

NEC

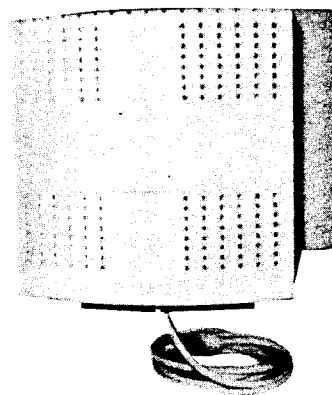
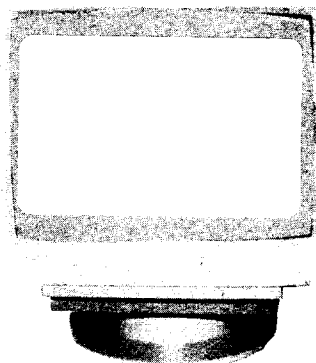
MODELS JC-1403HM
E/EE/ED/N/R
E(PH)/EE(PH)/ED(PH)

COLOR MONITOR **MultiSync 2A** SERVICE MANUAL

PART NO. 599910297



Better Service
Better Reputation
Better Profit



SPECIFICATIONS

A. Electrical Description

Picture Tube	13 Visual inches diagonal 90 degrees deflection, 0.31 mm Trio dot pitch Dot type black matrix (JC-1403HME/EE/ED/N/R) 90 degrees deflection, approx. 0.29 mm MIN (Variable pitch) Trio dot pitch Dot type black matrix (JC-1403 HME (PH)/EE (PH)/ED (PH) Non-long persistence phosphor, Dark bulb, Direct etch	Resolution	Horizontal :800 dots Vertical :600 lines
Input Signal	Video :ANALOG 0.7 Vp-p/75Ω Positive Sync. :Separate sync. TTL Level Horizontal sync. Positive/Negative Vertical sync. Positive/Negative	Video Band Width	38MHz
Display Colors	Analog Input :Unlimited colors	Active Display Area	Horizontal :240mm Active display area is Vertical :180mm changed by signal timing
Synchronization	Horizontal :31.5kHz and 35kHz (Auto- matically) Vertical :56Hz/60Hz/70Hz (Automatically), Noninterlace	Misconvergence	Less than 0.6mm
		Power Supply	AC 220-240V, 50/60Hz
		Power Consumption	65W
		Environmental Consideration	Operating Temperature 0°C to +40°C Humidity 30% to 80% Storage Temperature -20°C to +60°C Humidity 10% to 90%

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

This is a revised SERVICE MANUAL for PART NO. 599910283 MODELS JC-1403HME/EE/R/ED with MODELS JC-1403HMN/E (PH)/EE (PH)/ED (PH) included.

NEC Corporation
TOKYO, JAPAN

Model JC-1403HME/EE/ED with (PH) at the end of the model name are units using CRT made by PHILIPS. Other models are using CRT made by NEC.
 Because the exterior appearances are the same, check the serial number of the serial number label pasted at the bottom of the unit as shown below to identify the models using NEC made CRT or PHILIPS made CRT.

LABEL SERIAL NUMBER

MODEL	: JC-1403HME
SERIAL No. :	<input type="text"/>

0 2 T 5 0 0 0 1

MANUFACTURED DATE CODE ———
 USE THE LAST NUMBER OF THE YEAR
 MANUFACTURED DATE CODE ———
 JAN. TO SEP. 1 to 9
 OCT. X
 NOV. Y
 DEC. Z

PLACE MANUFACTURED ———

SERIAL NUMBERS

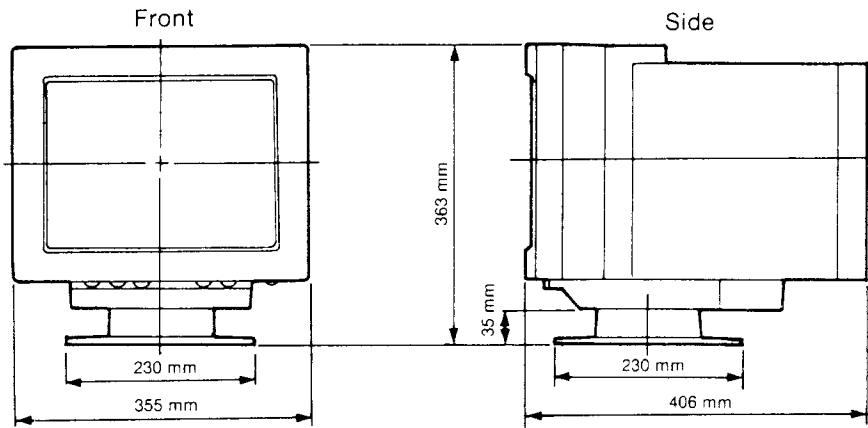
CRT made by NEC 00001 to 50000
CRT made by PHILIPS 50001 to 80000

NOTE:

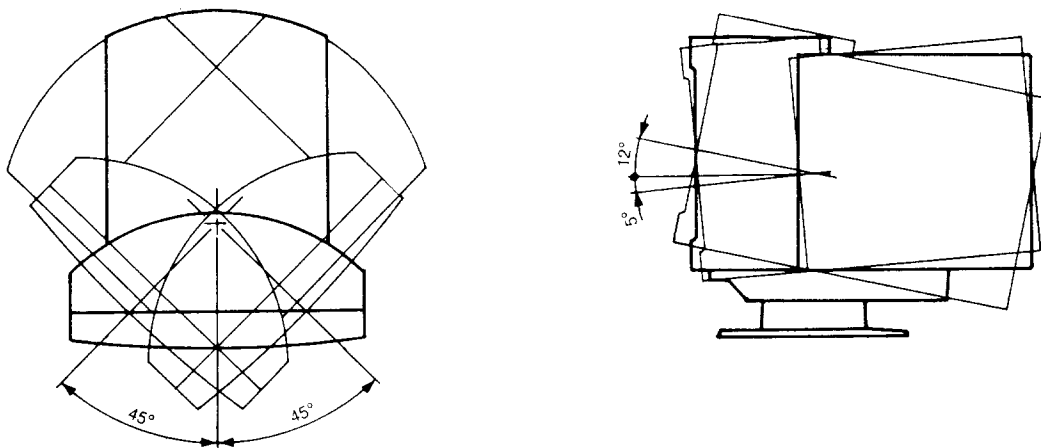
Since MAC II mode is deleted from later models of the conventional models (JC-1403HME/EE/R/ED), ADJUSTMENT PROCEDURE and other subjects related to MAC II mode are deleted from this service manual.

B. Mechanical Description (See below diagrams)

- 1. Cabinet: Molded plastic cabinet with attachable tilt swivel base.
- 2. Dimensions: 355(W) × 363(H) × 406(D) mm



3. Tilt Swivel Range



4. Weight:

12.3 kg (JC-1403HME/EE/R/E (PH)/EE (PH))
13.5 kg (JC-1403HMED/N/ED (PH))

5. Controls

POWER SWITCH
BRIGHTNESS CONTROL
CONTRAST CONTROL
V. POSITION CONTROL
V. SIZE CONTROL
H. POSITION CONTROL

6. Input Signal Terminal:

15 PIN MINI D-SUB CONNECTOR (MALE)
(SEE PAGE 3 FOR PIN ASSIGNMENTS)

GENERAL

The MultiSync 2A, the intelligent Monitor from NEC, is a high resolution color monitor that automatically adjusts or senses multiple scanning frequencies generated from graphics adapters. The MultiSync 2A accepts horizontal scan frequencies of 31.5kHz and 35kHz and vertical scan frequencies of 56Hz, 60Hz and 70Hz.

As you can see, "design" was the top priority with the MultiSync 2A. With the intelligence to support the hardware timings of IBM's VGA and MCGA, the MultiSync 2A was also designed to be compatible with many non-IBM graphics boards supporting the Super VGA resolution of 800 × 600.

The MultiSync 2A will operate with IBM PC/XT/AT/386 compatibles and IBM's Personal System/2 (PS/2) series computers.

FEATURES

- The MultiSync 2A automatically scans horizontal frequencies of both 31.5kHz and 35kHz, among the vertical refresh rates of 56Hz, 60Hz and 70Hz.
- The MultiSync 2A has a maximum horizontal resolution of 800 dots by a maximum vertical resolution of 600 lines.
- By accepting ANALOG signal inputs, the MultiSync 2A can display an unlimited palette of colors. The number of colors displayed depends on the graphics board and software being used.
- The MultiSync 2A has a 14" diagonal, non-glare CRT, and yields a 13" viewing area.
- A captive signal cable is included with a 15 pin connector that's wired for IBM's VGA configuration. Refer to Appendix B for pin assignments.

CAUTIONS

When setting up and using the MultiSync 2A, pay special attention to the following:

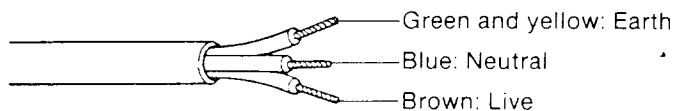
- To eliminate eye fatigue, do not use your MultiSync 2A against a bright background or where sunlight or other light sources will shine directly on the monitor.
- The MultiSync 2A should be placed just below eye level for optimum viewing.
- Allow adequate ventilation around the monitor so that heat from the monitor can properly dissipate.
- Neither the monitor itself, nor any other heavy object, should rest on the power cord. Damage to a power cord can cause fire or electrical shock.
- Keep the monitor away from high capacity transformers, electric motors and other strong magnetic fields.
- The MultiSync 2A should not be used in damp, dusty or dirty areas.
- Handle The MultiSync 2A with care when transporting.
- Since the image screen surface of cathode ray tube (CRT M34JUP23XX215 (T4)) used with JC-1403HMN has electric charge prevention treatment applied, to clean the screen surface, use soft paper (such as lens cleaning paper) or cloth (such as cotton and gauze) with neutral detergent or ethyl alcohol* soaked and wipe carefully.

*CAUTION

Use care since touching the cabinet with ethyl alcohol can cause chemical reaction resulting in discoloring and spoiling the appearance.

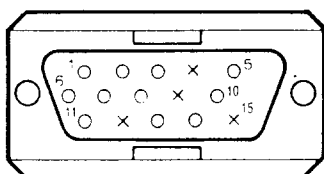
Power cord

In case of JC-1403HME/EE (PH) the end of power cord is as follows.



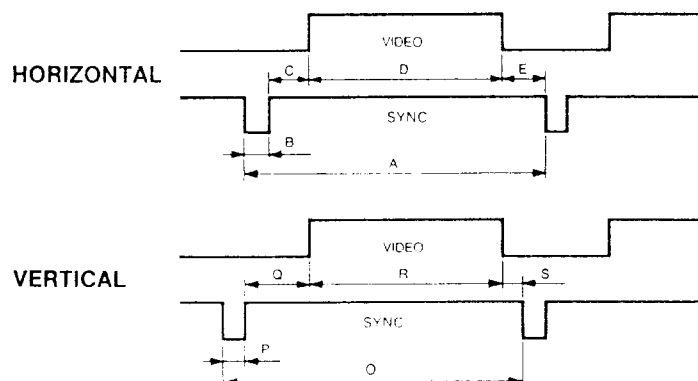
PIN ASSIGNMENTS AND SIGNAL LEVELS

Mini D-SUB Type 15-P



PIN NO.	SIGNAL	PIN NO.	SIGNAL
1	RED	11	GROUND
2	GREEN	12	NO-CONNECTION
3	BLUE	13	H. SYNC
4	NO-CONNECTION	14	V. SYNC
5	GROUND	15	NO-CONNECTION
6	GROUND		
7	GROUND		
8	GROUND		
9	NO-CONNECTION		
10	GROUND		

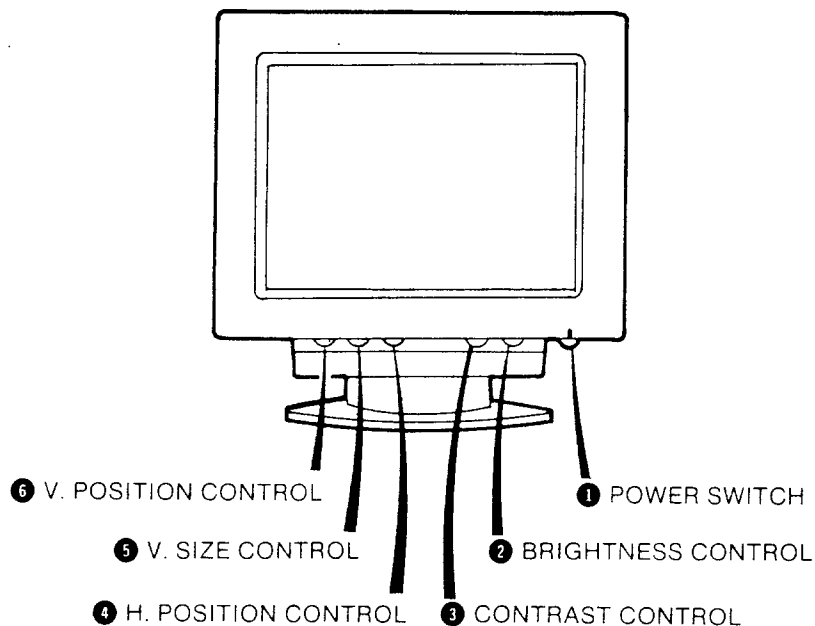
TIMING CHARTS



PRESET TIMING

Horizontal Freq	31.5kHz			35.2kHz
Signal Name	VGA 350	VGA 400	VGA 480	800X 600
Sync. Polarity	POS	NEG	NEG	POS
A μ s	31.78	31.78	31.78	28.44
B μ s	3.81	3.81	3.81	2.00
C μ s	1.91	1.91	1.91	3.56
D μ s	25.42	25.42	25.42	22.22
E μ s	0.64	0.64	0.64	0.67
Sync. Polarity	NEG	POS	NEG	POS
O ms	14.27	14.27	16.68	17.78
P ms	0.06	0.06	0.06	0.06
Q ms	1.91	1.11	1.05	0.63
R ms	11.12	12.71	15.25	17.07
S ms	1.18	0.38	0.32	0.03

ADJUSTING THE FRONT CONTROLS



① ON/OFF (Power Switch)

Used to turn the power ON or OFF. When the power is ON, the LED power indicator, located on the front of the monitor, is lit.

② BRIGHT (Brightness Control)

Used to adjust the brightness of the background.

③ CONT (Contrast Control)

Used to adjust the sharpness of the characters.

④ H.POSI (Horizontal Position Control)

Adjust this knob for proper horizontal display position. Turn clockwise to reposition display to the right, counterclockwise to reposition to the left.

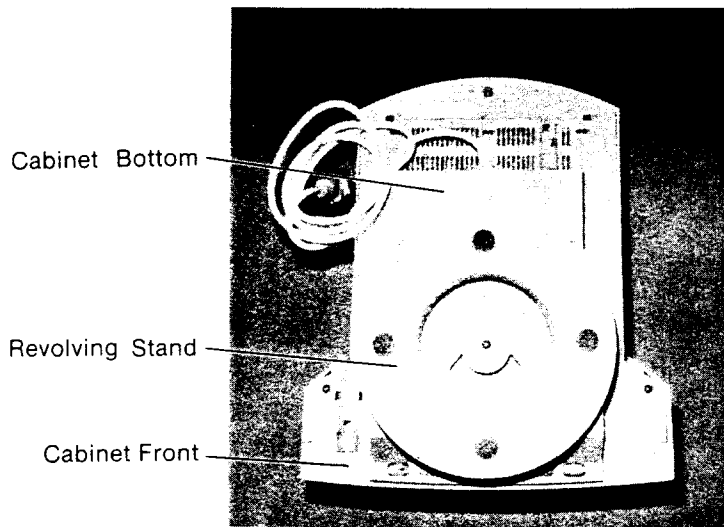
⑤ V.SIZE (Vertical Display Size Control)

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

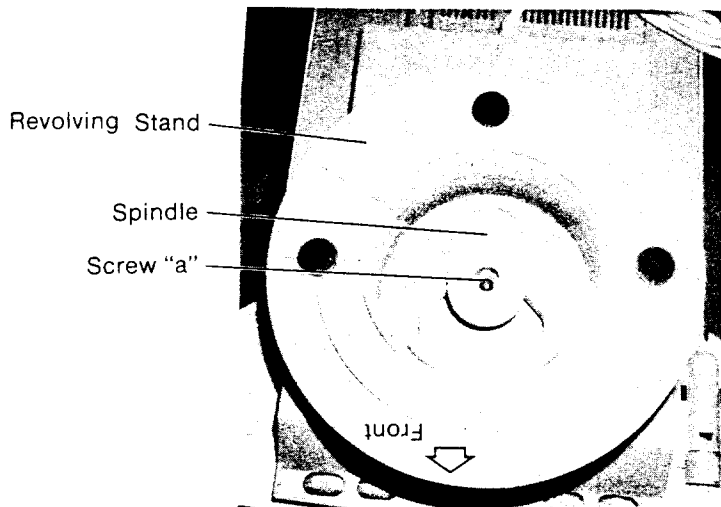
⑥ V.POSI (Vertical Position Control)

Adjust this knob for proper vertical positioning of the display.

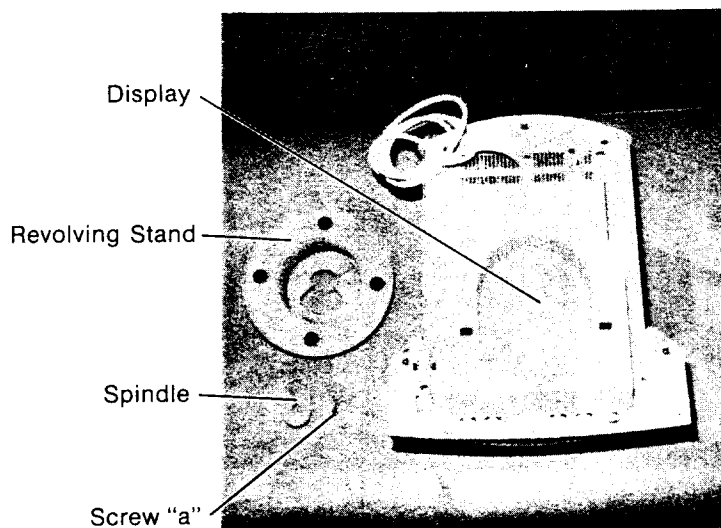
THE METHOD FOR REMOVING THE TILT SWIVEL BASE



1. Turn the monitor set upside down as shown.



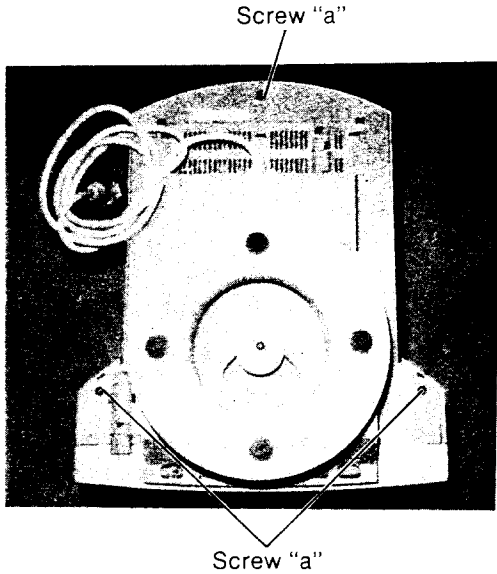
2. Move the revolving stand so that a "FRONT" mark comes to the cabinet front side.
3. Remove the screw "a", then remove both spindle and revolving stand from the display.



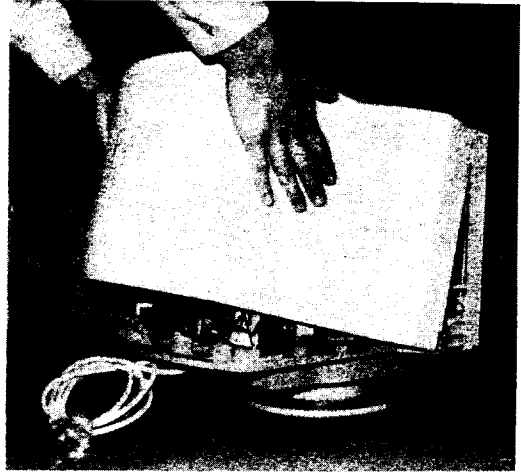
4. The removed parts consist of a display, revolving stand, spindle and screw "a" as shown.

DISASSEMBLY

1. Turn the monitor set upside down as shown. (Top VIEW)
2. Remove three screws "a" from the cabinet bottom.

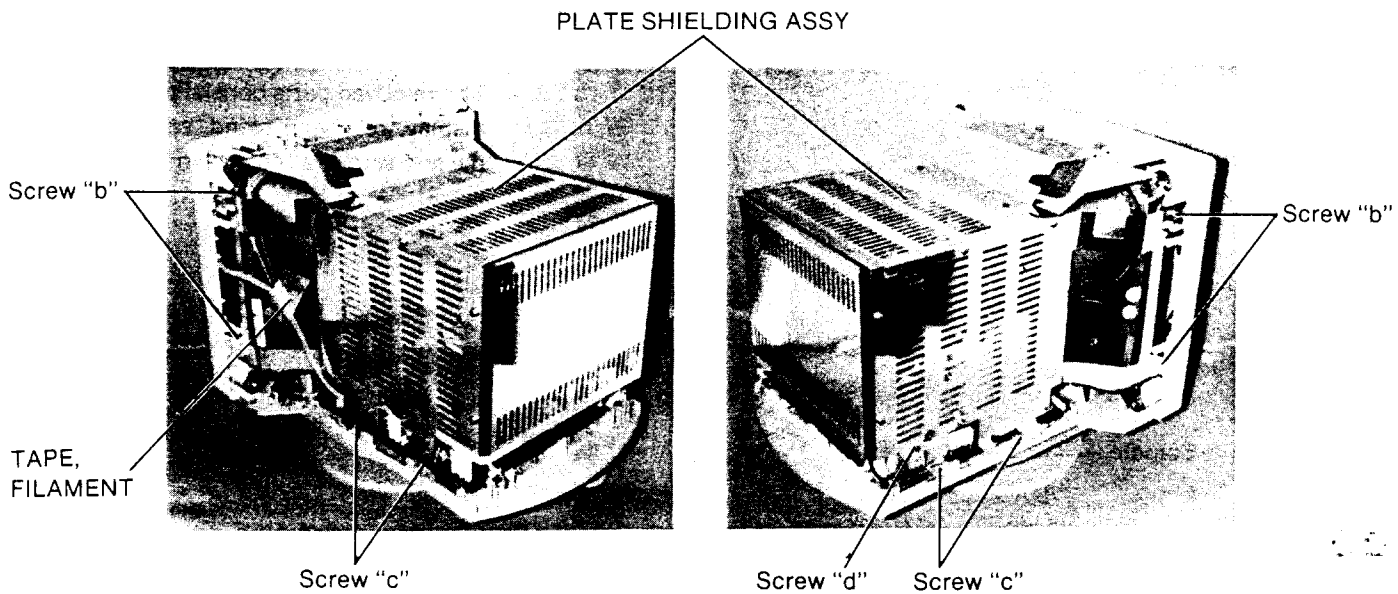


3. Invert the monitor set as normal, then remove the cabinet back.

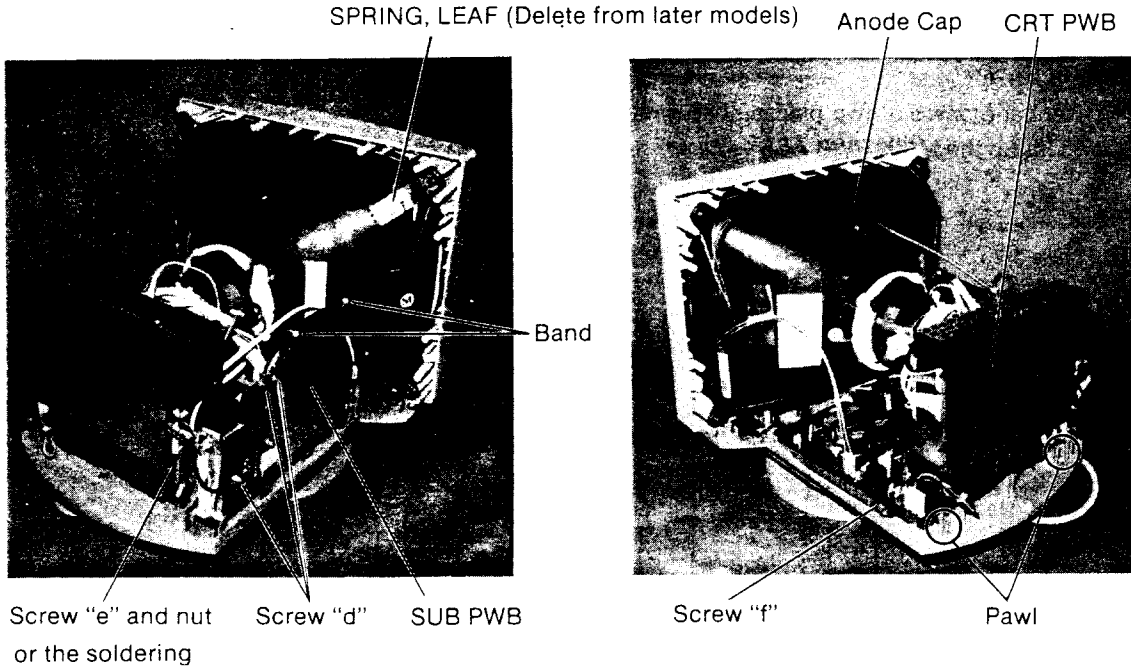


As for the models JC-1403HMED/N/ED (PH) (PLATE SHIELDING ASSY REMOVAL)

1. Remove the four screw "b". (Case of ED, Remove the two screw "b" which locates at Top side.)
2. Remove the four screw "c".
3. Remove a screw "d".
4. Remove the TAPE, FILAMENT, then remove the PLATE SHIELDING ASSY.



- Remove the three screws "d" and the two band.
Remove a screw "e" and nut, or the soldering.
Remove a screw "f".



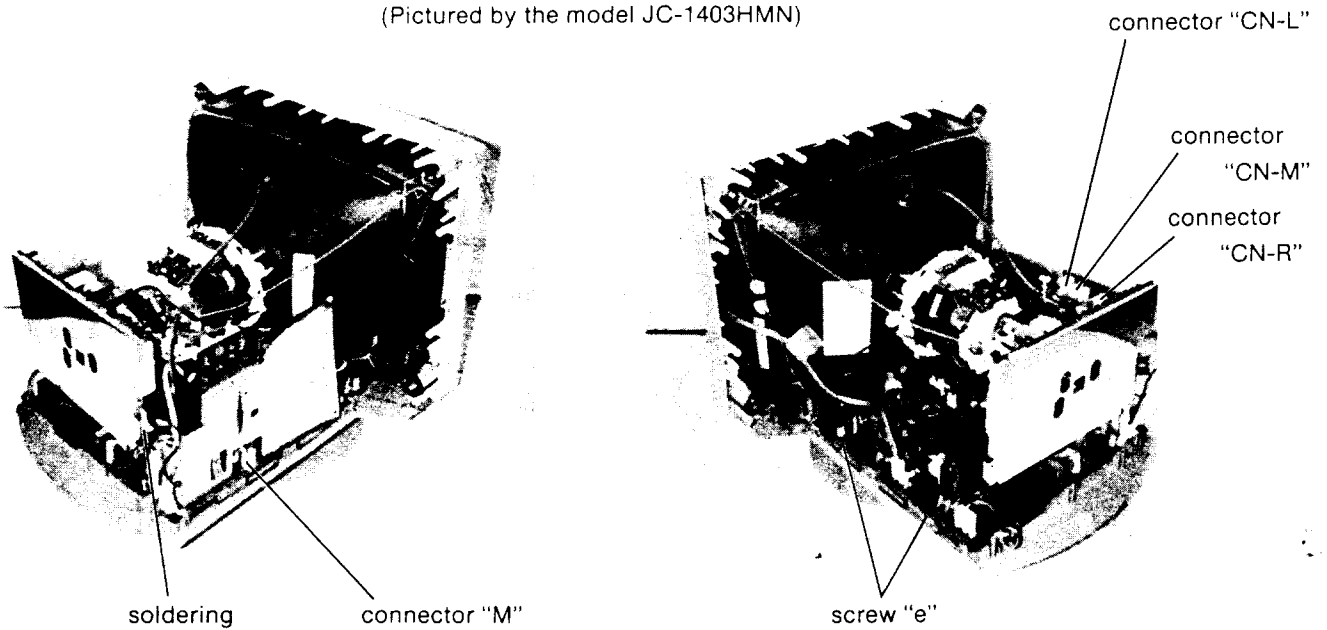
As for the models JC-1403HMED/ED (PH)

- Remove the soldering.
Remove the two screws "e".

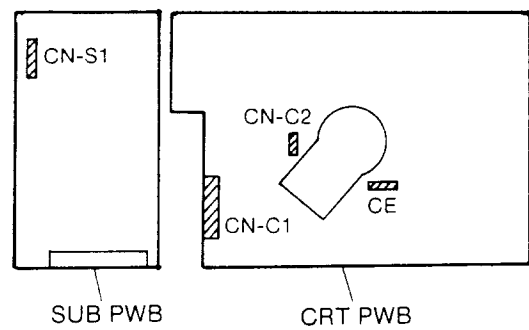
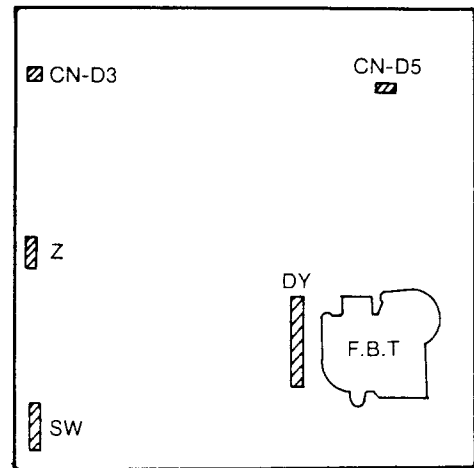
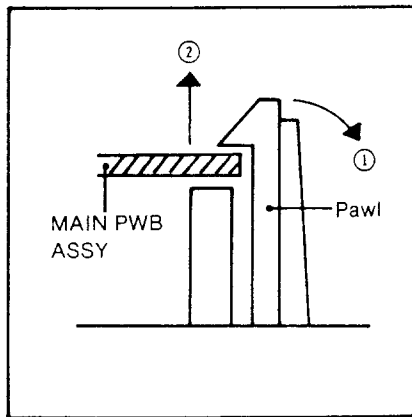
As for the model JC-1403HMN

- Remove the soldering.
Remove the two screws "e".
Disconnect the connectors "CN-L", "CN-M" and "CN-R". (from SSI PWB ASSY)
Disconnect the connector "M". (from MAIN PWB ASSY)

(Pictured by the model JC-1403HMN)

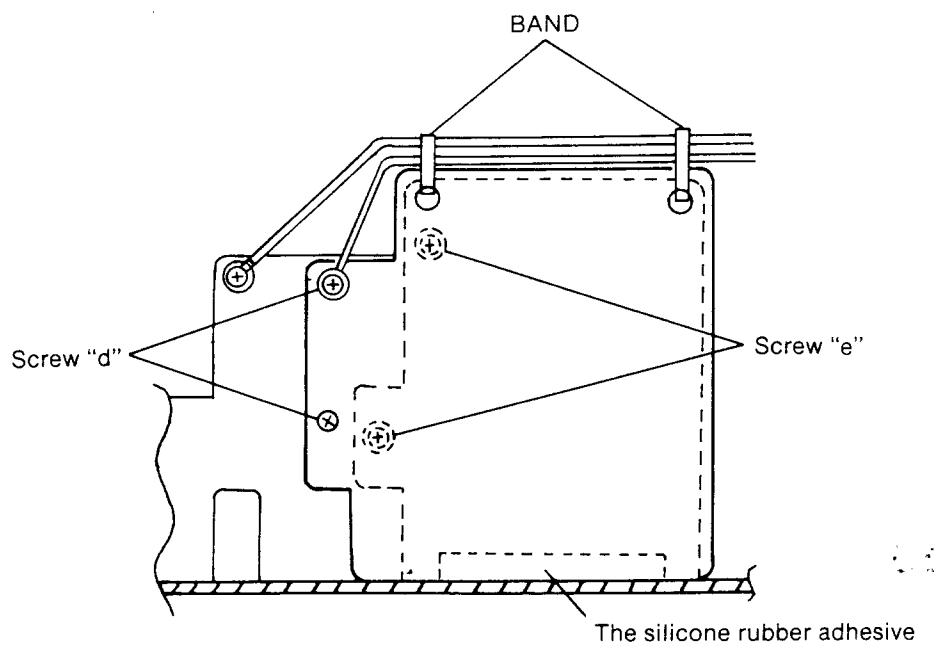


- Remove the connector "DY", "Z", "SW", "CN-D3", "CN-D5", and CRT Anode cap. (from MAIN PWB ASSY)
Remove the connector "CE", "CN-C1" and "CN-C2". (from CRT PWB ASSY)
Remove the connector "CN-S1". (from SUB PWB ASSY)
Disengage pawls at two places, then slide and lift up the MAIN PWB ASSY.



