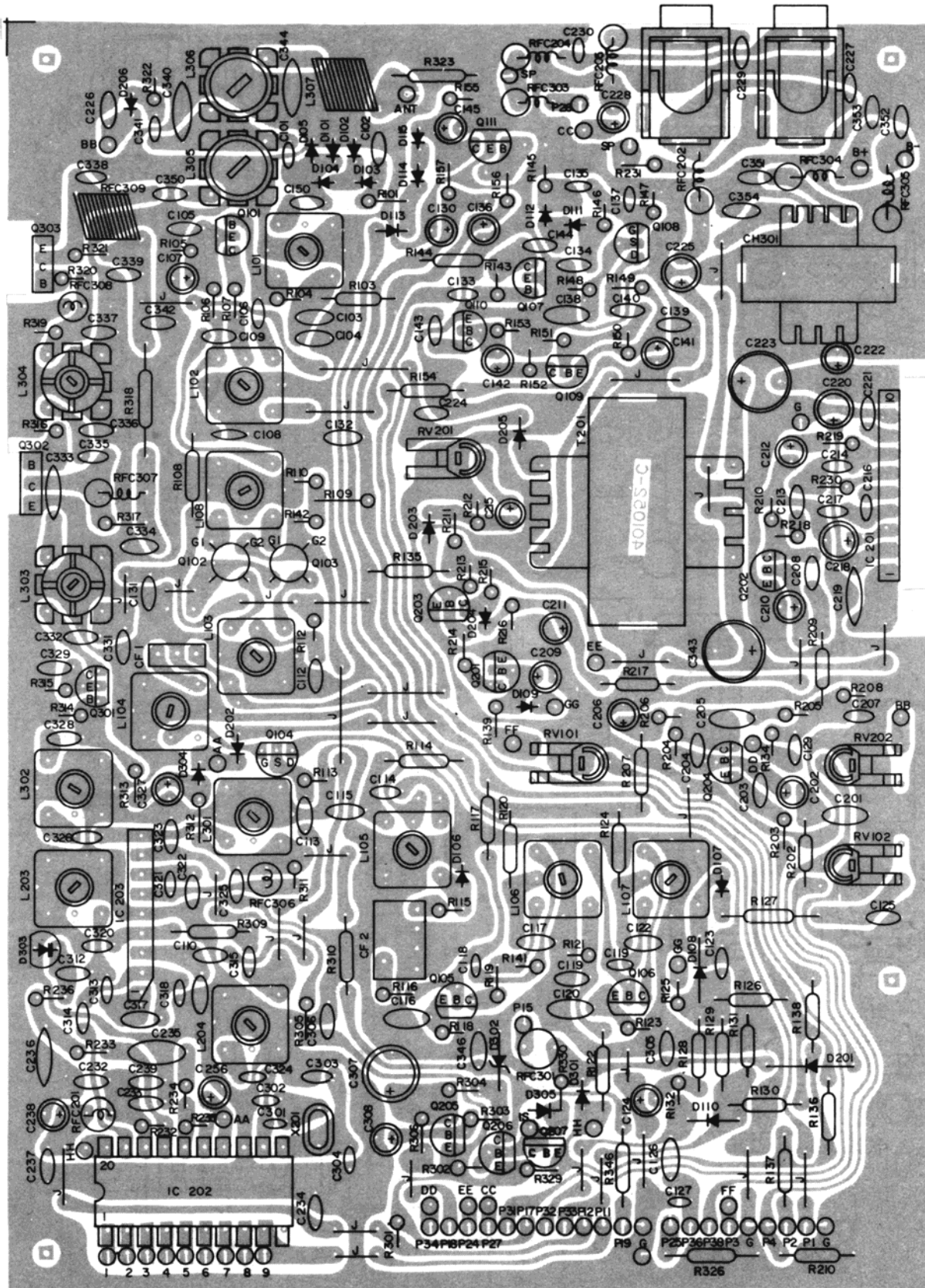
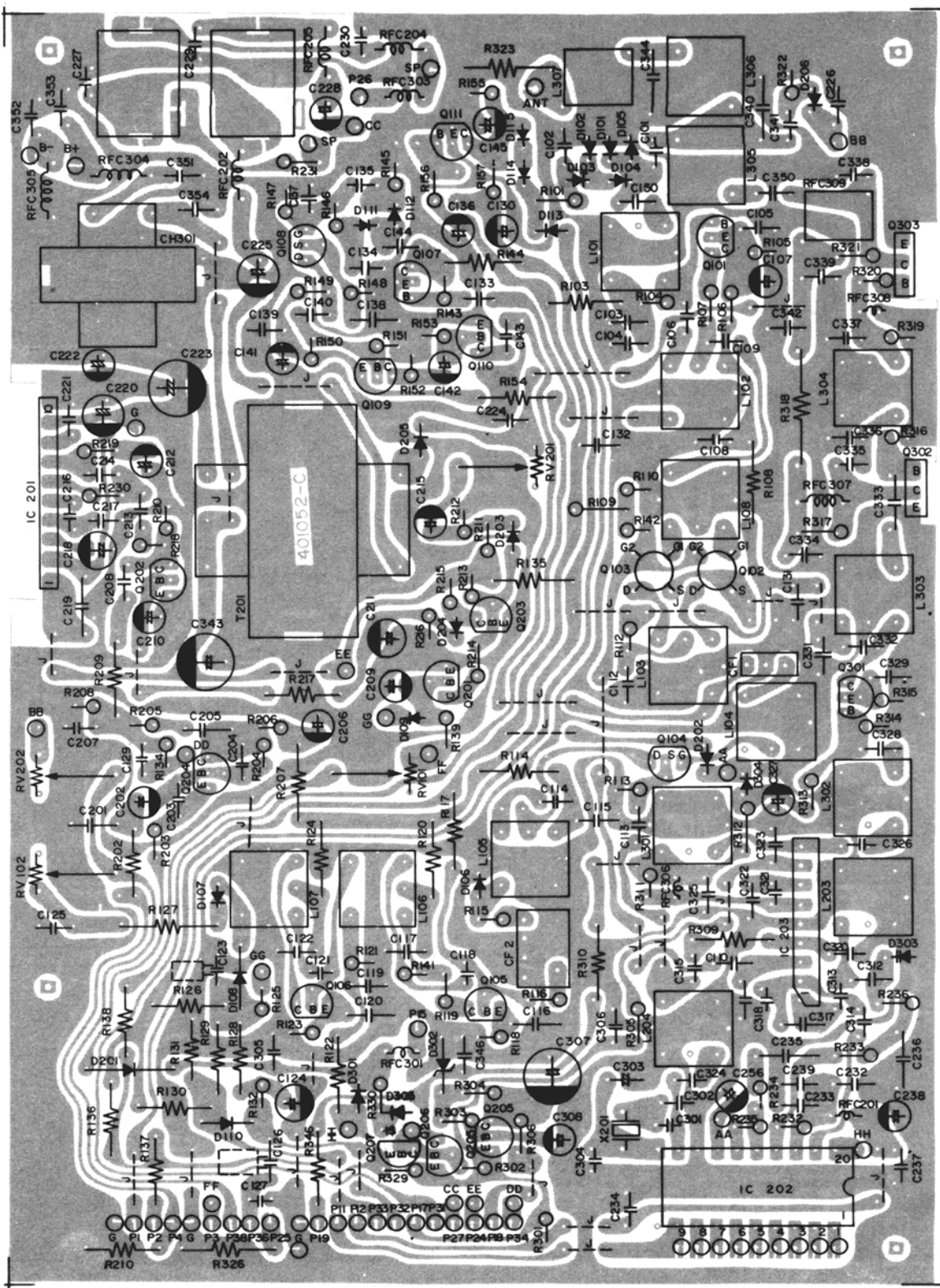


