

# **SERVICE MANUAL**

**38", 39" CGA, EGA, VGA**

**COLOR MONITOR**

**MODEL: NT-3500, NT-3501, NT-3602**

***NEOTEC GRAPHIC INTERNATIONAL INC.***

2721 NORTH TOWNE AVENUE, POMONA, CA 91767

TEL: (909) 626-9889 FAX: (909) 626-0990

**CAUTION:** *Before servicing this chassis, it is important that the service technician should read the "Safety Precaution" and "Product Safety Notice" in this Service Manual.*

## 1. SAFETY PRECAUTIONS

NOTICE: Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis or picture tube. The following precautions should be observed:

1. Do not install, remove, or handle the picture tube in any manner unless one wears shatterproof goggles. People not so equipped should be kept away while picture tube is handled. Keep picture tube away from the body while handling.

2. When replacing a chassis in the monitor, all the protective devices, such as, barriers, non-metallic knobs, adjustment and compartment shields, and isolation resistor-capacitor, must be put back in place.

3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.

4. Always use the manufacturer's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacturer's. Furthermore where a short circuit has occurred, replaced those components that indicate evidence of overheating.

5. Before returning a serviced monitor to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the monitor by the manufacturer has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for continued protection of the customer and service technician.

## HIGH VOLTAGE

This monitor is provided with a high voltage hold down circuit for clearly indicating that voltage has increased in excess of a predetermined value. Comply with all notes described in this Service Manual regarding this hold down circuit when servicing, so that this hold down circuit may function correctly.

## SERVICE WARNING

With minimum Brightness and Contrast the operating high voltage in this display is lower than 30KV.

If any component having influence on the high voltage is replaced, confirm that the high voltage with minimum Brightness and Contrast is lower than 30KV. To measure high voltage use a high

impedance high voltage meter. (SENSITIVE RESEARCH MODEL: ESH or Equivalent).  
Connect (-) to chassis earth and (+) to the CRT anode button.

*NOTE: Make sure to turn power switch off before making the connection to the Anode Button.*

## **X-RADIATION**

**TUBE:** The primary source of X-radiation in this monitor is the picture tube. The tube utilized in this chassis is specially constructed to limit X-radiation emissions. For continued X-radiation protection, the replacement tube must be the same type as the original, manufacturer approved type.

When trouble shooting and making test measurements in a monitor with a problem of excessive high voltage, avoid being unnecessary close to the picture tube and the high voltage components. Do not operate the chassis longer than is necessary to locate the cause of excessive voltage.

## **PRODUCT SAFETY NOTICE**

Many electrical and mechanical parts in the color monitor units have special safety related characteristics. These are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for high voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this Service Manual. Electrical components having such feature are identified by marking with "!" on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have same safety characteristics as the manufacturer recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, X-radiation, or other hazards. Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult this Service Manual.

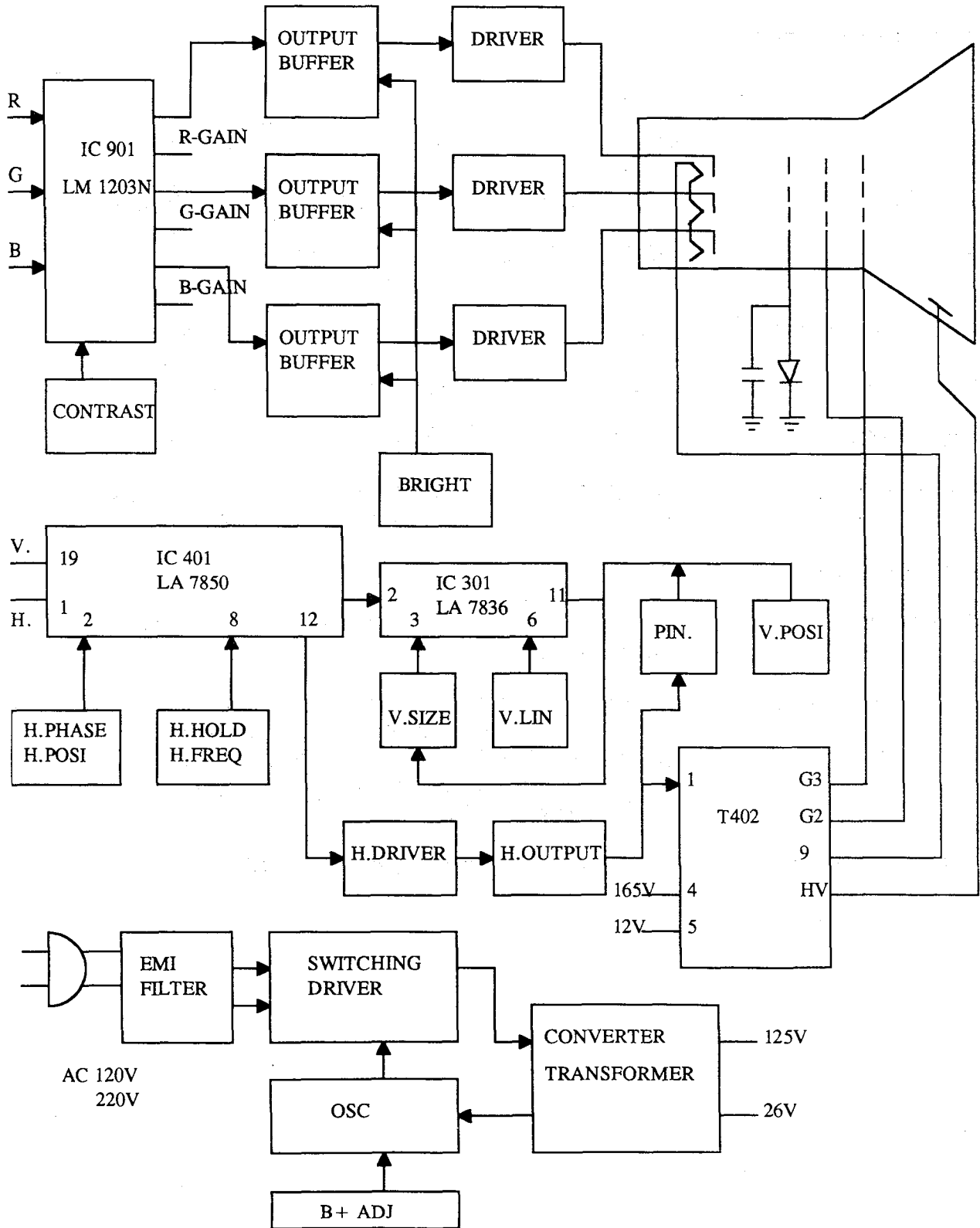
## **2. INTRODUCTION**

This service manual gives information about the NT-3500/NT-3501/NT-3602 color display monitors. These color monitors accept TTL and ANALOG inputs for R.G.B.; they feature stable convergence, easy maintenance and compact styling.

### 3. SPECIFICATION

MODEL:	NT-3500	NT-3501	NT-3602
PICTURE TUBE:	38" 1.0mm D.P.	38" 1.0mm D.P.	39" 1.0mm D.P.
SIGNAL TYPE:	R.G.B. SEPARATE 1.0 - 4.0 V <sub>p-p</sub>	R.G.B. SEPARATE 1.0 - 4.0 V <sub>p-p</sub>	15 PIN D-SUB ANALOG 0.7 V <sub>p-p</sub>
VIDEO BAND WIDTH:	15 MHz	30 Mhz	45 Mhz
RESOLUTION:	560 x 240	640 x 350	640 x 480
FREQUENCY:	15.75 Khz	25 Khz	31.5 Khz
POWER SUPPLY:	120 ~ 220 VAC 50 ~ 60 Hz	120 ~ 220 VAC 50 ~ 60 Hz	120 ~ 220 VAC 50 ~ 60 Hz
POWER CONSUMPTION:	90W	115W	120W
CONTROLS:	BRIGHTNESS, CONTRAST, H-POSITION, V-SIZE, V-POSITION, V-HOLD, PINCUSHION.		
SIGNAL CONNECTOR:	NT-3500 PIN 1: RED, PIN 2: GREEN, PIN 3: BLUE, PIN 4: GROUND, PIN 5: N.C., PIN 6: SYNC. NT-3501 PIN 1: RED, PIN 2: GREEN, PIN 3: BLUE, PIN 4: SYNC, PIN 5: GROUND, PIN 6: N.C. NT-3602 15 PIN D-SUB		
POWER CONNECTOR:	PIN 1: LINE, PIN 2: GROUND, PIN 3: NEUTRAL		

# 4. BLOCK DIAGRAM



## **5. ADJUSTMENT PROCEDURES**

### **5.1 INITIAL SETTINGS**

Before turning on the power, all initial settings shall be positioned as following (Clockwise and counterclockwise directions shall be followed from a position facing the front of the monitor itself.)

