

# SERVICE MANUAL SERVICE MANUAL

## SERVICE MANUAL 40X



**Cobra Model 40X  
40 Channel AM Mobile CB Transceiver  
with Instant Channel 9**

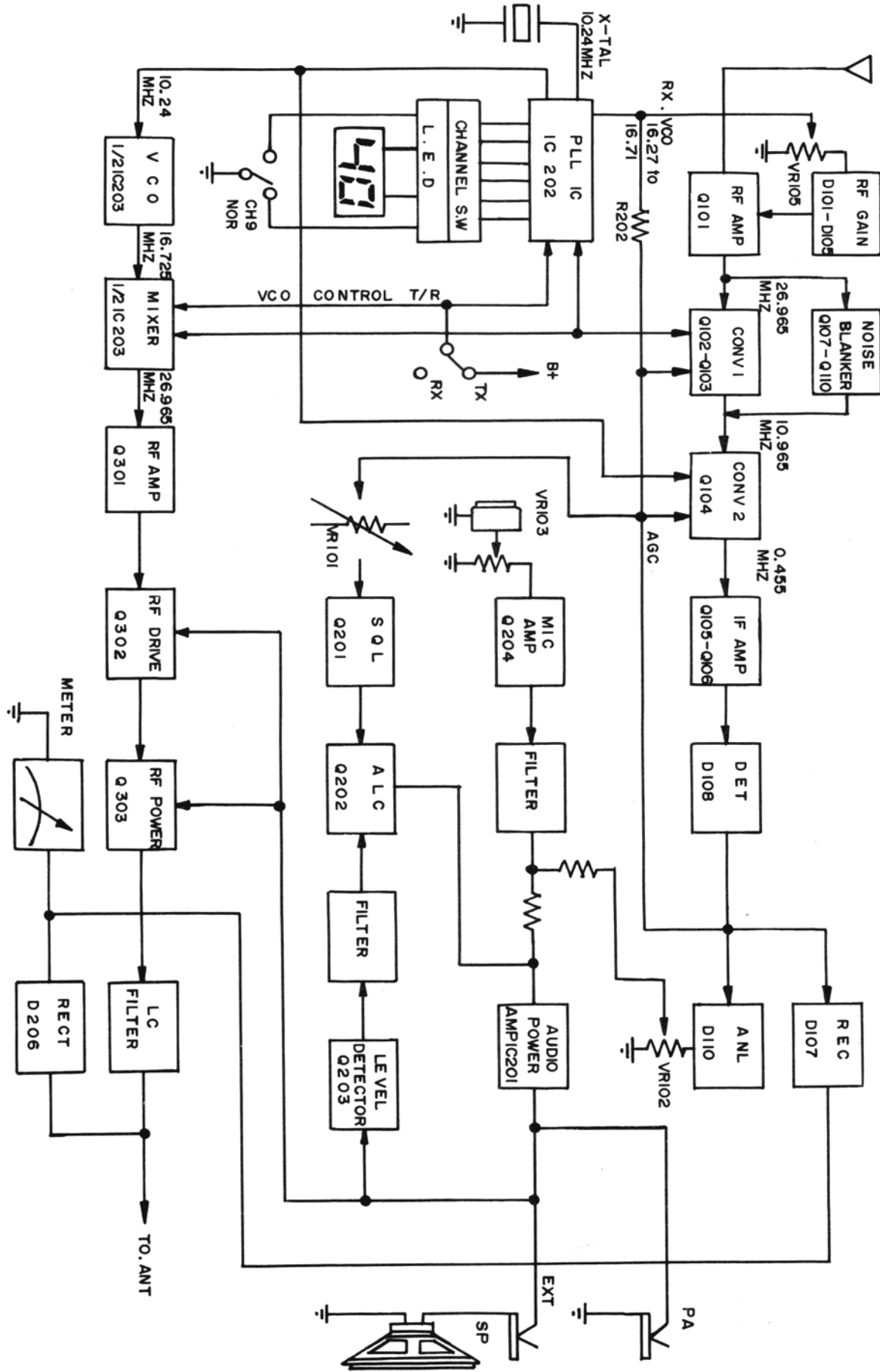
**Cobra Communications Product Group  
DYNASCAN CORPORATION  
6500 West Cortland Street  
Chicago, Illinois 60635**