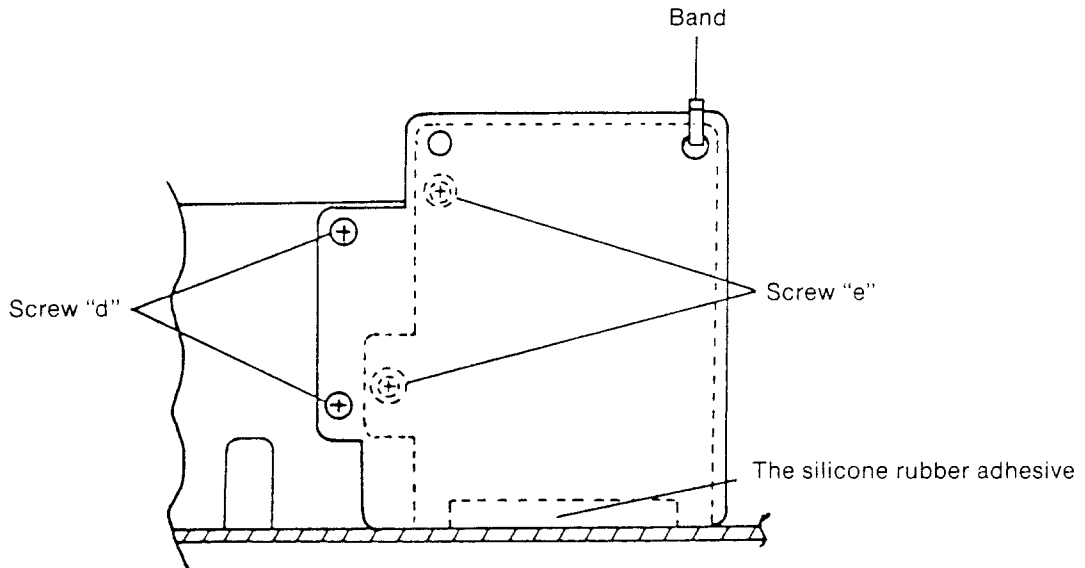
SUB PWB UNIT DIS ASSEMBLY

- Remove the connector "CN-S1"
- Remove the two screw "d" and the two band.
- Remove the two screw "e".
- Cut the silicone rubber adhesive with a cutter.
- Lift up the SUB PWB ASSY.



As for the model JC-1403HMED/ED (PH)

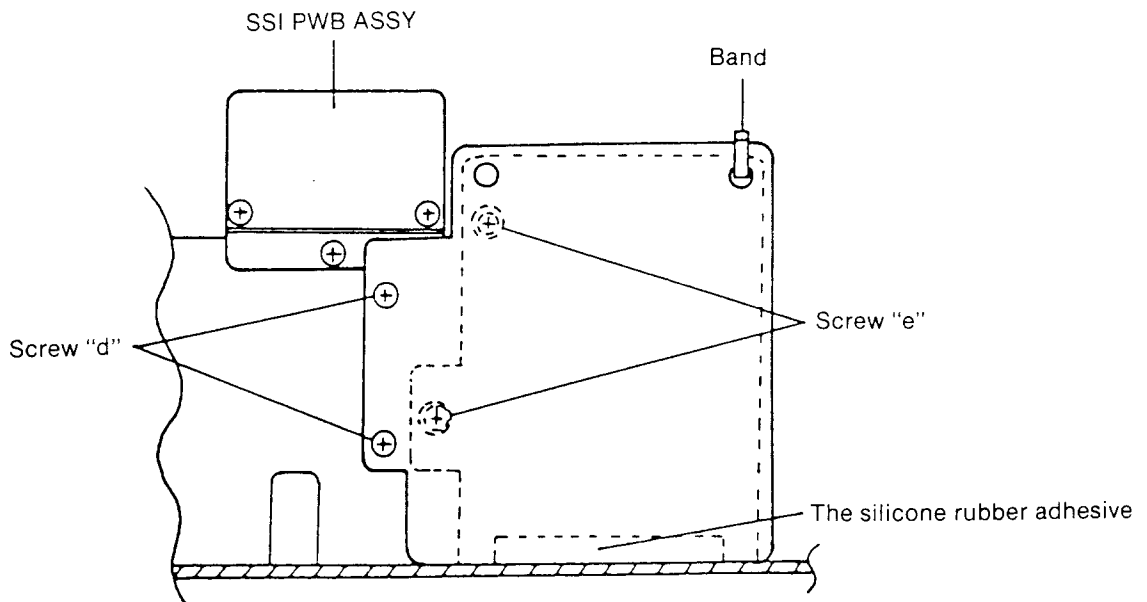
- Remove the connector "CN-S1".
- Remove the two screw "d" and a band.
- Remove the two screw "e".
- Cut the silicone rubber adhesive with a cutter.
- Lift up the SUB PWB ASSY.



As for the model JC-1403HMN


- Remove the connector "CN-S1".
- Remove the two screw "d" and a band.
- Remove the two screw "e".
- Cut the silicone rubber adhesive with a cutter.
- Lift up the SUB PWB ASSY.

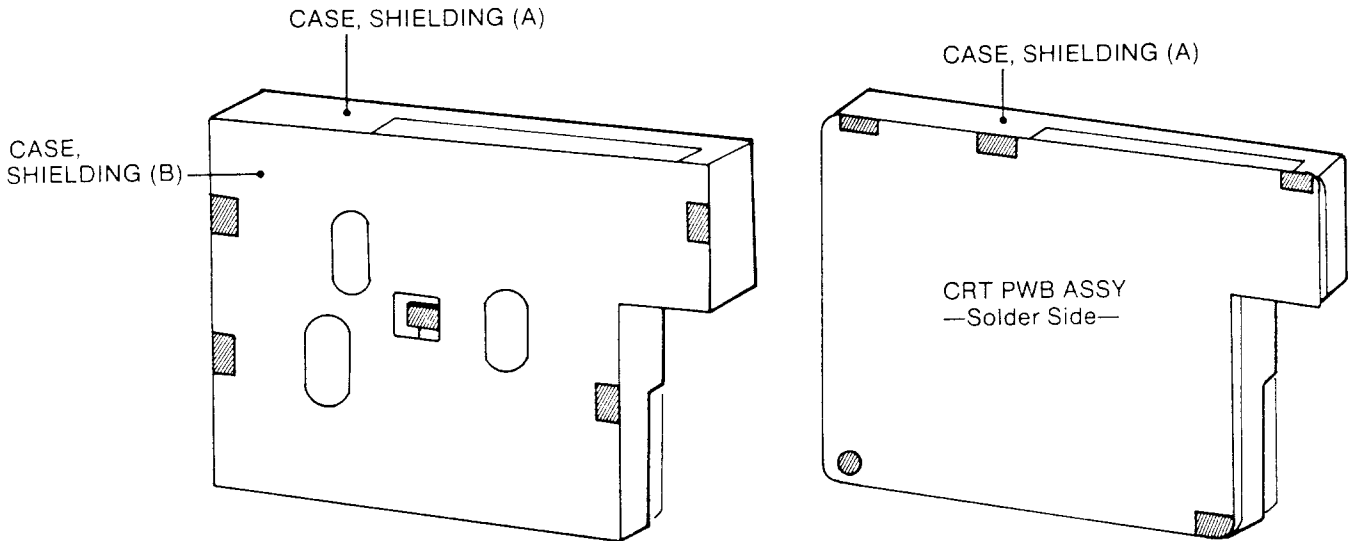
For Service Manuals
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Oxfordshire, OX9 4QY.
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email:- mauritron@diat.pipex.com



CRT PWB UNIT DIS ASSEMBLY


Remove the connector "CN-C1", "CN-C2", "CN-C3", "CN-C4" and "CE".

Break soldering marked with , and remove both "CASE, SHIELDING (A)" and "CASE, SHIELDING (B)". Then, disconnect lead wires "EE", "SG" and "FOCUS".

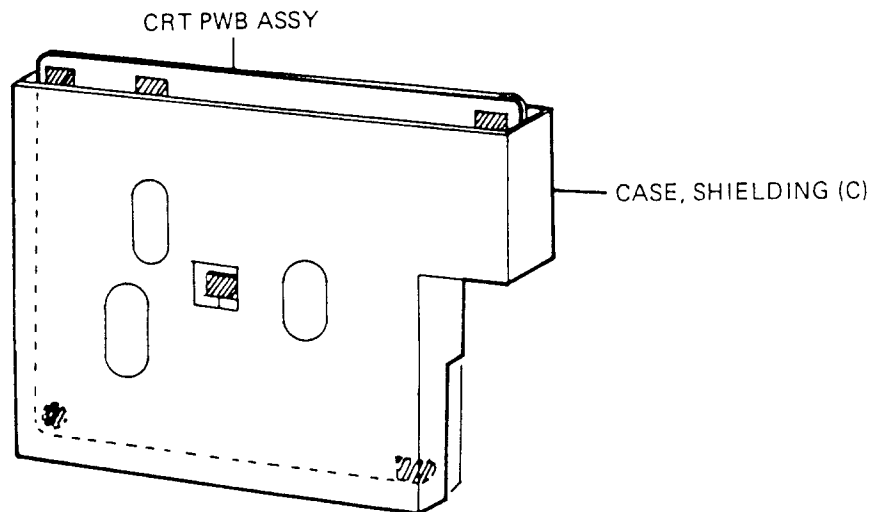


As for the models JC-1403HMED/ED (PH)/N

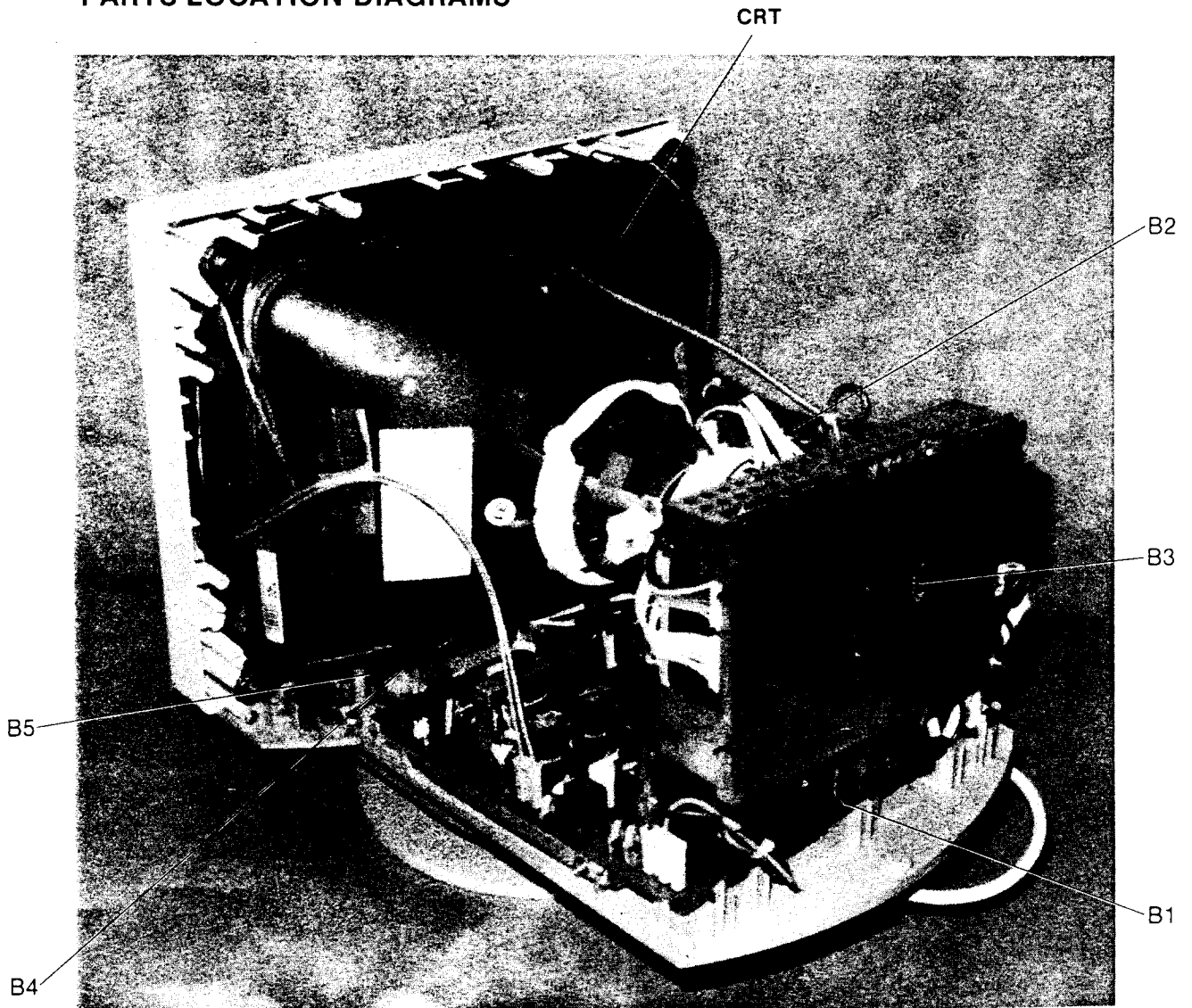
Remove the connector "CN-C1", "CN-C2", "CN-C3", "CN-C4" and "CE".

Break soldering marked with , and remove both "CASE, SHIELDING (C)".

Then, disconnect lead wires "EE", "SG" and "FOCUS".



PARTS LOCATION DIAGRAMS



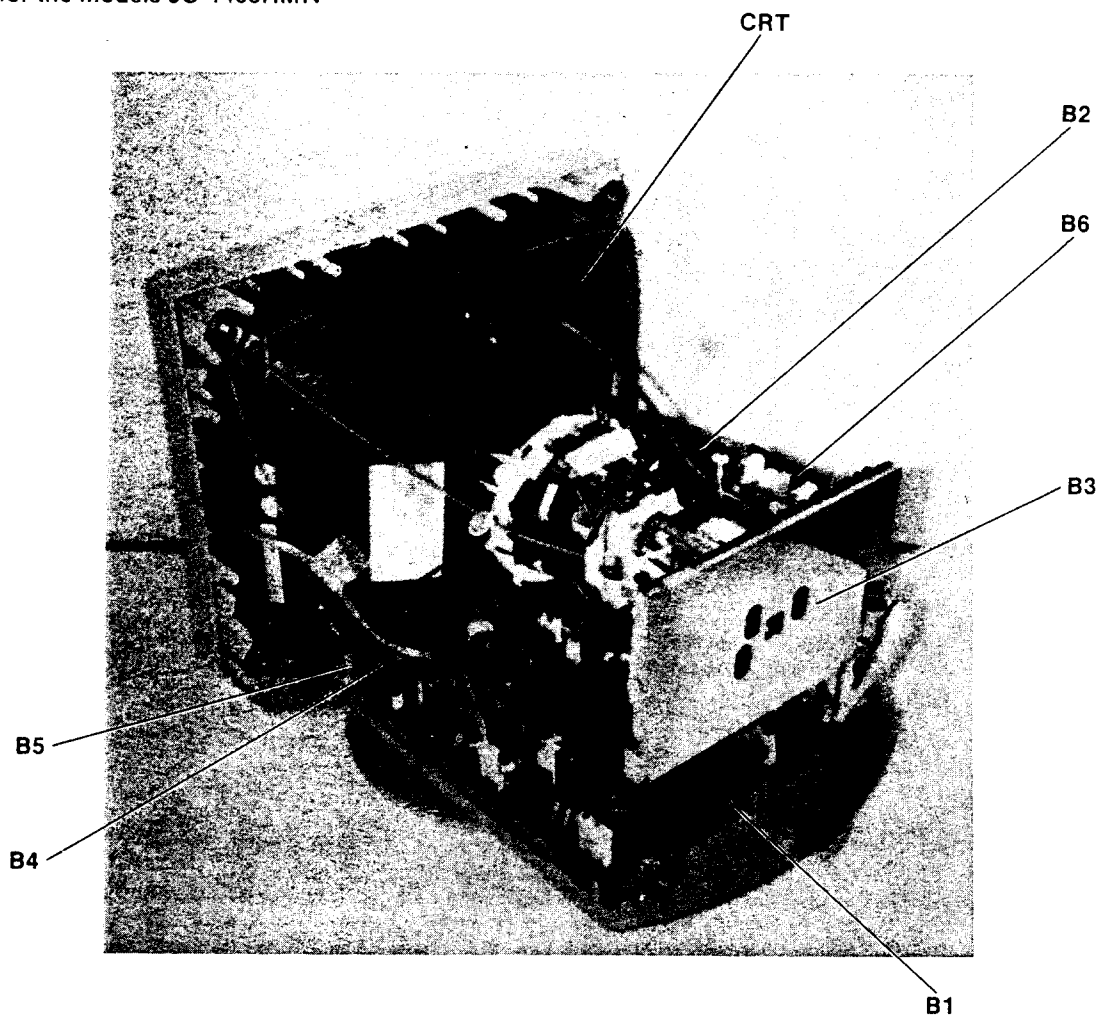
BOARDS

B1	MAIN PWB ASSY	PWE-242
B2	SUB PWB ASSY	PWE-243A
B3	CRT PWB ASSY	PWE-243B
B4	VR PWB ASSY	PWE-243C
B5	LED PWB ASSY	PWE-243D

CRT

JC-1403HME/EE/ED	M34J7023XX183(1)
JC-1403HMR	M34JUP23XX183(1) (R)
JC-1403HME (PH)/EE (PH)/ED (PH)	M34ECL12X46

As for the models JC-1403HMN

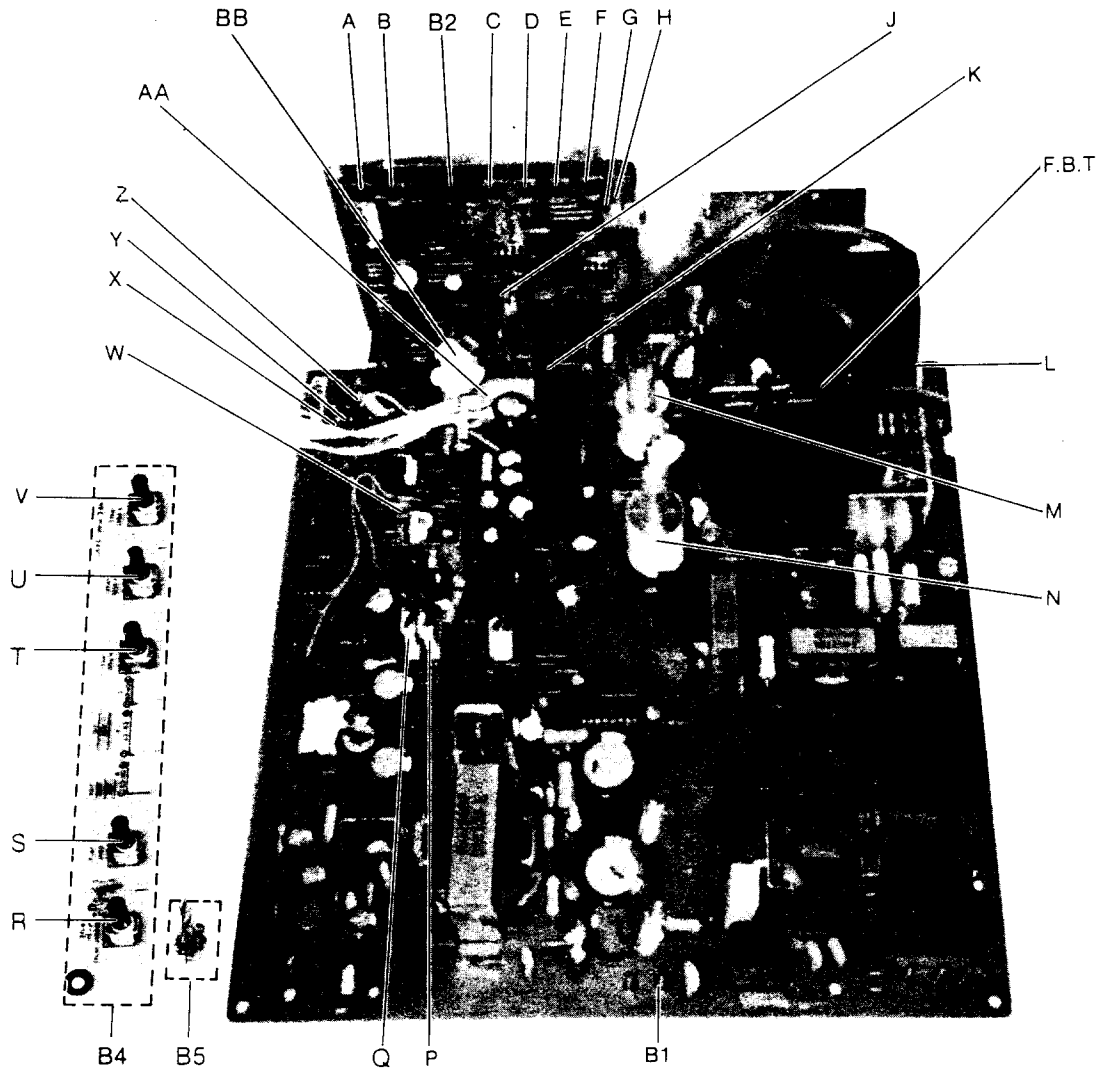


BOARDS

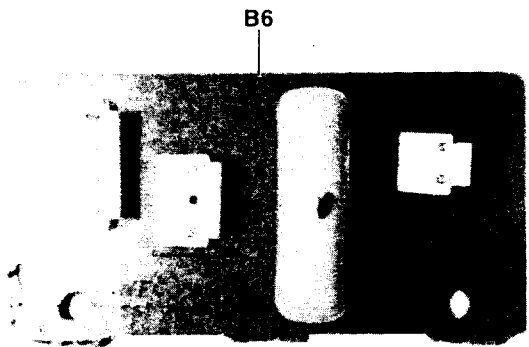
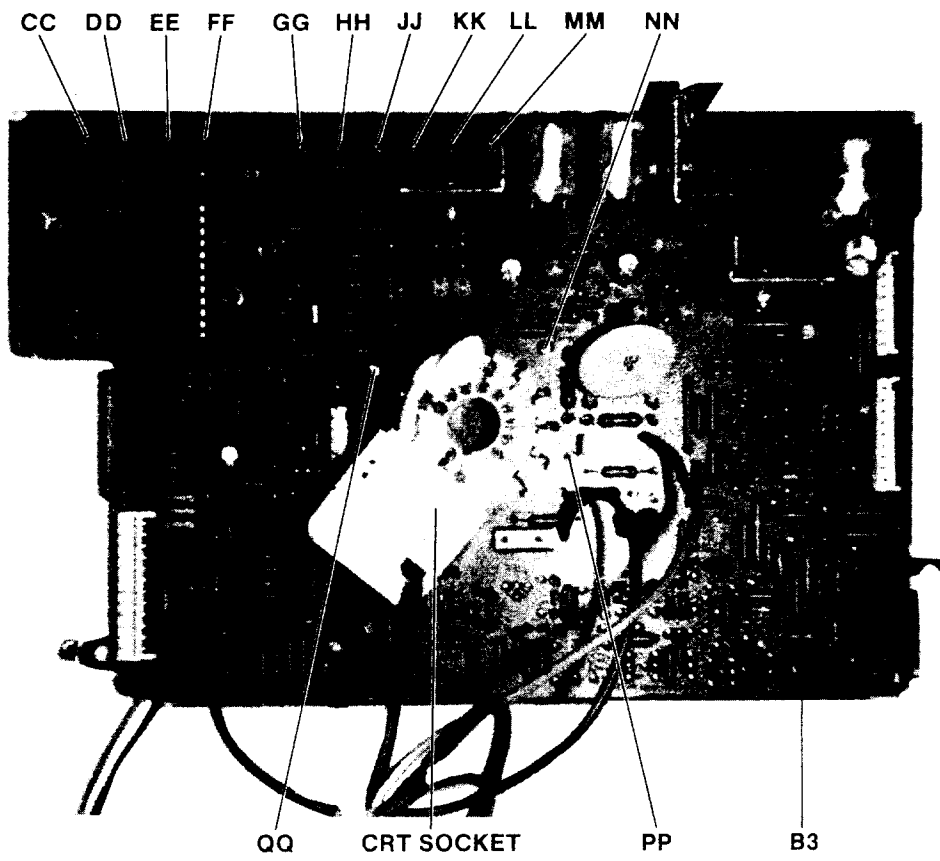
B1	MAIN PWB ASSY	PWE-242
B2	SUB PWB ASSY	PWE-243A
B3	CRT PWB ASSY	PWE-243B
B4	VR PWB ASSY	PWE-243C
B5	LED PWB ASSY	PWE-243D
B6	SSI PWB ASSY	PWE-295

CRT

JC-1403HMN	M34JUP23XX215 (T4)
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A	VR451 V. LIN	P	CN-D7
B	VR452 V. SUB HEIGHT	Q	CN-D6
C	VR552 H. PHASE (1) (VGA)	R	VR7A2 BRIGHTNESS
D	VR553 H. PHASE (2) (800X600)	S	VR7A1 CONTRAST
E	VR551 H. F/V ADJ	T	RV5A1 H. POSITION
F	VR556 H. HOLD	U	VR4A1 V. SIZE
G	TP502	V	VR4A2 V. POSITION
H	TP501	W	VR501 +12 ADJ
J	TP2001C	X	TP551
K	TP2001A	Y	TP451
L	RH	Z	VR401 SIDE PIN
M	L504	AA	CN-S2
N	L503	BB	VR2001
B1	MAIN PWB ASSY (PWE-242)	B4	VR PWB ASSY (PWE-243C)
B2	SUB PWB ASSY (PWE-243A)	B5	LED PWB ASSY (PWE-243D)



CC	VR701 R. GAIN	KK	VR707 R. SUB. BRIGHT
DD	VR701 G. GAIN	LL	VR708 G. SUB. BRIGHT
EE	VR703 B. GAIN	MM	VR709 B. SUB. BRIGHT
FF	VR710 SUB. CONT	NN	TP701
GG	VR704 R. BIAS	PP	TP02
HH	VR705 G. BIAS	QQ	TP703
JJ	RJR706 B. BIAS	B3	CRT PWB ASSY (PWE-243B)

B6	SSI PWB ASSY (PWE-295)	model JC-1403HMN only
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ADJUSTMENT PROCEDURE

Standard Adjustment Conditions

- 1) Power source voltage: AC 220V 50Hz
- 2) Aging; Adjust after leaving power on for 20 minutes or more.
- 3) Signals:
 - Video: VGA; 800×600 mode, 0.7Vp-p 75Ω terminal, positive polarity
 - Synchronizing: VGA, 800×600 mode TTL level positive polarity/negative polarity
Separate
 - Deflection frequency: H. 31.5kHz/35kHz
V. 56Hz/60Hz/ 70Hz

Unless otherwise specified, use signal 1 (VGA 350 line mode).

NOTE: Adjust the signal level to the threshold with the display input section of a signal cable from the signal generator terminated with standard resistance 75Ω.

1. SW. REG. UNIT

- 1) +B₁, (VR651) +110V LINE

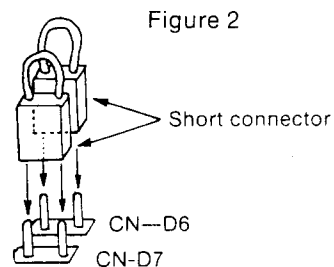
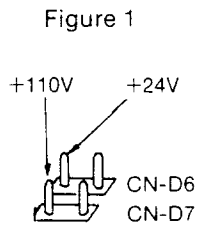
Insert the connector terminals CN-D6 and CN-D7 as shown in Figure 1, and adjust the power supply alone. After adjustment, insert the short connector as shown in Figure 2 to connect the power supply to the monitor set.

Adjust VR651 to be 110 VDC

This control is permanently sealed at factory.

Do not attempt to readjust.

NOTE: Do not operate the SW. REG. unit itself without any load.



2. Pre-adjustment of SUB PWB

- 1) F/V converter adjustment

Input $f_H=31.5\text{kHz}$ horizontal sync. positive polarity 12Vp-p between CN-S2 pin 3 and GND.

Adjust VR551 so that $7.90 \pm 0.05\text{V}$ DC is obtained between TP502 and GND.

- 2) High voltage protector setting

With $38.9 \pm 0.1\text{V}$ DC applied between TP2001A and GND, adjust VR2001 to obtain $0.2 \pm 0.05\text{V}$ DC between TP2001C and GND.

Due to PTB, after adjusting VR2001 seal with an adhesive (TE-385RTV) and cap (74004891).

3. Main Adjustment

Set the external VRs as follows unless otherwise specified.

Front controls

VR7A1 CONTRAST:	Max. (fully clockwise)
VR7A2 BRIGHTNESS:	At point where back raster disappears.
VR4A2 V. POSITION:	Mechanical center
VR4A1 V. SIZE:	Center click position
VR5A1 H. POSITION:	Center click position

3-1) MAIN PWB Adjustment

(1) +12V Adjustment

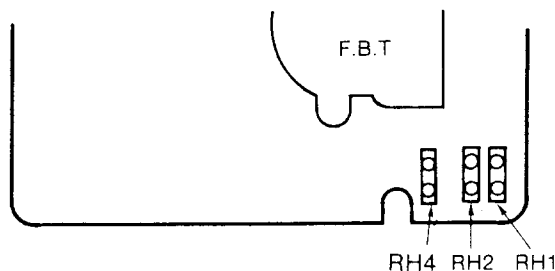
Receiving all white signal, adjust VR501 (for +12V adjustment) to obtain $+12 \pm 0.1V$ DC between TP551 and GND.

