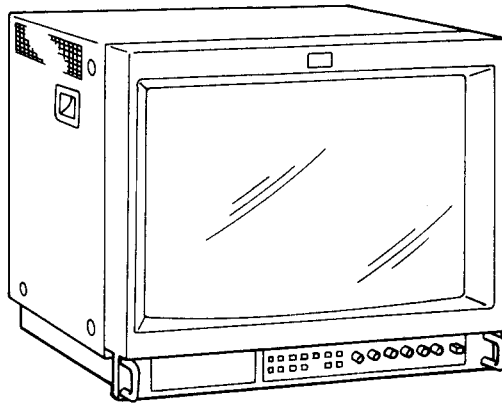


# PVM-1953MD/2053MD

## SERVICE MANUAL



*US Model*  
*Canadian Model*

PVM-1953MD  
Chassis No. SCC-H31A-A

*AEP Model*

PVM-2053MD  
Chassis No. SCC-H29B-A

### SPECIFICATIONS (PVM-1953MD)

#### Video signal

Color system	NTSC, PAL
Resolution	600 TV lines
Aperture correction	0 dB - +6.0 dB
Frequency response	LINE 9.0 MHz (-3 dB) RGB 10.0 MHz (-3 dB)
Synchronization	AFC time constant 1.0 msec.

Raster size stability	H 1.0%, V 1.5%
High voltage regulation	4.0%

CRT	SMPTE-C phosphor
Color temperature	6500K/5600K/USER (3200K - 10000K, factory setting is 6500K)

#### Picture performance

Overscan	20% overscan of CRT effective screen area
Normal scan	7% overscan of CRT effective screen area
Underscan	5% underscan of CRT effective screen area
Linearity	Horizontal: Less than 5% (typical) Vertical: Less than 5% (typical)
Convergence	Central area 0.7 mm (typical) Peripheral area 1.3 mm (typical)

#### Inputs

Y/C IN	4-pin mini DIN connector <i>See the pin assignment on the page 2.</i>
VIDEO IN	BNC connector 1Vp-p $\pm$ 6 dB, sync negative
AUDIO IN	phono jack, -5 dBu, more than 47k ohms
R/R-Y IN, G/Y IN, B/B-Y IN	BNC connector
R, G, B channels	0.7 Vp-p $\pm$ 6 dB
Sync on green	1.0 Vp-p Sync negative, 75 ohms terminated

-- Continued on next page --



TRINITRON® COLOR VIDEO MONITOR  
**SONY**®

# PVM-1953MD

R-Y, B-Y channels 0.7 V<sub>p-p</sub> ±6 dB  
 Y channel 1.0 V<sub>p-p</sub> ±6 dB  
 (Standard color bar signal of 75% chrominance)  
 EXT SYNC IN BNC connector composite sync  
 4 V<sub>p-p</sub> ±6 dB, negative

## Outputs

Y/C OUT 4-pin mini DIN connector, 75 ohms terminated  
 VIDEO OUT BNC connector, 75 ohms terminated  
 AUDIO OUT phono jack  
 R/R-Y OUT, G/Y OUT, B/B-Y OUT BNC connector, 75 ohms terminated  
 EXT SYNC OUT BNC connector, 75 ohms terminated  
 DC OUT 5 V/1 A  
 Speaker output Output level 0.8 W

## Remote input

REMOTE 1 8-pin mini DIN  
*See the pin assignment on the page 2.*  
 RS-232C 9-pin D-sub  
*See the pin assignment on the page 2.*

## General

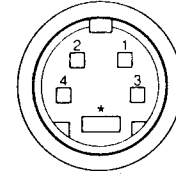
Power requirements 120 V AC, 50/60 Hz  
 1.6 A  
*Capable of 100 to 240V operation*  
 Operating temperature range 0 – 35°C  
 Storage temperature range –10 – +40°C  
 Humidity 0 – 90%  
 Dimensions Approx. 450 × 457.5 × 503 mm  
 (w/h/d)  
 (17<sup>3</sup>/<sub>4</sub> × 18<sup>1</sup>/<sub>8</sub> × 19<sup>7</sup>/<sub>8</sub> inches)  
 not incl. projecting parts and controls  
 Mass Approx. 30 kg (66 lb 2 oz)  
 Accessory supplied AC power cord (1)  
 AC plug holder (1)  
 Splash proof covers (2)  
 Control panel cover (1)  
 Panel hinges (2)  
 Remote Control Connector  
 8-pin mini DIN (1)  
 Operating Instructions (1)  
 Interface Manual for Programmers (1)  
 Quick Reference Card (1)  
 Double-sided adhesive tapes (4)

0 dBu = 0.775 Vr.m.s.

Design and specifications are subject to change without notice.

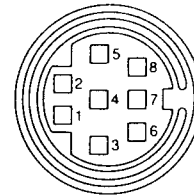
## Pin assignment

### Y/C IN connector (4-pin mini DIN)



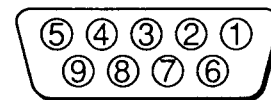
Pin No.	Signal	Description
1	Y-input	1 V <sub>p-p</sub> , sync negative, 75 ohms
2	CHROMA sub-carrier-input	300 mV <sub>p-p</sub> , burst Delay time between Y and C: within 0±100 nsec., 75 ohms
3	GND for Y-input	GND
4	GND for CHROMA-input	GND

### REMOTE 1 connector (8-pin mini DIN)



Pin No.	Signal
1	REMOTE ON/OFF
2	LINE A
3	GND
4	LINE B
5	TALLY
6	OVER SCAN
7	RGB A
8	RGB B

### RS-232C connector (9-pin D-sub)



Pin No.	Signal
1	—
2	RX
3	TX
4	—
5	GND
6	—
7	RTS
8	CTS
9	—

## SPECIFICATIONS (PVM-2053MD)

### Video signal

Color system	PAL, NTSC
Resolution	600 TV lines
Aperture correction	0 dB – +6.0 dB
Frequency response	LINE 9.0 MHz (–3 dB) RGB 10.0 MHz (–3 dB)
Synchronization	AFC time constant 1.0 msec.

### Picture performance

Overscan	20% overscan of CRT effective screen area
Normal scan	7% overscan of CRT effective screen area
Underscan	5% underscan of CRT effective screen area
Linearity	Horizontal: Less than 5% (typical) Vertical: Less than 5% (typical)
Convergence	Central area 0.7 mm (typical) Peripheral area 1.3 mm (typical)
Raster size stability	H 1.0%, V 1.5%
High voltage regulation	4.0%
CRT	EBU phosphor
Color temperature	6500K/5600K/USER (3200K – 10000K, factory setting is 6500K)

### Inputs

Y/C IN	4-pin mini DIN connector <i>See the pin assignment on the page 3.</i>
VIDEO IN	BNC connector 1 Vp-p ±6 dB, sync negative
AUDIO IN	phono jack, –5 dBu, more than 47k ohms
R/R-Y IN, G/Y IN, B/B-Y IN	BNC connector
R, G, B channels	0.7 Vp-p ±6 dB
Sync on green	1.0 Vp-p Sync negative, 75 ohms terminated
R-Y, B-Y channels	0.7 Vp-p ±6 dB
Y channel	1.0 Vp-p ±6 dB (Standard color bar signal of 75% chrominance)
EXT SYNC IN	BNC connector composite sync 4 Vp-p ±6 dB, negative

### Outputs

Y/C OUT	4-pin mini DIN connector, 75 ohms terminated
VIDEO OUT	BNC connector, 75 ohms terminated
AUDIO OUT	phono jack
R/R-Y OUT, G/Y OUT, B/B-Y OUT	BNC connector, 75 ohms terminated
EXT SYNC OUT	BNC connector, 75 ohms terminated
DC OUT	5 V/1 A
Speaker output	Output level 0.8 W

### Remote input

REMOTE 1	8-pin mini DIN <i>See the pin assignment on the page 4.</i>
RS-232C	9-pin D-sub <i>See the pin assignment on the page 4.</i>

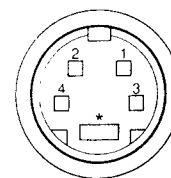
### General

Power requirements	100 – 240 V AC, 50/60 Hz 1.2 – 0.5A
Operating temperature range	0 – 35°C
Storage temperature range	–10 – +40°C
Humidity	0 – 90%
Dimensions	Approx. 450 × 457.5 × 503 mm (w/h/d) (17 <sup>3</sup> / <sub>4</sub> × 18 <sup>1</sup> / <sub>8</sub> × 19 <sup>7</sup> / <sub>8</sub> inches) not incl. projecting parts and controls
Mass	Approx. 30 kg (66 lb 2 oz)
Accessory supplied	AC power cord (1) AC plug holder (1) Splash proof covers (2) Control panel cover (1) Panel hinges (2) Remote Control Connector 8-pin mini DIN (1) Instructions for use (1) Interface Manual for Programmers (1) Quick Reference Card (1) Double-sided Adhesive Tapes (4) Sales Companies Guide (1)

$$0 \text{ dBu} = 0.775 \text{ Vr.m.s.}$$

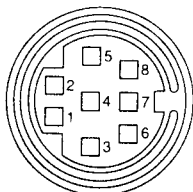
### Pin assignment

#### Y/C IN connector (4-pin mini DIN)



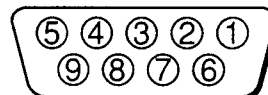
Pin No.	Signal	Description
1	Y-input	1 Vp-p, sync negative, 75 ohms
2	CHROMA sub-carrier-input	300 mVp-p, burst Delay time between Y and C: within 0±100 nsec., 75 ohms
3	GND for Y-input	GND
4	GND for CHROMA-input	GND

**REMOTE 1 connector (8-pin mini DIN)**



Pin No.	Signal
1	REMOTE ON/OFF
2	LINE A
3	GND
4	LINE B
5	TALLY
6	OVER SCAN
7	RGB A
8	RGB B

**RS-232C connector (9-pin D-sub)**



Pin No.	Signal
1	—
2	RX
3	TX
4	—
5	GND
6	—
7	RTS
8	CTS
9	—

Design and specifications are subject to change without notice.

**(CAUTION)**

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

**WARNING!!**

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.

THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

**SAFETY-RELATED COMPONENT WARNING!!**

COMPONENTS IDENTIFIED BY SHADING AND MARK  $\triangle$  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

**ATTENTION!!**

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BILNDAGE DU TUBE CATHODIQUE.

**ATTENTION!!**

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE.

LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

**ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!**

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MARQUE  $\triangle$  SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIÉCES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPOR- TANCE EST CRITIQUE POUR LA SÉCURITÉ DU PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNE- MENT EST SUSPECTÉ.



## SAFETY CHECK-OUT

### (US Model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to see if they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
8. Check the metal trim, metallized knobs, screws, and all other exposed metal parts for AC leakage.  
Check leakage as described below.

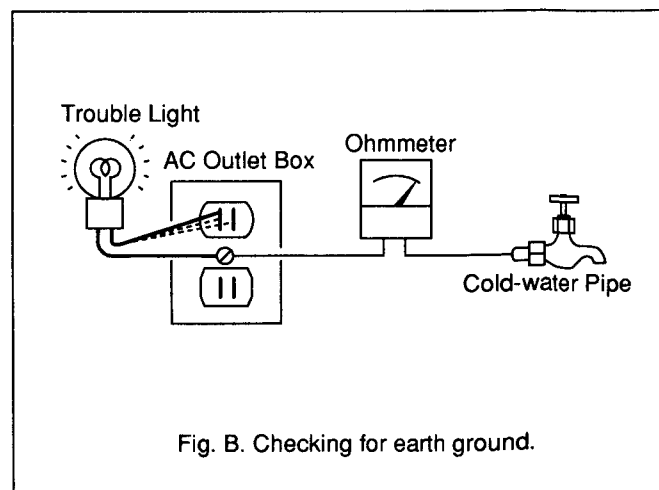
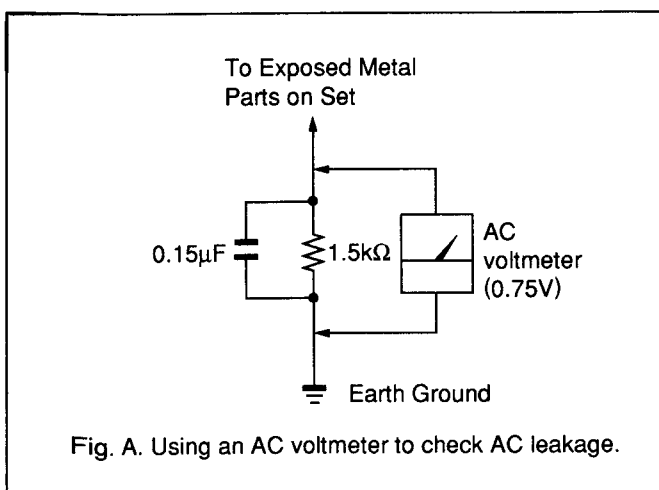
### LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufactures' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

### HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)



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## SECTION 1 GENERAL

### 1-1. GENERAL OF PVM-1953MD

# Features

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

PVM-1953MD

#### Picture

##### HR (High Resolution) Trinitron picture tube

HR Trinitron tube provides a high resolution picture. Horizontal resolution is more than 600 TV lines at the center of the picture.

##### Comb filter

When NTSC video signals are received, a comb filter activates to increase the resolution, resulting in fine picture detail without color spill or color noise.

##### Beam current feedback circuit

The built-in beam current feedback circuit assures stable white balance.

#### Inputs

##### Two color systems available

The monitor can display PAL, and NTSC signals. The appropriate color system is selected automatically.

##### Analog RGB/component input connectors

Analog RGB or component (Y, R-Y and B-Y) signals from video equipment can be input through these connectors. Press the RGB/COMPONENT A/B select button on the front panel and select RGB or component signals from the on-screen menu.

##### Y/C input connector (S input connector)

The video signal, split into the chrominance signal (C) and the luminance signal (Y), can be input through this connector, eliminating the interference between the two signals, which tends to occur in a composite video signal, assuring video quality.

##### External sync input connectors

When the external RGB or component signal is input and sync signal is set to external in the on-screen menu, the monitor can be operated on the sync signal supplied from an external sync generator.

##### Automatic termination (only terminals with the $\sim$ mark)

The BNC input connectors on the rear panel are terminated at 75 ohms inside, when no cable is connected to the loop-through output connectors. When a cable is connected to an output connector, the 75-ohm termination is automatically released.

#### Functions

##### On-screen menus

You can set color temperature, CHROMA SET UP, and other settings by using the on-screen menus.

##### Overscan mode

The display size is enlarged by approximately 20% and the center part of the screen is easier to watch.

##### Underscan mode

The signal normally scanned outside of the screen can be monitored in the underscan mode.

#### Note

When the monitor is in the underscan mode, the dark RGB scanning lines may appear on the top edge of the screen. These are caused by an internal test signal, rather than the input signal.

##### Split function

The display splits into two parts (upper and lower). The upper part of the screen monitors the signal fed through the RGB/COMPONENT A input connectors and lower part of the screen monitors the signal fed through the RGB/COMPONENT B input connectors. You can compare the two screens.

##### Caption vision (Closed Caption) decoder

When a signal with Caption Vision is input, the caption is superimposed on the screen. You can select ON or OFF and set the caption type on the on-screen menu.

##### Auto/manual degaussing

Degaussing of the screen can be performed automatically when the power is turned on, or manually by pressing the DEGAUSS button.

##### Five menu languages

You can select the language used for on-screen menus from the five languages.

##### Splash proof cover(s) and control panel cover

Splash proof covers that protect the ventilation holes from splashes (of medicines, etc.) and a control panel cover that protects the control buttons on the front panel from undesired touching are supplied.

##### Quick Reference Card

The Quick Reference Card is supplied to help you understand the menu configuration and operating method. You can attach the supplied double-sided adhesive tapes on the rear of the card.

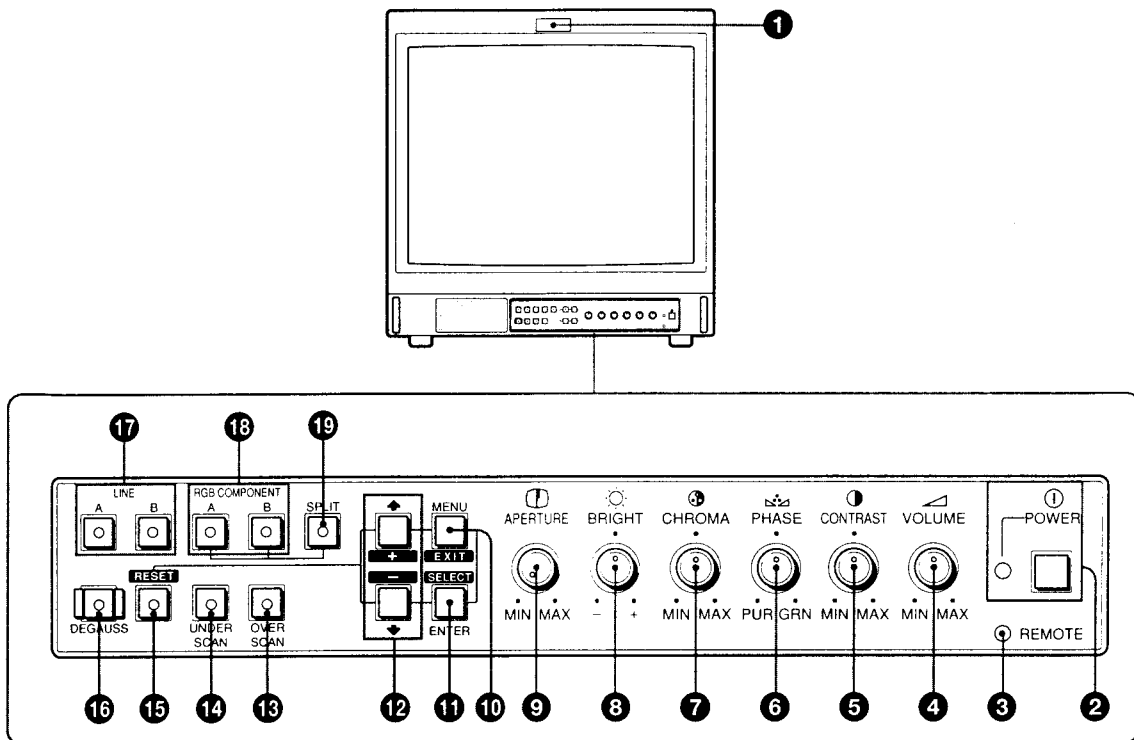
##### EIA standard 19-inch rack mounting

By using an MB-502B (for PVM-1353MD) or SLR-103 (for PVM-1953MD) Mounting Bracket (not supplied), the monitor can be mounted in an EIA standard 19-inch rack. For details on mounting, see the instruction manual of the mounting bracket kit.

# Location and Function of Parts and Controls

PVM-1953MD

## Front Panel



### 1 Tally indicator

This indicator lights up when the video camera connected to this monitor is selected, indicating that the picture is being recorded. The tally control connection is needed.

For the pin assignment, see "Specifications" on page 14.

### 2 ① POWER switch and indicator

Depress to turn the monitor on. The indicator will light up in green. To turn the power off, press this again.

### 3 REMOTE indicator

This indicator lights up in the conditions below:

- When PRESET is set to ON in the menu.
- When REMOTE (RS-232C) is set to REMOTE ONLY or REMOTE & LOCAL in the menu, or
- When REMOTE ON is set via the REMOTE 1 terminal.

### 4 ▽ VOLUME control

Turn this control clockwise or counterclockwise to obtain the desired volume.

### 5 ① CONTRAST control

Turn clockwise to make the contrast stronger and counterclockwise to make it weaker.

### 6 🏠 PHASE control

This control is effective only for the NTSC color system. Turn clockwise to make the skin tones greenish and counterclockwise to make them purplish.

### 7 ③ CHROMA (chrominance) control

Turn clockwise to make the color intensity stronger and counterclockwise to make it weaker.

### 8 ☀ BRIGHT (brightness) control

Turn clockwise for more brightness and counterclockwise for less.

### 9 ① APERTURE control

Turn clockwise for more sharpness and counterclockwise for less.

When the control is set to MIN, the picture becomes flat without need for corrections.

#### Note

The APERTURE, CHROMA, PHASE control settings have no effect on the pictures of RGB signals.

### 10 MENU (EXIT) button

Press to make the menu appear.

Press to return to the previous screen in the menu.

### 11 ENTER (SELECT) button

Press to decide a selected item in the menu.

### 12 ↑ (+) / ↓ (-) buttons

Press to move the cursor (▶) or adjust selected value in the menus.

**13 OVERSCAN button**

Press (light on) for overscanning. The display size is extended by approximately 20% so that the center of screen is easier to watch. By pressing the button again, the display returns to the normal size (light off).

**14 UNDERSCAN button**

Press (light on) for underscanning. The display size is reduced by approximately 5% so that four corners of the raster are visible. By pressing the button again, the display returns to the normal size (light off).

**15 RESET button**

During menu adjustments, press to reset the setting in the menu.

**16 DEGAUSS button**

Press this button momentarily. The screen will be demagnetized.  
Wait for 10 minutes or more before activating this button again.

**Note**

The picture rolls vertically while the screen is being demagnetized.

**17 LINE A/B select buttons**

Press to select a signal (light on).

A: Press to monitor the signal fed through the LINE A input connectors.

B: Press to monitor the signal fed through the LINE B input connectors.

**18 RGB/COMPONENT A/B select buttons**

Press to select a signal (light on).

A: Press to monitor the signal fed through the RGB/COMPONENT A input connectors.

B: Press to monitor the signal fed through the RGB/COMPONENT B input connectors.

**19 SPLIT button**

When you select RGB signals fed through the RGB/COMPONENT A and RGB/COMPONENT B input connectors, press this button (light on) to split the display into two parts (upper and lower), and monitor the both RGB signals simultaneously.

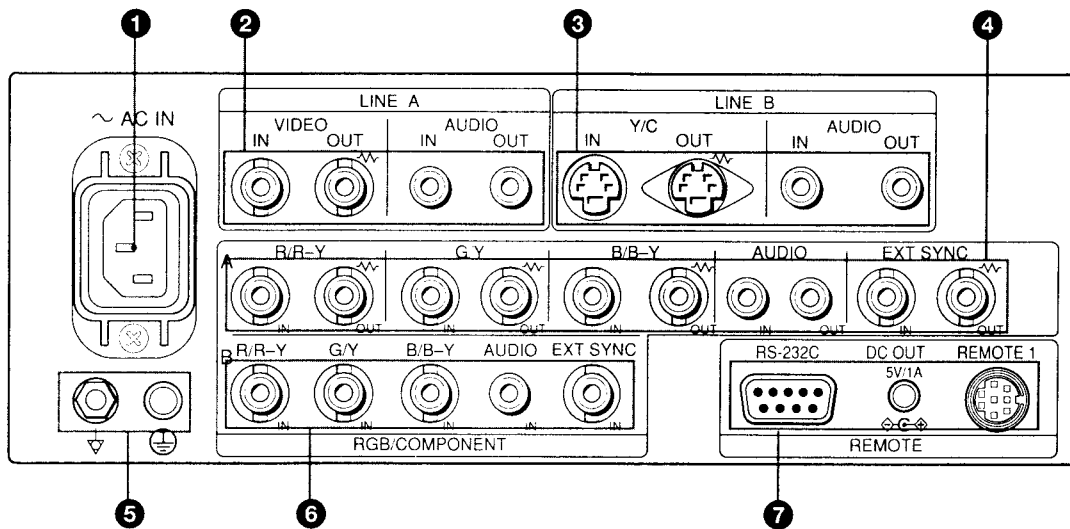
**Note**

Make sure the signals fed through the RGB/COMPONENT A and RGB/COMPONENT B input connectors are synchronized.

