MITSUBISHI

Service Manual

COLOR MONITOR

Model: XC-1429C
XC-1449C

MITSUBISHI ELECTRIC CORPORATION
Head Office: Mitsubishi Denki Building. Marunouchi Tokyo. Japan
Cable Address: MELCO TOKYO JANUARY, 1988 REV.A

X－RADIATION WARNING

The surface of picture tube may generate X－Radiation.
Precaution during servicing, and if possible use of a lead apron or metal for shielding is recommended. To avoid possible exposure to X－radiation and electrical shock hazard, the high voltage compartment and the picture tube shield must be kept in place whenever the chassis is in operation. When replacing picture tube use only designated replacement part since it is a critical component with regard to X－Radiation as noted above.
The high－voltage specification is described on page 3, 4.

CRITICAL COMPONENT REPLACEMENT WARNING

The components marked "⚠" are critical components for X－ray radiation.
When replacing these parts, use exactly the same one indicated in parts list.
Please do not remove the seal of sealed potentio－meter.
The components stated below are no field serviceable parts.
If broken, please contact with qualified personnel of Mitsubishi Eelectric Corp. or the distributor which indicated on name plate.
D501, R515, R516, FBT

注　意

本品は外国為替及び外国貿易管理法に定める戦略物資（又は役務）に該当するため、輸出する場合、同法に基づく輸出（又は役務取引）許可が必要です。

CAUTION

These products or technologies are subject to Japanese and／or COCOM strategic restrictions, and diversion contrary thereto is prohibited.

CONTENTS

SPECIFICATIONS (FOR XC-1429C)

	Description	Nominal	Limit
1	Power input	AC 120V 50/60Hz	90～132V
2	Power consumption	90W	
3	Input signal		
	a) R.G.B. Video	R.G.B. Analog (Separate)	
	b) Synchronous	TTL Positive / Negative	
	c) Mode	H-Sync. Nega. / V-Sync. Nega. 480lines H-Sync. Nega. / V-Sync. Posi. 400lines H-Sync. Posi. / V-Sync. Nega. 350 lines	
4	Resolution	640Dots × 480lines 640Dots × 400lines 640Dots × 350lines	
5	Brightness		25±1ft-L
6	Display Size	Horizontal 240mm ± 4mm	
	(Date area)	Vertical 180mm ± 4mm	
7	High voltage	24kV	24 ± 1.0kV
8	Picture linearity		
	a) Horizontal		10% Max.
	b) Vertical		7% Max.
9	Synchronous		
	a) Horizontal	31.5kHz	
	b) Vertical	60～70Hz	

SPECIFICATIONS (FOR XC-1449C)

Description	Nominal	Limit
1 Power input	AC 220/240V 50Hz	220~240 ± 10%
2 Power consumption	70W	
3 Input signal		
a) R.G.B. Video	R.G.B. Analog (Separate)	
b) Synchronous	TTL Positive / Negative	
c) Mode	H-Sync. Nega. / V-Sync. Nega. 480lines H-Sync. Nega. / V-Sync. Posi. 400lines H-Sync. Posi. / V-Sync. Nega. 350lines	
4 Resolution	640Dots × 480lines 640Dots × 400lines 640Dots × 350lines	
5 Brightness		25±1ft-L
6 Display Size	Horizontal 240mm ± 4mm	
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8 Picture linearity		
a) Horizontal		10% Max.
b) Vertical		7% Max.
9 Synchronous		
a) Horizontal	31.5kHz	
b) Vertical	60~70Hz	

THEORY OF OPERATION

This monitor have three resolution mode which determined by as follows combination of sync. polarity.

MODE	1	2	3
Resolution	640 X 480	640 X 400	640 X 350
Video clock	25.174 MHz	←	←
Scan freq.	31.5 KHz	←	←
Horiz. blank	6.356μs	←	←
Frame rate	60 Hz	70 Hz	←
Vert. blank	1.43 ms	1.56 ms	3.15 ms
H-sync. polarity	Neg.	Neg.	Pos.
V-sync. polarity	Neg.	Pos.	Neg.

The display MODE, which is defined the vertical resolution, is selected automatically by detecting the combination of H, V-sync. polarity.

1. RGB Drive Circuit

The RGB input signal (0.7Vp-p Analog input) is applied to the pre-amplifier IC201 and output to RGB. Amp. transistors Q6R2, Q6G2, Q6B2.
The gain of the pre-amplifiers are adjustable by CONTRAST control and SUB-CONTRAST control(VR203) connected to the base of Q204.
Correct white balance is obtained by adjusting RGB-Drive control VR201, VR202.
The flyback pulse from T503 and IC401 is combined by Q505 and Q504 which applied to blanking circuit of Q202 and pedestal clamp circuit Q203.

2. RGB Beam Current Limitting Circuit

If the beam current increases, the cathod side of D530 will drop. So the base bias of Q204 will drop and the collector current will increase.
As the result to limit the each gain of pre-amplifier IC201. Then, the beam current will be limited.

3. RGB Output Circuit

For the RGB output, SEPP circuit is employed to reduce output impedance and to improve frequency characteristics. Since the circuit is connected to the CRT with a coupling capacitor, the structure is so designed to accept adjustment of RGB-cut off control VR6R1, VR6G1, VR6B1, D.C. clamp circuits respectively. DC level of video signal is adjustable by BRIGHTNESS control volume connected to D.C. clamp circuits.

4. Vertical Deflection Circuit

The vertical sync. signal with positive polarity to pin (11) of the vertical and horizontal IC(IC401) through IC40A and IC40B.
Pin (10) of IC401 is connected to the vertical oscillator circuit and the frequency of the oscillator can be controlled by the voltage of pin (10) which can be varied by V. HOLD control(VR402).

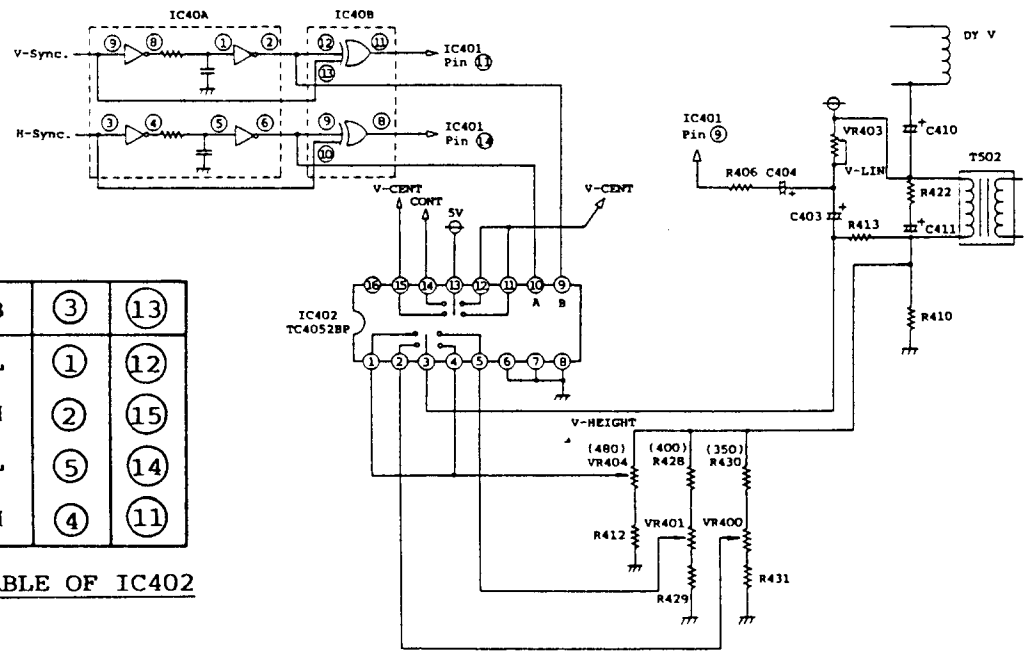
The oscillator output is fed to the vertical drive circuit through a buffer circuit and its output derived from pin ⑦ is applied to the vertical output. The vertical output employs a SRPP (Shunt Regulated Push-Pull) circuit consisting of two transisstors Q401 and Q402.
The saw-tooth wave is applied to pin ⑧ of IC401 as an A.C. feed-back. Linearity adjustment is done by integrating the saw-tooth voltage.
V. LIN control (VR403) is a variable resistor for vertical linearity adjustment. Vertical position is determined by the amount of D.C. component flowing through the vertical deflection coil. The amount can be controled by V-CENT(VR405).

5. Horizontal Oscillator, AFC and Drive Circuit

The horizontal sync. signal with positive polarity is applied to pin ⑭ of IC401 through the mode select circuit.
The saw-tooth wave of horizontal frequency is produced by integrating the horizontal pulse from FBT(T503), and is fed to pin ① of IC401 for AFC.
The phase of horizontal saw-tooth wave is compared with that of horizontal sync. signal from pin ⑭ at AFC circuit inside the IC401.
H. PHASE control (VR502) determines the relative position of raster and picture.
The horizontal oscillation frequency can be controlled by H. HOLD control VR501 connected to pin ③. The horizontal frequency oscillated is obtained from pin ④ of IC401, and is fed to the next horizontal drive circuit.
The pulse switching mode of the driver and output stage is of reverse polarity type; that is, when the driver transistor is ON, the output transistor is OFF.

6. Mode Select Circuit

The sync. signal is applied from connector "MG" on the video PCB which input to the analog switch of IC402 through IC40A and IC40B.
The polarity of pin ⑨ and ⑩ on the IC402 is select to the internal position of switch so that combination of horizontal and vertical sync. polarity is eslect to the optimum V-HEIGHT and V-CENT control circuit.
As the result, these operation keep the optimum raster condition at each resolution.



A	B	③	⑬
L	L	①	⑫
L	H	②	⑮
H	L	⑤	⑭
H	H	④	⑪

TRUTH TABLE OF IC402

7. Horizontal Output Circuit

In the horizontal output circuit, deflection current is supplied to the horizontal defection coil and, at the same time, pulses for blanking, for CRT heater voltage and for D.C. voltages, are generated in the flyback transformer (T503).

The Figure A below shows the basic circuit of a horizontal output circuit. In this circuit, the transistor goes on and off according to the base current and it functions as one switch together with the damper diode connected parallel to it. Thus, the equivalent circuit becomes like the one shown in Figure B. In the actual circuit, the damper diode D is not provided. The base-collector junction of H.OUT transistor plays the role of the damper diode.

The performance is explained hereafter with reference to Figure B and the waveforms at various parts of the circuit shown in Figure C. When switch S is closed at t_1, the current I_Y which flows through the deflection yoke L_Y increases linealy with time. When I_Y reaches a certain value, switch S is opened at $t = t_2$, and switch current I_S becomes zero at once, but I_Y does not become zero instantly and flows into capacitor C, resulting in a ring. After a half cycle of ringing, yoke current I_Y reaches the negative maximum level at t_3 time. If at this time, the switch S is closed again, ringing stops and the current flowing through the deflection yoke decreases linearly to zero. Thus one cycle is completed. During $t_1 \sim t_2$, energy flows out of the power source but, at t_3, energy returns to the power source. Thus the power loss in the circuit is extremely small. The time from $t_2 \sim t_3$ is the retrace period, which is determined by the resonant frequency of L_Y and C. During the period of $t_2 \sim t_3$, the deflection yoke current I_Y changes from the positive peak to the negative peak and, during this period, the voltage of C becomes maximum as shown in figure C(f). When the retrace period is set at about 1/5 the horizontal scanning period, the amplitude of this pulse voltage will become 7 to 8 times that of the power supply voltage. The said peak level of pulse voltage is expressed by the following formula;

$$V_{cp} \propto \frac{Vcc}{\sqrt{L_Y C}}$$

The output transistor used for switching should be able to withstand this pulse voltage.

H. WIDTH control (L502) is variable inductance which enables adjustment of raster horizontal size.

Horizontal position of the raster can be adjusted by changing the position of H.CENT(VR504) which can control the direction of D.C. current flow in the defleciton yoke.

Focus and Screen voltage for the CRT is produced by dividing the anode voltage.

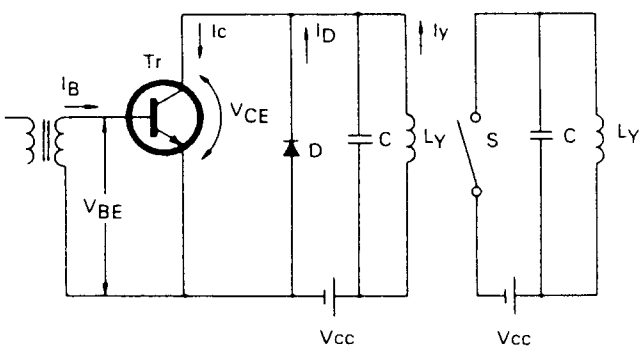


Figure A Figure B

Horizontal Output Circuit

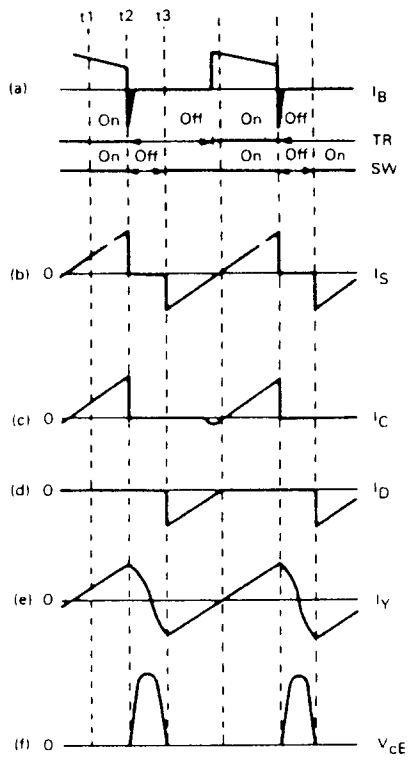


Figure C

Waveform in Horizontal Output Circuit

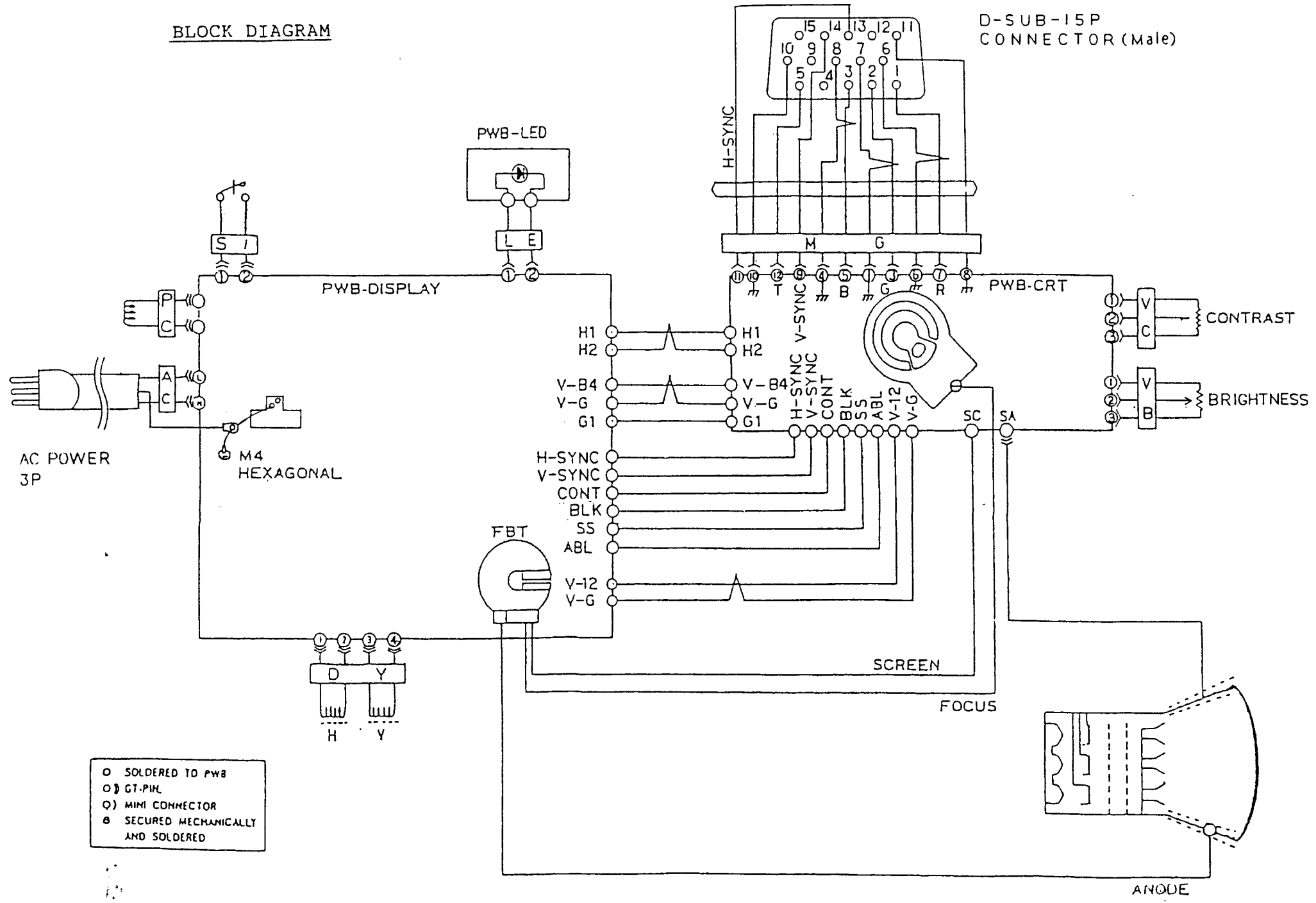
8. High Voltage Hold-Down Circuit

If a failure occurs which causes an increase in high voltage (such as an opened sweep capacitor or failed power regulator), then the pin ⑤ voltage of IC401 will increase through FBT (T503).
When this happens, the oscillator signal coming from IC401 through R508 can no longer drive Q501, turning off the high voltage. Therefore, to restart the oscillator and the high voltage, the television set must be turned off and then turned on again.

