L8/9	Inductor 2.2 $\mu$ H	CA-9623	142011320A
L10	Filter 50MHz	CA-5760	143302470A
L11	Inductor 0.47 $\mu$ H	CA-9621	142011240A
L12-14	Inductor 1 $\mu$ H +15%	CA-9622	142300980A
L15	Choke 0.2mH	CB-2607	144005221A
L16	Inductor 1mH		142011630A
L17	Inductor 1 $\mu$ H	CA-9134	142401560A

TRANSISTORS

Ref. No.	Description	RS Part No.	Mfr's Part No.
Q1	KTC1815(BL)NPN Sw/Amp	2SC-1815	STKC1815-B
Q2	2SC1674(L) NPN RF Amp or	2SC-1674	ST2C1674-L or
	LC1674(L)	2SC-1674	STLC1674-L
Q3/4	2SC930(D) NPN Mixer	2SC-930	ST2C930--D
Q5	2SC930(E) NPN Mixer	2SC-930	ST2C930--E
Q6/7	2SC945(P) NPN Amp/Buffer or	2SC-945	ST2C945--P or
	LC945(P)	2SC-945	STLC945--P
Q8	KTA1015(GR)PNP Gate/Sw/Comparator	MX-4373	STKA1015-G
Q9	KTC1815(Y) NPN Sw/Amp	2SC-1815	STKC1815-Y
Q10	2SK246(GR) FET	2SK-246	SF2K246--G
Q11	KTA1015(GR)PNP Gate/Sw/Comparator	MX-4373	STKA1015-G

Ref. No.	Description	RS Part No.	Mfr's Part No.
Q12	2SC945(P) NPN Amp/Buffer or LC945(P)	2SC-945 2SC-945	ST2C945--P or STLC945--P
Q13/14	KTC1815(Y) NPN Sw/Amp	2SC-1815	STKC1815-Y
Q15	KTC1815(GR)NPN Amp/Att./Sw	2SC-1815	STKC1815-G
Q16	2SC2314(E) NPN Driver	2SC-2314	ST2C2314-E
Q17	2SC2166 NPN Amp or 2SC2078(D)	2SC-2166 2SC-2166	ST2C2166-- or ST2C2078-D
Q18	KTA1015(GR)PNP Gate/Sw/Comparat	MX-4373	STKA1015-G
Q19/20	KTC1815(GR)NPN Amp/Att./Sw	2SC-1815	STKC1815-G

### RESISTORS

Ref. No.	Description	RS Part No.	Mfr's Part No.
R1/2	Carbon 1.0kohm 1/6W +-5%	N-0916ECC	RCOXP102J*
R3	Carbon 470 ohm 1/6W +-5%	N-0169ECC	RCOXP471J*
R4	Carbon 10kohm 1/6W +-5%	N-0281ECC	RCOXP103J*
R5	Carbon 1.0kohm 1/6W +-5%	N-0196ECC	RCOXP102J*
R6	Carbon 220(47-470)ohm 1/6W +-5%	N-0146ECC	RCOXP221J*
R7	Carbon 150kohm 1/6W +-5%	N-0384ECC	RCOXP154J*
R8	Carbon 10kohm 1/6W +-5%	N-0281ECC	RCOXP103J*
R9	Carbon 150 ohm 1/6W +-5%	N-0142ECC	RCOXP151J*
R10	Carbon 220 ohm 1/6W +-5%	N-0146ECC	RCOXP221J*
R11	Carbon 330kohm 1/6W +-5%	N-0410ECC	RCOXP334J*
R12/13	Carbon 1.0kohm 1/6W +-5%	N-0196ECC	RCOXP102J*
R14	Carbon 10kohm 1/6W +-5%	N-0281ECC	RCOXP103J*
R15	Carbon 470ohm 1/6W +-5%	N-0169ECC	RCOXP471J*
R16/17	Carbon 2.2kohm 1/6W +-5%	N-0216ECC	RCOXP222J*
R18	Carbon 470kohm 1/6W +-5%	N-0423ECC	RCOXP474J*
R19	Carbon 10kohm 1/6W +-5%	N-0281ECC	RCOXP103J*
R20	Carbon 1.0kohm 1/6W +-5%	N-0196ECC	RCOXP102J*
R21	Carbon 470 ohm 1/6W +-5%	N-0169ECC	RCOXP471J*
R22	Carbon 10kohm 1/6W +-5%	N-0281ECC	RCOXP103J*
R23	Carbon 33kohm 1/6W +-5%	N-0324ECC	RCOXP333J*
R24	Carbon 8.2 ohm 1/6W +-5%	N-0058ECC	RCOXP8R2J*
R25	Carbon 470 ohm 1/6W +-5%	N-0169CC	RCOXP471J*
R26	Carbon 330 ohm 1/6W +-5%	N-0159ECC	RCOXP331J*
R27	Carbon 22kohm 1/6W +-5%	N-0311ECC	RCOXP223J*
R28	Carbon 47kohm 1/6W +-5%	N-0340ECC	RCOXP473J*
R29	Carbon 47kohm 1/6W +-5%	N-0340ECC	RCOXP473J*
R30	Carbon 100kohm 1/6W +-5%		RCOXP104J*
R31	Carbon 390(560-220)kohm 1/6W +-5%	N-0354ECC	RCOXP394J*
R32	Carbon 47kohm 1/6W +-5%	N-0340ECC	RCOXP473J*
R33	M-Oxide 390 ohm 2W +-5%	N-0162EHD	RX02H391J*
R34	Carbon 68kohm 1/6W +-5%	N-0354ECC	RCOXP683J*
R35	Carbon 10kohm 1/6W +-5%	N-0281ECC	RCOXP103J*
R36	Carbon 22kohm 1/6W +-5%	N-0311ECC	RCOXP223J*
R37	Carbon 47kohm 1/6W +-5%	N-0340ECC	RCOXP473J*
R38	Carbon 100 ohm 1/6W +-5%	N-0132ECC	RCOXP101J*
R39	Carbon 47kohm 1/6W +-5%	N-0340ECC	RCOXP473J*
R40	Carbon 470 ohm 1/6W +-5%	N-0169ECC	RCOXP471J*
R41	Carbon 1.2kohm 1/6W +-5%	N-0199ECC	RCOXP122J*

