

NEC

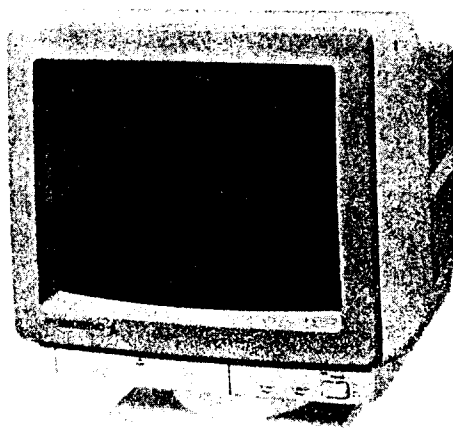
MODELS JC-1402HME/EE/ED/N/R

MULTISYNC COLOR MONITOR SERVICE MANUAL

PART NO. 599910266



Better Service
Better Reputation
Better Profit



A. Electrical Description

SPECIFICATIONS

Picture Tube	13 Visual inches diagonal 90 degree deflection, 0.31 mm Trio dot pitch Dot type black matrix. Non-long persistence phosphor, Dark bulb, Direct each
Input Signal	Video : TTL Level Positive ANALOG 0.7 Vp-p/75Ω Positive Sync. : Separate sync. TTL Level Horizontal sync. Positive/Negative Vertical sync. Positive/Negative : Composite sync. TTL Level Positive/Negative : Composite sync. on Green Video sync. 0.3 Vp-p Negative (Video 0.7 Vp-p Positive)
Display Colors	TTL Input: 8/16/64 colors Analog Input: Unlimited colors
Synchronization:	Horizontal: 15.5 kHz to 35 kHz (Automatically) Vertical: 50 Hz to 80 Hz (Automatically), Non-interlace
Resolution	Horizontal: 800 dots Vertical: 560 lines
Video Band Width	30MHz
Active Display Area	Horizontal: 250mm Vertical: 185mm (Active display area is changed by signal timing.)

Misconvergence	Less than 0.6mm
Power Supply	AC220 ~ 240 V 50/60 Hz
Power Consumption	85 W
Environmental	Operating Temperature 0°C to +40°C Humidity 30% to 80%
Considerations	Storage Temperature -20°C to +60°C Humidity 10% to 90%

NOTE: The above specification are subject to change without notice
for further improvement.

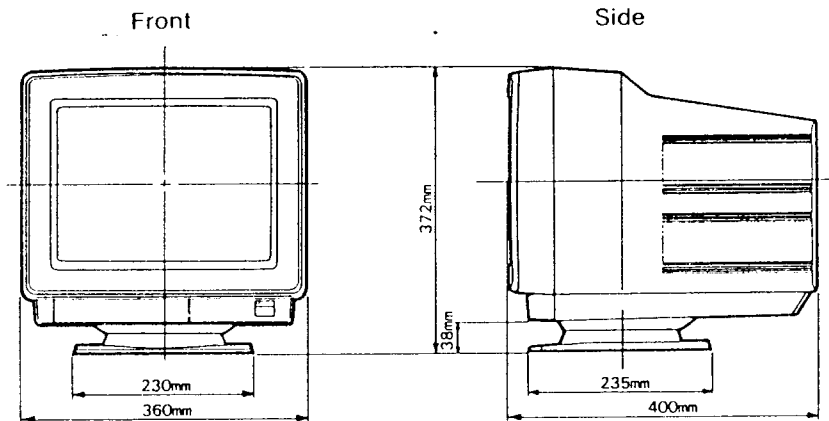
NEC Corporation
TOKYO, JAPAN

B. Mechanical Description (See below diagrams)

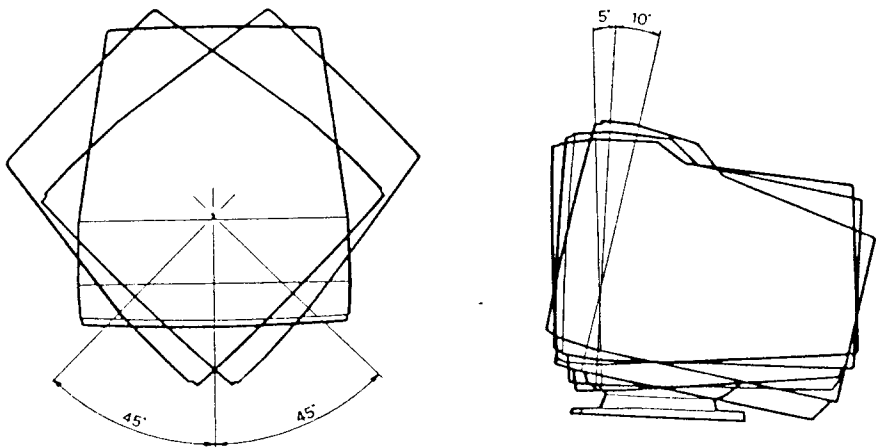
1. Cabinet:

Molded plastic cabinet with attachable tilt swivel base.
2. Dimensions:

360(W)×372(H)×400(D) mm



3. Tilt Swivel Range



4. Weight:

16 kg

5. Controls

Rear Controls:

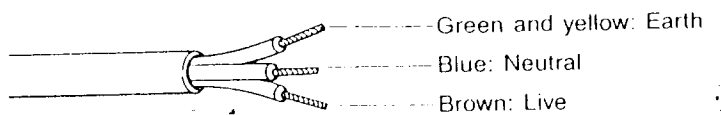
Front Controls:

- MANUAL SWITCH
- MODE SWITCH
- COLOR MODE SWITCH
- POWER SWITCH
- BRIGHTNESS CONTROL
- CONTRAST CONTROL
- V. POSITION CONTROL
- V. SIZE CONTROL
- H. POSITION CONTROL
- H. SIZE SWITCH
- TEXT SWITCH
- TEXT COLOR SWITCH
- 9 PIN D-SUB CONNECTOR (FEMALE)
- (SEE PAGE 2 FOR PIN ASSIGNMENTS)

6. Input Signal Terminal:

7. Power cord

In case of JC-1402HMEE, the end of power cord is as follows.



GENERAL

MultiSync II, The Intelligent Monitor, from NEC, is a high resolution color monitor that automatically adjusts to graphics board scanning frequencies from 15.5kHz to 35kHz (Horizontal), 50Hz to 80Hz (Vertical). MultiSync II gives IBM PC, PC/XT, PC/AT, Personal System/2 (PS/2) and compatible computers users of crisp text and vivid color graphics displays when used with any of the IBM graphics adapters (the CGA, EGA, PGC, VGA or MCGA). MultiSync II can also be used with other IBM compatible graphics adapters to provide users with the widest range of color monitor compatibility and capability available in the market place.

FEATURES

- MultiSync II automatically scans all horizontal frequencies between 15.5kHz and 35kHz, and all vertical frequencies between 50Hz and 80Hz.
- MultiSync II is compatible with the IBM PC, PC/XT, PC/AT, PS/2 and look-alikes.
- MultiSync II is compatible with the IBM Color Graphics Adapter, the IBM Enhanced Graphics Adapter, the IBM Professional Graphics Controller, the IBM MultiColor Graphics Array, the IBM Video Graphics Array and other IBM compatible graphics adapters.
- MultiSync II's wide compatibility makes it possible to upgrade boards or software without purchasing a new monitor.
- MultiSync II has a maximum horizontal resolution of 800 dots and a maximum vertical resolution of 560 lines for superior clarity of display.
- MultiSync II offers both TTL and ANALOG signal inputs, and in the ANALOG mode can display an unlimited palette of colors depending on the graphics board and software being used. MultiSync II automatically adjusts to either a TTL signal input or an ANALOG signal input.
- MultiSync II features a TEXT SWITCH (TTL mode only) with a choice of three colors (paper white, amber and green) displaying word processing, spread sheets, databases or other software in crisp alphanumeric text on a black background.
- MultiSync II has a 14 inch diagonal display and a large, 13 inch viewing area.

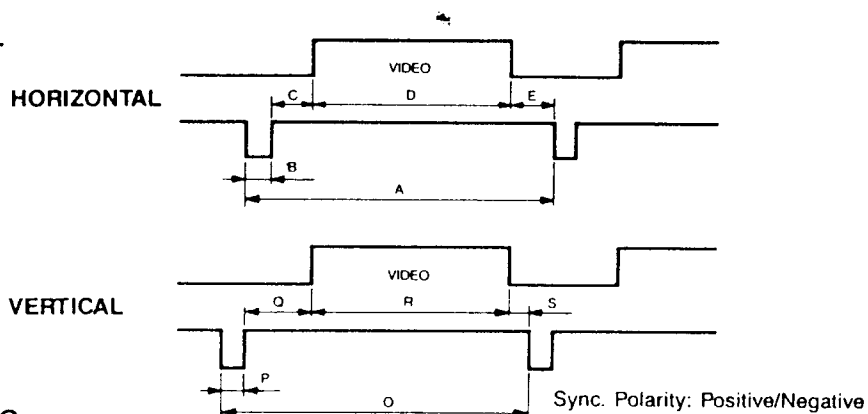
CAUTIONS

When setting up and using the MultiSync II pay special attention to these points.

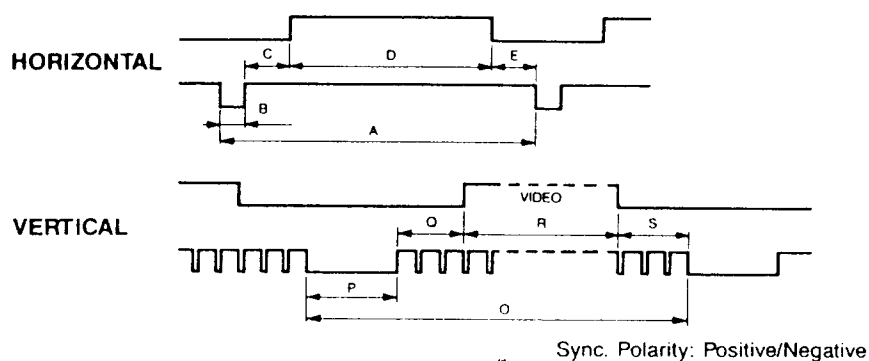
- To eliminate eye fatigue, don't use the MultiSync II against a bright background or where the sun or other lights can directly shine on it.
- For optimum viewing, the MultiSync II should be just below eye level.
- Allow adequate ventilation all around the MultiSync II so that heat from the monitor can properly dissipate.
- Don't rest the MultiSync II or other heavy objects on the power cord. A damaged power cord can cause fires or electrical shocks.
- Keep the MultiSync II away from high capacity transformers, electric motors and other strong magnetic fields.
- Don't drop the MultiSync II when transporting it.
- Don't use the MultiSync II in damp, dusty, or dirty places.

TIMING CHARTS

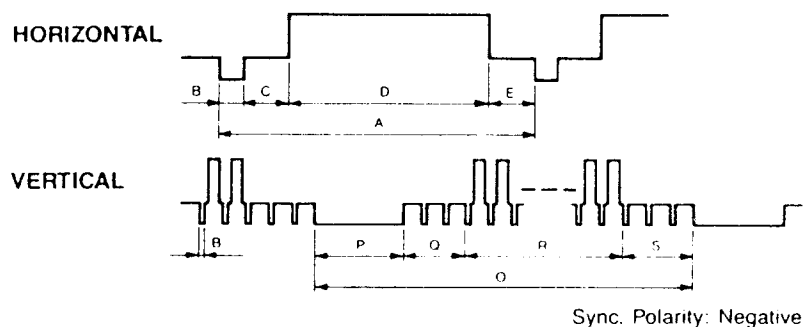
SEPARATE SYNC.



COMPOSITE SYNC.



COMPOSITE SYNC. & VIDEO (SYNC. ON GREEN)

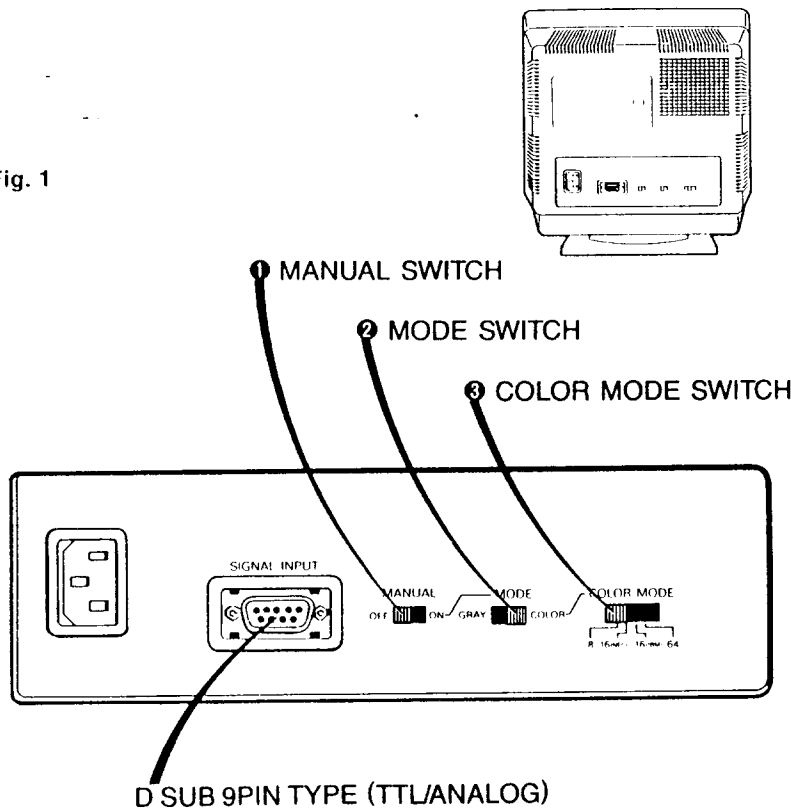


PRESET TIMING

	CGA COMPATIBLE	EGA COMPATIBLE	PGC COMPATIBLE	VGA/MCGA COMPATIBLE		
fH	15.85kHz	22kHz	30.48kHz	31.5kHz		
A μ s	63	45.5	33	31.77		
B μ s	4.2	4.9	4.5	3.77		
C μ s	7.2	1.6	2.8	1.89		
D μ s	45	39	25.6	25.17		
E μ s	6.6	0	0.1	0.94		
fV	61 Hz	60 Hz	60 Hz	70Hz		
O ms	16.4	16.68	16.6	14.27	14.27	16.68
P ms	00.75	0.6	0.07	0.064	0.064	0.064
Q ms	1.525	0.08	2.12	1.88	1.08	1.02
R ms	12.6	16	13.05	11.126	12.716	15.246
S ms	2.2	0	1.36	1.2	0.41	0.35
REMARKS	SEPARATE SYNC. H. SYNC. POSITIVE V. SYNC. POSITIVE	SEPARATE SYNC. H. SYNC. POSITIVE V. SYNC. NEGATIVE	H/V COMPOSITE SYNC.	SEPARATE SYNC. H. SYNC. POSITIVE V. SYNC. NEGATIVE	SEPARATE SYNC. H. SYNC. NEGATIVE V. SYNC. POSITIVE	SEPARATE SYNC. H. SYNC. NEGATIVE V. SYNC. NEGATIVE

ADJUSTING THE REAR CONTROLS

Fig. 1



1 MANUAL SWITCH

This switch selects either the IBM mode when OFF or the manual mode when ON. When this switch is OFF, MultiSync II automatically works in the IBM mode and adjusts itself to the scanning frequency, resolution and color requirements of the IBM compatible graphics adapter being used.

When this switch is ON, the user must manually select the mode (gray/color) and the number of colors (8/16/64) needed by the graphics adapter being used with the MODE SWITCH and COLOR MODE SWITCH. (see No. 2 3 below)

2 MODE SWITCH

This switch selects either the gray scale or color with a TTL signal input. (See APPENDIX B pin assignment of gray scale.)

Refer to the user manual accompanying the graphics adapter for information on the input signal.

3 COLOR MODE SWITCH

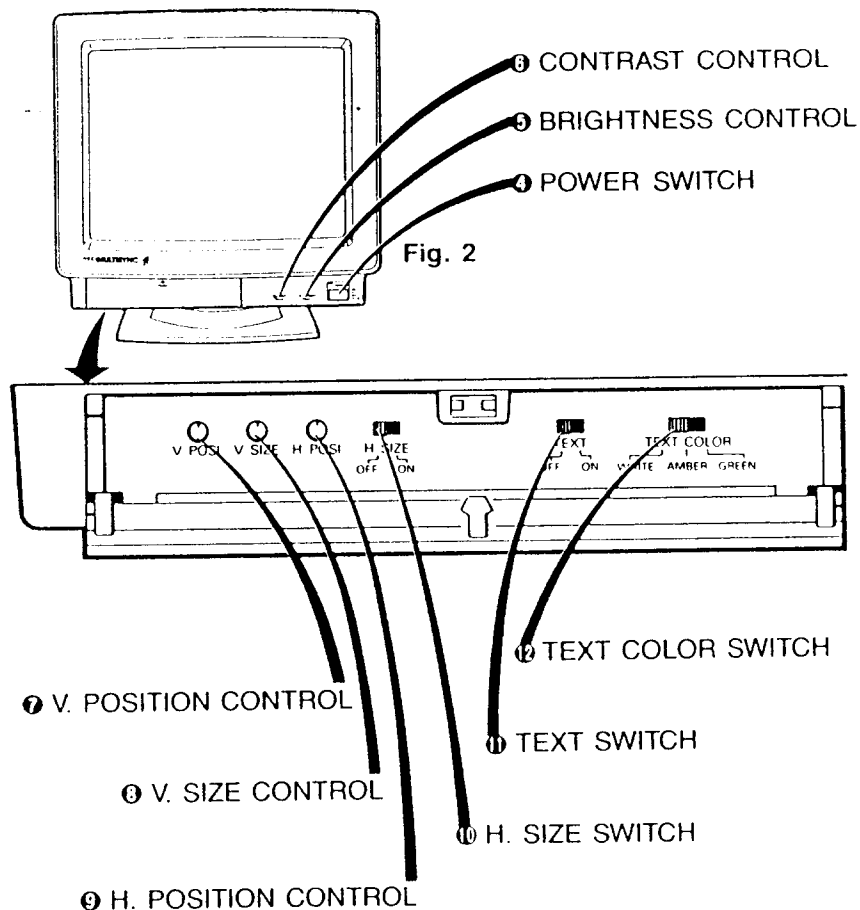
One of the four color configurations [8/16(NEC)/16(IBM)/64] must be selected when using non-IBM compatible graphics adapters. The proper configuration can be selected by using the COLOR MODE SWITCH as shown below.

COLOR MODE	COLOR MODE SWITCH
8 colors	8
16 colors with low intensity yellow	16 (NEC)
16 colors with IBM brown	16 (IBM)
64 colors	64

Note

This switch should be set correctly in relation to the input signal of the graphics adapter used. Refer to the user manual accompanying the graphics adapter for information on the input signal.

ADJUSTING THE FRONT CONTROLS



4 POWER SWITCH

Used to turn the Power ON or OFF.
When the power is ON, the power LED indicator is lit.

5 BRIGHTNESS CONTROL

Used to adjust the picture brightness of the screen.

6 CONTRAST CONTROL

Adjust the display to the contrast preferred by the user.

7 V. POSITION CONTROL

Adjust this knob for the proper vertical position of the display. Turn the knob clockwise for a higher display position; turn it counterclockwise for a lower display position.

8 V. SIZE CONTROL

Adjust this knob for the proper vertical size of the display. Turn the knob clockwise for a larger display; turn it counterclockwise for a smaller display.

9 H. POSITION CONTROL

Adjust this knob for the proper horizontal position of the display. Turn the knob clockwise to reposition display to the right; turn it counterclockwise to reposition to the left.

10 H. SIZE SWITCH

Adjust this switch for the horizontal size of display preferred. When this switch is ON, the width of the display can be made wider.

11 TEXT SWITCH

This switch controls the text mode of the MultiSync II.

When it is ON, the text will appear in the color displayed by the TEXT COLOR SWITCH (see No.12 below), regardless of the colors of the software program being used.

When it is OFF, the color of the software program being used will be displayed.

Note

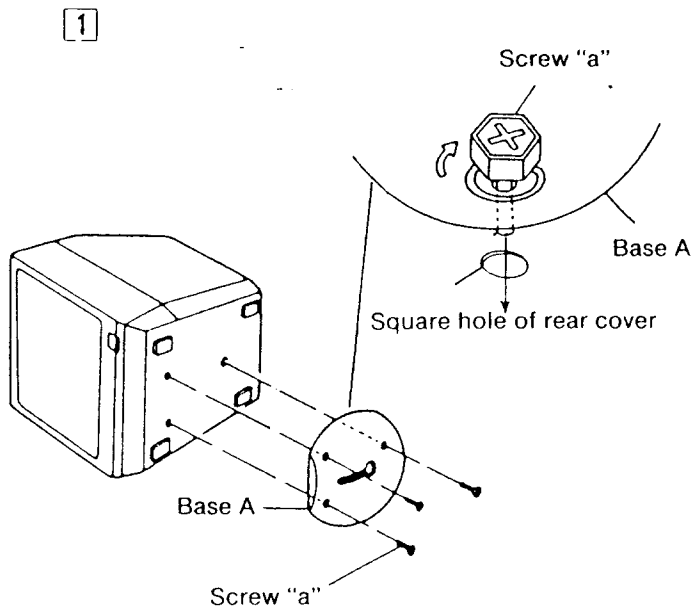
The TEXT SWITCH works only in the TTL mode.

12 TEXT COLOR SWITCH

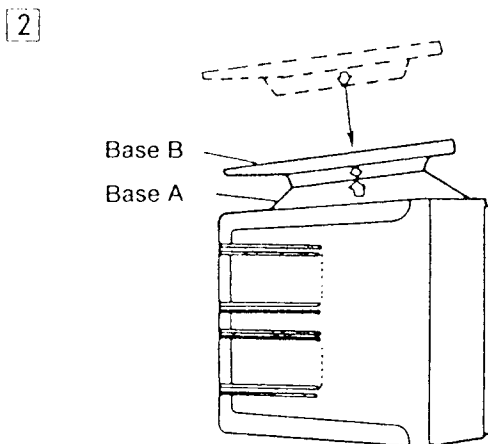
Use this switch to select the text color-green, amber or paper White-when the TEXT SWITCH is ON.

Also use this switch to select the gray scale color-green, amber or paper white-when the gray scale mode is selected (see No.2) regardless of the position of the TEXT SWITCH.

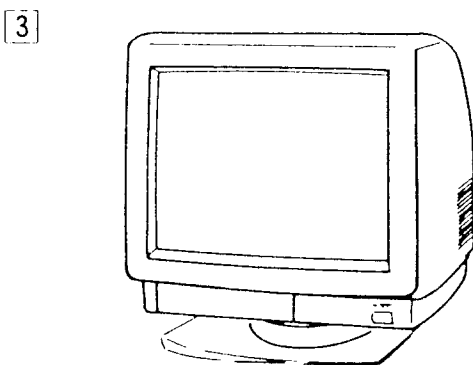
THE METHOD FOR REMOVING AND MOUNTING THE TILT SWIVEL BASE



- ① Insert 3 mounting screws "a" into holes on the turning table A.
- ② Arrange the 3 male screws "a" into the female Screws on the bottom of the Set in correct. Screw the table A to the set driving 3 screws "a" with a philips head screwdriver.



- ① Align the arrow of both tables A and B, and put the table B, into the table A as shown on the left.
- ② Both tables are fixed firmly by turning the table B 180° degrees clockwise.



After completing the attachment of the turning table in Sequence **1** → **2** , place the set in its proper position. It is recommended that the Set should be used with its face coming to the printing side on the turning table.

NOTE:

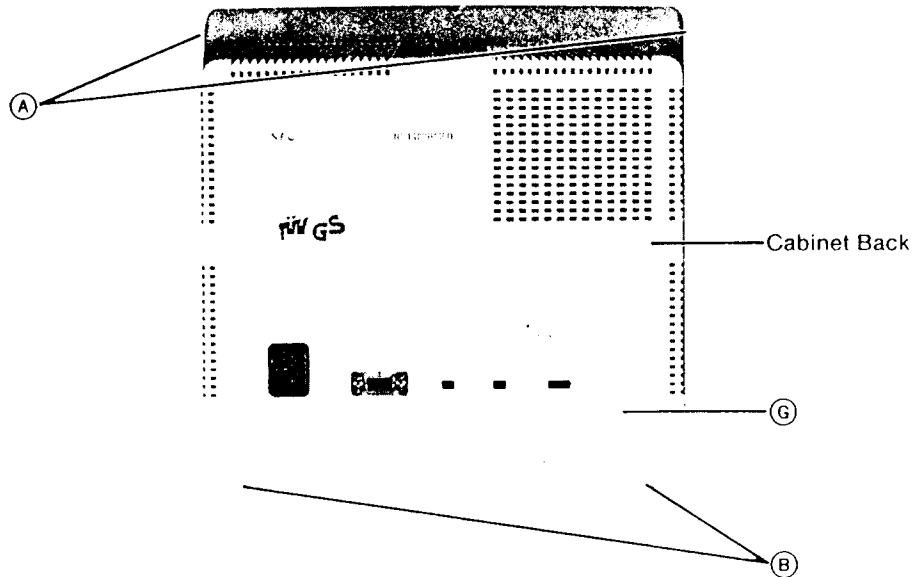
Please avoid a harsh handling to turn the Set vertically or horizontally.

- 4** In case you remove the turning table, take a reverse Sequence from **2** → **1** .

DISASSEMBLY OF THESE MODELS

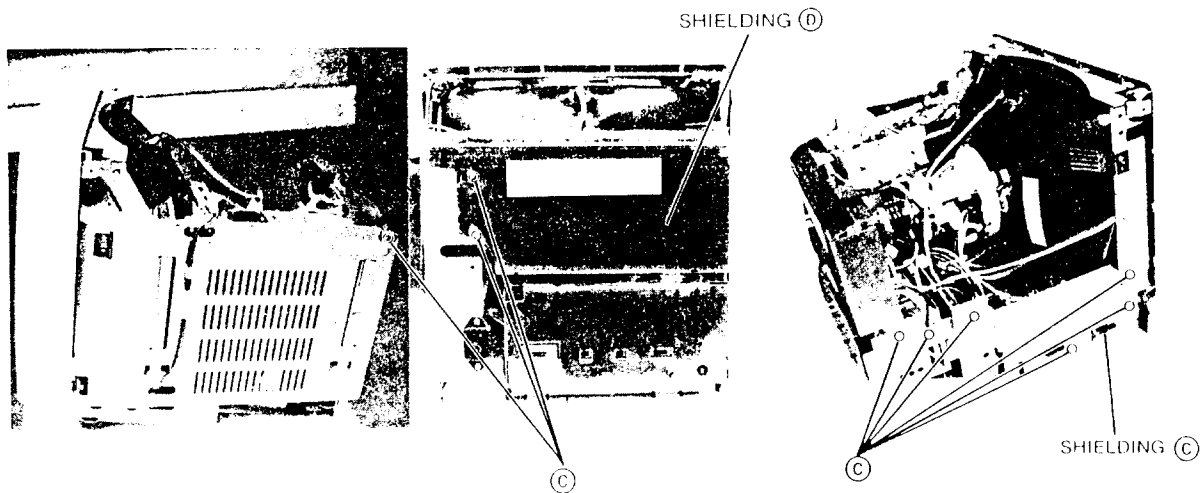
Warning; This equipment generates and used radio frequency energy and if not reconstructed properly, ie., in strict accordance with the following instruction, it may cause interference to radio or television reception.

1. Remove the two screws (A), the two screws (B) and one screw (G) pull the Cabinet Back bakcward to the rear.



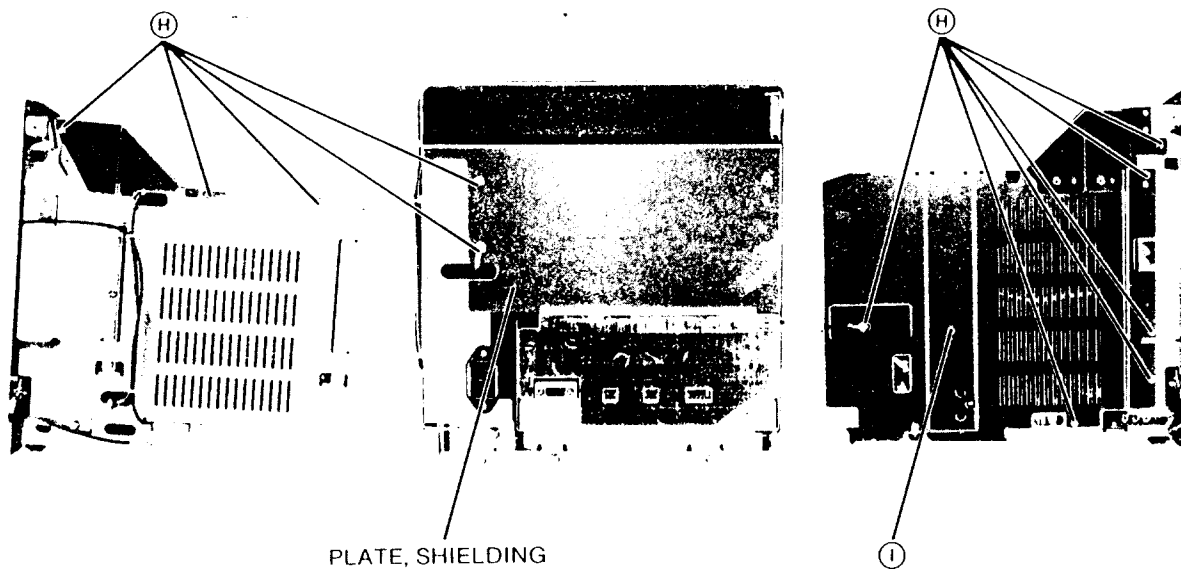
Note: To prevent the occurrence of a gap between the Cabinet Front and the Cabinet Back when attaching the Cabinet Back, be sure to tighten the screws in the order of (A) to (B).

2. Remove the 9 screws (C), then take off SHIELDING (C) and (D).



2' As for model JC-1402HMED

Remove the 11 screws ⑨ and one screw ⑩, then take off
PLATE, SHIELDING.

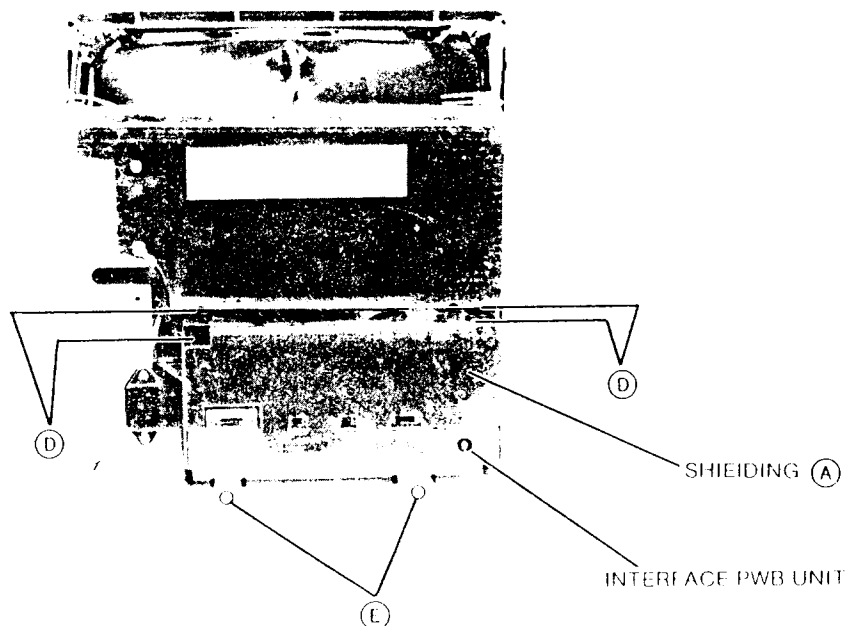


3. INTERFACE PWB UNIT DISASSEMBLY

Remove the 4 screws ④, then take off the SHIELDING ①.

Disconnect the connectors from the INTERFACE PWB UNIT.

Remove the 2 screws, ⑤ then take off the INTERFACE PWB UNIT.



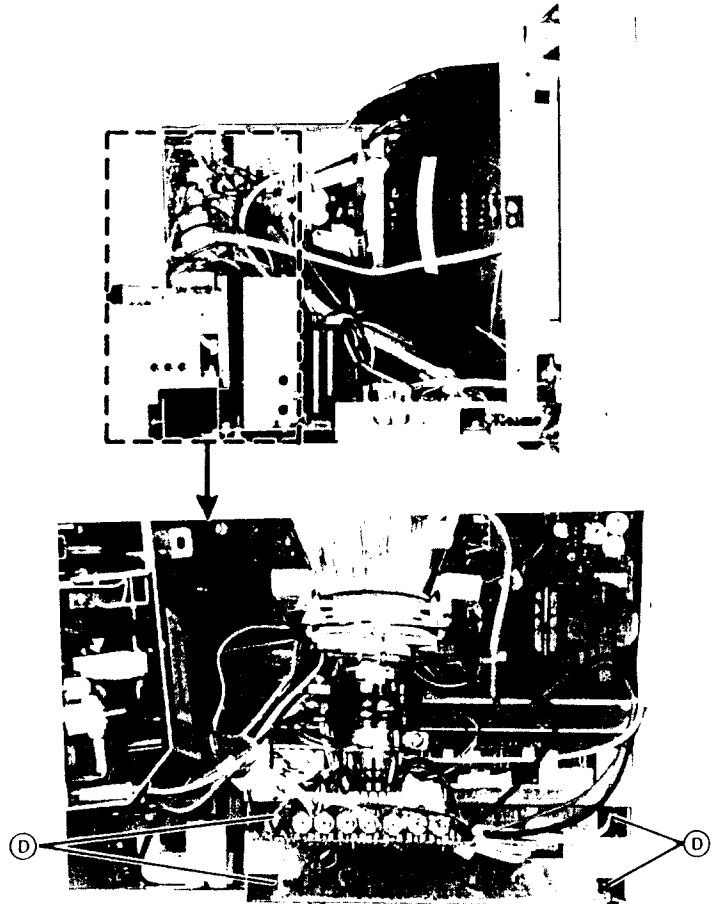
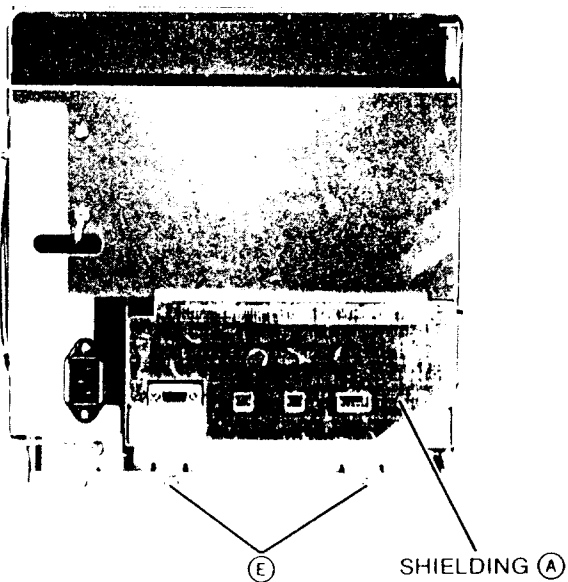
3' As for model JC-1402HMED

Remove PLATE, SHIELDING (A) and then take out the INTERFACE PWB UNIT as the instructions below.

Remove the 4 screws (D), then take off the SHIELDING (A).

Disconnect the connectors from the INTERFACE PWB UNIT.

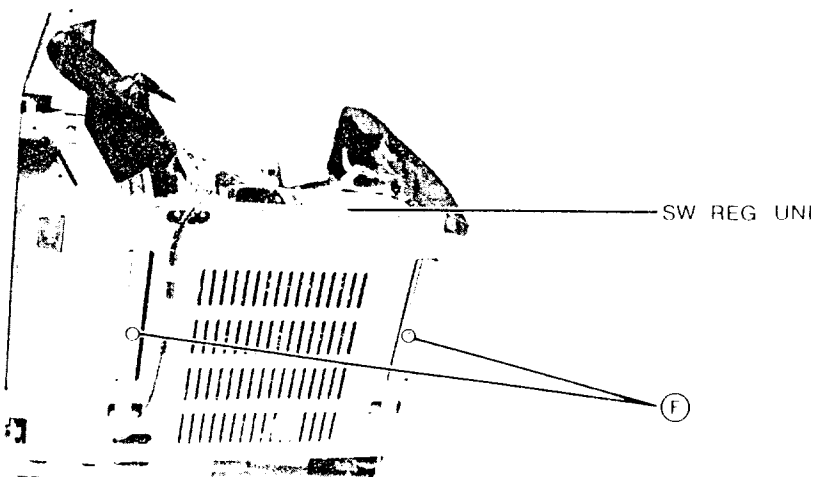
Remove the 2 screws, (E) then take off the INTERFACE PWB UNIT.