5.1.1 Set the R.G.B. Bias pots R938, R937, R936, driver R950, R951, R952 counterclockwise at center position.

### **5.2 SMPS DC OUTPUT SETTING**

5.2.1 Plug the AC line cord directly into a 120 V AC 60Hz outlet, then turn the AC power switch on.

5.2.2 Plug the Video cable directly into a compatible Signal Generator. Set it to the crosshatch pattern video signal.

5.2.3 Adjust the R111 to set the horizontal deflection B+ (the connection point of D106) to  $100.00 \pm 0.50$  VDC.

5.2.4 Check all the other output DC voltages or AC wave to meet the following specs:

- 1) The connection point of D109 =  $140V \pm 2.0VDC$
- 2) The connection point of D107 =  $26.5V \pm 1.0VDC$
- 3) The connection point of R130 =  $12.0V \pm 0.5VDC$
- 4) The connection point of (FBT #9/R429) =  $24Vp-p \pm 1Vp-p$

### **5.3 H-HOLD SETTING**

5.3.1 Change the video signal to a compatible Signal Generator to a 350 line color bar pattern video signal. (NT-3602 480 LINE)

5.3.2 Short pin 1 of IC401 to ground through a 100 uf/16vEC cap, adjust the R414 tp get the picture to stand up vertically, then release the ground shorting.

## 5.4 H-SIZE & H-CENTER SETTING

- 5.4.1 Change the video signal to compatible Signal Generator to a 350 line crosshatch pattern video signal. (NT-3602 480 LINE)
- 5.4.2 Adjust R405 (H-Phase) to set the picture in the center of the raster.
- 5.4.3 Adjust R503 (H-Width) for a horizontal display size of maximum.

## 5.5 V-SIZE & V-POSITION SETTING

- 5.5.1 Change the video signal to a compatible Signal Generator to a 350 line crosshatch pattern video signal. (NT-3602 480 LINE)
- 5.5.2 Adjust R324 (V-Size) for a vertical display size of maximum.
- 5.5.3 Adjust R321 (V-Position) to set the picture in center of the raster.
- 5.5.4 Adjust R313 (V-Lin) to set the vertical linear + -5%.

## 5.6 THE SIDE-PINCUSHION ADJUSTMENT

- 5.6.1 Change the compatible Signal Generator video signal to a 350 line crosshatch pattern video signal. (NT-3602 480 LINE)
- 5.6.2 Adjust R515 (Pin-Ad) to modify the left-right side pincushion distortion to meet the specs of 1.00mm + -0.25mm.

## 5.7 BACKGROUND BRIGHTNESS SETTING

- 5.7.1 Change the compatible Signal Generator video signal to a 350 line blank pattern video signal. Set the Brightness VR (R602) to the maximum position and the Contrast VR (R613) to a maximum position. (NT-3602 480 LINE)
- 5.7.2 Adjust the G2 VR until the background raster is just visible and note what color appears. Now adjust the other 3 colors of the Bias VR's (R938 Red Bias, R937 Green Bias, R936 Blue Bias) to obtain a dark gray raster.
- 5.7.3 Re-adjust G2 VR and check the brightness within range of 2 + - 0.5FL until the retrace line is barely visible.

## 5.8 R.G.B. GAIN SETTING

- 5.8.1 Change the video signal to a full white Pattern video signal.

5.8.2 Set contrast R613 to maximum and adjust Brightness VR (R602) until the background raster is barely visible.

5.8.3 Adjust R938, R937, R936 to obtain a full white pattern, and check to make sure the brightness is within a range of  $5 \pm 5 F1$ .

## 5.9 WHITE BALANCE CHECKING

5.9.1 Adjust the Brightness VR (R602) until the background raster is just visible.

5.9.2 Adjust the Contrast VR (R613) to obtain a full white pattern of  $20 \pm 0.5F1$  and check the screen center color temperature within range of x:  $289 \pm 0.025$ , y:  $305 \pm 0.025$ , if not then repeat 5.8.

## 5.10 FOCUS SETTING

5.10.1 Adjust the Brightness VR (R602) until the background raster is just visible. Adjust the Contrast VR (R613) to full white pattern of  $20 \pm 1.0 F1$ .

5.10.2 Change the compatible Signal Generator video signal to a 350 line full white crosshatch pattern video signal. (NT-3602 480 LINE)

5.10.3 Adjust the Focus VR to get an optimized focus for the total screen.

## 5.11 MISCONVERGENCE SETTING

5.11.1 Change the compatible Signal Generator video signal to a 350 line crosshatch pattern. (NT-3602 480 LINE)

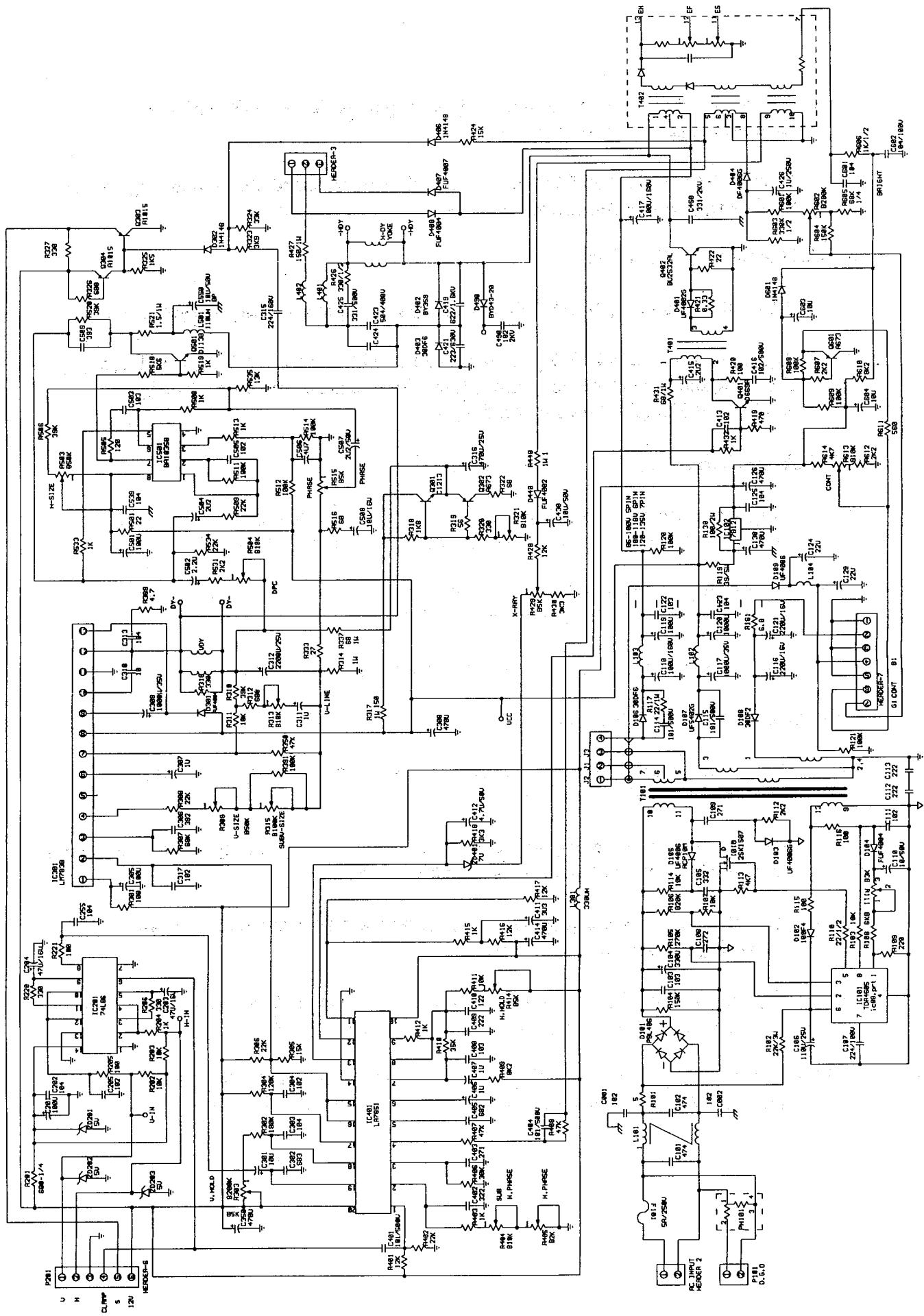
5.11.2 Open the knobs of the two 4-pole magnets, and make the blue and red vertical lines match with each other at the center of the picture.