Ref. No.	Description	RS Part No.	Mfr's Part No.
R42	Carbon 470kohm 1/6W +-5%	N-0423ECC	RCOXP474J*
R43	Carbon 2.2kohm 1/6W +-5%	N-0216ECC	RCOXP222J*
R44	Carbon 470 ohm 1/6W +-5%	N-0169ECC	RCOXP471J*
R45/46	Carbon 100(47-220)ohm 1/6W +-5%	N-0132ECC	RCOXP101J*
R47	Carbon 470 ohm 1/6W +-5%	N-016ECC	RCOXP471J*
R48	Carbon 1.0kohm 1/6W +-5%	N-0196EC	RCOXP102J*
R49	Carbon 5.6kohm 1/6W +-5%	N-0257ECC	RCOXP562J*
R50	Carbon 4.7kohm 1/6W +-5%	N-0247ECC	RCOXP472J*
R51	Carbon 330 ohm 1/6W +-5%	N-0159ECC	RCOXP331J*
R52	Carbon 220 ohm 1/6W +-5%	N-0146ECC	RCOXP221J*
R53/54	Carbon 4.7kohm 1/6W +-5%	N-0247ECC	RCOXP472J*
R55/56	Carbon 220 ohm 1/6W +-5%	N-0146ECC	RCOXP221J*
R57	Carbon 680 ohm 1/6W +-5%	N-0183ECC	RCOXP681J*
R58	Carbon 5.6(10-33)ohm 1/2W +-5%	N-0052EFC	RCSHP5R6J*
R59	Carbon 15 ohm 1/6W +-5%	N-0074ECC	RCOXP150J*
R60	Carbon 1.0kohm 1/6W +-5%	N-0196ECC	RCOXP102J*
R61	Carbon 2.2kohm 1/6W +-5%	N-0216ECC	RCOXP222J*
R62	Carbon 330kohm 1/6W +-5%	N-0410ECC	RCOXP334J*
R63	Carbon 33Kohm 1/6W +-5%	N-0324ECC	RCOXP333J*
R64	Carbon 10kohm 1/6W +-5%	N-0281ECC	RCOXP103J*
R65	Carbon 330 ohm 1/6W +-5%	N-0159ECC	RCOXP331J*
R66	Carbon 10kohm 1/6W +-5%	N-0281ECC	RCOXP103J*
R67	Carbon 330 ohm 1/6W +-5%	N-0159ECC	RCOXP331J*
R68	Carbon 2.2kohm 1/6W +-5%	N-0216ECC	RCOXP222J*
R69	Carbon 470 ohm 1/4W +-5%	N-0169EEC	RCSQP471J*
R70	Carbon 10kohm 1/6W +-5%	N-0281ECC	RCOXP103J*
R71	Carbon 1.5kohm 1/6W +-5%	N-0206ECC	RCOXP152J*
R72	Carbon 470(330-1k)ohm 1/6W +-5%	N-0169ECC	RCOXP471J*
R73	Carbon 2.2kohm 1/6W +-5%	N-0216ECC	RCOXP222J*
R74	Carbon 10kohm 1/6W +-5%	N-0281ECC	RCOXP103J*
R75	Carbon 15kohm 1/6W +-5%	N-0297ECC	RCOXP153J*
R76	Carbon 10kohm 1/6W +-5%	N-0281ECC	RCOXP103J*
R77	Carbon 47kohm 1/6W +-5%	N-0340ECC	RCOXP473J*
R78	Carbon 82kohm 1/6W +-5%	N-0360ECC	RCOXP823J*
R79/80	Carbon 47kohm 1/6W +-5%	N-0340ECC	RCOXP473J*
R81	Carbon 470 ohm 1/6W +-5%	N-0169ECC	RCOXP471J*
R82	Carbon 1.0 ohm 1/6W +-5%	N-0022ECC	RCOXP1R0J*
R83	Carbon 4.7 ohm 1/6W +-5%	N-0047ECC	RCOXP4R7J*
R84	Carbon 100kohm 1/6W +-5%	N-0371ECC	RCOXP104J*
R85	M-Film 10 ohm 2W +-5%	N-0063EHE	RM02H100J*
R86	Carbon 47kohm 1/6W +-5%	N-0340ECC	RCOXP473J*
R87	Carbon 33kohm 1/6W +-5%		RCOXP333J*
R88	Carbon 150 ohm 1/2W +-5%	N-0142ECC	RCSHP151J*
R89	Carbon 8.2(4.7-10)kohm 1/6W +-5%	N-0271ECC	RCOXP822J*
R90	Carbon 56kohm 1/6W +-5%		RCOXP563J*
R91	Carbon 5.6kohm 1/6W +-5%		RCOXP562J*
R92	Carbon 47kohm 1/6W +-5%	N-0340ECC	RCOXP473J*
R93	Carbon 470kohm 1/6W +-5%	N-0423ECC	RCOXP474J*
R94	Carbon 100kohm 1/6W +-5%	N-0371ECC	RCOXP104J*
R95	Carbon 4.7kohm 1/6W +-5%	N-0247ECC	RCOXP472J*
R96	Carbon 1.0Mohm 1/6W +-5%	N-0445ECC	RCOXP105J*
R97	Carbon 33kohm 1/6W +-5%	N-0324ECC	RCOXP333J*

