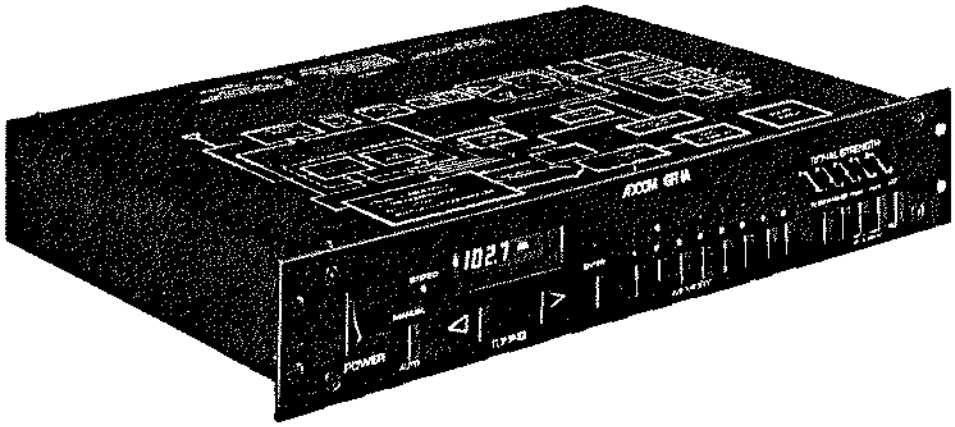
Service Manual

ADCOM
TUNER
GFT-1A

ADCOM®
fine stereo components

The ADCOM GFT-1A AM/FM stereo tuner combines the latest thinking in tuner design with special computer fabrication technology

- Quartz-referenced, digitally synthesized tuning circuit for accurate, drift-free recepetion
- Sixteen easily programmable presets (eight FM and eight AM) for rapid access to stations
- Built-in lithium battery protects memory from erasure during power interruptions
- Automatic scan tuning
- Fluorescent frequency display
- Built-in record calibration tone oscillator
- Hi-blend circuit for improved listenability on weak stations
- Five stage LED signal strength meter
- 300 ohm and 75 ohm antenna terminals (75 ohm 'F' connector for cable installations)
- Rack mountable
- Optional oiled oak wood side panels available



GFT-1A Stereo Tuner

ELECTRICAL ADJUSTMENT PROCEDURE

1. AM SECTION

1-A. IF ALIGNMENT

a. Set the Function switch to AM.
b. Set up the test equipment as Fig. 1-1 and set the IF genescope output level to 80dB(10mV).
c. Adjust T-201 and T-202 so that figure developed on the genescope becomes laterally symmetrical with the axis of symmetry at 450KHz and it has a maximum amplitude as well.

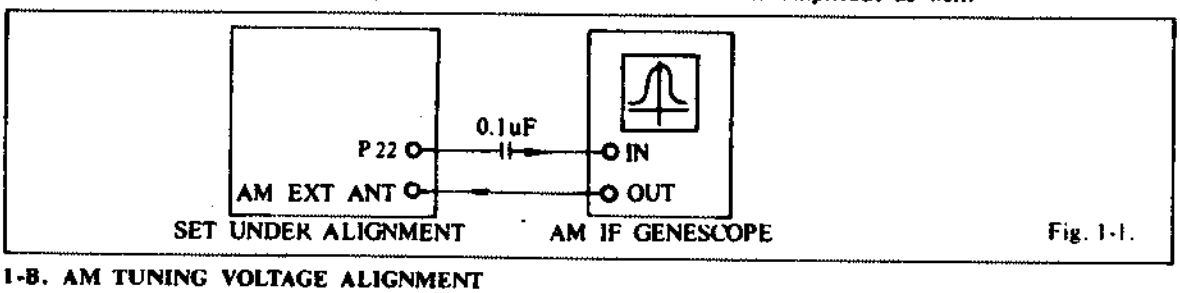


Fig. 1-1.

1-B. AM TUNING VOLTAGE ALIGNMENT

a. Set the Function switch to AM.
b. Set up the test equipment as Fig. 1-2.
c. Set the frequency of the Tuner to the high end frequency.
d. Adjust TC202 so that DVM reads DC 25V ±0.1V.
e. Set the frequency of the Tuner to the low end frequency.
f. Adjust L201 so that DVM reads DC 2.2V ±0.1V.
g. Repeat steps c to f until DVM reads given voltage at given frequencies.