# Location and Function of Parts and Controls

PVM-1953MD

## Rear Panel



(The  $\nabla$  mark indicates automatic termination.)

### 1 AC IN socket

Connect the supplied AC power cord to this socket.

### 2 LINE A connectors

Line input connectors for the composite video and audio signals and their loop-through output connectors. To monitor the input signal fed through these connectors, press LINE A select button (light on) on the front panel.

#### VIDEO IN (BNC)

Connect to the video output connector of a video equipment, such as a VTR or a color video camera. For a loop-through connection, connect to the video output connector of another monitor.

#### VIDEO OUT (BNC)

Loop-through output of the VIDEO IN connector. Connect to the video input connector for a VTR or another monitor.

When the cable is connected to this connector, the 75-ohms termination of the input is automatically released, and the signal input to the VIDEO IN connector is output from this connector.

#### AUDIO IN (phono jack)

Connect to the audio output connector of a VTR or to a microphone through a suitable microphone amplifier. For a loop-through connection, connect to the audio output connector of another monitor.

#### AUDIO OUT (phono jack)

Loop-through output of the AUDIO IN connector. Connect to the audio input connector of a VTR or another monitor.

### 3 LINE B connectors

Separated Y/C input connectors, audio input connectors, and corresponding loop-through output connectors.

To monitor the input signal fed through these connectors, press LINE B select button (light on) on the front panel.

#### Y/C IN (4-pin mini DIN)

Connect to the Y/C separate output connector of a VTR, video camera or other video equipment.

#### Y/C OUT (4-pin mini DIN)

Loop-through output of the Y/C IN connector. Connect to the Y/C separate input connector of a VTR or another monitor.

When the cable is connected to this connector, the 75-ohms termination of the input is automatically released, and the signal input to the Y/C IN connector is output from this connector.

#### AUDIO IN (phono jack)

Connect to the audio output connector of a VTR or to a microphone through a suitable microphone amplifier. For a loop-through connection, connect to the audio output connector of another monitor.

#### AUDIO OUT (phono jack)

Loop-through output of the AUDIO IN connector. Connect to the audio input connector of a VTR or another monitor.

**4 RGB/COMPONENT A connectors**

RGB signal or component signal input connectors and their loop-through output connectors.

To monitor the input signal fed through these connectors, press the RGB/COMPONENT A select button (light on) on the front panel.

Then select one out of four items in the RGB A SYSTEM menu to set the RGB or COMP (component) signal and the INT SYNC (internal sync) or EXT SYNC (external sync) signal.

*For the operation through the menus, see pages 8 to 10.*

**R/R-Y IN, G/Y IN, B/B-Y IN (BNC)**

When "RGB-INT SYNC" or "COMP-INT SYNC" is selected in the RGB A SYSTEM menu, the monitor operates on the sync signal from the G/Y channel.

**To monitor the RGB signal**

Connect to the analog RGB signal output connectors of a video camera.

**To monitor the component signal**

Connect to the R-Y/Y/B-Y component signal output connectors of a Sony Betacam SP™ camcorder.

**R/R-Y OUT, G/Y OUT, B/B-Y OUT (BNC)**

Loop-through outputs of the R/R-Y IN, G/Y IN, B/B-Y IN connectors.

When the cables are connected to these connectors, the 75-ohms termination of the inputs is automatically released, and the signal inputs to the R/R-Y IN, G/Y IN, B/B-Y IN connectors are output from these connectors.

**To output the analog RGB signal**

Connect to the analog RGB signal input connectors of a video printer or another monitor.

**To output the component signal**

Connect to the R-Y/Y/B-Y component signal input connectors of a Sony Betacam SP VTR.

**AUDIO IN (phono jack)**

Connect to the audio output connector of video equipment when the analog RGB or component signal is input.

**AUDIO OUT (phono jack)**

Loop-through outputs of the AUDIO IN connector.

**EXT SYNC (external sync) IN (BNC)**

When this monitor operates on an external sync signal, connect the signal from a sync generator to this connector.

To use the sync signal fed through this connector, select "RGB-EXT SYNC" or "COMP-EXT SYNC" in the RGB A SYSTEM menu.

**EXT SYNC (external sync) OUT (BNC)**

Loop-through output of the EXT SYNC IN connector.

Connect to the external sync input connector of video equipment to be synchronized with this monitor.

When the cable is connected to this connector, the 75-ohms termination of the input is released, and the signal input to the EXT SYNC IN connector is output from this connector.

**5 Ground (⏏/⊕) terminal**

Connect a GND cable.

**6 RGB/COMPONENT B connectors**

RGB signal or component signal input connectors.

To monitor the input signal fed through these connectors, press the RGB/COMPONENT B select button (light on) on the front panel.

Then select one out of four items in the RGB B SYSTEM menu to set the RGB or COMP (component) signal and the INT SYNC (internal sync) or EXT SYNC (external sync) signal.

*For the operation through the menus, see pages 8 to 10.*

**R/R-Y IN, G/Y IN, B/B-Y IN (BNC)**

When "RGB-INT SYNC" or "COMP-INT SYNC" is selected in the RGB B SYSTEM menu, the monitor operates on the sync signal from the G/Y channel.

**To monitor the RGB signal**

Connect to the analog RGB signal output connectors of a video camera.

**To monitor the component signal**

Connect to the R-Y/Y/B-Y component signal output connectors of a Sony Betacam SP camcorder.

**AUDIO IN (phono jack)**

Connect to the audio output connector of video equipment when the analog RGB or component signal is input.

**EXT SYNC (external sync) IN (BNC)**

When this monitor operates on an external sync signal, connect the signal from a sync generator to this connector.

To use the sync signal fed through this connector, select "RGB-EXT SYNC" or "COMP-EXT SYNC" in the RGB B SYSTEM menu.

**7 REMOTE connectors****RS-232C (D-sub 9-pin)**

Connect to the RS-232C control connector of other equipment. You can operate the monitor with the control command from the equipment.

*For the details, see the supplied Interface Manual for Programmers.*

**REMOTE 1 (8-pin mini DIN)**

Connect to the tally output connector of a control console, effects, etc. The tally indicator on the front panel will be turned on and off by the connected equipment.

You can also connect a remote controller using this connector.

*For the pin assignments of these connectors, see "Specifications" on page 2.*

**DC OUT 5V/1A connector**

You can use this connector as a power source for the other equipment.

DC 5V/1A is output.

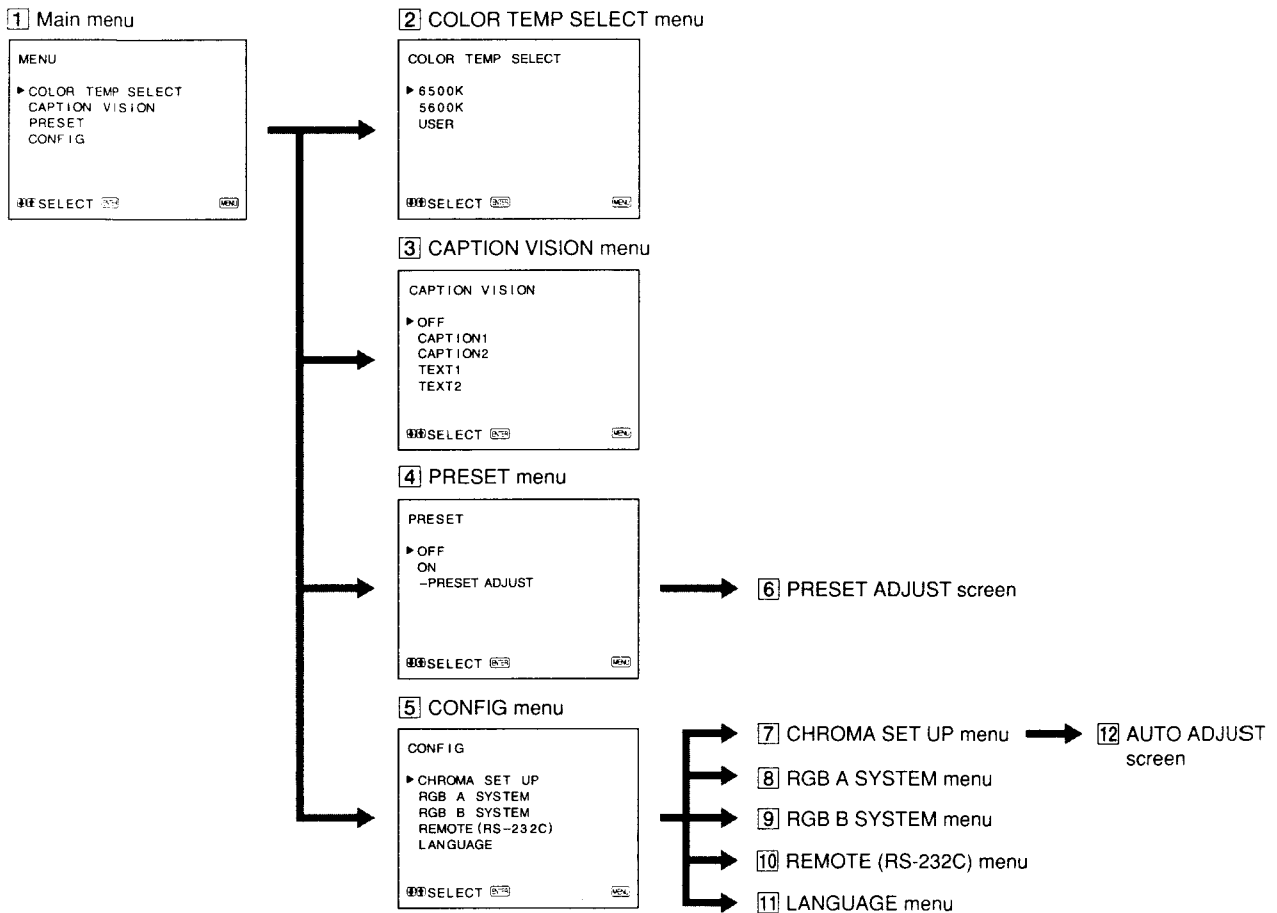
# Using On-Screen Menus

PVM-1953MD

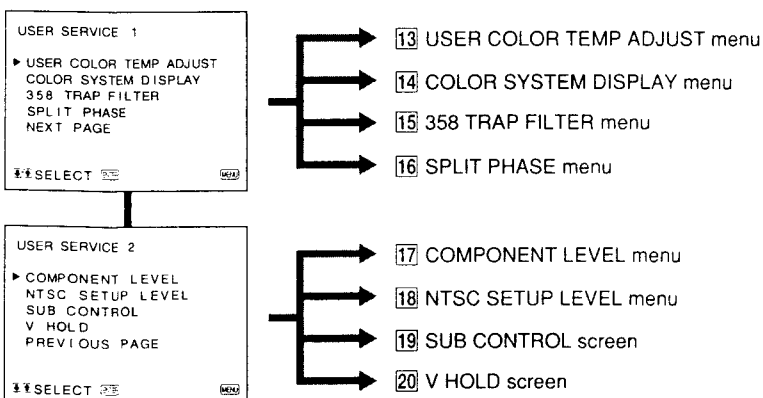
## Menu Configuration

The flow chart shows the different levels of on-screen menus that you can use to make various adjustments and settings.

For details of each menu, see pages 9 and 10.



### User Service Mode

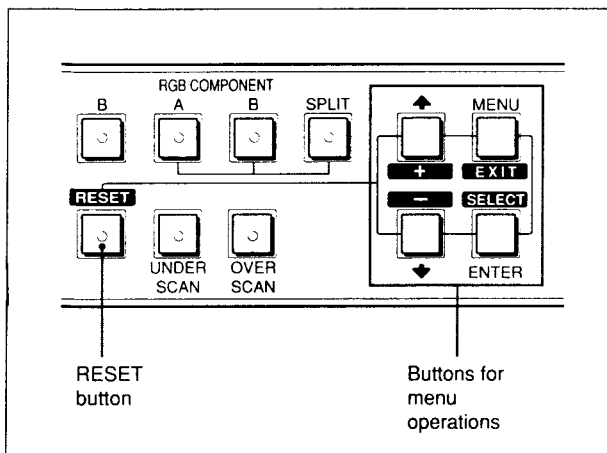




## Operating through Menus

There are five buttons for menu operations on the front panel of the monitor. To display the main menu, first press MENU (EXIT). The buttons you can use appear at the bottom of the menu screen.

### Functions of the buttons



Button	To select menu item	To adjust selected menu item
MENU EXIT	return to the previous menu.	return to the previous menu.
ENTER SELECT	decide a selected item.	select an item.
↑ +	move the cursor (▶) upwards.	increase selected value.
↓ -	move the cursor (▶) downwards.	decrease selected value.
RESET		reset current adjustment value to the factory setting.

(The above items in white type correspond to the marks in the menu.)

## The Contents of Menu Items

The following sentences show the details of each menu items.

[ ] indicates the factory setting position.

### 1 Main menu

Select an item and press the ENTER (SELECT) button to go to the following menu.

### 2 COLOR TEMP SELECT menu

Select the color temperature from among 6500K, 5600K and USER. USER is set to 6500K in the factory setting. You can adjust or change the color temperature in USER mode (a measuring instrument is needed).

[6500K]

#### Note

The color temperature of the USER mode can be adjusted in the range from 3200K to 10000K.

You can adjust the color temperature of the USER mode in the USER COLOR TEMP ADJUST menu (13) of the user service mode.

For the details, see "USER COLOR TEMP ADJUST menu (13)" on page 10.

### 3 CAPTION VISION menu

To display closed captions, select ON and the type of caption you would like.

[OFF]

### 4 PRESET menu

You can preset each control to a desired level and set it. If you set PRESET to ON, the REMOTE indicator lights up and the controls on the front panel do not work. The monitor operates with the internal memory settings. For adjustment, select the PRESET ADJUST screen.

[OFF]

### 5 CONFIG menu

Select an item for adjustment of the monitor.

### 6 PRESET ADJUST screen

Adjust CONTRAST, BRIGHT, CHROMA, PHASE, VOLUME, APERTURE in the PRESET menu.

### 7 CHROMA SET UP menu

Set to ON to adjust the internal decoder for CHROMA and PHASE (NTSC signal only) after AUTO ADJUST screen (12).

[OFF]

### 8 RGB A SYSTEM menu

To monitor the signal fed through the RGB/COMPONENT A connectors, set the RGB or COMP (component) signal and the INT SYNC (internal sync) or EXT SYNC (external sync) signal in this menu.

[RGB-INT SYNC]

# Using On-Screen Menus

PVM-1953MD

## 9 RGB B SYSTEM menu

To monitor the signal fed through the RGB/COMPONENT B connectors, set the RGB or COMP (component) signal and the INT SYNC (internal sync) or EXT SYNC (external sync) signal in this menu.  
[RGB-INT SYNC]

## 10 REMOTE (RS-232C) menu

Select one out of following three modes.  
REMOTE OFF:  
You can adjust settings and controls by the buttons and controls on the front panel.  
RS-232C connector does not function.  
REMOTE ONLY:  
You can adjust settings and controls through the RS-232C connector.  
Buttons and controls on the front panel, except the menu operation ones, do not function.  
REMOTE & LOCAL:  
You can adjust settings and controls both through the RS-232C connector and the front panel buttons.  
Controls on the front panel do not function.  
[REMOTE OFF]

## 11 LANGUAGE menu

You can select the language used for on-screen menus from the following five languages (English, German, French, Italian, Spanish).  
[ENGLISH]

## 12 AUTO ADJUST screen

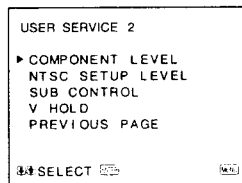
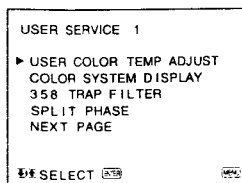
Select the color bar signal (full, SMPTE, EIA) and press the ENTER (SELECT) button to start automatic adjustment for CHROMA and PHASE. For these adjustments to be valid, you must select ON in CHROMA SET UP menu (7).

## User Service Mode

The user service mode is useful when adjusting the settings and controls except for the above.

To enter the user service mode, press and hold the MENU (EXIT) button until the following USER SERVICE 1 appears.

To move to the second page of the mode, select "NEXT PAGE" and to return to the first page of the menu, select "PREVIOUS PAGE".



## 13 USER COLOR TEMP ADJUST menu

The value of adjustment in this menu works only when "USER" is selected in the COLOR TEMP SELECT menu (2).  
ADJUST GAIN:  
Adjusts the color balance (gain) of the USER mode.  
ADJUST BIAS:  
Adjusts the color balance (bias) of the USER mode.  
COLOR TEMP RANGE:  
When you adjust the color temperature in the USER mode, select a color temperature range before adjusting ADJUST GAIN and ADJUST BIAS. If the adjusted color temperature is between 3200K and 5000K, select "3200K-5000K." If the adjusted color temperature is between 5000K and 10000K, select "5000K-10000K." [5000K-10000K]

## 14 COLOR SYSTEM DISPLAY menu

Select the color system display mode. In AUTO, the kind of color system being used appears on the screen each time you change the signal input. [AUTO]

## 15 358 TRAP FILTER menu

Color spill or color noise may be eliminated if you select ON (NTSC signal only). Normally set it to OFF. [OFF]

## 16 SPLIT PHASE menu

When the SPLIT function is activated, if the lower side picture (the signal fed through the RGB/COMPONENT B input connectors) has some discrepancy of location with the upper side picture, adjust the SPLIT PHASE menu.  
Each time you press the ↑(+) button, the lower side picture moves left.

### Note

When the adjustment is made in the menu, the skew error will occur on the top of the lower side picture.

## 17 COMPONENT LEVEL menu

Select the component level from among three modes.  
N10/SMPTE: for 100/0/100/0 signal  
BETA 7.5: for 100/7.5/75/7.5 signal  
BETA 0: for 100/0/75/0 signal [BETA 7.5]

## 18 NTSC SETUP LEVEL menu

Select the NTSC setup level from two modes. The 7.5 setup level is mainly used in north America. The 0 setup level is mainly used in Japan. [7.5]

## 19 SUB CONTROL screen

You can finely adjust the controls on the front panel. CONTRAST, PHASE, CHROMA and BRIGHT controls have clicks at the center of their adjustment range. You can adjust the setting of the click position with this feature.

## 20 V HOLD screen

Adjust the vertical hold if the picture rolls vertically.

### Note

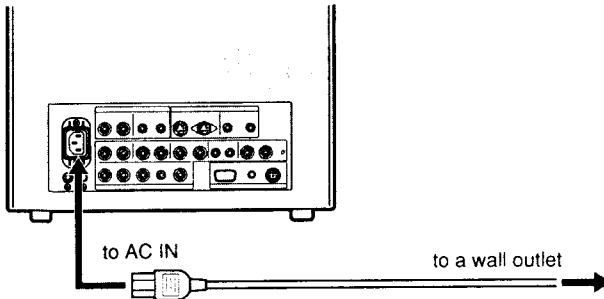
If the rolling of the picture prevents you from watching the screen, select an input that has nothing connected.

# Power Sources

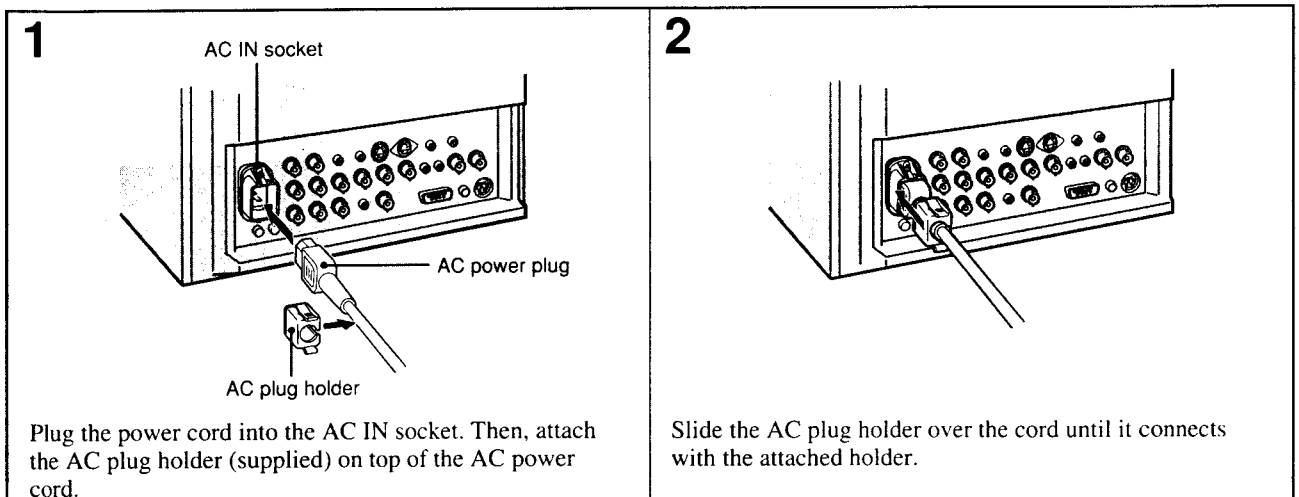
PVM-1953MD

## House Current

Connect the supplied AC power cord to the AC IN socket on the rear panel and to a wall outlet.



To connect an AC power cord securely with the AC plug holder



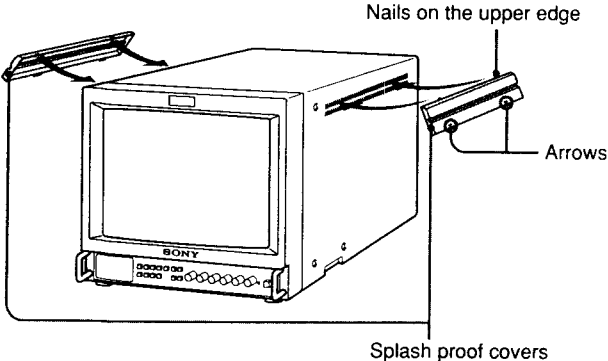
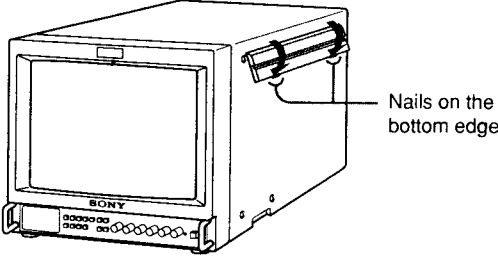
To remove the AC power cord

Pull out AC plug holder by squeezing the up and down sides.