Ref. No.	Description	RS Part No.	Mfr's Part No.
R98	Carbon 2.2kohm 1/6W +-5%	N-0311ECC	RCOXP222J*
R99	Carbon 100kohm 1/6W +-5%	N-0216ECC	RCOXP104J*
R100	Carbon 1.0Mohm 1/6W +-5%	N-0445ECC	RCOXP105J*
R101/102	Carbon 4.7kohm 1/6W +-5%	N-0247ECC	RCOXP472J*
R103	Carbon 56kohm 1/6W +-5%		RCOXP563J*
R104	Carbon 330kohm 1/6W +-5%	N-0410ECC	RCOXP334J*
R105	Carbon 47kohm 1/6W +-5%	N-0340ECC	RCOXP473J*
R106	Carbon 220kohm 1/6W +-5%	N-0146ECC	RCOXP221J*
R107	Carbon 150kohm 1/6W +-5%	N-0384ECC	RCOXP154J*
R108	Carbon 47kohm 1/6W +-5%	N-0340ECC	RCOXP473J*
R109	Carbon 33kohm 1/6W +-5%	N-0324ECC	RCOXP333J*
R110	Not used		
R111	Carbon 150kohm 1/6W +-5%		RCOXP154J*
R112	Carbon 22 ohm 1/6W +-5%		RCOXP220J*
R113	Carbon 6.8ohm 1/6W +-5%		RCOXP6R8J*
R114	Carbon 3.9(4.7-22)kohm 1/6W +-5%		RCOXP392J*
R201-214	Carbon 2.2kohm 1/6W +-5%	N-0216ECC	RCOXP222J*
R215	Carbon 820 ohm 1/2W +-5%		RCSHP821J*
R216	M-Oxide 82 ohm 1W +-5%	N-0122EGD	RX01P820J*
R217	Carbon 10kohm 1/6W +-5%	N-0281ECC	RCOXP103J*
R301	Carbon 1.5kohm 1/2W +-5%	N-0206EFC	RCSHP152J*

