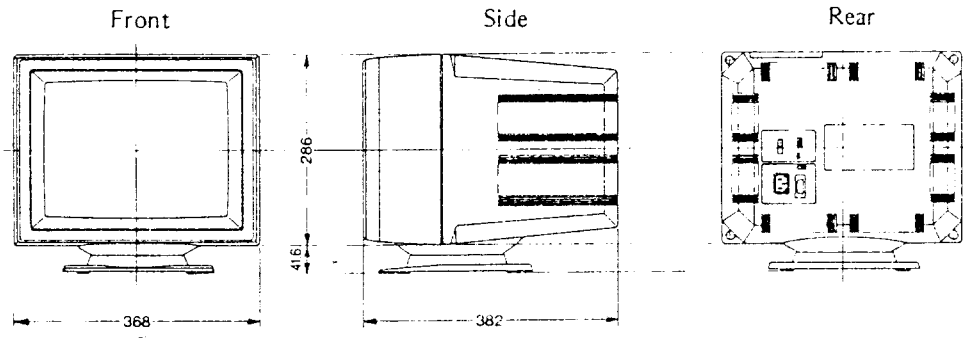
NEC JC-1401P3E/EE/R/ED

B. Mechanical Description (See below diagrams)

1.	Cabinet:	Molded plastic cabinet with attachable tilt swivel base.
2.	Dimensions:	368(W) x 327.6(H) x 382(D) mm
3.	Weight:	15.2 kg



4. Controls

Rear Controls:	POWER SWITCH
	MANUAL SWITCH
	COLOR SWITCH
	TEXT COLOR SWITCH
	TTL/ANALOG SWITCH
Top Controls:	BRIGHT. CONTROL
	CONTRAST CONTROL
	V. SIZE CONTROL
	V. POSITION CONTROL
	V. HOLD CONTROL
	H. POSITION CONTROL
	TEXT SWITCH
	H. WIDTH SWITCH
5. Input Signal Terminal:	9 PIN D-SUB CONNECTOR (FEMALE)
	(SEE PAGE 2 FOR PIN ASSIGNMENTS)

NOTE: Power cord: Plug form different by model.

JC-1401P3EE

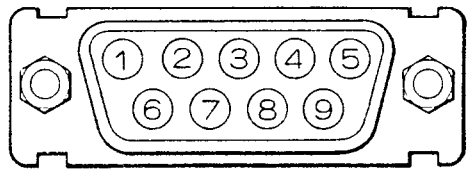
Warning: This apparatus must be earthed.

Important

The wires in this mains lead are colored in accordance with following code:

PIN ASSIGNMENTS AND SIGNAL LEVELS

D-SUB Type 9P



PIN ASSIGNMENT OF IBM GRAPHICS ADAPTER

IBM ADAPTERS / PIN-ASSIGNMENT	COLOR GRAPHICS TTL 16 COLORS	ENHANCED GRAPHICS TTL 64/16 COLORS	PROFESSIONAL GRAPHICS ANALOG
1	GROUND	GROUND	* RED
2	GROUND	SECONDARY RED	* GREEN
3	RED	PRIMARY RED	* BLUE
4	GREEN	PRIMARY GREEN	COMPOSITE SYNC.
5	BLUE	PRIMARY BLUE	MODE CONTROL
6	INTENSITY	SECONDARY GREEN /INTENSITY	RED GROUND
7	NON-CONNECTION	SECONDARY BLUE	GREEN GROUND
8	HORIZONTAL SYNC.	HORIZONTAL SYNC.	BLUE GROUND
9	VERTICAL SYNC.	VERTICAL SYNC.	GROUND

PIN ASSIGNMENT OF OTHER COMPUTERS

SIGNAL / PIN-ASSIGNMENT	TTL			ANALOG		
	8 COLORS	16 COLORS	64 COLORS	SEPARATE SYNC.	COMPOSITE SYNC.	SYNC. ON GREEN
1	GROUND			* RED		
2	——		SECONDARY RED	* GREEN		GREEN ◎ H/V SYNC.
3	RED		PRIMARY RED	* BLUE		
4	GREEN		PRIMARY GREEN	H. SYNC.	H/V SYNC.	——
5	BLUE		PRIMARY BLUE	V. SYNC.	——	
6	——	INTENSITY	SECONDARY GREEN	GROUND		
7	——		SECONDARY BLUE			
8	H. SYNC./H/V SYNC.					
9	V. SYNC.					

"—" means GROUND or NON-CONNECTION

SIGNAL LEVEL

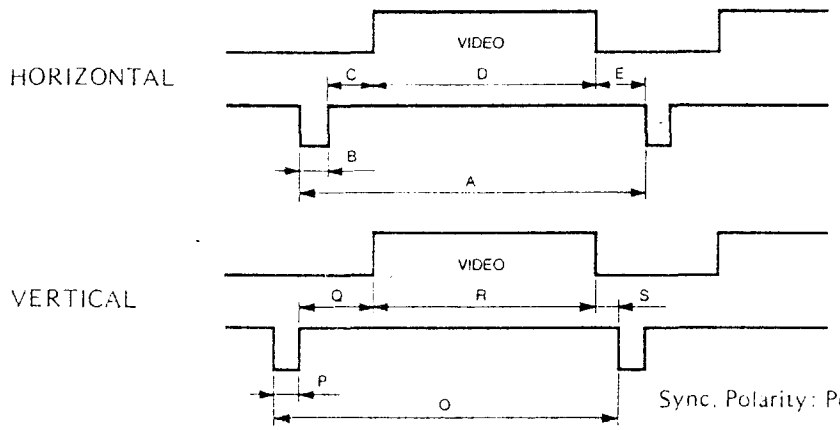
All signal levels, except for those listed below, are TTL.

"*" means 0.6 Vp-p (VIDEO)

"◎" means 0.6 Vp-p (VIDEO), 0.3 Vp-p (SYNC.)

TIMING CHART

SEPARATE SYNC.



Sync. Polarity: Positive/Negative

	f_H	EXAMPLE TIMING			REMARKS
		15.75kHz	24.83kHz	30.1kHz	
Horizontal	$A_{\mu s}$	63.5	40.28	33.2	64.5 to 28.6μs (15.5 to 35kHz)
	$B_{\mu s}$	5.08	3.04	3.43	2 to 10μs
	$C_{\mu s}$	7.62	2.80	2.86	2 to 8μs
	$D_{\mu s}$	46.3	32.4	25.76	20 to 48μs *
	$E_{\mu s}$	4.4	2.04	1.14	1 to 6μs and E/(B + C) = 0.1 to 0.45 Range 1: E/(B+C) = 0.3 to 0.5
Vertical	O_{mS}	16.6	17.72	17.66	16.1 to 17.8 mS (56 to 62Hz)
	P_{mS}	0.26	0.32	0.26	0.05 to 0.7 mS
	Q_{mS}	1.6	1.01	0.73	0.08 to 2.2 mS
	R_{mS}	13.84	16.11	16.6	12 to 17 mS and (O − R) = 0.8 to 4.0
	S_{mS}	0.9	0.28	0.066	0 to 1.6 mS and Q = {(O−R)−0.8}/2 ±0.2

Range 1: A = 64.5 to 50μs
Range 2: A = 50 to 37μs
Range 3: A = 37 to 28.6μs

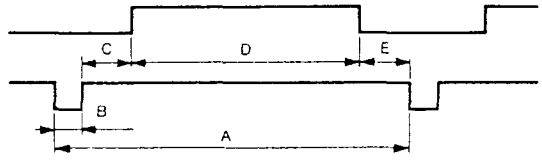
* Both SEPARATE SYNC. & COMPOSITE SYNC.
Range 1: D/A = 0.7~0.75
Range 2: D/A = 0.8~0.85
Range 3: D/A = 0.75~0.8

PRESET TIMING

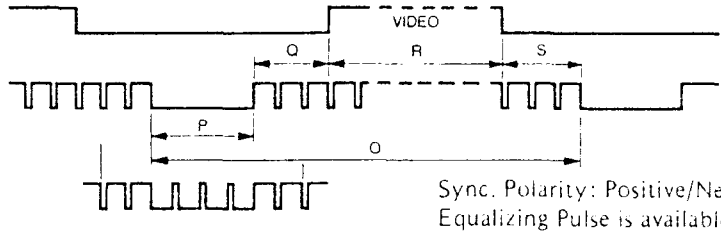
	f_H	15.8kHz	22kHz	30.5kHz		f_H	15.8kHz	22kHz	30.5kHz
Horizontal	$A_{\mu s}$	63	45.5	33	Vertical	O_{mS}	16.4	16.68	16.6
	$B_{\mu s}$	4.2	4.9	4.5		P_{mS}	0.075	0.6	0.07
	$C_{\mu s}$	7.2	1.6	2.8		Q_{mS}	1.525	0.08	2.12
	$D_{\mu s}$	45	39	25.6		R_{mS}	12.6	16	13.05
	$E_{\mu s}$	6.6	0	0.1		S_{mS}	2.2	0	1.36

COMPOSITE SYNC.

HORIZONTAL



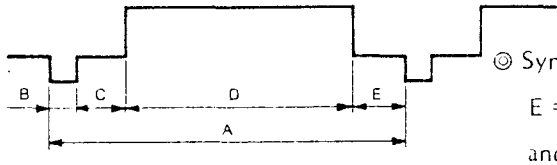
VERTICAL



Sync. Polarity: Positive/Negative
Equalizing Pulse is available.

Composite Sync. & Video (Sync. on Green)

HORIZONTAL

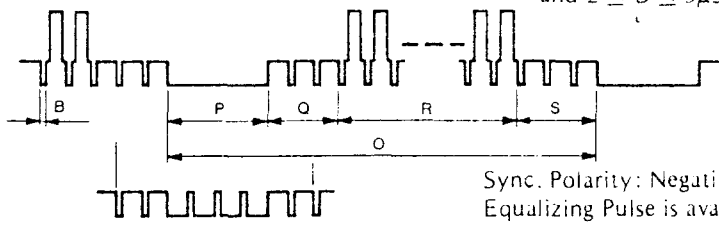


◎ Sync. on G:

$$E = \frac{A - (D + B) \pm (5 - B)}{2}$$

and $2 \leq B \leq 5\mu S$

VERTICAL



Sync. Polarity: Negative
Equalizing Pulse is available.

	f_H	EXAMPLE TIMING			REMARKS
		15.98kHz	25.5kHz	31.5kHz	
Horizontal	$A_{\mu s}$	62.6	39.2	31.75	64.5 to 28.6μs (15.5 to 35kHz)
	$B_{\mu s}$	5.41	2.51	2.06	2 to 10μs
	$C_{\mu s}$	8.0	3.30	3.62	3.3 to 8μs
	$D_{\mu s}$	44.7	32.14	24.52	20 to 48μs *
	$E_{\mu s}$	4.47	1.25	1.56	1 to 6μs and E/(B + C) = 0.1 to 0.45 Range 1: E/(B+C) = 0.3 to 0.5 ◎
Vertical	O_{mS}	16.35	16.67	16.67	16.1 to 17.8 mS (56 to 62Hz)
	P_{mS}	0.19	0.12	0.19	0.05 to 0.19 mS
	Q_{mS}	1.82	0.80	1.02	0.8 to 2.2 mS
	R_{mS}	13.47	15.63	15.24	12 to 17 mS and (O − R) = 0.8 to 4.0
	S_{mS}	0.87	0.12	0.22	0 to 1.6 mS and Q = |(O−R)−0.8|/2±0.2

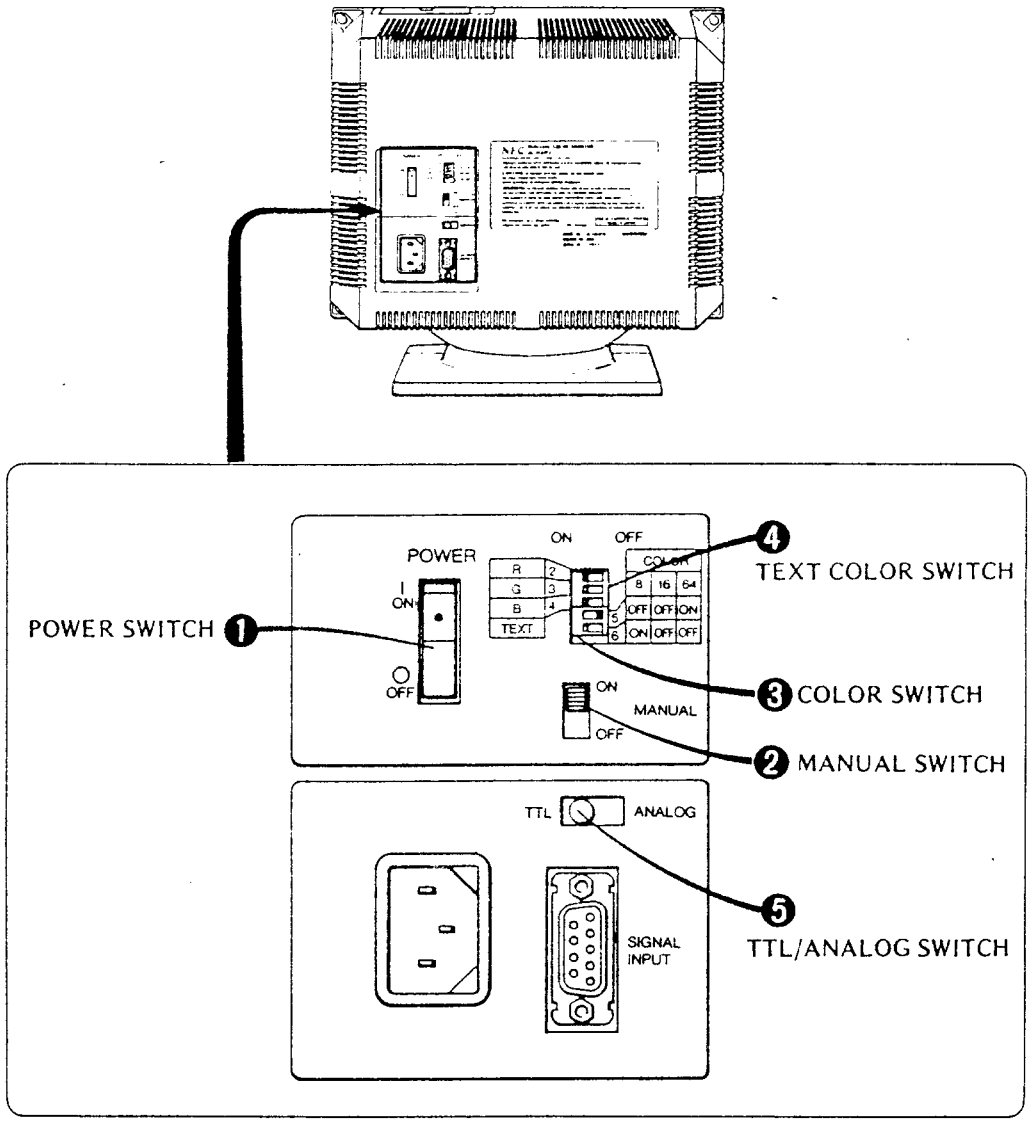
GENERAL

MultiSync, The Intelligent Monitor, is a high resolution color monitor that automatically adjusts to graphics board scanning frequencies from 15.5 KHz to 35 KHz.
MultiSync gives IBM PC, PC/XT, and PC/AT users crisp text and vivid color graphics displays when used with any of the three IBM graphics adapters (the CGA, EGA or PGA)
MultiSync can also be used with other IBM compatible graphics adapters to provide IBM users with the widest range of color monitor compatibility and capability available in the market place.

FEATURES

- MultiSync automatically scans all frequencies between 15.5 KHz and 35 KHz.
- MultiSync is compatible with the IBM PC, PC/XT, PC/AT and look-alikes.
- MultiSync is compatible with the IBM Professional Graphics Adapter, the IBM Enhanced Graphics Adapter, the IBM Color Graphics Adapter and other IBM compatible graphics adapters.
- MultiSync's wide compatibility makes it possible to upgrade boards or software without purchasing a new monitor.
- MultiSync has a maximum horizontal resolution of 800 dots and a maximum vertical resolution of 560 lines for superior clarity of display.
- MultiSync 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 features a TEXT SWITCH with a choice of seven colors (red, blue, green, cyan, yellow, white and magenta) displaying word processing, spread sheets, databases or other software in crisp alphanumeric text on a dark-bulb black background.
- MultiSync has a 14 inches diagonal display and a large, 13 inches viewing area.

ADJUSTING THE REAR CONTROLS



❶ POWER SWITCH

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

❷ MANUAL SWITCH

This switch selects either the IBM mode when OFF or the manual mode when ON.

When this switch is OFF, MultiSync 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 number of colors (8/16/64) needed by the graphics adapter being used with the COLOR SWITCH (see No. ❸ below). Refer to instructions accompanying the graphics adapter being used for information on how many colors the adapter can display.

❸ COLOR SWITCH

The three color configurations (8/16/64 colors) necessary when using non-IBM compatible graphics adapters can be set using No. 5 and 6 of the dip switches as shown below. Refer to instructions accompanying the graphics adapter being used for information on how many colors the adapter can display.

COLOR MODE	DIP SWITCH	
	No. 5	No. 6
8 colors	OFF	ON
16 colors	OFF	OFF
64 colors	ON	OFF
UNUSED	ON	ON

NOTE

These switches should be set correctly in relation to the input signal of the graphics adapter being used. Refer to instructions accompanying the graphics adapter for information on the input signal and refer to No. ❺ below.

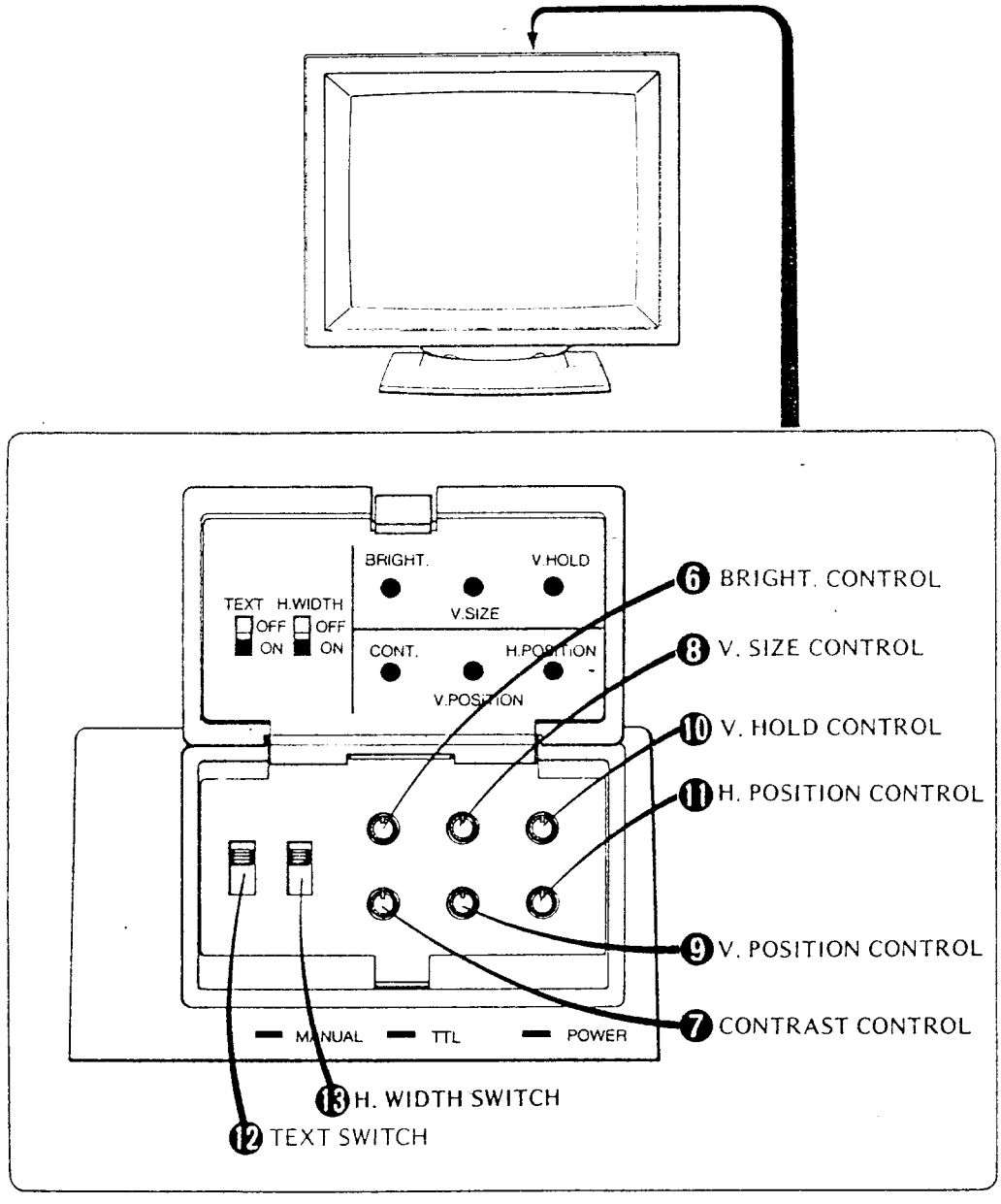
❹ TEXT COLOR SWITCH

Refer to No. ⓬ TEXT SWITCH for full information on using the TEXT SWITCH.

❺ TTL/ANALOG SWITCH

Used to select an input video signal – either TTL or ANALOG – of the graphics adapter. It is important to determine whether the input signal of the graphics adapter being used is ANALOG or TTL prior to connecting the adapter with your personal computer. Refer to instructions accompanying the graphics adapter for information on the input signal.

ADJUSTING THE TOP CONTROLS



6 BRIGHT. CONTROL

Used to adjust the picture brightness of the screen.

7 CONTRAST CONTROL

Adjusts the display to the contrast preferred by the user.

❽ V. SIZE CONTROL

Turn 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.

❾ V. POSITION CONTROL

Turn this knob for the proper vertical position of the display. Turn the knob clockwise to raise the display position; turn it counterclockwise to lower the display position.

❿ V. HOLD CONTROL

Adjusts the vertical stability of the display. Please adjust the V. HOLD CONTROL so that CONTROL position is center of the hold range for proper picture.

⓫ H. POSITION CONTROL

Turn 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.

⓬ TEXT SWITCH

This switch controls the text mode of MultiSync.

When it is ON, the text of the display will appear in one color selected by the TEXT COLOR SWITCH (No. 2, 3 and 4 of the dip switch on the rear of MultiSync), regardless of the colors of the software program being used.

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

The diagram below of the dip switches shows how to display text in your choice of seven colors.

TEXT COLOR	DIP SWITCH		
	2 R	3 G	4 B
RED	ON	OFF	OFF
GREEN	OFF	ON	OFF
BLUE	OFF	OFF	ON
YELLOW	ON	ON	OFF
CYAN	OFF	ON	ON
MAGENTA	ON	OFF	ON
WHITE	ON	ON	ON

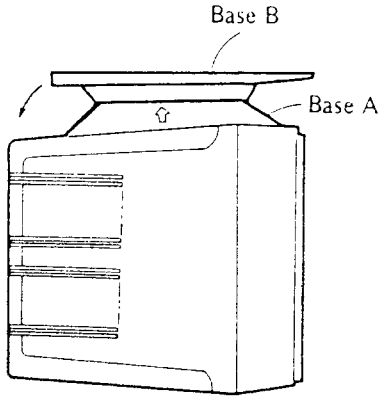
NOTE

The text switch works only in the TTL mode.

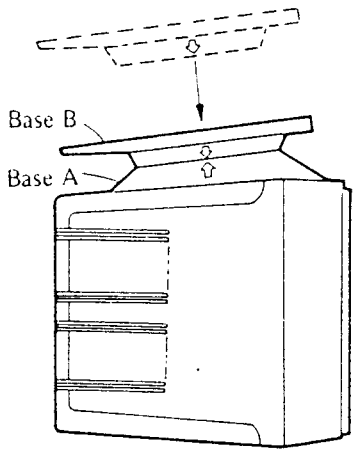
⓭ H. WIDTH SWITCH

Adjust this switch for the horizontal size of display preferred. When this switch is ON, the width of the display size changes.