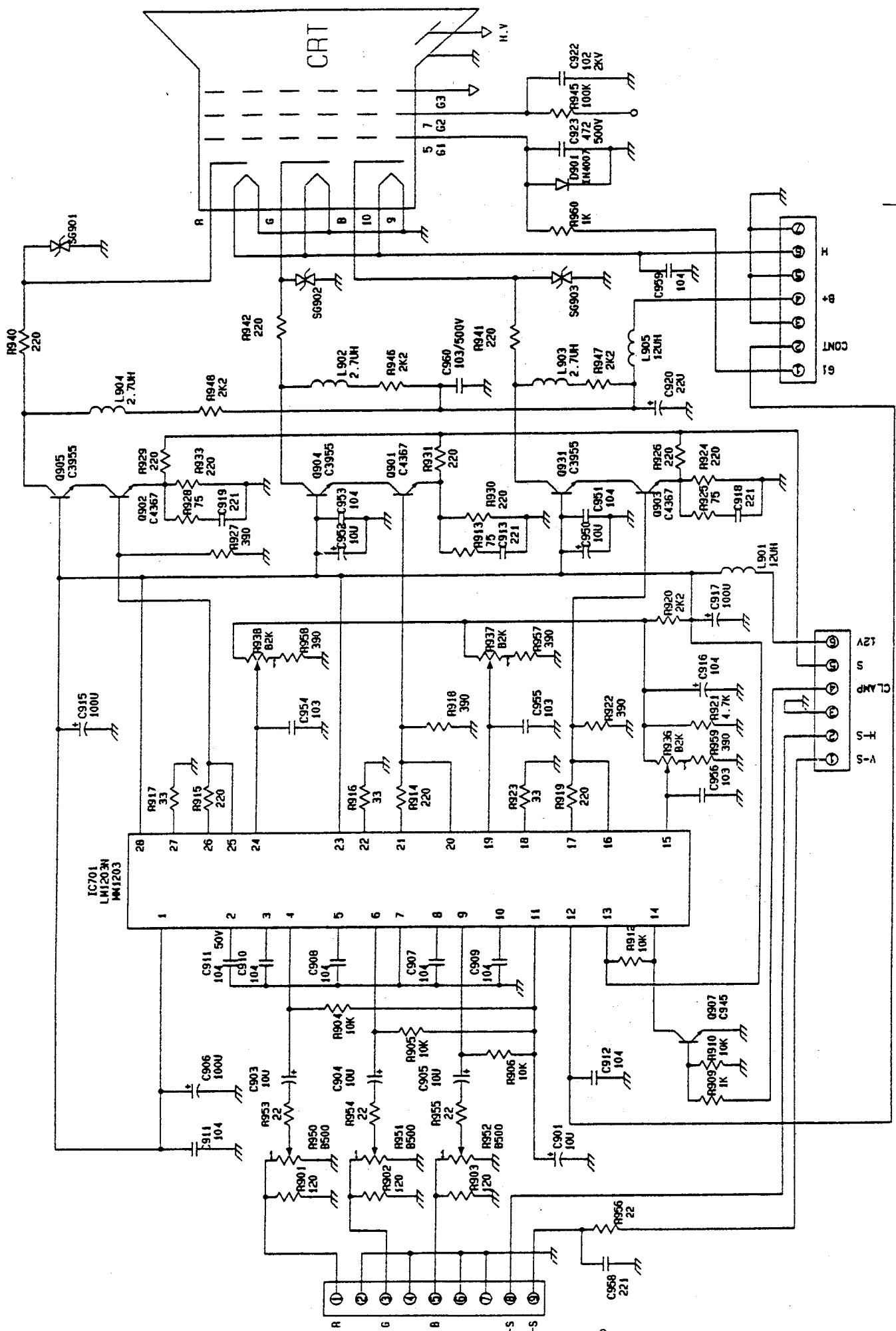
5.11.3 Turn the magnet while keeping the 4-pole magnets open and make the blue and red lateral lines match with each other.

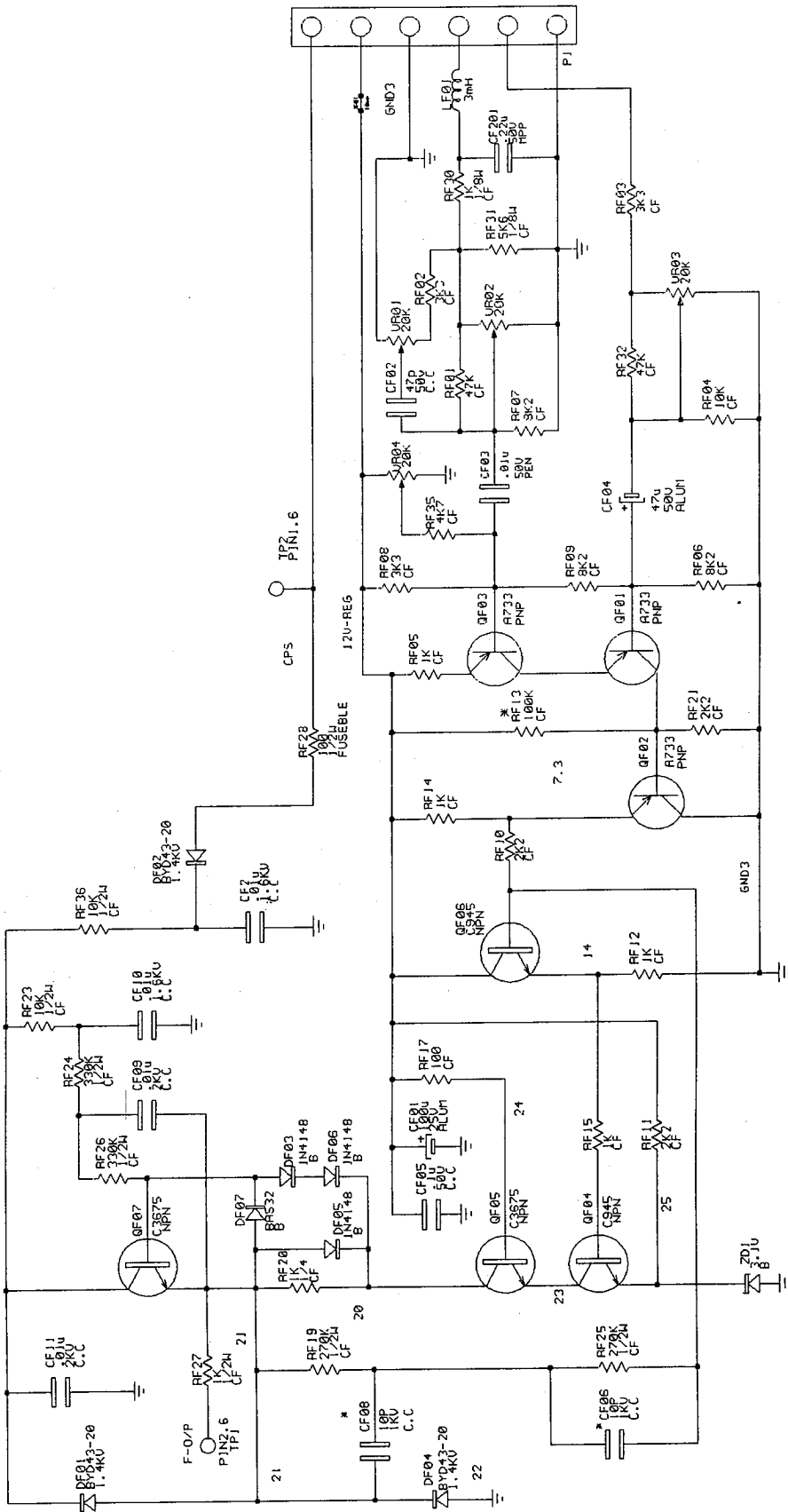
5.11.4 Open the knobs of the two 6-pole magnets, and make the green vertical line match with the blue and red vertical lines at center of the picture.

