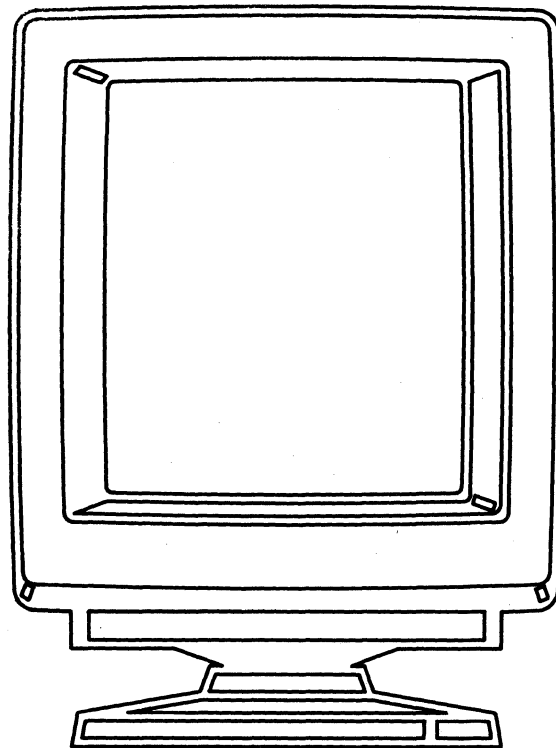
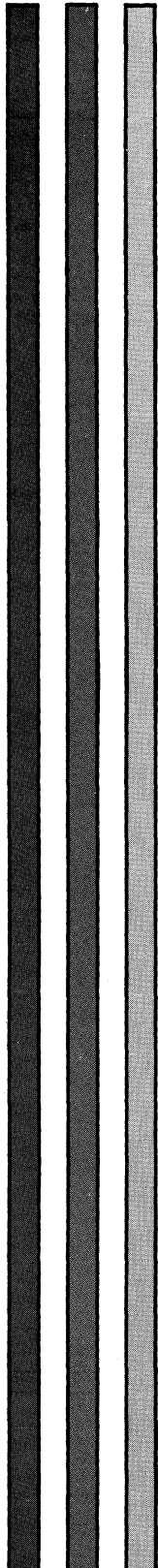


# SERVICE MANUAL

**15" FULL PAGE MONITOR  
MODEL NO: MP5671**



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## ■ IMPORTANT NOTICE FOR SERVICE PERSONNEL BEFORE SERVICING

### PLEASE READ BEFORE ATTEMPTING SERVICE

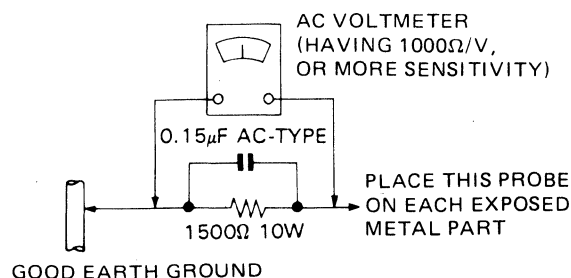
1. Line voltage must be kept within  $\pm 10\%$  of the rated voltage.
2. When operating at line voltage, confirm the DC voltage at GT4 is  $75V \pm 0.5V$  (Adjust VR603).
3. DO NOT DISCHARGE, ARC, OR MEASURE HIGH VOLTAGE WHEN HIGH VOLTAGE LEAD IS CONNECTED TO CRT. DISCHARGE 2ND ANODE OF CRT ONLY AFTER HIGH VOLTAGE LEAD HAS BEEN DISCONNECTED. DO NOT DISCHARGE HIGH VOLTAGE LEAD AT ANY TIME, DAMAGE TO COMPONENTS MAY RESULT.
4. While the monitor is in operation, do not attempt to connect or disconnect any wires.
5. Disconnect all power before attempting any repairs.
6. When the power is on, do not attempt to short any portion of the circuit. This shorting may cause damage to the components of the circuits.

## ■ SAFETY PRECAUTION

**WARNING:** Service should not be attempted by anyone unfamiliar with the necessary precautions on this unit. The following precautions are necessary during servicing.

1. Some parts such as a picture tube in this unit have special safety-related characteristics for X-RAY RADIATION protection. For continued safety, the parts replacement should be undertaken referring to item 2 below.
2. Many electrical and mechanical parts in this unit have special safety-related characteristics for protection against shock hazard, fire hazard and others. These characteristics are often passed unnoticed by a visual inspection and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements by shading on the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully.
3. When replacing a chassis in the cabinet, always be certain that all the protective devices are installed properly, such as insulating covers, barriers, strain relief, etc.
4. Before replacing the back cover of the set, thoroughly inspect inside the cabinet to set that no stray parts or tools have been left inside.
5. Before returning the set to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as terminal, screw-heads, metal overlays, control shafts, etc. to be sure the set is safe to operate without danger of electrical shock. Plug the AC line cord directly into a 120V AC

outlet (do not use a line isolation transformer during this check). Use an AC voltmeter having 5000 ohms per volt or more sensitivity in the following manner. Connect a 1500 ohm, 10 watt resistor, paralleled by a  $0.15\mu F$ , 250V AC capacitor, between a known good earth ground (water pipe, conduct, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of 1500 ohm resistor and  $0.15\mu F$  capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.3 volts RMS. This corresponds to 0.2mA AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



## ■ THEORY OF OPERATION

### 1. POWER SECTION

This design utilizes a discontinuous flyback topology operating in current-mode. This results in a multiple output switcher who's output track well. No output filter chokes are needed and slower diodes can be used. The fast transit response maintains picture integrity. Cycle by cycle current limiting makes the switcher short circuit proof.

Output Voltages:

LOCA NO.: T603

TRANS NO.	OUTPUT VOLTAGE	REMARK
#3	+75V DC	
#4	+50V DC	
#6	+25V DC	
#2	+8V DC	
#12	-8V DC	NC

### 2. MAIN SECTION

#### 1) Horizontal

A phase lock loop is used to synchronize the horizontal switch to the timing pulses from the computer. Storage delay in Q303 2SC3636 (MJH 16006) is compensated by the PLL.

Incoming H-sync level is translated by Q301 then fed into the input of the phase comparator. Transistor Q304 watches the falling edge of the flyback pulse falls to within a few volts of ground a raising edge is sent to the other input of the PLL phase comparator.

The phase comparator is used in an edge look mode. Integrated circuit IC301 MC14046 pin 13 is in a high impedance mode most of the time. If the raising edges fed into pins 3 and 14 do not coincide, pin 13 goes into a low impedance state for the time difference. Depending on which edge leads the other, current will be fed into or pulled out of the filter capacitors C302 and C303.

Voltage controlled oscillator input pin 9 determines the frequency and phase of the output square wave on pin 4. The free running frequency and look range is set by C301, R306, R305 and VR301 and should be preset below the operating rate.

#### 2) Vertical Deflection

The IC201 TDA1670 incorporates all of the necessary functions for providing the yoke of a monitor

or television receiver with the current required for vertical deflection. Incorporated in silicon are a synchronization oscillator, ramp generator, voltage regulator, voltage doubler and power amplifier.

#### 3) Focus Modulation

Each part of a cathode ray tube focuses at a different voltage. The focus voltage at the center may be several hundred volts below the top and bottom with the right and left sides being at a different level. To get the best looking picture over the entire tube, the focus voltage is modulated with both a vertical and horizontal signal. The vertical parabola is fed into a high voltage amplifier Q401. Q401 swings the focus voltage at the vertical rate. Mixed in with this signal is another parabola at the horizontal rate which comes from L401. The focus adjustment VR401 sets the DC focus voltage and bias on Q401.

### 3. H/V REGULATOR SECTION

The patented high voltage regulator sits between the supply and the top of the primary of the flyback transformer. An onboard switching regulator is powered from the 12 volt supply. It watched the second anode voltage through a 300 mega ohm resistor in the flyback transformer. During flyback the regulator pulls the top of the flyback transformer negative some amount at the same time the flyback pulse is raising the other end. In this way the size of the pulse as seen by the flyback transformer can be varied to keep the second anode voltage constant under load.

### 4. VIDEO SECTION

#### 1) Sync Processing

To help understand the complex sync processing please refer to both the schematic and the timing diagrams at the end of this document.

#### 2) Vertical

Vertical sync is detected by a low pass filter and an 'XOR' gate. Pin 2 of P4 contains Vertical sync.

#### 3) Horizontal

Horizontal sync undergoes several stages of processing.

#### 4) Data Centering

The second half of the IC102 (74LS221) is used for data centering. The one shot triggers with the leading edge of sync and time out with the back edge of the flyback pulse. The data centering potentiometer should be set to center the picture within the raster.

## ■ POWER CONFIGURATION

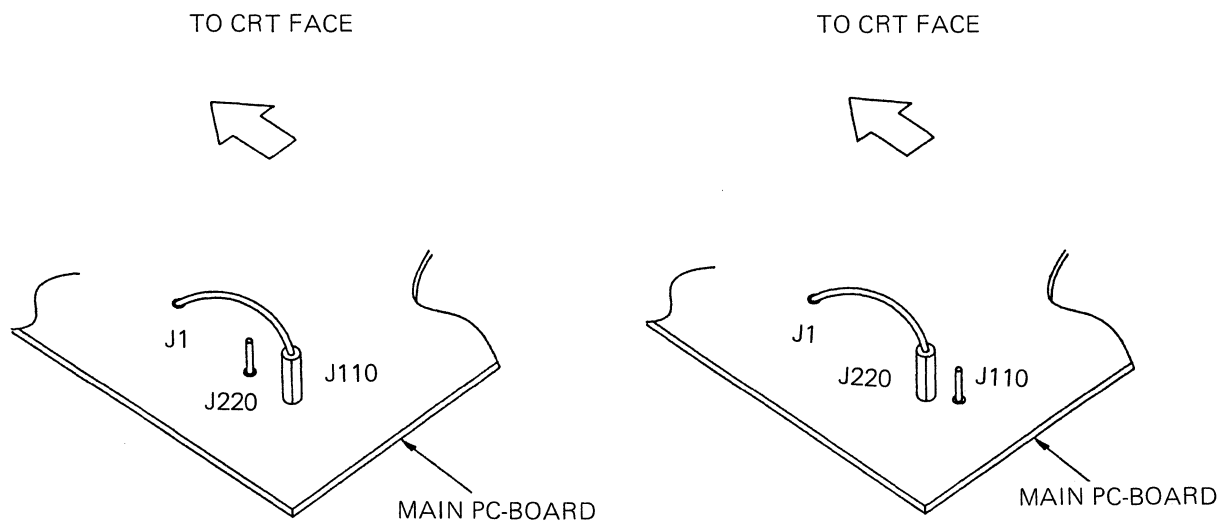
This monitor will operate at 115VAC or 230VAC on the user site power line. Locate the voltage selection jumper(J1) on the main board inside monitor.

If the factory setting of this jumper is not appropriate for the installation site, use the following modify on procedures. This jumper must be properly set before turning on the monitor.

1. Remove the seven screws located on the rear and bottom of the main unit, and lift off the cover and stand.
2. Set the voltage selection jumper(J1) to the proper voltage. Also verify that the rating of the fuse, located in the fuse holder on the PC-BOARD of the monitor. The standard fuse shipped from the factory is a 250V 1.25 Amp slow blow type.

\* The monitor is normally shipped with a U.S. Standard 125VAC power plug. For operation at the 250VAC the following changes are required. (this may already have been done by your dealer or distributor):

### METHOD OF AC POWER INPUT MODE SELECTION



**1. 220/240VAC MODE SELECTION**  
; J1 WIRE CONNECT TO J220.

**2. 120VAC MODE SELECTION**  
; J1 WIRE CONNECT TO J110.

## ■ SPECIFICATIONS

### 1. MONITOR DESCRIPTION

This 15" Full Page Monitor is operated in separate drive mode input and it is compatible with IBM PC-AT, XT with full page Video Card.

### 2. ENVIRONMENTAL CHARACTERISTICS

#### 1) Operating Condition

Temperature : 0°C ~ 50°C  
 Humidity : 5% ~ 95% (non-condensing)  
 Altitude : Up to 3,000 meter

#### 2) Storage Condition

Temperature : -40°C ~ 60°C  
 Humidity : 5% ~ 95%  
 Altitude : Up to 12,000 meter

#### 3) Drop

Height : 640cm  
 Method : 6 Surface, 3 Side, 1 Angle

#### 4) Vibration

Amplitude : 3mm  
 Vibration : 10 ~ 20Hz  
 Sweep : 1 Minute

### 3. MECHANICAL DESCRIPTION

#### 1) Dimension

Height : 420mm  
 Width : 322mm  
 Depth : 348mm  
 Weight : 13Kg Max

#### 2) Tilt : Max 0.5°

#### 3) Picture Tube: CE899M15P40/C188GHZMF (Clinton, Taiwan)

Size : 15 Inch  
 Deflection Angle: 110°  
 Phosphor : P40/C188

### 4. ELECTRICAL CHARACTERISTICS

#### 1) AC Power Input

Power Supply : 120V AC, 60Hz  
 220/240V AC, 50/60Hz  
 (Selected in 220/240VAC  
 by inter-jumper)  
 Power Consumption : 50W max

#### 2) Signal Input

##### Horizontal Sync

○ Polarity : Negative  
 ○ Signal Level : TTL  
 ○ Frequency : 62.75KHz

##### Vertical Sync

○ Polarity : Negative  
 ○ Signal Level : TTL  
 ○ Frequency : 59.88Hz

##### Video Signal

○ Polarity : Negative  
 ○ Signal Level : TTL  
 ○ Band Width : 70MHz at 3dB

#### 3) High Voltage

Anode Voltage : 17.0KV ± 0.5KV

#### 4) Display Area

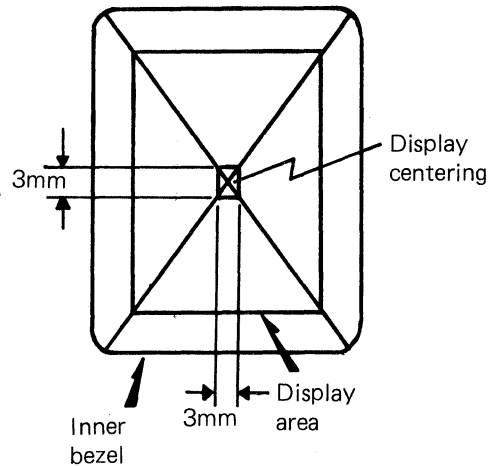
Horizontal : 264 ± 3mm  
 Vertical : 197 ± 3mm

#### 5) Resolution

Horizontal : 1,006 Dots  
 Vertical : 1,048 Lines

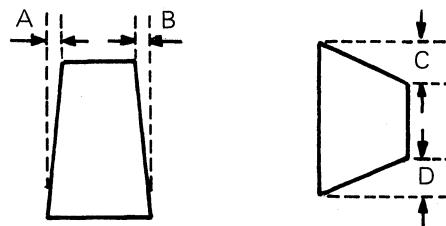
#### 6) Display Centering

Vertical : The valid video area data zone shall be centered within 3mm.  
 Horizontal : The valid video area data zone shall be centered within 3mm.