# COMPOSITE LAYOUT, MAIN PCB 401052-C TOP VIEW



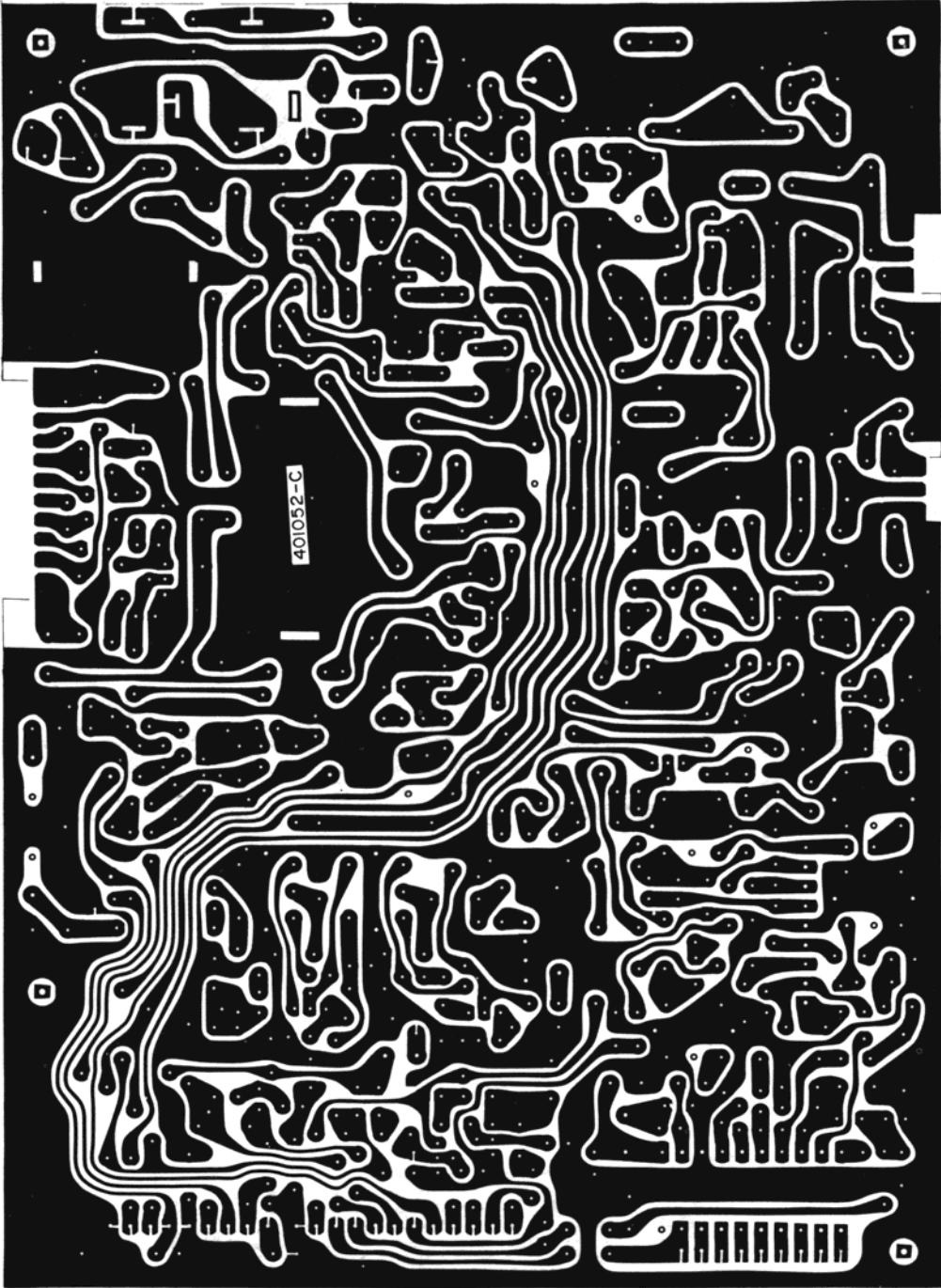
# COMPONENT LAYOUT, MAIN PCB 401052-C BOTTOM VIEW



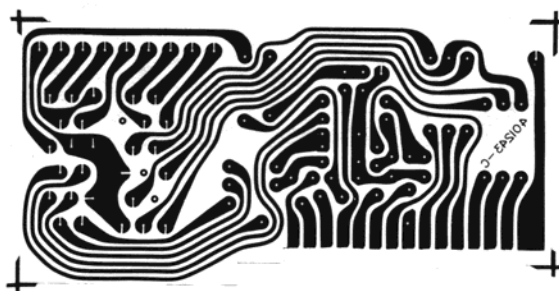
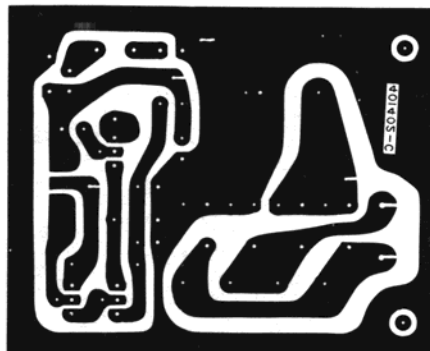
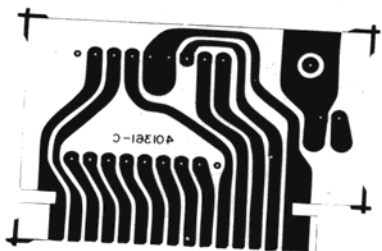




