

SERVICE MANUAL

27" CGA, EGA, VGA COLOR MONITOR

MODEL: NT-29C / NT-27E / NT-27V

NEOTEC GRAPHIC INTERNATIONAL INC.

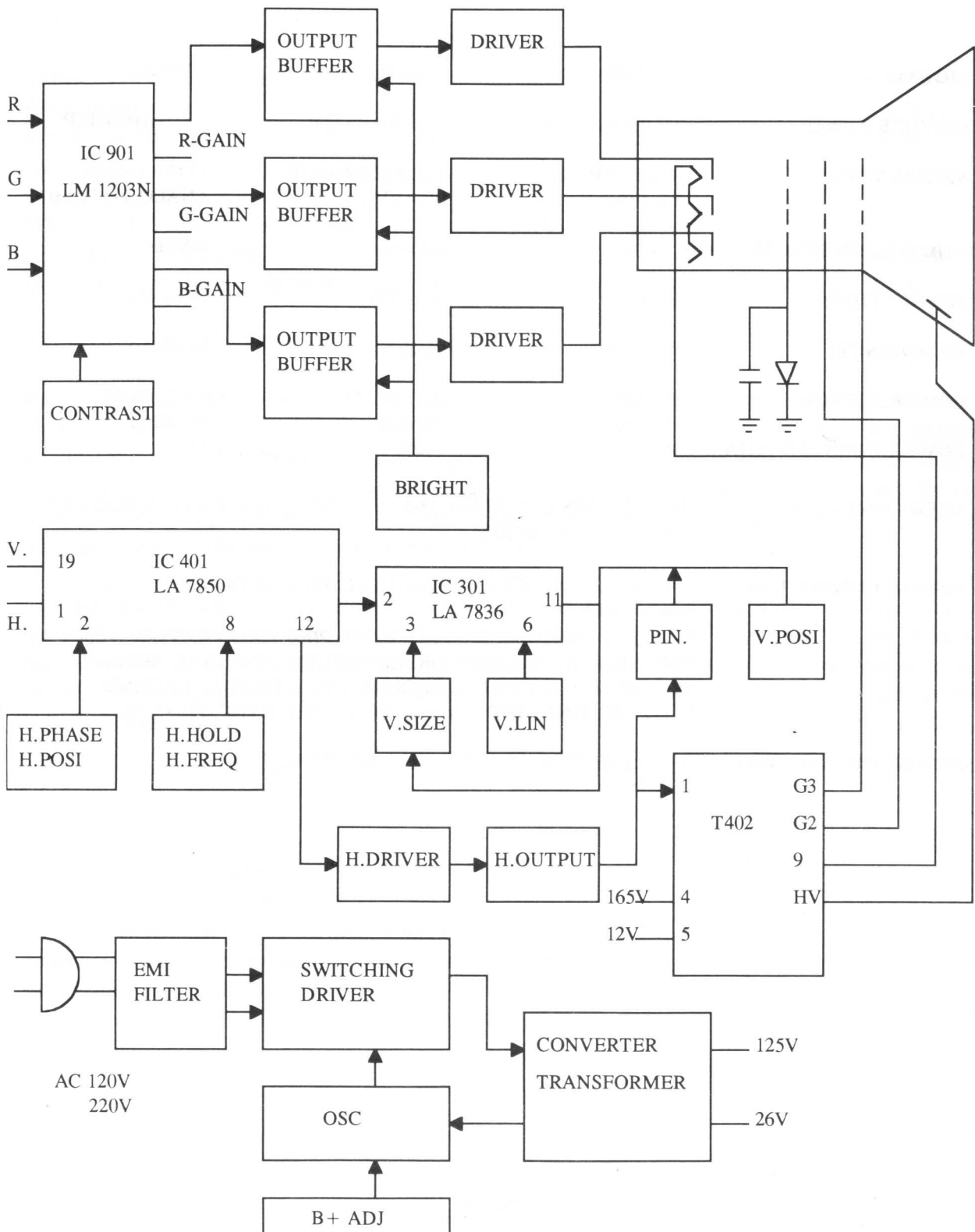
2721 N. Towne Avenue, Pomona, CA 91767

Tel: (909) 626-9889 / Fax: (909) 626-0990

3. SPECIFICATION

MODEL:	NT-29C	NT-27E	NT-27V
PICTURE TUBE:	27" 0.84mm D.P.	27" 0.84mm D.P.	27" 0.84mm D.P.
SIGNAL TYPE:	R.G.B.SEPARATE 1.0-4.0Vp-p	R.G.B.SEPARATE 1.0-4.0Vp-p	15 PIN D-SUB ANALOG 0.7Vp-p
VIDEO BAND WIDTH:	15 MHz	30MHz	45MHz
RESOLUTION:	560 x 240	640 x 350	640 x 480
FREQUENCY:	15.75 KHz	25KHz	31.5KHz
POWER SUPPLY:	120-220VAC 50-60Hz	120-220VAC 50-60Hz	120-220VAC 50-60Hz
POWER CONSUMPTION:	85W	110W	115W
USER CONTROLS:	BRIGHTNESS, CONTRAST, H-SIZE, H-POSITION, V-SIZE, V-POSITION, V-HOLD, PINCUSHION.		
SIGNAL CONNECTOR:	PIN1: RED, PIN2: GREEN, PIN3: BLUE, PIN4: GROUND, PIN5: NC, PIN6: SYNC.		
NT-27V:	PIN1: RED, PIN2: GREEN, PIN3: BLUE, PIN4: GROUND, PIN5: NC, PIN6: RED RETURN, PIN7: GREEN RETURN, PIN8: BLUE RETURN, PIN9: NC, PIN10: DIGITAL GROUND, PIN11: DIGITAL GROUND, PIN12: NC, PIN13: HOR. SYNC, PIN14: VERT. SYNC, PIN15: NC		
POWER CONNECTOR:	PIN1: LINE, PIN2: GROUND, PIN3: 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 60 Hz 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 cross-hatch pattern video signal.
- 5.2.3 Adjust the R112 to set the horizontal deflection B+ (the connection point of R117/R424) to 125.00 ± 0.50 VDC (NT-27E B+ 113.50V, NT-27V B+ 127.5V)
- 5.2.4 Check all the other output DC voltages or AC wave to meet the following specs:
 - 1) The connection point of L905/C920 = $165.0V \pm 2.0VDC$
 - 2) The connection point of L103/C119 = $26.0V \pm 1.0VDC$
 - 3) The connection point of L901/C906 = $12.0V \pm 0.5VDC$
 - 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.