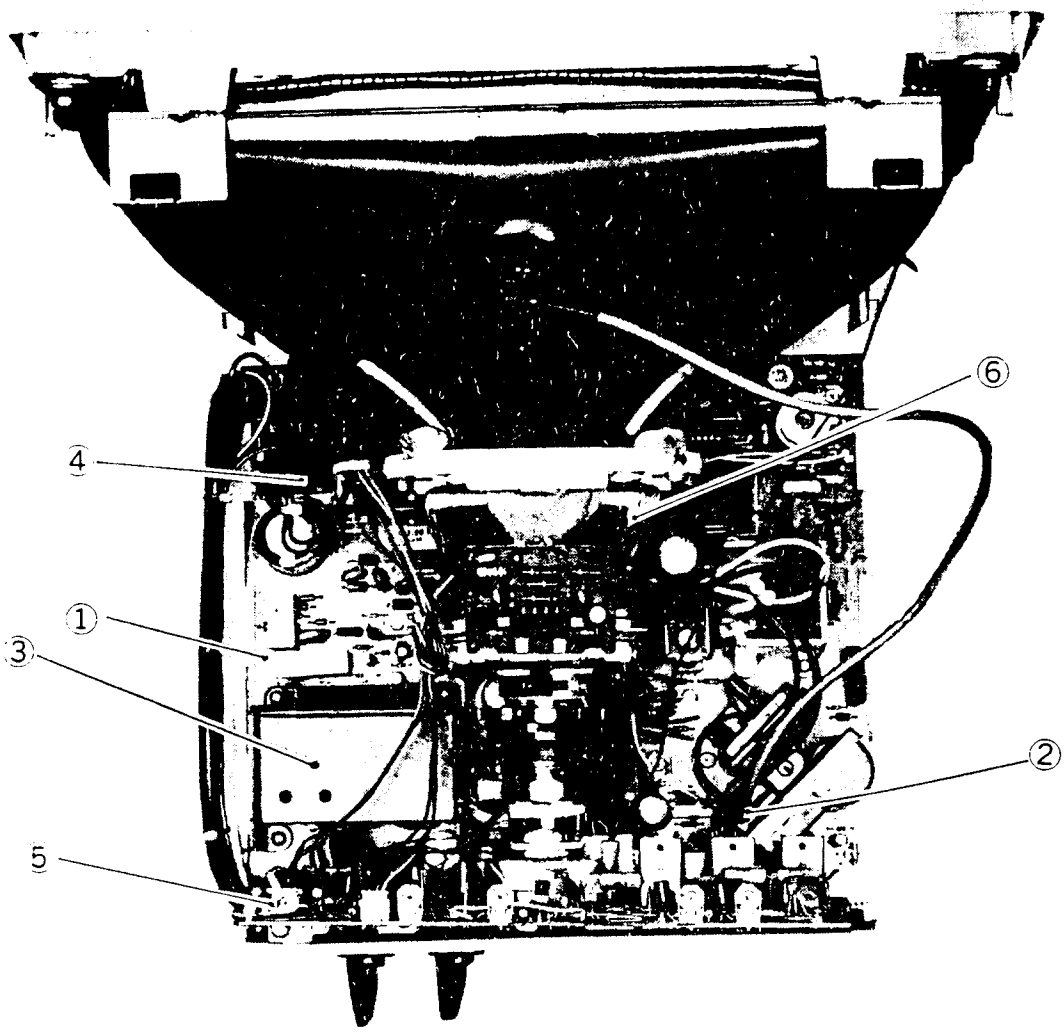
9. Power Source Circuit

The chassis (secondary side) is insulated from the power source (primary side) by the transformer T901 for switching power source. By one winding of the transformer T901 connected to the collector circuit and the other winding connected to the base circuit, the transistor in the control IC (IC910) is submitted to positive feed-back and operates as a blocking oscillator.
The operating frequency is determined in around 16 to 30 kHz by the primary winding of T901.
Changes in the power source voltage and in the load current are detected by the winding and the voltage is applied to pin ④ of IC910.
When the voltage applied to pin ④ changes, the conducting time of the transistor in IC910 changes to compensate for the change in the secondary output voltage of T901 and to stabilize the output voltage.

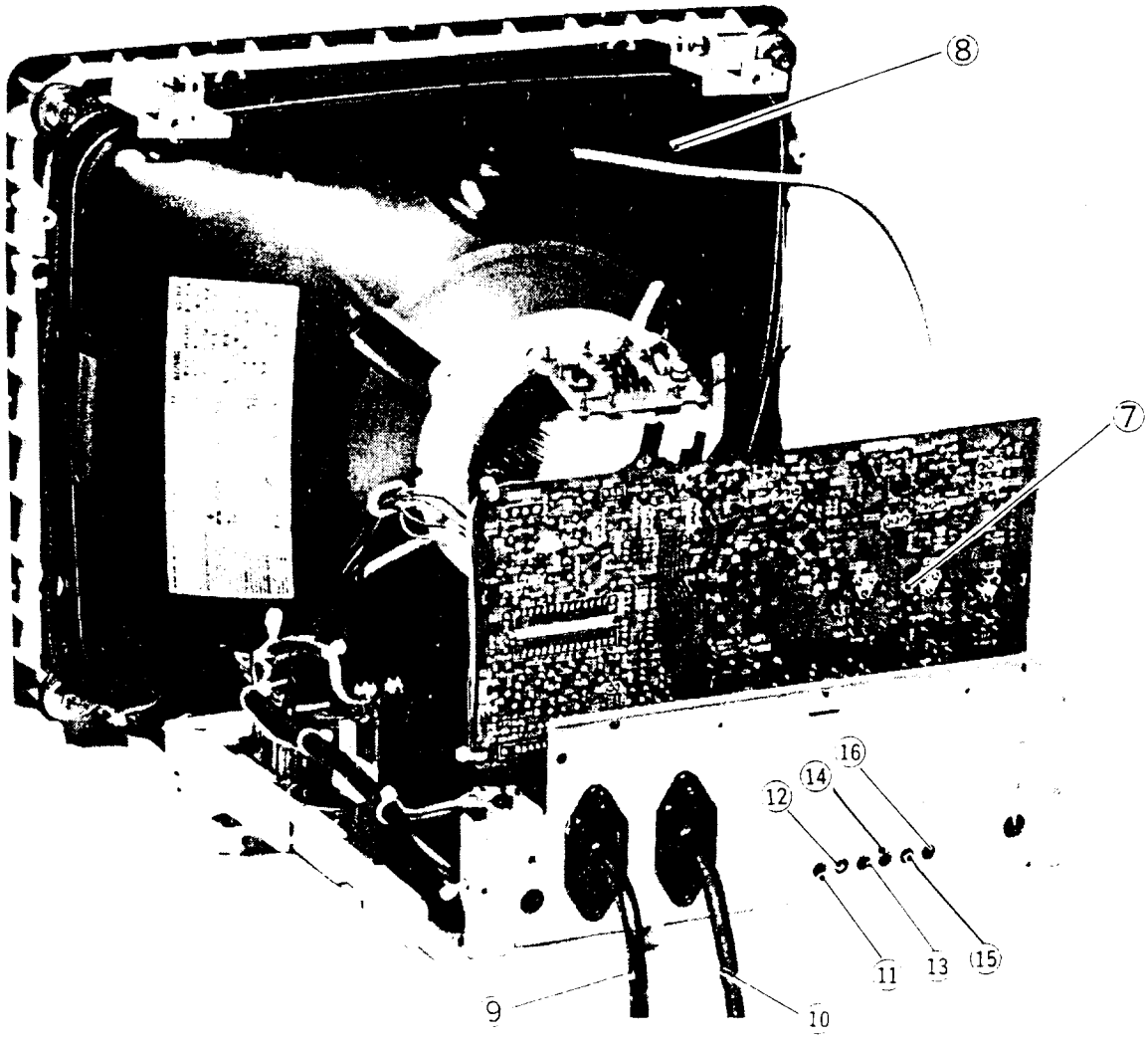
BLOCK DIAGRAM



PARTS LOCATION



① MAIN P.C.BOARD
② FLYBACK TRANSFORMER
③ POWER TRANSFORMER
④ FUSE
⑤ SERVICE SWITCH
⑥ DEFLECTION YOKE



⑦ CRT P.C.BOARD
⑧ CRT
⑨ POWER CABLE
⑩ SIGNAL CABLE
⑪ V-HEIGHT(350LINES)
⑫ V-HEIGHT(400LINES)
⑬ V-HEIGHT(480LINES)
⑭ V-HOLD
⑮ V-LIN
⑯ V-CENT

ALIGNMENT INSTRUCTIONS

1. General

   (1) Supply Voltage : AC120V 50/60Hz
   (AC220 ~ 240V)

   (2) Signal : R.G.B (Analog), HD, VD (TTL,Positive/Negative)

2. B4 Voltage Adjustment

   (1) Receive a white pattern signal (400lines).

   (2) Set BRIGHTNESS control to its click stop position.

   (3) Set CONTRAST control to its maximum position.

   (4) Make sure the AC power supply voltage is at the specified value.

   (5) Connect a DC voltmeter of 150V full scale between the test point B4 on the MAIN PCB and connect chassis ground.

   (6) Adjust B4ADJ control VR901 on the MAIN PCB for a 112±1V reading on the meter.

3. Free Running Frequency Adjustment

   3.1 Horizontal Frequency Adjustment

      (1) No input signal.

      (2) Connect a frequency counter (or oscilloscope) between red wire of deflection yoke and connect chassis ground (-).

      (3) Adjust the H-HOLD control VR501 on the MAIN PCB for a 31.5±0.3KHz reading on the counter (or oscilloscope).

   3.2 Vertical Frequency Adjustment

      (1) No input signal.

      (2) Connect a frequency counter (or oscilloscope) between yellow wire of deflection yoke and connect chassis ground (-).

      (3) Adjust the V-HOLD control VR402 on the MAIN PCB for a 54±1Hz reading on the counter (or oscilloscope).

4. Raster Adjustment

   4.1 Horizontal Width Adjustment

      (1) Receive a white pattern signal (400lines).

      (2) Set BRIGHTNESS control to its click stop position.

      (3) Set CONTRAST control to its maximum position.

      (4) Adjust the H-WIDTH control L502 so that a white pattern width becomes 240±2.5mm.

   4.2 Horizontal Position Adjustment

      (1) Receive a white pattern signal (400lines).

      (2) Adjust the H-CENT control VR504 so the raster positioned in the center of the CRT screen.

4.3 Vertical Linearity Adjustment

(1) Receive a cross-hatch pattern signal (400lines).

(2) Adjust the V-HEIGHT control VR401 so the height becomes 90% of the display area on the CRT.

(3) Adjust the V-LIN control VR403 to get optimum linearity.

4.4 Vertical Height Adjustment

350lines

(1) Receive a white pattern signal (350lines).

(2) Set BRIGHTNESS control to its click stop position.

(3) Set CONTRAST control to its maximum position.

(4) Adjust the V-HEIGHT control VR400 so the height of the pattern becomes 180±2.5mm.

400lines

(1) Receive a white pattern signal (400lines).

(2) Set BRIGHTNESS control to its click stop position.

(3) Set CONTRAST control to its maximum position.

(4) Adjust the V-HEIGHT control VR401 so the height of the pattern becomes 180±2.5mm.

480lines

(1) Receive a white pattern signal (480lines).

(2) Set BRIGHTNESS control to its click stop position.

(3) Set CONTRAST control to its maximum position.

(4) Adjust the V-HEIGHT control VR404 so the height of the pattern becomes 180±2.5mm.

4.5 Vertical Position Adjustment

(1) Receive a white pattern signal (400lines).

(2) Set the V-CENT control VR405 at the appropriate so that the raster is positioned at almost the center of the CRT screen.

5. CRT Circuit Alignment

(1) Receive a white pattern signal (400lines).

(2) Turn the CUTOFF volume (VR6R1, VE6G1, VR6B1) and SCREEN controls counterclockwise as far as they will go.

(3) Set DRIVE volume (VR201, VR202) at the mechanical center.

(4) Set BRIGHTNESS control to its click stop position.

(5) Set CONTRAST control to its maximum position.

(6) Set the SERVICE switch S201 to the service position.

(7) Adjust the SCREEN control slowly so that either a red, green or blue horizontal line begins to appear.

(8) Adjust each CUTOFF volume (VR6R1, VR6G1, VR6B1) so a white horizontal line shines slightly.

(9) Set the SERVICE seitch S201 back to its normal position.

(10) Adjust DRIVE volume (VR201, VR202) for standard white. If necessary, a color analyzer may be used.

(11) Turn BRIGHTNESS and CONTRAST controls to their minimum positions and check to the background. If shining, gradually turn SCREEN control a point where the background fades out.

(12) Measuring the luminance with a luminance meter on the center of the screen.

(13) Adjust the SUB-CON volume VR203 so the luminance meter reads 90nits. (26Ft-L)

6. Focus Adjustment

(1) Receive a characters pattern signal.

(2) Set BRIGHTNESS control to its click stop position.

(3) Set CONTRAST control to its maximum position.

(4) Adjust the FOCUS control on the FBT BLOCK to get optimum focus.

Note : This adjustment should be done after the completion of SUB-CONTRAST control VR203 adjustment.

7. ITC Alignment

Receive a white pattern signal (Chroma-clear or white raster) and allow the regular beam current to flow through it for at least 30 minutes. Place the unit so that it faces east or west and degauss thoroughly the CRT face, chassis, etc. with a degaussing coil.

7.1 Purity and Convergence Adjustment

A)Procedure

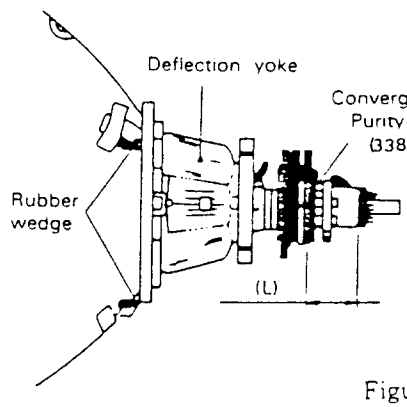
(1) Remove the deflection yoke and the rubber wedges from the picture tube cone, taking care not to strike or scratch the cone surface.

(2) Clean the remaining cement off the deflection yoke and the surface of the picture tube cone.

(3) Put the deflection yoke on the neck of the picture tube, fully forward against the cone of the CRT.

(4) Put the Convergence-Purity Assembly on the neck of the picture tube so that the distance between the 6-pole magnet and the base of the tube is 36 mm (1 7/16 inches), as shown in Figure 1, and hand-tighten the screw.

(5) Demagnetize the front and sides of the picture tube with a degaussing coil.



	(L)
AT14A9SRB22-A-T162F	36mm(1 7/16 inches)

Figure 1

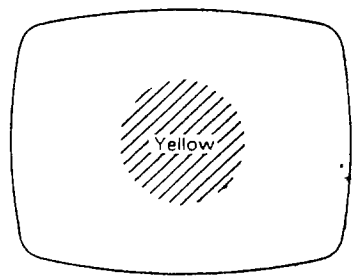


Figure 2

B) Preliminary Adjustment

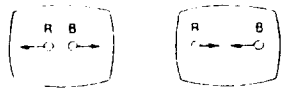
1. Purity
   (1) Produce a yellow raster by short-circuiting the base and emitter of Q6B2 (B-DRIVE) with a short lead.
   (2) With the deflection yoke positioned fully forward, adjust the purity magnet so that the yellow ball is at the center of the screen with normal vertical centering.
   (3) Slide the deflection yoke slowly backwards to produce a uniform yellow raster (Figure 2).
   (4) Produce the primary color rasters – red, green and blue – and make sure no contamination is observed for each color.
   To produce a red raster, short-circuit the base and emitter Q6G2 (G-DRIVE) and Q6B2 (B-DRIVE) with two short leads. To produce green and blue primary colors, short-circuit the base and emitter of Q6R2 (R-DRIVE) and Q6B1 or Q6R1 and Q6G1, with two short leads.
   Temporarily fasten the deflection yoke.
2. Static Convergence
   (1) Set the CONTRAST control to its minimum position (fully counterclockwise). If necessary, adjust the BRIGHTNESS control
   (2) Adjust the two 4-pole magnets to converge red and blue veritical and horizontal lines at the center of the screen.
   (3) Adjust the two 6-pole magnets to converge the red and blue lines on green (Figure 3).
3. Focus
   If necessary, adjust focus. Be certain focus is optimum throughout the entire screen.

C) Regular Adjustment

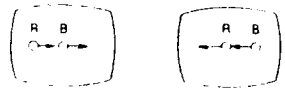
1. Purity
   (1) Produce a yellow raster by short-circuiting the base and the emitter of Q6B1 (B-DRIVE-1) with a short lead.
   (2) Loosen the deflection yoke screw and move it forward. Make certain that the yellow ball is at the horizontal center. If necessary, adjust purity magnets to center it.
   (3) Slide the yoke backwards to produce a uniform yellow raster (Figure 4).
   (4) Using the same procedure as for Preliminary Adjustment, produce a red, blue, and green primary color raster and make sure no contamination is observed for each color.
   (5) If necessary, repeat the above steps.
   (6) Tighten the yoke in position.
2. Static Convergence
   (1) Receive a cross-hatch signal.
   (2) Set the CONTRAST control to minimum. If necessary, adjust the BRIGHTNESS control.
   (3) Adjust the 4-pole magnets to converge red and blue vertical and horizontal lines at the center of the screen (Figure 5).
   (4) Adjust the 6-pole magnets to place the red and blue converged lines on the green line.
   (5) If necessary, repeat steps (3) and (4) above.
   (6) Fasten lock-ring tightly.