(2) Horizontal Hold

- Short TP501 and GND
- Adjust horizontal hold VR556 (H. HOLD) so that there is one screen.
- Remove the short between TP501 and GND.
- Receiving signal 5 ($f_H=35kHz$), check for synchronization.

(3) Horizontal Raster Centering

- Adjust L503 and L504 so that horizontal amplitude is approximately 240 mm.
- When the screen is rolling, centering may be adjusted with VR5A1 (H. POSITION). After adjustment, return VR5A1 to the center click position.
- With background raster brightened with VR7A2 (BRIGHTNESS) in MAX position, re-insert the connector RH so that the background raster is in the center of the CRT screen.



RH1: for coarse adjustment
 RH2: for fine adjustment
 RH4: no adjustment

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

Adjust respective VRs so that the display area positions in the raster center when the following signals (all white signals) are received. Adjustment may be conducted in arbitrary order.

Signal		VR
VGA	$f_H=31.5kHz$ 1	VR552
800×600	$f_H=35kHz$ 5	VR553

(5) Vertical Linearity

- Receiving cross-hatched inverted signal, adjust VR452 (V. SUB HEIGHT) so that vertical amplitude is approximately 180 mm.
- Adjust VR451 (V. LIN) for the optimum vertical linearity.

- (6) Vertical Sub Height
Receiving all white signal, adjust VR452 so that vertical screen size is 180 mm.
- (7) Side Pin Cushion
Adjust VR401 (SIDE PIN) for the optimum side pin cushion distortion.
- (8) Horizontal Width (when receiving all white signal)
 - a) Receiving signal 5 (800×600), adjust L504 (H. WIDTH COIL) so that horizontal width is 248 mm.
 - b) Receiving signal 1 (VGA), adjust L503 (H. WIDTH COIL) so that horizontal width is 240 mm.

NOTE: Adjustment must be conducted starting from a), then b).

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 — 1603, the video signal output level varies according to the signal pattern, so check the level with the signal to be adjusted.

Video: Analog 0.7Vp-p

Synchronizing: Separate TTL level

Unless otherwise specified, use signal 1 for video adjustments.

(1) Initial Settings of Adjustment VRs

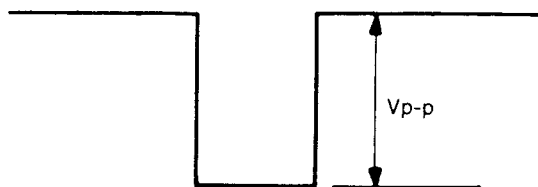
VR701, 702, 703	GAIN VR	Fully counterclockwise (Min.)
VR710	SUB CONT VR	Fully counterclockwise (Min.)
VR704, 705, 706	BIAS VR	Fully clockwise (Max.)
VR707, 708, 709	SUB BRIGHT VR	Center

(2) Video Contrast Adjustment (Signal 1: Window pattern)

a) GAIN VR adjustment

- ① Receive the window pattern.
- ② Contrast control Fully clockwise
Brightness control Fully counterclockwise
- ③ Adjust VR701, VR702, and VR703 so that the R, G, and B outputs (TP701, 702, 703) on the VIDEO PWB are 36 Vp-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 VR710 (SUB. CONT) so that the G (TP702) output on the CRT PWB is 10Vp-p. After adjusting, check that the R (TP701) and B (TP703) outputs are 10Vp-p ±0.5Vp-p. If not, fine-adjust VR710 so that the R, G, and B outputs are within the range of 10Vp-p ±0.5Vp-p.



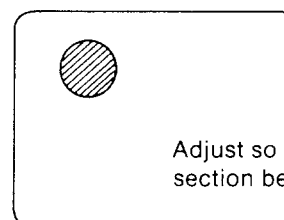
- (3) Cut-off Adjustment (0.08Vp-p all white signal)
- Contrast Control Fully clockwise
Brightness control Fully counterclockwise
 - Short TP451 and TP551 at 12k Ω
Turn the screen VR clockwise a little by little until a single color appears horizontally. Adjust the screen VR so that the color can faintly be seen. This color is the reference color for the cut-off adjustment.
 - Turn the bias VRs for the colors other than the reference color counter clockwise for until they are as bright as the reference color.
 - Release the short-circuit between TP451 and TP551.

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

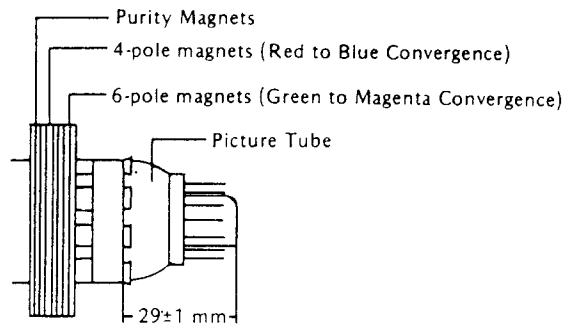
- (4) SUB BRIGHT VR Adjustment
- Contrast control Fully clockwise
Brightness control Fully clockwise
 - Receive all black signal.
 - Adjust VR707 (R. SUB BRIGHT) to VR709 (B. SUB BRIGHT) so that the background raster becomes white.
- (5) White Balance Adjustment
- Contrast control Fully clockwise
Brightness control At a point where no background raster appears.
 - H gray scale (16 gradations).
(Window pattern — within a range in which there is no ABL.)
Check that the white balance is proper for all gradations.
If not, fine adjust the GAIN VR, VR701 and VR703 to make it white.
The color temperature for the white should be adjusted around: $x=0.281$
 $y=0.311$

NOTE: Do not move VR702: G.GAIN

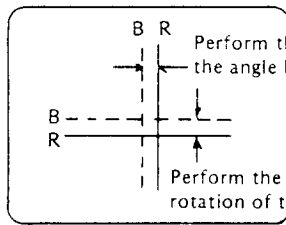
- (6) Focus Adjustment (Signal 5)
(4-dot missing signal)
- Contrast control Fully clockwise
Brightness control At a point where background raster disappears.
- Turn the focus control and adjust for the optimum focus.



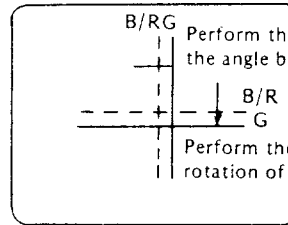
- (7) Purity Adjustment (CRT made by NEC)
- Be sure that the display is not being exposed to any external magnetic fields.
 - Ensure that the spacing between the Purity, Convergence Magnet, (PCM), assembly and the CRT stem is 29 mm \pm 1 mm. (See below diagram)
 - Produce a complete, red pattern on the 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 $^\circ$.
 - 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)



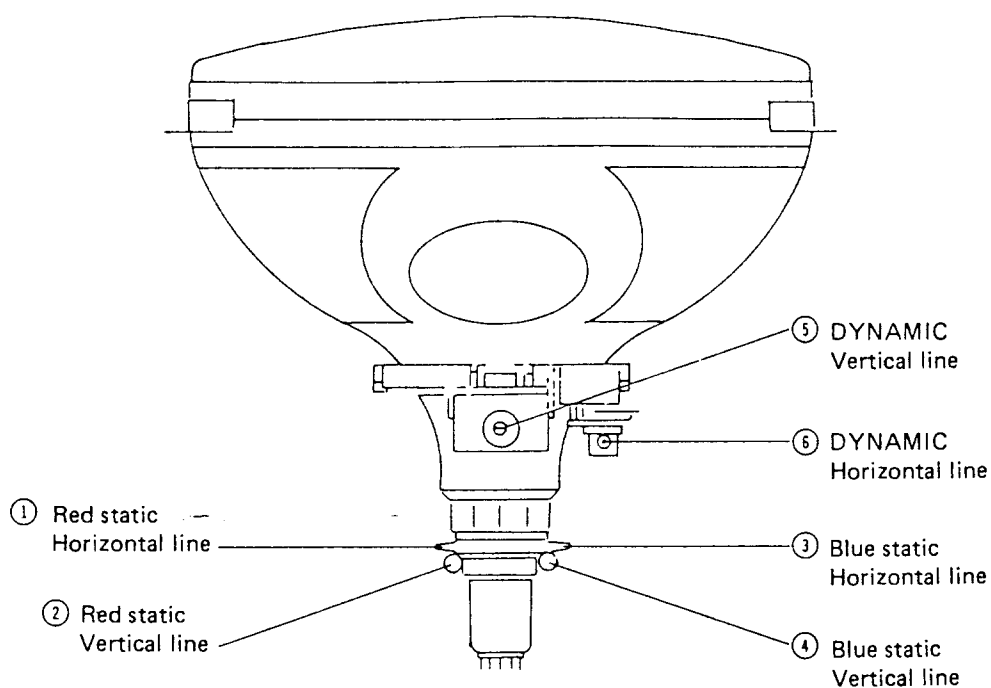
Green to Magenta Convergence
(White)

(8) Convergence Adjustment (CRT made by NEC)

- 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.

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TOP VIEW



(7') Purity and Convergence Adjustment (CRT made by PHILIPS)

- 1) Produce a YELLOW (RED and GREEN) 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) Adjust convergence in the center of the screen by turning knobs ① and ② to adjust the RED static.
- 4) Produce a white crosshatch pattern on the display.
- 5) Adjust convergence in the center of the screen by turning knobs ③ and ④ to adjust the BLUE static.
- 6) Adjust convergence on the peripheral of the screen by turning knobs ⑤ and ⑥.

TIMING OF REFERENCE SIGNALS

BY LVG — 1600							
Indication address	Abbreviation	Unit	ROM address	Signal 1	Signal 2	Signal 3	Signal 5
				VGA 350	VGA 400	VGA 480	800X600
0	CLOCK	MHz	X00	28.324F	28.324F	28.324F	36.000F
1	H FREQ	kHz	X03	31.470F	31.470F	31.470F	35.160F
2	V FREQ	Hz	X06	70.000F	70.000F	59.943F	56.000F
3	CHR-SIZE	DOT	X09	09X10	09X10	09X10	10X15
4	Nht	CHR	X0B	F100	F100	F100	F102
5	Nhd	CHR	X0D	F080	F080	F080	F080
6	Nhsp	CHR	X0F	F082	F082	F082	F082
7	Vpw-Hpw	V.-RASTER H-CHR	X11	02X12	02X12	02X12	02X07
8	Nadj	RASTER	X13	09	09	05	10
9	Nvt	LINE	X14	F044	F044	F052	F041
10	Nvd	LINE	X16	F035	F040	F048	F040
11	Nvsp	RASTER	X18	F038	F041	F049	F040
12	Nvspdj	RASTER	X1A	07	02	00	01
13	INT		X1B	00	00	00	00
14	OUT		X1C	F00001	F00001	F00001	F10001

DATA FORMAT FOR USING Quantum 801C

TIMING PARAMETERS:

Rear Time Parameters		Signal No.	Description
Dot Rate	MHz	1.	H: 31.47KHz V: 70Hz (350 Lines)
Horizontal Rate	KHz	2.	H: 31.47KHz V: 70Hz (400 Lines)
Vertical Rate	Hz	3.	H: 31.47KHz V: 60Hz (480 Lines)
		5.	H: 35.16KHz V: 56Hz

Non-Real Time Parameters	
Horizontal	Vertical
Dots/Character	Lines/Character
Total	Total
Characters	Rows
Drive Delay	Drive Delay
Drive Width	Drive Width
	Step Width

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

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

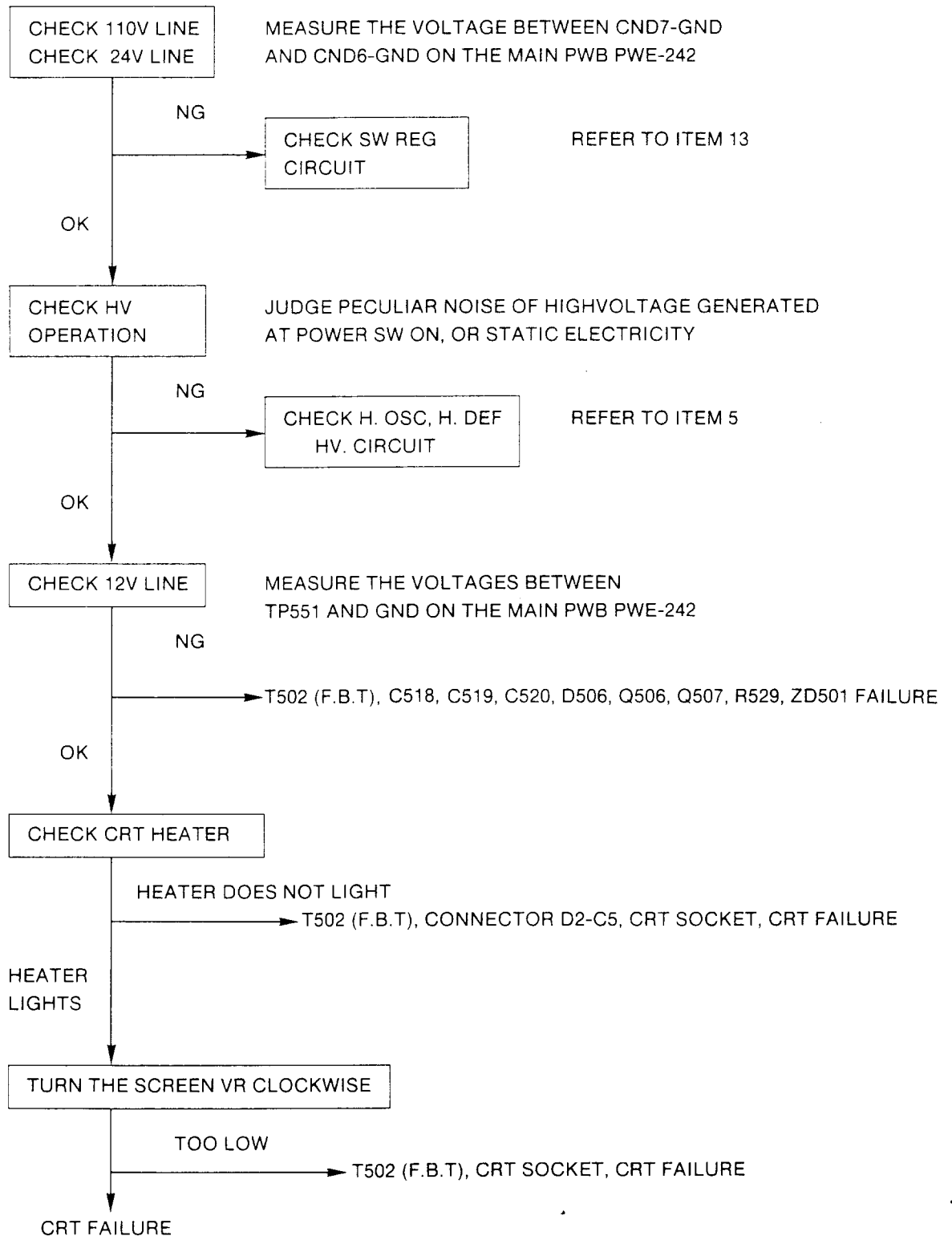
SIGNALS FOR USING QUANTUM 801C

	Signal 1	Signal 2	Signal 3	Signal 5
Real Parameters				
Dot Rate (MHz)	28.320	28.320	28.320	36.000
Horizontal Rate (KHz)	31.470	31.470	31.470	35.160
Vertical Rate (Hz)	70.000	70.000	59.943	56.000
Non-Real Time Parameters				
H: Dots/Character	9	9	9	10
Total	100	100	100	102
Characters	80	80	80	80
Drive Delay	82	82	82	82
Drive Width	12	12	12	7
V: Lines/Character	10	10	10	15
Total	449	449	525	625
Rows	35	40	48	40
Drive Delay	38	41	49	40
Drive Width	2	2	2	2
Step Width	—	—	—	—
Signal Getting				
Composite Sync.	1			
Vertical Step.	0			
Horizontal Drive	1			
Vertical Drive	1			
Signal Polarity				
Composite Sync.	1			
Vertical Step.	—			
Horizontal Drive	0P	1N	1N	0P
Vertical Drive	1N	0P	1N	0P
Video	0			
Interlace Mode	0			
Video Mode	1			
Duty Cycle	0			
Character Clocking Mode	0			
Horizontal Skew	—			
Vertical Skew	—			
Cursor	—			
Signal Name	VGA350	VGA400	VGA480	800×600

TROUBLE SHOOTING

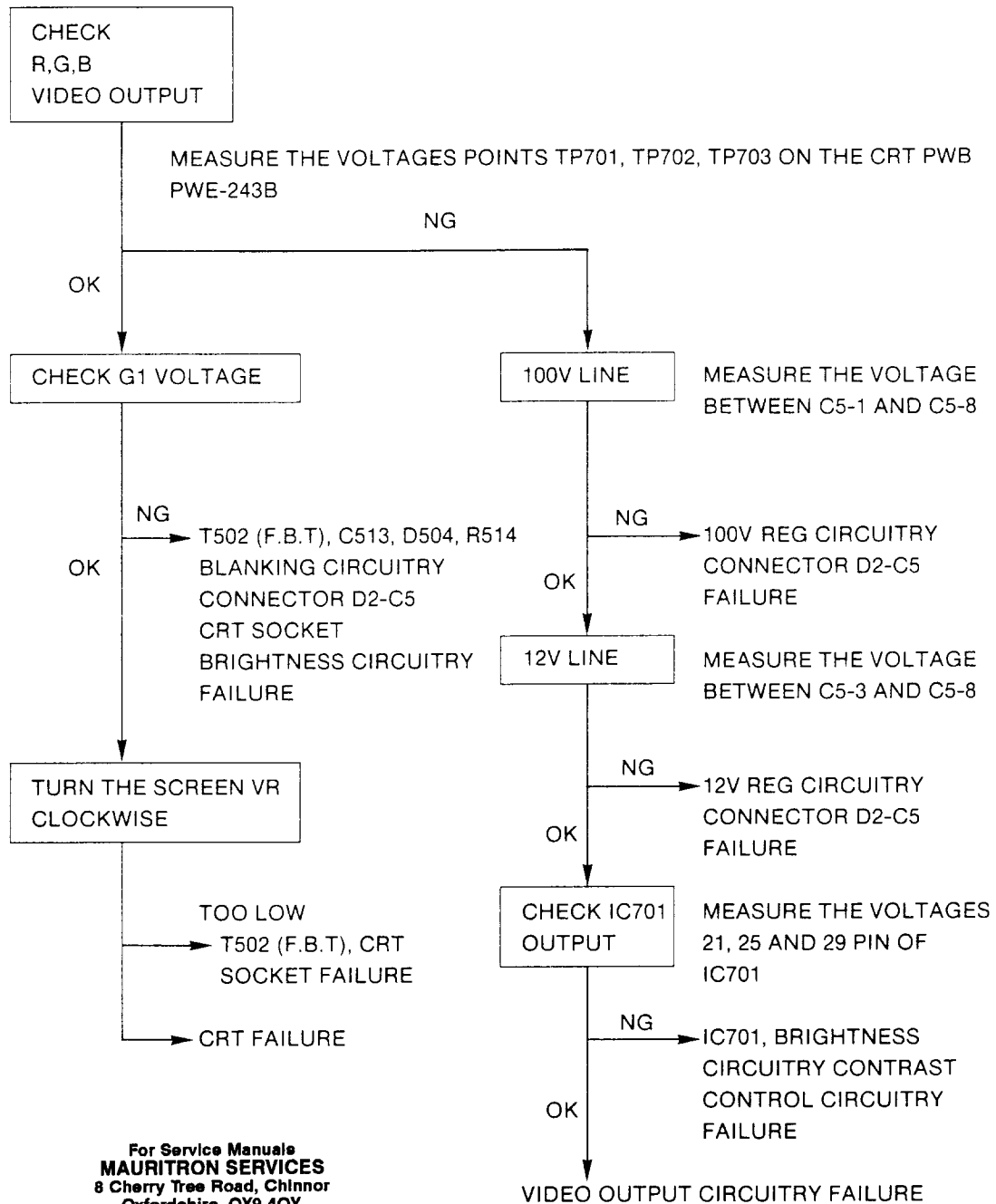
BEFORE USING THIS CHART, PLEASE REFER TO THE TROUBLE SHOOTING OF THE USER'S MANUAL.

1. NO RASTER



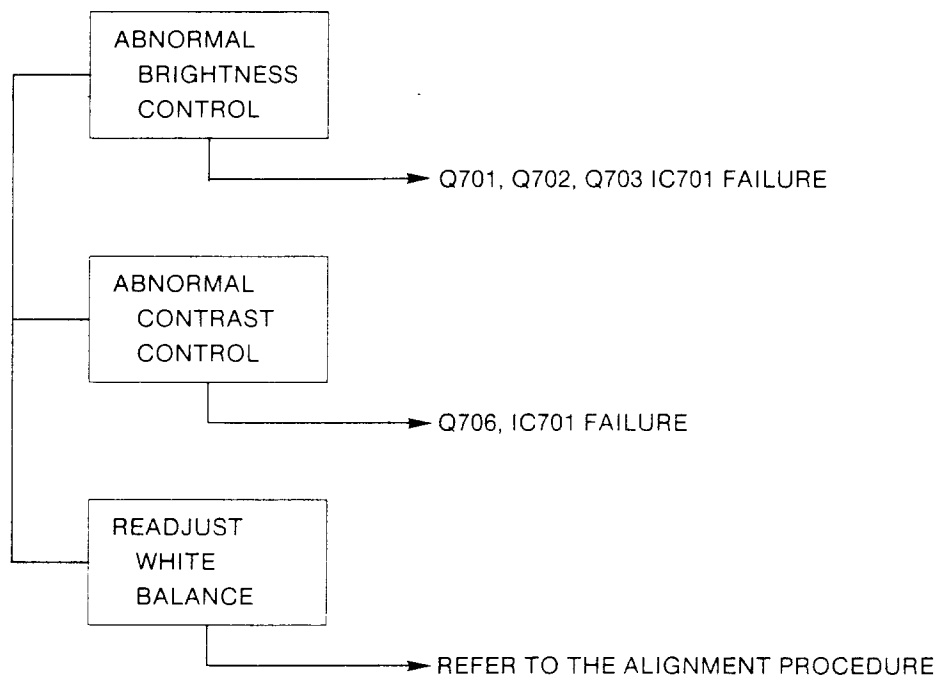
2. ABNORMAL VIDEO ON CRT SCREEN

TOO BRIGHT
TOO DARK



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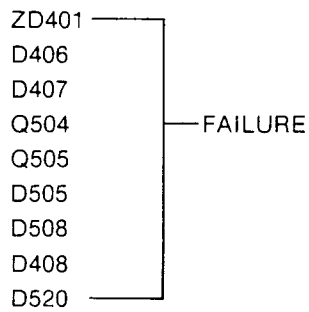
3. ABNORMAL WHITE BALANCE AND TRACKING