# COPPER PATTERN, MAIN PCB 401052-C BOTTOM VIEW

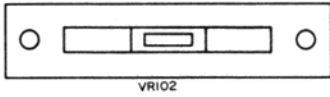
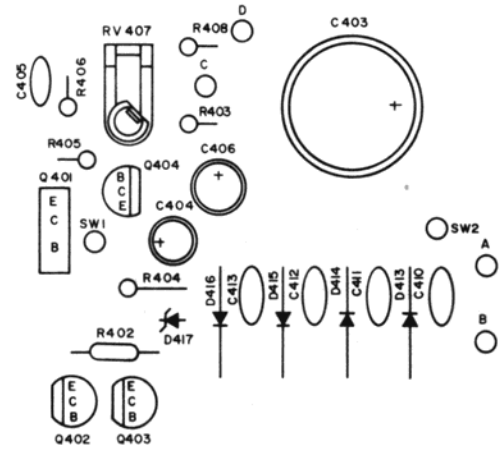
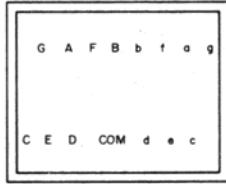


**COPPER PATTERNS,  
401243-C BOTTOM VIEW 401361-C, 401402-C, 401914-B**

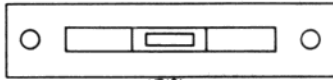


# PARTS LAYOUT PCB TOP VIEW

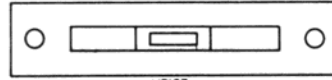
## 401914-B, 401243-C, 401361-C, 401402-C



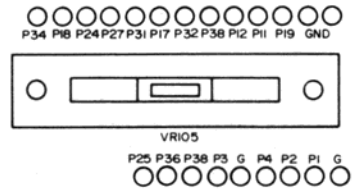
VRIO2



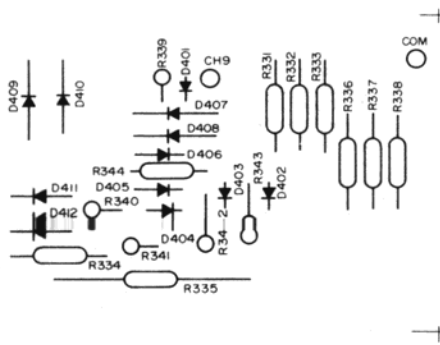
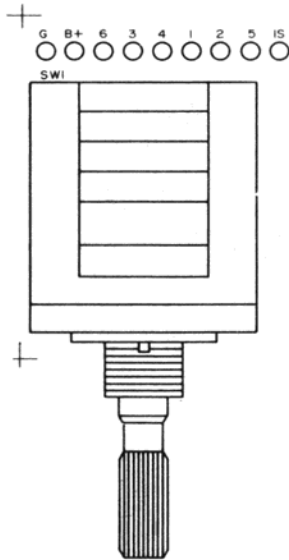
VRIO1



VRIO3

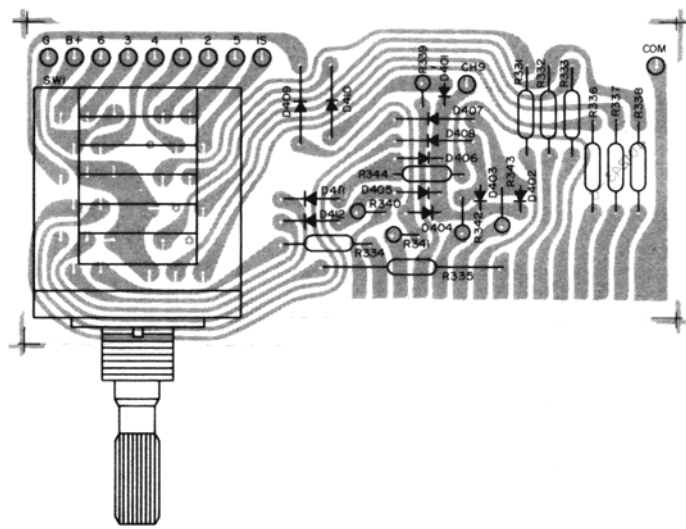
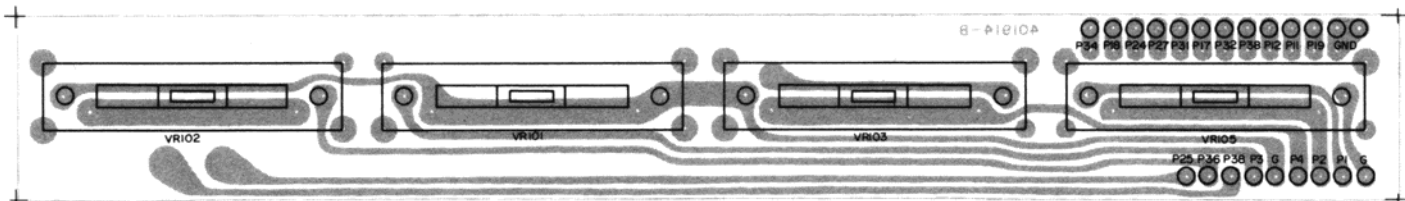
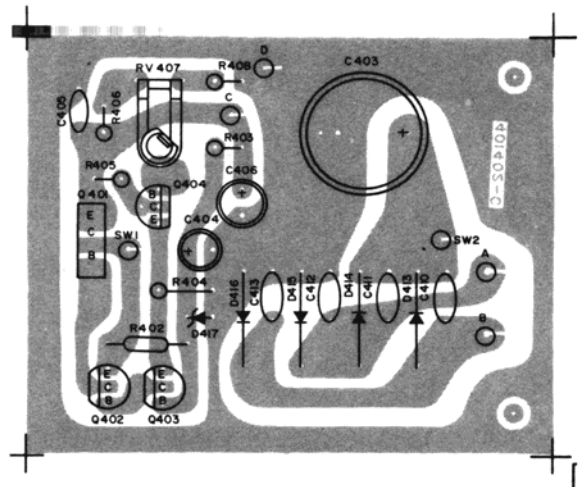
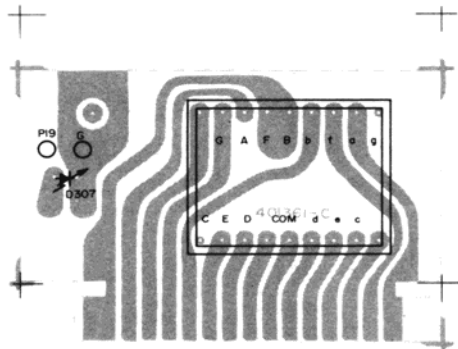