Note

- Adjustment of the 4 pole magnets affects red and blue beams moving them an equal distance in opposite directions



- Adjustments of the 6 pole magnets affects red and blue beams moving them an equal distance in the same direction



- The degree of the angle between the tab on the 4 pole magnet and that on the 6 pole magnet control the amount of beam movement

- Rotation of the 4 and 6 pole magnets together controls the direction of beam movement

Figure 3

Note

When adjusting the deflection yoke position, never touch any portion of the yoke other than the screw. Do not touch the purity ring magnets unless absolutely necessary, in which case carry out preliminary purity adjustment procedures again. Then remove the shorting lead across the base and emitter of Q6R2, Q6G2 and Q6B1. Otherwise, abnormal tint will occur on color programs.

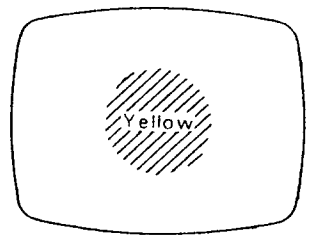


Figure 4

3. Periphery of Convergence

(1) Observe the horizontal lines at the center of the screen. If the red and blue horizontal lines have shifted when crossing the green horizontal lines, as shown in Figure 6, converge by vertically swinging the yoke. Then confim that the vertical lines at the center of the screen are also converged.

(2) Observe the vertical lines at the left and right center of the screen, as shown in Figure 7. If red or blue has shifted against green, converge it by swinging the yoke horizontally. Then confirm that the horizontal lines both at the top and bottom centers of the screen are also converged.

(3) Insert four rubber wedges between the picture tube cone surface and the deflection yoke, as indicated in Figure 8, so that no space remains.

(4) Observe the entire screen and make sure convergence adjustment is completed. If necessary, change the positions of the wedges and repeat steps (1) and (2) above.

(5) After positioning the wedges, gently turn each wedge over and strip the tape from the rear to expose the adhesive material, then replace each wedge so that they adhere to the picture tube cone.

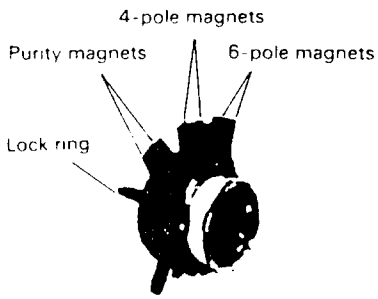


Figure 5

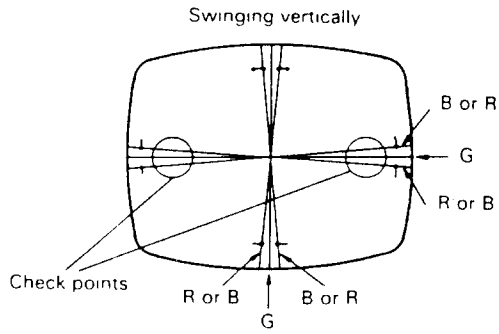


Figure 6

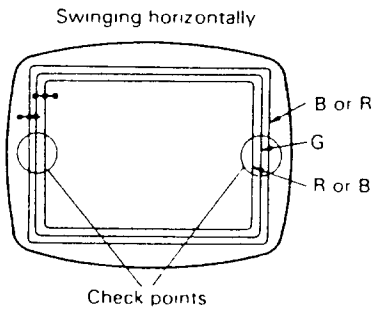


Figure 7

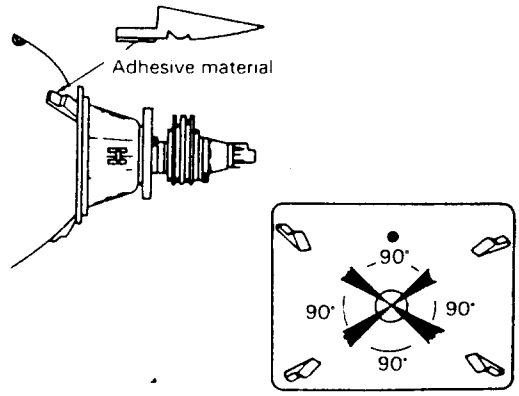
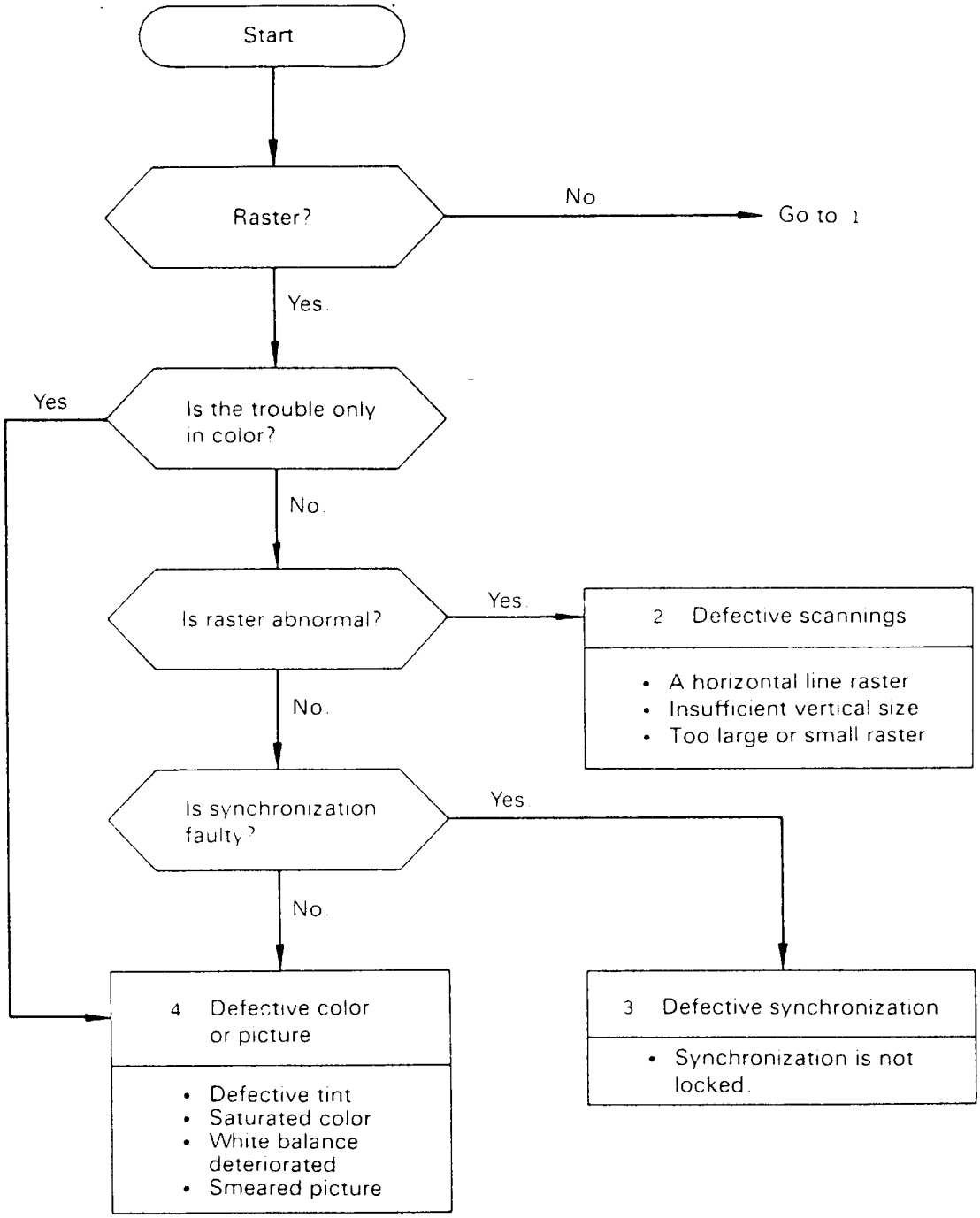
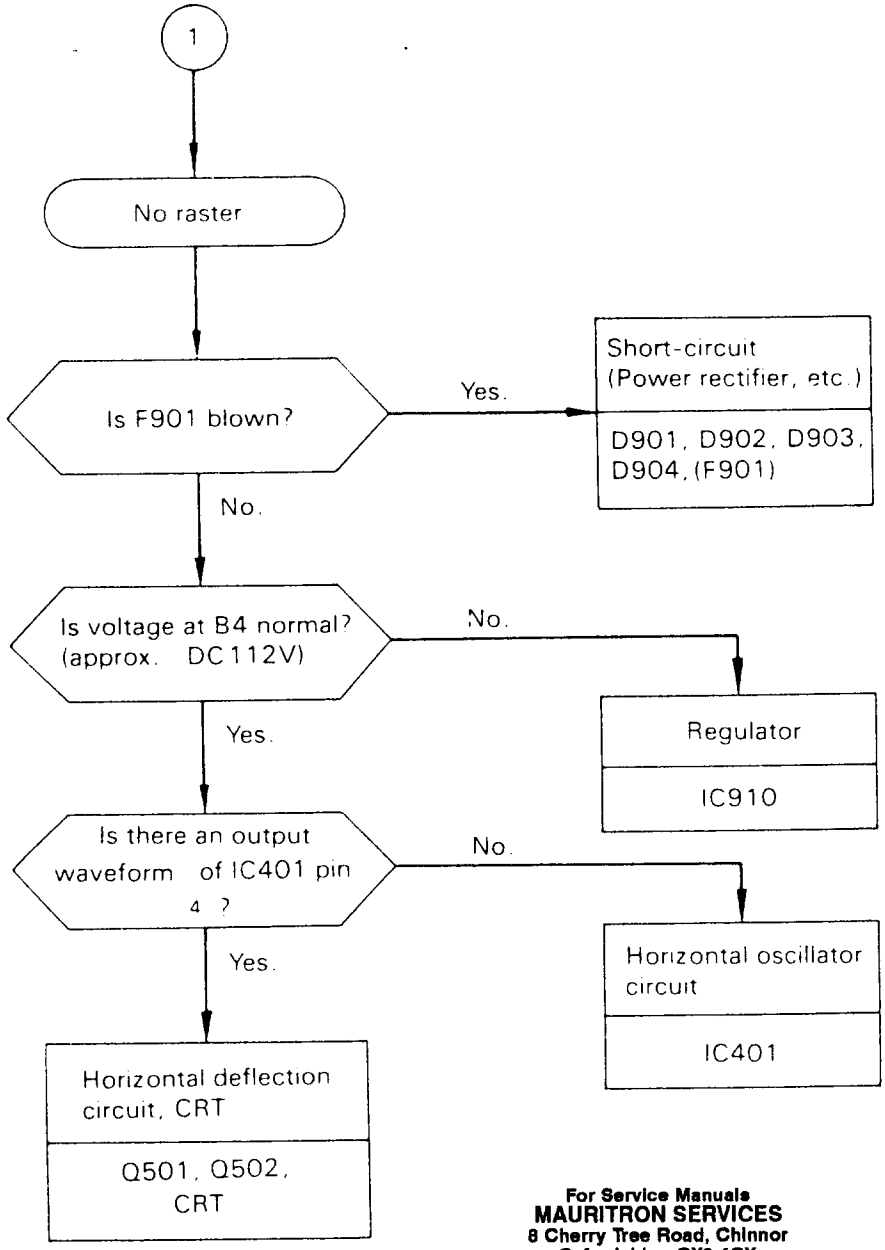
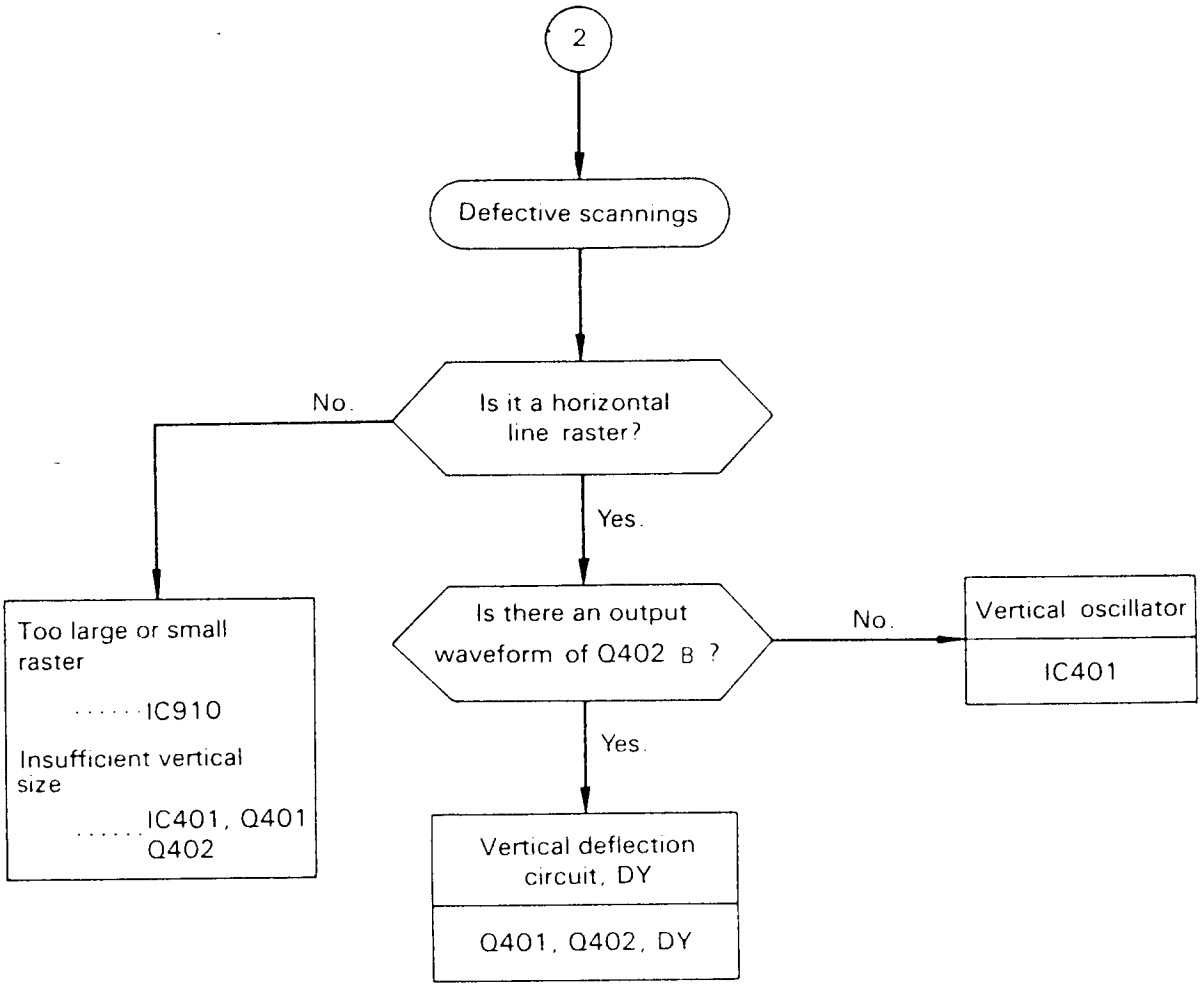