THE METHOD FOR REMOVING AND MOUNTING THE TILT SWIVEL BASE

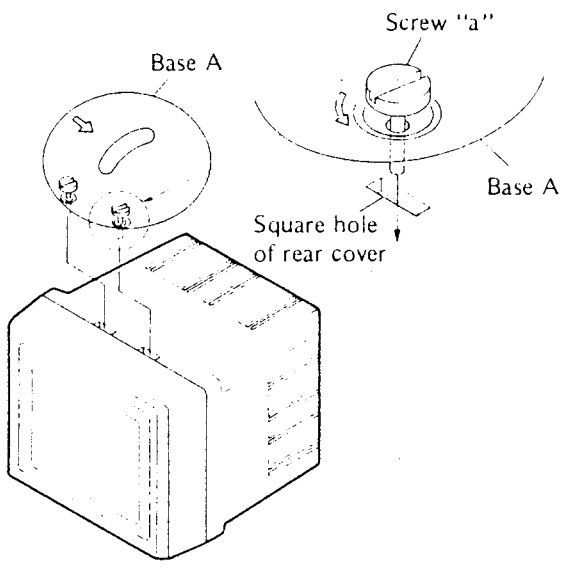


1. Push base "B" in the direction of the arrow as shown in the figure on the lift.



2. Turn base "B" through and align marks "⇧" on base "A" and base "B".

3. Remove base "B" from base "A".



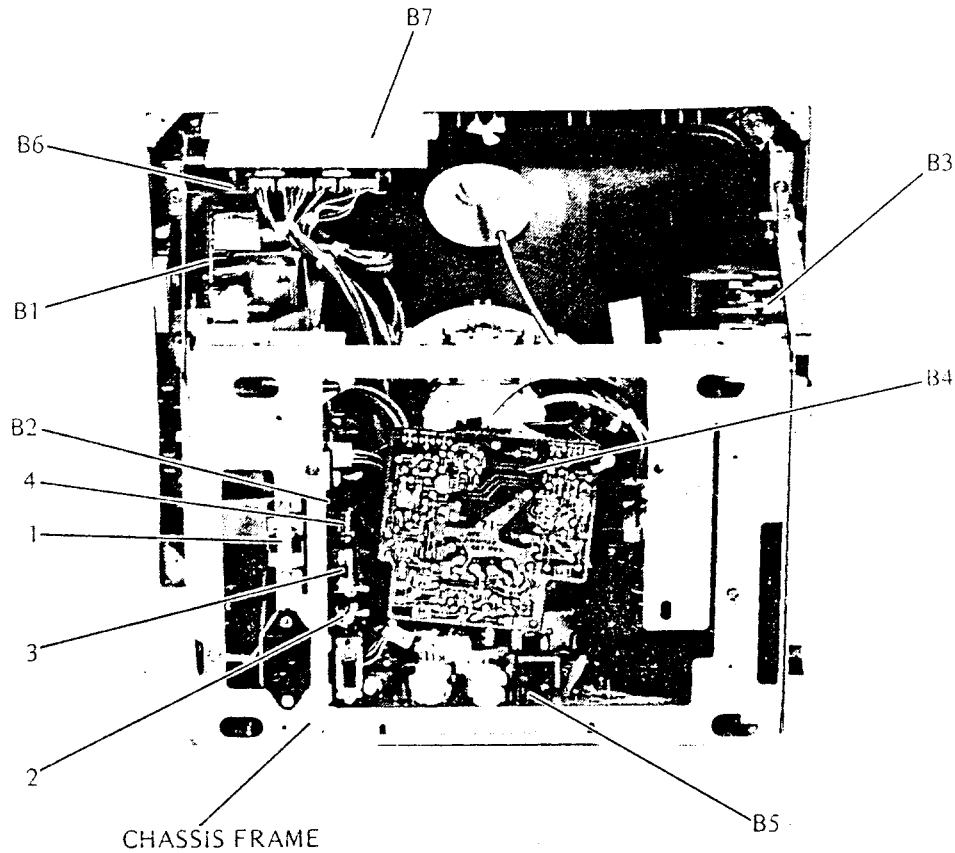
4. Remove the two screws "a" and lift up base "A" from the display.

NOTE

- To mount the tilt swivel bases, follow the removing procedure in the reverse order.
- When turning the display upright care showld be taken so as not to jolt or damage etc.

PART LOCATIONS

BOARD LAYOUT



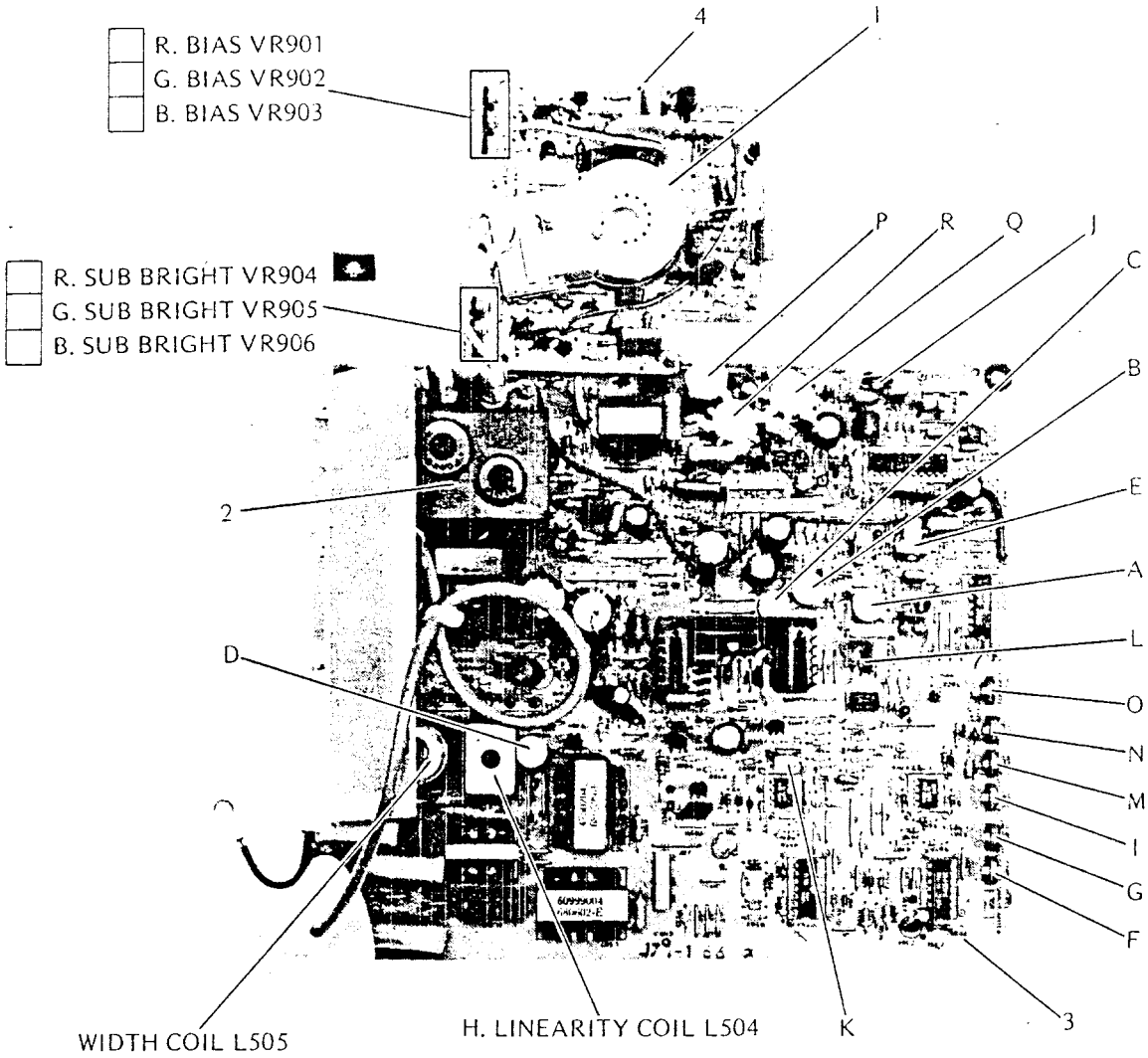
BOARDS

B1	SWITCHING REGULATOR POWER SUPPLY BOARD	PWE 142
B2	INTERFACE BOARD	PWE 110
B3	VIDEO BOARD	PWE 147
B4	CRT BOARD	PWE 123
B5	DEFLECTION BOARD	PWE 150
B6	CONTROL BOARD	PWE 125A
B7	LED BOARD	PWE 125B

USER CONTROLS

1	POWER SWITCH
2	TTL/ANALOG SWITCH
3	MANUAL SWITCH
4	TEXT COLOR SWITCH

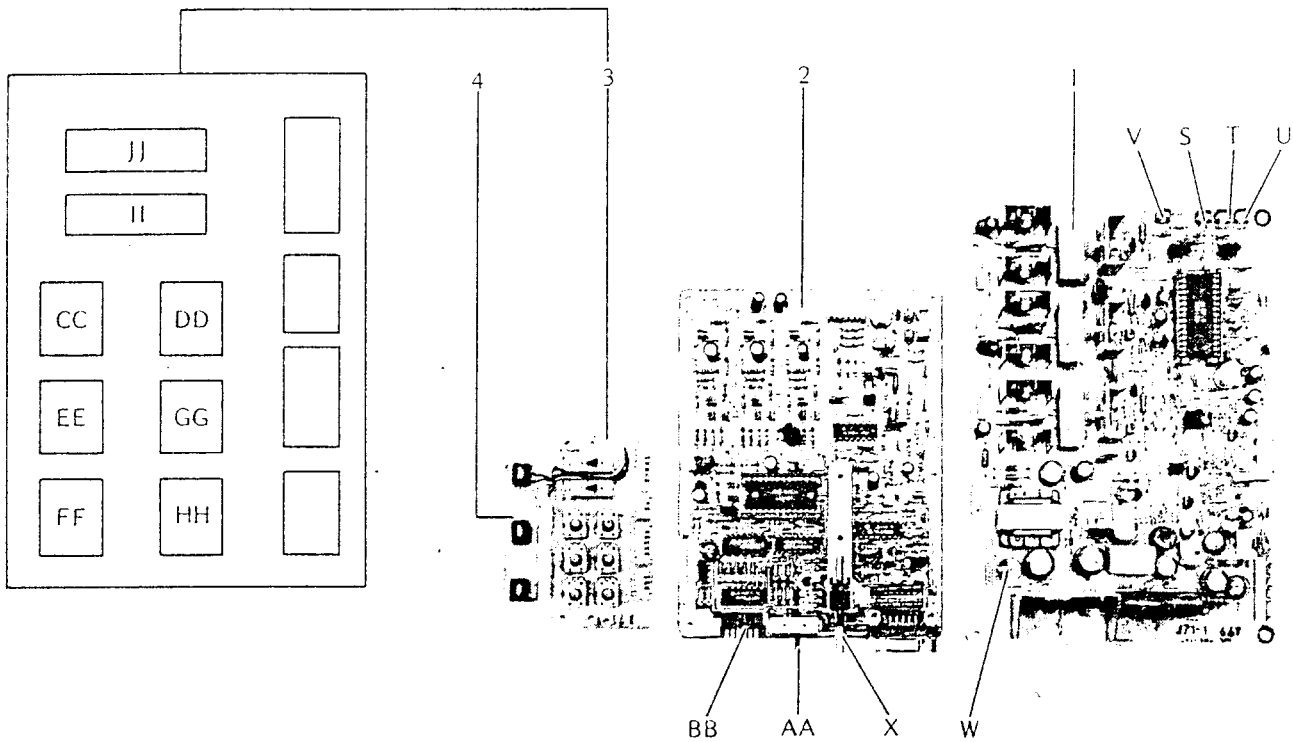
1	CRT SOCKET	
2	FLYBACK TRANSFORMER	
3	DEFLECTION BOARD	PWE 150
4	CRT BOARD	PWE 123



ADJUSTMENT CONTROLS

A	V. LINEARITY (2) (VR401)	K	+16V ADJUST (VR551)
B	V. LINEARITY (1) (VR402)	L	F.V ADJUST (VR552)
C	SUB. HEIGHT (1) (VR403)	M	SUB. H CENTER (2) (VR553)
D	SIDE PINCUSHION (VR404)	N	SUB. H CENTER (3) (VR554)
E	V. BIAS (VR405)	O	H. HOLD (2) (VR555)
F	V. MODE (VR451)	P	H. V. ADJUST (VR2001)
G	SUB. HEIGHT (2) (VR452)	Q	H. V. PROTECTOR (1) (VR2002)
I	SUB. H. CENTER (1) (VR501)	R	H. V. PROTECTOR (2) (VR2003)
J	H. HOLD (1) (VR502)		

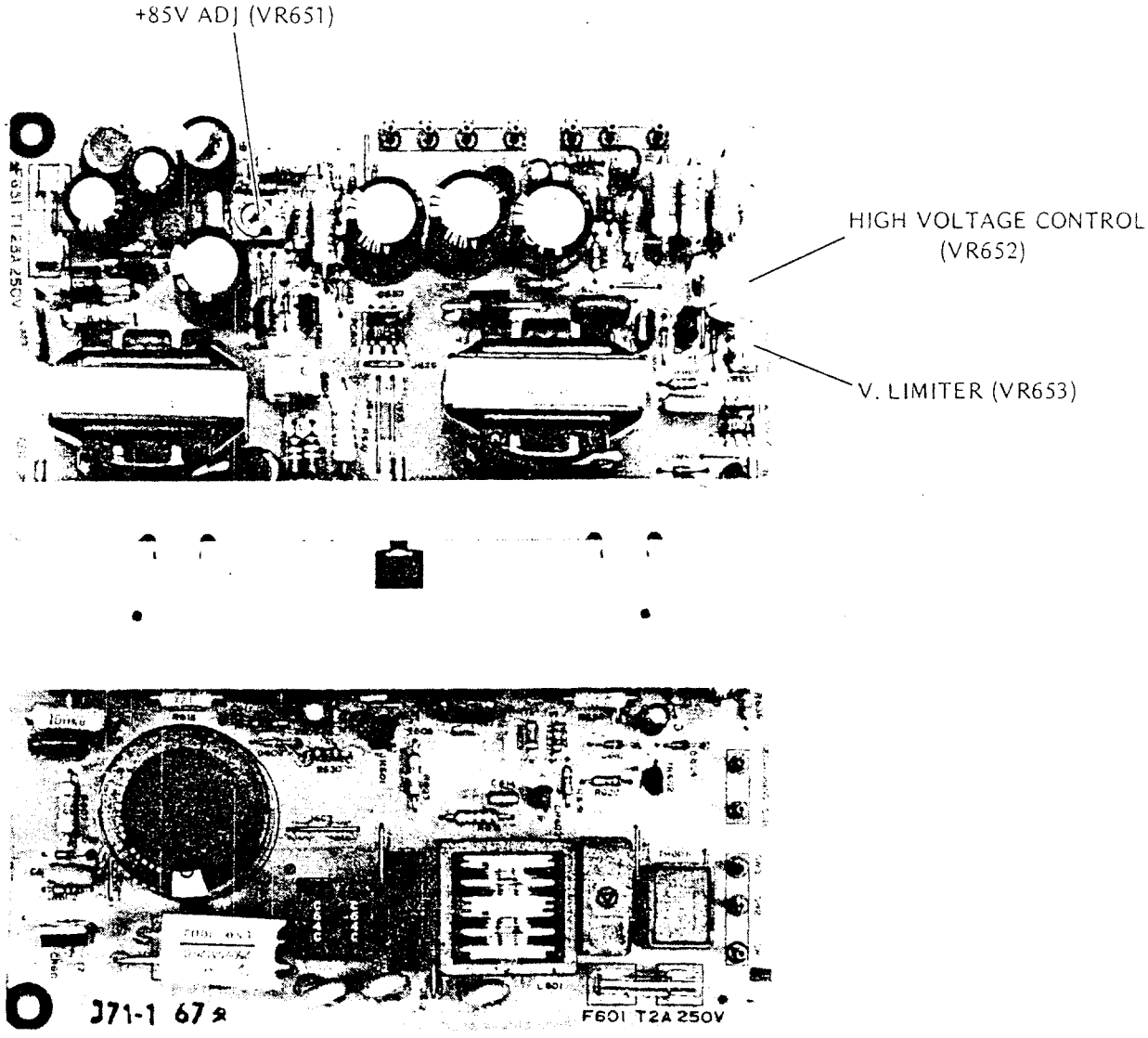
1	VIDEO BOARD	PWE 147
2	INTERFACE BOARD	PWE 110
3	CONTROL BOARD	PWE 125A
4	LED BOARD	PWE 125B



ADJUSTMENT CONTROLS

S	R. GAIN CONTROL (VR701)	CC	CONTRAST CONTROL (VR1)
T	G. GAIN CONTROL (VR702)	DD	BRIGHTNESS CONTROL (VR2)
U	B. GAIN CONTROL (VR703)	EE	V. POSITION CONTROL (VR3)
V	SUB CONTRAST CONTROL (VR704)	FF	H. POSITION CONTROL (VR5)
W	+6V ADJUST CONTROL (VR705)	GG	V. SIZE CONTROL (VR4)
X	TTL/ANALOG SWITCH (SW801)	HH	V. HOLD CONTROL (VR6)
AA	MANUAL SWITCH (SW802)	II	H. WIDTH SWITCH
BB	TEXT COLOR SWITCH (SW803 NO. 2, 3, 4)	JJ	TEXT SWITCH
BB	COLOR SWITCH (SW803 NO. 5, 6)		

SW. REG. PWB LAYOUT



ALIGNMENT PROCEDURE

Adjustment conditions and Precautions

1. Power supply voltage: AC 220 – 240 V, 50/60 Hz
2. Warm up time
   The display must be on for at least 20 minutes before starting alignments.
   This is especially critical in color temperature and white balance adjustments.
3. Signals
   Video: Analog 0.6 Vp-p, 75Ω, positive
   analog sync. on green
   video: 0.6 Vp-p
   synchronizing: 0.3 Vp-p
   Synchronizing: TTL level negative/positive
   separate/composite
   Scanning Frequency: H 15 kHz – 35 kHz
   V 56 Hz – 62 Hz
   Unless otherwise specified, adjust at signal 6 (22 kHz).

1. SW. REG. UNIT

1-1. $+B_1$ (VR651) +85V LINE
Adjust VR651 to be 85 VDC

1-2. $+B_H$ (VR652) High Voltage control
This control is permanently sealed at factory.
Do not attempt to readjust.

1-3. $+B_{LIM}$ (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.

2. DEF PWB Pre-Adjustment

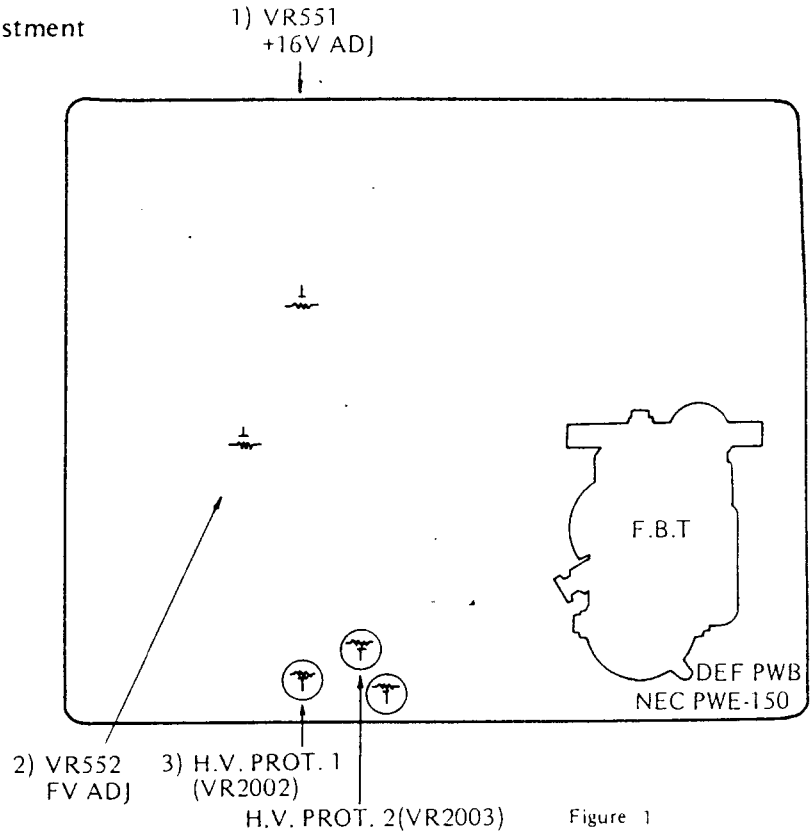


Figure 1

Remove K and C connectors, and apply 24V DC between K2 and K3.
Or just only remove C connector.

(1) +16V adjustment
Adjust TP551-GND to 16V±0.05V DC. (VR551)

(2) Receive signal 1 and adjust VR552 so that the voltage between TP552 and Gnd is 10±0.05V DC.

(3) H.V. Protector
The high Voltage protector control 1 (VR2002) and control 2 (VR2003) are permanently sealed at factory.
Do not attempt to readjust!

3. Video PWB pre-Adjustment

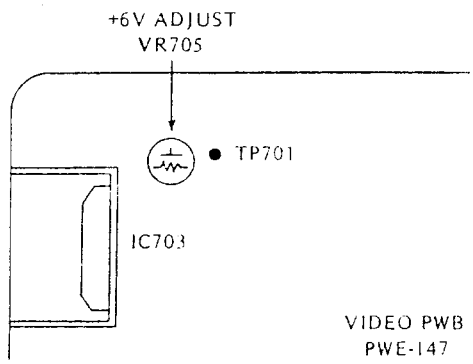


Figure 2

(1) +6V adjustment
Adjust VR705 so that the voltage between TP701 and GND is 6V±0.05V DC.

4. Main Adjustments

Unless otherwise specified, adjust the controls on the control PWB as shown below:

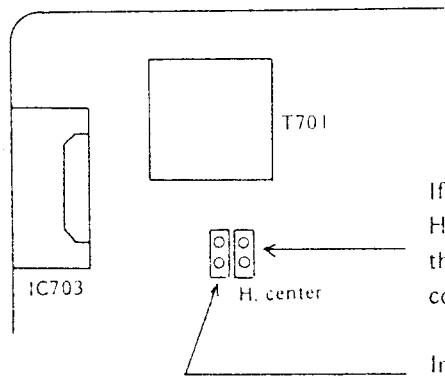
VR1 Contrast: Max. (fully clockwise)
VR2 Brightness: So that no background raster appears
VR3 V. position: Center
VR4 H. position: Center
VR5 V. size: Center
VR6 V. hold: Proper position

SW2 H. size: OFF
SW3 TEXT SW: OFF

Focus control: Adjust for the optimum picture.

4-1) Adjustment of H. raster centering

Turn the brightness control fully clockwise so that background raster can be seen, then connect the H connector in the position so that the background raster is in the center of the CRT screen.



If the raster is off to one side, insert the H connector here (adjust to one side or the other by changing the direction of the connector).

Insert here if raster centering correction is not needed.

Video PWB component side

Figure 3

NOTE: Due to overscan, it is impossible to center the background raster if the horizontal frequency is between 15 kHz and 20 kHz.

4-2)

(1) H. hold
   a) Short between TP501 and GND.
   b) Apply signal 3 (30 kHz) and adjust H. hold (1) VR502 so that the entire picture appears.
   c) Apply signal 2 (20 kHz) and adjust H. hold (2) VR555 so that the entire picture appears.

(2) H.V. ADJ (VR2001)
   The H.V. ADJ (VR2001) is permanently sealed at factory.
   Do not attempt to readjust.

(3) H. linearity
   Adjust L504 for the optimum H. linearity. If at this time the picture is horizontally mispositioned, it is possible to adjust VR4 to center it, but after adjustment of the linearity set VR4 to the mechanical center.

(4) H. position (adjust to the center of the raster)
   a) Adjust sub H. center 1 VR501 to center the picture when signal 3 (30.48 kHz) is applied.
   b) Adjust sub H. center 3 VR554 to center the picture (1 mm to the left) when signal 6 (22 kHz) is input for mutuality between actual EGA timing and test timing.
   c) Adjust sub H. center 2 VR553 to center the picture when signal 5 (15.75 kHz) is applied.
   d) Check that the picture is centered when the signals in a), b), and c) above are applied.
   NOTE: Adjust in the order a) → b) → c)

(5) Side pincushion
   Adjust VR404 for the optimum side pincushion distortion.
   Be careful that there is no barrel distortion.

(6) H. width

Adjust H. width L505 so that the size of the picture when signal 6 (22 kHz) is applied is 250mm. Perform this adjustment with the H. wide switch SW2 OFF. If the size cannot be adjusted to 250mm even if H. width L505 is turned fully, turn L504 slightly to correct this.

(7) V. position

Vertically center the picture when adjustment signal 6 (22 kHz) is applied (VR3, V. POSITION)

(8) V. linearity

Adjust VR401 and VR402 so that vertical linearity is optimum when signal 6 (22 kHz) is applied.

(9) V. size

a) Adjust sub height (1) VR403 so that the vertical amplitude is 180mm when signal 3 (30.48 kHz) is applied.

b) Adjust sub height (2) VR452 so that the vertical amplitude when signal 5 (15.75kHz) is applied is 180 mm.

c) Adjust V-mode VR451 so that the vertical amplitude is 180 mm when V-mode signal 4 (30.48 kHz, 400 lines) is applied.
Set the MANUAL switch to the OFF (PRE-SET mode) when performing this adjustment.
Also V-mode (Input pin #5) should be low.

d) Applies the signals in above steps a), b), and c) and check that the vertical amplitude for each is 180 mm±2 mm. If readjustment is necessary, start from step a) and proceed in order.

(10) V. bias

Adjust VR405 so that the voltage between DY4 and GND is 12.0 VDC when signal 6 (22 kHz) is applied.

4-3) Adjustment of video amplitude and white balance

NOTE: Before performing this adjustment, check that the video signals are as follows:
Be sure to set the TTL/ANALOG SW to ANALOG position.
Video: analog 0.6 Vp-p
Synchronizing: separate TTL level
Unless otherwise specified, use signal 8 for the adjustments.

(1) Initial setting of adjustment VR

VR701 ~ 703 GAIN control	Fully counterclockwise
VR704 SUB cont. control	Fully clockwise
VR901 ~ 903 BIAS control	Fully counterclockwise
VR904 ~ 906 SUB BRIGHT control	Fully clockwise

(2) Video contrast adjustment

a) Adjustment of GAIN control – use signal 7 [all white signal]

i) Receive a window pattern (within a range for which ABL does not function even with a maximum contrast, and preferably with a video range of 1/3 to 1/2H x 1/2V).

ii) Turn the contrast control fully clockwise and the brightness control fully counterclockwise.

iii) Adjust VR701, VR702, and VR703 so that R, G, and B OUT respectively on the video PWB become 40 Vp-p. After adjusting, check each Vp-p, and if not proper readjust.

