14" COLOR MONITOR

SERVICE MANUAL

SAMSUNG ELECTRON DEVICES

SC-452C

For Service Manuals
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SPECIFICATION

Picture tube	37JGG68X, B22 14 Inches diagonal 90 degree deflection, 0.52mm dot pitch Strife type, black matrix.
Input signal	Video : RGBI TTL level positive Sync : TTL level positive.
Display -colors	16 colors.
Synchro -nization	Horizontal : 15.2~16.3KHz Vertical : 47~63Hz
Resolution	Horizontal : 640dots Vertical : 200lines
Video band -width	15MHz
Display area	Horizontal : 250±4mm Vertical : 174±4mm
Ac input -voltage	AC 115V / 60Hz, AC 230V / 50Hz(Optional)
Power -consumption	70W(Max)
Dimension	350(W)×393(H)×382(D)mm
Weight	13kg

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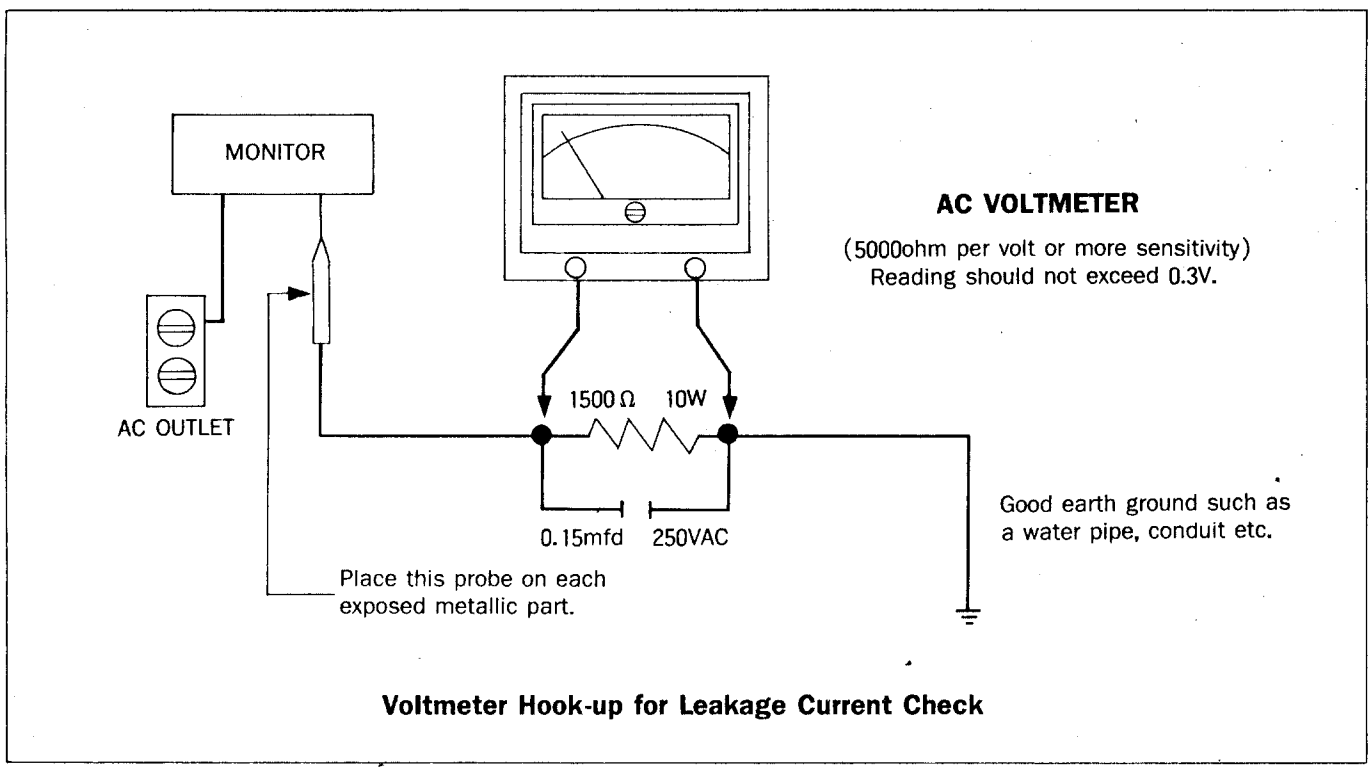
SECTION I
GENERAL INFORMATION

(1) SAFETY PRECAUTION

WARNING: Service should not be attempted 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 charaeristics for X-RAY RADIATION protection.
   For continued safety, the parts replacement should be undertaken referring to item 2 below.
2. Many electical mechanical parts in this unit have special safety-related characteristics for protection against shock 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 characteristics are identified in the manual and supplements by shading on the schematic diagram and the parts list.
   Before replacing of these components read the parts list in this manual, carefully.
3. When replacing chassis in the cabinet, always be certain that all the protective devices are installed properly, such as insulating covers, strain relief, etc.
4. Before replacing the back cover of the set, thoroughly inspect inside the cabinet to see 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, screwheads, 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 115V 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 0.15mfd(μF), 250V AC capacitor, between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time.
   Measure the Ac voltage across the combination of 1500 ohm resistor and 0.15 mfd(μF) capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metailic part. Voltage measured must not exceed 0.3V RMS. This corresponds to 0.2mA AC any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



Voltmeter Hook-up for Leakage Current Check

[2] DOCUMENT DESCRIPTION

This is technical specification for a SC-452C Color display monitor.
This document contains information on all technical details of the monitor.

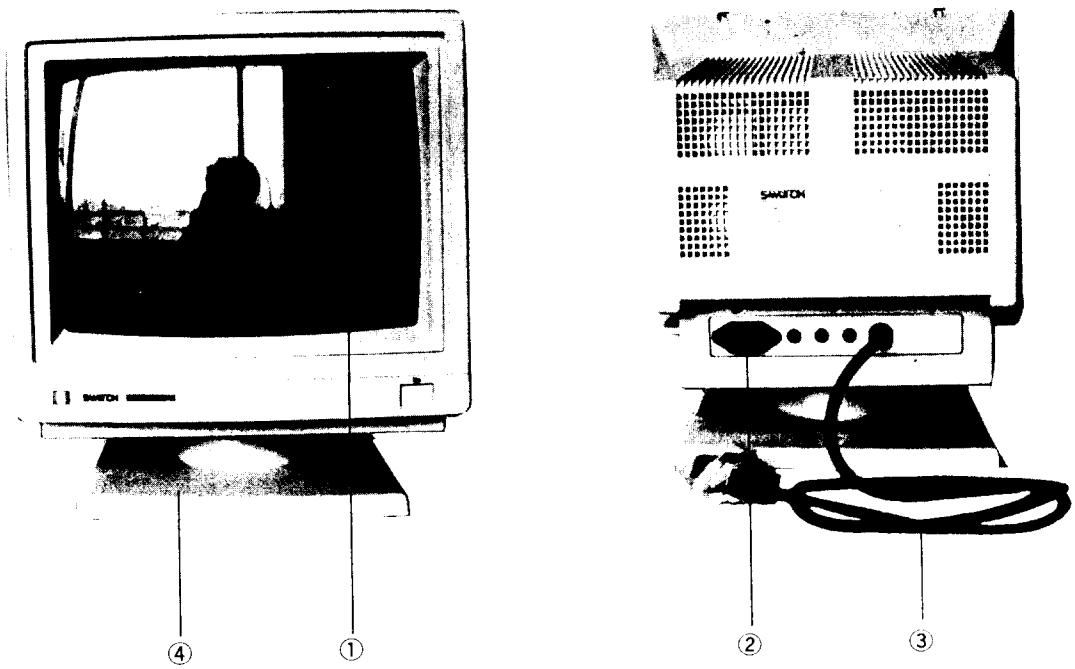
[3] PRODUCTION DESCRIPTION

This SC-452C Color display monitor to be operated in TTL drive mode in put a highlight of these is provided below.

- Resolution : 640 dots(H)×200 lines (V)
- Display capability : 2000 Characters (80×25)
- Active display area : Horizontal : 250mm±4mm
  Vertical 174mm±4mm
- Horizontal frequency : 15.75KHz
- Vertical frequency : 60Hz / 50Hz

USING COLOR DISPLAY MONITOR

Meeting SC-452C Color display monitor.
Refer to the diagram below to be sure that your SC-452C package includes all the items in this picture.
Save the original box and packing materials in case you have to ship or transport



① Color display monitor (SC-452C)
② Power Input
③ Signal cable : Connects IBM PC or Compacibles
④ Swivel / Tilt stand

〔4〕 OPERATING INSTRUCTION

1. External instruction
   ✳ Front
   Power switch, contrast, brightness, green switch (option)
   ✳ Rear
   Horizontal hold, vertical hold, vertical size
2. Service instruction(internal controls)
   Supply voltage, sub brightness, horizontal center, vertical center, brown color controls.

〔5〕 ELECTRICAL CHARACTERISTICS

1. AC Power input
   AC 115V±15%, 60Hz
   AC 220~240V, 50Hz(Optional)
   Power consumption is 70W under nomal viewing condition and be used internal fuse protection.
2. Video input
   Video : RGBI TTL Level, Positive
   Sync : TTL Level, Positive
   Band width : 15MHz
3. Horizontal electronics
   Frequency : 15.2KHz~16.3KHz
   Retrace time : 11.16uS
4. Vertical electronics
   Frequency : 47Hz~63Hz
   Retrace time : 9.55uS

〔6〕 MECHANICAL SPECIFICATION

Figure-Shows the mechanical specification for the CPT display monitor.

〔7〕 DISPLAY CHARACTERISTICS

1. Display size : H: 250±4mm
   V: 174±4mm
2. Display capability : 5×7dot matrix character pattern
   2000 characters,
   80×24 lines.

〔8〕 CPT CHARACTERISTICS

1. Type : 14"in-line GUN (37JGG68 ×)
   90 degree deflection angle
2. Phosphor : P22 C.I.E Cordinates
3. Neck diameter : 29.1 ϕ
4. Phosphor dot pitch : 0.52mm Maximum
5. Implosion protection to be approved by U.L and C. S.A
6. Degaussing : Automatic degaussing shall be provided
   ✳ Deflection yoke and neck components are preset in CPT factory, So there is no need for purity adjustment.

〔9〕 ENVIRONMENTAL SPECIFICATION

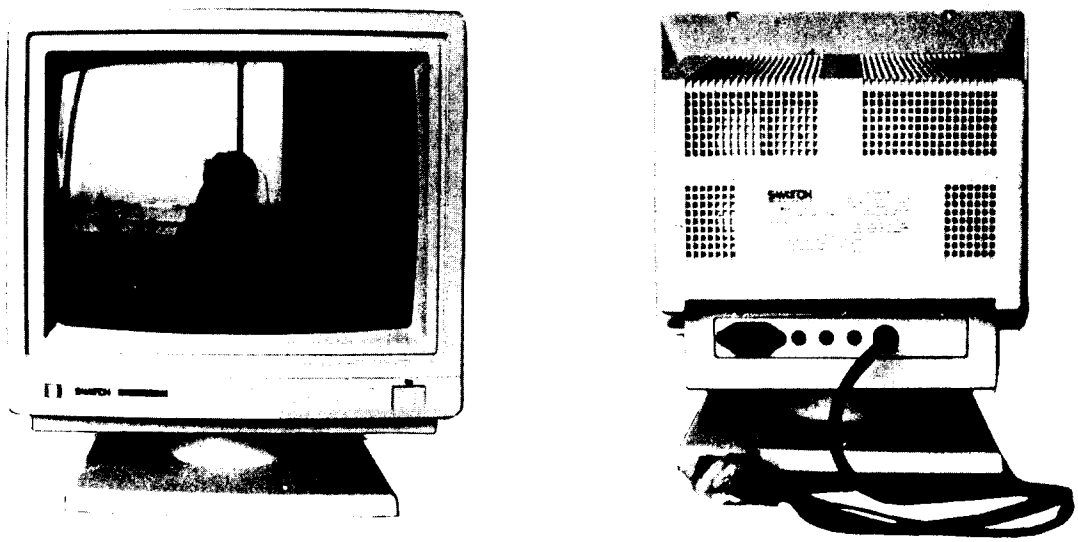
1. Operating temperature : 5℃ to 40℃ centigrade in side enclosure
2. Relative humidity : 20% to 80% enclosure convection cooled(non condensing)
3. Temperature storage : -20℃ to 60℃ out side enclosure

〔10〕 WEIGHT

Weight : 13kg

SECTION II
SERVICE INFORMATION

* Control and terminal identification



[Important notice for service personel before servicing]

PLEASE READ BEFORE ATTEMPTING SERVICE

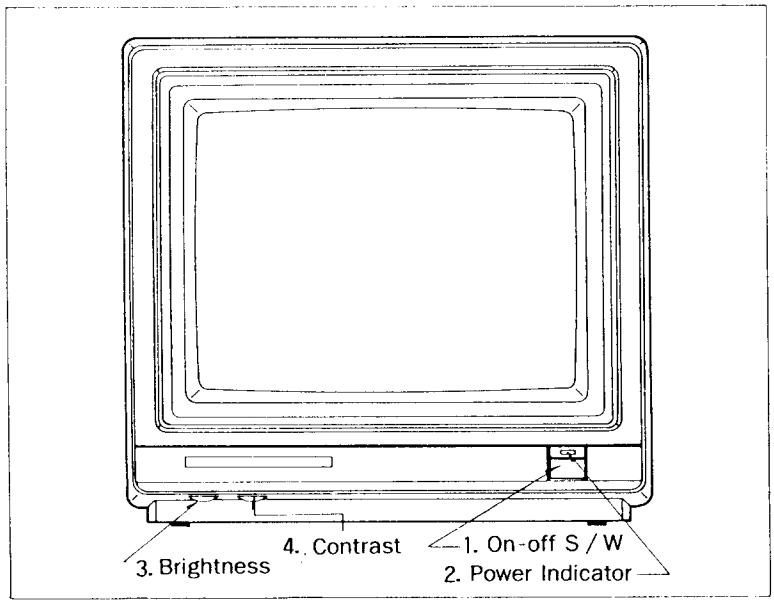
① Line voltage must be kept with in ±15% of the rated voltage.
② Do not discharge ARC or measure high voltage when high voltage lead is connected to CPT.
Discharge 2ND anode of CPT only after high voltage lead has been disconnected.
Do not discharge high voltage lead at any time, damage to transistors may result.
③ While the monitor is in operation, do not attempt to connect or disconnect any wires.
④ Disconnect all power before attmepting any repairs.
⑤ When the power is on do not attempt to short any portion of the circuit.
This shorting may cause demage to the transistor in receiver.

[1] ADJUSTMENT

Apply power and TTL video signal to the data display

1. ADJUSTING THE FRONT CONTROLS

FRONT VIEW



① Power switch
Used to push the power on or off.

② When the power is on the power indicator (LED) is lit.

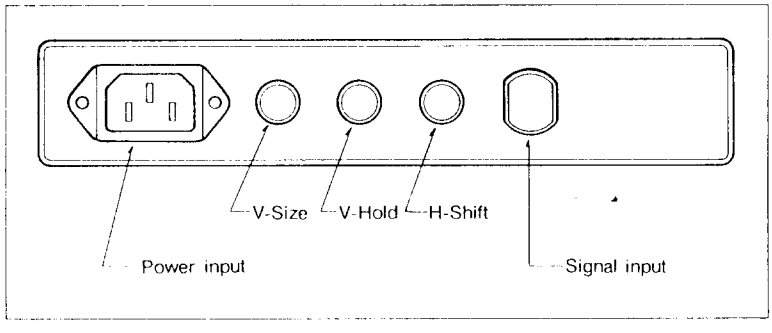
③ Bright control

1) The brightness control knob shall provide the customer with means for adjusting the display intensity off set level as viewing conditions vary.
2) The maxium brightness (fully clock wise) level shall be limited with the internal sub brightness factory adjustment.
3) Control shall adjust the ground raster to the point of extinction.

④ Contrast control
Adjusts the display to the contrast preferred by the user.

2. ADJUSTING THE REAR CONTROLS

REAR VIEW



① H−shift control
Adjusts the horizontal center position.
② V−Hold control
Adjust the vertical stability of the display
③ V-Size control
Turn this knob for the proper vertical size of the display.
Turn the knob clock wise for a larger display, turn it counter clook wise for a smaller display.

3. ADJUSTING THE INTERNAL CONTROLS

HORIZONTAL ADJUSTMENT

① Received the cross hatch pattern.
② Turn VR603 and adjust it until synchronization is secured.
③ Signal and turn the power switch ON/OFF and this confirm the stability of sync.
④ If picture positions is left or right at center of CPT face, adjust the H-shift of VR601 properly.

VERTICAL ADJUSTMENT

① Received the cross hatch pattern.
② Turn VR501, and adjust it until sync secured.
③ The pattern position is up or down at the center of CPT face by adjust the V-shift of VR506 properly.

FOCUS ADJUSTMENT

① Received the bull's eye (◎) pattern.
② Adjust the brightness V/R control for generally bright.
③ Adjust the focus V/R control for best condition.

COLOR PURITY ADJUSTMENT

① Operate the receiver for 15Min. With brightness control at maximum to warm up the CPT.
② Degauss the receiver fully by using an external degaussing coil.
③ Roughly adjust convergency.
④ Receive a black and white signal.
⑤ Turn red and blue low light controls fully counter clock wise, if green field.
Adjust drive controls, if green field is not obtained.
⑥ Loosen the deflection yoke clamp screw, and move the DY to the purity magnet as close as possible.
⑦ Loosen purity magnet clamper and adjust the purity magnet to set the vertical green raster precisely as the center of screen, then tighten the clamper.
⑧ Slowly move the deflection yoke forward and adjust for the best overall green screen.
⑨ Tighten the deflection yoke clamp screw.
⑩ Produce the blue and raster by low.
Light controls and observe that good purity is obtained on the respective field.
⑪ Observe that uniform white raster is obtained by adjusting R.G.B low light controls.
If screen is not uniformly white, repeat above procedure.

WHITE BALANCE ADJUSTMENT

① Turn in a black and white program.
② Turn the brightness controller fully counter clock wise and adjust VR301, 302, 303, 304, 305 in the mechenical center.
③ Slowly turn the screen control clock wise from the full counter clock wise position, until two colors out of three R.G.B appear horizontal on the picture tube.
④ Extinguish the two horizontal all colors on the picture tube by turning the two repective low light controls fully, counter clock wise.
⑤ Turn the screen control further clock wise until the three color appears as a faint horizontal line on the picture tube.
⑥ Make the horizontal line white by turning the two low light controls white were previously set fully counter clock wise as step 3.
⑦ Alternately adjust the red blue drive controls to produce a normal black and white picture. check the black and white picture detail proper black and white condition (no coloration) form low lights to highlights at all brightness level for proper tracking.
Proper tracking at all brightness levels can be obtained when the controls, low light controls, and drive controls are properly adjust, if the results are unset is factory, repeat all the above steps.