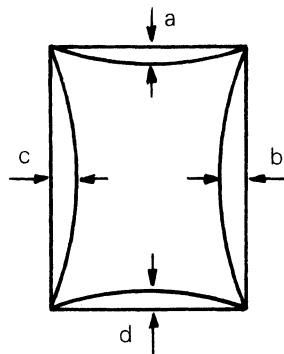
#### 7) Geometric Distortion

##### (1) Trapezoid



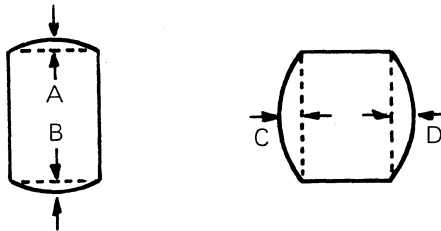
A, B, C, D: less than 3.0mm

(2) Pincushion



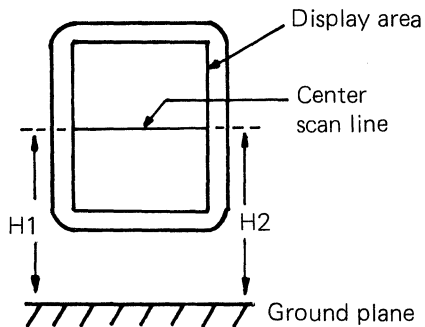
a,b,c,d: less than 3.0mm

(3) Barrel



A, B, C, D: less than 3.0mm

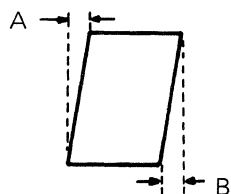
(4) Rotation



H1, H2: less than 0.5°

(5) Parallelogram

The edge of the image is within the area indicated by the dotted line below.

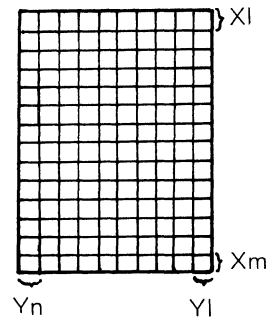


A, B: less than 4.0mm

8) Linearity

Horizontal and Vertical linearity shall be less than 6%.

See Figure



$$\text{Horizontal Linearity: } \frac{X_{\max} - X_{\min}}{X_{\text{mean}}} \times 0.5 \times 100 (\%) < 6\%$$

$$\text{Vertical Linearity: } \frac{Y_{\max} - Y_{\min}}{Y_{\text{mean}}} \times 0.5 \times 100 (\%) < 6\%$$

9) Light Output

Min Luminance : 0 F/L

Max Luminance : Over 45 F/L, back raster should be cut off.

Condition : After 30 Minutes Warm up Full White Pattern

10) Screen Attribute

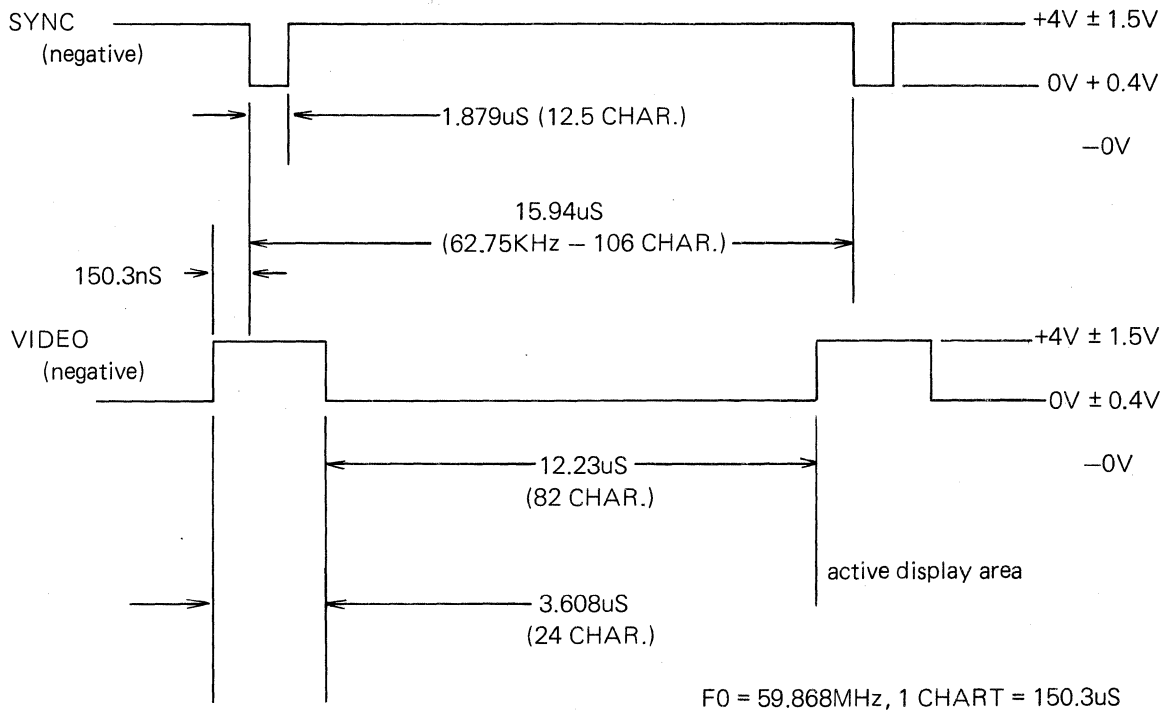
Input Level		Output Level	Screen Attribute
V0	V1		
1	1	0	Black (0%)
1	0	1	Dark Gray (33% ± 12%)
0	1	2	Light Gray (67% ± 12%)
0	0	3	White (100%)

11) Raster Size Regulation

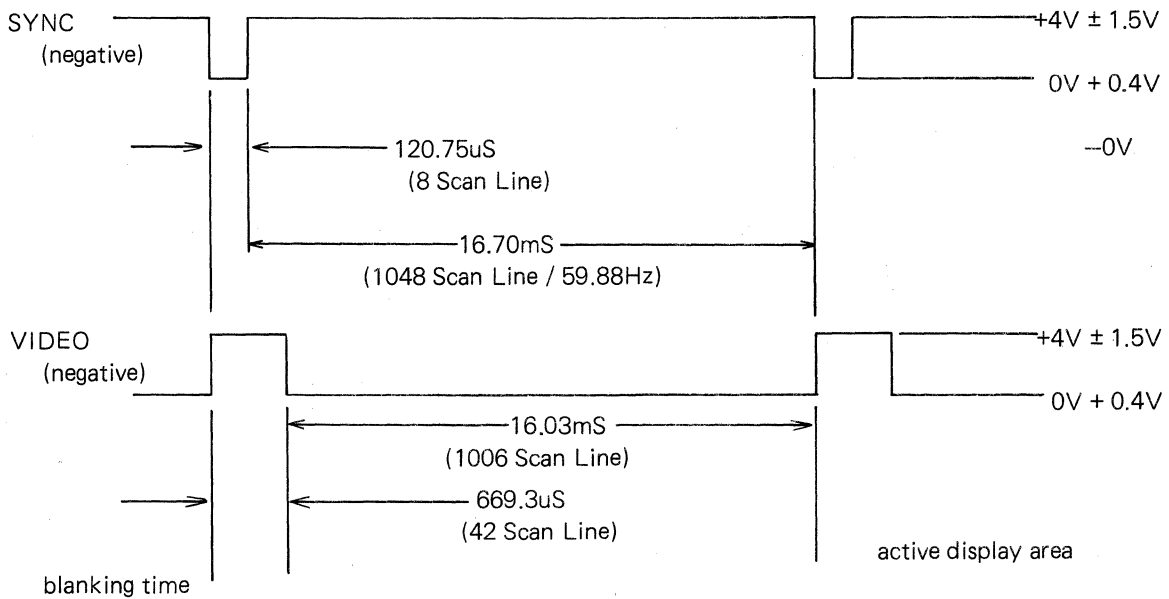
Raster Size shall change less than 0.5% with a CRT luminance from max to min.

12) Signal Timing Chart

(1) Horizontal Sync Timing



(2) Vertical Sync Timing





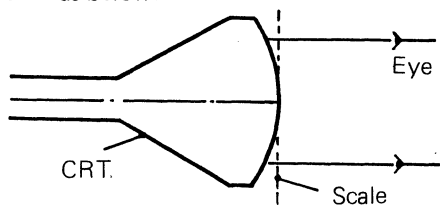
## ■ ADJUSTMENT METHOD

### 1. CONDITION OF ADJUSTMENT PROCEDURE

- 1) Input Source : 120VAC, 60Hz  
220VAC/240VAC, 50Hz  
(Selected in 220VAC/240VAC  
by inter-jumper J1 from J110V  
to J220V)
- 2) Warm up Time : More than 30 minutes
- 3) Contrast : Max
- 4) Brightness : 25 F/L
- 5) Pattern : Unless otherwise specified,  
Cross-Hatch Pattern.

### 2. CAUTION

- 1) Unless otherwise specified, adjustment and check should be made under the standard condition.
- 2) To be sure image width, height and distortion, proceed as below:



\* Measure level with respect to tube axis.

- 3) Unless otherwise specified, make DC voltage measurement, using a digital voltmeter.
- 4) Hold the CRT surface illumination to 25 F/L at the time of adjusting the brightness and also confirm them.

### 3. ADJUSTMENT ITEM

#### 1) Power Supply Adjustment

- ① Condition: Without Signal
- ② First adjust the power supply unit before adjusting all controls. Also connect the power supply unit to the display unit and turn the unit on.
- ③ Turn VR603 (L/V ADJ) to adjust the voltage across the GT4 and the ground to 75V  $\pm$  0.5V.

#### 2) H-HOLD Adjustment

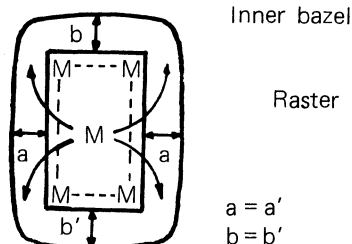
- ① Condition: Without Signal
- ② Turn VR301 (H-HOLD VR) to adjust the frequency across the H-DY wire (blue) and ground (chassis bracket) to 60  $\pm$  0.5KHz.

#### 3) V-HOLD Adjustment

- ① Condition: Without Signal
- ② Turn VR201 (V-HOLD VR) to adjust the frequency across the V-DY wire (yellow) and ground (chassis bracket) to 54  $\pm$  2Hz.

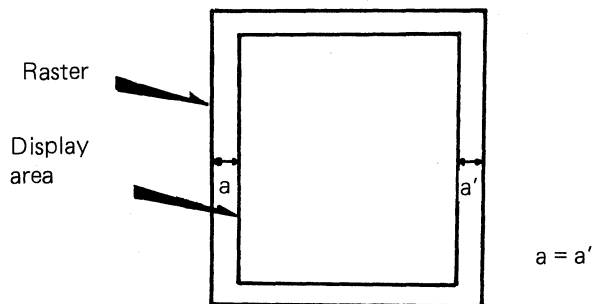
#### 4) Raster-Centering Adjustment

- ① Condition: Without Signal
- ② Locate VR402 (SUB-BRIT. VR) and EXT-BRIT. VR to max position.
- ③ Turn Centering-Magnet Until raster comes to the center of the screen.



#### 5) H-PHASE Adjustment

- ① Condition: Cross-Hatch Pattern
- ② Locate VR402 (SUB-BRIT. VR) EXT-BRIT. VR and EXT-CONT. VR to max Position.
- ③ Adjust display area to horizontal center of raster using VR101 (H-PHASE VR).



#### 6) Tilt Adjustment

Loosen the deflection yoke clamp, and turn in the arrow directions to adjust the tilt within 0.5°.

#### 7) Geometric Distortion Adjustment

Adjust each correcting magnet to set rightly until the square line of the Cross-Hatch pattern becomes to be linear. (to come within Over-Lay Jig).

#### 8) High Voltage Adjustment

- ① Condition: with Signal
- ② Locate EXT-BRIT. VR and EXT-CONT. VR to max position.
- ③ Connect H/V meter probe (-) terminal to ground (chassis bracket) and (+) terminal to anode cap of CRT.
- ④ Turn VR302 (H/V-ADJ VR) to adjust 17  $\pm$  0.5KV.

### 9) H-Linearity, V-Linearity Adjustment

- ① Condition: Cross-Hatch Pattern,  $25 \pm 2$  F/L.
- ② Adjust L301 (H-LIN COIL) to make same Character Size of Horizontal Axis.
- ③ Adjust VR201 (V-LIN VR) to make same Character Size of Vertical Axis.

### 10) H-Size, V-Size Adjustment

- ① Condition: Cross-Hatch Pattern,  $25 \pm 2$  F/L.
- ② Adjust L302 (H-WIDTH COIL) to come within Over-Lay Jig.
- ③ Adjust VR202 (H-Size VR) to come within Over-Lay Jig.

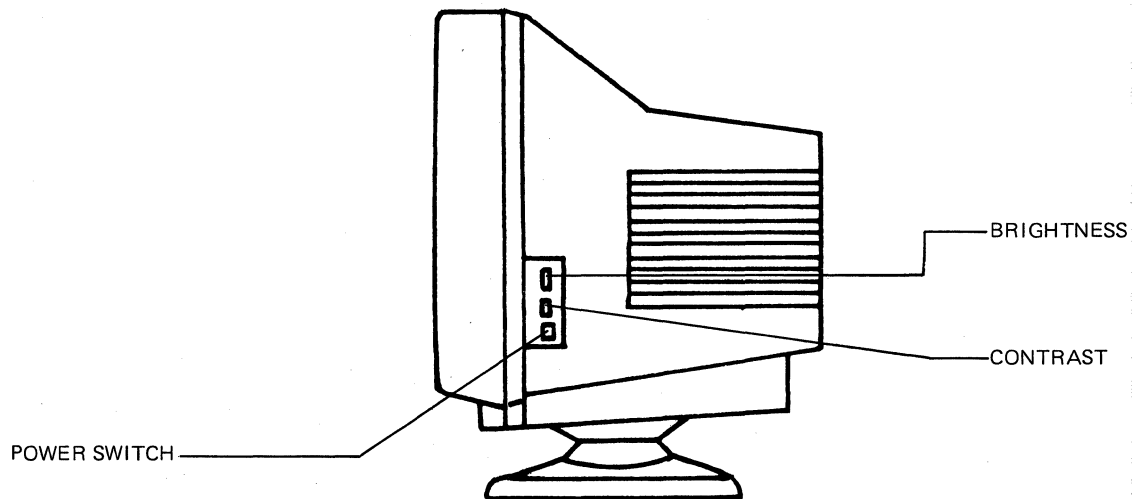
### 11) Sub-Brightness Adjustment

- ① Condition: Full White Pattern
- ② Turn VR402 (SUB-BRIT VR) to Adjust Max Over 45 F/L  
Min Under 0 F/L

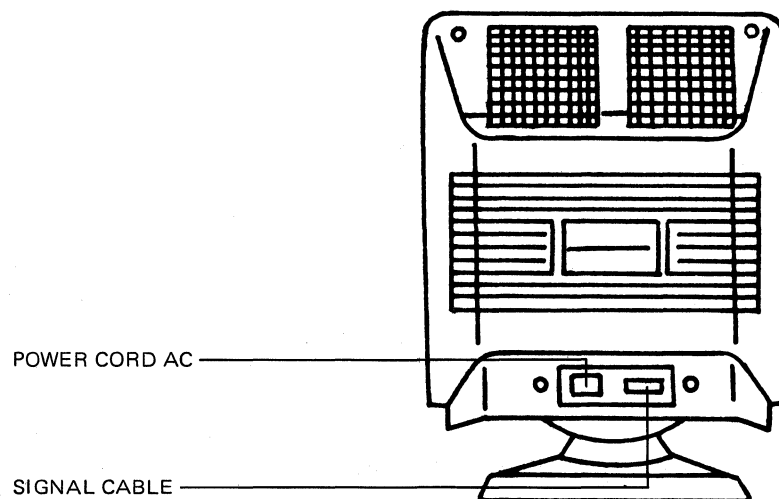
### 12) Focus Adjustment

- ① Condition: Full "@" Character at 35 F/L.
- ② Adjust VR401 (FOCUS VR) to Set Best Condition.