4. NO BLANKING WORKS

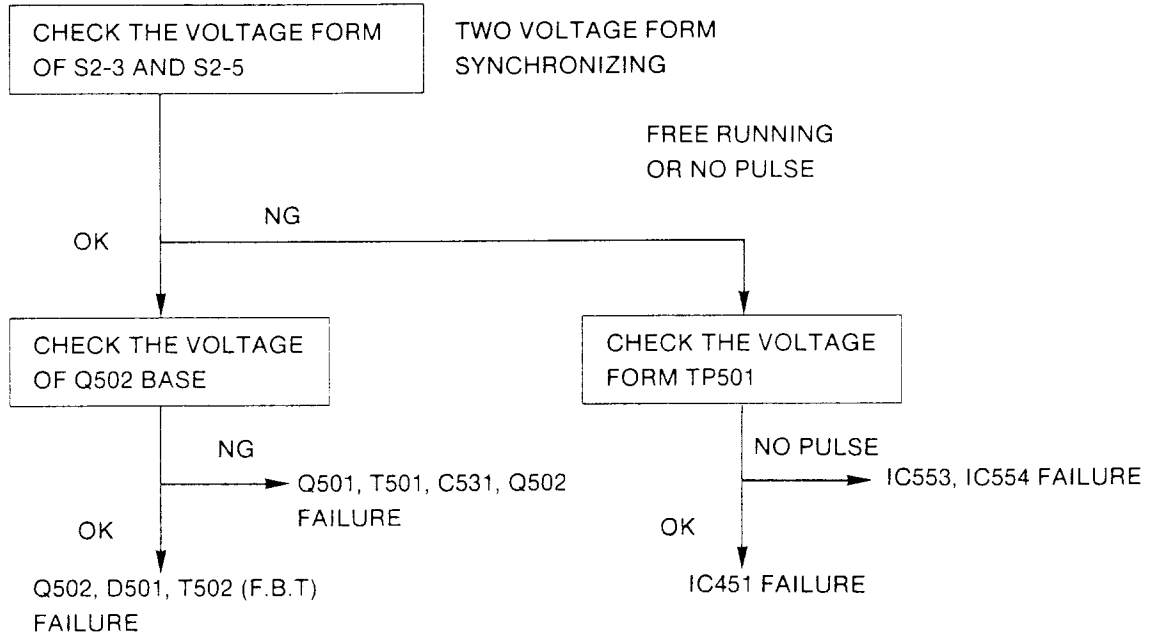
VISIBLE RETRACE LINE ON THE BACK RASTER

CHECK BLANKING CIRCUIT

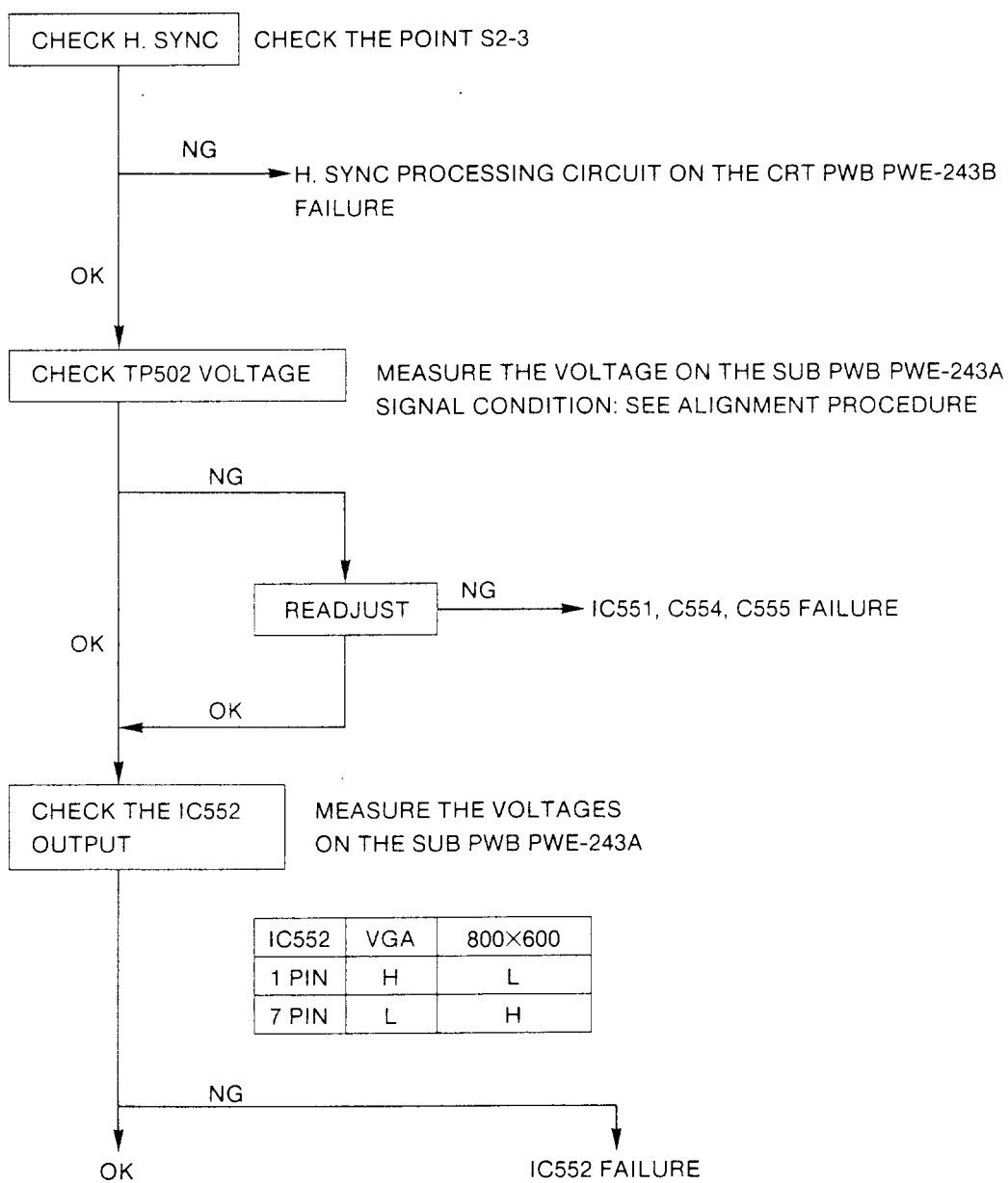


5. H. OSC/DEF/HV. CIRCUIT FAULT

NO RASTER
ABNORMAL PICTURE SIZE
ABNORMAL VIDEO ON THE CRT SCREEN

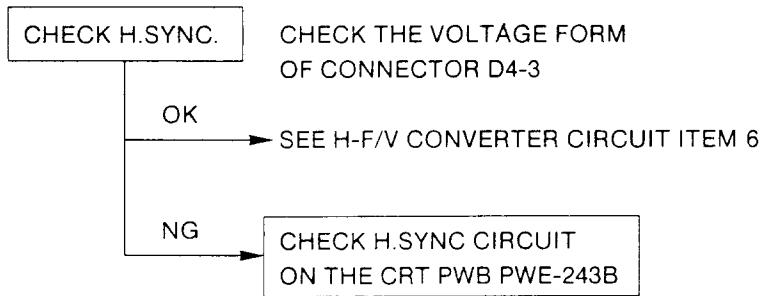


6. H-F/V CONVERTER AND ASSOCIATED CIRCUITRY

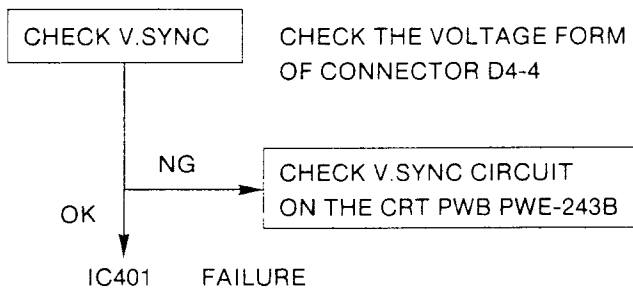


7. LACK OF STABLE SYNCHRONIZATION

- HORIZONTAL

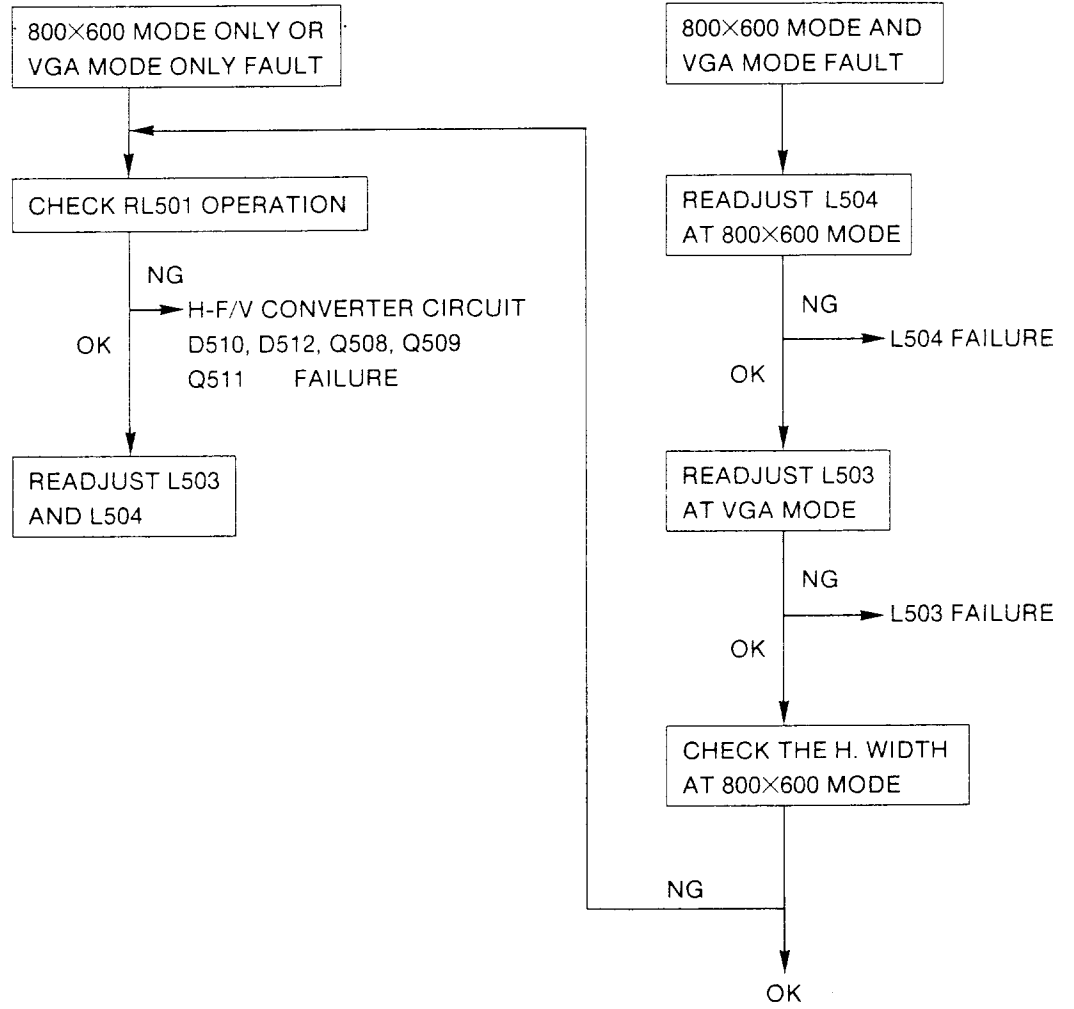


- VERTICAL



8. PICTURE SIZE

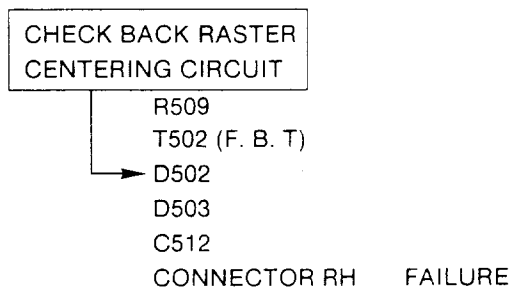
ABNORMAL HORIZONTAL WIDTH



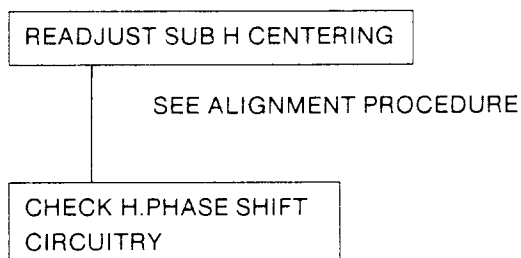
9. CENTERING

- HORIZONTAL

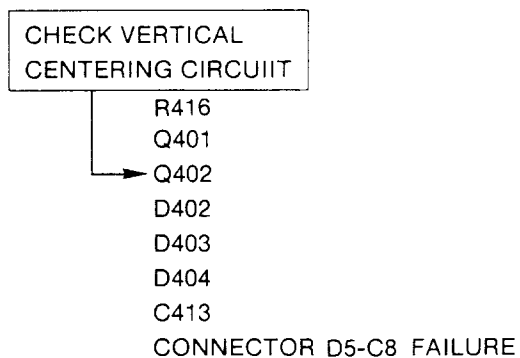
- a) BACK RASTER CENTERING



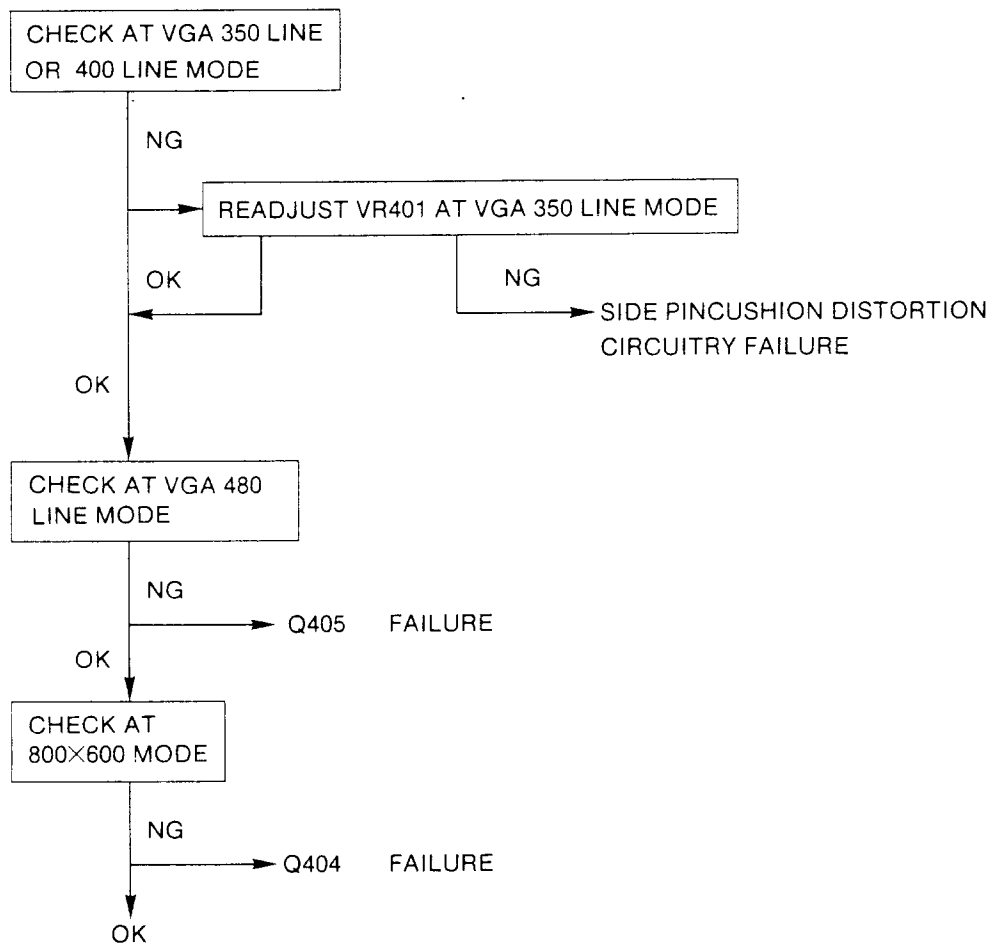
- b) PICTURE CENTERING



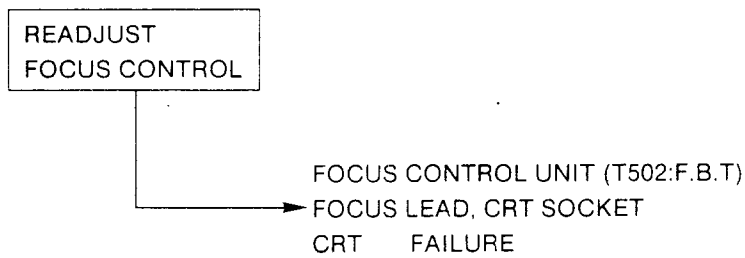
- VERTICAL



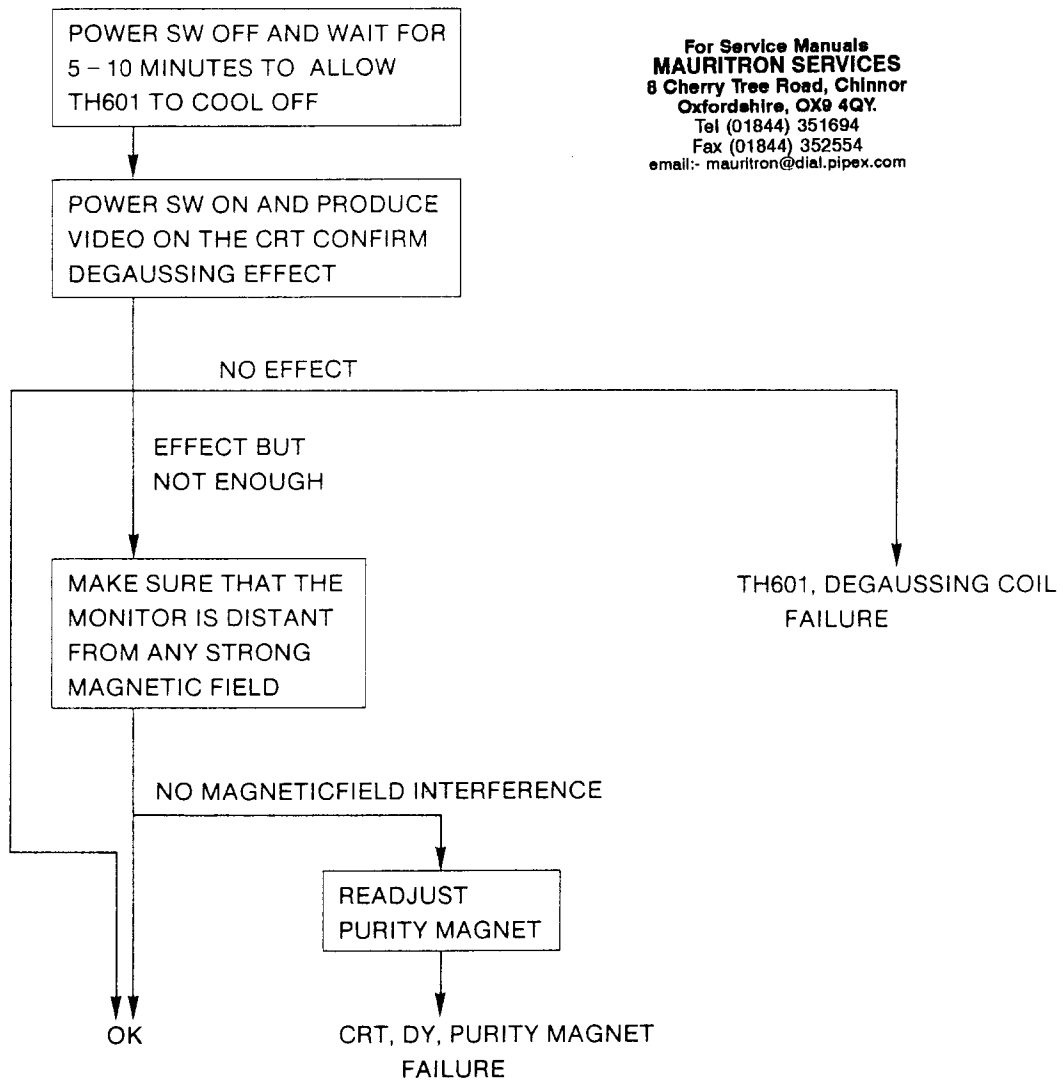
10. SIDE PINCUSHION DISTORTION FAILURE



11. POOR FOCUS

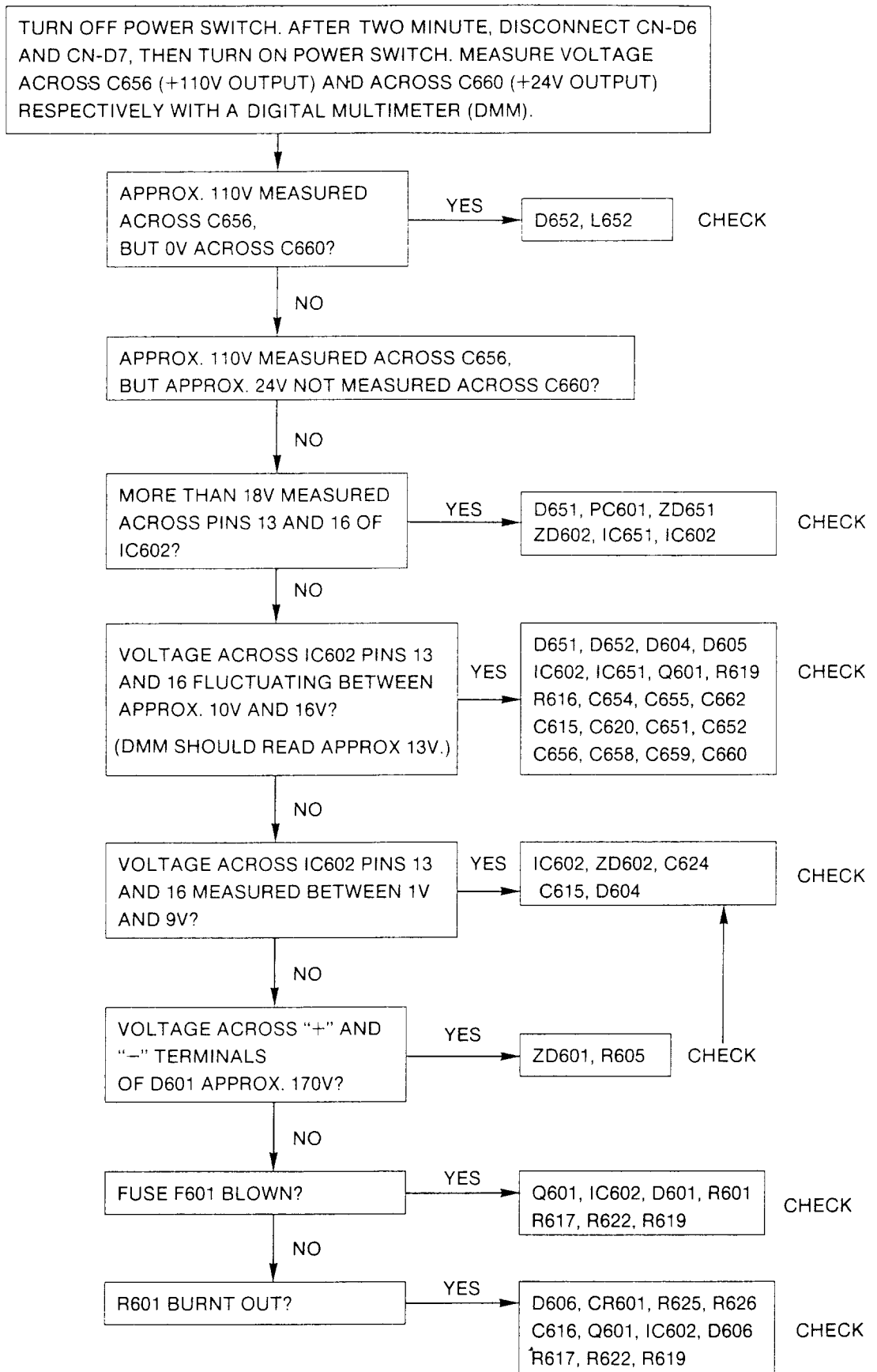


12. IMPURITY ON CRT SCREEN



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13. SWITCHING REGULATOR CIRCUIT



CIRCUIT DESCRIPTION

1. Video System

1-1 Video amplifier circuit

The analog video RGB signals are input from pins 1, 2 and 3 of D-SUB 15-pin connector, and they are controlled by voltages at pins 4, 8, 12 and 14 of IC701. The video gain is adjusted with VR701 to VR703 so that 36Vp-p is obtained with Contrast control in MAX position, or 10Vp-p in MIN position when 0.7Vp-p is input.

1-2 Clamp circuit

The clamp circuit, which determines a black level of video signal, generates clamp pulses based on the H. SYNC. signal. The negative H. SYNC. signal is input to IC802 pin 11. Then, pulses of same phase are output from pin 9. The clamp pulses are input to IC701 pin 15.

1-3 Brightness and contrast control circuits

The brightness control varies G1 Grid voltage of CRT. Also, in order to attain white balance, it varies SUB BRIGHT terminals (pins 19, 24 and 29) of IC701. For the contrast, VR7A1 varies the base voltage of Q706, then the voltage of IC701 pin 14 varies. As a result, the video gain varies. The gain becomes larger as IC701 pin 14 voltage is higher.

1-4 Automatic brightness limiter (ABL) circuit

The ABL circuit works when CRT anode current exceeds about $300\mu\text{A}$. when anode current is below $300\mu\text{A}$, the voltage of CN-C5 pin 7 is clamped to 12.6V by D711. When anode current exceeds $300\mu\text{A}$, the voltage of CN-C5 pin 7 drops. Then, Q708 and Q707 are turned on, and IC701 pin 14 potential drops. Consequently, the video output becomes smaller.

1-5 Blanking circuit

The blanking circuit eliminates horizontal and vertical retrace lines by lowering G1 voltage at the fly-back time.

1-6 100V regulation circuit

The 100V regulation circuit regulates DC110V, which is generated from the switching power supply, to 100V and it supplies 100V to the video output amplifier.

2. Deflection System

2-1 Synchronization discriminating circuit

The polarity of VGA sync. signal varies with the mode as shown below:

	H.SYNC	V.SYNC	Q806	Q807	Q808	Q809	Q810
VGA 350 LINES	POSI	NEGA	ON	OFF	OFF	ON	ON
VGA 400 LINES	NEGA	POSI	OFF	ON	ON	OFF	ON
VGA 480 LINES	NEGA	NEGA	OFF	OFF	ON	ON	OFF

The synchronization discriminating circuit generates the discrimination signal for control so that vertical display size and positive sync. signal become constant.

2-2 Horizontal system

2-2-1 F/V converter circuit

Horizontal sync. signal generated from the synchronization discriminating circuit is input to the F/V converter IC551 pin 2. The pulse determined by an external resistor and capacitor of pin 7 is output from pin 3, and it is converted into DC level by the RC integration.

The TP502 voltage is proportional to horizontal sync. signal frequency. The TP502 voltage is adjusted to 7.9V with VR551 when $f_h = 31.5$ kHz. This voltage is input to the IC552 comparator to discriminate frequencies so that an oscillating capacitor, resonance capacitor, H. WIDTH coil, etc. can be switched over.

2-2-2 Horizontal oscillating circuit and HOLD circuit

The horizontal oscillating circuit consists of an IC451 and external resistor and capacitor. The IC451 contains VCO, AFC, X-ray protector and sync. separating circuit. The phase of pulse generated from horizontal sync. discriminating circuit is controlled by IC553, and it is input to IC451 pin 8. The oscillating circuit is an RC type, and its oscillation frequency is determined by an external resistor and capacitor of pin 13.

The H. HOLD is adjusted with VR556 when $f_h = 31.5$ kHz.

2-2-3 H. POSITION control circuit

Horizontal display position is adjusted by shifting horizontal sync. signal to be input. Horizontal sync. signal is input to IC553 pin 11. The shift time is determined by the time constant of CR to be connected to pin 14. The shifted pulse is input to IC451 pin 8. Adjustment is made according to the mode as follows:

VGA	VR552
800×600	VR553

2-2-4 H. DRIVE circuit

The horizontal pre-drive pulse output from IC451 pin 15 is input to Q501, then it passes through T501 to turn on a horizontal output transistor Q502.

2-2-5 H. OUTPUT circuit

The signal from T501 turns on and off a horizontal output transistor Q502. Consequently, a damper diode D501 and Q502 are turned on and off alternately so that the saw-tooth current flows into the horizontal deflection coil.

The fly-back transformer T502 boosts up the Q502 output to approximately 23.5kV at the time of cut off CRT anode current.

2-2-6 H. raster centering switching circuit

The raster position is controlled by superimposing DC current onto the deflection yoke current. This DC power is generated by rectifying and smoothing T502 (F.B.T) pulses. The inserting position and direction of connector RH switches over the shift amount and direction of raster.

2-2-7 High voltage protector circuit

The voltage of T502 pin 5 rises as high voltage becomes higher. The high voltage protector IC451 works to stop horizontal oscillation when the voltage of IC451 pin 16 exceeds approximately 0.72V (0.65 to 0.79V).

2-2-8 12V regulation circuit

The 12V regulation circuit regulates the power generated by rectifying the output pulses of T502 (F.B.T) to 12V and supplies it.

3. Vertical System

3-1 Vertical oscillation

Vertical free-run frequency is determined by an external resistor and capacitor of IC451 pins 5 and 6. Vertical oscillation occurs synchronously with sync. signal that has higher frequency than free-run frequency when that sync. signal is input to IC451 pin 7.

3-2 V. DRIVE, V. OUT

The IC401 contains a vertical drive, vertical out and pump-up circuits. Output is generated from IC401 pin 2 and is sent as the vertical deflecting current to the V. DY.

3-3 Vertical centering

Vertical centering is controlled by superimposing DC current onto the deflection yoke current.

3-4 Side pin compensating circuit

The parabolic wave current generated at the V. DY is superimposed onto the horizontal deflecting current at T401. The amount of compensation is changed over according to the mode.

4. SW, REG Sections

4-1 Rectifying & smoothing circuit

AC input is rectified at D601. Then, it is smoothed at C608 and C609. The resultant DC voltage is supplied to the converter circuit.

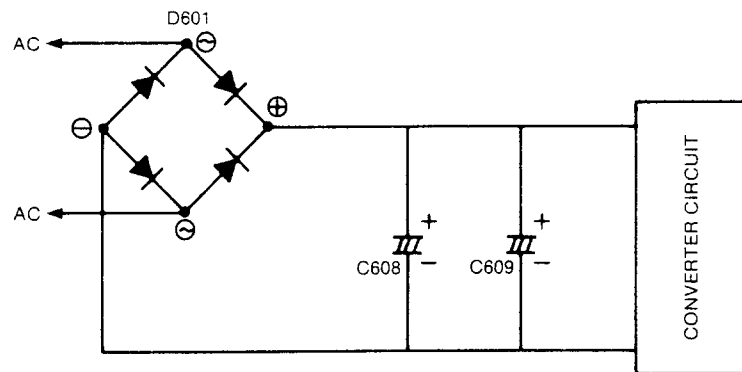


Fig. 1 Rectifying & Smoothing Circuit

4-2 Auxiliary power supply circuit

Auxiliary power supply circuit is to activate IC602. At the time of power on, charging current flows into the capacitors C615 and C624 via ZD601 and R605. Oscillation starts when the voltage of IC602 pin 16 reaches 17V through this charging operation.

After start of oscillation, the fly-back voltage of an auxiliary coil for the switching transformer is rectified and smoothed by D605 and C618, and its DC voltage is supplied to IC602.

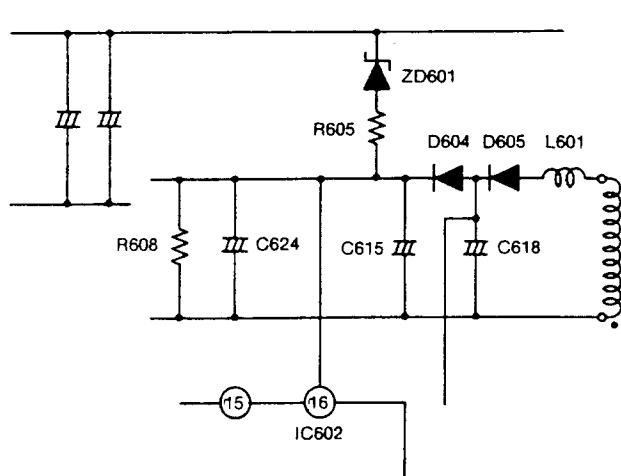


Fig. 2 Auxiliary Power Supply Circuit

4-3 Converter circuit

The converter circuit consists of a primary winding of the switching transformer T601 and a switch device Q601 and a surge absorber (C610, R606, C611, D603, and R607) that are connected in serial to the primary winding.

Input of ON-OFF signal from IC602 pin 2 into the gate of Q601 causes the drain-source to be turned on and off so that alternating voltage is applied to the primary winding of T601.

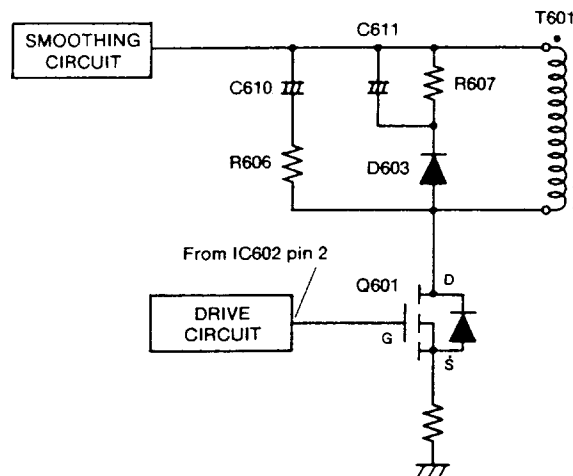


Fig. 3 Converter Circuit

4-4 Output smoothing circuit

The fly-back voltage generated at the secondary winding of switching transformer T601 is rectified by D651 and D652. Then, it is smoothed by C651, C652 and C658 so that DC current is obtained.

This fly-back voltage is maintained constant by controlling the ON duty of Q601 in the converter circuit.

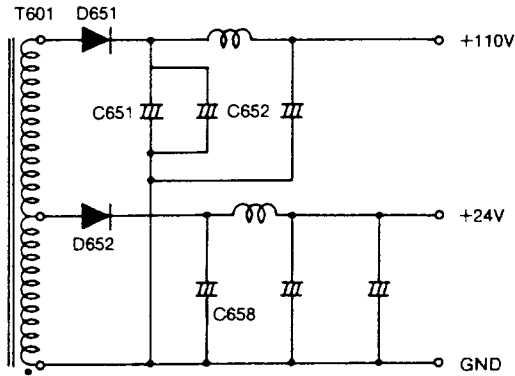


Fig. 4 Output Smoothing Circuit

4-5 Detection error amplifier circuit

The output voltage 110V is divided by resistors, and its voltage is compared to the reference voltage at the error amplifier IC651. An error is transmitted to the control circuit via a photocoupler PC601.

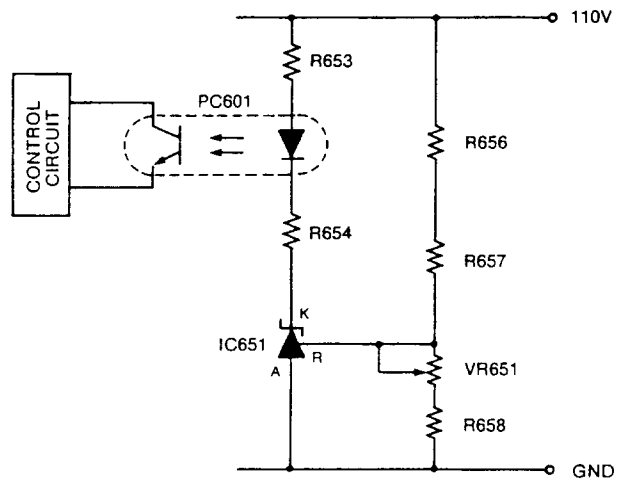


Fig. 5 Detection Error Amplifier Circuit

4-6 Oscillating circuit, control circuit and drive circuit

The oscillating, control, and drive circuits comprise mainly IC602.

The IC602 has a built-in oscillator of which frequency is determined by R614, C613 and R613 connected to pins 9, 10 and 11 respectively. In this circuit, horizontal sync. signal is input to pin 11 so that the oscillation cycle is synchronous with horizontal scanning cycle.

On the other hand, the output of detection error amplifier circuit is fed back to the control circuit from pin 8 via PC601 to control the duty of Q601 so that output voltage is kept constant.

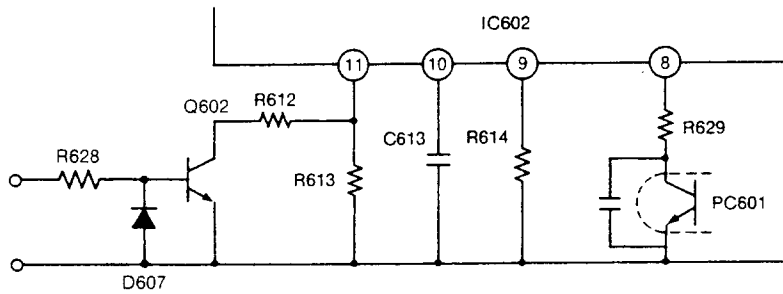


Fig. 6 Oscillating & Control Circuits

4-7 Overvoltage protection

The voltage of auxiliary winding rises proportionally to the output voltage if a fault occurs in the circuit and output voltage then rises.

That voltage is detected at IC602 pin 6, and the protection circuit built in the IC602 stops oscillation.