#### POTENTIOMETERS

Ref. No.	Description	RS Part No.	Mfr's Part No.
VR1-3	Semi-fixed 10kB	P-6877	175206192A or 175210370A
VR201/202	Rotary 10kAx2	P-8014	171610490A
VR203	Rotary 10kB	P-8013	171210530A

#### SWITCHES

Ref. No.	Description	RS Part No.	Mfr's Part No.
SW201	Rotary Channel	S-3379	181110100A
SW202	Slide CB/PA	S-3380	183110820A
SW203	Slide ANL	S-3332	183110690A
SW204	Rotary Power (With VR201)	P-8014	171610490A



COILS

Ref. No.	Description	RS Part No.	Mfr's Part No.
T1	27MHz	CA-5426	143101040A
T2	27MHz	CA-5427	143101050A
T3	IFT 10.7MHz	CA-8094	133000530A
T4	IFT 455 Hz	CA-8696	131000660A
T5	IFT 455 Hz	CA-7973	131000670A
T6	VCO 16.2HMz	CA-9127	143101920A
T7/8	Filter 27.185MHz	CA-9215	143102450A
T9	Filter 27.185MHz	CA-9215	143102460A
T10	Modulation	TD-0228	10301005SA

THERMISTOR

Ref. No.	Description	RS Part No.	Mfr's Part No.
TH1	Thermistor 23D27H		SDTH00017-

CRYSTAL

Ref. No.	Description	RS Part No.	Mfr's Part No.
X1	10.240MHz	MX-1093	391010310A or
		MX-1093	391010140A or
			391012040A

EXPLODED VIEW PARTS LIST

Ref. No.	Description	RS Part No.	Mfr's Part No.
1	Cabinet, Top w/Insulation Sheet		
2	PCB Unit	XB-0635	U-25417A
3	Cord Ass'y, DC	W-3141	197210040A
4	Lug, Ground	HC-3940	199109290A
5	Lug, Ground	HC-3939	HAL#10500A
6	Panel Ass'y, Front	Z-8480	M-00481
	Panel, Front	Z-8480	702810020A
	Plate, Front	Z-8480	711210160A
7	Knob, Channel	K-5998	652510390A
8	Knob, Vol/Sq.	K-5936	652510400A
9	Cabinet, Bottom w/Net	Z-8481	601310840A
SP1	Speaker, D77 8ohm 2W	SP-5155	271000510A

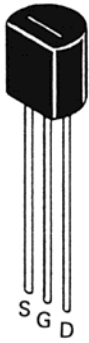
**HARDWARES**

Ref. No.	Description	RS Part No.	Mfr's Part No.
S1	Screw, Taptite 3x6BT-C(w/Nail)	HW-210510	HCBCA001SB
S2	Screw, 2.6x5FC		HMCOADO1SY
S3	Screw, Binding head 3x10B		HMB03001SY
S4	Screw, Polywave tap 3x6PLT-2		HQP53006SY
S5	Screw, Taptite		HCPB2608SY

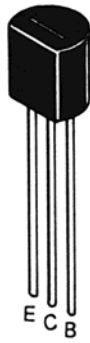
**MISCELLENOUS**

Ref. No.	Description	RS Part No.	Mfr's Part No.
(F301)	Microphone Unit		273000630A
	Fuse	HF-1274	251001150A