## ■ MAJOR OPERATING COMPONENTS

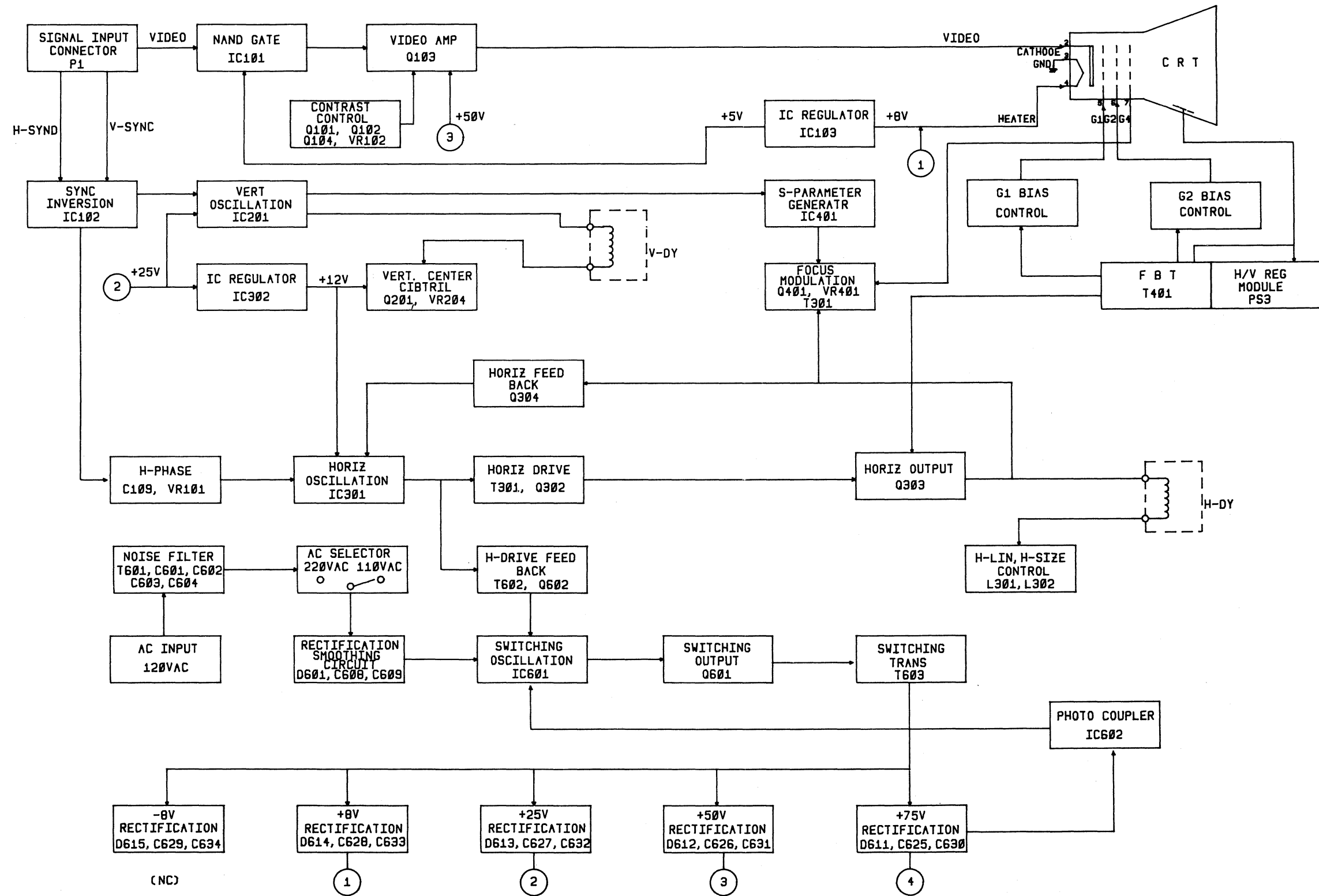


- 1. POWER SWITCH** : Press the power switch to turn on.
- 2. CONTRAST CONTROL** : Turning this control clockwise increases the display contrast.
- 3. BRIGHTNESS CONTROL** : Turning this control clockwise increases the overall brightness.

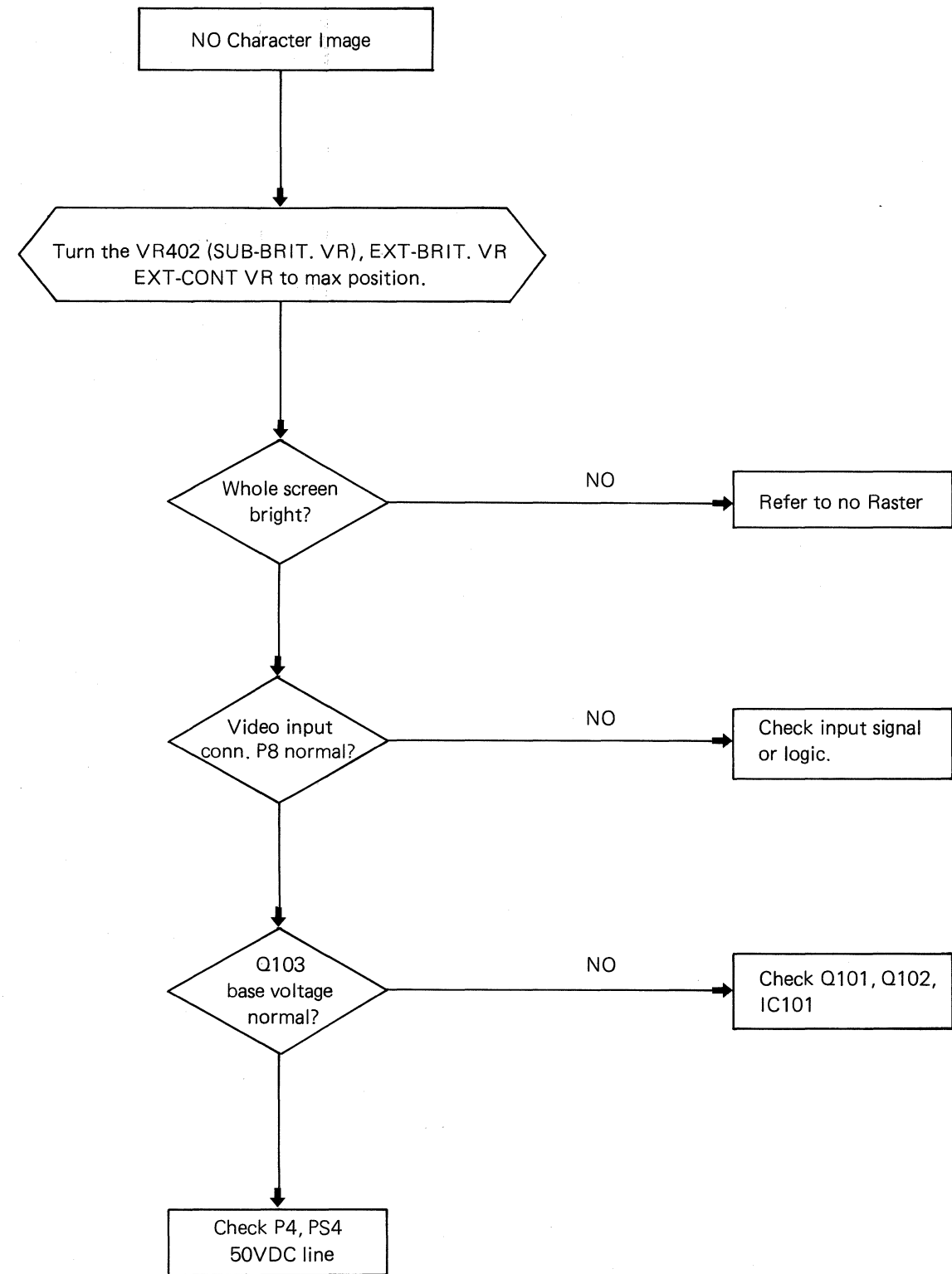


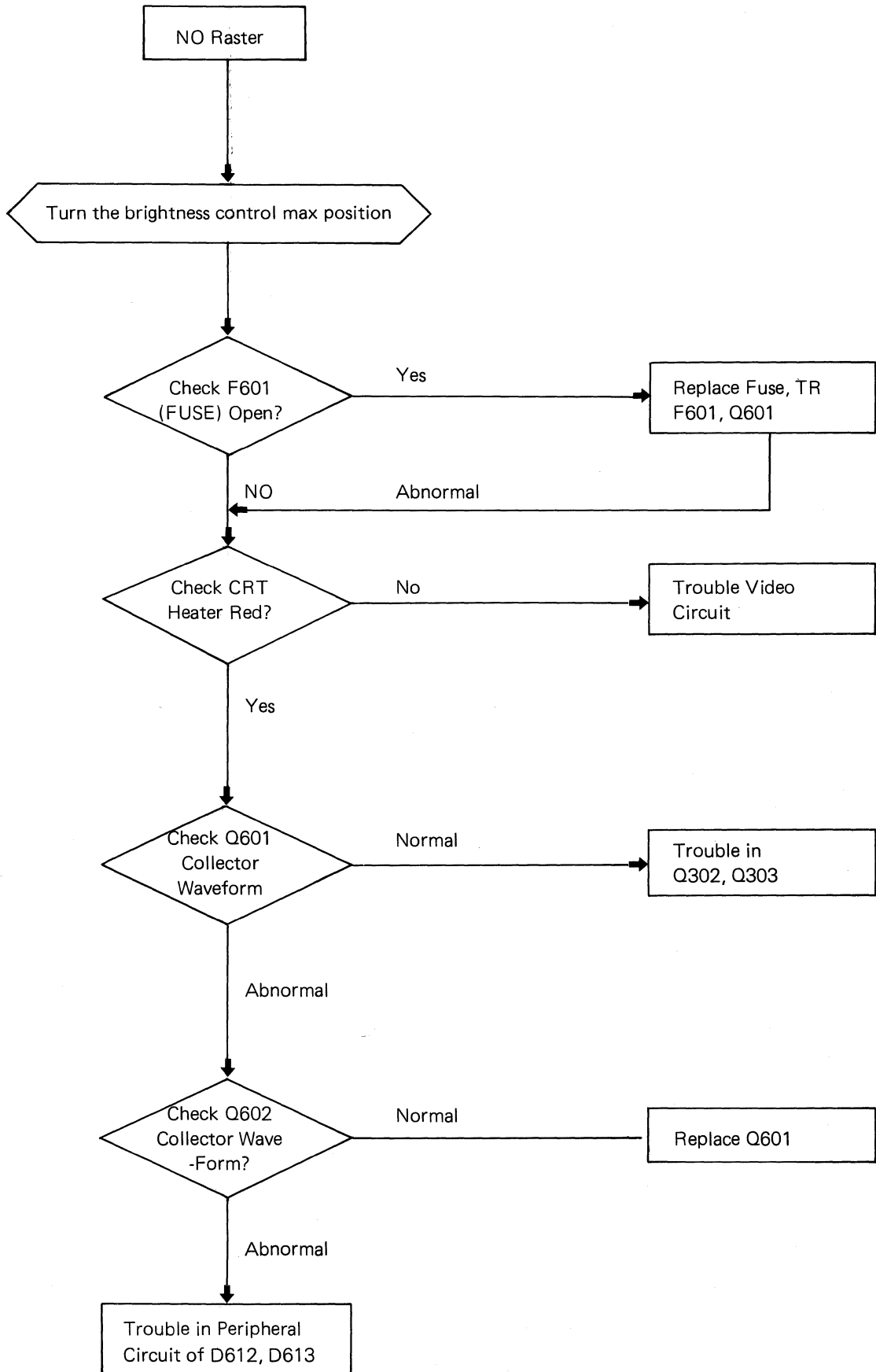
- 4. SIGNAL CABLE** : Connect at the terminal of CPU.