- 5.3.2 Short pin 1 of IC401 to ground through a 100 uf/16vEC cap, adjust the R401 to 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 a compatible Signal Generator to a 350 line crosshatch pattern video signal. (NT-27V 480 LINE)

5.4.2 Adjust VR3 (H-Phase) to set the picture in the center of the raster.

5.4.3 Adjust VR2 (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-27V 480 LINE)

5.5.2 Adjust R324 (V-Size) for a vertical display size of maximum.

5.5.3 Adjust R319 (V-Position) to set the picture in center of the raster.

5.5.4 Adjust R314 (V-Lin) to set the vertical linear $\pm 5\%$

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-27V 480 LINE)

5.6.2 Adjust VR1 (Pin-Ad) to modify the left-right side pincushion distortion to meet the specs of 1.00mm $\pm$ 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 (R529) to the maximum position and the Contrast VR (R990) to a minimum position. (NT-27V 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 VRs (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 $\pm$ 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 VR990 to maximum and adjust Brightness VR (R529) 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 20 ± 5 Fl.

5.9 WHITE BALANCE CHECKING

5.9.1 Adjust the Brightness VR (R529) until the background raster is just visible.

5.9.2 Adjust the Contrast VR (R990) to obtain a full white pattern of 4.0 ± 0.5 Fl and check the screen center color temperature within range of $x = .281 \pm .025$, $y = .310 \pm .025$, if not then repeat 5.8.

5.10 FOCUS SETTING

5.10.1 Adjust the Brightness VR (R529) until the background raster is just visible. Adjust the Contrast VR (R990) to full white pattern of 20.0 ± 1.0 Fl.

5.10.2 Change the compatible Signal Generator video signal to a 350 line full white crosshatch pattern video signal. (NT-27V 480 LINE)