CONVERGENCE ADJUSTMENT

* Note; Before adjusting covergence, vertical size, linearity and focus adjustment must be completed.

① Received the cross pattern.
② The brightness level should be on higher than necessary to obtain a clear pattern.
③ Loosen the convergence magnet clamp and converge the red and blue at the center of the screen, by rotating the R-B static convergence magnet.
④ Alight the converged red/blue dots wite the green static convergence magnet.
⑤ Tighten the convergence magnet clamp.
⑥ Remove the DY wedges, and slightly tilt the DY for horizontal and vertical to obtain good overall convergence.
⑦ Secure the deflection by inserting the wedge.
⑧ If purity error is found, repeat the purity adjustment.

[2] TROUBLE SHOOTING

1. TROUBLE SHOOTING INFORMATION CHART

* INTRODUCTION

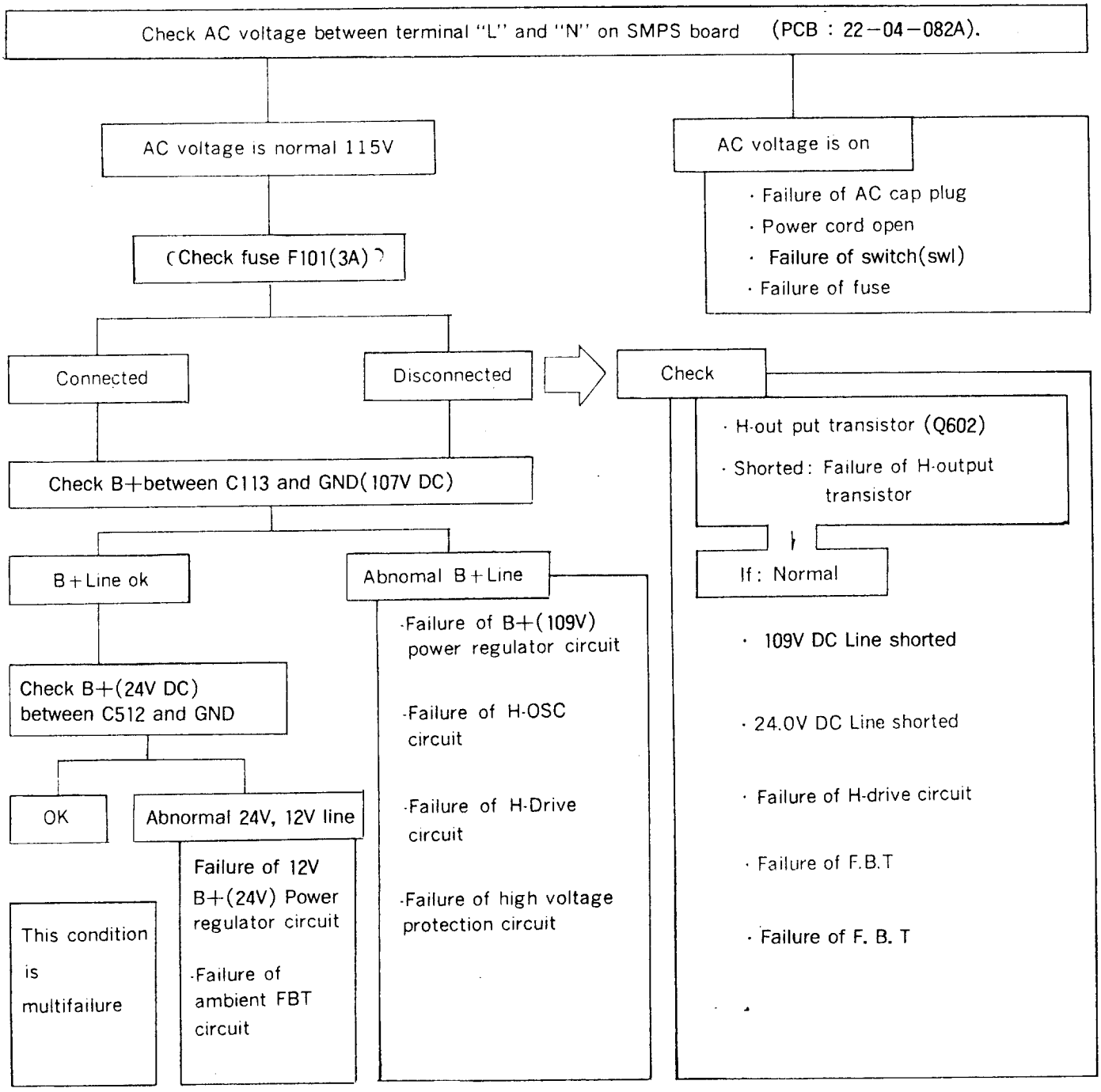
This is the trouble shooting section. It consists of a symptom chart, showing the symptom and an action to be taken to rectify the problem.

The best way to use this section is;

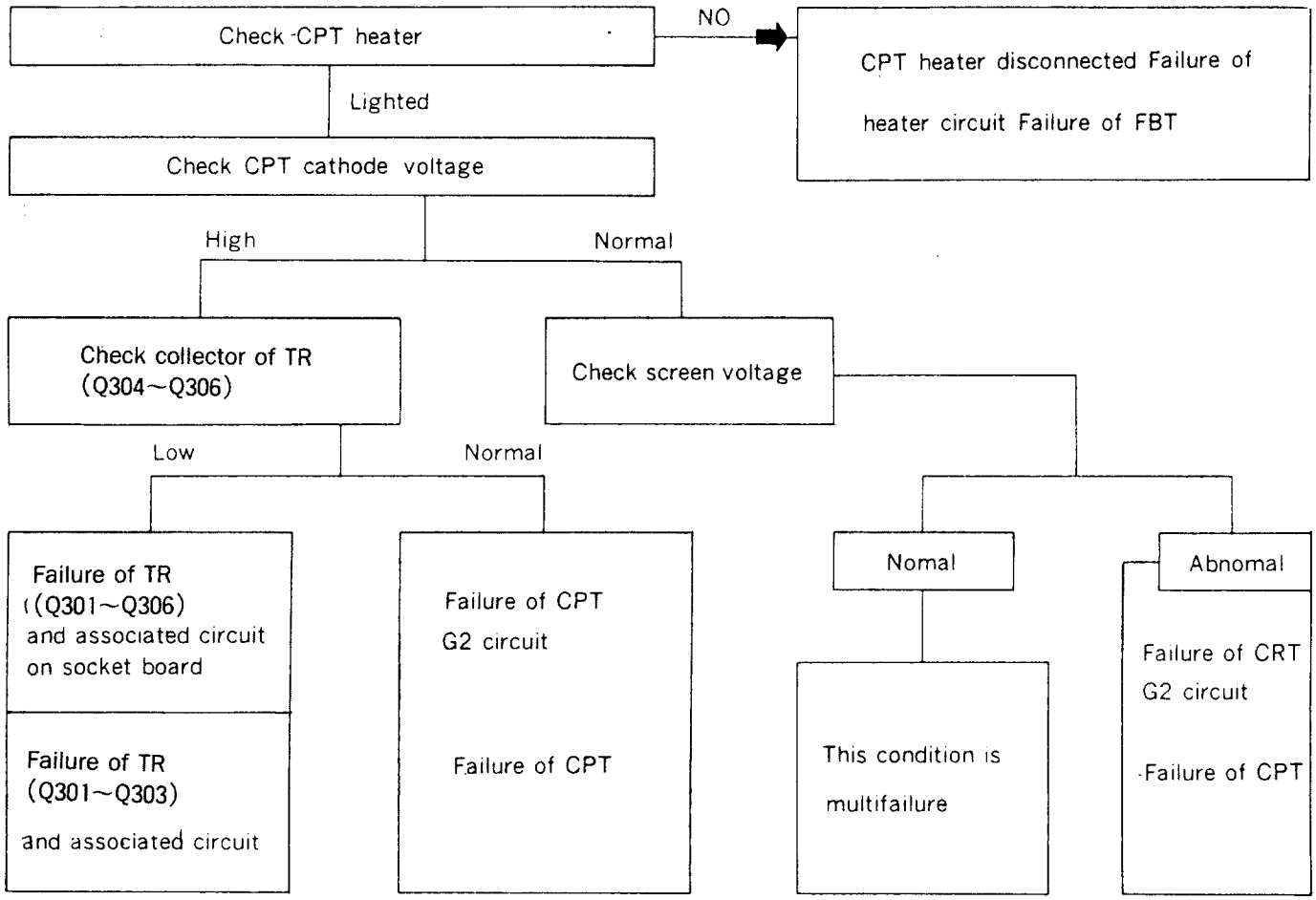
① Look on the chart to find the symptom that matches what the defective monitor is doing

② Try the recommended action.

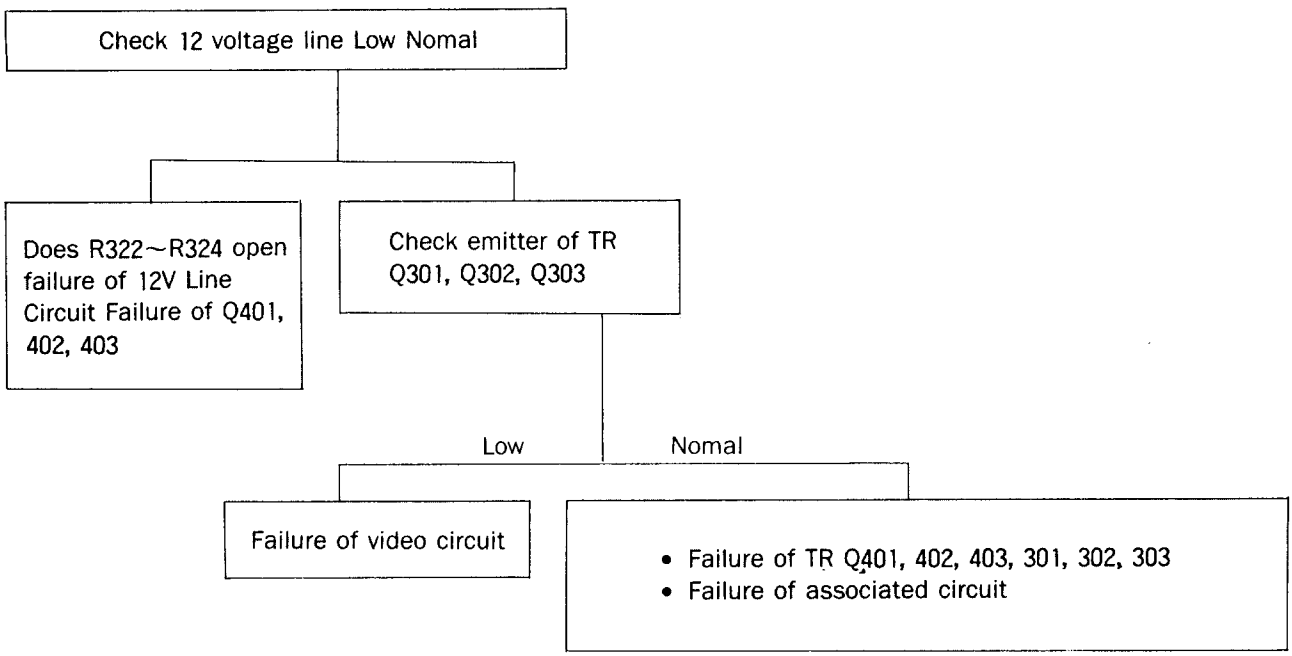
① NO RASTER



② B+(109V) NORMAL, NO RASTER

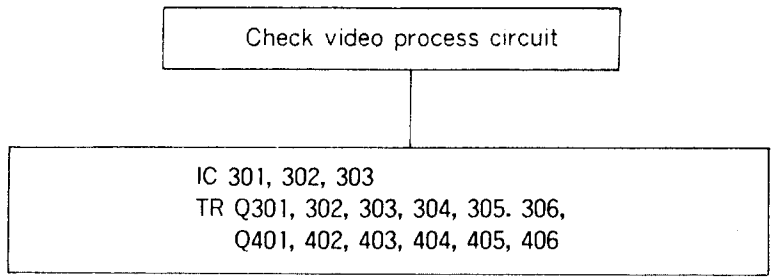


③ ABNORMAL BRIGHTNESS OF SCREEN

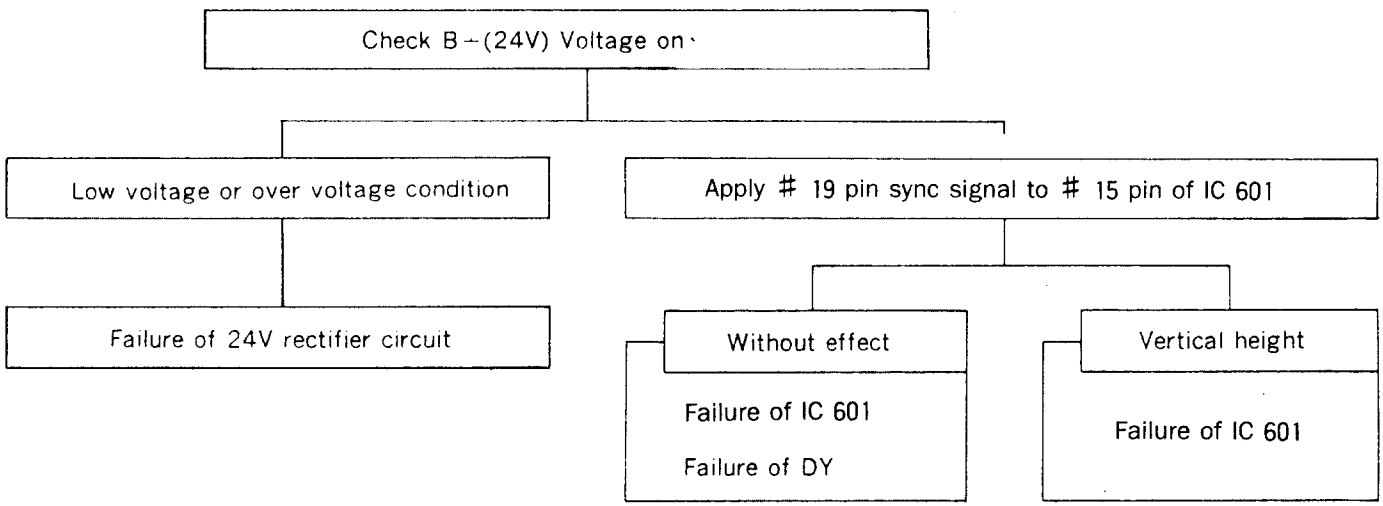


④ NOMAL RASTER, PICTURE ABNOMAL

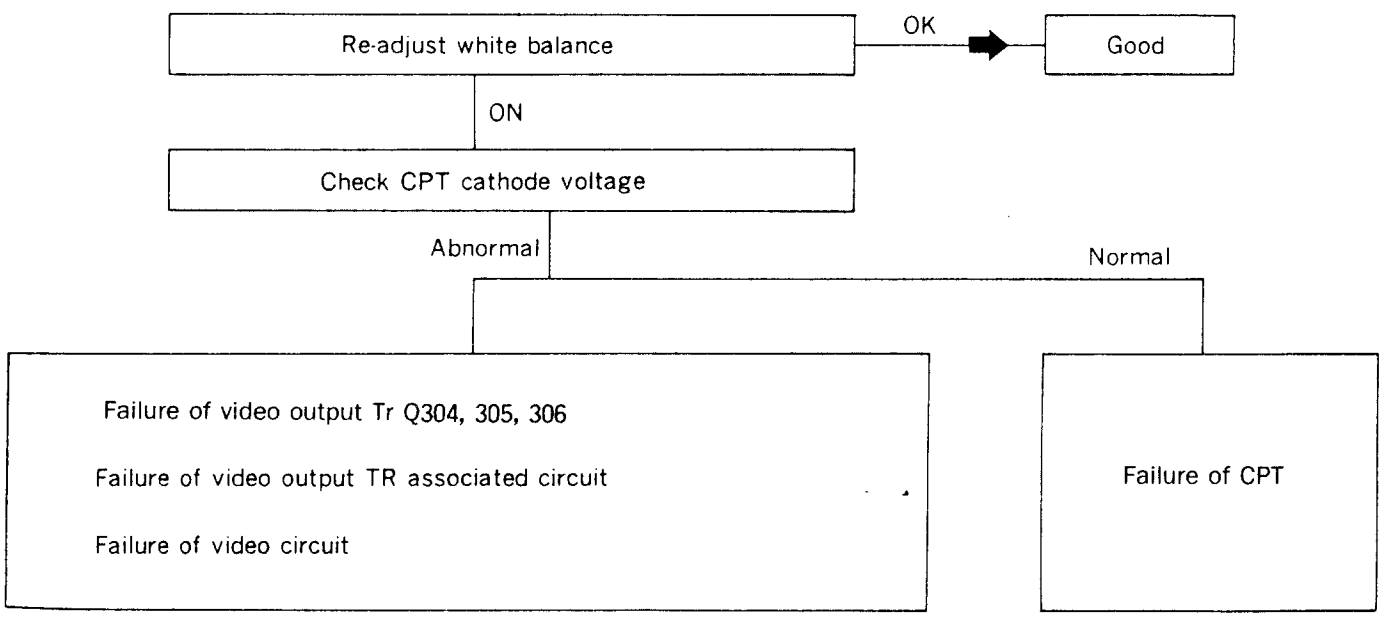
* NOTE : Apply positive signal as input for RGB1 TTL