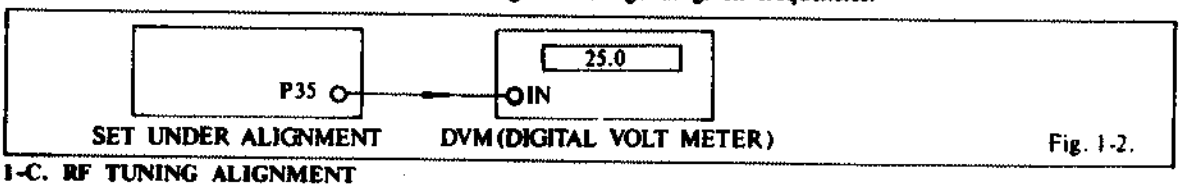


Fig. 1-2.

1-C. RF TUNING ALIGNMENT

a. Set the Function switch to AM.
b. Set up the test equipment as Fig. 1-3.
c. Set the AM SG to 30% Modulation at 400Hz and 70~80dB output (3-10mV which gives field intensity 150~500uV/m to the bar antenna).
d. Set AM SG to 600KHz and set the frequency of the Tuner to 600KHz, and then adjust L202 which is inside of ferrite bar antenna to maximize audio output level.

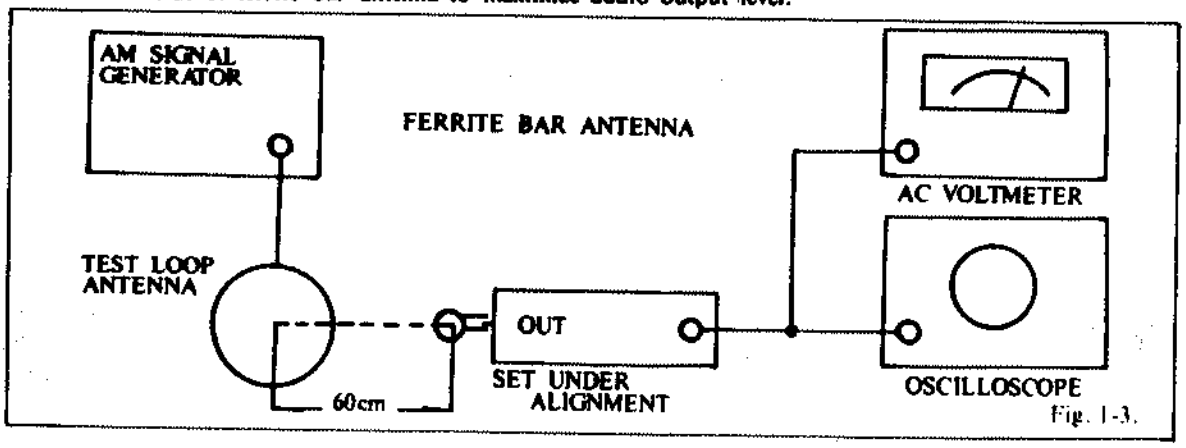


Fig. 1-3.

2-C. RF TUNING ALIGNMENT

a. Set up the test equipment as Fig.2-3.
b. Set FM SG to 75KHz deviation at 1KHz and 1-2uV output.
c. Set the frequency of the Tuner to 90MHz and then adjust cores of L101,L103 and L104 so that audio output is maximized.
d. Set the frequency of the Tuner to 106MHz and adjust TC101,TC102 and TC103 so that audio output is maximized.
e. Repeat steps c and d until no further improvement.
f. Set the frequency of the Tuner to 98MHz and then adjust left core of T102 so that distortion is minimized.