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

5.11 MISCONVERGENCE SETTING

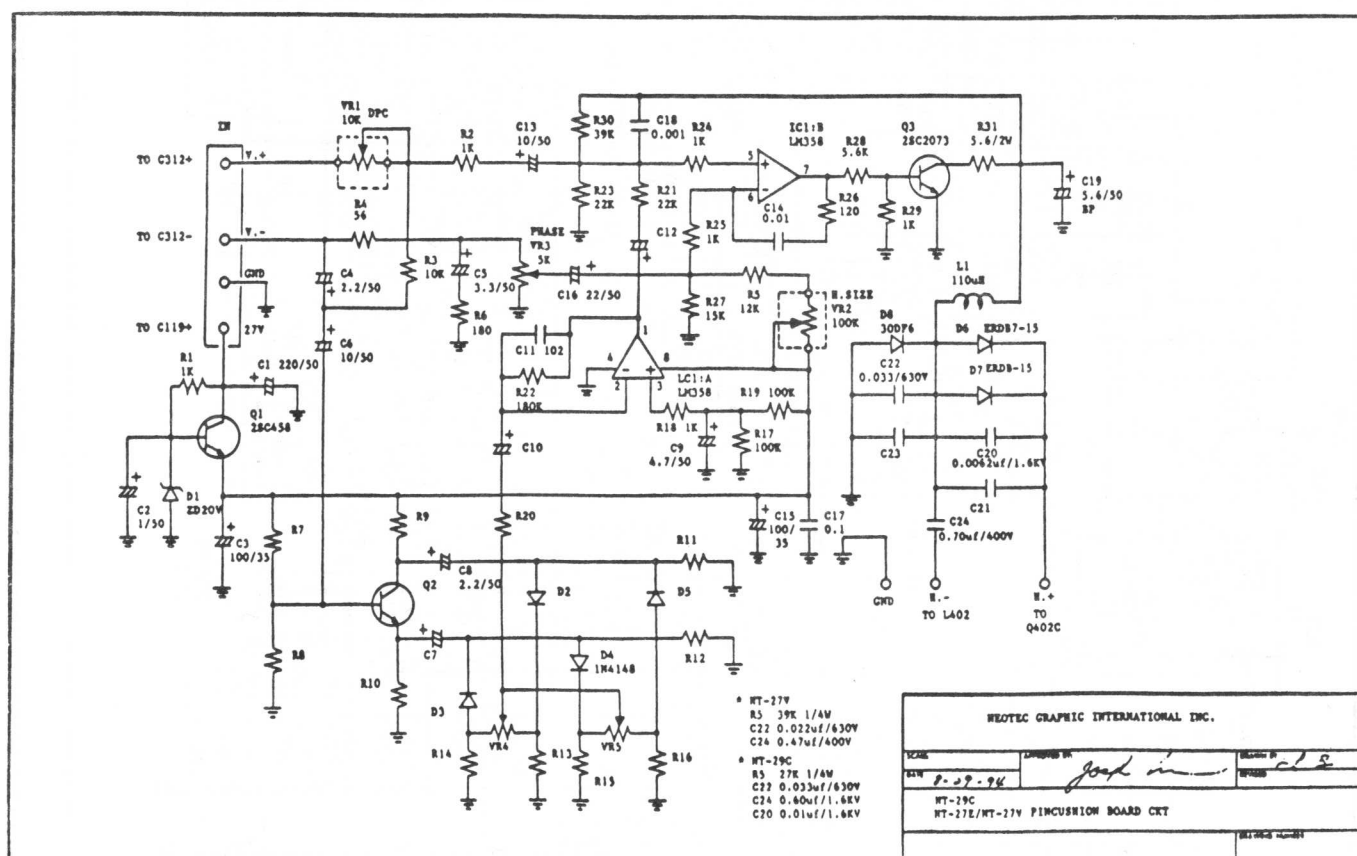
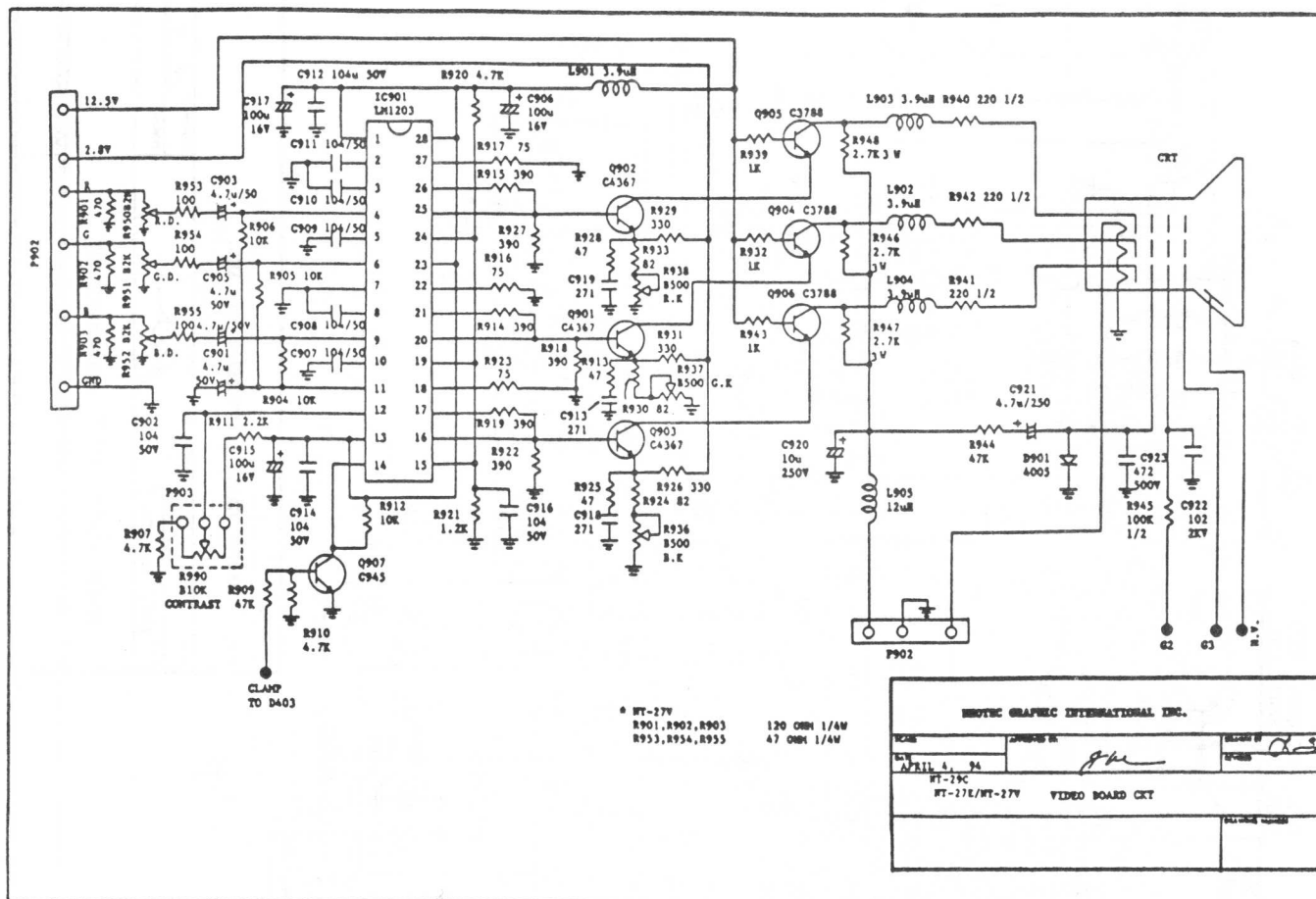
5.11.1 Change the compatible Signal Generator video signal to a 350 line crosshatch pattern. (NT-27V 480 LINE)