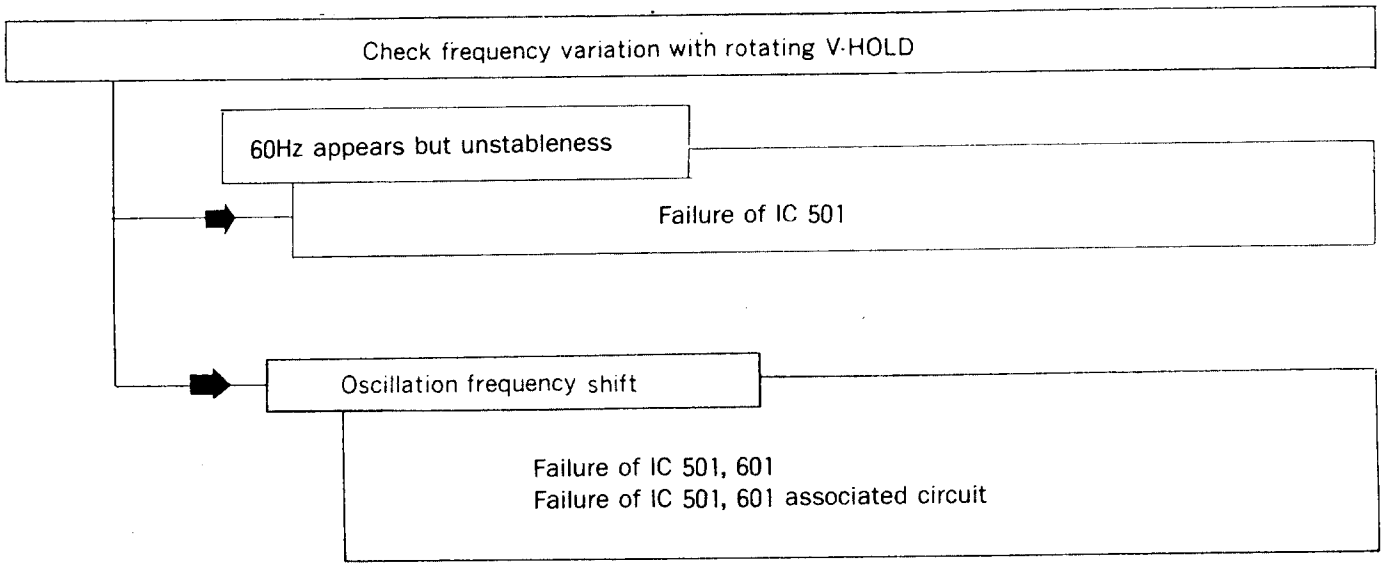
⑤ NO VERTICAL SWEEP



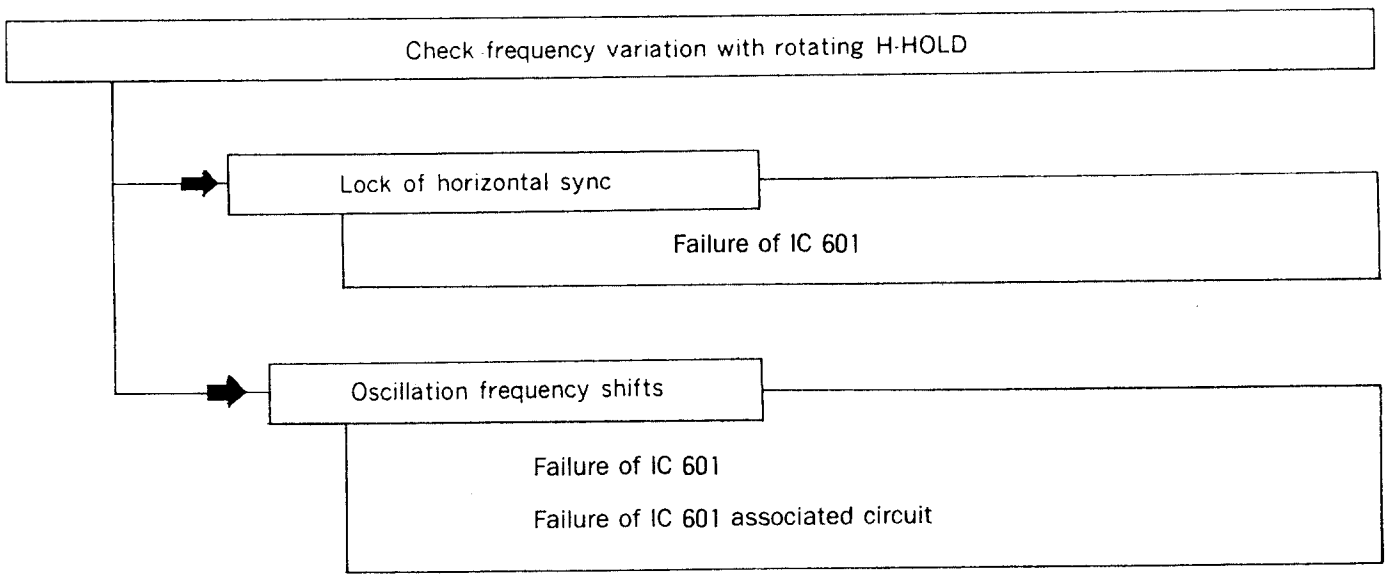
⑥ FAILURE OF WHITE BALANCE



⑦ UNSTABLE VERTICAL



⑧ UNSTABLE HORIZONTAL



2. TROUBLE SHOOTING FOR RESPECTIVE SYMPTOMS

2.1 NO RASTER

① Turn the brightness control clockwise fully. If raster does not apper, check up next item.

② Check CPT heater
It is not on: CPT heater disconnect & failure heater of FBT
OK : Proceed to next check item

③ Check high voltage by HV voltage meter High voltage is not obtained
: Check of FBT (T603)
Check of Q602 Collector
Check of Q602 base
Check of HDT
Check of pin 12 IC 601
Check of pin 13 IC 601
OK : Proceed to next check item

④ Check CPT electrode voltage as follow.
G2 : 400±50V
G4 : 6K±500V
G1 : OV
K : 180±10V
Voltage of G2 and G4 are not obtained: check of T603
Voltage of K is not obtainded: Check of video amp, and ambient circuit.
Voltage of G2, G4, G1 and K are normal: CPT is faulty.
OK : Proceed to next check item.

⑤ Check AC voltage at AC input point on SMPS
AC voltage abnormal : Failure of AC line
OK : Proceed to text check item

⑥ Check fuse F601
Disconnected : Failure of switching power transformer. Failure of bridge diode
Failure of degaussing circuit
OK : Proceed to next check item

⑦ Check DC output voltage
Abonormal : Failure of IC 101 and ambient circuit.
OK : Proceed to next check item.

2.2 ONLY ONE RASTER LINE APPEARS IN HORIZONTAL DIRECTION.

① Check of deflectin yoke vertical coil: Vertical coil open and shorted.

② Check of pin 7 of IC 601 when voltage is not obtained: Check of C 504

③ Check of pin

2.3 UNSTABLE VERTICAL

① Check frequency varition with rotating V-Hold.

② Check of pin 16, 17, 18, 19 of IC 601.

2.4 UNSTANLE HORIZONTAL

① Check of frequency variation with rotating H-Hold.

② Check of pin 5 of IC 601

2.5 NO PICTURE

The nearly square pulses output of the oscillator applies it the base of Q 601 to switch on and off this transistor, there by passing pulse current through the primary side transformer(HDT).
With each turning on and off of the transistor spiking occur because of inductance.
The horizontal out put transistor Q 602 is simply a switch which is turned on and off at the horizontal scan rate by the driving signal applied to its base, a saw-tooth current through the deflection coil is required to sweep the beam linearly across the CPT screen.
This happen when Q602 is turned on and its collector voltage droops to near zero, and the C616 begins discharging through the deflection coil which deflect the beam to the reigh edge of the CPT
At that time, Q602 cuts off and C616 ceases to supply current to the deflection coil. However, an induced voltage appear across the deflection yoke coil as the magnetic field collapes and an oscillation then occurs the deflection coils and C616.
During the first half cycle of this oscillation, the induced voltage is felt across the collector of Q602 with cut off C616 and the primary T603.
This voltage is stepped up T603 rectified to produce high voltage that is applied to anode of the CPT.

[3] SERVICE NOTE

Servicing precautions
The following precautions should be sbserved when service is required.

1. Replacment 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 imporper servicing.
2. Comply with all cautions and safety-related notes on or inside the monitor cabinet, on the monitor chassis or on the picture tube.
3. Maintain correct lead dress and part placement.
   Extra caution should be taken to assure proper dress in the high voltage circuit area.
   Where a malefaction has occured, those components or circuits that indicate evidence o abnormality should be replaced or corrected.
   Always use the manufacturer's safety specified replacment components.
4. When replace a chassis in the cabinet, always make certain that all the protective devices are back in their proper place, such as: non metallic control

knobs, insulating fishpapers, component cover / s-hields, isolation resister capacitor networks etc.

5. Before returning the monitor to the owner, be sure that no protective device built into the set by the manufacturer has become defective, or inadvertently defeated during servicing. Therefore, the following checks are recommended for the continued protection o the cutomer and service engineer.
   LEAKAGE CURRENT HOT CHECK
   Plug the AC line cord directly into a 115V AC outlet (do not use an isolation transformer in this check). Use a leakage current tester which complies with American National Standars Institute (ANS1 C101. 1-1971, LEAKAGE FOR APPLIANCE), and UNDERW-RITERS LABORATORIES (UL, 1410).

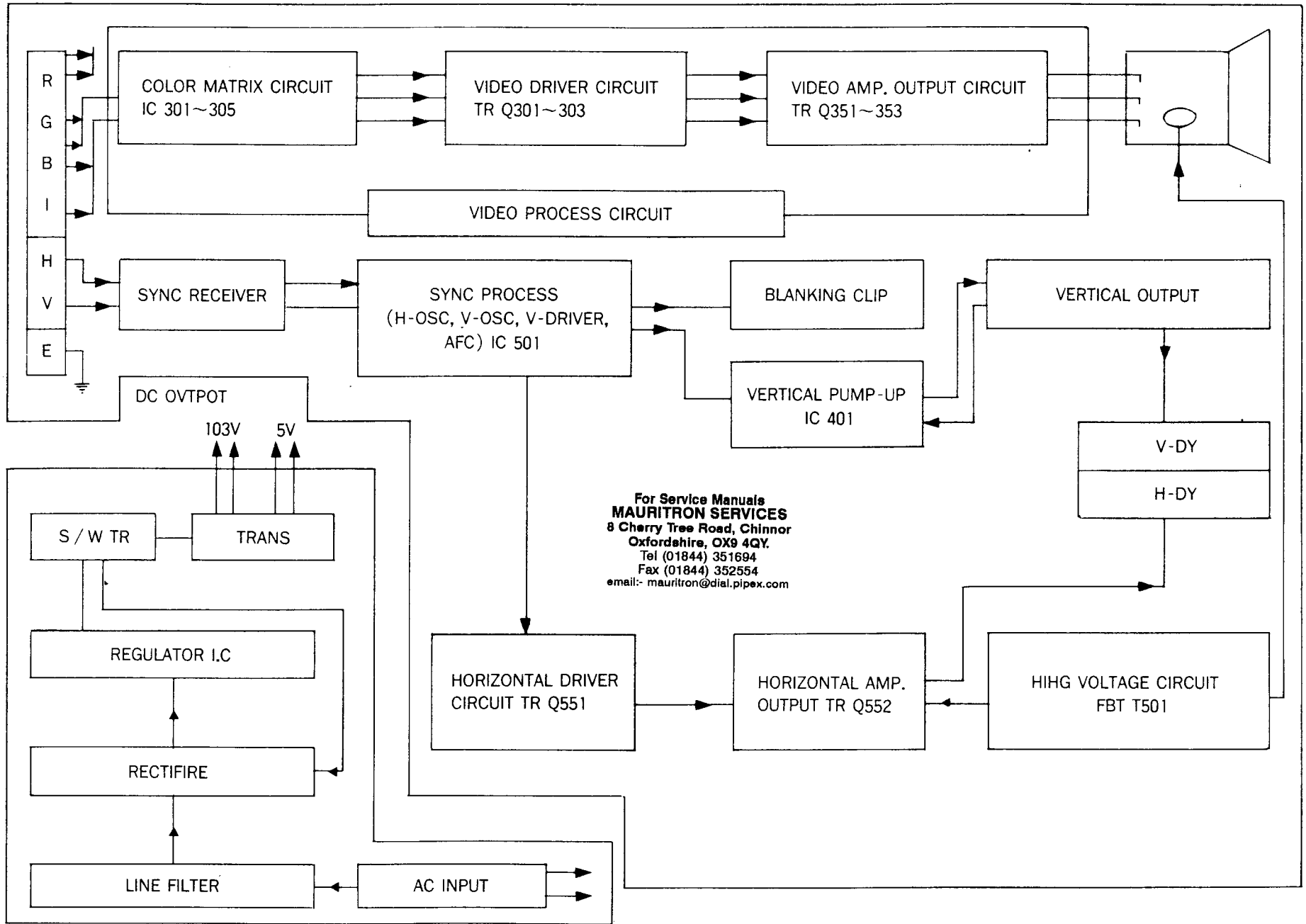
   Meaure current form all the exposed metal parts of the cabinet, (screwheads, metal overlays, etc.) to earth ground, particularly any exposed metal part having a return path to the chassis.
   The test should be conducted with AC switch "ON" and then repeated with "OFF"

   Any current measured must not exceed 0.5mA with to AC line cord inserted in the AC supply circuit receptacle. Any measurement not within the limits outlined above are indicative of a potential shock hazard and corrective action must be taken before returning the set to the custon.

6. X-RADIATION PRECAUTION
   This product contains critical electrical and mechanical parts essential for X-RAY protection, see CRITICAL COMPONENT LIST and other service adjustment. Anode voltage normalis 22.8KV at 115V line and must not exceed 2KV under any operating condition. To measure anode voltage, set brightness for a very dim picture.
   Use a high-voltage exceeds the specified limits, check each components on the chassis and take necessary corrective action.

7. Do not remove, install or handle the picutre tube in any manner unless shatter-proof goggles are worn. People not so equipped should be kept away while a picture tube is handled.
   Keep the picture tube away from body while handing.

〔4〕 BLOCK DIAGRAM



[5] THEORY OF OPERATIONS

1. General

This monitor contains two independent circuits.
One of them is a power supply section, and the other is a sweep or CPT drive section.

2. Power supply circuits

A function of line filte is to protect the power supply from line surges and noises, and to prevent a power supply from a radiant noise.
Line filte and the ambient capacitors back out on to series with the degaussing coil which is across the AC line, initially, when the receiver is turned "ON" and the resis ence of posistor is low.
Causing the current to flow through the degaussing coil and demagnetizing the action occur at CPT.
As a posistor heats, it's resistence increases to the point that the current flow through the degaussing coil become negligible.

3. Video section

This section amplifies the output signal of a generator to the level high enough to drive a video output circuit.
Input signal contain R.G.B. video signals and H/V sync. intensity.
These TTL level signals are a positive polarity.
Video signals are applied to IC 301, 302, 303 and drived through a contrast volume(V/R 403) and connected to Q301, 302, 303.
Finally, the drived signals are applied to CPT cathode through an output amplifier Q304, 305, 306.
The intensity signal is applied to IC 301, 302, 303 and the drived signal is applied to.
When the digital signal level is 0, Q402 is cut off and the emitter of Q402 is high level. The intensity signal from Q402 is applied to Q301, 302, 303 and mixed with R.G.B signal.
The socket board is a collection point for the voltage and signals required to operate CPT.
The board contain bias and drive controllers.
R.G.B signals are directly coupled from amplifier of R.G.B. main PCB.

4. Horizontal and vertical processor circuit

The IC 601 contains all circuits for sync. separation, vertical deflection, horizontal derlection, AFC and X-RAY protection.
The input is first applied to the sync. separation circuit, and the sync. signals separated and taken out for applying to the horizontal AFC and vertical sync. separation circuits.
The 60 Hz signal, originated and amplified in the IC 501, comes to pin 5 and then amplified more by the vertical output circuit.
The amplified 60 Hz signal goes out pin 6 of IC 501, to vertical deflection yoke causing a sawtooth current to flow in the yoke coil.
The frequency of horizontal oscillation can be changed by means of V/R 603.
The pulses occuring in the secondary winding of FBT are admitted as the pulses for a sawtooth wave generation through c626, R618 to IC 601.
These pulses under integration are connected to pin 4 of IC 601, and applied as a comparison signal to the horizontal AFC circuit.
The voltage resulting comparison and detection is taken out through pin 5 of IC 601 and smoothened by C604 and forwarded as the horizontal AFC voltage to the oscillation circuit.
The X-RAY protection circuit operates by shutting down the borizontal oscillator in reference to a voltage produced by rectifying the flyback pulses.
This scheme, based on the proportionality between flyback pulses and high voltage, is put to work in a following manner.
Flyback pulses of a positive polarity are rectified D602 and R616 and the resulting DC voltage is applied to pin 13 of IC 601
When a high volthage exceeds the limit, the DC voltage will be high, so to shut down the horizontal oscillator. Aloss of this oscillation is a loss of raster, but the DC power supply remains unaffected.
The Q601 and T602 is a horizontal drive circuit.
This circuit is located between an oscillator circuit and a horizontal output circuit, and serves to amplify the output of the oscillator and to drive the output transistor.
The nearly square pulses output of the oscillator is applied to the base of Q692 to switch on and off this transistor, there by passing pulse current through the primary side transforme(HDT).
With each turning on and off of the transistor spiking occur because fo inductance.
The horizontal output transistor Q602 is a simple switch which is turned on and off at the horizontal scan rate by the driving signal applied to it's base, a sawtooth current through the deflection coil is required to sweep the beam linearly across the CPT screen.
This happens when Q602 is turned on and it's collector voltaged droped to near zero, and the C614 begins discharging through the deflection coil which deflects the beam to the reigh of the CPT.
At that time, Q602 cut off and C614 ceased to supply current of the deflection coil. However, an induced voltage appears across the deflection yoke coil as the magnetic fiecld collapes and then an oscillation occurs the deflection coils and
During the first half cycle of this oscillation, the induced voltage that is applied to the anode of CPT.