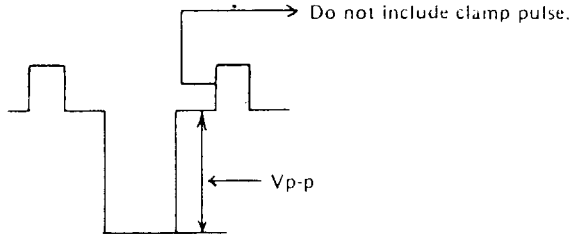


Figure 4

b) Adjustment of sub-contrast control – use signal 7 [all white signal]
   i) Turn both the contrast and brightness controls fully conterclockwise.
   ii) Adjust VR704 so that R, G, and B OUT respectively on the video PWB become 10 Vp-p. After adjusting, check each Vp-p, and if not proper readjust.

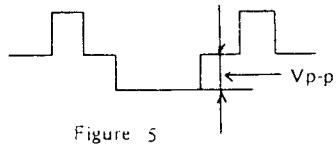


Figure 5

(3) Cut-off adjustment (all black signals)
Turn the contrast control (VR1) and screen control of FBT fully counterclockwise.
   a) Short TP901 – TP902. (CRT PWB)
   Short TP401 – GND. (DEF PWB)
   b) Turn the screen control clockwise gradualy and set to the position at which a single horizontal color appears faintly.
   Take this color as the reference color for cut-off adjustment.
   c) Turn the bias controls for a color other than the reference color clockwise until it is as bright as the reference color.
   d) Remove the TP401-GND and TP901-TP902 shorts.

NOTE: Perform the cut-off adjustment in as dark a place as possible, as this will facilitate white tracking.

(4) Adjustment of sub-brightness VR
   a) Receive the signal 8 (15.75 kHz) H grey scale (16 grades).
   IF signal generator does not function white H grey scale (16 grades), Apply 0.2V Video input insted of 5/16 grades.
   b) Turn the contrast control fully clockwise and the brightness control fully counter-clockwise.
   c) Adjust sub-bright VR905 so that the 5/16 grade appears faintly.
   From this point on, leave VR905 in this position.
   d) Turn the contrast control fully counterclockwise and the brightness control fully clockwise.
   e) Receive all black signals.
   f) Adjust VR904 and VR906 so that background raster becomes 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 barance.
   c) Receive the all white pattern.

d) Check the followings

No retrace lines appear at

contrast control fully counter clockwise.

brightness control fully clockwise.

Back raster appear at

contrast control fully clockwise.

brightness control fully clockwise.

(5) Fine adjustment of white balance

a) Receive the white H grey scale (16 grades).

IF signal generator does not function white H grey scale (16 grades), Apply white window pattern.

(Window pattern . . . . . within a range for which ABL does not function)

b) Turn the contrast control fully counterclockwise and the brightness control fully clockwise.

Check that the white balance is proper for each grade.

If the background raster and the white balance for the different grades are off, fine adjust sub bright VR904 and VR906.

ATTENTION: Do not touch VR905 – G sub bright.

c) Turn the contrast control fully clockwise.

Adjust the brightness control so that no background raster appears and check that the white balance is proper for each grade.

If the white balance is off for the upper grades, fine adjust the gain control, VR701 and VR703 to match the white.

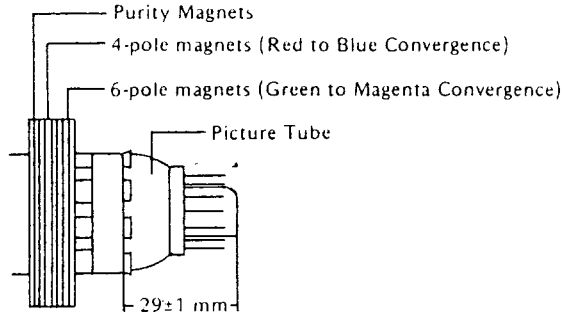
ATTENTION: Do not touch VR702 – G Gain.

6. Focus Adjustment (Use signal 3)

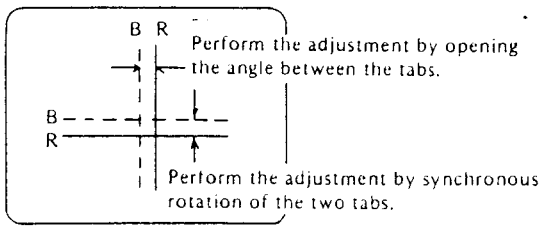
Turn the contrast control fully clockwise and set the brightness control to a suitable position. Adjust the focus control to the optimum position.

7. Purity Adjustment

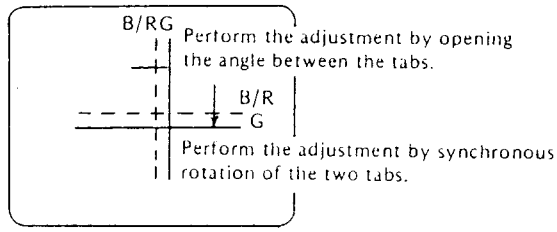
1) Be sure that the display is not being exposed to any external magnetic fields.
2) Ensure that the spacing between the Purity, Convergence Magnet, (PCM), assembly and the CRT stem is 29 mm±1 mm. (See below diagram)
3) Produce a complete, red pattern on the display. Adjust the Purity magnet rings on 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°.
4) 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

1) Produce a magenta crosshatch on the display.
2) Adjust the focus for the best overall focus on the display.
   Also adjust the brightness to the desired condition.
3) 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)
4) Horizontal red and blue lines are converged by varying the two tabs together, keeping the angle between them constant.
5) Produce a white crosshatch pattern on the display.
6) Vertical green and magenta lines are converged by varying the angle between the two tabs of the 6-pole magnets.
7) Horizontal green and magenta lines are converged by varying the two tabs together, keeping the angle between them constant.

9. Switches and Controls Operation

Confirm the following Switches and controls operate correctly.

Switches

1) TTL/ANALOG SW
2) MANUAL SW
3) 8/16/64 color select SW
4) TEXT SW
5) TEXT color SW
6) H. Width SW

Controls

1) Brightness
2) Contrast
3) V. size
4) V. position
5) V. Hold
6) H. position

10. Multi Scanning Operation

Confirm the Multi Sync operate correctly with IBM PC W/C GA, EGA also PGA, or with signal 3, 4, 5, and 6.

BY LVG-1600

①	②	③	④	⑤	ROM Adress	ROM DATA Signal 1 25K						ROM DATA Signal 2 20K					
0	CLOCK	DOT CLOCK FREQUENCY	0	MHz	(X00)	2	0.	8	0	0	F	1	6.	6	4	0	F
1	H FREQ	HORIZONTAL FREQUENCY	1	KHz	(X03)	2	5.	0	0	0	F	2	0.	0	0	0	F
2	V FREQ	VERTICAL FREQUENCY	2	Hz	(X06)	5	9.	9	5	2	F	6	0.	0	6	0	F
3	CH	CHARACTOR CELL SIZE	3	DOT	(X09)			H_0	8	V_1	0			H_0	8	V_1	0
4	Nht	4	4	CHR	(X0B)			F	1	0	4			F	1	0	4
5	Nht	5	5	CHR	(X0D)			F	0	8	0			F	0	8	0
6	Nhsp	6	6	CHR	(X0F)			F	0	8	8			F	0	8	8
7	Vpw-Hpw	7	7	V (LASTER) H (CHR)	(X11)			V_0	3	H_0	8			V_0	3	H_0	8
8	Nadj	8	8	H (LASTER)	(X13)					0	7					0	3
9	Nvt	9	9	LINE	(X14)			F	0	4	1			F	0	3	3
10	Nvd	10	10	LINE	(X16)			F	0	3	8			F	0	3	0
11	Nvsp	11	11	LINE	(X18)			F	0	3	8			F	0	3	0
12	Nvsadj	12	12	H (LASTER)	(X1A)					0	1					0	1
13	INT	13	13		(X1B)					0	0					0	0
14	OUT	14	0 Sync NEG, Hsync, Sync OFF, TTL OUT, RZ..... without dots 1 POS, HVsync, Sync ON, ANALOG OUT, NRZ..... dots		(X1C)	F	0	0	0	0	1	F	0	0	0	0	1

BY LVG-1600

①	②	③	④	⑤	ROM Adress	ROM DATA signal 3 480 LINE					30.48K	ROM DATA signal 4 400 LINE					30.48K
0	CLOCK	DOT CLOCK FREQUENCY	0	MHz	(X00)	2	5.	1	1	0	F	2	5.	1	1	0	F
1	H FREQ	HORIZONTAL FREQUENCY	1	KHz	(X03)	3	0.	4	7	3	F	3	0.	4	7	3	F
2	V FREQ	VERTICAL FREQUENCY	2	Hz	(X06)	5	9.	9	8	7	F	5	9.	9	8	7	F
3	CH	CHARACTOR CELL SIZE	3	DOT	(X09)			H_0	8	V_1	0			H_0	8	V_1	0
4	Nht	4	4	CHR	(X0B)			F	1	0	3			F	1	0	3
5	Nht	5	5	CHR	(X0D)			F	0	8	0			F	0	8	0
6	Nhsp	6	6	CHR	(X0F)			F	0	8	0			F	0	8	0
7	Vpw-Hpw	7	7	V (LASTER) H (CHR)	(X11)			V_0	2	H_1	4			V_0	2	H_1	4
8	Nadj	8	8	H (LASTER)	(X13)					0	8					0	8
9	Nvt	9	9	LINE	(X14)			F	0	5	0			F	0	5	0
10	Nvd	10	10	LINE	(X16)			F	0	4	8			F	0	4	0
11	Nvsp	11	11	LINE	(X18)			F	0	4	8			F	0	4	4
12	Nvsadj	12	12	H (LASTER)	(X1A)					0	1					0	1
13	INT	13	13		(X1B)					0	0					0	0
14	OUT	14	0 Sync NEG Hsync Sync OFF TTL OUT RZ..... without dots 1 POS HVsync Sync ON ANALOG OUT NRZ..... dots		(X1C)	F	1	1	0	1	1	F	1	1	0	1	1

BY LVG-1600

①	②	③	④	⑤	ROM Adress	ROM DATA Signal 5 15.75K						ROM DATA Signal 6 22K					
0	CLOCK	DOT CLOCK FREQUENCY	0	MHz	(X00)	1	4.	2	0	0	F	1	6.	3	7	0	F
1	H FREQ	HORIZONTAL FREQUENCY	1	KHz	(X03)	1	5.	8	5	0	F	2	2.	0	0	3	F
2	V FREQ	VERTICAL FREQUENCY	2	Hz	(X06)	6	0.	5	7	7	F	5	9.	9	5	3	F
3	CH	CHARACTOR CELL SIZE	3	DOT	(X09)			H_0	8	V_1	0			H_0	8	V_1	0
4	Nht	4	4	CHR	(X0B)			F	1	1	2			F	0	9	3
5	Nht	5	5	CHR	(X0D)			F	0	8	0			F	0	8	0
6	Nhsp	6	6	CHR	(X0F)			F	0	9	2			F	0	8	0
7	Vpw-Hpw	7	7	V (LASTER) H (CHR)	(X11)			V_0	1	H_0	7			V_1	3	H_1	0
8	Nadj	8	8	H (LASTER)	(X13)					0	0					0	6
9	Nvt	9	9	LINE	(X14)			F	0	2	6			F	0	3	6
10	Nvd	10	10	LINE	(X16)			F	0	2	0			F	0	3	5
11	Nvsp	11	11	LINE	(X18)			F	0	2	3			F	0	3	5
12	Nvsadj	12	12	H (LASTER)	(X1A)					0	5					0	1
13	INT	13	13		(X1B)					0	0					0	0
14	OUT	14	0 Sync NEG Hsync Sync OFF TTL OUT RZ..... without dots 1 POS HVsync Sync ON ANALOG OUT NRZ..... dots		(X1C)	F	1	0	0	0	1	F	1	0	0	0	1

BY LVG-1600

①	②	③	④	⑤	ROM Adress	ROM DATA signal 7 ¼H WINDOW				15.75K		ROM DATA Signal 8				15.75K	
0	CLOCK	DOT CLOCK FREQUENCY	0	MHz	(X00)	1	4.	2	0	0	F	1	4.	2	0	0	F
1	H FREQ	HORIZONTAL FREQUENCY	1	KHz	(X03)	1	5.	8	5	0	F	1	5.	8	5	0	F
2	V FREQ	VERTICAL FREQUENCY	2	Hz	(X06)	6	0.	5	7	7	F	6	0.	5	7	7	F
3	CH	CHARACTOR CELL SIZE	3	DOT	(X09)			H_0	8	V_1	0			H_0	8	V_1	0
4	Nht	4	4	CHR	(X0B)			F	1	1	2			F	1	1	2
5	Nht	5	5	CHR	(X0D)			F	0	2	0			F	0	8	0
6	Nhsp	6	6	CHR	(X0F)			F	0	6	2			F	0	9	2
7	Vpw-Hpw	7	7	V (LASTER) H (CHR)	(X11)			V_0	1	H_0	7			V_0	1	H_0	7
8	Nadj	8	8	H (LASTER)	(X13)					0	0					0	0
9	Nvt	9	9	LINE	(X14)			F	0	2	6			F	0	2	6
10	Nvd	10	10	LINE	(X16)			F	0	1	0			F	0	2	0
11	Nvsp	11	11	LINE	(X18)			F	0	1	8			F	0	2	3
12	Nvsadj	12	12	H (LASTER)	(X1A)					0	5					0	5
13	INT	13	13		(X1B)					0	0					0	0
14	OUT	14	0 Sync NEG Hsync Sync OFF TTL OUT RZ..... without dots 1 POS HVsync Sinc ON ANALOG OUT NRZ..... dots		(X1C)	F	1	0	0	1	1	F	1	0	0	1	1

① Indication address ② Abbreviation ③ Description ④ Contents ⑤ Unit

Description of each address

add.	Description	Condition
0		05.000 ~ 40.000 MHz, 5- or 6-digit 2.5KHz step for 10 MHz or lower, 5 KHz step for 10 ~ 20 MHz, and 10 KHz step for 20 MHz or higher
1		Reference data, 5-digit
2		Reference data, 5-digit
3		(H direction) x (V direction), 02 to 16 01 to 32 each 2-digit
4	Total number of characters, horizontal	255 characters or less, 3-digit
5	Number of indication characters, horizontal	N_{ht} or less, 3-digit
6	Horizontal sychronization position	N_{ht} or less, 3-digit
7	Vertical/horizontal pulse width	V: 1 to 16 H/H:1 to 15 chr.
8	Total raster adjustment	31 H or less
9	Total number of characters, vertical	127 rows or less, 3-digit
10	Number of indication characters, vertical	N_{vt} or less
11	Vertical synchronization position	N_{vt} or less
12	Vertical indication position correction	0 ~ 16 H (Synchronization position moves in the form of $N_{vsp} + N_{vsadj}$)
13	Interlace select	00: non-interlace 01: interlace
14	Output condition setting	

Likewise, when significant data is a single digit, do not forget to enter 0.

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'S DISCRIPTION:

Signal No.	Description
1	H: 25kHz
2	H: 20kHz
3	H: 30.48kHz (480 lines)
4	H: 30.48kHz (400 lines)
5	H: 15.85kHz
6	H: 22kHz
7	H: 15.85kHz WINDOW PATTERN
8	H: 15.85kHz

OPTION PARAMETERS

Signal Gating

Composite 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
Horizontal Skew	OP 14.—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

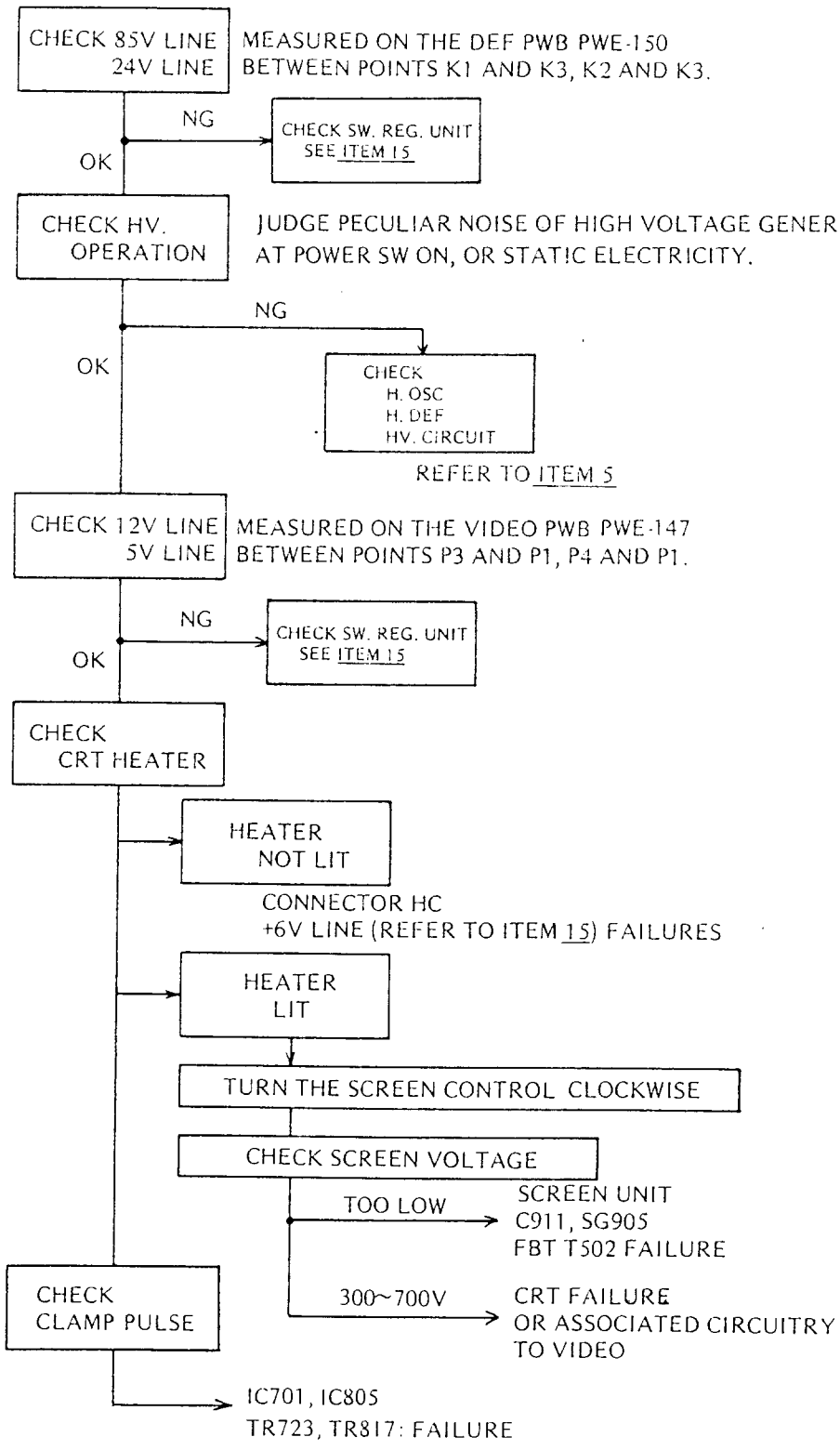
TEST SIGNALS FOR USING Quantum 801C

SIGNAL No.	1	2	3	4	5	6	7	8
Real Time Parameters								
Dot Rate (MHz)	20.800	16.640	25.112	25.112	14.200	16.368	14.200	14.200
Horizontal Rate (kHz)	25.000	20.000	30.476	30.476	15.848	22.000	15.848	15.848
Vertical Rate (Hz)	59.95	60.06	59.99	59.99	60.03	60.11	60.03	60.03
Non-Real Time Parameters								
H: Dots/Character	8	8	8	8	8	8	8	8
Total	104	104	103	103	112	93	112	112
Characters	80	80	80	80	80	80	20	80
Drive Delay	88	88	80	80	92	80	62	92
Drive Width	8	8	14	14	7	10	7	7
V: Lines/Character	10	10	10	10	10	10	10	10
Total	417	333	508	508	264	366	264	264
Rows	38	30	48	40	20	35	10	20
Drive Delay	38	30	48	44	23	35	18	23
Drive Width	3	3	2	2	1	13	1	1
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								
Composite Sync	1	1	1	1	1	1	1	1
Vertical Step	–	–	–	–	–	–	–	–
Horizontal Drive	1	1	1	1	1	1	1	1
Vertical Drive	1	1	1	1	1	1	1	1
Video	0	0	0	0	0	0	0	0
Interlace 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	–	–	–	–	–	–	–	–