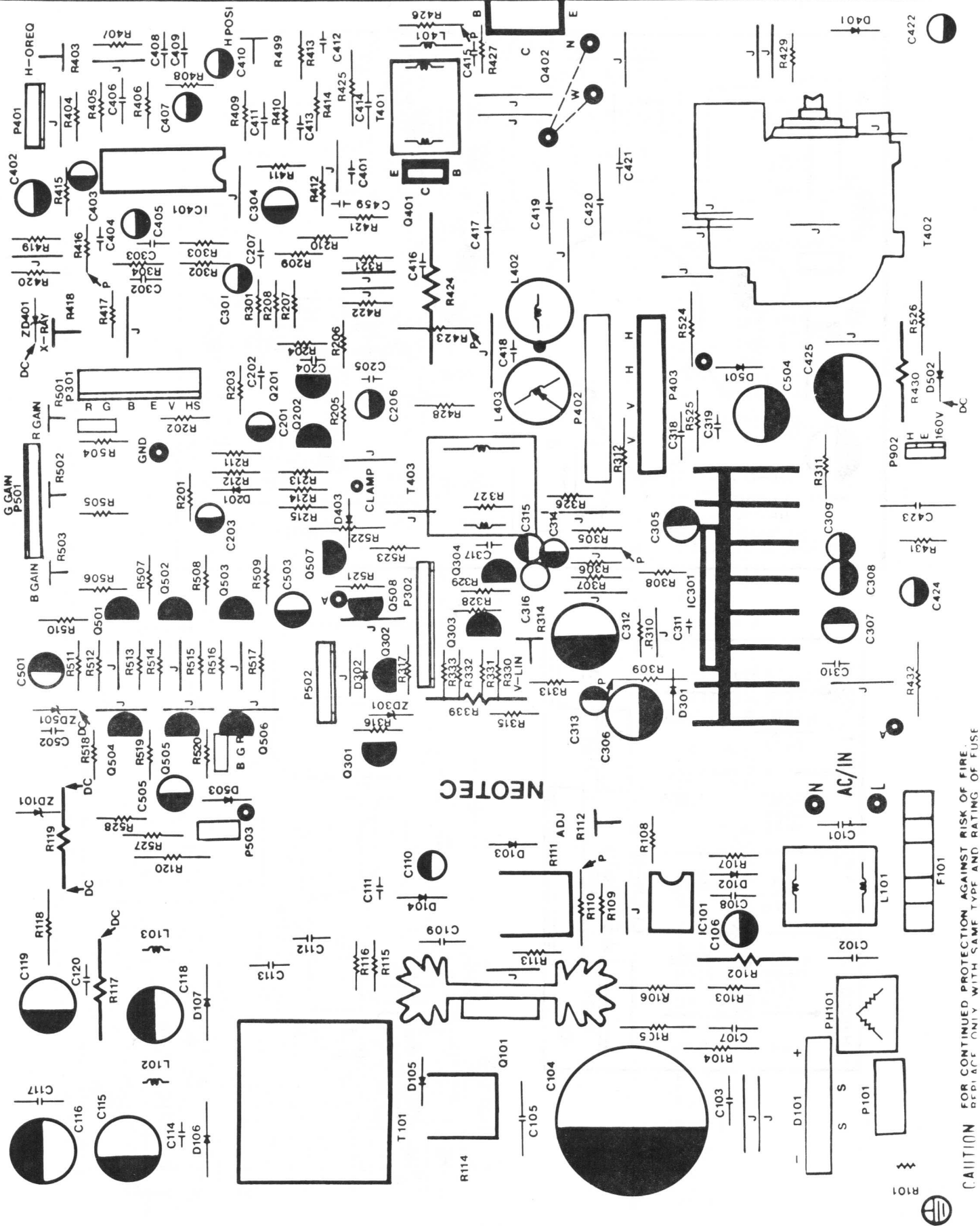
5.11.2 Open the knobs of the two 4-pole magnets, and make the blue and red vertical lines match with each other at the center of the picture.