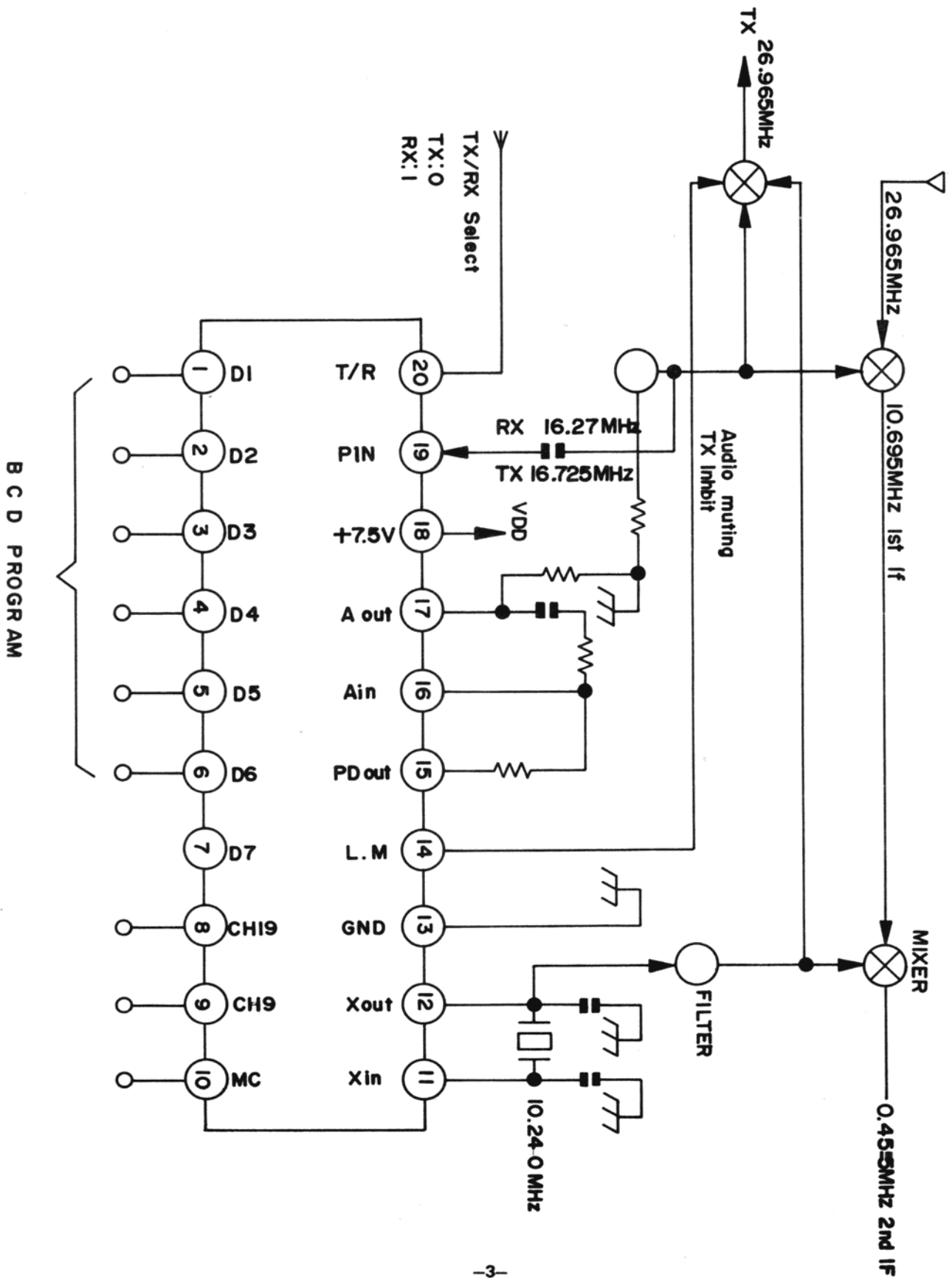
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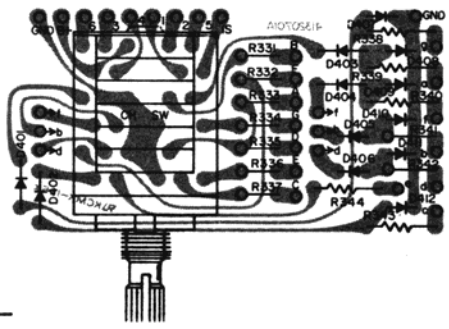
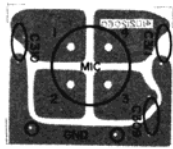