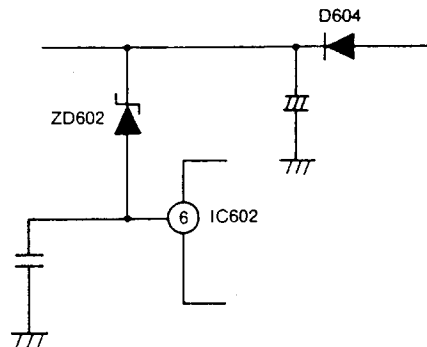


Fig. 7 Overvoltage Protection Circuit

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SYMBOL	PARTS NO	DESCRIPTION
VR710	41071160	R-VARIABLE B3-3K
VR556	41071161	R-VARIABLE B4-7K
VR703		
VR551	41071163	R-VARIABLE R10K
VR706		
VR552	41071165	R-VARIABLE B22K
VR708		
VR401	41085004	R-VARIABLE B500H
Δ VR501	41085055	R-VARIABLE B1K
Δ VR651	41505103	R-VARIABLE B500
Δ VR2001	41505105	R-VARIABLE B2K
*** RELAYS & SWITCHES ***		
Δ RL501	65260002 65660013	SWITCH-SEE-SAW RELAY VE 24HME-K
*** COILS & FILTERS ***		
Δ L503	60908069	WIDTH COIL W239 2-3
L504	60908071	WIDTH COIL W240 2-3
Δ L505	60319601	COIL,LIN.
L506	60999004	COIL,CHOKE
L701	610E1709	COIL,FILTER 2.2UH
L704		
L451	610E1729	COIL,FILTER 100UH
L767	610F6014	COIL,FILTER 5.6UH
L501	610F7010	COIL,FILTER 2.7UH
LC706	610G2962	EMI FILTER 471BTL-EMT
Δ L601	610G1723	COIL,FILTER 33UH
FL601	610G2076	POWER LINE FILTER
L507	610E2200	LINE FILTER
L602	610E4006	COIL,FILTER 50UH
L508	610E5002	FERRITE BEADS
L651	610G7610	COIL,FILTER
L652		
L502	61099013	COIL,CHOKE 10UH
L603	61099014	COIL,CHOKE 33UH
Δ DEG	61099019	COIL,CHOKE
	61099044	SHIELDING COIL 222K
	**61314215	COIL,DEGAUSSING
L711	616K5058	FERRITE BEADS
LC703	616K6062	NOISE FILTER ZJSC-R40-820
LC701	61606021	NOISE FILTER DSS-271M
LC708	61606027	NOISE FILTER 2A222M
*** PWB ASSYS ***		
	84K59C06	SUB PWB ASSY
	84K72F07	MAIN PWB ASSY
*** ELECTRICAL PARTS & MISCELLANEOUS PARTS ***		
HS401	31709202	SHEET, INSULATOR
HS501	31709503	SHEET, INSULATOR
SG701	32990047	ARRESTER
SG704		
FG02	66699007	FUSE ET T2A,250V-S,B SOC
SG705	66706002	SPARK GAP 1.5KV
Δ	70032026	SG/CRT SOCKET

SYMBOL	PARTS NO	DESCRIPTION
(JC-1403HME)	70800039	LINE CORD
(JC-1403HME)	70800323	LINE POWER
(JC-1403HMR)	75513032	LINE CORD
	71205037	HOLDER, FUSE
CNRH	73721003	CONNECTOR PIN 2P
	**73893054	CABLE, SIGNAL (15PD-EH) K
*** APPEARANCE PARTS ***		
	24514792	COIL SPRING
	**25310032	CABINET BACK ASSY
	**25310061	CABINET FRONT ASSY
	**25409732	REVOLVING STAND ASSY
	**25409751	SPINDLE
	**25310093	CABINET BOTTOM
(JC-1403HME)	**25757643	LABEL (REV)
(JC-1403HME)	**25768562	NAME PLATE, INSTRUCTION
(JC-1403HMR)	**25769152	NAME PLATE, INSTRUCTION
	25769162	NAME PLATE, INSTRUCTION
*** KNOBS & PUSH BUTTONS ***		
	25452771	KNOB, CONTROL
	25452791	KNOB, SLIDE
*** PRINTED & PACKING MATERIALS ***		
(JC-1403HME/R)	24813191	BAG, POLYETHYLENE (150*370)
(JC-1403HME/EE)	25815061	BAG, POLYETHYLENE (270*370)
(JC-1403HME)	24813501	BAG, POLYETHYLENE
(JC-1403HMR)	24808961	BAG, POLYETHYLENE (270*370)
(JC-1403HME/R)	25804551	BAG, POLYETHYLENE (150*230)
	**25816341	FILLER, CARTON (T)
	**25816351	FILLER (B) CARTON
(JC-1403HME)	**25816981	CARTON BOX
(JC-1403HME)	**25817431	CARTON BOX
(JC-1403HMR)	25817441	CARTON BOX
	**78121665	INSTRUCTION BOOK
	70843392	WARRANTY CARD
(JC-1403HMR)	**78034403	MONITOR SALES OFFICE LIST
*** RESISTORS ***		
Δ R616	401C6625	R, CARBON 10H 5% 1/4W
R420	401C6649	R, CARBON 100H 5% 1/4W
R743	401C6651	R, CARBON 120H 5% 1/4W
R565	401C6657	R, CARBON 560H 5% 1/4W
R563	401C6673	R, CARBON 1.0K 5% 1/4W
Δ R624	401C6677	R, CARBON 1.5K 5% 1/4W
R569	401C6683	R, CARBON 2.7K 5% 1/4W
R508	401C6685	R, CARBON 3.3K 5% 1/4W
R559	401C6761	R, CARBON 4.7M 5% 1/4W
R507	401H5623	R, CARBON 8.2H 5% 1/2W
R758	401H5649	R, CARBON 100H 5% 1/2W
R765		
R451	401H5657	R, CARBON 220H 5% 1/2W

SYMBOL	PARTS NO	DESCRIPTION
R413	401H5659	R, CARBON 270H 5% 1/2W
R5A2	401H5663	R, CARBON 390H 5% 1/2W
△ R537	401H5665	R, CARBON 470H 5% 1/2W
△ R535	401H5667	R, CARBON 560H 5% 1/2W
△ R536	401H5669	R, CARBON 680H 5% 1/2W
R666	401H5681	R, CARBON 2.2K 5% 1/2W
R503	401H5689	R, CARBON 4.7K 5% 1/2W
△ R621	401H5721	R, CARBON 100K 5% 1/2W
R504	401K5605	R, CARBON 1.5H 5% 1/6W
R746	401K5639	R, CARBON 39H 5% 1/6W
R462	401K5641	R, CARBON 47H 5% 1/6W
R460	401K5649	R, CARBON 100H 5% 1/6W
R740	401K5653	R, CARBON 150H 5% 1/6W
R704	401K5657	R, CARBON 220H 5% 1/6W
R502	401K5665	R, CARBON 470H 5% 1/6W
R711	401K5667	R, CARBON 560H 5% 1/6W
R469A	401K5669	R, CARBON 680H 5% 1/6W
R467A	401K5673	R, CARBON 1.0K 5% 1/6W
R431	R468A	R473
△ R525	R459	R572
R574	R560	R729
R730	△ R602	R736
R739	R736	R738
R846	R766	R845
△ R528	R543	R818
R501	R820	
R819	R471	
R423	R472	R524
R427	△ R654	R731
R533	R835	R842
R817	R425	R530
R424	R735	R737
R618		
△ R2002	R426	△ R526
△ R628	△ R655	△ R665
R742	R707	△ R708
R709	R755	R756
R757	R803	R805
R418	R520	△ R527
R409	R410	R463
R475	R553	R567
R719	R720	R721
R801	R802	
R428	R521	R562
R564	R810	R840
R456	R566	R816
R454	R510	R518
R551	R734	R833
R834		
R2003	R403	R104
R405	R406	R407
R411	R474	R5A4
R552	R555	R556
R627	R804	R806
R808	R809	R811
R812	R815	
△ R2001	R455	R814
R7A1	R807	
401K5699		R, CARBON 12K 5% 1/6W
401K5701		R, CARBON 15K 5% 1/6W

SYMBOL	PARTS NO	DESCRIPTION
R402	401K5703	R, CARBON 18K 5% 1/6W
R728		
R412	401K5705	R, CARBON 22K 5% 1/6W
R464		
R561	401K5707	R, CARBON 27K 5% 1/6W
R417	401K5709	R, CARBON 33K 5% 1/6W
R713		
R458	401K5711	R, CARBON 39K 5% 1/6W
R531		
R477	401K5713	R, CARBON 47K 5% 1/6W
R516	401K5721	R, CARBON 100K 5% 1/6W
R523	401K5731	R, CARBON 270K 5% 1/6W
R522	401K5733	R, CARBON 330K 5% 1/6W
	401K5745	R, CARBON 1.0M 5% 1/6W
△ R509	40175109	R, CARBON 2.2H 5% 1/4W
△ R538		
△ R626		
R416	40175133	R, CARBON 22H 5% 1/4W
△ R617	40175139	R, CARBON 39H 5% 1/4W
△ R622	40175141	R, CARBON 47H 5% 1/4W
R542	40175169	R, CARBON 680H 5% 1/4W
△ R601	40299107	R, WIRE 15H 10% 5W
R512	40371135	R, METAL 27H 5% 1W
R511	△ R659	R, METAL 56H 5% 1W
R5A3	40371143	R, METAL 680H 5% 1W
R401	40371169	R, METAL 1.5H 5% 2W
40372105		
△ R513	40372108	R, METAL 2.0H 5% 2W
△ R611	40372109	R, METAL 2.2H 5% 2W
△ R651	40372131	R, METAL 18H 5% 2W
△ R625	40372147	R, METAL 82H 5% 2W
△ R606	40372149	R, METAL 100H 5% 2W
R415	40372157	R, METAL 220H 5% 2W
R570	40372161	R, METAL 330H 5% 2W
△ R653	40372203	R, METAL 18K 5% 2W
△ R607	40372221	R, METAL 100K 5% 2W
R505	40373171	R, METAL 820H 5% 3W
△ R605		
△ R619	40373221	R, METAL 100K 5% 3W
R749	40373329	R, METAL 0.22H 5% 3W
R752	40399043	RS3PB880HJ, 200(26)
R701	40399044	RS3PB820HJ, 200(26)
	404C1646	R, METAL 75H 1% 1/6W
R716	404C1673	R, METAL 1.0K 1% 1/6W
R722		
R723		
R732	404C1675	R, METAL 1.2K 1% 1/6W
R466	404C1677	R, METAL 1.5K 1% 1/6W
R469	404C1681	R, METAL 2.2K 1% 1/6W
△ R658	404C1683	R, METAL 2.7K 1% 1/6W
R465		
R733	404C1685	R, METAL 3.3K 1% 1/6W
R467	404C1689	R, METAL 4.7K 1% 1/6W
△ R613	404C1697	R, METAL 10K 1% 1/6W
R453	404C1705	R, METAL 22K 1% 1/6W
	404C1709	R, METAL 33K 1% 1/6W
R452	404C1711	R, METAL 39K 1% 1/6W
△ R614	404C1712	R, METAL 43K 1% 1/6W
△ R657	404C1715	R, METAL 56K 1% 1/6W
△ R656	404C1717	R, METAL 68K 1% 1/6W
R557	404C1723	R, METAL 120K 1% 1/6W

SYMBOL	PARTS NO	DESCRIPTION
R558 △ R615	404C1731 40405125	R, METAL 270K 1% 1/6W R, METAL 10H 5% 1/4W
*** CAPACITORS ***		
C535 △ C530 C514 C501 △ C508 △ C510	420C9554 420C9556 420C9558 420C9560 420C9562	C, CERAMIC 500V 180PF C, CERAMIC 500V 370PF C, CERAMIC 500V 290PF C, CERAMIC 500V 560PF C, CERAMIC 500V 820PF
C502 C727 C730 △ C603 △ C623 △ C657	4201J575 42019175 4203J571 42053013 42099085 42099086 42099088 421A0425	C, CERAMIC 500V 0.01UF C, CERAMIC 2KV 0.01UF C, CERAMIC 500V 4700PF C, CERAMIC 400V 1000PF C, CERAMIC 2KV 560PF C, CERAMIC 2KV 1000PF C, CERAMIC 2KV 220PF C, CERAMIC 50V 0.01UF
C553 C705 C715 C740 C455	C566 C706 C716	C, CERAMIC 50V 390PF C, CERAMIC 50V 1000PF
C751 C803 C516 C576 C405 C7A1	C752 C529 C810 C507	C, CERAMIC 50V 100PF C, CERAMIC 50V 270PF C, CERAMIC 50V 0.1UF C, CERAMIC 50V 0.1UF C, CERAMIC 16V 0.1UF
C711 C714 C722 C811 C411 C724 C408 C523	C713 C721 C728 C725	C, CERAMIC 25V 0.1UF C, CERAMIC 50V 150PF C, CERAMIC 50V 180PF C, CERAMIC 50V 220PF C, CERAMIC 50V 270PF C, CERAMIC 50V 220PF C, CERAMIC 50V 270PF C, CERAMIC 50V 390PF
C557 C551 C522 C556 C559	C558 C564	C, FILM 100V 0.0022UF C, FILM 50V 2200PF C, FILM 50V 0.01UF C, FILM 50V 0.015UF C, FILM 50V 0.047UF
C552 C453 C533 C562 C416	C801 C414 C401 △ C619 △ C623 △ C409	C, FILM 50V 0.056UF C, FILM 50V 4700PF C, FILM 50V 5600PF C, FILM 50V 0.012UF C, FILM 50V 0.012UF
△ C620 △ C655 C532 △ C504 C517	427F4071 427F4073 427F4075 42703863 42754163	C, FILM 50V 0.047UF C, FILM 50V 0.068UF C, FILM 50V 0.1UF C, MYLAR 400V 0.01UF C, FILM 100V 0.01UF

SYMBOL	PARTS NO	DESCRIPTION
△ C560 △ C611 △ C605 C418 △ C505	42799039 42799099 42863013 42863017 42307513	C, FILM 100V 3300PF C, MYLAR 400V 0.033UF C, METAL FILM 50V 0.1UF C, CERAMIC 50V 0.22UF C, METAL FILM 1.6K 3300PF
△ C503 C451 △ C602 C534 △ C602	42807591 4282C025 42824325 42839022 42840081	C, METAL 1600V 2900PF C, METAL FILM 50V 1UF C, FILM 250V 0.1UF C, METAL FILM 250V 0.1UF C, METAL 250V 0.01UF
△ C613 △ C511 △ C601 C574 △ C518	42842003 42843506 42899097 43083071 43083109	C, METAL 50V 1000PF C, METAL 400V 0.6UF C, METAL 250V 0.47UF C, ELEC 25V 220UF C, ELEC 50V 47UF
C733 C569 C454 C703 C707 △ C519	43083182 43085051 43085069 43085103 43085106	C, ELEC 160V 1UF C, ELEC 16V 220UF C, ELEC 25V 47UF C, ELEC 50V 2.2UF C, ELEC 50V 10UF
△ C2002 C512 C567 C458 C718 C809	43086015 43086017 43086030 43086031 43086041	C, ELEC 10V 47UF C, ELEC 10V 220UF C, ELEC 16V 220UF C, ELEC 16V 330UF C, ELEC 25V 47UF
△ C520 C413 C565 C602 C452	43086043 43086054 43086055 43086060 43086061	C, ELEC 25V 220UF C, ELEC 35V 1000UF C, ELEC 35V 220UF C, ELEC 50V 0.47UF C, ELEC 50V 1UF
C404 C403 C2001 C531 C415	43086065 43086066 43086068 43086071 43089039	C, ELEC 50V 10UF C, ELEC 50V 22UF C, ELEC 50V 47UF C, ELEC 50V 330UF C, ELEC 25V 22UF
C615 C412 C406 C419 △ C624	43089053 43089054 43089055 43089057 43089065	C, ELEC 35V 47UF C, ELEC 35V 1000UF C, ELEC 35V 220UF C, ELEC 35V 4700UF C, ELEC 50V 10UF
C513 C524 C734 C505 C401 △ C616	43089068 43089517 4302C190 4302F058 4302J067	C, ELEC 50V 47UF C, ELEC 160V 22UF C, ELEC 160V 100UF C, ELEC 35V 1000UF C, ELEC 50V 33UF
△ C659 △ C613 △ C656 △ C51 △ C608	4304A002 4304A009 4304A010 4304A013 43199081	C, ELEC 35V 100UF C, ELEC 35V 1UF C, ELEC 160V 47UF C, ELEC 160V 100UF C, ELEC 400V 180UF (22X50)
C457 C554	433A3043 435A8254	C, ELEC 35V 4.7UF C, TANTLM 25V 3.3UF

SYMBOL	PARTS NO	DESCRIPTION
C561 C456	435A8307 43515063	C. TANTALUM 35V 1UF C. TANTALUM 25V 6.8UF

REPLACEMENT PARTS LIST

The components specified for Model JC-1403HMED.

Notes: 1. The components identified by Δ mark are critical for safety.
 2. Replace only with parts Number specified.
 3. Parts identified with "*" are United King made parts.

SYMBOL	PARTS NO	DESCRIPTION
*** CRT & TUNER ***	33014156	CRT M34JUP23XX183 (1)
*** ICS ***		
Δ CRT		
ICS54	37051036	MOS UPD4066BC
IC801	37051100	MOS UPD4030BC(EX-OR) (ESD)
IC551	37056178	IC UPC1555C
IC552	37056204	IC UPC393C
IC402	37056207	IC UPC358
IC501	37056213	MOS TC4538BP
IC701	37056245	IC M51387P
Δ IC651	37056273	IC UPC1093J
Δ IC451	37056408	IC HA11423DP-18
IC401	37056423	IC UPC1498H
IC553	37056614	IC BU-4538B
Δ IC602	37056644	IC M51995P
*** TRANSISTORS ***		
Q512	350A0417	TR 2SA934-T Q
Δ Q602	350D7216	TR 2SC945-T P
Q451	350D7217	TR 2SC945-T Q
Q505	Q504	
Q706	Q705	
Q402	Q820	
Q801	Q714	TR, 2SC2002-T L
Q818	Q805	TR, 2SC3811-TA Q
Q456	Q701	
Q703	Q704	
Q401	Q702	TR 2SA733/2SA733A-T Q
Q501	Q708	
Δ Q506	350K4412	TR, 2SA952 L, AT
Q510	35056311	TR, 2SC2688 K
Q502	35063112	TR, 2SD381 L
Q709	35063412	TR, 2SD401A L
Q508	35082401	TR 2SC3486-YB
Q511	35086004	TR, 2SC3953-RA D
Q804	351G0500	TR, AN1A4M-T
Q808	351G0501	TR, AA1A4M-T
Q821	351G0501	TR, AA1A4M-T
Q404	Q405	
Δ Q503	351G0531	TR AA1L4M-T
Δ Q601	351J22000	TR 2SK762A
Δ CR601	351J23700	TR 2SK1045
	35595015	TRIAC AC10FGM
*** DIODES ***		
D402	D403	
D405	D404	
D505	Δ D510	D512
	360K1027	DIODE 1SS132

SYMBOL	PARTS NO	DESCRIPTION
D520	D553	DIODE 1SS82-TA
D554	D558	DIODE RD12EB(3)-T4
D560	Δ D607	DIODE RD6.2EB(3)-T4
D7A1	D701	DIODE, RD8.2JSB(1)-T4
D703	D704	
D706	D707	
D709	D710	
D712	D722	
D801	D802	
D804	D805	
D809	D810	
D813	D814	
D816	D815	
D407	D604	
Δ ZD702	ZD801	
Δ ZD501		
Δ ZD2001		
ZD502		
ZD401		
Δ ZD605	ZD552	
ZD601	ZD553	
ZD503	ZD504	
Δ ZD602	ZD701	
D2001	D401	
D503	Δ D502	
D513	D504	
Δ D605	D516	
	Δ D606	
D516		
Δ D603		
Δ D652		
D651		
D501		
Δ D601		
Δ D2002		
Δ TH601		
Δ PC601		
*** TRANSFORMERS ***		
T501	45803010	TRANS. H. DRIVE
Δ T601	46310807	SWITCHING TRANS W184
Δ T502	47105648	F. B. T.
Δ T401	47502042	TRANS. SIDE P INCUSHION
*** VARIABLE RESISTORS ***		
VR7A2	41011210	R, VARIABLE B1K-V
VR7A1	41011211	R, VARIABLE B10K-V
VR4A2	41011212	R, VARIABLE B20K-V
VR4A1	41011213	R, VARIABLE B500-V
VR5A1	41011214	R, VARIABLE B20K-V

SYMBOL	PARTS NO	DESCRIPTION
VR452	41071154	R, VARIABLE B330
VR451	41071159	R, VARIABLE B2, 2K
VR710	41071160	R, VARIABLE B3, 3K
VR556	41071161	R, VARIABLE B4, 7K
VR703		
VR704	41071163	R, VARIABLE B10K
VR552	41071165	R, VARIABLE B22K
VR708		
VR709		
VR401	41085004	R, VARIABLE B500H
VR501	41085055	R, VARIABLE B1K
VR651	41505103	R, VARIABLE B500
VR2001	41505105	R, VARIABLE B2K
*** RELAYS & SWITCHES ***		
RL501	65260002	SWITCH, SEE-SAW
	65660013	RELAY VE 24HME-K
*** COILS & FILTERS ***		
L503	60908069	WIDTH COIL W239 2-3
L504	60908071	WIDTH COIL W240 2-3
L505	60919601	COIL, L IN.
L506	60999004	COIL, CHOKE
L701	610E1709	COIL, FILTER 2.2UH
L704		
L451	610E1729	COIL, FILTER 100UH
L767	610F6014	COIL, FILTER 5.6UH
L501	610F7010	COIL, FILTER 2.7UH
L706	610G2962	EMI FILTER 471BTL-EMT
L601	61051723	COIL, FILTER 33UH
FL601	61062076	POWER LINE FILTER
L507	61062200	LINE FILTER
L602	61064006	COIL, FILTER 50UH
L508	61065002	FERRITE BEADS
	61067610	COIL, FILTER
L651	61099013	COIL, CHOKE 10UH
L652	61099014	COIL, CHOKE 33UH
L502	61099019	COIL, CHOKE
L603	61099044	SHIELDING COIL 222K
DEG	**61314215	COIL, DEGAUSSING
L711	616K5058	FERRITE BEADS
LC703	616K6062	NOISE FILTER ZJSC-R40-820
LC701	61606021	NOISE FILTER DSS-271M
LC708	61606027	NOISE FILTER ZAZ22M
*** PWB ASSYS ***		
	84K72E07	MAIN PWB ASSY
	84K93C04	SUB PWB ASSY
*** ELECTRICAL PARTS & MISCELLANEOUS PARTS ***		
HS401	31709202	SHEET, INSULATOR
HS501	31709503	SHEET, INSULATOR
SG701	32990047	ARRESTER
SG704	66699007	FUSE ET T2A, 250V-S, B SOC
F602		

SYMBOL	PARTS NO	DESCRIPTION
SG705	66706002	SPARK GAP 1 5KV
	73893071	CABLE, SIGNAL 2095 GRY
	70032026	SG/CRT SOCKET
CNRH	70800039	LINE CORD
	71205037	HOLDER, FUSE
	73721003	CONNECTOR PIN 2P
*** APPEARANCE PARTS ***		
	24514792	COIL SPRING
	**25310061	CABINET FRONT ASSY
	**25310493	CABINET BACK ASSY
	**25409732	REVOLVING STAND ASSY
	**25409151	SPINDLE
	**25310093	CABINET BOTTOM
	**25757643	LABEL (REV.)
	**25770541	NAME PLATE, INSTRUCTION
*** KNOBS & PUSH BUTTONS ***		
	25452771	KNOB, CONTROL
	25452791	KNOB, SLIDE
*** PRINTED & PACKING MATERIALS ***		
	25804551	BAG, POLYETHYLENE (150*230)
	24813191	FILLER, CARTON (T)
	**25816341	FILLER, CARTON (T)
	**25816351	FILLER (B) CARTON
	**25817651	CARTON BOX
	**78034403	MONITOR SALES OFFICE LIST
	**78121666	INSTRUCTION BOOK
*** RESISTORS ***		
R616	401C6625	R, CARBON 10H 5% 1/4W
R420	401C6649	R, CARBON 100H 5% 1/4W
R743	401C6651	R, CARBON 120H 5% 1/4W
R565	401C6657	R, CARBON 560H 5% 1/4W
R563	401C6673	R, CARBON 1.0K 5% 1/4W
R624	401C6677	R, CARBON 1.5K 5% 1/4W
R569	401C6683	R, CARBON 2.7K 5% 1/4W
R508	401C6685	R, CARBON 3.3K 5% 1/4W
R559	401C6761	R, CARBON 4.7M 5% 1/4W
R507	401H5623	R, CARBON 8.2H 5% 1/2W
R758	401H5649	R, CARBON 100H 5% 1/2W
R765		
R451	401H5657	R, CARBON 220H 5% 1/2W
R413	401H5659	R, CARBON 270H 5% 1/2W
R5A2	401H5663	R, CARBON 390H 5% 1/2W
R537	401H5665	R, CARBON 470H 5% 1/2W
R535	401H5667	R, CARBON 560H 5% 1/2W
R536	401H5669	R, CARBON 680H 5% 1/2W
R666	401H5681	R, CARBON 2.2K 5% 1/2W
R503	401H5689	R, CARBON 4.7K 5% 1/2W
R621	401H5721	R, CARBON 100K 5% 1/2W
R504	401K5605	R, CARBON 1.5H 5% 1/6W
R746	401K5639	R, CARBON 39H 5% 1/6W
R462	401K5641	R, CARBON 47H 5% 1/6W
R460	401K5649	R, CARBON 100H 5% 1/6W
R740	401K5653	R, CARBON 150H 5% 1/6W

SYMBOL	PARTS NO	DESCRIPTION
R704 R502 R711 R469A R431 R525 R574 R730 R739 R846	R706 R710 R770 R469A R431 R459 R560 R602 R736 R766 R845	R, CARBON 220H 5% 1/6W R, CARBON 470H 5% 1/6W R, CARBON 560H 5% 1/6W R, CARBON 680H 5% 1/6W R, CARBON 1.0K 5% 1/6W R, CARBON 1.2K 5% 1/6W R, CARBON 1.5K 5% 1/6W R, CARBON 1.8K 5% 1/6W R, CARBON 2.2K 5% 1/6W R, CARBON 2.7K 5% 1/6W R, CARBON 3.3K 5% 1/6W R, CARBON 3.9K 5% 1/6W R, CARBON 4.7K 5% 1/6W R, CARBON 5.6K 5% 1/6W R, CARBON 6.8K 5% 1/6W R, CARBON 8.2K 5% 1/6W R, CARBON 10K 5% 1/6W R, CARBON 12K 5% 1/6W R, CARBON 15K 5% 1/6W R, CARBON 18K 5% 1/6W R, CARBON 22K 5% 1/6W R, CARBON 27K 5% 1/6W R, CARBON 33K 5% 1/6W R, CARBON 39K 5% 1/6W R, CARBON 47K 5% 1/6W R, CARBON 100K 5% 1/6W R, CARBON 20K 5% 1/6W R, CARBON 30K 5% 1/6W R, CARBON 1.0M 5% 1/6W R, CARBON 2.2H 5% 1/4W
R706 R710 R770 R469A R431 R459 R560 R602 R736 R766 R845	401K5667 401K5665 401K5667 401K5669 401K5673 401K5675 401K5677 401K5679 401K5681 401K5683 401K5685 401K5687 401K5689 401K5691 401K5693 401K5695 401K5697 401K5699 401K5701 401K5703 401K5705 401K5707 401K5709 401K5711 401K5713 401K5721 401K5731 401K5733 401K5745 40175109	
R2002 R628 R742 R709 R757 R418 R409 R475 R719 R801 R428 R564 R456 R454 R551 R334 R2003 R405 R411 R552 R627 R808 R812 R2001 R7A1 R402 R728 R412 R464 R501 R417 R713 R458 R531 R477 R516 R523 R522 R509 R538	R426 R655 R707 R755 R803 R805 R520 R410 R463 R567 R721 R562 R810 R840 R566 R510 R734 R403 R406 R474 R555 R804 R809 R811 R455 R807 R457 R419 R554 R532 R714 R476 R515 R477 R516 R523 R522 R771 R514 R626	
R416 R617 R622 R542 R601 R511 R512 R5A3 R401 R513 R6A1 R651 R625 R606 R415 R570 R653 R607 R505 R605 R619 R749 R752 R701 R716 R722 R732 R466 R469 R658 R465 R733 R467 R613 R453 R452 R614 R657 R656 R657 R558 R558 R615	R416 R617 R622 R542 R601 R511 R512 R5A3 R401 R513 R6A1 R651 R625 R606 R415 R570 R653 R607 R505 R605 R619 R749 R752 R701 R716 R722 R732 R466 R469 R658 R465 R733 R467 R613 R453 R452 R614 R657 R656 R657 R558 R558 R615	R, CARBON 22H 5% 1/4W R, CARBON 39H 5% 1/4W R, CARBON 47H 5% 1/4W R, CARBON 680H 5% 1/4W R, WIRE 15H 10% 5W R, METAL 27H 5% 1W R, METAL 56H 5% 1W R, METAL 680H 5% 1W R, METAL 1.5H 5% 2W R, METAL 2.0H 5% 2W R, METAL 2.2H 5% 2W R, METAL 18H 5% 2W R, METAL 82H 5% 2W R, METAL 100H 5% 2W R, METAL 220H 5% 2W R, METAL 330H 5% 2W R, METAL 18K 5% 2W R, METAL 100K 5% 2W R, METAL 820H 5% 3W R, METAL 100K 5% 3W R, METAL 0.22H 5% 3W RS3PB680HJ, 200 (26) RS3PB820HJ, 200 (26) R, METAL 75H 1% 1/6W R, METAL 1.0K 1% 1/6W R, METAL 1.2K 1% 1/6W R, METAL 1.5K 1% 1/6W R, METAL 2.2K 1% 1/6W R, METAL 2.7K 1% 1/6W R, METAL 3.3K 1% 1/6W R, METAL 4.7K 1% 1/6W R, METAL 10K 1% 1/6W R, METAL 22K 1% 1/6W R, METAL 33K 1% 1/6W R, METAL 39K 1% 1/6W R, METAL 43K 1% 1/6W R, METAL 56K 1% 1/6W R, METAL 68K 1% 1/6W R, METAL 120K 1% 1/6W R, METAL 270K 1% 1/6W R, METAL 10H 5% 1/4W

SYMBOL	PARTS NO	DESCRIPTION
R416 R617 R622 R542 R601 R511 R512 R5A3 R401 R513 R6A1 R651 R625 R606 R415 R570 R653 R607 R505 R605 R619 R749 R752 R701 R716 R722 R732 R466 R469 R658 R465 R733 R467 R613 R453 R452 R614 R657 R656 R657 R558 R558 R615	40175133 40175139 40175141 40175169 40299107 40371135 40371143 40371169 40372105 40372108 40372109 40372131 40372147 40372149 40372157 40372161 40372203 40372221 40373171 40373221 40373329 40390043 40390044 404C1646 404C1673 404C1675 404C1677 404C1681 404C1683 404C1685 404C1689 404C1697 404C1705 404C1709 404C1711 404C1712 404C1715 404C1717 404C1723 404C1731 40405125	R, CARBON 22H 5% 1/4W R, CARBON 39H 5% 1/4W R, CARBON 47H 5% 1/4W R, CARBON 680H 5% 1/4W R, WIRE 15H 10% 5W R, METAL 27H 5% 1W R, METAL 56H 5% 1W R, METAL 680H 5% 1W R, METAL 1.5H 5% 2W R, METAL 2.0H 5% 2W R, METAL 2.2H 5% 2W R, METAL 18H 5% 2W R, METAL 82H 5% 2W R, METAL 100H 5% 2W R, METAL 220H 5% 2W R, METAL 330H 5% 2W R, METAL 18K 5% 2W R, METAL 100K 5% 2W R, METAL 820H 5% 3W R, METAL 100K 5% 3W R, METAL 0.22H 5% 3W RS3PB680HJ, 200 (26) RS3PB820HJ, 200 (26) R, METAL 75H 1% 1/6W R, METAL 1.0K 1% 1/6W R, METAL 1.2K 1% 1/6W R, METAL 1.5K 1% 1/6W R, METAL 2.2K 1% 1/6W R, METAL 2.7K 1% 1/6W R, METAL 3.3K 1% 1/6W R, METAL 4.7K 1% 1/6W R, METAL 10K 1% 1/6W R, METAL 22K 1% 1/6W R, METAL 33K 1% 1/6W R, METAL 39K 1% 1/6W R, METAL 43K 1% 1/6W R, METAL 56K 1% 1/6W R, METAL 68K 1% 1/6W R, METAL 120K 1% 1/6W R, METAL 270K 1% 1/6W R, METAL 10H 5% 1/4W
R416 R617 R622 R542 R601 R511 R512 R5A3 R401 R513 R6A1 R651 R625 R606 R415 R570 R653 R607 R505 R605 R619 R749 R752 R701 R716 R722 R732 R466 R469 R658 R465 R733 R467 R613 R453 R452 R614 R657 R656 R657 R558 R558 R615	R751 R754 R703 R718 R724 R750 R753 R702 R717 R723 R612 R468 R733 R467 R613 R453 R452 R614 R657 R656 R657 R558 R558 R615	C, CERAMIC 500V 180PF C, CERAMIC 500V 270PF C, CERAMIC 500V 390PF C, CERAMIC 500V 560PF C, CERAMIC 500V 820PF C, CERAMIC 500V 0.01UF C, CERAMIC 2KV 0.01UF C, CERAMIC 500V 4700PF C, CERAMIC 400V 1000PF C, CERAMIC 2KV 560PF
C535 C530 C514 C501 C509 C502 C727 C730 C603 C626	420C9554 420C9556 420C9558 420C9560 420C9562 4201J575 42019175 4203J571 42053013 42099085	