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

BILL OF MATERIAL LIST

	PARTS NO.	SPECIFICATION	QT'Y	LOCATION
		RESISTOR		
1	22225-0102	C.F. 1/4W 1 OHM	1	R429.
2	22225-1002	C.F. 1/4W 10 OHM	1	R427.
3	22225-1012	C.F. 1/4W 100 OHM	3	R115.R116.R305
4	22225-1302	C.F. 1/4W 130 OHM	1	R333.
5	22225-1502	C.F. 1/4W 150 OHM	1	R327.
6	22225-2202	C.F. 1/4W 220 OHM	2	R109.R211
7	22225-4702	C.F. 1/4W 470 OHM	3	R204.R301.R421.
8	22225-6802	C.F. 1/4W 680 OHM	3	R313.R521.R531
9	22225-1022	C.F. 1/4 W 1 K	8	R203.R205.R405.R415.
				R416.R431.R523.R409.
10	22225-1322	C.F. 1/4W 1.3 K	1	R331.
11	22225-2222	C.F. 1/4W 2.2 K	3	R210.R317.R206.
12	22225-2422	C.F. 1/4W 2.4 K	1	R332.
13	22225-2722	C.F. 1/4W 2.7 K	2	R207.R326.
14	22225-3322	C.F. 1/4W 3.3 K	4	R214.R417.R420.R208.
15	22225-4722	C.F. 1/4W 4.7 K	2	R108.R113.
16	22225-6822	C.F. 1/4W 6.8 K	1	R215.
17	22225-8222	C.F. 1/4W 8.2 K	2	R328.R408.
18	22225-9122	C.F. 1/4W 9.1 K	1	R329.
19	22225-1032	C.F. 1/4W 10 K	7	R103.R107.R202.R209.
				R407.R410.R422.
20	22225-1232	C.F. 1/4W 12 K	6	R306.R404.R412.R413.
				R414.R419.
21	22225-1532	C.F. 1/4W 15 K	1	R304.
22	22225-2232	C.F. 1/4W 22 K	4	R213.R302.R308.R411.
23	22225-3332	C.F. 1/4W 33 K	3	R212.R316.R406.
24	22225-3932	C.F. 1/4W 39 K	1	R307.
25	22225-4732	C.F. 1/4W 47 K	2	R201.R310.
26	22225-1042	C.F. 1/4W 100 K	1	R330.
27	22225-1242	C.F. 1/4W 120 K	1	R303.
28	22225-1842	C.F. 1/4W 180 K	1	R321.
29	22245-0473	C.F. 1/2W 0.47 OHM	1	R118.
30	22245-2203	C.F. 1/2W 2.2 OHM	3	R426.R524.R526.
31	22245-4793	C.F. 1/2W 4.7 OHM	1	R311.
32	22245-2203	C.F. 1/2W 22 OHM	1	R110.
33	22245-1003	C.F. 1/2W 10 OHM	1	R525.
34	22245-3303	C.F. 1/2W 330 OHM	2	R312.R428.
35	22245-4723	C.F. 1/2W 4.7 K	2	R423.R113.
36	22245-1533	C.F. 1/2W 15 K	1	R425.
37	22245-1043	C.F. 1/2W 100 K	1	R432.
38	22245-1543	C.F. 1/2W 150 K	1	R104.

39	22245-8243	C.F. 1/2W 820 K	1	R106.
40	23245-1204	MEF 1W 1.2 OHM	1	R309.
41	23245-4704	MEF 1W 4.7 OHM	1	R120.
42	23245-6204	MEF 1W 620 OHM	1	R522.
43	23245-2744	MEF 1W 270 K	1	R105.
44	23255-0473	MEF 2W 0.47 OHM	1	R117.
45	23255-0473	MEF 2W 0.47 OHM	1	R430.
46	23255-1803	MEF 2W 180 OHM	1	R119.
47	23255-2233	MEF 2W 22 K	1	R102.
48	23875-3323	MEF 5W 3.3 K	1	R424.
49	23795-0507	WRCM 5 0.5 OHM	1	R101.
50	23795-2227	WRCS 7 2.2 K	1	R111.
51	23795-1037	WRCS 7 10 K	1	R114.