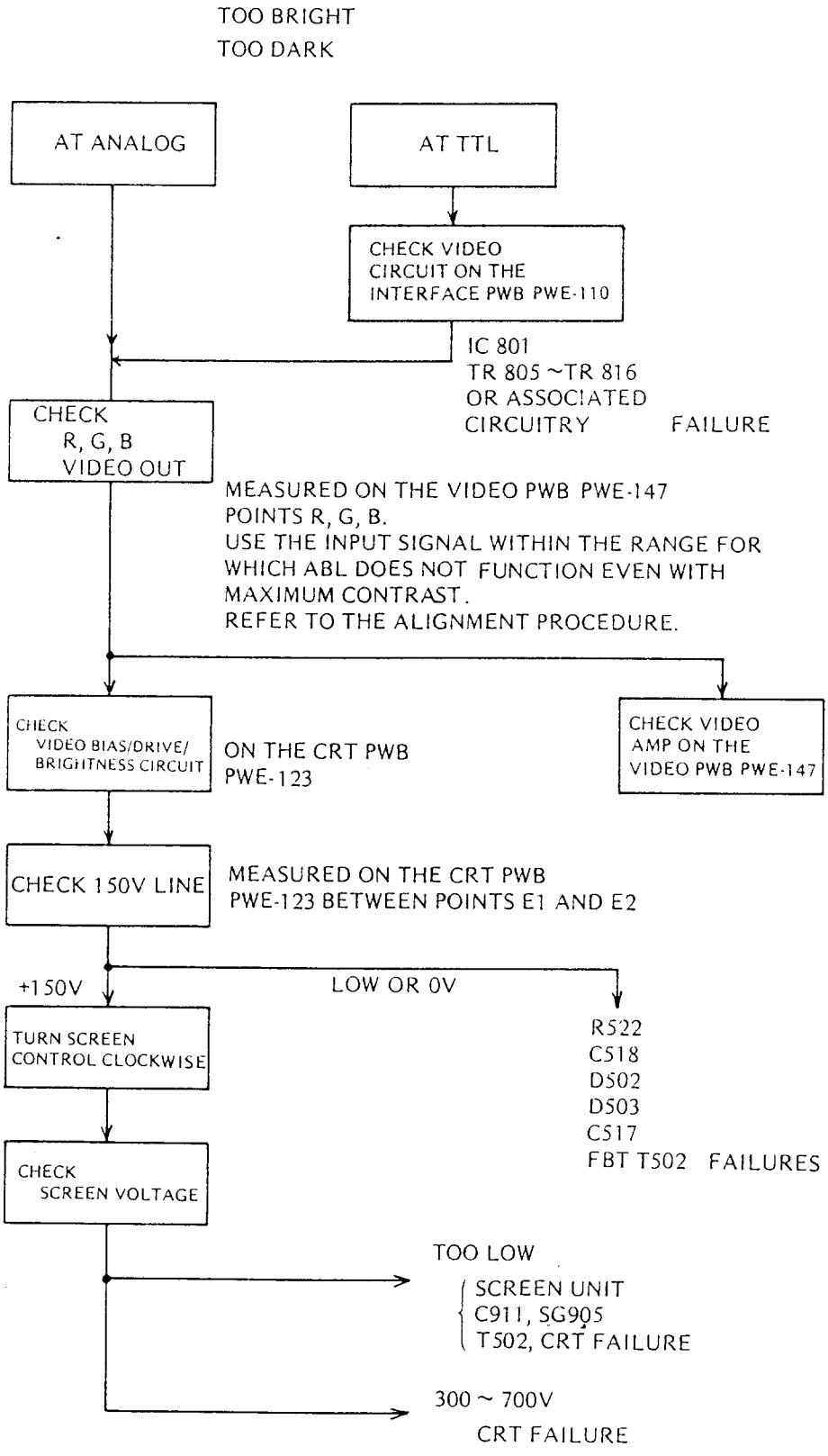
TROUBLE SHOOTING

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

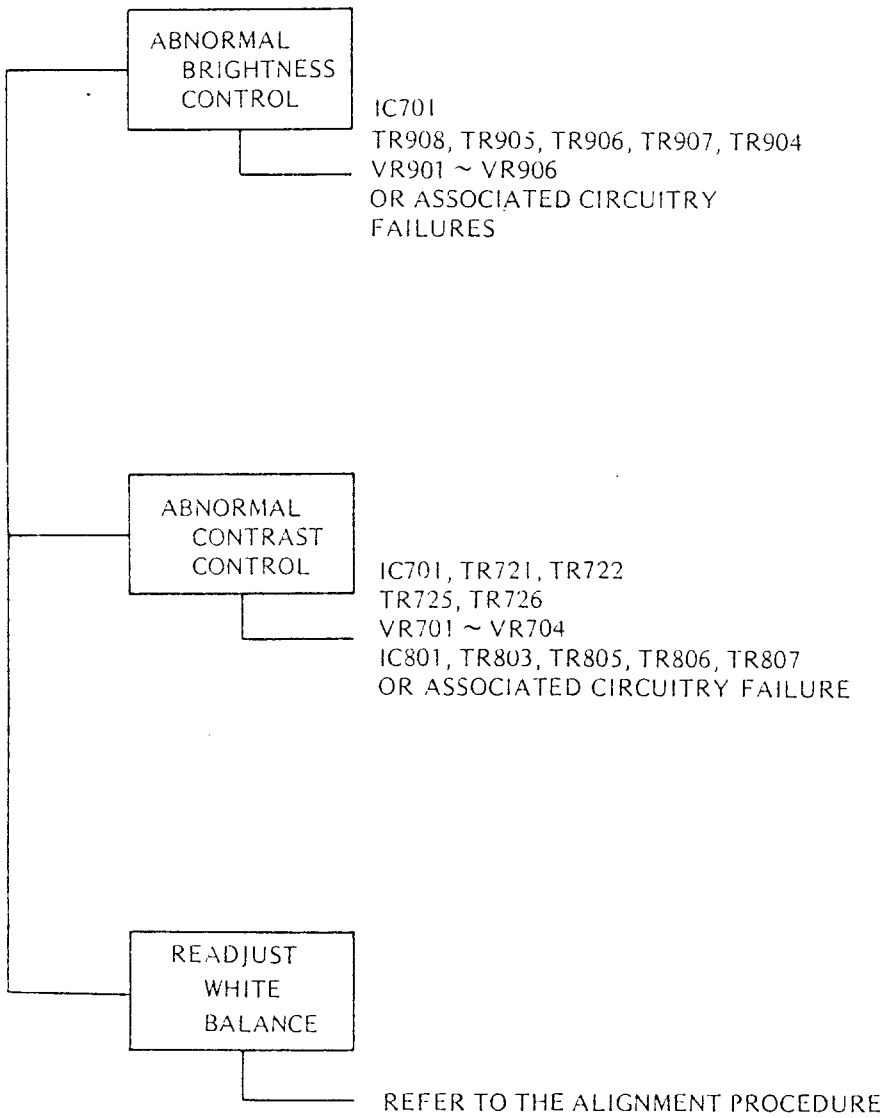
1. NO RASTER



2. ABNORMAL VIDEO ON CRT SCREEN

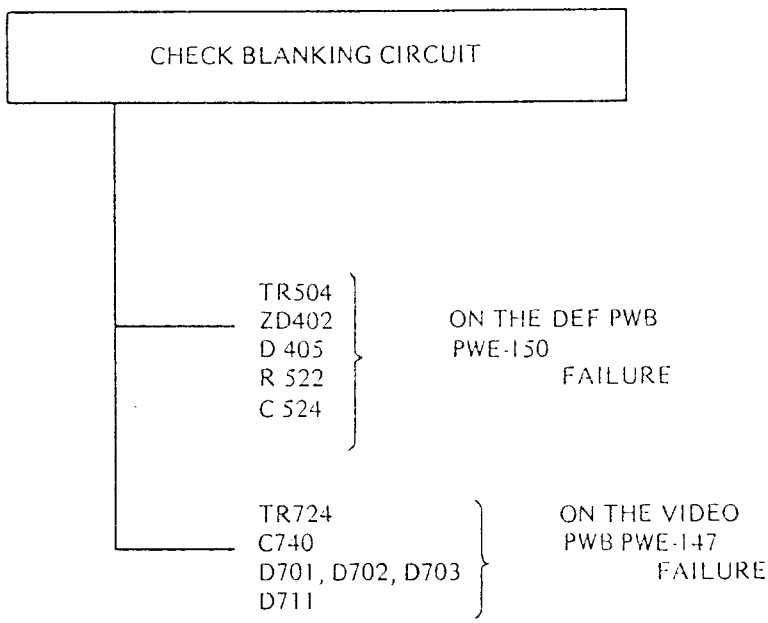


3. ABNORMAL WHITE BALANCE AND TRACKING



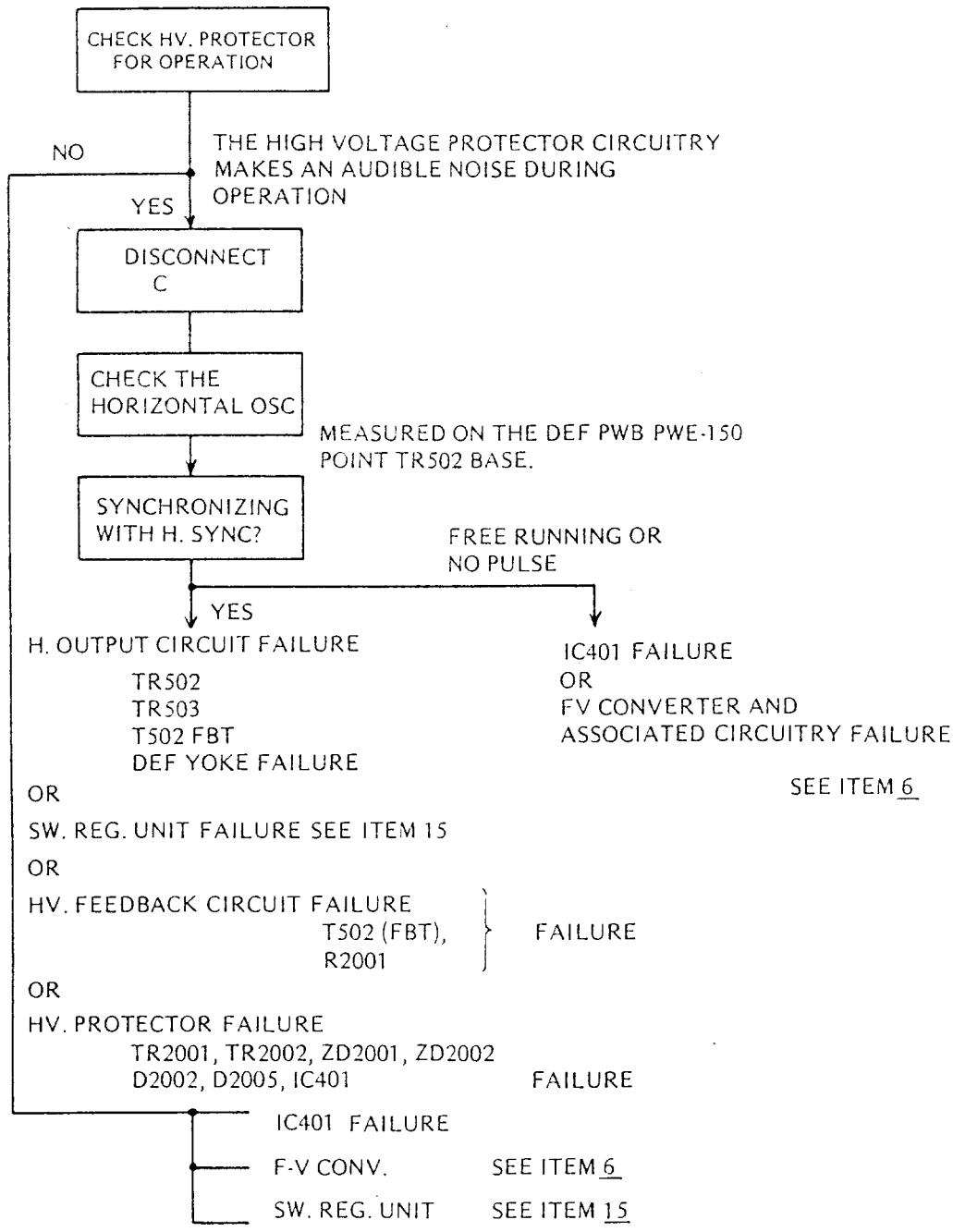
4. NO BLANKING WORKS

VISIBLE RETRACE LINE ON THE BACK RASTER

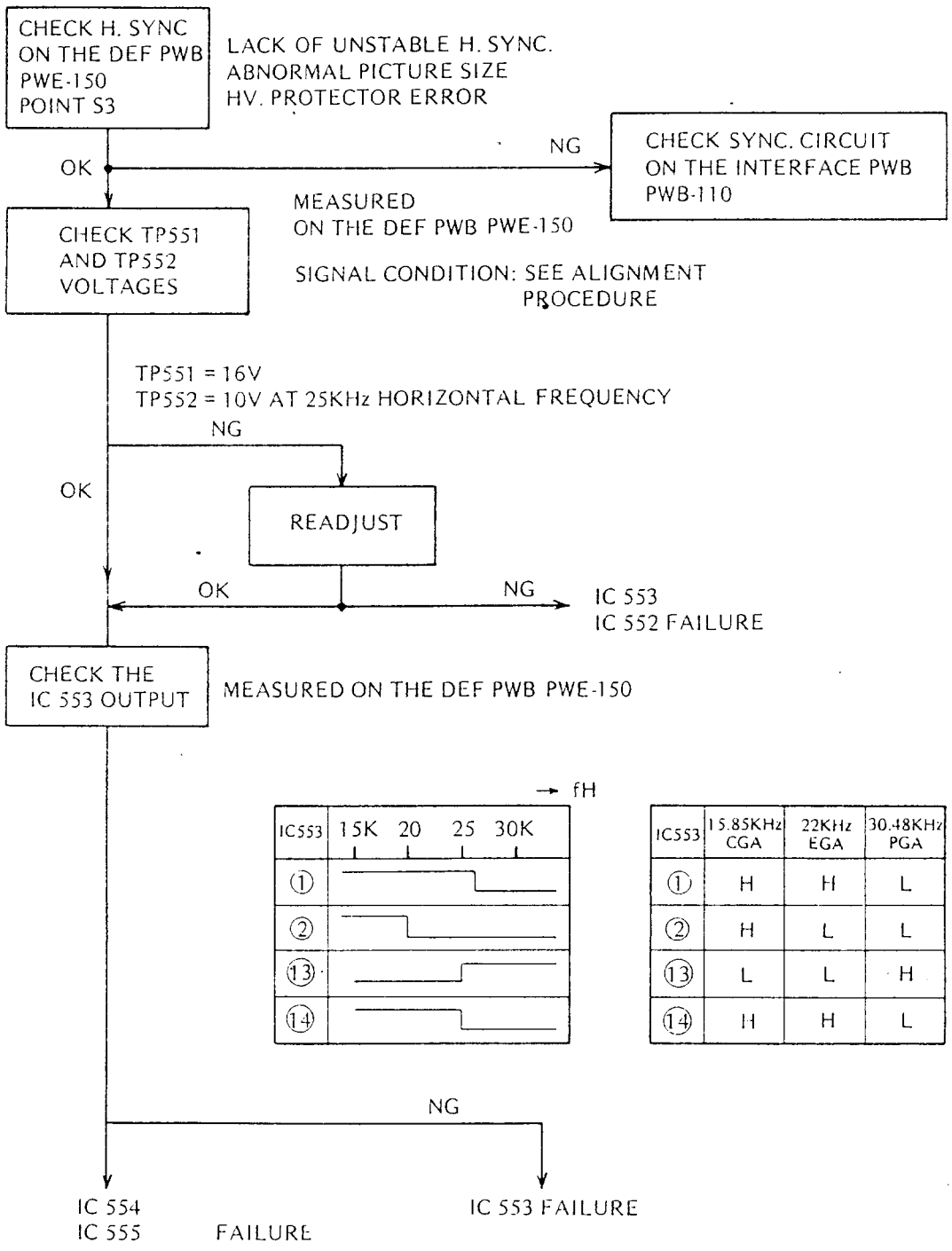


5. H. OSC/DEF/HV. CIRCUIT FAULT

NO RASTER
ABNORMAL PICTURE SIZE
ABNORMAL VIDEO ON THE CRT SCREEN



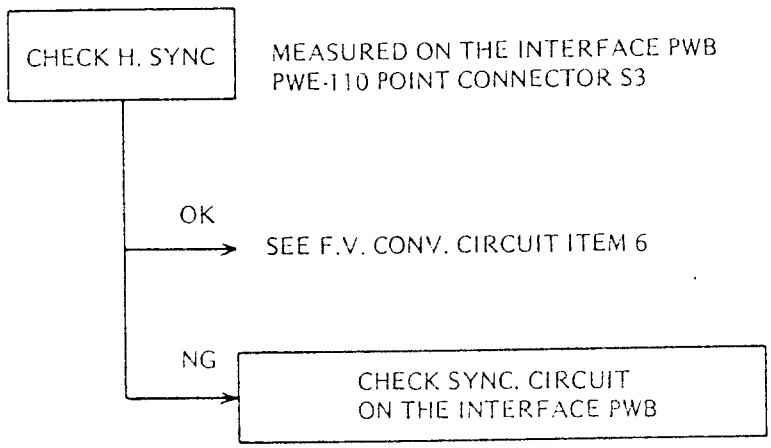
6. F-V CONVERTER AND ASSOCIATED CIRCUITRY



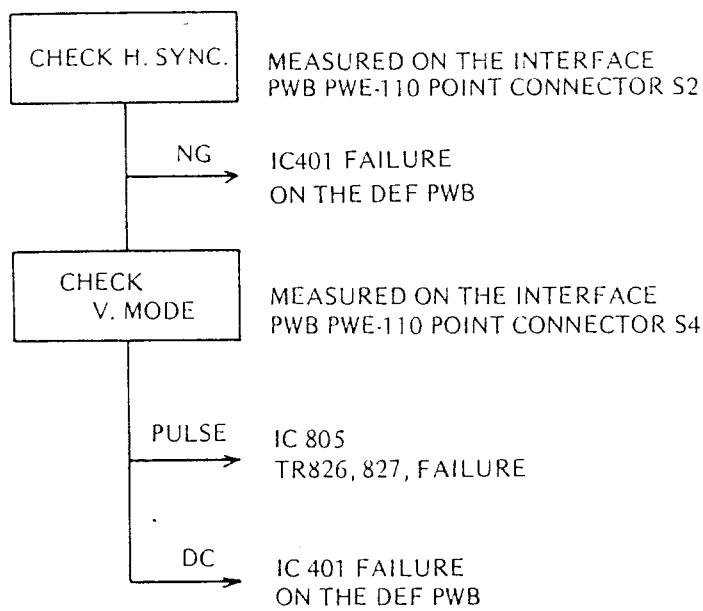
IC553	15.85KHz CGA	22KHz EGA	30.48KHz PGA
①	H	H	L
②	H	L	L
⑬	L	L	H
⑭	H	H	L