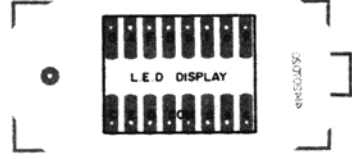
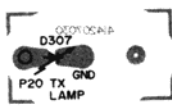
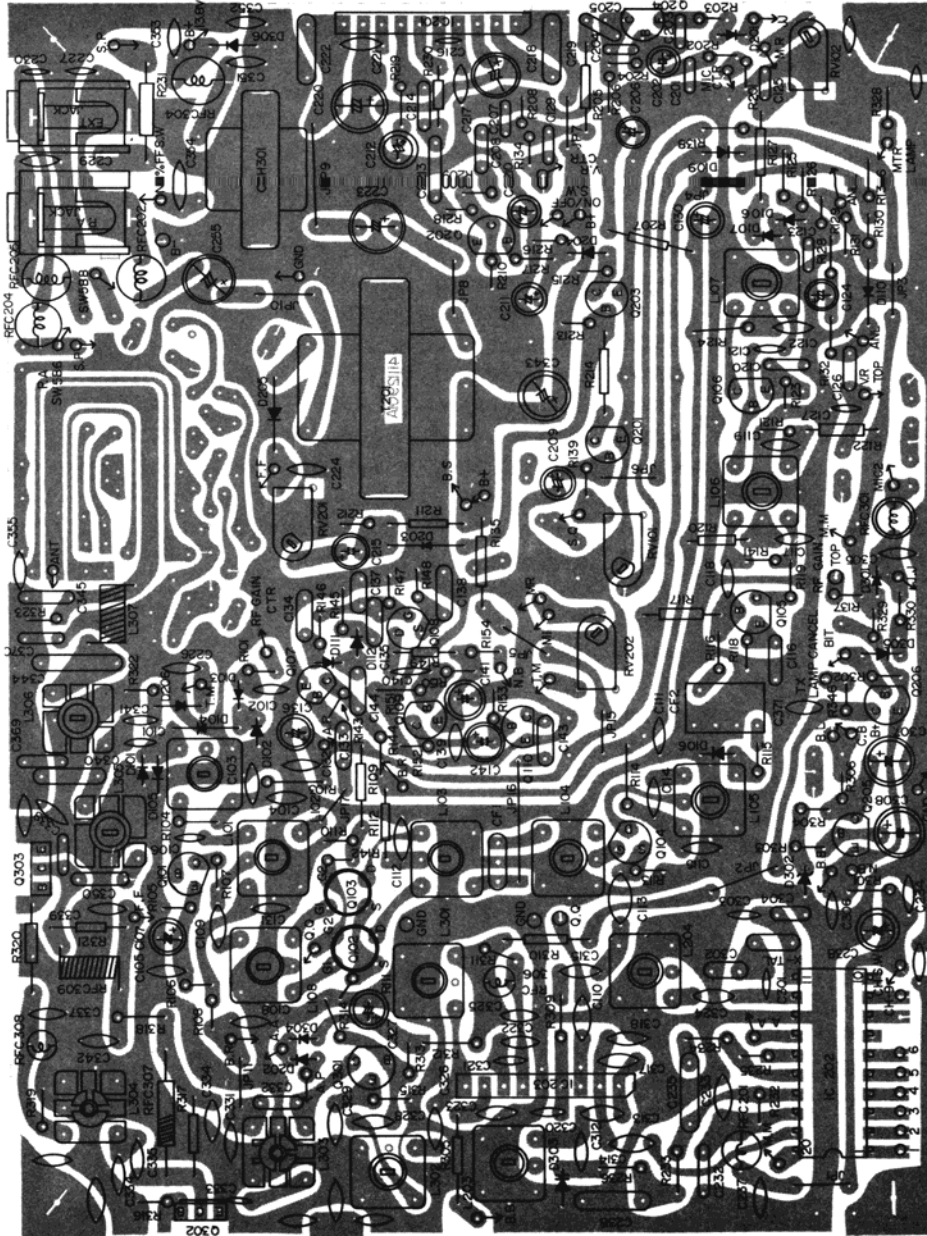
# Functional Block Diagram