*** CAPACITORS ***

SYMBOL	PARTS NO	DESCRIPTION
C657	42099086	C, CERAMIC 2KV 1000PF
C610	42099088	C, CERAMIC 2KV 220PF
C553	421A0425	C, CERAMIC 50V 0.01UF
C705		
C715		
C740	421C0208	C, CERAMIC 50V 390PF
C455	421C0213	C, CERAMIC 50V 1000PF
C751	421C0701	C, CERAMIC 50V 100PF
C803	421C3242	C, CERAMIC 50V 270PF
C316	421C3479	C, CERAMIC 50V 0.1UF
C576		
C810		
C405	421J9001	C, CERAMIC 50V 0.1UF
C7A1	421J9035	C, CERAMIC 16V 0.1UF
C711	421J9036	C, CERAMIC 25V 0.1UF
C714		
C722		
C811		
C411		
C724	423A1033	C, CERAMIC 50V 33PF
C408	423A1049	C, CERAMIC 50V 150PF
C523	423A1051	C, CERAMIC 50V 180PF
	423A1053	C, CERAMIC 50V 220PF
C557	423A1055	C, CERAMIC 50V 270PF
C351	423A1101	C, CERAMIC 50V 470PF
C522	423A2104	C, CERAMIC 50V 220PF
C556	423A2105	C, CERAMIC 50V 270PF
C559	4239J016	C, CERAMIC 50V 390PF
C552	427A7005	C, FILM 100V 0.0022UF
C453	427F4005	C, FILM 50V 2200PF
C933	427F4013	C, FILM 50V 0.01UF
C562	427F4015	C, FILM 50V 0.015UF
C416	427F4021	C, FILM 50V 0.047UF
C801	427F4022	C, FILM 50V 0.056UF
C414	427F4059	C, FILM 50V 4700PF
C461	427F4060	C, FILM 50V 5600PF
△ C619	427F4063	C, FILM 50V 0.01UF
C409	427F4064	C, FILM 50V 0.012UF
△ C620	427F4071	C, FILM 50V 0.047UF
△ C655	427F4073	C, FILM 50V 0.068UF
C532	427F4075	C, FILM 50V 0.1UF
△ C504	42703863	C, MYLAR 400V 0.01UF
C517	42754163	C, FILM 100V 0.01UF
△ C560	42799039	C, FILM 100V 3300PF
△ C611	42799099	C, MYLAR 400V 0.033UF
△ C605	428B3013	C, METAL FILM 50V 0.1UF
C418	428B3017	C, CERAMIC 50V 0.22UF
△ C505	42807513	C, METAL FILM 1.6K 3300PF
△ C503	42807591	C, METAL 1600V 2900PF
C451	4282C025	C, METAL FILM 50V 1UF
△ C602	42824325	C, FILM 250V 0.1UF
△ C534	42839022	C, METAL FILM 250V 0.1UF
△ C662	42840081	C, METAL 250V 0.01UF
△ C613	42842003	C, METAL 50V 1000PF
C511	42843506	C, METAL 400V 0.6UF
△ C601	42899097	C, METAL 250V 0.47UF
C574	43083071	C, ELEC 25V 220UF
△ C518	43083109	C, ELEC 50V 47UF

SYMBOL	PARTS NO	DESCRIPTION
C733	430B3182	C, ELEC 160V 1UF
C569	430B5051	C, ELEC 16V 220UF
C454	430B5069	C, ELEC 25V 47UF
C703		
C707	430B5103	C, ELEC 50V 2.2UF
△ C519	430B5106	C, ELEC 50V 10UF
C512	430B6017	C, ELEC 10V 220UF
C458	430B6031	C, ELEC 16V 330UF
△ C520	430B6043	C, ELEC 25V 220UF
C413	430B6054	C, ELEC 35V 100UF
C452	430B6061	C, ELEC 50V 1UF
C404	430B6065	C, ELEC 50V 10UF
C403	430B6066	C, ELEC 50V 22UF
C2001	430B6068	C, ELEC 50V 47UF
C531	430B6071	C, ELEC 50V 330UF
△ C2002	430B9015	C, ELEC 10V 47UF
C718	430B9028	C, ELEC 16V 47UF
C809		
C567	430B9030	C, ELEC 16V 220UF
C415	430B9039	C, ELEC 25V 22UF
C615	430B9053	C, ELEC 35V 47UF
C412	430B9054	C, ELEC 35V 100UF
C406	430B9055	C, ELEC 35V 220UF
C419	430B9057	C, ELEC 35V 470UF
C802	430B9060	C, ELEC 50V 0.47UF
C624	430B9065	C, ELEC 50V 10UF
C513	430B9068	C, ELEC 50V 47UF
C524	430B9517	C, ELEC 160V 22UF
C734		
C506	4302C190	C, ELEC 160V 1000UF
C401	4302F058	C, ELEC 35V 1000UF
C616	4302J067	C, ELEC 50V 33UF
C659	4304A002	C, ELEC 35V 100UF
C618	4304A009	C, ELEC 35V 1UF
C656	4304A010	C, ELEC 160V 47UF
C651	4304A013	C, ELEC 160V 100UF
C608	43199081	C, ELEC 400V 180UF (22X50)
C457	4339J031	C, ELEC 35V 4.7UF
C555	435A8254	C, TANTLM 25V 3.3UF
C561	435A8307	C, TANTALM 35V 1UF
C456	43518256	C, TANTLM 25V 6.8UF

REPLACEMENT PARTS LIST

The components specified for Model JC-1403HMN.

The components identified by Δ mark are critical for safety.
 Replace only with parts Number specified.
 Parts identified with ** are United King made parts.

SYMBOL	PARTS NO	DESCRIPTION
*** CRT & TUNER ***	33014176	CRT M34JUP23XX215(T14)
*** ICS ***		
Δ CRT		
IC554	37051036	MOS UPD40668C
IC801	37051100	MOS UPD40308C(EX-OR) (ESD)
IC551	37056178	IC UPC1555C
IC552	37056204	IC UPC393C
IC402	37056207	IC UPC358
IC501	37056213	MOS TC4538BP
IC701	37056245	IC M51387P
Δ IC651	37056273	IC UPC1093J
Δ IC451	37056408	IC HA11423DP-18
IC401	37056423	IC UPC1498H
IC553	37056614	IC BU-4538B
Δ IC602	37056644	IC M51995P
*** TRANSISTORS ***		
Q512	350A0417	TR 2SA934-T Q
Δ Q602	350D7216	TR 2SC945-T P
Q451	350D7217	TR 2SC945-T Q
Q505	Q504	
Q706	Δ Q507	
Q402	Q707	
Q712	Δ Q403	
Q801	Q713	
Q818	Q803	
Q456	Q701	
Q703	Q704	
Q401	Q705	
Q501	Q706	
Δ Q510	Q714	
Q502	Q805	
Q709	Q710	
Q508	Q711	
Q452	Q453	
Q511	Q509	
Q804	Q511	
Q808	Q806	
Q821	Q809	
Q404	Q405	
Δ Q503	Q454	
Δ Q601		
Δ CR601		
*** DIODES ***		
D402	D403	
D405	D406	
D505	Δ D510	
D520	D551	
D554	D555	
D402	D404	DIODE 1SS132
D405	D408	
D505	D512	
D520	D553	
D554	D558	
350A0417	350K3517	TR 2SA733/2SAT733A-T Q
350D7216	350K4412	TR,2SA952 L,AT
350D7217	35056311	TR,2SC2688 K
350E3212	35063112	TR,2SD381 L
350H5017	35063412	TR,2SD401A L
350K3517	35082401	TR 2SC3486-YB
350K4412	35086004	TR,2SC3953-RA D
35056311	351G0500	TR,AA1A4M-T
35063112	351G0501	TR,AA1A4M-T
35063412	351G0501	TR,AA1A4M-T
35082401	351G0531	TR AA1L4M-T
35086004	35122000	TR 2SK762A
351G0500	35123700	TR 2SK1045
351G0501	35595015	TRIAC AC10FGM

SYMBOL	PARTS NO	DESCRIPTION
D560	D561	Δ D607
D7A1	D701	D702
D703	D704	D705
D706	D707	D708
D709	D710	D711
D712	D722	D723
D801	D802	D803
D804	D805	D806
D809	D810	D811
D813	D814	D815
D816		
D407	D508	D604
Δ ZD702	ZD801	
Δ ZD501		
Δ ZDC2001		
ZD502		
ZD401		
Δ ZD605	ZD552	ZD553
ZD551		
ZD601		
ZD503	ZD504	ZD701
ZD651		
Δ ZD602		
D2001	D401	Δ D502
D503	D504	Δ D506
D513	D516	D713
Δ D605	Δ D606	
D516		
Δ D603		
Δ D652		
D651		
D501		
Δ D601		
Δ D2002		
Δ TR601		
Δ PC601		
*** TRANSFORMERS ***		
T501	45803010	TRANS,H,DRIVE
Δ T601	46310807	SWITCHING TRANS W184
Δ T502	47105648	F.B.T
Δ T401	47502042	TRANS,SIDE PINCUSHION
*** VARIABLE RESISTORS ***		
VRTA2	41011210	R,VARIABLE B1K-V
VRTA1	41011211	R,VARIABLE B10K-V
VR4A2	41011212	R,VARIABLE B20K-V
VR4A1	41011213	R,VARIABLE B500-V
VR5A1	41011214	R,VARIABLE B20K-V
VR452	41071154	R,VARIABLE B330
VR451	41071159	R,VARIABLE B2.2K
VRT10	41071160	R,VARIABLE B3.3K

SYMBOL	PARTS NO	DESCRIPTION
VR556	41071161	R, VARIABLE B4.7K
VR703	41071163	R, VARIABLE B10K
VR551	41071165	R, VARIABLE B22K
VR706	41085004	R, VARIABLE B500H
VR552	41085055	R, VARIABLE B1K
VR708	41505103	R, VARIABLE B500
VR401	41505109	R, VARIABLE B2K
VR501		
VR681		
VR2001		
*** RELAYS & SWITCHES ***		
RL501	65260002	SWITCH, SEE-SAW
	65660013	RELAY VE 24HME-K
*** COILS & FILTERS ***		
L503	60908068	WIDTH COIL
L504	60908070	WIDTH COIL W240 2-2
L505	60919601	COIL, LIN.
L506	60999004	COIL, CHOKE
L701	610E1709	COIL, FILTER 2.2UH
L704		
L451	610E1729	COIL, FILTER 100UH
L767	610F6014	COIL, FILTER 5.6UH
L501	610F7010	COIL, FILTER 2.7UH
LC706	610G2962	EMI FILTER 47181L-EMT
L601	61051723	COIL, FILTER 33UH
FL601	61062080	POWER LINE FILTER
L507	61062200	LINE FILTER
L602	61064006	COIL, FILTER 50UH
L508	61065002	FERRITE BEADS
L651	61067610	COIL, FILTER
L652	61099013	COIL, CHOKE 10UH
L502	61099014	COIL, CHOKE 33UH
L603	61099019	COIL, CHOKE
DEG	61099044	SHIELDING COIL 222K
	**61314209	COIL, DEGAUSSING
L711	616K5058	FERRITE BEADS
LC703	616K6062	NOISE FILTER ZJSC-R40-820
LC701	61606021	NOISE FILTER DSS-271M
LC708	61606027	NOISE FILTER 2A222M
*** PWB ASSYS ***		
	84K93C04	SUB PWB ASSY
	84L34F01	MAIN PWB ASSY
	84L34S01	SSI PWB ASSY
*** ELECTRICAL PARTS & MISCELLANEOUS PARTS ***		
HS401	31709202	SHEET, INSULATOR
HS501	31709503	SHEET, INSULATOR
SG701	32990047	ARRESTER
SG704	66699007	FUSE ET T2A, 250V-S, B SOC
F602	66706002	SPARK GAP 1.5KV
SG705	70032026	SG/CRT SOCKET

SYMBOL	PARTS NO	DESCRIPTION
CNRH	70800039	LINE CORD
	71205037	HOLDER, FUSE
	73721003	CONNECTOR P IN 2P
	**73893054	CABLE, SIGNAL (15PD-EH)K
*** APPEARANCE PARTS ***		
	24514792	COIL SPRING
	**25310061	CABINET FRONT ASSY
	**25310093	CABINET BOTTOM
	**25310493	CABINET BACK ASSY
	**25409732	REVOLVING STAND ASSY
	**25409751	SPINDLE
	**25757643	LABEL (REV.)
	**25770801	NAME PLATE INSTRUCTION
*** KNOBS & PUSH BUTTONS ***		
	25452771	KNOB, CONTROL
	25452791	KNOB, SLIDE
*** PRINTED & PACKING MATERIALS ***		
	24806961	BAG, POLYETHYLENE (270*370)
	24813191	BAG, POLYETHYLENE (150*370)
	25804551	BAG, POLYETHYLENE (150*230)
	**25816341	FILLER, CARTON(T)
	**25816351	FILLER(B) CARTON
	**25819261	CARTON BOX(JC-1403HMN)
	**78034403	MONITOR SALES OFFICE LIST
	**78121665	INSTRUCTION BOOK
*** RESISTORS ***		
R616	401C6625	R, CARBON 10H 5% 1/4W
R420	401C6649	R, CARBON 100H 5% 1/4W
R743	401C6651	R, CARBON 120H 5% 1/4W
R565	401C6667	R, CARBON 560H 5% 1/4W
R563	401C6673	R, CARBON 1.0K 5% 1/4W
R624	401C6677	R, CARBON 1.5K 5% 1/4W
R569	401C6683	R, CARBON 2.7K 5% 1/4W
R508	401C6685	R, CARBON 3.3K 5% 1/4W
R559	401C6761	R, CARBON 4.7M 5% 1/4W
R507	401H5623	R, CARBON 8.2H 5% 1/2W
R758	401H5649	R, CARBON 100H 5% 1/2W
R765		
R451	401H5657	R, CARBON 220H 5% 1/2W
R413	401H5659	R, CARBON 270H 5% 1/2W
R5A2	401H5663	R, CARBON 390H 5% 1/2W
R537	401H5665	R, CARBON 470H 5% 1/2W
R535	401H5667	R, CARBON 560H 5% 1/2W
R536	401H5669	R, CARBON 680H 5% 1/2W
R666	401H5681	R, CARBON 2.2K 5% 1/2W
R503	401H5689	R, CARBON 4.7K 5% 1/2W
R621	401H5721	R, CARBON 100K 5% 1/2W
R504	401K5605	R, CARBON 1.5H 5% 1/6W
R746	401K5639	R, CARBON 39H 5% 1/6W
R462	401K5641	R, CARBON 47H 5% 1/6W
R460	401K5649	R, CARBON 100H 5% 1/6W
R740	401K5653	R, CARBON 150H 5% 1/6W

SYMBOL	PARTS NO	DESCRIPTION
△ C603 △ C626	42053013 42099085	C,CERAMIC 400V 1000PF C,CERAMIC 2KV 560PF
C657 C610 C553 C705 C715 C740 C455	42099086 42099088 421A0425	C,CERAMIC 2KV 1000PF C,CERAMIC 2KV 220PF C,CERAMIC 50V 0.01UF
C751 C803 C516 C576 C405 C7A1	421C0208 421C0213 421C0701 421C3242 421C3479	C,CERAMIC 50V 390PF C,CERAMIC 50V 1000PF C,CERAMIC 50V 100PF C,CERAMIC 50V 270PF C,CERAMIC 50V 0.1UF
C711 C714 C722 C811 C411 C724 C408 C523	421J9035 421J9036	C,CERAMIC 50V 0.1UF C,CERAMIC 16V 0.1UF
C557 C551 C522 C556 C559	423A1033 423A1049 423A1051 423A1053	C,CERAMIC 50V 33PF C,CERAMIC 50V 150PF C,CERAMIC 50V 180PF C,CERAMIC 50V 220PF
C552 C453 C533 C562 C416	423A1055 423A1101 423A2104 423A2105 4239J016	C,CERAMIC 50V 270PF C,CERAMIC 50V 470PF C,CERAMIC 50V 220PF C,CERAMIC 50V 270PF C,CERAMIC 50V 390PF
C801 C414 C461 △ C619 C409	427A7005 427F4005 427F4013 427F4015 427F4021	C,FILM 100V 0.0022UF C,FILM 50V 2200PF C,FILM 50V 0.01UF C,FILM 50V 0.015UF C,FILM 50V 0.047UF
△ C620 △ C655 C532 △ C504 C517	427F4022 427F4059 427F4060 427F4063 427F4064	C,FILM 50V 0.056UF C,FILM 50V 4700PF C,FILM 50V 5600PF C,FILM 50V 0.01UF C,FILM 50V 0.012UF
△ C621 △ C502 △ C517	427F4071 427F4073 427F4075 42703665 42754163	C,FILM 50V 0.047UF C,FILM 50V 0.068UF C,FILM 50V 0.1UF C,FILM 400V 0.015UF C,FILM 100V 0.01UF
△ C560 △ C611 △ C605 C418 △ C505	42799039 42799099 428B3013 428B3017 42807510	C,FILM 100V 3300PF C,MYLAR 400V 0.033UF C,METAL FILM 50V 0.1UF C,CERAMIC 50V 0.22UF C,METAL FILM 1.6KV 2400PF
△ C451 △ C602 C534 △ C662 △ C613 △ C503	4282C025 42824325 42839022 42840081 42842003 42842007	C,METAL FILM 50V 1UF C,FILM 250V 0.1UF C,METAL FILM 250V 0.1UF C,METAL 250V 0.01UF C,METAL 50V 1000PF C,METAL 1.6KV 3100PF

SYMBOL	PARTS NO	DESCRIPTION
C551 △ C601 C574 △ C518	42899015 42899097 430B3071 430B3109	C,METAL FILM 400V 0.47UF C,METAL 250V 0.47UF C,ELEC 25V 220UF C,ELEC 50V 47UF
C733 C569 C454 C703 △ C707 △ C519	430B3182 430B5051 430B5069 430B5103 430B5106	C,ELEC 160V 1UF C,ELEC 16V 220UF C,ELEC 25V 47UF C,ELEC 50V 2.2UF C,ELEC 50V 10UF
C512 C458 △ C520 C413 C452	430B6017 430B6031 430B6043 430B6054 430B6061	C,ELEC 10V 220UF C,ELEC 16V 330UF C,ELEC 25V 220UF C,ELEC 35V 100UF C,ELEC 50V 1UF
C404 C403 C2001 C531 △ C2002	430B6065 430B6066 430B6068 430B6071 430B9015	C,ELEC 50V 10UF C,ELEC 50V 22UF C,ELEC 50V 47UF C,ELEC 50V 330UF C,ELEC 10V 47UF
C718 C809 C567 C415 C615	430B9028 430B9028 430B9030 430B9039 430B9053	C,ELEC 16V 47UF C,ELEC 16V 47UF C,ELEC 16V 220UF C,ELEC 25V 22UF C,ELEC 35V 47UF
C412 C406 C419 C802 C624	430B9054 430B9055 430B9057 430B9060 430B9065	C,ELEC 35V 100UF C,ELEC 35V 220UF C,ELEC 35V 470UF C,ELEC 50V 0.47UF C,ELEC 50V 10UF
C513 C524 C734 C506 C401 C616	430B9068 430B9517 4302C190 4302F058 4302J067	C,ELEC 50V 47UF C,ELEC 160V 22UF C,ELEC 160V 100UF C,ELEC 35V 1000UF C,ELEC 50V 33UF
C659 C618 C656 C651 C608	4304A002 4304A009 4304A010 4304A013 43199081	C,ELEC 35V 100UF C,ELEC 35V 1UF C,ELEC 160V 47UF C,ELEC 160V 100UF C,ELEC 400V 180UF (22X50)
C457 C554 C561 C456	4339J031 435A8254 435A8307 43518256	C,ELEC 35V 4.7UF C,TANTLM 25V 3.3UF C,TANTLM 35V 1UF C,TANTLM 25V 6.8UF

REPLACEMENT PARTS LIST

Notes: 1. The components identified by Δ mark are critical for safety.
 Replace only with parts Number specified.
 2. Parts identified with ** are United King made parts.

The components specified for Models JC-1403HME(PH)/EE(PH)/ED(PH).

SYMBOL	PARTS NO	DESCRIPTION
Δ CRT	33014170	CRT M34ECL12X46
*** CRT & TUNER ***		
*** ICS ***		
IC554	37051036	MOS UPD4066BC
IC801	37051100	MOS UPD4030BC(EX-OR) (ESD)
IC551	37056178	IC UPC1555C
IC552	37056204	IC UPC393C
IC402	37056207	IC UPC358
IC501	37056213	MOS TC4538BP
IC701	37056245	IC M51387P
Δ IC651	37056273	IC UPC1093J
Δ IC451	37056408	IC HA11423DP-18
IC401	37056423	IC UPC1498H
IC553	37056614	IC BU-4538B
Δ IC602	37056644	IC M51995P
*** TRANSISTORS ***		
Q512	350A0417	TR 2SA934-T Q
Δ Q602	350D7216	TR 2SC945-T P
Q451	350D7217	TR 2SC945-T Q
Q505	Q504	
Q706	Δ Q507	
Q402	Q705	
Q712	Q820	
Q801	Δ Q403	
Q818	Q714	
	Q805	
Q456	Q701	
Q703	Q704	
Q401	Q708	
Q501		
Δ Q506		
Q510		
Δ Q502		
Q709	Q710	
Q508	Q711	
Q452	Q509	
Q511	Q802	
Q804	Q806	
Q808	Q807	
	Q810	
Q821		
Q404	Q405	
Δ Q503	Q454	
Δ Q601		
Δ CR601		
*** DIODES ***		
D402	D403	
D405	D404	
D505	Δ D408	
D520	D512	
D554	D551	
	D553	
	D558	
	360K1027	DIODE 1SS132

SYMBOL	PARTS NO	DESCRIPTION
U560	360K1032	DIODE 1SS82-TA
D7A1	Δ D607	
D701	D702	
D703	Q704	
D706	Q705	
D709	Q707	
D710	Q708	
D711	Q710	
D712	Q711	
D801	Q722	
D802	D723	
D804	D802	
D809	D805	
D810	D810	
D813	D814	
D816	D815	
D407	Q508	
Q716	D604	
ZD702	Q719	
Δ ZD501	ZD801	
Δ ZD3001		
ZD502		
ZD401		
Δ ZD605		
ZD551	ZD552	ZD553
D719		
ZD501		
ZD503		
ZD504	ZD701	
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SYMBOL	PARTS NO	DESCRIPTION
VR452	41071154	R, VARIABLE B330
VR451	41071159	R, VARIABLE B2.2K
VR710	41071160	R, VARIABLE B3.3K
VR556	41071161	R, VARIABLE B4.7K
VR703		
VR551	41071163	R, VARIABLE B10K
VR706		
VR552	41071165	R, VARIABLE B22K
VR708		
VR709		
VR401	41085004	R, VARIABLE B500H
△ VR501	41085055	R, VARIABLE B1K
△ VR651	41505103	R, VARIABLE B500
△ VR2001	41505105	R, VARIABLE B2K
*** RELAYS & SWITCHES ***		
△ RL501	65260002 65660013	SWITCH, SEE - SAW RELAY VE 24HME - K
*** COILS & FILTERS ***		
△ L504	60908050	WIDTH COIL
△ L503	60908065	COIL, VARIABLE WIDTH
L505	60919113	COIL, H. LIN
L506	60999004	COIL, CHOKE
L704	610E1709	COIL, FILTER 2.2UH
L451	610E1729	COIL, FILTER 100UH
L767	610F6014	COIL, FILTER 5.6UH
L501	610F7010	COIL, FILTER 2.7UH
LC706	610G2962	EMI FILTER 471BTL - EMT
△ L601	610G5123	COIL, FILTER 33UH
FL601	**610G2076	POWER LINE FILTER
L507	610G2200	LINE FILTER
L502	610G4006	COIL, FILTER 50UH
L508	610G5002	FERRITE BEADS
	610G7610	COIL, FILTER
△ L651	61099013	COIL, CHOKE 10UH
L652	61099014	COIL, CHOKE 33UH
L502	61099019	COIL, CHOKE
△ L603	61099044	SHIELDING COIL 222K
DEG	**61314215	COIL, DEGAUSSING
L711	616K5058	FERRITE BEADS
LC703	616K6062	NOISE FILTER ZJSC-R40-820
LC701	61606021	NOISE FILTER DSS-271M
LC708	61606027	NOISE FILTER ZAZ22M
*** PWB ASSYS ***		
	84L24C02 84L24F01	SUB PWB ASSY MAIN PWB ASSY
*** ELECTRICAL PARTS & MISCELLANEOUS PARTS ***		
HS401	31709202	SHEET, INSULATOR
HS501	31709503	SHEET, INSULATOR
SG701	32990047	ARRESTER
SG704		
F602	66699007	FUSE ET T2A, 250V - S, B, SOC

SYMBOL	PARTS NO	DESCRIPTION
SG705	66706002	SPARK GAP 1.5KV
△ JC-1403HME (PH)/ED (PH)	70032026	SG/CRT SOCKET
△ JC-1403HMEE (PH)	**70800063	LINE CORD
	70800323	LINE, POWER
	71205037	HOLDER, FUSE
	73721003	CONNECTER PIN 2P
JC-1403HME (PH)/EE (PH)	**73893054	CABLE, SIGNAL (15PD SUB-EH) K
JC-1403HMED (PH)	73893071	CABLE, SIGNAL 2095 GRV
*** APPEARANCE PARTS ***		
	24514792	COIL SPRING
	**25310061	CABINET FRONT ASSY
	**25310493	CABINET BACK ASSY
	**25409732	REVOLVING STAND ASSY
	**25409751	SPINDLE
	**25310093	CABINET BOTTOM
JC-1403HME (PH)	**25768562	NAME PLATE, INSTRUCTION
JC-1403HMEE (PH)	**25769152	NAME PLATE, INSTRUCTION
JC-1403HMED (PH)	**25769643	NAME PLATE, INSTRUCTION
*** KNOBS & PUSH BUTTONS ***		
	25452771	KNOB, CONTROL
	25452791	KNOB, SLIDE
*** PRINTED & PACKING MATERIALS ***		
JC-1403HME (PH)/ED (PH)	24813191	BAG, POLYETHYLENE (150*370)
JC-1403HMEE (PH)	25815061	BAG, POLYETHYLENE (270*370)
JC-1403HME (PH)	24813501	BAG, POLYETHYLENE
JC-1403HMED (PH)	24804551	BAG, POLYETHYLENE (150*230)
	24806961	BAG, POLYETHYLENE (270*370)
	**25816341	FILLER, CARTON (T)
	**25816351	FILLER (B), CARTON
JC-1403HME (PH)	**25816981	CARTON BOX
JC-1403HMEE (PH)	**25817431	CARTON BOX
JC-1403HMED (PH)	**25817651	CARTON BOX
	**78121665	INSTRUCTION BOOK
	**78034403	MONITOR SALES OFFICE LIST
*** RESISTORS ***		
△ R616	401C6625	R, CARBON 10H 5% 1/4W
R420	401C6649	R, CARBON 100H 5% 1/4W
R743	401C6651	R, CARBON 120H 5% 1/4W
R565	401C6667	R, CARBON 560H 5% 1/4W
R563	401C6673	R, CARBON 1.0K 5% 1/4W
△ R624	401C6677	R, CARBON 1.5K 5% 1/4W
R569	401C6683	R, CARBON 2.7K 5% 1/4W
R508	401C6685	R, CARBON 3.3K 5% 1/4W
R559	401C6761	R, CARBON 4.7M 5% 1/4W
R507	401H5623	R, CARBON 8.2H 5% 1/2W
R758	401H5649	R, CARBON 100H 5% 1/2W
R765		
R451	401H5657	R, CARBON 220H 5% 1/2W
R413	401H5659	R, CARBON 270H 5% 1/2W
R5A2	401H5663	R, CARBON 390H 5% 1/2W
△ R536	401H5671	R, CARBON 820H 5% 1/2W