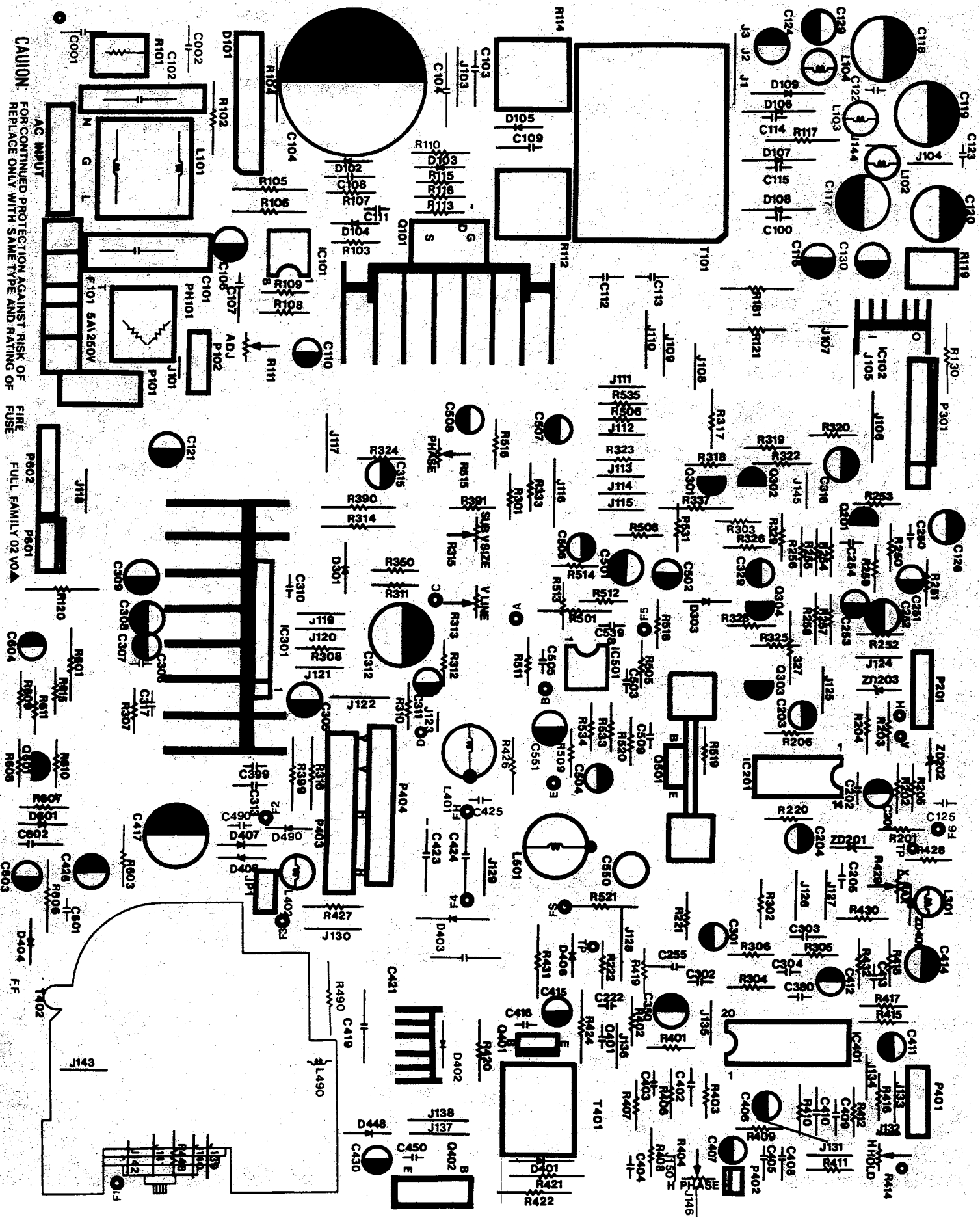
5.11.5 Turn the 6-pole magnets while keeping their knobs open until the green lateral line matches with the blue and red lateral lines at the center of the picture.