4. SW. REG. UNIT. DISASSEMBLY.

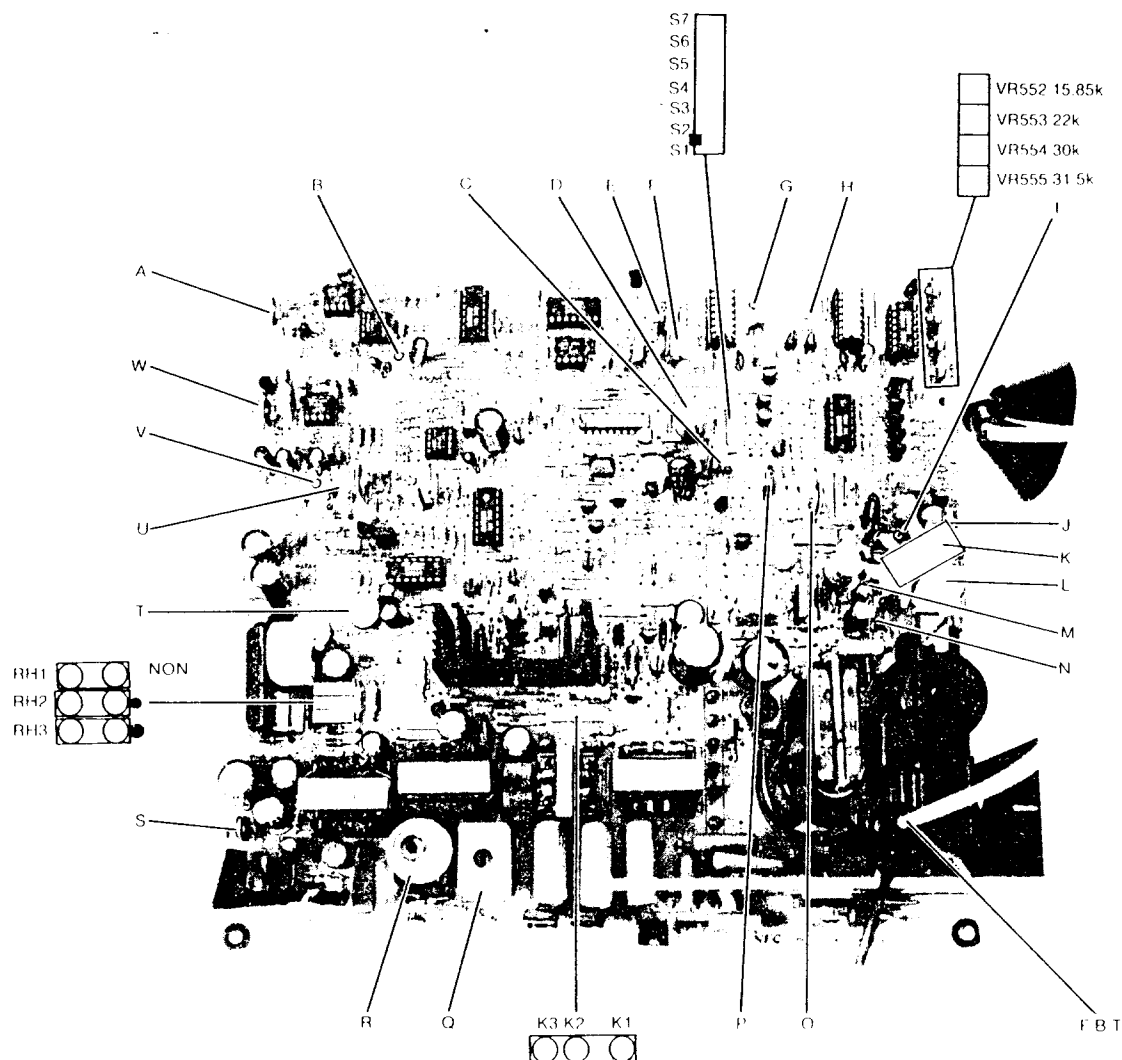
Disconnect the connectors C. K. SW and DEGAUSSING COIL from the SW. REG. UNIT.

Remove the 2 screws (F), then take off the SW. REG. UNIT.



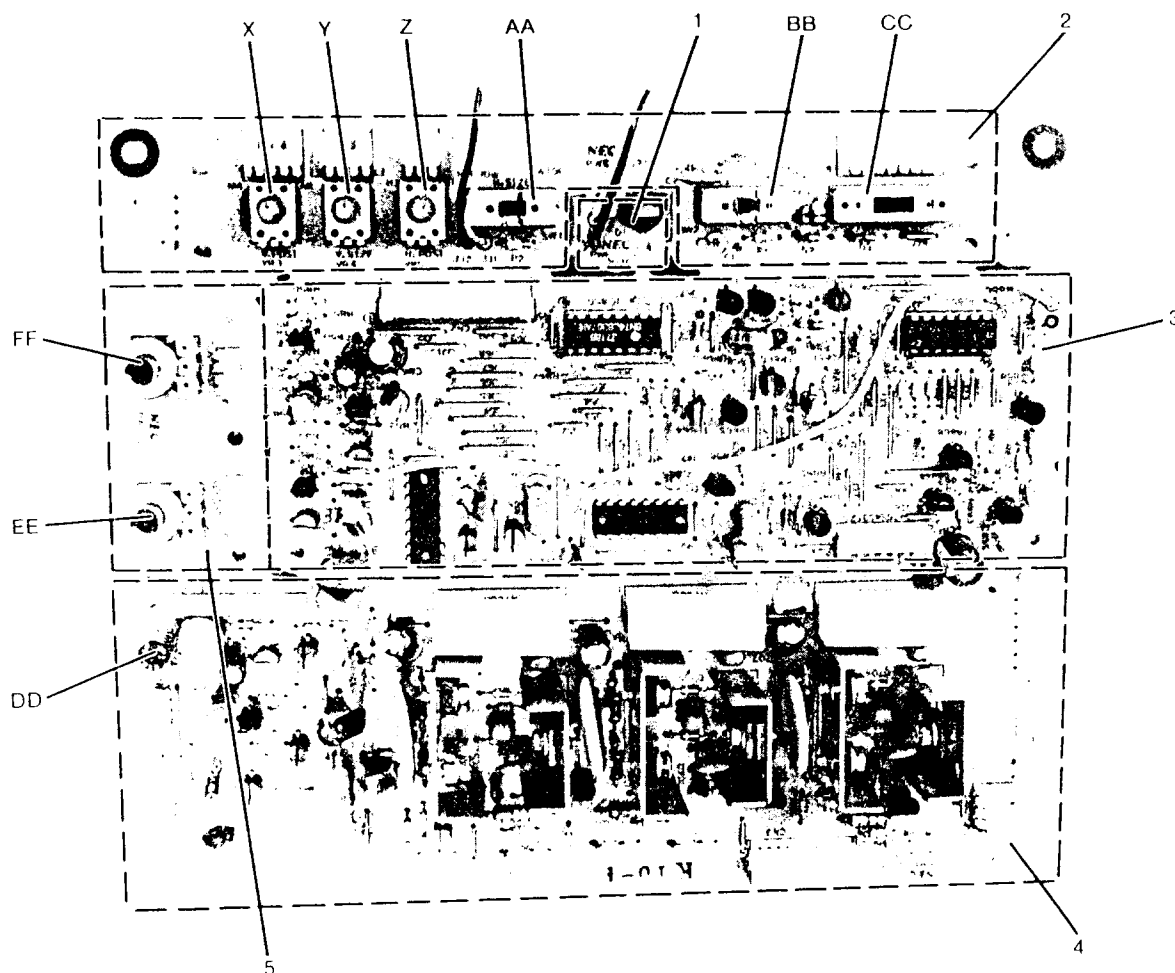
PARTS LOCATION DIAGRAMS

DEF PWB ASSY (PWE—194)



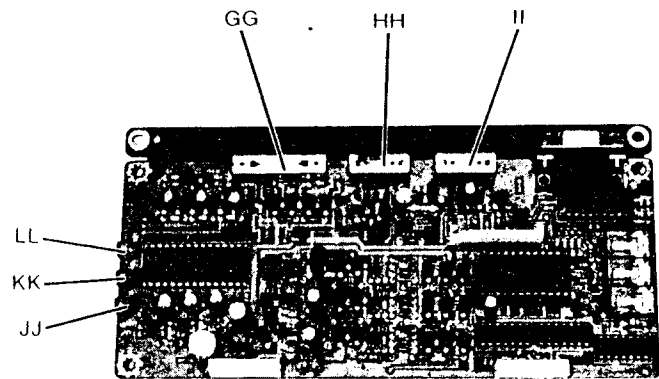
A	VR551 H. F-V ADJ	M	TP2002A
B	TP551 H. F-V	N	TP2001A
C	VR401 V.HOLD	O	VR402 SUB V. HEIGHT
D	TP501 H. HOLD	P	VR405 V. LIN
E	VR502 H. HOLD 2	Q	L506
F	VR501 H. HOLD 1	R	L505 H. WIDTH COIL
G	TP503 (GND)	S	VR5C1 TP502 6V ADJ.
H	TP5E1 (16V)	T	VR403 SIDE PIN
I	TP2001C	U	VR5E1 +16V
J	TP2002C	V	TP451 V.F-V
K	VR2001 VR2002 HV. PROTECTOR	W	VR451 V.F-V ADJ
L	VR2003 HV. ADJ.		

1	LED PWB ASSY	PWE-207E
2	VR PWB ASSY	PWE-207D
3	INTERFACE PWB ASSY	PWE-207B
4	VIDEO PWB ASSY	PWE-207A
5	CONTROL PWB ASSY	PWE-207C



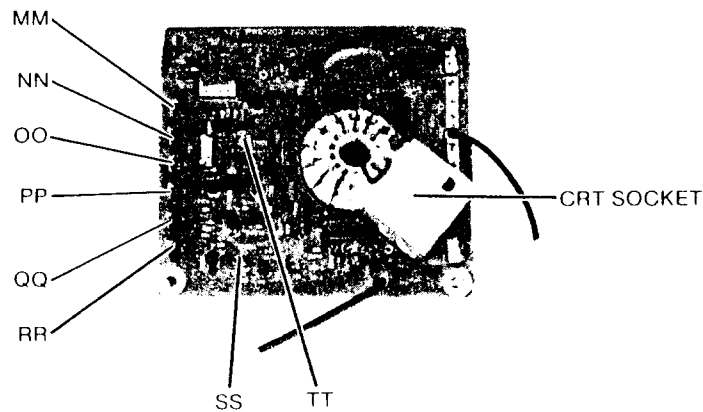
X	VR3 V. POSITION	CC	SW3 TEXT COLOR
Y	VR4 V. SIZE	DD	VR701 SUB. CONT
Z	VR5 H. POSITION	EE	VR2 BRIGHT
AA	SW1 H. SIZE	FF	VR1 CONTRAST
BB	SW2 TEXT		

INPUT PWB ASSY (PWE—206)



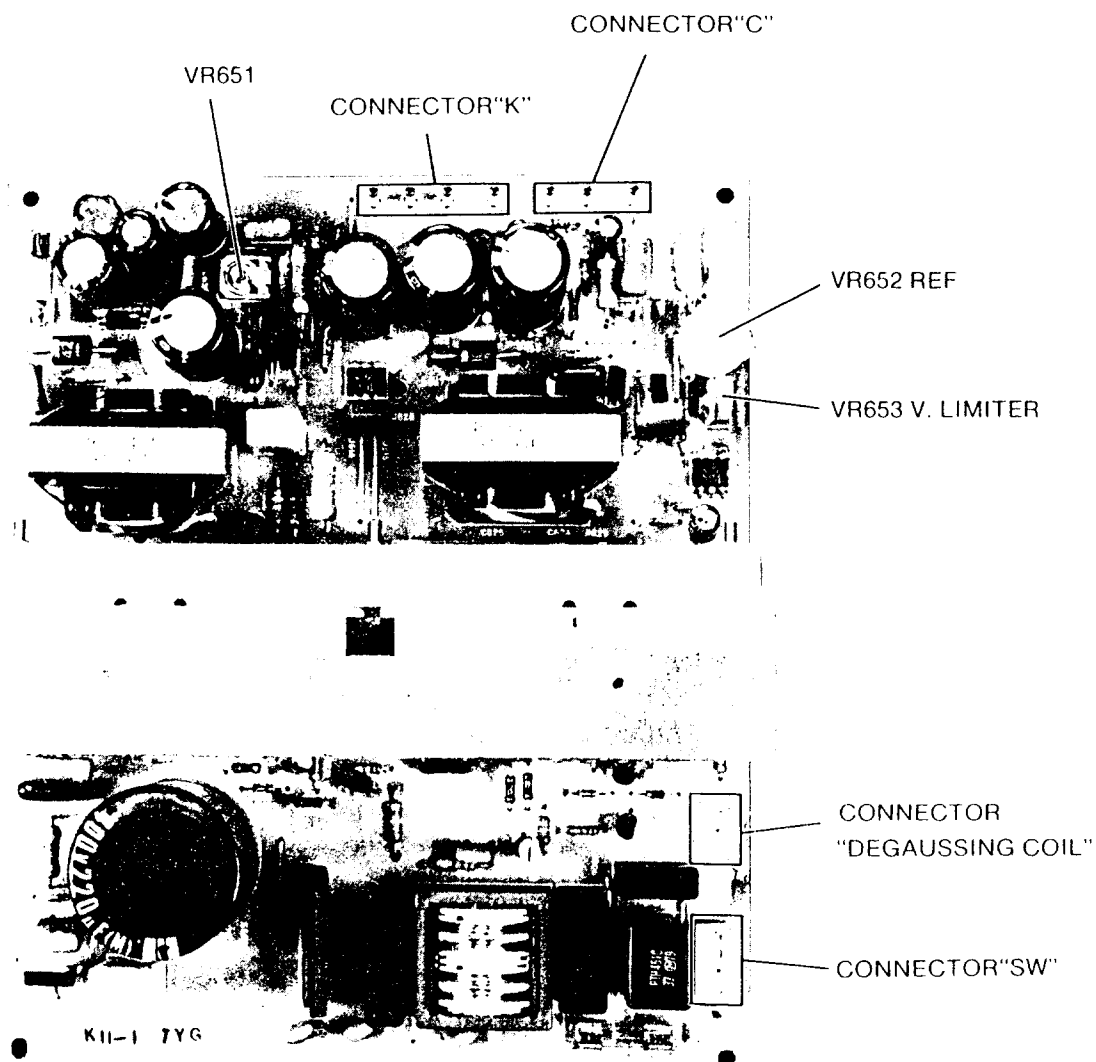
GG	SW803 COLOR MODE	JJ	VR803
HH	SW802 MODE	KK	VR802
II	SW801 MANUAL	LL	VR801

CRT PWB ASSY (PWE-203)



MM	VR904	QQ	VR902
NN	VR905	RR	VR903
OO	VR906	SS	TP901
PP	VR901	TT	TP902

SW. REG. PWB ASSY (PWE-198)



ADJUSTMENT PROCEDURE

Standard Adjustment Conditions

- 1) Power source voltage: AC220V~240V 50 Hz.
- 2) Aging: Adjust after leaving power on for 20 minutes or more.
- 3) Signals:
 - Video: Analog 0.6Vp-p 75Ω terminal Positive polarity
 - Analog Sync. on green
 - Video: 0.6Vp-p
 - Synchronizing: 0.3Vp-p
 - Synchronizing: TTL level Negative polarity/positive polarity
 - Separate/composite
 - Deflection frequency: H. 15kHz - 35kHz
 - V. 50 Hz - 80 Hz

Unless otherwise specified, use signal 14 (22kHz EGA mode).

1. SW. REG. UNIT

- 1) $+B_1$ (VR651) $\pm 85V$ LINE
Adjust VR651 to be 85 VDC
- 2) $+B_{LIM}$ (VR653) V.limit (C1-Gnd Voltage)
Remove C-connector.
Adjust VR653 to be 122 Volts.

Note: Do not operate the SW. Reg. unit itself without any load.

- 3) $+B_H$ (VR652) High Voltage control
This control is permanently sealed at factory.
Do not attempt to readjust.

2. Pre-adjustment of DEF PWB

Apply 24V DC between K2 and K3.

For sections 3) and 4), the JC-1402HMA INTERFACE PWB ASSY S connector output can also be used as a TESTING EQUIPMENT.

- 1) $\pm 16V$ adjustment
Adjust VR5E1 for 16V $\pm 0.05V$ DC between TP5E1 and the ground.
- 2) $\pm 6V$ adjustment
Apply a resistance load of 10Ω10W between HC2 and HC3.
Adjust VR5C1 for 6 $\pm 0.05V$ DC between TP502 and the ground.
- 3) Horizontal F/V convertor adjustment (signal 17)
Input fH = 25kHz horizontal synchronizing negative polarity 5Vp-p between S7 and the ground.
Adjust VR551 for 10 $\pm 0.05V$ DC between TP551 and the ground.

- 4) Vertical F/V convertor adjustment (signal 17)
Input fv = 60Hz vertical synchronizing positive polarity 12Vp-~~p~~ between S6 and the ground.
Adjust VR45I for 5.95 $\pm$ 0.05V DC between TP451 and the ground.
- 5) High voltage protector setting
High voltage protector 1
With 32.0 $\pm$ 0.1V DC applied between TP2001A and the ground, adjust VR2001 for 0.3 $\pm$ 0.05V DC between TP2001C and the ground.
High voltage protector 2
With 31.8 $\pm$ 0.1V DC applied between TP2002A and the ground, adjust VR2002 for 0.3 $\pm$ 0.05V DC between TP2002C and the ground.
Due to DHHS, after adjusting VR2001 and VR2002 seal with an adhesive (TSE-385RTV) or cap (74007891).

3. Main Adjustment

Set the external VRs and switches as follows unless otherwise specified.

Front controls (as seen from front)

VR1 CONTRAST:	Max. (fully clockwise)
VR2 BRIGHTNESS:	At point where back luster disappears.
VR3 V.POSITION:	Mechanical center
VR4 V.SIZE:	Center click position
VR5 H.POSITION:	Center click position
SW1 H.SIZE:	Off (small)(left side)
SW2 TEXT:	Off (left side)
SM3 TEXT COLOR:	Paper white (left end)

Rear controls (as seen from rear)

SW801 MANUAL:	Off (left side)
SW802 MODE:	Color (right side)
SW803 COLOR MODE:	8 colors (left end)

3-1) DEF PWB Adjustment

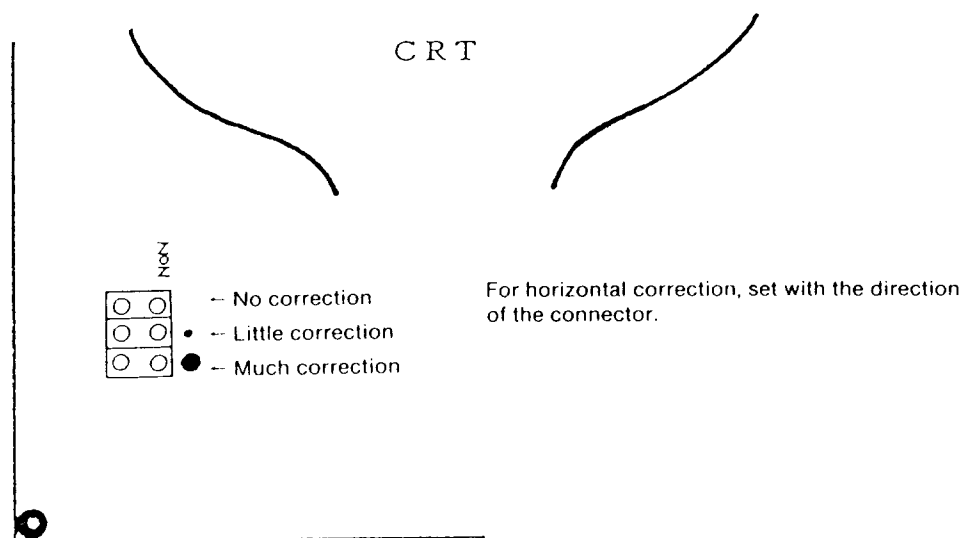
- (1) Horizontal Hold
 - a) Short TP501 and TP503 (GND).
 - b) Receive signal 16 (fH: 30kHz) and adjust horizontal hold (1) VR501 so that there is one screen.
 - c) Receive signal 18 (fH: 20kHz) and adjust horizontal hold (2) VR502 so that there is one screen.
- (2) Vertical Hold
Receive signal 14 (fv: 60Hz), turn vertical hold VR401 and set to the mechanical center within the indented range.
- (3) High Voltage Adjustment
Receive signal 16 (fH: 30.48kHz) and adjust high voltage adjustment VR2003 so that the high voltage is 23.5kV with the the CRT anode current cut off.
Due to DHHS, after adjusting seal with an adhesive (TSE—385RTV) or cap (74007891).
- (4) Horizontal Raster Centering Signal 14 (Adjust at VGA H: 31.5kHz/V: 60Hz, 350 line mode)
Check that the horizontal linearity is suitable. If it is extremely bad, adjust to a suitable point with L506.

If the screen is rolling, centering can be adjusted with horizontal position VR5, but after return VR5 to the center click position.

Turn the brightness control fully clockwise so that back raster appears, then reinsert connector RH so that the back luster is in the center of the CRT screen.

Reinsert connector RH where there is no extreme lack of or break in the raster.

Set the luster centering with the manual switch off (to the left as seen from the back) and the horizontal size switch on (widened).



NOTE: Due to overscanning, signals of fH: 18kHz or lower cannot be set.

(5) Horizontal Position (Adjust to the raster center)

Input the signals below and adjust so to the center of the raster. The order is not important.

Signal			VR
CGA fH:	15.85kHz	TTL signal 10	VR552
EGA fH:	22 kHz	TTL signal 14	VR553
PGC fH:	30.48kHz	TTL signal 16	VR554
PS/2 fH:	31.5 kHz	TTL signal 1	VR555

NOTE: The TTL/analog setting should be correct.
The manual switch should be off.

(6) Vertical Linearity

- Receive signal 12 (fH: 18kHz) and adjust VR402 for the suitable vertical screen size.
- Adjust VR405 for the optimum vertical linearity.

(7) Vertical Sub Height

Receive EGA signal 14 (fH: 22kHz) and adjust VR402 for a vertical screen size of 180mm.

- (8) Side Pin Cushion
adjust VR403 for the optimum side pin cushion distortion.

- (9) Horizontal Linearity
Adjust L506 for the optimum horizontal linearity.

(10) Horizontal Width

Receive EGA signal 14 (fH: 22kHz) and adjust width coil L505 for a horizontal screen size of $250 \pm 2\text{mm}$.

The horizontal size switch should be off.

If correction is not sufficient with L505, turn the L506 linearity coil slightly and adjust within a range so that the linearity does not get worse.

3-2) Adjustment of Video Amplitude and White Balance

NOTE: Check that the video signals are as shown below before performing the main adjustment. In particular, for LVG—1600, the video signal output level varies according to the signal pattern, so check the level with the signal to be adjusted.

Video: Analog 0.6Vp-p

Synchronizing: Separate TTL level

Unless otherwise specified, use signal 10 for video adjustments.

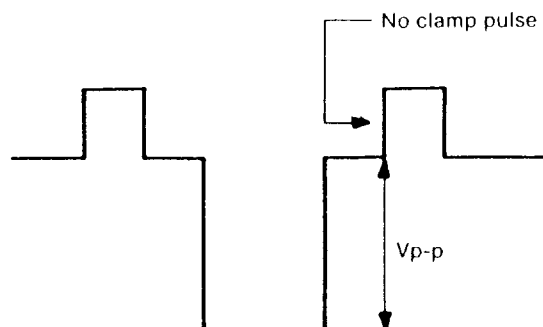
(1) Initial Settings of Adjustment VRs

VR801 - 803	GAIN VR	Fully counterclockwise
VR701	SUB CONT VR	Fully clockwise
VR901 - 903	BIAS VR	Fully clockwise
VR904 - 906	SUB BRIGHT VR	Fully clockwise

(2) Video Contrast Adjustment (Signal 11: Window pattern)

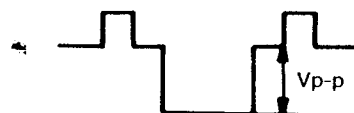
a) GAIN VR adjustment

- ① Receive the window pattern (the video area of $1/3 - 1/2\text{H} \times 1/2\text{V}$ in which there is no ABL even with contrast at maximum is preferable).
- ② Contrast control Fully clockwise
Brightness control Fully counterclockwise
- ③ Adjust VR801, VR802, and VR803 so that the R, G, and B outputs on the VIDEO PWB are 40Vp-p.
After adjusting, check the Vp-ps again and readjust if they do not conform to the settings.



b) SUB-CONT. VR adjustment

- ① Contrast control Fully counterclockwise
Brightness control Fully clockwise



- ② Adjust VR701 so that the G output on the video PWB is 10Vp-p.
After adjusting, check that the R and B outputs are 10Vp-p ± 0.5 Vp-p.
If not, fine-adjust VR701 so that the R, G, and B outputs are within the range of 10Vp-p ± 0.5 Vp-p.

(3) Cut-off Adjustment (All black signal)

Set the contrast control fully counterclockwise.

- a) ① Short TP901 and TP902.

- ② Short TP401 and TP5E1 (16V) at 12k Ω .

(Be sure to perform step ① before step ②.)

As the screen VR is turned gradually clockwise, a single color will appear as a horizontal line.

Turn the bias VR for that color fully counterclockwise. Turn the screen VR further clockwise, and turn the bias VR for the next color to appear fully counterclockwise. Next turn the screen VR further clockwise and set the screen VR at the point where the third color is just slightly visible. This color is the reference color for the cut-off adjustment.

- b) Turn the bias VRs for the colors other than the reference color clockwise for that they are about as bright as the reference color.
c) Undo the shorts between TP401 and TP5E1 ② and between TP901 and TP902 ① in that order.

NOTE: Perform the cut-off adjustment in as dark a place as possible to make the white tracking which follows better.

(4) SUB—BRIGHT. VR Adjustment

- a) Receive signal 10 (15.75kHz) H gray scale (16 gradations).
b) Contrast control Fully clockwise
Brightness control Fully counterclockwise
c) Adjust SUB BRIGHT. VR905 so that the 4/16 gradation is just slightly visible.
Do not touch VR905 after this.
d) Contrast control Fully counterclockwise
Brightness control Fully clockwise
e) Receive an all black signal.
f) Turn VR904 and VR906 so that the back raster is white.

Following procedure can be used instead of above. [Regarding quantum 801C]

(4)' Adjustment of sub-brightness VR

Turn the contrast control fully counter clockwise, the brightness control fully clockwise and sub-brightness control VR905 mechanical center.

- a) Receive the signal 8 (15.75 kHz) all black signal.
b) Adjust VR904 and VR906 so that the background raster becomes white. If retrace lines appear, readjust the VR905 counter clockwise so that the retrace lines disappear, and readjust white balance.
c) Receive the all white pattern.

(5) Fine Adjustment of White Balance

Color temperature: Center $X = 0.310$

$Y = 0.325$

The color should be white with a slightly blue tinge.

a) Receive signal 11 (15.75kHz, pattern window) H gray scale (16 gradations).

(Window pattern - within a range in which there is no ABL.)

b) Contrast control Fully counterclockwise

Brightness control Fully clockwise

Check that the white balance is proper for all gradations.

If not, fine adjust the sub bright VR, VR904 and VR906 to make it white.

NOTE: Do not move VR905: G. sub bright.

c) Set the contrast control fully clockwise and the brightness control so that there is no back raster.

Check that the white balance is proper for all gradations.

If not, fine adjust the gain VR, VR801 and VR803 to make it white.

NOTE: Do not move VR802: G. gain.

(6) Focus Adjustment

(100% white or 4-dot missing signal)

Contrast control Fully clockwise

Brightness control To sufficient brightness

Turn the focus control and adjust for the optimum focus.

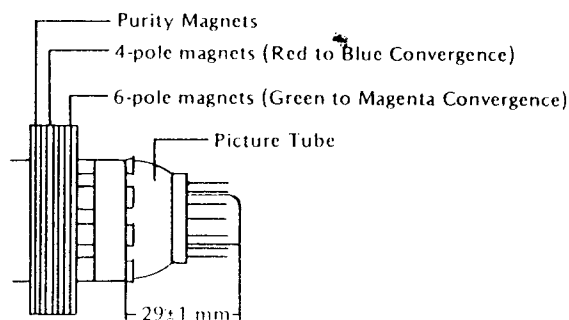
(7) Purity Adjustment

a) Be sure that the display is not being exposed to any external magnetic fields.

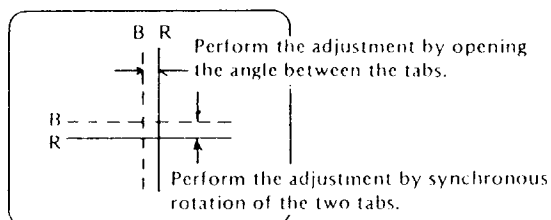
b) Ensure that the spacing between the Purity, Convergence Magnet, (PCM), assembly and the CRT stem is $29 \text{ mm} \pm 1 \text{ mm}$. (See below diagram)

c) Produce a complete, red pattern on the display. Adjust the Purity magnet rings on the PCM assembly to obtain a complete field of the color red. This is done by moving the two tabs in such a manner that they advance in an opposite direction but at the same time to obtain the same angle between the two tabs, which should be approximately 180° .

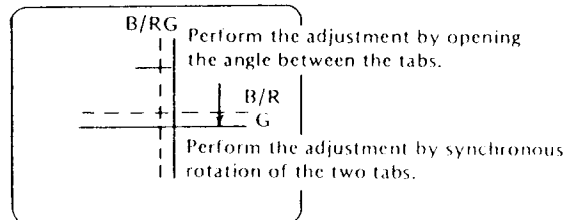
d) Check the complete blue and complete green patterns to observe their respective color purity. Make minor adjustments if needed.



Purity, Convergence Magnet Assembly (PCM)



Red to Blue Convergence
(Magenta)



Green to Magenta Convergence
(White)

(8) Convergence Adjustment

- a) Produce a magenta crosshatch on the display.
- b) Adjust the focus for the best overall focus on the display.
Also adjust the brightness to the desired condition.
- c) Vertical red and blue lines are converged by varying the angle between the two tabs of the 4-pole magnets on the PCM assembly. (See above diagrams)
- d) Horizontal red and blue lines are converged by varying the two tabs together, keeping the angle between them constant.
- e) Produce a white crosshatch pattern on the display.
- f) Vertical green and magenta lines are converged by varying the angle between the two tabs of the 6-pole magnets.
- g) Horizontal green and magenta lines are converged by varying the two tabs together, keeping the angle between them constant.

Indication address	Abbreviation	Unit	ROM address	BY LVG-1600								
				01	02	03	04	05	06	07	08	09
0	CLOCK	MHZ	X00	28320F	28320F	28320F	28320F	28320F	28320F	28320F	28320F	14.160F
1	H FREQ	KHZ	X03	31.470F	31.470F	31.470F	31.470F	31.470F	31.470F	31.470F	31.470F	31.470F
2	V FREQ	HZ	X06	50.032F	60.057F	70.089F	50.032F	60.057F	70.089F	50.032F	60.057F	60.057F
3	CHR-SIZE	DOT	X09	09X14	09X14	09X14	09X16	09X16	09X16	09X16	09X16	09X16
4	Nht	CHR	X0B	F100	F100	F100	F100	F100	F100	F100	F100	F050
5	Nhd	CHR	X0D	F080	F080	F080	F080	F080	F080	F080	F080	F042
6	Nhsp	CHR	X0F	F082	F082	F082	F082	F082	F082	F082	F082	F042
7	Vpw-Hpw	V-RASTER H-CHR	X11	02X12	02X12	02X12	02X12	02X12	02X12	02X12	02X12	02X06
8	Nadj	RASTER	X13	13	07	01	05	13	01	05	13	12
9	Nvt	LINE	X14	F044	F037	F032	F039	F032	F028	F039	F032	F032
10	Nvd	LINE	X16	F025	F025	F025	F025	F025	F025	F030	F030	F031
11	Nvsp	RASTER	X18	F034	F030	F027	F031	F028	F025	F033	F030	F031
12	Nvspdj	RASTER	X1A	01	05	09	06	02	12	14	10	01
13	INT		X1B	00	00	00	00	00	00	00	00	00
14	OUT		X1C	F00011	F00011	F00011	F10011	F10011	F10011	F00011	F00011	F00011

Indication address	Abbreviation	Unit	ROM address	BY LVG-1600									
				10	11	12	13	14	15	16	17	18	
0	CLOCK	MHz	X00	14200F	14200F	16255F	16.370F	16.370F	16.370F	25.110F	25.110F	20.800F	16.640F
1	H FREQ	kHz	X03	15850F	15850F	18432F	22.003F	22.003F	22.003F	30.473F	30.473F	25.000F	20.000F
2	V FREQ	Hz	X06	60.577F	60.577F	49.817F	59.953F	59.953F	59.953F	59.987F	59.987F	59.952F	60.060F
3	CHR-SIZE	DOT	X09	08X10	08X10	09X14	08X10	08X10	08X10	08X10	08X10	08X10	08X10
4	Nht	CHR	X0B	F112	F112	F098	F093	F093	F093	F103	F103	F104	F104
5	Nhd	CHR	X0D	F080	F020	F080	F080	F080	F080	F080	F080	F080	F080
6	Nhsp	CHR	X0F	F092	F062	F081	F080	F080	F080	F080	F080	F088	F088
7	Vpw-Hpw	V-RASTER H-CHR	X11	01X07	01X07	15X15	13X10	13X10	13X10	02X14	02X14	03X08	03X08
8	Nadj	RASTER	X13	00	00	06	06	06	06	08	08	07	03
9	Nvt	LINE	X14	F026	F026	F026	F036	F036	F036	F050	F050	F041	F033
10	Nvd	LINE	X16	F020	F010	F025	F035	F035	F035	F040	F048	F038	F030
11	Nvsp	RASTER	X18	F023	F018	F025	F035	F035	F035	F044	F048	F038	F030
12	Nvspdj	RASTER	X1A	05	05	00	01	01	01	01	01	01	01
13	INT		X1B	00	00	00	00	00	00	00	00	00	00
14	OUT		X1C	F10011	F10011	F00101	F10001	F00001	F00001	F11011	F11011	F00001	F00001
				CGA				MDA	EGA		400(L)PGC480(H)	25k	20k

DATA FORMAT FOR USING Quantum 801C

TIMING PARAMETERS:

Real Time Parameters

Dot Rate	MHz
Horizontal Rate	KHz
Vertical Rate	Hz

Non-Real Time Parameters

Horizontal	Vertical
Dots/Character	Lines/Character
Total	Total
Characters	Rows
Drive Delay	Drive Delay
Drive Width	Drive Width
	Step Width

Signal No.	Description
1.	H: 31.47KHz V: 50Hz (350 Lines)
2.	H: 31.47KHz V: 60Hz (350 Lines)
3.	H: 31.47KHz V: 70Hz (350 Lines)
4.	H: 31.47KHz V: 50Hz (400 Lines)
5.	H: 31.47KHz V: 60Hz (400 Lines)
6.	H: 31.47KHz V: 70Hz (400 Lines)
7.	H: 31.47KHz V: 50Hz (480 Lines)
8.	H: 31.47KHz V: 60Hz (480 Lines)
9.	H: 31.47KHz V: 60Hz (496 Lines)
10.	H: 15.85KHz
11.	H: 15.85KHz WINDOW PATTERN
12.	H: 18.43KHz
13.	H: 22KHz
14.	H: 22 KHz
15.	H: 30.48KHz (400 Lines)
16.	H: 30.48KHz (480 Lines)
17.	H: 25KHz
18.	H: 20KHz

OPTION PARAMETERS

Signal Gating

Composit Sync.	OP 1.—0=off 1=on
Vertical Step	OP 2.—0=off 1=on
Horizontal Drive	OP 3.—0=off 1=on
Vertical Drive	OP 4.—0=off 1=on

Signal Polarity

Composite Sync.	OP 5.—0=non-inverted 1=inverted
Vertical Step	OP 6.—0=non-inverted 1=inverted
Horizontal Drive	OP 7.—0=non-inverted 1=inverted
Vertical Drive	OP 8.—0=non-inverted 1=inverted
Video	OP 13.—0=non-inverted/positive 1=inverted/positive 2=non-inverted/negative 3=inverted/negative

Interlace Mode

OP 9.—0=non-interlace 1=interlaced sync only 3=interlaced sync & video
--

Video Mode

OP 10.—0=monochrome 1=color

Duty Cycle

OP 11.—0=50% 1=100%(OP 12.0) 0 or 1=100% (OP 12.2)