VRIO5



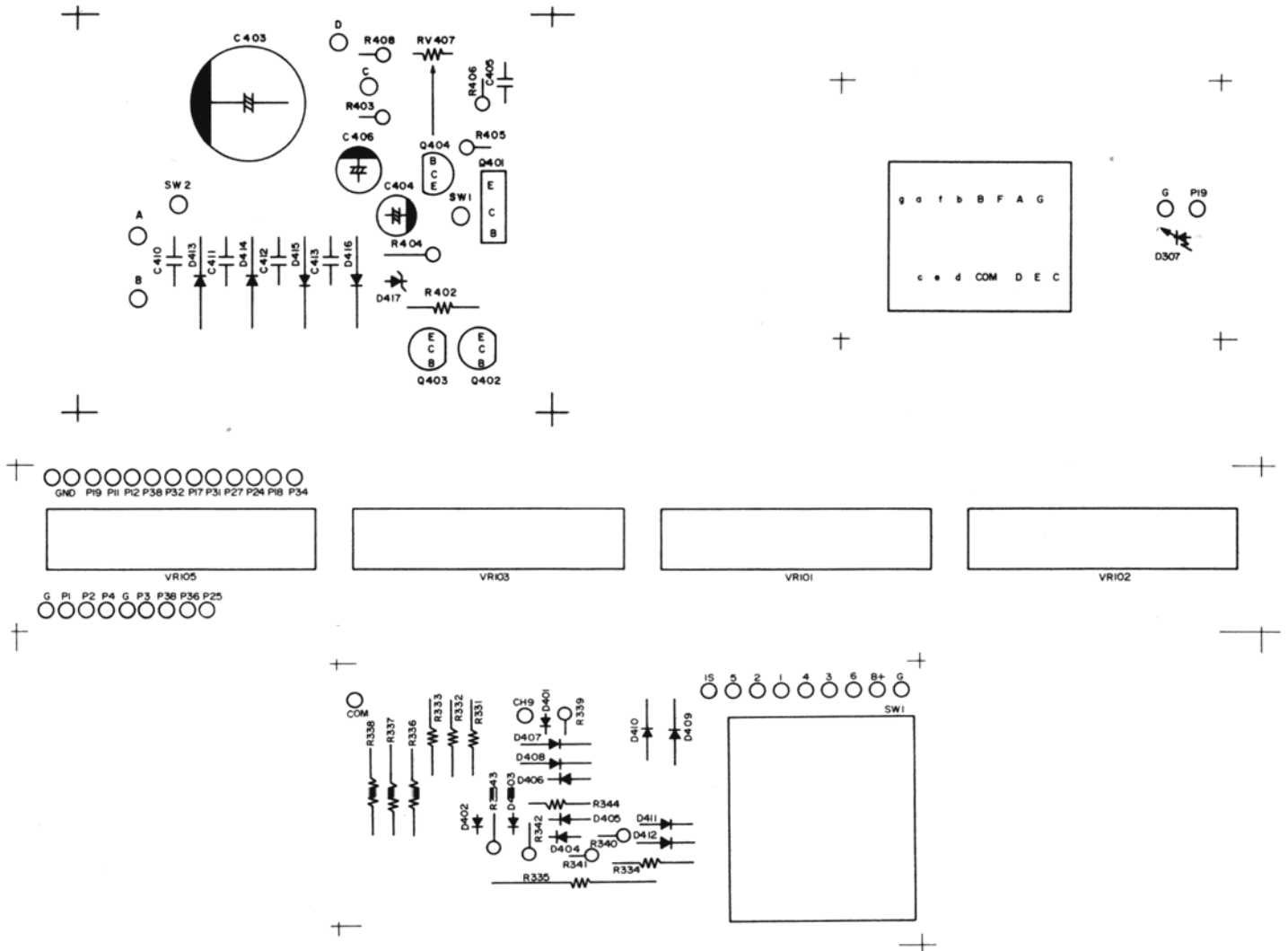
# COMPOSITE LAYOUT PCB-TOP VIEW

## 401402-C, 401243-C, 401361-C, 401914-B



# COMPONENT LAYOUT - BOTTOM VIEW

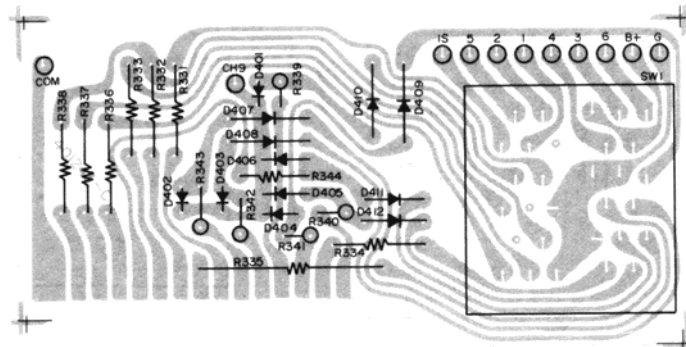
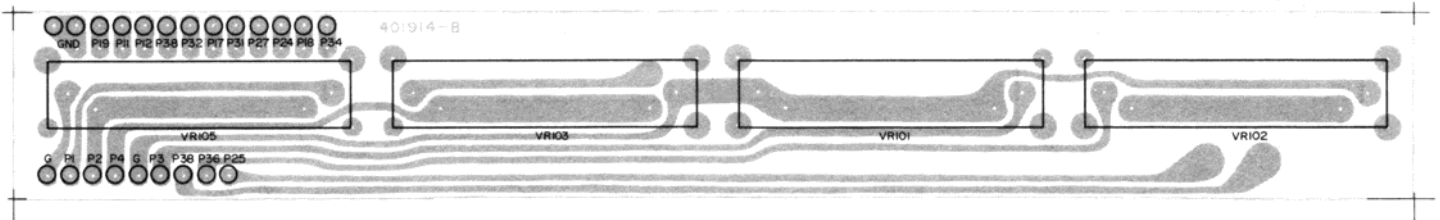
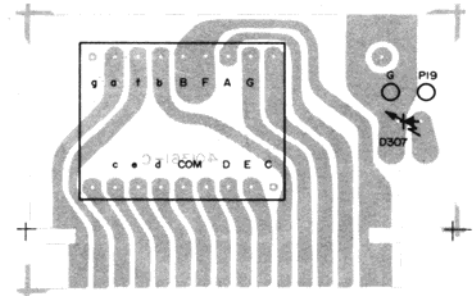
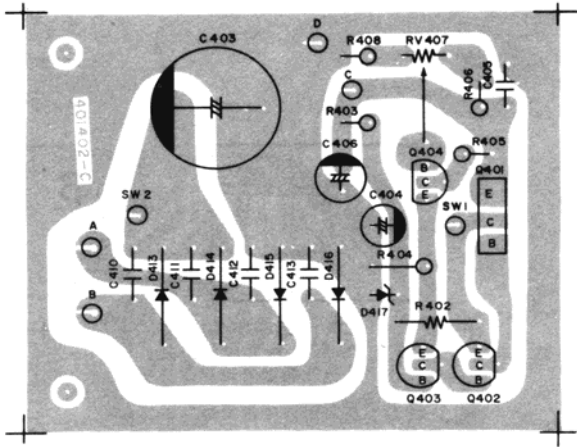
## 401402-C, 401243-C, 401361-C, 401914-B