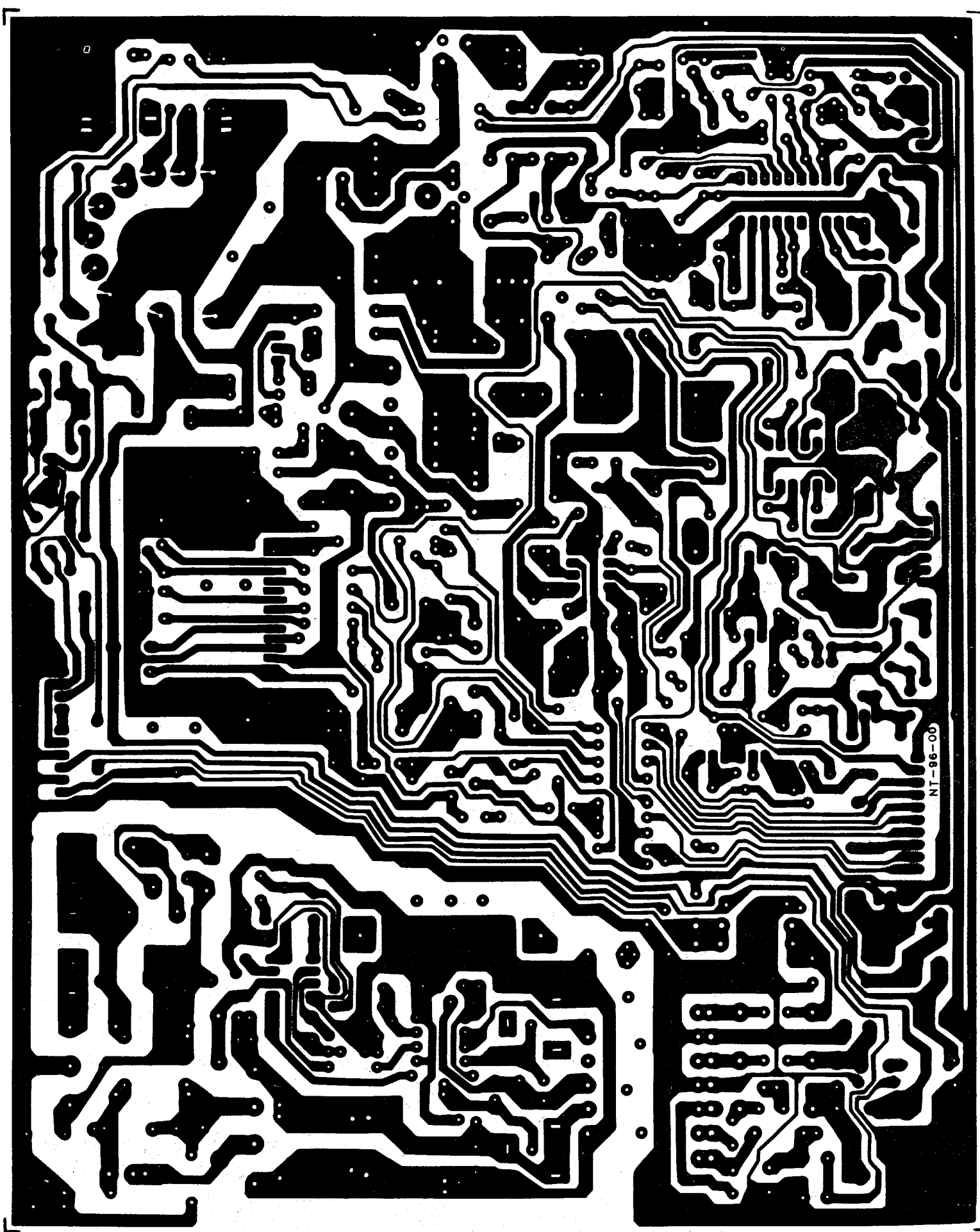




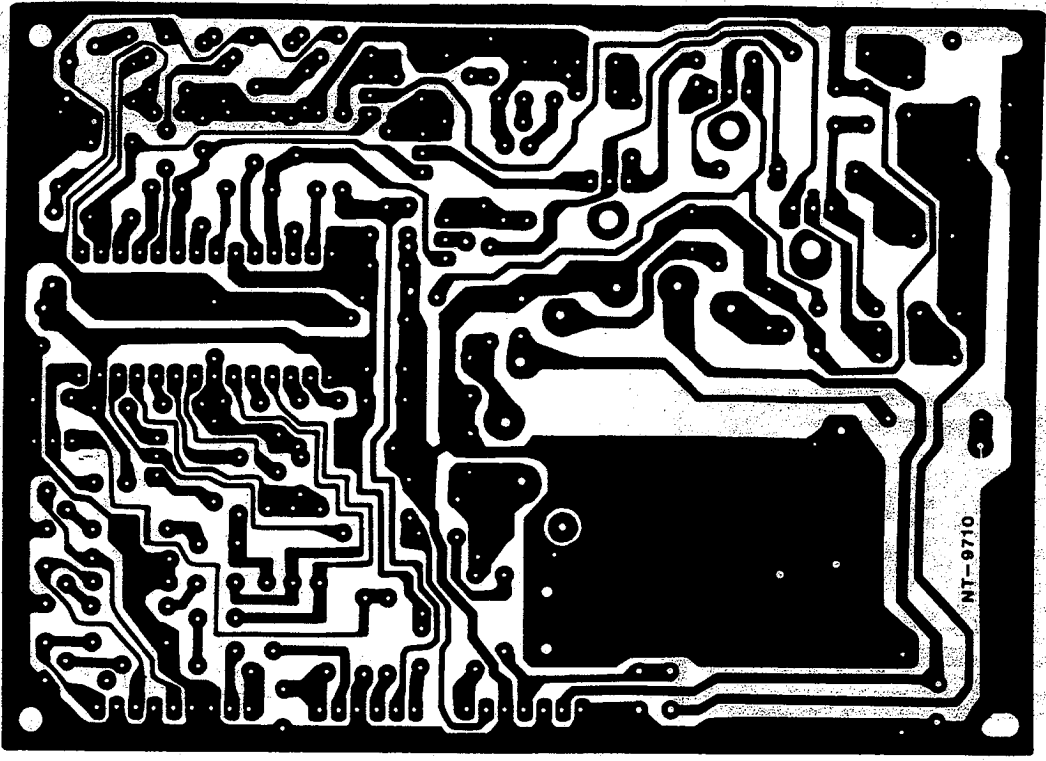
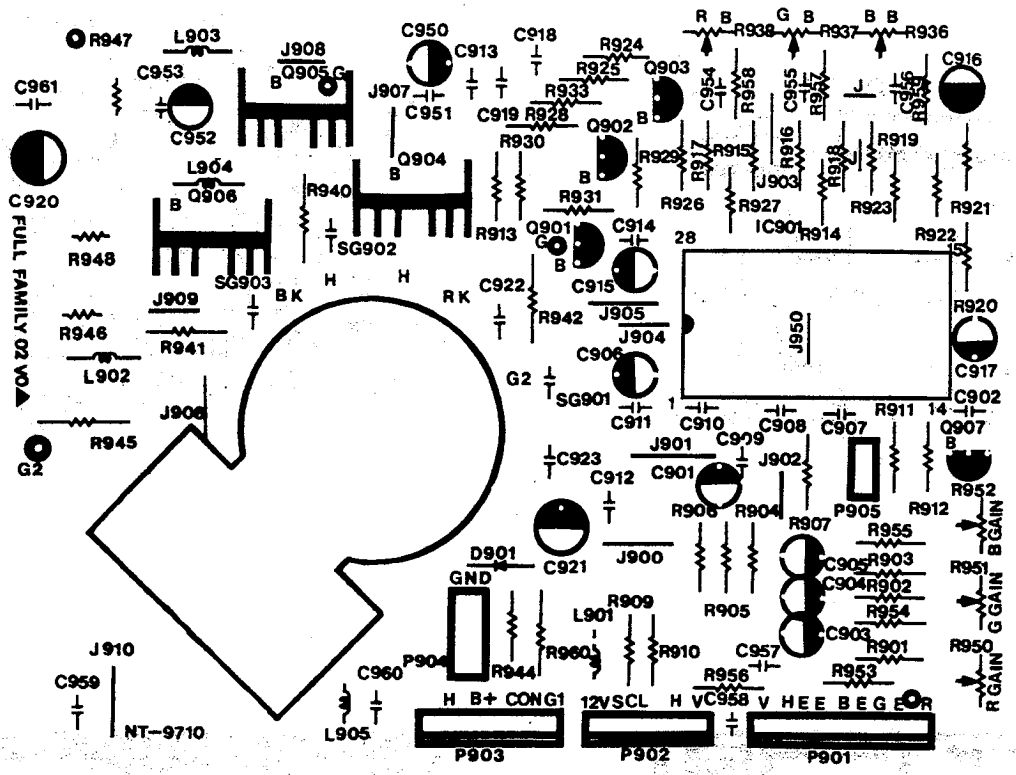
CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE AND RATING OF FUSE.

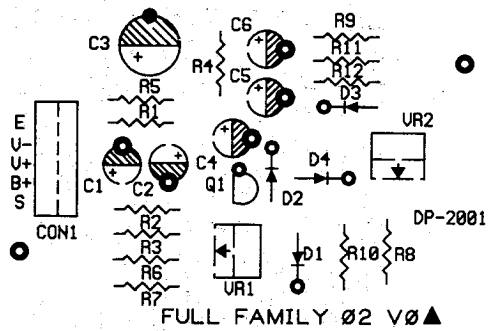
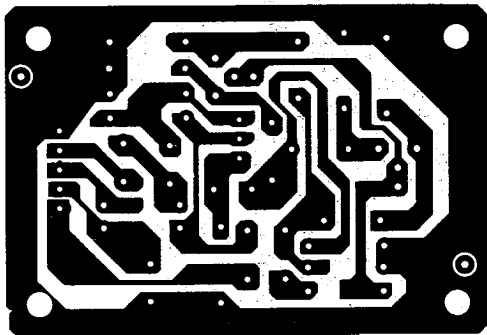
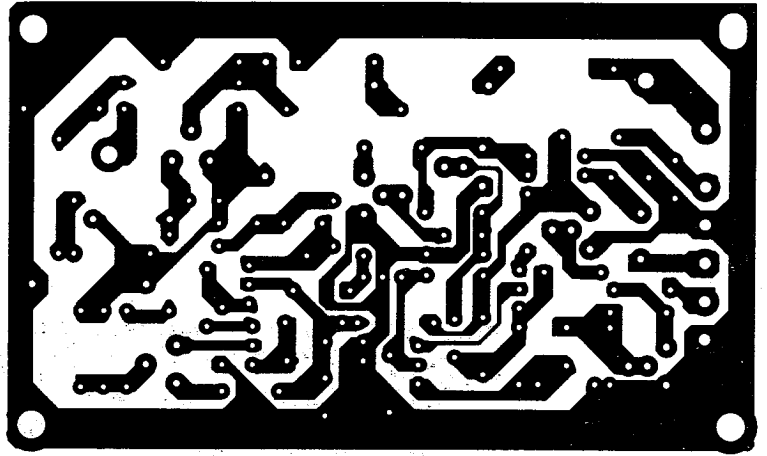
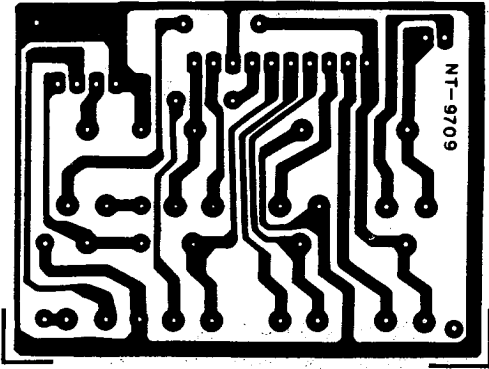
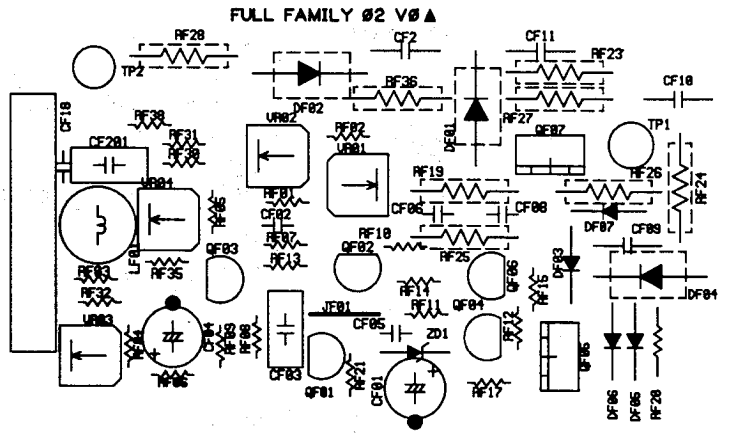
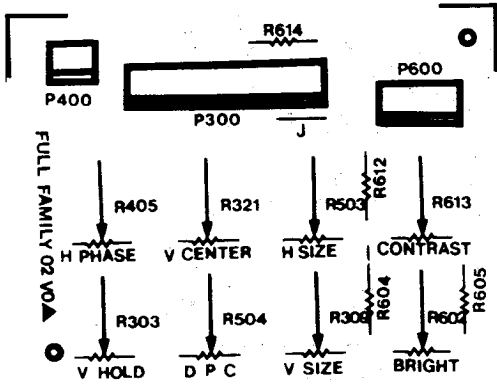
AC INPUT