# PLL Block Diagram



# Parts Layout. (Component Side)

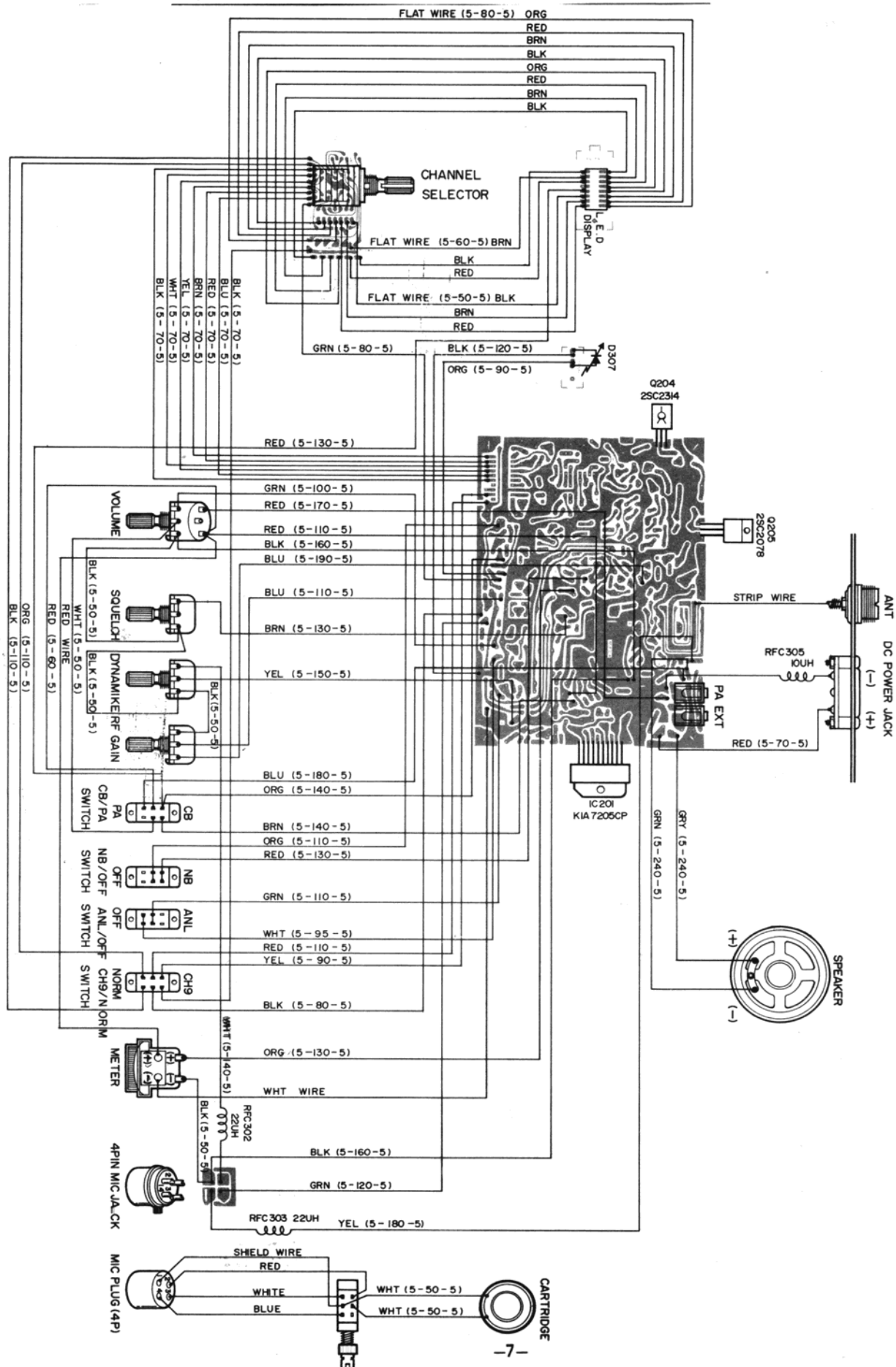




# P. C. B Wiring Diagram

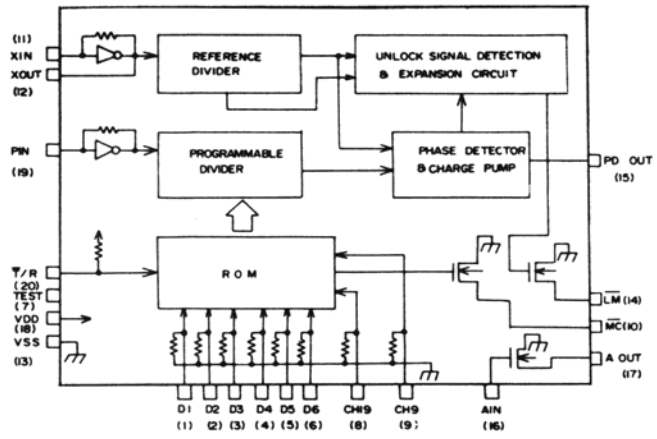


# Wiring Diagram (Chassis and Microphone Pins)

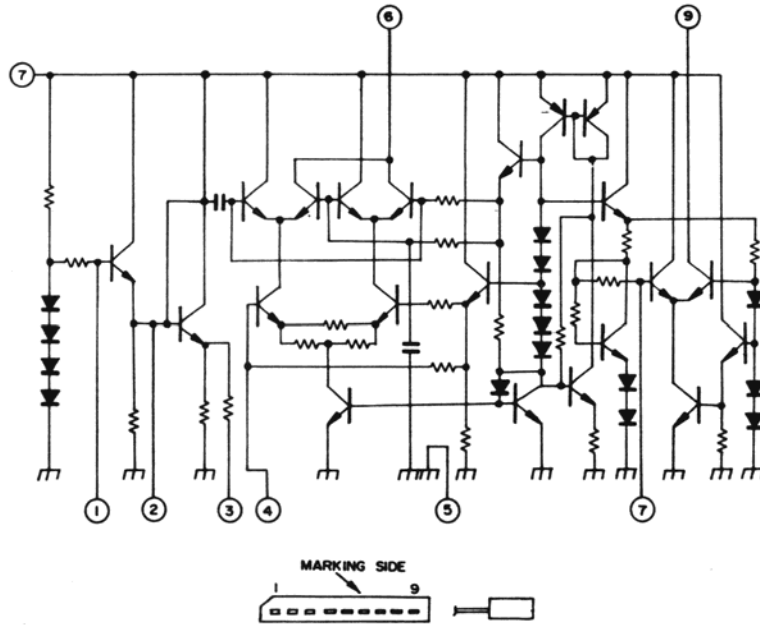




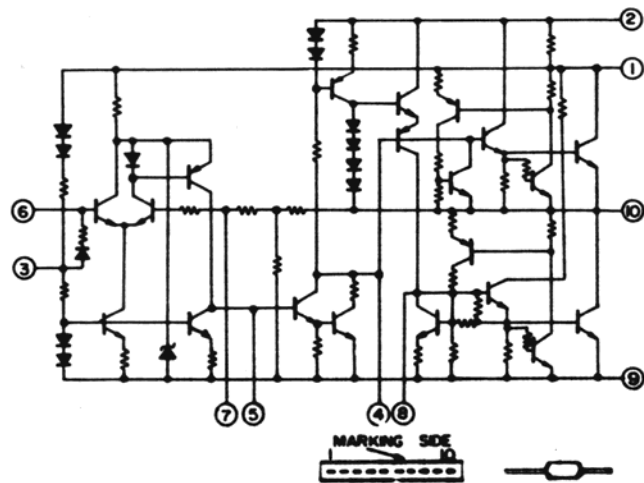
LC7131



ANI03

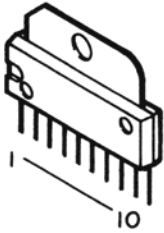


KIA7205CP

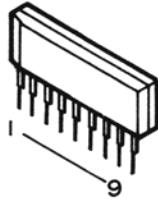


# Integrated Circuits

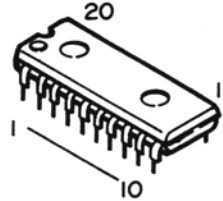
KIA7205CP



TA7310P OR AN103



LC7131



3SK45L



## TRANSISTORS

MPS9623  
MPS9631  
MPS9634  
MPS9681  
MPS9418



MPS9426



2SC1957 OR 2SC2314

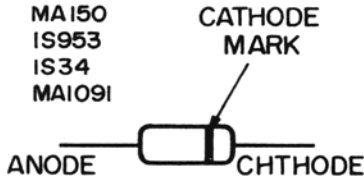


2SC2078 OR 2SC1306 2SK19

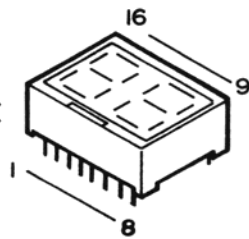


## DIODES

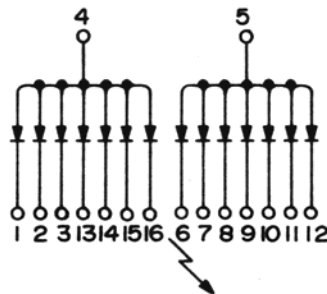
IN 4002  
MA150  
IS953  
IS34  
MA1091



KLR321



SVC251Y



# Voltage Chart

CONDITIONS MEASURED ON 19CH

TRANSISTOR

NO SIGNAL  
NO MODULATION

TR NO	Q101		Q105		Q106		Q107		Q109		Q110		Q201		Q202	
POSITION							NB		OFF/ON				SQ			
TR PIN	RX	TX	RX	TX	RX	TX	RX	TX	RX	TX	RX	TX	MIN	MAX	RX	TX
B	1.50	0.10	1.43	0.18	1.28	0.13	0.75	0.73	0.00	0.00	0.00	0.00	-0.56	0.67	0.75	0.00
							0.75	0.73	7.70	7.73	0.00	0.00				