Character Clocking Mode

OP 12.—0=single-phase 2=dual-phase

Horizontatal Skew

OP14.—skew right 0-3 dots

Vertical Skew

OP 15.—skew down 0-9 lines

Cursor

OP 16.—0:off 1=fast blink 2=slow blink 3=on continuous

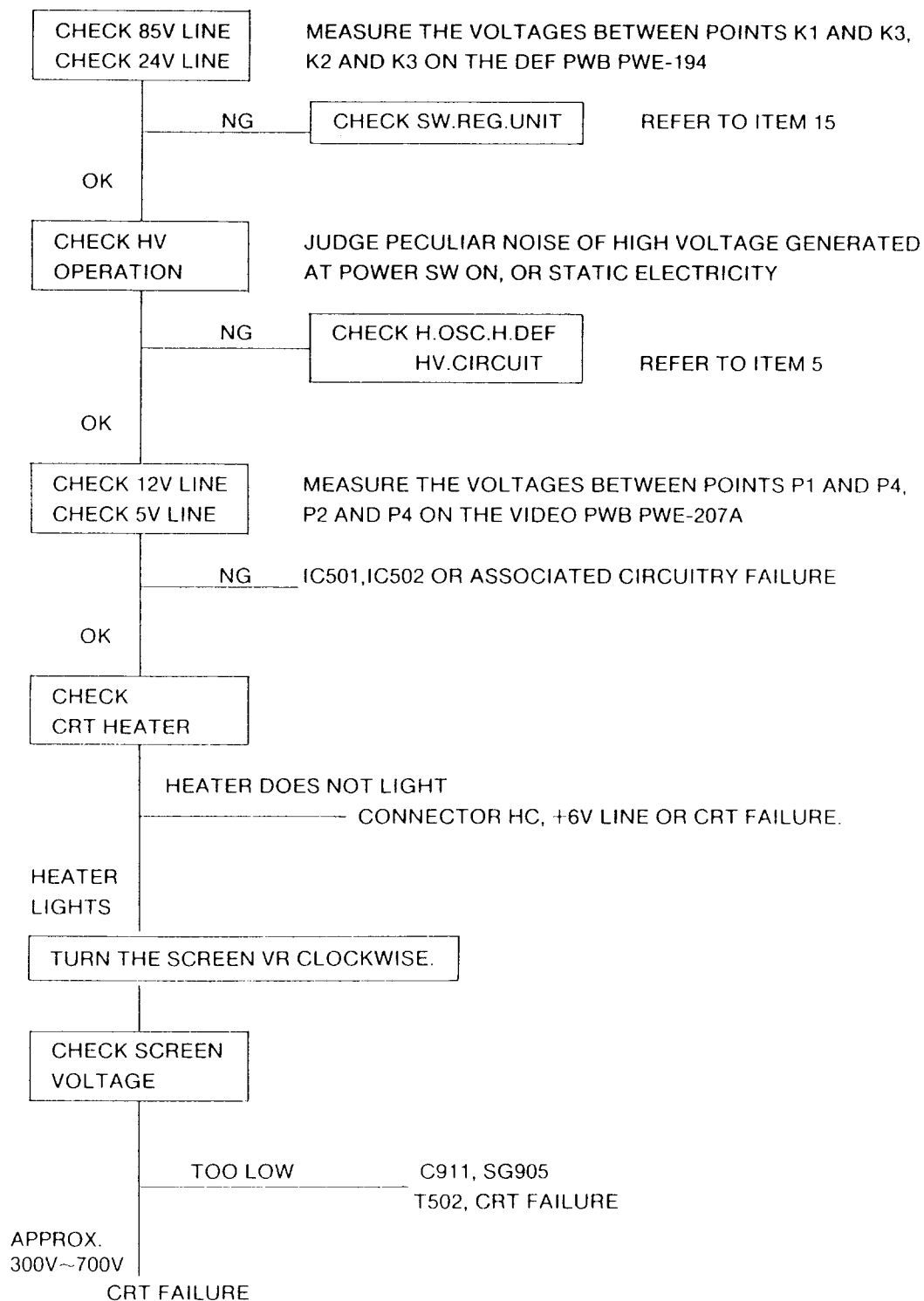
	10	11	12	14	15	16	17	18
Real Time Parameters								
Dot Rate(MHz)	14200	14200	16255	16370	25110	25110	20800	16640
Horizontal Rate(kHz)	15850	15850	18432	22003	30473	30473	25000	20000
Vertical Rate(Hz)	60580	60580	49820	59950	59990	59990	59950	60060
Non-Real Time Parameters.								
H: Dots/Character	8	8	9	8	8	8	8	8
Total	112	112	98	93	103	103	104	104
Characters	80	20	80	80	80	80	80	80
Drive Delay	92	62	81	80	80	80	88	88
Drive Width	7	7	15	10	14	14	8	8
V: Lines/Character	10	10	14	10	10	10	10	10
Total	260	260	370	366	508	508	417	333
Rows	20	10	25	35	40	48	38	30
Drive Delay	23	18	25	35	44	48	38	30
Drive Width	1	1	15	13	2	2	3	3
Step Width	—	—	—	—	—	—	—	—
Signal Gating								
Composite Sync.	1							
Vertical Step	0							
Horizontal Drive	1							
Vertical Drive	1							
Signal Polarity								
Composite Sync.	1							
Vertical Step	—	—	—	—	—	—	—	—
Horizontal Drive	0	0	0	0	1	1	1	1
Vertical Drive	0	0	1	1	1	1	1	1
Video	0							
Interface Mode	0							
Video Mode	1							
Duty Cycle	0							
Character Clocking Mode	0							
Horizontal Skew	—	—	—	—	—	—	—	—
Vertical Skew	—	—	—	—	—	—	—	—
Cursor	—	—	—	—	—	—	—	—

	10	11	12	14	15	16	17	18
Real Time Parameters								
Dot Rate(MHz)	14200	14200	16255	16370	25110	25110	20800	16640
Horizontal Rate(KHz)	15.950	15.850	18.432	22.003	30.473	30.473	25.000	20.000
Vertical Rate(Hz)	60.580	60.580	49.820	59.950	59.990	59.990	59.950	60.060
Non-Real Time Parameters.								
H: Dots/Character	8	8	9	8	8	8	8	8
Total	112	112	98	93	103	103	104	104
Characters	80	20	80	80	80	80	80	80
Drive Delay	92	62	81	80	80	80	88	88
Drive Width	7	7	15	10	14	14	8	8
V: Lines/Character	10	10	14	10	10	10	10	10
Total	250	260	370	366	508	508	417	333
Rows	20	10	25	35	40	48	38	30
Drive Delay	23	18	25	35	44	48	38	30
Drive Width	1	1	15	13	2	2	3	3
Step Width	—	—	—	—	—	—	—	—
Signal Gating								
Composite Sync.	1	1	1	1	1	1	1	1
Vertical Step	0	0	0	0	0	0	0	0
Horizontal Drive	1	1	1	1	1	1	1	1
Vertical Drive	1	1	1	1	1	1	1	1
Signal Polarity	1	1	1	1	1	1	1	1
Composite Sync.	1	1	1	1	1	1	1	1
Vertical Step	—	—	—	—	—	—	—	—
Horizontal Drive	0	0	0	0	1	1	1	1
Vertical Drive	0	0	0	0	1	1	1	1
Video	0	0	0	0	0	0	0	0
Interface Mode	0	0	0	0	0	0	0	0
Video Mode	1	1	1	1	1	1	1	1
Duty Cycle	0	0	0	0	0	0	0	0
Character Clocking Mode	0	0	0	0	0	0	0	0
Horizontal Skew	—	—	—	—	—	—	—	—
Vertical Skew	—	—	—	—	—	—	—	—
Cursor	—	—	—	—	—	—	—	—

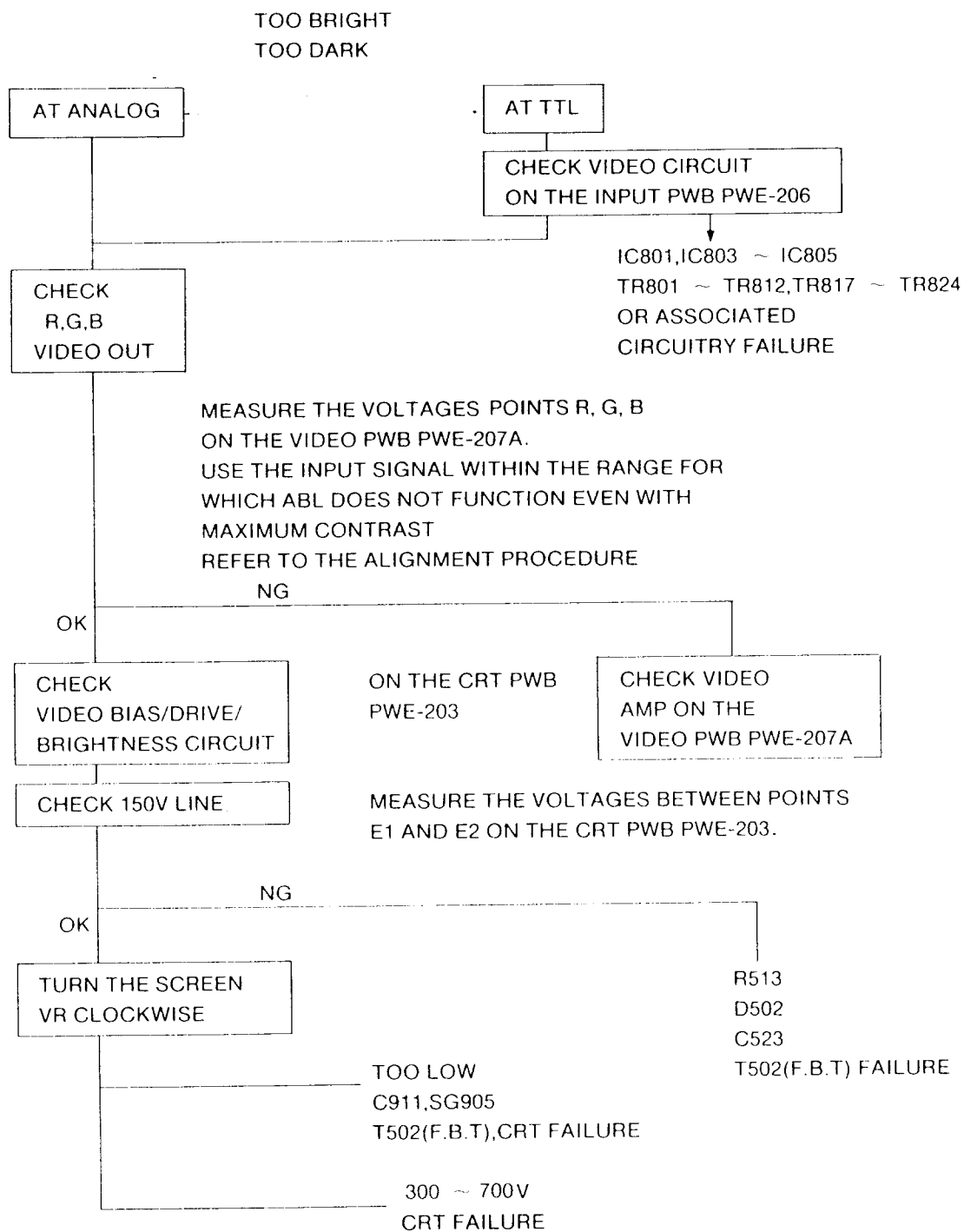
TROUBLE SHOOTING

BEFORE USING THIS CHART, PLEASE REFER TO THE TROUBLE SHOOTING THE USER'S MANUAL.

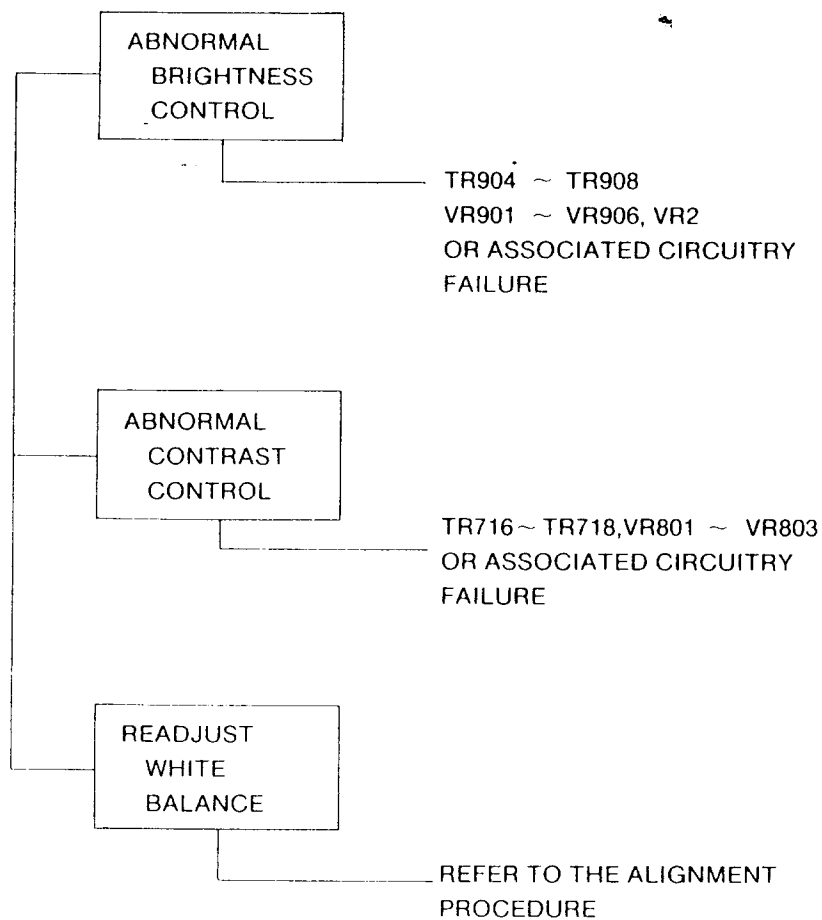
1. NO RASTER



2. ABNORMAL VIDEO ON CRT SCREEN

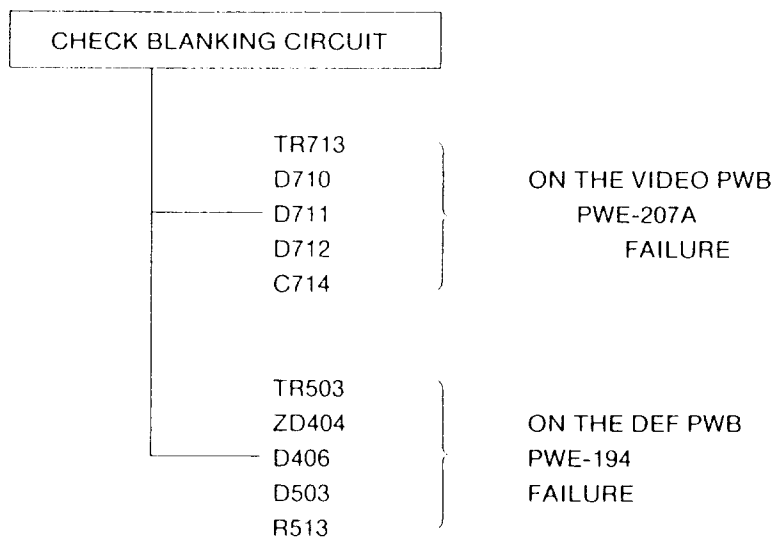


3. ABNORMAL WHITE BALANCE AND TRACKING



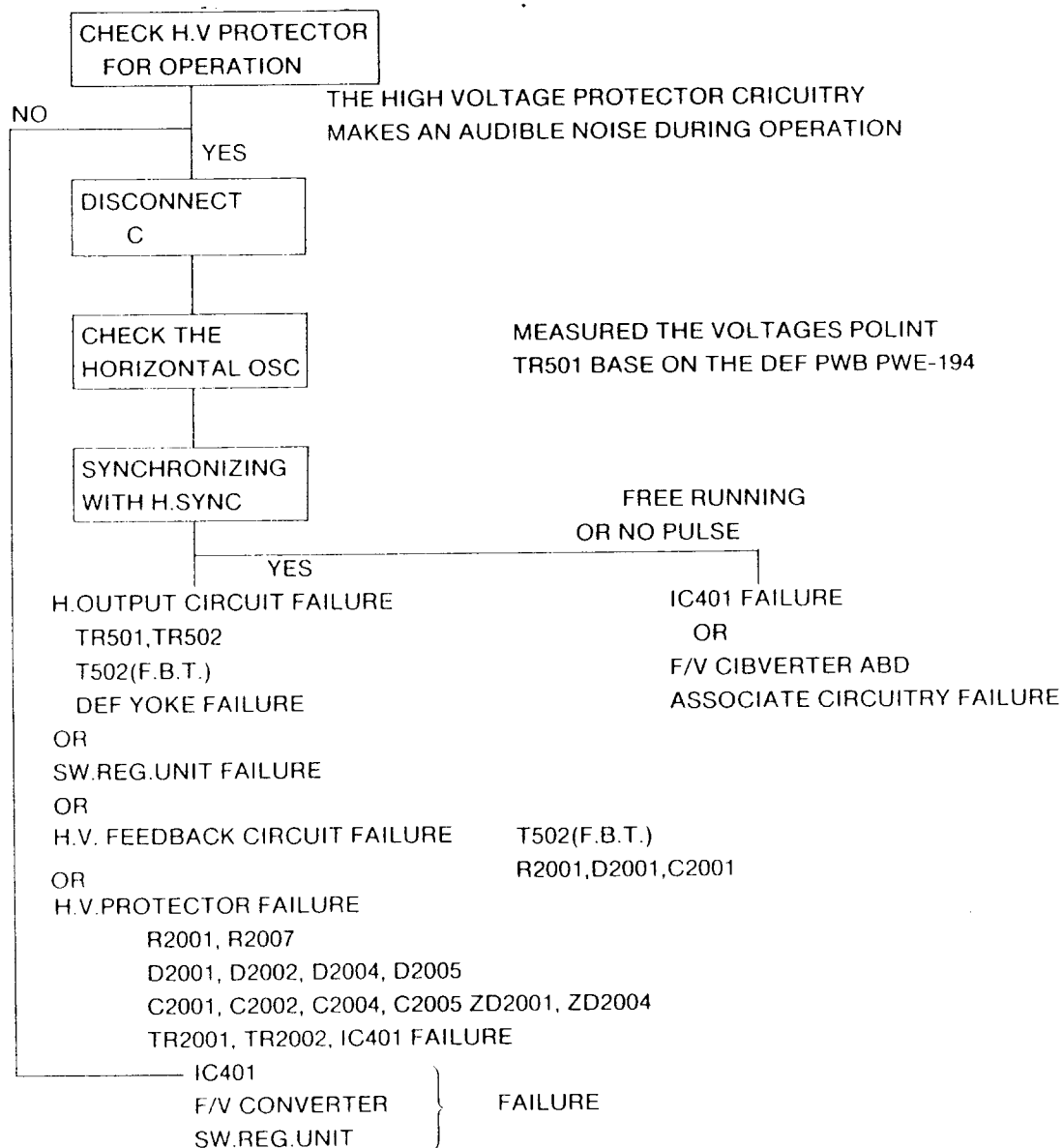
4. NO BLANKING WORKS

VISIBLE RETRACE LINE ON THE BACK RASTER

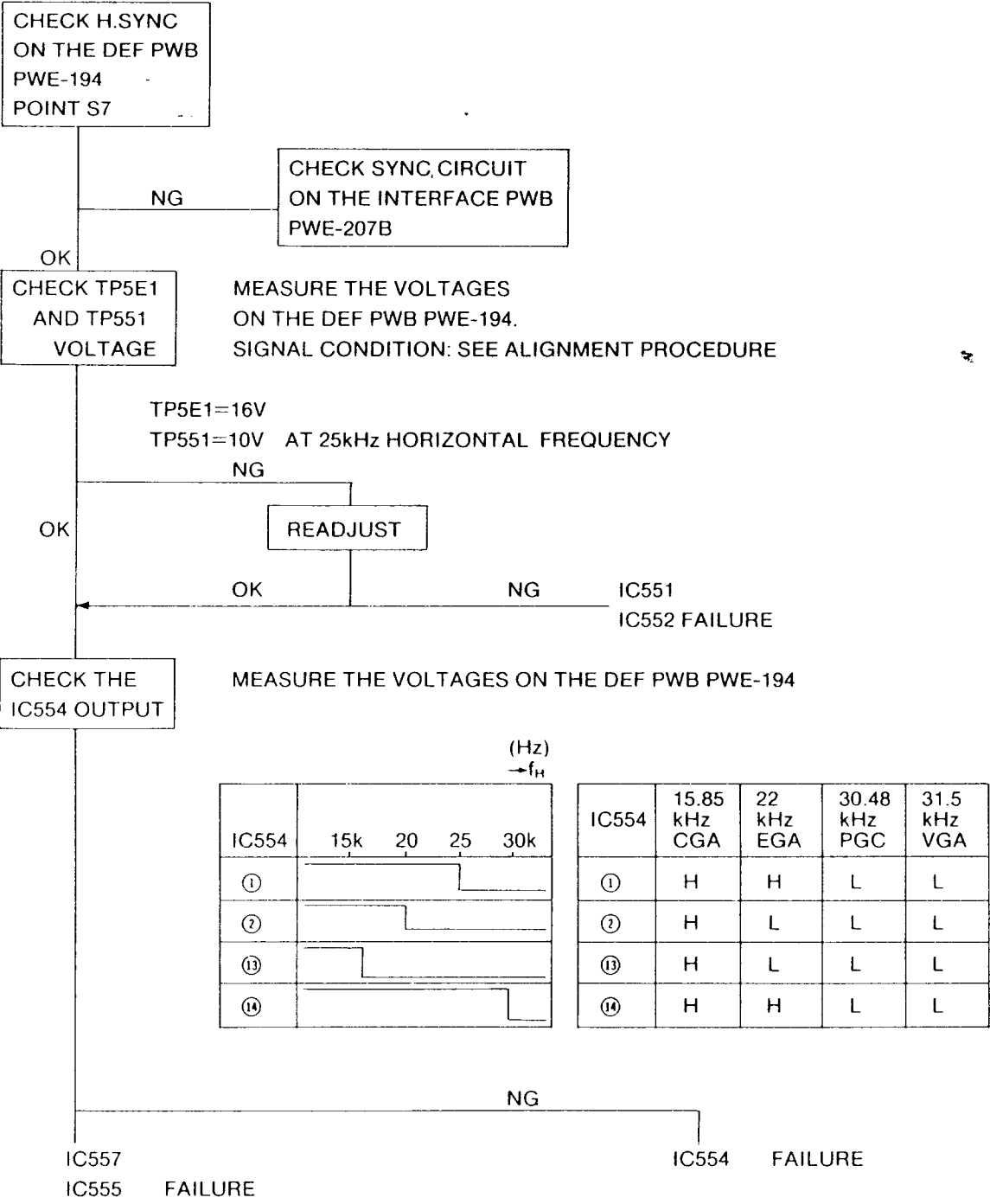


5. H.OSC/DEF/HV.CIRCUIT FAULT

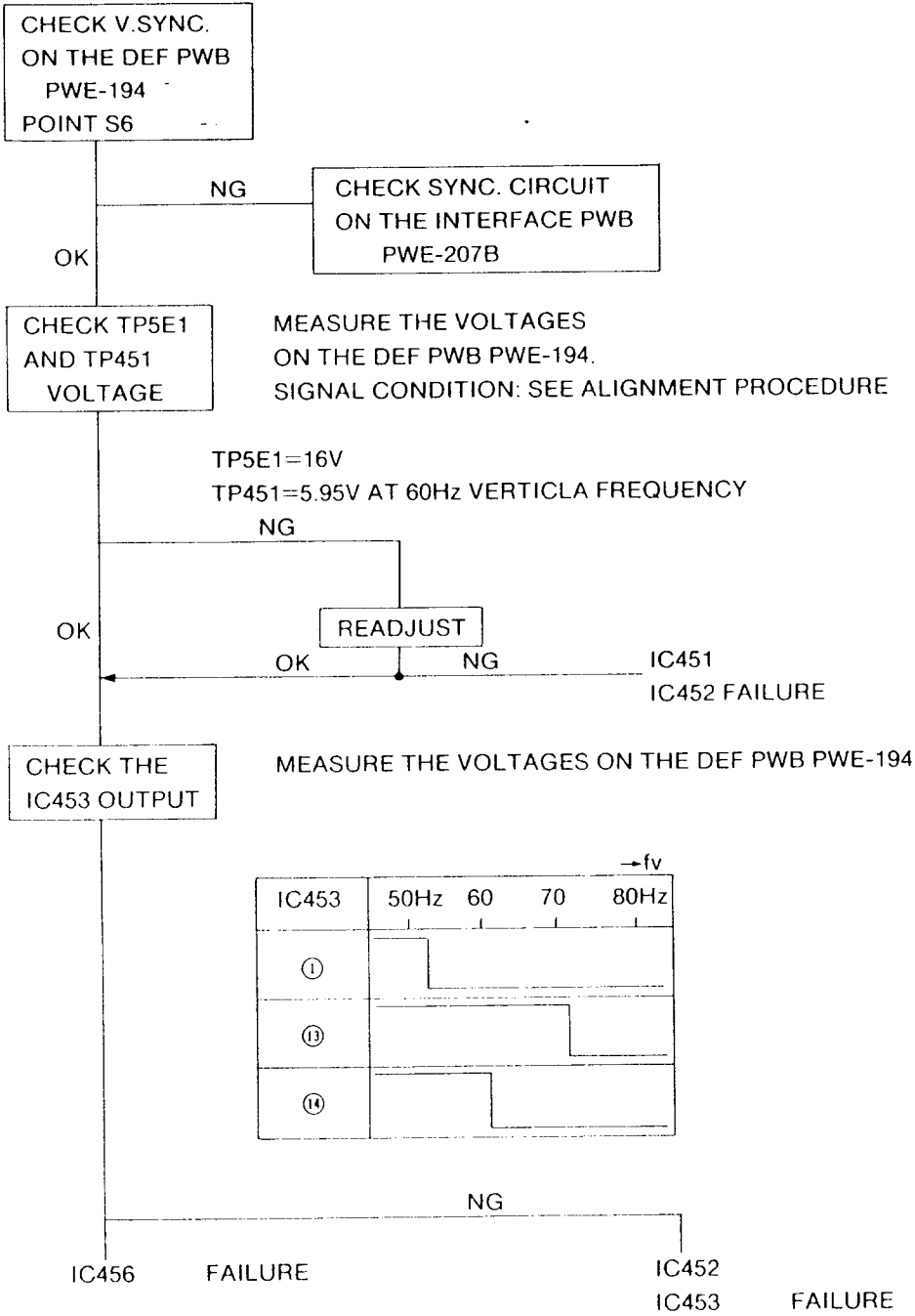
NO RASTER
ABNORMAL PICTURE SIZE
ABNORMAL VIDEO ON THE CRT SCREEN



6.A H-F/V CONVERTER AND ASSOCIATED CIRCUITRY

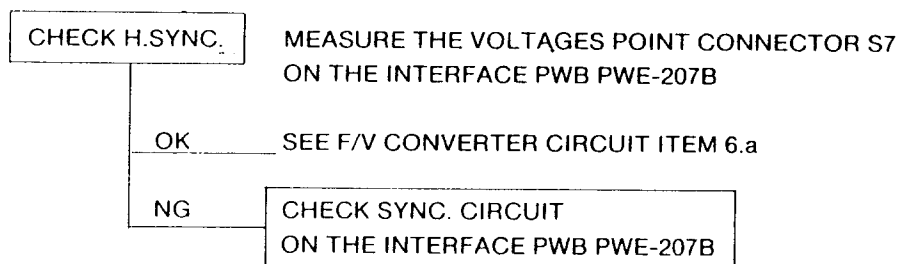


6.B V-F/V CONVERTER AND ASSOCIATED CIRCUITRY

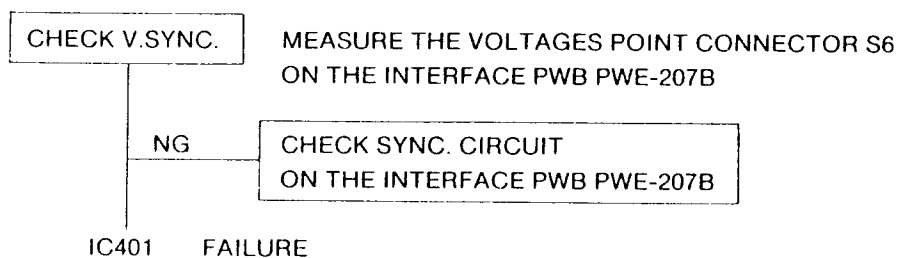


7. LACK OF STABLE SYNCHRONIZATION

• HORIZONTAL

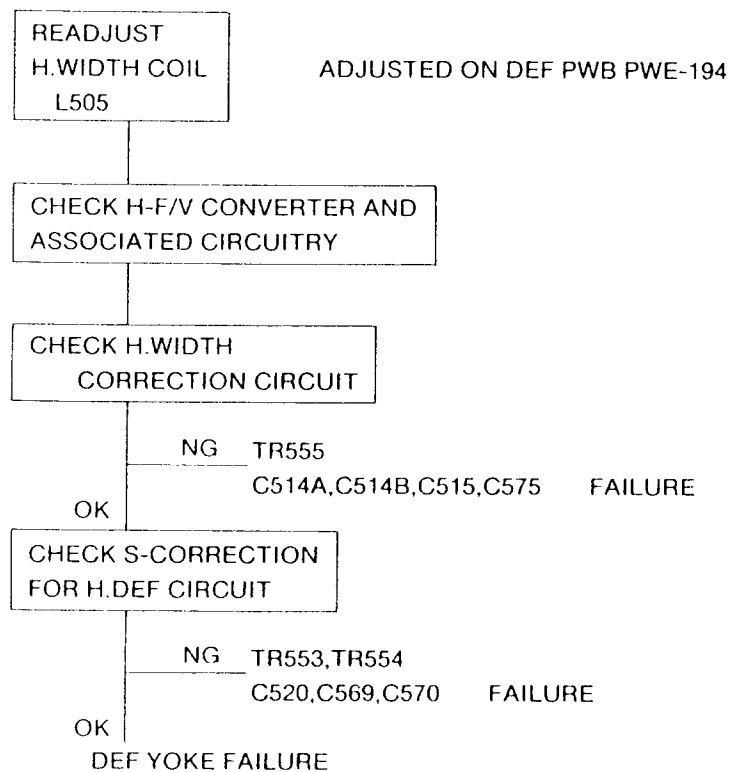


• VERTICAL



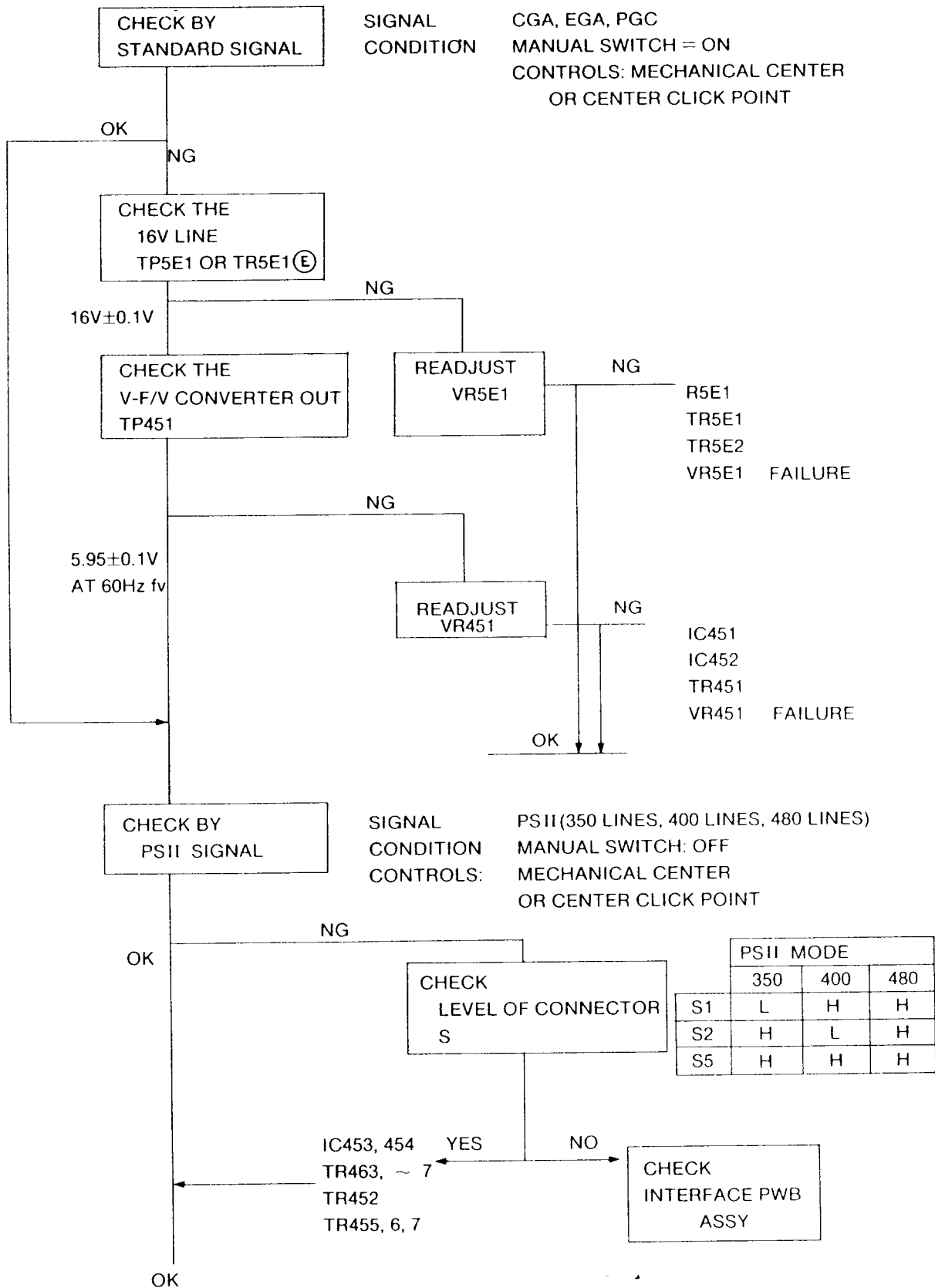
8. PICTURE SIZE

ABNORMAL HORIZONTAL WIDTH



ABNORMAL
VERTICAL HEIGHT

TOO LARGE OR SMALL
PICTURE SIZE



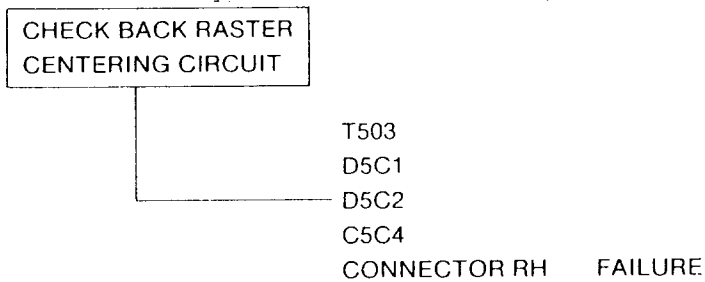
2. PARTICULAR CASE

- | | | |
|----|-------------------------------------|--|
| 1) | NO CHANGE
WITH V.SIZE CONTROL | LOOSE CONNECTOR L |
| 2) | UNDERSCANNING OF
RASTER WITH CGA | TR453, TR459
IC551
IC552
IC554
16V LINE CIRCUIT FAILURE |
| 3) | SMALL AT PGC
400 LINES MODE | TR454
TR462 FAILURE |