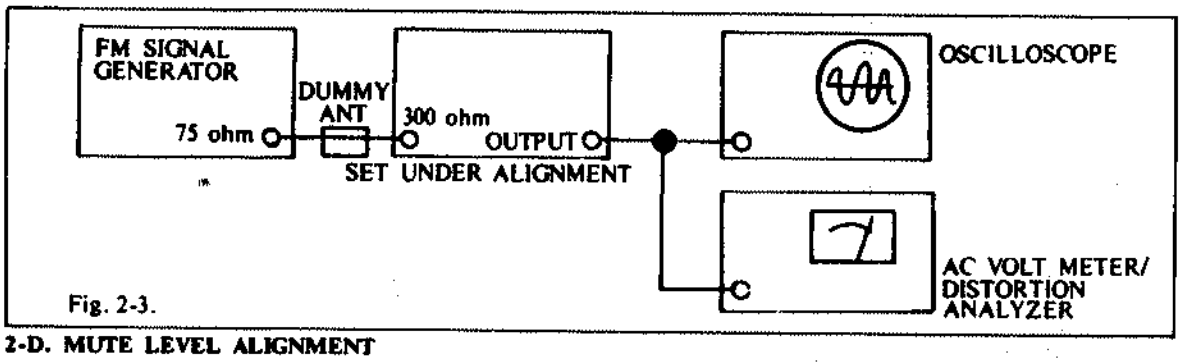


Fig. 2-3.

2-D. MUTE LEVEL ALIGNMENT

a. Set the MUTE switch to ON position.
b. Set the test equipment as Fig. 2-3.
c. Set the FM SG to 7~10uV output.
d. Tune FM SG and the Tuner to 98.0MHz and stop adjusting VR101 at the position where muting marginally occurs.

2-E. MPX ALIGNMENT

a. Set the MODE switch to STEREO.
b. Set up the test equipment as Fig. 2-4.
c. Set FM SG to 60dB(1mV) and MPX SG to 75KHz deviation at 1KHz for left(right) channel and 7.5KHz deviation for 19KHz pilot signal.
d. Set the frequency 98.0MHz.
e. Set FM SG to modulation off position and adjust VR103 so that frequency counter reads 76KHz.