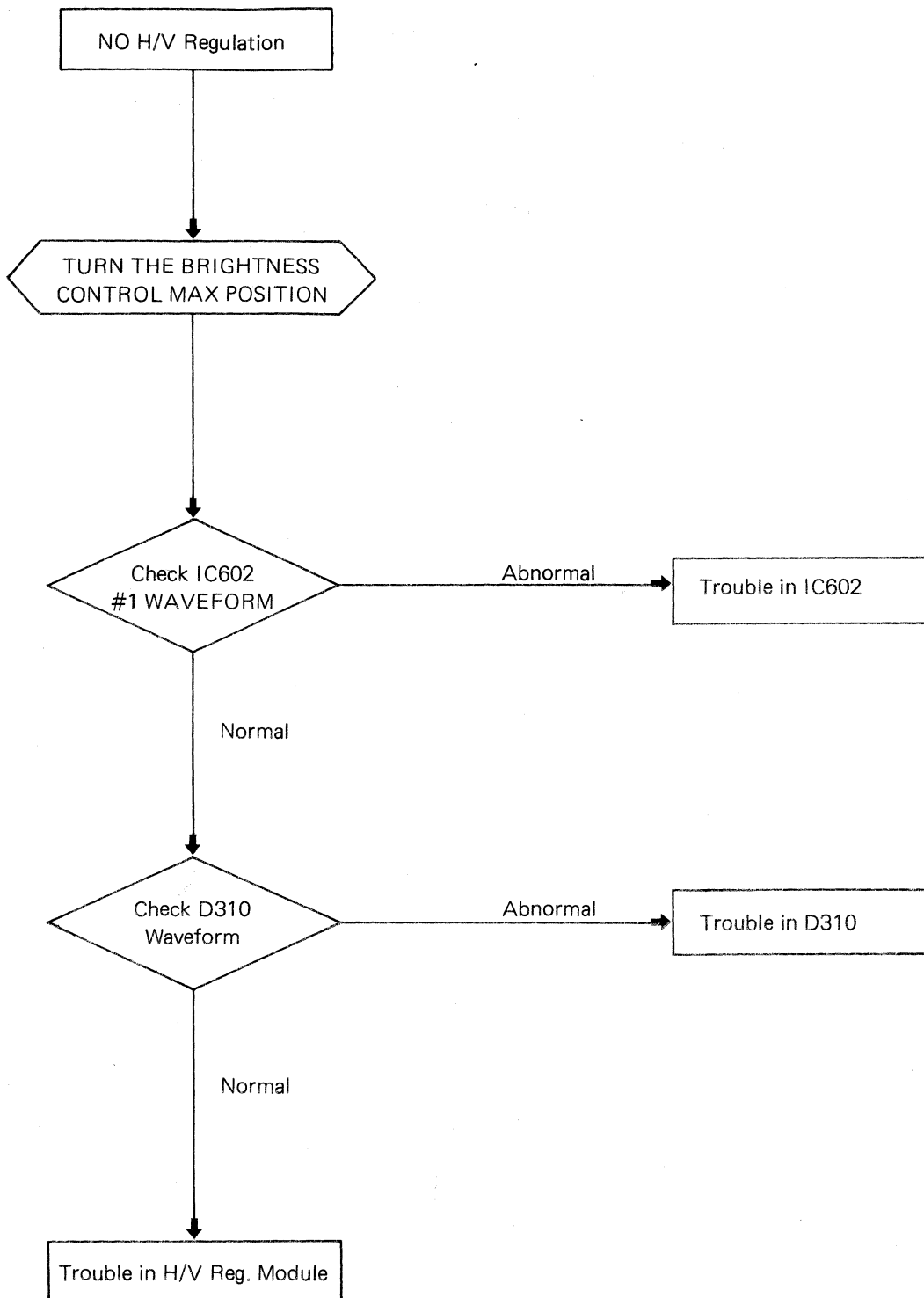
**BLOCK DIAGRAM**  
MODEL NO: MP5671

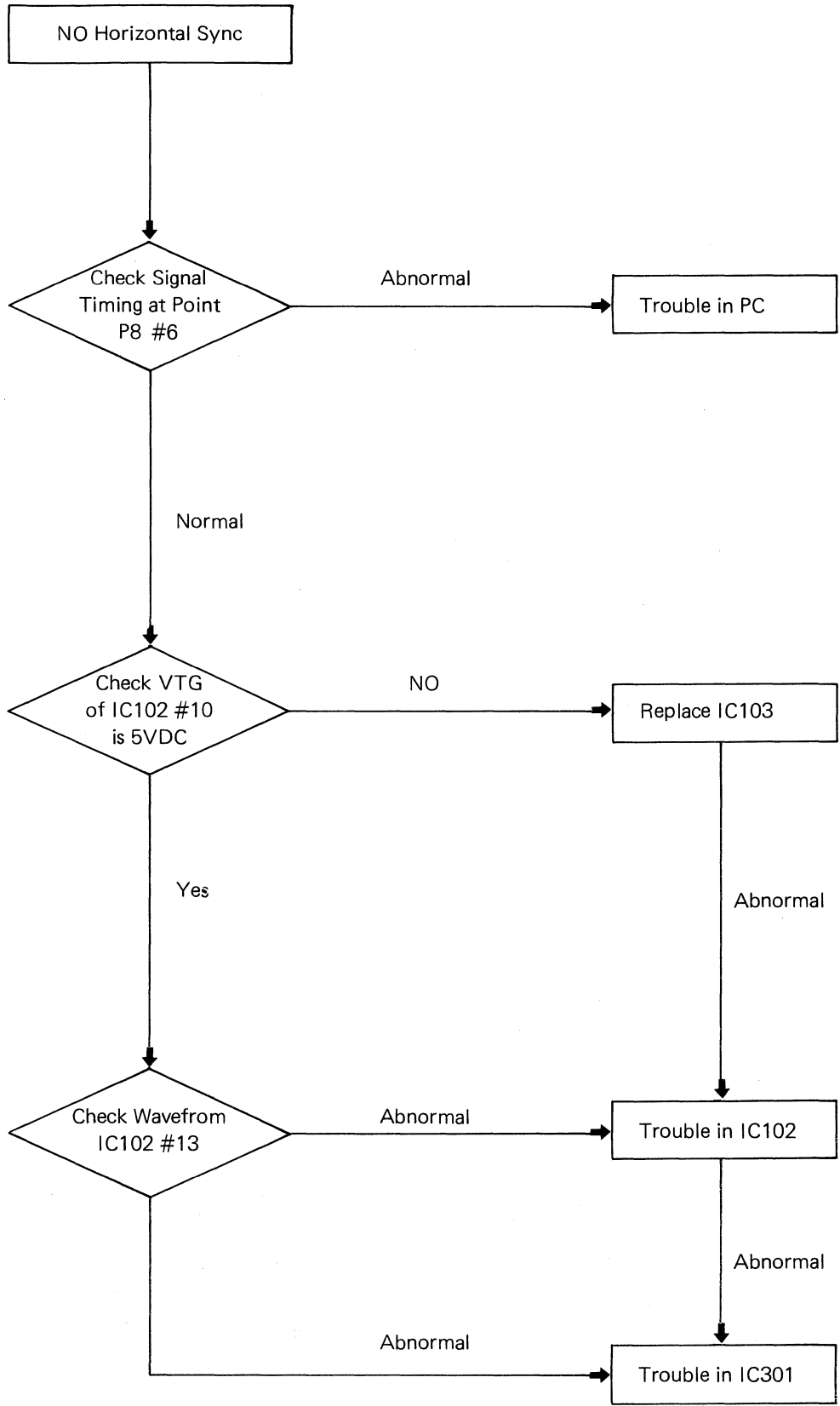


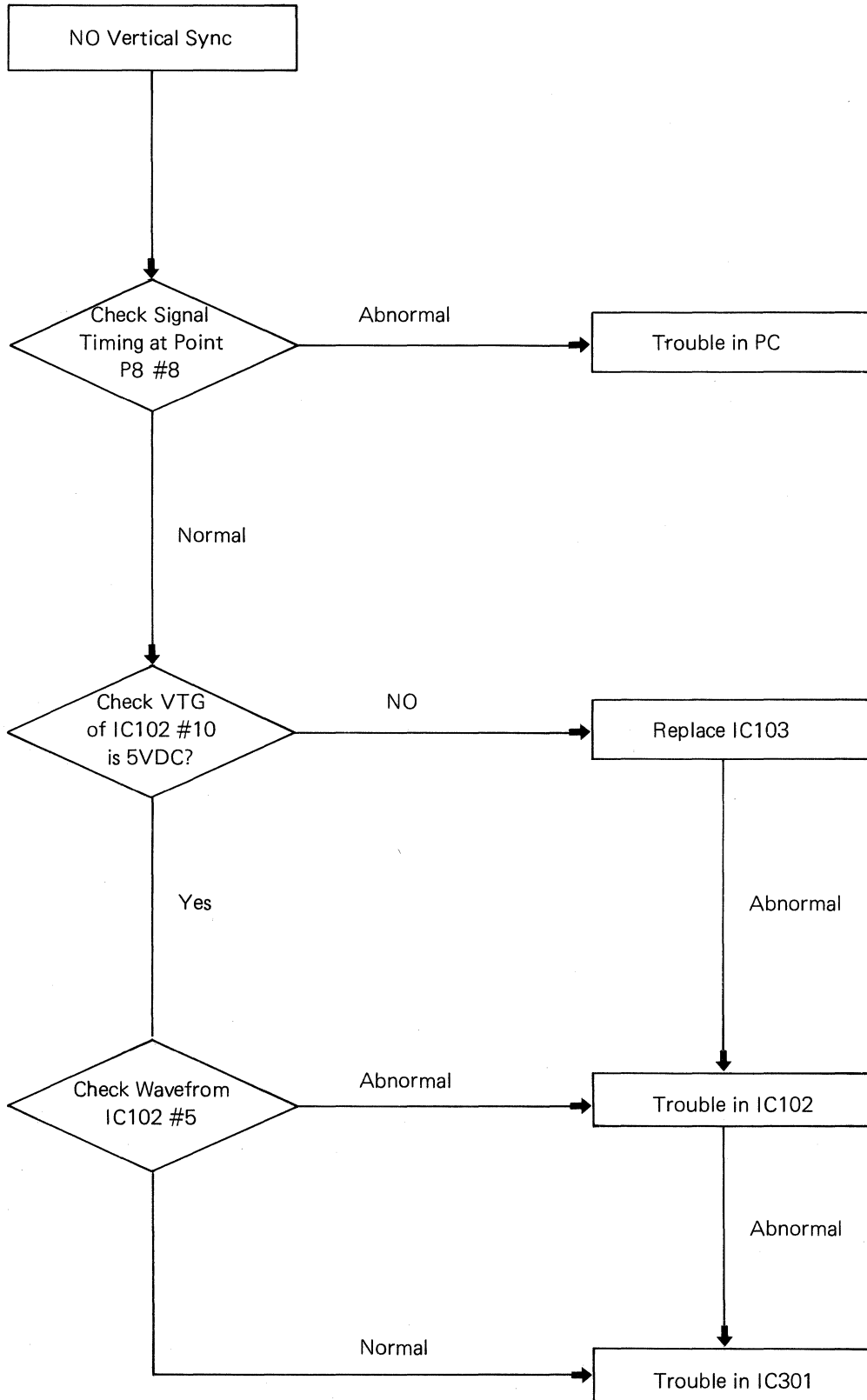
■ TROUBLE SHOOTING



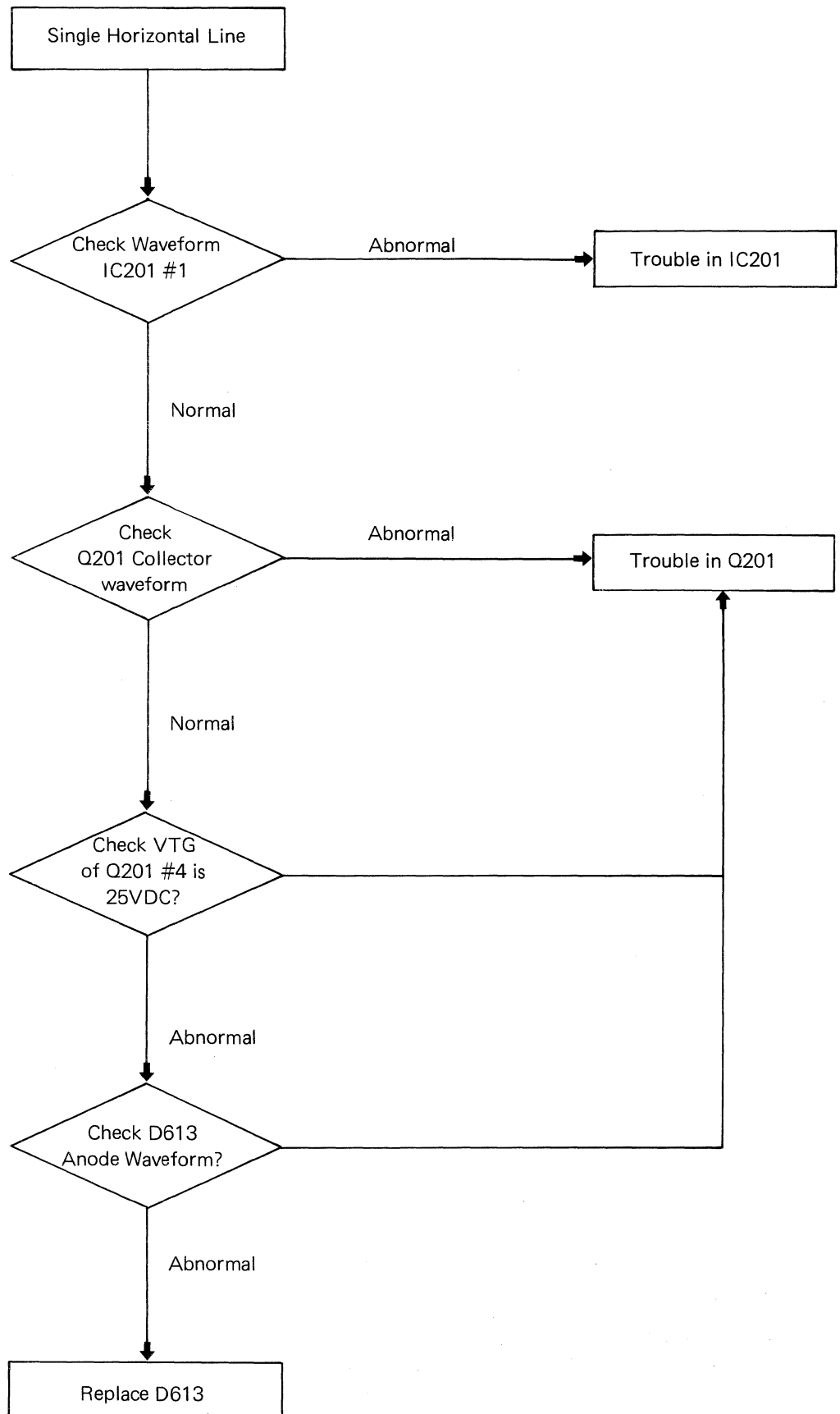












## ■ CIRCUIT DIAGRAM DISPLAY SYMBOLS

### 1. RESISTOR

Resistance value

When no unit is provided: [ $\Omega$ ]

K : [ $k\Omega$ ]

M : [ $M\Omega$ ]

Rated permissible power capacity

When no display is made: 1/4 [W]

Others: Display are provided

Resistor type

Under than 1/2[W]: Carbon resistor

Over than 1[W] : Oxidized metal film resistor

Withstand voltage

No display:

1) Polyester : DC 100 [V]

2) E.T.C. : DC 50 [V]

Others : DC withstand voltage [V]

AC display : AC withstand voltage [V]

Capacitor type

No type display : Ceramic and electrolytic capacitor

P : Polyester capacitor

MP : Metallized polyester capacitor

PS : Polystyrene capacitor

### 2. CAPACITOR

Capacitance

When no unit is provided:

Others: Display are provided

## ■ RMS MEASUREMENT RESULTS OF THE IC'S

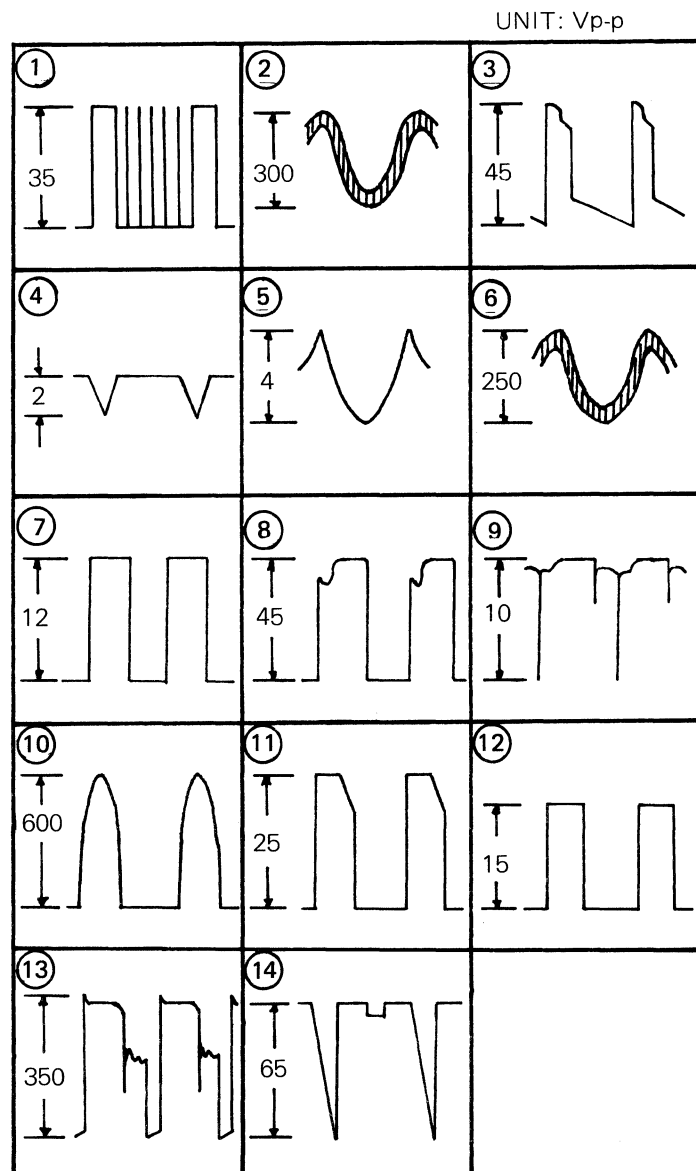
Measured with high impedance V.T.V.M. or circuit tester under line voltage 120V AC. Voltage reading may vary  $\pm 10\%$ .  
Video signal is a white pattern.

ICS PIN NO.	IC101 74F08	IC102 74LS221	IC201 TDA1670	IC301 MC14046	IC601 UC3842	IC602 TIL113
1	1.5	2.7	12.0	12.0	2.5	75.0
2	1.5	5.0	25.0	0.1	2.5	74.0
3	1.5	5.0	3.0	10.0	0	0
4	4.0	3.5	0.5	6.0	2.0	0
5	4.0	0.2	0	0	0	2.4
6	4.7	4.7	0.1	1.3	2.7	0
7	0	0.5	7.0	1.3	16.0	*
8	4.7	0	0	0	5.0	*
9	4.0	3.3	5.0	3.3	*	*
10	4.0	5.0	5.5	3.3	*	*
11	1.5	5.0	4.5	1.5	*	*
12	1.5	4.5	4.0	10.0	*	*
13	1.5	0.7	0	3.3	*	*
14	5.0	4.5	25.0	9.5	*	*
15	*	0.6	1.0	2.0	*	*
16	*	5.0	*	12.0	*	*

■ WAVEFORMS

WAVEFORM MEASUREMENT CONDITIONS

1. The voltage level and waveform at each point are given below on 120V/AC power when this set is connected to a personal computer with a video signal input at a white pattern with contrast max.
2. Indicates the waveform check points. (In the chart, waveforms are measured from the point indicated to chassis ground.)