		CAPACITOR		
52	CC45CH1H180JYA	18J/50V	1	C311.
53	CC45-B2H331JYA	331K/50V	1	C204
54	CK45-B2H101K YA	101K/500V	1	C401.
55	CK45-B2H181K YA	181K/500V	1	C412.
56	CK45-B1H271K YA	271J/50V	1	C413.
57	CK45-B2H331K YA	331K/500V	1	C114.
58	CK45-B2H561K YA	561K/500V	1	C416.
59	CK45-B2H102K YA	102K/500V	4	C111.C404.C415.C418.
60	CK45-B1H103K YA	103K/50V	3	C202.C502.C205.
61	CK45-B1H104K YA	104K/50V	2	C120.C318.
62	CK45-B3D561K YA	561K/2KV	1	C421.
63	CK45-B2H103K YA	103K/500V	3	C103.C117.C414.
64	CS13-E2GA222MYAS	222N-AC400V	2	C112.C113.
65	CS17FZ2GA103ZYAS	103Z/AC400V	2	C101.C102.
66	32114-103J	PE 103J/100V	1	C303.
67	32114-683J	PE 683J/100V	2	C207.C310.
68	32115-222J	PEN 222J/100V	1	C411.
69	32115-472J	PEN 472J/100V	1	C317.
70	32115-682J	PEN 682J/100V	1	C409.
71	32115-103J	PEN 103J/100V	1	C408.
72	33116-563J	MER 563J/250V	1	C423.
73	33116-104J	MER 104J/100V	2	C318.C302.
74	33116-224J	MER 224J/100V	1	C108.
75	33175-271J	PPN 271J/100V	1	C109.
76	33175-332G	PPN 332G/100V	1	C107.
77	33175-562G	PPN 562G/100V	1	C406.
78	35155-394J	PPN 394J/400V	1	
	35155-474J	PPN 474J/400V	1	
79	33145-102J	PMP 102J/1.6KV	1	C419.
80	33145-332J	PMP 332J/1KV	1	C105.
81	33145-822J	PMP 822J/1.6KV	1	
	33145-103J	PMP 103J/1.6KV	1	

82	28167-1091	E.C. 1UF/50V	4	C110.C201.C407.C410.
83	28167-2291	E.C. 2.2UF/50V	1	C315.
84	28167-3391	E.C. 3.3UF/50V	1	C403.
85	28167-4791	E.C. 4.7UF/50V	1	C405.
86	28167-1001	E.C. 10UF/50V	3	C301.C422.C424.
87	28147-4701	E.C. 47UF/25V	2	C314.C206.
88	28137-1011	E.C. 100UF/16V	1	C305.
89	28147-1013	E.C. 100UF/25V	1	C106.
90	28157-1014	E.C. 100UF/35V	2	C307.C308.
91	28108-1001	E.C. 100UF/160V	3	C115.C116.C425.
92	28137-4701	E.C. 470UF/16V	3	C304.C402.C501.
93	28157-4701	E.C. 470UF/35V	1	C306.
94	28147-10021	E.C. 100UF/25V	1	C504.
95	28157-10021	E.C. 1000UF/35V	2	C118.C119.
96	28157-22021	E.C. 2200UF/35V	1	C312.
97	28157-0471	E.C. 0.47UF/35V	1	C203
98	28118-3301	E.C. 330UF/400V	1	C104.
99	29166-2203	E.C. NP 22UF/25V	1	C316.
100	29166-1093	TAN 1UF/35V	2	C309.C313.

		DIODE		
101	15A00-0012	IN4148	4	D201.D302.D402.D403.
102	15Z33-4742	IN4742(12V1W)	2	ZD101.ZD501.
103	15Z33-ZD7A	ZD7A(7V 1/2W)	1	ZD401.
104	15Z33-ZD15A	ZD15A(15V 1/2W)	1	ZD301.
105	15S33-BB4T	BB4T	3	D401.D501.D502.
106	15S33-10DF4	10DF4	3	D102.D104.D301.
107	15S33-RGP10M	RGP 10M	2	D103.D105.
108	15S33-30DF2	30DF2	1	D107.
109	15S33-30DF4	30DF4	1	D106.
110	15S33-PBL406	PBL406	1	D101.

		TRANSISTOR		
111	15T33-A1015	T.R. A1015	2	Q507.Q508.
112	15T33-A673	T.R. A673	1	Q302.
113	15T33-B647	T.R. B647	1	Q304.
114	15T33-C945	T.R. C945	1	Q303.
115	15T33-C1212	T.R. C1213	1	Q301.
116	15T33-C2688	T.R. C2688	1	Q401.
117	15T33-D1879	T.R. D1879	1	Q402.
	15T33-C4542	T.R. C4542	1	
118	15T33-K1507	FET K1507 (K956)	1	Q101.

		IC		
119	16103-TDA4605	I.C. TDA4605-15	1	IC101.
120	16103-LX7836	I.C. LA7836	1	IC301.
121	16103-LA7850	I.C. LA7850	1	IC401.