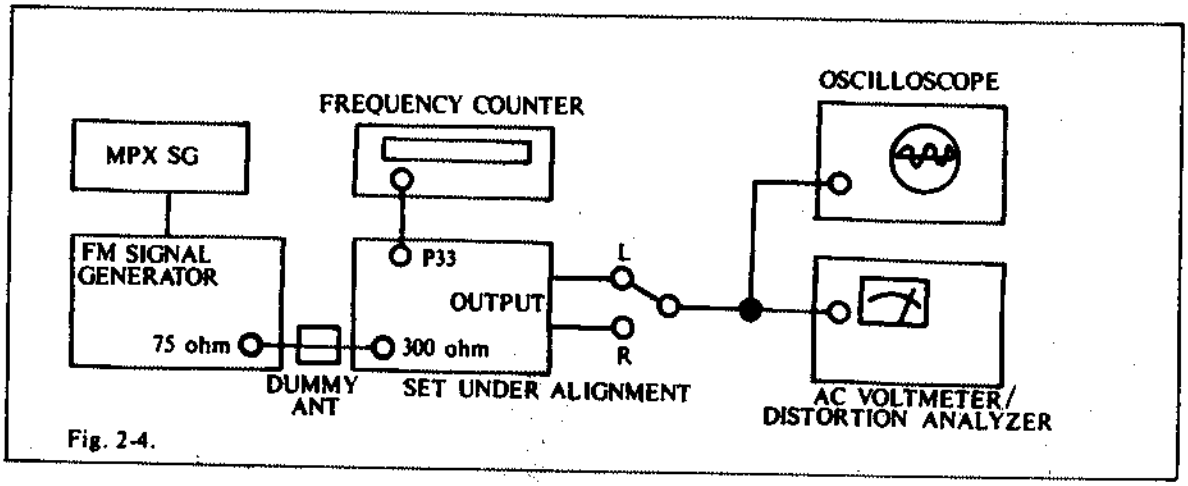
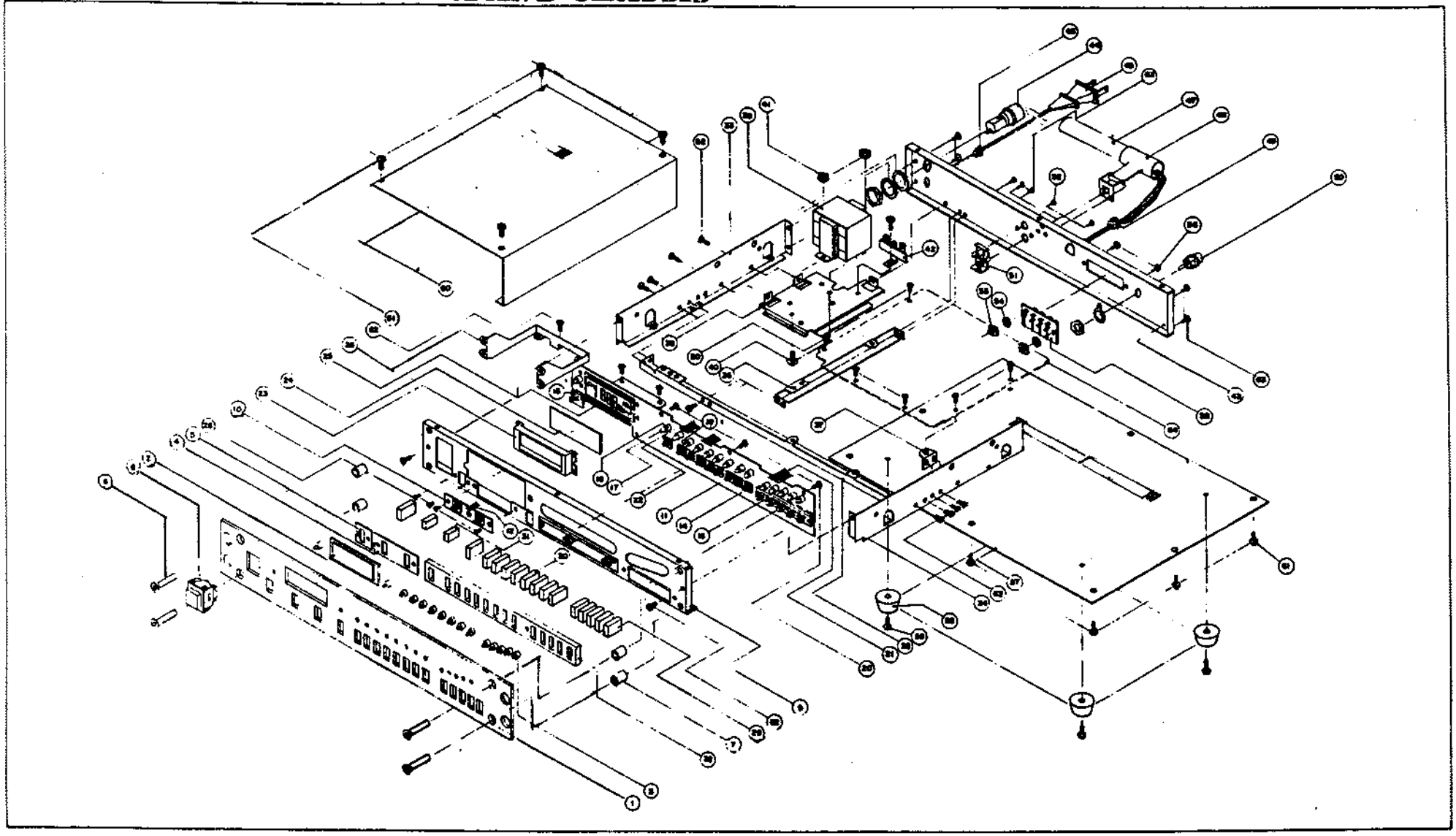