# Attaching the Splash Proof Covers

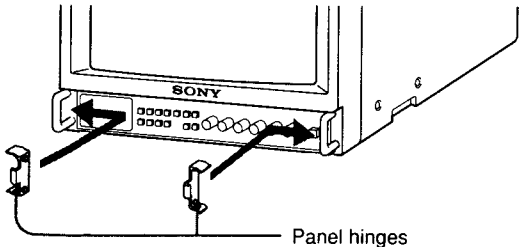
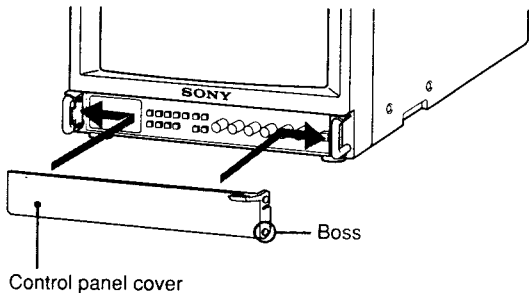
PVM-1953MD

In order to protect the ventilation holes from splashes (of medicines, etc.), attach the splash proof covers (supplied) as shown below.

<p><b>1</b></p>  <p>Making sure the arrows on the cover are facing down, hook the nails on the upper edge into the ventilation holes.</p> <p><b>Note</b> Attach the splash proof covers to all them ventilation holes.</p>	<p><b>2</b></p>  <p>Push up the nails on the bottom edge and fit the cover into the lowest ventilation holes. Attach the both covers to the left and right sides.</p>
---	---

# Attaching the Control Panel Cover

In order to protect the control buttons on the front panel from undesired touching, attach the supplied control panel cover.

<p><b>1</b></p>  <p>Attach the panel hinges to the left and right grips from the inner side.</p>	<p><b>2</b></p>  <p>Fit the bosses on the both sides of the control panel cover into the lower holes of the panel hinges with bending the control panel cover a little.</p>
---	---

# Features

PVM-2053MD

## Picture

### HR (High Resolution) Trinitron picture tube

HR Trinitron tube provides a high resolution picture. Horizontal resolution is more than 600 TV lines at the center of the picture.

### Comb filter

When NTSC video signals are received, a comb filter activates to increase the resolution, resulting in fine picture detail without color spill or color noise.

### Beam current feedback circuit

The built-in beam current feedback circuit assures stable white balance.

## Inputs

### Two color systems available

The monitor can display PAL and NTSC signals. The appropriate color system is selected automatically.

### Analog RGB/component input connectors

Analog RGB or component (Y, R-Y and B-Y) signals from video equipment can be input through these connectors. Press the RGB/COMPONENT A/B select button on the front panel and select RGB or component signals from the on-screen menu.

### Y/C input connector (S input connector)

The video signal, split into the chrominance signal (C) and the luminance signal (Y), can be input through this connector, eliminating the interference between the two signals, which tends to occur in a composite video signal, assuring video quality.

### External sync input connectors

When the external RGB or component signal is input and sync signal is set to external in the on-screen menu, the monitor can be operated on the sync signal supplied from an external sync generator.

### Automatic termination (only terminals with the $\sim$ mark)

The BNC input connectors on the rear panel are terminated at 75 ohms inside, when no cable is connected to the loop-through output connectors. When a cable is connected to an output connector, the 75-ohm termination is automatically released.

## Functions

### On-screen menus

You can set color temperature, CHROMA SET UP, and other settings by using the on-screen menus.

### Overscan mode

The display size is enlarged by approximately 20% and the center part of the screen is easier to watch.

### Underscan mode

The signal normally scanned outside of the screen can be monitored in the underscan mode.

### Note

When the monitor is in the underscan mode, the dark RGB scanning lines may appear on the top edge of the screen. These are caused by an internal test signal, rather than the input signal.

### Split function

The display splits into two parts (upper and lower). The upper part of the screen monitors the signal fed through the RGB/COMPONENT A input connectors and lower part of the screen monitors the signal fed through the RGB/COMPONENT B input connectors. You can compare the two screens.

### Auto/manual degaussing

Degaussing of the screen can be performed automatically when the power is turned on, or manually by pressing the DEGAUSS button.

### Five menu languages

You can select the language used for on-screen menus from the five languages.

### Splash proof cover(s) and control panel cover

Splash proof covers that protect the ventilation holes from splashes (of medicines, etc.) and a control panel cover that protects the control buttons on the front panel from undesired touching are supplied.

### Quick Reference Card

The Quick Reference Card is supplied to help you understand the menu configuration and operating method. You can attach the supplied double-sided adhesive tapes on the rear of the card.

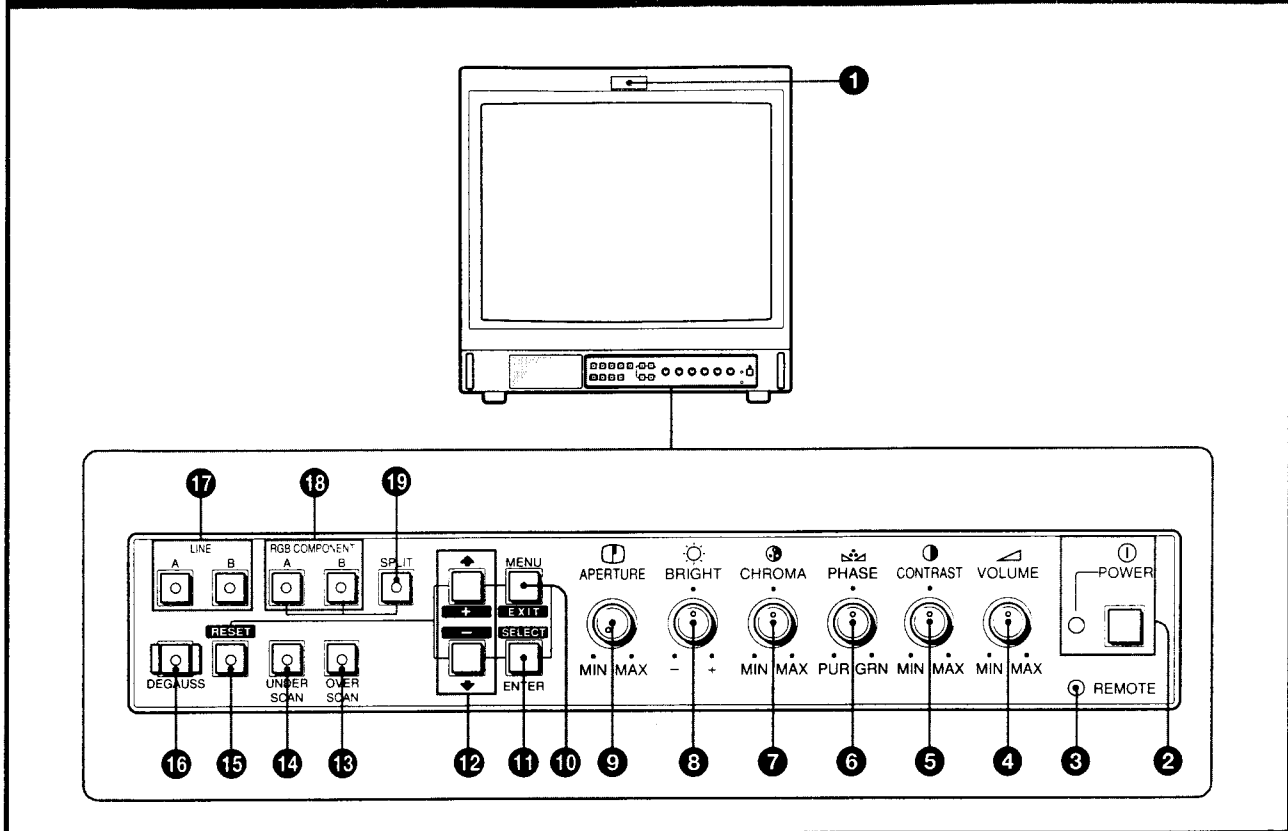
### EIA standard 19-inch rack mounting

By using an MB-502B (for PVM-1453MD) or SLR-103 (for PVM-2053MD) Mounting Bracket (not supplied), the monitor can be mounted in an EIA standard 19-inch rack. For details on mounting, see the instruction manual of the mounting bracket kit.

# Location and Function of Parts and Controls

PVM-2053MD

## Front Panel



### 1 Tally indicator

This indicator lights up when the video camera connected to this monitor is selected, indicating that the picture is being recorded. The tally control connection is needed. For the pin assignment, see "Specifications" on page 16.

### 2 POWER switch and indicator

Depress to turn the monitor on. The indicator will light up in green. To turn the power off, press this again.

### 3 REMOTE indicator

This indicator lights up in the conditions below:

- When PRESET is set to ON in the menu.
- When REMOTE (RS-232C) is set to REMOTE ONLY or REMOTE & LOCAL in the menu, or
- When REMOTE ON is set via the REMOTE 1 terminal.

### 4 VOLUME control

Turn this control clockwise or counterclockwise to obtain the desired volume.

### 5 CONTRAST control

Turn clockwise to make the contrast stronger and counterclockwise to make it weaker.

### 6 PHASE control

This control is effective only for the NTSC color system. Turn clockwise to make the skin tones greenish and counterclockwise to make them purplish.

### 7 CHROMA (chrominance) control

Turn clockwise to make the color intensity stronger and counterclockwise to make it weaker.

### 8 BRIGHT (brightness) control

Turn clockwise for more brightness and counterclockwise for less.

### 9 APERTURE control

Turn clockwise for more sharpness and counterclockwise for less. When the control is set to MIN, the picture becomes flat without need for corrections.

#### Note

The APERTURE, CHROMA, PHASE control settings have no effect on the pictures of RGB signals.

### 10 MENU (EXIT) button

Press to make the menu appear. Press to return to the previous screen in the menu.

### 11 ENTER (SELECT) button

Press to decide a selected item in the menu.

### 12 ↑ (+)/ ↓ (-) buttons

Press to move the cursor (▶) or adjust selected value in the menus.

**13 OVERSCAN button**

Press (light on) for overscanning. The display size is extended by approximately 20% so that the center of screen is easier to watch. By pressing the button again, the display returns to the normal size (light off).

**14 UNDERSCAN button**

Press (light on) for underscanning. The display size is reduced by approximately 5% so that four corners of the raster are visible. By pressing the button again, the display returns to the normal size (light off).

**15 RESET button**

During menu adjustments, press to reset the setting in the menu.

**16 DEGAUSS button**

Press this button momentarily. The screen will be demagnetized.  
Wait for 10 minutes or more before activating this button again.

**Note**

The picture rolls vertically while the screen is being demagnetized.

**17 LINE A/B select buttons**

Press to select a signal (light on).

A: Press to monitor the signal fed through the LINE A input connectors.

B: Press to monitor the signal fed through the LINE B input connectors.

**18 RGB/COMPONENT A/B select buttons**

Press to select a signal (light on).

A: Press to monitor the signal fed through the RGB/COMPONENT A input connectors.

B: Press to monitor the signal fed through the RGB/COMPONENT B input connectors.

**19 SPLIT button**

When you select RGB signals fed through the RGB/COMPONENT A and RGB/COMPONENT B input connectors, press this button (light on) to split the display into two parts (upper and lower), and monitor the both RGB signals simultaneously.

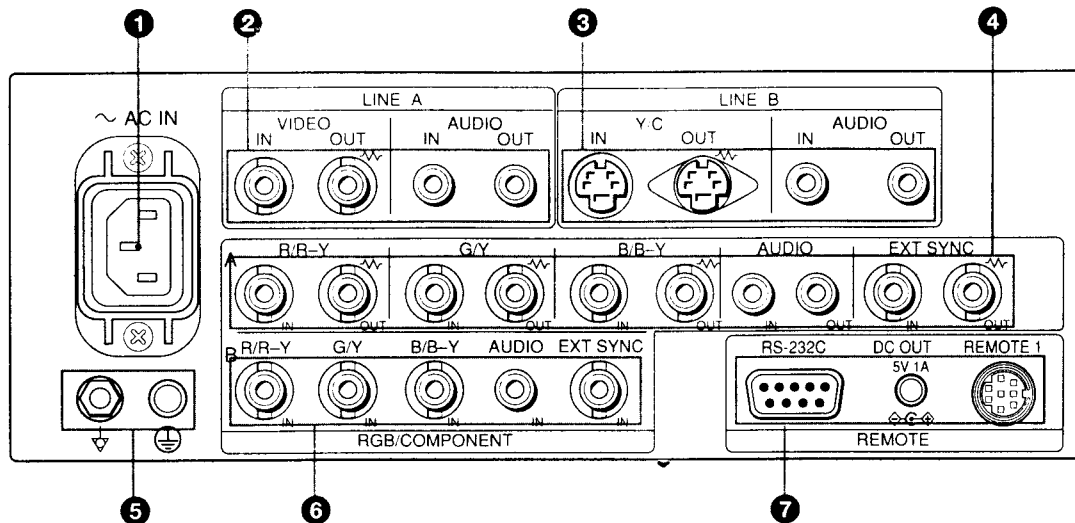
**Note**

Make sure the signals fed through the RGB/COMPONENT A and RGB/COMPONENT B input connectors are synchronized.

# Location and Function of Parts and Controls

PVM-2053MD

## Rear Panel



### Note

Before connecting the video equipment, see "Important safeguards/notices for use in the medical environments" on page 3.

(The  $\sim$  mark indicates automatic termination.)

### 1 AC IN socket

Connect the supplied AC power cord to this socket.

### 2 LINE A connectors

Line input connectors for the composite video and audio signals and their loop-through output connectors. To monitor the input signal fed through these connectors, press LINE A select button (light on) on the front panel.

#### VIDEO IN (BNC)

Connect to the video output connector of a video equipment, such as a VTR or a color video camera. For a loop-through connection, connect to the video output connector of another monitor.

#### VIDEO OUT (BNC)

Loop-through output of the VIDEO IN connector. Connect to the video input connector for a VTR or another monitor.

When the cable is connected to this connector, the 75-ohms termination of the input is automatically released, and the signal input to the VIDEO IN connector is output from this connector.

#### AUDIO IN (phono jack)

Connect to the audio output connector of a VTR or to a microphone through a suitable microphone amplifier. For a loop-through connection, connect to the audio output connector of another monitor.

#### AUDIO OUT (phono jack)

Loop-through output of the AUDIO IN connector. Connect to the audio input connector of a VTR or another monitor.

### 3 LINE B connectors

Separated Y/C input connectors, audio input connectors, and corresponding loop-through output connectors.

To monitor the input signal fed through these connectors, press LINE B select button (light on) on the front panel.

#### Y/C IN (4-pin mini DIN)

Connect to the Y/C separate output connector of a VTR, video camera or other video equipment.

#### Y/C OUT (4-pin mini DIN)

Loop-through output of the Y/C IN connector. Connect to the Y/C separate input connector of a VTR or another monitor.

When the cable is connected to this connector, the 75-ohms termination of the input is automatically released, and the signal input to the Y/C IN connector is output from this connector.

#### AUDIO IN (phono jack)

Connect to the audio output connector of a VTR or to a microphone through a suitable microphone amplifier. For a loop-through connection, connect to the audio output connector of another monitor.

#### AUDIO OUT (phono jack)

Loop-through output of the AUDIO IN connector. Connect to the audio input connector of a VTR or another monitor.



**4 RGB/COMPONENT A connectors**

RGB signal or component signal input connectors and their loop-through output connectors.

To monitor the input signal fed through these connectors, press the RGB/COMPONENT A select button (light on) on the front panel.

Then select one out of four items in the RGB A SYSTEM menu to set the RGB or COMP (component) signal and the INT SYNC (internal sync) or EXT SYNC (external sync) signal.

*For the operation through the menus, see pages 10 to 12.*

**R/R-Y IN, G/Y IN, B/B-Y IN (BNC)**

When "RGB-INT SYNC" or "COMP-INT SYNC" is selected in the RGB A SYSTEM menu, the monitor operates on the sync signal from the G/Y channel.

**To monitor the RGB signal**

Connect to the analog RGB signal output connectors of a video camera.

**To monitor the component signal**

Connect to the R-Y/Y/B-Y component signal output connectors of a Sony Betacam SP™ camcorder.

**R/R-Y OUT, G/Y OUT, B/B-Y OUT (BNC)**

Loop-through outputs of the R/R-Y IN, G/Y IN, B/B-Y IN connectors.

When the cables are connected to these connectors, the 75-ohms termination of the inputs is automatically released, and the signal inputs to the R/R-Y IN, G/Y IN, B/B-Y IN connectors are output from these connectors.

**To output the analog RGB signal**

Connect to the analog RGB signal input connectors of a video printer or another monitor.

**To output the component signal**

Connect to the R-Y/Y/B-Y component signal input connectors of a Sony Betacam SP VTR.

**AUDIO IN (phono jack)**

Connect to the audio output connector of video equipment when the analog RGB or component signal is input.

**AUDIO OUT (phono jack)**

Loop-through outputs of the AUDIO IN connector.

**EXT SYNC (external sync) IN (BNC)**

When this monitor operates on an external sync signal, connect the signal from a sync generator to this connector.

To use the sync signal fed through this connector, select "RGB-EXT SYNC" or "COMP-EXT SYNC" in the RGB A SYSTEM menu.

**EXT SYNC (external sync) OUT (BNC)**

Loop-through output of the EXT SYNC IN connector.

Connect to the external sync input connector of video equipment to be synchronized with this monitor.

When the cable is connected to this connector, the 75-ohms termination of the input is released, and the signal input to the EXT SYNC IN connector is output from this connector.

**5 Ground (⚡/⊕) terminal**

Connect a GND cable.

**6 RGB/COMPONENT B connectors**

RGB signal or component signal input connectors.

To monitor the input signal fed through these connectors, press the RGB/COMPONENT B select button (light on) on the front panel.

Then select one out of four items in the RGB B SYSTEM menu to set the RGB or COMP (component) signal and the INT SYNC (internal sync) or EXT SYNC (external sync) signal.

*For the operation through the menus, see pages 10 to 12.*

**R/R-Y IN, G/Y IN, B/B-Y IN (BNC)**

When "RGB-INT SYNC" or "COMP-INT SYNC" is selected in the RGB B SYSTEM menu, the monitor operates on the sync signal from the G/Y channel.

**To monitor the RGB signal**

Connect to the analog RGB signal output connectors of a video camera.

**To monitor the component signal**

Connect to the R-Y/Y/B-Y component signal output connectors of a Sony Betacam SP camcorder.

**AUDIO IN (phono jack)**

Connect to the audio output connector of video equipment when the analog RGB or component signal is input.

**EXT SYNC (external sync) IN (BNC)**

When this monitor operates on an external sync signal, connect the signal from a sync generator to this connector.

To use the sync signal fed through this connector, select "RGB -EXT SYNC" or "COMP-EXT SYNC" in the RGB B SYSTEM menu.

**7 REMOTE connectors****RS-232C (D-sub 9-pin)**

Connect to the RS-232C control connector of other equipment. You can operate the monitor with the control command from the equipment.

*For the details, see the supplied Interface Manual for Programmers.*

**REMOTE 1 (8-pin mini DIN)**

Connect to the tally output connector of a control console, effects, etc. The tally indicator on the front panel will be turned on and off by the connected equipment.

You can also connect a remote controller using this connector.

*For the pin assignments of these connectors, see "Specifications" on page 4.*

**DC OUT 5V/1A connector**

You can use this connector as a power source for the other equipment.

DC 5V/1A is output.

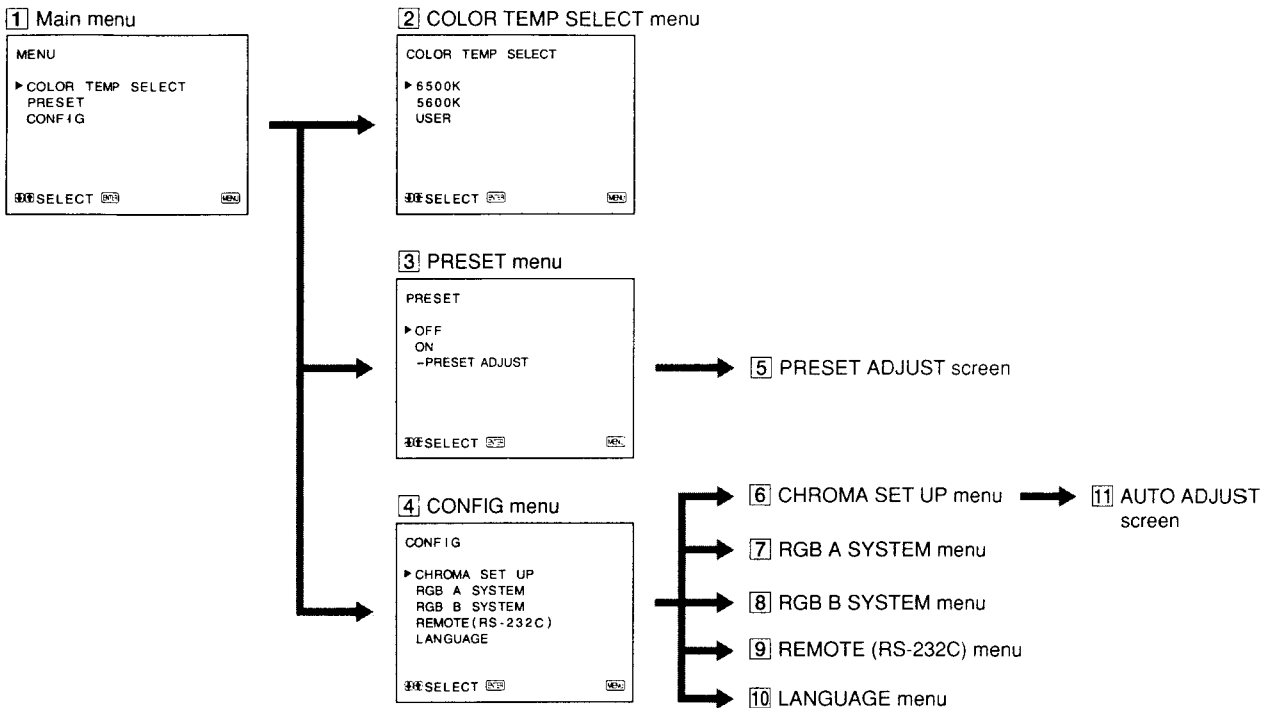
# Using On-Screen Menus

PVM-2053MD

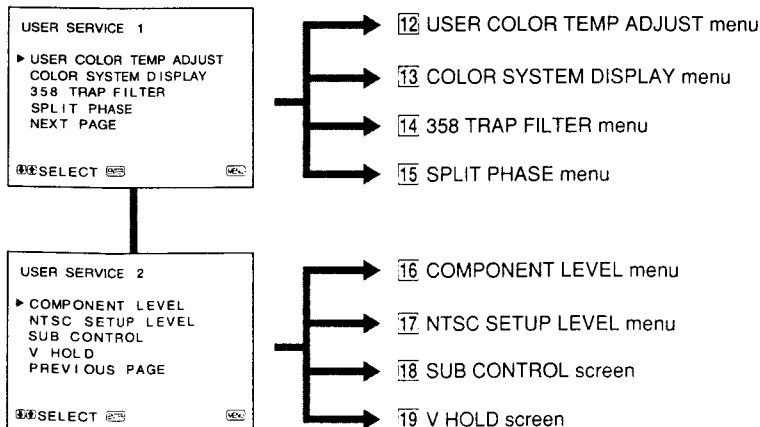
## Menu Configuration

The flow chart shows the different levels of on-screen menus that you can use to make various adjustments and settings.