7. LACK OF UNSTABLE SYNCHRONIZATION

HORIZONTAL

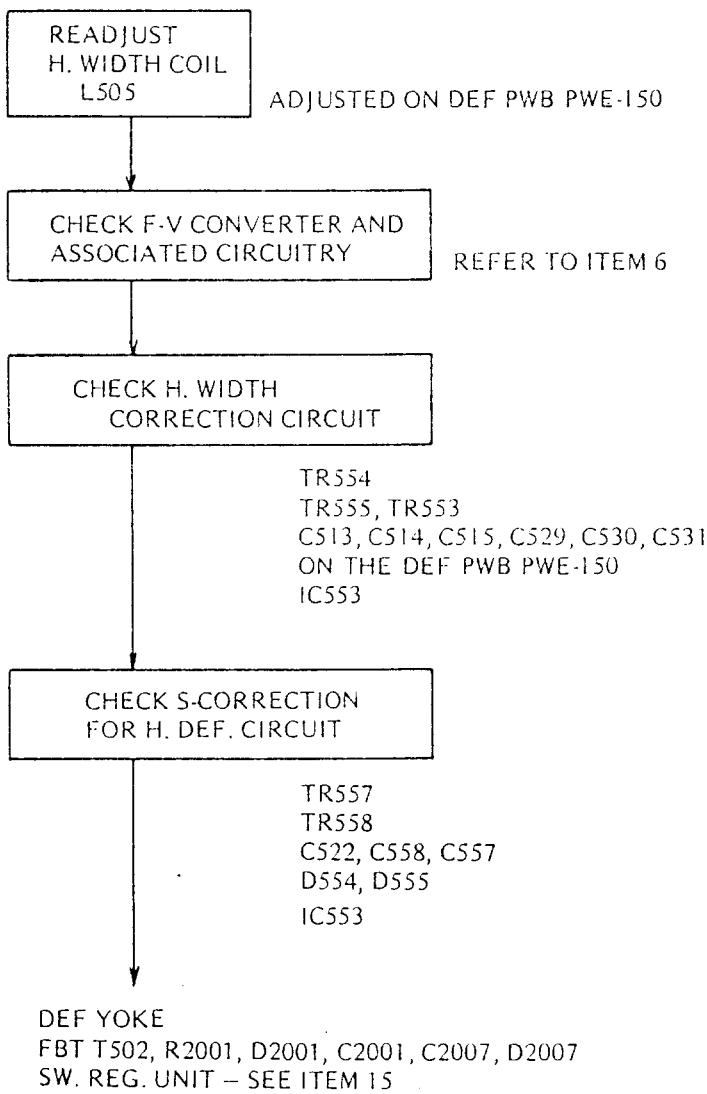


VERTICAL

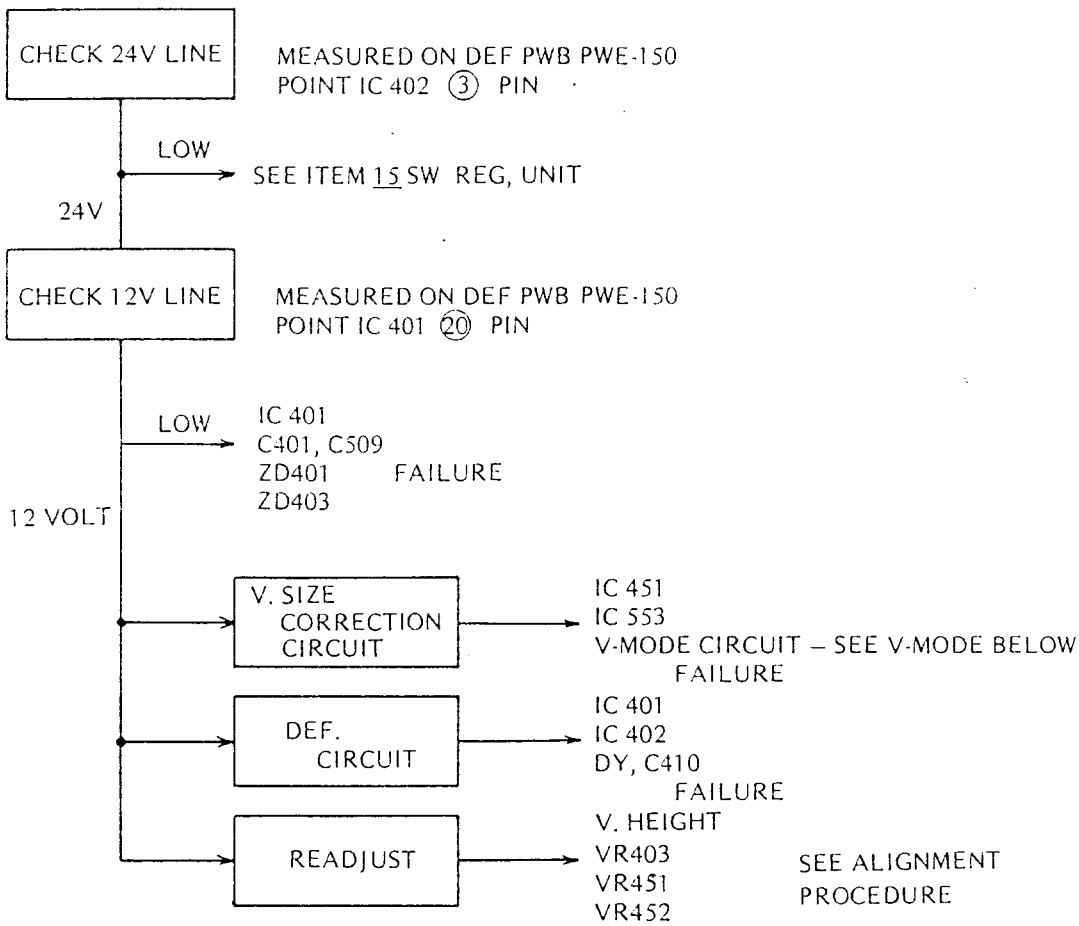


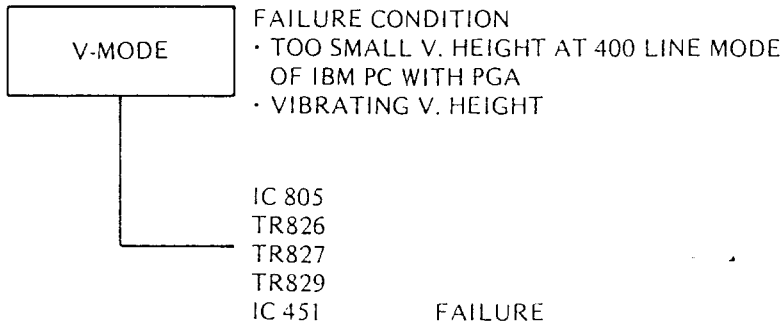
8. PICTURE SIZE

ABNORMAL HORIZONTAL WIDTH



ABNORMAL VERTICAL HEIGHT

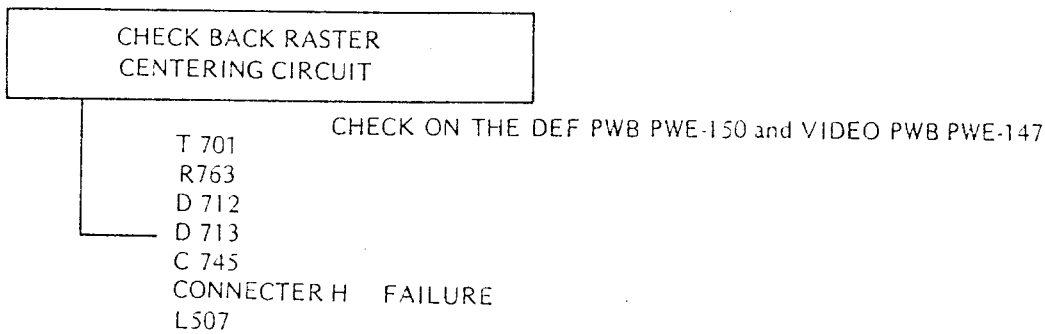




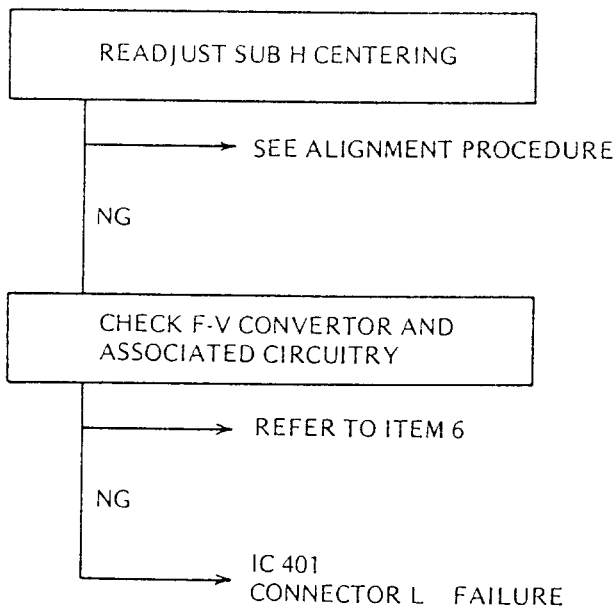
9. CENTERING

9-1. HORIZONTAL

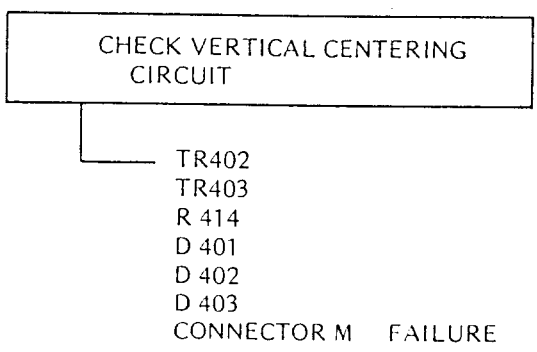
a) BACK RASTER CENTERING



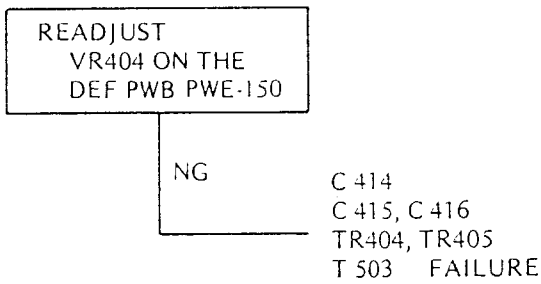
b) PICTURE CENTERING



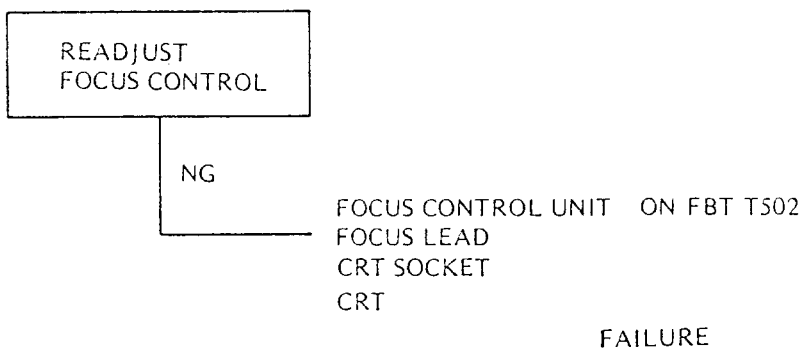
9-2. VERTICAL



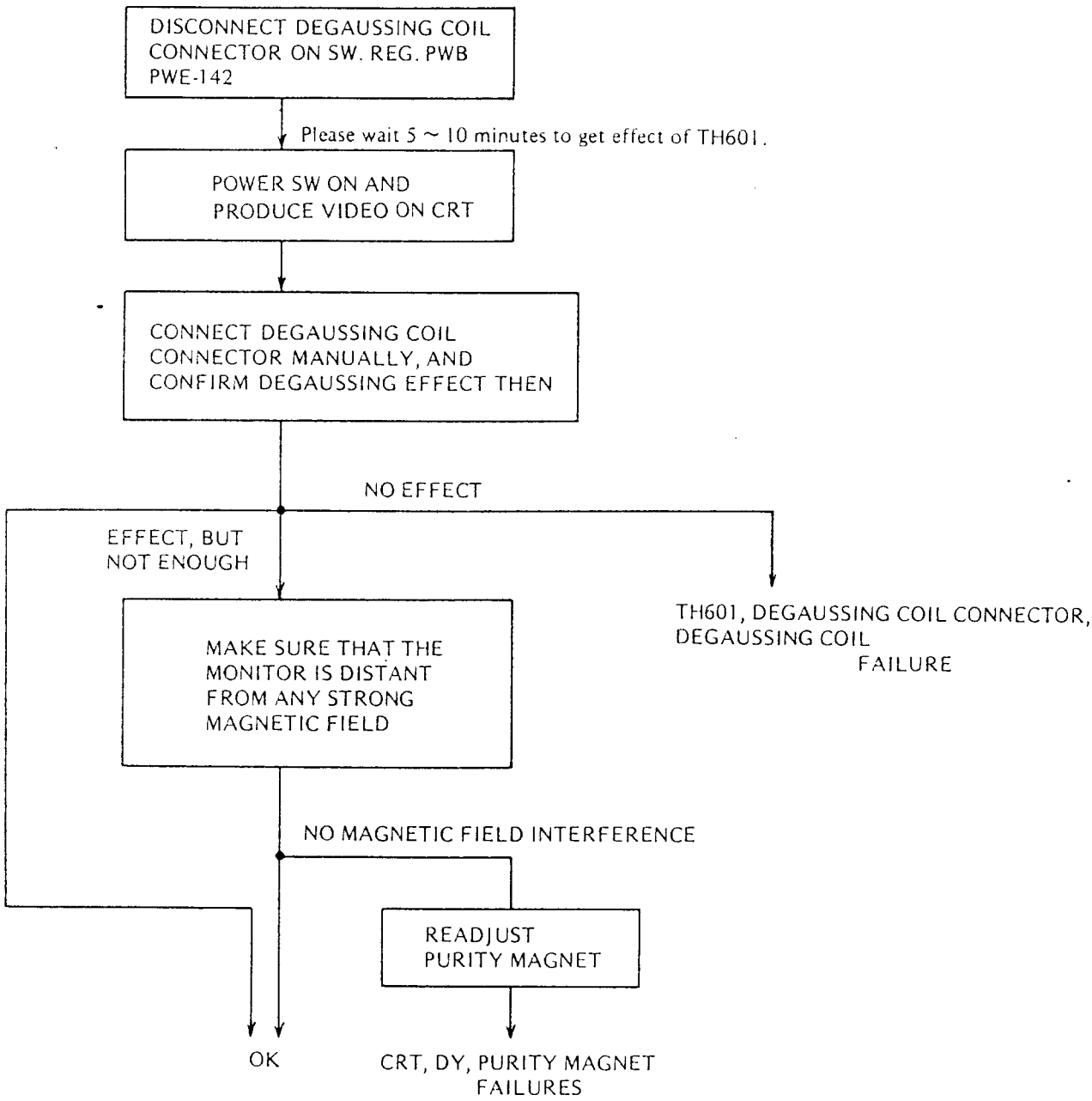
10. SIDE PINCUSHION DISTORTION FAILURE



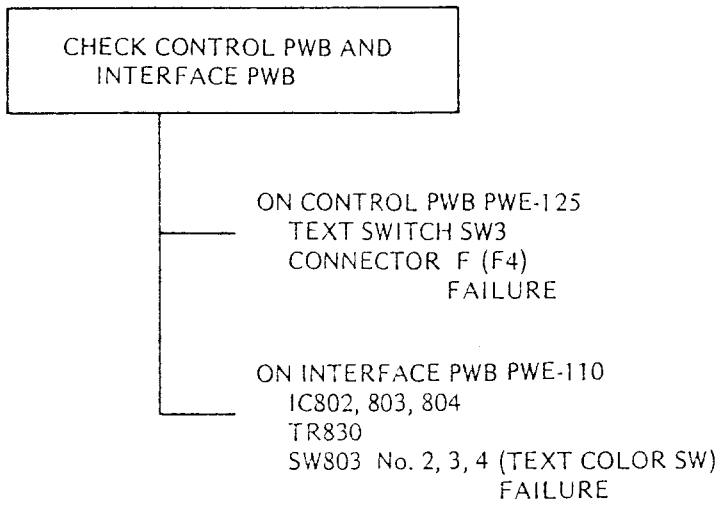
11. POOR FOCUS



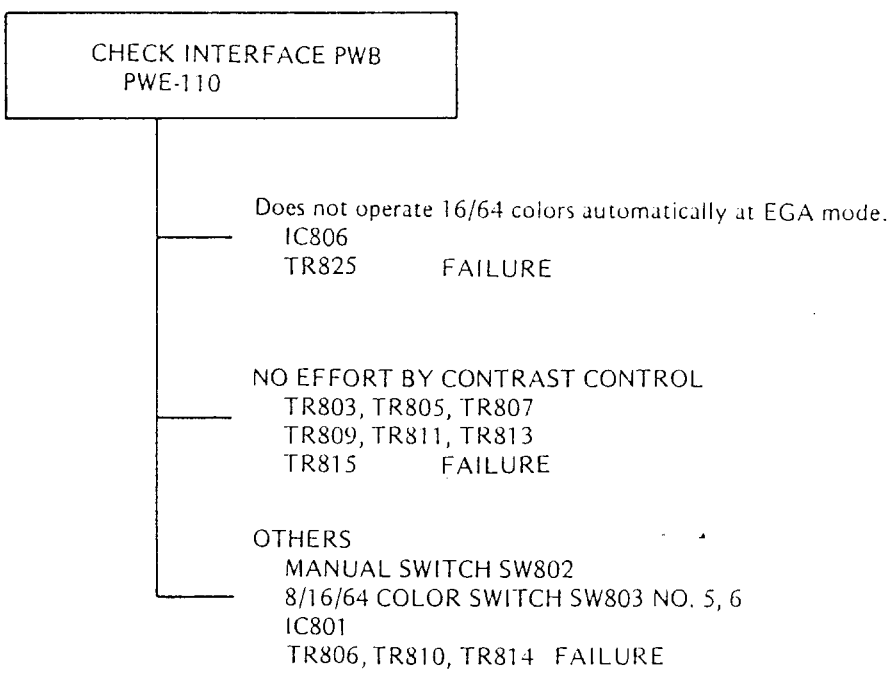
12. IMPURITY ON CRT SCREEN



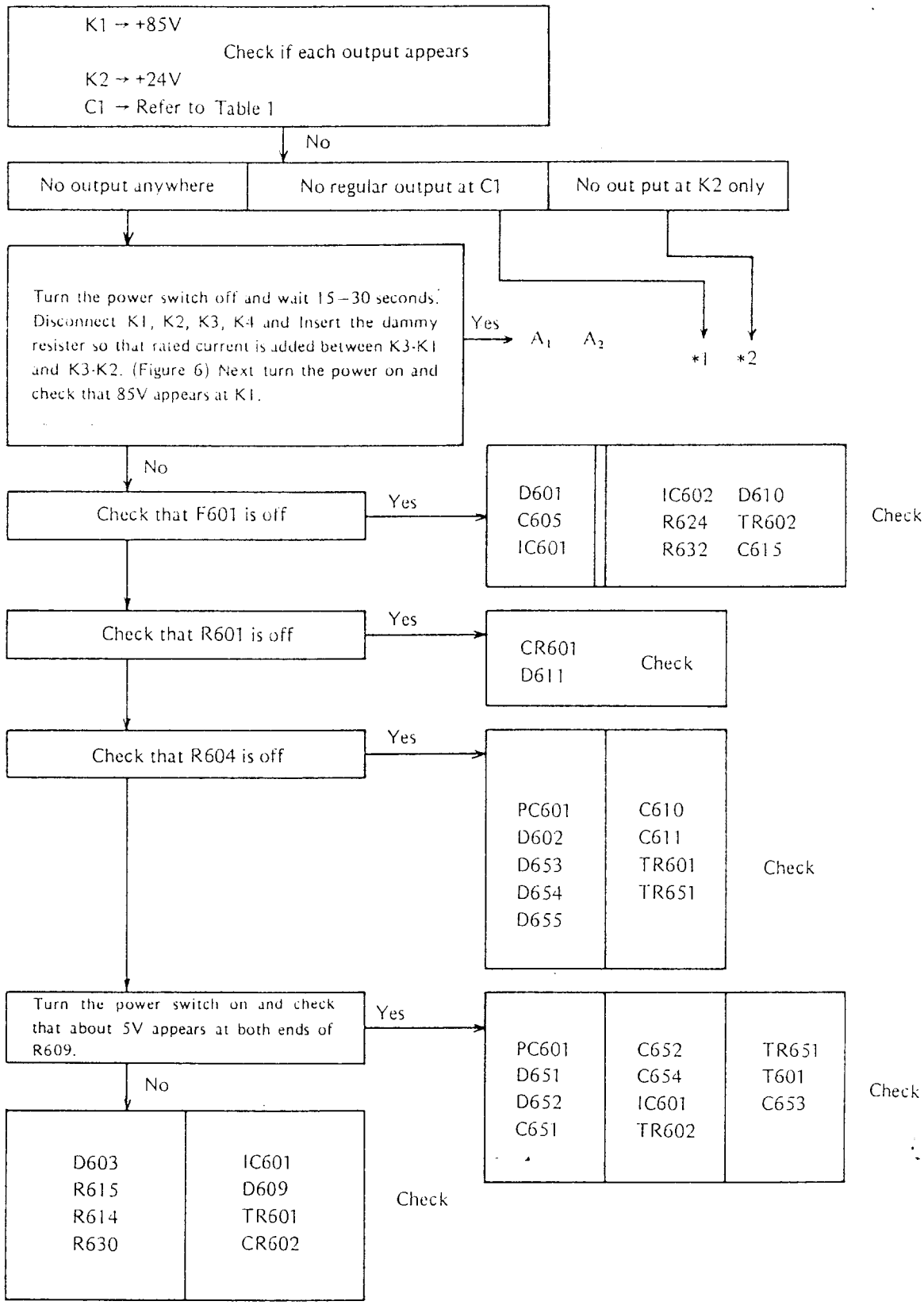
13. ABNORMAL TEXT MODE OPERATION

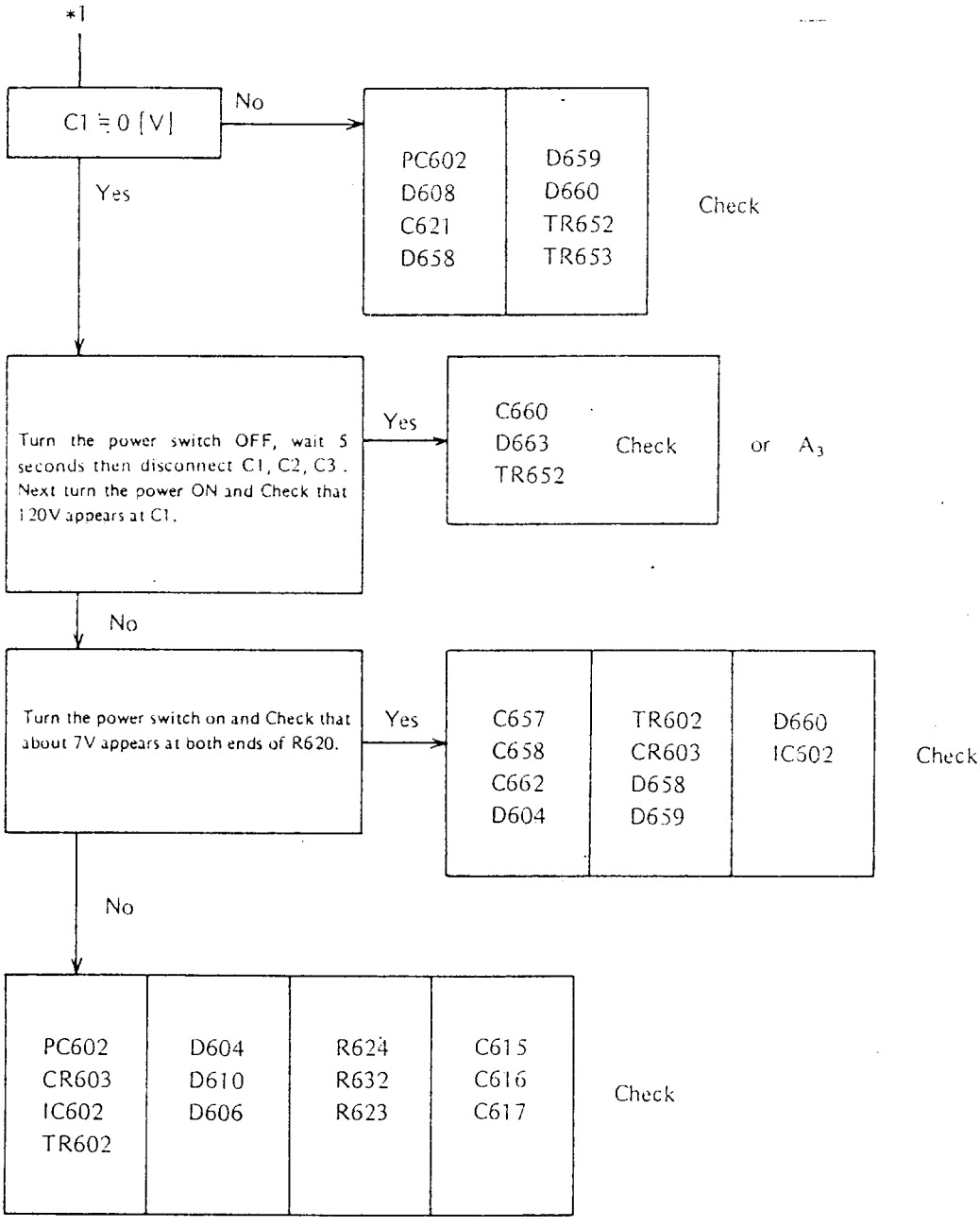


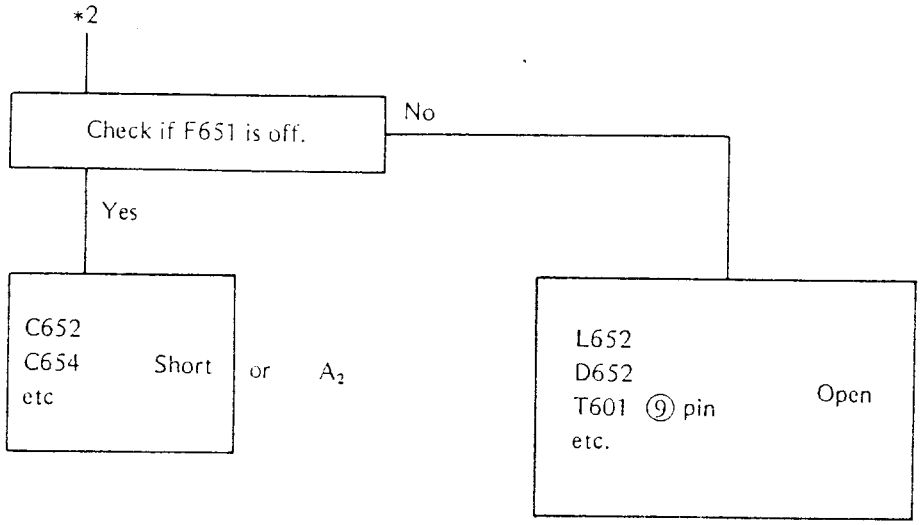
14. ABNORMAL COLOR AT TTL MODE



15. SWITCHING REGULATOR UNIT




*1
C1 ≒ 0 [V]
No
Yes
PC602
D608
C621
D658
D659
D660
TR652
TR653
Check
Turn the power switch OFF, wait 5 seconds then disconnect C1, C2, C3. Next turn the power ON and Check that 120V appears at C1.
Yes
C660
D663
TR652
Check
or A3
No
Turn the power switch on and Check that about 7V appears at both ends of R620.
Yes
C657
C658
C662
D604
TR602
CR603
D658
D659
D660
IC502
Check
No
PC602
CR603
IC602
TR602
D604
D610
D606
R624
R632
R623
C615
C616
C617
Check



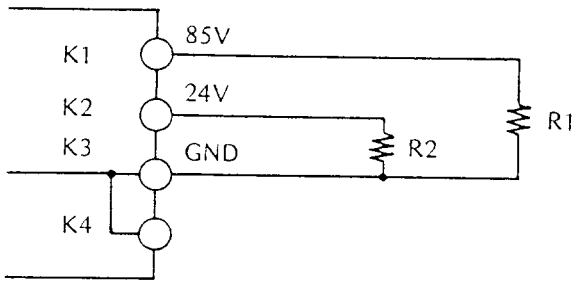
An Trouble excluding Switching Regulator (see next page)

Table 1. C1 output voltage

Horizontal Frequency [KHz]	C1 Voltage [V]
15.85 (CGA) 22 (EGA) 30.48 (PGA)	51 ± 2.6 64 ± 3.2 93 ± 4.7

With no input signal, about 45V should appears at C1.

Figure 6. Rated load current at K1 and K2 terminal



+85V	0.015 – 0.11 A R1 (5.67kΩ – 772Ω)
+24V	0.4 – 0.91 A R2 (60Ω – 26Ω)

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
(A1) 85V CONNECTOR K1–K3		D554, D555 TR501 TR502	DEF PWB PWE-150	
		TR707 ~ TR712 R731 ~ R736 C742, C743, C745	VIDEO PWB PWE-147	
(A2) 24V K2–K3 AND ASSOCIATED VOLTAGE LINES	24V CONNECTOR K2–K3	D404, IC402, C409	DEF PWB PWE-150	BECAUSE OF FAILURE BELOW PART MAY BE DAMAGE 1. F651 1.6A 2. R744 2.2Ω 1/2W 3. R743 4.7Ω 1/2W 4. TR720
		TR720, IC702, IC703 ZD702 C735, C741, C734, T501	VIDEO PWB PWE-147	
	12V CONNECTOR P3–P1	C731 AND ASSOCIATED CIRCUITRY OF VIDEO AMP CIRCUIT USING 12 Volts Supply	VIDEO PWB PWE-147	
		C810, C829, TR801	INTERFACE PWB PWE-110	
	6V CONNECTOR HC2–HC3	CRT HEATER	CRT PWB PWF-123	
		C742	VIDEO PWB PWE-147	
		INTERFACE CIRCUIT BASED ON 5V LINE BETWEEN CONNECTOR P4 AND P1 TTL ICs	INTERFACE PWB PWE-110	
(A3) 45 ~ 120V CONNECTOR C1–C3		C516 FBT D501 TR503 C513, C514 DEFLECTION YOKE	DEF PWB PWE-150	
(A3) HIGH VOLTAGE FEEDBACK VOLTAGE CONNECTOR C2–C3		FBT C2001, C2007 D2001, D2007 OTHERS	DEF PWB PWE-150	SEE ITEM 5

REASSEMBLE OF JC-1401P3ED

> **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.

Confirm that all parts in Figure 6-1 and 6-2 are screwed tightly. Also confirm that the isolation on the back bracket is in the correct position as in Figure 7.

[ATTACHING THE SCREWS]

- Screw in and tighten and screws (A) ~ (G) as shown in the Fig. below. With the 4 screws (H) attach the degaussing coil and wires which are clamped together, to the bracket shown in the Fig.

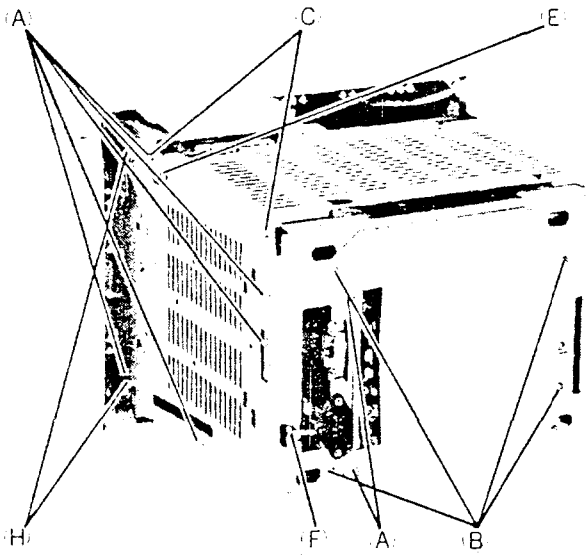


Figure 6-1

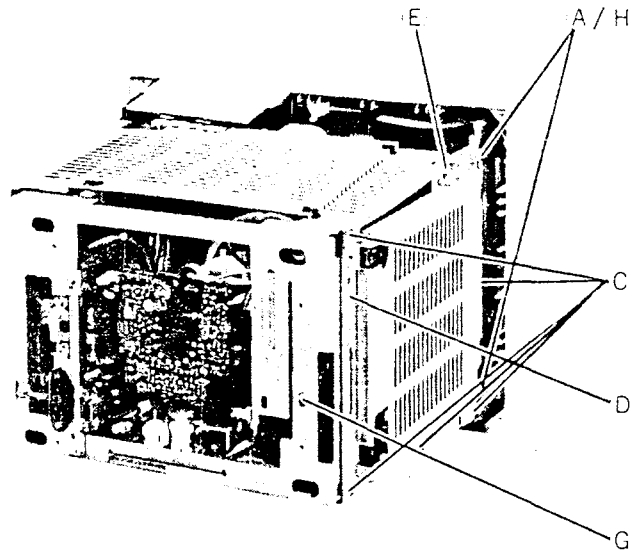


Figure 6-2

[INSULATION]

(1) To the one a shaded with ▨ apply insulating tape to replace that which was removed in disassembly. Confirm that the insulating tape has been replaced prope. If it has been cut or damaged replace it in the correct manner.

(2) To the one a shaded with ▩ apply the barrier (insulating board). Check that the insulating washers one attached to screws (G) and (D) before replacing.

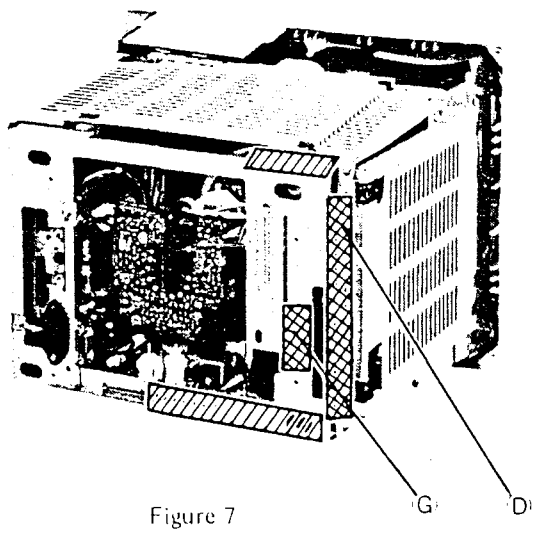
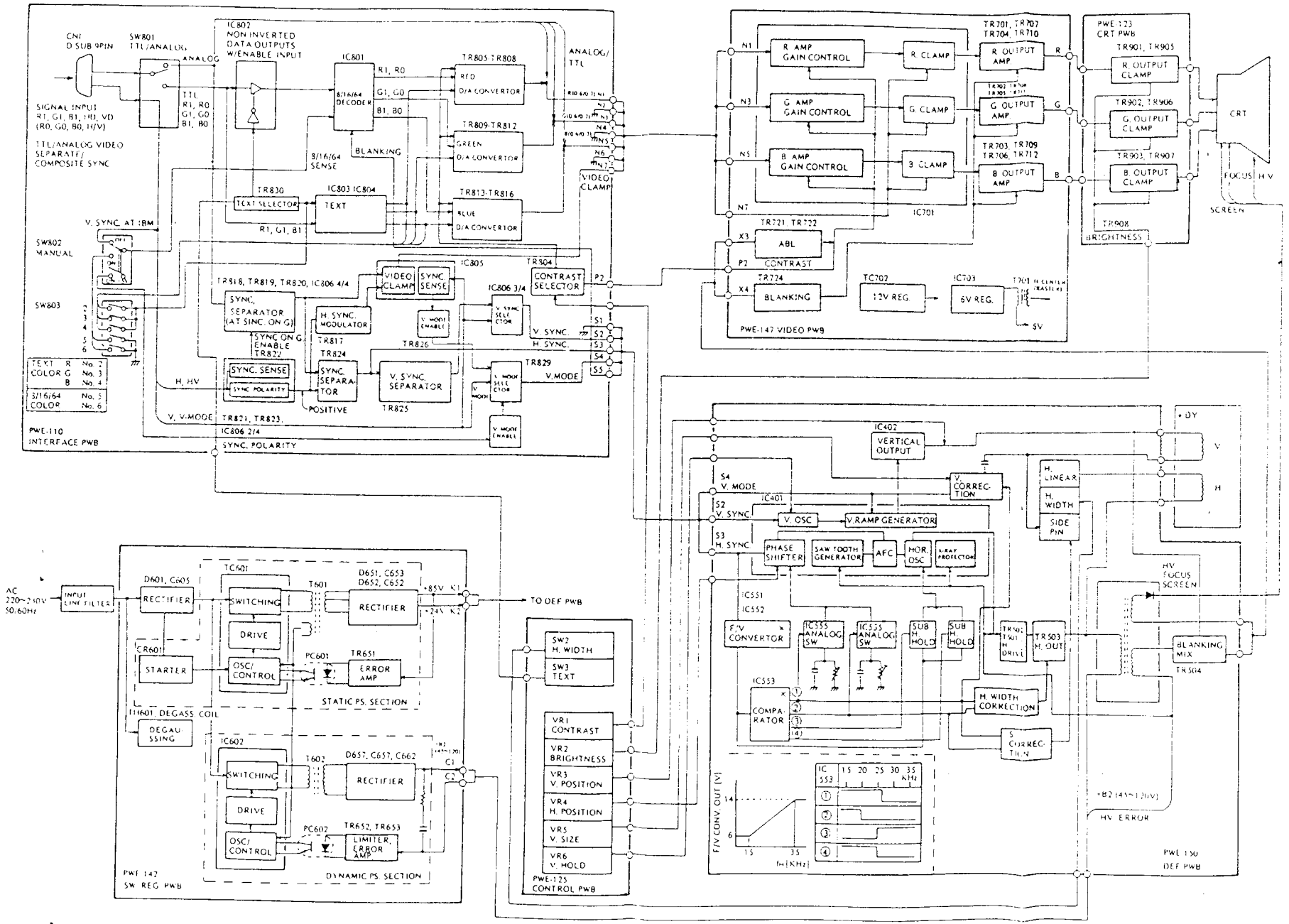


Figure 7

Screws Used

(A)	3mm	Machine Screw
(B)	3mm	Tapping Screw (attached washer)
(C)	3mm	Tapping Screw
(D)	3mm	Tapping Screw (attached insulating bush)
(E)	4mm	Machine Screw (Long)
(F)	4mm	Machine Screw (Short)
(G)	3mm	Machine Screw (attached bush and nat.)