# COMPOSITE LAYOUT - BOTTOM VIEW

## 401402-C, 401243-C, 401361-C, 401914-B



# Voltage Chart

CONDITIONS ON CH 19  
NO SIGNAL  
NO MODULATION (UNIT: VOLT)

T R	Q101		Q105		Q106		Q107		Q109		Q110		Q111	
	R X	T X	R X	T X	R X	T X	R X	T X	R X	T X	R X	T X	R X	T X
B	1.02	0.09	1.25	0.13	1.27	0.12	0.74	0.73	7.89	7.87	0	0	0.75	0.13
C	11.28	11.28	9.63	11.86	11.40	11.86	6.60	6.44	0.69	0.69	0	0	0.43	2.33
E	0.48	0.2	0.59	0	0.59	0	0	0	8.46	8.46	0	0	0	0

T R	Q201		Q202		Q203		Q204		Q205		Q206		Q207	
	R X	T X	R X	T X	R X	T X	R X	T X	R X	T X	R X	T X	R X	T X
B	0	0	0	0	0.68	0.67	11.41	1.69	9.16	9.16	8.52	7.77	7.95	0.56
C	0.68	0.67	0	0	0	0	12.30	7.95	12.34	11.80	1.26	8.44	8.53	8.53
E	0	0	0	0	0	0	11.80	1.04	8.53	8.53	8.53	8.53	7.46	0.76

T R	Q301		Q302		Q303		Q401		Q402		Q403		Q404	
	R X	T X	R X	T X	R X	T X	R X	T X	R X	T X	R X	T X	R X	T X
B	0	1.36	0	0	0	0	12.69	14.09	17.65	15.88	7.60	7.75	7.11	7.95
C	13.2	12.06	13.2	9.81	13.2	11.53	18.0	16.60	13.80	14.04	17.46	16.00	7.14	7.34
E	0.27	0.73	0	0	0	0	13.2	13.2	18.26	16.59	7.12	7.30	7.78	7.30

T R	Q102		Q103	
	R X	T X	R X	T X
D	11.18	10.88	11.18	10.88
S	0	0	0	0
G1	0	0	0	0
G2	0.34	0	0.34	0

T R	Q104		Q108	
	R X	T X	R X	T X
D	11.80	11.36	5.30	5.35
S	2.76	2.77	3.70	3.0
G	0	0	0	0

## IC VOLTAGE CHART (DC)

CONDITIONS ON CH19  
NO SIGNAL  
NO MODULATION

IC NO	IC 202													
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14
R X	8.30	0	0	8.30	8.30	0	0	0	0	0	3.99	4.01	0	1.12
T X	8.30	0	0	8.30	8.30	0	0	0	0	0	3.98	4.02	0	4.52
PIN NO	15	16	17	18	19	20								
R X	1.8	1.8	1.8	8.30	4.10	7.46								
T X	1.57	1.57	4.64	8.31	4.07	0.76								

IN NO	IC 201									
PIN NO	1	2	3	4	5	6	7	8	9	10
R X	13.2	12.04	3.86	7.82	1.51	3.24	3.25	1.26	0	6.52
T X	13.2	12.05	3.85	7.82	1.50	3.26	3.20	1.27	0	6.54

IC NO	IC 203								
PIN NO	1	2	3	4	5	6	7	8	9
R X	2.62	1.98	1.42	1.75	0	1.26	2.05	5.71	1.26
T X	1.57	0	1.44	2.52	0	8.0	1.99	6.34	8.0

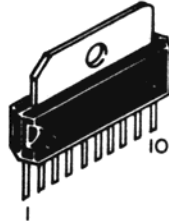
# SEMICONDUCTOR PIN CONFIGURATION

## Integrated Circuits

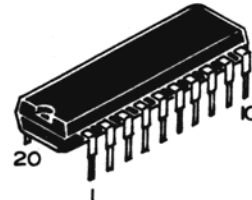
KIA 7310P



KIA 7217AP



LC 7131



## TRANSISTORS

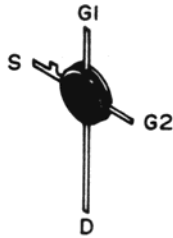
MPS 9623  
MPS 9631  
MPS 9634  
MPS 9681  
MPS 9418



MPS 9426



BF 964



2SC1957 OR 2SC2314

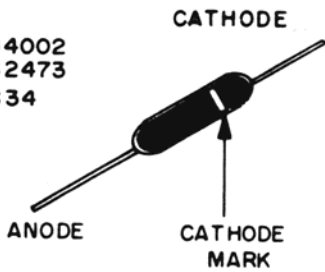


2SC2078 OR 2SC1306

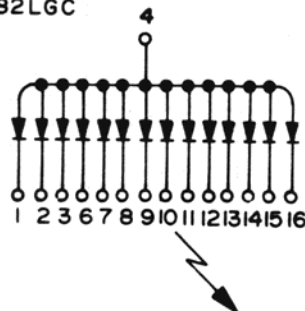
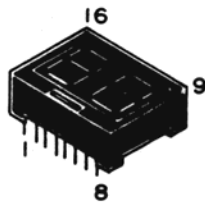