		VR		
122	25A01-302B	V.R. VZ067TL1 B 3K	1	R403.
123	25A01-502B	V.R. VZ067TL1 B 5K	2	R112.R418.
124	25A01-103B	V.R. VZ067TL1 B 10K	2	R314.R499.
125	26F00-0001	PTCR270N	1	PH101.
126	47E10-2R7K	SPO305-5 2.7UH	1	L401.
127	47E10-LJ-9007	C.H.K. 1J-9007	2	L102.L103.
128	47W10-WL0024	WIDTH COIL WL0024	1	L403.
129	47L10-L00026	LINEAR COIL LL00026	1	L402.
130	47L10-TF15002	LIN FILTER TF15002	1	L101.
131	47D10-J90003	DRIVE TRANS LJ90003	1	T401.
132	47P10-J90002	PIN. TRANS LJ90002	1	T403.
133	47F10-FT-238	FBT TRANS F.T.-238	1	
	47F10-FT-216	FBT TRANS F.T.-216	1	T402
134	54JP5-0010	J/W 10M/M	29	J
135	54JP5-0125	J/W 12.5M/M	5	J
136	54JP5-0150	J/W 15M/M	6	J
137	PBP-15606	PBP-15606 1.5A 6P	1	P402.
138	PBP-39606	PBP-39606 3.9 6P	1	P301.
139	GTPPN23602	PBP-23602 2.36A 2P	1	P101.
140	GTPPN23604	PBP-23604 2.36A 4P	1	P403.
141	GTPPN469-184A	469-184A 2.5M/M 5P 800M/M	1	P401.
142	GTPPN469-179	469-179 2.5M/M 6P 500M/M	1	P502.
143	GTPPN469-178	469-178 2.5M/M 3P 500M/M	1	
144	GTPPN469-185A	469-185A 2.5M/M 10P 850M/M	1	P302.
145	GTPPN469-190	469-190 2.5M/M 3P 100M/M	1	
146	GTPPN469-127	469-127 2.36A 1P 100M/M	1	
147	68A00-0010	FUSE FC-503V CLIP 5.2C(20)	1	F101.
148	49F52-2505	FUSE UL 5A/250V (20)	1	
	49F52-2504	FUSE UL 4A/250V (20)	1	F101.
149	47S10-T6002	POWER TRANS T6002	1	T101
150	50Q06-1510	AC ST2#18UL(%FEET)	1	AC.IN
151	75123-761048	PCB-002(K956)	1	HEAT SINK
152	75123-761007	7837 45L	1	HEAT SINK
153	75123-25E01	D1879/C4542	1	HEAT SINK
154	11S31-002	250x200 MAIN BOARD	1	PCB-002
155	76201-25E02	PCB-002	1	BRACKET
156	67218-30080	3*8	9	SCREW
157	67218-40100	TP2 4*10	1	SCREW
158	67205-30101	ISO 3*10	1	D1879 (SCREW)

169	67400-30101	3C	1	D1879 (WASHER)
160	A68ACT00X	(NT-29C)	1	27"CRT
	A68AGD01X	(NT-27E/NT-27V)	1	27"CRT
161	46G00-2513/	(NT-29C/ (NT-27E/NT-27V)	1	DEGAUSSING COIL
162	4690000180	6P	1	CABLE
163	54W10-0003/	(NT-29C/)	1	CRT. GROUND WIRE
164	76201-0141/	(NT-29C/)	2	CRT FRAME
165	76201-0153	BRACKET (B)	2	FRAME SUPPORT
166	76201-0160/0162	(NT-29C/)	2	FRAME SUPPORT-1
167	67218-70120	ISO 7X12	12	
168	67300-47120	FLAT WASHER	4	
169	67218-40130	TAP 4X13	2	
170	AMP1-480701-0	AMP 3P (F)	1	
171	AMP1-480705-0	AMP 6P (M)	1	

		CONTROL BOARD		
172	22225-6802	C.F. 1/4W 68 OHM	1	R323.
173	22225-6812	C.F. 1/4W 680 OHM	1	R315.
174	22225-2222	C.F. 1/4W 2.2 K	1	R318.
175	22225-3322	C.F. 1/4W 3.3 K	1	R530.
176	25A01-500B	V.R. VZ0 B500 OHM	1	R322.
177	25A01-102B	V.R. VZ0 B 1K	1	R402.
178	25A01-502B	V.R. VZ0 B 5K	2	R401.R529.
179	25A01-103B	V.R. VZ0 B 10 K	2	R319.R990.
180	25A01-503B	V.R. VZ0 B 50 K	1	R324.
181	25A01-204B	V.R. VZ0 B 200 K	1	R320.
182	64B33-0501	PBP-XH0 2.5M/ 5 P	1	P401.
183	64B33-1001	BPB-XH1 2.5M/ 10P	1	P302.
184	54JP5-0010	J/W 10M/M	1	J
185	64B33-0301	PBP-XH0 2.5M/ 3P	1	P901.
186	11S31-004	64 X 48 CONTROL BOARD	1	PCB-004
187	76201-0070	BRACKET (D)	1	PCB-004

		CRT BOARD		
188	22225-4701	C.F. 1/4W 47 OHM	5	R913.R917.R923.R925.
				R928.
189	22225-8201	C.F. 1/4W 82 OHM	3	R924.
				R930.R933.
190	22225-1011	C.F. 1/4W 100 OHM	4	R916.R953.R954.R955.
191	22225-3311	C.F. 1/4W 330 OHM	3	R926.R929.R931.
192	22225-3911	C.F. 1/4W 390 OHM	6	R914.R915.R918.
				R919.R922.R927.
193	22225-1021	C.F. 1/4W 1 K	3	R932.R939.R943.
194	22225-1221	C.F. 1/4W 1.2 K	1	R921.
195	22225-4721	C.F. 1/4W 4.7 K	3	R907.R910.R920.