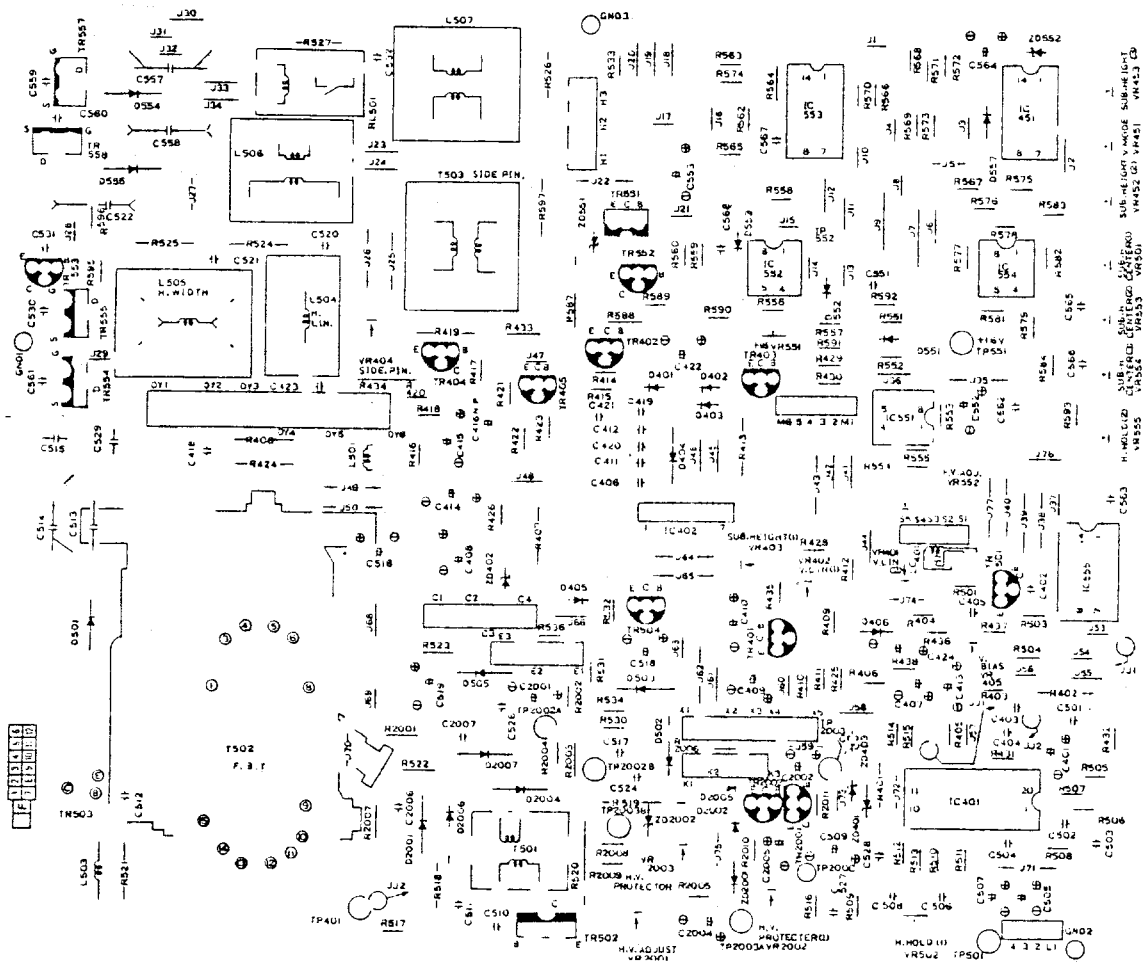
BLOCK DIAGRAM



PRINTED WIRING BOARD

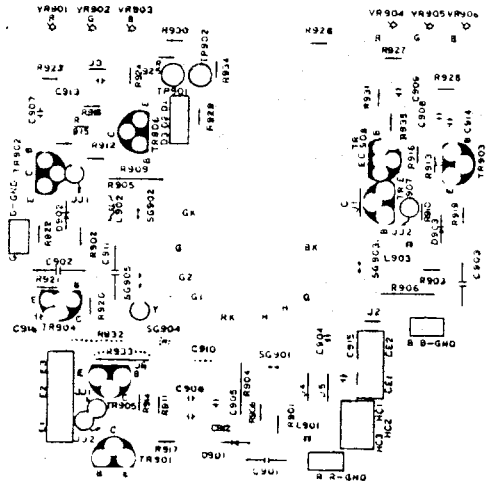
DEFLECTION PWB ASS'Y (PWE 150)

– Solder Side –



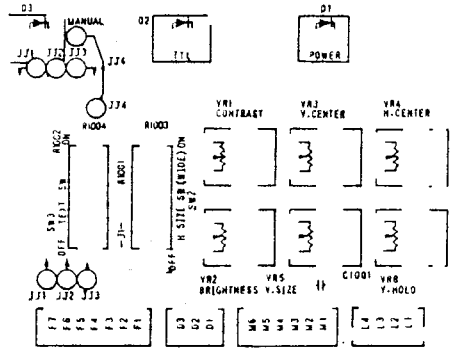
CRT PWB ASS'Y (PWE 123)

– Solder Side –



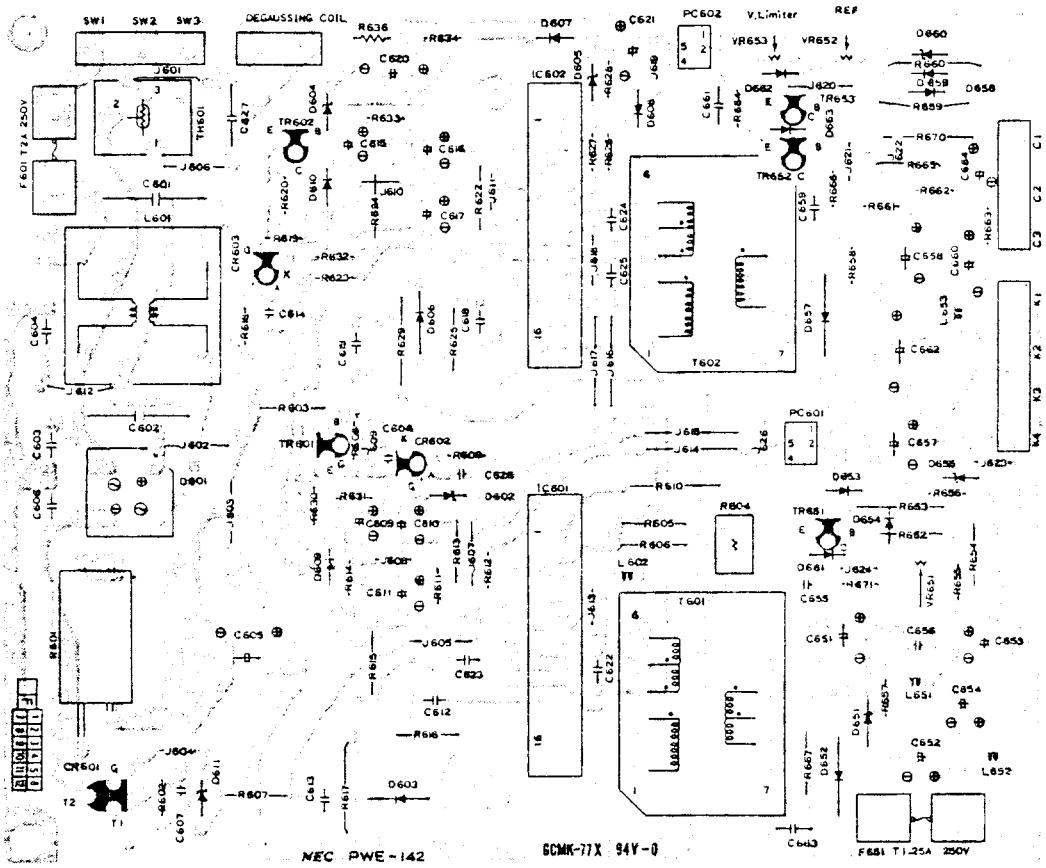
CONTROL PWB ASS'Y (PWE 125A)
LED PWB ASS'Y (PWE 125B)

– Solder Side –



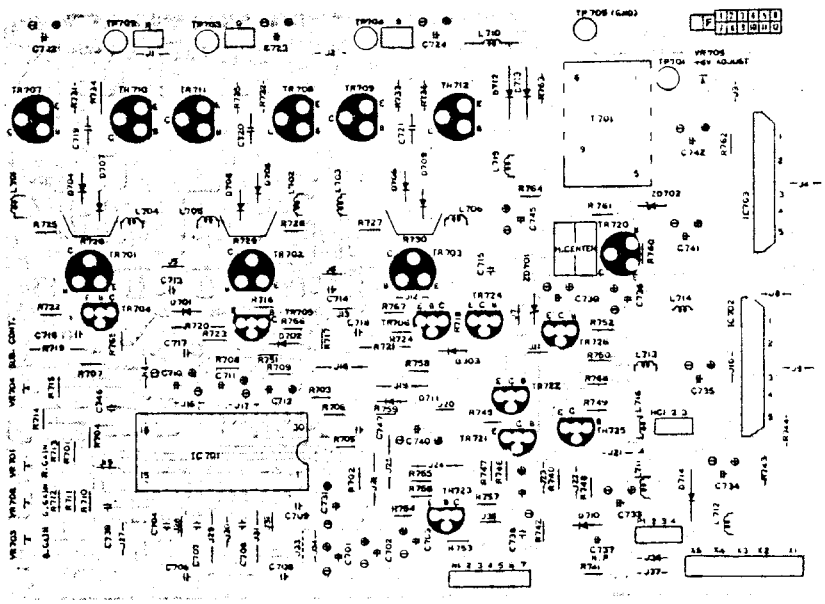
SWITCHING REGULATOR POWER SUPPLY PWB ASS'Y (PWE 142)

– Solder Side –



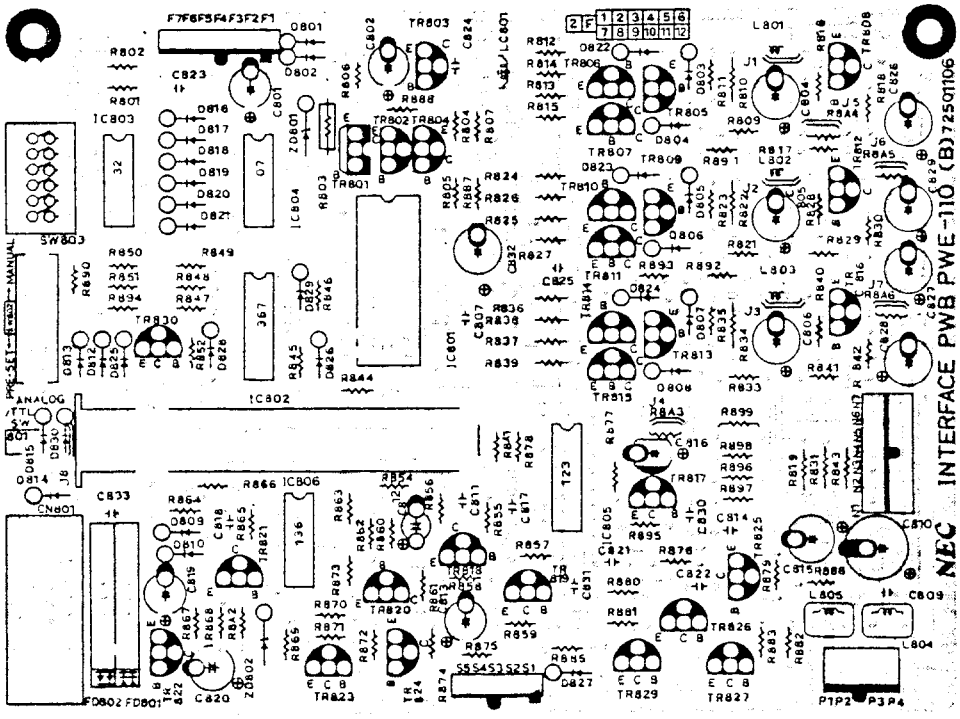
VIDEO PWB ASS'Y (PWE 147)

– Solder Side –



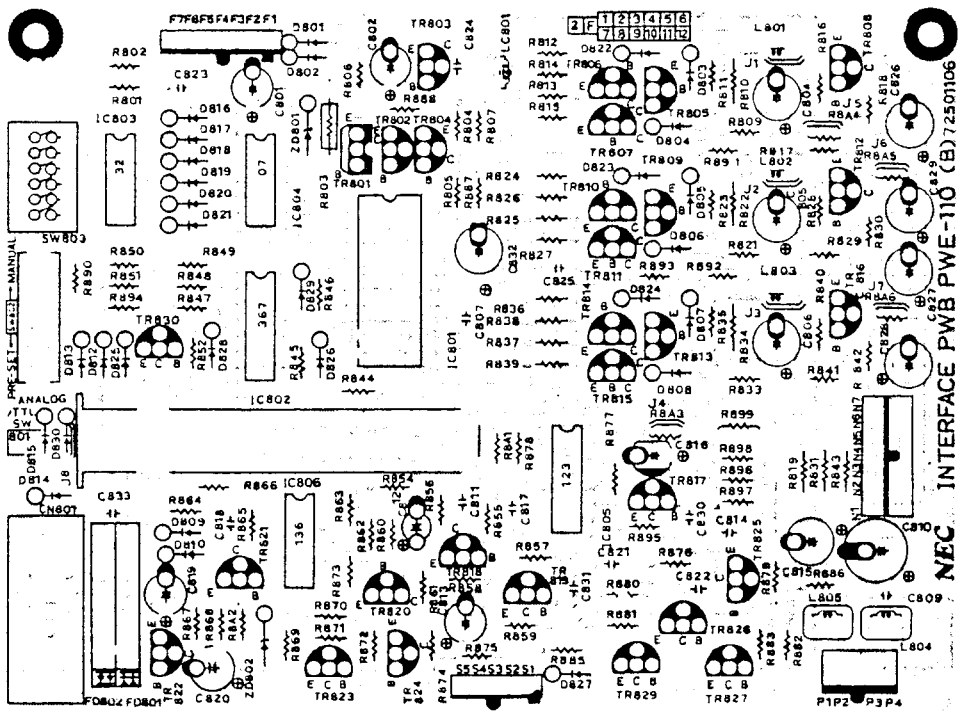
INTERFACE PWB·ASS'Y (PWE 110)

– Component Side –



INTERFACE PWB ASS'Y (PWE 110)

See-through view of reverse-side components



REPLACEMENT PARTS LIST

Note: The components identified by ⚠ make are critical for safety. Replace only with Parts Number Specified.

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** CRT & TUNER ***			
⚠(JC-1401P3E/EE)	33014117	CRT 370HYB22-TC126(PN2)	1
⚠JC-1401P3ED)	33014129	CRT 370HYB22-TC135(PN2)	1
⚠(JC-1401P3R)	33014124	CRT 370HYB22-TC126(PN2)(R)	1
*** ICS ***			
IC553	37011054	IC UPC339C (COMP)	1
IC451 IC555	37051C36	MOS UPD4066BC (ESD)	2
IC803	37051C81	IC SN74LS32N (OR)	1
IC802	37051C96	IC SN74LS367AN (BUFF)	1
IC804	37051108	IC SN7407N (BUFF)	1
IC805	37051179	IC SN74LS123N (MONO MLT)	1
IC806	37052011	IC SN74LS136N (EX-OR)	1
IC552 IC554	37056207	IC UPC358	2
⚠IC4C2	37056216	IC LA7830	1
⚠IC401	37056217	IC LA7850	1
⚠IC551	37056218	IC IR9331	1
⚠IC703	37056219	IC STR2005	1
⚠IC702	37056220	IC STR2012	1
⚠IC8C1	37056233	IC PCD-016MI	1
⚠IC701	37056245	IC M51387P	1
⚠IC6C1 ⚠IC602	37056250	IC STK-7404H-105	2
*** TRANSISTORS ***			
⚠TR2002 TR401 TR404 TR5C1 TR5C4 TR552 ⚠TR553 TR722 TR726 TR802 TR804 TR808 TR812 TR816 TR817 TR818 TR819 TR821 TR822 TR823 TR824 TR825 TR826 TR827 TR829 TR830 TR904 TR908	350D7217	TR,2SC945-T Q	28
TR704 TR705 TR706 TR723 TR805 TR806 TR807 TR809 TR810 TR811 TR813 TR814 TR815 TR820	350H5C17	TR,2SC3811-TA Q	14

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** TRANSISTORS ***			
⚠TR2C01 TR721 TR724 TR725 TR803	35CK3517	TR 2SA733/2SA733A Q	5
TR403	350K4412	TR,2SA952 L	1
TR405	35004312	TR,2SA953 L	1
TR9C1 TR902 TR903	35005217	TR,2SA1018 Q	3
TR710 TR711 TR712	350068C4	TR,2SA1538-RA D	3
⚠TR6C1 ⚠TR602	35047216	TR,2SC945 P	2
⚠TR651 ⚠TR652 ⚠TR653	35053011	TR,2SC1941 K	3
TR402	35055312	TR 2SC2CC1 L	1
TR5C2	35056311	TR,2SC2688 K	1
TR8C1	35C63511	TR 2SD471 (1) K	1
TR551	35065416	TR,2SD882 P	1
TR720	35065417	TR,2SD882 Q	1
⚠TR5C3	35082401	TR 2SC3486-YR	1
TR701 TR702 TR703	35C825C5	TR,2SC3502 E	3
TR905 TR906 TR907	35084417	TR,2SC1473 Q	3
TR7C7 TR708 TR709	350R6C04	TR,2SC3957-RA D	3
⚠TR557 ⚠TR558	35121CCC	TR,2SK430	2
⚠TR554 ⚠TR555	351215C0	TR 2SK530	2
⚠CR6C2 ⚠CR603	35595C10	THYRISTOR C3P4M-L	2
⚠CR6C1	35595C11	TRIAC PCR6AM-12L	1
*** DIODES ***			
⚠D661 ⚠D662 ⚠D663 D7C1 D702 D703 D704 D705 D706 D707 D7C8 D709 D711	36CK1CC9	DIODE,SI.1S2473	13
D710	360K1010	DIODE,SI.1S2472	1
D2006 D4C1 D402 D403 D405 D406 D551 D552 D553 D557 D8C1 D802 D8C3 D8C4 D805 D8C6 D8C7 D808 D8C9 D810 D812 D813 D814 D815 D816 D817 D818 D819 D820 D821 D822 D823 D824	360K1C27	DIODE 1SS132	29

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** DIODES ***			
D825 D826 D827			
D828 D829 D830			
⚠D607 ⚠D608 D901	360K1C32	DIODE 1SS82-TA	5
D902 D903			
⚠D609 ⚠D610 ⚠D653	360K1528	DIODE 1S954-T4	6
⚠D654 ⚠D658 ⚠D659			
ZD8C1	360K3112	DIODE RD9.1EP (3)-T4	1
ZD702	360K3121	DIODE RD6.8EP(3)-T4	1
ZD4C2	360K3123	DIODE RD20EB(3)	1
ZD701	360K3124	DIODE RD8.2EB (3)-T4	1
⚠D6C4	360K3129	DIODE,RD27EB(4)-T4	1
⚠D605	360K3133	DIODE,RD7.5EB(2)-T4	1
⚠ZD2001⚠ZD2002 ZD551	360K3143	DIODE,RD8.2JSP(1)-T4	3
⚠D602	360K3149	DIODE RD10EB(2)-T4	1
⚠D655 ⚠D660	360K3151	DIODE RD6.8EP(2)-T4	2
ZD4C3	360K3160	DIODE RD8.2EP(2)-T4	1
⚠D611	360K3162	DIODE,RD2.7EP(1)-T4	1
ZD401	360K3188	DIODE RD3.9EP(2)-T4	1
ZD8C2	36003100	DIODE RD5.1EP-2	1
ZD552	36003147	DIODE RD18EP(1)	1
⚠D554 ⚠D555	361K7094	RECTIFIER,SI.SM-1A-02	2
⚠D2C01⚠D2004 D2007	361K7160	RECTIFIER,SI. TVP-C6G G23	8
D4C4 D5C5 D712			
D713 D714			
D5C2 D5C3	361K75C5	RECTIFIER,SI.EPB44-06V1	2
⚠D6C3 ⚠D6C6	361C7174	RECTIFIER,SI. RU1P	2
⚠D651	361C7180	DIODE RU3AM,LFE2	1
⚠D5C1	361C7509	DIODE PH4F	1
⚠D652	361C7511	RECTIFIER,SI. RL47,LFK2	1
⚠D657	361C7512	RECTIFIER,SI. RG4C,LFK2	1
⚠D6C1	361C8009	DIODE,RE-4CC BRIDGE	1
FD8C2	361C8C54	DIODE ARRAY 1S2473*7A	1
FD8C1	361C8055	DIODE ARRAY 1S2473*7K	1
D1 D2 D3	368C1046	DIODE,LIGHT-E SG235D	3
⚠D2C02 ⚠D2005	38005C11	VARISTER,VD122C	2
⚠TH601	38112C31	THERMISTOR,POSITIVE	1
⚠PC601 ⚠PC602	382C0233	IC TLP634(GB-LF2)	2
*** TRANSFORMERS ***			
⚠T5C1	458C3008	TRANS,H.DRIVE	1
⚠T7C1	46305101	TRANS,CONVERTER	1
⚠T6C1	463C8402	TRANS,SWITCHING	1
⚠T6C2	46308403	TRANS,SWITCHING	1
⚠T5C2	47105630	FLY BACK TRANSFORMER	1
⚠T5C3	47502042	TRANS,SIDE PINCUSHION	1

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** VARIABLE RESISTORS ***			
VR5	41011270	R,VARIABLE B500-V(M)	1
VR1 VR2	41011271	R,VARIABLE B1CK-V(M)	2
VR3	41011273	R,VARIABLE B20K-V(M)	1
VR6	41011274	R,VARIABLE B2CCK-V(M)	1
VR4	41011275	R,VARIABLE B20K-V(M)	1
VR401	41061C06	R,VARIABLE B10CK	1
VR4C4	41061C07	R,VARIABLE B47CH	1
VR4C2 VR403	41061C13	R,VARIABLE B22CH	2
VR4C5	41061614	R,VARIABLE B1CCK	1
VR552	41067C27	R,VARIABLE B3K	1
VR551	41067105	R,VARIABLE 1K 0.1W	1
VR5C2	41067108	R,VARIABLE B5K	1
VR704	41071160	R,VARIABLE B3.3K	1
VR701 VR702 VR703	41071161	R,VARIABLE B4.7K	3
VR9C1 VR902 VR903	41071169	R,VARIABLE B10CK	6
VR9C4 VR905 VR906			
VR451 VR452	41085C05	R,VARIABLE B1K	2
VR7C5	41085C08	R,VARIABLE B5K	1
VR5C1 VR553	41085C12	R,VARIABLE B50K	2
VR554	41085013	R,VARIABLE B1CCK	1
VR555	41085C16	R,VARIABLE B5CCK	1
⚠VR651	41087C58	R,VARIABLE B5K	1
⚠VR2002⚠VR2003⚠VR652	41505005	R,VARIABLE B2K	3
⚠VR653	41505C07	R,VARIABLE B5K	1
⚠VR2001	41505C08	R,VARIABLE B1CK	1
*** RELAYS & SWITCHES ***			
⚠SW802	65163C01	SWITCH,SLIDE	1
⚠SW2 ⚠SW3	65163C02	SWITCH,SLIDE	2
⚠SW8C1	651699C1	LEVER SWITCH,SLIDE	1
⚠SW1	65260002	SWITCH,SEE-SAW	1
RL5C1	65602501	RELAY G6B-1114P	1
⚠SW8C3	66098C06	SW,LEVER SDLP06CP	1