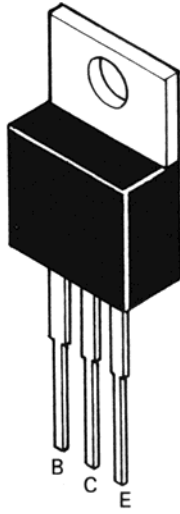
IC & TRANSISTOR LEAD IDENTIFICATION AND IC INTERNAL DIAGRAM



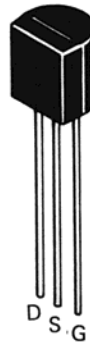
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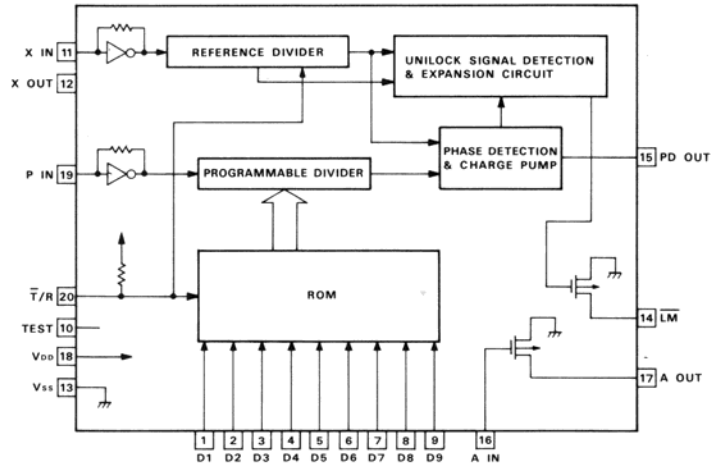
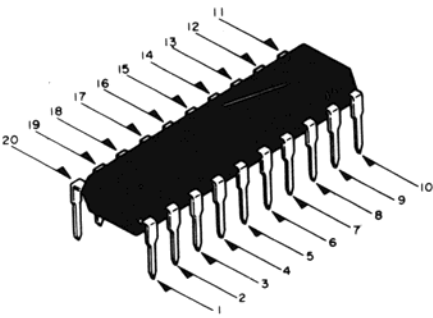


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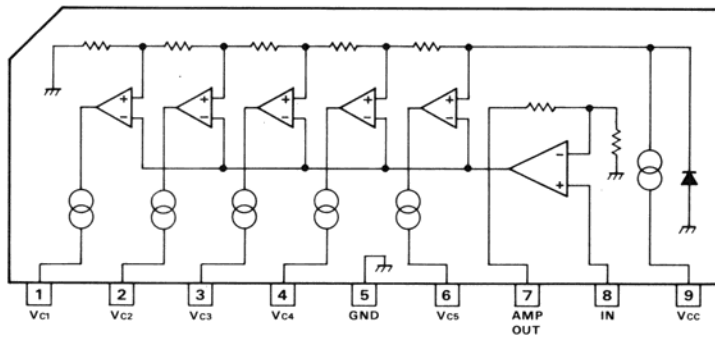
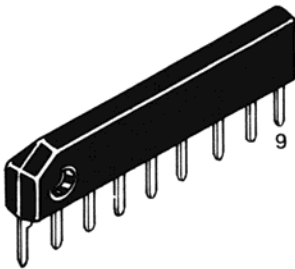


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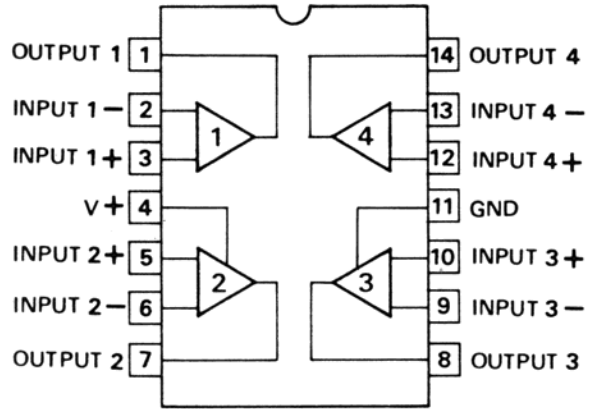
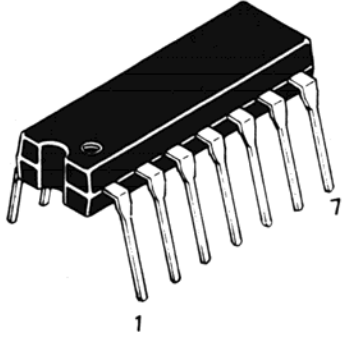
IC-1 LC7132