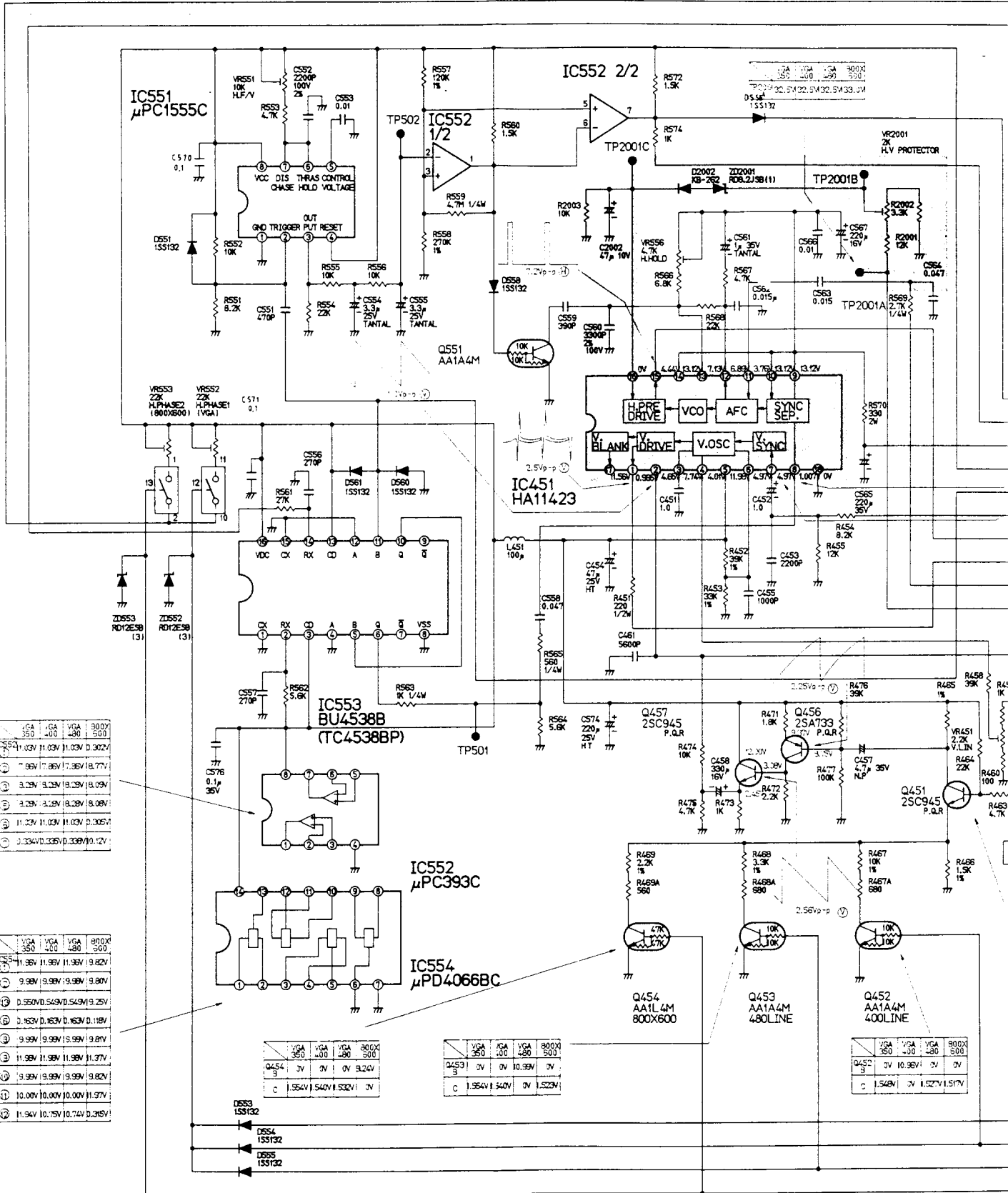
SYMBOL	PARTS NO	DESCRIPTION
R666	401H5681	R, CARBON 2.2K 5% 1/2W
R503	401H5689	R, CARBON 4.7K 5% 1/2W
△ R621	401K5721	R, CARBON 100K 5% 1/2W
R504	401K5605	R, CARBON 1.5H 5% 1/6W
R746	401K5639	R, CARBON 39H 5% 1/6W
R462	401K5641	R, CARBON 47H 5% 1/6W
R460	401K5649	R, CARBON 100H 5% 1/6W
R740	401K5653	R, CARBON 150H 5% 1/6W
R704	401K5657	R, CARBON 220H 5% 1/6W
R502	401K5665	R, CARBON 470H 5% 1/6W
R711		
R469A	401K5667	R, CARBON 560H 5% 1/6W
R467A	401K5669	R, CARBON 680H 5% 1/6W
U89	401K5673	R, CARBON 1.0K 5% 1/6W
R459		
R560		
△ R602		
R736		
R766		
△ R528		
R819		
R423		
R427		
R533		
R817		
R424		
R618		
△ R2002		
△ R628		
R742		
R709		
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R719		
*R801		
R564		
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R454		
R551		
R834		
R2003		
R405		
R411		
R552		
R627		
R808		
R812		
△ R2001		
R402		
R728		
R419		
R554		
R761	401H5681	R, CARBON 2.2K 5% 1/2W
R747	401H5689	R, CARBON 4.7K 5% 1/2W
R461	401K5605	R, CARBON 1.5H 5% 1/6W
R748	401K5639	R, CARBON 39H 5% 1/6W
R461	401K5641	R, CARBON 47H 5% 1/6W
R741	401K5649	R, CARBON 100H 5% 1/6W
R705	401K5653	R, CARBON 150H 5% 1/6W
△ R629	401K5657	R, CARBON 220H 5% 1/6W
R712	401K5665	R, CARBON 470H 5% 1/6W
R468A	401K5667	R, CARBON 560H 5% 1/6W
J90	401K5669	R, CARBON 680H 5% 1/6W
R473	401K5673	R, CARBON 1.0K 5% 1/6W
△ R525		
R574		
R729		
R738		
R543		
R820		
R818		
R471		
R472		
△ R654		
R842		
R425		
R735		
R426		
△ R655		
R707		
R755		
R803		
R520		
R410		
R553		
R720		
R802		
R521		
R810		
R566		
R510		
R734		
R403		
R406		
R474		
R555		
R804		
R809		
R815		
R404		
R407		
R5A4		
R556		
R805		
R811		
R814		
R807		
△ R457		
R422		
R568		

SYMBOL	PARTS NO	DESCRIPTION
R561	401K5707	R, CARBON 27K 5% 1/6W
R412	401K5709	R, CARBON 33K 5% 1/6W
△ R608		
R715		
R458		
R531		
R477		
R516		
R523		
△ R509		
△ R538		
△ R416		
△ R617		
△ R622		
R542		
△ R601		
△ R513		
R511		
△ R659		
R512		
R5A3		
R401		
△ R6A1		
△ R651		
△ R625		
△ R606		
R415		
R570		
△ R537		
△ R653		
△ R607		
△ R505		
△ R605		
△ R619		
R749		
R752		
R701		
R716		
R722		
R732		
R466		
△ R469		
△ R658		
R468		
R465		
R733		
R467		
△ R613		
R453		
R452		
△ R614		
△ R657		
△ R656		
R557		
R558		
△ R615		
R532		
R714		
R841		
R515		
△ R529		
△ R626		
R659		
R750		
R753		
R702		
R717		
R723		
R751		
R754		
R703		
R718		
R724		
R612		
△ R612		
R468		
R465		
R467		
△ R613		
R453		
R452		
△ R614		
△ R657		
△ R656		
R557		
R558		
△ R615		

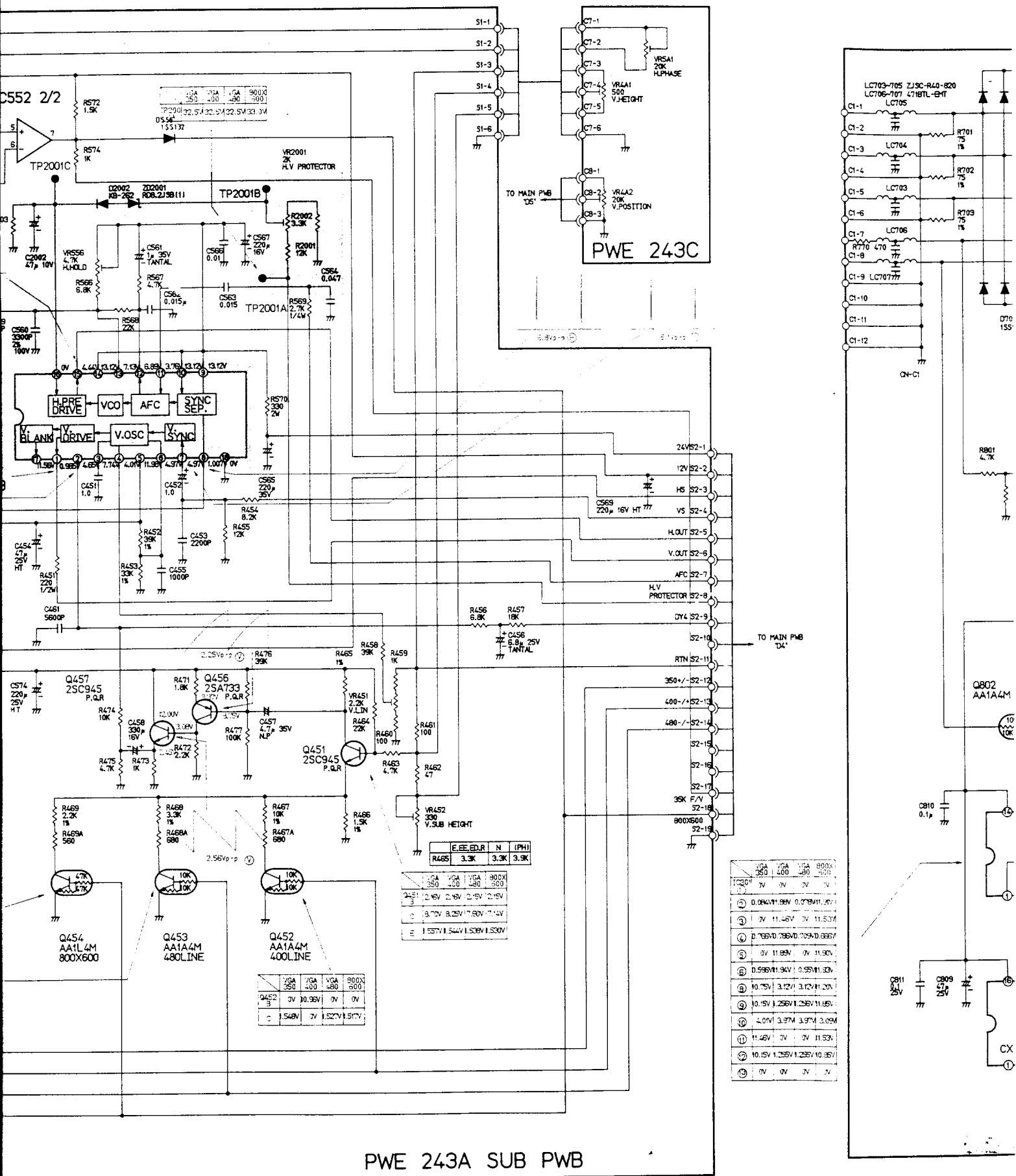
SYMBOL	PARTS NO	DESCRIPTION
*** CAPACITORS ***		
C535	420C9554	C. CERAMIC 500V 180PF
△ C530	420C9556	C. CERAMIC 500V 270PF
C514	420C9558	C. CERAMIC 500V 390PF
C501	420C9560	C. CERAMIC 500V 560PF
△ C508	△ C510	C. CERAMIC 500V 0.001UF
△ C509	420C9565	C. CERAMIC 500V 1500PF
C502	4201J575	C. CERAMIC 500V 0.01UF
C727	42019175	C. CERAMIC 2KV 0.01UF
C730	C731 C732	C. CERAMIC 500V 4700PF
△ C603	△ C604 △ C617	C. CERAMIC 400V 1000PF
△ C626	△ C653 △ C663	C. CERAMIC 2KV 560PF
△ C657	42099085	C. CERAMIC 2KV 1000PF
C610	42099086	C. CERAMIC 2KV 1000PF
C553	42099088	C. CERAMIC 2KV 220PF
C705	421A0425	C. CERAMIC 50V 0.01UF
C715		
C740	421C0208	C. CERAMIC 50V 390PF
C455	421C0213	C. CERAMIC 50V 1000PF
C751	421C0701	C. CERAMIC 50V 100PF
C803	421C3242	C. CERAMIC 50V 270PF
C516	421C3479	C. CERAMIC 50V 0.1UF
C576		
C405	421J9001	C. CERAMIC 50V 0.1UF
C7A1	421J9035	C. CERAMIC 16V 0.1UF
C711	421J9036	C. CERAMIC 25V 0.1UF
C714		
C722		
C811		
C411		
C724		
C408		
C523	423A1033	C. CERAMIC 50V 33PF
C557	423A1049	C. CERAMIC 50V 150PF
C551	423A1051	C. CERAMIC 50V 180PF
C522		
C556		
C559	423A1053	C. CERAMIC 50V 220PF
C552	423A1055	C. CERAMIC 50V 270PF
C453	423A1101	C. CERAMIC 50V 470PF
C562	423A2104	C. CERAMIC 50V 220PF
C533	423A2105	C. CERAMIC 50V 270PF
C416	4239J016	C. CERAMIC 50V 390PF
C801	427A7005	C. FILM 100V 0.0022UF
C414	427F4005	C. FILM 50V 2200PF
C461	427F4015	C. FILM 50V 0.015UF
△ C619	△ C623	C. FILM 50V 0.027UF
C409	427F4021	C. FILM 50V 0.047UF
△ C620	427F4022	C. FILM 50V 0.056UF
△ C655	427F4059	C. FILM 50V 4700PF
C532	427F4060	C. FILM 50V 5600PF
△ C504	427F4063	C. FILM 50V 0.01UF
C409	427F4064	C. FILM 50V 0.012UF
△ C620	427F4071	C. FILM 50V 0.047UF
△ C655	427F4073	C. FILM 50V 0.068UF
△ C532	427F4075	C. FILM 50V 0.1UF
△ C504	42703865	C. FILM 400V 0.015UF
C517	42754163	C. FILM 100V 0.01UF
△ C560	42799039	C. FILM 100V 3300PF
△ C611	42799099	C. MYLAR 400V 0.033UF

SYMBOL	PARTS NO	DESCRIPTION
△ C605	428B3013	C. METAL FILM 50V 0.1UF
C418	428B3017	C. CERAMIC 50V 0.22UF
△ C503	42807591	C. METAL 1600V 2900PF
△ C505	42808508	C. METAL 1600V 2000UF
C451	4282C026	C. METAL FILM 50V 1UF
△ C602	42824325	C. FILM 250V 0.1UF
C534	△ C654	C. METAL FILM 250V 0.1UF
△ C662	42840081	C. METAL 250V 0.01UF
△ C613	42842003	C. METAL 50V 1000PF
△ C511	42899015	C. METAL FILM 400V 0.47UF
△ C601	42899097	C. METAL 250V 0.47UF
C574	430B3071	C. ELEC 25V 220UF
△ C518	430B3109	C. ELEC 50V 47UF
C733	430B3182	C. ELEC 160V 1UF
C569	430B5051	C. ELEC 16V 220UF
C454	430B5069	C. ELEC 25V 47UF
C703		
C707		
C708	C702	
C709		
△ C519	430B5106	C. ELEC 50V 2.2UF
C512	430B5106	C. ELEC 50V 10UF
C458	430B6017	C. ELEC 10V 220UF
C520	430B6031	C. ELEC 16V 330UF
△ C520	430B6043	C. ELEC 25V 220UF
C413	430B6054	C. ELEC 35V 1000UF
C452	430B6061	C. ELEC 50V 1UF
C404	430B6065	C. ELEC 50V 10UF
C403	430B6066	C. ELEC 50V 22UF
C2001	430B6068	C. ELEC 50V 47UF
C531	430B6071	C. ELEC 50V 330UF
△ C2002	430B9015	C. ELEC 10V 47UF
C718	430B9028	C. ELEC 16V 47UF
C809		
C567	430B9030	C. ELEC 16V 220UF
C415	430B9039	C. ELEC 25V 22UF
C615	430B9053	C. ELEC 35V 47UF
C412	430B9054	C. ELEC 35V 1000UF
C406	430B9055	C. ELEC 35V 220UF
C419	430B9057	C. ELEC 35V 470UF
C802	430B9060	C. ELEC 50V 0.47UF
C624	430B9065	C. ELEC 50V 10UF
C513	430B9068	C. ELEC 50V 47UF
C524	430B9517	C. ELEC 160V 22UF
C734		
C506	4302C190	C. ELEC 160V 1000UF
C401	4302F058	C. ELEC 35V 1000UF
C616	4302J067	C. ELEC 50V 33UF
C659	4304A002	C. ELEC 35V 1000UF
C618	4304A009	C. ELEC 35V 1UF
C656	4304A010	C. ELEC 160V 47UF
C651	4304A013	C. ELEC 160V 1000UF
C608	43199081	C. ELEC 400V 180UF (22X50)
C457	4339J031	C. ELEC 35V 4.7UF
C554	435A8254	C. TANTLM 25V 3.3UF
C561	435A8307	C. TANTLM 35V 1UF
C456	43518256	C. TANTLM 25V 6.8UF

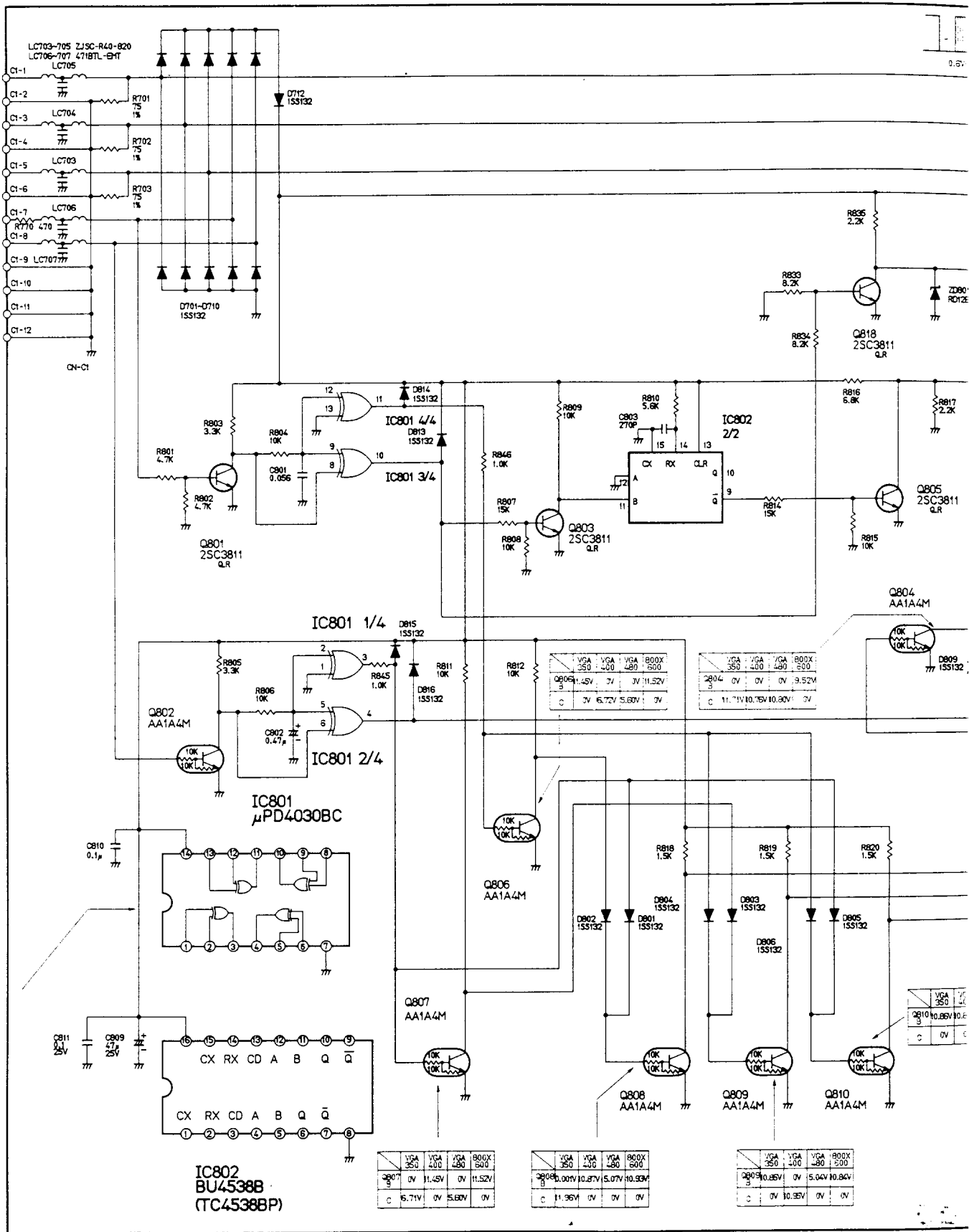
MODEL JC-1403HME/EE/ED/R/N/E(PH)/EE(PH)/ED(PH) SCHEMATIC DIAGRAM (SUB/CRT PWB)

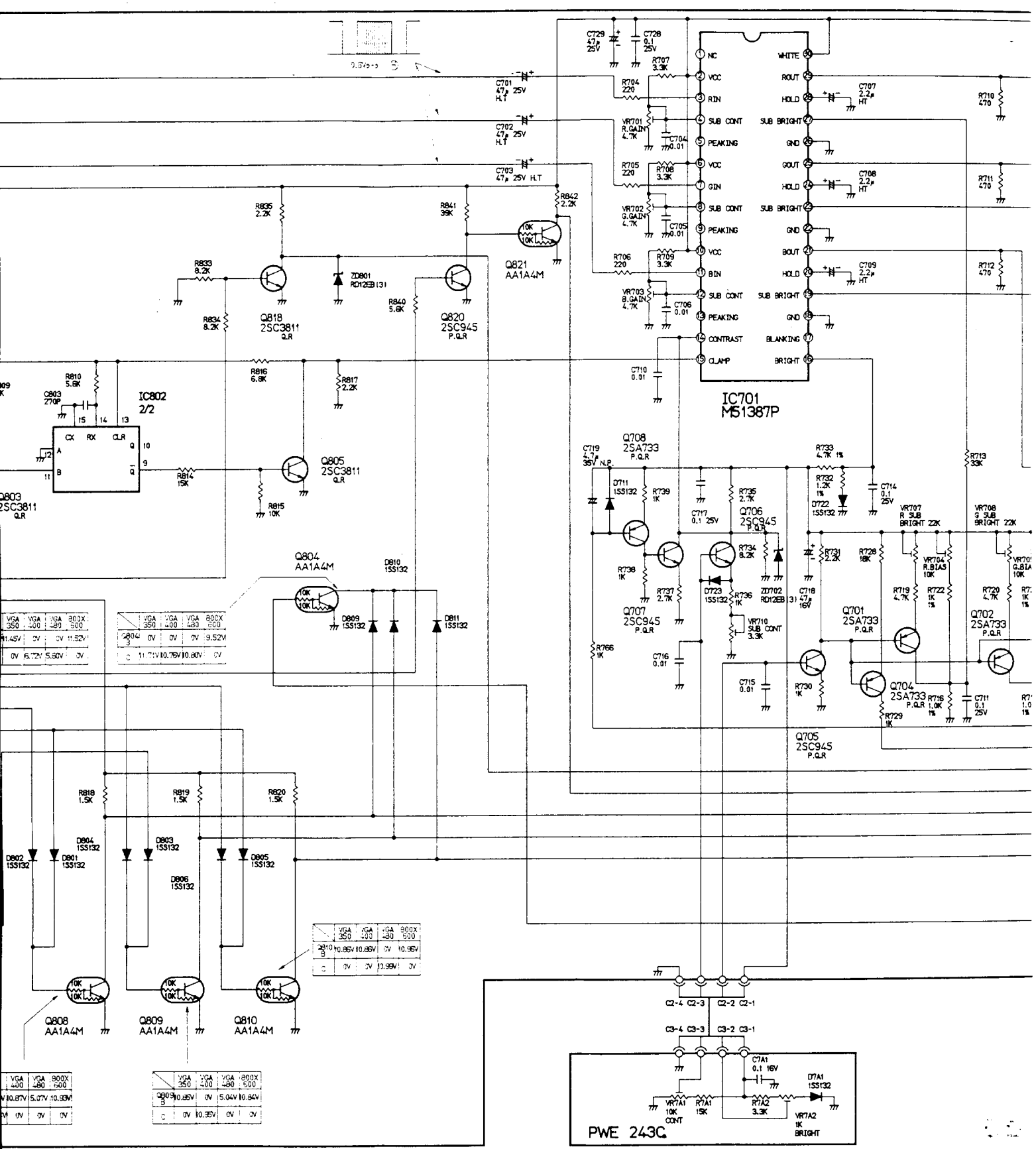


EE(PH)/ED(PH)



PWE 243A SUB PWB





VGA	VGA	VGA	800X
350	400	480	500
1.45V	2V	2V	1.52V
0V	5.22V	5.50V	2V

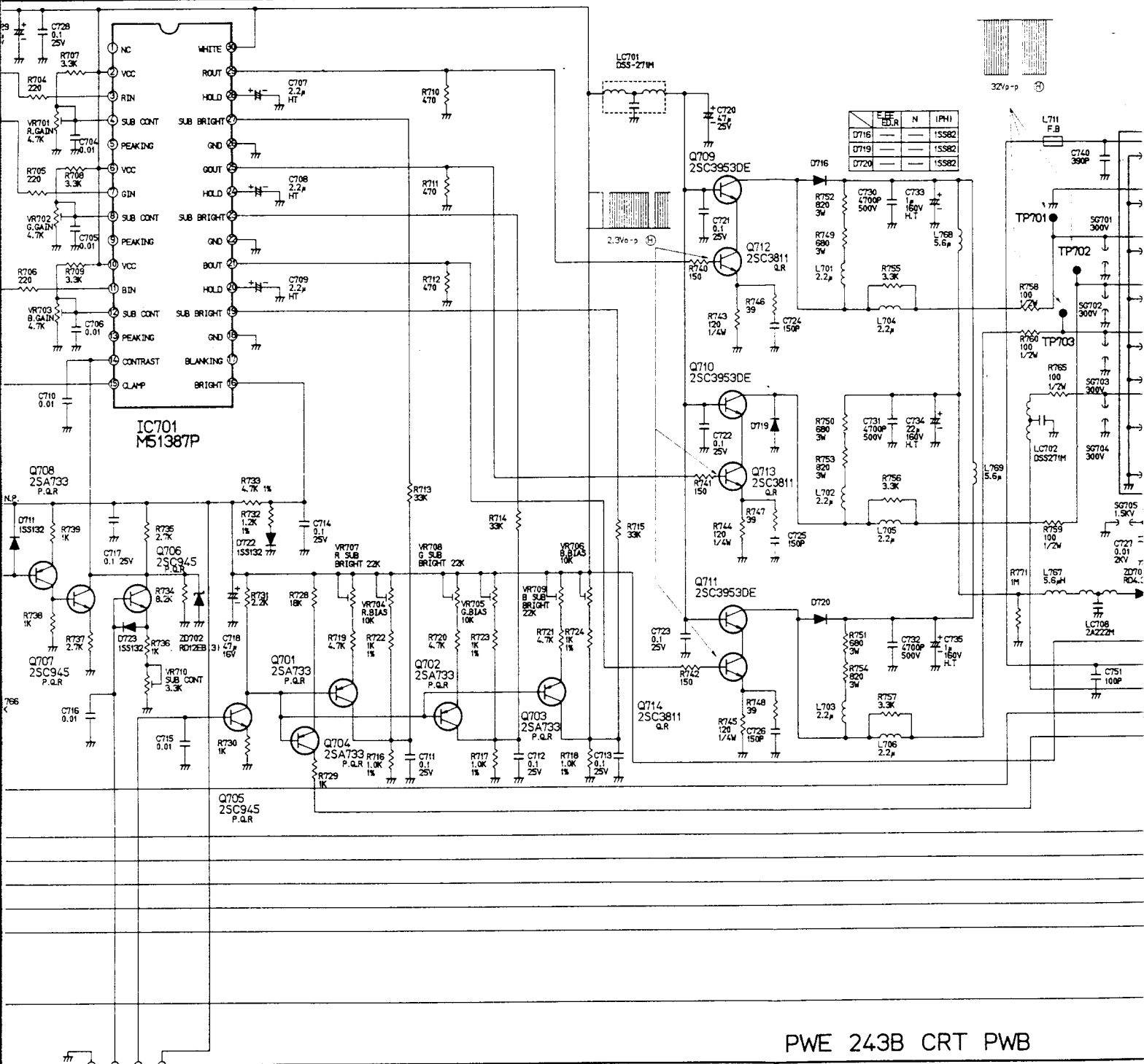
VGA	VGA	VGA	800X
350	400	480	500
2.80V	0V	0V	9.52V
0V	11.72V	10.75V	10.80V

VGA	VGA	VGA	800X
350	400	480	500
2.810	10.85V	10.85V	0V
0V	0V	10.98V	2V

VGA	VGA	800X
400	480	500
10.87V	5.07V	10.95V
0V	0V	0V

VGA	VGA	VGA	800X
350	400	480	500
2.80V	10.85V	10.85V	0V
0V	10.95V	0V	2V

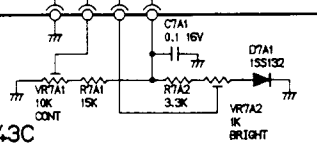
PWE 243C

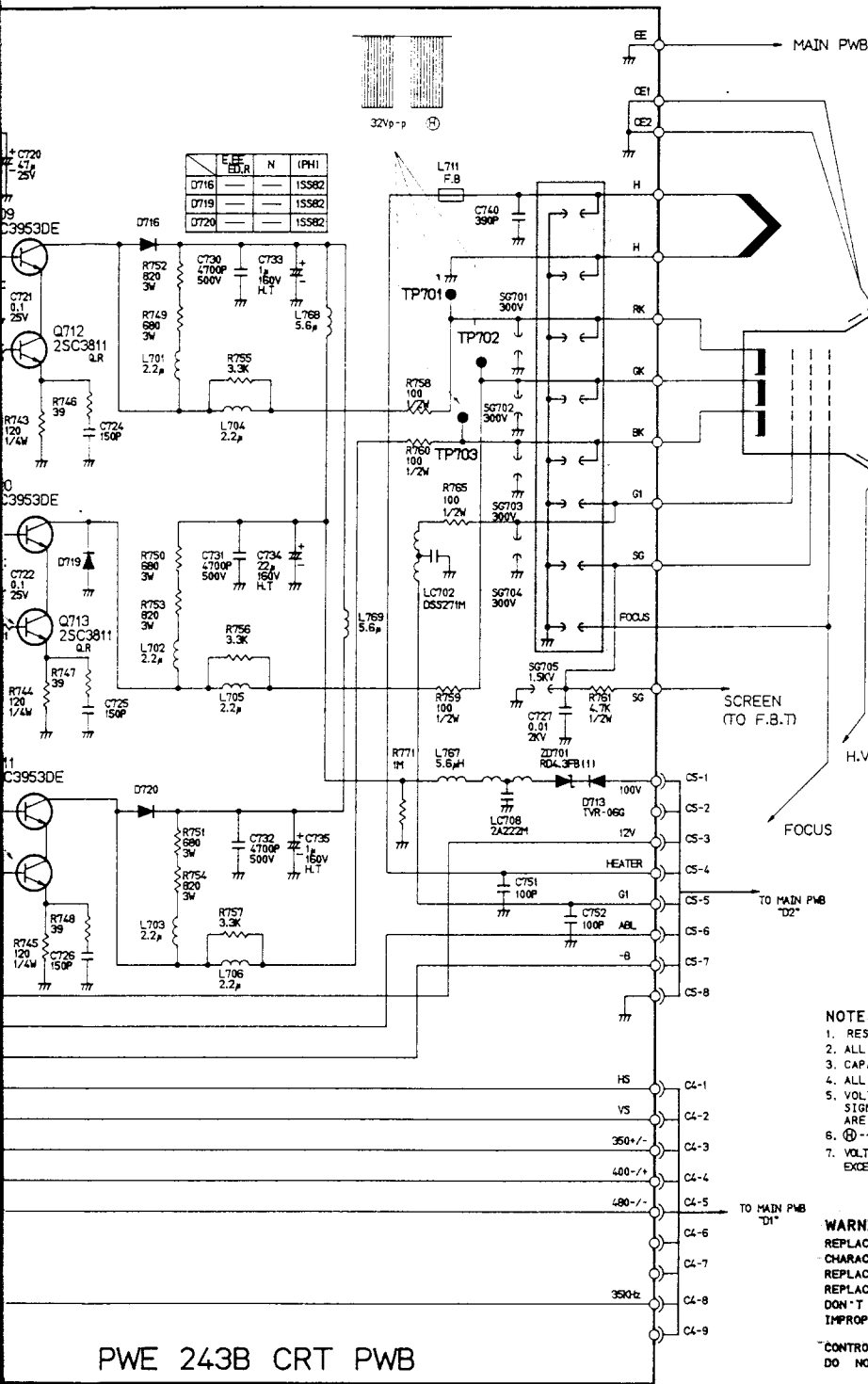


PWE 243B CRT PWB

For Service Manuals
MAURITRON SERVICES
 8 Cherry Tree Road, Chinnor
 Oxfordshire, OX9 4QY.
 Tel (01844) 351694
 Fax (01844) 352554
 email:- mauritron@dial.pipex.com

NE 243C







- CRT
M34JUP23XX183(1) (JC-1403HME,EE,ED)
M34JUP23XX183(1XR) (JC-1403HMR)
M34JUP23XX215(T4) (JC-1403HMN)
M34ECL12X46 (JC-1403HME(PH),EE(PH),ED(PH))

NOTES

1. RESISTOR VALUES ARE IN Ω (OHM) K = 1,000 Ω M = 1,000,000 Ω
2. ALL RESISTORS ARE 1/8WATT EXCEPT WHERE OTHERWISE INDICATED.
3. CAPACITOR VALUES ARE IN μ F 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. $\text{---}\text{O}\text{---}$ HORIZONTAL RATE. $\text{---}\text{O}\text{---}$ VERTICAL RATE.
7. VOLTAGES AND WAVEFORMS ARE MEASURED UNDER THE FOLLOWING SYNC. AND VIDEO.
 SYNC: HORIZONTAL RATE 31.5KHZ SEPARATE SYNC. TTL LEVEL. HORIZONTAL POSITIVE
 VIDEO: TTL LEVEL. POSITIVE VERTICAL NEGATIVE

WARNING

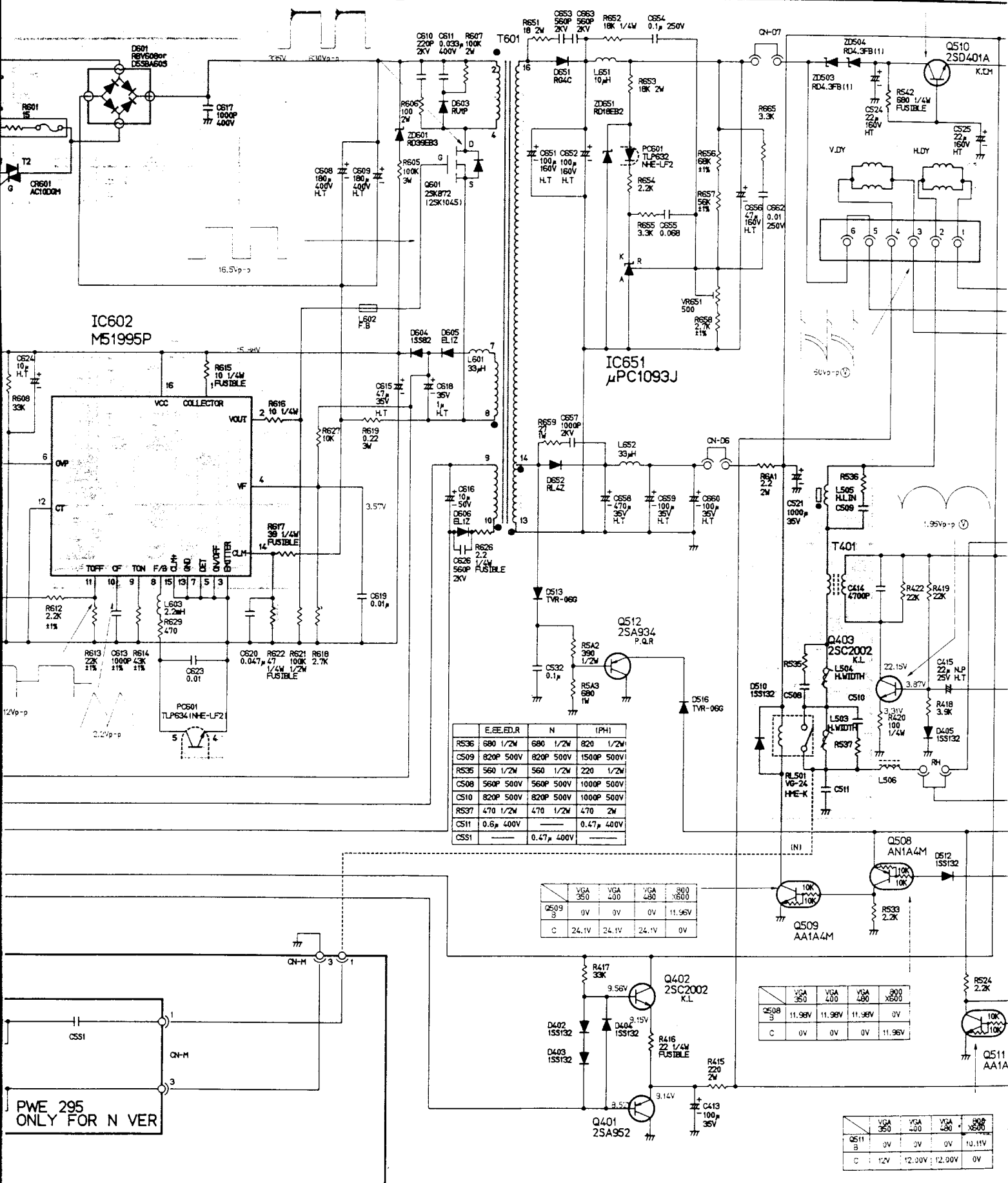
REPLACEMENT PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY  SHADING ON THE SCHEMATICS. REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS. DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

CONTROL (S1) MARKED  IS PERMANENTLY FROZEN. DO NOT ATTEMPT TO DEFEAT OR IMPROPERLY REPLACE.