[6] SERVICING PRECAUTIONS

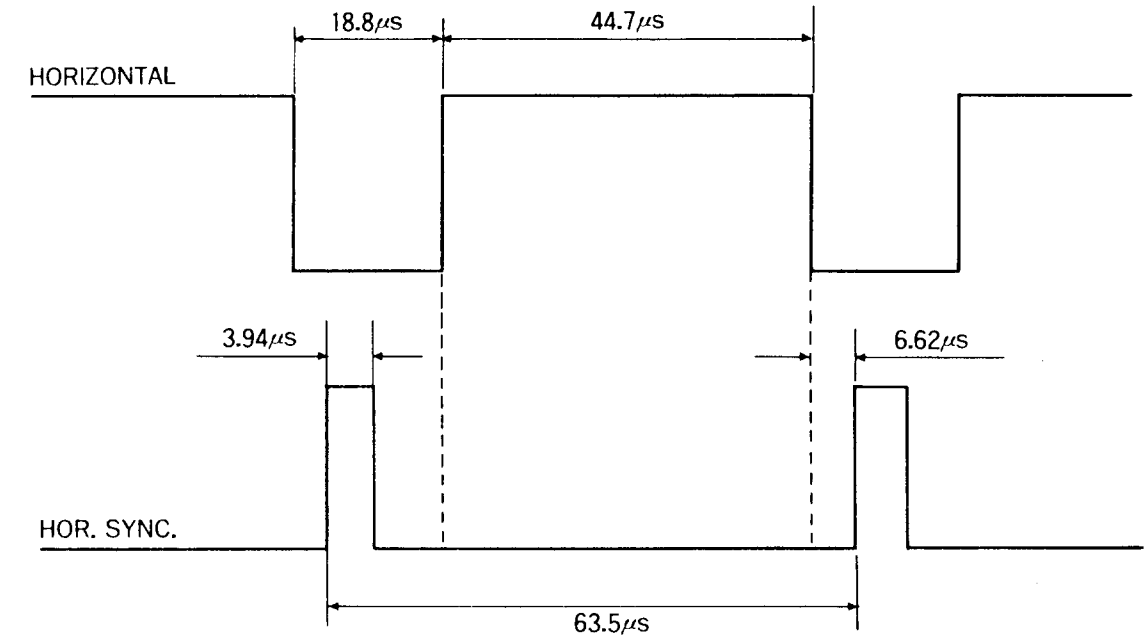
The following precautions should be observed when service is required.

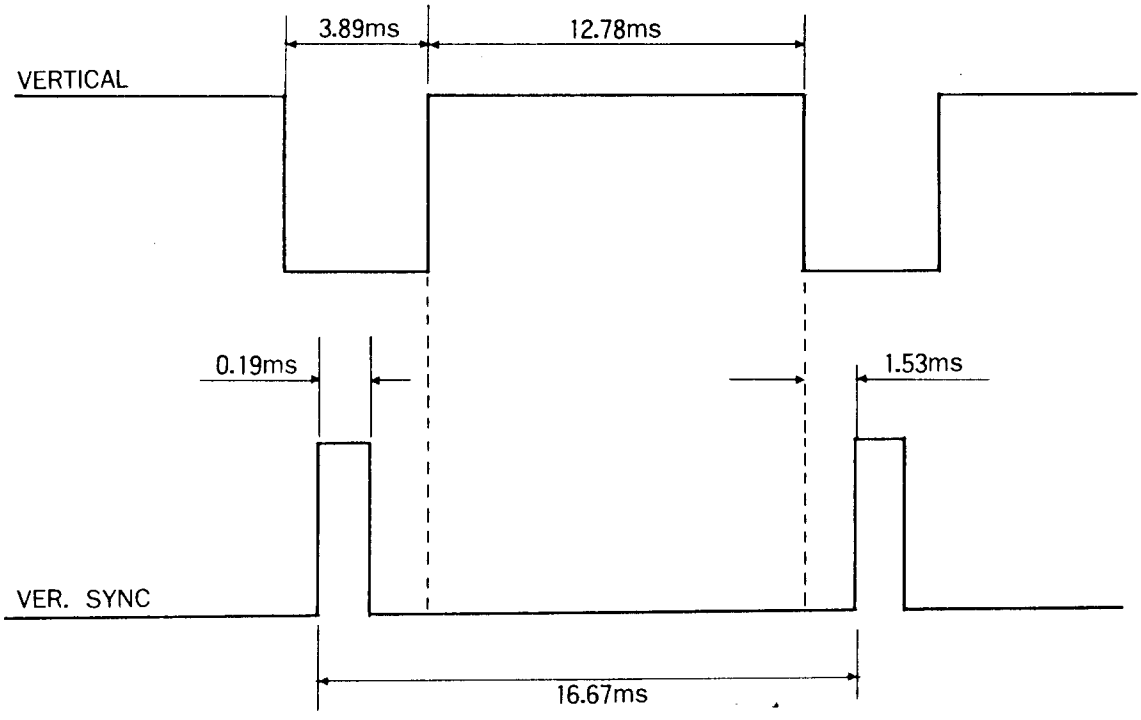
1. Replacement parts which have special safety characteristics are identified by shading on the sche-

matics.REplace these critical copmoenents with recommended replacement parts.
Do not degrade a safety of the set through improper servicing.

2. Comply with all cautions and safety-related notes on or inside the monitor cabinet on the picture tube.
3. Maintain correct lead dress and proper dress in a high voltage circuit area.
When malefaction occurs, replace or correct an abnormal components.
Always use a manufacturer's safety specified replacement components.
4. Before replacing the back cover of the set, thoroughly inspect inside the cabinet to see that no stray parts or tools have been left side.
5. When you replace the chassis in a cabinet, be sure that no protectivedevices are back in their proper place, such as aluminum foils, insulating covers, shield, etc..
6. Before returning a monitor to an owner, be sure that no protective device built into the set by a manufacturer has become defective of inadvertently defected during servicing.
Therefore, the following checks are recommended for a continued protection of a customer and a service engineer.
Plug the AC line cord directly into a 115V ac output, use as AC voltmeter having 5,000 ohms per volt more sensitive in a follawing manner.
Measure a current from all the exposed metal parts of a cabinet to earth ground, particularly any exposed metal parts having a return path to the chassis.A test should be conducted with AC switch "ON" and then repeated with "OFF".
Any measured current must not exceed 0.5mA with AC line core inserted in the AC supply circuit receptacle. Any measurements not within the limits outlined above are an indication of a potential shock hazard and a correction action should be taken before returning the set to a customer.
7. Do not remove, install or handle the picture tube in any manner.
Unless shatter-proot goggles are worn.
People not so equipped should be kept away while a picture tube is handled.
Keep the picture tube away from body while handling.