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** COILS & FILTERS ***			
⚠L505	609C8043	COIL,VARIABLE WIDTH	1
⚠L506	60908C47	COIL,WIDTH	1
⚠L504	60918101	COIL,H.LIN	1
L507	60999C04	COIL,CHOKE	1
L901 L902 L903	610E1711	COIL,FILTER 3.3UH	3
L716 L804 L805	610E1714	COIL,FILTER 5.6UH	3
L710	610F6C14	COIL,FILTER 5.6UH	1
L503	610F7C10	COIL,FILTER 2.7UH	1
L714	61022C81	COIL (SF471M1R0)	1
L701 L702 L703	61051710	COIL,FILTER 2.7UH	6
L704 L705 L706			
⚠L601	61062C40	LINE FILTER (12MH-1.3A)	1
	61062C57	LINE FILTER GL-20?0E	1
L501 L711 L712	61064C06	COIL,FILTER 50UH	3
⚠L602 ⚠L651 ⚠L653	61099011	COIL,CHOKE 33UH	3
L713 L715	6109?C19	COIL,CHOKE	2
⚠L652	61099C20	COIL,CHOKE	1
⚠	61314209	COIL,DEGAUSSING	1
LC401	61606022	NOIZE FILTER DSS-?22M	1
LC801	61606023	FILTER DSS-223S	1
*** PWB ASSYS ***			
	84J85A01	SW.REG.PWB ASSY	1
	84J85C01	VIDEO PWB ASSY	1
	84J85D01	DEF PWB ASSY	1
	84J85J01	CRT PWB ASSY	1
	84J85K01	INTERFACE PWB ASSY	1
	84J85L01	CONTROL PWB ASSY	1
*** ELECTRICAL PARTS & MISCELLANEOUS PARTS ***			
	31709201	INSULATOR SHEET	1
HS-402	31709202	SHEET,INSULATOR	1
⚠F601	66699C07	FUSE ET T2A,250V-S,B SOC	1
⚠F651	66699C09	FUSE T1.25A 25C-SP	1
SG901 SG902 SG903 SG905	667D6001	SPARK GAP 1.2KV	4

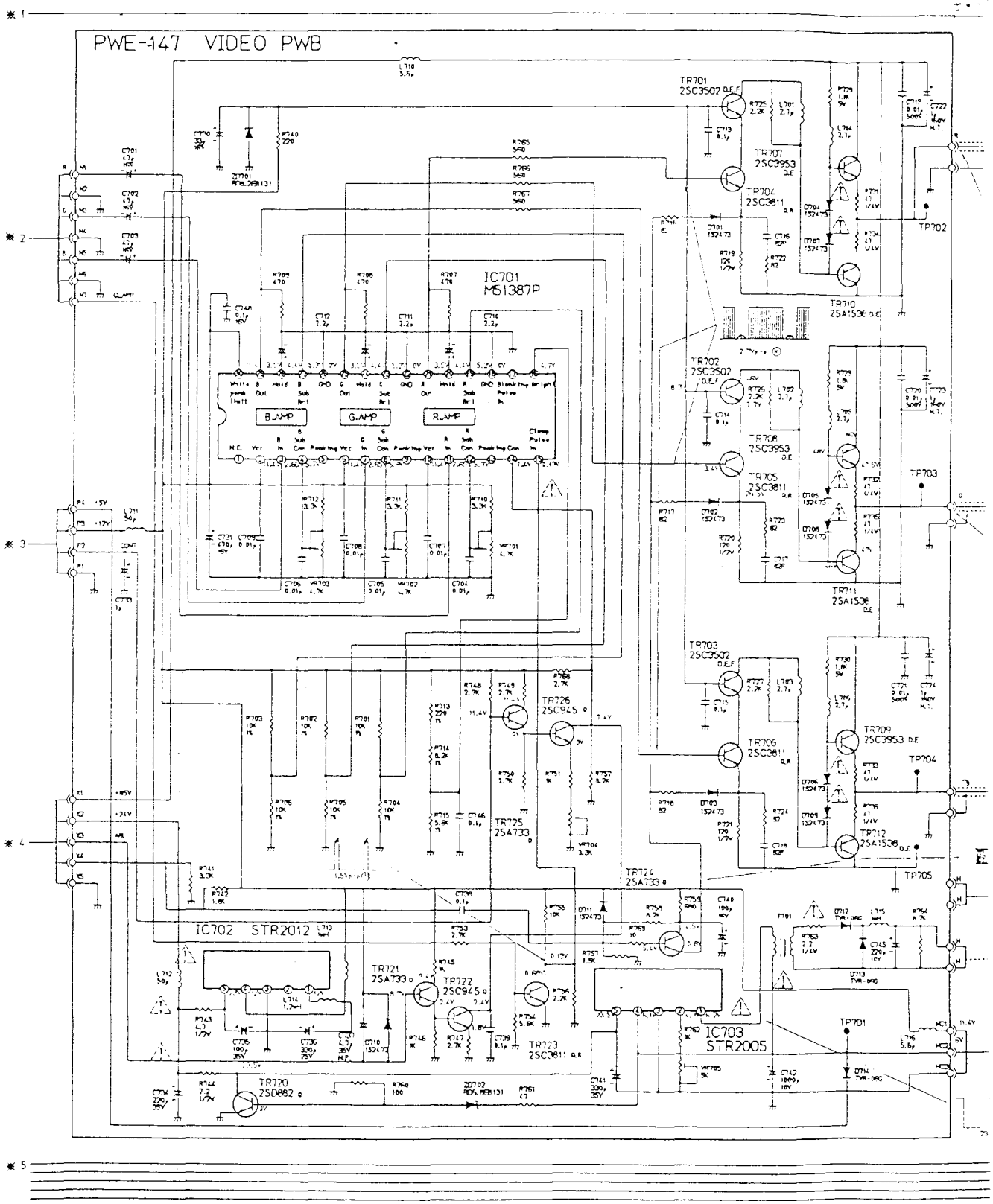
SYMBOL	PARTS NO	DESCRIPTION	QTY
*** ELECTRICAL PARTS & MISCELLANEOUS PARTS ***			
⚠	70032C26	SG/CRT SOCKET	1
CN1	70056331	D-SUB SOCKET 9PL	1
	70102147	IC SOCKET 24P	1
IS701	7010?152	IC SOCKET 30P	1
	703C1513	RUBBER,WEDGE	1
(JC-1401P3E/ ED)	70800031	POWER CORD (E)	1
(JC-1401P3EE)	75513006	LINE CORD SAA L20	1
(JC-1401P3R)	70800321	POWER CORD	1
	71205037	HOLDER, FUSE	4
CN-CE CN-CE CN-H1	73721003	CONNECTOR PIN 2P	3
(JC-1401P3ED)	73893017	CABEL, SIGNAL	1
(JC-1401P3E/ EE/ R)	73893013	CABEL, SIGNAL	1
	73898244	SIGNAL, CABEL 2P (R, 250)	1
	73898245	SIGNAL CABEL 2P (B, 275)	1
	73898246	SIGNAL CABLE 2P (G, 325)	1
	73898247	SIGNAL CABLE 7P (425)	1
CN-B CN-G CN-R	70541084	POST 25MM	3
CN-N	70541167	25MM POST (B7B-XH)	1
*** APPEARANCE PARTS ***			
	25406301	PUSH BUTTON	1
	24514792	COIL SPRING	1
	25307221	CABINET, FRONT	1
	25307241	CABINET, BACK	1
	25404111	REVOLVING STAND (T)	1
	25404121	LID,CONTROL	1
(JC-1401P3ED)	25514802	REAR PANEL	1
(JC-1401P3E/EE/R)	25513151	REAR PANEL	1
(JC-1401P3ED)	25406091	REVOLVING STAND (B)	1
(JC-1401P3E)	25405021	REVOLVING STAND (B) ASSY	1
(JC-1401P3EE)	25405151	REVOLVING STAND (B) ASSY	1
(JC-1401P3R)	25405131	REVOLVING STAND (B) ASSY	1
(JC-1401P3ED)	25763641	NAME PLATE INSTRUCTION	1
(JC-1401P3E)	25763141	NAME PLATE INSTRUCTION	1
(JC-1401P3E)	25763371	NAME PLATE INSTRUCTION	1
(JC-1401P3R)	25763361	NAME PLATE INSTRUCTION	1
	25763771	LABEL	4
*** PRINTED & PACKING MATERIALS ***			
	24813191	BAG,POLYETHYLENE	1
	25280711	CLAMPER,WIRE	1
	25280851	BUSHING,INSULATOR	2
	25600691	CUSHION,SHEET	1
	25601551	CUSHION SHEET	4

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** PRINTED & PACKING MATERIALS ***			
	25603114	PLATE,SHIELDING	1
	25603511	BARRIER (SW.REG.PWR)	1
	25603661	BARRIER A	1
	25603671	BARRIER B	1
	25804501	SERVICE ENVELOPE	1
	25810221	FILLER(L),CARTON	1
	25810231	FILLER(R),CARTON	1
	25810711	FILLER(T),CARTON	1
	25811351	CARTON BOX	1
	78044881	LABEL,FTB	1
(JC-1401P3R)	78043391	WARRANTY CARD	1
(JC-1401P3ED)	78118811	INSTRUCTION BOOK	1
(JC-1401P3E/EE/R)	78118111	INSTRUCTION BOOK	1
	599910256	SERVICE MANUAL	1
	599910255	CIRCUIT DESCRIPTION	1
*** RESISTORS ***			
⚠R671	401C6657	R,CARBON 220H 5% 1/4W	1
⚠R658	401C6661	R,CARBON 330H 5% 1/4W	1
⚠R602 ⚠R608 ⚠R611 ⚠R619 ⚠R663	401C6673	R,CARBON 1.0K 5% 1/4W	5
⚠R609 ⚠R620	401C6675	R,CARBON 1.2K 5% 1/4W	2
⚠R662	401C6679	R,CARBON 1.8K 5% 1/4W	1
⚠R631	401C6681	R,CARBON 2.2K 5% 1/4W	1
⚠R612 ⚠R666	401C6683	R,CARBON 2.7K 5% 1/4W	2
⚠R628 ⚠R633 ⚠R656 ⚠R661	401C6685	R,CARBON 3.3K 5% 1/4W	4
⚠R636 ⚠R655	401C6691	R,CARBON 5.6K 5% 1/4W	2
⚠R627 ⚠R664	401C6709	R,CARBON 33K 5% 1/4W	2
⚠R657	401C6723	R,CARBON 120K 5% 1/4W	1
⚠R597	401H5669	R,CARBON 680H 5% 1/2W	1
⚠R605 ⚠R606	401H5735	R,CARBON 750K 5% 1/2W	2
⚠R603	401H5743	R,CARBON 820K 5% 1/2W	1
⚠R618	401H5753	R,CARBON 2.2M 5% 1/2W	1
⚠R2002 R742	401K5679	R,CARBON 1.8K 5% 1/6W	2
⚠R2005 ⚠R2009 R411 R438 R598 R599 R710 R711 R712 R741 R817 R829 R841 R861 R862 R874 R899 R922 R930	401K5685	R,CARBON 3.3K 5% 1/6W	19

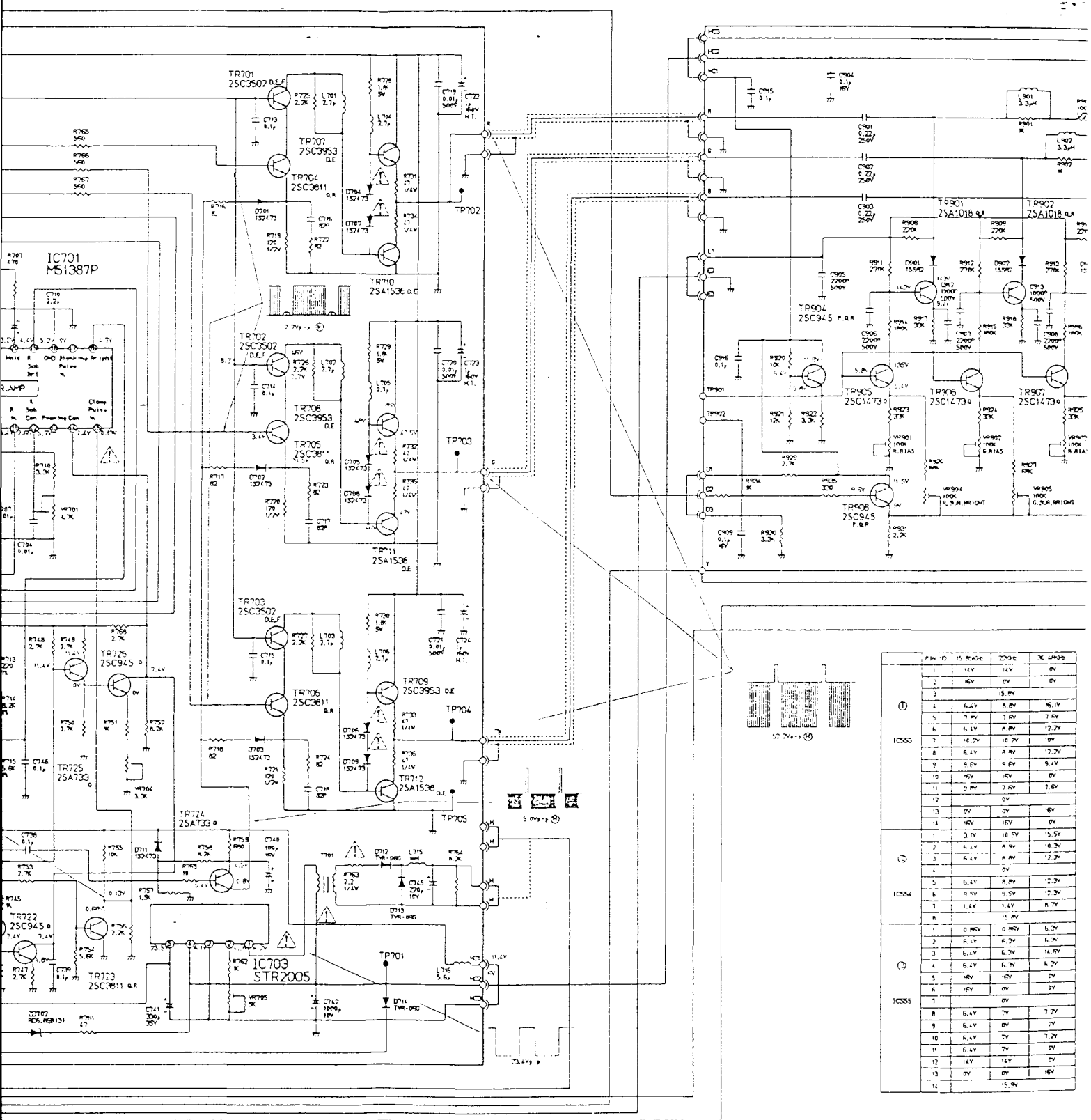
SYMBOL	PARTS NO	DESCRIPTION	QTY
*** RESISTORS ***			
R2004 ⚠R2008 R591	401K5693	R,CARBON 6.8K 5% 1/6W	3
⚠R2003 ⚠R2006 ⚠R2010 R416 R513 R531 R551 R552 R558 R592 R755 R841	401K5697	R,CARBON 10K 5% 1/6W	16
⚠R2011 R506 R868 R897 R921	401K5699	R,CARBON 12K 5% 1/6W	5
R417 R437 ⚠R596	401K5721	R,CARBON 100K 5% 1/6W	3
⚠R587	40175117	R,CARBON 4.7H 5% 1/4W	1
			1
⚠R630 ⚠R632 ⚠R634	40175143	R CARBON 56H 5% 1/4W	3
⚠R626	40175157	R,CARBON 220H 5% 1/4W	1
⚠R614	40175181	R,CARBON 2.2K 5% 1/4W	1
⚠R623	40175189	R,CARBON 4.7K 5% 1/4W	1
⚠R763	40177109	R,CARBON 2.2H 5% 1/4W	1
⚠R731 ⚠R732 ⚠R733 ⚠R734 ⚠R735 ⚠R736	40177141	R,CARBON 47H 5% 1/4W	6
⚠R743	40178117	R,CARBON 4.7H 5% 1/2W	1
R728 R729 R730	40318179	R,METAL 1.8K 5% 5W	3
R526	40371137	R,METAL 33H 5% 1W	1
R803	40371161	R,METAL 330H 5% 1W	1
⚠R615 ⚠R624	40372107	R,METAL 1.8H 5% 2W	2
R407	40372113	R,METAL 3.3H 5% 2W	1
⚠R667	40372137	R,METAL 33H 5% 2W	1
⚠R613	40372145	R,METAL 68H 5% 2W	1
⚠R607 ⚠R622	40372147	R,METAL 82H 5% 2W	2
⚠R616 ⚠R625	40372149	R,METAL 100H 5% 2W	2
R401 R413	40372157	R,METAL 220H 5% 2W	2
⚠R652	40372203	R,METAL 18K 5% 2W	1
⚠R654	40372205	R,METAL 22K 5% 2W	1
⚠R665	40372209	R,METAL 33K 5% 2W	1
R519	40373163	R,METAL 390H 5% 3W	1
R520	40373165	R,METAL 470H 5% 3W	1
⚠R610	40373181	R,METAL 2.2K 5% 3W	1
⚠R653	40373195	R,METAL 8.2K 5% 3W	1
⚠R660	40373197	R,METAL 10K 5% 3W	1
⚠R659 ⚠R670	40373203	R,METAL 18K 5% 3W	2
⚠R617 ⚠R629	40373221	R,METAL 100K 5% 3W	2
⚠R604	40399031	R,METAL 2.2K 5% 2W	1
⚠R601	40399032	R,METAL 10H 5% 5W	1
⚠R2001 ⚠R2007 ⚠R523	40405109	R,METAL 2.2H 5% 1/4W	3
⚠R522	40405117	R,METAL 4.7H 5% 1/4W	1
⚠R525	40812661	R,FUSE 330H 5% 1/2W	1
⚠R524	40812665	R,FUSE 470H 5% 1/2W	1
⚠R744	40822609	R,FUSE 2.2H 5% 1/2W	1

SYMBOL			PARTS NO	DESCRIPTION	QTY
*** CAPACITORS ***					
C412			420C9551	C,CERAMIC 500V 100PF	1
C524			420C9555	C,CERAMIC 500V 220PF	1
⚠C521			420C9557	C,CERAMIC 500V 330PF	1
C411	C420	C510	420C9560	C,CERAMIC 500V 560PF	4
⚠C520					
C512	C912	C913	420C9563	C,CERAMIC 500V 0.001UF	4
C914					
C905	C906	C907	420C9567	C,CERAMIC 500V 2200PF	4
C908					
C511	C719	C720	420J3575	C,CERAMIC 500V 0.01UF	4
C721					
C911			42C19175	C,CERAMIC 2KV 0.01UF	1
⚠C626			420J3554	C,CERAMIC 500V 180PF	1
⚠C603	⚠C604		42C53C13	C,CERAMIC 400V 1000PF	2
⚠C606			42C53C67	C,CERAMIC 400V 2200PF	1
C1001			42C99C69	C,CERAMIC 50V 0.01UF	1
⚠C663			42C99C82	C,CERAMIC 2KV 1500PF	1
⚠C622	⚠C623	⚠C624	42C99C85	C,CERAMIC 2KV 560PF	4
⚠C625					
⚠C612	⚠C618		42C99C88	C,CERAMIC 2KV 220PF	2
⚠C530	C559	C560	421AC425	C,CERAMIC 50V 0.01UF	13
C561	C704	C705			
C706	C707	C708			
C709	C807	C809			
C814					
C566			421CC212	C,CERAMIC 50V 820PF	1
C419	C527	C567	421CC213	C,CERAMIC 50V 1000PF	3
⚠C531			421D5C14	C,CERAMIC 50V 0.01UF	1
C713	C714	C715	421J9C01	C,CERAMIC 50V 0.1UF	12
C739	C746	C818			
C823	C824	C825			
C831	C915	C916			
C568			4213K211	C,CERAMIC 50V 680PF	1
C501	C562		423A1C45	C,CERAMIC 50V 100PF	2
C503			423A1C55	C,CERAMIC 50V 270PF	1
C811			423A1C74	C,CERAMIC 50V 270PF	1
C830			423A2C27	C,CERAMIC 50V 18PF	1
C716	C717	C718	423A2C43	C,CERAMIC 50V 82PF	3
C563			427A7C05	C,FILM 100V 0.0022UF	1
C508			427A7C07	C,FILM 100V 0.0033UF	1
C502			427F4C01	C,FILM 50V 1000PF	1
C565			427F4C05	C,FILM 50V 2200PF	1
C404			427F4C13	C,FILM 50V 0.01UF	1
C405			427F4C17	C,FILM 50V 0.022UF	1
C403			427F4C25	C,FILM 50V 0.1UF	1

SYMBOL			PARTS NO	DESCRIPTION	QTY
*** CAPACITORS ***					
C817	C822		427F4C51	C,FILM 50V 1000PF	2
C402			427F4C52	C,FILM 50V 1200PF	1
C551	C821		427F4C53	C,FILM 50V 1500PF	2
C504			427F4C61	C,FILM 50V 6800PF	1
C506			427F4C63	C,FILM 50V 0.01UF	1
C406	C423		427F4C71	C,FILM 50V 0.047UF	2
C421	C526	C738	427F4C75	C,FILM 50V 0.1UF	3
⚠C529			42703863	C,MYLAR 400V 0.01UF	1
⚠C515			42703866	C,FILM 400V 0.01UF	1
C517			42754267	C,FILM 200V 0.022UF	1
⚠C608	⚠C614		4276DC63	C,FILM 50V 0.01UF	2
⚠C656			4276DC73	C,FILM 50V 0.068UF	1
⚠C607			4276DC75	C,FILM 50V 0.1UF	1
⚠C655			4279JC58	C,FILM 100V 5600PF	1
⚠C613	⚠C619	⚠C659	42799C99	C,MYLAR 400V 0.033UF	3
⚠C514			428C7511	C,METAL FILM 1.6KV 2700PF	1
⚠C513			428C7512	C,METAL FILM 1.6K 3000PF	1
C2006	C2007	C528	4282CC25	C,METAL FILM 50V 1UF	3
⚠C627			42824315	C,FILM 250V 0.015UF	1
⚠C602			42824325	C,FILM 250V 0.1UF	1
⚠C601			42824329	C,FILM 250V 0.22UF	1
⚠C661			42839C21	C,METAL FILM 250V 0.068UF	1
C901	C902	C903	42899C10	C,METAL FILM 250V 0.22UF	3
⚠C522	⚠C557	⚠C558	42899C42	C,METAL FILM 400V 0.64UF	3
C505	C507		430A4105	C,ELEC 50V 1UF	2
⚠C2002	C2005		430A9C15	C,ELEC 10V 47UF	2
C733	C819		430A9C61	C,ELEC 50V 1UF	2
C710	C711	C712	430A9C62	C,ELEC 50V 2.2UF	4
C820					
⚠C2004			430A9C65	C,ELEC 50V 10UF	1
C415			430B3102	C,ELEC 50V 1UF	1
⚠C2001			430B3109	C,ELEC 50V 47UF	1
C722	C723	C724	430B3182	C,ELEC 160V 1UF	3
C518			4300E135	C,ELEC 200V 10UF	1
⚠C660			4302C101	C,ELEC 50V 0.47UF	1
C519			4302C107	C,ELEC 50V 22UF	1
⚠C651			4302C172	C,ELEC 100V 330UF	1
⚠C664			4302C182	C,ELEC 160V 1UF	1
C516	⚠C657	⚠C658	4302C190	C,ELEC 160V 100UF	4
⚠C662					
⚠C611	⚠C617		4302EC51	C,ELEC 16V 220UF	2
⚠C610	⚠C616		4302EC53	C,ELEC 50V 47UF	2
⚠C654			4302EC90	C,ELEC 35V 100UF	1
⚠C652			4302EC93	C,ELEC 35V 470UF	1
⚠C609	⚠C615		4302F105	C,ELEC 50V 4.7UF	2
⚠C620	⚠C621		4302E107	C,ELEC 50V 22UF	2
⚠C653			4302E170	C,ELEC 100V 100UF	1
⚠C605			43108105	C,ELEC 400V 220UF	1

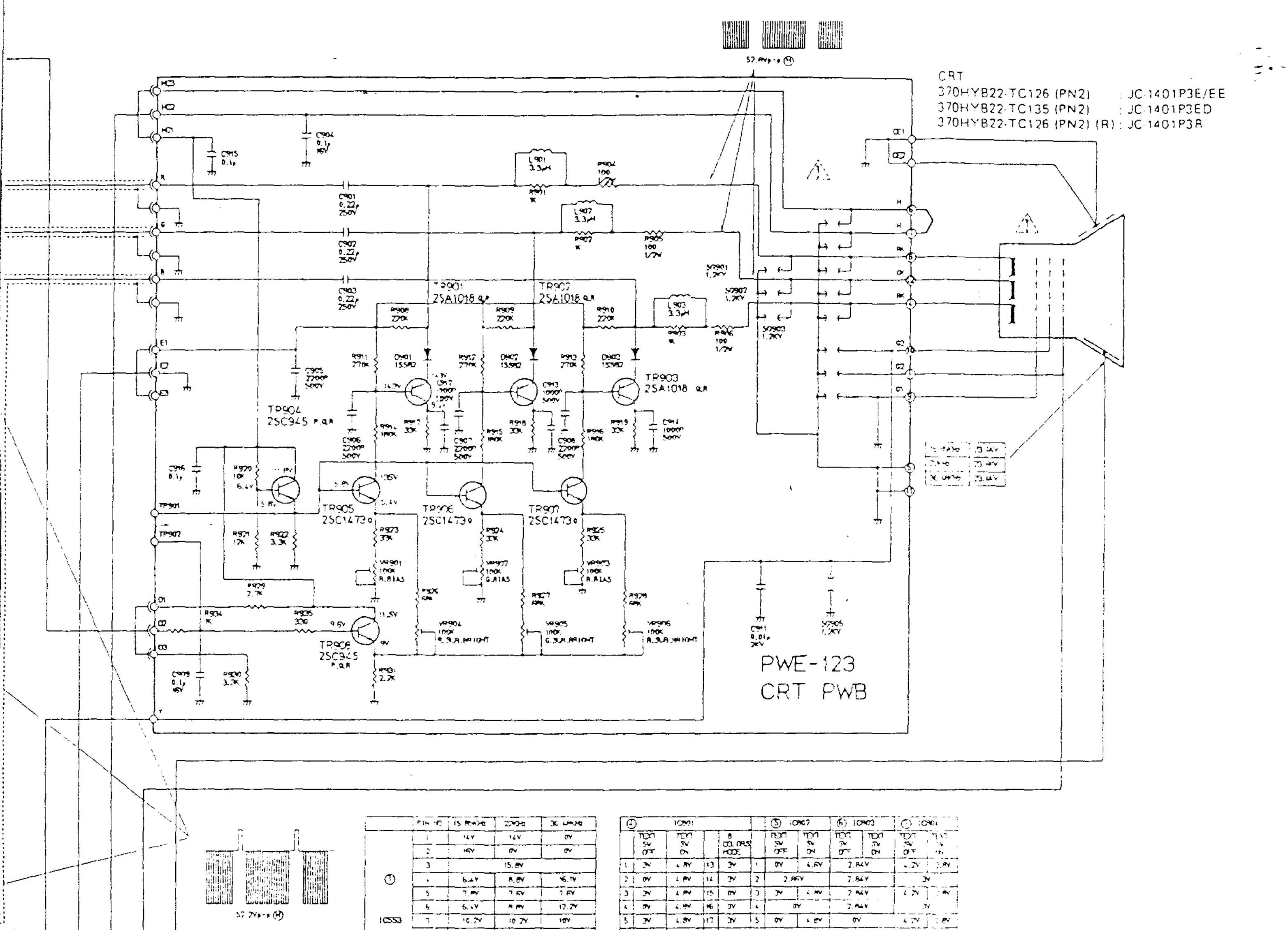


CHEMATIC DIAGRAM IS FUNDAMENTAL AND SUBJECT TO CHANGE.