For details of each menu, see pages 11 and 12.



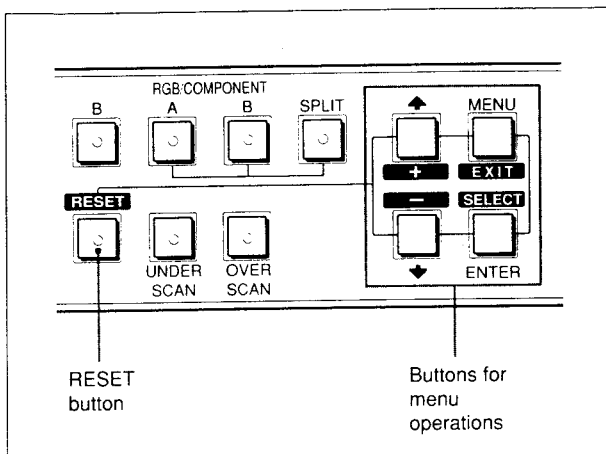
### User Service Mode



## Operating through Menus

There are five buttons for menu operations on the front panel of the monitor. To display the main menu, first press MENU (EXIT). The buttons you can use appear at the bottom of the menu screen.

### Functions of the buttons



Button	To select menu item	To adjust selected menu item
MENU EXIT	return to the previous menu.	return to the previous menu.
ENTER SELECT	decide a selected item.	select an item.
↑ +	move the cursor (▶) upwards.	increase selected value.
↓ -	move the cursor (▶) downwards.	decrease selected value.
RESET		reset current adjustment value to the factory setting.

(The above items in white type correspond to the marks in the menu.)

## The Contents of Menu Items

The following sentences show the details of each menu items.

[ ] indicates the factory setting position.

### 1 Main menu

Select an item and press the ENTER (SELECT) button to go to the following menu.

### 2 COLOR TEMP SELECT menu

Select the color temperature from among 6500K, 5600K and USER. USER is set to 6500K in the factory setting. You can adjust or change the color temperature in USER mode (a measuring instrument is needed). [6500K]

#### Note

The color temperature of the USER mode can be adjusted in the range from 3200K to 10000K. You can adjust the color temperature of the USER mode in the USER COLOR TEMP ADJUST menu (12) of the user service mode. For the details, see USER COLOR TEMP ADJUST menu (12) on page 12.

### 3 PRESET menu

You can preset each control to a desired level and set it. If you set PRESET to ON, the REMOTE indicator lights up and the controls on the front panel do not work. The monitor operates with the internal memory settings. For adjustment, select the PRESET ADJUST screen. [OFF]

### 4 CONFIG menu

Select an item for adjustment of the monitor.

### 5 PRESET ADJUST screen

Adjust CONTRAST, BRIGHT, CHROMA, PHASE, VOLUME, APERTURE in the PRESET menu.

### 6 CHROMA SET UP menu

Set to ON to adjust the internal decoder for CHROMA and PHASE (NTSC signal only) after AUTO ADJUST screen (11). [OFF]

### 7 RGB A SYSTEM menu

To monitor the signal fed through the RGB/COMPONENT A connectors, set the RGB or COMP (component) signal and the INT SYNC (internal sync) or EXT SYNC (external sync) signal in this menu. [RGB-INT SYNC]

### 8 RGB B SYSTEM menu

To monitor the signal fed through the RGB/COMPONENT B connectors, set the RGB or COMP (component) signal and the INT SYNC (internal sync) or EXT SYNC (external sync) signal in this menu. [RGB-INT SYNC]

# Using On-Screen Menus

PVM-2053MD

## 9 REMOTE (RS-232C) menu

Select one out of following three modes.

REMOTE OFF:

You can adjust settings and controls by the buttons and controls on the front panel.

The RS-232C connector does not function.

REMOTE ONLY:

You can adjust settings and controls through the RS-232C connector.

Buttons and controls on the front panel, except the menu operation ones, do not function.

REMOTE & LOCAL:

You can adjust settings and controls both through the RS-232C connector and the front panel buttons.

Controls on the front panel do not function.

[REMOTE OFF]

## 10 LANGUAGE menu

You can select the language used for on-screen menus from the following five languages (English, German, French, Italian, Spanish).

[ENGLISH]

## 11 AUTO ADJUST screen

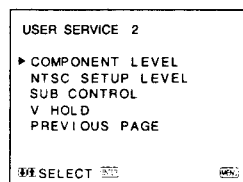
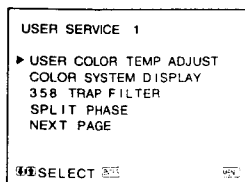
Select the color bar signal (full, SMPTE, EIA) and press the ENTER (SELECT) button to start automatic adjustment for CHROMA and PHASE. For these adjustments to be valid, you must select ON in CHROMA SET UP menu (6).

## User Service Mode

The user service mode is useful when adjusting the settings and controls except for the above.

To enter the user service mode, press and hold the MENU (EXIT) button until the following USER SERVICE 1 appears.

To move to the second page of the mode, select "NEXT PAGE" and to return to the first page, select "PREVIOUS PAGE".



## 12 USER COLOR TEMP ADJUST menu

The value of adjustment in this menu works only when "USER" is selected in the COLOR TEMP SELECT menu (2).

ADJUST GAIN:

Adjusts the color balance (gain) of the USER mode.

ADJUST BIAS:

Adjusts the color balance (bias) of the USER mode.

COLOR TEMP RANGE:

When you adjust the color temperature in the USER mode, select a color temperature range before adjusting ADJUST GAIN and ADJUST BIAS. If the adjusted color temperature is between 3200K and 5000K, select "3200K-5000K." If the adjusted color temperature is between 5000K and 10000K, select "5000K-10000K."

[5000K-10000K]

## 13 COLOR SYSTEM DISPLAY menu

Select the color system display mode. In AUTO, the kind of color system being used appears on the screen each time you change the signal input.

[AUTO]

## 14 358 TRAP FILTER menu

Color spill or color noise may be eliminated if you select ON (NTSC signal only). Normally set it to OFF.

[OFF]

## 15 SPLIT PHASE menu

When the SPLIT function is activated, if the lower side picture (the signal fed through the RGB/COMPONENT B input connectors) has some discrepancy of location with the upper side picture, adjust the SPLIT PHASE menu.

Each time you press the ↑(+) button, the lower side picture moves left.

### Note

When the adjustment is made in the menu, the skew error will occur on the top of the lower side picture.

## 16 COMPONENT LEVEL menu

Select the component level from among three modes.

N10/SMPTE: for 100/0/100/0 signal

BETA 7.5: for 100/7.5/75/7.5 signal

BETA 0: for 100/0/75/0 signal [N10/SMPTE]

## 17 NTSC SETUP LEVEL menu

Select the NTSC setup level from two modes. The 7.5 setup level is mainly used in north America. The 0 setup level is mainly used in Japan. [0]

## 18 SUB CONTROL screen

You can finely adjust the controls on the front panel. CONTRAST, PHASE, CHROMA and BRIGHT controls have clicks at the center of their adjustment range. You can adjust the setting of the click position with this feature.

## 19 V HOLD screen

Adjust the vertical hold if the picture rolls vertically.

### Note

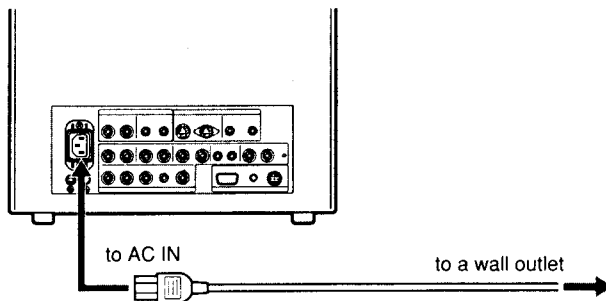
If the rolling of the picture prevents you from watching the screen, select an input that has nothing connected.

# Power Sources

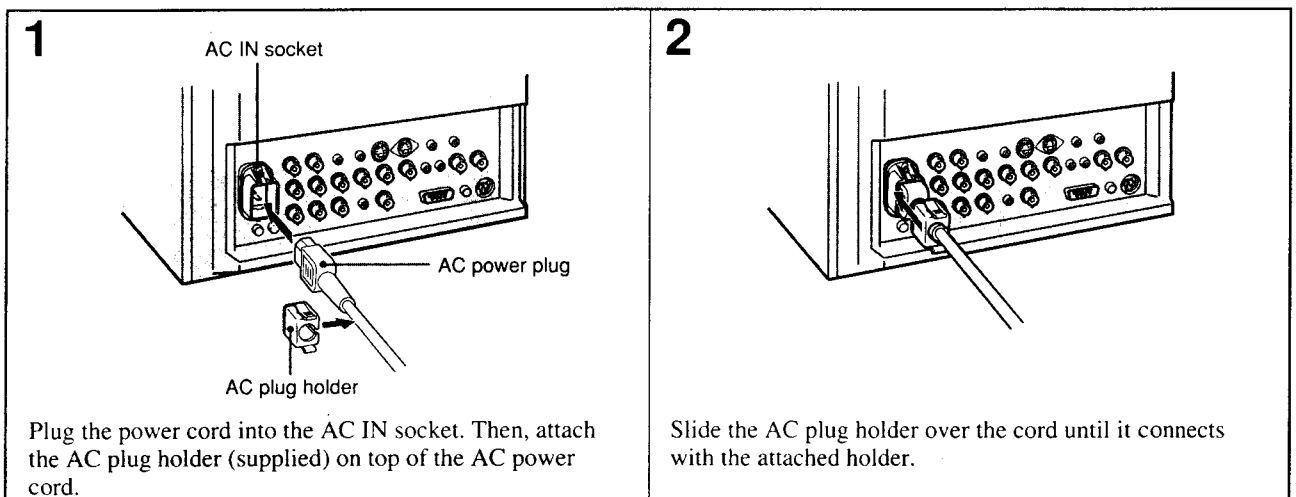
PVM-2053MD

## House Current

Connect the supplied AC power cord to the AC IN socket on the rear panel and to a wall outlet.



### To connect an AC power cord securely with the AC plug holder



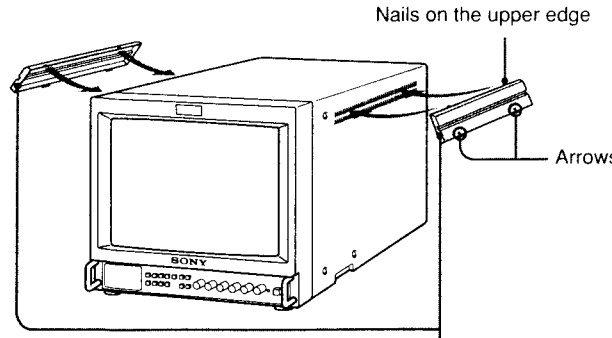
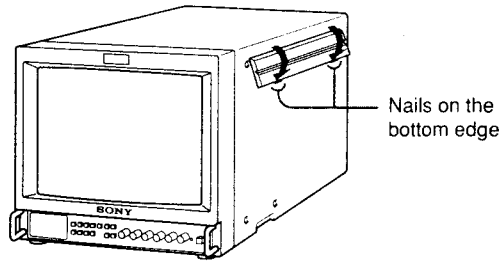
### To remove the AC power cord

Pull out AC plug holder by squeezing the up and down sides.

# Attaching the Splash Proof Covers

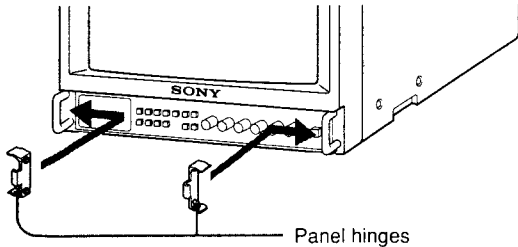
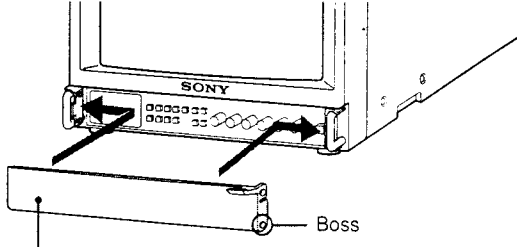
PVM-2053MD

In order to protect the ventilation holes from splashes (of medicines, etc.), attach the splash proof covers (supplied) as shown below.

<p><b>1</b></p>  <p>Nails on the upper edge</p> <p>Arrows</p> <p>Splash proof covers</p> <p>Making sure the arrows on the cover are facing down, hook the nails on the upper edge into the ventilation holes.</p> <p><b>Note</b> Attach the splash proof covers to all them ventilation holes.</p>	<p><b>2</b></p>  <p>Nails on the bottom edge</p> <p>Push up the nails on the bottom edge and fit the cover into the lowest ventilation holes. Attach the both covers to the left and right sides.</p>
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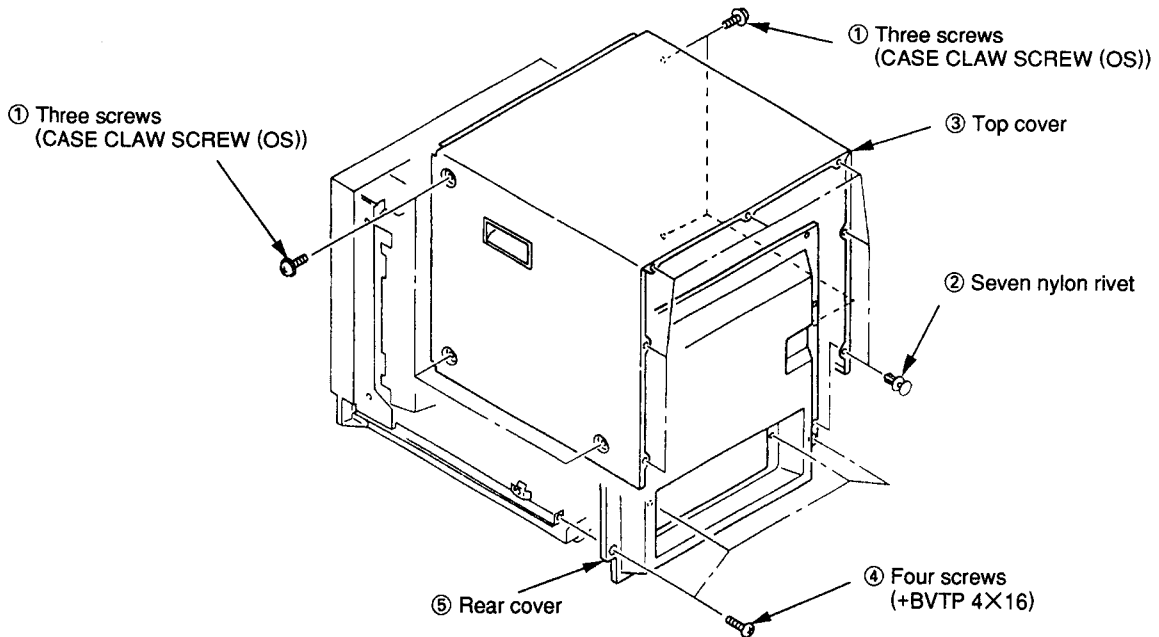
# Attaching the Control Panel Cover

In order to protect the control buttons on the front panel from undesired touching, attach the supplied control panel cover.

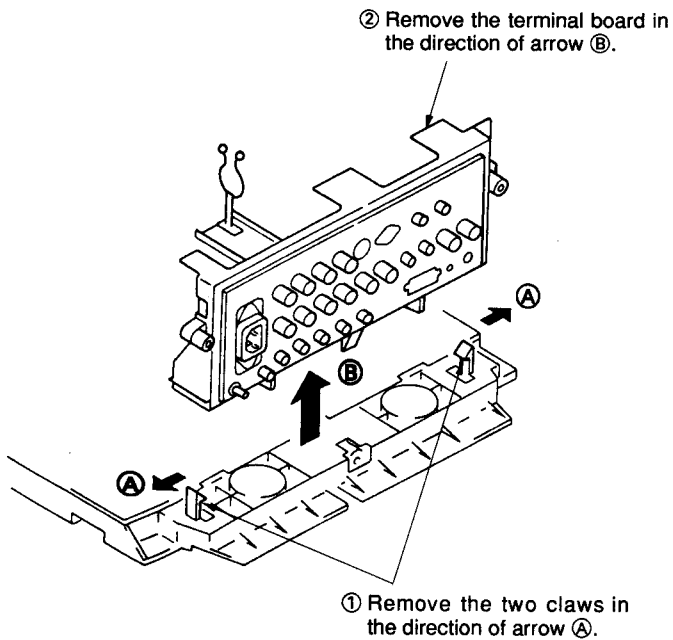
<p><b>1</b></p>  <p>Panel hinges</p> <p>Attach the panel hinges to the left and right grips from the inner side.</p>	<p><b>2</b></p>  <p>Control panel cover</p> <p>Boss</p> <p>Fit the bosses on the both sides of the control panel cover into the lower holes of the panel hinges with bending the control panel cover a little.</p>
---	--

## SECTION 2 DISASSEMBLY

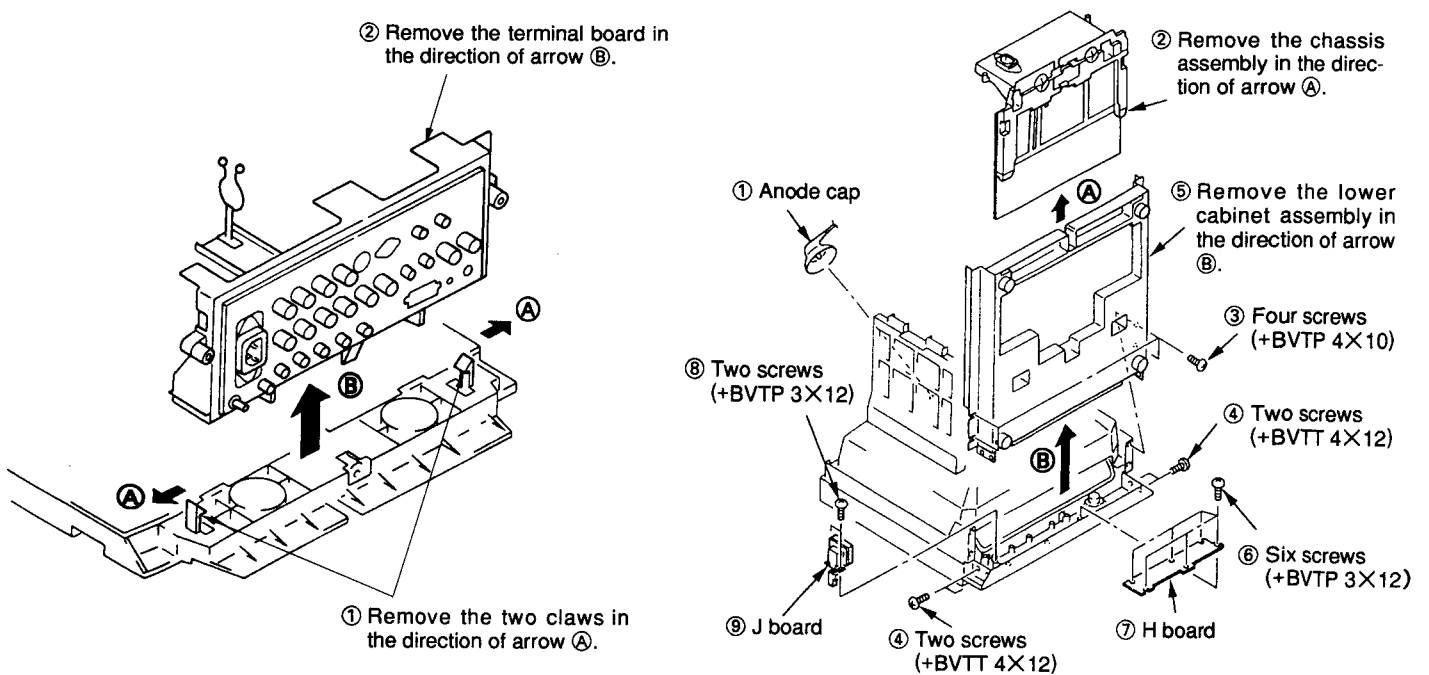
### 2-1. TOP COVER AND REAR COVER REMOVAL



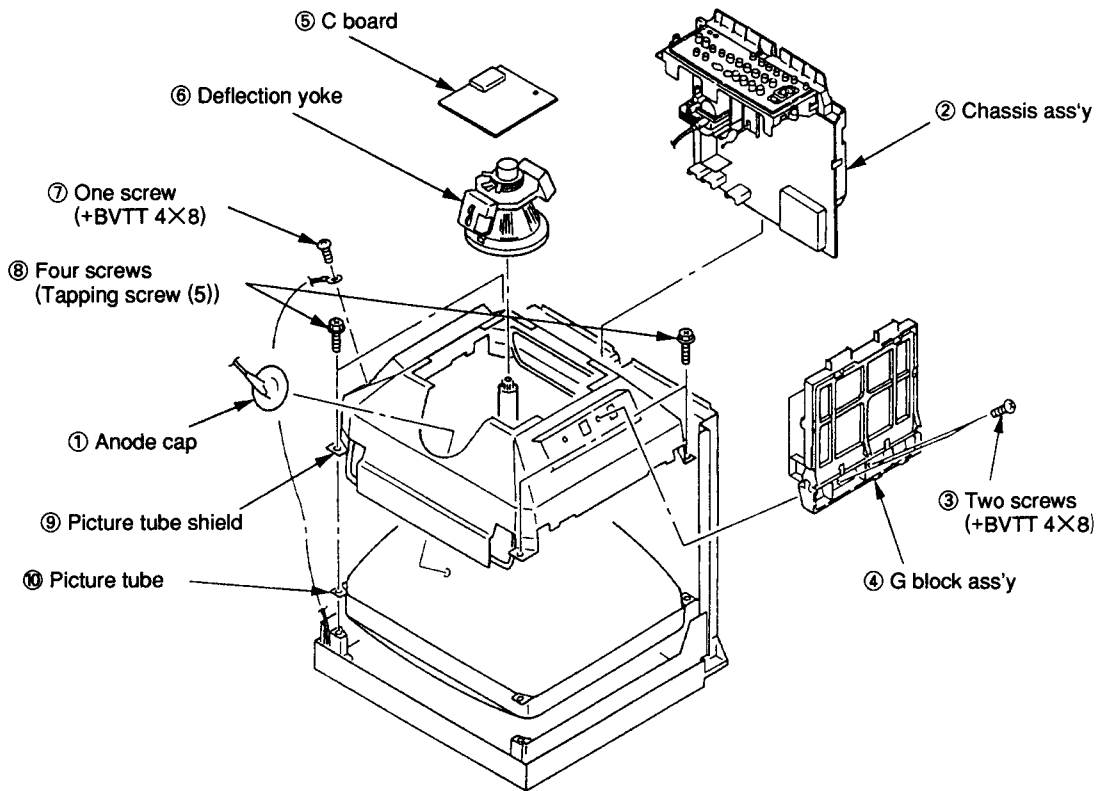
### 2-2. TERMINAL BOARD REMOVAL



### 2-3. J, H BOARDS REMOVAL



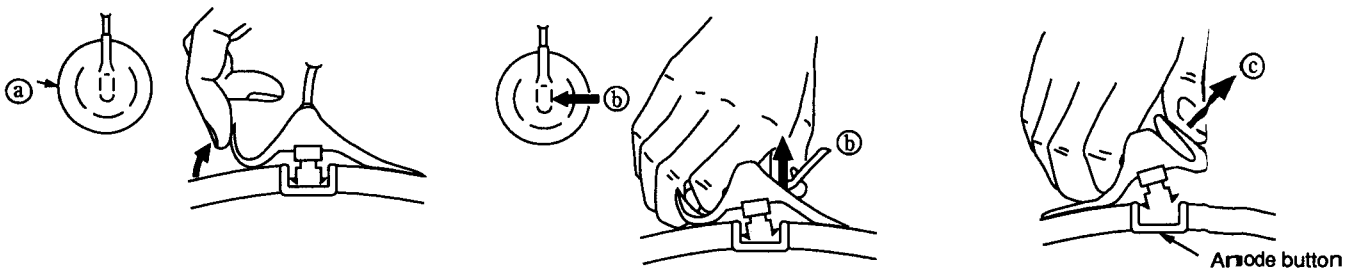
## 2-4. PICTURE TUBE REMOVAL



### • REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

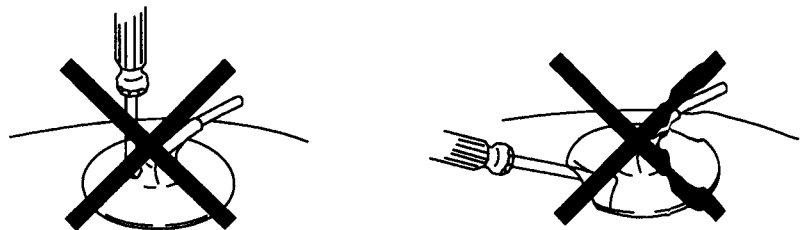
### • REMOVING PROCEDURES



- ① Turn up one side of the rubber cap in the direction indicated by arrow (a).
- ② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow (b).
- ③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow (c).

### • HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardly not to hurt inside of anode-caps!  
A material fitting called as shatter-hook terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardly!  
The shatter-hook terminal will stick out or hurt the rubber.





## SECTION 3 SET-UP ADJUSTMENTS

### 3-1. PREPARATIONS (1)

#### Service Mode

This set is provided with a switch for service on the front panel that can be used to make various adjustments. The operation method of this switch is explained in detail below.

#### 1. ENTERING THE SERVICE MODE

Simultaneously press the [ENTER] key and the [DEGAUSS] key shown on the display of the menu.

#### 2. SERVICE MODE DISPLAY

(1)	(5)	(4)	(3)	(6)
(2)				

Range of Service Mode Display

- (1) The service items are largely classified into 16 types displayed by titles.
- (2) The names of the service items or READ / WRITE guidance, etc., are displayed. The names are displayed to the left and the guidance to the right.
- (3) This is the serial number for each of the service items. 1-120.
- (4) This is the adjustment data for the service items that are now stored in the RAM. Adjustments can be made by changing these values, but as long as nothing is written to the ROM the adjustment values will be erased by turning off the power or by reading, so please be careful.
- (5) When the adjustment data that is now displayed is identical with the data in the ROM, the cursor (▷) is displayed.
- (6) The present status is displayed.
  - [\*] : Writing to the ROM. Make sure not to turn off the power while this display is on.
  - [?] : ROM reading error. In this case, an image is output with the standard adjustment data that the microcomputer itself possesses.
  - [i] : Problem in the I<sup>2</sup>C bus.

#### 3. FINISHING THE SERVICE MODE

Simultaneously press the [ENTER] key and the [DEGAUSS] key shown on the display of the menu.

#### 4. EASY ON / OFF OF THE SERVICE MODE

If once entering the service mode after having turned on the power, easy ON / OFF is possible by once more pressing the A, B or C switch on the front panel (the LED lights) as long as the power is not turned off or as long as the service mode is not finished.

#### 5. CHANGE OF POSITION OF THE SERVICE MODE DISPLAY

If the switch is continuously pressed when turning on in the above easy mode, the display position moves in the V direction. This method is used when the display is outside of the effective screen area.

#### 6. CHANGE OF SERVICE ITEMS

The items are returned with the [MENU] key and forwarded with the [ENTER] key. When a key is continuously pressed, the operation will be repeated.

#### 7. CHANGE OF SERVICE DATA

The service data is made larger with the [↑] key and smaller with the [↓] key. When continuously pressing the keys, the operation will be repeated.

#### 8. READING OF SERVICE DATA

When reading data from the ROM to the RAM, press the RESET key once and check that the READ display is shown in the guidance, and then press the RESET key once again. The adjustment data that is written will return to its previous state, so please be careful.

#### 9. WRITING OF SERVICE DATA

When writing data from the RAM to the ROM, press the [DEGAUSS] key once and check that the WRITE display is shown in the guidance, and then press the [DEGAUSS] key once again. Not only the displayed data will be written, but all data, so please be careful.

#### 10. CARRYING OUT FACTORY RESETTING

In case the adjustment data has been destroyed for some reason, and you keep pressing the RESET key at the beginning of the above reading, the READ guidance will change to FACTORY RESET guidance in approximately 3 seconds so that the factory resetting can be carried out. By once again pressing the RESET key after this, resetting will be carried out ([\*] will be displayed as status) and factory resetting will be executed. However, in case the data available at the time of shipment from the factory has been destroyed, or if the ROM has been replaced, etc., or if factory setting mentioned later on has been carried out, factory resetting is executed.

#### 11. CARRYING OUT FACTORY SETTING

Make sure to make possible the above factory resetting by making a copy of the adjustment data when replacing the ROM. If you keep pressing the [DEGAUSS] key at the beginning of the above writing, the WRITE guidance will change into FACTORY RESET guidance after approximately 3 seconds. By once again pressing the [DEGAUSS] key after this, setting will be carried out ([\*] will be displayed as status) and the data will be copied. By carrying out this operation, the selection items of the menu and the adjustment values will be reset to the standard conditions, so please be careful. If this operation is carried out once, it cannot be carried out again, but the FACTORY SET FLAG in the service mode can be set to 1.

**ROM INITIAL WRITING VALUE OF SERVICE DATA**

**SERVICE MAP Ver 1.0MD (1 - 98)**

No.	SERVICE ITEM	STD	No.	SERVICE ITEM	STD		
1	NOR 50 DEF	H FREQUENCY	144	61	USER C/T ORG	BIAS <RED>	650
2		VIDEO PHASE	118	62		BIAS <GREEN>	512
3		V SIZE	179	63		BIAS <BLUE>	352
4	NOR 60 DEF	H FREQUENCY	150	64		GAIN <RED>	726
5		VIDEO PHASE	121	65		GAIN <GREEN>	700
6		V SIZE	177	66		GAIN <BLUE>	520
7	NOR DEF	V CENTER	111	67	W/B	SUB CON	180
8		H SIZE	112	68		SUB BRIGHT	69
9		PIN PHASE	103	69	OTHER	OSD POSITION	110
10		PIN AMP	110	70		SPLIT PHASE	0
11		LOWER PIN AMP	128	71		V HOLD	128
12		U/L PIN	134	72		H BLANKING	74
13		SEXY	128	73		H BLANKING <50>	63
14		V LINEARITY	140	74		O/S UPPER V BLK <50>	21
15		V BOW	32	75		O/S LOWER V BLK <50>	73
16		LOWER V BOW	32	76		V BLANKING <60>	117
17		V ANGLE	32	77		O/S UPPER V BLK <60>	26
18	U/S DEF	V SIZE <50>	149	78		O/S LOWER V BLK <60>	83
19		V SIZE <60>	146	79		HP POSITION	140
20		H SIZE	100	80		HP WIDTH	90
21		PIN PHASE	109	81	SYSTEM	358TRAP FILTER	0
22		PIN AMP	87	82		CAPTION VISION	0
23	O/S DEF	V SIZE <50>	192	83		COMPONENT LEVEL	2
24		V SIZE <60>	189	84		NTSC SETUP LEVEL	0
25		H SIZE	211	85		CHROMA SET UP	0
26		PIN PHASE	97	86		COLOR SYSTEM DISPLAY	0
27		PIN AMP	127	87		COLOR TEMPERATURE	0
28		LOWER PIN AMP	111	88		USER PRESET	0
29		U/L PIN	132	89		LANGUAGE	0
30		LOWER V BOW	32	90		RGB MODE A	0
31	COMPONENT	SUB PHASE	131	91		RGB MODE B	0
32		SUB CHROMA <NORMAL>	97	92		AGING MODE	0
33		SUB CHROMA <SMPTE>	157	93		MODEL	5
34		R-Y LEVEL	157	94		COLOR TEMP DISP 1	65
35	NTSC	BURST GATE PULSE WIDTH	36	95		COLOR TEMP DISP 2	56
36		CRYSTAL	54	96		REMOTE ADDRESS	1
37		PHASE	103	97		RESERVED	0
38		B-Y PHASE	230	98		FACTORY SET FLAG	0
39		CHROMA	118	99			
40		R-Y LEVEL	105	100			
41	PAL	CRYSTAL	65	101			
42		PHASE	76	102			
43		B-Y PHASE	125	103			
44		CHROMA	135	104			
45		R-Y LEVEL	123	105			
46	C/T1 ??00K	3200K SW	0	106			
47		BIAS <RED>	554	107			
48		BIAS <GREEN>	512	108			
49		BIAS <BLUE>	519	109			
50		GAIN <RED>	668	110			
51		GAIN <GREEN>	700	111			
52		GAIN <BLUE>	633	112			
53	C/T2 ??00K	3200K SW	0	113			
54		BIAS <RED>	650	114			
55		BIAS <GREEN>	512	115			
56		BIAS <BLUE>	352	116			
57		GAIN <RED>	726	117			
58		GAIN <GREEN>	700	118			
59		GAIN <BLUE>	520	119			
60	USER C/T ORG	3200K SW	0	120			

### PREPARATIONS (2)

\* When composite video or component signals are supplied, they must be supplied as below.

Signal		Signal Contents	Standard Level P-W	
COMPOSITE VIDEO	358NT	100% WHITE	0.714V	
		75% WHITE	0.536V	
	PAL	100% WHITE	0.7V	
		75% WHITE	0.525V	
COMPONENT	BETA 0	100% WHITE Y	0.7V	
		75% WHITE Y	0.525V	
		75% COLOR B-Y, R-Y (This item only p-p)	0.7V	
		100% WHITE Y	0.7V	
	SMPTE	75% WHITE Y	0.525V	
		75% COLOR B-Y, R-Y (This item only p-p)	0.525V	
		AUDIO	-0.5dBs	0.436Vrms

\* In this document, terms inside boxes  are names of service mode adjustments.

Example

\* After making adjustments in service mode, write the adjustment data before cutting off the power. If you cut off the power without writing, the results of your adjustments are all lost.

\* Standard inspection conditions

Unless specifically specified otherwise in this document, the following conditions are used for adjustments and inspections.

APERTURE	MIN
BRIGHT	50% (Center click)
CHROMA	50% (Center click)
PHASE	50% (Center click)
CONTRAST	80% (Center click)
VOLUME	50%

### 3-2. WRITING MODEL DATA

- In service mode, write in the following model data at .
  - PVM-1353MD/1953MD ..... 5
  - PVM-1453MD/2053MD ..... 1
- In service mode, write in the following data at .
  - PVM-1353MD/1453MD ..... 65
  - PVM-1953MD/2053MD ..... 65
- In service mode, write in the following data at .
  - PVM-1353MD/1453MD ..... 56
  - PVM-1953MD/2053MD ..... 56

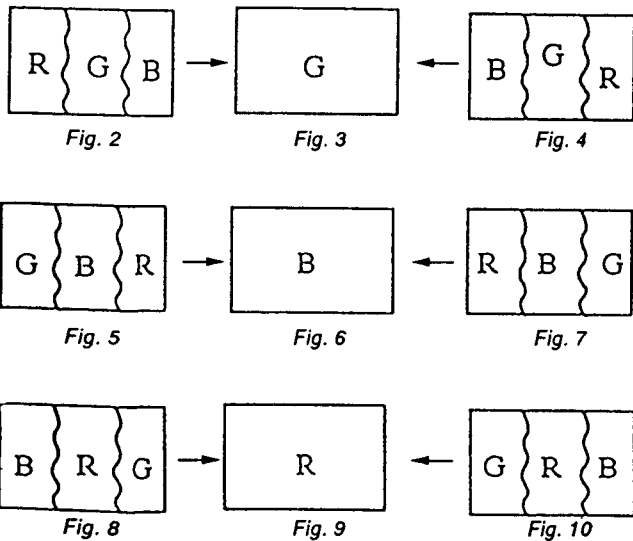
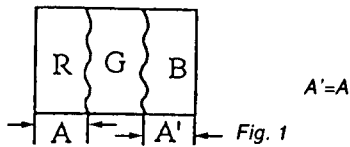
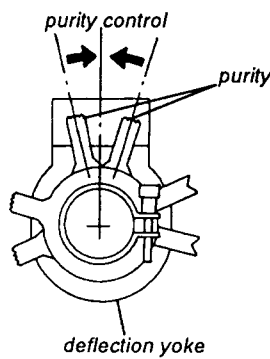
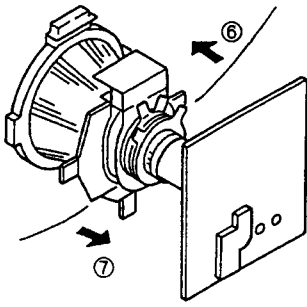
### 3-3. PICTURE OUTPUT

- Set the AC input voltage.
  - Input the video and audio signals to the corresponding terminals on the connector panel.
  - Set the sliduck AC voltage as shown on the right.

Model	Voltage
PVM-1353MD/1953MD	AC120 ± 3V (Distortion rate : 3% or less)
PVM-1453MD/2053MD	AC220 ± 3V (Distortion rate : 3% or less)

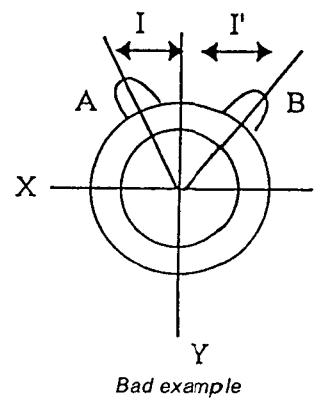
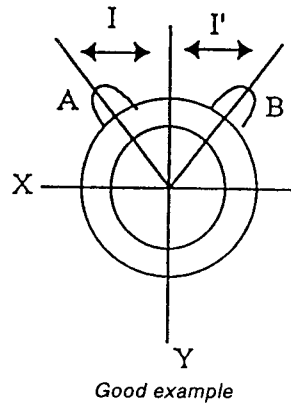
### 3-4. LANDING ADJUSTMENT

- Preparations
  - To reduce the influence of geomagnetism, face the set's CRT screen east or west.
  - Loosen the deflection yoke fixture and lower the deflection yoke to the rear.
  - Switch on the Power switch and degauss with the degausser.
  - Adjust the deflection yoke tilt.
- Adjustment
  - CONT ..... MIN  
BRT..... Position providing good vision
  - The rough adjustments of the white balance, G2, and convergence must be completed already.
  - Set green-only.
  - Adjust the purity knob so that the green comes to the center of the screen. Make the red and blue about even. Fig. 1
  - Switch to blue only, red only, and green only and verify each. Fig. 1, 2, and 3
  - Bring the deflection yoke gradually forward and adjust the deflection yoke so that the R and B at both sides of the screen become green. Fig. 2 → 3
  - If the deflection yoke comes too far forward, you will see the pattern shown in Figure 4. If that happens, lower the deflection yoke to the rear. Fig. 4 → 3
  - Switch the single color switch to B and verify the single color. Fig. 6
  - Switch the single color switch to R and verify the single color. Fig. 9
  - When one of the colors does not become the single color correctly, check by repeating Items 7 and 8 based on the single color not coming into adjustment.  
If you can not obtain landing in the corners, paste on magnets.
  - Switch to an all-white signal and check the uniformity.
  - When the deflection yoke position is determined, fasten it with the fixture.



### 3-5. CONVERGENCE ADJUSTMENT

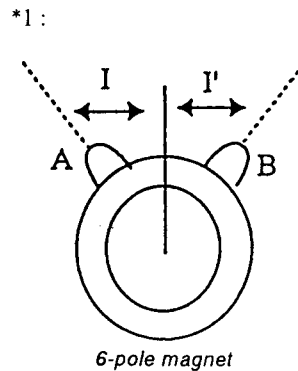
- Input a dot pattern signal.  
CONT ..... Position providing good vision  
BRT ..... MIN
- Align the horizontal R, G, and B dots at the center of the screen with the H-STAT VR. (\*1)  
\*1 : If the H-CENTER adjustment was after the H-STAT adjustment, re-adjust the H-STAT.  
(The H-CENT VR changes the H-STAT too.)
- Align the R, G, and B at the center of the screen with the V-STAT magnets. (\*2)  
\*2 : After the V-STAT adjustment, paint on the knobs to lock them.



V-STAT magnet knobs  
While keeping the angles for A and B equal ( $I=I'$ ), align the vertical convergence.

If the A and B knobs are not symmetrical ( $I \neq I'$ ), this has bad effects. The focus may deteriorate and beam striking may occur.

- For HMC, use the 6-pole magnet to adjust the R and B dots to be symmetrical left and right about the G dot. (\*1)

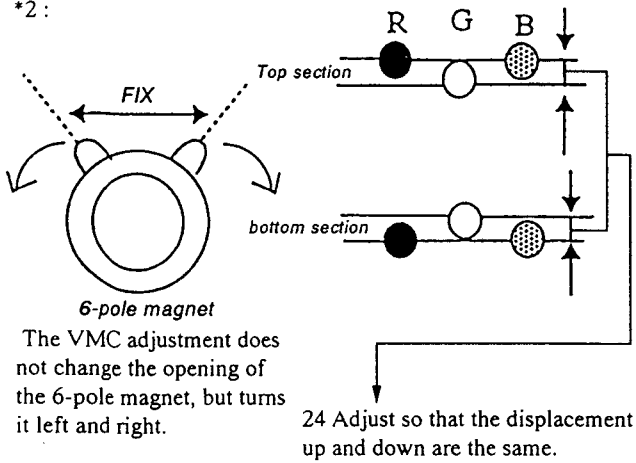


The HMC adjustment changes the opening of the 6-pole magnet.

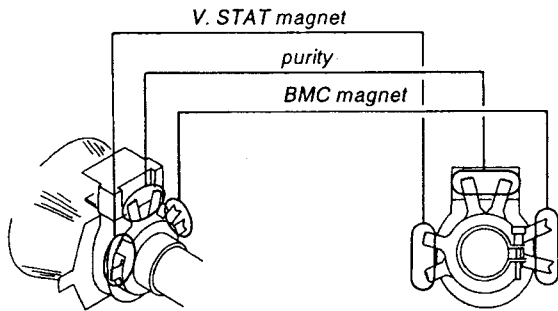
Adjust the 6-pole magnet so that  $A=A'$ . You must maintain the relationship  $I \neq I'$  while moving the magnet.

5. For VMC, use the 6-pole magnet to adjust the R and B dots to be symmetrical above and below the G dot. (\*2)

\*2:



6. Adjust by repeating the adjustments in Items 2 through 5. (\*3)  
 \*3: The above adjustment may affect the landing, so after this adjustment, check the landing again.  
 7. After the adjustment is complete, paint on the knobs to lock them.

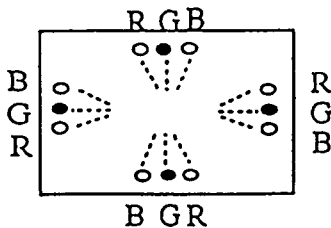


### 3-6. DEFLECTION YOKE NECK ROTATION ADJUSTMENT

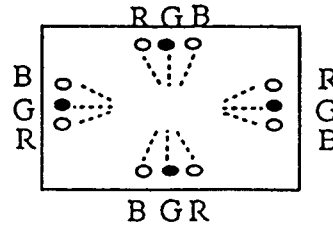
If there is misconvergence at both sides on the X or Y axis of the screen, turn the neck of the deflection yoke in the direction of the arrow to reduce the misconvergence for the entire CRT screen to within the tolerance.

1. Reverse misconvergence pattern

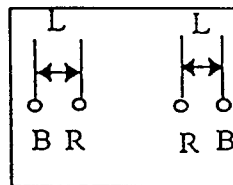
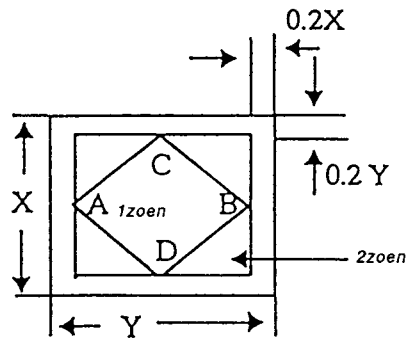
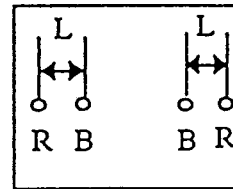
Turn the deflection yoke neck down.



Positive misconvergence pattern  
 Turn the deflection yoke neck up.

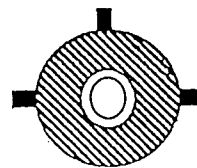


Pattern when deflection yoke too far to the left

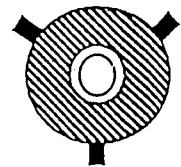


Pattern when deflection yoke too far to the right

2. Insert the three wedges in the deflection yoke and CRT funnel surface to fasten the deflection yoke.

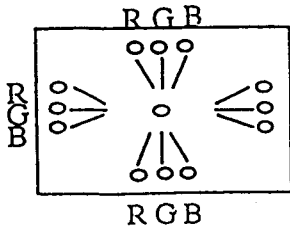


14" Wedge positions

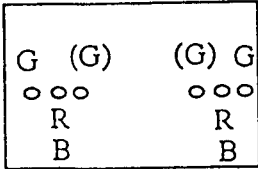


20" Wedge positions

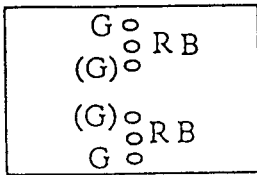
3. The pattern below can not be corrected by turning the neck.



\* Gun rotation  
The beam is twisted at both sides on the X axis and Y axis.