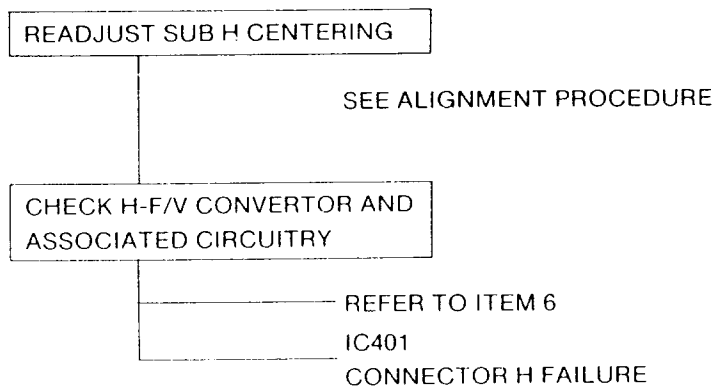
9. CENTERING

9.1. HORIZONTAL

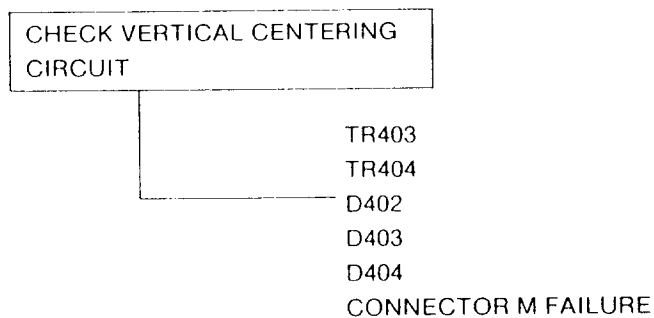
a) BACK RASTER CENTERING



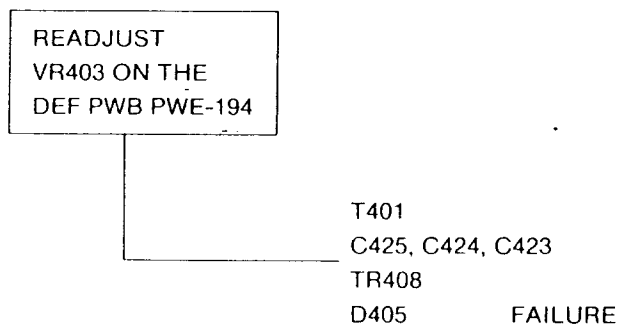
b) PICTURE CENTERING



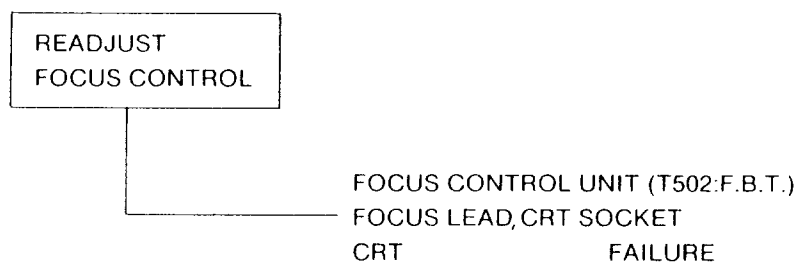
9.2. VERTICAL



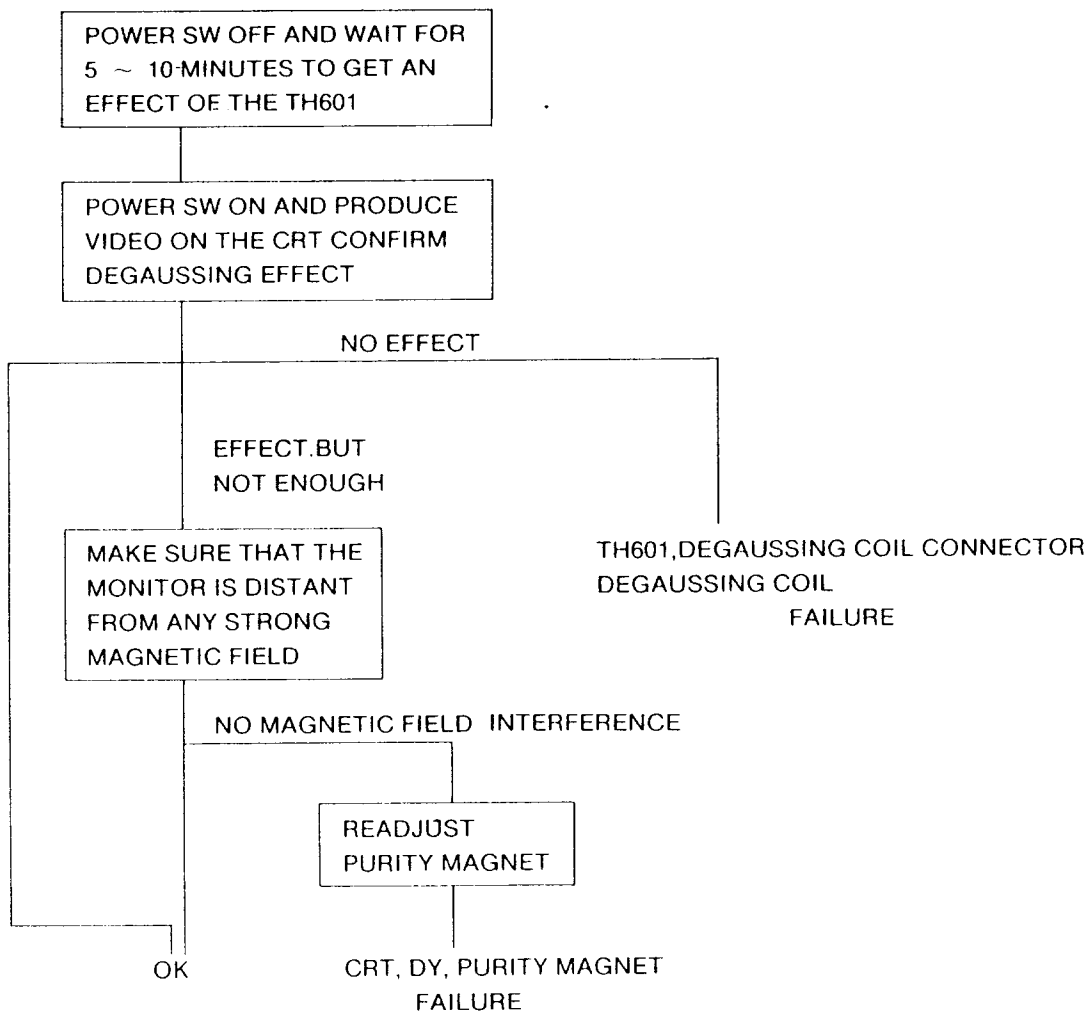
10. SIDE PINCUSHION DISTORTION FAILURE



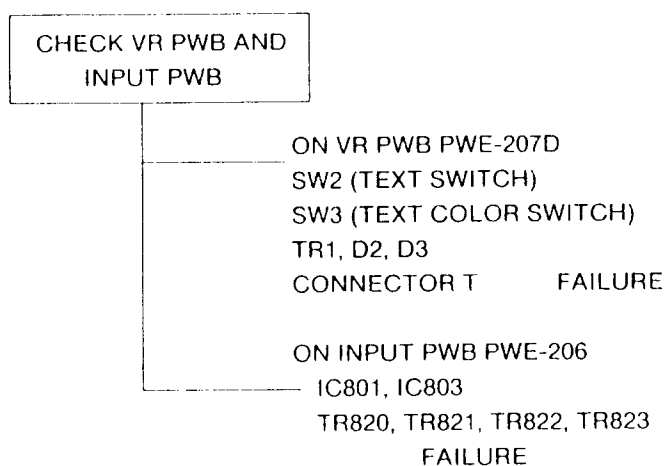
11. POOR FOCUS



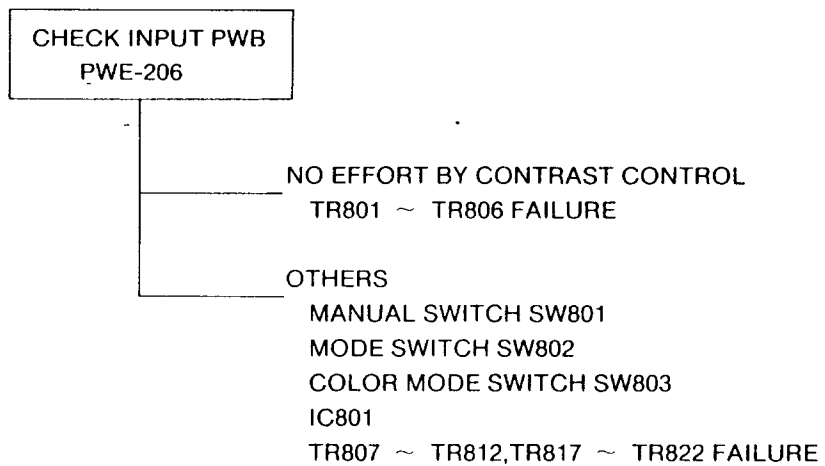
12. IMPURITY ON CRT SCREEN



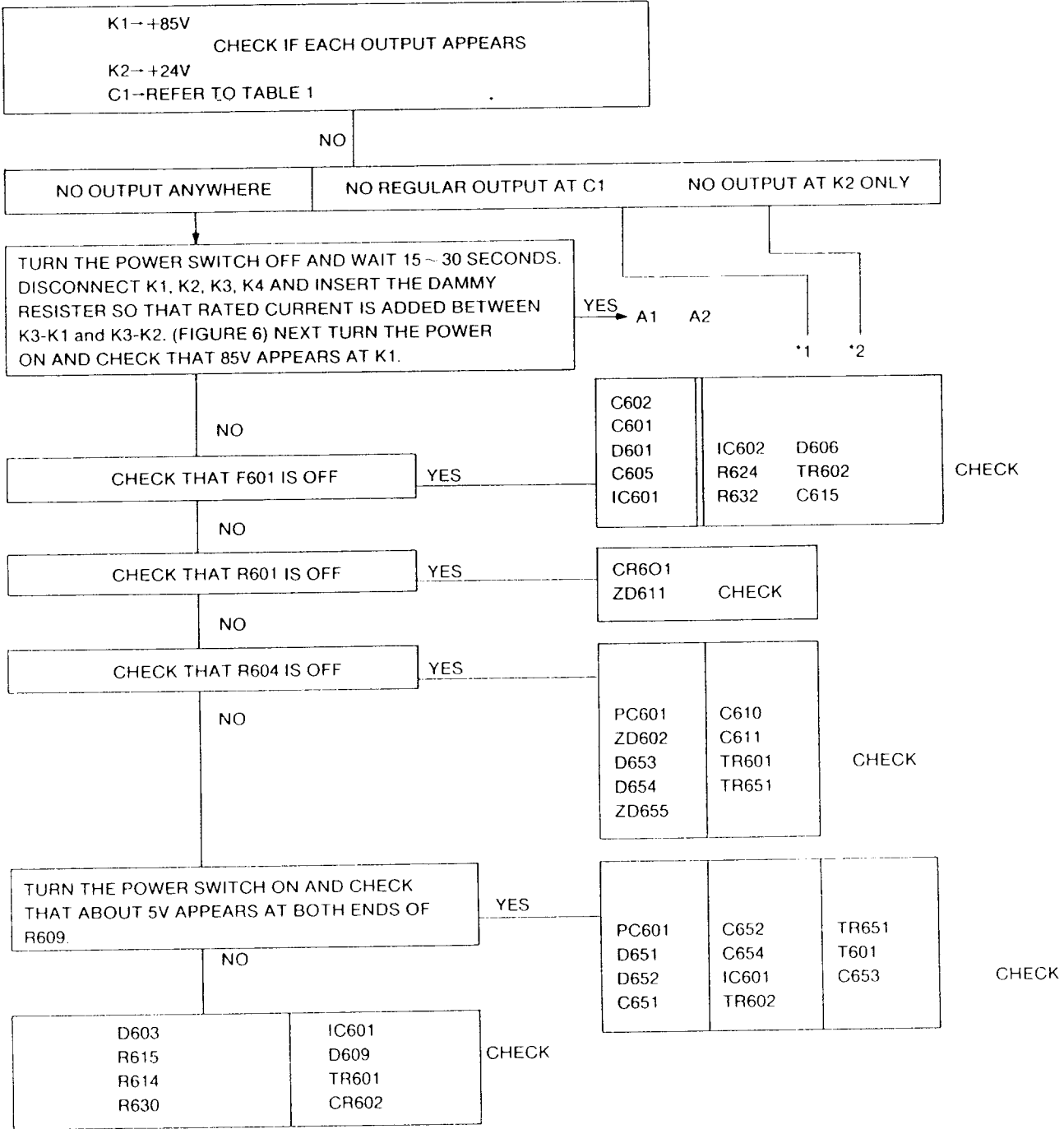
13. ABNORMAL TEXT MODE OPERATION

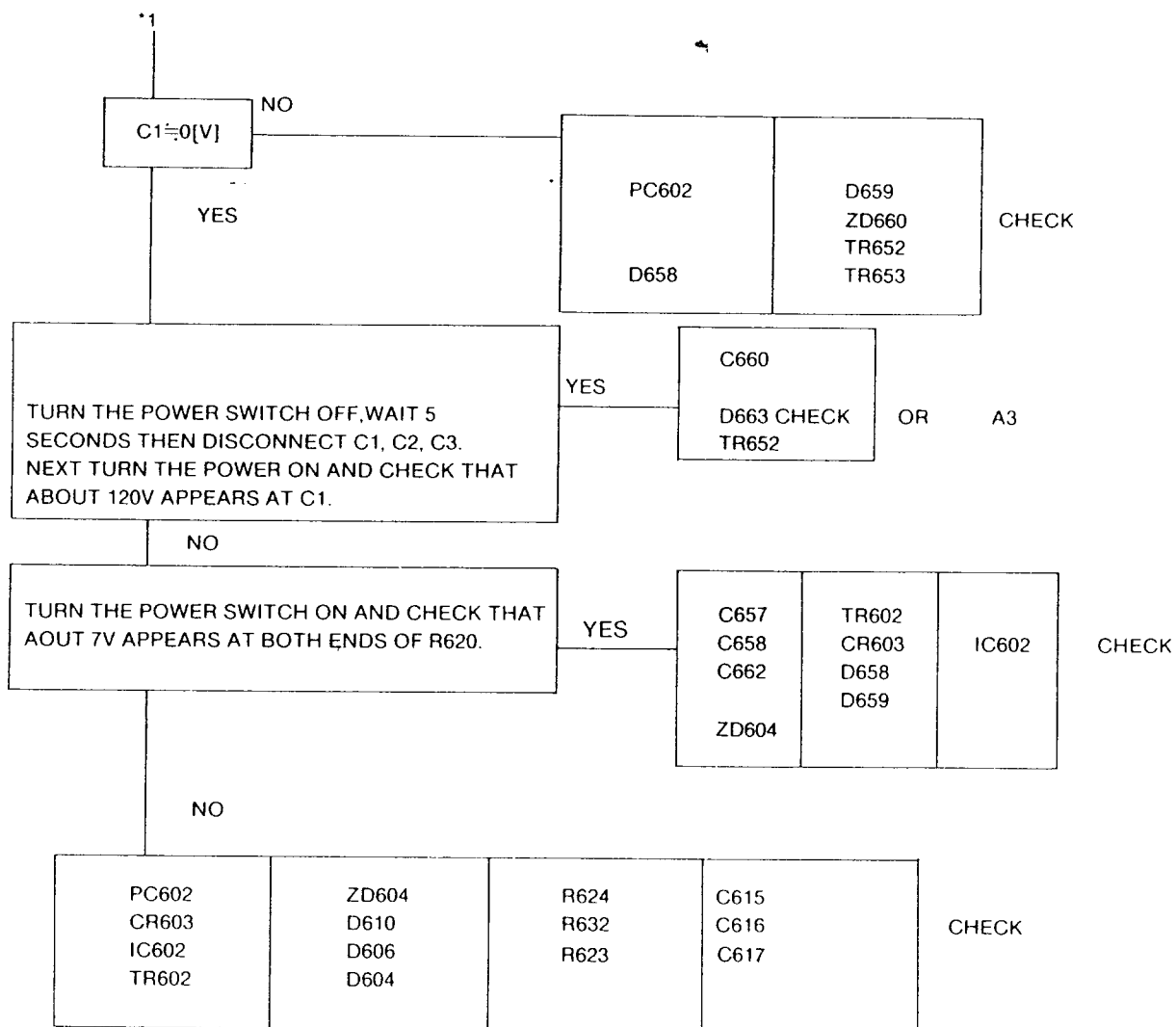


14. ABNORMAL COLOR AT TTL MODE



15. SWITCHING REGULATOR UNIT





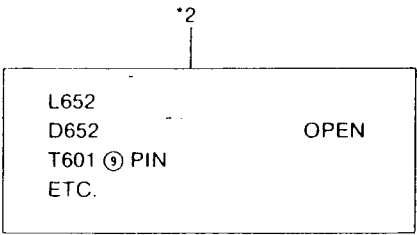
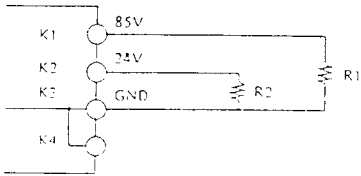


TABLE 1. C1 OUTPUT VOLTAGE

HORIZONTAL FREQUENCY [kHz]		C1 VOLTAGE [V]
15.85	(CGA)	53
22	(EGA)	65
30.48	(PGC)	94
31.5	(VGA)	98

WITH NO INPUT SIGNAL, ABOUT 45V SHOULD APPEARS AT C1.

FIGURE 6. RATED LOAD CURRENT AT K1 AND K2 TERMINAL



+85V	0.015 ~ 0.18A R1 (5.67K Ω ~ 472 Ω)
+24V	0.4 ~ 1.0A R2(60 Ω ~ 24 Ω)

ATTENTION) DO NOT POWER ON SW.REG. UNIT ITSELF WITHOUT THE LOAD AT K1,K2,
OR IT MAY MISOPERATE PROTECTOR.

MAIN VOLTAGE LINE FAILURE EXCEPT SW.REG.UNIT

VOLTAGE LINE		FAILURE PARTS	PWB ASSY	REMARKS
85V CONNECTOR K1 ~ K3		D554,D555 TR553, TR554	DEF PWB PWE-194	
		C708 ~ C709 TR707 ~ TR712	VIDEO PWB PWE-207A	
24V K2 ~ k3 AND ASSOCI- ATED VOLTAGE LINE	24V CONNECTOR K2 ~ K3	C413, C5C3 IC402,IC502	DEF PWB PWE-194	
	16V POINT TP5E1	R5E1,C5E1,ZD5E1 TR5E1,TR5E2 IC451 ~ IC454,IC456 IC551 ~ IC557, IC559	DEF PWB PWE-194	
	12V CONNECTOR P1 ~ P4	C5C5, C5C6, C5C7 R5C9, IC502	DEF PWB PWE-194	
	6V CONNECTOR HC2 ~ HC1	C5C1 ~ C5C3 CR5C1, ZD5C1, TR5C2 IC501	DEF PWB PWE-194	
45 ~ 120V CONNECTOR C1 ~ C3		C516,C514A,C514B,C515,C575 D501, TR502, T502(F.B.T) DEFLECTION YOKE	DEF PWB PWE-194	
HIGH VOLTAGE FEEDBACK VOLTAGE CONNECTOR C2 ~ C3		R2001,D2001,C2001	DEF PWB PWE-194	

Note: The components identified by A mark are critical for safety. Replace only with parts Number specified.

ified by model name in symbol part.

SYN-FCI	PARTS NO	DESCRIPTION	QTY
TR714	TR716	TP717	
TR801	TR802	TR803	
TR901	TR902	TR903	
TR710	TR711	TP712	
△ TP601	△ TR602		
△ TR651	△ TR652	△ TR653	
TR501			
TR501	TR502	TR503	
△ TR502			
TR701	TR702	TR703	
TR702	TR703	TP704	
TR453	TR454	TP455	
TR456	TP457	TR458	
TR463	TR464	TR465	
TR468	TR469	TR470	
TR452	TR465	TP466	
TP467	TP557	TP841	
TR662			
TP817	TP818	TP819	
TR821	TP822	TP823	
TR1	TP451	TR719	
TR823	TP824	TP827	
TR828	TP829	TR855	
TR864	TP865	TP866	
TR867			
TR814	TR815	TP816	
△ TR553	△ TR554		
△ TR555			
CR501	△ CR602	△ CR603	
△ CR601			

[illegible]

SYMBOL	PARTS NO	DESCRIPTION	QTY
D8C6	D8C9		
D8C9	D811		
D812	D813		
D815	D816		
D818	D819		
D821	D822		
D824	D850		
Δ D6C7	Δ D6C8		
D9C2	D9C3		
ZD4C2	ZD85C		
ZD5C1			
ZD4C4			
ZD7C1			
Δ ZD6C4			
Δ ZD6C5			
Δ ZD2C01	Δ Z2C2C2		
Δ ZD6C2			
Δ ZD6S5	Δ ZD66C		
ZD5C2			
Δ ZD611			
ZD5C3			
ZD5C1			
ZD4C1			
ZD8C2			
ZD8C1			
ZD5E1			
Δ ZD2C01	Δ D2C04		
D5C1	D5C2		
Δ D5S4	Δ D5S5		
D5C2			
Δ D6C3	Δ D6C6		
Δ D6S1			
Δ D5C1			
Δ D6S2			
Δ D6S7			
F08C2			
F08C1			
Δ D6C1			
D1			
Δ D2C02	Δ D2C05		
Δ TH6C1			
Δ PC6C1	Δ PC6C2		

SYMBOL	PARTS NO	DESCRIPTION	QTY
LC7C2			
LS5C			
Δ LS5C3			
Δ LS5C6			

SYMBOL	PARTS NO	DESCRIPTION	QTY
Δ T6C1	463C24C7	TRANS, SWITCHING	1
Δ T6C2	463C24C8	TRANS, SWITCHING	1
Δ T5C2	471C54C7	F.S.I (JC-1402HNE/EE/R/N)	1
Δ T5C2	471C5640	F.B.T. (JC-1402HNE)	1
Δ T4C1	475C2C42	TRANS, SIDE PINCLUSION	1

SYMBOL	PARTS NO	DESCRIPTION	QTY
VP4	4101127C	P, VARIABLE B50C-W(M)	1
VP3	41011273	P, VARIABLE B20C-V(M)	1
VP5	41011275	P, VARIABLE B20C-V(M)	1
VP1	410236C3	P, VARIABLE B10C-V	2
VP4C3	41041C09	P, VARIABLE B47K	1
VP4C2	41067C03	P, VARIABLE 30CCH G-1*	1
VP5E1	41067C05	P, VARIABLE 1K G-1*	1
VP4C1	41067C08	P, VARIABLE 5K	1
VR8C1	41071161	P, VARIABLE B4.7K	2
VP7C1	4107121C	P, VARIABLE B3.3K	1
VR4C5	41085C04	P, VARIABLE B50CH	1
VR5C1	41085C05	P, VARIABLE B5K	1
VR5S1	41085C09	P, VARIABLE B10K	1
VR4S1	41085C1C	P, VARIABLE B20K	5
VR5S4	41085C13	P, VARIABLE B10K	6
VR9C1	41085C13	P, VARIABLE B10K	6
VR9C4	41085C13	P, VARIABLE B10K	6
VR5C2	41085C14	P, VARIABLE B200K	1
Δ VR6S1	41087C5E	P, VARIABLE B5K	1
Δ VR2C01	Δ VR2C02	Δ VR6S2	1
Δ VR2C03	Δ VR6S3		1

SYMBOL	PARTS NO	DESCRIPTION	QTY
SW2	65161C21	SWITCH, SLIDE	1
SW8C3	65161C29	SWITCH, SLIDE	1
SW1	65161C34	SWITCH, SLIDE	2
SW8C1	65161C35	SWITCH, SLIDE	2
Δ SW1	65360C06	SWITCH, PUSH BUTTON	1
Δ RL1	656025C1	RELAY G6E-1114P	1
RL8C2	656025S1	RELAY	1
RL8C1	65699C12	RELAY RY12C4 (2T)	2

SYMBOL	PARTS NO	DESCRIPTION	QTY
LC7C2	39C99C15	FILTER ZJSC-2R2-101	1
LS5C	60908C43	COIL, VARIABLE WIDTH	1
Δ LS5C3	60908C47	COIL, WIDTH	1
Δ LS5C6	609181C1	COIL, H-LIN	1

SYMBOL	PARTS NO	DESCRIPTION	QTY
ΔL507	6099004	COIL, CHOKER	1
L701	L703	COIL, FILTER 3.3UH	6
L901	L903	COIL, FILTER 3.9UH	3
L704	L706	COIL, FILTER 5.6UH	2
L801	L802	COIL, FILTER 2.7UH	1
L502	6102202	FILTER CHOKER	1
ΔL601	6106205	LINE FILTER	1
L501	6106406	COIL, FILTER 50UH	2
ΔL602	6109011	COIL, CHOKER 33UH	3
ΔL652	6109014	COIL 33CK1.8	1
L503	6109019	COIL, CHOKER	2
ΔDEG	61314210	COIL, DEGAUSSING	1
LC701	61606021	NOISE FILTER DSS-271W	1
LC801	61606023	FILTER DSS-223S	1

*** PWB ASSYS ***

84X10004	INPUT PWB ASSY	1
84X10004	DEF PWB ASSY	1
84X10001	CRT PWB ASSY	1
84X10003	INTERFACE PWB ASSY	1
84X11A02	SW-REG-PWB ASSY	1

*** ELECTRICAL PARTS & MISCELLANEOUS PARTS ***

SG901	SG902	SG903	32500028	ADAPTER (9P-15P)	1
ΔF601	ΔF651	SG905	32590047	ARRESTER	3
ΔCN1			66699007	FUSE ET T2A-250V-S.F SOC	2
			66706001	SPARK GAP 1.2KV	1
			70032026	SG/CRT SOCKET	1
			70056358	D SUR CONNECTOR 9PL	1
			70102147	IC SOCKET 24P	1
			70800322	LINE CORD(JC-1402HMBE)	1
			70800031	LINE CORD(JC-1402HMBE/R/N)	1
			73513006	LINE CORD SAA L2.0(0.5140000P)	1
			71205037	HOLDER, FUSE	4
CN-RH	CN-RH-1	CN-RH-2	73721003	CONNECTOR PIN 2P	5
CN-RH3			73893029	CABLE 5P-9P	1

*** APPEARANCE PARTS ***

24514752	COIL SPRING	1
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SYMBOL	PARTS NO	DESCRIPTION	QTY
	25307951	CABINET FRONT ASSY	1
	25307972	CABINET BACK	1
	25402441	REVOLVING STAND T	1
	25405971	REVOLVING STAND(B) ASSY	1
	25407321	CONTROL LID ASSY	1
(JC-1402HMBE)	25765502	NAME PLATE, INSTRUCTION	1
(JC-1402HMR)	25765681	NAME PLATE, INSTRUCTION	1
(JC-1402HMBE)	25766011	NAME PLATE, INSTRUCTION	1
(JC-1402HMR)	25766591	NAME PLATE, INSTRUCTION	1

*** KNOBS & PUSH BUTTONS ***

	25451821	KNOB, CONTROL	2
	25452301	PUSH BUTTON	1

*** PRINTED & PACKING MATERIALS ***

(JC-1402HMBE)	24813501	BAG, POLYETHYLENE	1
(JC-1402HMBE/R/N)	24806961	BAG, POLYETHYLENE(270*370)	1
(JC-1402HMBE/R/N)	24813511	BAG, POLYETHYLENE(150*370)	1
	25280161	GUIDE RAIL	1
	25601551	CUSHION SHEET	4
	25603511	BARRIER (SW-REG-FWB)	1
(JC-1402HMBE)	25815061	BAG, POLYETHYLENE(270*370)	1
	25605021	CUSHION SHEET	2
(JC-1402HMBE/R/N)	25604991	BAG, POLYETHYLENE	1
	25813912	FILLER(L), CARTON	1
	25813922	FILLER(R), CARTON	1
(JC-1402HMBE)	25813932	CARTON BOX	1
(JC-1402HMR)	25814182	CARTON BOX	1
(JC-1402HMBE)	25814451	CARTON BOX	1
(JC-1402HMR)	25814971	CARTON BOX	1
(JC-1402HMR)	78043392	WARRANTY CARD	1
	78034401	MONITOR SALES OFFICE LIST	1
	78120214	INSTRUCTION BOOK	1
	599910266	SERVICE MANUAL	1
	599910271	CIRCUIT DESCRIPTION	1

*** RESISTORS ***

R5B1	401C6637	R-CARBON 33H 5% 1/4W	1
R503	401C6667	R-CARBON 56GH 5% 1/4W	1
R501	401C6673	R-CARBON 1.0K 5% 1/4W	6
ΔR611	ΔR602	ΔR608	
ΔR611	ΔR619	ΔR663	
ΔR609	ΔR620		
ΔR662	401C6675	R-CARBON 1.2K 5% 1/4W	2
	401C6679	R-CARBON 1.8K 5% 1/4W	1
R5E2	401C6681	R-CARBON 2.2K 5% 1/4W	1
R527	401C6683	R-CARBON 2.7K 5% 1/4W	2

SYMBOL	PARTS NO	DESCRIPTION	QTY
R5A2	R599	R-CARBON 3.3K 5% 1/4W	6
ΔR622	ΔR636		
R49C	ΔR636	R-CARBON 5.6K 5% 1/4W	4
ΔR666			
R585	401C6693	R-CARBON 6.8K 5% 1/4W	1
R467	401C6701	R-CARBON 15K 5% 1/4W	1
R4A8	401C6703	R-CARBON 18K 5% 1/4W	1
ΔR664	401C6705	R-CARBON 22K 5% 1/4W	1
ΔR627	401C6707	R-CARBON 27K 5% 1/4W	1
R482	401C6721	P-CARBON 100K 5% 1/4W	2
ΔR657	401C6723	P-CARBON 120K 5% 1/4W	1
R473	401C6757	R-CARBON 3.3M 5% 1/4W	1
R478	R574	R-CARBON 4.7K 5% 1/4W	5
R578	P582		
R51C			
R451	401H5623	R-CARBON 8.2H 5% 1/2W	1
	401H5642	R-CARBON 75H 5% 1/2W	1
R904	R9C5	R-CARBON 100H 5% 1/2W	3
R7C4E	R7C4C	R-CARBON 120H 5% 1/2W	3
R823		R-CARBON 180H 5% 1/2W	1
R328		R-CARBON 330H 5% 1/2W	1
R45C		R-CARBON 390H 5% 1/2W	1
R526		R-CARBON 680H 5% 1/2W	1
R4A1	R4F4	R-CARBON 1.0K 5% 1/2W	2
R5B3		R-CARBON 2.7K 5% 1/2W	2
R509	R936	R-CARBON 4.7K 5% 1/2W	2
ΔR6C5	ΔR6C6	R-CARBON 390K 5% 1/2W	2
ΔR6Q3		R-CARBON 320K 5% 1/2W	1
ΔR618		R-CARBON 2.2M 5% 1/2W	1
R71C		R-CARBON 10H 5% 1/6W	2
R7C2E	R7C2C		
R7C5B	R7C5C		
R413			
R414	R515	R-CARBON 120H 5% 1/6W	1
R724	R553	R-CARBON 220H 5% 1/6W	2
R8C7C		R-CARBON 270H 5% 1/6W	1
R935		R-CARBON 330H 5% 1/6W	1
R5C8	P817E	P-CARBON 470H 5% 1/6W	4
R817R			
R417H	R496	R-CARBON 560H 5% 1/6W	6
R701B	R7C1C		
R712	R8C7E	R-CARBON 680H 5% 1/6W	2
R4A2	R423	R-CARBON 1.0K 5% 1/6W	20
R5C2	R5C4		
R536	R720		
R722	R832		
R834	R835		
R837	R9C1		

SYMBOL	PARTS NO	DESCRIPTION	QTY
R9C7	R934		
R827	R516	R-CARBON 1.2K 5% 1/6W	1
R495	R8C1C	R-CARBON 1.5K 5% 1/6W	11
R8C1E	R8C2C		
R8C2B	R8C2P		
R895	R896		
ΔR2C02	P447	R-CARBON 1.8K 5% 1/6W	2
R2	R4A7	R-CARBON 2.2K 5% 1/6W	25
R456	R457		
R5E3	R529		
R852	R854		
R858	R860		
R867	R873		
R884	R885		
R888	R890		
R931			
ΔR2C03	R411	R-CARBON 2.7K 5% 1/6W	6
R723	R863		
ΔR2C05	ΔR2C09	R-CARBON 3.3K 5% 1/6W	12
R494	P584		
R812C	R812R	R-CARBON 3.3K 5% 1/6W	12
R87C	R922		
R439	R522	R-CARBON 3.9K 5% 1/6W	4
R557			
R4C3	P415	R-CARBON 4.7K 5% 1/6W	8
R551	R8C8R		
R8C8R	R879		
R1	R5P0	R-CARBON 5.6K 5% 1/6W	10
R5C2	R826		
R866	R872		
R929			
R4C2	R484	R-CARBON 6.8K 5% 1/6W	7
R7C3E	R7C3C		
R825			
ΔR2C04	ΔP2C08	R-CARBON 8.2K 5% 1/6W	12
R5C6	R5C6		
R7C9	R715		
R868	R869		
ΔR2C06	ΔR2C1C	R-CARBON 10K 5% 1/6W	23
R412	R452		
R455	R5C4		
R555	R556		
R595	R725		
R816	R838		
R862	R871		
R897	R920		
ΔR2C11	R4C0	R-CARBON 12K 5% 1/6W	11
R514	R587		
R714	R864		
R882	R921		
R4E1	R4E2	R-CARBON 15K 5% 1/6W	18

SYMBOL			PARTS NO.	DESCRIPTION	QTY
R487	R416	R472			
R477	R5A7	R573			
R577	R5B1	R589			
R592	R717	R6C6E			
R8C9G	R8C9P	R859			
R4A6	R430	R431			10
R434	R436	R5C5			
R559	R597	R276			
R292					
R558	R716				2
R427	R596	R917			8
R918	R919	R923			
R924	R925				
ΔR2012					1
R420	R454	R485			7
R486	R487	R227			
R889					
R594	R255				2
R432	R926				4
R928					
R5A9	R850				2
R429	R479	R420			
R481	R483	R429			11
R5A8	R590	R929			
R830	R831				
R485	R419	R497			7
R498	R914	R915			
R916					
R535	R591	R876			6
R908	R909	R910			
R911	R912	R913			3
R593					1
R518					1
R468					1
R504					1
ΔR428					1
ΔR707E	ΔR707G	ΔR707R			6
ΔR708B	ΔR708G	ΔR708P			
ΔR630	ΔR632	ΔP634			3
ΔR626	ΔP671				2
ΔR658					1
ΔP612	ΔP614				2
ΔR661					1
ΔR623					1
ΔR509					1
ΔR601					3
R706B	R706G	R706R			
R508					1

SYMBOL			PARTS NO.	DESCRIPTION	QTY
ΔR667			40371137	R-METAL 33H 5X 1W	1
R507			40371143	R-METAL 56H 5X 1W	1
R440			40371149	R-METAL 10CH 5X 1W	1
R824			40371161	R-METAL 33CH 5X 1W	1
R433			40371165	R-METAL 47CH 5X 1W	1
R537			40371169	R-METAL 68CH 5X 1W	1
R435			40372103	R-METAL 1-2H 5X 2W	1
ΔR615	ΔR624		40372107	R-METAL 1-8H 5X 2W	2
ΔR613			40372142	R-METAL 56H 5X 2W	1
ΔR622			40372145	R-METAL 68H 5X 2W	1
ΔR607			40372147	R-METAL 82H 5X 2W	1
ΔR616	ΔR625		40372149	R-METAL 100H 5X 2W	2
R426			40372157	R-METAL 22CH 5X 2W	1
R530			40372161	R-METAL 33CH 5X 2W	1
R493			40372163	R-METAL 39CH 5X 2W	1
R517			40372185	R-METAL 3-3K 5X 2W	1
ΔR652			40372203	R-METAL 18K 5X 2W	1
ΔR654			40372205	R-METAL 22K 5X 2W	1
ΔR665			40372217	R-METAL 68K 5X 2W	1
R511			40373163	R-METAL 39CH 5X 3W	1
R512			40373165	R-METAL 47CH 5X 3W	1
ΔR617	ΔR629		40373181	R-METAL 2-2K 5X 3W	1
ΔR604			40373195	R-METAL 8-2K 5X 3W	1
ΔR653			40373197	R-METAL 10K 5X 3W	1
ΔR660					
ΔR659	ΔR670		40373203	R-METAL 18K 5X 3W	2
ΔR617	ΔR629		40373221	R-METAL 100K 5X 3W	2
ΔR604			40390C34	R-METAL 2-2K 5X 2W	1
R811B	R811C	R811R	404C1644	R-METAL 75H 1X 1/6W	3
R810B	R810C	R810P	404C1653	R-METAL 150H 1X 1/6W	3
R820			404C1657	R-METAL 22CH 1X 1/6W	1
R804F	R804G	R804R	404C1661	R-METAL 33CH 1X 1/6W	6
R806B	R806C	R806P			
R803B	R803C	R803P	404C1669	R-METAL 68CH 1X 1/6W	6
R805B	R805C	R805P			
R411I	R411J	R411R	404C1677	R-METAL 1-5K 1X 1/6W	1
R417G	R422		404C1681	R-METAL 2-2K 1X 1/6W	2
R418			404C1683	R-METAL 2-7K 1X 1/6W	1
R417	9421		404C1687	R-METAL 3-9K 1X 1/6W	2
R404	5E22		404C1691	R-METAL 5-6K 1X 1/6W	2
R417C	95E4		404C1694	R-METAL 7-5K 1X 1/6W	2
R821			404C1695	R-METAL 8-2K 1X 1/6W	1
R461	R818E	R812G	404C1697	R-METAL 10K 1X 1/6W	7
R819R	R819E	R819G			
R819R					
R417D	R562		404C1699	R-METAL 12K 1X 1/6W	2
R4A2	R4A4	R4C5	404C1701	R-METAL 15K 1X 1/6W	5