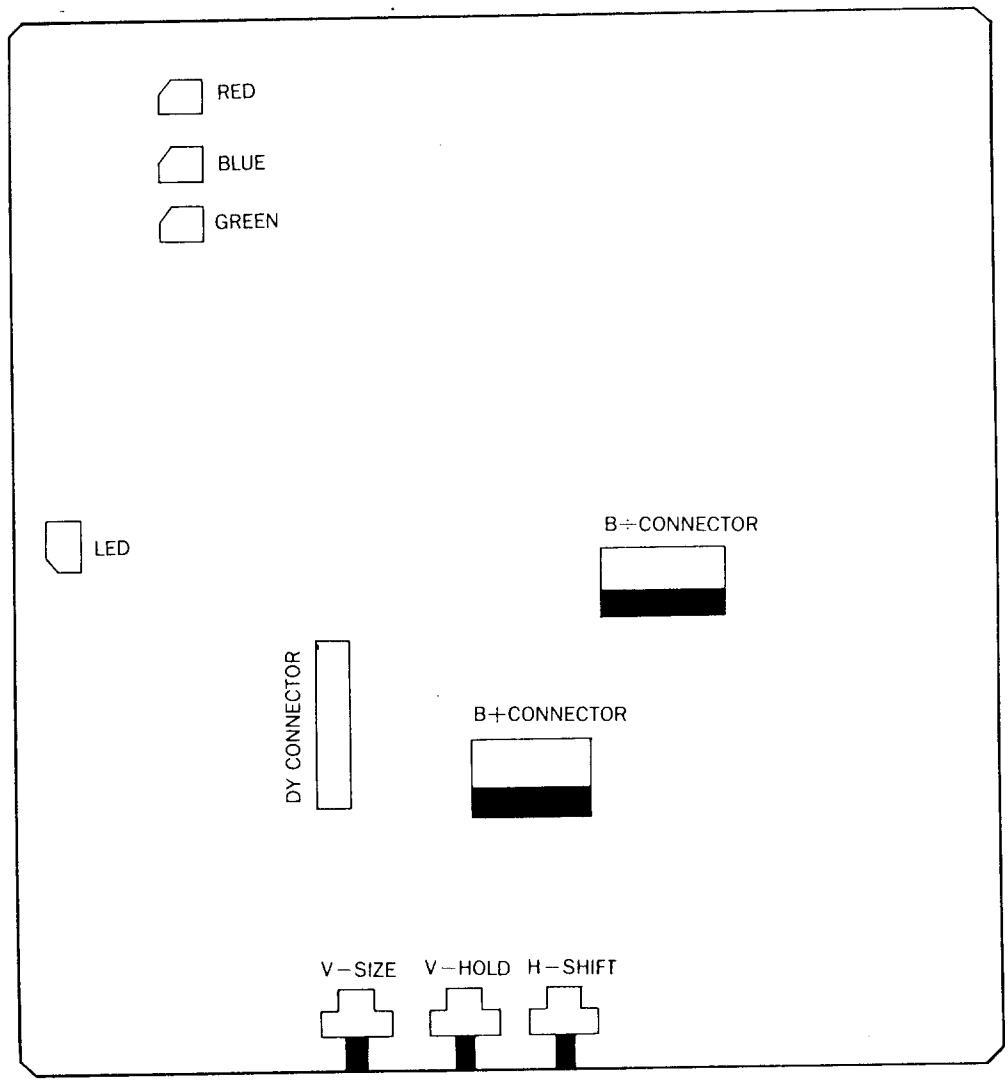
1. TIMING CHART

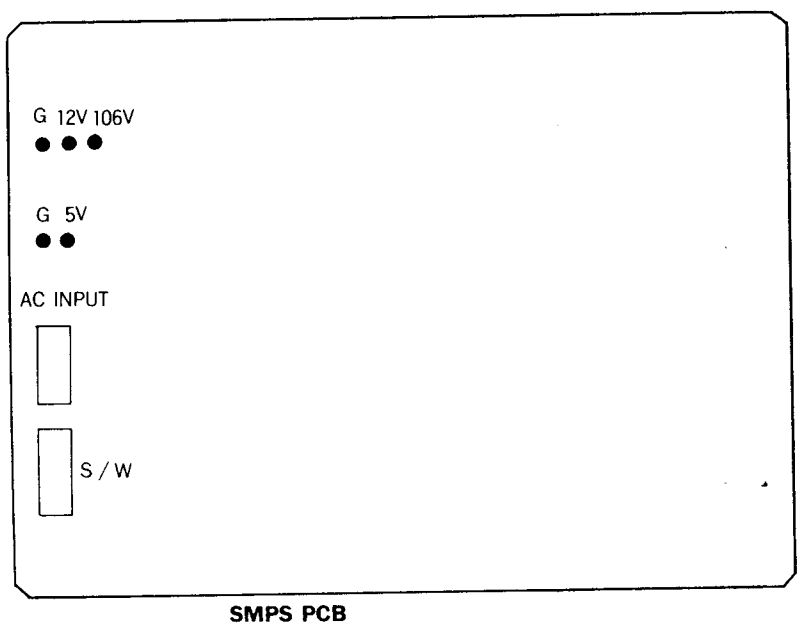




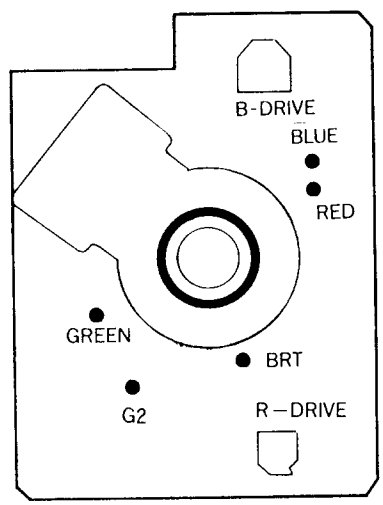
2. ADJUST AND CNNECTOR FOR PCB

MAIN PCB

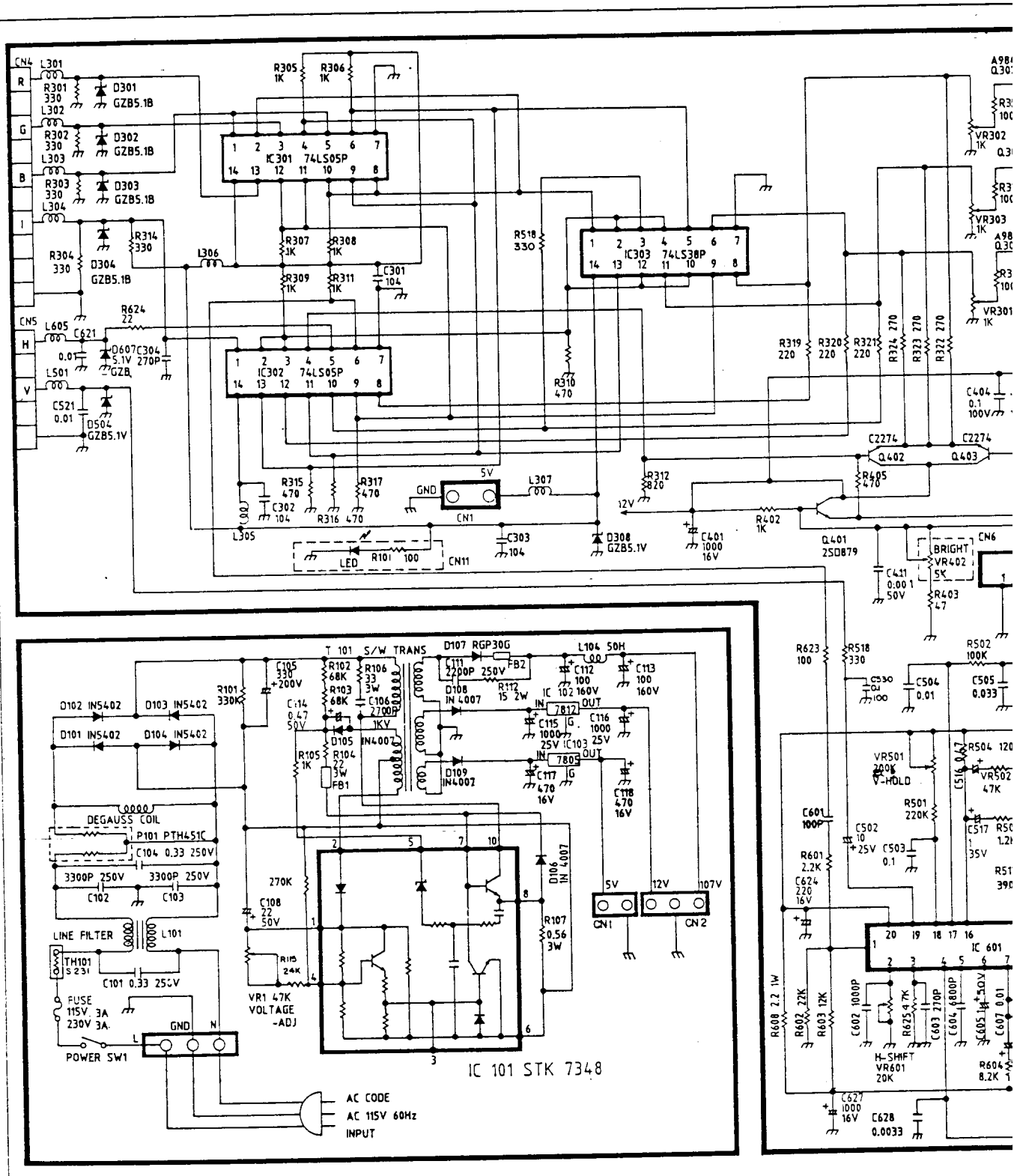


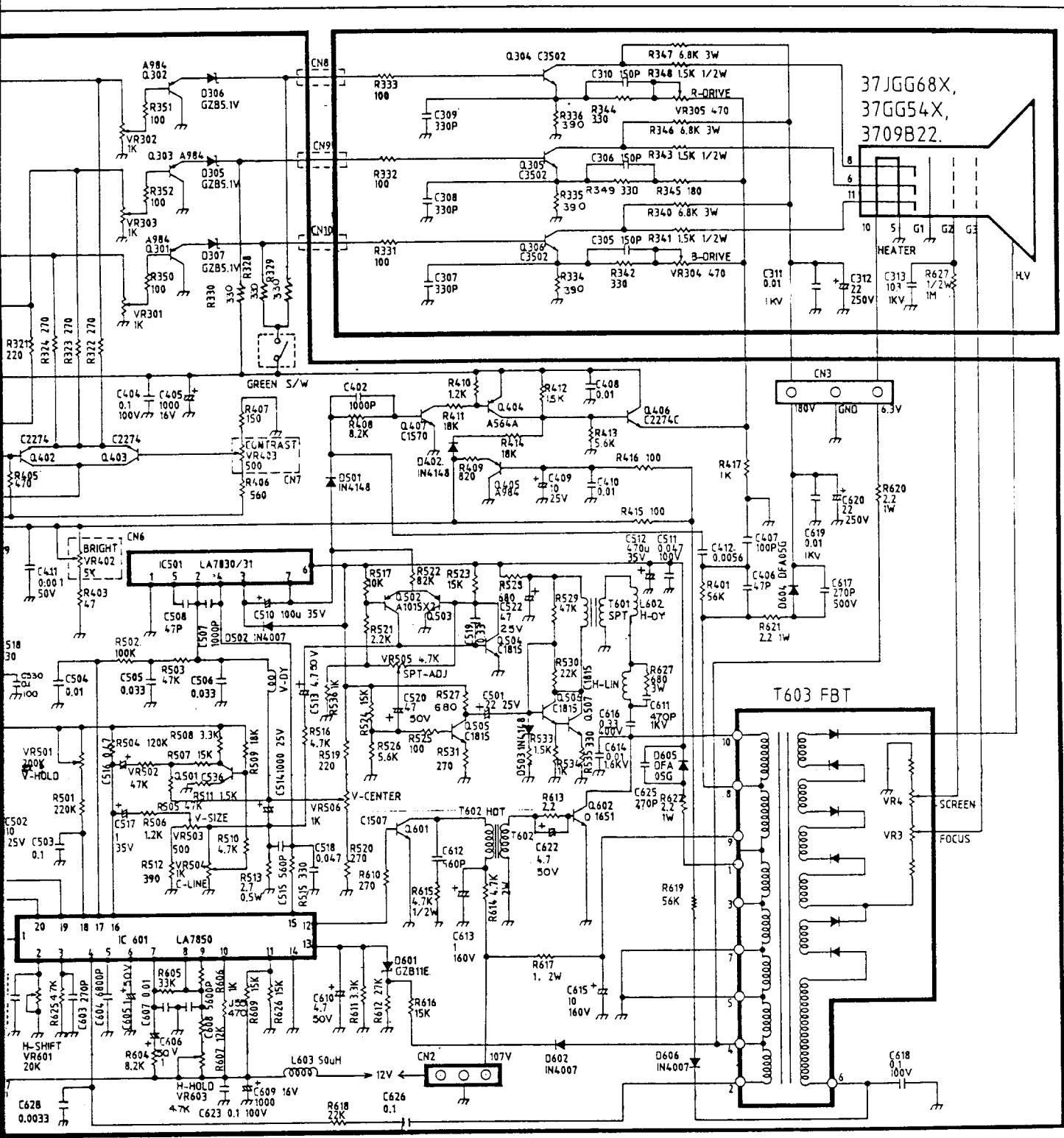


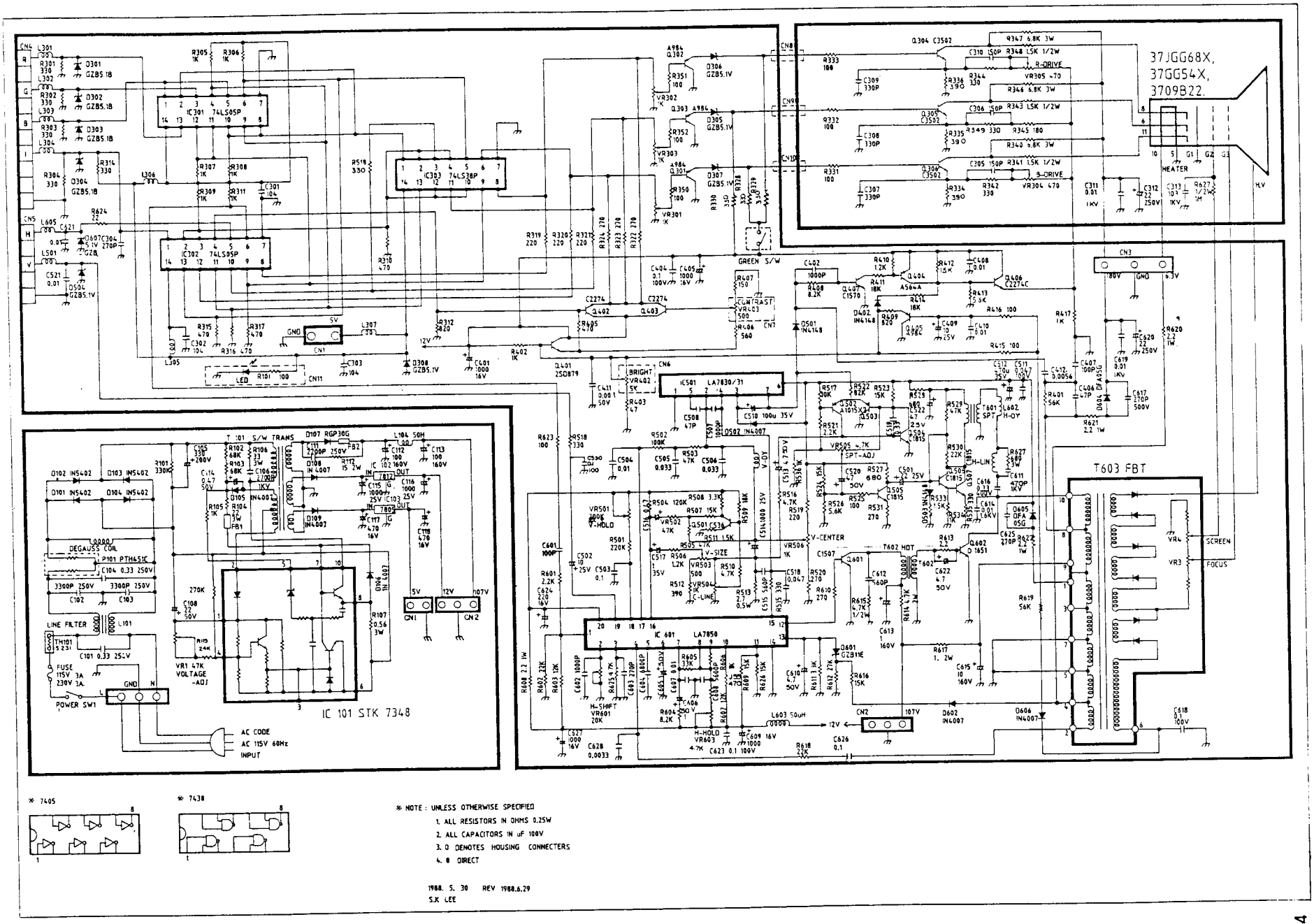
SMPS PCB



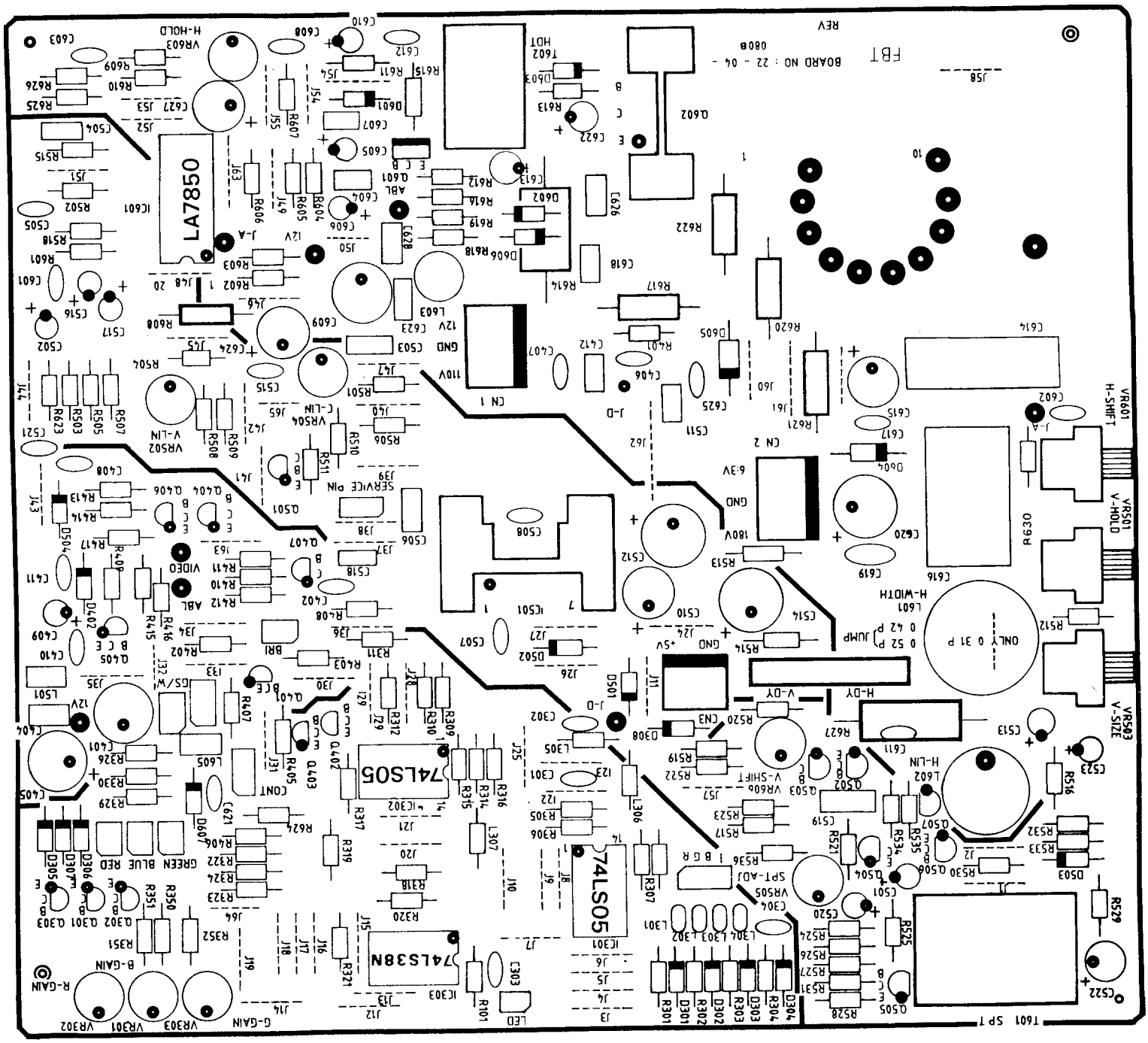
SOCKET PCB


IC301 74LS05P
IC303 74LS38P
IC302 74LS05P
T 101 S/W TRANS
D107 RGP30G
L104 50H
DEGAUSS COIL
P101 PTH451C
LINE FILTER
L101
TH101 S231
FUSE 115V 3A 230V 3A
POWER SW1
VR1 47K VOLTAGE -ADJ
IC 101 STK 7348
AC CODE
AC 115V 60Hz INPUT
IC 601
V-HOLD
H-SHIFT VR601 20K
BRIGHT VR402 5K
CN1
CN2
CN4
CN5
CN6
CN11
* 7405
* 7438
* NOTE : UNLESS OTHERWISE SPECIFIED
1. ALL RESISTORS IN OHMS 0.25W
2. ALL CAPACITORS IN uF 100V
3. O DENOTES HOUSING CONNECTERS
4. ■ DIRECT
1988. 5. 30 REV 1988.6.29
S.K LEE

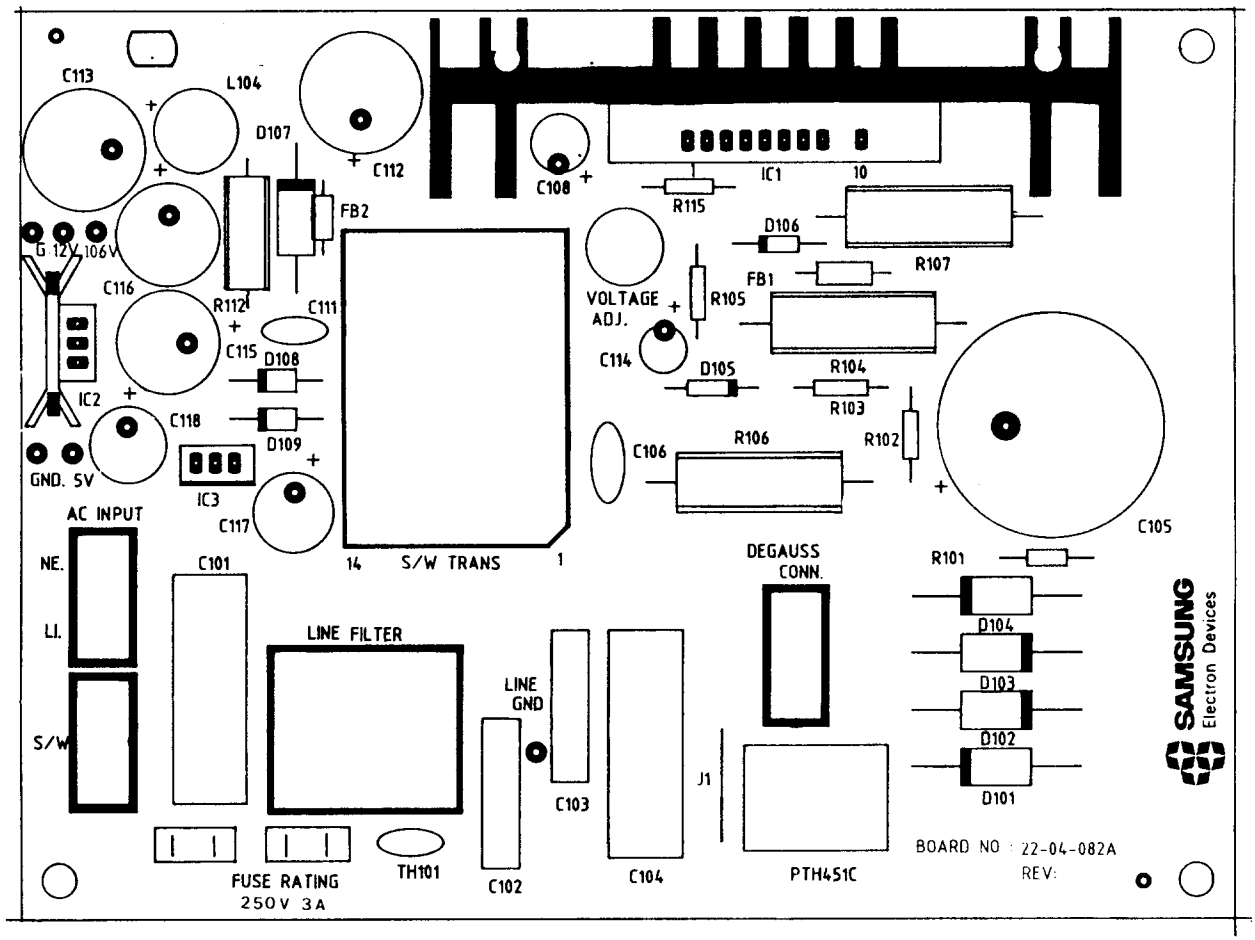

37JGG68X,
37GG54X,
3709B22.
T603 FBT
IC 601 LA7850
IC501 LA7830/31
CN1
CN2
CN3
CN6
CN7
CN8
CN9
CN10
GREEN S/W
R-DRIVE
G-DRIVE
B-DRIVE
HEATER
HLV
180V
GND
6.3V
107V
12V
V-HOLD
V-SIZE
V-CENTER
V-LIN
V-DY
H-SHIFT
H-HOLD
H-LIN
C-LINE
SPT-ADJ
SCREEN
FOCUS
BRIGHT
CONTRAST
T602 HOT
SPT
H-OY


37JGG68X,
37GG54X,
3709B22.
T603 FBT
IC 101 STK 7348
AC CODE
AC 115V 60Hz
INPUT
* 7405
* 7438
* NOTE : UNLESS OTHERWISE SPECIFIED
1. ALL RESISTORS IN OHMS 0.25W
2. ALL CAPACITORS IN uF 100V
3. ○ DENOTES HOUSING CONNECTERS
4. ● DIRECT
1988. 5. 30 REV 1988.6.29
S.K LEE