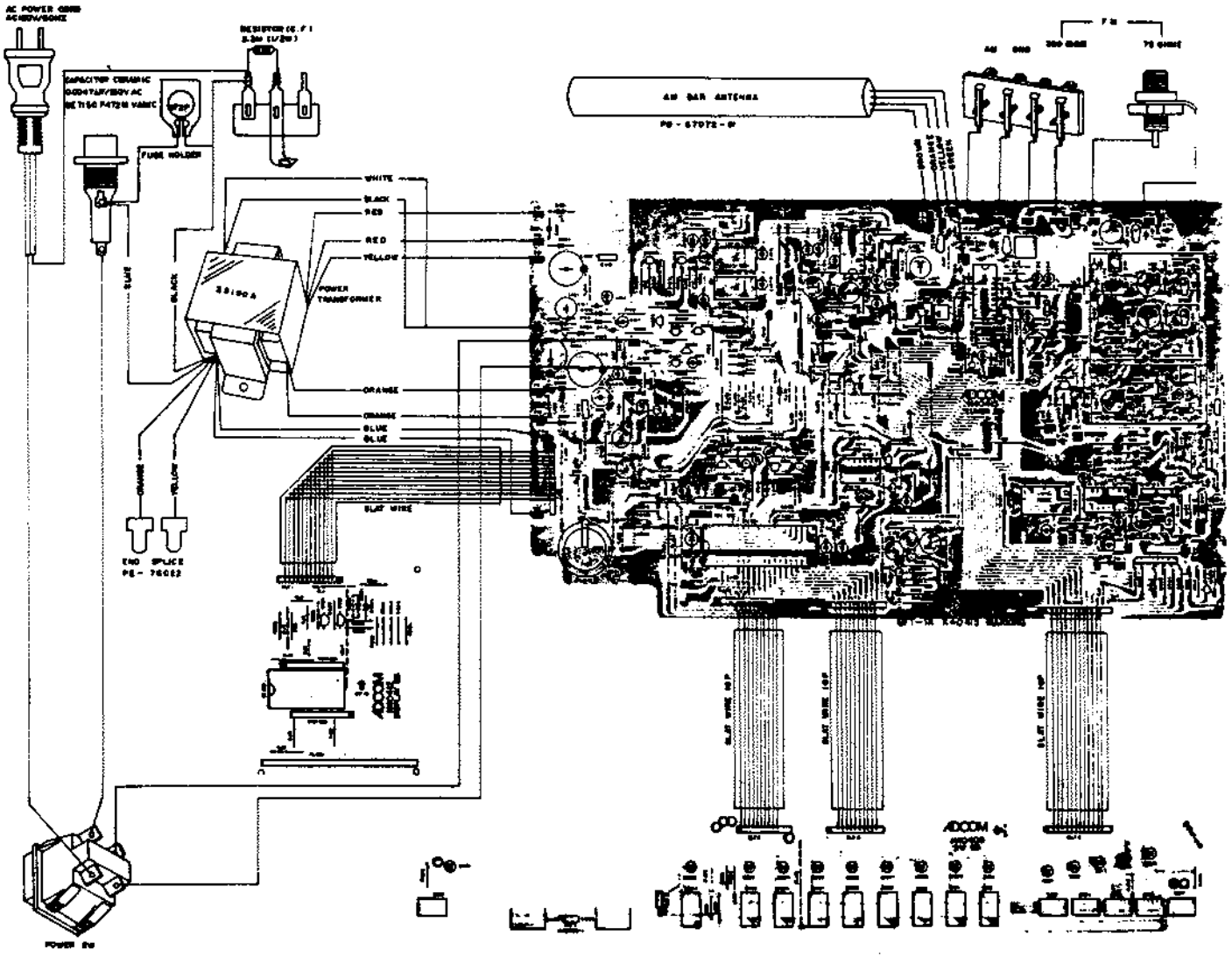