E	0.89	0.20	0.94	0.00	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							0.00	0.00	8.34	8.32	0.00	0.00				
C	12.09	11.95	10.1	12.16	12.36	12.16	6.76	6.32	0.00	0.00	0.00	0.00	0.70	0.04	3.54	0.00
							6.76	6.32	2.32	2.44	0.00	0.00				

TR NO	Q203		Q204		Q205		Q206		Q301		Q302		Q303	
POSITION														
TR PIN	RX	TX	RX	TX	RX	TX	RX	TX	RX	TX	RX	TX	RX	TX
B	0.37	0.69	11.95	2.06	9.04	9.01	8.40	7.61	0.29	1.40	0.00	0.01	0.00	0.04
E	0.00	0.00	12.4	1.40	8.40	8.38	8.40	8.38	0.00	0.68	0.00	0.00	0.00	0.00
C	3.38	0.05	12.9	6.39	12.79	11.96	1.28	8.29	12.97	12.00	13.6	9.56	13.5	11.28

CONDITIONS MEASURED ON 19CH  
NO SIGNAL  
NO MODULATION

IC

IC NO	ICPINNO	RX	TX	IC NO	ICPINNO	RX	TX
IC201	1	13.72	13.40	IC202	11	3.65	3.59
	2	12.61	12.34		12	4.02	4.01
	3	4.01	3.91		13	0.00	0.00
	4	8.14	7.99		14	1.42	4.56
	5	1.347	1.20		15	1.845	1.75
	6	3.41	3.30		16	1.845	1.75
	7	3.39	3.33		17	1.202	2.48
	8	1.342	1.32		18	8.15	8.14
	9	0.00	0.00		19	3.75	3.63
	10	6.80	6.67		20	7.49	0.795
IC202	1	8.15	8.15	IC203	1	2.58	2.55
	2	0.04	0.04		2	1.90	1.90
	3	0.04	0.04		3	1.31	1.34
	4	8.15	8.15		4	1.90	2.63
	5	8.15	8.15		5	0.00	0.00
	6	0.04	0.04		6	1.294	7.88
	7	0.04	0.04		7	2.15	2.10
	8	0.04	0.04		8	5.96	6.28
	9	0.04	0.04		9	1.292	7.88
	10	0.00	0.00				