FIRE FULL FAMILY 02 VOA



NT-96-00





**NT-3501 MAIN BOARD**

ITEM#	PART NO.	DESCRIPTION	QTY	LOCATION
1	109427090	RESISTOR CF 1/4W 27 OHM	1	R333
2	109468090	RESISTOR CF 1/4W 68 OHM	1	R516
3	109410190	RESISTOR CF 1/4W 100 OHM	7	R116,R115,R301,R205,R221,R222,R615
4	109412190	RESISTOR CF 1/4W 120 OHM	1	R505
5	109422190	RESISTOR CF 1/4W 220 OHM	1	R109
6	109433190	RESISTOR CF 1/4W 330 OHM	3	R206,R220,R320
7	109447190	RESISTOR CF 1/4W 470 OHM	1	R419
8	109456190	RESISTOR CF 1/4W 560 OHM	2	R319,R611
9	109468190	RESISTOR CF 1/4W 680 OHM	3	R312,R326,R201
10	109410290	RESISTOR CF 1/4W 1K	9	R204,R403,R412,R415,R508,R519,R513,R533,R432
11	109415290	RESISTOR CF 1/4W 1.5K	1	R325
12	109418290	RESISTOR CF 1/4W 1.8K	1	R318
13	109422290	RESISTOR CF 1/4W 2.2K	2	R607,R531
14	109410090	RESISTOR CF 1/4W 10 OHM	1	R329
15	109433290	RESISTOR CF 1/4W 3.3K	3	R418,R323,R430
16	109447290	RESISTOR CF 1/4W 4.7K	1	R113
17	109456290	RESISTOR CF 1/4W 5.6K	1	R518
18	109468290	RESISTOR CF 1/4W 6.8K	1	R108
19	109482290	RESISTOR CF 1/4W 8.2K	1	R409
20	109410390	RESISTOR CF 1/4W 10K	5	R103,R107,R202,R203,R610
21	109412390	RESISTOR CF 1/4W 12K	6	R311,R401,R411,R416,R417,R428
22	109415390	RESISTOR CF 1/4W 15K	1	R305
23	109422390	RESISTOR CF 1/4W 22K	5	R308,R306,R402,R509,R534
24	109430390	RESISTOR CF 1/4W 30K	1	R406
25	109433390	RESISTOR CF 1/4W 33K	2	R410,R324
26	109439390	RESISTOR CF 1/4W 39K	3	R310,R506,R520
27	109447390	RESISTOR CF 1/4W 47K	3	R350,R407,R408
28	109468390	RESISTOR CF 1/4W 68K	1	R307
29	109410490	RESISTOR CF 1/4W 100K	5	R391,R512,R514,R608,R609
30	109412490	RESISTOR CF 1/4W 120K	1	R304
31	109418490	RESISTOR CF 1/4W 180K	2	R302,R511
32	109413390	RESISTOR CF 1/4W 13K	1	R535
33	109410890	RESISTOR CF 1/4W 1 OHM	1	R448
34	109247890	RESISTOR CF 1/2W 4.7 OHM	1	R399
35	109222190	RESISTOR CF 1/2W 220 OHM	1	R316
36	109210190	RESISTOR CF 1/2W 100 OHM	1	R420
37	109233190	RESISTOR CF 1/2W 330 OHM	1	R426
38	109210290	RESISTOR CF 1/2W 1K	1	R606
39	109215390	RESISTOR CF 1/2W 15K	1	R424
40	109210490	RESISTOR CF 1/2W 100K	3	R120,R121,R601
41	109215490	RESISTOR CF 1/2W 150K	1	R104
42	109233490	RESISTOR CF 1/2W 330K	1	R603
43	149222090	FUSE RESISTOR FR 1/2W 22 OHM	1	R110
44	120133111	RESISTOR MOF 1W 330 OHM MIN	1	R327
45	120122011	RESISTOR MOF 1W 22 OHM MIN	2	R501,R422
46	120150911	RESISTOR MOF 1W 0.5 OHM MIN	1	R421
47	120112811	RESISTOR MOF 1W 1.2 OHM MIN	1	R314
48	120115811	RESISTOR MOF 1W 1.5 OHM MIN	1	R521
49	120168011	RESISTOR MOF 1W 68 OHM MIN	3	R337,R322,R431
50	120115111	RESISTOR MOF 1W 150 OHM MIN	1	R317
51	120182411	RESISTOR MOF 1W 820K OHM MIN	1	R106
52	120210111	RESISTOR MOF 2W 100 OHM MIN	1	R130
53	120222011	RESISTOR MOF 2W 22 OHM MIN	1	R117



ITEM#	PART NO.	DESCRIPTION	QTY	LOCATION
54	120227411	RESISTOR	MOF 2W 270K MIN	1 R105
55	120322311	RESISTOR	MOF 3W 22K MIN	1 R102
56	120391811	RESISTOR	MOF 3W 9.1 OHM MIN	2 R181X2
57	130539040	RESISTOR	WRCM 5W 39 OHM	1 R119
58	130722220	RESISTOR	WRCS 7W 2.2K	1 R112
59	130710320	RESISTOR	WRCS 7W 10K	1 R114
60	561000550	NTC	NTC SCL055 5 OHM/5A	1 R101
61	560002710	PTC	PTC 270N 27 OHM	1 PH101
62	211102630	CAPACITOR	Y 102K/400V	2 C001,C002
63	210474720	CAPACITOR	BOX 474M/275V	2 C101,C102
64	221393529	CAPACITOR	393J/100V	1 C509
65	251100509	CERAMIC CAPACITOR	NPO 10J/50V	1 C310
66	250101639	CERAMIC CAPACITOR	101K/500V	3 C401,C404,C222
67	250181639	CERAMIC CAPACITOR	181K/500V	3 C114,C115,C100
68	250271509	CERAMIC CAPACITOR	271J/50V	1 C403
69	250331650	CERAMIC CAPACITOR	331K/2KV	2 C450,C425
70	250102609	CERAMIC CAPACITOR	102K/50V	2 C505,C380
71	250102639	CERAMIC CAPACITOR	102K/500V	3 C111,C413,C416
72	250103609	CERAMIC CAPACITOR	103K/50V	1 C503
73	250103330	CERAMIC CAPACITOR	103Z/500V	2 C103,C122
74	250104309	CERAMIC CAPACITOR	104Z/50V	4 C123,C125,C202,C539
75	211222730	Y CAPACITOR	222M/400V	2 C112,C113
76	211102529	CAPACITOR	102J/100V	3 C317,C304,C205
77	221392529	CAPACITOR	392J/100V	1 C306
78	222683529	CAPACITOR	683J/100V	1 C302
79	221222529	CAPACITOR	222J/100V	2 C402,C409
80	221682529	CAPACITOR	682J/100V	1 C405
81	221103529	CAPACITOR	103J/100V	1 C408
82	222224529	CAPACITOR	224J/100V	2 C107,C315
83	231271560	CAPACITOR	271J/1KV	1 C109
84	231122829	CAPACITOR	122G/100V	1 C410
85	231272829	CAPACITOR	272G/100V	1 C108
86	231273550	CAPACITOR	273J/630V	1 C421
87	234332560	CAPACITOR	332J/1KV	1 C105
88	234123570	CAPACITOR	123J/1.6KV	1 C419
89	232924540	CAPACITOR	924J/400V	1 C423
90	271104519	CAPACITOR	104J/63V	5 C303,C313,C601,CC602,C255
91	200105749	EC CAPACITOR	1UF/50V	3 C110,C406,C407
92	200225749	EC CAPACITOR	2.2UF/50V	2 C504,C415
93	200335749	EC CAPACITOR	3.3UF/50V	1 C411
94	200475749	EC CAPACITOR	4.7UF/50V	4 C412,C506,C507,C502
95	200106749	EC CAPACITOR	10UF/50V	4 C301,C603,C604,C430
96	200226749	EC CAPACITOR	22UF/50V	1 C508
97	200476719	EC CAPACITOR	47UF/16V	3 C204,C203,C329
98	200107719	EC CAPACITOR	100UF/16V	2 C201,C305
99	200117739	EC CAPACITOR	100UF/35V	5 C309,C501,C106,C551,C308
100	200227719	EC CAPACITOR	220UF/16V	1 C121
101	200227729	EC CAPACITOR	220UF/25V	1 C316
102	200477719	EC CAPACITOR	470UF/16V	4 C116,C126,C414,C350
103	200477729	EC CAPACITOR	470UF/25V	1 C130
104	200108730	EC CAPACITOR	1000UF/35V	2 C117,C120
105	200228720	EC CAPACITOR	2200UF/25V	1 C312
106	200226760	EC CAPACITOR	22UF/160V	2 C124,C129
107	200107760	EC CAPACITOR	100UF/160V	3 C118,C119,C417