**SCHEMATIC DIAGRAM**  
**MODEL NO: MP5671**  
**CHASSIS NO: LCA**

**WARNING :** BEFORE SERVICING THIS CHASSIS READ THE "X-RAY RADIATION PRECAUTION" SAFETY PRECAUTION AND "PRODUCT SAFETY" NOTICE IN MANUAL

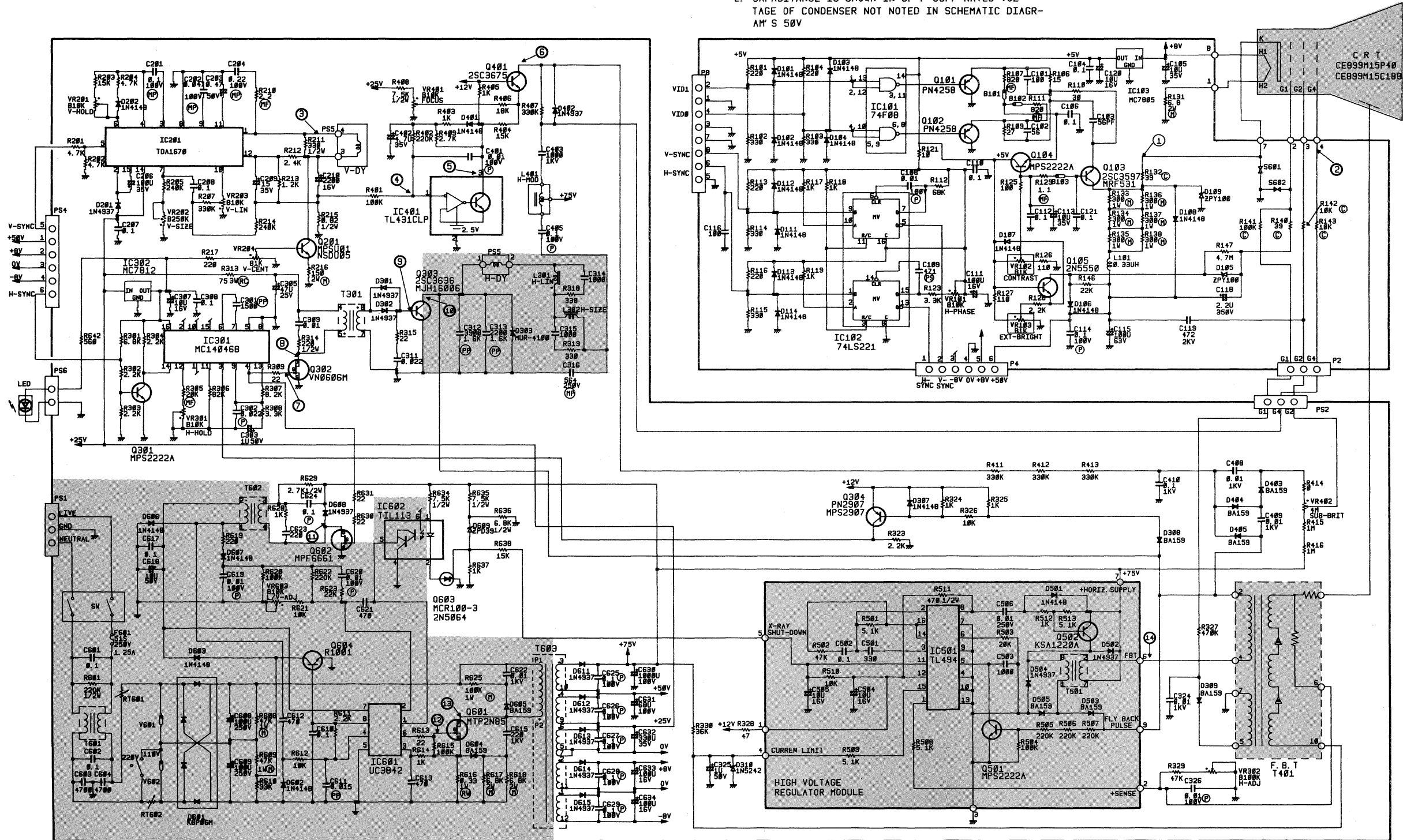
**WARNING :** THIS EQUIPMENT CONTAINS SAFETY CRITICAL COMPONENTS ALL PARTS SHOWN IN THE SHADED AREAS OF THE SCHEMATIC ARE SAFETY REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURERS RECOMMENDED PARTS LIST FOR EXACT REPLACEMENTS.

**CAUTION** "THE SHADED AREA AND  $\Delta$  MARKS IN THE SCHEMATIC DIAGRAM AND PARTS LIST COMPONENTS WHICH HAVE SPECIAL CHARACTERISTICS IMPORTANT IN THE ORIGINAL CIRCUIT OR SPECIFIED IN THE PARTS LIST. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE. DO NOT DEGRADE IN THE SAFETY OF THE EQUIPMENT THROUGH IMPROPER SERVICING.

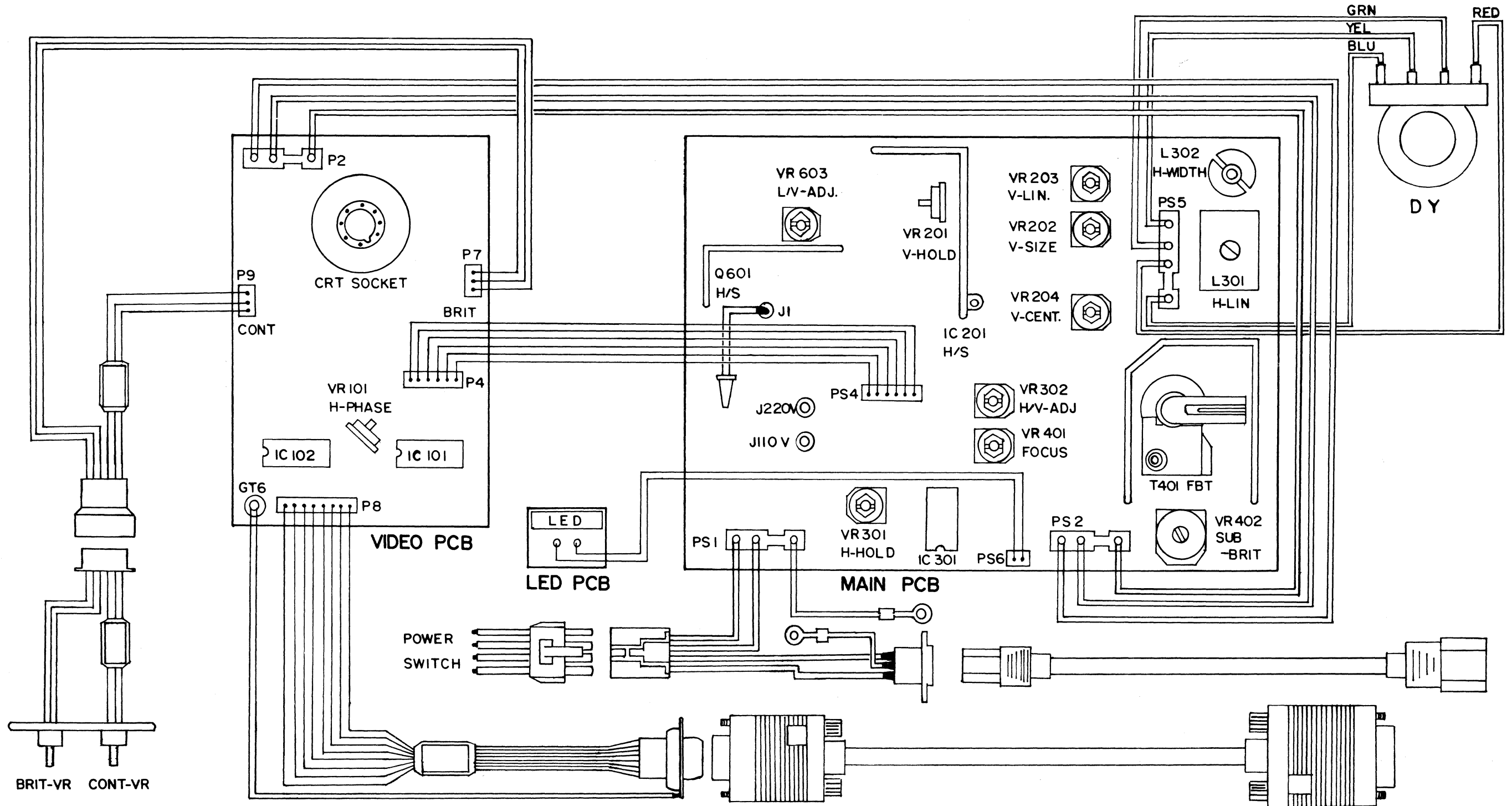
**NOTE**

1. RESISTANCE IS SHOWN IN OHM K=1,000 M=1,000,000. RATED POWER OF RESISTOR NOT NOTED IN SCHEMATIC DIAGRAMS 1/4W
2. CAPACITANCE IS SHOWN IN UF P=UFUF. RATED VOLTAGE OF CONDENSER NOT NOTED IN SCHEMATIC DIAGRAMS 50V

3. ABBREVIATION  $\Theta$  SYMBOL  
 $\Theta$ R-COMPOSITION  $\oplus$ R-METAL FILM  
 $\ominus$ TANTAL CAPACITOR  $\oplus$ R-METAL OXIDE  
 $\ominus$ C-POLYESTER  $\oplus$ R-CEMENT  
 $\ominus$ NON POLAR CAPACITOR  $\oplus$ R-FUSIBLE  
 $\oplus$ C-METAL POLYESTER  $\oplus$ C-POLYSTYRENE  
 $\oplus$ C-POLYPROPYLENE  $\oplus$ R-WIRE
4. VOLTAGE IS READ WITH V. T. V. M. FROM INDICATED POINT TO SIGNAL GROUND AND WAVEFORM TAKEN USING PERSONAL WITH ALL.
5. THIS SCHEMATIC DIAGRAM IS SUBJECT TO CHANGE WITHOUT NOTICE FOR FAR FURTHER IMPROVEMENT.



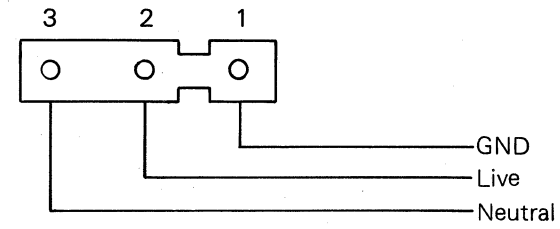
**WIRING AND CONTROL LOCATION DIAGRAM**  
**MODEL NO: MP5671**



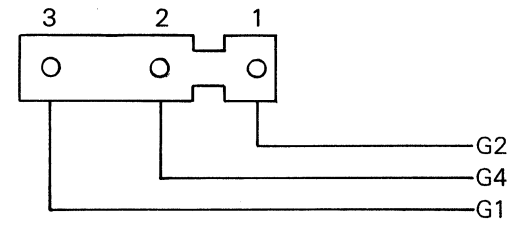
## ■ CONNECTOR AND WIRING

### 1. MAIN BOARD

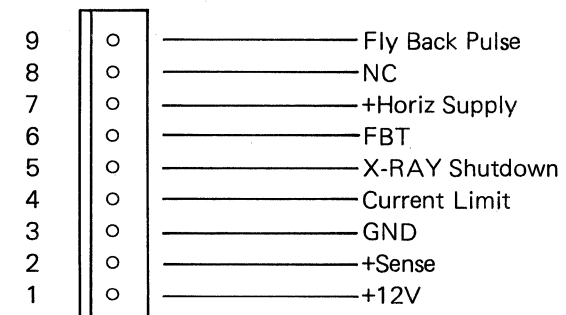
1) PS1 : Power Connector



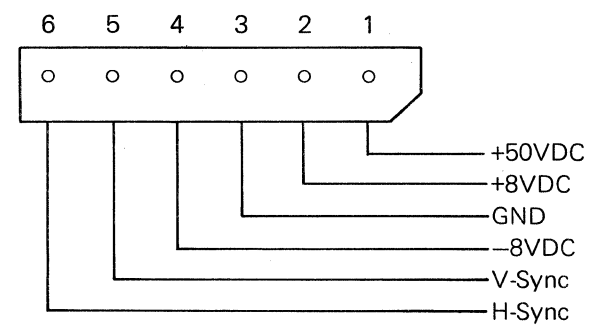
2) PS2 : CRT Grid Connector



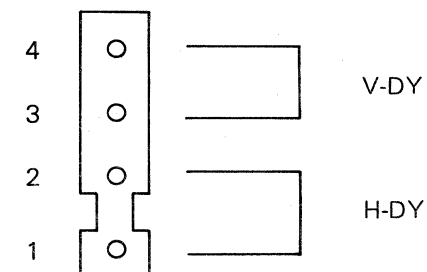
3) PS3 : H/V Regulation Module Connector