PWE 243B CRT PWB

EE/ED/R/N/E(PH)/EE(PH)/ED(PH)

	VGA	350
3510	B	100.5V
	C	1.1V
	E	100V



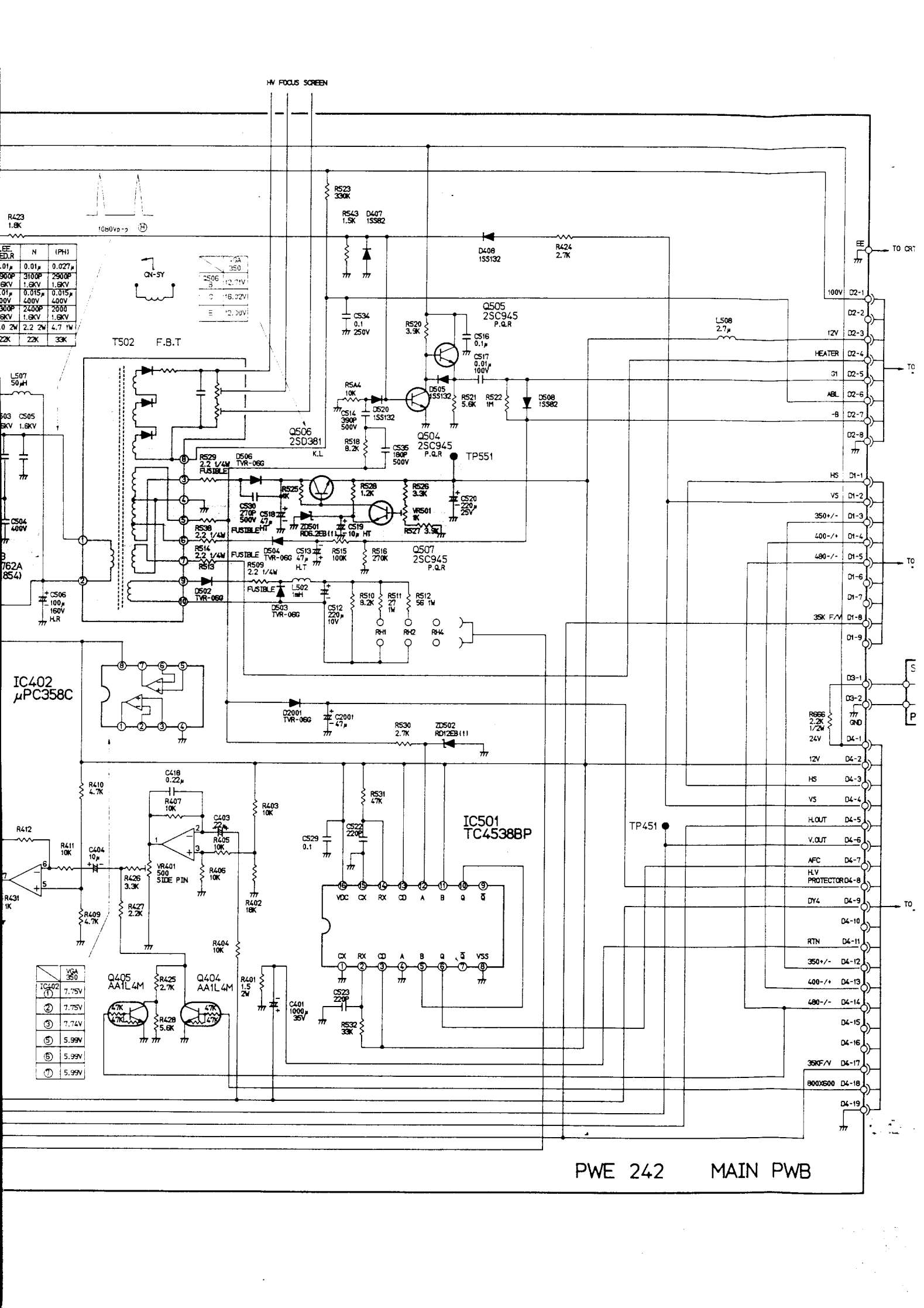
	EE,ED,R	N	(PH)
RS36	680 1/2W	680 1/2W	820 1/2W
CS09	820P 500V	820P 500V	1500P 500V
RS35	560 1/2W	560 1/2W	220 1/2W
CS08	560P 500V	560P 500V	1000P 500V
CS10	820P 500V	820P 500V	1000P 500V
RS37	470 1/2W	470 1/2W	470 2W
CS11	0.6µ 400V	0.47µ 400V	
CS51		0.47µ 400V	

	VGA	VGA	VGA	300
	350	400	480	X600
Q509	0V	0V	0V	11.96V
C	24.1V	24.1V	24.1V	0V

	VGA	VGA	VGA	300
	350	400	480	X600
Q508	11.96V	11.96V	11.96V	0V
C	0V	0V	0V	11.96V

	VGA	VGA	VGA	300
	350	400	480	X600
Q511	0V	0V	0V	10.11V
C	12V	12.30V	12.30V	0V

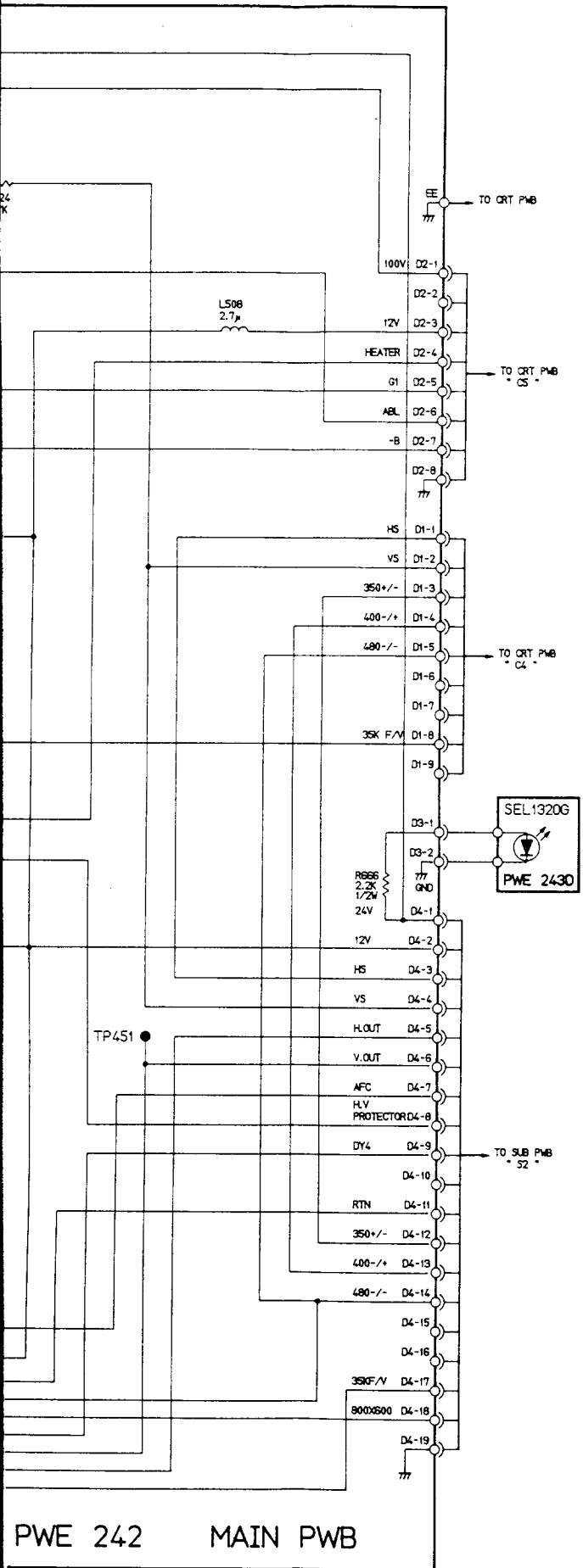
PWE 295
ONLY FOR N VER



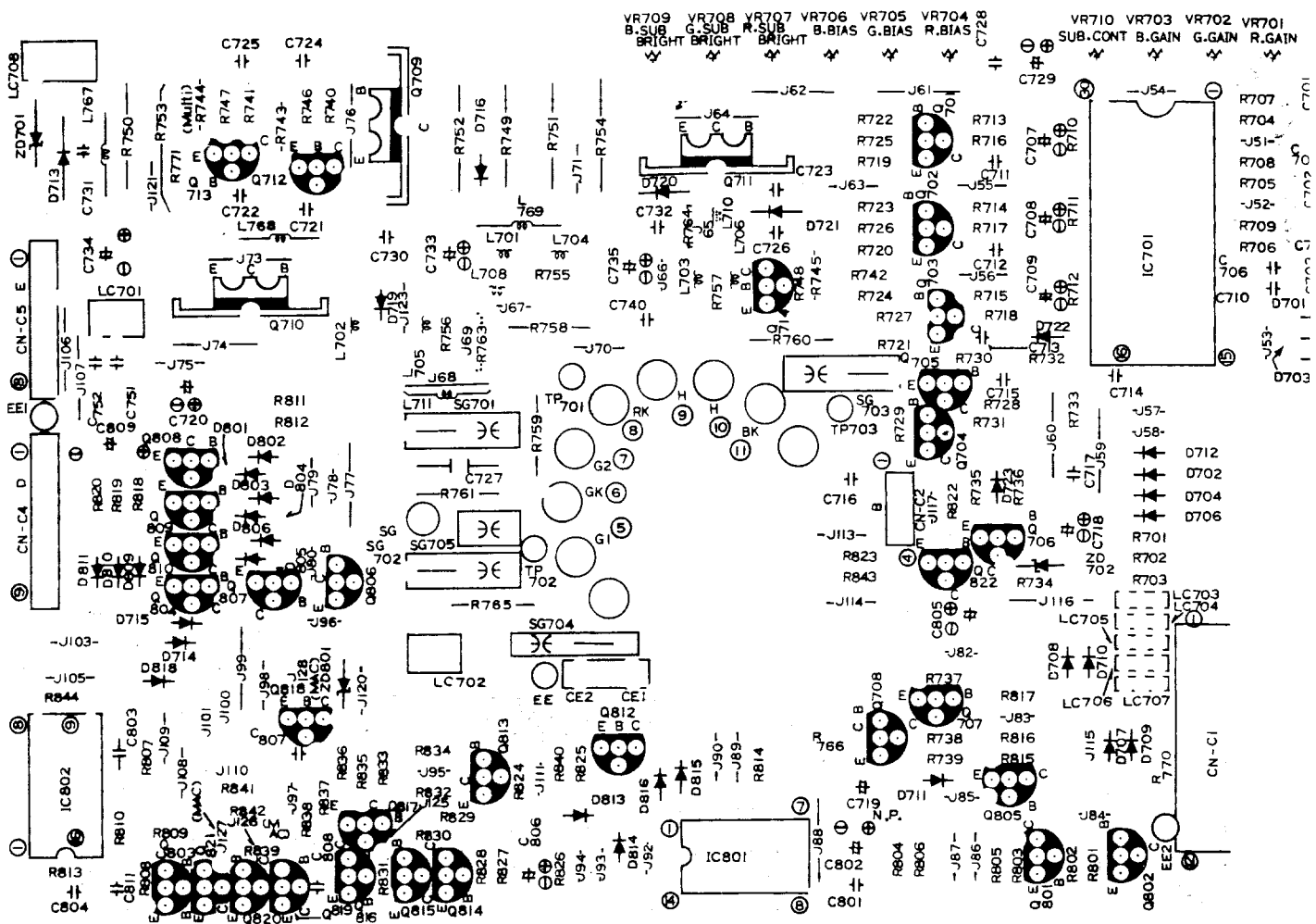
EE	N	(PH)
0.01 μ	0.01 μ	0.027 μ
3100P	3100P	2900P
1.6KV	1.6KV	1.6KV
0.01 μ	0.015 μ	0.015 μ
400V	400V	400V
300P	2300P	2000
1.6KV	1.6KV	1.6KV
0.2W	2.2 2W	4.7 1W
22K	22K	33K

WGA	350
①	7.75V
②	7.75V
③	7.74V
④	5.99V
⑤	5.99V
⑥	5.99V

PWE 242 MAIN PWB



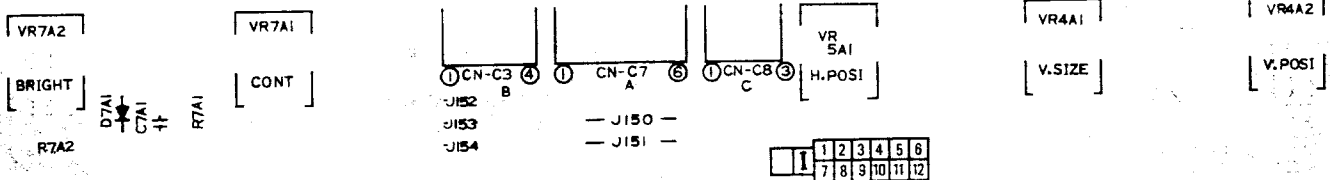
RUN NO.2



CRT PWB ASSY (PWE-243B)

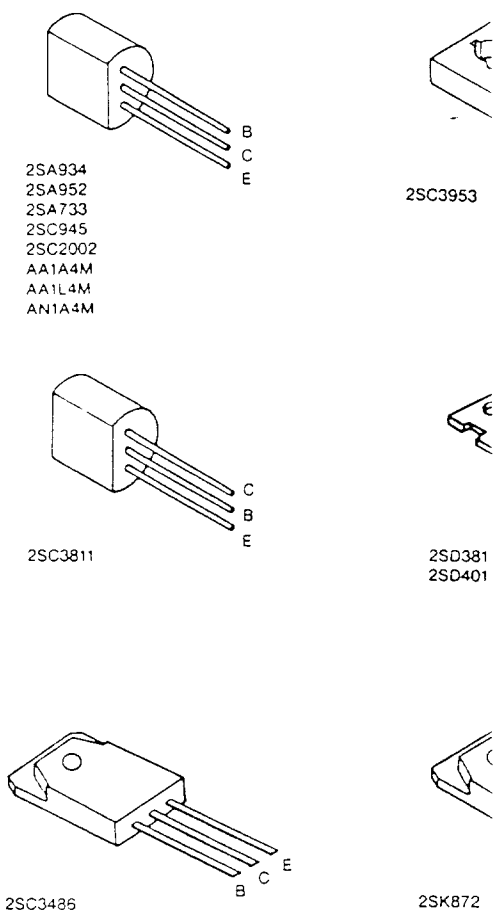
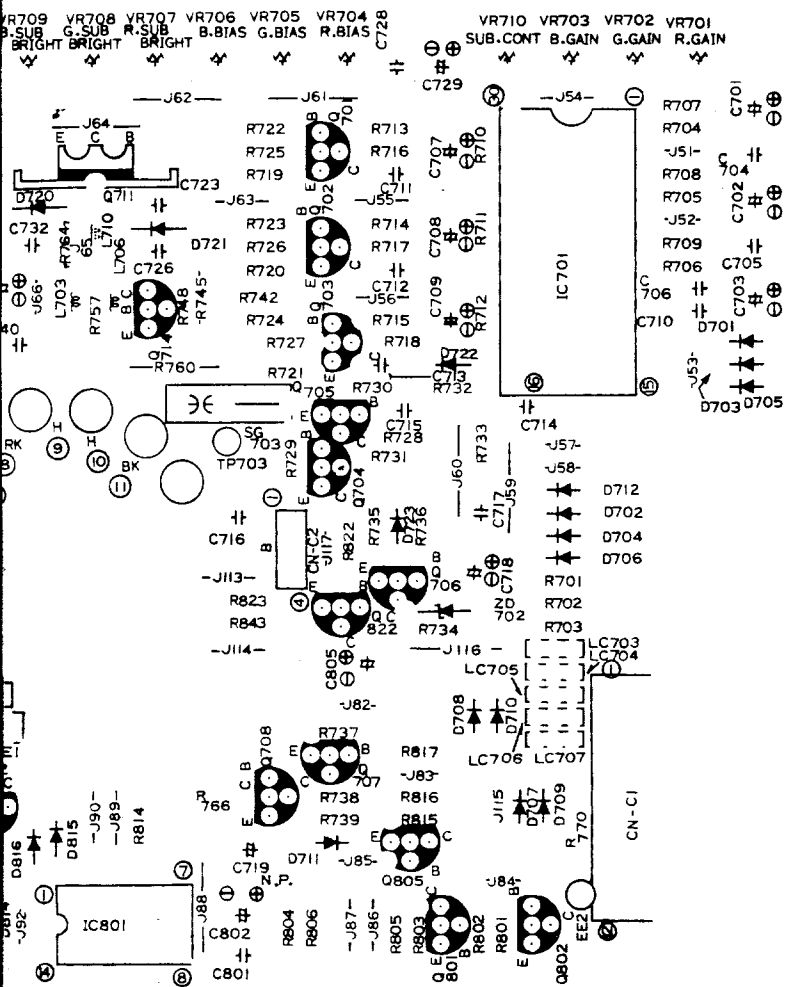
—Solder side—

For Service Manuals
MAURITRON SERVICES
 8 Cherry Tree Road, Chinnor
 Oxfordshire, OX9 4QY.
 Tel (01844) 351694
 Fax (01844) 352554
 email:- mauritron@dial.pipex.com

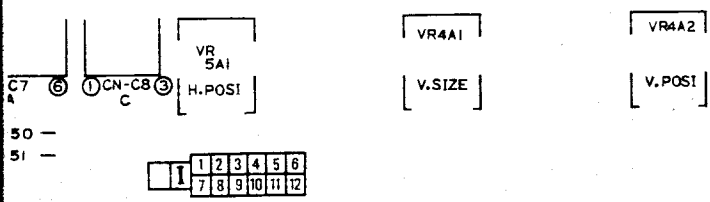


VR PWB ASSY (PWE-243C)

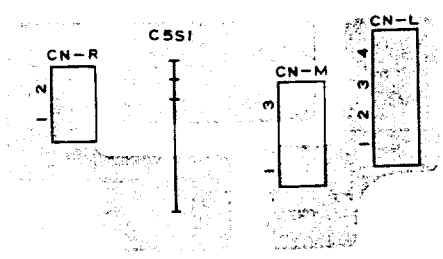
—Solder side—



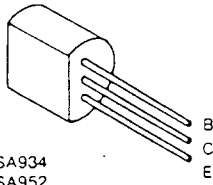
SY (PWE-243B)
 er side—



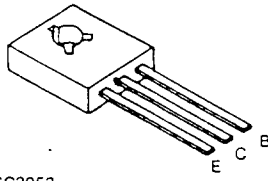
ASSY (PWE-243C)
 Solder side—



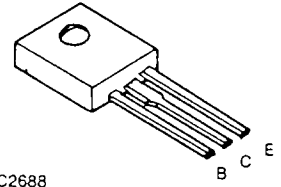
SSI PWB ASSY (PWE-295)
 — Solder side —
 model JC-1403HMN



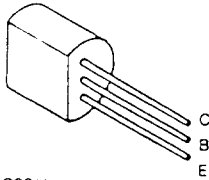
2SA934
2SA952
2SA733
2SC945
2SC2002
AA1A4M
AA1L4M
AN1A4M



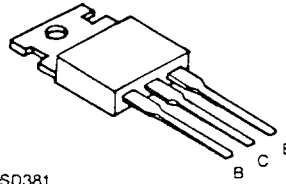
2SC3953



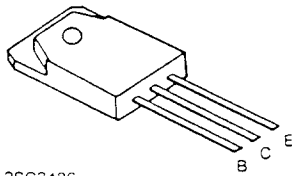
2SC2688



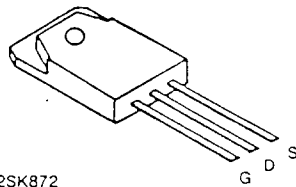
2SC3811



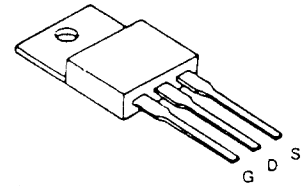
2SD381
2SD401



2SC3486



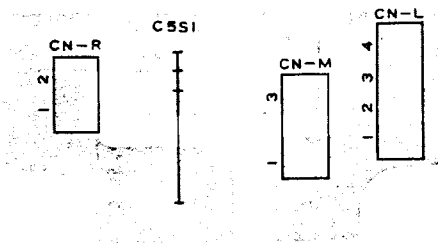
2SK872



2SK762

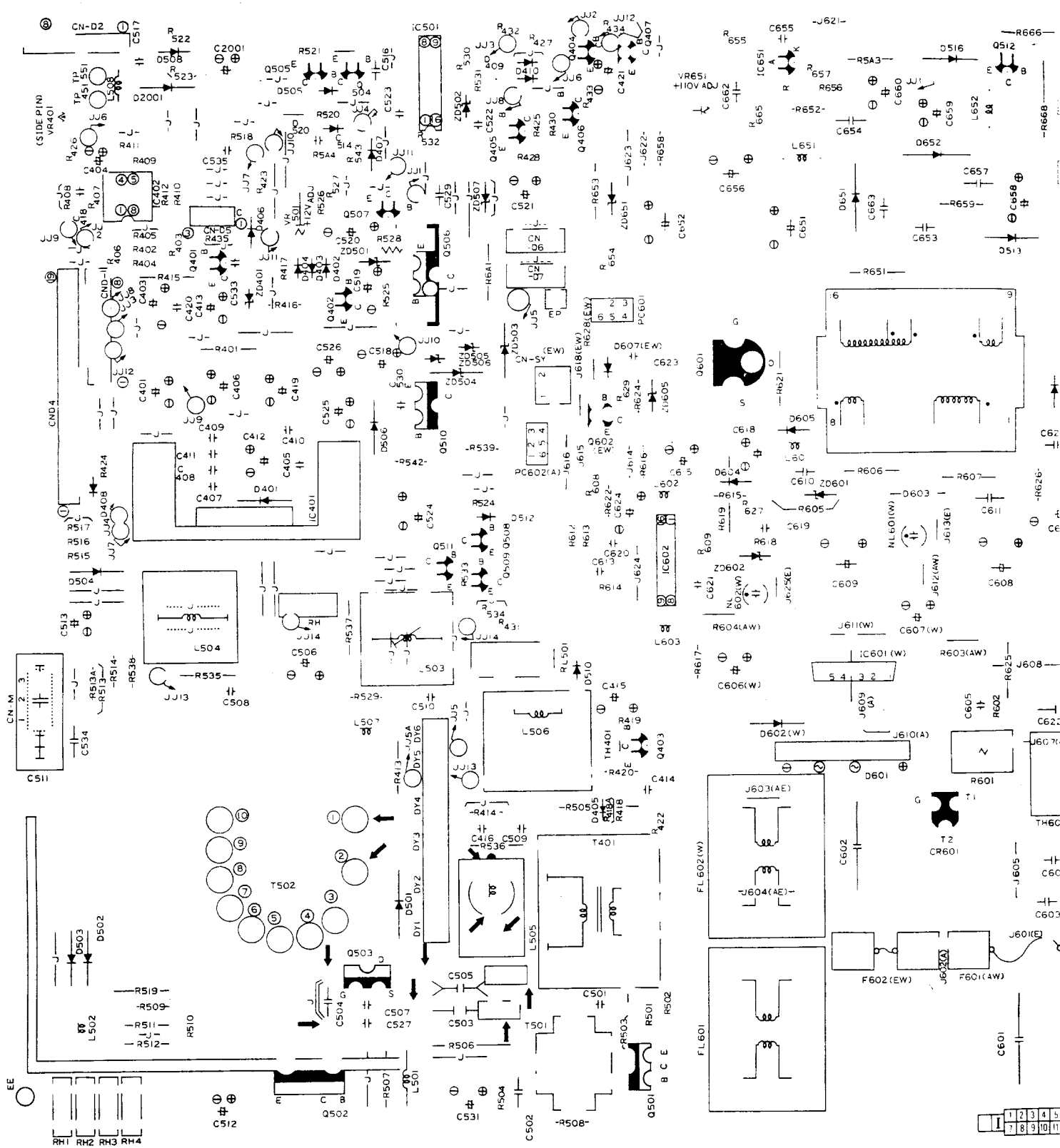
NOTE:

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



SSI PWB ASSY (PWE-295)
— Solder side —
model JC-1403HMN

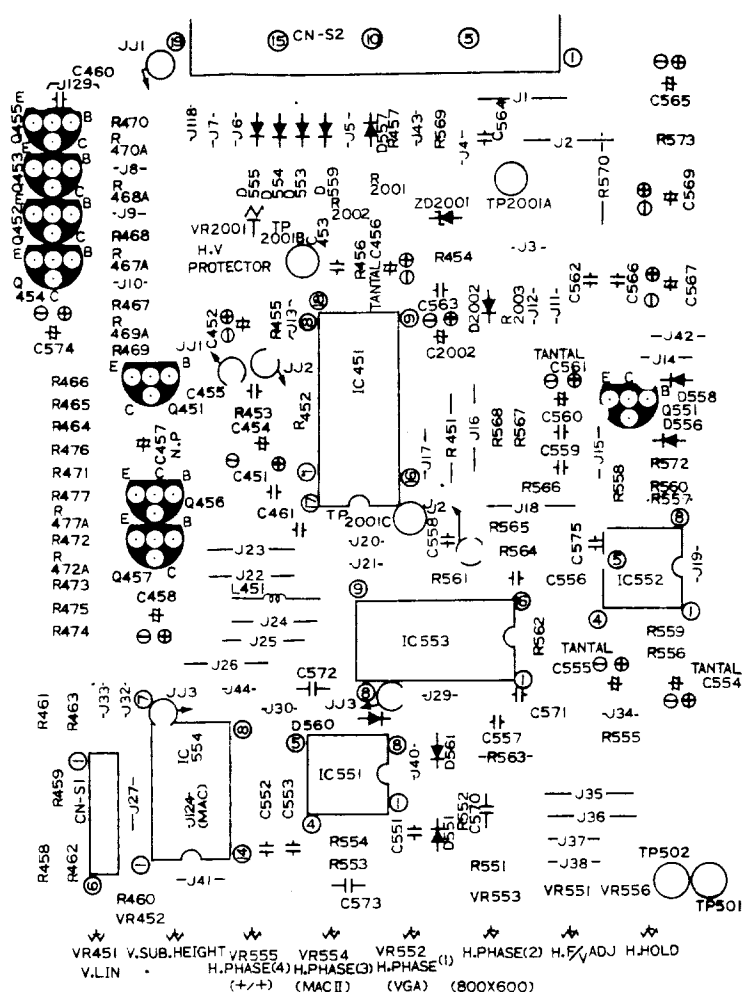
PRINTED WIRING BOARDS



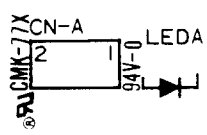
MAIN PWB ASSY (PWE-242)

—Solder side—

DEGAUSSING COIL



SUB PWB ASSY (PWE-243A)
—Solder side—



LED PWB ASSY (PWE-243D)
—Solder side—