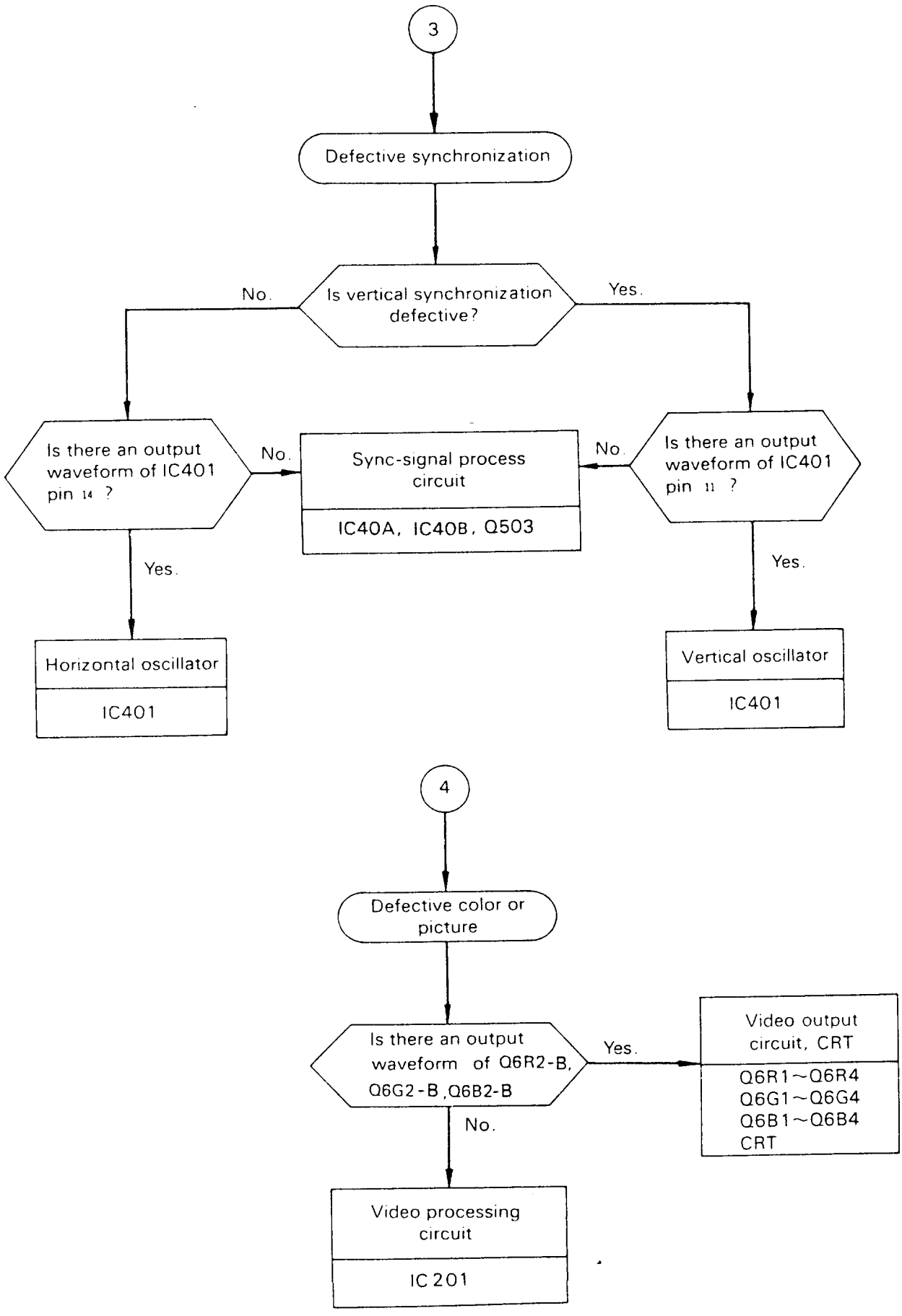
Figure 8

TROUBLESHOOTING



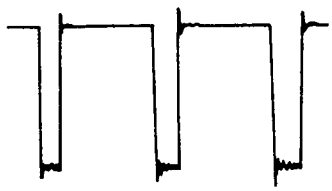
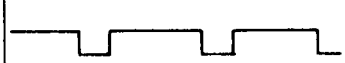
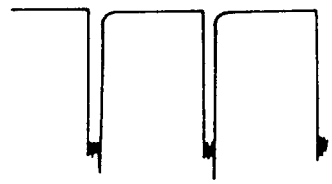
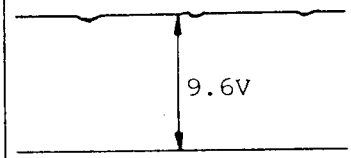
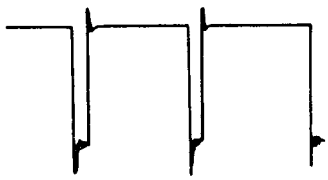
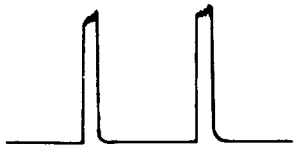



2
Defective scannings
Is it a horizontal line raster?
No.
Yes.
Too large or small raster
IC910
Insufficient vertical size
IC401, Q401 Q402
Is there an output waveform of Q402 B ?
No.
Vertical oscillator
IC401
Yes.
Vertical deflection circuit, DY
Q401, Q402, DY

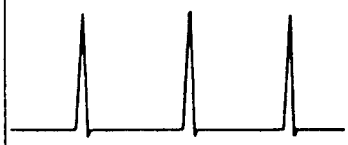
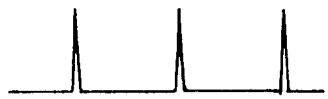
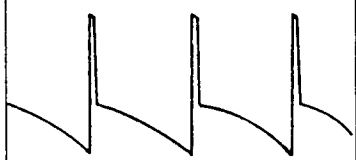

3
Defective synchronization
Is vertical synchronization defective?
No.
Yes.
Is there an output waveform of IC401 pin 14 ?
No.
Sync-signal process circuit
IC40A, IC40B, Q503
No.
Is there an output waveform of IC401 pin 11 ?
Yes.
Horizontal oscillator
IC401
Yes.
Vertical oscillator
IC401
4
Defective color or picture
Is there an output waveform of Q6R2-B, Q6G2-B, Q6B2-B
Yes.
Video output circuit, CRT
Q6R1~Q6R4
Q6G1~Q6G4
Q6B1~Q6B4
CRT
No.
Video processing circuit
IC 201

WAVEFORM

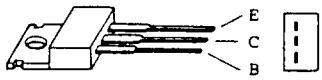
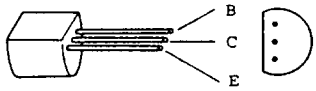
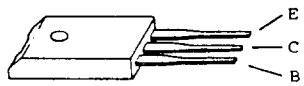
Note : Waveforms were taken with white raster signal. (400 lines)

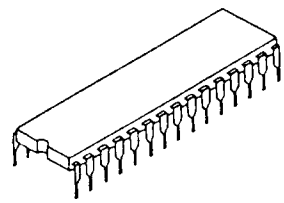
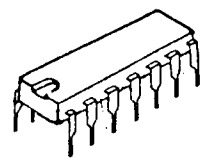
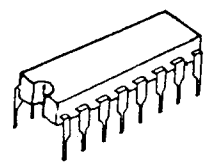
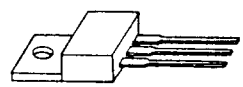
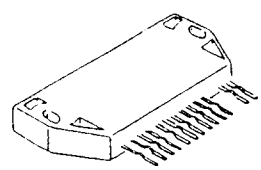
NO.	WAVEFORM	NO.	WAVEFORM
① ⑦ pin of "MG"	0.96Vp-p 	⑦ Base of Q503	4.0Vp-p (H) 
② ③ pin of IC201	0.7Vp-p 	⑧ Collecter of Q503	13.4Vp-p (H) 
③ Base of Q6R2	1.6Vp-p 	⑨ ⑭ pin of IC401	(H)  9.6V GND
④ Base of Q6R3	4.0Vp-p 	⑩ ④ pin of IC401	3.0Vp-p (H) 
⑤ ⑪ pin of "MG"	4.8Vp-p (H) 	⑪ Collecter of Q502	1040Vp-p (H) 
⑥ ⑧ pin of IC40B	4.0Vp-p (H) 	⑫ ⑨ pin of "MG"	3.2Vp-p (V) 

WAVEFORM

NO.	WAVEFORM	NO.	WAVEFORM
⑬ ⑪ pin of IC40B	3.2Vp-p (V) 		
⑭ ⑪ pin of IC401	1.2Vp-p (V) 		
⑮ ⑦ pin of IC401	3.5Vp-p (V) 		
⑯ Emitter of Q401	100.0Vp-p (V) 		

SEMICONDUCTOR LEAD IDENTIFICATION

Q201 Q202 Q203 Q204 Q504		2SA1115 2SC2603-G
Q401 Q402 Q404		2SC2073BC 2SA968A
Q403		2SC2168 -O,Y
Q405 Q406 Q6R3 Q6G3 Q6B3 Q6R4 Q6G4 Q6B4		2SC2274-F 2SC2909S 2SA1207S
Q501 Q901		2SC2482 2SC2230 -Y,GR
Q502		2SD1847

Q6R1 Q6G1 Q6B1		2SC3502 -E,F
Q6R2 Q6G2 Q6B2		2SC3951 -E,F
IC201		M51387P
IC40A IC40B		M74LS14P SN74LS86N
IC401 IC402		LA7824 TC4052BP
IC501		LA7812
IC910		STK7388

SERVICE PARTS LIST (XC-1429C)

In order to expedite delivery of replacement part orders.

Specify: 1 Model number
2 Part number and Description
3 Quantity

Unless full information is supplied, delay in execution of orders will result.

RESISTOR

MARK	TOLERANCE
J	± 5%
K	±10%
M	±20%

CAPACITOR

MARK	TOLERANCE	MARK	TOLERANCE
J	± 5%	Z	+80% −20%
K	± 10%	C	±0.25pF
M	± 20%	D	±0.5pF
P	+100% − 0%	F	±1pF

SYMBOL No.	PARTS No.	DESCRIPTION
PICTURE TUBE		
	CT251B00504	AT14A9SRB22-A-TC162F (ITC)
TRANSISTORS		
Q201	QX260D17801	2SA1115-EF/2SA937-RS
Q202	QX260C33805	2SC2603-G
Q203	QX260C41603	2SC2274-F
Q204	QX260C33805	2SC2603-G
Q401	QX260P42002	2SC2073-B,C
Q402	QX260P42002	2SC2073-B,C
Q403	CP260D00501	2SC2168-O,Y/2SC2344
Q404	CP260D00502	2SA968A/2SA1011
Q405	QX260C41603	2SC2274-F
Q406	QX260C41603	2SC2274-F
Q501	QX260P42201	2SC2482
Q502	CP260P06601	2SD1847
Q503	QX260D17704	2SC2603-EF/2SC2021-R,S
Q504	QX260C33804	2SC2603-E,F
Q505	QX260C33804	2SC2603-E,F
Q6B1	RX270P57906	2SC3502-E,F
Q6B2	CP260P06401	2SC3951-E,F
Q6B3	CP260P07001	2SC2909S
Q6B4	CP260P07002	2SA1207S
Q6G1	RX270P57906	2SC3502-E,F
Q6G2	CP260P06401	2SC3951-E,F
Q6G3	CP260P07001	2SC2909S
Q6G4	CP260P07002	2SA1207S
Q6R1	RX270P57906	2SC3502-E,F
Q6R2	CP260P06401	2SC3951-E,F
Q6R3	CP260P07001	2SC2909S
Q6R4	CP260P07002	2SA1207S
Q901	QX260P38603	2SC2230-Y,GR
INTEGRATED CIRCUITS		
IC201	CP263P00601	M51387P
IC40A	CP263P00201	M74LS14P
IC40B	QX266P47801	SN74LS86N
IC401	QX266P50702	LA7824
IC402	CP263P02001	TC4052BP
IC501	CP263P00101	LA7812
IC910	QX267P90701	HIC STK7308
DIODES		
D201	QX264P22006	MZ310B/EQA02-10CDA
D202	QX264P22006	MZ310B/EQA02-10CDA
D203	QX264P22006	MZ310B/EQA02-10CDA
D204	QX264P22105	MZ306-A1/HZ6A19
D205	QX264P22105	MZ306-A1/HZ6A19
D206	QX264P22006	MZ310B/EQA02-10CDA
D207	QX264P04508	1S2076A/1S2471

SYMBOL NO.	PARTS NO.	DESCRIPTION
D208	QX264P04508	1S2076A/1S2471
D209	QX264P04508	1S2076A/1S2471
D210	QX264P22004	MZ306B
D401	QX264D05602	S5500-D/EM-1Z/ERB12-02RK
D402	QX264P04508	1S2076A/1S2471
D403	QX264P04508	1S2076A/1S2471
D404	QX264P04508	1S2076A/1S2471
D405	QX264P19303	MZ305B/EQA02-05CDB
D50A	QX264P19303	MZ305B/EQA02-05CDB
D501	**QX264P24401**	**HZT33-01**
D502	QX264D05602	S5500-D/EM-1Z/ERB12-02RK
D503	QX264D05601	TVR1G/ES-1
D505	QX264P04508	1S2076A/1S2471
D530	QX264D05602	S5500-D/EM-1Z/ERB12-02RK
D531	QX264P10201	RU-3A
D532	QX264D05601	TVR1G/ES-1
D533	QX264D05602	S5500-D/EM-1Z/ERB12-02RK
D535	QX264P04508	1S2076A/1S2471
D6B2	QX264P22204	MZ324-A2
D6G2	QX264P22204	MZ324-A2
D6R2	QX264P22204	MZ324-A2
D901	QX264P10106	RM-1C
D902	QX264P10106	RM-1C
D903	QX264P10106	RM-1C
D904	QX264P10106	RM-1C
D905	QX264P35101	HZ3.6BP
D906	QX264D05601	TVR1G/ES-1
D907	QX264P35101	HZ3.6BP
D908	QX264D05601	TVR1G/ES-1
D920	QX264P35804	RU-4A
D921	QX264P10201	RU-3A
D922	QX264P30601	R2KY
D991	CP265P05201	LED SLP-335B-55
TRANSFORMERS		
T501	**CP336P00101**	**Horizontal Drive**
T502	**CP349P00101**	**Side-P.C.C**
T503	**CP334P01502**	**Flyback**
T901	CP350P01801	Power
COILS		
L2B1	QX411D00901	Core Ferrite
L2G1	QX411D00901	Core Ferrite
L2R1	QX411D00901	Core Ferrite
L202	CP410D00201	Core Ferrite
L203	CP410D00201	Core Ferrite
L204	CP410D00201	Core Ferrite
L205	QX325C10009	Peaking 4.7μH-K
L206	QX325C10009	Peaking 4.7μH-K
L207	QX409P00603	Filter 27μH-K
L501	CP333P00102	Horizontal Linearity
L502	**CP335P00801**	**Horizontal Width**
L503	RX325C02904	Peaking 4700μH-K
L6B1	CP410D00201	Core Ferrite
L6B2	QX325C11101	Peaking 6.8μH-K

SYMBOL NO.	PARTS NO.	DESCRIPTION
L6G1	CP410D00201	Core Ferrite
L6G2	QX325C11101	Peaking 6.8μH-K
L6R1	CP410D00201	Core Ferrite
L6R2	QX325C11101	Peaking 6.8μH-K
L601	QX321C03009	RF
L901	CP351P00502	Line Filter
L903	QX411P00101	Lead Ferrite
L920	QX409P00603	Filter 27μH-K
L921	QX409P00603	Filter 27μH-K
	CP409A00203	Degaussing
	CAPACITORS & RESISTORS	
C912	CP185P00101	C-Electrolytic H250V 220μF-M
C920	QX185D05404	C-Electrolytic H180V 330μF-M
R419	QX109D05104	R-Cement wire 10w 150Ω-J
R420	QX109D05104	R-Cement wire 10w 150Ω-J
R427	QX103P37808	R-Fuse 1/4w 4.7Ω-J
R514	QX103P37804	R-Fuse 1/4w 2.2Ω-J
R515	QX103P30406	R-Metal 1/4w 7.5KΩ-F
R516	QX103P30602	R-Metal 1/4w 36KΩ-F
R532	QX103P37804	R-Fuse 1/4w 2.2Ω-J
R545	QX103P37804	R-Fuse 1/4w 2.2Ω-J
R549	QX103P37804	R-Fuse 1/4w 2.2Ω-J
R602	CP109D00204	R-Fuse-Metal 2w 3.0Ω
R6B7	QX103P37104	R-Fuse 1/4w 120Ω-J
R6B8	QX103P37104	R-Fuse 1/4w 120Ω-J
R6G7	QX103P37104	R-Fuse 1/4w 120Ω-J
R6G8	QX103P37104	R-Fuse 1/4w 120Ω-J
R6R7	QX103P37104	R-Fuse 1/4w 120Ω-J
R6R8	QX103P37104	R-Fuse 1/4w 120Ω-J
R902	QX102P08001	R-Cement-wire 5w 2.2Ω-K
R903	CP102P00501	R-Cement-wire 3w (0.94=0.47+0.47)Ω-K
R906	QX102P08007	R-Cement-wire 5w 47Ω-K/J
	VARIABLE RESISTORS	
VR201	QX127C03001	VR-Semifixed 1/5w B200Ω ±25%
VR202	QX127C03001	VR-Semifixed 1/5w B200Ω ±25%
VR203	QX127C03008	VR-Semifixed 1/5w B10kΩ ±25%
VR400	QX127C03002	VR-Semifixed 1/5w B300Ω ±25%
VR401	QX127C03002	VR-Semifixed 1/5w B300Ω ±25%
VR402	QX127C03103	VR-Semifixed 1/5w B200kΩ ±25%
VR403	QX127C03009	VR-Semifixed 1/5w B20kΩ ±25%
VR404	QX127C03003	VR-Semifixed 1/5w B500Ω ±25%
VR405	QX127C03101	VR-Semifixed 1/5w B50kΩ ±25%
VR501	QX127C02007	VR-Semifixed 1/5w B5kΩ ±25%
VR502	QX127C02007	VR-Semifixed 1/5w B5kΩ ±25%
VR503	QX127C02102	VR-Semifixed 1/5w B100kΩ ±25%
VR504	QX127C02006	VR-Semifixed 1/5w B3kΩ ±25%
VR590	CP129P03107	VR-PWB 0.15w B1KΩ-25S
VR591	CP129P03108	VR-PWB 0.15w B2KΩ-25S
VR6B1	QX127C03100	VR-Semifixed 1/5w B30kΩ ±25%
VR6G1	QX127C03100	VR-Semifixed 1/5w B30kΩ ±25%
VR6R1	QX127C03100	VR-Semifixed 1/5w B30kΩ ±25%
VR901	QX127C02101	VR-Semifixed 1/5w B50kΩ ±25%
	PRINTED CIRCUIT	
	CT920A02401	ASS'Y P.C.B MAIN
	CT920D90111	ASS'Y P.C.B CRT
	MISCELLANEOUS	
AG6B1	CP252P00101	SURGE-ABSORBER
AG6G1	CP252P00101	SURGE-ABSORBER
AG6R1	CP252P00101	SURGE-ABSORBER
AG601	CP252P00101	SURGE-ABSORBER
RP901	QX265P07101	POSISTOR

SYMBOL NO.	PARTS NO.	DESCRIPTION
S201	QX129P00709	VR-CHANNEL-PLESETTER
F901	QX283D03805	Fuse UL S3.15A
S901	CP432P00201	SW-Push
	CP242B01401	CABLE
	CP242C07901	AC-POWER-CORD
	CP859C01201	ACCESSORY
	CP802C00908	PACKING CASE
	CP803B01901	CUSHION
	CP803B01902	CUSHION
	CP803B02001	CUSHION
	CP803B02002	CUSHION
	QX831B02103	PACKING BAG
	CABINET PARTS	
	CP641A00101	HOLDER-PCB
	CP700A02901	BEZEL
	CP700A03001	BACK-COVER
	CP703C00701	KNOB-VR