## DIODES

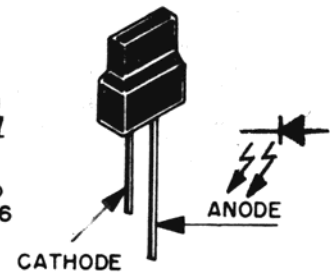
IN 4002  
IS 2473  
IS 34



LTD 482LGC

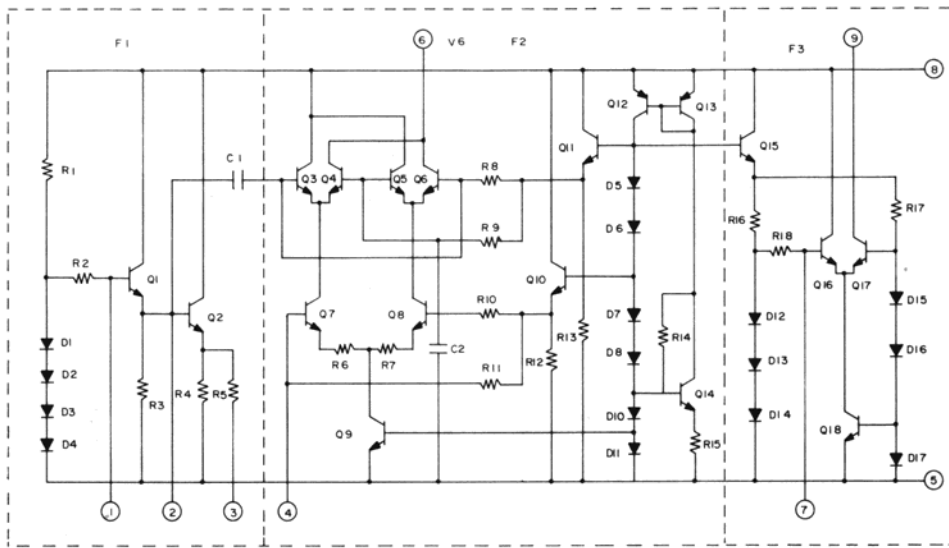


SLB 266G 3

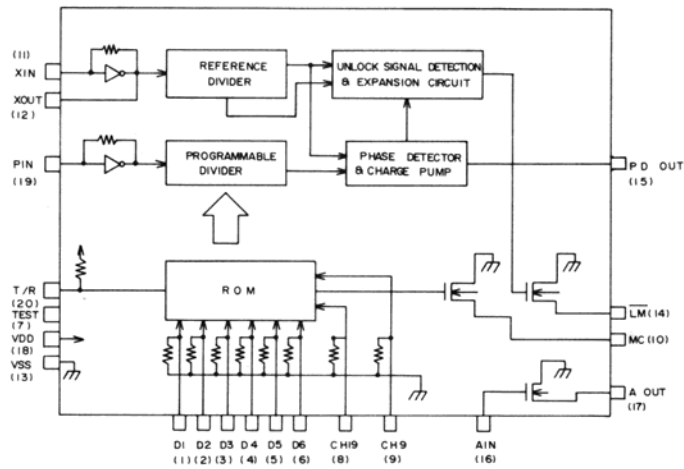


# I.C. DIAGRAMS - KIA-7310, LC-7131, KIA-7217AP

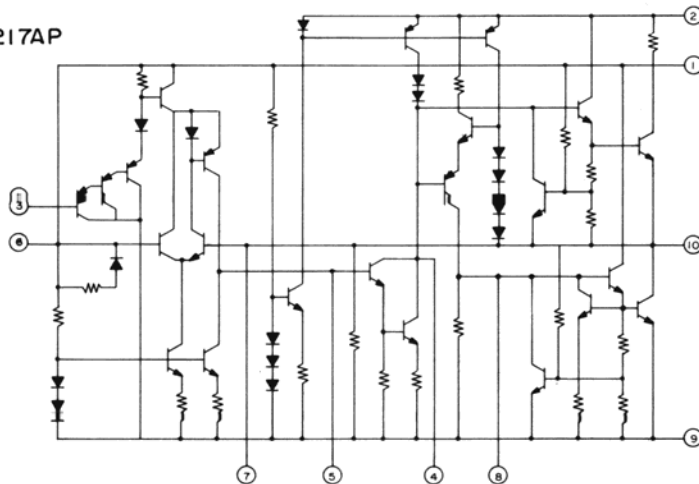
KIA7310



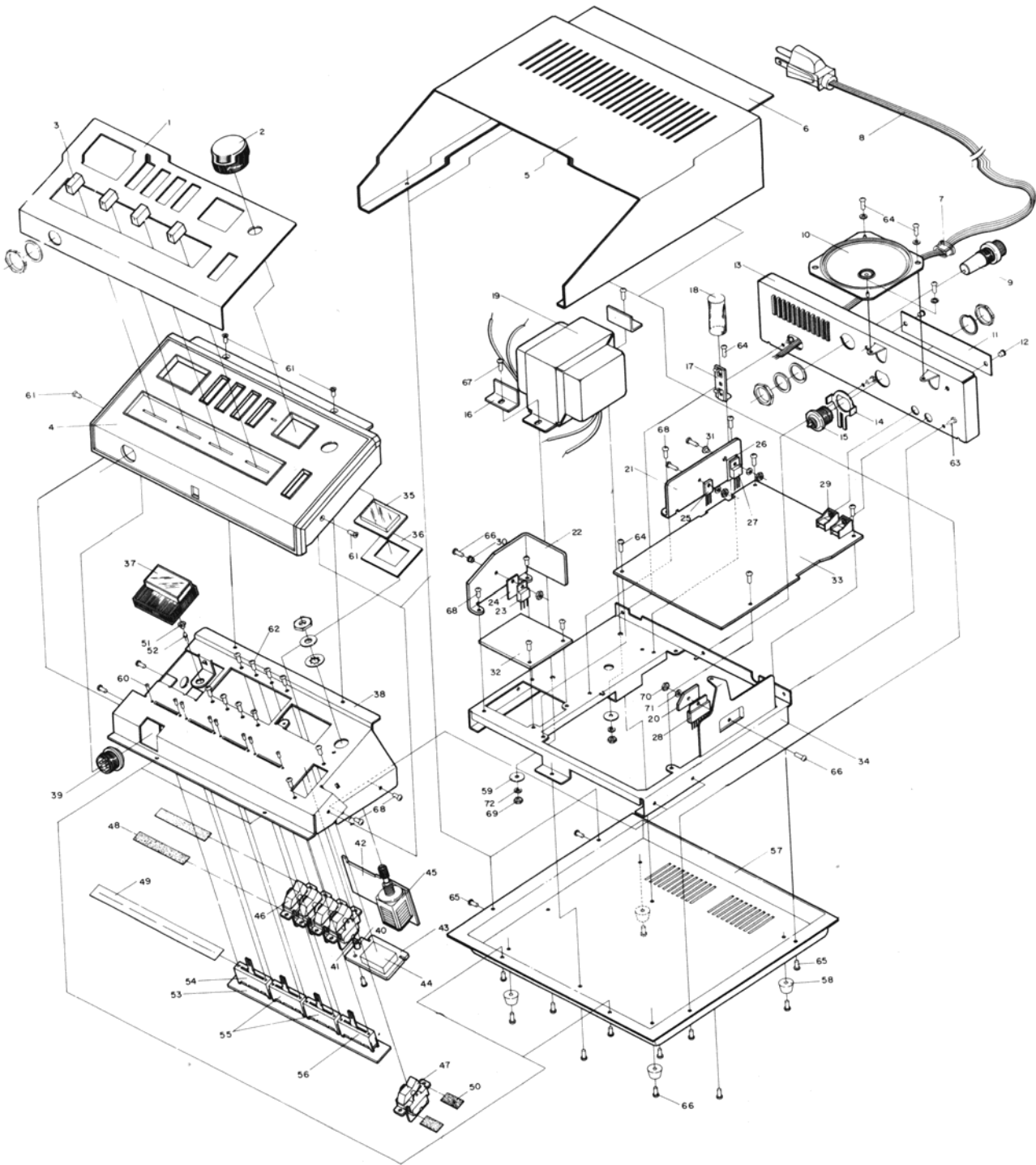
LC7131



KIA7217AP



# Exploded View





# Exploded View Parts List

No.	Part No.	Description	No.	Part No.	Description
1	791290	Over Lay	46	4370031	Power SW SDA4S
2	823280	Tuning Knob	47	4370042	Power SW SDA1S
3	823130	Slide Knob	48	903850	Felt (SW)
4	800760	Escutcheon	49	903840	Felt (Slide SW) 10x75x0.5T
5	714720	Upper Cover	50	903860	Felt (SW) 10x20x0.5T
6	903920	Felt 80x190x0.3T	51	892030	Rubber Holder (Lamp)
7	750765	Cord Stopper	52	2510288	Pilot Lamp BQ04422881A
8	4233073	Power Cord (AC)	53	401914B	P.C.B Slide VR
9	2800150	Fuse 250V 1A	54	4606015	Slide VR 15CH-B10K ohm
10	4201371	Speaker	55	4606015	Slide VR 15CH-15A 50K ohm
11	791630	Name Plate	56	4606026	Slide VR 15CH-B50K ohm
12	670025	Rivet Blind	57	714730	Bottom Cover
13	701240	Back Body	58	891960	Rubber Foot
14	730343	Holder (Ant MTG)	59	660840	Flat Washer
15	992440	Ant Receptacle	60	612081	(+) Machine Screw (B.H) M2x4