	PIN NO	15.8V/0A	220V/0A	30.0V/0A
① IC553	1	14V	14V	0V
	2	16V	0V	0V
	3		15.8V	
	4	6.4V	6.8V	16.1V
	5	7.8V	7.8V	7.8V
	6	6.4V	6.8V	12.2V
	7	10.2V	10.2V	18V
	8	6.4V	6.8V	12.2V
	9	9.6V	9.6V	9.1V
	10	16V	16V	0V
	11	9.8V	7.6V	7.6V
	12		0V	
	13	0V	0V	16V
	14	16V	16V	0V
② IC554	1	3.1V	10.5V	15.5V
	2	6.4V	6.8V	10.3V
	3	6.4V	6.8V	12.2V
	4		0V	
	5	6.4V	6.8V	12.2V
	6	9.5V	9.5V	12.3V
	7	11.4V	11.4V	8.7V
	8		15.8V	
③ IC555	1	0.85V	0.85V	6.3V
	2	6.4V	6.3V	6.3V
	3	6.4V	6.3V	14.6V
	4	6.4V	6.3V	6.3V
	5	16V	16V	0V
	6	16V	0V	0V
	7		0V	
	8	6.4V	7V	7.2V
	9	6.4V	0V	0V
	10	6.4V	7V	7.2V
	11	6.4V	7V	0V
	12	14V	14V	0V
	13	0V	0V	16V
	14		15.8V	

CHANGE.



	PIN NO	15.75kHz	22kHz	30.4kHz
① IC553	1	14V	14V	0V
	2	16V	0V	0V
	3	15.8V		
	4	6.4V	8.8V	16.1V
	5	7.8V	7.6V	7.6V
	6	6.4V	8.8V	12.7V
	7	10.2V	10.2V	16V
	8	6.4V	8.8V	12.7V
	9	9.5V	9.6V	9.4V
	10	16V	16V	0V
	11	9.9V	7.6V	7.6V
	12	0V		
	13	0V	0V	16V
	14	16V	16V	0V
② IC554	1	3.7V	10.5V	15.5V
	2	6.4V	8.9V	10.3V
	3	6.4V	8.8V	12.3V
	4	0V		
	5	6.4V	8.8V	12.3V
	6	9.5V	9.5V	12.3V
	7	1.4V	1.4V	8.7V
	8	15.8V		
③ IC555	1	0.86V	0.86V	6.3V
	2	6.4V	6.3V	6.3V
	3	6.4V	6.3V	14.6V
	4	6.4V	6.3V	6.3V
	5	16V	16V	0V
	6	16V	0V	0V
	7	0V		
	8	6.4V	7V	7.2V
	9	6.4V	0V	0V
	10	6.4V	7V	7.2V
	11	6.4V	7V	0V
	12	14V	14V	0V
	13	0V	0V	16V
	14	15.9V		

④	IC901					⑤ IC902		⑥ IC903		⑦ IC904	
	TEXT SW OFF	TEXT SW ON		8 COLORS MODE		TEXT SW OFF	TEXT SW ON	TEXT SW OFF	TEXT SW ON	TEXT SW OFF	TEXT SW ON
1	3V	4.8V	13	3V	1	0V	4.6V	2.84V		4.2V	2.8V
2	0V	4.8V	14	3V	2	2.86V		2.84V		3V	
3	3V	4.8V	15	0V	3	3V	4.8V	2.84V		4.2V	2.8V
4	0V	4.8V	16	0V	4	0V		2.84V		3V	
5	3V	4.8V	17	3V	5	0V	4.8V	0V		4.2V	2.8V
6	0V	4.8V	18	3V	6	2.86V		2.9V		3V	
	SW6 ON	SW6 OFF	19	0V	7	3V	4.8V	0V		0V	
7	0V	4.8V	20	0V	8	0V		2.9V		2.9V	
	SW5 ON	SW5 OFF	21	0V	9	0V	4.8V	2.87V		4.2V	2.8V
8	0V	4.8V	22	3V	10	0V		2.86V		2.9V	
9	2.58V		23	3V	11	3V	4.8V	4.2V	2.7V	4.2V	2.9V
10	0V		24	4.8V	12	2.86V		2.85V		2.9V	
11	0V				13	0V	4.8V	4.8V	0V	4.2V	2.8V
12	0V				14	0V		4.9V		4.9V	
					15	0V	4.6V				
					16	4.8V					

NOTES

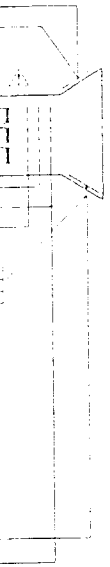
1. RESISTOR VALUES ARE IN Ω (OHM) K = 1,000Ω M = 1,000,000Ω
2. ALL RESISTORS ARE 1/6WATT EXCEPT WHERE OTHERWISE INDICATED.
3. CAPACITOR VALUES ARE IN μF UNLESS OTHERWISE INDICATED. P = PF
4. ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.
5. VOLTAGES AND WAVEFORMS ARE MEASURED UNDER THE INVERTED "H" CHARACTER SIGNALS. THE CONTRAST CONTROL IS MAXIMUM, THE BRIGHTNESS CONTROL IS MINIMUM AND ALL OTHER CONTROLS ARE NORMAL OPERATION.
6. VOLTAGES AND WAVEFORMS ARE MEASURED UNDER THE FOLLOWING SYNC. AND VIDEO. EXCEPT WHERE OTHERWISE INDICATED.
   SYNC : HORIZONTAL RATE = 22.0kHz, SEPARATE SYNC, TTL LEVEL, POSITIVE
   VIDEO TTL LEVEL, POSITIVE
7. (H)----- HORIZONTAL RATE. (V)----- VERTICAL RATE.

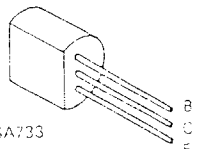
WARNING

REPLACEMENT PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY ⚠ SHADING ON THE SCHEMATICS. REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS.
DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

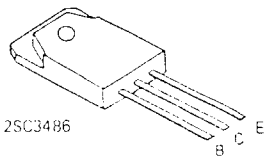
CONTROL (S) MARKED ✱ IS PERMANENTLY FROZEN.
DO NOT ATTEMPT TO DEFEAT OR IMPROPERLY REPLACE.

TC126 (PN2) IC 1401P3E/F/E
TC1J5 (PN2) IC 1401P3E/D
TC126 (PN2) (R) IC 1401P3P





2SA733
2SA952
2SA953
2SA1018
2SC945
2SC1473
2SC1730
2SC2001



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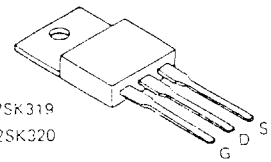
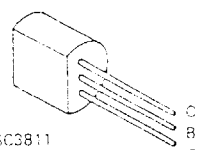
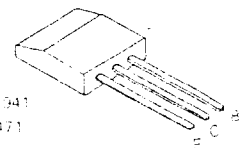


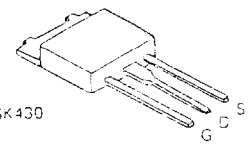
2SK319
2SK320



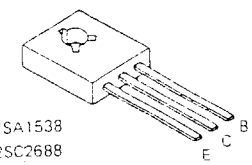
2SC3811



2SC1941
2SD471



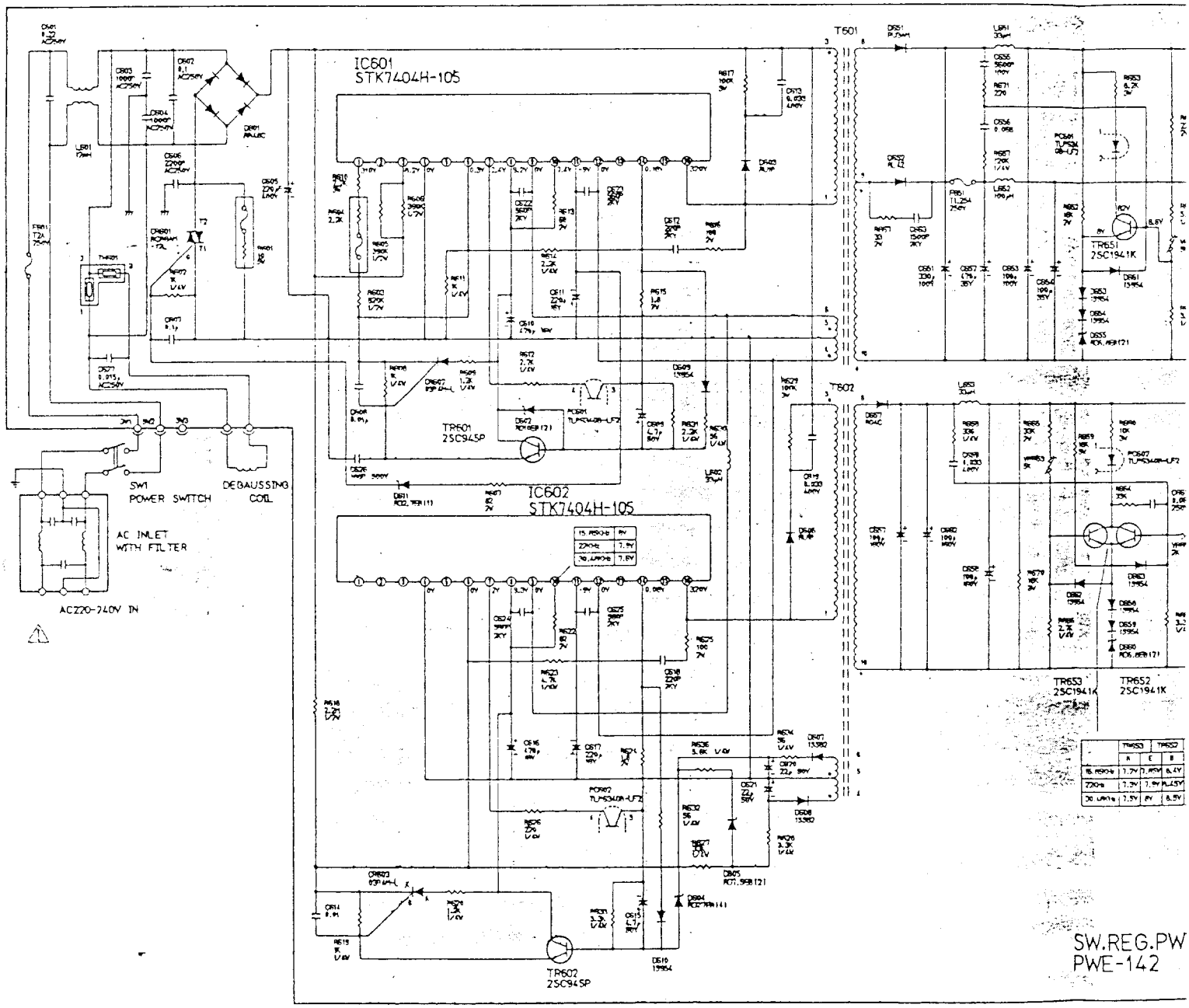
2SK430



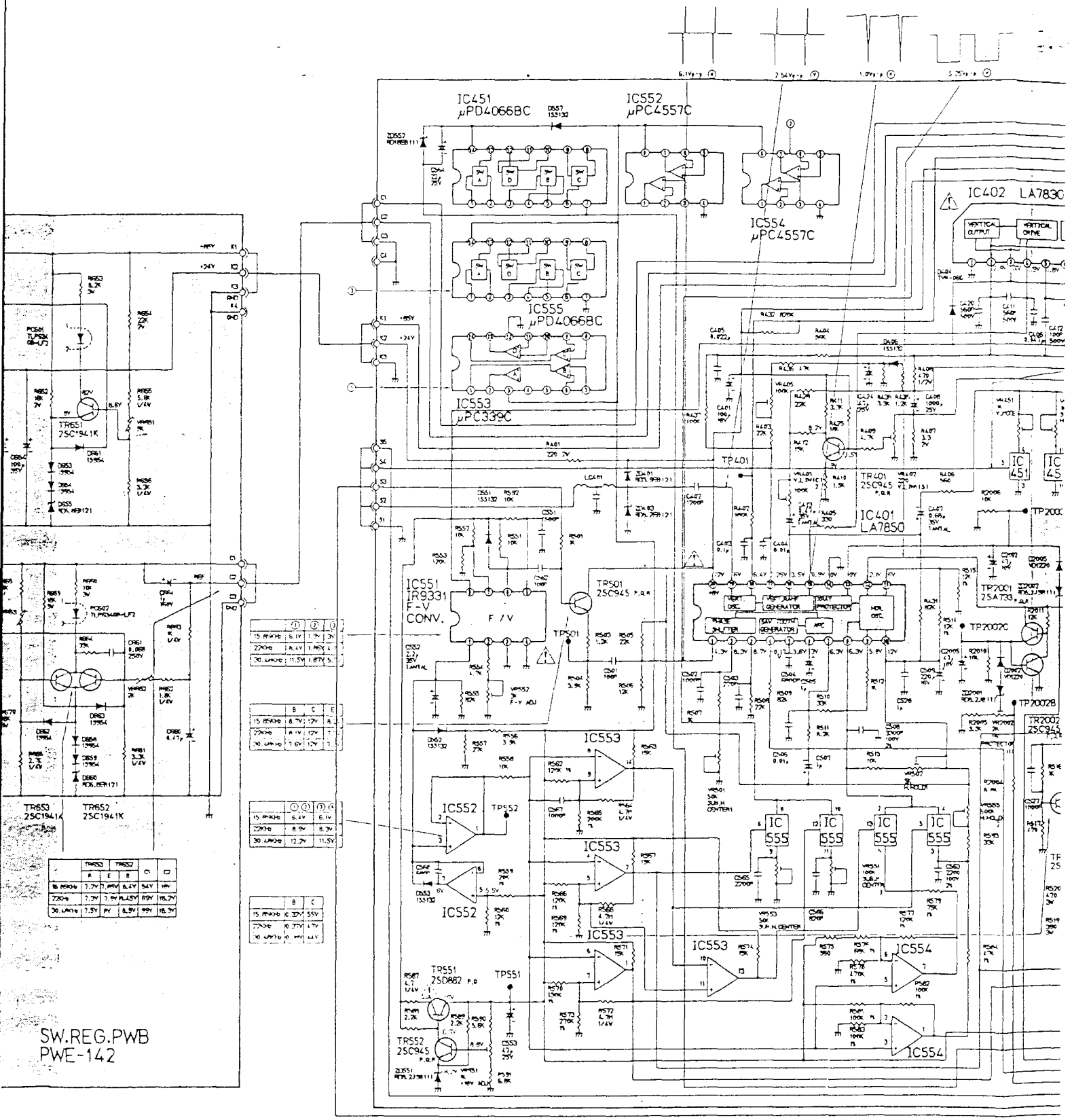
2SA1538
2SC2688
2SC3502
2SC2953
2SD882

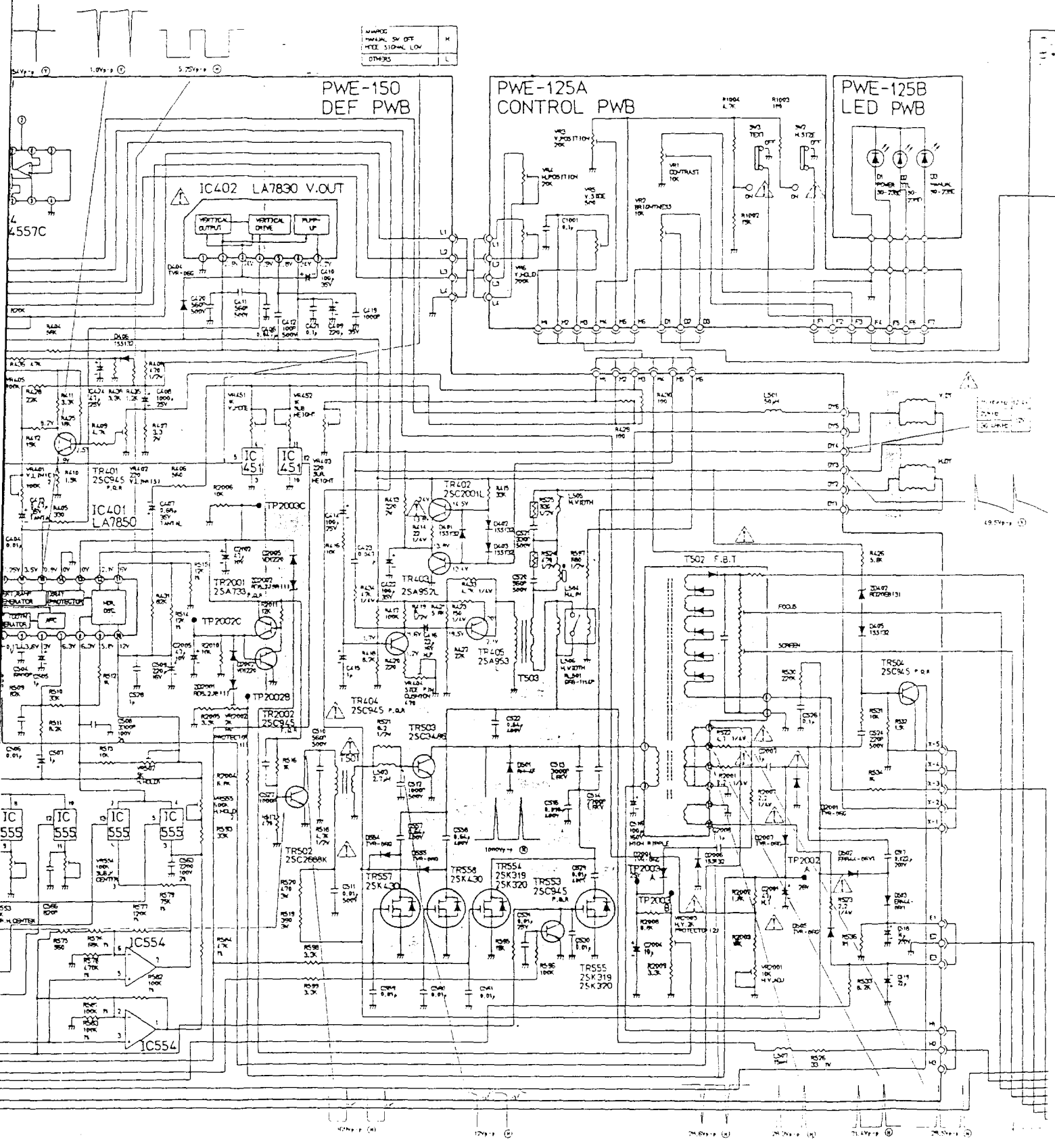
NOTE:
E: EMITTER
B: BASE
C: COLLECTOR
G: GATE
D: DRAIN
S: SOURCE

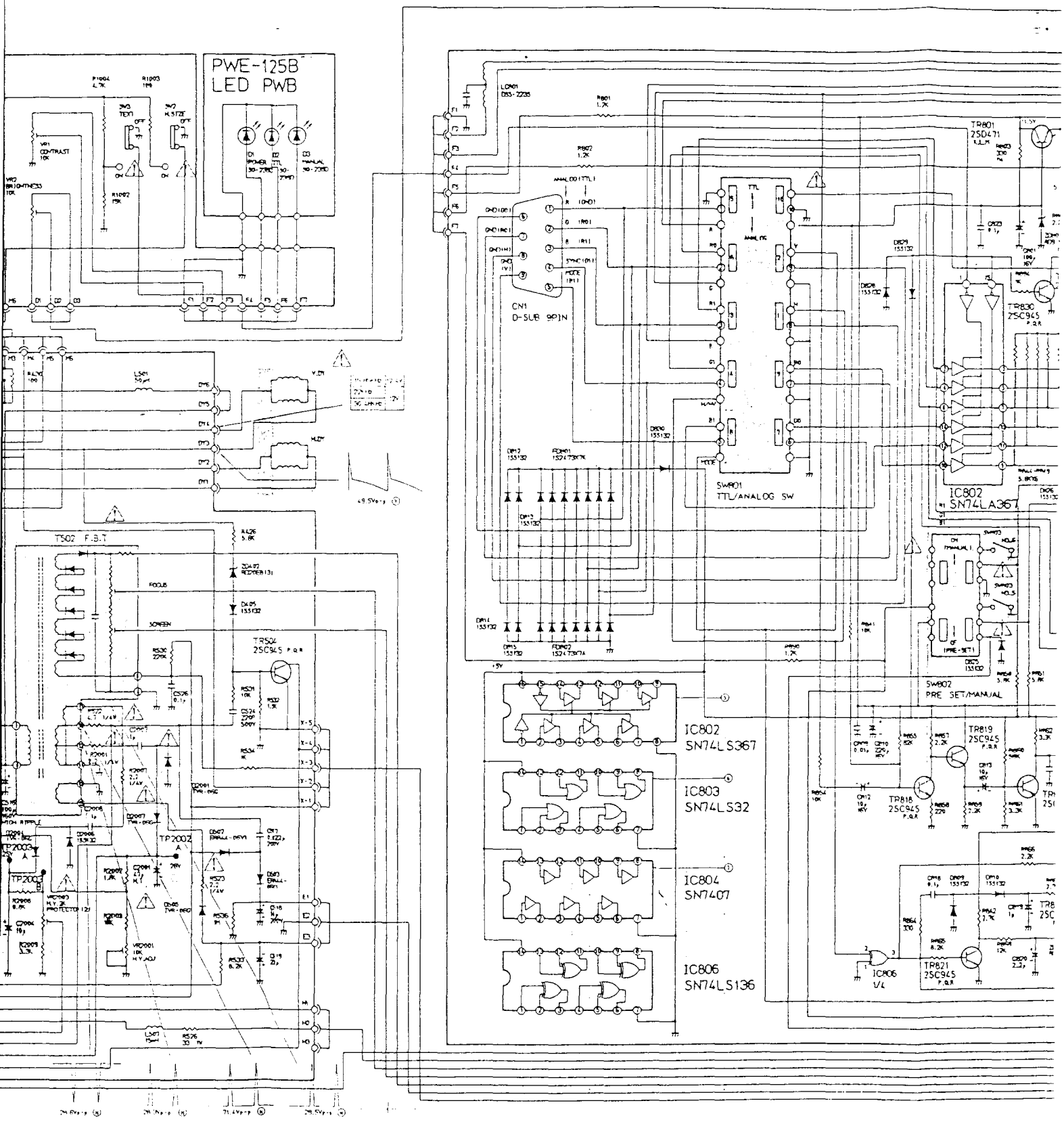
MODELS JC-1401P3E/EE/R/ED
SCHEMATIC DIAGRAM



S SCHEMATIC DIAGRAM IS FUNDAMENTAL AND SUBJECT TO CHANGE.


IC451
μPD4066BC
IC552
μPC4557C
IC554
μPC4557C
IC555
μPD4066BC
IC553
μPC339C
IC402 LA7830
IC401
LA7850
IC551
IR9331
F-V
CONV.
F / V
TR651
2SC1941K
TR653
2SC1941K
TR652
2SC1941K
TR401
2SC945
TR501
2SC945
TR551
2SD882
TR552
2SC945
TP401
TP501
TP551
TP552
TP2001
2SA733
TP2002C
TP2002B
IC451
IC555
IC554
SW.REG.PWB
PWE-142


PWE-150
DEF PWB
PWE-125A
CONTROL PWB
PWE-125B
LED PWB
IC402 LA7830 V.OUT
IC401
LA7850
TR401
2SC945
TR402
2SC2001L
TR403
2SA952L
TR404
2SC945
TR405
2SA953
TR501
2SC2688K
TR502
2SC945
TR503
2SC2482
TR504
2SC945
TR552
2SK319
2SK320
TR553
2SC945
TR554
2SK319
2SK320
TR555
2SK319
2SK320
TR556
2SK430
TR557
2SK430
TP2001
2SA733
TP2002
2SC945
T501
T502 F.B.T
T503
IC554
IC555


PWE-125B
LED PWB
CN1
D-SUB 9PIN
SW801
TTL/ANALOG SW
SW802
PRE SET/MANUAL
IC802
SN74LS367
IC803
SN74LS32
IC804
SN7407
IC806
SN74LS136
IC802
SN74LA367
T502 F.B.T
TR501
2SD471
TR502
2SC945
TR818
2SC945
TR819
2SC945
TR821
2SC945
TR830
2SC945
TP2002
TP2003

SAVE THIS SCHEMATIC DIAGRAM FOR LATER SERVICE.

RUN NO.1