CONDITIONS MEASURED ON 19CH  
NO SIGNAL  
NO MODULATION

FET

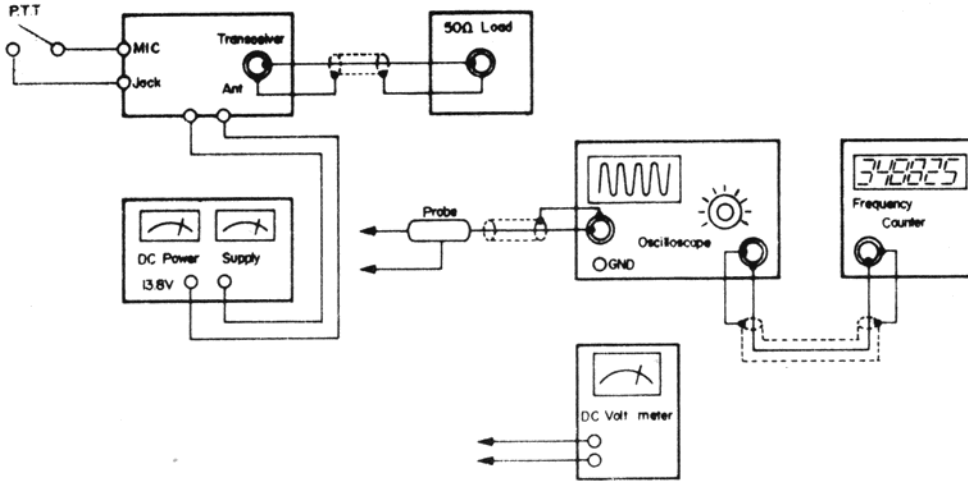
FET NO	Q102		Q103	
POSITION				
FET PIN	RX	TX	RX	TX
GATE 1	0.00	0.00	0.00	0.00
GATE 2	0.45	0.05	0.45	0.05
DRAIN	11.73	11.22	11.73	11.22
SOURCE	7.717	0.540	0.717	0.540

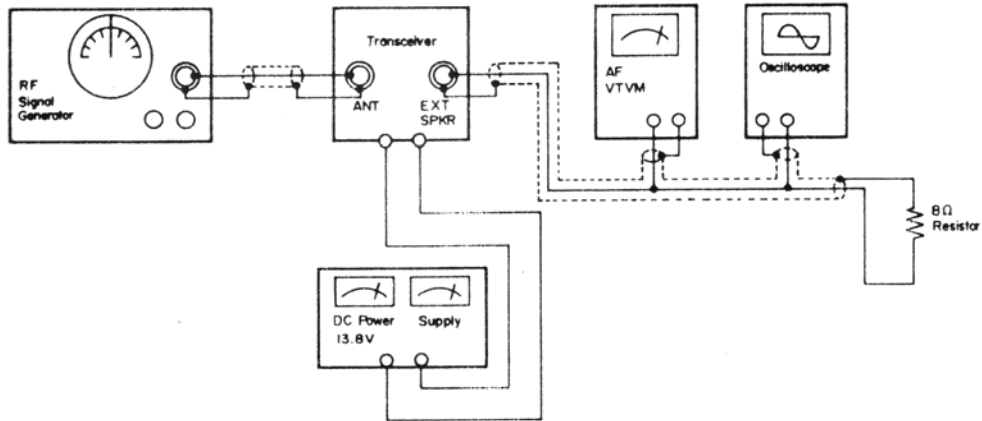
FET NO	Q104		Q108	
POSITION			NB OFF/ON	
FET PIN	RX	TX	RX	TX
GATE	0.00	0.00	0.00	0.03
			0.00	0.03
DRAIN	12.5	11.7	0.00	0.00
			6.36	6.37
SOURCE	2.23	2.22	0.00	0.00
			1.96	1.94