16	722510	Bracket "L"	61	613183	(+) Machine Screw (F.H) M3x6
17	862370	Lug Station (2Pin)	62	613262	(+) Machine Screw (B.H) M3x5
18	964052	Tube His 11m/m	63	623052	(+) Tapping Screw (P.H) 3x6-2S
19	3000861	Transformer Power	64	623265	(+) Tapping Screw (B.H) 3x6-2S
20	760704	Heat Sink (IC MTG)			ZN-Plat
21	761080	Heat Sink (TR)	65	623274	(+) Tapping Screw (B.H) 3x6-2S
22	761090	Heat Sink (Power)	66	613332	(+) Machine Screw (B.H) M3x10
23	2040024	Transistor 2SD 1062 (R)	67	614070	(+) Machine Screw (B.H) M4x10
24	4400138	Mica (For T.R. 2SD1062)	68	623335	(+) Tapping Screw (B.H) 3x8-2S
25	2040167	Transistor 2SC 2314(E)	69	650050	Nut M4
26	4400040	Mica (For T.R 2SC2078)	70	651024	Nut M3-1S
27	2040091	Transistor 2SC 2078 (D)	71	662400	Washer Spring M4
28	2220064	I.C KIA 7217 AP	72	662305	Washer Spring M3
29	4207076	Jack Earphone			
30	4410133	Bushing (For TR2SD1062)			
31	4410045	Bushing (For T.R 2SC2078)			
32	401402C	P.C.B Power Supply			
33	401052C	P.C.B Main			
34	701230	Main Body			
35	812850	Lens (LED) Smoke			
36	903830	Felt			
37	4200396	Meter EI			
38	701220	Front Body			
39	4215253	5P Socket			
40	892040	Rubber Bushing (LED)			
41	2510167	L.E.D Lamp RED			
42	401243C	P.C.B SW			
43	401361C	P.C.B LED			
44	2520184	LED Display			
45	4300036	Rotary S.W			