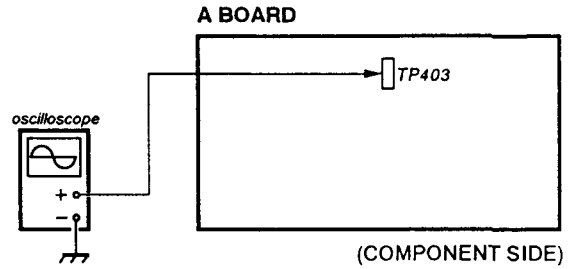
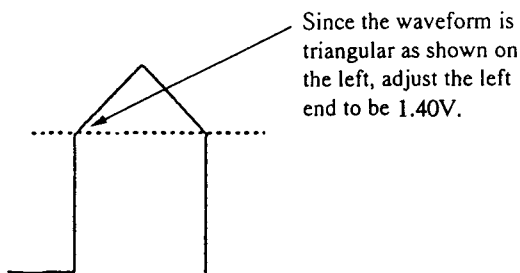
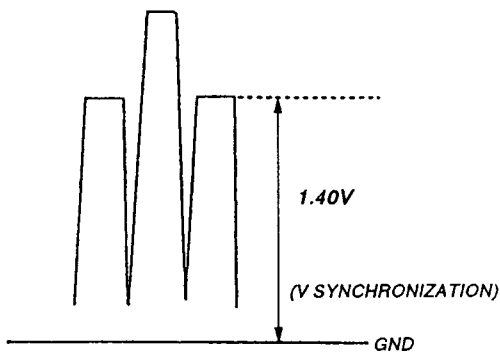
\* HCR large (small)  
At both sides of the screen, the G raster horizontal component is wider (narrower) than those of the R and B rasters.



\* VCR large (small)  
At both sides of the screen, the G raster vertical component is wider (narrower) than those of the R and B rasters.

### 3-7. G2 ADJUSTMENT

1. Input a 525 monoscope signal.
2. Connect the oscilloscope to A board TP403.
3. Of the three reference pulses, measure the lowest one.
4. With the Screen VR, adjust so that left end of the waveform is :  $1.40 \pm 0.1V$



### 3-8. WHITE BALANCE ADJUSTMENT

For measuring equipment, use a color analyzer. (for example from Minolta, etc.)

1. Input a 525 monoscope signal.  
(Input from Line A with no burst.)
2. Set :  
CONT ..... 0%  
BRT..... 50%
3. On a 20-tone gray scale, adjust service mode **SUB BRIGHT** so that  
0 and 5 IRE → cut off  
10 IRE → slight glow
4. Input 525 all-white (no burst).
5. Set CONT to 80%.
6. Adjust the all-white signal luminance so that the screen luminance is 3 NIT.
7. Press MENU and select COL TEMP/SEL.
8. Select T1 : 6500K.
9. Put the unit into service mode. (\*1)  
\*1 : Set **3200 K SW** to 0 for both T1 and T2.
10. Adjust to the standard values with **C/T1 XX00K BIAS**.  
(G must be fixed at "512".) (\*2)  
\*2 : Adjust the cut-off to be 3 NIT.  
Spec. 6500K + 8M PCD
11. Switch the all-white signal luminance to 100 IRE
12. Adjust to the Standard values with <RED> and <BLUE> of **C/T1 GAIN XX00 K**.  
(G must be fixed at "700")
13. Repeat Items 10, 11 and 12 until the adjustment is complete, then write the adjustment data.
14. Press MENU and select COL TEMP/BAL.
15. Select T2 : 5600K.
16. In the same manner as in Items 10, 11, 12 and 13 make the **C/T2 5600K BIAS** and **C/T2 5600K GAIN** adjustments.  
Spec. 5600K + 8M PCD

### 3-9. SUB BRT ADJUSTMENT

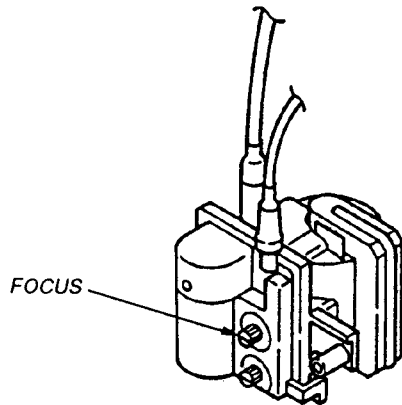
1. Input a 525 monoscope signal.
2. CONT ..... MIN  
BRT ..... CENTER (50%)
3. Put the unit into service mode and select **SUB BRIGHT**
4. Adjust **SUB BRIGHT** so that 10 IRE gives a slight glow and 10 IRE gives cut off.

### 3-10. FOCUS ADJUSTMENT

Note : PVM-1353MD/1453MD are adjusted with RV707 on the C board.

PVM-1953MD/2053MD are adjusted with the RV at the top of the FBT main unit.

1. Input a 525 monoscope signal. (PVM-1353MD/1953MD ONLY)  
Input a 625 monoscope signal. (PVM-1453MD/2053MD ONLY)
2. Adjust the focus to optimize the focus on the characters "30" at the center of the screen.
3. Switch to an all-white signal and check the uniformity.



## SECTION 4 SAFETY RELATED ADJUSTMENT

The following adjustments should always be performed when replacing the following components (marked with  ,  on the schematic diagram).

+B detection ..... R1535

Tertiary coil detection..... R1536

Part replaced ()

Hold Down Circuit ..... A board IC500, IC507, D501,  
D533, C506, C512, C523,  
C549, C592, R506, R518,  
R519, R551, R1536,  
R1537, R1560, T501

Beam Current Protector

Circuit..... A board Q500, Q511, C513, R508,  
R515, R516, R517

B+ Regulator Circuit ..... A board R1535

G board IC602, C603

### **B+ VOLTAGE CONFIRMATION**

Standard : less than 117.0VDC

Check Condition : Input voltage :  $110 \pm \frac{1}{2}$  VAC

Note : Use NF Power Supply or make sure that distortion factor is 3% or less.

Input signal : Monoscope signal

Controls : BRT & CONT  $\Rightarrow$  Initial reset

### **HOLD-DOWN CIRCUIT VOLTAGE CONFIRMATION**

(1) Hold down circuit (B+ Actuation)

a) When  $IABL = 1000 \pm 50 \mu A$ , raster goes out at less than  $130.5 \pm \frac{0.5}{10}$  V by applying an external DC voltage to IC500  $\textcircled{2}$  pin (TP502).

Input signal : ALL white

b) When  $IABL = 120 \pm 20 \mu A$ , raster goes out at less than  $133.5 \pm \frac{0.5}{10}$  V by applying an external DC voltage to IC500  $\textcircled{2}$  pin (TP502).

Input signal : Dot

(2) Hold down circuit (Tertiary coil detection voltage)

Confirmatory item : 110.0V voltage should be applied to the  $\textcircled{1}$  pin of IC500.

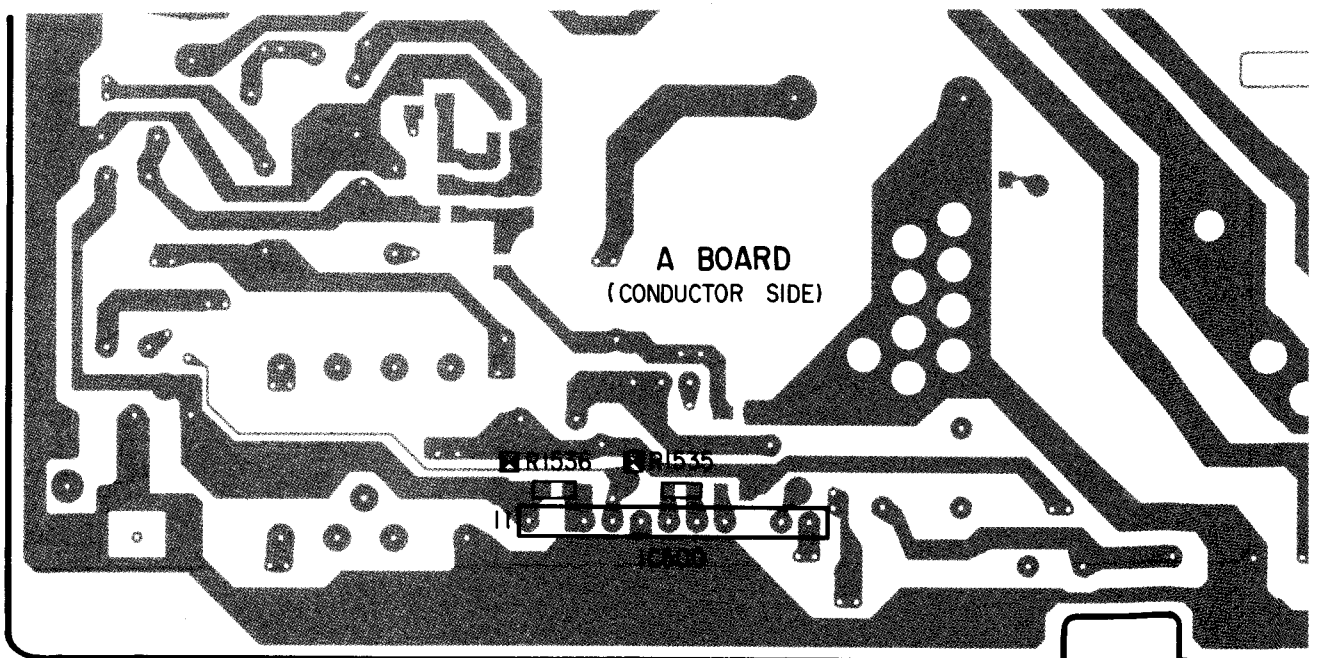
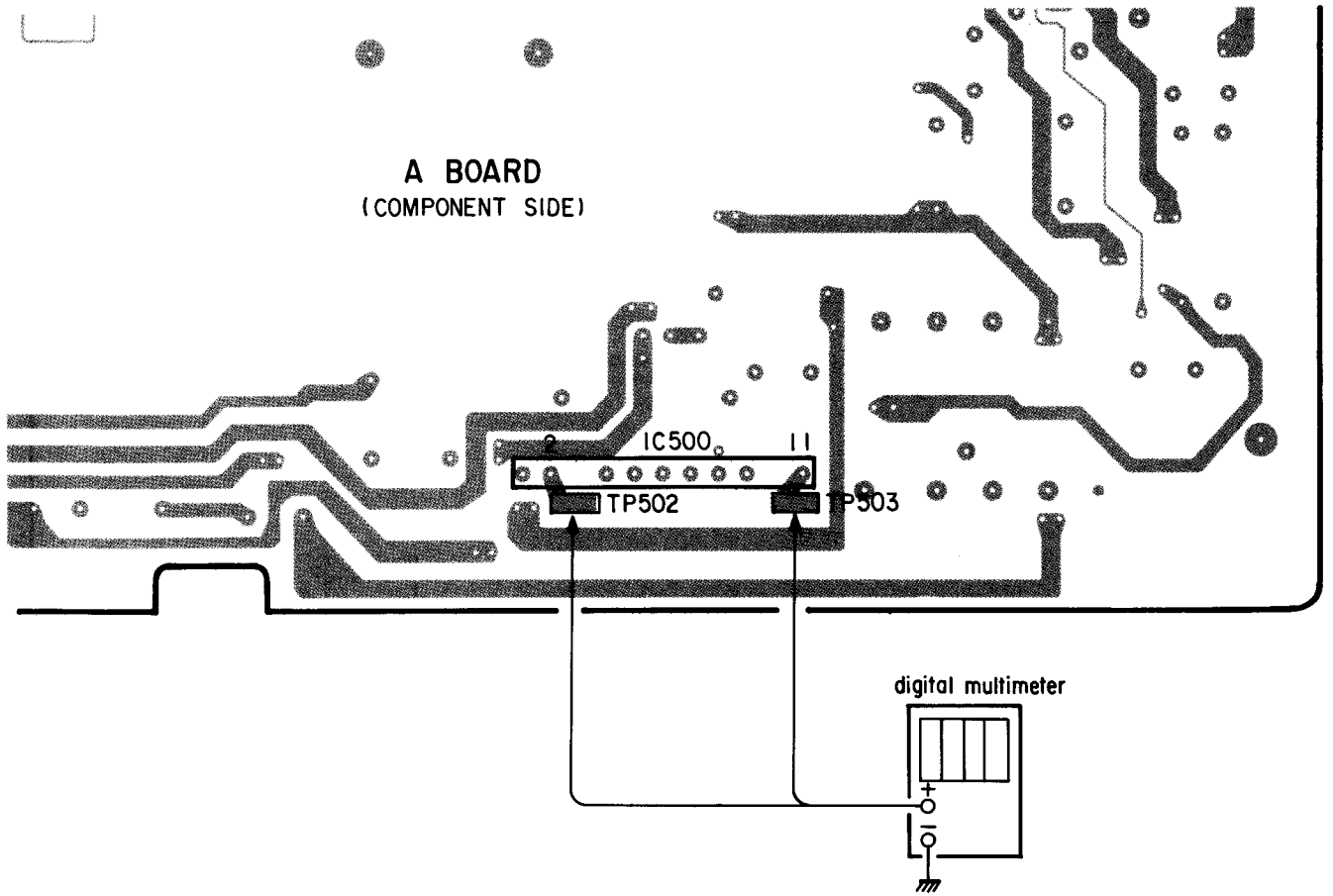
a) When  $IABL = 1000 \pm 50 \mu A$ , raster goes out when applying less than DC 148.0V voltage to the  $\textcircled{1}$  pin (TP503) of IC500 from outside.

Input signal : ALL white

b) When  $IABL = 120 \pm 20 \mu A$ , raster goes out when applying less than DC 148.5V voltage to the  $\textcircled{1}$  pin (TP503) of IC500 from outside.

Input signal : Dot

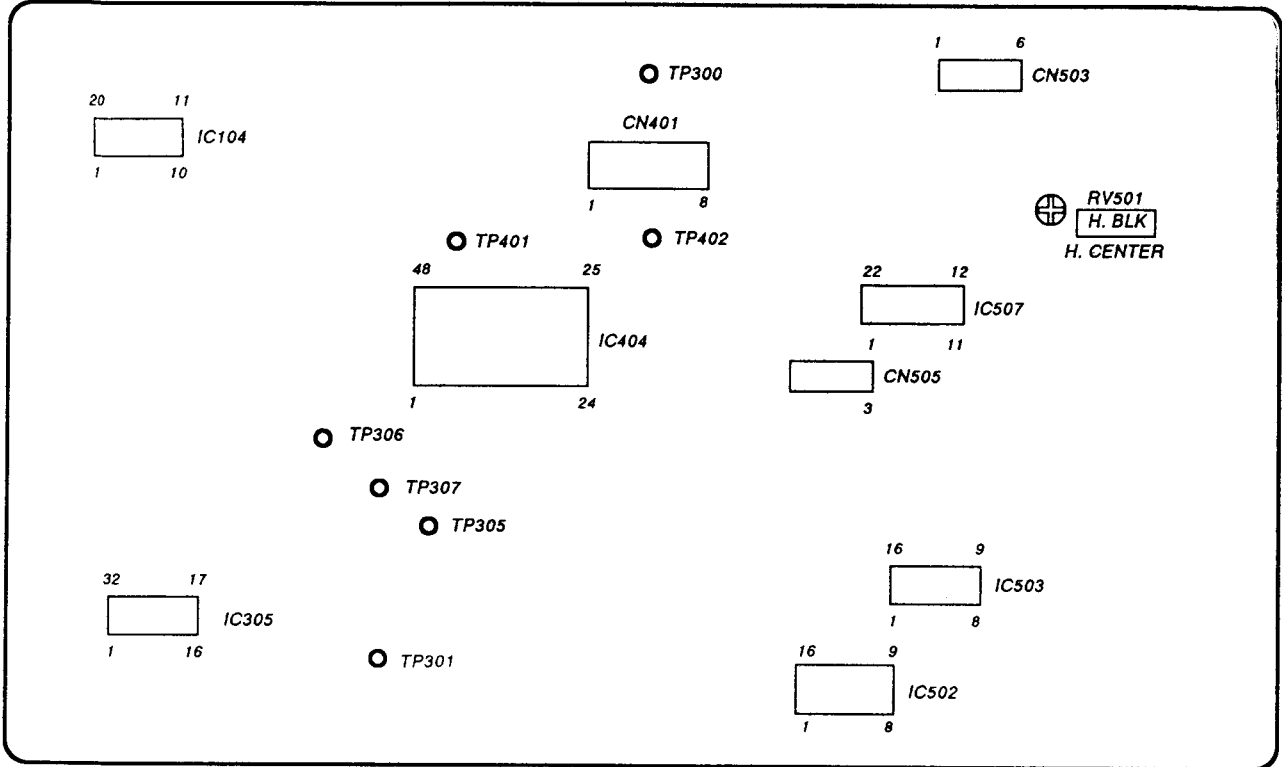




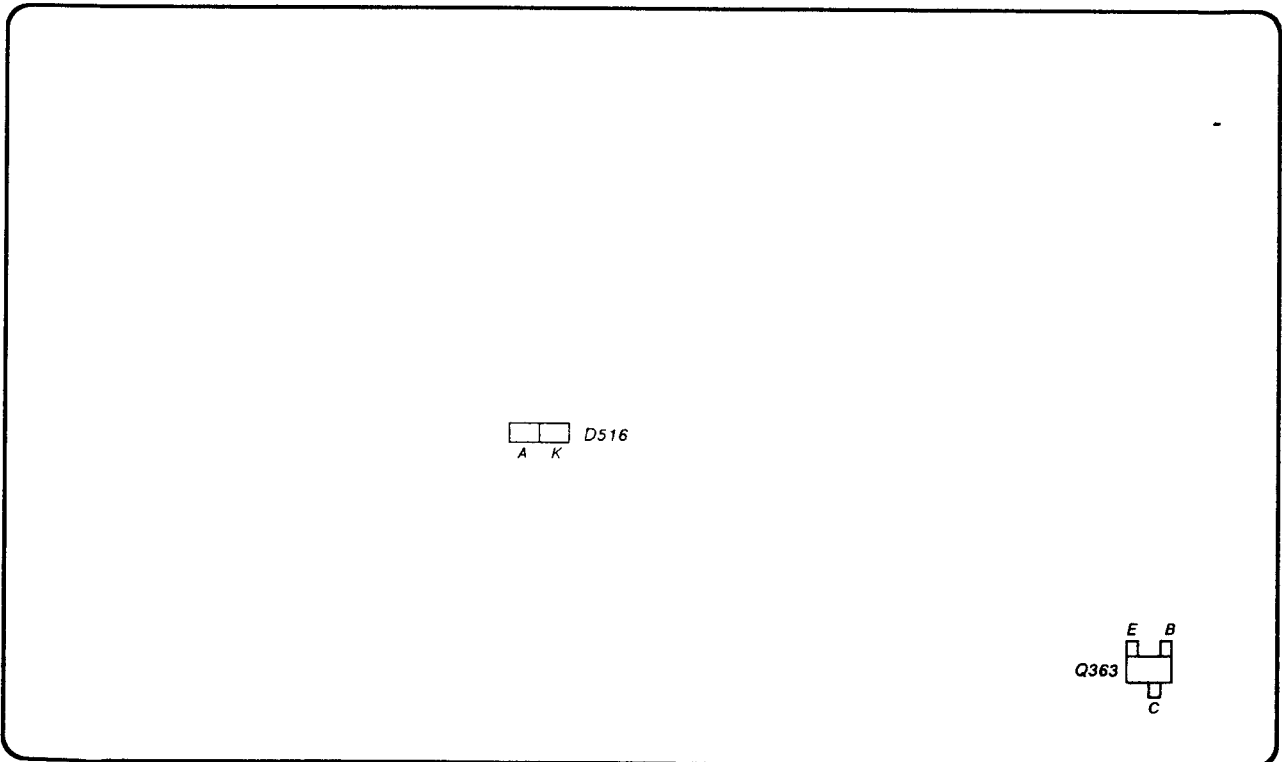
# SECTION 5 CIRCUIT ADJUSTMENTS

## 5-1. A BOARD ADJUSTMENT

A BOARD – COMPONENT SIDE –



A BOARD – CONDUCTOR SIDE –



## I. Preparations

\* When composite video or component signals are supplied from connector CN301, they must be supplied taking into account the effect of the Q board as indicated on the right.

The levels of the signals supplied must be within  $\pm 2\%$  of the standard on the right.

Signal		Signal Contents	Standard Level (Pedestal-White)	Reduction Ratio	Connector Feed Level (Pedestal-White)
COMPOSITE VIDEO (75% COLOR BAR)	358NT	100% WHITE	0.714V	93%	0.664V
		75% WHITE	0.536V	93%	0.498V
		BURST (GREEN) (This item only P-P)	286mV (632mV)	94% (94%)	269mV (594mV)
	PAL	100% WHITE	0.7V	94%	0.651V
		75% WHITE	0.525V	94%	0.488V
		PAL BURST (GREEN) (This item only P-P)	300mV (664mV)	94% (94%)	282mV (624mV)
COMPONENT (75% COLOR BAR)	BETA0	100% WHITE Y	0.7V	94.8%	0.664V
		75% WHITE Y	0.525V	94.8%	0.498V
		75% COLOR B-Y, R-Y (This item only P-P)	0.7V	94.8%	0.664V
	SMPTE	100% WHITE Y	0.7V	94.8%	0.664V
		75% WHITE Y	0.525V	94.8%	0.498V
		75% COLOR B-Y, R-Y (This item only P-P)	0.525V	94.8%	0.498V

\* In this document, terms inside boxes   are names of service mode adjustments.

Example 60H-FREQ

\* CONT 80% is the center click position for the user control.

## II. Deflection System Adjustment

### 1. ADJUSTING THE HORIZONTAL OSCILLATION FREQUENCY

1. Input a 525 monoscope signal.
2. Set :  
CONT ..... 80%  
BRT ..... 50%
3. Put the unit into service mode.
4. Drop A board IC507 Pin 1 to ground with a  $100\mu/16V$  electrolytic capacitor. (Ground must use CNS05 Pin 3.)  
Or plug the H-FREQ tool into CNS05.
5. Adjust 60H-FREQ so that the diagonal lines on the screen become vertical lines. (Fig. 1)
6. Input a 625 monoscope signal.
7. Adjust 50H-FREQ so that the diagonal lines on the screen become vertical lines. (Fig. 1)

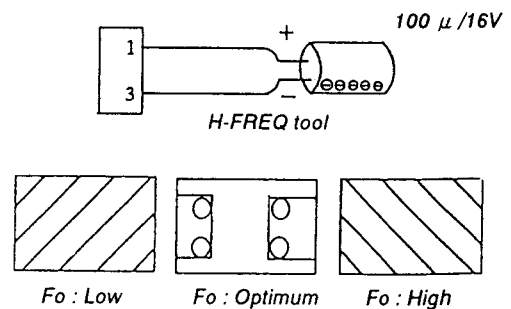


Fig. 1

## 2. H-BLK Adjustment

1. Input a 525 monoscope signal.
2. Set :  
CONT..... 80%  
BRT..... 50%
3. Put the unit into service mode.
4. Observe the anode of D516 or TP300 with the oscilloscope and adjust **[H-BLK]** to obtain the waveform in Fig. 2.