# Test Equipments Setup

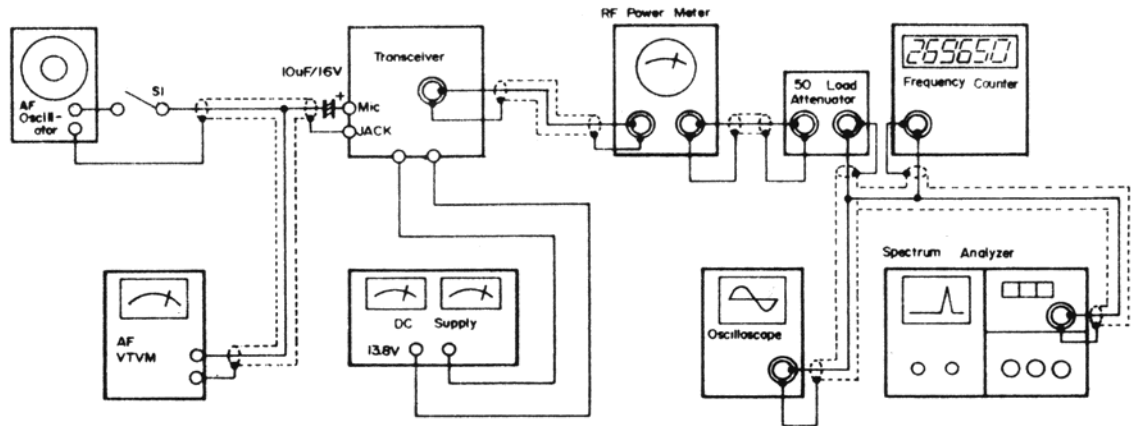
## PLL AND CARRIER SECTION



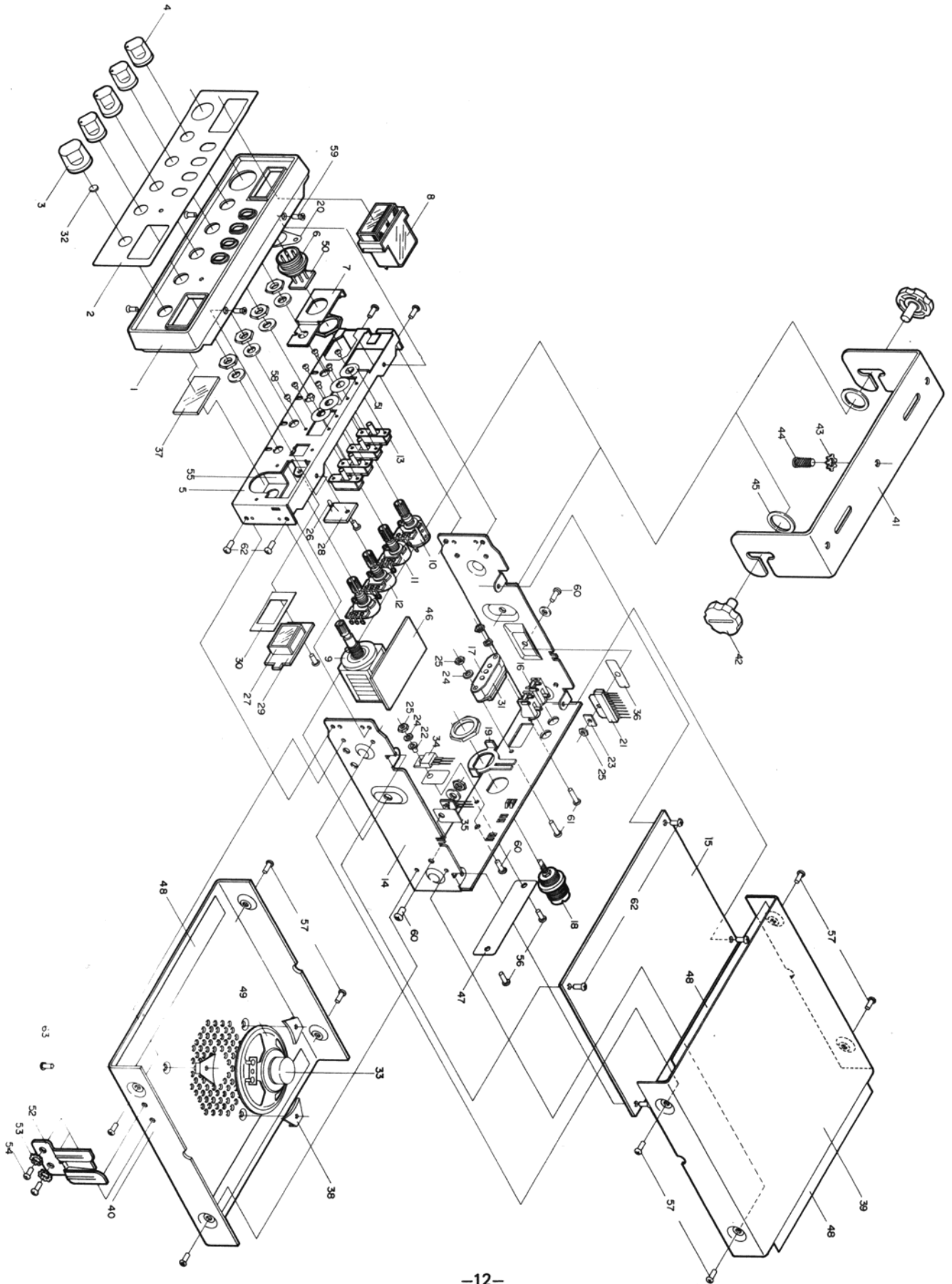
## RECEIVER SECTION



## TRANSMITTER SECTION



# Exploded View



## Exploded View Part List

REF NO.	PART NO.	DESCRIPTION	REF NO.	PART NO.	DESCRIPTION
1	800110390	Escutcheon	33	832140040	Cap (Speaker)
2	783133030	Over Lay	34	01130040E	Transistor 2SC2078(E)
3	821130010	Konb (Channel)	35	01130070E	Transistor 2SC2314(E)
4	82213007B	Knob (Control)	36	900140960	Mica
5	702130760	Front Body	37	811140300	Lens
6	862140230	4P Connector Socket	38	736140010	Holder (Speaker)
7	722140880	Bracket (4P MTG)	39	711120580	Cover (Upper)
8	865130010	Meter	40	712120660	Cover (Bottom)
9	866130020	Rotary S.W	41	729130570	Bracket (Set Mtg)
10	15503211A	Resistor Variable 50KA (W/OFF-ON S.W)	42	60000400A	Securing Screw
11	15103201B	Resistor Variable 10KB (WO/S.W)	43	664005210	Lock Washer B Type M5
12	15503201B	Resistor Variable 50KB (WO/S.W)	44	625512110	Tapping Screw (T.H) 5x12-1S
13	866140200	Slide S.W	45	660013270	Washer Rubber 7x1.5T
14	701120470	Main Body	46	413207014	P.C.B Rotary S.W
15	41112901A	P.C.B Main	47	784142840	Name Plate
16	861140170	Earphone Jack	48	903140490	Strip Felt
17	861140080	Lug Plate	49	865130070	Speaker
18	864142500	ANT	50	410212060	P.C.B 4P Connector
19	738140340	Holder	51	904140030	Felt (Slide S.W)
20	738140470	Holder	52	725140040	Bracket (MIC MTG)
21	021100300	I.C KIA7205CP	53	664004210	Lock Washer B Type M4
22	859140390	Bushing	54	624410210	Tapping Screw (T.H) 4x10-2S
23	660029110	Square Washer	55	723140020	Bracket (Rotary S.W)
24	662003110	Spring Washer	56	675203230	Rivet
25	651003110	NUT M3-1S	57	631306020	Tap Tite Screw (P.H) 3x6
26	030003000	L.E.D Lamp	58	611204010	Machine Screw (P.H) M2x4
27	030004100	L.E.D Display	59	612305010	Machine Screw (F.H) M3x5
28	414207030	P.C.B LED Lamp	60	613308010	Machine Screw (B.H) M3x8
29	41420702A	P.C.B LED Display	61	613316010	Machine Screw (B.H) M3x16
30	901280	Insulation Plate	62	623306210	Tapping Screw (B.H) 3x6-2S
31	815130030	Housing (3P Connector)	63	623310220	Tapping Screw (B.H) 3x10 2S
32	904340500	Insulation Ring			