# PARTS LIST

SYMBOL	DESCRIPTION	PART NO.	SYMBOL	DESCRIPTION	PART NO.
	MICROPHONE ASSEMBLY	561 006 9 001	Q101, 107, 111, 301	TRANSISTOR MPS9426(C)	176 115 9 001
	UPPER COVER VINYL SHEET CUTTING-SPLAY	253 132 9 001	Q109, 206	TRANSISTOR MPS9681(T)	177 049 9 001
	BOTTOM COVER SPC 240X230X1T BLACK	252 053 9 001	Q205	TRANSISTOR MPS9418(T)	176 115 9 004
	OVERLAY (90LTD) ALP3 224X125X0.4T	260 422 9 001	Q106	TRANSISTOR MPS9623(H)	176 125 9 001
	NAME PLATE ALP3 100X22X0.5T	600 164 9 001	Q105	TRANSISTOR MPS9623(I)	176 115 9 002
	ESCUTCHEON (90LTD) ABS 94VO BLACK	380 532 9 001	Q110, 204, 207	TRANSISTOR MPS9631(T)	178 132 9 001
	LENS (LED) SMOKE	753 017 9 001	Q104, 108	FET JF 1033S	182 086 9 001
	SLIDE KNOB ABS 94VO CR-PLATE	751 308 9 001	Q102, 103	FET BF 964	182 086 9 002
	TUNING KNOB ABS 94VO CR-PLATE	751 308 9 002	IC203	I.C. TA7310P	307 133 9 004
			IC202	I.C. LC7131	307 272 9 002
			D417	DIODE ZENER BZX83-C7V5	152 128 9 001
			D302	DIODE ZENER UZ9.1B	152 125 9 001
			D303	DIODE VARICAP MV2209	154 009 9 001
			D110, 201, 407-412	DIODE SI 1S2473	151 035 9 001
			D101, 103-7, 9, 202, 203, 204, 301, 304, 305, 113-115, 401-404, 405, 406	DIODE 1S2473 "F" TYPE	151 125 9 001
Q401	TRANSISTOR 2SD1062(R)	176 186 9 001	D102, 108, 111, 112, 206	DIODE GE 0A90	150 020 9 001
Q303	TRANSISTOR 2SC 2078(D)	172 075 9 001	D205	DIODE SI 1N4002	151 082 9 001
Q302	TRANSISTOR 2SC2314(E)	176 120 9 001	D413-416	DIODE REC PS151:1.5A 100V	151 133 9 001
IC201	I.C. KIA 7217AP	307 331 9 001	X201	CRYSTAL 10.240MHZ HC-18/U	132 036 9 001
D307	PILOT LAMP BQ04422881A	400 091 9 001	CF2	CERAMIC FILTER CFW455HT	140 006 9 001
	LED DISPLAY LTD-585PG GRN	238 031 9 001	CF1	CERAMIC FILTER 10.7MJ	140 006 9 002
	FUSE 250V 1A (UL) MS2	191 251 3 001	CH301	TRANSFORMER CHOKE, 520UH, EI-19	042 041 9 001
T401	TRANSFORMER POWER	065 207 9 001	T201	TRANSFORMER OPT	061 064 9 001
RFC302	COIL RF CHOKE 22UH BOBBIN	041 134 9 002	RFC304, 305	COIL RF CHOKE 10UH CORE	047 012 9 003
	METER EI HS 07874(MINI) WHT	320 136 9 001	RFC307	COIL CHOKE 1UH BOBBIN	042 134 9 007
	SPEAKER 77SP05 8 OHM 2W 3"	580 070 9 001	RFC202, 204, 205	COIL RE CHOKE 1UH SPRING	047 041 9 001
	JACK EARPHONE HS J 0615-01-010	773 126 9 001	RFC301, 303	COIL RF CHOKE 22UH BOBBIN	041 134 9 002
	POWER CORD (AC) SPT-2 UP-201 3X18BRN	420 062 9 001	RFC201	COIL RF CHOKE 25UH PC	047 041 9 002
	FLAT CABLE 9PIN 12MM	428 105 9 001	RFC306	COIL RF CHOKE 0.45UH PC TYPE	047 041 9 003
	FLAT CABLE 12PIN 80MM	428 105 9 002	RFC309	COIL RF CHOKE 0.5UH SPRING	041 134 9 008
	ROTARY S.W. 40CH W/LED CORD GPS-0260 SHAFT LENGTH 20MM	083 310 9 001	RFC308	COIL RF CHOKE 6.8UH PC	047 041 9 004
SW1-4	POWER SW SDA 4S "A" TYPE, ROCKER	093 013 9 001	RFC310	COIL CHOKE 4UH BOBBIN TYPE	047 012 9 004
SW-5	POWER SW SDA 1S "A" TYPE, ROCKER	093 013 9 002	L108	COIL RF AMP 10.6MHZ	047 041 9 005
VR101	SLIDE VR VJ-201 PVN 15CH-B10K OHM	008 835 9 001	L101	COIL RX ANT 27MHZ	046 039 9 002
VR102	SLIDE VR VJ-201 PVN 15CH-15A 50K OHM	008 835 9 002	L102	COIL RF AMP 27MHZ	047 041 9 006
VR103, 105	SLIDE VR VJ-201 PVN 15CH-B50K OHM	008 835 9 003	L104, 204	COIL IFT RF-A.B 10.6MHZ	047 041 9 007
	FRONT BODY SPC 397X140X1T ZN-PLATE	254 104 9 001	L103	COIL IFT RF AMP 10.6MHZ	047 041 9 008
	MAIN BODY SPC 246X215X1T ZN-PLATE	257 159 9 001	L105	COIL IFT 455KHZ-A	047 041 9 009
	BACK BODY SPC 260X80X1T BLACK SILK	262 061 9 001	L106	COIL IFT 455KHZ-B	047 041 9 010
	BRACKET "L" (TRANS MTG) SPC 1.2T26X24 ZN-PLATE	250 185 9 001	L107	COIL IFT 455KHZ-C	047 041 9 011
	FUSE HOLDER FH002	742 043 9 001	L301	COIL RF AMP-A 27MHZ	046 039 9 008
Q402	TRANSISTOR 2SA950Y	177 032 9 001	L302	COIL AM AMP27MHZ C	046 039 9 009
Q403, 404	TRANSISTOR KTC1815(Y)	176 089 9 003	L303	COIL RD AMP-D 27MHZ	047 041 9 012
Q201, 202, 203	TRANSISTOR MPS9634(C)	176 128 9 001	L304	COIL RF AMP-E 27MHZ	046 039 9 011
			L307	COIL AM TX ANT 27MHZ A	046 039 9 012
			L305	COIL AM TX ANT 27MHZ B	046 039 9 013
			L306	COIL AM IFT 27MHZ TX ANT TUNING - C	046 039 9 014
			L203	COIL VCO OSC	046 039 9 015

FREQUENCY CHART

(Table 1)

CH NO	CHANNEL FREQ(MHz)	CRYSTAL OSC	VCO	
			TX	RX
1	26.965	10.24	16.725	16.27
2	26.975	"	16.735	16.28
3	26.985	"	16.745	16.29
4	27.005	"	16.765	16.31
5	27.015	"	16.775	16.32
6	27.025	"	16.785	16.33
7	27.035	"	16.795	16.34
8	27.055	"	16.815	16.36
9	27.065	"	16.825	16.37
10	27.075	"	16.835	16.38
11	27.085	"	16.845	16.39
12	27.105	"	16.865	16.41
13	27.115	"	16.875	16.42
14	27.125	"	16.885	16.43
15	27.135	"	16.895	16.44
16	27.155	"	16.915	16.46
17	26.165	"	16.925	16.47
18	27.175	"	16.935	16.48
19	27.185	"	16.945	16.49
20	27.205	"	16.965	16.51
21	27.215	"	16.975	16.52
22	27.225	"	16.985	16.53
23	27.255	"	17.015	16.56
24	27.235	"	16.995	16.54
25	27.245	"	17.005	16.55
26	27.265	"	17.025	16.57
27	27.275	"	17.035	16.58
28	27.285	"	17.045	16.59
29	27.295	"	17.055	16.60
30	27.305	"	17.065	16.61
31	27.315	"	17.075	16.62
32	27.325	"	17.085	16.63
33	27.335	"	17.095	16.64
34	27.345	"	17.105	16.65
35	27.355	"	17.115	16.66
36	27.365	"	17.125	16.67
37	27.375	"	17.135	16.68
38	27.385	"	17.145	16.69
39	27.395	"	17.155	16.70
40	27.405	"	17.165	16.71