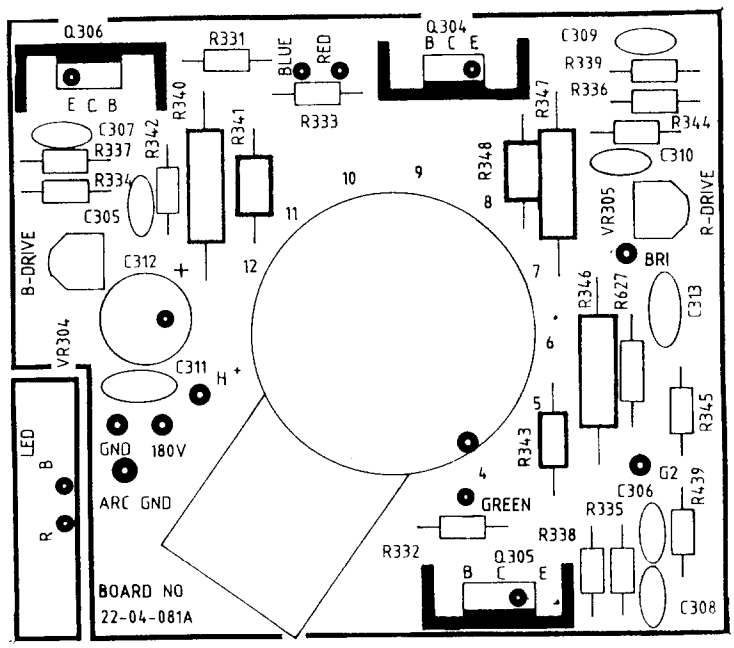
6. PCB COMPONENT COCATION



〈 MAIN BOARD 〉

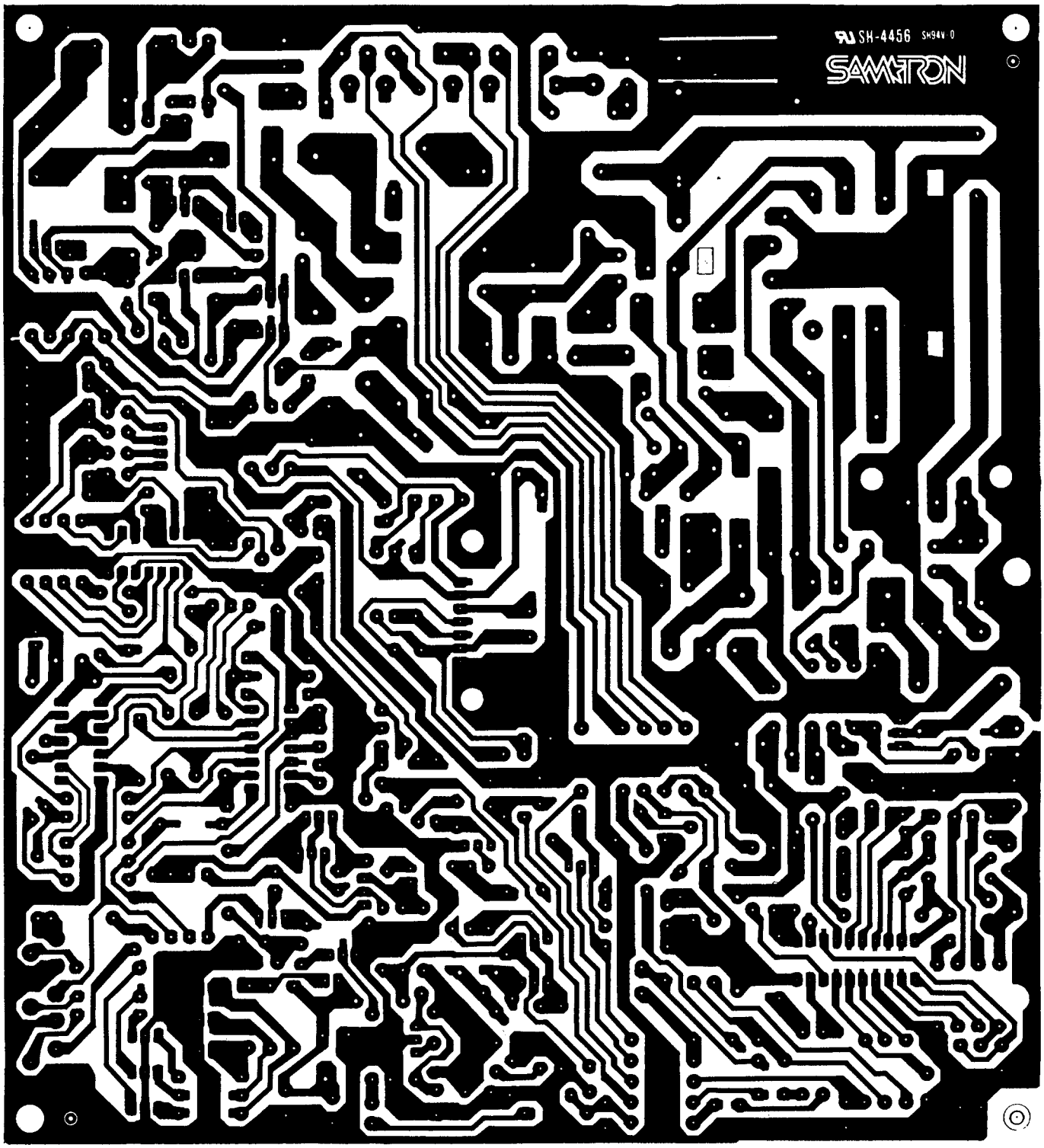


〈 SMPS BOARD 〉



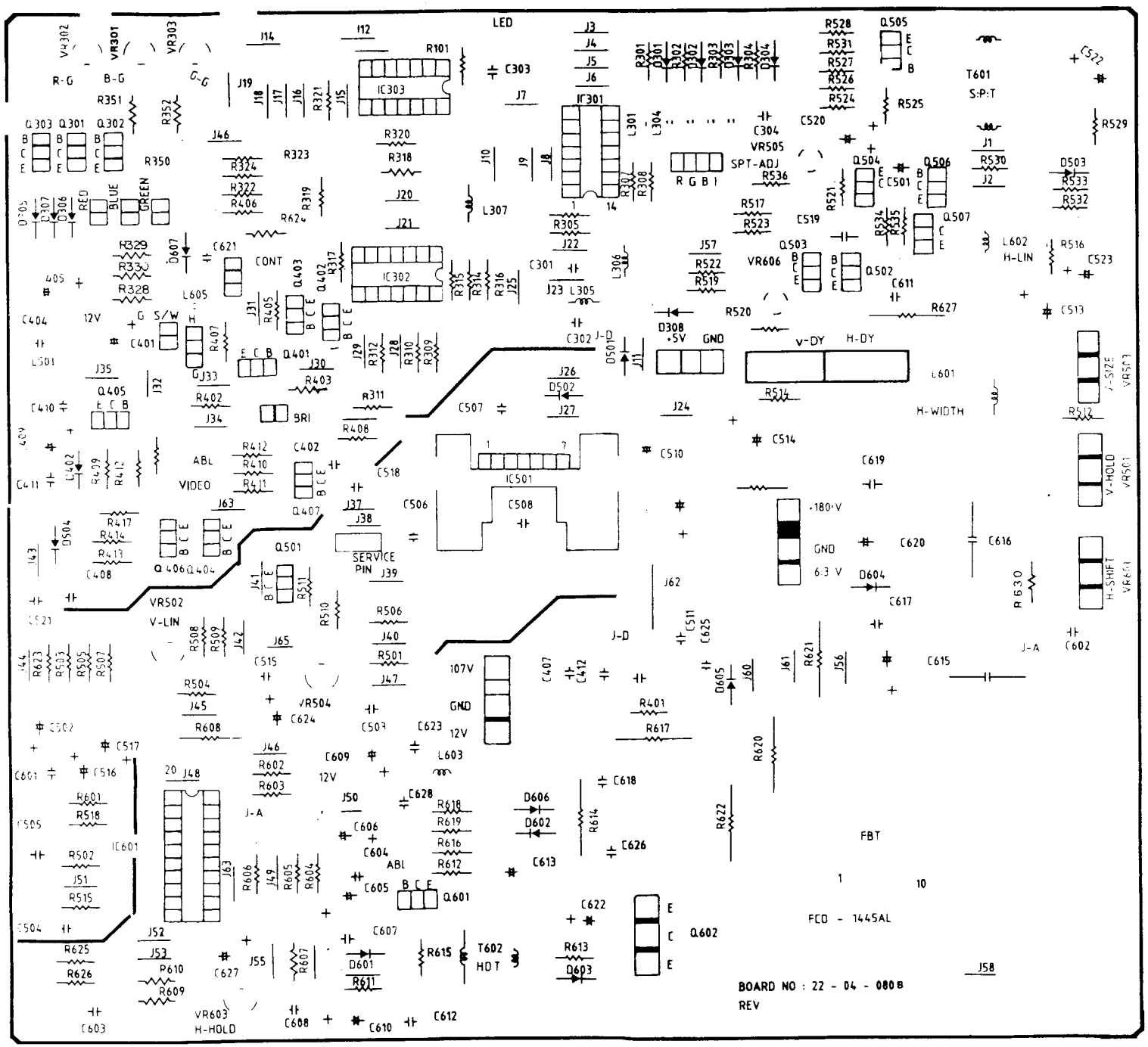
〈 CRT SOCKET BOARD 〉

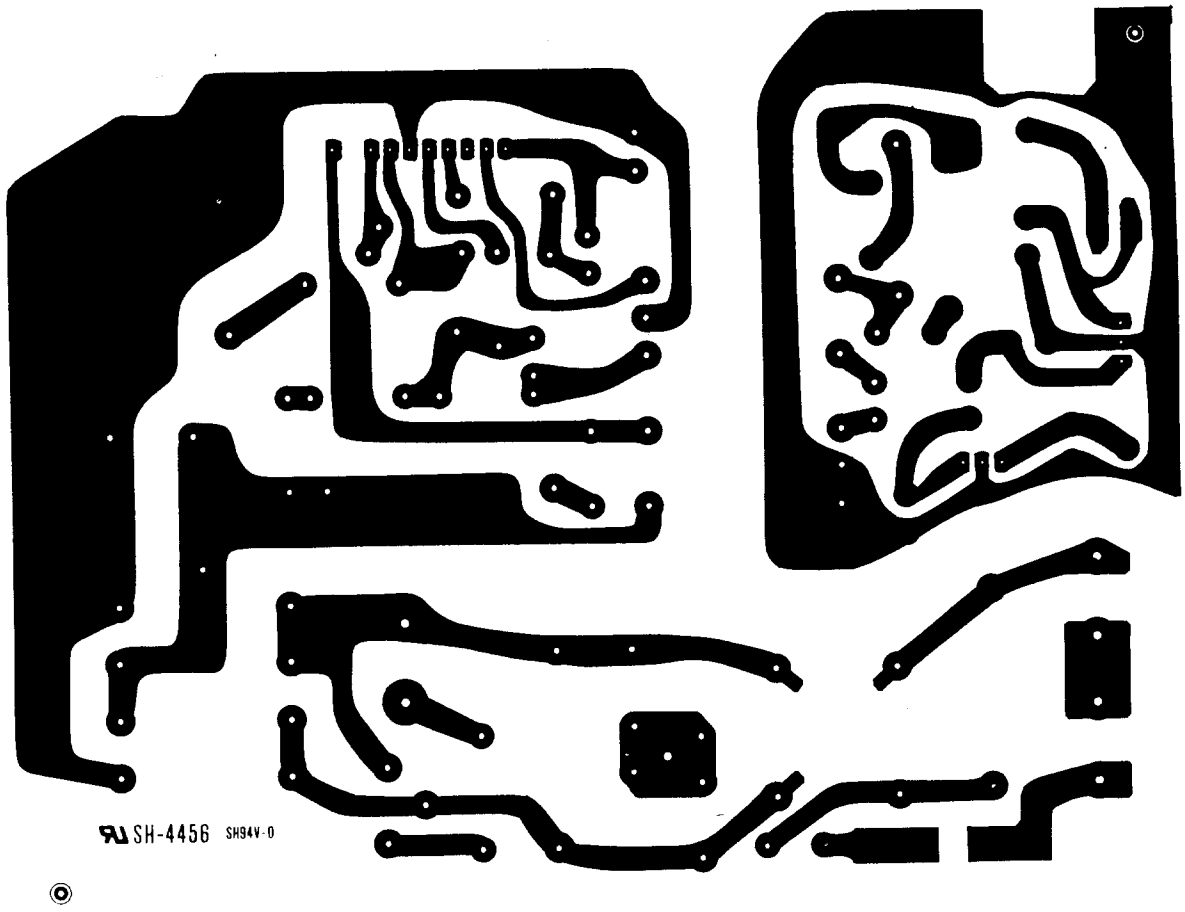
7. PCB LAND PATTERN DRAWING



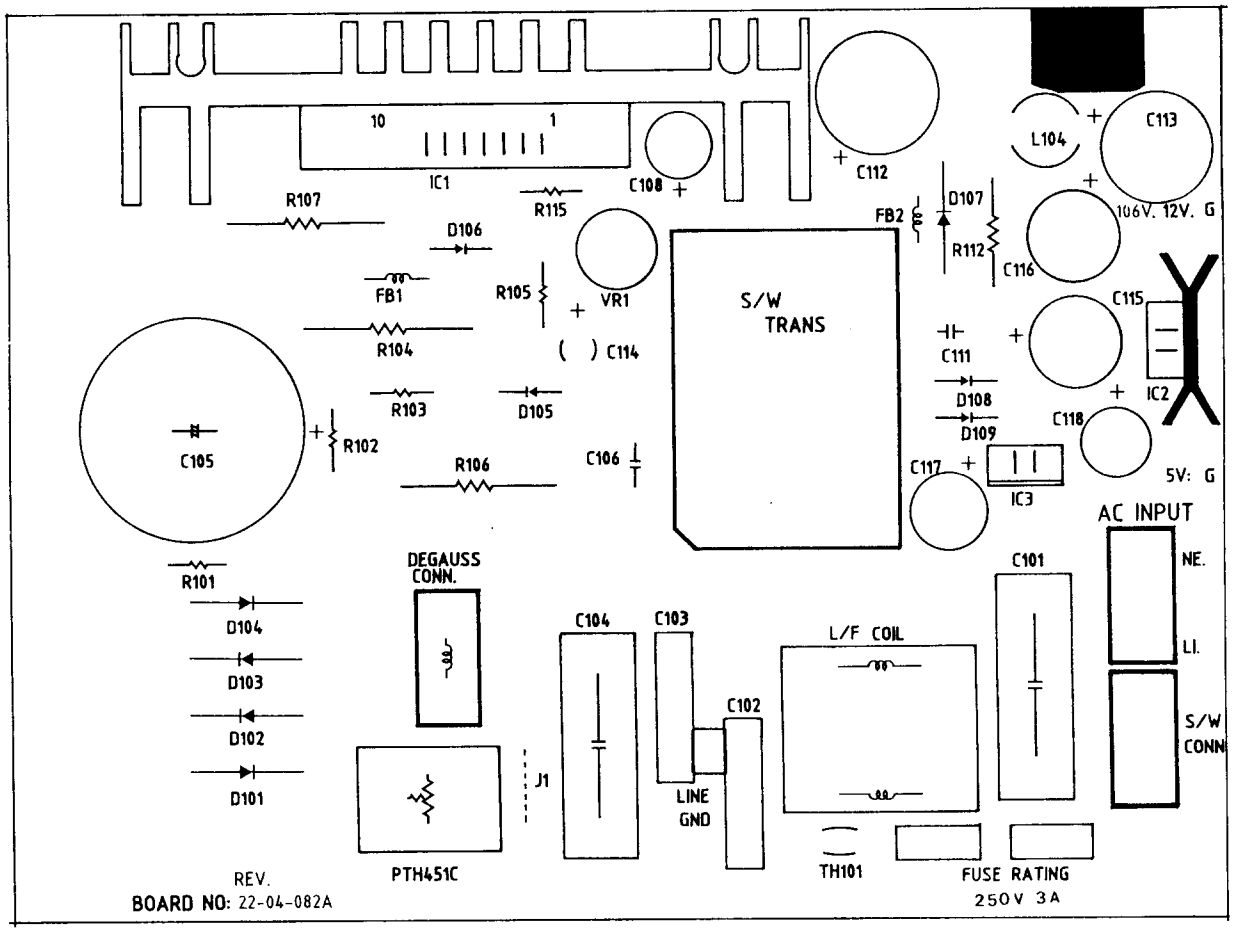
〈 MAIN BOARD 〉

(MAIN BOARD)

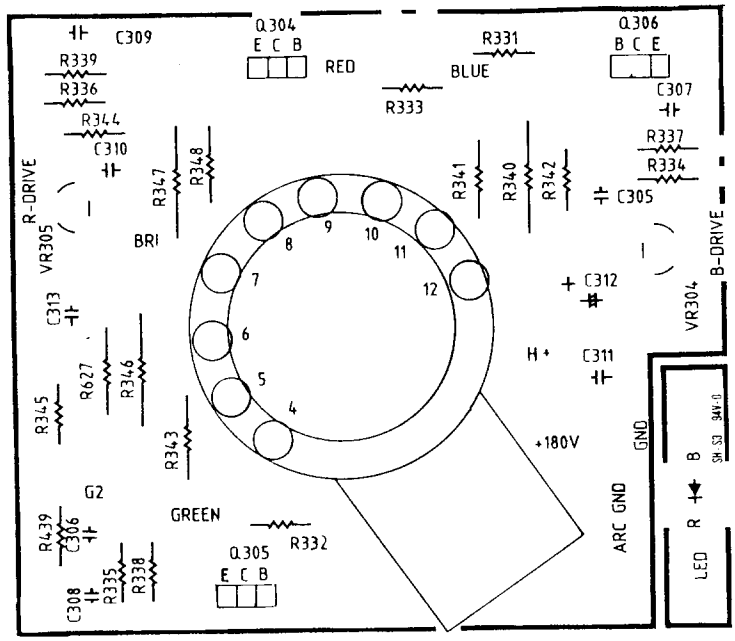

LED
IC303
IC301
IC302
IC501
IC601
R-G
B-G
G-G
RED
BLUE
GREEN
CONT
ABL
VIDEO
S/W
SERVICE PIN
VR502
V-LIN
VR504
H-HOLD
VR603
SPT-ADJ
R G B I
VR606
H-LIN
V-DY
H-DY
+5V
GND
+180V
107V
6.3 V
12V
H-WIDTH
V-SIZE
V-HOLD
H-SHIFT
VR501
VR503
VR505
T601
S-P-T
T602
HOT
FBT
FCO - 1445AL
BOARD NO : 22 - 04 - 080B
REV

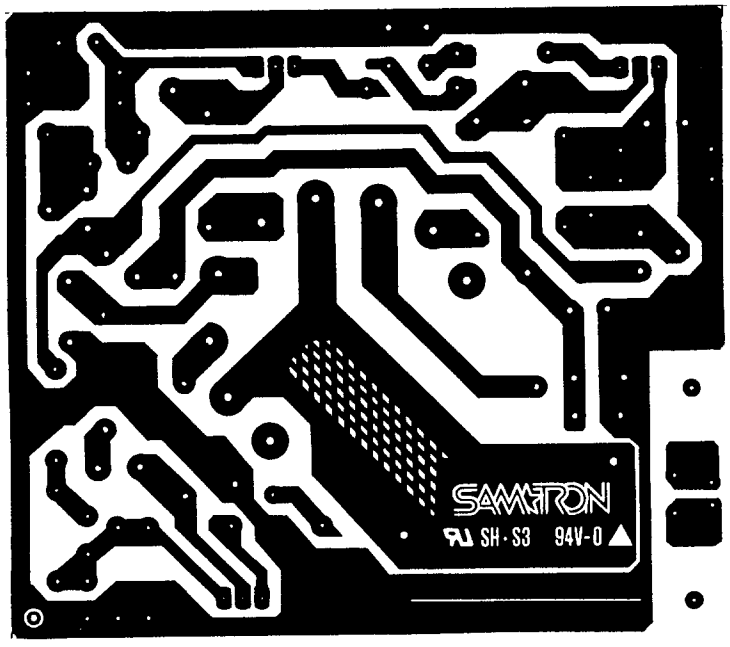


〈 SMPS BOARD 〉


10
1
IC1
C108
C112
L104
C113
R107
R115
D106
FB2
D107
R112
C116
106V. 12V. G
FB1
R105
VR1
S/W
TRANS
C115
R104
( ) C114
C111
IC2
R103
D105
D108
D109
C118
C105
R102
R106
C106
C117
IC3
5V: G
AC INPUT
R101
DEGAUSS
CONN.
C101
NE.
D104
C104
C103
L/F COIL
LI.
D103
C102
S/W
CONN.
D102
J1
LINE
GND
D101
PTH451C
TH101
FUSE RATING
250V 3A
REV.
BOARD NO: 22-04-082A