4) PS 4 : B+ and Sync-output Connector

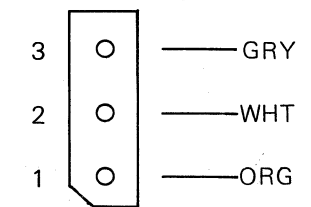


5) PS5 : DY Connector

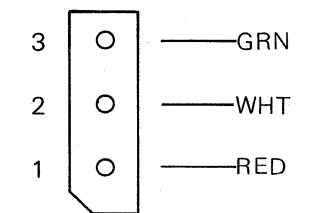


### 2. SOCKET BOARD

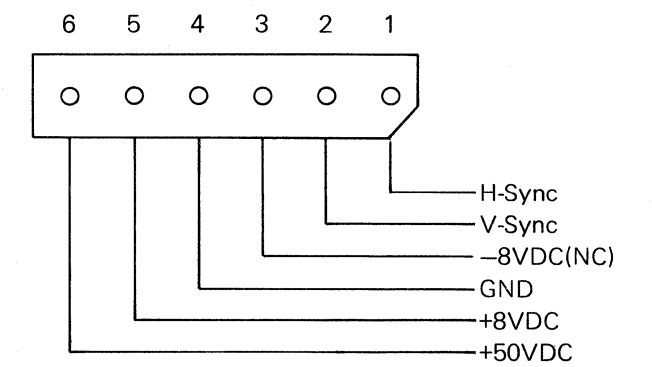
1) P7 : EXT-Brightness Control



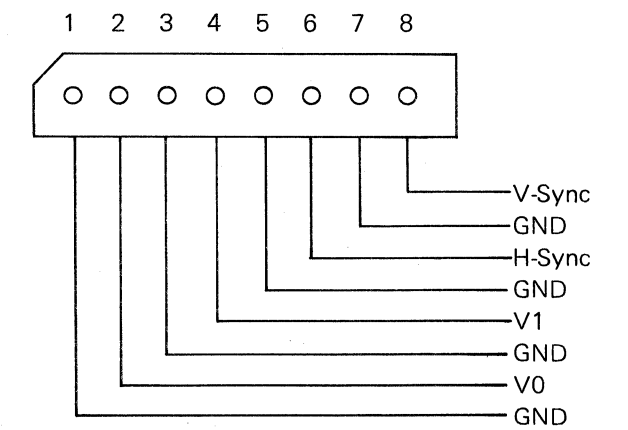
2) P9 : EXT-Contrast Control

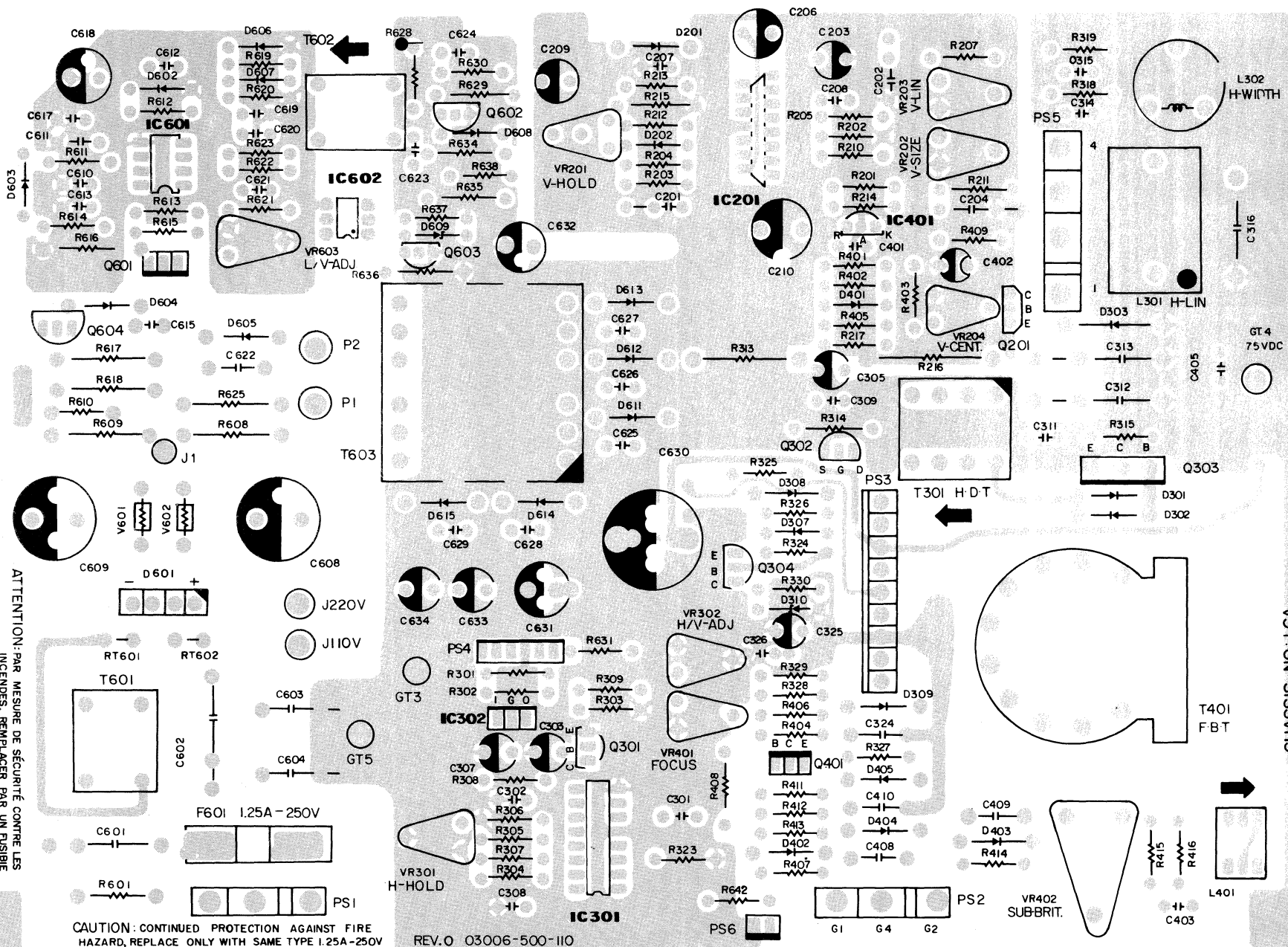


3) P4 : B+ and Sync-Output Connector



4) P8



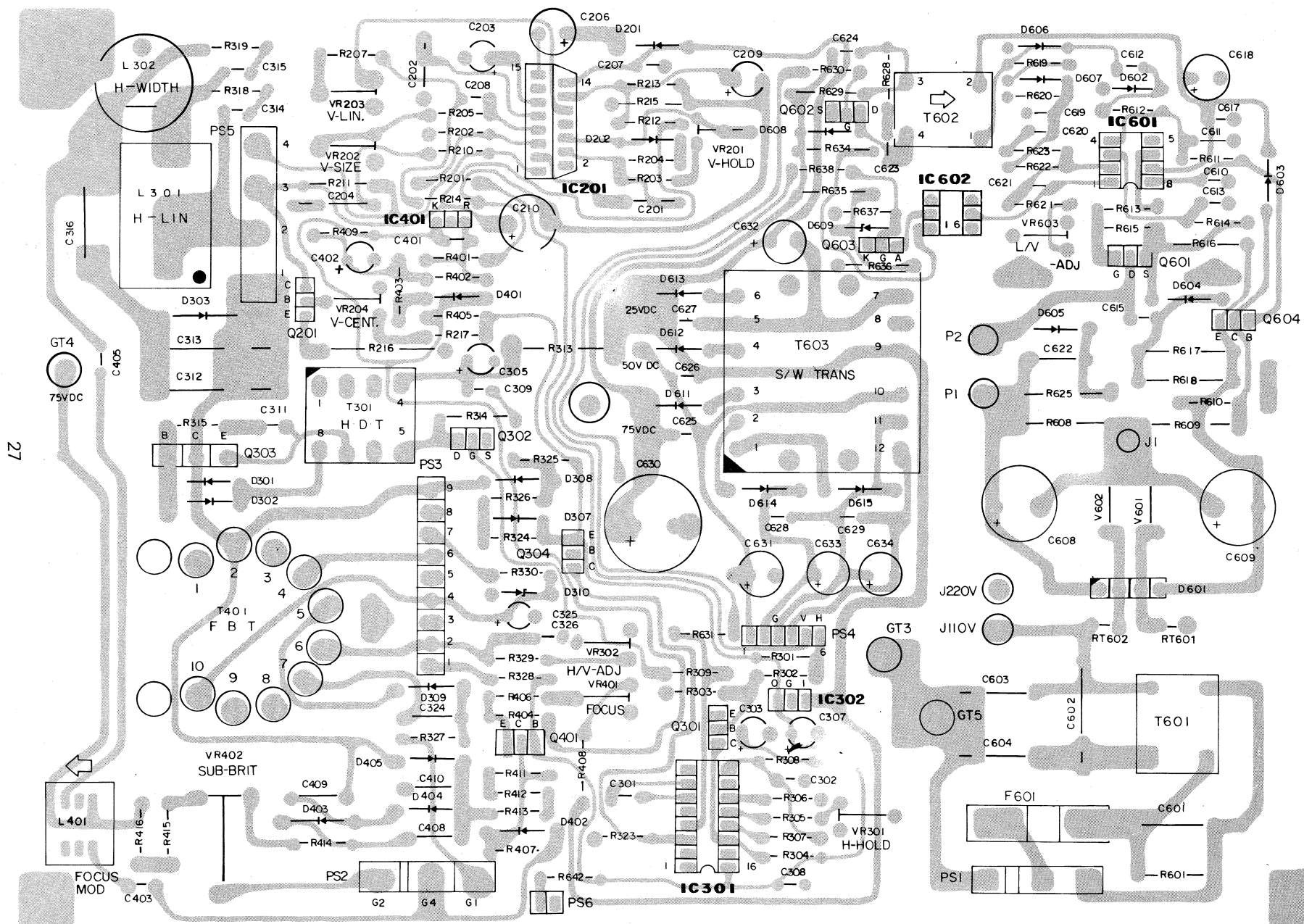


ATTENTION: PAR MESURE DE SÉCURITÉ CONTRE LES INCENDIES, REMPLACER PAR UN POSSIBLE 1.25A-250V DU MÊME TYPE.

CAUTION: CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE 1.25A-250V

REV.0 03006-500-110

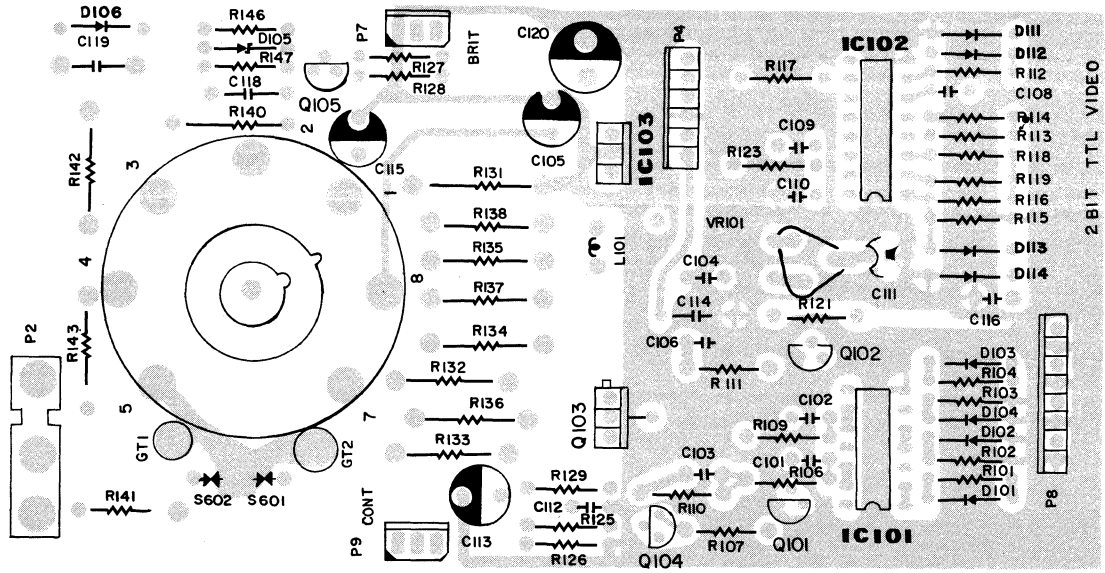
MAIN PCB (BOTTOM VIEW)



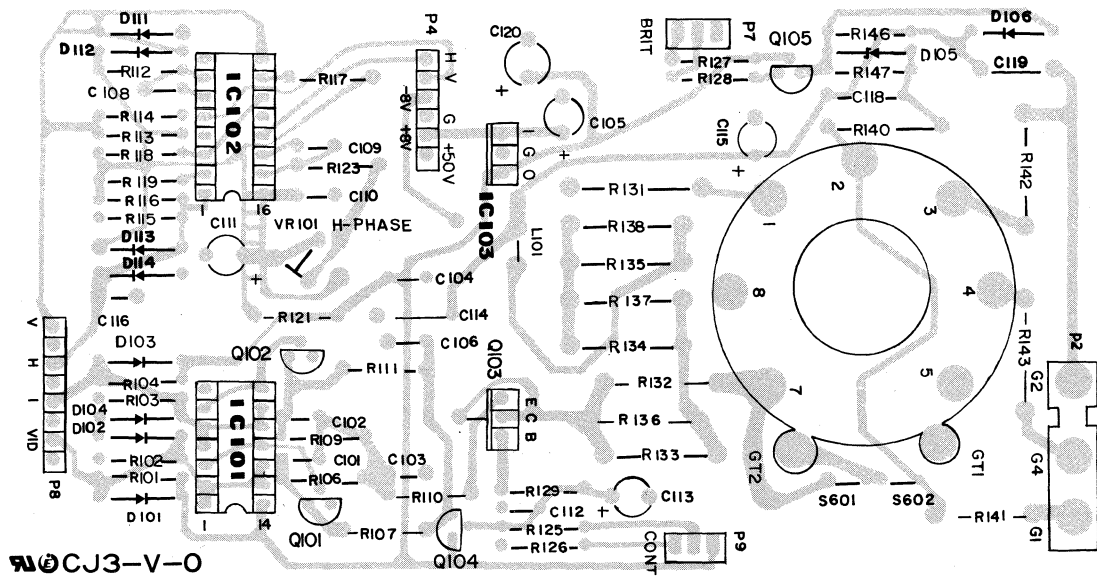
27



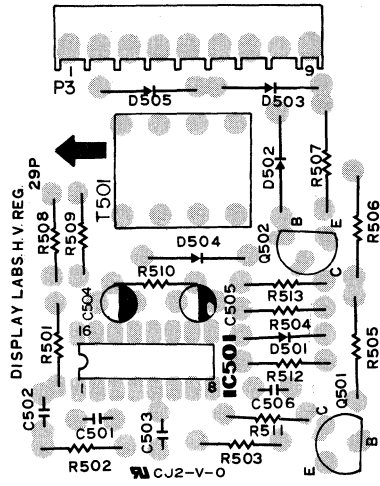
VIDEO PCB (TOP VIEW)



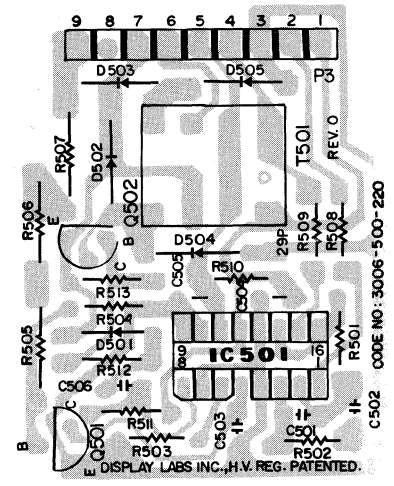
VIDEO PCB (BOTTOM VIEW)



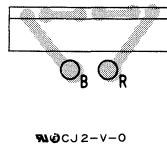
H/V MODULE PCB (TOP VIEW)



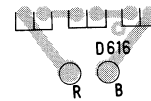
H/V DODULE PCB (BOTTOM VIEW)



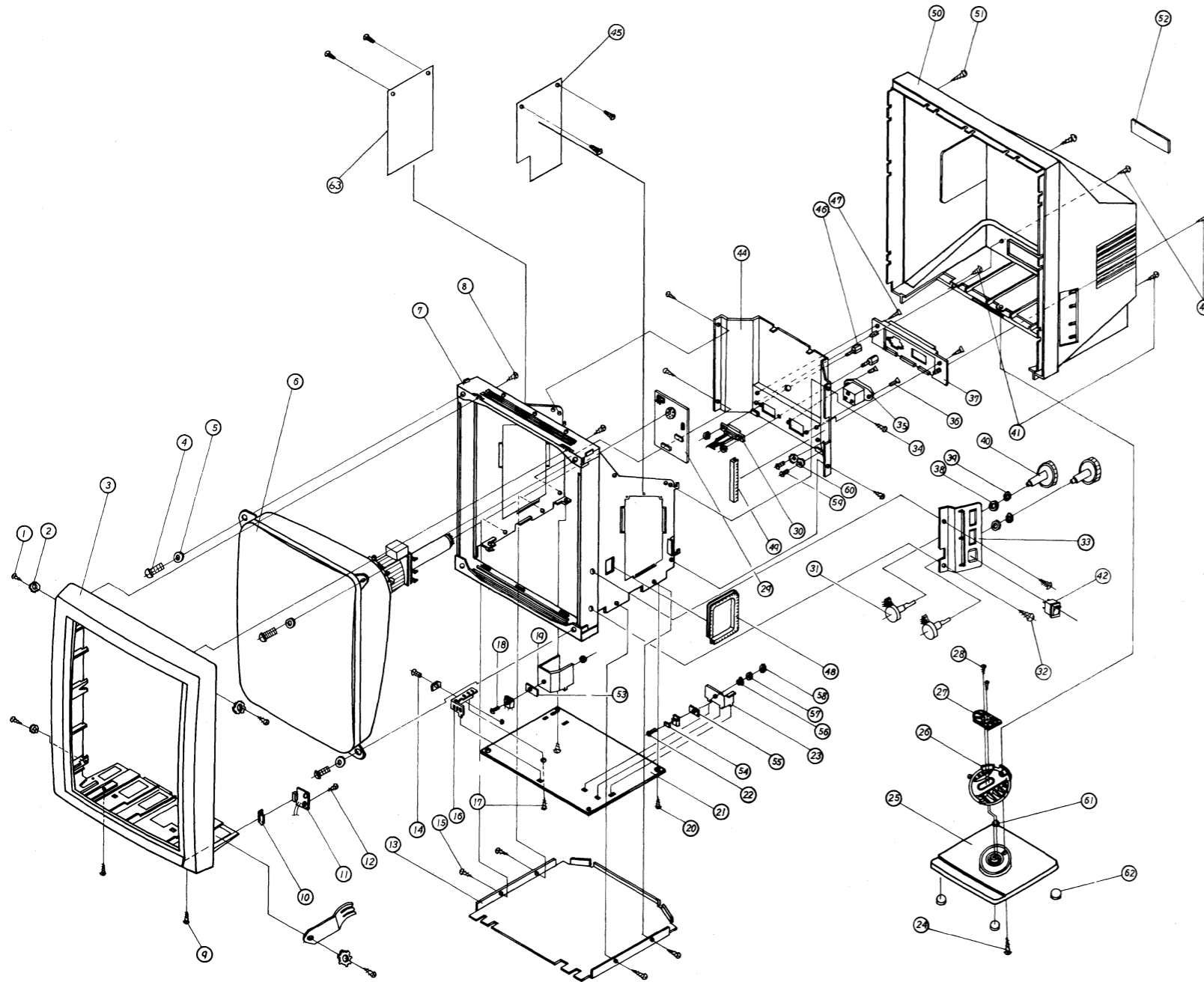
LED PCB (TOP VIEW)