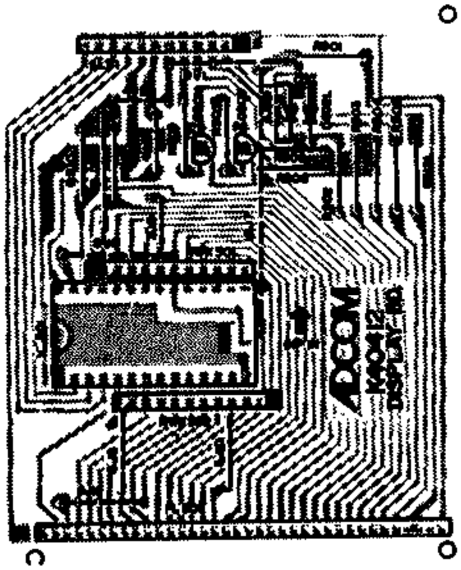
Fig. 2-4.

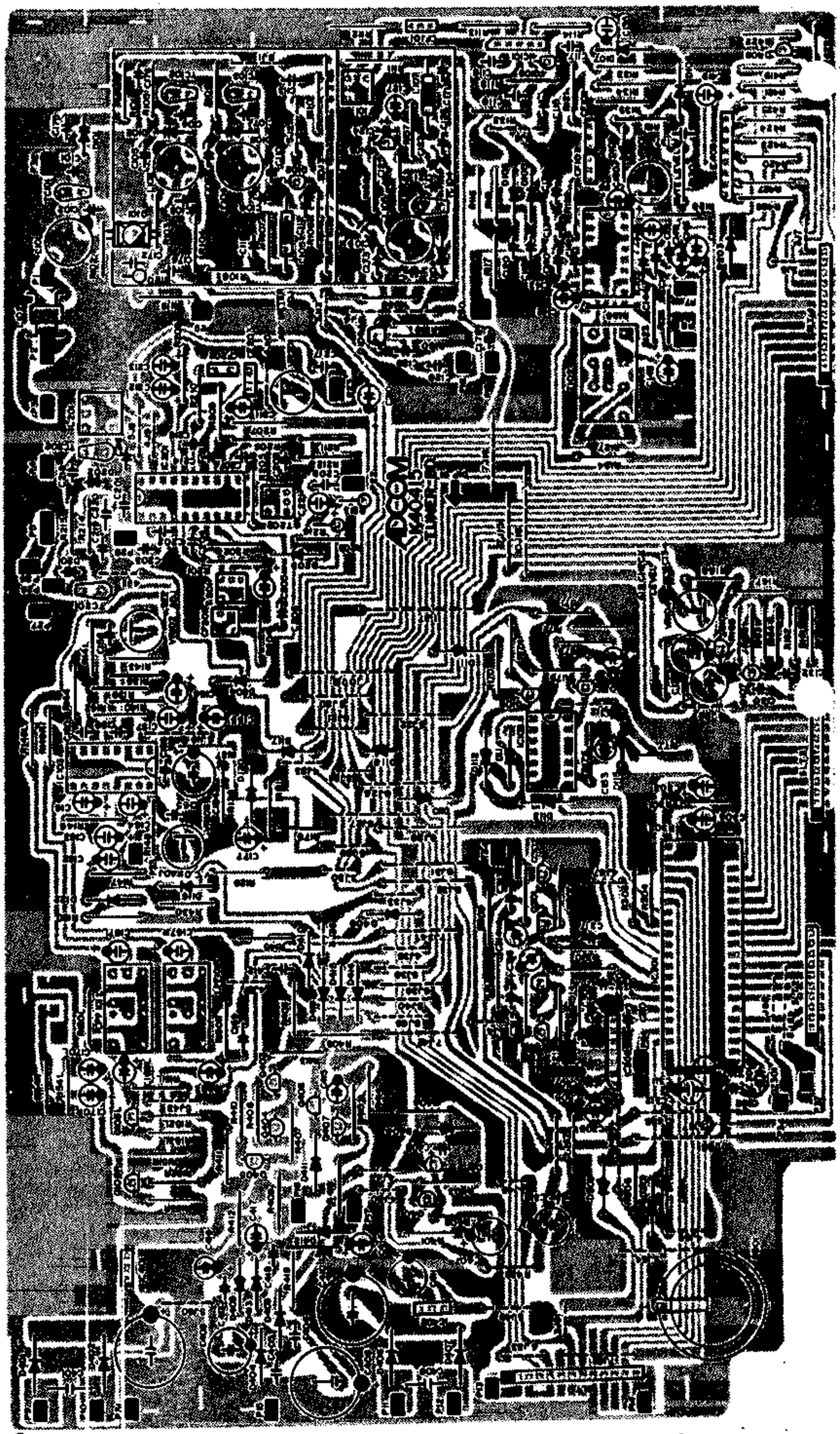
EXPLODED VIEW OF CABINET AND CHASSIS



POINT TO POINT WIRING DIAGRAM







PARTS LIST ACCORDING TO EXPLODED VIEW

NO.	PARTS NO.	DESCRIPTION	Q'TY
1	PC-61138	FRONT PANEL	1
2	PE-63178	F/L WINDOW	1
3	PE-71326	INDICATOR	15
4	PE-71330	KNOB GUIDE B	1
5	PE-71361	KNOB GUIDE C	1
6	PE-70075	PANEL SCREW	4
7	PE-65063-01	BUSHING	4
8	AE-90366-02	POWER SW ASS'Y	1
9	PC-62515	FRONT CHASSIS	1
10	PC-K40409-02	UP DOWN BOARD	1
11	TE-90279 P	TACT SWITCH(KHC10903)	2
12	PE-67205-02	SLAT WIRE(3P)	1
13	PD-K40411-02	DISPLAY BOARD	1
14	PC-K40409-01	SWITCH BOARD	1
15	PE-90226	PUSH SWITCH(1KEY)	1
16	PE-90341	PUSH SWITCH(5KEY)	1
17		LED SLR-54GC3	1
18		LED SLR-54URC3	14
19	PE-71213	LED-SPACER	15
20		SCREW WPTC 3×6	5
21	PE-67198-03	SLAT WIRE(12P)	1
22	PE-67197-03	SLAT WIRE(10P)	2
23	PD-71328	F/L TUBE CAP	1
24	PE-63171- 02	F/L FILTER	1
25		F/L DISPLAY(FIP 7B8S)	1
26	PD-68825	F/L BOARD BRACKET	1
27		SCREW BM3×8	4
28		SCREW BM3×6	4
29	PE-72361	PUSH KNOB	6