ITEM	PART NO.	DESCRIPTION	QTY	LOCATION
108	200105780	EC CAPACITOR	1UF/250V	1 C426
109	200337790	EC CAPACITOR	330UF/400V 25 ø	1 C104
110	202106740	EC CAPACITOR	BP 10UF50V	1 C550
111	204105730	TAN CAPACITOR	1UF/35V	2 C307,C311
112	845000060	JUMP WIRE	462-088 60MM	1 C406-J131
113	507041481	DIODE	IN4148	3 D303,D406,D601
114	506010041	FAST RECOVERY DIODE	10DF4	5 D102,D104,D401,D448,D301
115	506010061	FAST RECOVERY DIODE	10DF6	2 D109,D404
116	506001011	FAST RECOVERY DIODE	RGP10M	2 D103,D105
117	506030020	FAST RECOVERY DIODE	30DF2	2 D107,D108
118	506030060	FAST RECOVERY DIODE	30DF6	2 D106,D403
119	501050312	ZENER DIODE	HZ-5C1	3 ZD201,ZD202,ZD203
120	501070312	ZENER DIODE	HZ-7C1	1 ZD401
121	505004060	BRIDGE DIODE	PBL406	1 D101
122	506003590	FAST RECOVERY DIODE	BY359X-1500	1 D402
123	300000630	CHOKE	CHK CL0063	1 L102
124	381500615	CHOKE	LINE FILTER TF15006A15	1 L101
125	300090070	CHOKE	CHK LJ9007	1 L103
126	300954500	CHOKE	LET-95450 330UH	2 L104,L301
127	300110150	CHOKE	CHK CL00110A15	1 L501
128	310002610	CHOKE	LIN LL00026A 10UH	1 L401
129	350220070	TRANSFORMER	TF22007A15 EI22	1 T401
130	360970302	TRANSFORMER	LET 970302	1 T101
131	340004550	TRANSFORMER	MRCFT-455	1 T402
132	197730200	VARIABLE RESISTOR	VZ067TL1 B3K	1 R111
133	197750200	VARIABLE RESISTOR	VZ067TL1 B5K	3 R414,4515,R404
134	197710300	VARIABLE RESISTOR	VZ067TL1 B10K	2 R313,R429
135	197750300	VARIABLE RESISTOR	VZ067TL1 B50K	1 R315
136	430230300	SILICON INSULATOR	TO3P3	1 IRFPE50
137	511006731	TRANSISTOR	A673	4 Q302,Q303,Q304,Q601
138	510012131	TRANSISTOR	C1213	1 Q301
139	512006690	TRANSISTOR	D669A	1 Q401
140	530000500	TRANSISTOR	IREPE50	1 Q101
141	512011380	TRANSISTOR	D1138	1 Q501
142	512025320		BU2532AL	1 Q402
143	540046050	IC	TDA4605	1 IC101
144	540078120	IC	AN7812	1 IC102
145	540074860	IC	HD74LS86P	1 IC201
146	540078510	IC	LA7851	1 IC401
147	540078380	IC	LA7838	1 IC301
148	540103580	IC	BA10358	3 IC501
149	400202510		PBP-XH10 2.5MM 10P	2 P301
150	400212502		PBP-XH02 2.5MM 2P	1 P402
151	400623602		PBP-23602 2.36A 2P	1 P101
152	400623604		PBP-23604 2.36A 4P	1 P403
153	400515606		PBP-15606 1.5A 6P	1 P404
154	400202504		PBP-XH04 2.5MM 4P	1 P601
155	408602142		PPN-236-2 PIN 2.36A 14.2	2 AC/IN L.N
156	45005030	FUSE HOLDER	FC-503 CLIP 5.2	2 F101
157	463005014	FUSE	FUSE S506 5A/250V	1 F101
158		POWER CORD		1
159		SIGNAL CABLE	UL1007 22 600MM 9P	1 4X6X2 CORE
160	726201507	HEAT SINK	761007 31E 90MM	1 IC301 LA7838

ITEM#	PART NO.	DESCRIPTION	QTY	LOCATION
161	726203160	HEAT SINK	760913 IRFPE50 60MM	1 Q101 IRFPE50
162	726201465	HEAT SINK	761048 D1138 65MM	1 Q501 D1138
163	26203208	HEAT SINK	MK-011-021 35MM	1 IC102 7812
164	411196000	PC BOARD	NT-96-00 250X200MM	1 CEM1
165	726202050	HEAT SINK	760976 BY359 50MM	1 D402,BY359
166	610623008	SCREW	ISO 3X8	4 IC102,IC301,D402,Q501
167	718307500	CABLE TIE	CV-075S	8
168	725100046	BRACKET	F-2000 PC	1
169	726100046	HEAT SINK	F-2000	1 Q402
170	660423010	SCREW	TBV 3X10/W	1 Q101 IRFPE50
171	612623012	SCREW	ISO 3X12/SPWNI	1 Q402,BU2532AL
172	660423008	SCREW	TBV 3X8/W	5 PC VR
173	620423010	SCREW	TBV 3X10	3
174	610324010	SCREW	TP2 4X10-2 (4X12)	1 FBT
175	718200050		UC-0.5	2
176		JUMPER		46 J101-J146 J150
177		JUMPER	15MM	1 J3
178	861001000	CONNECTOR ASS'Y	UL1007#22 1000MM 9P	1 P301
179	860201000	CONNECTOR ASS'Y	UL1185#22 1000MM 2P	1 P402
180	860401150	CONNECTOR ASS'Y	UL1007#22 1150MM 4P	1 P601
181	860700351	CONNECTOR ASS'Y	UL1007#22 350MM 7P	1 P602
182	860600350	CONNECTOR ASS'Y	UL1007#22 350MM 6P	1 P201
183	630423008	SCREW	TBV 3X8/W	1
184		DEGAUSSING COIL	35E 12 OHM 2.36 2P 3750	1
185		GROUND BRAID WIRE	NT-35" 1740 1.5A 2P	1
186		CARTON	NT-2515C	1
187		CARTON	NT-2515C	1
188	601302000	NUT	M3 ø	1 Q402
189	430225350	SILICON INSULATOR	25X35	1 Q402
190	506000263	FAST RECOVERY DIODE	BYV26G	1 D490
191	250102650	CERAMIC CAPACITOR	102K/2KV	1 C940
192	830015020	JUMPER	JUMP 15MM	1 R490