LED PCB (BOTTOM VIEW)



**EXPLODED VIEW**  
**MODEL NO: MP5671**



NO.	CODE NO.	DESCRIPTION	SPECIFICATION	Q'TY	REMARK
1	7128-540-122	SCREW TAP TH	2S-4x12 FE FZW	4	
2	7324-100-330	WASHER TOOTHED	AB-45x14.8 0.5 FE FZW	4	
3	6001-894-010	COVER FRONT	PPO Vo BGE Px1005	1	
4	7008-150-121	SCREW PH	+M5x12 FE FZY	4	
5	7304-101-190	WASHER PLAIN	165216 FE FZY	4	
6	2019-134-010	CRT MONOCHROME		1	
7	6121-703-910	CHASSIS ASS'Y	SECC-1 T1.0	1	
8	7128-540-122	SCREW TAP TH	2S-4x12 FE FZW	2	
9	7128-540-122	SCREW TAP TH	2S-4x12 FE FZW	2	
10	7654-704-411	LENS-1460	ACRYL CLEAROO	1	
11	3006-500-210	LED PCB		1	
12	7148-530-081	SCREW TAP RH	2S-3x8 FE FZY	1	
13	6121-703-410	CHASSIS BOTTOM	SECC-1 T0.8	1	
14	7048-130-101	SCREW RH	+M3x10 FE FZY	1	
15	7148-530-081	SCREW TAP RH	2S-3x8 FE FZY	4	
16	5682-705-510	HEATSINK IC	A1050S H14 T2.0 ANOD BLK	1	
17	7148-530-081	SCREW TAP RH	2S-3x8 FE FZY	1	
18	7048-130-101	SCREW RH	+M3x10 FE FZY	1	
19	4542-705-210	SHIELD CASE, FBT	A1050S H-14 T1.0	1	
20	7148-530-081	SCREW TAP RH	2S-3x8 FE FZY	2	
21	3006-500-110	MAIN PCB		1	
22	7048-130-101	SCREW RH	±M3x10 FE FZY	1	
23	5682-705-410	HEAT SINK TR	SDC-1 T1.0 FT-2	1	
24	7128-540-122	SCREW TAP TH	2S-4x12 FE FZW	1	
25	8301-701-140	STAND BOTTOM	PPO Vo BGE Px1005	1	
26	8301-710-310	STAND TOP	PPO Vo BGE Px1005	1	
27	8302-700-110	STAND STOPPER	ACETAL NTR	1	
28	7148-530-161	SCREW TAP RH	2S-3x16 FE FZY	1	
29	3006-500-130	CRT PCB	1		
30	3344-156-010	CONN. D-SUB. RECEPTERCLE	DA 15SRCD1	1	
31	1201-102-011	VR-ROUND, SGL	18SN 20F E1K (M8)	2	
32	7128-540-122	SCREW TAP TH	2S-4x12 FE FZW	2	
33	7602-770-010	PANEL VR		1	
34	7148-530-081	SCREW TAP RH	2S-3x8 FE FZY	4	
35	3354-703-410	SOCKET-INLET	SOT-16	1	
36	7018-130-083	SCREW FH	+M3x8 FE FZB	2	
37	7602-767-010	PANEL BACK	PPO Vo BGE Px1005	1	
38		WASHER PLAIN		2	
39		NUT HEX		2	
40	7623-709-710	KNOB VR	ABS Vo BLK	2	
41	7128-540-122	SCREW TAP TH	2S-4x12 FE FZW	2	
42	3539-011-210	S/W ROCKER	SDDJ-S-021 DPST	1	
43	7128-540-122	SCREW TAP TH	2S-4x12 FE FZW	2	
44	6121-703-610	CHASSIS REAR	SECC-1 T0.8	1	
45	4543-704-010	SHIELD CHASSIS	SBC-1 T0.5 FZW	1	
46		BOLT HEXT		2	
47	7118-540-123	SCREW TAP FH	2S-4x12 FE FZB	2	
48	6633-702-720	COVER BUSHING	NYLON 66 NATURAL	1	
49	6633-702-710	COVER BUSHING	NYLON 66 NATURAL	1	
50	6001-890-010	COVER REAR	PPO Vo BGE Px1005	1	
51	7128-540-122	SCREW TAP TH	2S-4x12 FE FZW	2	
52	8033-716-710	LABEL RATING	POLYESTER T0.166	1	
53	3914-700-410	PLATE MICA	3M PC (22x28.5)	1	
54	7304-700-110	WASHER REC	SBC-1 T1.5	1	
55	3914-100-340	PLATE MICA	5-13x19 T0.09	1	
56	3904-103-110	INSULATOR TR	45-8D2-2H N66	1	
57	7304-700-9206	WASHER PLAIN	954810 FE FZW	1	
58	7208-113-001	NUT HEXT	1-M3 FE FZY	1	
59	7048-130-182	SCREW RH	+M3x8 FE FZY	2	
60	7328-204-001	WASHER TOOTHED	B P116xP14xT0.5 FE FZY	2	
61	3934-703-310	WASHER STAND	PVC SHEET T0.5	1	
62	6074-700-710	FOOT	NEOPRENERUBER GRY	4	
63	4543-704-110	SHIELD CHASSIS	SBC-1 T0.5 FZW	1	

## REPLACEMENT PARTS LIST

### IMPORTANT SAFETY NOTICE

Components identified by the international symbol ★ have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

**NOTE:** Tolerance G: ±2% J: ±5% K: ±10% L: ±15% M: ±20% Z: +80%, -20%

Ref. No.	Part No.	Description/Specification
<b>INTEGRATED CIRCUITS</b>		
IC101 ★	02109-104-690	74F08 TTL
IC102	02109-104-600	SN74LS221
IC103	02119-602-010	7805 5V 5% 1A LIN REGULATOR
IC201 ★	02119-101-200	TDA1670A VERT AMP/OSC.
IC301	02109-307-050	MC14046B CMOS PLL
IC302	02119-601-700	7812 12V 5% 1A LIN REGULATOR
IC401	02119-601-420	TL431CLP SHUNT REGULATOR
IC501	02119-001-990	TL494CN
IC601 ★	02119-601-940	UC3842 PWM CONTROLLER
IC602	02109-104-450	TIL113 OPTO-COUPLER
<b>TRANSISTORS</b>		
Q101	02139-401-230	PN4258
Q102	02139-401-230	PN4258
Q103	02149-302-580	2SC3597
Q104	02139-104-220	MPS2222A NPN HIGH SPEED 30V 0.3A
Q105	02139-601-550	2N5550
Q201	02139-204-060	MPS-U01 NPN FREQ. AMP 30V 1A 1W
Q301	02139-104-220	MPS2222A NPN HIGH SPEED 30V 0.3A
Q302	02139-307-060	VN0606M
Q303 ★	02139-305-210	2SC 3636 NPN POWER SWITCH 900V 7A
Q304	02139-104-290	PN2907
Q401	02139-305-200	2SC3675 NPN H.V. POWER 1.5KV 0.1A
Q501	02139-104-220	MPS2222A NPN HIGH SPEED 30V 0.3A
Q502	02149-102-250	KSA1220A-R
Q601	02139-104-230	MTP2N85 850V 2A FET
Q602	02149-301-660	MPF6661 MOS FET 90V 4 OHM
Q603	02149-001-510	2N5064 SCR 200V 0.8A
Q604	02139-201-190	KSR1001
<b>DIODE</b>		
D101	02169-301-410	1N4148 75V 0.1A 4nS SWITCHING
D102	02169-301-410	1N4148 75V 0.1A 4nS SWITCHING
D103	02169-301-410	1N4148 75V 0.1A 4nS SWITCHING
D104	02169-301-410	1N4148 75V 0.1A 4nS SWITCHING
D105	02169-404-317	ZPY100 100V 5% 1W ZENER
D106	02169-301-410	1N4148 75V 0.1A 4nS SWITCHING
D111	02169-301-410	1N4148 75V 0.1A 4nS SWITCHING
D112	02169-301-410	1N4148 75V 0.1A 4nS SWITCHING
D113	02169-301-410	1N4148 75V 0.1A 4nS SWITCHING
D108	02169-301-410	1N4148 75V 0.1A 4nS SWITCHING
D107	02169-301-410	1N4148 75V 0.1A 4nS SWITCHING
D109	02169-404-317	ZPY100 100V 5% 1W ZENER

Ref. No.	Part No.	Description/Specification
D114	02169-301-410	1N4148 75V 0.1A 4nS SWITCHING
D201	02169-101-490	1N4937GP 600V 1A 200nS POWER FAST
D202	02169-301-410	1N4148 75V 0.1A 4nS SWITCHING
D301	02169-101-490	1N4937GP 600V 1A 200nS POWER FAST
D302	02169-101-490	1N4937GP 600V 1A 200nS POWER FAST
D303 ★	02169-301-070	MUR4100 1KV 4A 50nS POWER ULTRA FAST
D307	02169-301-410	1N4148 75V 0.1A 4nS SWITCHING
D308	02169-210-177	BA159 1KV 1A 500nS POWER FAST
D309	02169-210-177	BA159 1KV 1A 500nS POWER FAST
D310	02169-406-247	1N5242B 12V 5% 1/2W ZENER
D401	02169-301-410	1N4148 75V 0.1A 4nS SWITCHING
D402	02169-101-490	1N4937GP 600V 1A 200nS POWER FAST
D403	02169-210-177	BA159 1KV 1A 500nS POWER FAST
D404	02169-210-177	BA159 1KV 1A 500nS POWER FAST
D405	02169-210-177	BA159 1KV 1A 500nS POWER FAST
D501	02169-301-410	1N4148 75V 0.1A 4nS SWITCHING
D502	02169-101-490	1N4937GP 600V 1A 200nS POWER FAST
D503	02169-210-177	BA159 1KV 1A 500nS POWER FAST
D504	02169-101-490	1N4937GP 600V 1A 200nS POWER FAST
D505	02169-210-177	BA159 1KV 1A 500nS POWER FAST
D601	02169-210-110	KBPO6M 600V 2A BRIDGE RECTIFIER
D602	02169-301-410	1N4148 75V 0.1A 4nS SWITCHING
D603	02169-301-410	1N4148 75V 0.1A 4nS SWITCHING
D604	02169-210-177	BA159 1KV 1A 500nS POWER FAST
D605	02169-210-177	BA159 1KV 1A 500nS POWER FAST
D606	02169-301-410	1N4148 75V 0.1A 4nS SWITCHING
D607	02169-301-410	1N4148 75V 0.1A 4nS SWITCHING
D608	02169-101-490	1N4937GP 600V 1A 200nS POWER FAST
D609	02169-404-327	ZPD39 39V 5% 1/2W ZENER
D611	02169-101-490	1N4937GP 600V 1A 200nS POWER FAST
D612	02169-101-490	1N4937GP 600V 1A 200nS POWER FAST
D613	02169-101-490	1N4937GP 600V 1A 200nS POWER FAST
D614	02169-101-490	1N4937GP 600V 1A 200nS POWER FAST
D615	02169-101-490	1N4937GP 600V 1A 200nS POWER FAST
<b>COIL &amp; TRANS</b>		
L101	02429-855-510	PEAKING: 0.33 $\mu$ H-K
L301	02449-734-310	HLINEARITY: 7.5 $\mu$ H
L302	02449-434-410	DORIZ. WIDTH: 5.5 $\mu$ H
L401	02449-734-410	HORIZ. MOD: 30MH
T301 ★	02849-032-510	HORIZ. DRIVE TRANS: EI-2218MM
T401 ★	02859-129-210	XFORMER FLYBACK: FMK TYPE (SEMCO)
T501	02849-032-610	TRANS-H/V MODULE
T601	02429-646-510	LINE FILTER, 6MH
T602 ★	02879-002-110	FEED BACK TRANS: 2-10MH
T603 ★	02879-002-010	MAIN POWER S/W MODE TRANS: PQ32X3MM
<b>CAPACITORS</b>		
C101	01409-101-360	CERAMIC; 50V 100pF-J
C102	01407-107-560	CERAMIC; 50V 56pF-J
C103	01407-017-560	CERAMIC; 50V 56pF-J

Ref. No.	Part No.	Description/Specification
C104	01419-204-820	CERAMIC; 50V 0.1M-Z
C105	01609-402-060	ELECTROLYTIC; 35V 10M
C106	01419-204-820	CERAMIC; 50V 0.1M-Z
C108	01509-121-140	POLYESTER; 100V 0.01M-J
C109	01508-513-471	POLYESTYREN; 50V 470-J
C110	01419-204-820	CERAMIC; 50V 0.1M-Z
C111	01609-401-470	ELECTROLYTIC; 16V 100M
C112	01419-204-820	CERAMIC; 50V 0.1M-Z
C113	01609-402-060	ELECTROLYTIC; 35V 10M
C114	01509-121-260	POLYESTER; 100V 0.1M-J
C115	01609-404-100	ELECTROLYTIC; 63V 100M
C116	01419-104-400	CERAMIC; 50V 1000-K
C118	01609-403-670	ELECTROLYTIC; 350V 2.2M
C119	01416-768-472	CERAMIC; 2KV 4700
C120	01608-903-110	ELECTROLYTIC; 16V 10M
C201 ★	01517-323-104	M. POLYESTER; 100V 0.1M-J
C202 ★	01517-323-473	M. POLYESTER; 100V 0.047M-J
C203	01608-906-047	ELECTROLYTIC; 50V 0.47M
C204	01517-323-224	M. POLYESTER; 100V 0.22M-J
C206	01609-402-100	ELECTROLYTIC; 35V 100M
C207	01417-344-104	CERAMIC; 50V 0.1M-Z
C208	01417-344-104	CERAMIC; 50V 0.1M-Z
C209	01603-905-150	ELECTROLYTIC; 35V 15M
C210	01609-401-530	ELECTROLYTIC; 16V 2200M
C301 ★	01502-513-152	POLYPROPYLENE(MX); 50V 0.0015M-J
C302	01505-723-223	POLYESTER; 100V 0.022M-J
C303	01608-906-109	ELECTROLYTIC; 50V 1M
C305	01608-904-470	ELECTROLYTIC; 25V 47M
C307	01608-903-110	ELECTROLYTIC; 16V 10M
C308	01417-344-104	CERAMIC; 50V 0.1M-Z
C309	01417-344-103	CERAMIC; 50V 0.01M-Z
C311	01417-344-223	CERAMIC; 50V 0.022M-Z
C312 ★	01502-573-392	POLYPROPYLENE; 1.6KV 0.0039M-J
C313 ★	01502-573-272	POLYPROPYLENE; 1.6KV 0.0022M-J
C314	01417-344-102	CERAMIC; 50V 1000-Z
C315	01417-344-102	CERAMIC; 50V 1000-Z
C316	01517-383-564	M. POLYFSTER; 250V 0.56M-J
C324	01419-901-100	CERAMIC; 1KV 0.01M-K
C325	01608-906-109	ELECTROLYTIC; 50V 1M
C326	01509-121-300	POLYESTER; 100V 0.22M-J
C401	01505-723-103	POLYESTER; 100V 0.01M-J
C402	01608-905-479	ELECTROLYTIC; 35V 4.7M
C403	01416-618-102	CERAMIC; 1KV 1000-K
C405	01505-723-104	POLYESTER; 100V 0.1M-J
C408	01419-901-100	CERAMIC; 1KV 0.01M-K
C409	01419-901-100	CERAMIC; 1KV 0.01M-K
C410	01419-901-100	CERAMIC; 1KV 0.01M-K
C501	01407-017-331	CERAMIC; 50V 330-J
C502	01417-344-104	CERAMIC; 50V 0.1M-Z
C503	01417-344-102	CERAMIC; 50V 1000-Z
C504	01608-903-110	ELECTROLYTIC; 16V 10M
C505	01608-903-110	ELECTROLYTIC; 16V 10M
C506	01517-383-103	M. POLYFSTER; 250V 0.01M-J