30	PE-72359	TACT KNOB "A"	9
31	PE-72360	TACT KNOB "B"	2
32	PD-71327	KNOB GUIDE "A"	1
33	PD-62328A-04	MAIN FRAME "L"	1
34	PC-62328A-03	MAIN FRAME "R"	1

NO.	PARTS NO.	DESCRIPTION	Q'TY
35	PC-62516	SUPPORT FRAME "A"	1
36	PD-62517	SUPPORT FRAME "B"	1
37	PE-68826	P. C. B BRACKET	1
38	PE-68514-02	P/T BRACKET	1
39	PD-35190A	POWER TRANSPORMER	1
40		SCREW WPM4×10	2
41		FLANGE NUT M4	2
42	PE-77092A	LUG STATION	1
43	PC-62518-03	BACK CHASSIS	1
44	PE-69099	FUSE HOLDER	1
45	PD-67199	AC CORD	1
46	PD-71344	CORD STOPPER(SR-4K-1)	1
47	PD-67072-01	AM BAR ANT	1
48	AE-10037A-01	ANT HOLDER ASS'Y	1
49	PD-71008	ANT CORD STOPPER	1
50	AE-75179	FM ANT CONNECTOR	1
51	AE-95139	RCA JACK(2P)	2
52		SCREW PTC 3×8(B)	1
53	PE-76033	ANT TERMINAL	2
54		SPRING WASHER ϕ3	2
55		NUT HEX M3	2
56		SCREW M3×10(B)	1
57	PC-62519	BOTTOM COVER	4
58	AE-71175	RUBBER FOOT	4
59		SCREW BTC 3×12	4
60	PC-74386	STEEL CABINET	1
61		SCREW #3 BTC 3×6(B)	8
62		SCREW #3 BTC 3×6	11
63		SCREW #3 PTC 3×6(B)	8
64	PC-74381	CUSHION	2
65	PE-74380	C/T BOX	1
66	PE-67020-04	PATCH CORD	1
67	PE-74311	POLY BAG	1