SERVICE PARTS LIST (XC-1449C)

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2 Part number and Description
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RESISTOR

MARK	TOLERANCE
J	± 5%
K	±10%
M	±20%

CAPACITOR

MARK	TOLERANCE	MARK	TOLERANCE
J	± 5%	Z	+80% −20%
K	± 10%	C	±0.25pF
M	± 20%	D	±0.5pF
P	+100% − 0%	F	±1pF

SYMBOL No.	PARTS No.	DESCRIPTION
PICTURE TUBE		
	CP255P01301	AT14A9SLB22-A-TC162F (ITC)
TRANSISTORS		
Q201	QX260D17801	2SA1115-EF/2SA937-RS
Q202	QX260C33805	2SC2603-G
Q203	QX260C33805	2SC2603-G
Q204	QX260C33805	2SC2603-G
Q401	QX260D17006	2SC2073BC/C2168OY
Q402	QX260D17006	2SC2073BC/C2168OY
Q403	CP260D00501	2SC2168-O,Y/2SC2344
Q404	CP260D00502	2SA968A/2SA1011
Q405	QX260C41603	2SC2274-F
Q406	QX260C41603	2SC2274-F
Q501	QX260P42201	2SC2482
Q502	CP260P06601	2SD1847
Q503	QX260D17704	2SC2603-EF/2SC2021-R,S
Q504	QX260C33804	2SC2603-E,F
Q505	QX260C33804	2SC2603-E,F
Q6B1	RX270P57906	2SC3502-E,F
Q6B2	CP260P06401	2SC3951-E,F
Q6B3	CP260P07001	2SC2909S
Q6B4	CP260P07002	2SA1207S
Q6G1	RX270P57906	2SC3502-E,F
Q6G2	CP260P06401	2SC3951-E,F
Q6G3	CP260P07001	2SC2909S
Q6G4	CP260P07002	2SA1207S
Q6R1	RX270P57906	2SC3502-E,F
Q6R2	CP260P06401	2SC3951-E,F
Q6R3	CP260P07001	2SC2909S
Q6R4	CP260P07002	2SA1207S
Q901	QX260P38603	2SC2230-Y,GR
INTEGRATED CIRCUITS		
IC201	CP263P00601	M51387P
IC40A	CP263P00201	M74LS14P
IC40B	QX266P47801	SN74LS86N
IC401	QX266P50702	LA7824
IC402	CP263P02001	TC4052BP
IC501	CP263P00101	LA7812
IC910	QX267P90702	HIC STK7309
DIODES		
D201	QX264P22006	MZ310B/EQA02-10CDA
D202	QX264P22006	MZ310B/EQA02-10CDA
D203	QX264P22006	MZ310B/EQA02-10CDA
D204	QX264P22105	MZ306-A1/HZ6A19
D205	QX264P22105	MZ306-A1/HZ6A19
D206	QX254P22105	MZ306-A1/HZ6A19
D207	QX264P04508	1S2076A/1S2471

SYMBOL NO.	PARTS NO.	DESCRIPTION
D208	QX264P04508	1S2076A/1S2471
D209	QX264P04508	1S2076A/1S2471
D210	QX264P22004	MZ306B
D401	QX264D05602	S5500-D/EM-1Z/ERB12-02RK
D402	QX264P04508	1S2076A/1S2471
D403	QX264P04508	1S2076A/1S2471
D404	QX264P04508	1S2076A/1S2471
D405	QX264P19303	MZ305B/EQA02-05CDB
D50A	QX264P19303	MZ305B/EQA02-05CDB
D501	QX264P24401	HZT33-01
D502	QX264D05602	S5500-D/EM-1Z/ERB12-02RK
D503	QX264D05601	TVR1G/ES-1
D505	QX264P04508	1S2076A/1S2471
D530	QX264D05602	S5500-D/EM-1Z/ERB12-02RK
D531	QX264P10201	RU-3A
D532	QX264D05601	TVR1G/ES-1
D533	QX264D05602	S5500-D/EM-1Z/ERB12-02RK
D535	QX264P04508	1S2076A/1S2471
D6B2	QX264P22204	MZ324-A2
D6G2	QX264P22204	MZ324-A2
D6R2	QX264P22204	MZ324-A2
D901	QX264P10106	RM-1C
D902	QX264P10106	RM-1C
D903	QX264P10106	RM-1C
D904	QX264P10106	RM-1C
D905	QX264P35101	HZ3.6BP
D906	QX264D05601	TVR1G/ES-1
D907	QX264P35101	HZ3.6BP
D908	QX264D05601	TVR1G/ES-1
D920	QX264P35804	RU-4A
D921	QX264P10201	RU-3A
D922	QX264P30601	R2KY
D991	CP265P05201	LED SLP-335B-55
TRANSFORMERS		
T501	CP336P00101	Horizontal Drive
T502	CP349P00101	Side-P.C.C
T503	CP334P01502	Flyback
T901	CP350P02201	Power
COILS		
L2B1	QX411D00901	Core Ferrite
L2G1	QX411D00901	Core Ferrite
L2R1	QX411D00901	Core Ferrite
L202	CP410D00201	Core Ferrite
L203	CP410D00201	Core Ferrite
L204	CP410D00201	Core Ferrite
L205	QX325C10009	Peaking 4.7μH-K
L206	QX325C10009	Peaking 4.7μH-K
L207	QX409P00603	Filter 27μH-K
L501	CP333P00102	Horizontal Linearity
L502	CP335P00801	Horizontal Width
L503	QX321C01006	RF 1500μH-K
L6B1	CP410D00201	Core Ferrite
L6B2	QX325C11101	Peaking 6.8μH-K

SYMBOL NO.	PARTS NO.	DESCRIPTION
L6G1	CP410D00201	Core Ferrite
L6G2	QX325C11101	Peaking 6.8μH-K
L6R1	CP410D00201	Core Ferrite
L6R2	QX325C11101	Peaking 6.8μH-K
L601	QX321C03009	RF
L901	CP351P00501	Line Filter
L903	QX411P00101	Lead Ferrite
L920	QX409P00603	Filter 27μH-K
L921	QX409P00603	Filter 27μH-K
	CP409A00202	Degaussing
	CAPACITORS & RESISTORS	
C912	QX185D05407	C-Electrolytic H450V 180μF-M
C920	QX185D05404	C-Electrolytic H180V 330μF-M
R419	QX109D05104	R-Cement wire 10w 150Ω-J
R420	QX109D05104	R-Cement wire 10w 150Ω-J
R427	QX103P37808	R-Fuse 1/4w 4.7Ω-J
R514	QX103P37804	R-Fuse 1/4w 2.2Ω-J
R532	QX103P37804	R-Fuse 1/4w 2.2Ω-J
R545	QX103P37804	R-Fuse 1/4w 2.2Ω-J
R549	QX103P37804	R-Fuse 1/4w 2.2Ω-J
R602	CP109D00204	R-Fuse-Metal 2w 3.0Ω
R6B7	QX103P37104	R-Fuse 1/4w 120Ω-J
R6B8	QX103P37104	R-Fuse 1/4w 120Ω-J
R6G7	QX103P37104	R-Fuse 1/4w 120Ω-J
R6G8	QX103P37104	R-Fuse 1/4w 120Ω-J
R6R7	QX103P37104	R-Fuse 1/4w 120Ω-J
R6R8	QX103P37104	R-Fuse 1/4w 120Ω-J
R902	QX102P08001	R-Cement-wire 5w 2.2Ω-K
R903	QX109P07409	R-Cement-wire 3w (1.5=0.75+0.75)Ω
R906	QX102P08007	R-Cement-wire 5w 47Ω-K/J
R915	QX102P08001	R-Cement-wire 5w 2.2Ω-K
	VARIABLE RESISTORS	
VR201	QX127C03001	VR-Semifixed 1/5w B200Ω ±25%
VR202	QX127C03001	VR-Semifixed 1/5w B200Ω ±25%
VR203	QX127C03007	VR-Semifixed 1/5w B5kΩ ±25%
VR400	QX127C03002	VR-Semifixed 1/5w B300Ω ±25%
VR401	QX127C03002	VR-Semifixed 1/5w B300Ω ±25%
VR402	QX127C03103	VR-Semifixed 1/5w B200kΩ ±25%
VR403	QX127C03009	VR-Semifixed 1/5w B20kΩ ±25%
VR404	QX127C03003	VR-Semifixed 1/5w B500Ω ±25%
VR405	QX127C03101	VR-Semifixed 1/5w B50kΩ ±25%
VR501	QX127C02007	VR-Semifixed 1/5w B5kΩ ±25%
VR502	QX127C02007	VR-Semifixed 1/5w B5kΩ ±25%
VR503	QX127C02102	VR-Semifixed 1/5w B100kΩ ±25%
VR504	QX127C02004	VR-Semifixed 1/5w B1kΩ ±25%
VR590	CP129P03107	VR-PWB 0.15w B1KΩ-25S
VR591	CP129P03108	VR-PWB 0.15w B2KΩ-25S
VR6B1	QX127C03007	VR-Semifixed 1/5w B5kΩ ±25%
VR6G1	QX127C03007	VR-Semifixed 1/5w B5kΩ ±25%
VR6R1	QX127C03007	VR-Semifixed 1/5w B5kΩ ±25%
VR901	QX127C02101	VR-Semifixed 1/5w B50kΩ ±25%
	PRINTED CIRCUIT	
	CT920A02402	ASS'Y P.C.B MAIN
	CT920D90111	ASS'Y P.C.B CRT
	MISCELLANEOUS	
AG6B1	CP252P00101	SURGE-ABSORBER
AG6G1	CP252P00101	SURGE-ABSORBER
AG6R1	CP252P00101	SURGE-ABSORBER
AG601	CP252P00101	SURGE-ABSORBER
RP901	CP265P00101	POSISTOR

SYMBOL NO.	PARTS NO.	DESCRIPTION
S201	QX129P00709	VR-CHANNEL-PLESETTER
F901	QX283D02406	Fuse S3.15A-T
S901	CP432P00201	SW-Push
	CP242B01401	CABLE
	CP246B01005	POWER JACK
	CP859C01203	ACCESSORY
	CP802C03201	PACKING CASE
	CP803B01901	CUSHION
	CP803B01902	CUSHION
	CP803B02001	CUSHION
	CP803B02002	CUSHION
	QX831B02103	PACKING BAG
	CABINET PARTS	
	CP641A00101	HOLDER-PCB
	CP700A02901	BEZEL
	CP700A03001	BACK-COVER
	CP703C00701	KNOB-VR

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WARNING TO SERVICEMAN
X RADIATION PRECAUTION
THIS PRODUCT INCLUDES CRITICAL ELECTRICAL AND MECHANICAL PARTS ESSENTIAL FOR X RADIATION PROTECTION
TO AVOID POSSIBLE EXPOSURE TO X RADIATION TAKE X RADIATION PROTECTIVE MEASURES FOR PERSONNEL DURING SERVICING
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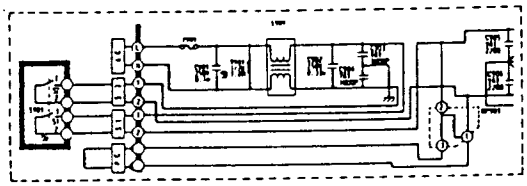
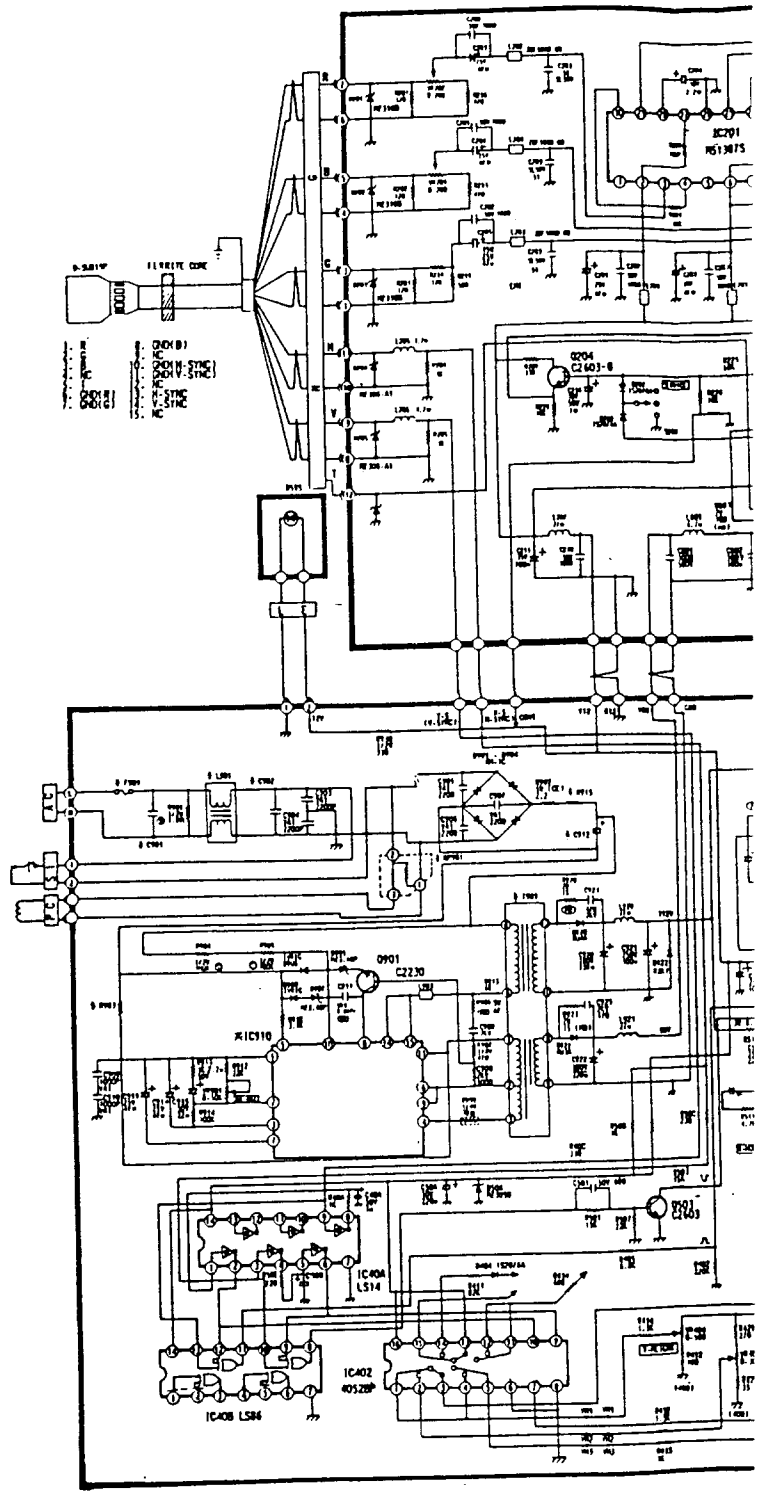
FOR XC-1449C





※ PARTS REPLACEMENT

SYMBOL NO.	XC-1429C	XC-1449C
R915	Short circuit	R-CEMENT-WR 1W 1.2Ω
C912	C-ELE 250V 220U	C-ELE 450V 180U
R903	R-CEMENT-WR 3W 0.47X2	R-CEMENT-WR 3W 0.75X2
IC910	HIC STK7308	HIC STK7309
F901	125V 3.15A	250V 3.15A
RF901	PTH451C06BG080M140	PTH451C41BG180M300
S2	Short circuit	S901
C901	125V 0.33U	250V 0.1U
L901	CP351P005-20	ELF-18D650HN
C902	125V 0.1U	250V 0.33U
T901	CP350P018-10	CP350P022-10
R547	R-METAL 2W 180Ω	R-METAL 2W 120Ω
R548	R-METAL 2W 180Ω	R-METAL 2W 120Ω
VR504	1/5W 3KΩ	1/5W 1KΩ
L503	COIL-RF 3990UH	COIL-RF 1500UH
R544	Short Circuit	R-FUSE 1/4W 82K
R533	R-CARBON 1/4W 100K	R-CARBON 1/4W 82K
R534	R-CARBON 1/4W 22K	R-CARBON 1/4W 10K
L502	CP335P008-1	CP334P008-2