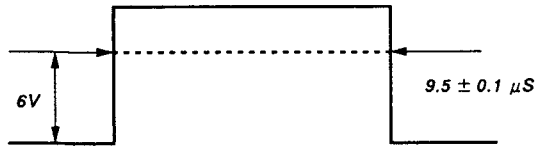


Fig. 2

## 3. PICTURE PHASE Adjustment

1. Input a 525 monoscope signal.
2. Put the unit into under scan mode.
3. Set :  
CONT..... Min.  
BRT..... Max.
4. Put the unit into service mode.
5. Use **[U/S H SIZE]** to adjust the size of the monoscope white frame to be about 1 cm to the inside of the limits of the effective screen.
6. Turn RV501 (H-CENT) and adjust so that  $B=B'$ .
7. Adjust **[60 VIDEO PHASE]** so that the signal region comes to the center ( $A=A'$ ) of the deflection region. (Fig. 3)

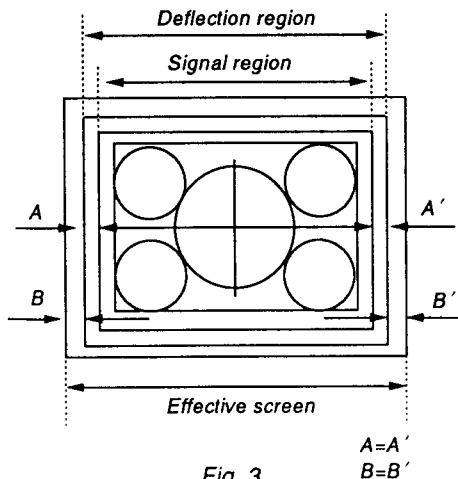


Fig. 3

8. Input a 625 monoscope signal.
9. Adjust **[50 VIDEO PHASE]** in the same manner.

## 4. V-BLK Adjustment

1. Input a 525 monoscope signal.
2. Put the unit into under scan mode.
3. Set :  
CONT..... Min.  
BRT..... Max.
4. Put the unit into service mode.
5. Adjust **[V BLK (60)]** so that before 0.5H of the white frame on the top of the monoscope is barely unblocked.
6. End under scan mode and put the unit into Normal 16:9 mode.
7. Input a 625 monoscope signal.
8. Adjust **[V BLK (50)]** in the same manner as in 5 above.

## 5. VERTICAL DEFLECTION SECTION Adjustment

Normal V. Size Standards

	525	625
4 : 3	$11.75 \pm 0.2$ frames	$11.2 \pm 0.2$ frames

1. Input a 525 monoscope signal.
2. Set :  
CONT..... 80%  
BRT..... 50%
3. Put the unit into service mode.
4. Roughly adjust 4 : 3 NOR **[V-SIZE 60]** so that the size becomes to 12 frames.  
Adjust the vertical linearity with **[V-LIN]**.  
Adjust the vertical centering with **[V-CENT 60]**. (Refer to Note 1.)  
Adjust 4 : 3 NOR **[V-SIZE 60]** so that the size becomes to the standard value.
5. Input a 625 monoscope signal.
6. Roughly adjust 4 : 3 NOR **[V-SIZE 50]** so that the size becomes to 11 frames.  
Adjust the vertical centering with **[V-CENT 50]**. (Refer to Note 1.)  
Adjust 4 : 3 NOR **[V-SIZE 50]** so that the size becomes to the standard value.

### Note 1:

Reconfirmation is necessary for V. CENT adjustment after V. LIN adjusted.

**6. HORIZONTAL DEFLECTION SECTION Adjustment (NORMAL SCAN Adjustment)**

1. Input a 525 monoscope signal.
2. Set :  
CONT..... 80%  
BRT.....50%
3. Put the unit into service mode.
4. Roughly adjust **NOR H SIZE** so that the size is 15.75 frames.
5. Adjust the horizontal deflection section with **NOR PIN AMP**, **NOR PIN PHASE**, **NOR U/L PIN**, **SEXY**, **V BOW**, **V ANGL**, **NOR H SIZE**, **LOW PIN AMP**, **LOW V BOW**.  
(While adjusting the parallelogram distortion and bow distortion with V. ANGL and BOW, adjust the horizontal and vertical lines of the screen becomes straight lines.)
6. Input a 625 monoscope signal.
7. Confirm that the screen is normal.

**Normal H.Size Standards**

	525	625
4 : 3	15.75 ± 0.2 frames	15.0 ± 0.2 frames

V-ANGL



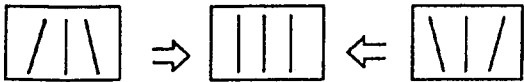
BOW



PIN-AMP



PIN-PHASE



U/L-PIN



SEXY



Fig. 4

**7. HORIZONTAL DEFLECTION SECTION Adjustment (UNDER SCAN Adjustment)**

Standard value

		525	625
14"	U/S H-SIZE	252 ± 2mm	←
	U/S V-SIZE	188 ± 2mm	←
20"	U/S H-SIZE	364 ± 3mm	←
	U/S V-SIZE	272 ± 3mm	←

1. Input a 525 monoscope signal.
2. Set :  
CONT .....80%  
BRT .....50%
3. Set to U/S mode.
4. Set to service mode.
5. Adjust **U/S V. SIZE <60>** so that UNDER V. SIZE becomes within the standard.
6. Adjust **U/S. H. SIZE** so that UNDER H. SIZE becomes within the standard.
7. Adjust **U/S PIN AMP** and **U/S PIN PHASE**.  
(Steps 5., 6. and 7. explains tracking adjustment.)
8. It's not favorable when the square white line is bulging out of the effective screen after adjusted.
9. Input a 625 monoscope signal.
10. Adjust **U/S V. SIZE <50>** becomes within the standard value.

### 8. OVER SCAN Adjustment

1. Input a 525 monoscope signal.
2. Set :  
 CONT .....80% (center click)  
 BRT .....50%
3. Set to O/S mode.
4. Set to service mode.
5. Adjust **O/S H. SIZE** and **O/S V. SIZE <60>** so that H. SIZE becomes 13.6 frames and V. SIZE becomes 10.2 frames.
6. Adjust horizontal deflection section with **O/S PIN AMP**, **O/S PIN PHASE**, **O/S U/L PIN**, **O/S LOW PIN AMP**, **O/S LOW V. BOW**.
7. Input a 625 monoscope signal.
8. Adjust **O/S V SIZE <50>** becomes within the standard value.

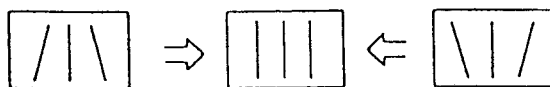
Standard value

	525	625
O/S H. SIZE	13.6 ± <sup>0.8</sup> frames	13.0 ± <sup>0.8</sup> frames
O/S V. SIZE	10.2 ± <sup>0.8</sup> frames	9.8 ± <sup>0.8</sup> frames

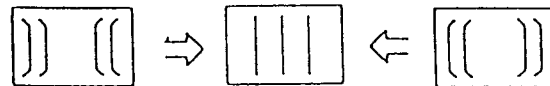
O/S PIN . AMP



O/S PIN, PHASE



O/S U/L. PIN



O/S LOW PIN . AMP



O/S LOW BOW

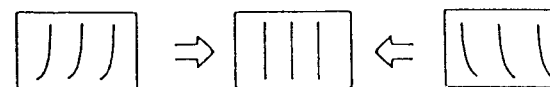


Fig. 5

### 9. OSD POSITION Adjustment

1. Input a 525 color bar signal.
2. Connect the oscilloscope probes to TP300 (H-BLK) and IC104 Pin 14.
3. Adjust **OSD POSITION** so that the gap between the rising edge of the H-BLK waveform and the right edge character (the right edge of the " " for service mode **OSD POSITION**) is :  $57 \mu\text{S} \pm 0.2 \mu\text{S}$

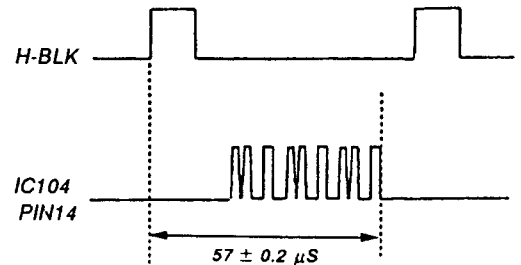


Fig. 6

### 10. WRITING THE ADJUSTMENT

1. Write the adjustment results into memory.

**Note :** If you cut off the power before writing, the results of your adjustments are all lost.

### III. SIGNAL SYSTEM ADJUSTMENT

#### 1. SUB CON ADJUSTMENT

\*This adjustment ought to have completed before HUE adjustment of NTSC 358/443 and PAL.

1. Input a vertical white line signal.  
**Note :** Use a vertical white line signal (525 no burst, H width  $3\mu\text{S}$ , 100IRE).
2. Set :  
CONT..... 80%  
BRT..... 50%
3. Connect the oscilloscope probe to A board CN401 Pin 3.
4. Put the unit into service mode.
5. Adjust SUB BRT .
6. Adjust the pedestal or the distance between the sync tip and white with **SUB CON (4 : 3 NOR)** .

SUB CON (4 : 3 NOR) (Fig. 7).

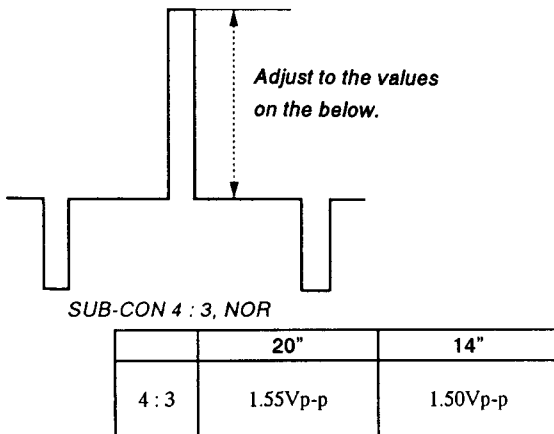


Fig. 7

#### 2. SUB PHASE Adjustment

1. Input a component color bar (R-Y) and EXT SYNC (Beta 0 level signal).
2. Put the unit into Ext Sync mode.
3. Connect the oscilloscope probe to IC404 Pin 30 or TP402.
4. Put the unit into service mode.
5. Adjust **SUB PHASE** to minimize the output waveform (15 mVp-p max.) (Fig. 8)

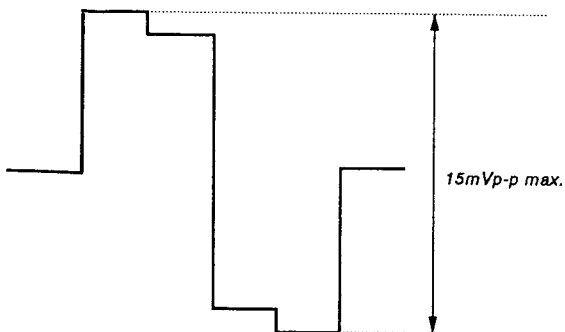


Fig. 8

#### 3. SUB CHROMA Adjustment

1. Input a component color bar (R-Y, Y, B-Y). (Beta 0 level signal).
2. From the menu, make the Component Level Beta 0.
3. Connect the oscilloscope probe to IC404 Pin 30 or TP402.
4. Put the unit into service mode.
5. Using **SUB CHROMA NORMAL** , adjust so that the tops of the waveform line up as in the diagram below. (Fig. 9)

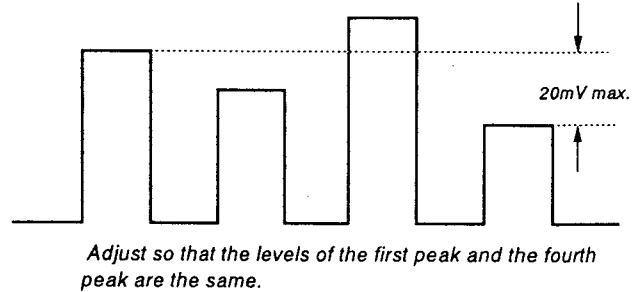


Fig. 9

#### 4. R-Y LEVEL ADJUSTMENT

1. Input a component color bar (R-Y, Y, B-Y). (Beta 0 level signal).
2. From the menu, make the Component Level Beta 0.
3. Connect the oscilloscope probe to IC404 Pin 41 or TP401.
4. Put the unit into service mode.
5. Using **R-Y LEVEL COMPONENT** , adjust so that the tops of the waveform line up as in the diagram below. (Fig. 10)

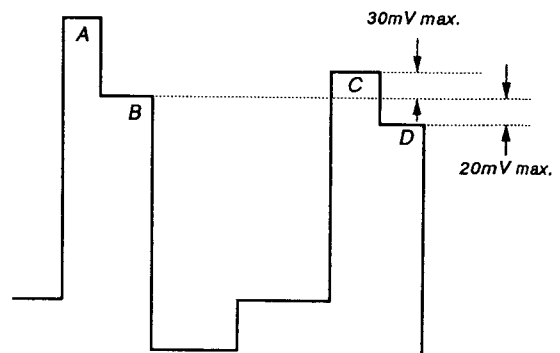


Fig. 10

Adjust so that B=D above (20 mV max.) Check that the difference between D and C is no greater than 30 mV

### 5. SMPTE SUB COLOR Adjustment

1. Input a component color bar (R-Y, Y, B-Y). (SMPTE level signal).
2. From the menu, make the Component Level N10/SMPTE.
3. Connect the oscilloscope probe to IC404 Pin 30 or TP402.
4. Put the unit into service mode.
5. In the same manner as in 4-5, adjust **SUB CHROMA N10/SMPTE**.

### 6. BURST GATE PULSE WIDTH Adjustment

1. Input an NTSC color bar.
2. Connect the oscilloscope probes to TP301 (COMP-SYNC) and Q363 or IC305 Pin 1. (Be careful! IC305 Pin 1 is a high-impedance line.)
3. Put the unit into service mode.
4. Adjust **BGP WIDTH** so that the output waveform has the relationship shown in Fig. 11.

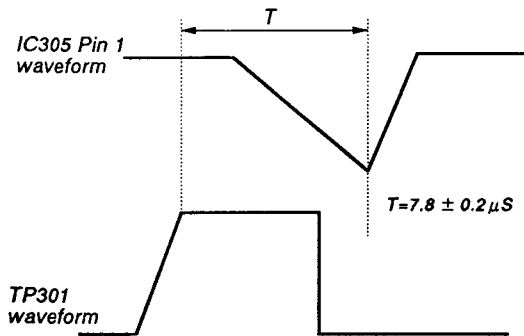


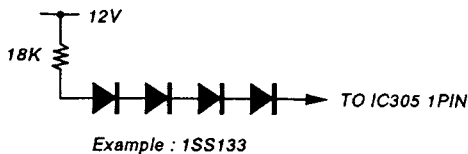
Fig. 11

### 7. VXO Adjustment

1. X'tal 358
  - 1) Input an NTSC color bar.
  - 2) Connect the frequency counter to IC305 Pin 21.
  - 3) Put the unit into service mode.
  - 4) Connect the circuit on the below to IC305 Pin 1.
  - 5) Adjust **CRYSTAL 358** so that the counter reading meets the standard below. (You can also just adjust for where the color flicker stops.)

X'tal 358

Standard level  $3579545 \pm 20\text{Hz}$



(For connecting to Pin 1, have the four diodes as close to Pin 1 as possible to reduce the length of the wires.)

2. X'tal 443
  - 1) Input a 443 NTSC color bar.
  - 2) Connect the frequency counter to IC305 Pin 21.
  - 3) Put the unit into service mode.
  - 4) Connect to IC305 Pin 1 in the same manner as in 1-4).
  - 5) Adjust Crystal 443 in the same manner as in 1-5).

X'tal 443

Standard level  $4433619 \pm 20\text{Hz}$

### 8. NTSC COLOR DEMODULATION Adjustment

1. NTSC PHASE
  - 1) Input NTSC color bar signal.
  - 2) Connect the oscilloscope probe to TP306.
  - 3) Set to service mode.
  - 4) Adjust **NTSC PHASE** so that the output waveform burst section becomes a straight line. (Fig. 12)

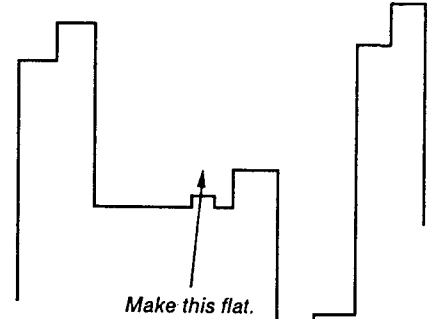


Fig. 12

### 2. NT358 B-Y PHASE

The phase adjustment must be carried out before the chroma adjustment.

- 1) Input an NTSC color bar. (Input only the R-Y component. Have B-Y and Y off.)
- 2) Connect the oscilloscope probe to TP305.
- 3) Put the unit into service mode.
- 4) Adjust **B-Y PHASE NTSC 358** so that the color components form a straight line.

### 3. NT358 CHROMA (NORMAL)

- 1) Input an NTSC color bar.
- 2) Connect the oscilloscope probe to IC404 Pin 30 or TP402.
- 3) Put the unit into service mode.
- 4) Using **NTSC CHROMA NORMAL**, adjust so that the tops of the waveform line up as in the diagram below. (Fig. 13)

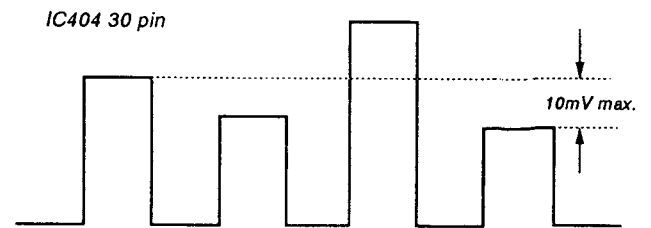


Fig. 13

Adjust so that the levels of the first peak and the furthest peak are the same.



#### 4. NTSC 358 R-Y LEVEL

- 1) Input an NTSC358 color bar.
- 2) Connect the oscilloscope probe to IC404 Pin 41 or TP401.
- 3) Put the unit into service mode.
- 4) Using [R-Y LEVEL NTSC 358], adjust so that the tops of the waveform line up as in the diagram below. (Fig. 14)

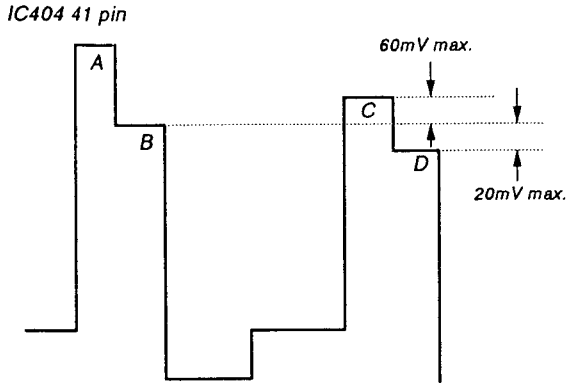


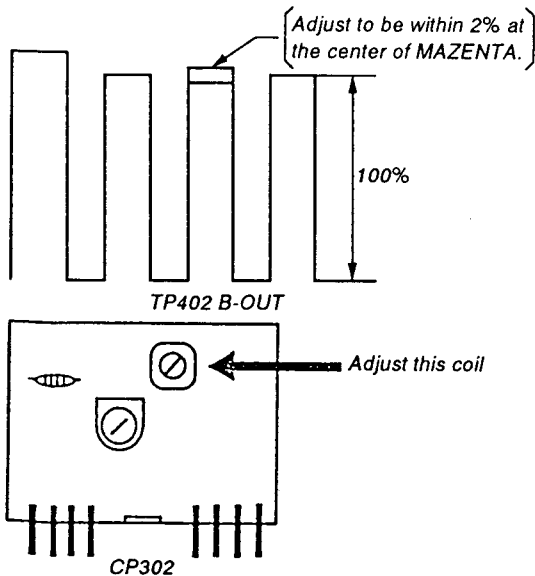
Fig. 14

Adjust so that B=D above (20 mV max.) Check that the difference between B and C is no greater than 60 mV.

#### 5. PAL LINE CRAWLING

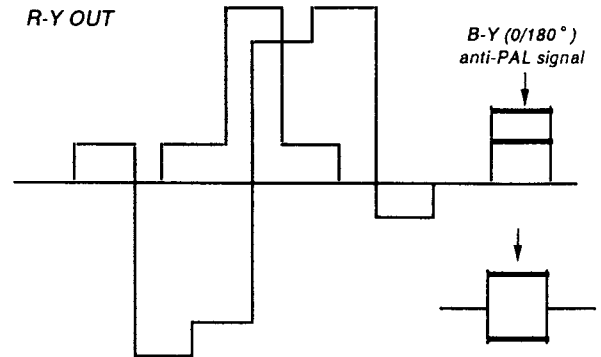
Note : Perform before PAL PHASE ADJUSTMENT.

- 1) Input a PAL color bar.
- 2) Connect the oscilloscope probe to TP402 (B-OUT)
- 3) Adjust the coil of CP302 so that the shaking of MAZENTA wave form become minimum.  
Do not touch the RV at this time.



#### 6. PAL PHASE (NORMAL)

- 1) Input a PAL SP color bar.
- 2) Connect the oscilloscope probe to TP306.
- 3) Put the unit into service mode.
- 4) Adjust [PHASE PAL NOR] so that the B-Y anti-PAL signal waveform is 0. (Fig. 15)



\* Varies every H, although slightly, so adjust so that the average is 0.

Fig. 15

#### 7. PAL B-Y PHASE

- 1) Input a PAL SP color bar.
- 2) Connect the oscilloscope probe to TP305.
- 3) Put the unit into service mode.
- 4) Adjust [B-Y PHASE PAL] so that the B-Y anti-PAL signal waveform is 0. (Fig. 16)

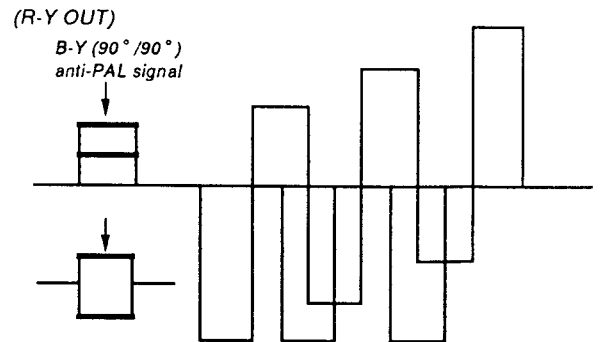


Fig. 16 \* Varies every H, although slightly, so adjust so that the average is 0.

## 5-2. G BOARD ADJUSTMENT

### 1. Checking the output lines

Check that the output lines meet the standards below.

15V	$16.0 \pm 1.0V$
5V(A)	$5.0 \pm 0.3V$
+B	$115 \pm 0.1V$
5V	$5.0 \pm 0.5V$

### 8. PAL CHROMA (NORMAL)

- 1) Input a PAL color bar.
- 2) Connect the oscilloscope probe to IC404 Pin 30 or TP402.
- 3) Put the unit into service mode.
- 4) Adjust **CHROMA PAL NOR** so that the tops of the waveform line up. (Fig. 17)

Adjust so that the B and D peaks are the same.