Ref. No.	Part No.	Description/Specification
C601	01535-829-104	M. PAPER; 250V 0.1M
C602	01535-829-104	M. PAPER; 250V 0.1M
C603	01535-829-472	M. PAPER; 250V 0.0047M
C604	01535-829-472	M. PAPER; 250V 0.0047M
C608	01607-910-101	ELECTROLYTIC; 105°C 250V 100M
C609	01607-910-101	ELECTROLYTIC; 105°C 250V 100M
C610	01417-344-104	CERAMIC; 50V 0.1M-Z
C611 ★	01502-513-153	POLYPROPYLENE(MX): 50V 0.015M-J
C612	01417-318-471	CERAMIC; 50V 470-K
C613	01417-318-471	CERAMIC; 50V 470-K
C615	01419-901-220	CERAMIC; 1KV 220-K
C617	01417-344-104	CERAMIC; 50V 0.1M-Z
C618	01608-906-100	ELECTROLYTIC; 50V 10M
C619	01505-723-103	POLYESTER; 100V 0.01M-J
C620	01505-723-101	POLYESTER; 100V 0.01M-J
C621	01417-318-471	CERAMIC; 50V 470-K
C622	01419-901-100	CERAMIC; 1KV 0.01M-K
C623	01417-318-221	CERAMIC; 50V 220-K
C624	01505-723-104	POLYESTER; 100V 0.1M-J
C625	01505-723-104	POLYESTER; 100V 0.1M-J
C626	01505-723-104	POLYESTER; 100V 0.1M-J
C627	01505-723-104	POLYESTER; 100V 0.1M-J
C628	01505-723-104	POLYESTER; 100V 0.1M-J
C629	01505-723-104	POLYESTER; 100V 0.1M-J
C630	01607-908-102	ELECTROLYTIC; 105°C 100V 1000M
C631	01607-908-680	ELECTROLYTIC; 105°C 100V 68M
C632	01607-905-331	ELECTROLYTIC; 105°C 35V 330M
C633	01608-903-101	ELECTROLYTIC; 16V 100M
C634	01608-903-101	ELECTROLYTIC; 16V 100M
<b>RESISTORS</b>		
R101	01018-227-221	CARBON; 1/4W 220-J
R102	01018-227-331	CARBON; 1/4W 330-J
R103	01018-227-331	CARBON; 1/4W 330-J
R104	01018-227-221	CARBON; 1/4W 220-J
R106	01018-227-150	CARBON; 1/4W 15-J
R107	01048-275-821	METAL, FILM; 1/4W 820-F
R109	01818-277-270	CARBON; 1/4W 27-J
R110	01018-277-300	CARBON; 1/4W 30-J
R111	01048-275-821	METAL, FILM; 1/4W 820-F
R112	01018-227-683	CARBON; 1/4W 68K-J
R113	01018-227-221	CARBON; 1/4W 220-J
R114	01018-227-331	CARBON; 1/4W 330-J
R115	01018-227-331	CARBON; 1/4W 330-J
R116	01018-227-221	CARBON; 1/4W 220-J
R117	01018-227-102	CARBON; 1/4W 1K-J
R118	01018-227-102	CARBON; 1/4W 1K-J
R119	01018-227-102	CARBON; 1/4W 1K-J
R121	01018-227-100	CARBON; 1/4W 10-J
R123	01018-227-332	CARBON; 1/4W 3.3K-J
R125	01018-227-101	CARBON; 1/4W 100-J
R126	01018-277-111	CARBON; 1/4W 110-J

Ref. No.	Part No.	Description/Specification
R127	01018-277-111	CARBON; 1/4W 110-J
R128	01018-227-222	CARBON; 1/4W 2.2K-J
R129	01048-276-119	METAL, FILM; 1/4W 1.1-G
R131	01045-527-689	METAL, OXIDE; 2W 6.8-J
R132	01028-378-390	COMPOSITION; 1/2W 39-K
R133	01045-427-301	METAL, OXIDE; 1W 300-J
R134	01045-427-301	METAL, OXIDE; 1W 300-J
R135	01045-427-301	METAL, OXIDE; 1W 300-J
R136	01045-427-301	METAL, OXIDE; 1W 300-J
R137	01045-427-301	METAL, OXIDE; 1W 300-J
R138	01045-427-301	METAL, OXIDE; 1W 300-J
R140	01028-378-390	COMPOSITION; 1/2W 39-K
R141	01028-378-104	COMPOSITION; 1/2W 100K-K
R142	01028-378-103	COMPOSITION; 1/2W 10K-K
R143	01028-378-103	COMPOSITION; 1/2W 10K-K
R146	01018-227-223	CARBON; 1/4W 22K-J
R147	01018-227-475	CARBON; 1/4W 4.7M-J
R201	01018-277-472	CARBON; 164W 4.7K-J
R202	01018-277-472	CARBON; 1/4W 4.7K-J
R203	01018-277-153	CARBON; 1/4W 15K-J
R204	01018-277-472	CARBON; 1/4W 4.7K-J
R205	01018-277-244	CARBON; 1/4W 240K-J
R207	01018-277-334	CARBON; 1/4W 330K-J
R210	01048-277-229	METAL, FILM; 1/4W 2.2-J
R211	01018-377-331	CARBON; 1/2W 330-J
R212	01018-277-242	CARBON; 1/4W 2.4K-J
R213	01018-277-122	CARBON; 1/4W 1.2K-J
R214	01018-277-244	CARBON; 1/4W 240K-J
R215	01048-377-082	METAL, FILM; 1/2W 0.82-F
R216	01045-527-151	METAL, OXIDE; 2W 150-J
R217	01018-277-221	CARBON; 1/4W 220-J
R301	01018-277-682	CARBON; 1/4W 6.8K-J
R302	01018-277-222	CARBON; 1/4W 2.2K-J
R303	01018-277-222	CARBON; 1/4W 2.2K-J
R304	01018-277-222	CARBON; 1/4W 2.2K-J
R305	01048-275-203	METAL, FILM; 1/4W 20K-F
R306	01018-277-823	CARBON; 1/4W 82K-J
R307	01018-277-822	CARBON; 1/4W 8.2K-J
R308	01018-277-332	CARBON; 1/4W 3.3K-J
R309	01018-277-220	CARBON; 1/4W 22-J
R313	01039-427-750	CEMENT, WIRE; 3W 75-J
R314	01018-377-221	CARBON; 1/2W 220-J
R315	01018-277-220	CARBON; 1/4W 22-J
R318	01018-277-331	CARBON; 1/4W 330-J
R319	01018-277-331	CARBON; 1/4W 330-J
R323	01018-277-222	CARBON; 1/4W 2.2K-J
R324	01018-277-102	CARBON; 1/4W 1K-J
R325	01018-277-102	CARBON; 1/4W 1K-J
R326	01018-277-103	CARBON; 1/4W 10K-J
R327	01018-277-474	CARBON; 1/4W 470K-J
R328	01018-277-470	CARBON; 1/4W 47-J
R329	01048-275-473	METAL, FILM; 1/4W 47K-F
R330	01018-277-363	CARBON; 1/4W 36K-J



Ref. No.	Part No.	Description/Specification
R401	01018-277-104	CARBON; 1/4W 100K-J
R402	01018-277-224	CARBON; 1/4W 220K-J
R403	01018-277-102	CARBON; 1/4W 1K-J
R404	01018-277-153	CARBON; 1/4W 15K-J
R405	01018-277-102	CARBON; 1/4W 1K-J
R406	01018-277-183	CARBON; 1/4W 18K-J
R407	01018-277-334	CARBON; 1/4W 330K-J
R408	01018-377-752	CARBON; 1/2W 7.5K-J
R409	01018-277-272	CARBON; 1/4W 2.7K-J
R411	01018-277-334	CARBON; 1/4W 330K-J
R412	01018-277-334	CARBON; 1/4W 330K-J
R413	01018-277-334	CARBON; 1/4W 330K-J
R414	01058-070-000	CARBON; ZERO OHM
R415	01018-277-105	CARBON; 1/4W 1M-J
R416	01018-277-105	CARBON; 1/4W 1M-J
R501	01018-277-512	CARBON; 1/4W 5.1K-J
R502	01018-277-473	CARBON; 1/4W 47K-J
R503	01018-277-203	CARBON; 1/4W 20K-J
R504	01018-277-104	CARBON; 1/4W 100K-J
R505	01018-377-224	CARBON; 1/2W 220K-J
R506	01018-377-224	CARBON; 1/2W 220K-J
R507	01018-377-224	CARBON; 1/2W 220K-J
R508	01018-277-512	CARBON; 1/4W 5.1K-J
R509	01018-277-512	CARBON; 1/4W 5.1K-J
R510	01018-277-103	CARBON; 1/4W 10K-J
R511	01018-377-471	CARBON; 1/2W 470-J
R512	01018-277-102	CARBON; 1/4W 1K-J
R513	01018-277-512	CARBON; 1/4W 5.1K-J
R601	01018-377-224	CARBON; 1/2W 220K-J
R608	01045-427-473	METAL, OXIDE; 1W 47K-J
R609	01045-427-473	METAL, OXIDE; 1W 47K-J
R610	01018-277-333	CARBON; 1/4W 33K-J
R611	01018-277-162	CARBON; 1/4W 1.6K-J
R612	01018-277-103	CARBON; 1/4W 10K-J
R613	01018-277-220	CARBON; 1/4W 22-J
R614	01018-277-102	CARBON; 1/4W 1K-J
R615	01018-277-104	CARBON; 1/4W 100K-J
R616	01038-217-033	WIRE; 1W 0.33-J
R617	01045-427-682	METAL, OXIDE; 1W 6.8K-J
R618	01045-427-682	METAL, OXIDE; 1W 6.8K-J
R619	01018-277-221	CARBON; 1/4W 220-J
R620	01018-277-104	CARBON; 1/4W 100K-J
R621	01018-277-103	CARBON; 1/4W 10K-J
R622	01018-277-224	CARBON; 1/4W 220K-J
R623	01018-277-223	CARBON; 1/4W 22K-J
R625	01049-427-104	METAL, OXIDE; 1W 100K-J
R628	01018-277-102	CARBON; 1/4W 1K-J
R629	01018-377-272	CARBON; 1/2W 2.7K-J
R630	01018-277-220	CARBON; 1/4W 22-J
R631	01018-277-220	CARBON; 1/4W 22-J
R634	01018-377-752	CARBON; 1/2W 7.5K-J
R635	01018-377-752	CARBON; 1/2W 7.5K-J
R636	01018-377-682	CARBON; 1/2W 6.8K-J

Ref. No.	Part No.	Description/Specification
R637	01018-277-102	CARBON; 1/4W 1K-J
R638	01018-277-153	CARBON; 1/4W 15K-J
R642	01018-277-561	CARBON; 1/4W 560-J
<b>CONTROLS</b>		
VR101	01241-110-008	VR-SEMI; CET 117A B 10K
VR102	01201-102-011	VR-ROUND; 18SN 20F 1K
VR103	01201-102-011	VR-ROUND; 18SN 20F 1K
VR201	01241-110-008	VR-SEMI; CET 117A B 10K
VR202	01241-108-010	VR-SEMI; CET 92A B 250K
VR203	01241-108-007	VR-SEMI; CET 92A B 10K
VR204	01241-108-011	VR-SEMI; CET 92A B 1K
VR301 ★	01241-108-007	VR-SEMI; CET 92A B 10K
VR302 ★	01241-108-006	VR-SEMI; CET 92A B 100K
VR401	01241-108-007	VR-SEMI; CET 92A B 10K
VR402	01242-115-001	VR-SEMI; H1621C 4M
VR603 ★	01241-108-007	VR-SEMI; CET 92A B 10K
<b>OTHERS</b>		
F601 ★	04709-088-010	FUSE; 250V 1.25A
S601	02029-010-010	LAMP-NEON; 90-130 VDC
S602	02029-012-010	LAMP-NEON; 210-250 VDC
	03539-011-210	SWITCH; DPST TYPE
	02309-110-040	LED; LD701MG
	03051-400-510	SIGNAL CABLE
	03054-640-820	CONNECTOR-2P ASSY
	03054-647-010	CONNECTOR-3P ASSY
	03054-646-510	CONNECTOR-4P ASSY
J1	03054-640-030	CONNECTOR-1P ASSY
	03054-643-110	CONNECTOR-DY ASSY
	03054-648-510	CONNECTOR-6P ASSY
	03054-647-110	CONNECTOR-6P ASSY
	03054-646-710	CONNECTOR-6P ASSY
	03054-647-410	CONNECTOR-GND ASSY
	03054-222-040	CONNECTOR-LUG TERMINAL ASSY
GT1	03124-101-310	PIN-GT; BSP-1 T0.25
GT2	03124-101-310	PIN-GT; BSP-1 T0.25
GT3	03124-101-310	PIN-GT; BSP-1 T0.25
GT4	03124-101-310	PIN-GT; BSP-1 T0.25
J110V	03124-101-310	PIN-GT; BSP-1 T0.25
J220V	03124-101-310	PIN-GT; BSP-1 T0.25
	★ 03354-706-310	SOCKET-CRT; 19MP
P8	03344-156-180	CONNECTOR WAFER; 5267-08A
P2	03344-155-930	CONNECTOR WAFER; B3P-LV-TN
P4	03344-156-160	CONNECTOR WAFER; 5267-06A
P7	03344-156-130	CONNECTOR WAFER; 5267-03A
P9	03344-156-130	CONNECTOR WAFER; 5267-03A
PS1	03344-155-930	CONNECTOR WAFER; B3P-LV-TN
PS2	03344-155-930	CONNECTOR WAFER; B3P-LV-TN
PS3	03344-112-080	CONNECTOR WAFER; 5273-09A
PS4	03344-156-160	CONNECTOR WAFER; 5267-06A

Ref. No.	Part No.	Description/Specification
PS5 PS6	03344-155-940 03344-153-010 03344-156-590 03354-703-410	CONNECTOR WAFER; B4P-LV-TN CONNECTOR WAFER; B2P-XH-A CONNECTOR-HOUSING; 5145-09AH SOCKET-INLET; SOT-16
<b>CRT &amp; DY</b>		
	02019-134-010 02439-056-110	CRT-MONOCHROME; CE899 M15 P40 GHZMF DEFL-YOKE; UP15 2442248 HITACHI