SYMBOL	PARTS NO	DESCRIPTION	QTY
R417A R417E	404C1704	R-METAL 20K 1% 1/6W	1
R561	404C1707	R-METAL 27K 1% 1/6W	1
R407	404C1711	R-METAL 30K 1% 1/6W	2
R417E R531 R563	404C1717	R-METAL 68K 1% 1/6W	3
R464	404C1719	R-METAL 82K 1% 1/6W	1
R406 R564 R565	404C1721	R-METAL 100K 1% 1/6W	4
R566	404C1723	R-METAL 120K 1% 1/6W	8
R409 R460 R466 R571 R572 R579	404C1725	R-METAL 150K 1% 1/6W	1
R545	404C1727	R-METAL 180K 1% 1/6W	1
R469	404C1728	R-METAL 200K 1% 1/6W	4
R449 R459 R544	404C1729	R-METAL 220K 1% 1/6W	2
R576	404C1731	R-METAL 270K 1% 1/6W	1
R408 R474 R580	404C1737	R-METAL 470K 1% 1/6W	1
R569	404C1739	R-METAL 560K 1% 1/6W	1
R462	404K2717	R-METAL 68K 1% 1/4W	1
R476	404K2723	R-METAL 120K 1% 1/4W	1
R471	40405109	R-METAL 2.2H 5% 1/4W	4
ΔR2001 ΔR2007 ΔR505	40405109	R-METAL 2.2H 5% 1/4W	4
ΔR513	40405109	R-METAL 2.2H 5% 1/4W	4
R5E1	40405117	R-METAL 4.7H 5% 1/4W	1
ΔR501	40812649	R-FUSE 10CH 5% 1/2W	1
ΔR524	40812661	R-FUSE 33CH 5% 1/2W	1
ΔR525 ΔR528	40812665	R-FUSE 47CH 5% 1/2W	2

SYMBOL	PARTS NO	DESCRIPTION	QTY
ΔC867	420C9519	C-CERAMIC 50V 330PF	1
ΔC518	420C9557	C-CERAMIC 500V 330UF	1
C511	420C9560	C-CERAMIC 500V 560PF	2
C513	420C9563	C-CERAMIC 500V 0.001UF	4
C914	420C9567	C-CERAMIC 500V 2200PF	4
C905	4201J575	C-CERAMIC 500V 0.01UF	1
C908	42019175	C-CERAMIC 2KV 0.01UF	1
C512	4203J554	C-CERAMIC 500V 180PF	2
C521	4203J575	C-CERAMIC 500V C-01UF	3
C710	42053013	C-CERAMIC 400V 1000PF	2
ΔC603 ΔC604	42053067	C-CERAMIC 400V 2200PF	1
ΔC606	42059C82	C-CERAMIC 2KV 1500PF	1
ΔC663	42059C85	C-CERAMIC 2KV 560PF	4
ΔC622	42059C88	C-CERAMIC 2KV 220PF	2
ΔC625	421A0425	C-CERAMIC 50V 0.01UF	11
ΔC612	C454	C-METAL FILM 1.6KV 250COPF	1
C453	C454	C-METAL FILM 1.6KV 250COPF	1

SYMBOL	PARTS NO	DESCRIPTION	QTY
C564	421C0213	C-CERAMIC 50V 1000PF	2
C809B	421C0215	C-CERAMIC 50V 1500PF	1
C817	421C0225	C-CERAMIC 50V 0.01UF	1
C855	421J9C01	C-CERAMIC 50V 0.1UF	16
C854	421J9C01	C-CERAMIC 50V 0.1UF	1
C2	421J9C01	C-CERAMIC 50V 0.1UF	1
C414	421J9C01	C-CERAMIC 50V 0.1UF	1
C572	421J9C01	C-CERAMIC 50V 0.1UF	1
C703	421J9C01	C-CERAMIC 50V 0.1UF	1
C812	421J9C01	C-CERAMIC 50V 0.1UF	1
C916	421J9C01	C-CERAMIC 50V 0.1UF	1
C904	421J9C01	C-CERAMIC 50V 0.1UF	1
C410	421J9C01	C-CERAMIC 50V 0.1UF	1
C704	421J9C01	C-CERAMIC 50V 0.1UF	1
C565	421J9C01	C-CERAMIC 50V 0.1UF	1
C551	421J9C01	C-CERAMIC 50V 0.1UF	1
C566	421J9C01	C-CERAMIC 50V 0.1UF	1
C556	421J9C01	C-CERAMIC 50V 0.1UF	1
C856	421J9C01	C-CERAMIC 50V 0.1UF	1
C503	421J9C01	C-CERAMIC 50V 0.1UF	1
C502	421J9C01	C-CERAMIC 50V 0.1UF	1
C857	421J9C01	C-CERAMIC 50V 0.1UF	1
C452	421J9C01	C-CERAMIC 50V 0.1UF	1
C405	421J9C01	C-CERAMIC 50V 0.1UF	1
C505	421J9C01	C-CERAMIC 50V 0.1UF	1
C425	421J9C01	C-CERAMIC 50V 0.1UF	1
C427	421J9C01	C-CERAMIC 50V 0.1UF	1
C403	421J9C01	C-CERAMIC 50V 0.1UF	1
C409	421J9C01	C-CERAMIC 50V 0.1UF	1
C507	421J9C01	C-CERAMIC 50V 0.1UF	1
ΔC608	421J9C01	C-CERAMIC 50V 0.1UF	1
C501	421J9C01	C-CERAMIC 50V 0.1UF	1
ΔC656	421J9C01	C-CERAMIC 50V 0.1UF	1
ΔC607	421J9C01	C-CERAMIC 50V 0.1UF	1
ΔC515	421J9C01	C-CERAMIC 50V 0.1UF	1
C575	421J9C01	C-CERAMIC 50V 0.1UF	1
C522	421J9C01	C-CERAMIC 50V 0.1UF	1
ΔC628	421J9C01	C-CERAMIC 50V 0.1UF	1
C401	421J9C01	C-CERAMIC 50V 0.1UF	1
ΔC655	421J9C01	C-CERAMIC 50V 0.1UF	1
ΔC613	421J9C01	C-CERAMIC 50V 0.1UF	1
ΔC514E	421J9C01	C-CERAMIC 50V 0.1UF	1
ΔC514A	421J9C01	C-CERAMIC 50V 0.1UF	1
C404	421J9C01	C-CERAMIC 50V 0.1UF	1
ΔC602	421J9C01	C-CERAMIC 50V 0.1UF	1

SYMBOL	PARTS NO	DESCRIPTION	QTY
ΔC601	42824329	C-FILM 250V 0.22UF	1
ΔC661	42840131	C-METAL FILM 250V C-068UF	1
C901	42899010	C-METAL FILM 250V C-22UF	3
ΔC627	42899029	C-METAL FILM 250V C-1UF	1
ΔC520	42899042	C-METAL FILM 400V 0.64UF	3
C402	43044105	C-ELEC 50V 1UF	1
C810E	43044107	C-ELEC 50V 2.2UF	3
C853	43049022	C-ELEC 50V 2.2UF	3
C807E	43053049	C-ELEC 16V 47UF	2
C412	43053090	C-ELEC 35V 100UF	1
C413	43053091	C-ELEC 35V 220UF	1
ΔC660	43053101	C-ELEC 50V 0.47UF	1
C707	43053122	C-ELEC 160V 1UF	3
ΔC611	43055051	C-ELEC 16V 22UF	2
ΔC610	43049053	C-ELEC 16V 47UF	2
ΔC609	43053105	C-ELEC 50V 4.7UF	2
ΔC620	43053107	C-ELEC 50V 22UF	2
ΔC2002	43056015	C-ELEC 10V 47UF	4
C815			
C503	43056016	C-ELEC 10V 100UF	1
C504	43056017	C-ELEC 10V 220UF	2
C502	43056020	C-ELEC 10V 1000UF	1
C501	43056025	C-ELEC 16V 10UF	7
C858	43056025	C-ELEC 16V 10UF	7
C868			
C423	43056026	C-ELEC 16V 22UF	4
C457			
C713	43056027	C-ELEC 16V 33UF	1
C803	43056028	C-ELEC 16V 47UF	6
C808G			
C714	43056029	C-ELEC 16V 100UF	2
C429	43056030	C-ELEC 16V 220UF	3
C416	43056031	C-ELEC 16V 33UF	3
C553	43056032	C-ELEC 25V 10UF	2
C5E1	43056041	C-ELEC 25V 47UF	1
C419	43056054	C-ELEC 25V 100UF	2
C501	43056054	C-ELEC 25V 33UF	1
ΔC2004	43056065	C-ELEC 50V 10UF	1
C421	43056066	C-ELEC 50V 22UF	2
ΔC2001	43056068	C-ELEC 50V 47UF	1
C523	43056536	C-ELEC 200V 10UF	1
C863	43011029	C-ELEC 16V 100UF	2
ΔC653	43020170	C-ELEC 100V 100UF	1
ΔC651	43020172	C-ELEC 100V 330UF	1
ΔC664	43020182	C-ELEC 100V 1UF	1
C516	43020190	C-ELEC 160V 100UF	4

SYMBOL	PARTS NO	DESCRIPTION	QTY
ΔC662	43020090	C-ELEC 35V 100UF	1
ΔC654	43020098	C-ELEC 35V 1000UF	1
ΔC652	43020032	C-ELEC 16V 470UF	1
C71E	43020073	C-ELEC 50V 1000UF	1
C420	43108105	C-ELEC 400V 220UF	1
ΔC605	433A3022	C-ELEC 16V 10UF	1
C850	433A3023	C-ELEC 16V 22UF	1
C424	433A3025	C-ELEC 35V 4.7UF	1
C415	433A3043	C-ELEC 35V 4.7UF	1
C716	435A5053	C-TANTALUM 16V 4.7UF	1
C428	435A5055	C-TANTALUM 16V 10UF	1
C418	435A5071	C-TANTALUM 35V 1UF	1
C504	435A5072	C-TANTALUM 35V 2.2UF	1
C859	435A5254	C-TANTALUM 25V 3.3UF	2
C555			

REPLACEMENT PARTS LIST

The components specified for Model JC-1402HMED

Note: The components identified by Δ mark are critical for safety.
Replace only with parts Number specified.

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** CPT & TUNER ***			
Δ CRT	33C14147	CPT M24JUP23XX158 (2)	1
*** ICS ***			
IC453	IC454	IC 453	1
IC456	IC457	IC 456	1
IC458	IC459	IC 458	1
IC460	IC461	IC 460	1
IC462	IC463	IC 462	1
IC464	IC465	IC 464	1
IC466	IC467	IC 466	1
IC468	IC469	IC 468	1
IC470	IC471	IC 470	1
IC472	IC473	IC 472	1
IC474	IC475	IC 474	1
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IC1074	IC1075	IC 1074	1
IC1076	IC1077	IC 1076	1
IC1078	IC1079	IC 1078	1
IC1080	IC1081	IC 1080	1
IC1082	IC108		

SYMBOL	PARTS NO	DESCRIPTION	QTY
ALSC7	6C99C04	COIL, CHOKE	1
L7C1	610E1711	COIL, FILTER 3.3UH	1
L9C1	610E1712	COIL, FILTER 3.9UH	2
L7C4	610E1714	COIL, FILTER 5.6UH	2
L8C1	610F7C1C	COIL, FILTER 2.7UH	1
L5C2	61C22C82	FILTER CHOKE	1
AL6C1	61062C4C	LINE FILTER (12MH-1.3A)	1
L5C1	61062C37	LINE FILTER GL-2C30F	1
AL6C2	61064C06	COIL, FILTER 5CUH	2
AL6C2	61C99C11	COIL, CHOKE 33UH	2
L5C2	61C99C14	COIL 33CK1.8	1
L5C2	61C99C16	COIL, CHOKE	2
L5C2	6131421C	COIL, DEGAUSSING	1
L67C1	61606C21	NOISE FILTER DSS-271M	1
L68C1	61606C23	FILTER DSS-2235	1
*** PWB ASSYS ***			
	84K1CC04	INPUT PWB ASSY	1
	84K29AC1	SW. REG. PWB ASSY	1
	84K290C1	DEF PWB ASSY	1
	84K294C1	CRT PWB ASSY	1
	84K29XC1	INTERFACE PWB ASSY	1
*** ELECTRICAL PARTS & MISCELLANEOUS PARTS ***			
HS-4C2	317092C1	INSULATOR SHEET	1
HS-5C2	317092C2	SHEET, INSULATOR	1
	317C95C3	SHEET, INSULATOR	1
SG9C1	32500C28	ADAPTER (9F-15P)	3
	32900C47	ARRESTER	1
ALF6C1	66699C07	FUSE ET 12A-250V-S.B. SOC	2
SG9C5	66706C01	SPARK GAP 1.2KV	1
	70032C26	SG/CRT SOCKET	1
	70102147	IC SOCKET 24P	1
	70800C31	LINE CORD	1
CN-RH	712C5C37	HOLDER, FUSE	4
CN-RH1	73721C07	CONNECTOR PIN 2P	5
CN-RH2	73893C29	CABLE 9P-9P	1
CN-RH3	70056358	D SUB CONNECTOR 9PL	1
*** APPEARANCE PARTS ***			
	24514792	COIL SPRING	1
	25307972	CABINET BACK	1
	25402441	REVOLVING STAND T	1
	25308911	CABINET, FRONT	1

SYMBOL	PARTS NO	DESCRIPTION	QTY
	25405971	REVOLVING STAND(B) ASSY	1
	25407381	CONTROL LID ASSY	1
	25766741	NAME PLATE, INSTRUCTION	1
*** KNOBS & PUSH BUTTONS ***			
	25451881	KNOB, CONTROL	2
	25452301	PUSH BUTTON	1
*** PRINTED & PACKING MATERIALS ***			
	24806961	BAG, POLYETHYLENE (27C*370)	1
	24813191	BAG, POLYETHYLENE (150*370)	1
	25280161	GUIDE RAIL	1
	25601551	CUSHION SHEET	4
	25603511	BARRIER (SW. REG. F.W.B)	1
	25605021	CUSHION SHEET	2
	25605361	PLATE, SHIELDING	1
	25804991	BAG, POLYETHYLENE	1
	25813912	FILLER(L), CARTON	1
	25813922	FILLER(R), CARTON	1
	599910271	CIRCUIT DESCRIPTION	1
	25815081	CARTON BOX	1
	78046231	PTE CARD	1
	78120214	INSTRUCTION BOOK	1
	78034401	MONITOR SALES OFFICE LIST	1
	599910266	SERVICE MANUAL	1
*** RESISTORS ***			
R5B1	4C1C6637	R, CARBON 33H 5% 1/4W	1
R5C1	4C1C6667	R, CARBON 560H 5% 1/4W	1
R5C1	4C1C6673	R, CARBON 1.0K 5% 1/4W	6
AR611	4C1C6675	R, CARBON 1.2K 5% 1/4W	2
AR611	4C1C6679	R, CARBON 1.8K 5% 1/4W	1
AR611	4C1C6681	R, CARBON 2.2K 5% 1/4W	1
AR611	4C1C6683	R, CARBON 2.7K 5% 1/4W	2
AR611	4C1C6685	R, CARBON 3.3K 5% 1/4W	6
AR611	4C1C6691	R, CARBON 5.6K 5% 1/4W	4
AR611	4C1C6693	R, CARBON 6.8K 5% 1/4W	1
AR611	4C1C6701	R, CARBON 15K 5% 1/4W	1
AR611	4C1C6703	R, CARBON 18K 5% 1/4W	1
AR611	4C1C6705	R, CARBON 22K 5% 1/4W	1
AR611	4C1C6707	R, CARBON 27K 5% 1/4W	1
AR611	4C1C6721	R, CARBON 100K 5% 1/4W	2
AR611	4C1C6723	R, CARBON 120K 5% 1/4W	1

SYMBOL	PARTS NO	DESCRIPTION	QTY
R473	401C6757	R,CARBON 3.2K SZ 1/4W	1
R478	R574	R,CARBON 4.7K SZ 1/4W	5
R578	401C6761	R,CARBON 4.7K SZ 1/4W	5
R510	401H5623	R,CARBON 5.2K SZ 1/2W	1
R451	401H5646	R,CARBON 75K SZ 1/2W	1
R904	401H5649	R,CARBON 100H SZ 1/2W	3
R704E	R906	R,CARBON 120H SZ 1/2W	3
R823	R704G	R,CARBON 120H SZ 1/2W	3
R828	401H5651	R,CARBON 180H SZ 1/2W	1
R450	401H5655	R,CARBON 330H SZ 1/2W	1
R526	401H5661	R,CARBON 390H SZ 1/2W	1
R4A1	401H5663	R,CARBON 680H SZ 1/2W	1
R5B2	401H5669	R,CARBON 680H SZ 1/2W	1
R5C9	401H5673	R,CARBON 1.0K SZ 1/2W	2
R4606	401H5683	R,CARBON 2.7K SZ 1/2W	2
R4603	401H5689	R,CARBON 4.7K SZ 1/2W	2
R618	401H5735	R,CARBON 390K SZ 1/2W	2
R702B	401H5743	R,CARBON 820K SZ 1/2W	1
R705E	401H5753	R,CARBON 2.2K SZ 1/2W	1
R413	401H5625	R,CARBON 10H SZ 1/6W	2
R414	401H5647	R,CARBON 82H SZ 1/6W	5
R724	401H5649	R,CARBON 100H SZ 1/6W	2
R807G	401H5651	R,CARBON 120H SZ 1/6W	1
R935	401H5657	R,CARBON 220H SZ 1/6W	2
R817R	401H5659	R,CARBON 270H SZ 1/6W	1
R417H	401H5661	R,CARBON 330H SZ 1/6W	4
R701E	401H5665	R,CARBON 470H SZ 1/6W	6
R712	401H5667	R,CARBON 560H SZ 1/6W	2
R4A8	401H5669	R,CARBON 680H SZ 1/6W	20
R502	401H5673	R,CARBON 1.0K SZ 1/6W	20
R534	401H5675	R,CARBON 1.2K SZ 1/6W	1
R720	401H5677	R,CARBON 1.5K SZ 1/6W	11
R722	401H5679	R,CARBON 1.8K SZ 1/6W	2
R833	401H5681	R,CARBON 2.2K SZ 1/6W	26
R836	401H5683	R,CARBON 2.7K SZ 1/6W	2
R837	401H5685	R,CARBON 3.3K SZ 1/6W	1
R901	401H5687	R,CARBON 3.9K SZ 1/6W	4
R903	401H5689	R,CARBON 4.7K SZ 1/6W	8
R934	401H5691	R,CARBON 5.6K SZ 1/6W	10
R936	401H5693	R,CARBON 6.8K SZ 1/6W	7
R937	401H5695	R,CARBON 8.2K SZ 1/6W	11
R938	401H5697	R,CARBON 10K SZ 1/6W	21
R939	401H5699	R,CARBON 12K SZ 1/6W	11
R940	401H5701	R,CARBON 15K SZ 1/6W	19
R941	401H5703	R,CARBON 22K SZ 1/6W	10
R942	401H5705	R,CARBON 27K SZ 1/6W	2
R943	401H5707	R,CARBON 33K SZ 1/6W	8
R944	401H5709	R,CARBON 39K SZ 1/6W	1

SYMBOL	PARTS NO	DESCRIPTION	QTY
R874	401K5681	R,CARBON 2.2K SZ 1/6W	26
R884	401K5683	R,CARBON 2.7K SZ 1/6W	6
R886	401K5685	R,CARBON 3.3K SZ 1/6W	12
R888	401K5687	R,CARBON 3.9K SZ 1/6W	4
R890	401K5689	R,CARBON 4.7K SZ 1/6W	8
R931	401K5691	R,CARBON 5.6K SZ 1/6W	10
R932	401K5693	R,CARBON 6.8K SZ 1/6W	7
R933	401K5695	R,CARBON 8.2K SZ 1/6W	11
R934	401K5697	R,CARBON 10K SZ 1/6W	21
R935	401K5699	R,CARBON 12K SZ 1/6W	11
R936	401K5701	R,CARBON 15K SZ 1/6W	19
R937	401K5703	R,CARBON 22K SZ 1/6W	10
R938	401K5705	R,CARBON 27K SZ 1/6W	2
R939	401K5707	R,CARBON 33K SZ 1/6W	8
R940	401K5709	R,CARBON 39K SZ 1/6W	1

SYMBOL		PARTS NO	DESCRIPTION	QTY
R42C	R454	401K5713	R,CARBON 47K 5% 1/6W	7
R486	R487			
R889	R887			
R594	R855	401K5715	R,CARBON 56K 5% 1/6W	2
R432	R926	401K5717	R,CARBON 68K 5% 1/6W	4
R928	R927			
R5A9	R850	401K5719	R,CARBON 82K 5% 1/6W	2
R429	R479	401K5721	R,CARBON 100K 5% 1/6W	11
R481	R483			
R5A8	R590			
R83C	R831			
R4B5	R419	401K5727	R,CARBON 180K 5% 1/6W	7
R496	R514			
R916	R915			
R535	R591	401K5729	R,CARBON 220K 5% 1/6W	6
R908	R909			
R911	R512	401K5731	R,CARBON 270K 5% 1/6W	2
R593		401K5739	R,CARBON 560K 5% 1/6W	1
R518		401K5745	R,CARBON 1.0M 5% 1/6W	1
R468		401K5753	R,CARBON 2.2M 5% 1/6W	1
R504		40175109	R,CARBON 2.2H 5% 1/4W	1
ΔP42E		40175133	R,CARBON 22H 5% 1/4W	1
ΔR707E	ΔR707C	40175141	R,CARBON 47H 5% 1/4W	6
ΔR708B	ΔR708G			
ΔR63C	ΔR632	40175143	R,CARBON 56H 5% 1/4W	2
ΔR626	ΔR671	40175157	R,CARBON 220H 5% 1/4W	2
ΔR658		40175161	R,CARBON 330H 5% 1/4W	1
ΔR612	ΔR614	40175183	R,CARBON 2.7K 5% 1/4W	2
ΔR661		40175185	R,CARBON 3.3K 5% 1/4W	1
ΔR623		40175189	R,CARBON 4.7K 5% 1/4W	1
ΔR5C0		40175117	R,CARBON 4.7H 5% 1/2W	1
ΔW601		40299107	R,WIRE 15H 10% 5W	1
R7C6E	R7C6C	40318179	R,METAL 1.8K 5% 5W	3
R50R		40371135	R,METAL 27H 5% 1W	1
ΔR667		40371137	R,METAL 33H 5% 1W	1
R507		40371143	R,METAL 56H 5% 1W	1
R44C		40371149	R,METAL 100H 5% 1W	1
R824		40371161	R,METAL 330H 5% 1W	1
R433		40371165	R,METAL 470H 5% 1W	1
R537		40371169	R,METAL 680H 5% 1W	1
R435		40372103	R,METAL 1.2H 5% 2W	1
ΔR615	ΔR624	40372107	R,METAL 1.8H 5% 2W	2
ΔR613		40372143	R,METAL 56H 5% 2W	1
ΔR622		40372145	R,METAL 68H 5% 2W	1
ΔR607		40372147	R,METAL 82H 5% 2W	1
ΔR616	ΔR625	40372149	R,METAL 100H 5% 2W	2
R426		40372157	R,METAL 220H 5% 2W	1
R53C		40372161	R,METAL 330H 5% 2W	1

SYMBOL		PARTS NO	DESCRIPTION	QTY
R493		40372163	R,METAL 390H 5% 2W	1
R517		40372185	R,METAL 3.3K 5% 2W	1
ΔR652		40372203	R,METAL 18K 5% 2W	1
ΔR654		40372205	R,METAL 22K 5% 2W	1
ΔR665		40372217	R,METAL 68K 5% 2W	1
R511		40373163	R,METAL 390H 5% 3W	1
R512		40373165	R,METAL 470H 5% 3W	1
ΔR61C		40373181	R,METAL 2.2K 5% 3W	1
ΔR653		40373195	R,METAL 8.2K 5% 3W	1
ΔR66C		40373197	R,METAL 10K 5% 3W	1
ΔR659	ΔR670	40373203	R,METAL 18K 5% 3W	2
ΔR617	ΔR629	40373221	R,METAL 100K 5% 3W	2
ΔR604		40399034	R,METAL 2.2K 5% 2W	1
R811B	R811G	404C1646	R,METAL 75H 1% 1/6W	3
R810B	R810G	404C1653	R,METAL 150H 1% 1/6W	3
R82C		404C1657	R,METAL 220H 1% 1/6W	1
R804B	R804R	404C1661	R,METAL 330H 1% 1/6W	6
R8C6B	R8C6G			
R8C3B	R8C3G	404C1669	R,METAL 680H 1% 1/6W	6
R8C5B	R8C5G			
R4171	R422	404C1677	R,METAL 1.5K 1% 1/6W	1
R417C		404C1681	R,METAL 2.2K 1% 1/6W	2
R41E		404C1683	R,METAL 2.7K 1% 1/6W	1
R417	R421	404C1687	R,METAL 3.9K 1% 1/6W	2
R404	R822	404C1691	R,METAL 5.6K 1% 1/6W	2
R417C	R5E4	404C1694	R,METAL 7.5K 1% 1/6W	2
R821		404C1695	R,METAL 8.2K 1% 1/6W	1
R461	R818E	404C1697	R,METAL 10K 1% 1/6W	7
R818R	R819E			
R819R		404C1699	R,METAL 12K 1% 1/6W	2
R417D	R562	404C1701	R,METAL 15K 1% 1/6W	5
R4A2	R4A4			
R417A	R417E	404C1704	R,METAL 20K 1% 1/6W	1
R561		404C1707	R,METAL 27K 1% 1/6W	1
R41C				
R407	R532	404C1711	R,METAL 39K 1% 1/6W	2
R417E	R531	404C1717	R,METAL 68K 1% 1/6W	3
R464		404C1719	R,METAL 82K 1% 1/6W	1
R406	R564	404C1721	R,METAL 100K 1% 1/6W	4
R566				
R409	R460	404C1723	R,METAL 120K 1% 1/6W	8
R57C	R571			
R575	R579			
R5A5		404C1725	R,METAL 150K 1% 1/6W	1
R469		404C1727	R,METAL 180K 1% 1/6W	1
R469	R459	404C1728	R,METAL 200K 1% 1/6W	4
R576				

SYMBOL	PARTS NO	DESCRIPTION	QTY
R408	R474	R-METAL 220K 1% 1/6W	2
R580	R474	R-METAL 270K 1% 1/6W	1
R569	404C1727	R-METAL 470K 1% 1/6W	1
R462	404C1739	R-METAL 560K 1% 1/6W	1
R476	404C2717	R-METAL 68K 1% 1/4W	1
R471	404K2723	R-METAL 120K 1% 1/4W	1
ΔR20C1	4040S109	R-METAL 2.2H 5% 1/4W	4
ΔR513			
R5E1	4040S117	R-METAL 4.7H 5% 1/4W	1
ΔR5C1	40812649	R-FUSE 10CH 5% 1/2W	1
ΔR524	40812661	R-FUSE 33CH 5% 1/2W	1
ΔR525	40812665	R-FUSE 47CH 5% 1/2W	2

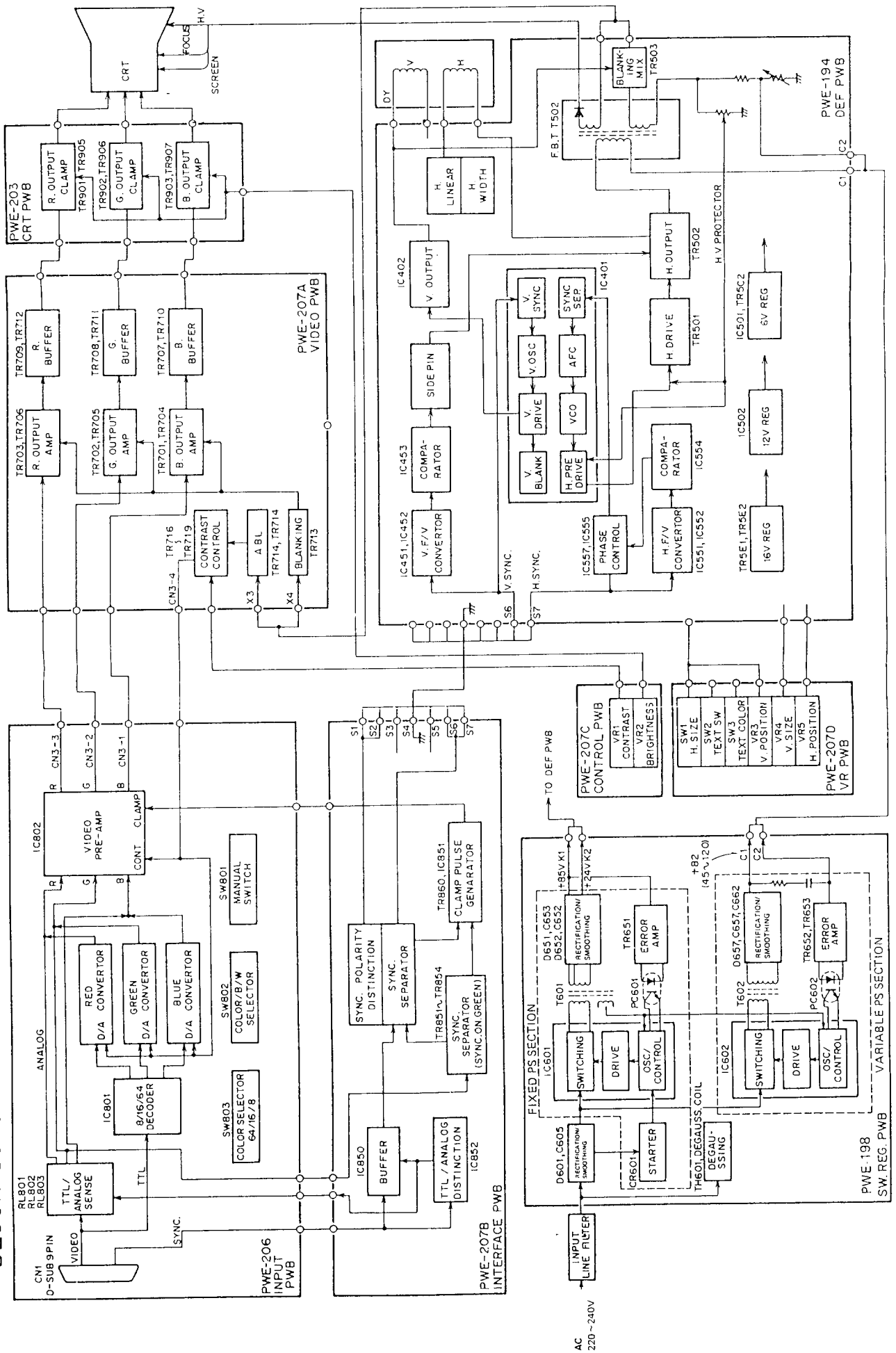
*** CAPACITORS ***

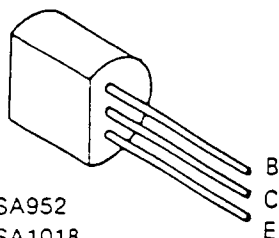
C867	420R9519	C-CERAMIC 50V 3300PF	1
ΔC518	420C9557	C-CERAMIC 500V 330UF	1
C511	420C9560	C-CERAMIC 500V 560PF	3
C512	420C9563	C-CERAMIC 500V 0.001UF	4
C914			
C905	420C9567	C-CERAMIC 500V 2200PF	4
C908			
C512	4201J575	C-CERAMIC 500V 0.01UF	1
C911	42019175	C-CERAMIC 2KV 0.01UF	1
C521	4203J554	C-CERAMIC 500V 180PF	2
C710	4203J575	C-CERAMIC 500V 0.01UF	3
ΔC603	42053013	C-CERAMIC 400V 1000PF	2
ΔC606			
ΔC663	42053067	C-CERAMIC 400V 2200PF	1
ΔC622	42099082	C-CERAMIC 2KV 1500PF	1
ΔC625	42099085	C-CERAMIC 2KV 560PF	4
ΔC612			
C453	42099088	C-CERAMIC 2KV 220PF	2
C564	421A0425	C-CERAMIC 50V 0.01UF	11
C809E			
C817			
C855			
C854			
C2			
C414			
C572			
C703			
C804			
C812			
C916			
C804			
C410			
C704			

SYMBOL	PARTS NO	DESCRIPTION	QTY
C561	423A1053	C-CERAMIC 50V 220PF	2
C408	423A1101	C-CERAMIC 50V 470PF	4
C566			
C556	423A1104	C-CERAMIC 50V 680PF	1
C856	423A3C27	C-CERAMIC 50V 18PF	1
C503	427A7C05	C-FILM 100V 0.0022UF	2
C502	427A7C07	C-FILM 100V 0.0033UF	1
C857	427F4C01	C-FILM 50V 1000PF	1
C452	427F4C25	C-FILM 50V 0.1UF	1
C405	427F4C51	C-FILM 50V 1000PF	1
C505	427F4C58	C-FILM 50V 3900PF	1
C425	427F4C59	C-FILM 50V 4700PF	2
C427	427F4C60	C-FILM 50V 5600PF	1
C409	427F4C64	C-FILM 50V 0.012UF	1
C507	427F4C65	C-FILM 50V 0.015UF	1
C501	427F4C71	C-FILM 50V 0.047UF	2
C715	427F4C75	C-FILM 50V 0.1UF	2
ΔC515	42703863	C-MYLAR 400V 0.01UF	1
ΔC575	42703865	C-FILM 400V 0.15UF	1
C522	42754267	C-FILM 200V 0.022UF	1
ΔC628	4276DC17	C-FILM 50V 0.022UF	1
C401	4276DC55	C-FILM 50V 2200PF	1
C403	4276DC61	C-FILM 50V 6800PF	1
ΔC608	4276DC69	C-FILM 50V 0.033UF	2
ΔC656	4276DC73	C-FILM 50V 0.068UF	1
ΔC607	4276DC75	C-FILM 50V 0.1UF	1
ΔC655	4279JC58	C-FILM 100V 5600PF	1
ΔC613	4279JC59	C-MYLAR 400V 0.033UF	3
ΔC514E	42807519	C-METAL FILM 1.6K 5600PF	1
ΔC514A			
C404	42808591	C-METAL FILM 1.6KV 2500PF	1
ΔC6C2	42824325	C-FILM 250V 0.1UF	1
ΔC6C1	42824329	C-FILM 250V 0.22UF	1
ΔC661	42840131	C-METAL FILM 250V 0.068UF	1
C9C1			
ΔC627	42899010	C-METAL FILM 250V 0.22UF	3
ΔC520	42899028	C-METAL FILM 250V 0.1UF	1
C402	42899042	C-METAL FILM 400V 0.64UF	3
C810E	430A4105	C-ELEC 50V 1UF	1
C8C7E	430A4107	C-ELEC 50V 2.2UF	3
C412	430B3049	C-ELEC 16V 47UF	2
C413	430B3090	C-ELEC 35V 100UF	1
C707	430B3091	C-ELEC 35V 220UF	1
ΔC2C02	430B3182	C-ELEC 160V 1UF	3
C815	430R6C15	C-ELEC 10V 47UF	4
C5C3	430R6C16	C-ELEC 10V 100UF	1