**NT-3501 VIDEO BOARD**

ITEM#	PART NO.	DESCRIPTION		QTY	LOCATION
1	109415190	RESISTOR	CF 1/4W 150 OHM	3	R953,R954,R955
2	109433090	RESISTOR	CF 1/4W 33 OHM	3	R916,R917,R923
3	109475090	RESISTOR	CF 1/4W 75 OHM	3	R913,R925,R928
4	109468190	RESISTOR	CF 1/4W 680 OHM	3	R901,R902,R903
5	109422190	RESISTOR	CF 1/4W 220 OHM	6	R914,R915,R919,R926,R929,R931
6	109439190	RESISTOR	CF 1/4W 390 OHM	6	R918,R922,R927,R924,R930,R933
7	109410290	RESISTOR	CF 1/4W 1K	4	R909,R957,R958,R959
8	109422290	RESISTOR	CF 1/4W 2.2K	1	R920
9	109447290	RESISTOR	CF 1/4W 4.7K	1	R921
10	109410390	RESISTOR	CF 1/4W 10K	5	R904,R905,R906,R910,R912
11	109447390	RESISTOR	CF 1/4W 47K	1	R944
12	109222190	RESISTOR	CF 1/2W 220 OHM	3	R940,R941,R942
13	109210290	RESISTOR	CF 1/2 W 1K	1	R960
14	109210490	RESISTOR	CF 1/2W 100K	1	R945
15	130527240	RESISTOR	WRCM 5W 2.7K	3	R946,R947,R948
16	109422090	RESISTOR	CF 1/4W 22 OHM	1	R956
17	197620200	VARIABLE RESISTOR	VZ067TH1 B2K	3	R950,R951,R952
18	197020200	VARIABLE RESISTOR	VG067TH1 B2K	3	R936,R937,R938
19	250221509	CERAMIC CAPACITOR	221J/50V	4	C913,C918,C919,C958
20	250103609	CERAMIC CAPACITOR	103K/50V	3	C954,C955,C956
21	250104309	CERAMIC CAPACITOR	104Z/50V	11	C902,C907,C908,C909,C910,C911,C912,C914, C951, C953, C959
22	250102650	CERAMIC CAPACITOR	102K/2KV	1	C922
23	250472630	CERAMIC CAPACITOR	472K/500V	1	C923
24	250103630	CERAMIC CAPACITOR	103K/500V	1	C960
25	200106749	EC CAPACITOR	10UF/50V	7	C903,C904,C905,C916,C950,C952,C901
26	200107719	EC CAPACITOR	100UF/16V	3	C906,C915,C917
27	200226779	EC CAPACITOR	22UF/160V	1	C920
28	507040071	ZENER DIODE	IN4007	1	D901
29	300352781	CHOKE	SP0305-2R7J 2.7UH	3	L903,L902,L904
30	300601201	CHOKE	EL0606SKI-120J 12UH	2	L901,L905
31	512043671	TRANSISTOR	C4367	3	Q901,Q902,Q903
32	510018151	TRANSISTOR	C1815GR	1	Q907
33	512039550	TRANSISTOR	C3955E	3	Q904,Q905,Q906
34	540012030	IC	MM1203XD	1	IC901
35		JUMP WIRE		14	JC957
36	400202506	WAFER 180°	PBP-XH06 2.5MM 6P	1	P902
37	400202507	WAFER 180°	PBP-XH07 2.5MM 7P	1	P903
38	400202509	WAFER 180°	PBP-XH09 2.5m/m 9P	1	P901
39	400515602	WAFER 180°	PBP-15602 1.5A 2P	1	P904
40	480000380	WAFER 180°	HPS0380-01-100	1	SMK CVT3251-0115
41	726203208	HEAT SINK	MK-011-021 35MM	3	C3955X3,Q906,Q905,Q904

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ITEM#	PART NO.	DESCRIPTION	QTY	LOCATION
1	109847090	RESISTOR	CF 1/8W 47 OHM	1 RF38
2	109810190	RESISTOR	CF 1/8W 100 OHM	1 RF17
3	109822190	RESISTOR	CF 1/8W 220 OHM	1 RF30
4	109810290	RESISTOR	CF 1/8W 1K	5 RF05,RF12,RF14,RF15,RF31
5	109822290	RESISTOR	CF 1/8W 2.2K	3 RF10,RF11,RF21
6	109847290	RESISTOR	CF 1/8W 4.7K	1 RF35
7	109833290	RESISTOR	CF 1/8W 3.3K	3 RF03,RF02,RF08
8	109882290	RESISTOR	CF 1/8W 8.2K	3 RF06,RF09,RF07
9	109810390	RESISTOR	CF 1/8W 10K	1 RF04
10	109847390	RESISTOR	CF 1/8W 47K	2 RF32,RF01
11	109810490	RESISTOR	CF 1/4W 100K	1 RF13
12	109410290	RESISTOR	CF 1/4W 1K	1 RF20
13	109210290	RESISTOR	CF 1/2W 1K	1 RF27
14	109210390	RESISTOR	CF 1/2W 10K	2 RF23,RF36
15	109247490	RESISTOR	CF 1/2W 470K	4 RF19,RF24,RF25,RF26
16	140110200	FUSE RESISTOR	RF 1W 1K	1 RF28
17	197720300	VARIABLE RESISTOR	VZ067TL1 B20K	4 VR01,RVR02,VR03,VR04
18	507041481	DIODE	IN4148	2 DF03,DF05
19	506000263	FAST RECOVERY DIODE	BYV26G	4 DF02,DF01,DF04,DF07
20	501030322	ZENER DIODE	HZ3C2	1 ZD1
21	250151609	CERAMIC CAPACITOR	151K/50V	1 CF02
22	250104309	CERAMIC CAPACITOR	104Z/50V	2 CF05,CF18
23	250103350	CERAMIC CAPACITOR	103Z/2KV	4 CF09,CF10,CF11,CF2
24	221103509	CAPACITOR	103J/50V	1 CF03
25	271224519	CAPACITOR	224J/63V	1 CF201
26	200476729	EC CAPACITOR	47UF/25V	1 CF04
27	200107729	EC CAPACITOR	100UF/25V	1 CF01
28	309806050	CHOKE	CHK CYE-980605 3MH	1 LF01
29	511010151	TRANSISTOR	2SA1015	3 QF01,QF02,QF03
30	510009451	TRANSISTOR	2SC945	2 QF06,QF04
31	512046300	TRANSISTOR	C4630(C4686A)	2 QF05,QF07
32	830010020	JUMP WIRE	10MM	2 DF06,JF01
33	400515606		PBP-15606 1.5A 6P	1
34	408602142		2.36A	1
35		CONNECTOR ASS'Y	1.56A 6P	1
36		CONNECTOR ASS'Y	2.36A 1P	1
37	726100021	HEAT SINK	C14-01	2 QF05,QF07
38	411120020	PC BOARD	F-2002 60X100MM	1 CEM1
39	620423008	SCREW	TBV 3X8	2 QF05,QF07
40	660623006	SCREW	ISO 3X6/W	4 PC
41		INSULATION	100X60X2	1

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ITEM#	PART NO.	DESCRIPTION		QTY	LOCATION
1	109422290	RESISTOR	CF 1/4W 2.2K	1	R612
2	109447290	RESISTOR	CF 1/4W 4.7K	1	R614
3	109468390	RESISTOR	CF 1/4W 68K	1	R605
4	109415490	RESISTOR	CF 1/4W 150K	1	R604
5	400202502	WAFER 180°	PBP-XH02 2.5MM 2P	1	P400
6	400202504	WAFER 180°	PBP-XH02 2.5MM 4P	1	P600
7	400202510	WAFER 180°	PBP-XH10 2.5MM 10P	1	P300
8	198020200	VARIABLE RESISTOR	VZ084SL1 B2K	1	R405
9	198010300	VARIABLE RESISTOR	VZ084SL1 B10K	3	R321,R504,R613
10	197450300	VARIABLE RESISTOR	VZ084SL1 B50K	2	R309,R503
11	197420400	VARIABLE RESISTOR	VZ084SL1 B200K	2	R602,R303
12	411197090	PC BOARD	NT-9709	1	CEM1
13	715100002	BRACKET	NT-002 UL VR	1	