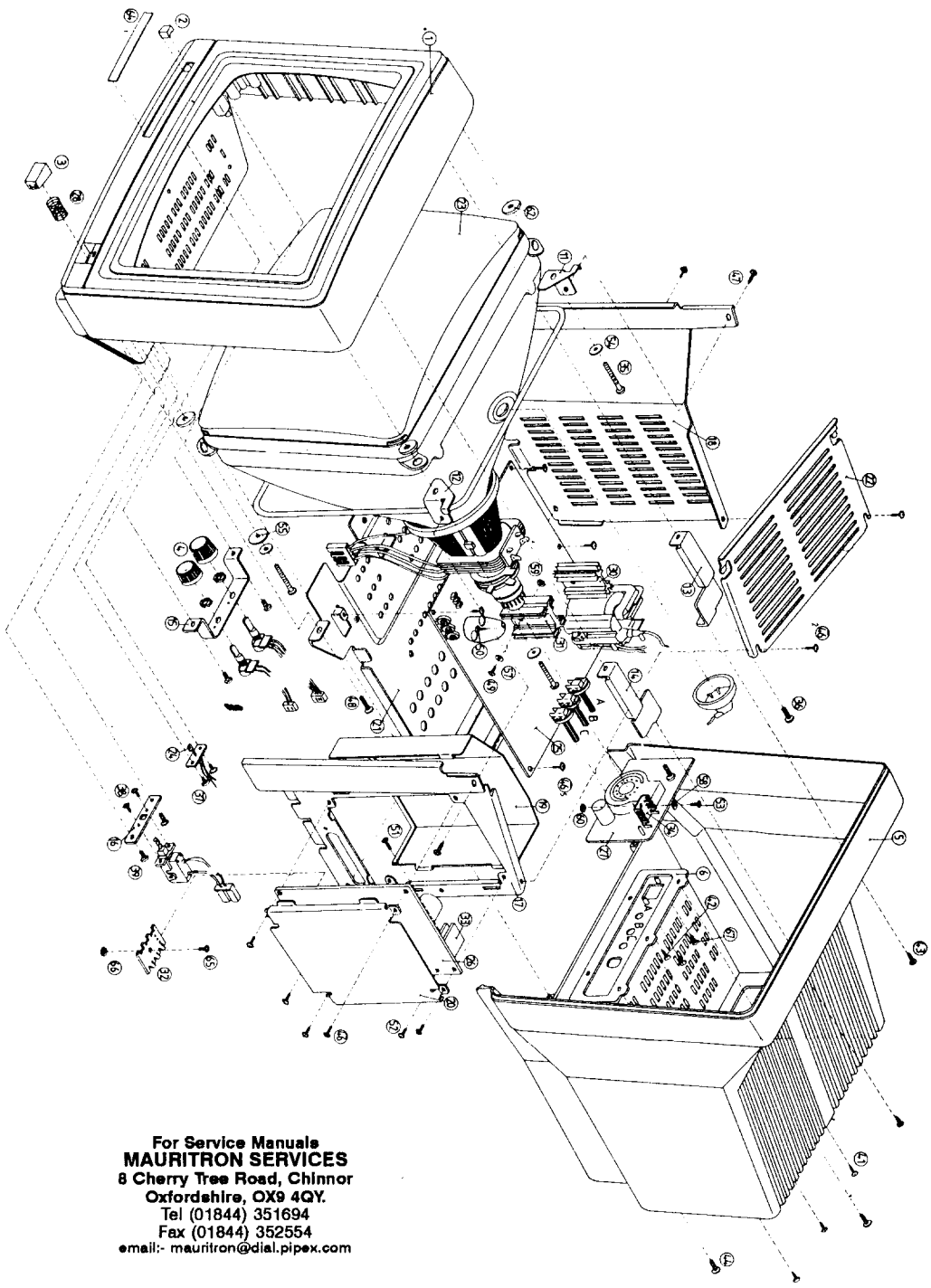
〈 **SMPS BOARD** 〉

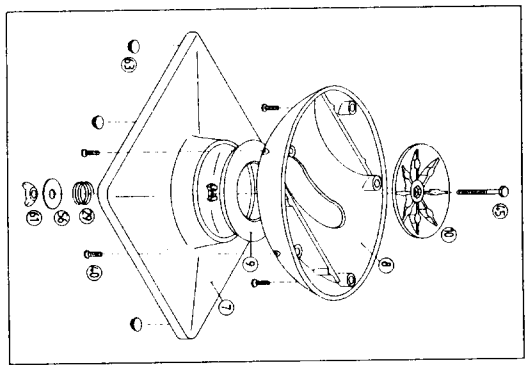




〈 CRT SOCKET BOARD 〉

ASSEMBLY DRAWING





OPTION

1. SCOPE

This specification describes the parts list of 14 inch CGA(:COLOR GRAPHIC ADAPTER) COLOR MONITOR intended for displaying TTL drive mode input.(442C.452C)

2. APPLICABLE DOCUMENT

Q2-D614121 442C / 452C PRODUCT SPECIFICATION

3. PARTS LIST

LOCATON NO	PART NO	DESCRIPTION		REMARKS
		PICTURE TUBE		
	26-17-006	P-22,DARK PHOSPHOR	37GGC54X-TC	0.42P ONLY
	26-17-002	P-22,DARK PHOSPHOR	37JGG68X	0.52P ONLY
	G1-03-064	ASS'Y, MAIN PC BOARD		
	22-04-080	P.C BOARD, FR-1	MAIN	
		RESISTORS		
R301-304	14-04-331	RES, CARBON, AT	330 ohm 1 / 4W 5%	
R305-309	14-04-102	RES, CARBON, AT	1K ohm 1 / 4W 5%	
R310	14-04-471	RES, CARBON, AT	470 ohm 1 / 4W 5%	
R311	14-04-102	RES, CARBON, AT	1K ohm 1 / 4W 5%	
R312	14-04-821	RES, CARBON, AT	820 ohm 1 / 4W 5%	
R314	14-04-331	RES, CARBON, AT	330 ohm 1 / 4W 5%	
R315-317	14-04-471	RES, CARBON, AT	470 ohm 1 / 4W 5%	
R318, R406	14-04-561	RES, CARBON, AT	560 ohm 1 / 4W 5%	
R319-321	14-04-221	RES, CARBON, AT	220 ohm 1 / 4W 5%	
R322-324	14-04-271	RES, CARBON, AT	270 ohm 1 / 4W 5%	
R328-330	14-04-331	RES, CARBON, AT	330 ohm 1 / 4W 5%	
R350-352	14-04-101	RES, CARBON, AT	100 ohm 1 / 4W 5%	
R401	14-04-563	RES, CARBON, AT	56K ohm 1 / 4W 5%	
R402	14-04-102	RES, CARBON, AT	1K ohm 1 / 4W 5%	
R403	14-04-470	RES, CARBON, AT	47 ohm 1 / 4W 5%	
R405, J55	14-04-471	RES, CARBON, AT	470 ohm 1 / 4W 5%	
R407	14-04-151	RES, CARBON, AT	150 ohm 1 / 4W 5%	
R408	14-04-822	RES, CARBON, AT	8.2K ohm 1 / 4W 5%	
R409	14-04-821	RES, CARBON, AT	820 ohm 1 / 4W 5%	
R410	14-04-122	RES, CARBON, AT	1.2K ohm 1 / 4W 5%	
R411	14-04-183	RES, CARBON, AT	18K ohm 1 / 4W 5%	
R412	14-04-152	RES, CARBON, AT	1.5K ohm 1 / 4W 5%	
R413	14-04-562	RES, CARBON, AT	5.6K ohm 1 / 4W 5%	
R414	14-04-183	RES, CARBON, AT	18K ohm 1 / 4W 5%	
R415-416	14-04-101	RES, CARBON, AT	100 ohm 1 / 4W 5%	
R417	14-04-102	RES, CARBON, AT	1K ohm 1 / 4W 5%	
R501	14-04-224	RES, CARBON, AT	220K ohm 1 / 4W 5%	
R502	14-04-104	RES, CARBON, AT	100K ohm 1 / 4W 5%	
R503	14-04-473	RES, CARBON, AT	47K ohm 1 / 4W 5%	
R504	14-04-124	RES, CARBON, AT	120K ohm 1 / 4W 5%	
R505	14-04-473	RES, CARBON, AT	47K ohm 1 / 4W 5%	
R506	14-04-122	RES, CARBON, AT	1.2K ohm 1 / 4W 5%	

LOCATON NO	PART NO	DESCRIPTION		REMARKS
		RESISTORS		
R507	14-04-153	RES, CARBON, AT	15K ohm 1 / 4W 5%	
R508	14-04-332	RES, CARBON, AT	3.3K ohm 1 / 4W 5%	
R509	14-04-183	RES, CARBON, AT	18K ohm 1 / 4W 5%	
R510	14-04-472	RES, CARBON, AT	4.7K ohm 1 / 4W 5%	
R511	14-04-152	RES, CARBON, AT	1.5K ohm 1 / 4W 5%	
R512	14-04-391	RES, CARBON, AT	390 ohm 1 / 4W 5%	
R513	14-04-027	RES, CARBON, AT	2.7 ohm 1 / 4W 5%	
R514	14-04-821	RES, CARBON, AT	820 ohm 1 / 4W 5%	
R515	14-04-331	RES, CARBON, AT	330 ohm 1 / 4W 5%	
R516	14-04-472	RES, CARBON, AT	4.7K ohm 1 / 4W 5%	
R517	14-04-102	RES, CARBON, AT	10K ohm 1 / 4W 5%	
R518	14-04-331	RES, CARBON, AT	330 ohm 1 / 4W 5%	
R519	14-04-221	RES, CARBON, AT	220 ohm 1 / 4W 5%	
R520	14-04-271	RES, CARBON, AT	270 ohm 1 / 4W 5%	
R521	14-04-222	RES, CARBON, AT	2.2K ohm 1 / 4W 5%	
R522	14-04-823	RES, CARBON, AT	82K ohm 1 / 4W 5%	
R523-524	14-04-153	RES, CARBON, AT	15K ohm 1 / 4W 5%	
R525	14-04-101	RES, CARBON, AT	100 ohm 1 / 4W 5%	
R526	14-04-563	RES, CARBON, AT	5.6K ohm 1 / 4W 5%	
R527	14-04-561	RES, CARBON, AT	560 ohm 1 / 4W 5%	
R528	14-04-681	RES, CARBON, AT	680 ohm 1 / 4W 5%	
R529	14-04-473	RES, CARBON, AT	47K ohm 1 / 4W 5%	
R530	14-04-223	RES, CARBON, AT	22K ohm 1 / 4W 5%	
R531	14-04-271	RES, CARBON, AT	270 ohm 1 / 4W 5%	
R532	14-04-152	RES, CARBON, AT	1.5K ohm 1 / 4W 5%	
R533	14-04-152	RES, CARBON, AT	1.5K ohm 1 / 4W 5%	
R534	14-04-102	RES, CARBON, AT	1K ohm 1 / 4W 5%	
R535	14-04-331	RES, CARBON, AT	330 ohm 1 / 4W 5%	
R536	14-04-102	RES, CARBON, AT	1K ohm 1 / 4W 5%	
R601	14-04-222	RES, CARBON, AT	2.2K ohm 1 / 4W 5%	
R602	14-04-223	RES, CARBON, AT	22K ohm 1 / 4W 5%	
R603	14-04-123	RES, CARBON, AT	12K ohm 1 / 4W 5%	
R604	14-04-822	RES, CARBON, AT	8.2K ohm 1 / 4W 5%	
R605	14-04-333	RES, CARBON, AT	33K ohm 1 / 4W 5%	
R606	14-04-102	RES, CARBON, AT	1K ohm 1 / 4W 5%	
R607	14-04-123	RES, CARBON, AT	12K ohm 1 / 4W 5%	
R608	14-04-022	RES, METAL OXIDE, AB	2.2 ohm 1 / 2W 5%	
R609	14-04-153	RES, CARBON, AT	15K ohm 1 / 4W 5%	
R610	14-04-271	RES, CARBON, AT	270 ohm 1 / 4W 5%	
R611	14-04-332	RES, CARBON, AT	3.3K ohm 1 / 4W 5%	
R612	14-04-273	RES, CARBON, AT	27K ohm 1 / 4W 5%	
R613	14-04-022	RES, CARBON, AT	2.2 ohm 1 / 4W 5%	
R614	14-04-472	RES, METAL OXIDE, AB	4.7K ohm 3W 5%	
R615	14-04-472	RES, CARBON, AT	4.7K ohm 1 / 4W 5%	
R616	14-04-153	RES, CARBON, AT	15K ohm 1 / 4W 5%	
R617	14-04-101	RES, METAL OXIDE, AB	1 ohm 2W 5%	
R618	14-04-223	RES, CARBON, AT	18K ohm 5%	
R619	14-04-563	RES, CARBON, AT	56K ohm 1 / 4W 5%	
R620-622	14-04-016	RES, FUSIBLE, AB	2.2 ohm 1W 5%	
R623	14-04-101	RES, CARBON, AT	100 ohm 1 / 4W 5%	
R624	14-04-220	RES, CARBON, AT	22 ohm 1 / 4W 5%	
R625, VR502	14-04-473	RES, CARBON, AT	47K ohm 1 / 4W 5%	
R626	14-04-153	RES, CARBON, AT	15K ohm 1 / 4W 5%	
R627	14-04-681	RES, METAL OXIDE, AB	680 ohm 3W 5%	

LOCATON NO	PART NO	DESCRIPTION		REMARKS
		CONTROLS		
VR301-303	15-05-043	VAR, H-TRIM, SR-29R	1K ohm B 0.2W	
VR402	15-03-012	VAR, H-TRIM, W / SHAFT	5K ohm B 0.2W	
VR403	15-03-027	VAR, H-TRIM, W / SHAFT	500 ohm B 0.2W	
VR501	15-03-009	VAR, H-TRIM, W / HANDLE	200K ohm B 0.2W	
VR503	15-03-008	VAR, H-TRIM, W / HANDLE	500 ohm B 0.2W	
VR504	15-05-043	VAR, H-TRIM, SR-29R	1K ohm B 0.2W	
VR505	15-05-042	VAR, H-TRIM, SR-29R	4.7K ohm B 0.25W	
VR506	15-05-843	VAR, H-TRIM, SR-29R	1K ohm B 0.2W	
VR601	15-03-028	VAR, H-TRIM, W / HANDLE	20K ohm B 0.2W	
VR603	15-05-042	VAR, H-TRIM, SR-29R	4.7K ohm B 0.25W	
		CAPACITORS		
C301	16-11-043	CAP, CERAMIC, RB	0.1uF 50V	
C302, 303	16-11-043	CAP, CERAMIC, RT	0.1uF 50V	
C304	16-11-031	CAP, CERAMIC, RT	270pF 50V	
C401	16-01-011	CAP, ELECT, RB, 85	1.000uF 16V	
C402, 411	16-11-005	CAP, CERAMIC, RT	1.000uF 50V	
C404	16-14-008	CAP, MYLAR, RT	0.1uF 100V	
C406	16-11-001	CAP, CERAMIC, RT	47pF 50V	
C407	16-11-002	CAP, CERAMIC, RT	100pF 50V	
C408	16-11-017	CAP, CERAMIC, RT	0.01uF 50V	
C409	16-04-004	CAP, ELECT, RT	10uF 25V	
C410, 411	16-11-017	CAP, CERAMIC, RT	0.01uF 50V	
C412	16-14-006	CAP, MYLAR, RT	0.0056uF 50V	
C501	16-04-005	CAP, ELECT, RT	22uF 25V	
C502	16-04-004	CAP, ELECT, RT	10uF 25V	
C503	16-14-005	CAP, MYLAR, RT	0.1uF 50V	
C504	16-14-004	CAP, MYLAR, RT	0.01uF 100V	
C505, 506	16-13-013	CAP, MYLAR, RT	0.033uF 100V	
C507	16-11-005	CAP, CERAMIC, RT	1.000pF 50V	
C508	16-11-001	CAP, CERAMIC, RT	47pF 50V	
C510	16-01-026	CAP, ELECT, RB, 85	100uF 35V	
C511	16-14-017	CAP, MYLAR, RT	0.047uF 100V	
C512	16-01-078	CAP, ELECT, RB, 85	470uF 35V	
C513	16-04-003	CAP, ELECT, RT	4.7uF 50V	
C514	16-01-050	CAP, ELECT, RB, 85	1.000uF 25V	
C515	16-10-011	CAP, CERAMIC, RB	0560pF 50V	
C516	16-04-025	CAP, ELECT, RT	0.47uF 50V	
C517	16-12-004	CAP, TANTALUM, RB	1uF 35V	
C518	16-14-017	CAP, MYLAR, RT	0.047uF 100V	
C519	16-13-044	CAP, MYLAR, RB	0.33uF 100V	
R520	16-04-006	CAP, ELECT, RT	47uF 25V	
C521	16-11-017	CAP, CERAMIC, RT	0.01uF 50V	
C522	16-04-024	CAP, ELECT, RT	47uF 50V	
C601	16-11-002	CAP, CERAMIC, RT	100pF 50V	
C602	16-11-005	CAP, CERAMIC, RT	1.000pF 50V	

LOCATON NO	PART NO	DESCRIPTION		REMARKS
		CARACITORS		
C603	16-11-031	CAP, CERAMIC, RT	270pF 50V	
C604	16-14-014	CAP, MYLAR, RT	0.0068uF 50V	
C605, 606	16-01-064	CAP, ELECT, RB, 85	1uF 25V	
C607	16-14-020	CAP, MYLAR, RT	0.01uF 100V	
C608	16-14-006	CAP, MYLAR, RT	0.0056uF 100V	
C609	16-01-011	CAP, ELECT, RB, 85	1.000uF 16V	
C610	16-04-016	CAP, ELECT, RT	4.7uF 25V	
C611	16-10-052	CAP, CERAMIC, RB	470pF 1KV	
C612	16-11-014	CAP, CERAMIC, RT	560pF 500V	
C613	16-01-051	CAP, ELECT, RB, 85	1uF 160V	
C614	16-15-035	CAP, P.P, RB	0.01uF 1.6KVJ	
C615	16-01-038	CAP, ELECT, RB, 85	10uF 160V	
C616	16-25-020	CAP, M.P, RB	0.33uF 400V	
C617	16-11-012	CAP, CERAMIC, RT	270pF 500V	
C618, C530	16-14-008	CAP, MYLAR, RT	0.1uF 100V	
C619	16-10-046	CAP, CERAMIC, RB	0.01uF 1KV	
C620	16-01-074	CAP, ELECT, RB, 85	22uF 250V	
C621	16-11-017	CAP, CERAMIC, RT	0.01uF 50V	
C622	16-01-019	CAP, ELECT, RT	47uF 25V	
C623	16-14-008	CAP, MYLAR, RT	0.1uF 100V	
C624	16-01-009	CAP, ELECT, RB, 85	220uF 16V	
C625	16-11-012	CAP, CERAMIC, RT	270pF 500V	
C627	16-01-011	CAP, ELECT, RB, 85	1000uF 16V	
		COILS		
L301-304	17-16-007	BEAD, INDUCTOR	5±0.5mm, 5.8uH	
L305-307	17-16-006	BEAD, INDUCTOR	3mm, 0.5uH	
L501	17-16-007	BEAD, INDUCTOR	5±0.5mm, 5.8uH	
L601	17-04-023	COIL, H-WIDTH	LITZ, 40~115uH	0.31P ONLY ✳
L602	17-05-021	COIL, H-LIN	47uH	
L603	17-09-016	COIL, CHOKE	50uH, COLOR	
L605	17-16-007	BEAD, INDUCTOR	5±0.5mm, 5.8uH	
		IC		
IC301, 302	20-01-043	IC, TTL, DIP -14	SN74LS05N	
IC303	20-01-002	IC, TTL, DIP -14	SN74LS38N	
IC501	20-06-009	IC, LINEAR, SIP -7	LA7830	
IC601	20-06-037	IC, LINEAR, DIP -20	LA7850	
		TRANSISTORS		
Q301-303	18-05-018	TR, PNP	2SA984K(F)	
Q401	18-04-036	TR, NPN	2SD879FNP	
Q402,403	18-04-034	TR, NPN	2SC2274F	
Q404,405	18-05-018	TR, PNP	2SA984K(F)	
Q406	18-04-034	TR, NPN	2SC2274F	
Q407	18-04-038	TR, NPN	2SC1570(F)	
Q501	18-05-035	TR, NPN	2SC536NP(F)	
Q502,503	18-05-002	TR, PNP	2SA1015	
Q504-507	18-04-006	TR, NPN	2SC1815	
Q601	18-07-016	TR, NPN	KSC1507V	
Q602	18-07-029	TR, NPN	2SD1651	