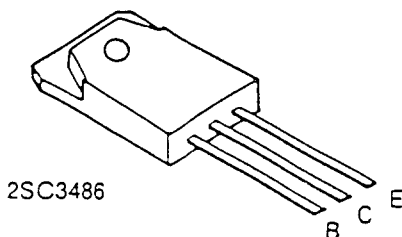
SYMBCL	PARTS NO	DESCRIPTION	QTY
C504	C814	C-ELEC 10V 220UF	2
C502		C-ELEC 10V 1000UF	1
C5E2	C8C1 C816	C-ELEC 16V 10UF	7
C858	C8E2 C864		
C868			
C423	C455 C456	C-ELEC 16V 22UF	4
C457			
C713			
C803	C8C7R C8C8B	C-ELEC 16V 33UF	1
C808G	C8C8R C851	C-ELEC 16V 47UF	6
C714	C8C5	C-ELEC 16V 100UF	2
C429	C509 C813	C-ELEC 16V 220UF	3
C416	C5C6 C5C7	C-ELEC 16V 330UF	3
C553	C5C3	C-ELEC 25V 10UF	2
C5E1		C-ELEC 25V 47UF	1
C419	C5C5	C-ELEC 35V 100UF	2
C5C1		C-ELEC 35V 330UF	1
C853	C859 C86C	C-ELEC 50V 2.2UF	4
C861			
ΔC20C4			
C421	C422	C-ELEC 50V 10UF	1
ΔC20C1		C-ELEC 50V 22UF	2
C523		C-ELEC 50V 47UF	1
ΔC66C		C-ELEC 200V 10UF	1
		C-ELEC 50V C.47UF	1
ΔC653			
ΔC651		C-ELEC 100V 100UF	1
ΔC664		C-ELEC 100V 330UF	1
C516	ΔC657 ΔC65F	C-ELEC 160V 1UF	1
ΔC662		C-ELEC 160V 100UF	4
ΔC611	ΔC617	C-ELEC 16V 220UF	2
ΔC61C	ΔC616		
ΔC654		C-ELEC 50V 470UF	2
ΔC6C9		C-ELEC 35V 100UF	1
ΔC62C	ΔC615	C-ELEC 50V 4.7UF	2
C863	ΔC621	C-ELEC 50V 22UF	2
	C865	C-ELEC 16V 100UF	2
ΔC652			
C718		C-ELEC 35V 1000UF	1
C42C		C-ELEC 16V 470UF	1
ΔC6C5		C-ELEC 50V 1000UF	1
C85C		C-ELEC 400V 220UF	1
		C-ELEC 16V 10UF	1
C424			
C415		C-ELEC 16V 22UF	1
C716		C-ELEC 16V 47UF	1
C428		C-ELEC 35V 4.7UF	1
C418		C-TANTALUM 16V 4.7UF	1
		C-TANTALUM 16V 10UF	1
C504			
C555	C557	C-TANTALUM 35V 1UF	1
		C-TANTLM 25V 3.3UF	2

BLOCK DIAGRAM

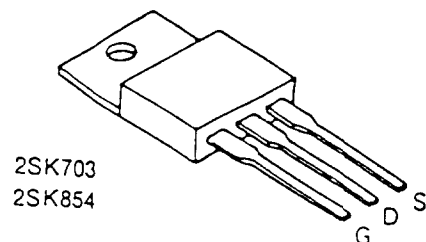




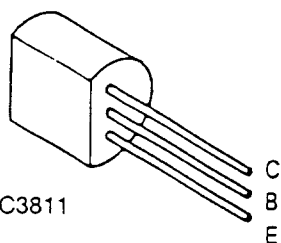
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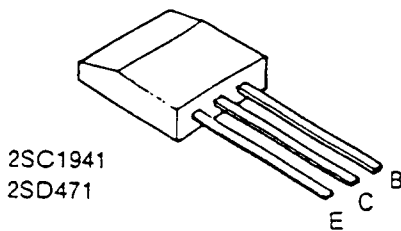
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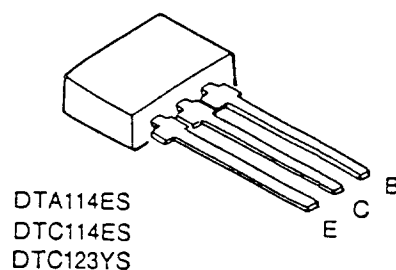
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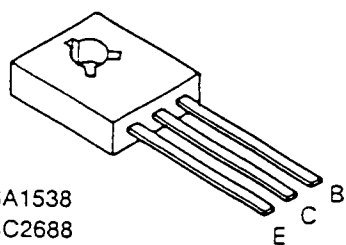
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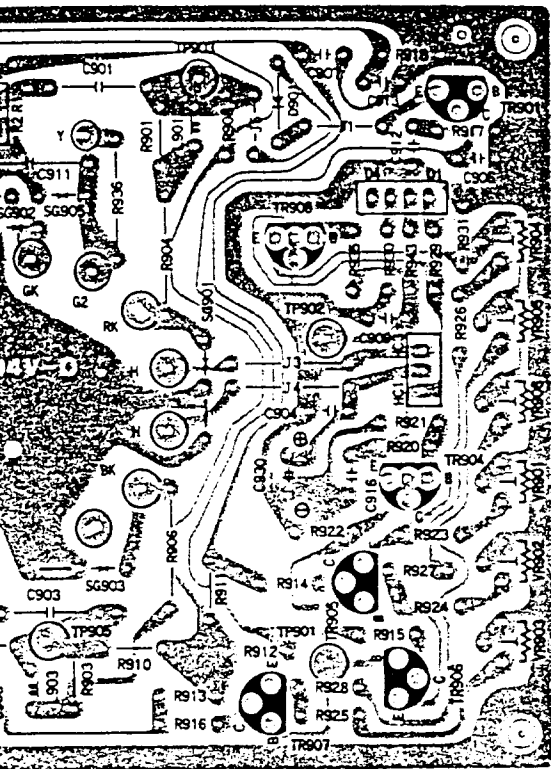
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DTC123YS



2SA1538
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2SC3953

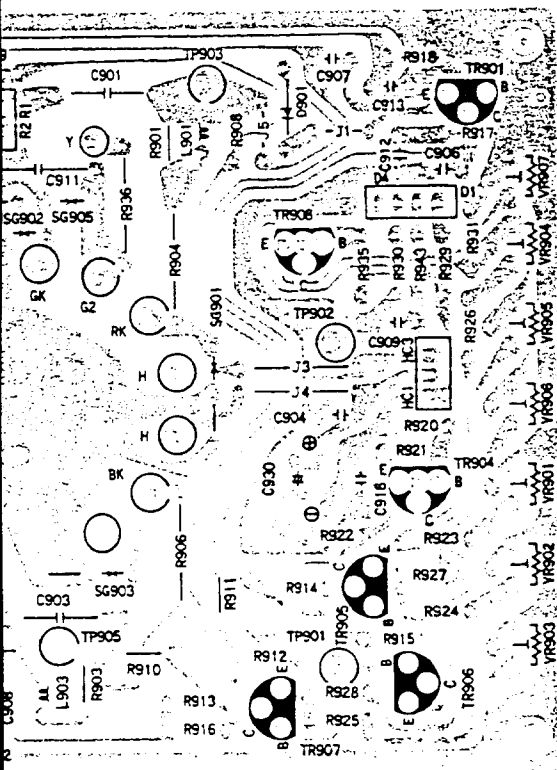
NOTE:

E: EMITTER
B: BASE
C: COLLECTOR
G: GATE
D: DRAIN
S: SOURCE



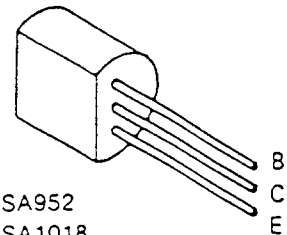
PWB ASSY (PWE-203)

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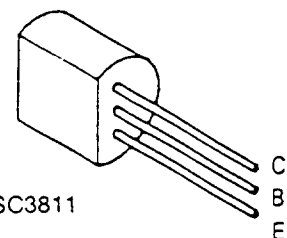


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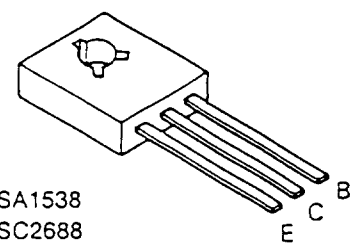
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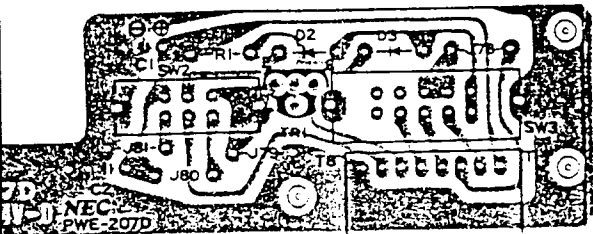
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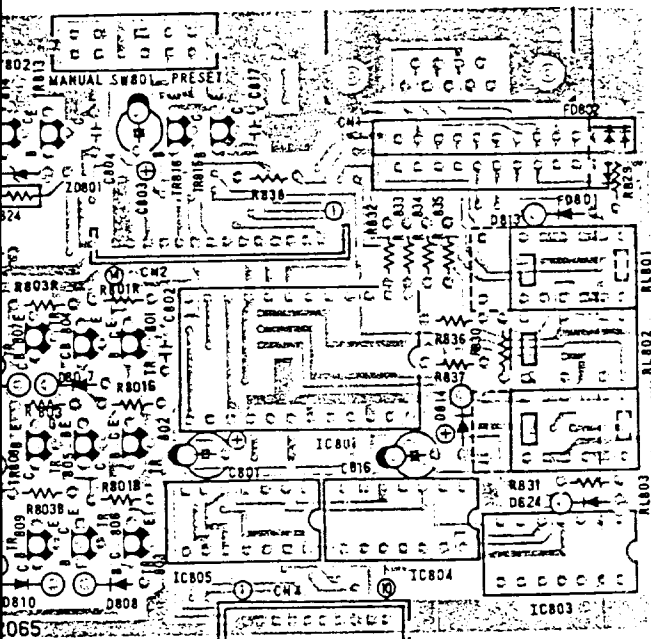


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2SC3502
2SC3953



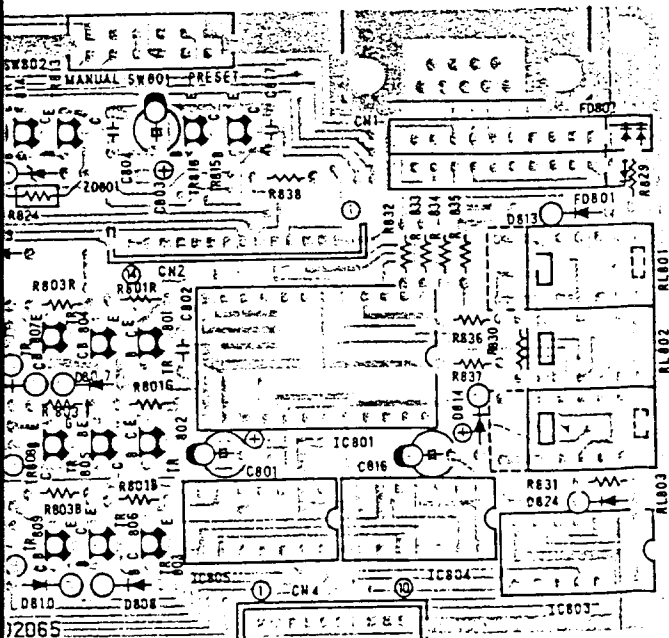
PWE-207D)

de—

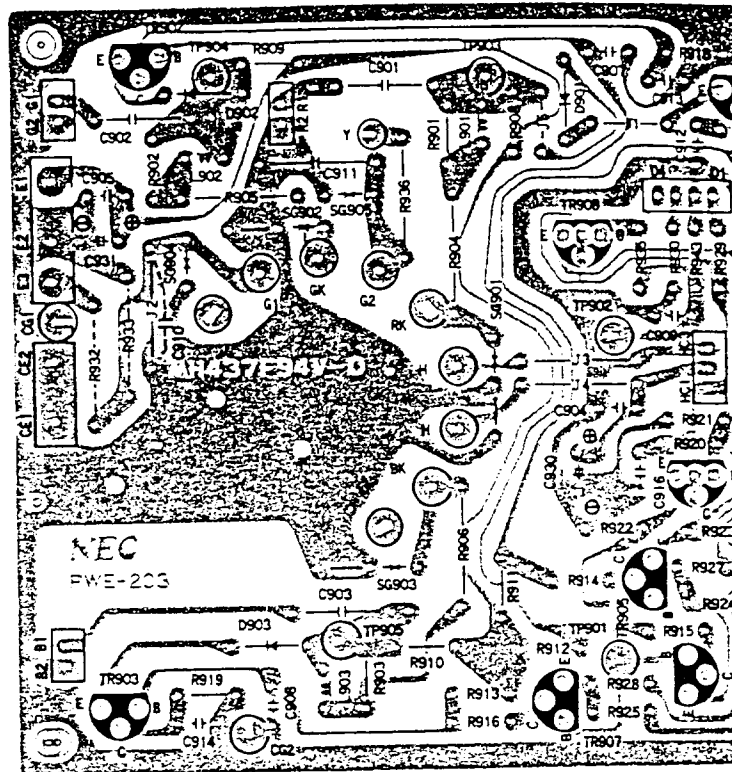


(PWE-206)

side—

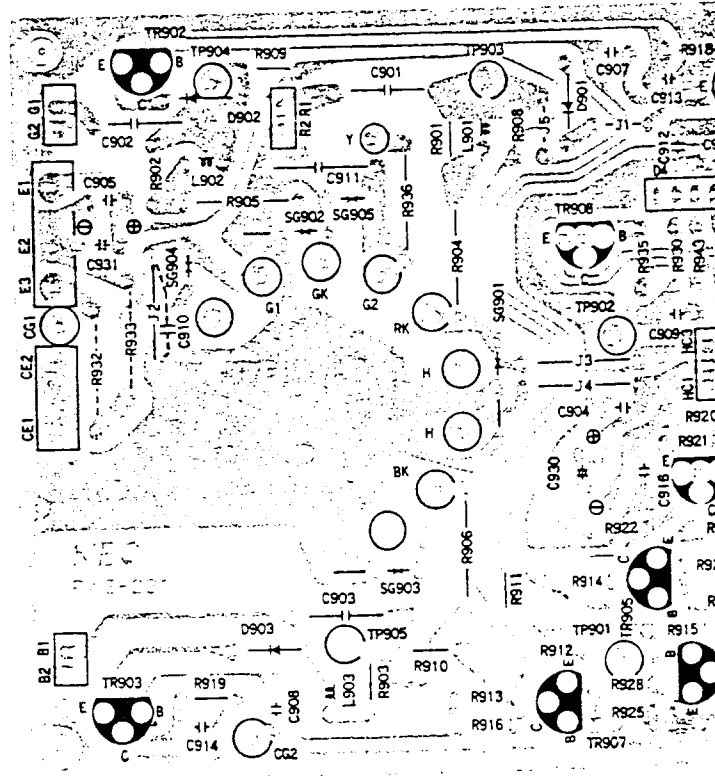


e-side components



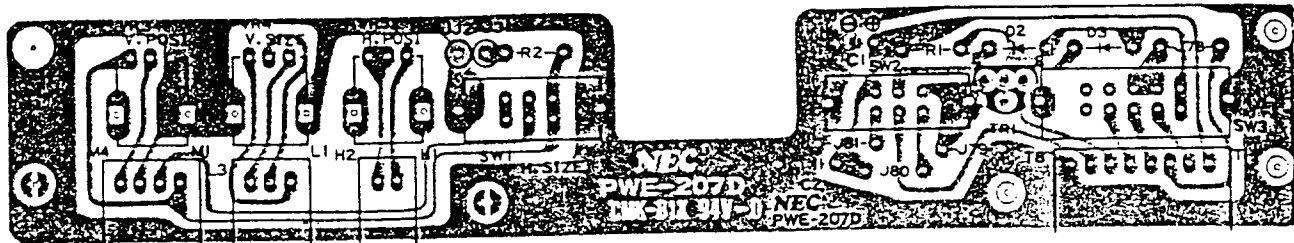
CRT PWB ASSY (PWE-203)

—Solder Side—

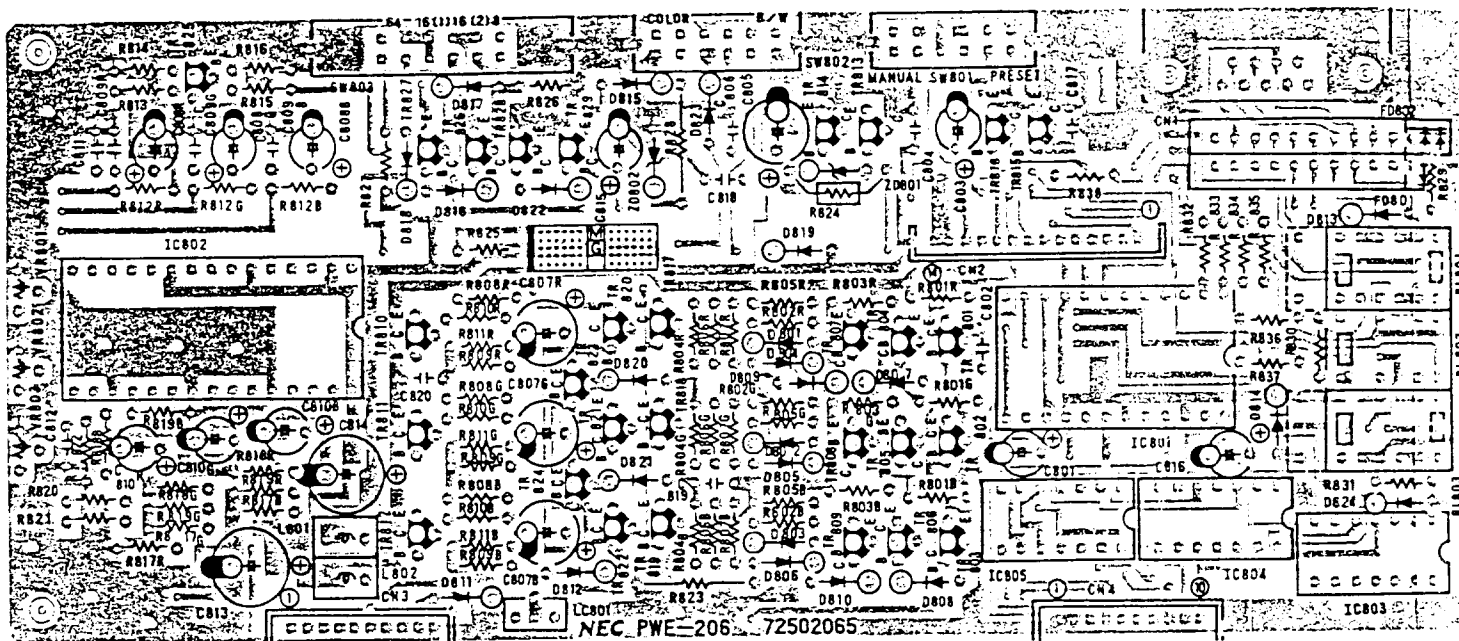


CRT PWB ASSY (PWE-231)

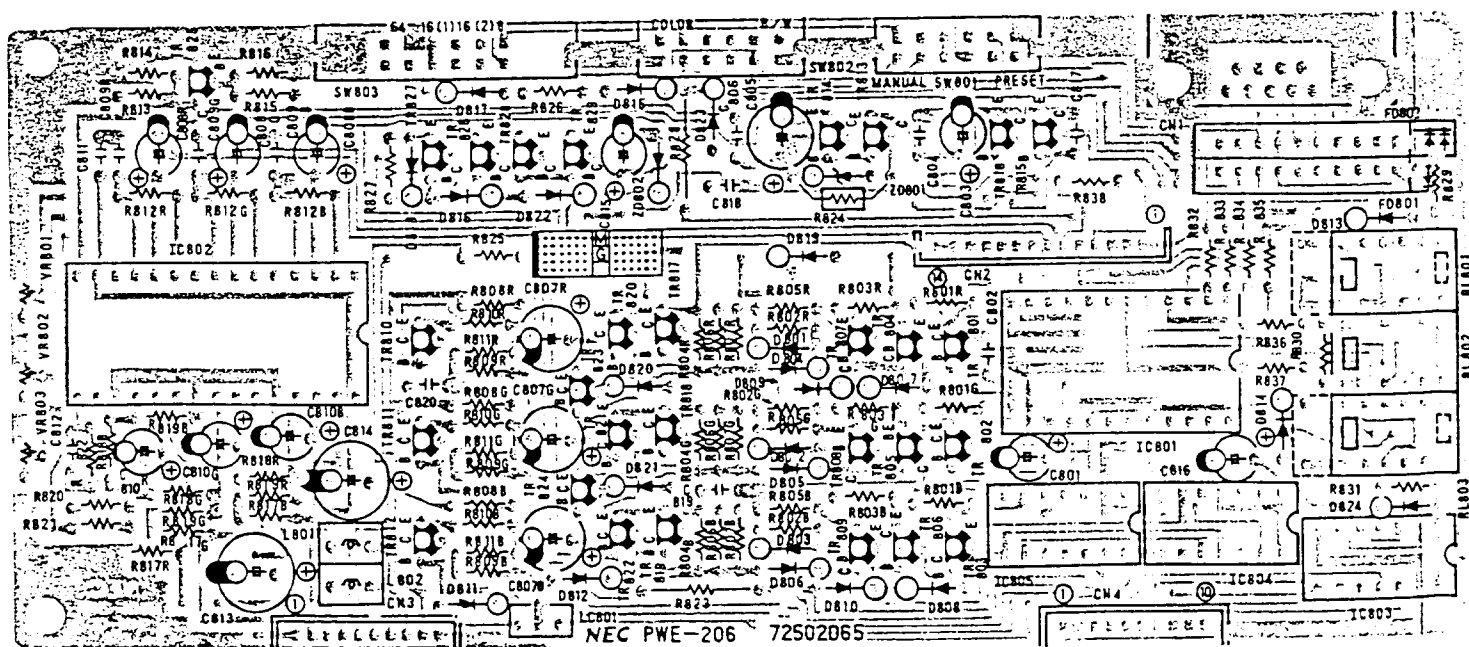
—Solder Side—



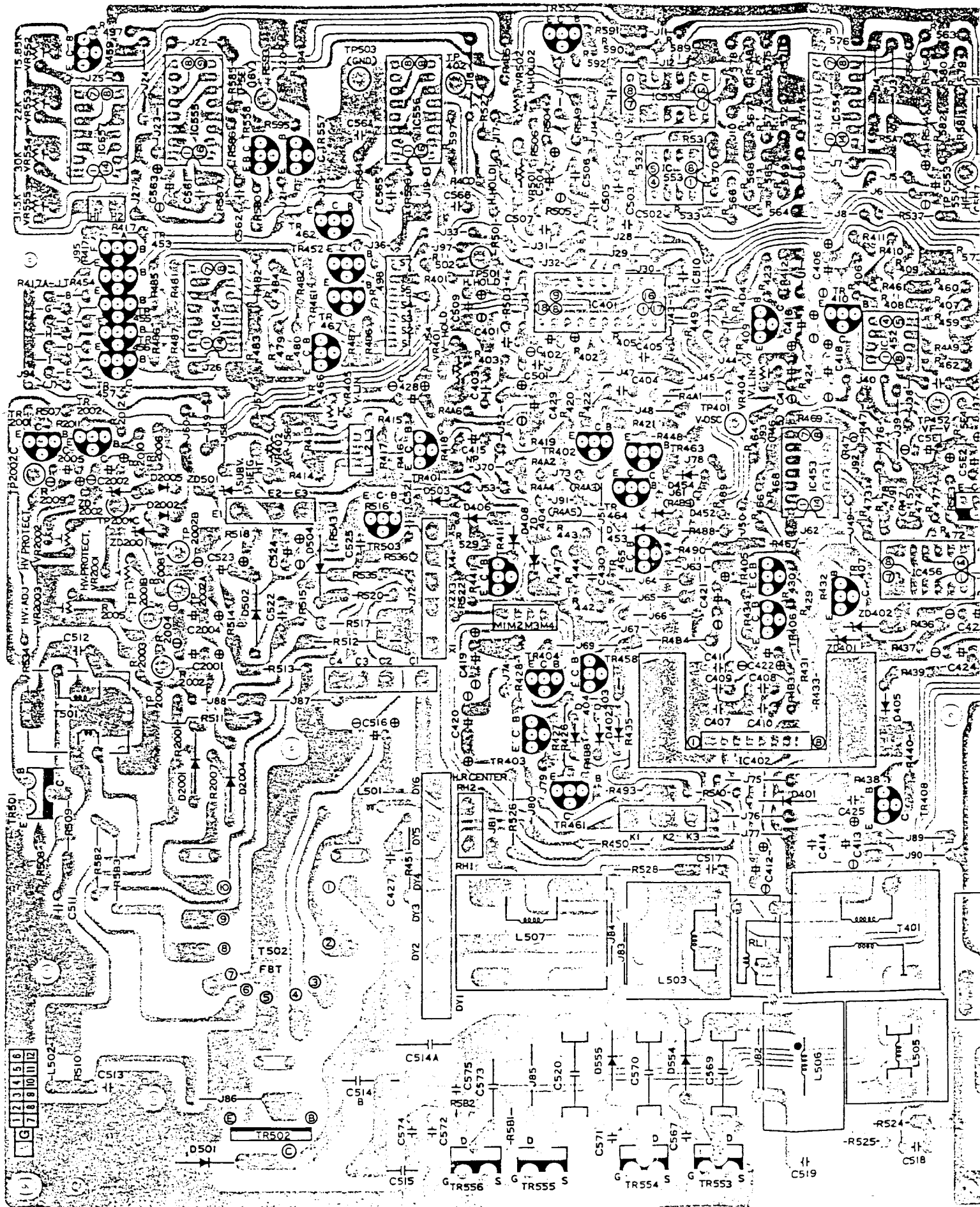
VR PWB ASSY (PWE-207D)
—Solder Side—



INPUT PWB ASSY (PWE-206)
—Component Side—

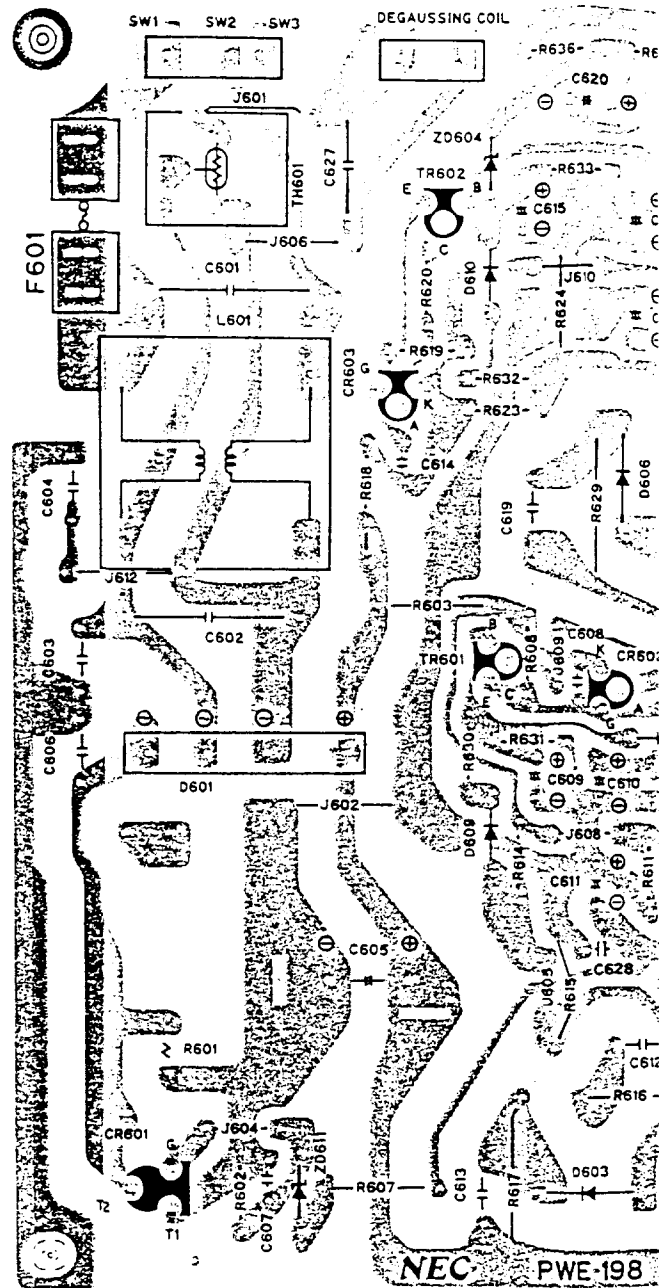
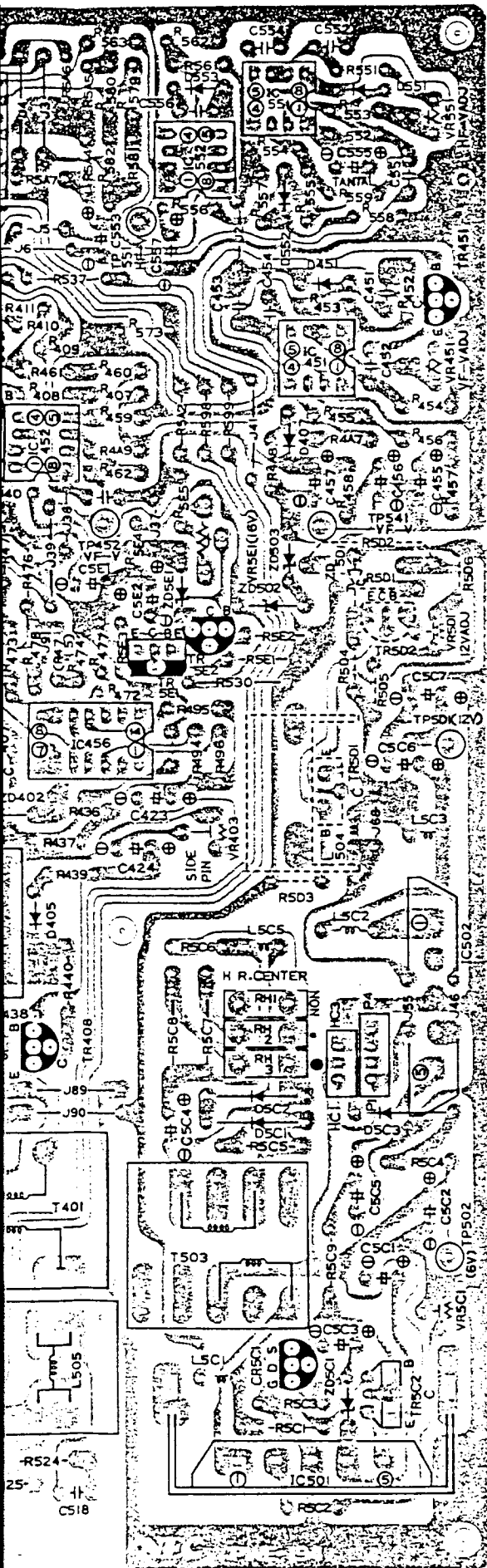


PRINTED WIRING BOARDS

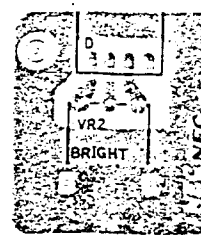
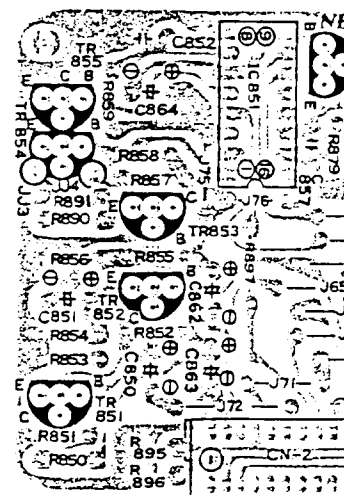
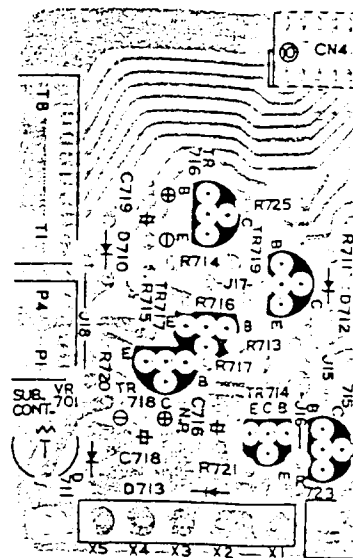
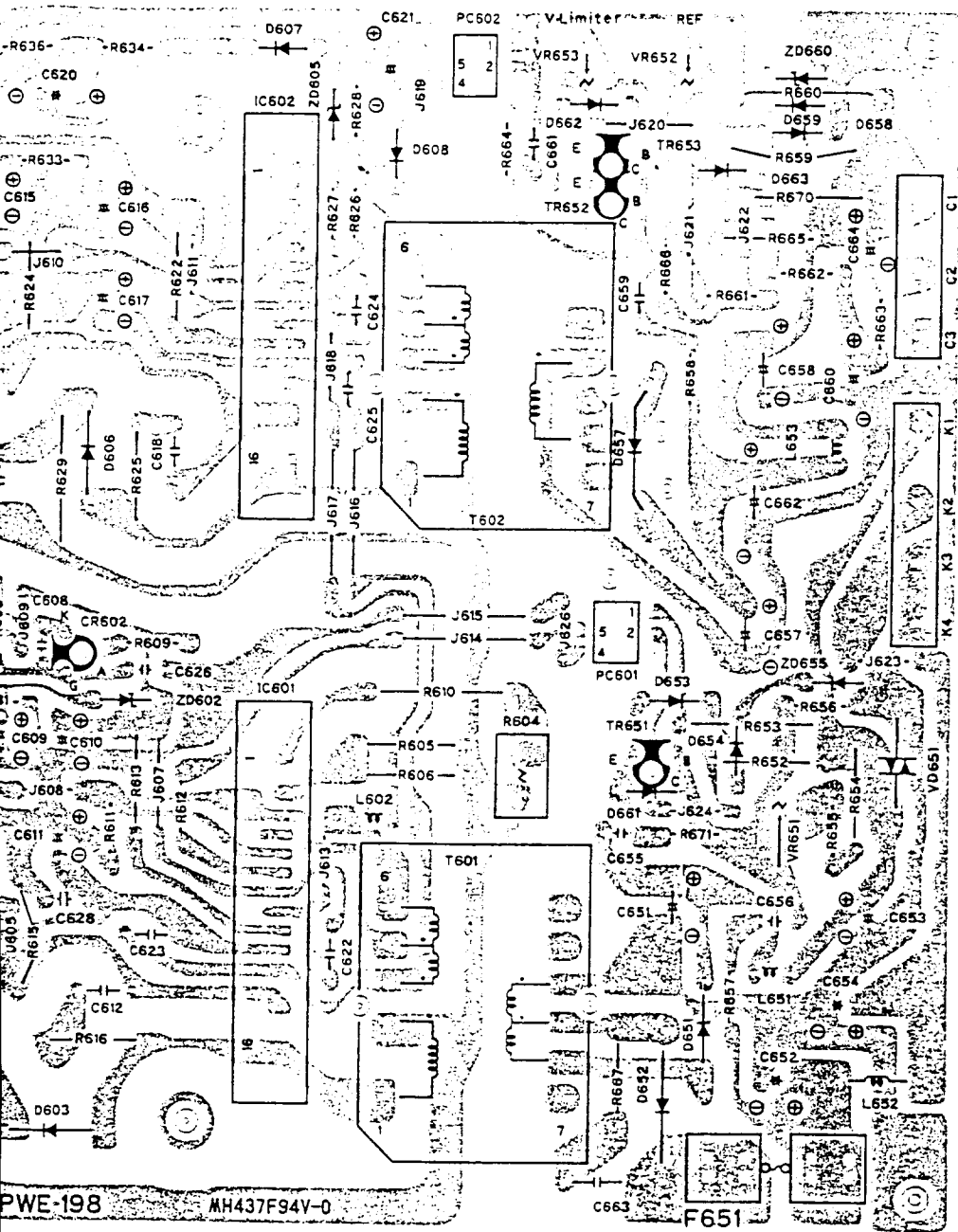


DEFLECTION PWB ASSY (PWE-194)