## PARTS LIST FOR COBRA MODEL 40X

Reference No.	Manufacturer's Part Number	DYNASCAN Part Number	Reference No.	Manufacturer's Part Number	DYNASCAN Part Number
R104,108	0111019GR	182-029-9-001	C344	263310775	023-081-9-001
Q201,202,203	01120020C	176-128-9-001	C303,338	264700775	023-065-9-006
Q101,107,301	01120030C	176-115-9-001	C302	265600775	023-065-9-005
Q109,206	01120060T	177-049-9-001	C133	268090775	023-081-9-002
Q205	01120070T	176-115-9-004	CH301	31000819B	042-041-9-001
Q106	01120080H	176-125-9-001	T201	31001928D	061-057-9-001
	011103100	176-028-9-003	RFC305	33100100H	047-008-9-001
Q105	01120080I	176-115-9-002	RFC304	33100100V	047-008-9-002
	011103100	176-028-9-003	RFC307	331091000	041-134-9-007
Q110,204	01120100T	176-132-9-001	RFC202,204,205	331092000	041-134-9-006
Q303	01130040E	172-062-9-001	RFC301,302,303	332201000	041-134-9-002
	011600400	172-024-9-002	RFC201	332500050	041-134-9-001
Q302	01130070E	176-120-9-001	RFC306	334540050	046-039-9-001
	011600100	172-059-9-001	RFC309	335042000	041-134-9-008
Q102,103	01170010B	182-138-9-001	RFC308	336890050	041-134-9-004
IC201	021100300	307-272-9-001	L108	340003100	047-008-9-003
IC202	021300400	307-272-9-002	L101	34000510B	046-039-9-002
IC203	021401200	307-272-9-003	L102	34000610A	046-039-9-003
D102,105,108,111,112,206	030000600	150-001-9-005	L104,204	34000710A	046-039-9-004
	030000700	150-016-9-001	L103	34000710B	047-008-9-004
D302	030000800	152-114-9-001	L105	340008100	046-039-9-005
D101,103,104,106,107,109, 110,201,202,203,204,301, 304,305,401,402,403,404, 405,406,407,408,409,410, 411,412	030005200	151-035-9-001	L106	340009100	046-039-9-006
			L107	340010100	046-039-9-007
			L301	34001210A	046-039-9-008
			L302	340013100	046-039-9-009
			L303	340014100	046-039-9-010
			L304	340015100	046-039-9-011
			L307	34001600B	046-039-9-012
D205,306	030001500	151-050-9-001	L305	34001710B	046-039-9-013
	030001400	151-082-9-001	L306	340018100	046-039-9-014
D303	030002100	154-009-9-001	L203	340035100	046-039-9-015
	030002000	154-008-9-001	PCB 40 Connector	410212060	302-670-9-001
D307	030003000	158-045-9-001	PCB Rotary	41320701A	302-672-9-001
	030004100	238-019-9-001	PCB LED Display	41420702A	302-673-9-001
X201	042500200	132-036-9-001	PCB LED Lamp	414207030	302-674-9-001
CF2	052600500	140-006-9-001	Microphone Assembly	501020150	561-002-9-001
CF1	052600800	140-006-9-002	Cover Upper	711120580	253-112-9-001
R318	1410001JS	011-001-5-100	Cover Bottom	712120660	252-045-9-001
R231	1415002JS	011-002-5-150	Bracket 4P Mtg.	722140880	250-104-9-001
VR104	15103201B	008-436-9-001	Name Plate	784142840	600-110-9-001
VR103,105	15503201B	008-457-9-001	Escutcheon,	800110390	380-461-9-001
VR102	15503211A	008-436-9-002	Lens (Red)	811140300	753-013-9-001
RV101,201	1810308KH	008-407-9-004	Knob (Channel)	821130010	751-209-9-001
C114	224710770	025-182-9-001	Knob (Control)	82213007B	751-234-9-003
C332,350	261010775	023-065-9-004	Earphone Jack	861140170	773-126-9-001
C345	261810775	023-065-9-003	Meter	865130010	320-118-9-001
C340	262710775	023-065-9-002	Speaker 3" 8 ohm 2W	865130070	580-136-9-001
			Rotary SW. 40 Ch	866130020	083-274-9-001
			Push Sw.	866140100	088-071-9-001
			Slide Sw.	866140200	084-117-9-001
			Power Cord Assembly	871130010	420-040-9-001
			Schematic	933141470	499-240-9-001