196	22225-2221	C.F. 1/4W 2.2 K	1	R911
197	22225-1031	C.F. 1/4W 10 K	4	R904.R905.R906.
				R912.
198	22225-4731	C.F. 1/4W 47 K	2	R909.R944.
199	22245-2211	C.F. 1/2W 220 OHM	3	R940.R941.R942.
200	22245-1041	C.F. 1/2W 100 K	1	R945.
201	22246-2075	1015/22 AWG UL/CSA 500M/M	1	
202	23255-2721	MEF 2W 2.7K	3	R946.R947.R948.
203	25A01-202B	V.R. VZ0 2K	3	R950.R951.R952.
204	25A01-501B	V.R.VZ0 500 OHM	3	R936.R937.R938.
205	CC45SL1H271YA	C.C. 271J/50V	3	C913.C918.C919.
206	SC45-F1H104ZAY	C.C. 104Z/50V	9	C902.C907.C908.
				C909.C910.C911.
				C912.C914.C916.
207	CK45-B2H472KYA	C.C. 472K/500V	1	C923.
208	CK45-B3D102KYA	C.C. 102K/2KV	1	C922.
209	28137-1011	E.C. 100UF/16V	3	C906.C915.C917.
210	28167-4791	E.C. 4.7UF/50V	4	C901.C903.C904.C905
211	28177-4791	E.C. 4.7UF/250V	1	C921.
212	28177-1001	E.C. 10UF/250V	1	C920.
213	47E10-12UH	EL060SKI-120J 12UH	1	L905.
214	47E10-3R9	EL060SKI-3R9J 3.9UH	4	L901.L902.L903.L904.
215	15T33-C945	T.R. C945	1	Q907.
216	15T33-C4367	T.R. C4367	3	Q901.Q902.Q903.
217	16103-LM1203	IC. LM1203	1	IC901
218	15T33-C3788	TR. C3788	3	Q904.Q905.Q906.
219	15S33-4005	IN4005	1	D901
220	GTPPN23605	PBP-23602-2P	1	P904
221	GTPPN23606	G.T PIN 2.36	1	GND
222	64B33-0301	PBP-XHO2.5M/3P	1	P902
223	64B33-0601	PBP-XHO2.5M/6P	1	P901
224	HPSO199-2	CRT SOCKET	1	
225	75123-761088	C3788	3	HEAT SINK
226	11S31-005	CRT BOARD	1	NT-001
227	54JP5-0010	J/W 10M/M	7	J
228	22225-4702	C.F. 1/4W 470 OHM	3	R901.R902.R903.

		PINCUSHION BOARD		
229	22225-5602	C.F. 1/4W 56 OHM	1	R4
230	22225-1202	C.F.1/4W 120 OHM	1	R26
231	22225-3902	C.F.1/4W 390 OHM	1	R6
232	22225-1022	C.F.1/4W 1K	5	R1.R18.R24.
				R25.R29
233	22225-3322	C.F.1/4W 3.3K	2	R2.R28.
234	22225-3922	C.F.1/4W 3.9K	2	R9.R10.

235	22225-1032	C.F. 1/4W	7	R3.R13.R14.R15.
				R16.R20.R27.
236	22225-1232	C.F. 1/4W	1	R5.
237	22225-2232	C.F. 1/4W	2	R21.R23.
238	22225-3332	C.F. 1/4W	1	R8.
239	22225-3932	C.F. 1/4W	1	R30.
240	22225-5632	C.F. 1/4W	1	R7.
241	22225-1042	C.F. 1/4W	4	R11.R12.R17.R19.
242	22225-1842	C.F. 1/4W	1	R22.
243	23255-5603	MEF 2W	1	R31.
244	15Z33-ZD20V	ZD20V	1	D1
245	15A00-0012	IN4148	4	D2.D3.D4.D5
246	15S33-RDB7-15	ERDB7-15	2	D6.D7
247	15S33-30DF6	30DF6	1	D8
248	16103-LM358	LM358	1	IC1
249	15T33-C458	2SC458	2	Q1.Q2.
250	15T33-C2073	2SC2073	1	Q3
251	25A01-104B	V.R. VZO 100K	4	VR1.VR2.VR4.VR5
252	25A01--502B	V.R. VZO 5K	1	VR3
253	CC45-B1H102KYA	102		C11
254	CK45-B1H102KYA	0.001		C18
255	CK45-B1H332KYA	0.033		C22
256	32115-103J	0.01/50V		C14
257	33116-104J	0.1/50V		C17
258	33415-103J	0.01/1.6KV		C20
259	33155-474J	474/400V		C24
260	28167-1091	1UF/50V		C2
261	28167-2291	2.2UF/50V		C4.C7.C8.C9.C10.
262	28167-3391	3.3UF/50V		C5
263	28167-5691	5.6UF/50V		C19
264	28167-1001	10UF/50V		C6.C13.C16.
265	28167-2201	22UF/50V		C12.
266	28147-1041	100UF/35V		C3.C15
267	28167-2214	220UF/50V		C1
268	47E10-31R1K	310UH		L1
269	GTPPN469-180	4P BASE		
270	GTPPN23606	G.T. PIN2.36		H+ H-GND
271	75123-2073	HEAT SINK		2SC2073
272	11S31-DPC001	P.C.B. 122X83		