—Solder Side—

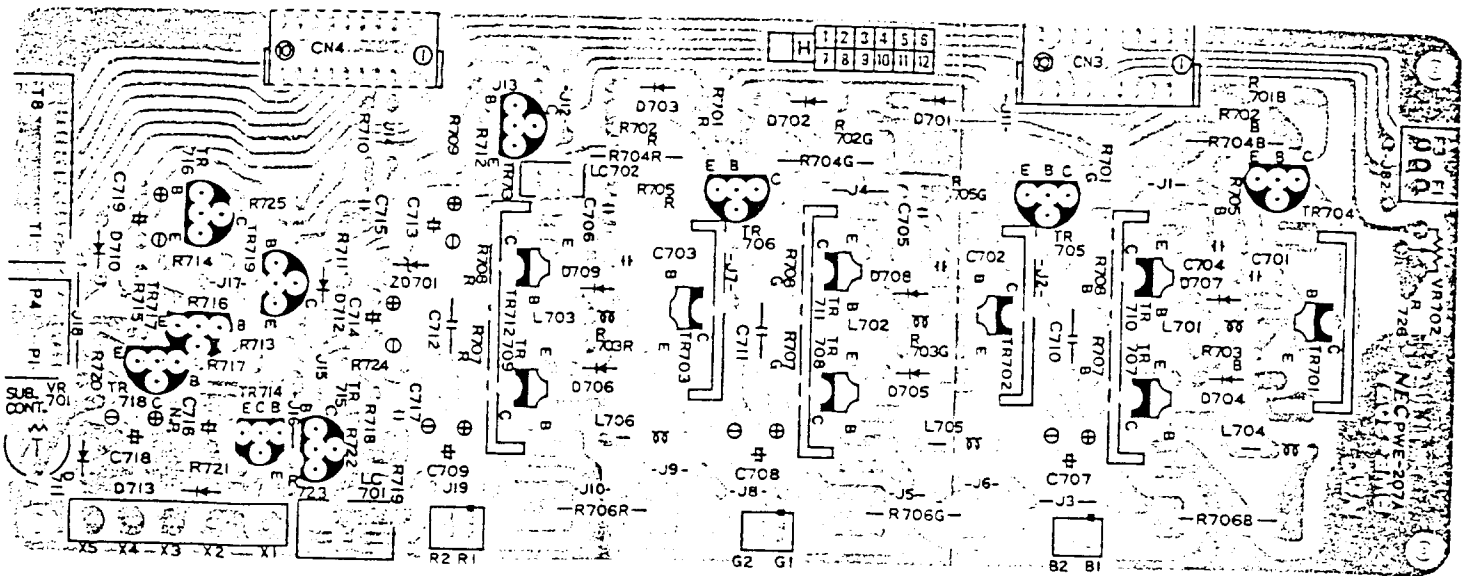


SWITCHING REGULATOR

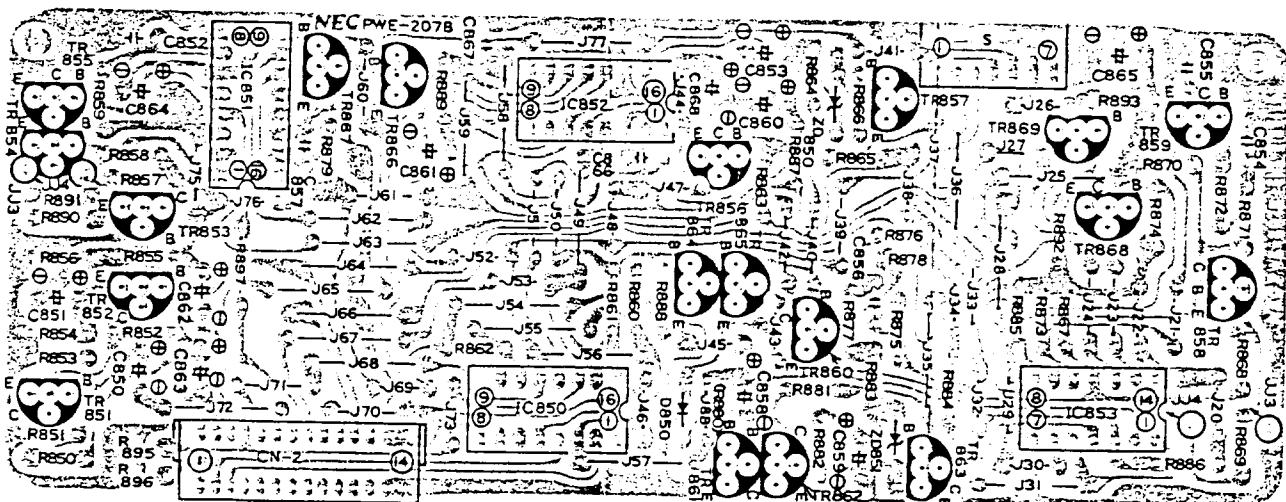


ATOR POWER SUPPLY PWB ASSY (PWE-198)
—Solder Side—

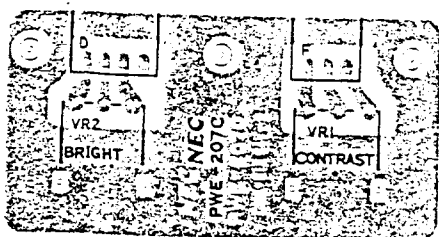
CONTROL PWB



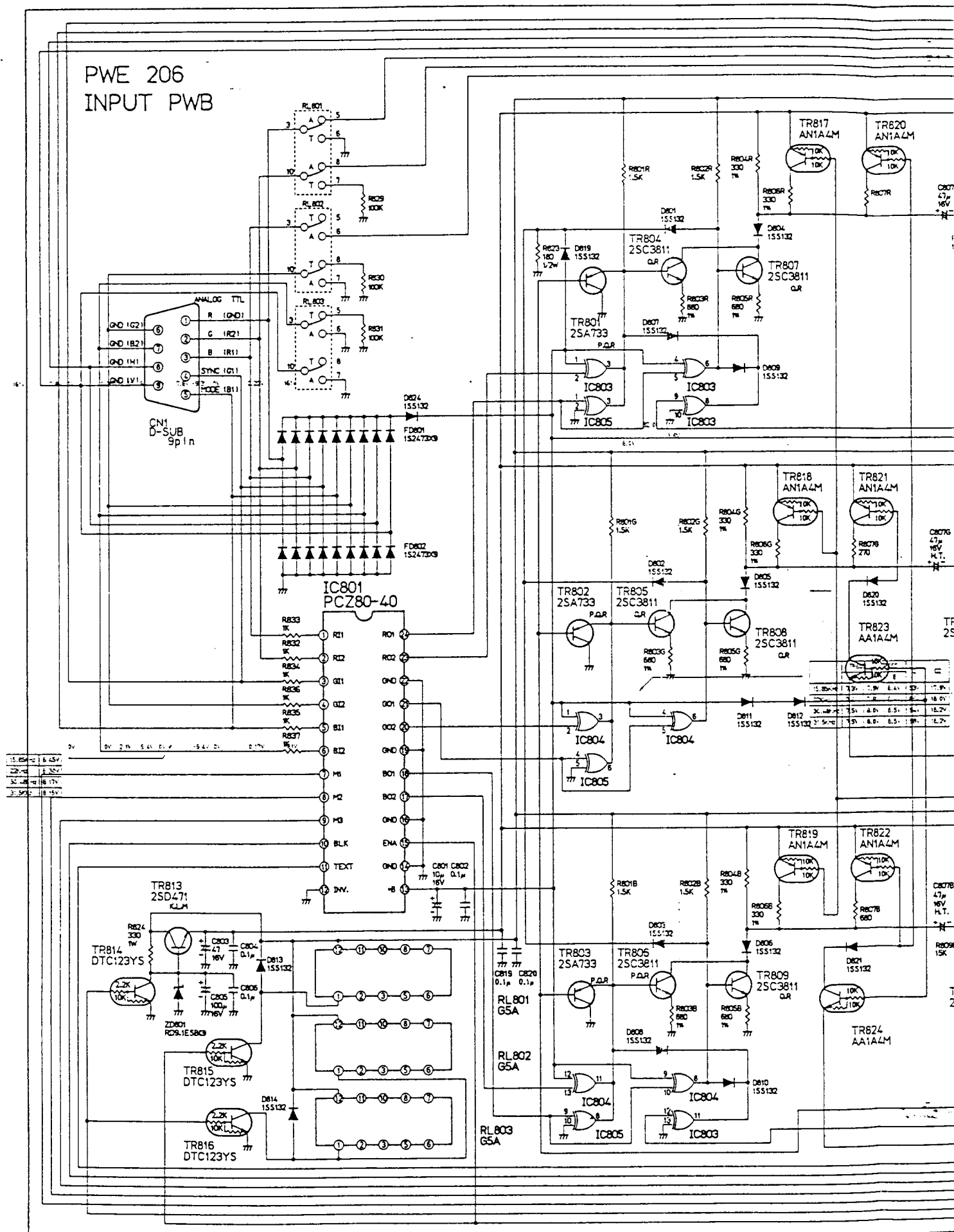
VIDEO PWB ASSY (PWE-207A)
—Solder Side—

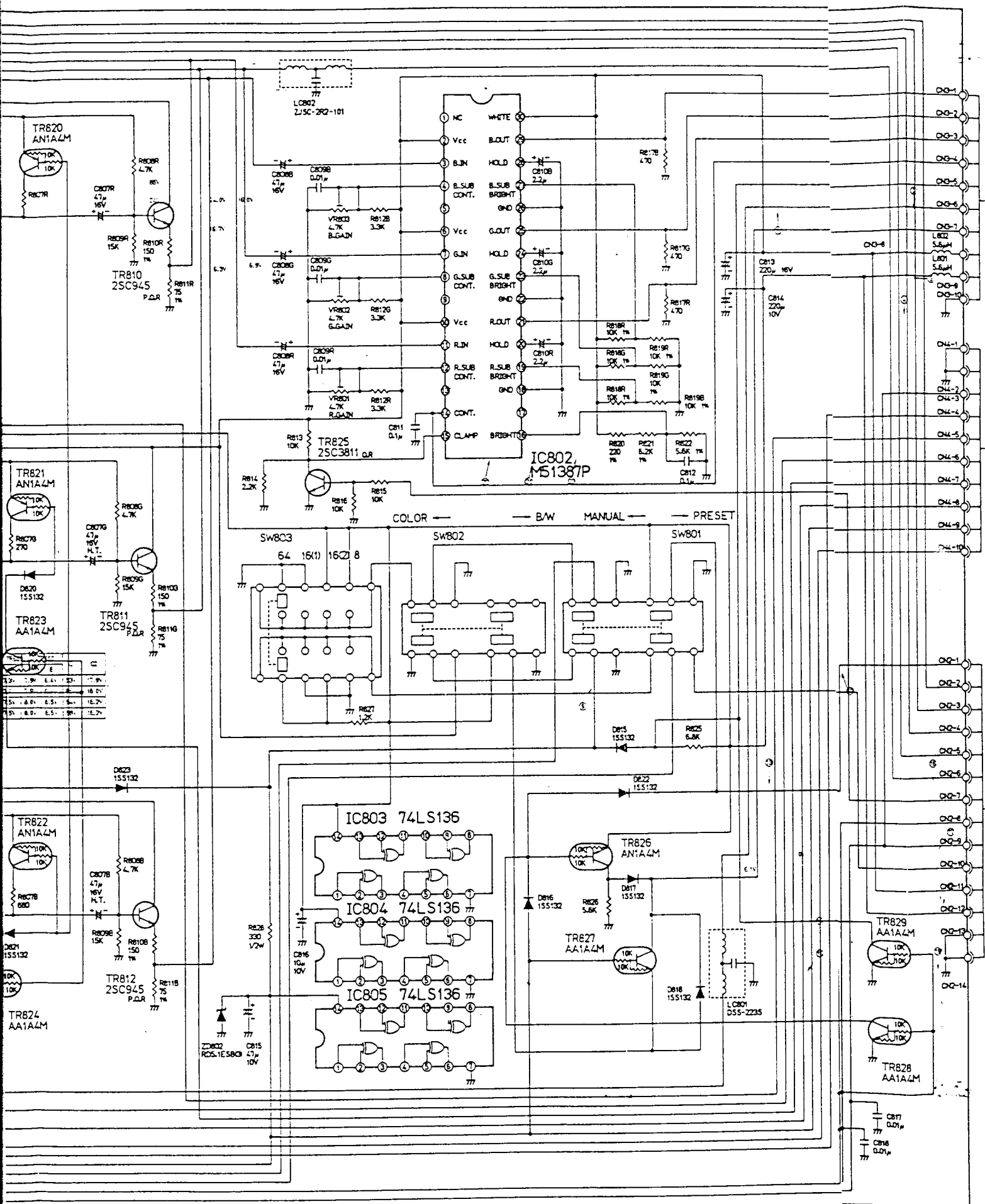


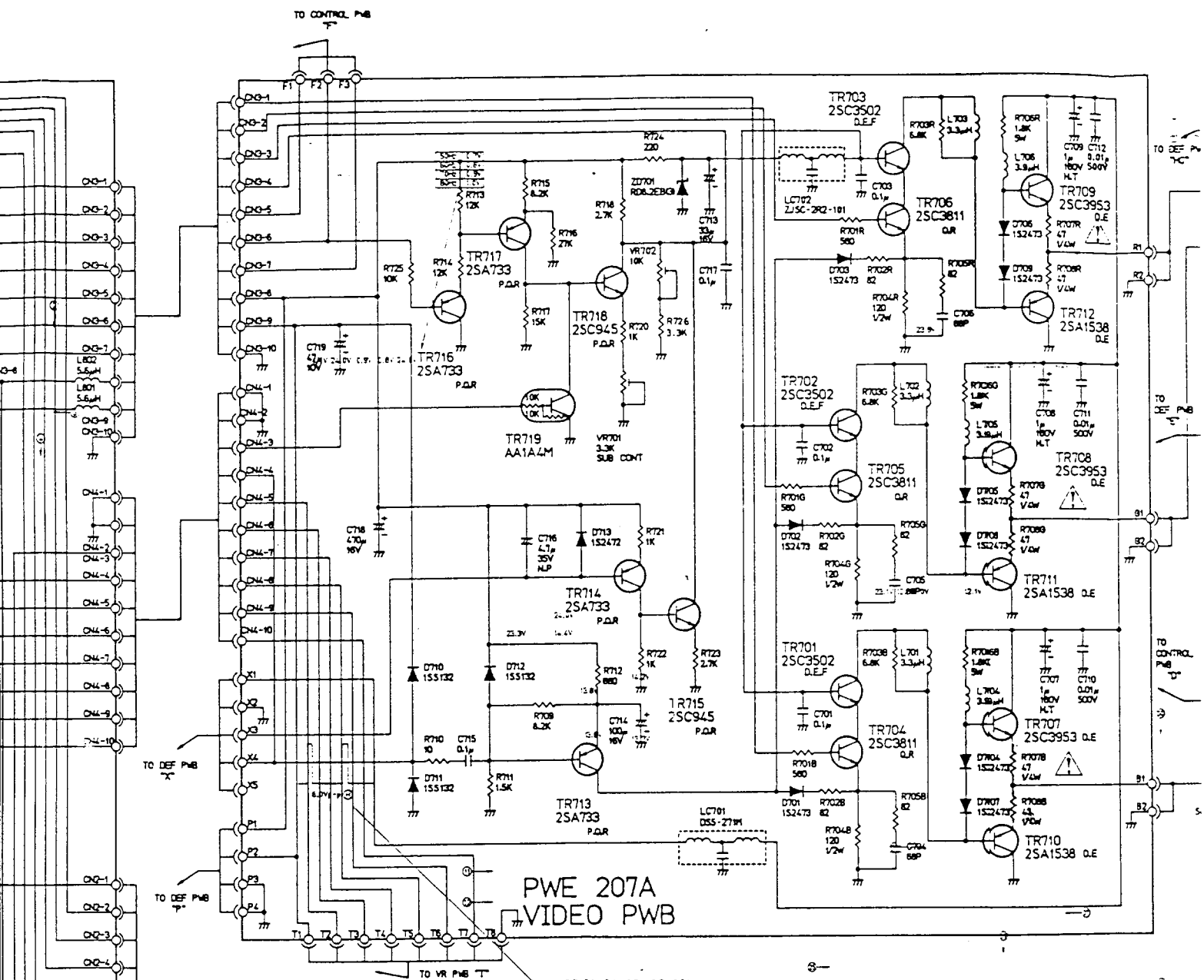
INTERFACE PWB ASSY (PWE 207B)
—Solder side—

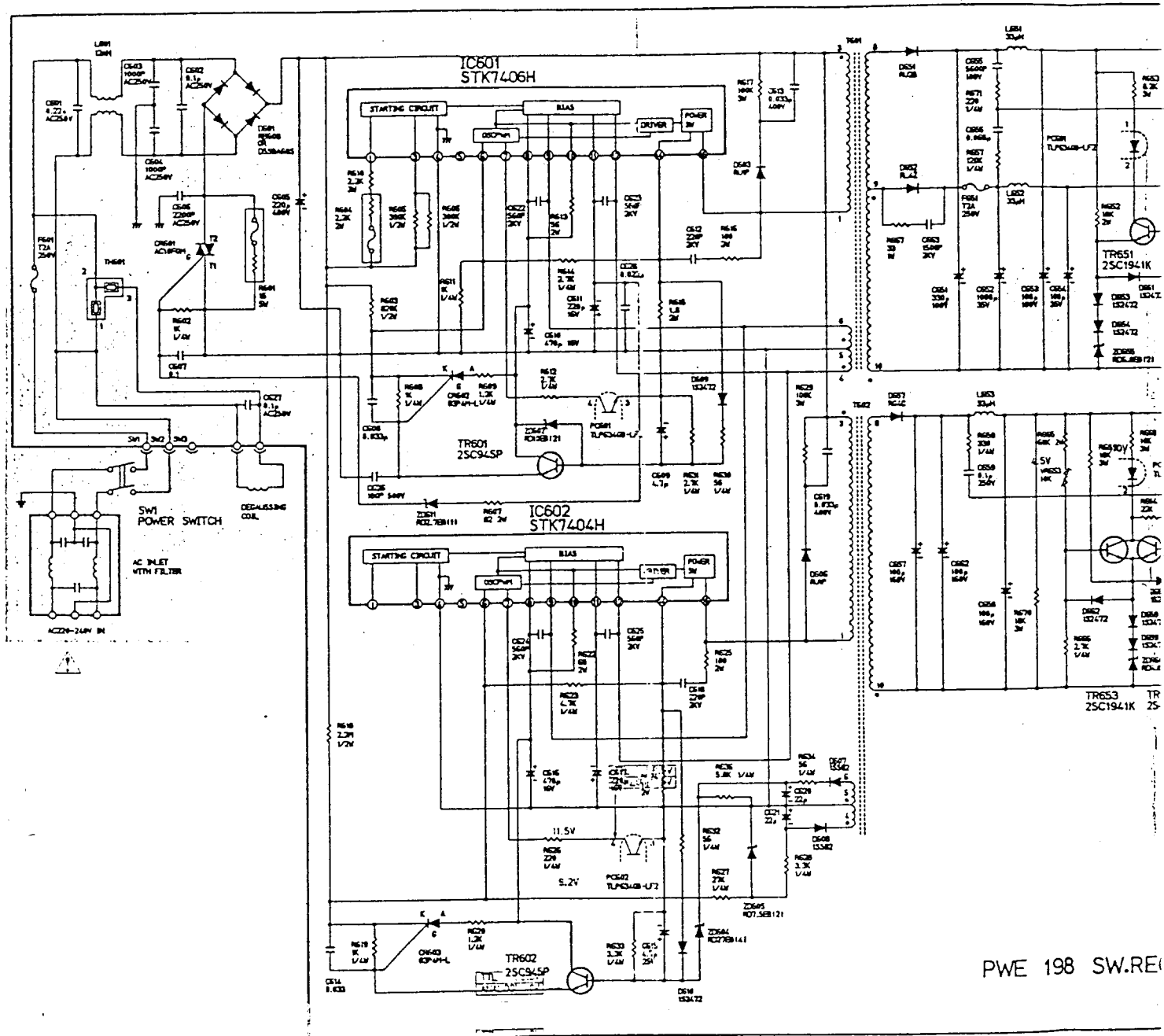


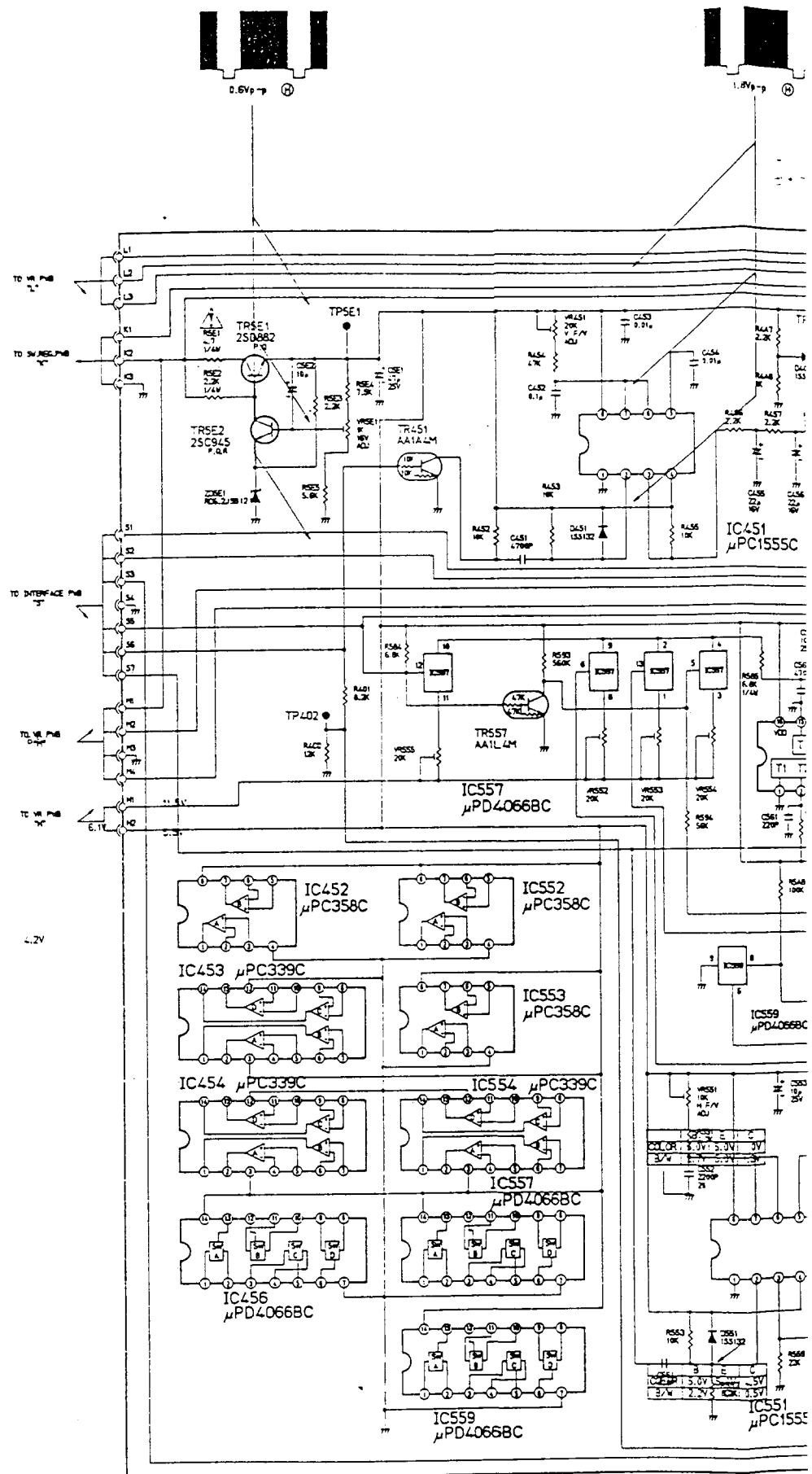
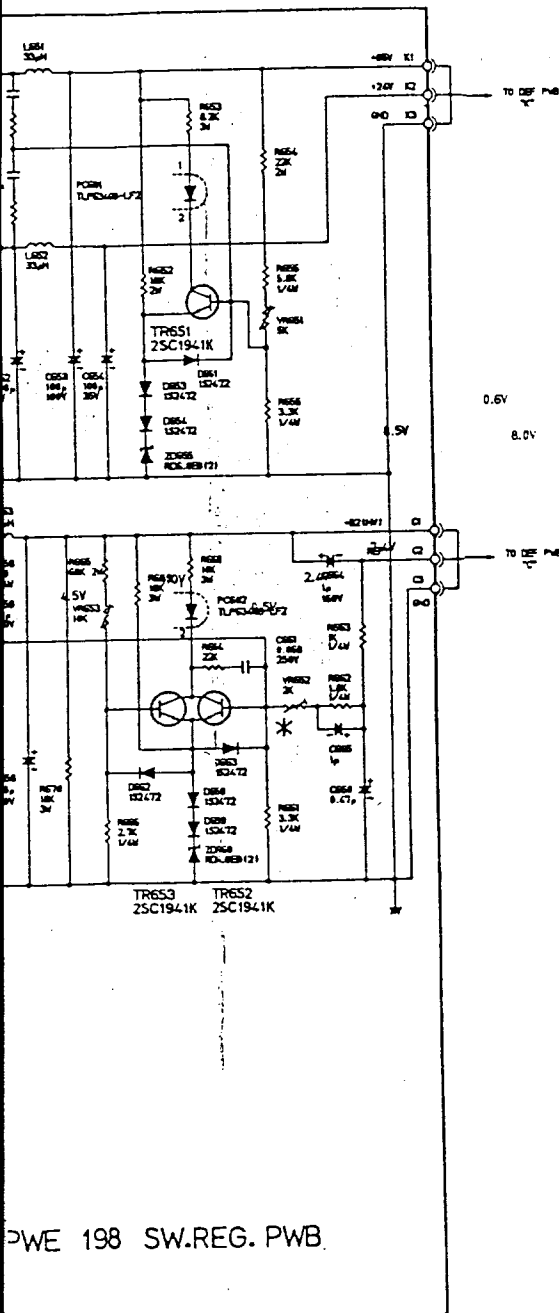
CONTROL PWB ASSY (PWE-207C)
—Solder Side—

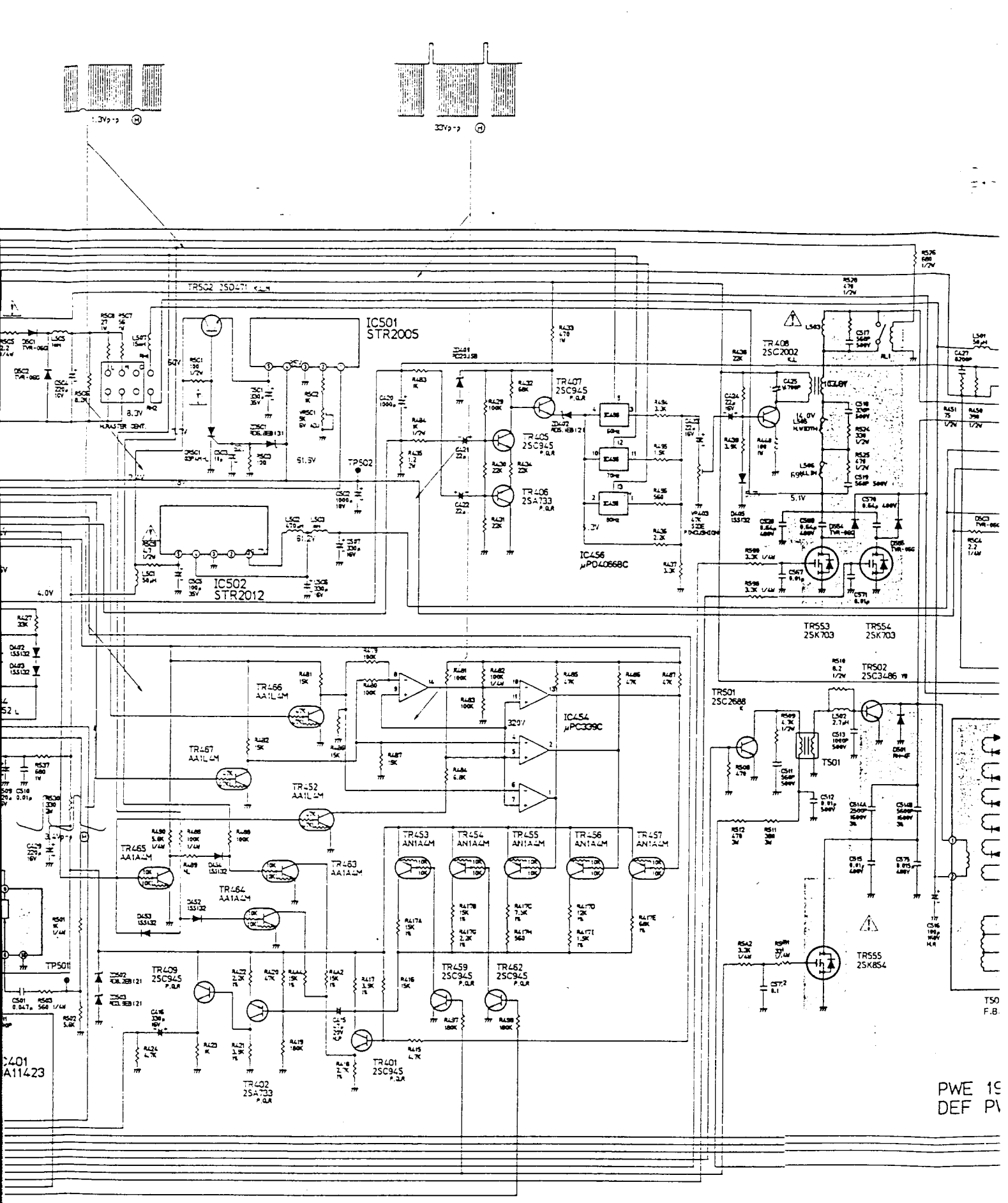












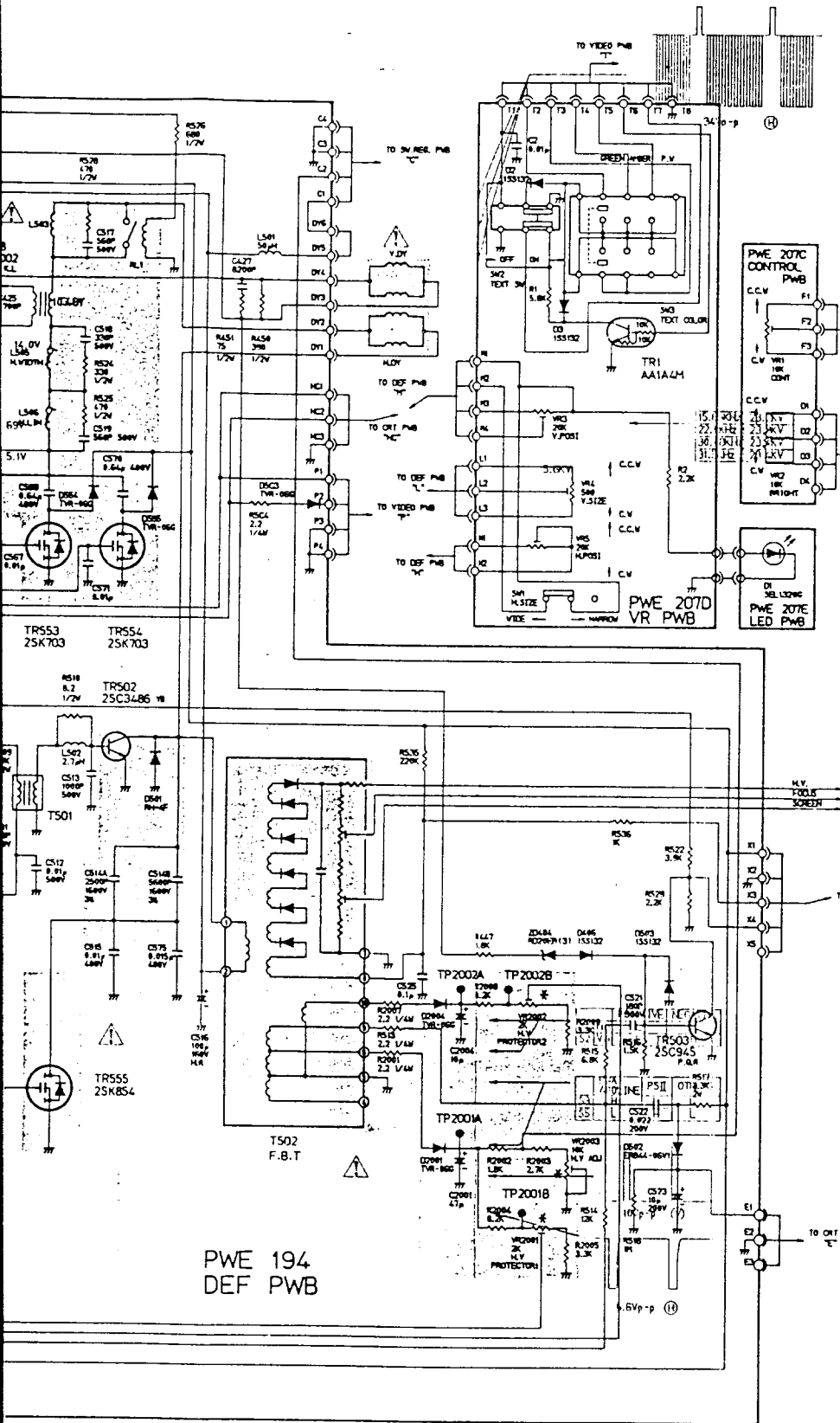
INPUT PWB

TEST	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
TEST	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

TEST	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
TEST	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

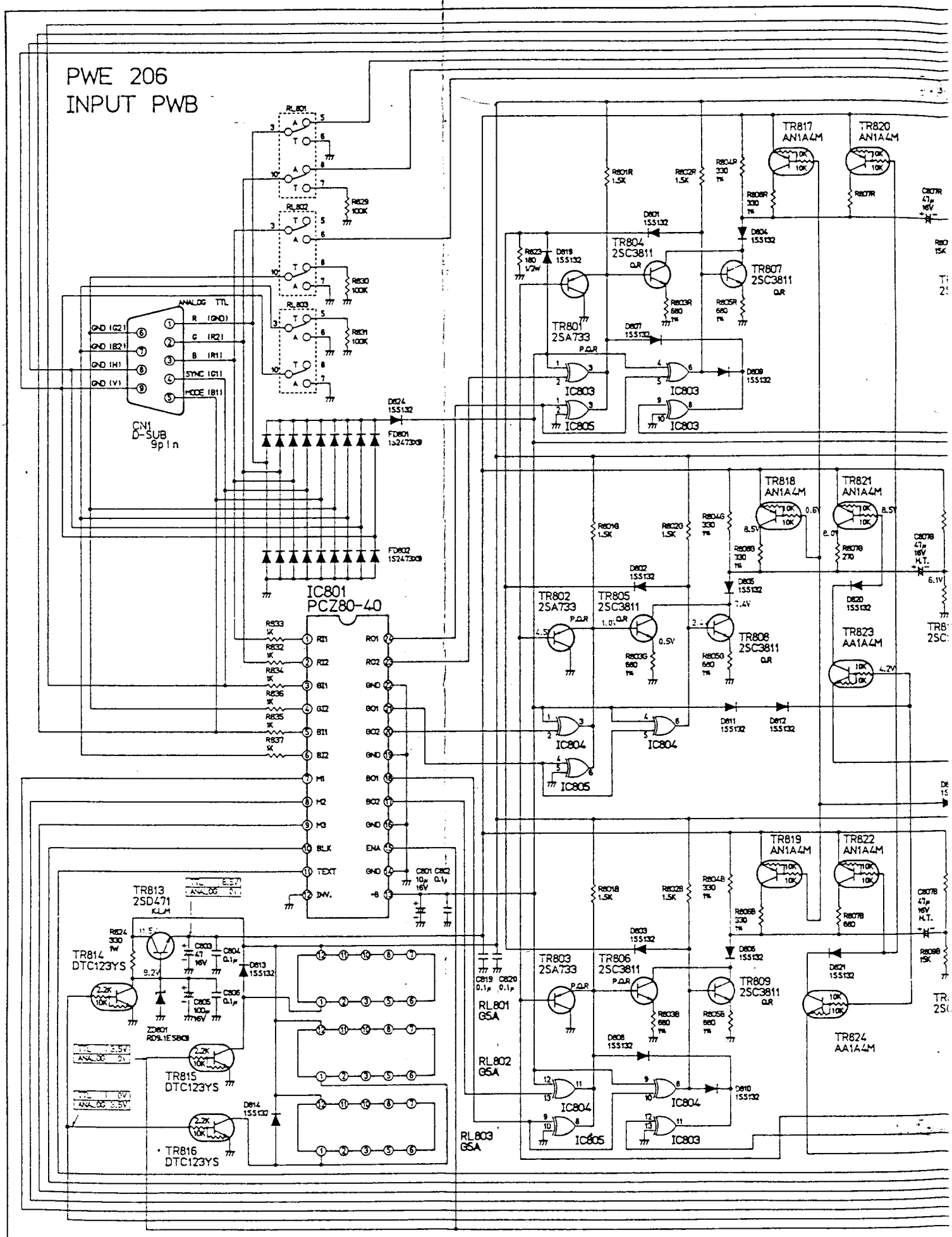
INPUT VIDEO SIGNAL
TR. 14000000 HZ
ALL INPUTS HIGH INTENSITY
H. SYNC 220000

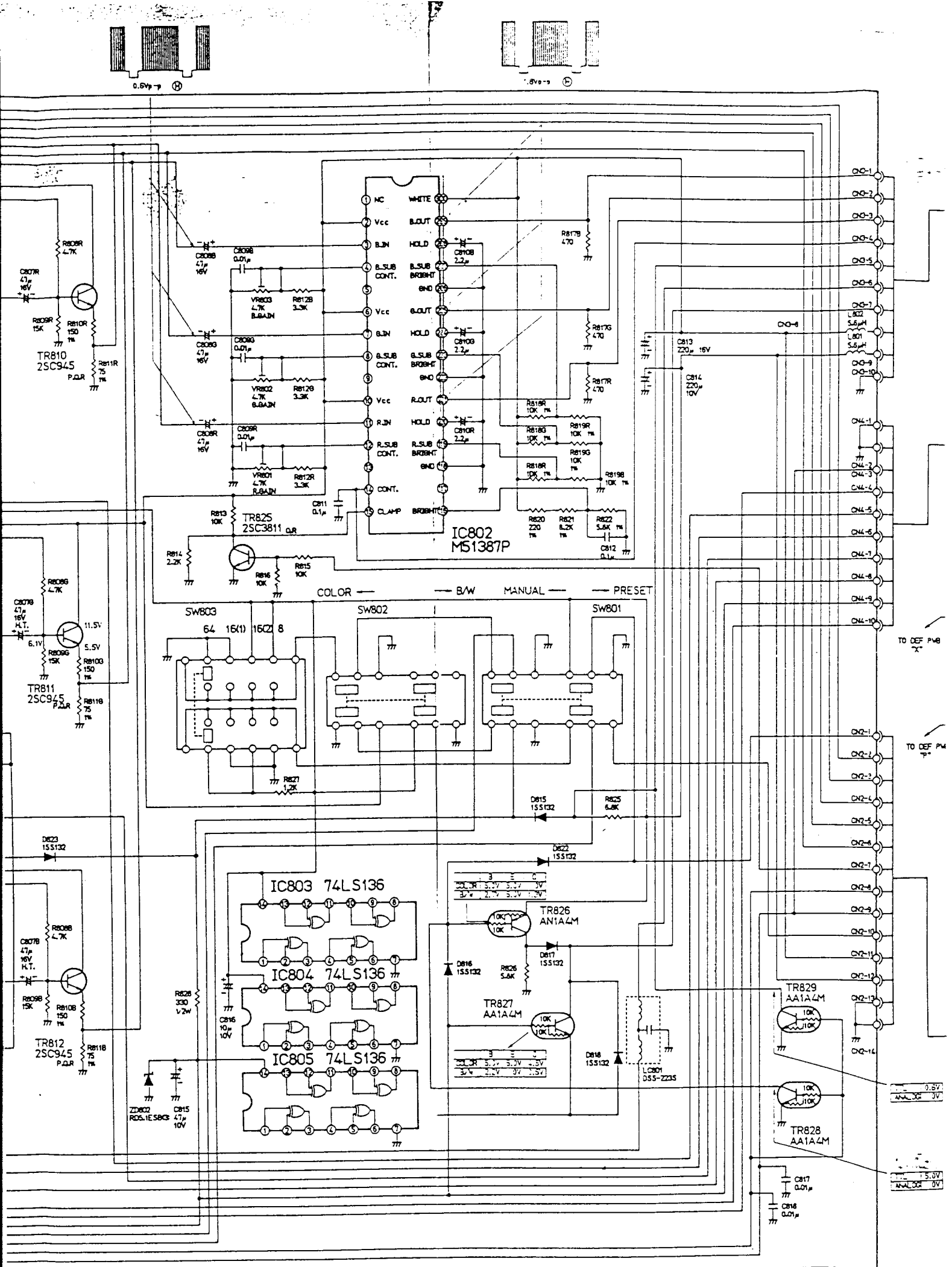
TEST	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
TEST	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