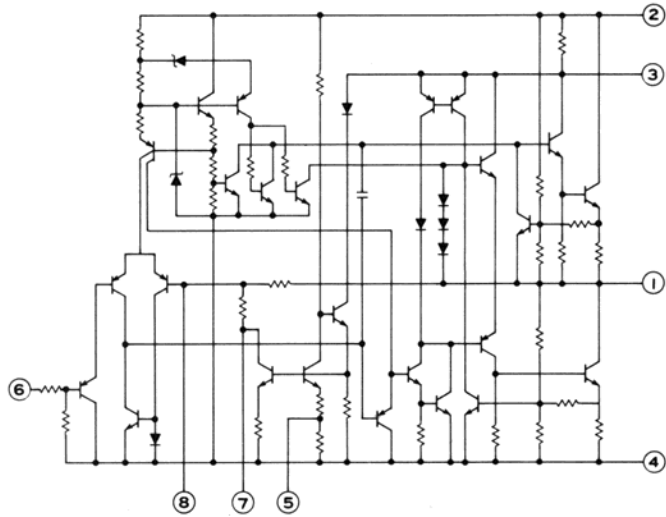
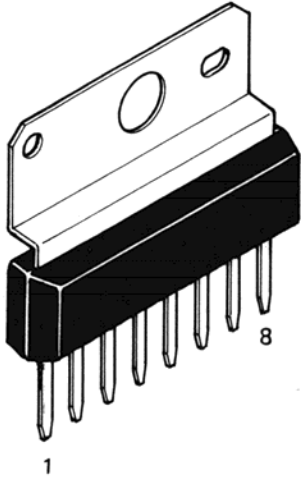
IC-2 LB1413



IC-3 NJM2902N  
or LM324N



IC-4 MB3712(H)M



**IC & TRANSISTOR VOLTAGE CHART**

**IC Voltage Chart**

IC1	PIN NO. MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	TX	0	0	0	0	0	0	11.9	11.9	0	0	3.2	3.2	3.2	1.8	1.6
	RX	0	0	0	0	0	0	12.3	12.3	0	0	3.2	3.2	0	1.8	1.7
		16	17	18	19	20										
	TX	1.6	3.8	6.3	3.3	0.5										
	RX	1.7	3.4	6.4	3.3	6.4										
IC2		1	2	3	4	5	6	7	8	9						
	TX	6.9	6.9	6.9	6.9	0	7.5	1.8	0.2	6.3						
	RX	12.3	12.3	12.3	12.3	0	12.3	0.1	0	6.4						
IC3		1	2	3	4	5	6	7	8	9	10	11	12	13	14	
	TX	6.1	0.9	0.9	8.0	0	0.6	0	0	0	0	0	4.0	4.0	4.0	
	RX	0.1	0.9	0.9	8.0	3.9 0	0.9 0.9	7.0 0.7	4.0	4.0	4.0	0	4.0	4.0	4.0	
IC4		1	2	3	4	5	6	7	8							
	TX	6.9	13.4	12.8	0	0.1	0	0.6	0.6							
	RX	7.0	13.8	13.1	0	0.1	0	0.6	0.6							

**NOTE: Squelch On/Off**

All voltage values are indicated in volts with no signal and measured from common ground with DDM (Digital Multi Meter, 10M ohm input impedance).

IC1 ① - ⑧ pin voltages depend on channel No.

Transistor Voltage Chart

Transistor No.	PIN MODE	E	C	B	Transistor No.	PIN MODE	E	C	B
Q1	TX	3.0	3.0	3.6	Q13	TX	1.3	4.3	2.0
	RX	3.6	3.6	0.1		RX	1.3	4.3	2.0
Q2	TX	0	1.0	0.3	Q14	TX	3.8	11.4	3.8
	RX	0.3	7.0	1.0		RX	4.5	13.8	3.9
Q3	TX	0	0	0.3	Q15	TX	4.3	13.4	4.1
	RX	0.5	8.2	1.2		RX	8.8	13.8	4.3
Q4	TX	0	0	0.3	Q16	TX	0	11.2	-0.1
	RX	0.5	8.2	1.2		RX	0	13.4	0
Q5	TX	0	0	0.3	Q17	TX	0	11.7	-0.2
	RX	0.5	8.9	1.2		RX	0	13.4	0
Q6	TX	0	0	0.3	Q18	TX	3.2	0	2.6
	RX	0.5	8.7	1.1		RX	3.3	0	2.7
Q7	TX	0	0	0	Q19	TX	0	0	0
	RX	1.4	8.0	2.0		RX	0	0	0
Q8	TX	0.65	0.65	0.17	Q20	TX	0	0	0
	RX	0.6	0.6	0.15		RX	0	0	0.7
Q9	TX	0	12.3	0					
	RX	0	12.3	0					
Q10	TX	(S)0.23	(G)0	(D)7.3					
	RX	(S)0.23	(G)0	(D)7.4					
Q11	TX	6.4	6.3	5.6					
	RX	6.4	0	5.9					
Q12	TX	2.0	8.0	2.6					
	RX	2.0	8.1	2.6					

NOTE: All voltage values are indicated in volts with no signal and measured from common ground with DMM (Digital Multimeter, 10M ohm input impedance.)