PARTS LIST

Ref. No.	Parts No.	Description	Q'ty
R127, R133 R149L/R R308, R310	3009332273	Resistor Carbon 3.3K ohm 1/4 W	6
R141, R165	3009392273	Resistor Carbon 3.9K ohm 1/4 W	2
R107, R117 R128, R131 R154L/R R176	3009472273	Resistor Carbon 4.7K ohm 1/4 W	7
R130	3009512273	Resistor Carbon 5.1K ohm 1/4 W	1
R148, R312 R402	3009562273	Resistor Carbon 5.6K ohm 1/4 W	3
R157	3009682273	Resistor Carbon 6.8K ohm 1/4 W	1
R116, R403 R404	3009822273	Resistor Carbon 8.2K ohm 1/4 W	3
R161 R208, R209 R309, R313 R401, R430	3009103273	Resistor Carbon 10K ohm 1/4 W	7
R123, R156 R162, R163 R407	3009123273	Resistor Carbon 12K ohm 1/4 W	5
R159	3009153273	Resistor Carbon 15K ohm 1/4 W	1
R125	3009183273	Resistor Carbon 18K ohm 1/4 W	1
R108, R147 R168, R175, R214	3009223273	Resistor Carbon 22K ohm 1/4 W	5
R422	3009243273	Resistor Carbon 24K ohm 1/4 W	1
R138, R139 R172	3009273273	Resistor Carbon 27K ohm 1/4 W	3
R129, R181 R301, R410	3009333273	Resistor Carbon 33K ohm 1/4 W	4
R143, R144 R164, R174 R179, R302 R413, R415 R419	3009473273	Resistor Carbon 47K ohm 1/4 W	9
R180, R414	3009563273	Resistor Carbon 56K ohm 1/4 W	2
R213, R216	3009683273	Resistor Carbon 68K ohm 1/4 W	2
R135	3009823273	Resistor Carbon 82K ohm 1/4 W	1
R102, R118 R119, R136 R167, R170 R173, R177 R202, R303 R304, R305 R314, R406 R409, R412	3009104273	Resistor Carbon 100K ohm 1/4 W	16
R151L/R R153L/R	3009124273	Resistor Carbon 120K ohm 1/4 W	4
R428	3009154273	Resistor Carbon 150K ohm 1/4 W	1
R134, R215	3009224273	Resistor Carbon 220K ohm 1/4 W	2
R408, R421	3009334273	Resistor Carbon 330K ohm 1/4 W	2
R417	3009684273	Resistor Carbon 680K ohm 1/4 W	1
R120	3009105273	Resistor Carbon 1M ohm 1/4 W	1

Ref. No.	Parts No.	Description	Q'ty
R152L/R	3009155273	Resistor Carbon 1.5M ohm 1/4 W	2
R411	3009225273	Resistor Carbon 2.2M ohm 1/4 W	1
C109	3529109210	Capacitor Ceramic 1PF/50WV(CH)	1
C173	3529309210	Capacitor Ceramic 3PF/50WV(CH)	1
C108, C110	3529509210	Capacitor Ceramic 5PF/50WV(CH)	2
C123	3529809210	Capacitor Ceramic 8PF/50WV(CH)	1
C101	3529150110	Capacitor Ceramic 15PF/50WV(RH)	1
C125	3529150210	Capacitor Ceramic 15PF/50WV(CH)	1
C104, C107	3529220110	Capacitor Ceramic 22PF/50WV(RH)	2
C121	3529220410	Capacitor Ceramic 22PF/50WV(PH)	1
C301, C302	3529270210	Capacitor Ceramic 27PF/50WV(CH)	2
C124	3529330210	Capacitor Ceramic 33PF/50WV(CH)	1
C102, C111 C141, C408	3509101130	Capacitor Ceramic 100PF/50WV	4
C115, C117 C207, C313 C320	3509102530	Capacitor Ceramic 0.001μF/50WV	5
C103, C105 C106, C112 C122, C126 C128, C171 C174, C175 C201, C214 C217, C305 C310	3509103530	Capacitor Ceramic 0.01μF/50WV	15
C113, C116 C118, C119 C120, C137 C138, C143 C178, C203 C204, C206 C307, C308 C404, C405 C413, C418	3509223530	Capacitor Ceramic 0.02μF/50WV	18
C315	3509472530	Capacitor Ceramic 0.0047μF/50WV	1
C129, C139 C140, C144 C147, C149 C176, C202 C215, C216 C219, C311 C317, C319 C412	3509473530	Capacitor Ceramic 0.047μF/50WV	15
C401, C409	3509103450	Capacitor Ceramic 0.01μF/500WV	2
C135, C162 C314	3409222870	Capacitor Elect. 0.22μF/50WV 3	2
C316	3409233870	Capacitor Elect. 0.33μF/50WV	1
C142, C150 C151, C152 C164, C213 C304, C415	3409210970	Capacitor Elect. 1μF/50WV	7
C168L/R C170L/R C303	3409222970	Capacitor Elect. 2.2μF/50WV	5