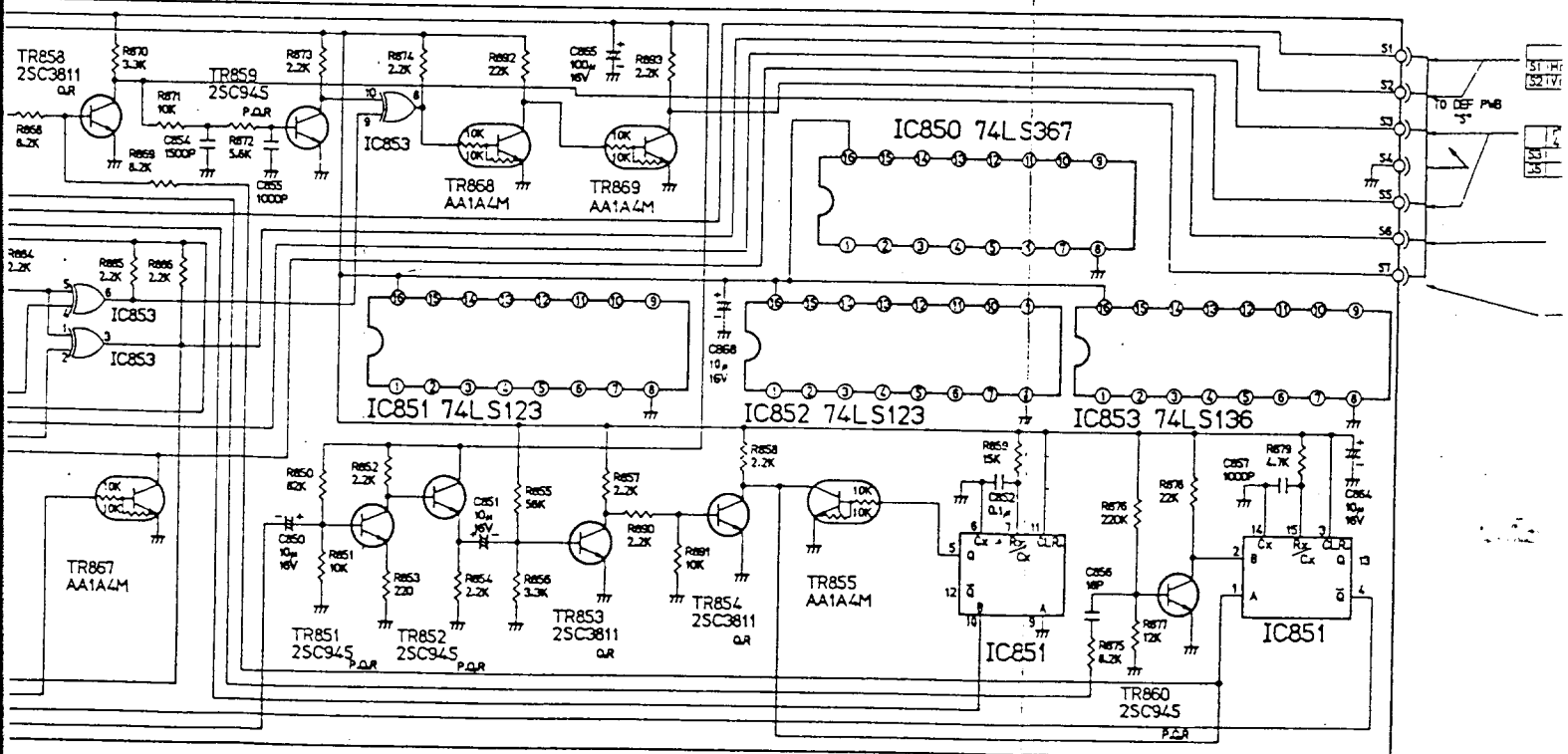
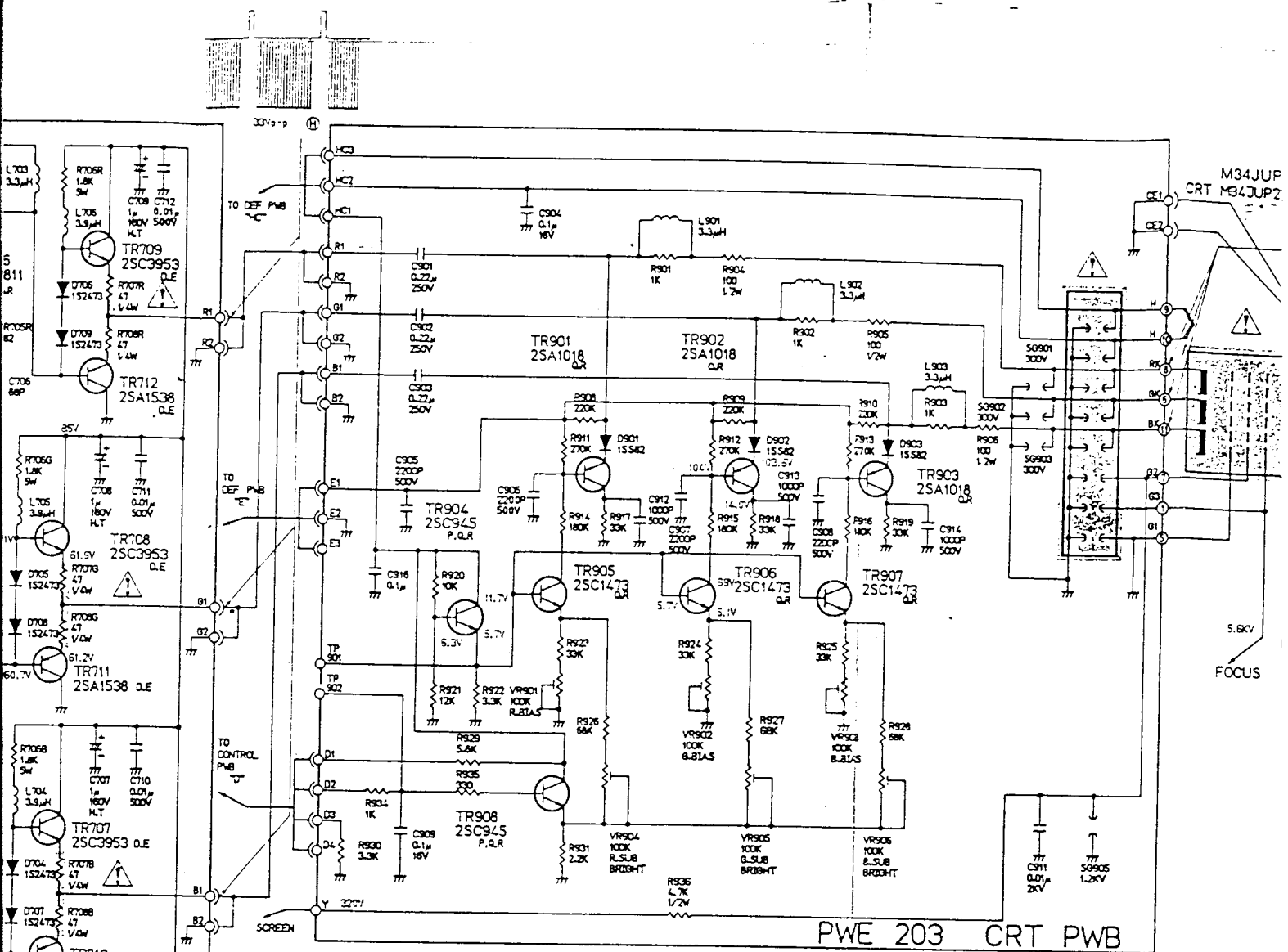


PWE 194
DEF PWB

PWE 206
INPUT PWB

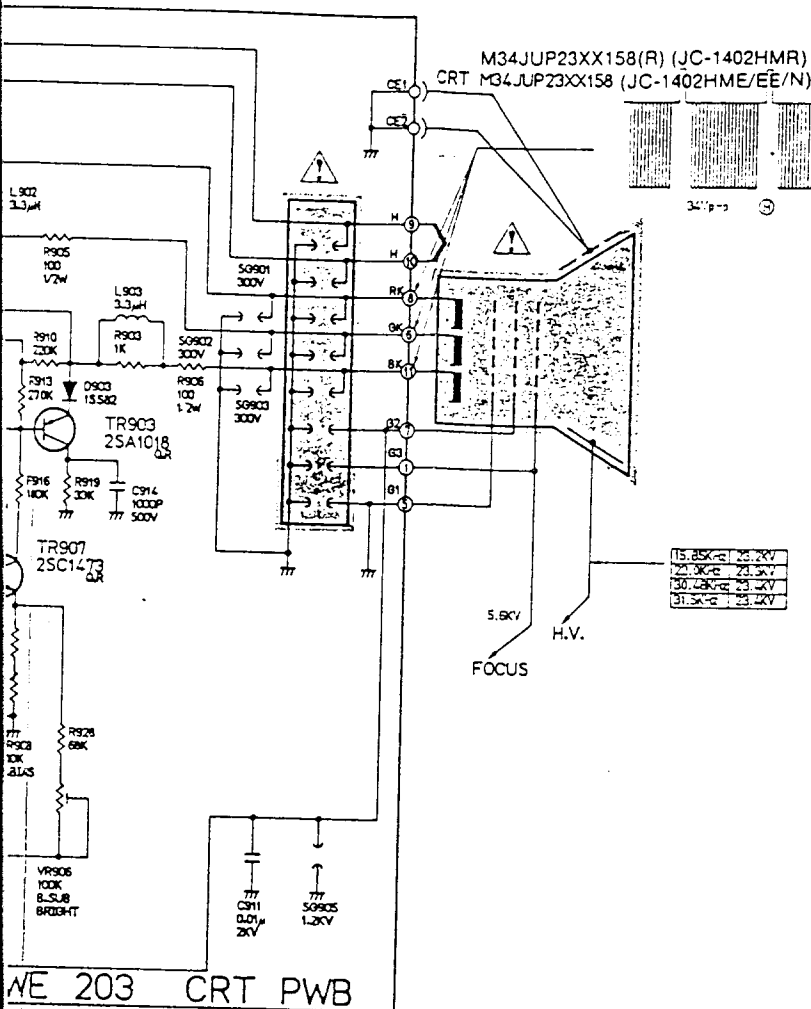






INPUT PWB

RUN NO.1



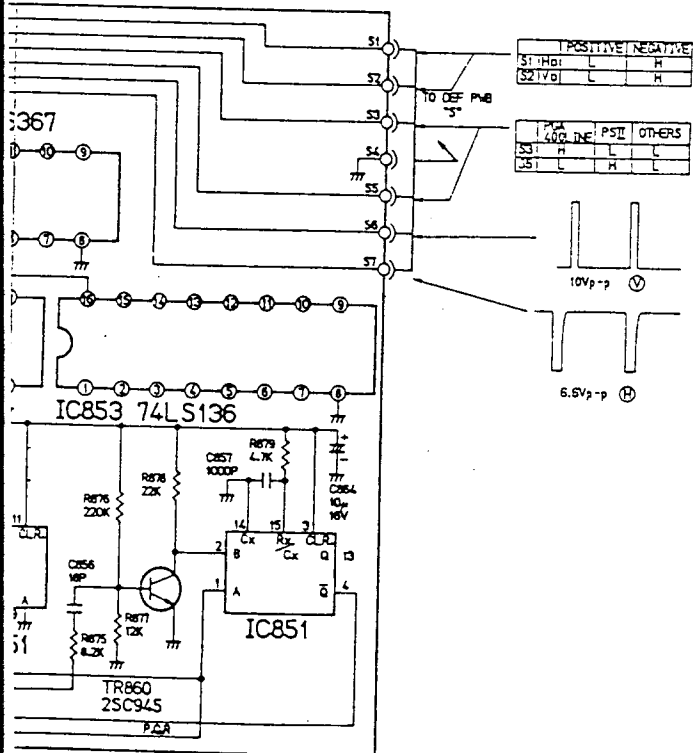
T0801		T0802		T0803		T0804		T0805	
1	2.0V	2	0.2V	3	0.2V	4	0.2V	5	0.2V
6	0.2V	7	0.2V	8	0.2V	9	0.2V	10	0.2V
11	0.2V	12	0.2V	13	0.2V	14	0.2V	15	0.2V
16	0.2V	17	0.2V	18	0.2V	19	0.2V	20	0.2V
21	0.2V	22	0.2V	23	0.2V	24	0.2V	25	0.2V
26	0.2V	27	0.2V	28	0.2V	29	0.2V	30	0.2V
31	0.2V	32	0.2V	33	0.2V	34	0.2V	35	0.2V
36	0.2V	37	0.2V	38	0.2V	39	0.2V	40	0.2V
41	0.2V	42	0.2V	43	0.2V	44	0.2V	45	0.2V
46	0.2V	47	0.2V	48	0.2V	49	0.2V	50	0.2V
51	0.2V	52	0.2V	53	0.2V	54	0.2V	55	0.2V
56	0.2V	57	0.2V	58	0.2V	59	0.2V	60	0.2V
61	0.2V	62	0.2V	63	0.2V	64	0.2V	65	0.2V
66	0.2V	67	0.2V	68	0.2V	69	0.2V	70	0.2V
71	0.2V	72	0.2V	73	0.2V	74	0.2V	75	0.2V
76	0.2V	77	0.2V	78	0.2V	79	0.2V	80	0.2V
81	0.2V	82	0.2V	83	0.2V	84	0.2V	85	0.2V
86	0.2V	87	0.2V	88	0.2V	89	0.2V	90	0.2V
91	0.2V	92	0.2V	93	0.2V	94	0.2V	95	0.2V
96	0.2V	97	0.2V	98	0.2V	99	0.2V	100	0.2V

1	0.2V	2	0.2V	3	0.2V	4	0.2V	5	0.2V
6	0.2V	7	0.2V	8	0.2V	9	0.2V	10	0.2V
11	0.2V	12	0.2V	13	0.2V	14	0.2V	15	0.2V
16	0.2V	17	0.2V	18	0.2V	19	0.2V	20	0.2V
21	0.2V	22	0.2V	23	0.2V	24	0.2V	25	0.2V
26	0.2V	27	0.2V	28	0.2V	29	0.2V	30	0.2V
31	0.2V	32	0.2V	33	0.2V	34	0.2V	35	0.2V
36	0.2V	37	0.2V	38	0.2V	39	0.2V	40	0.2V
41	0.2V	42	0.2V	43	0.2V	44	0.2V	45	0.2V
46	0.2V	47	0.2V	48	0.2V	49	0.2V	50	0.2V
51	0.2V	52	0.2V	53	0.2V	54	0.2V	55	0.2V
56	0.2V	57	0.2V	58	0.2V	59	0.2V	60	0.2V
61	0.2V	62	0.2V	63	0.2V	64	0.2V	65	0.2V
66	0.2V	67	0.2V	68	0.2V	69	0.2V	70	0.2V
71	0.2V	72	0.2V	73	0.2V	74	0.2V	75	0.2V
76	0.2V	77	0.2V	78	0.2V	79	0.2V	80	0.2V
81	0.2V	82	0.2V	83	0.2V	84	0.2V	85	0.2V
86	0.2V	87	0.2V	88	0.2V	89	0.2V	90	0.2V
91	0.2V	92	0.2V	93	0.2V	94	0.2V	95	0.2V
96	0.2V	97	0.2V	98	0.2V	99	0.2V	100	0.2V

INPUT VIDEO SIGNAL
TTL SCHEMATIC
ALL INPUTS 100% TESTED
H.S. MC 22K-2

T0801		T0802		T0803		T0804		T0805	
1	0.2V	2	0.2V	3	0.2V	4	0.2V	5	0.2V
6	0.2V	7	0.2V	8	0.2V	9	0.2V	10	0.2V
11	0.2V	12	0.2V	13	0.2V	14	0.2V	15	0.2V
16	0.2V	17	0.2V	18	0.2V	19	0.2V	20	0.2V
21	0.2V	22	0.2V	23	0.2V	24	0.2V	25	0.2V
26	0.2V	27	0.2V	28	0.2V	29	0.2V	30	0.2V
31	0.2V	32	0.2V	33	0.2V	34	0.2V	35	0.2V
36	0.2V	37	0.2V	38	0.2V	39	0.2V	40	0.2V
41	0.2V	42	0.2V	43	0.2V	44	0.2V	45	0.2V
46	0.2V	47	0.2V	48	0.2V	49	0.2V	50	0.2V
51	0.2V	52	0.2V	53	0.2V	54	0.2V	55	0.2V
56	0.2V	57	0.2V	58	0.2V	59	0.2V	60	0.2V
61	0.2V	62	0.2V	63	0.2V	64	0.2V	65	0.2V
66	0.2V	67	0.2V	68	0.2V	69	0.2V	70	0.2V
71	0.2V	72	0.2V	73	0.2V	74	0.2V	75	0.2V
76	0.2V	77	0.2V	78	0.2V	79	0.2V	80	0.2V
81	0.2V	82	0.2V	83	0.2V	84	0.2V	85	0.2V
86	0.2V	87	0.2V	88	0.2V	89	0.2V	90	0.2V
91	0.2V	92	0.2V	93	0.2V	94	0.2V	95	0.2V
96	0.2V	97	0.2V	98	0.2V	99	0.2V	100	0.2V

NE 203 CRT PWB



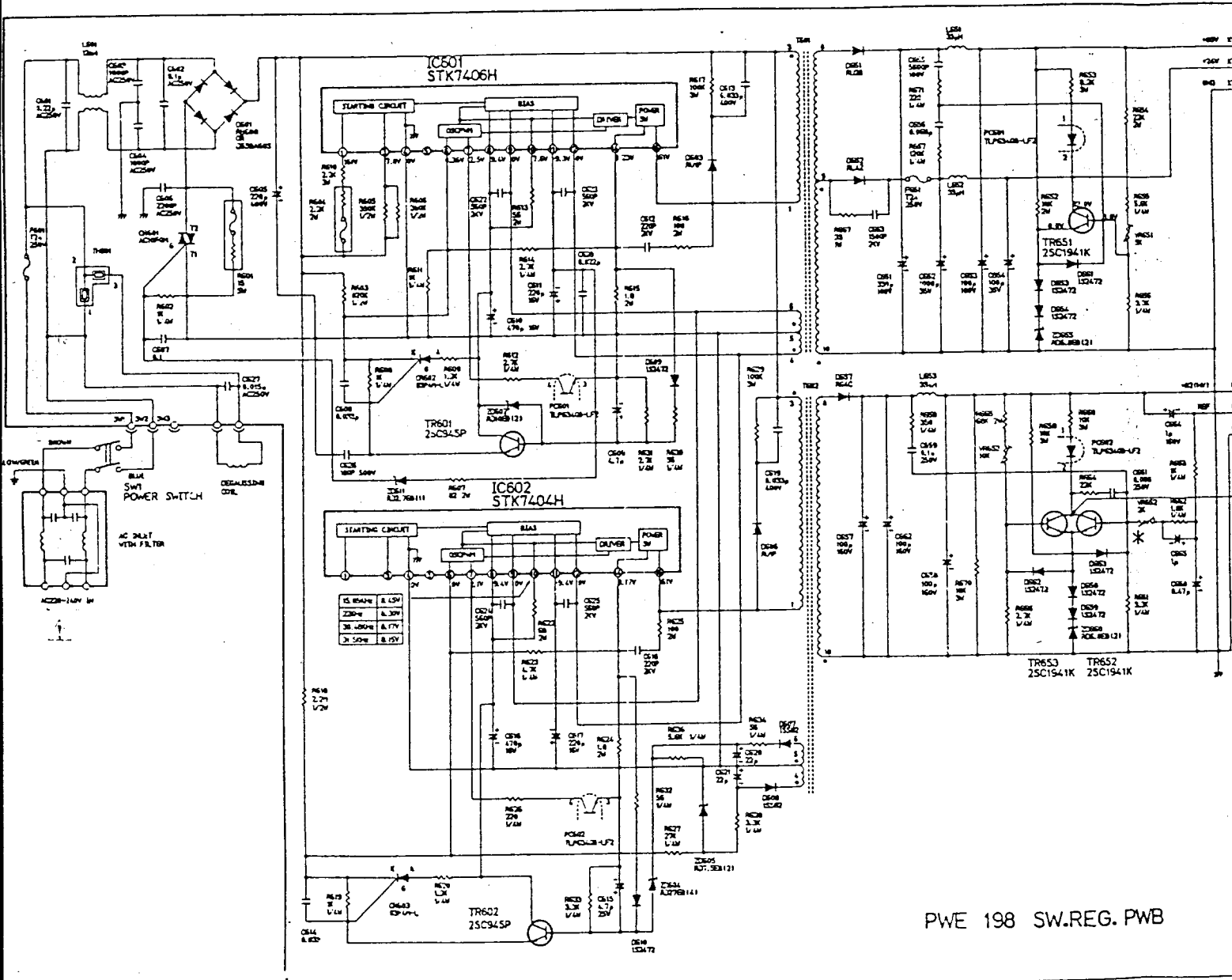
NOTES

1. RESISTOR VALUES ARE IN OHM K = 1,000 M = 1,000,000
2. ALL RESISTORS ARE 1/8WATT EXCEPT WHERE OTHERWISE INDICATED.
3. CAPACITOR VALUES ARE IN PF UNLESS OTHERWISE INDICATED. P = PF
4. ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.
5. VOLTAGES AND WAVEFORMS ARE MEASURED UNDER THE CHARACTER SIGNALS IN THE CONDITIONS OF CONTRAST AND BRIGHTNESS CONTROLS ARE MAXIMUM AND ALL OTHER CONTROLS ARE NORMAL OPERATION.
6. HORIZONTAL RATE. VERTICAL RATE.
7. VOLTAGES AND WAVEFORMS ARE MEASURED UNDER THE FOLLOWING SYNC AND VIDEO. EXCEPT WHERE OTHERWISE INDICATED. SYNC: HORIZONTAL RATE = 220K SEPARATE SYNC TTL LEVEL POSITIVE VIDEO: TTL LEVEL POSITIVE

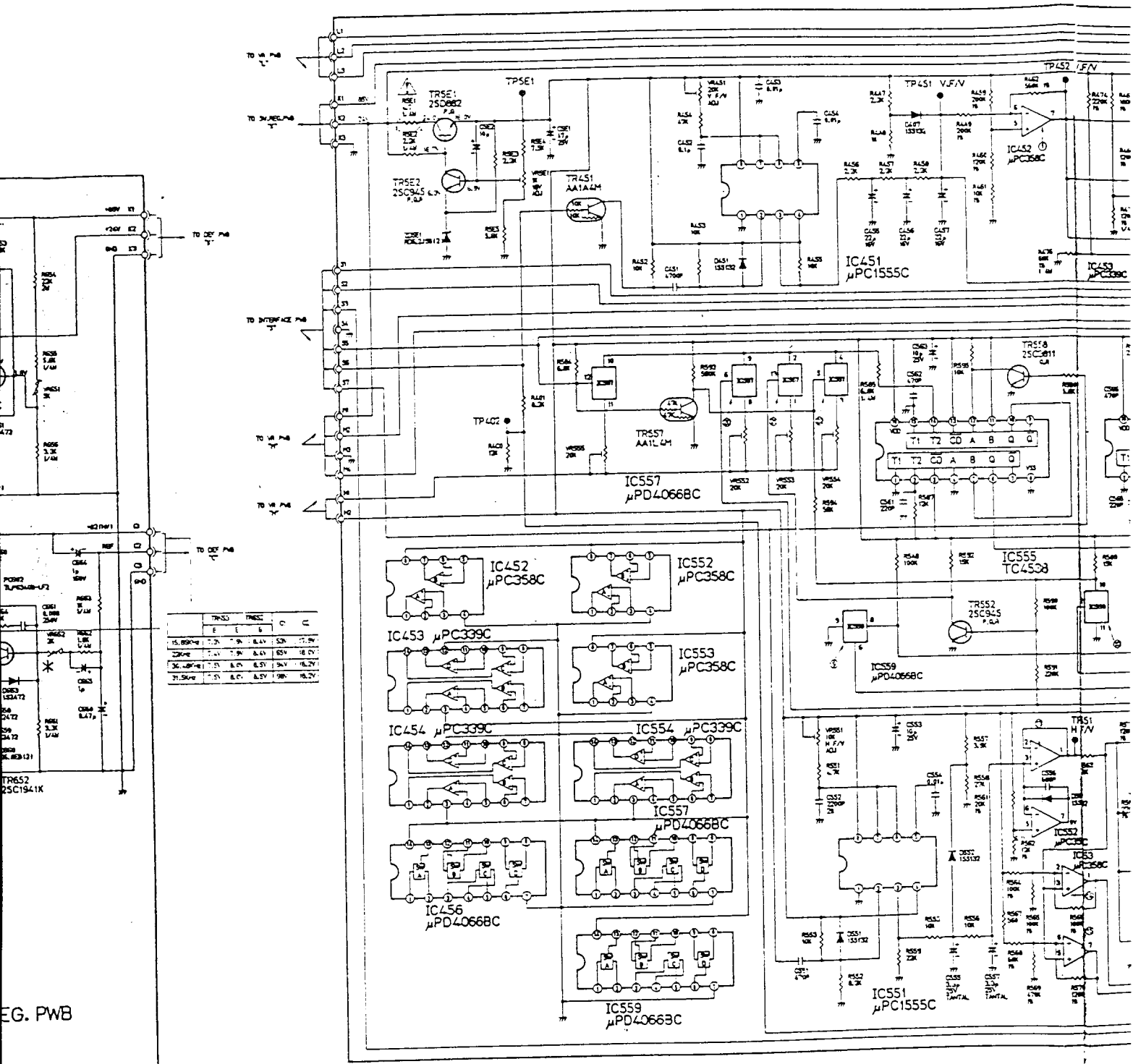
WARNING

REPLACEMENT PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY A SHADING IN THE SCHEMATICS. REPLACE THESE CRITICAL COMPONENTS WITH THE RECOMMENDED REPLACEMENT PARTS FROM THE SAME MANUFACTURER. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER REPAIRS. CONTROL IS PERMANENTLY FROZEN. DO NOT ATTEMPT TO REPAIR OR REPLACE.

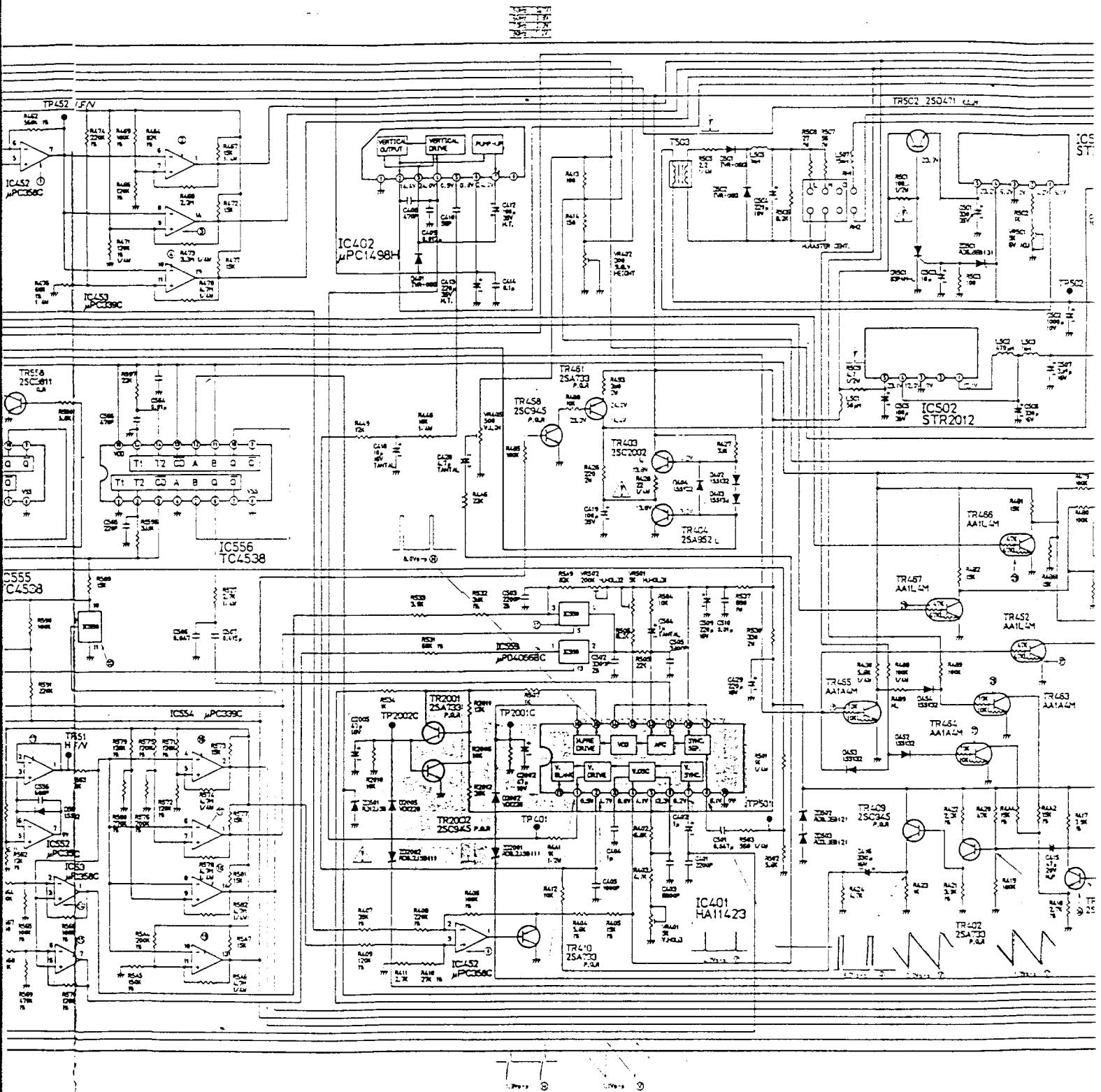
MODELS JC-1402HME/EE/N/R (DEF PWB)
SCHEMATIC DIAGRAM

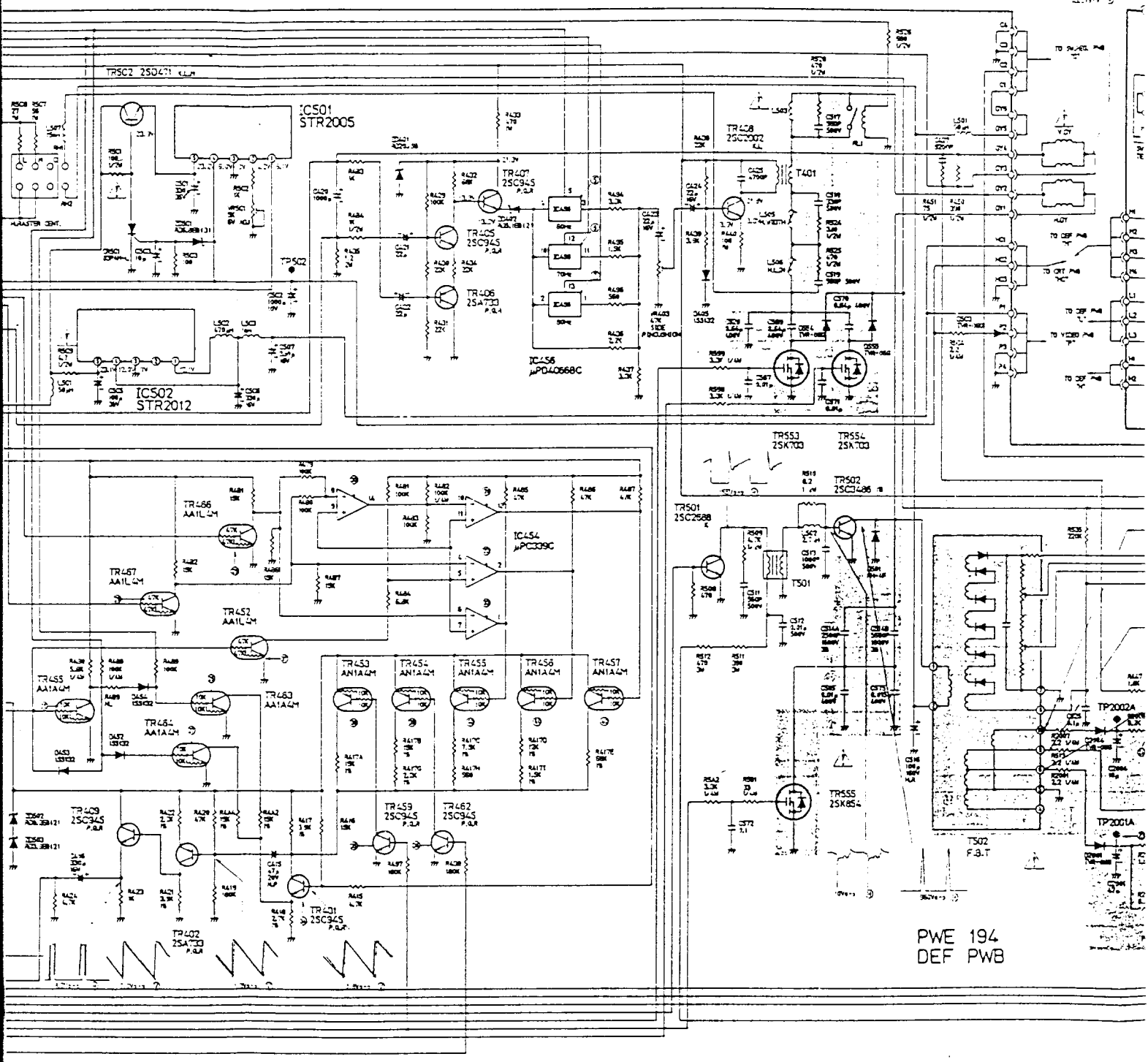


PWE 198 SW.REG. PWB



EG. PWB





PWE 194
DEF PWB