LOCATON NO	PART NO	DESCRIPTION		REMARKS
		DIODES		
D301-308	19-05-018	DIODE, ZENER	GZB 5.1B	
D402	19-03-004	DIODE, SWITCHING	1N4148	
D501	19-03-004	DIODE, SWITCHING	1N4148	
D502	19-01-006	DIODE, RECTIFIER	1N4007	
D503	19-03-004	DIODE, SWITCHING	1N4148	
D504	19-05-018	DIODE, ZENER	GZB 5.1B	
D601	19-05-019	DIODE, ZENER	GZB 11EB	
D602	19-01-006	DIODE, RECTUFIER	1N4007	
D604,605	19-03-021	DIODE, SWITCHING	DFDO5G	
D606	19-01-006	DIODE, RECTIFIER	1N4007	
D607	19-05-018	DIODE, ZENER	GZB 5.1B	
		TRANSFORMERS		
T601	17-12-004B	COIL, SIDE PINCUSHION	3.OH, 160uH	
T602	17-07-019C	TRANS, H-DRIVER	10mH / 70uH ± 15%	
T603	17-02-027	TRANS, FLYBACK	FCO-1445AL	
		MISSELLANEOUS		
R,G,B,CONT	10-11-041	HDR, SHROUDED, 2.5W, 2P, N	5267-02A	
BRT	10-11-028	HDR, SHROUDED, 2.5W, 3P, Y	5267-03A	
RGB1	10-11-032	HDR, SHROUDED, 2.5W, 4P, Y	5267-04A	
CN3	10-11-005	HDR, LOCK, 7.5W, 2P, N	5096-02C	
CN1,2	10-11-037	HDR, LOCK, 5 / 7.5W, 3P, N	5289-03A	
	21-02-005	WIRE, MANUF, BUS, SPA, 0.6	52mm	
VIDEO	21-02-100	WIRE, MANUF, STAINDED	AWM1007 / #22,RE,310mm	
J-A	21-02-101	WIRE, MANUF, STAINDED	AWM1007 / #22,RE,190mm	
ABL	21-02-048	WIRE, MANUF, STAINDED	AWM1007 / #22,Y,135mm	
12V	21-02-102	WIRE, MANUF, STAINDED	AWM1007 / #22,RE,130mm	
J-D	21-02-103	WIRE, MANUF, STAINDED	AWM1007 / #22,RE,90mm	
	21-05-131	WIRE, CONN., HOUSING,2.5W,3P	RE,GR,YE,200mm	
	21-05-132	WIRE, CONN., HOUSING,2.5W,2P	RE,GR,200mm	
	10-07-004	FASTNER	93mm	
		ASS'Y		
	00-07-039B	ASS'Y, SIGNAL CABLE	9P,1220 ± 20mm	
	00-04-025	ASS'Y, POWER SWITCH	CGA	
	23-02-013	SWITCH, PUSH BUTTON	J-V,3065,#0,TV-3	
	12-21-002	TUBE, SHRINKBLE	4℄	
	21-05-137	WIRE, CONN., HOUSING, 10.0W,2P	RE,230mm	
	00-14-042	ASS'Y, POWER CORD, BACK PLATE	CGA	
	10-05-219	BACK PLATE	FA303-HFA700	※
	10-05-056	STRAIN RELIEF, 6 / 6	6P-4	※
	00-07-039B	ASS'Y, SIGNAL CABLE	9P,1220 ± 20mm	
	21-07-001	POWER CORD, SVT, NON-DETAC-HED,3 / 18	BL,7FT	
	10-05-017	STRAIN RELIEF	5P-4	
	24-26-012	P-SCR, C / S HEAD,BL	#4 ※ 12	
	10-05-007	PLATE, POWER CORD		

LOCATON NO	PART NO	DESCRIPTION		REMARKS
		ASS'Y		
	00-06-033	ASS'Y, HEAT SINK,025	LA7830	
	06-25-025	HEAT SINK,AL,BL,V-DRIVE	27 * 34 * 50	
	24-01-003	M-SCR, PAN HEAD,W	M3 * 8	
	24-31-001	NUT, HEX, W	M3 * 0.5P	
	00-06-073	ASS'Y, HEAT SINK, 031	2SD1651	
	06-25-031	HEAT SINK,AL,BL	34 * 12 * 50	
	24-01-005	M-SCR, PAN NEAD	M3 * 12	
	24-42-001	WASHER, GEAR, OUT SIDE, W	3.2*6.5*0.45	
	24-31-001	NUT, HEX	M3 * 0.5P	
	00-04-026	ASS'Y,GREEN SWITCH	RE * 2,270mm	
	23-02-014	SWITCH PUSH BUTTON	JPK0010-2011	
	21-05-170	WIRE,CONN.,HOUSING,2P,2.5W	RE,RE 300mm * USED BY ONLY Ist M.P	
	21-05-169	WIRE CONN.,HOUSING,2P,2.5W	RE,RE270mm	
	10-11-041	HDR,SHROUDED,2P,2.5W	5267-02A	

LOCATON NO	PART NO	DESCRIPTION		REMARKS
	00-02-041	ASS'Y, CRT	SOCKET	
	22-04-081	P.C.BOARD,FR-1	SOCKET	
		RESISTORS		
R331-333	14-04-101	RES, CARBON, AT	100 ohm 1 / 4W, 5%	
R334-336	14-04-391	RES, CARBON, AT	390 ohm 1 / 4W, 5%	
R340	14-11-682	RES, METAL OXIDE, AB	6.8K ohm 3W 5%	
R341	14-06-152	RES, CARBON, AT	1.5K ohm 1 / 2W 5%	
R342	14-04-331	RES, CARBON, AT	330 ohm 1 / 4W 5%	
R343	14-06-152	RES, CARBON, AT	1.5K ohm 1 / 2W 5%	
R344	14-04-331	RES, CARBON, AT	330 ohm 1 / 4W 5%	
R345	14-04-181	RES, CARBON, AT	180 ohm 1 / 4W 5%	
R346,347	14-11-682	RES, METAL OXIDE, AB	6.8K ohm 3W 5%	
R348	14-06-152	RES, CARBON, AT	1.5K ohm 1 / 2W 5%	
R349	14-04-331	RES, CARBON, AT	330 ohm 1 / 4W 5%	
R627	14-06-105	RES, CARBON, AT	1M ohm 1 / 2W 5%	
		CONTROLS		
VR304,305	15-05-026	VAR, H-TRIM, SR-29R	470 ohm B 0.15W	
		CAPACITORS		
C305,306	16-11-007	CAP, CERAMIC, RT	150pF 50V	
C307-309	16-11-048	CAP, CERAMIC, RT	330pF 50V	
C310	16-11-007	CAP, CERAMIC, RT	150pF 50V	
C311	16-10-046	CAP, CERAMIC, RT	0.01uF 500V	
C312	16-04-074	CAP, ELECT, RB	22uF 250V	
C313	16-10-046	CAP, CERAMIC, RT	0.01uF 500V	
		TRANSISTORS		
Q304-306	18-19-003	TR, NPN, TO-126	2SC3502D	
		ASS'Y		
	00-06-076	ASS'Y, HEAT SINK,068	2SC3502D	
	06-25-068	HEAT SINK,AL,BL,	9.5 * 24 * 20	
	24-01-003	M-SCR, PAN HEAD,W	M3 * 8	
	24-31-001	NUT, HEX, W	M3 * 0.5P	
	24-41-001	WASHER,FLAT,W	3.2*7.0*0.5	
	24-42-001	WASHER, GEAR, OUT SIDE, W	3.2*6.5*0.45	
	00-08-029	ASS'Y, LED		
	19-06-003	LED(SE-6221)	GREEN	
	21-05-133	WIRE,CONN.,HOUSING,2.5W,2P	RE,BL,270mm	
	10-11-041	HDR, SHROUDED,2.5W,2P	5267 * 02A	
	10-08-023	CPT SOCKET+CAP	HPS-0150-010	

LOCATON NO	PART NO	DESCRIPTION		REMARKS
		MISSELLANEOUS		
180V	21-05-047	WIRE, CONN., HOUSING,3.96W,3P	RE,BL,GR,200mm	
"R"	21-05-128	WIRE, CONN., HOUSING,2.5W,2P	BL,CABLE 355mm"R"	
"B"	21-05-129	WIRE, CONN., HOUSING,2.5W,2P	BL,CABLE 350mm"B"	
"G"	21-05-130	WIRE, CONN., HOUSING,2.5W.2P	BL,CABLE 320mm"G"	
	21-06-061	WIRE, BRAID, SHIELD, LEAD	400mm	
	10-11-029	HDR, BEAD PIN	2.36℄	

LOCATON NO	PART NO	DESCRIPTION		REMARKS
	G2-01-013	ASS'Y, SMRS		
	22-04-082	P.C.BOARD,FR-1	SMPS	
		RESISTORS		
R101	14-04-334	RES, CARBON, AT	330K ohm 1 / 4W 5%	
R102,103	14-04-683	RES, CARBON, AT	68K ohm 1 / 4W 5%	
R104	14-27-009	RES, CARBON, AB	22 ohm 3W 5%	
R105	14-04-102	RES, CARBON, AT	1K ohm 1 / 4W 5%	
R106	14-27-010	RES, CARBON, AB	33 ohm 3W 5%	
R107	14-27-011	RES, CARBON, AB	0.5K ohm 3W 5%	
R112	14-10-150	RES, METAL OXIDE, AB	15 ohm 2W 5%	
R115	14-04-243	RES, CARBON, AT	24K ohm 1 / 4W 5%	
		CAPACITORS		
C101	16-25-004	CAP, M.P, RB	0.33uF AC 250V	
C102,103	16-25-027	CAP, M.P, RB	0.0033uF AC 250V	
C104	16-25-004	CAP, M.P, RB	0.33uF AC 250V	
C105	16-01-104	CAP, ELECT, RB	330uF 200WV	
C106	16-10-083	CAP, CERAMIC, RB	2,700pF 1KV	
C108	16-04-020	CAP, ELECT, RT	22uF 50V	
C111	16-10-068	CAP, CERAMIC, RB	2.200pF 160V	
C112,113	16-01-043	CAP, ELECT, RB	100uF 160V	
C114	16-04-025	CAP, ELECT, RT	0.47uF 50V	
C115,116	16-01-050	CAP, ELECT, RB	1.000uF 25V	
C117,118	16-01-010	CAP, ELECT, RB	470uF 16V	
		COILS		
L101	17-08-020	COIL, LINE FILTER	0.5uH, 2 WIRE	
L104	17-09-016	COIL, CHOKE	50uH, 1A	
FB1	17-16-005	BEAD, INDUCTOR	3mm, 1uH	
FB2	17-16-006	BEAD, INDUCTOR	3mm, 0.5uH	
		IC		
IC101	20-03-023	IC, POWER	STK7348	
IC102	20-03-002	IC, REGULATOR, TO-220	1.5A, 12V, L7812CV	
IC103	20-03-016	IC, REGULATOR, TO-220	1.5A, 5V, L7805CV	
		DIODES		
D101-104	19-01-007	DIODE, RECTIFIER	1N5402	
D105,106	19-01-006	DIODE, RECTIFIER	1N4007	
D107	19-01-023	DIODE, RECTIFIER	RGP30G	
D108,109	19-01-006	DIODE, RECTIFIER	1N4007	
		TRANSFORMERS		
T101	17-01-050	TRANS, POWER MODE	115V / 119V,12V,5V	

LOCATON NO	PART NO	DESCRIPTION		REMARKS
		ASS'Y		
	00-06-075	ASS'Y, HEAT SINK, 065	STK7348	
	06-25-065	HEAT SINK, AL, BL	90 * 25 * 2t	
	24-01-005	M-SCR, PAN HEAD, W	M3 * 12	
	24-26-065	T-SCR,PAN HEAD,W / WASHER	M3 * 8	
	00-06-074	ASS'Y, HEAT SINK, 053	L7812CV	
	06-25-053	HEAT SINK,AL,W	32 * 19 * 9	
	24-01-002	M-SCR, PAN NEAD,W	M3 * 6	
	24-42-001	WASHER,GEAR,OUT SIDE,W	3.2*6.5*0.45	
	24-31-001	NUT, HEX, W	M3 * 0.5P	
		MISSELLANEOUS		
TH101	15-06-014	VAR,THERMISTOR	S231	
P101	15-08-001	VAR, POSISTOR, RB	PTH451C06BG	
D-C01L	17-11-005	COIL,DEGAUSSING	CU 0.35¢, 11.7 ohm, T60, L1070mm	
VR1	15-05-044	VAR, H-TRIM, SR-29R	47K ohm B 0.25W 25%	
	21-06-031	WIRE,RING,TER,5 ¢	G / Y, 150mm	
F101	23-01-038	FUSE(51NM)	250V 3A(5.2 * 20)	
	23-04-002	CLIP, FUSE	5.1 * 20mm	
	10-11-029	HDR,BEAD PIN	2.36¢	
	21-05-135	WIRE,CONN.,HOUSING, 3.96W,3P	RE,BL,170mm	
	21-05-136	WIRE,CONN.,HOUSING, 3.96W,4P	GR,BL,BR,230mm	
	21-02-005	WIRE,MANUF,STAINDE, BUS,SPA,0.6	52mm	

LOCATON NO	PART NO	DESCRIPTION		REMARKS
		MECHANICAL PARTS		
		PLSATICS		
	10-05-060	BEZES,FRONT	HIPS 40AF	
	10-05-069	BEZES,FRONT	8487,AF303	
	10-05-068	REAR,HOUSING	8487,AF303	
	10-05-059	REAR,HOUSING	HIPS,40AF	
	10-05-071	S / W CAP,POWER	8487,AF303	
	10-05-062	S / W CAP,POWER	HIPS,40AF	
	10-05-072	BRIGHTNESS KNOB	AF303-HFA700	
	10-05-063	BRIGHTNESS KNOB	HIPS40AF-HFH400	
	10-05-219	BACK PLATE	AF303-HFA700	
	10-05-218	BACK PLATE	HIPS40AF-HFH400	
	10-05-073	STAND,CONT FOR POWER	8487,AF303	
	10-05-064	STAND,CONT FOR POWER		
	10-05-074	NECK,CONT FOR POWER	8487,AF303	
	10-05-065	NECK,CONT FOR POWER		
	10-05-101	KNOB,S / W	8516,GREEN	
	10-05-049	STAND,PART	ACETAL	
	10-05-048	NECK,PART	ACETAL	
		CHASSIS		
	06-20-057	CHASSIS,BOTTOM	298.5 * 267.3 * 60,1t,SBH G1	
	06-21-055	PLATE,SIDE(L)	245 * 300.5 * 73,1t,SBH G1	
	06-21-056	PLATE,SIDE(R)	245 * 300.5 * 73,1t,SBH G1	
	06-24-031	SHIELD,COVER,POWER(A)	160 * 134 * 53, 0.5t,AL	
	06-24-032	SHIELD,COVER,POWER(B)	160 * 134 * 0.8t,SBH G1	
	06-20-058	CHASSIS,BRACKET(A)	30 * 37 * 1.2t,SBH G1	
	06-20-059	CHASSIS,BRACKET(B)	30 * 37 * 1.2t,SBH G1	
	06-20-063	COVER BRACKET(A)	SBHG1 GALVANIZED STEEL	
	06-20-064	COVER BRACKET(B)	SBHG1 GALVANIZED STEEL	
	06-20-030	SHIELD,COVER,TOP	214 * 127 * 6 * 0.8t, SBH G1	
	06-20-020	BRACKET,KNOB	SC-431C / 442C / 452C	
	06-20-018	PLATE,S / W	SC-431C / 442C / 452C	
		SCREWS		
	24-04-019	P-SCR,PAN HEAD,W	#8 * 34	
	24-04-014	P-SCR,PAN HEAD,W	#8 * 15	
	24-04-005	P-SCR,PAN HEAD,W	#6 * 10	
	24-04-004	P-SCR,PAN HEAD,W	#6 * 8	
	24-26-011	P-SCR,C / S HEAD,W	#4 * 12	
	24-02-001	M-SCR,PAN HEAD,W / WASHER	M3 * 5	
	24-02-002	M-SCR,PAN HEAD,W / WASHER	M3 * 8	
	24-26-027	M-SCR,PAN HEAD,CONT,W	M4 * 13.5	
	24-20-071	M-SCR,PAN HEAD,W	M4 * 10	
	24-01-003	M-SCR,PAN HEAD,W	M3 * 8	
	24-01-005	M-SCR,PAN HEAD,W	M3 * 12	
	24-05-006	T-SCR,PAN HEAD,W	M3 * 8	

LOCATON NO	PART NO	DESCRIPTION		REMARKS
		SCREWS		
	24-03-006	M-SCR,HEX HEAD,W	M5 * 40	
	24-26-041	M-SCR,C / S HEAD,IVORY	M3 * 12	
	24-01-002	M-SCR,PAN HEAD,W	M3 * 6	
	24-41-013	WASHER,FLAT,W	5.3 * 24 * 1.0	
	24-41-011	WASHER,FLAT,W	5.3 * 16 * 1.0	
	24-42-001	WASHER,GEAR,OUT SIDE,W	3.2 * 6.5 * 0.45	
	24-33-002	NUT,BUTTERFLY,W	M5 * 0.8P	
	24-31-001	NUT,HEX,W	M3 * 0.5P	
	24-45-002	SPRING,COMPRESSION,Y	23 * 17 * 25	
	24-45-008	SPRING,COMPRESSION,Y	17 * 11 * 0.6	
	24-45-010	SPRING,STRETCH,Y	40 * 5 * 0.5	
		PACKINGS		
	13-13-027	S / FOAM,SET,W / STAND,L	1PCS	
	13-13-028	S / FOAM,SET,W / STAND,R	1PCS	
	13-11-101	BOX,C / T	445 * 420 * 469	
	13-11-074	P.E BAG		
	13-15-345	LABEL	REAR HOUSING	
	13-26-053	LOGO	FRONT BEZEL	
	13-16-106	MANUAL,USER'S	SC-431C	
	13-16-107	MANUAL,USER'S	SC-442C	
	13-16-108	MANUAL,USER'S	SC-452C	
	13-09-006	RUBBER,WASHER,BL,RND	5.5 * 22 * 3.5	
	13-09-005	PUBBER,FOOT,BL,RND	20.7 * 20 * 4	