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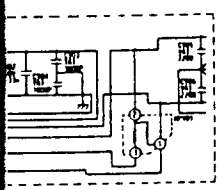
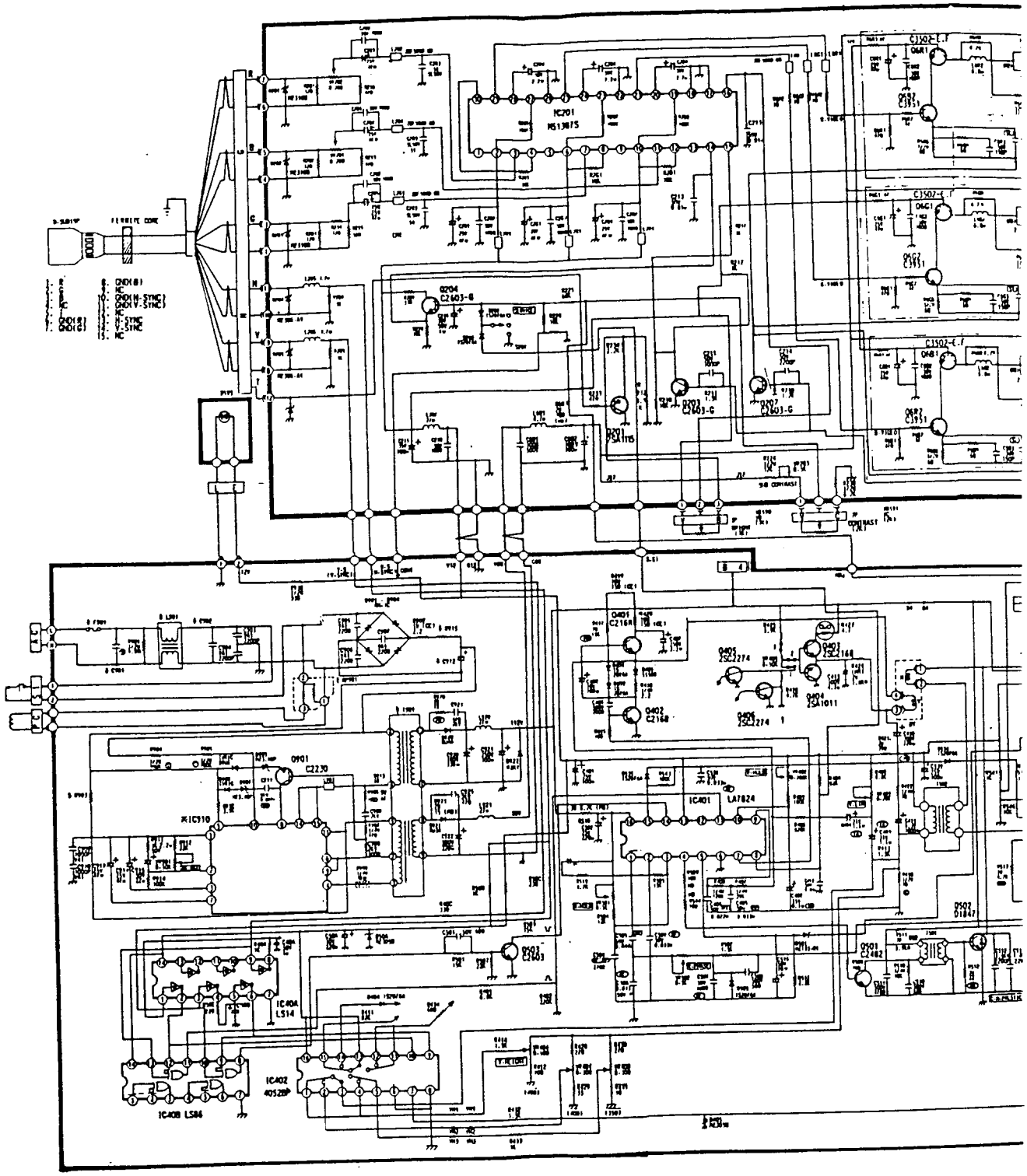
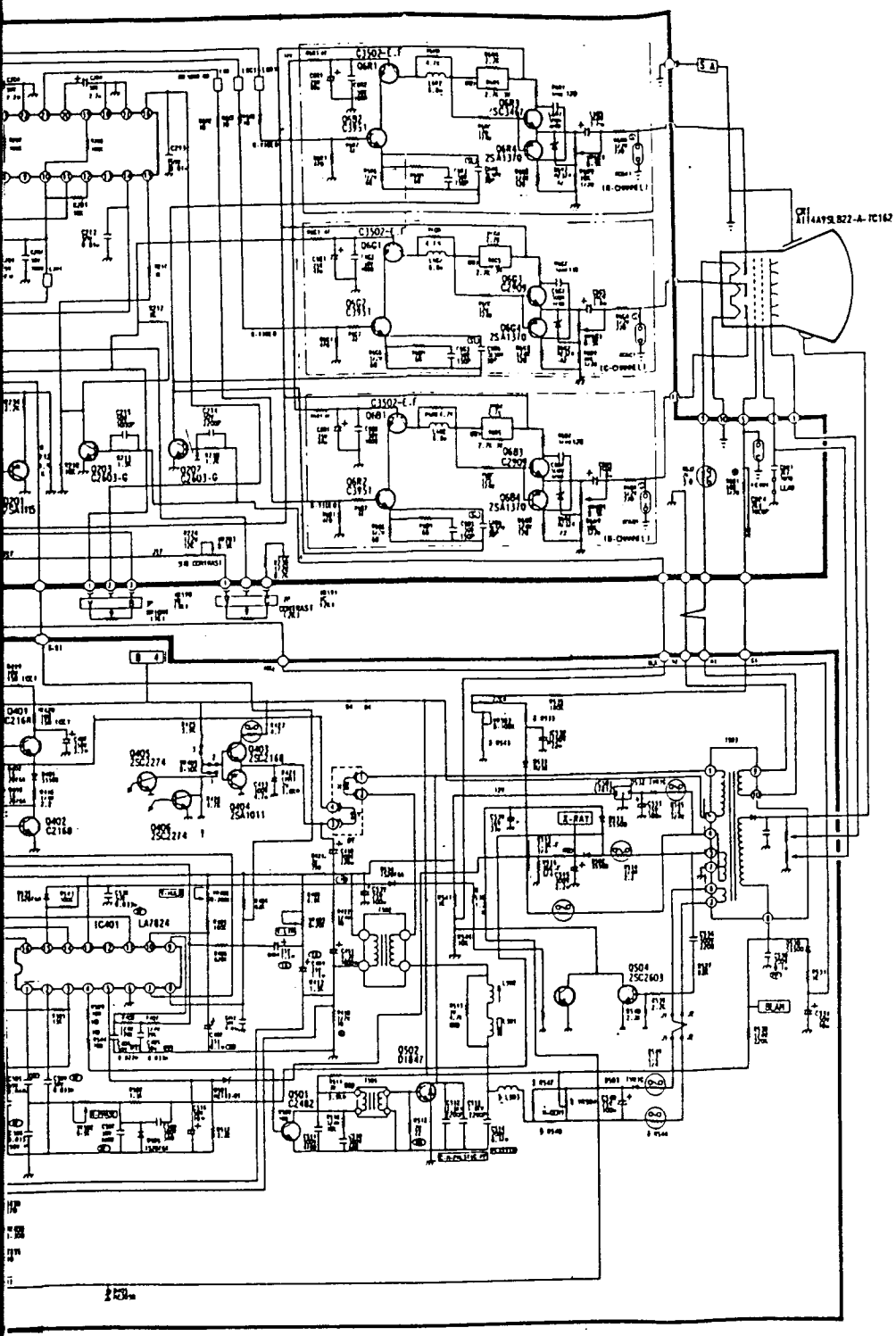




IC-1449C
-CEMENT-WR 5W 1.2Ω
-ELE 450V 180μ
-CEMENT-WR 3W 0.75X2
IC STK7309
50V 1.15A
TN451C418G180NJ00
901
50V 0.1W
LF-180650MH
50V 0.33W
P350P022-10
-METAL 2W 120Ω
-METAL 2W 120Ω
/5W 1KΩ
OIL-RF 1500UH
-FUSE 1/4W 82K
-CARBON 1/4W 82K
-CARBON 1/4W 10K
P334P008-2



SCHEMATIC DIAGRAM

MODEL : XC-1429C/1449C

NOTE 1:

1. The unit of resistance "ohm" no symbol
   Accordingly, K = 1000 ohms
   M = 1000K ohms
2. The wattage of resistor, if not specifically designated, is less than 1/4 watt
3. Resistors, if not specifically designated, are carbon resistors
4. The marks of resistors are as follows

(CE)	Cemented resistor
(MB)	Metal oxide film resistor(type B)
(MPC)	Metal plate cement resistor
(S)	Fixed composition resistor
(W)	Wire wound resistor
(M)	Metal film resistor

5. The tolerance of resistor value, if not specifically designated, is: J = ±5%, K = ±10%, m = ±20%
6. The unit of capacitance, if not specifically designated, is
   a) μF, for numbers less than 1
   b) PF, for numbers more than 1
7. Capacitors, if not specifically designated are Ceramic capacitors except electrolytic capacitors
8. The marks of capacitors are as follows

(ALM)	Aluminus electrolytic capacitor
(MF)	Polyester capacitor
(PP)	Polypropylene film capacitor
(TAN)	Tantalum capacitor
(TF)	Twin film capacitor
(MF PP)	Polyester polypropylene film capacitor
(MPP)	Metallize plastic film capacitor
(NP)	Non polarized electrolytic capacitor
+	Electrolytic capacitor

9. The DC working voltage of capacitor, if not specifically designated is 50V
10. The tolerance of capacitor value, if not specifically designated is ±10% for polyester capacitor
    ±5% for ceramic capacitor
    and J = ±5% K = ±10% M = ±20% P = $^{+100\%}_{0\%}$
    C = ±0.25PF D = ±0.5PF F = ±1PF Z = $^{+80\%}_{-20\%}$

SPECIFIC SYMBOL

	Zener Diode		Varistor
	Posistor		Air Gap
	Thermistor		Part resistor attached on the copper-foil side of PCB
	Fusible Resistor		Ceramic filter

NOTE 2:

1. DC voltages were measured from points indicated to the circuit ground with a VTVM
   Line voltage at 120V AC on signal applied
2. Number in circle indicates waveform number
3. This is a basic schematic diagram. Some sets may be subject to modification according to engineering improvement

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WARNING TO SERVICEMAN

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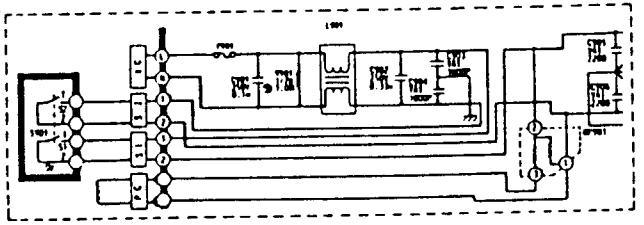
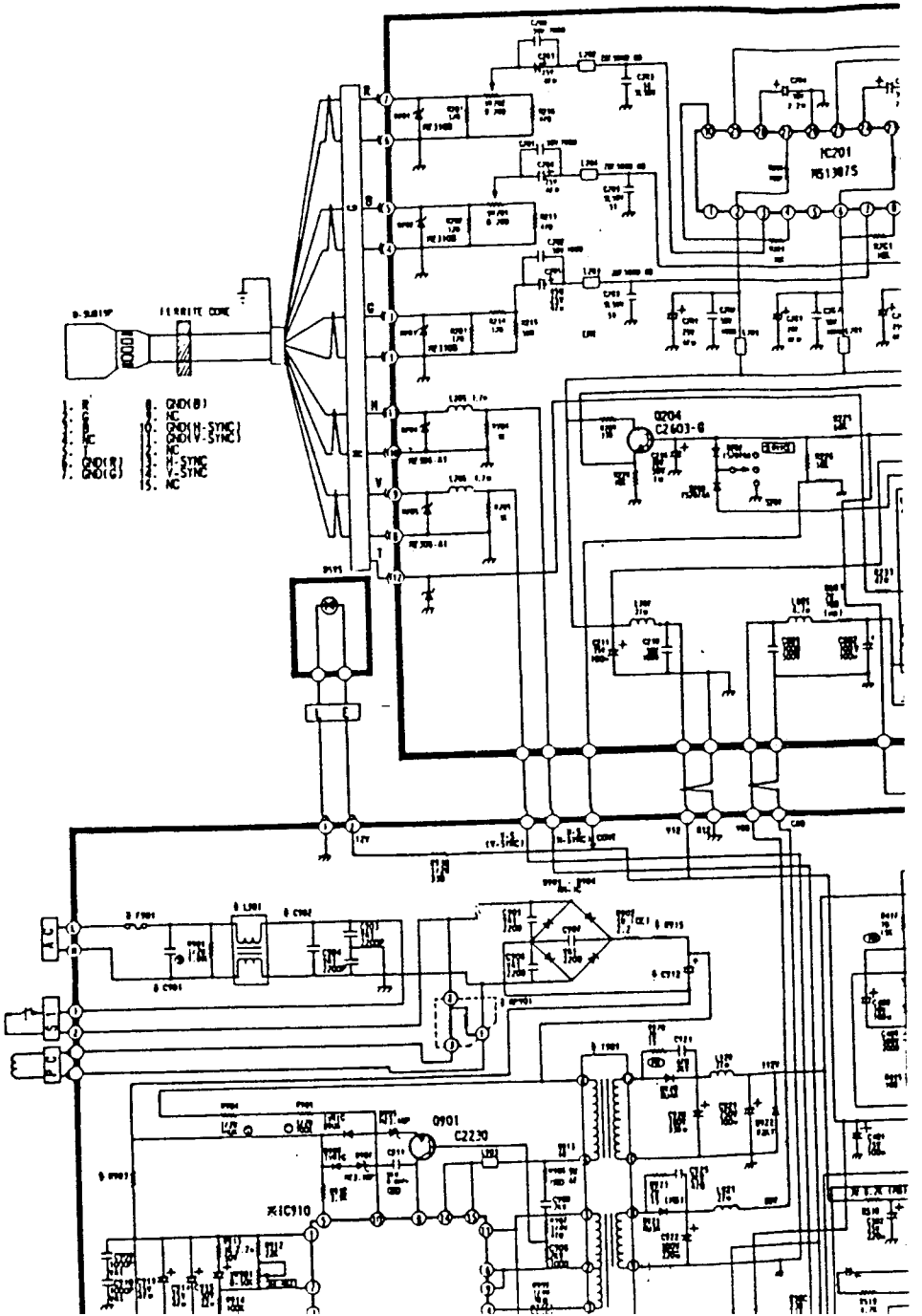
FOR XC-1449C



※ PARTS REPLACEMENT

SYMBOL NO.	XC-1429C	XC-1449C
R915	Short circuit	R-CEMENT-WR 1W 1.2Ω
C912	C-ELE 250V 220u	C-ELE 450V 180u



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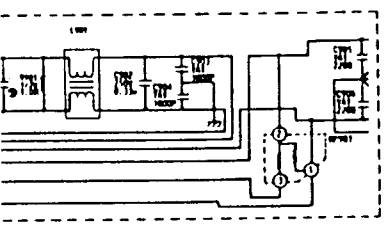

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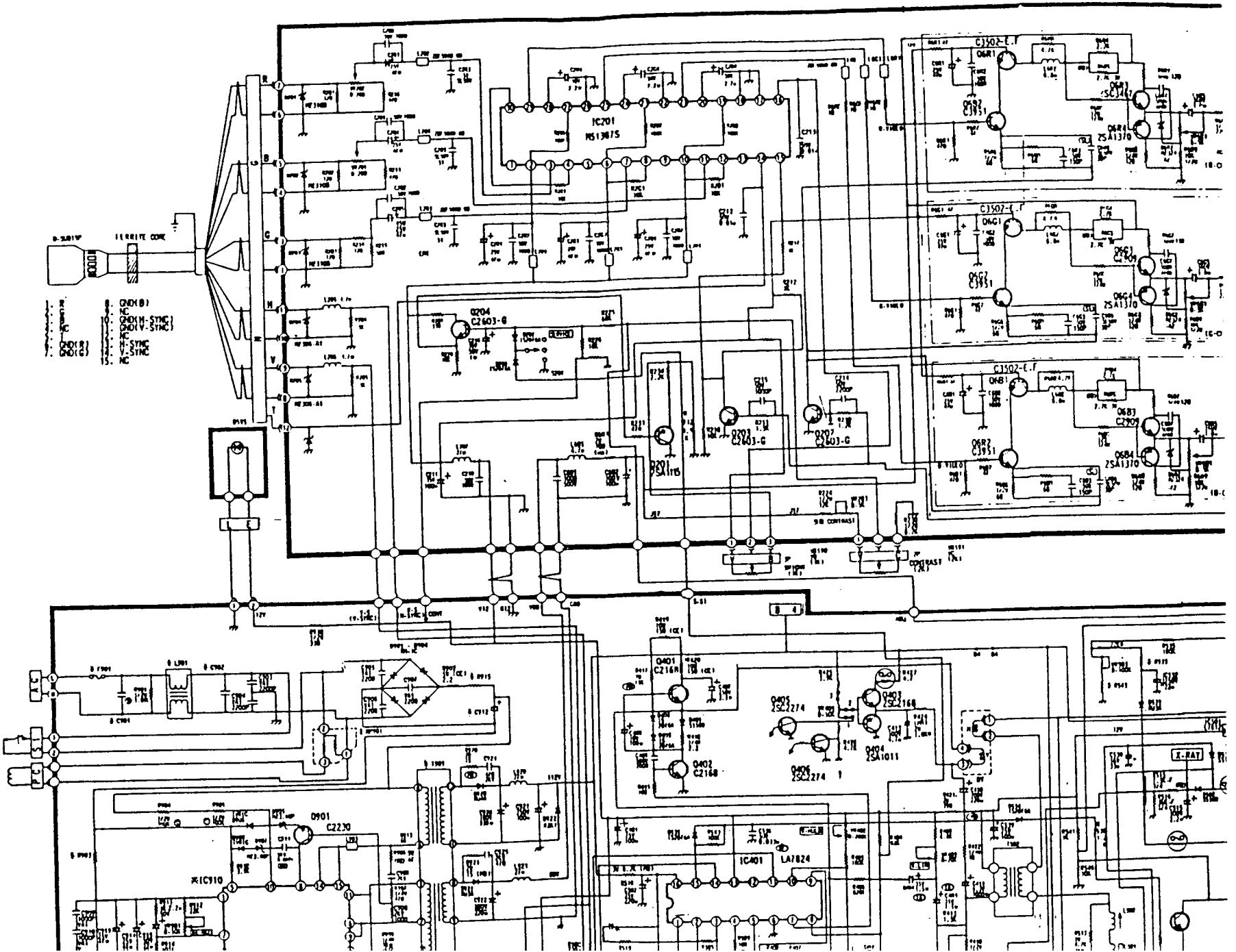
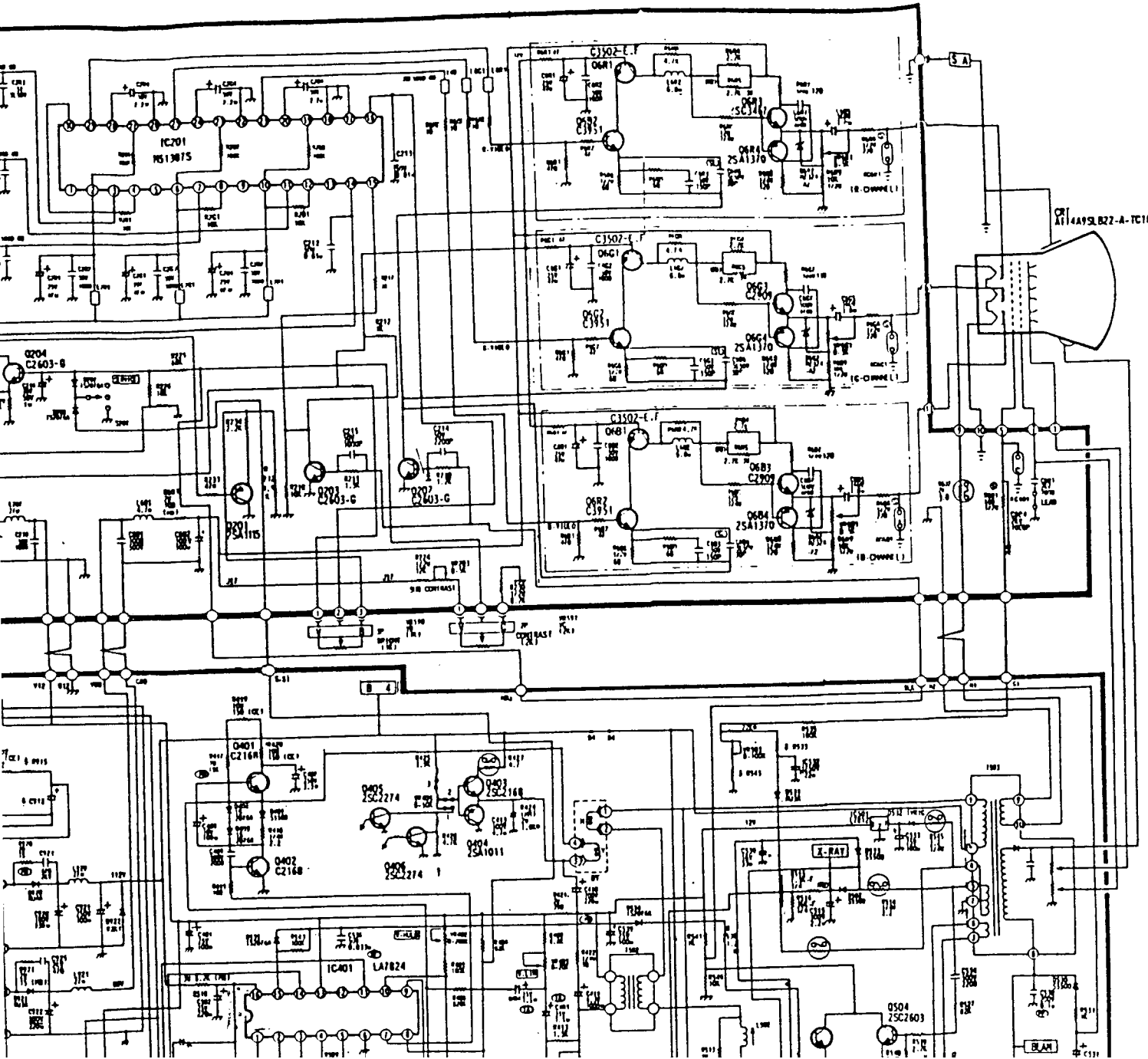
1429C	XC-1449C
ult	R-CEMENT-MR 5W 1.2Ω
220u	C-ELE 450V 180u





SCHEMATIC DIAGRAM

MODEL : XC-1429C/1449C

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3. Resistors, if not specifically designated, are carbon resistors
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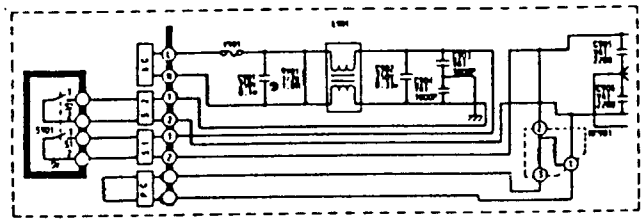
    and J = ± 5% K = ± 10% M = ± 20% P = $^{+100\%}_{-0\%}$
    C = ± 0.25PF D = ± 0.5PF F = ± 1PF Z = $^{+80\%}_{-20\%}$

SPECIFIC SYMBOL

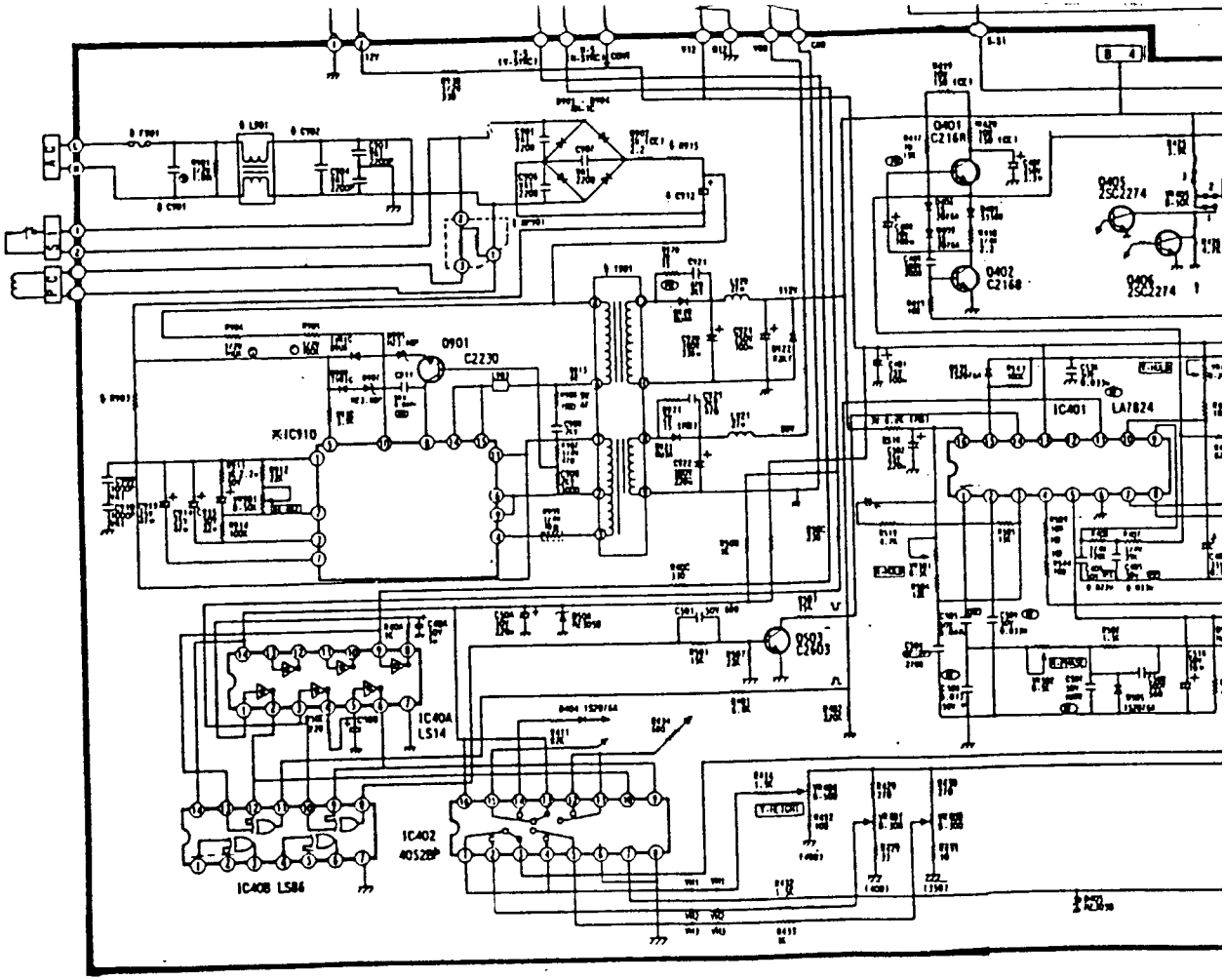
Zener Diode	Varistor
Posistor	Air Gap
Thermistor	Partresistorlattached on the copper-foil side of PCB
Fusible Resistor	Ceramic filter

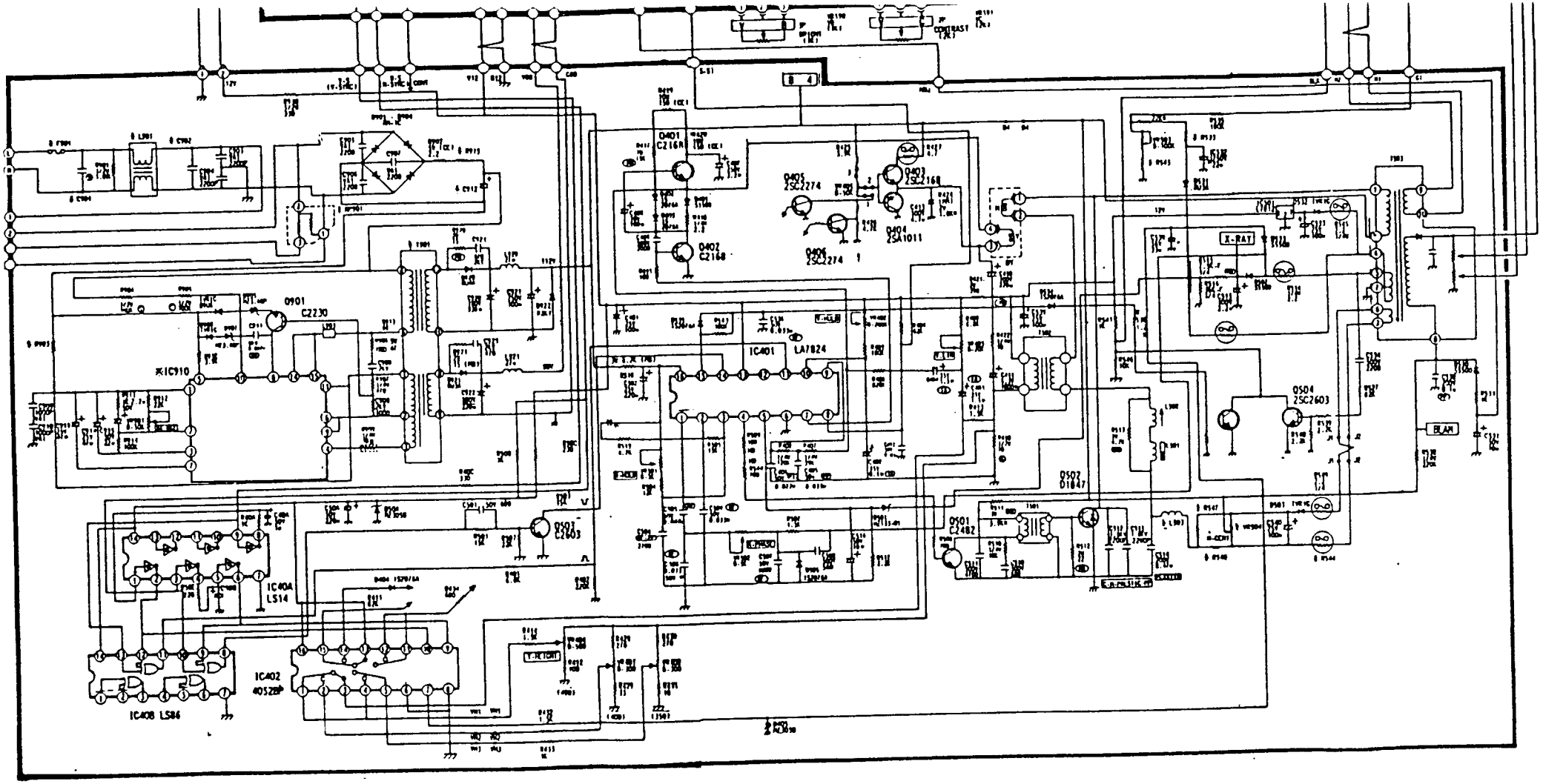
FOR XC-1449C



※ PARTS REPLACEMENT

SYMBOL NO.	XC-1429C	XC-1449C
R915	Short circuit	R-CEMENT-WR 5W 1.2Ω
C912	C-ELE 250V 220μ	C-ELE 450V 180μ
R903	R-CEMENT-WR 3W 0.47X2	R-CEMENT-WR 3W 0.75X2
IC910	HIC STK7308	HIC STK7309
F901	125V 3.15A	250V 3.15A
RP901	PTH451C06BG080N140	PTH451C41BG180NJ00
S2	Short circuit	S901
C901	125V 0.33μ	250V 0.1μ
L901	CP351P005-20	ELF-18D650HN
C902	125V 0.1μ	250V 0.33μ
T901	CP350P018-10	CP350P022-10
R547	R-METAL 2W 180Ω	R-METAL 2W 120Ω
R548	R-METAL 2W 180Ω	R-METAL 2W 120Ω
VR504	1/5W 3KΩ	1/5W 1KΩ
L503	COIL-RF 3990uH	COIL-RF 1500uH
R544	Short Circuit	R-FUSE 1/4W 82K
R533	R-CARBON 1/4W 100K	R-CARBON 1/4W 82K
R534	R-CARBON 1/4W 22K	R-CARBON 1/4W 10K
L502	CP335P008-1	CP334P008-2





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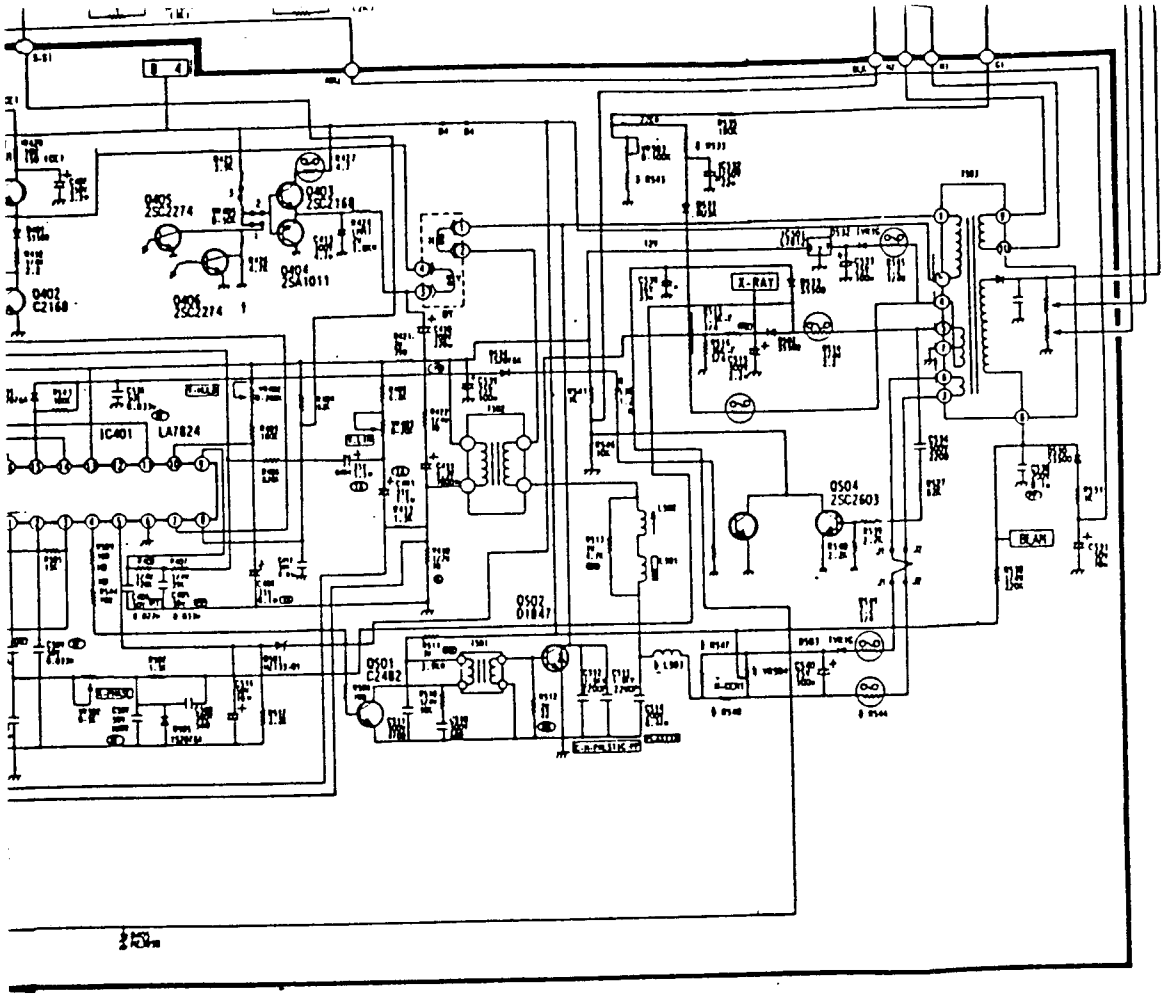

(TF) Twin film capacitor
(MF PP) Polyester polypropylene film capacitor
(MPP) Metallize plastic film capacitor
(NP) Non polarized electrolytic capacitor
Electrolytic capacitor

9 The DC working voltage of capacitor, if not specifically designated is 50V

10 The tolerance of capacitor value, if not specifically designated is ± 10% for polyester capacitor
- 5% for ceramic capacitor
and J = ± 5% K = ± 10% M = - 20% P = $^{+100\%}_{0\%}$
C = ± 0 25PF D = ± 0 5PF F = ± 1PF Z = $^{+80\%}_{-20\%}$

SPECIFIC SYMBOL	
Zener Diode	Varistor
Posistor	Air Gap
Thermistor	Partresistorlattached on the copper-foil side of PCB
Fusible Resistor	Ceramic filter

NOTE 2:

1 DC voltages were measured from points indicated to the circuit ground with a VTVM
Line voltage at 120V AC on signal applied

2 Number in circle indicates waveform number

3 This is a basic schematic diagram. Some sets may be subject to modification according to engineering improvement

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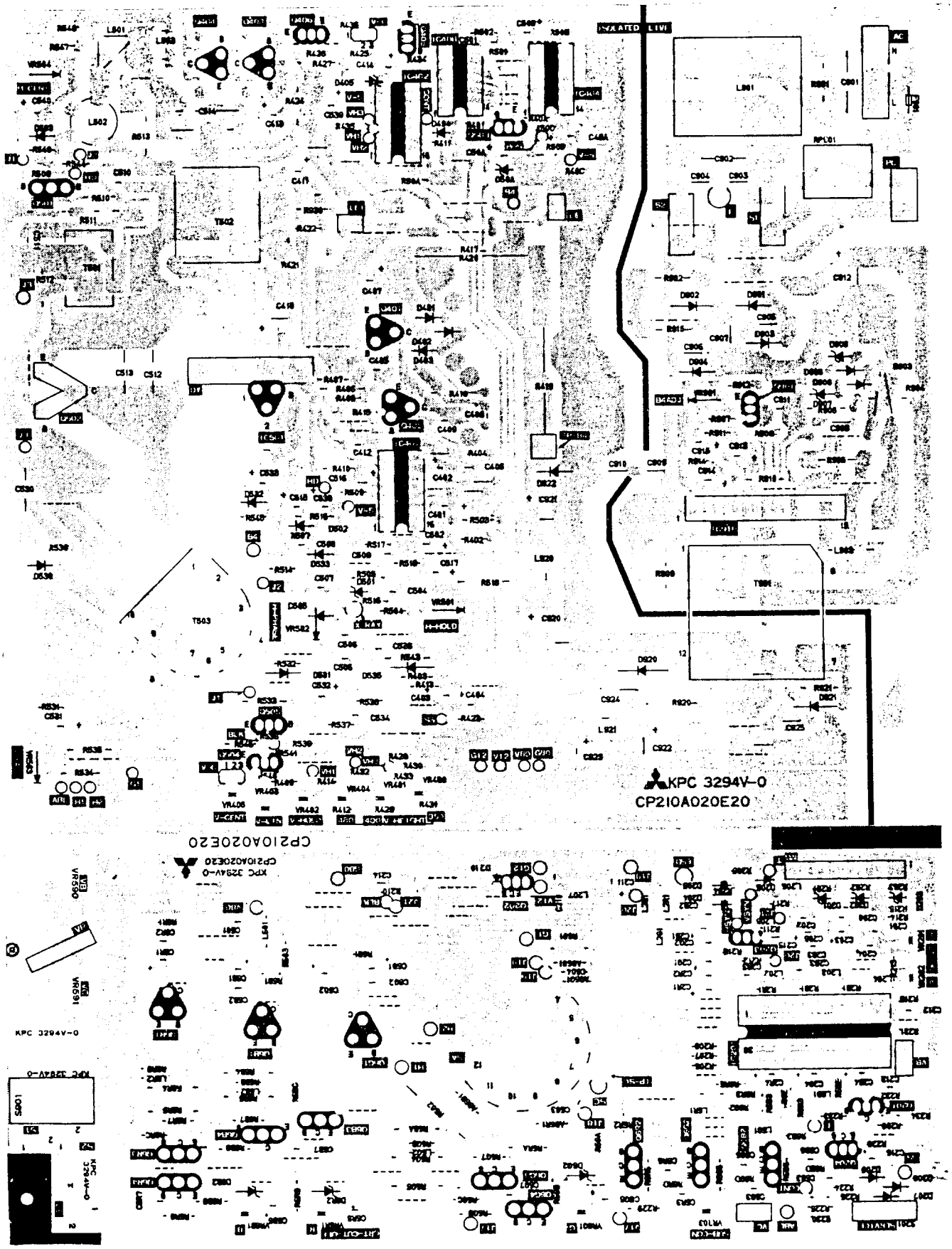
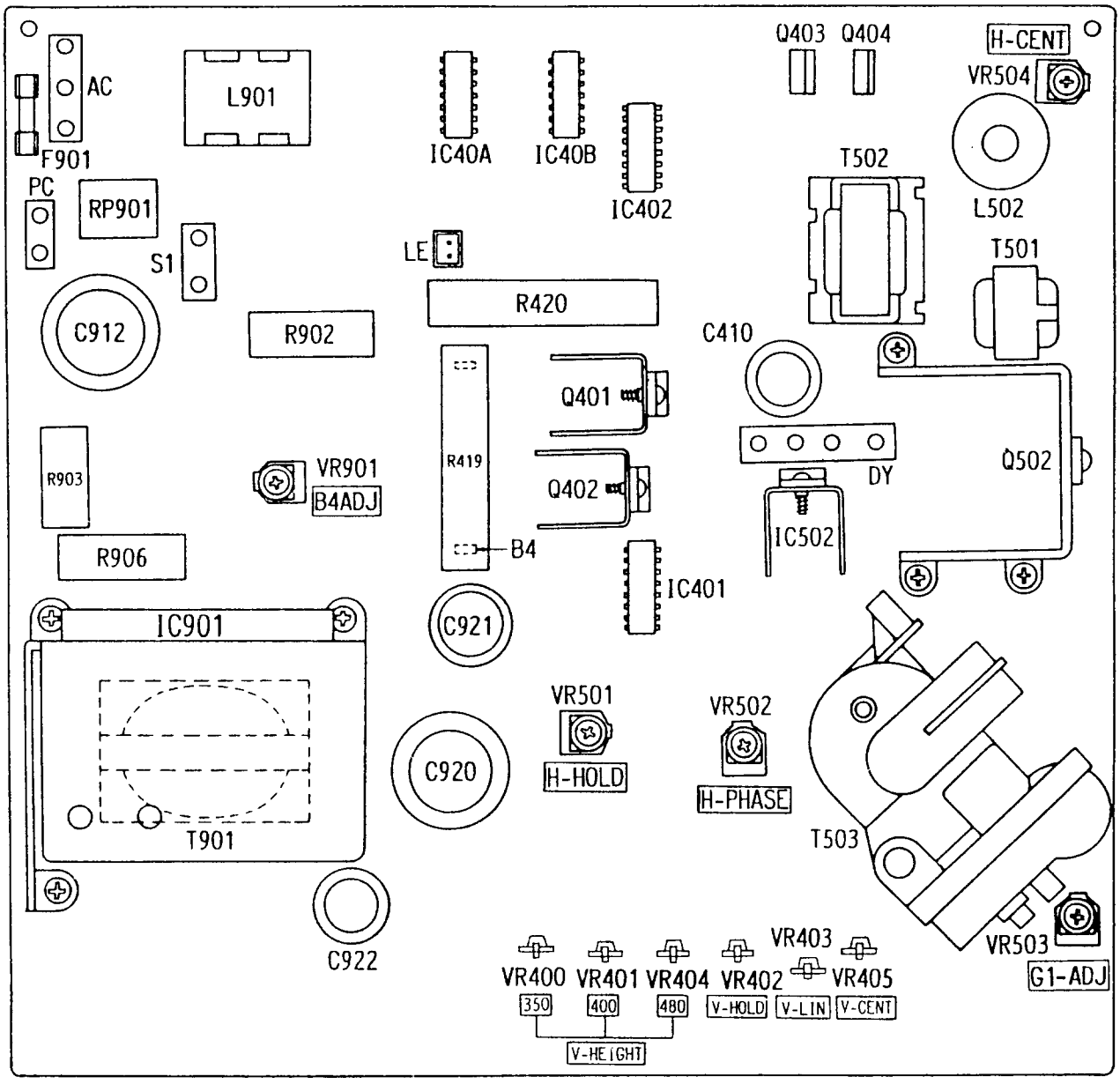
P.C. BOARD

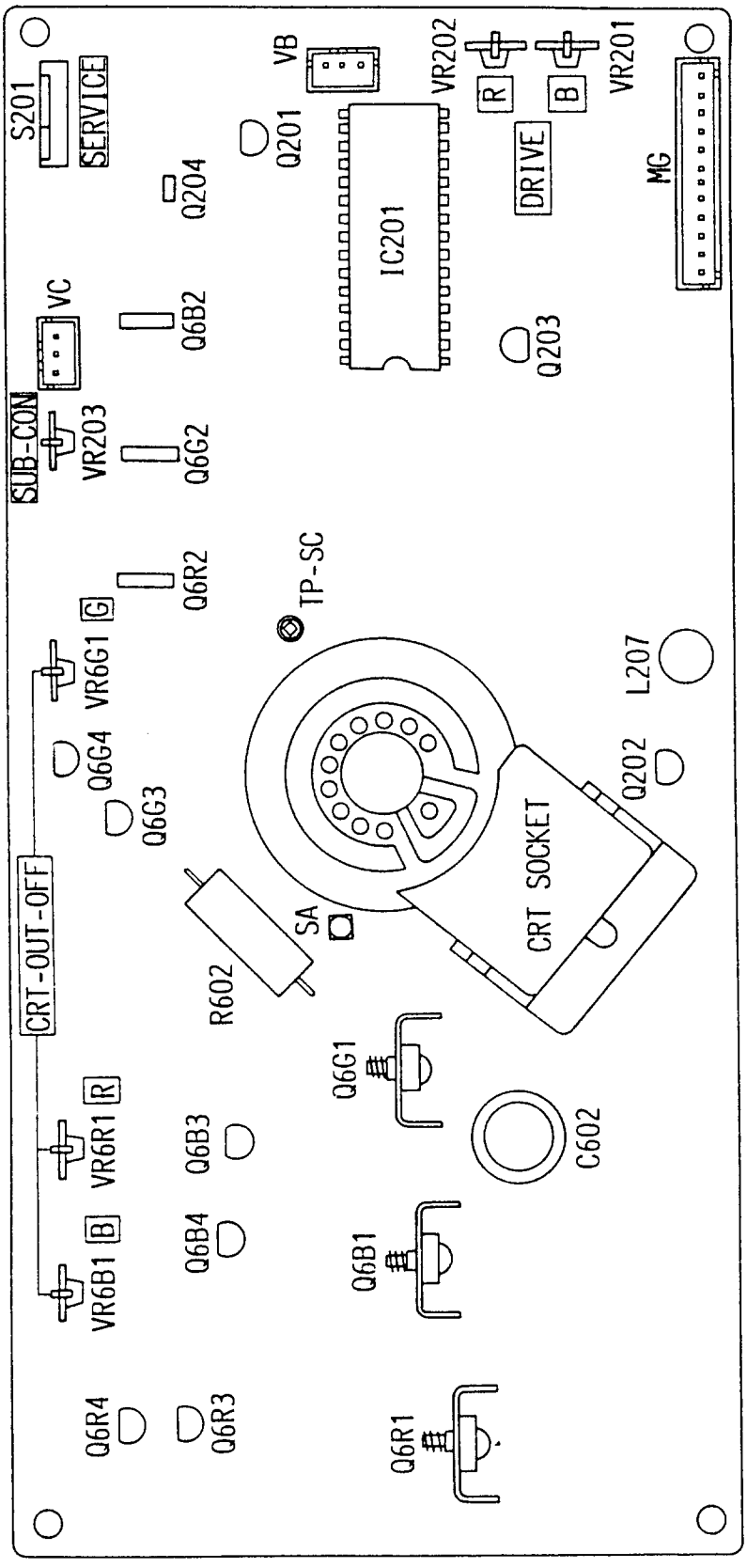


PARTS LOCATION OF P.C. BOARD

MAIN P C B

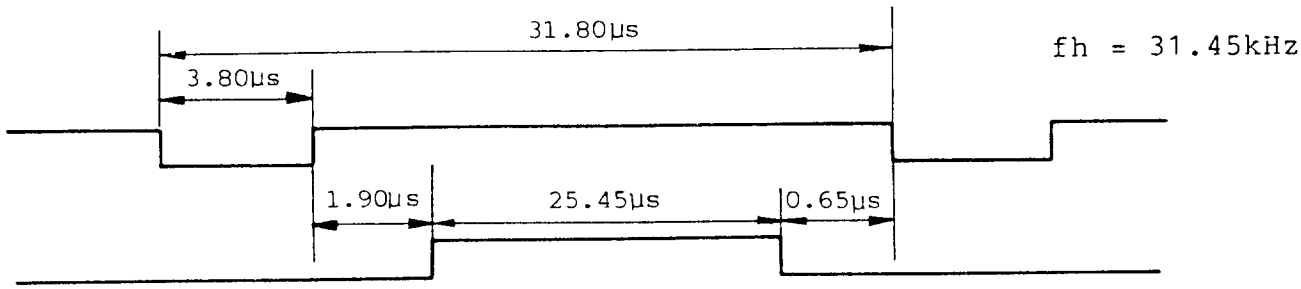


CRT PCB

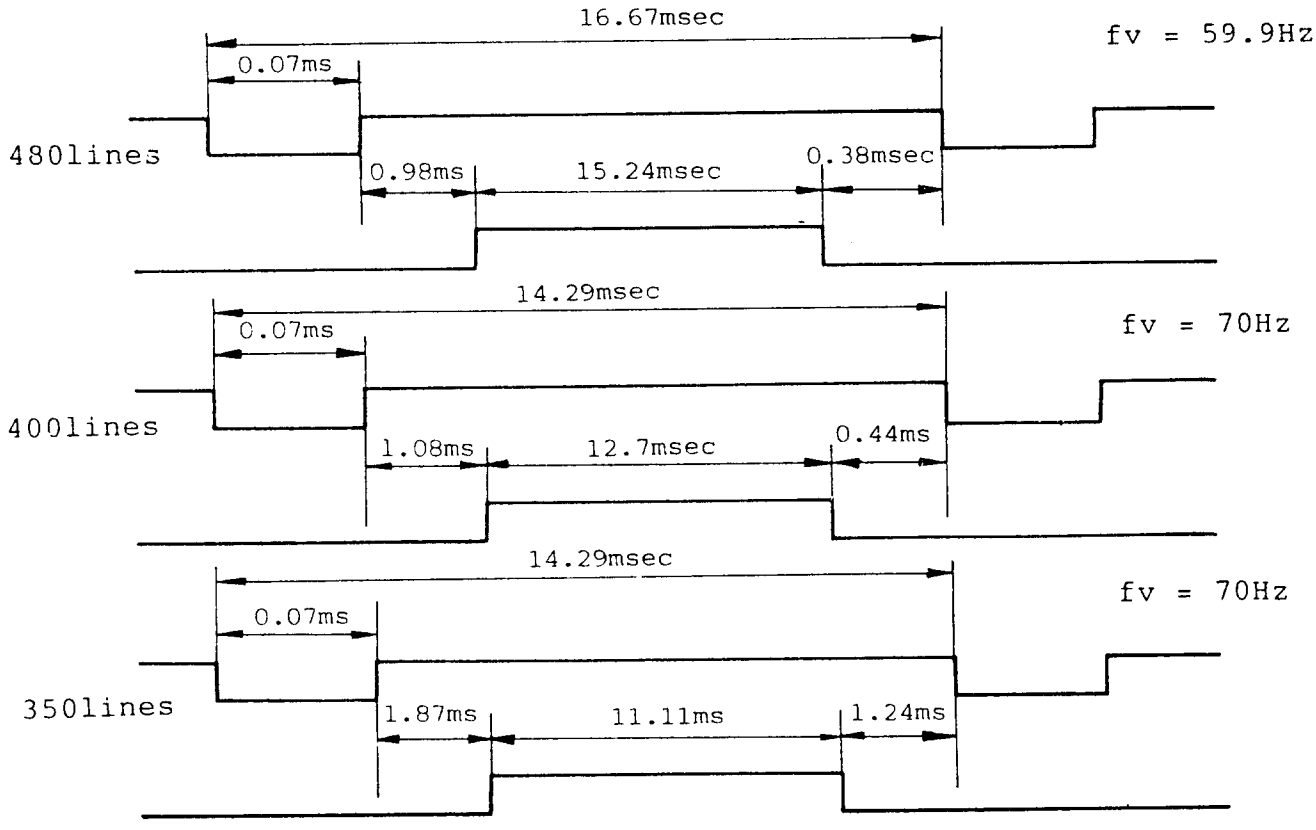

S201
SERVICE
VB
Q201
Q204
VR202
R
B
VR201
VC
SUB-CON
VR203
Q6B2
Q6G2
IC201
Q203
DRIVE
MG
TP-SC
Q6R2
VR6G1
G
Q6G4
Q6G3
L207
Q202
CRT-OUT-OFF
R602
SA
CRT SOCKET
Q6G1
C602
VR6R1
R
Q6B3
VR6B1
B
Q6B4
Q6B1
Q6R4
Q6R3
Q6R1

TIMING CHART

HORIZONTAL



VERTICAL



Polarity of sync. signal

Lines	H-Sync.	V-Sync.
350	P	N
400	N	P
480	N	N

P : Positive

N : Negative