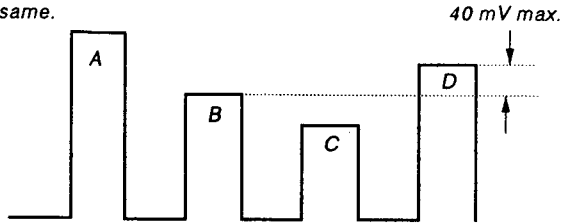


Fig. 17

### 9. PAL R-Y LEVEL

- 1) Input a PAL color bar.
- 2) Connect the oscilloscope probe to IC404 Pin 41 or TP401.
- 3) Put the unit into service mode.
- 4) Adjust **R-Y LEVEL PAL** so that the tops of the waveform line up as in the diagram below. (Fig. 18)

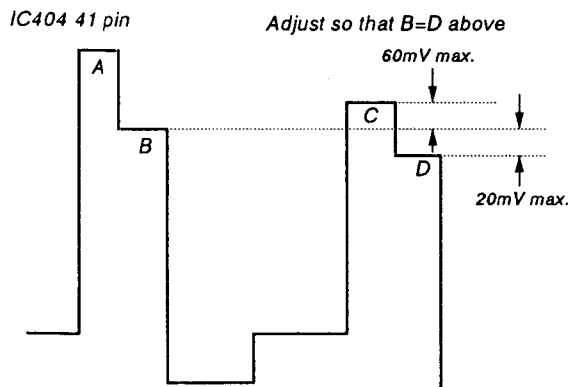


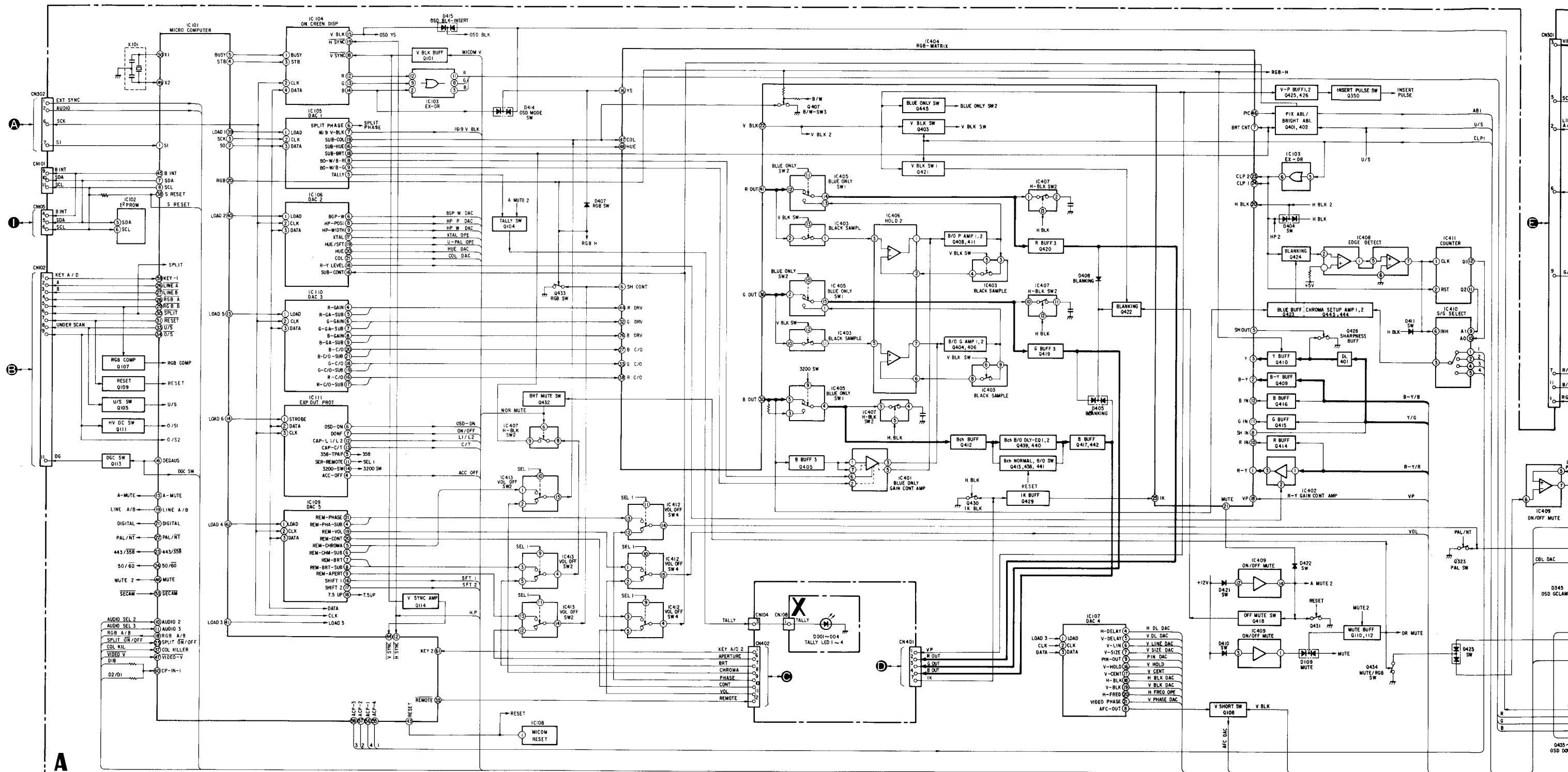
Fig. 18

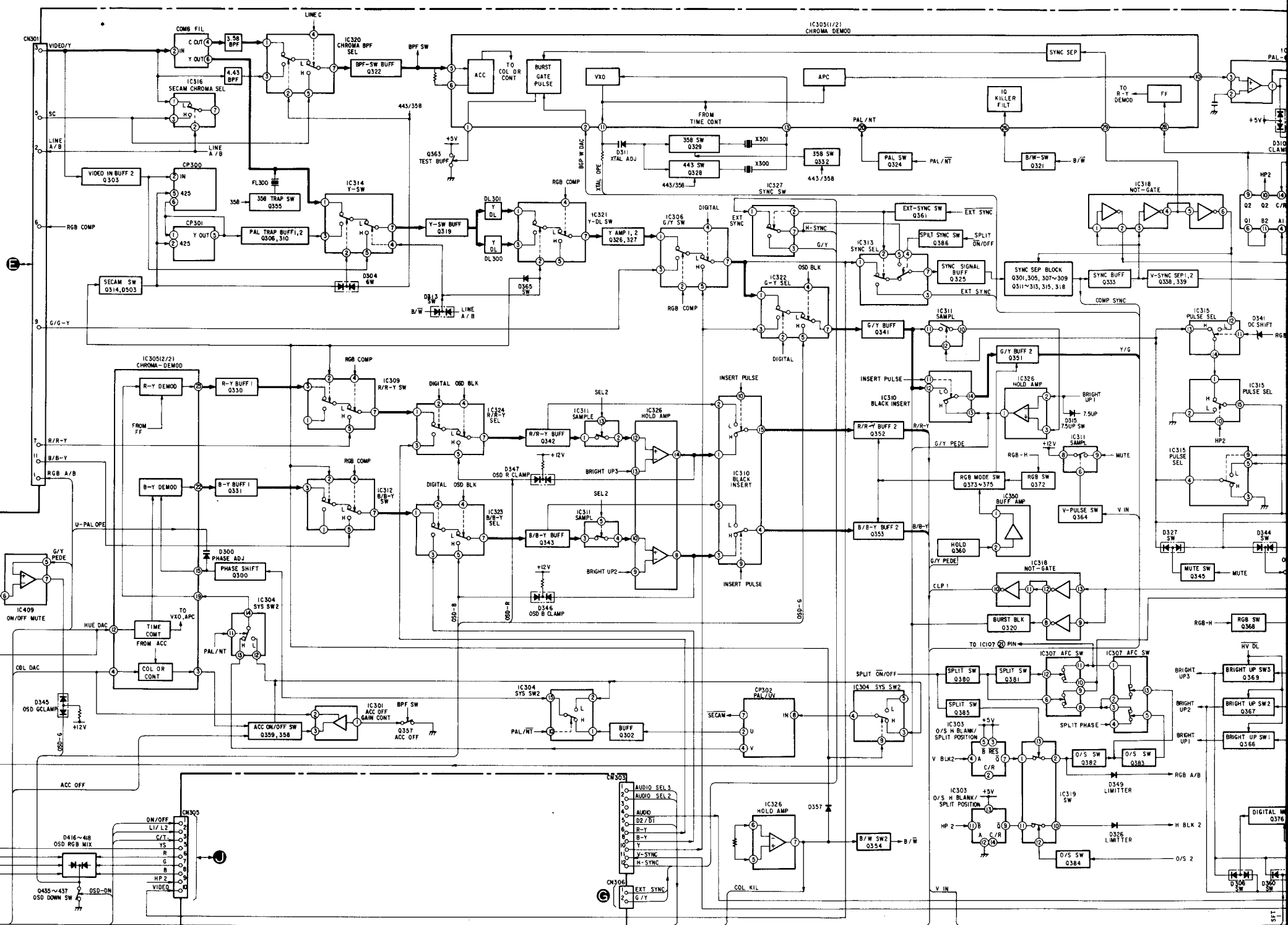
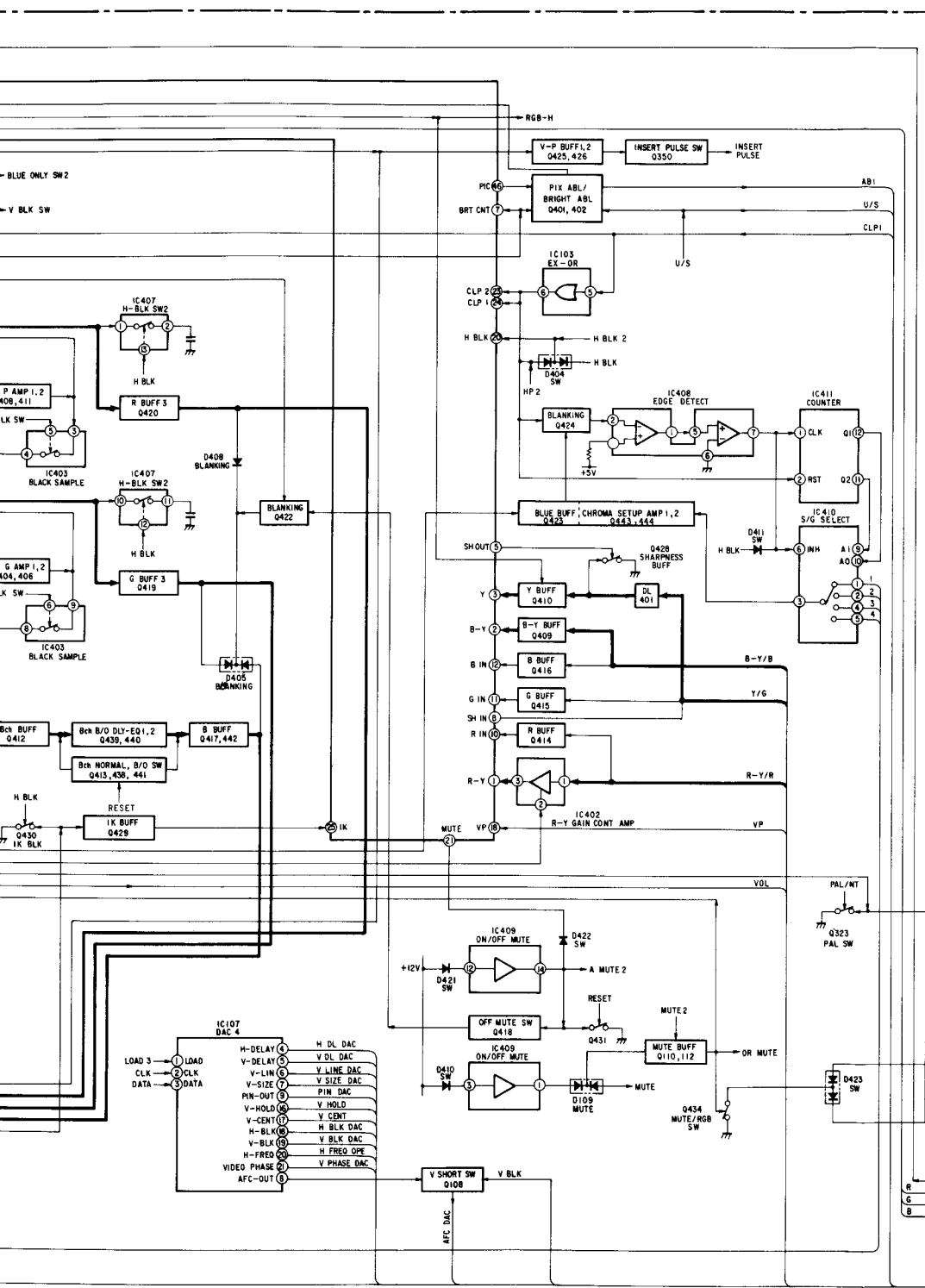
### 9. Writing the adjustment result

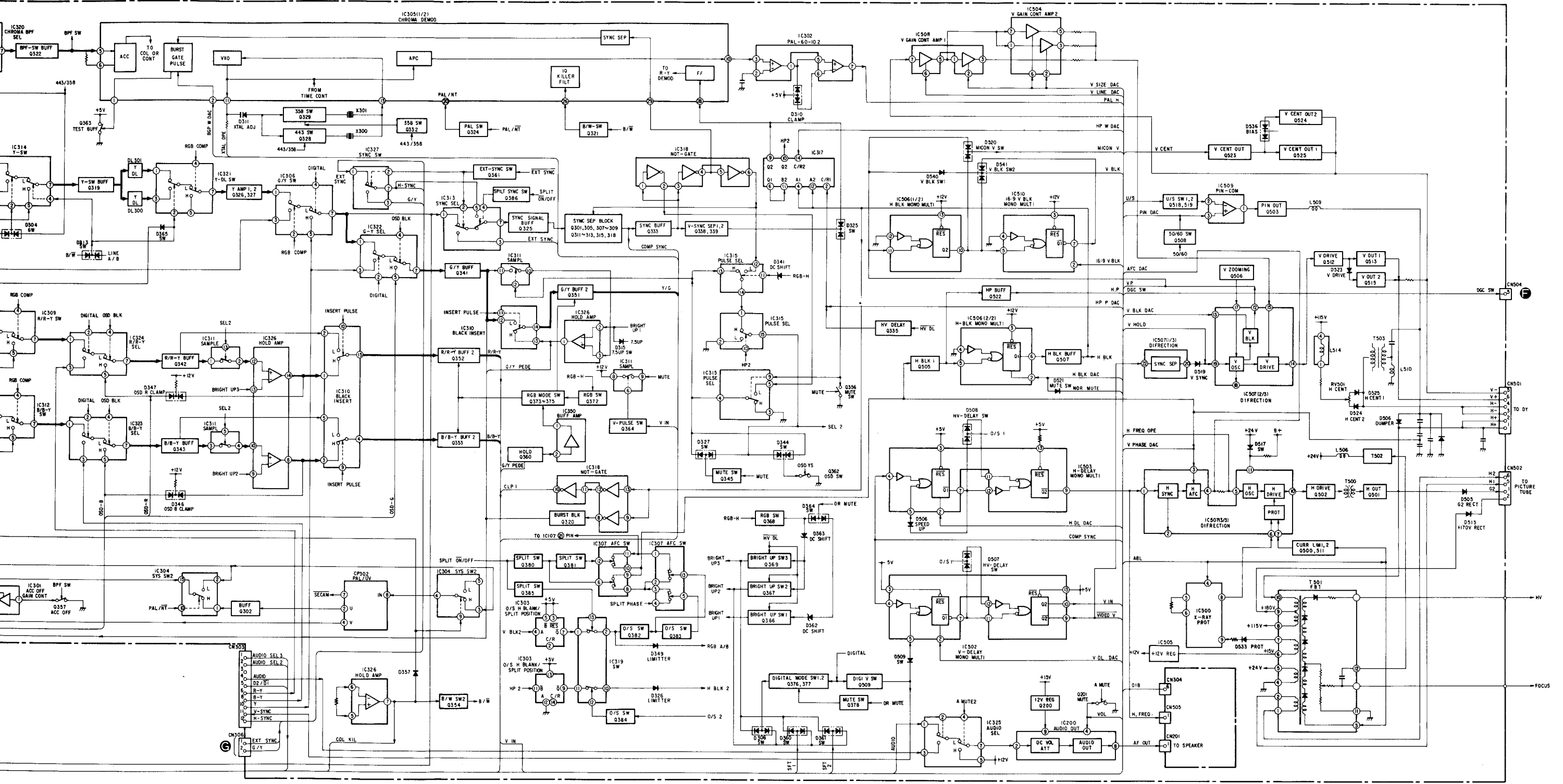
1. Write the adjustment results into memory.

# SECTION 6 DIAGRAMS

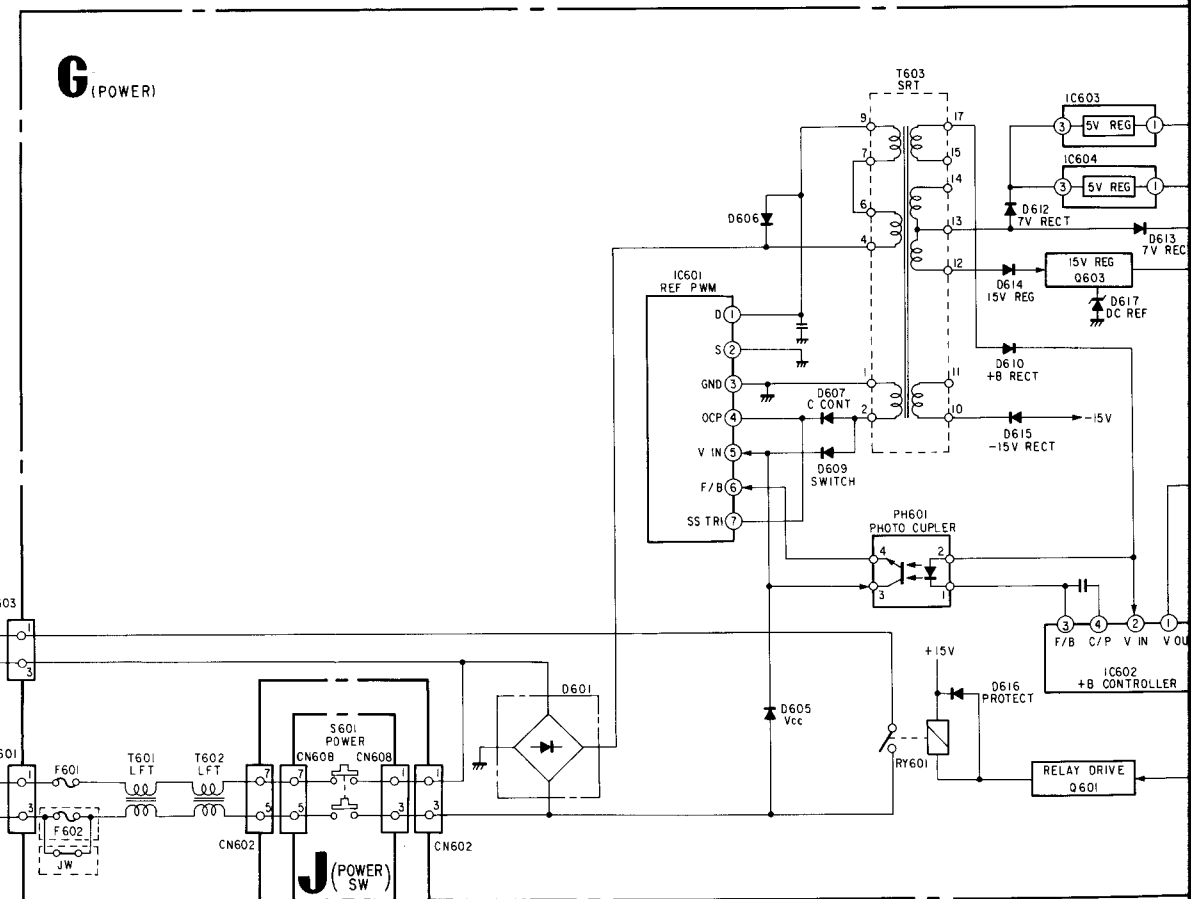
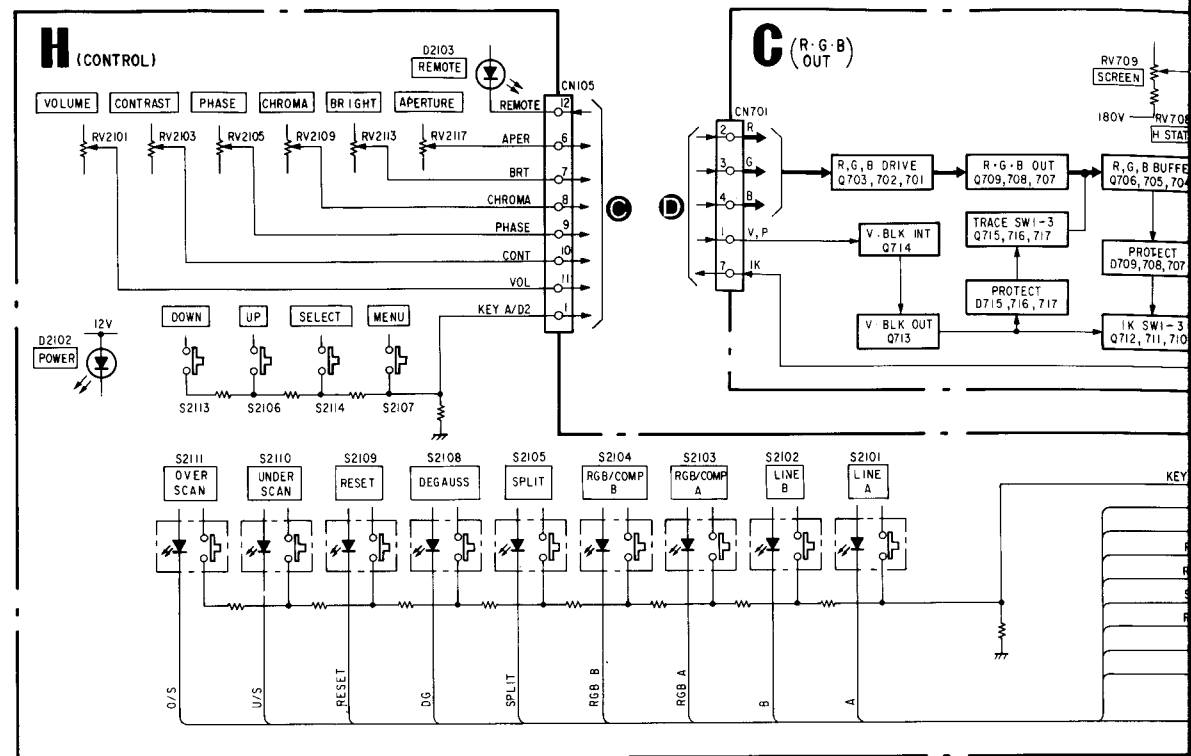
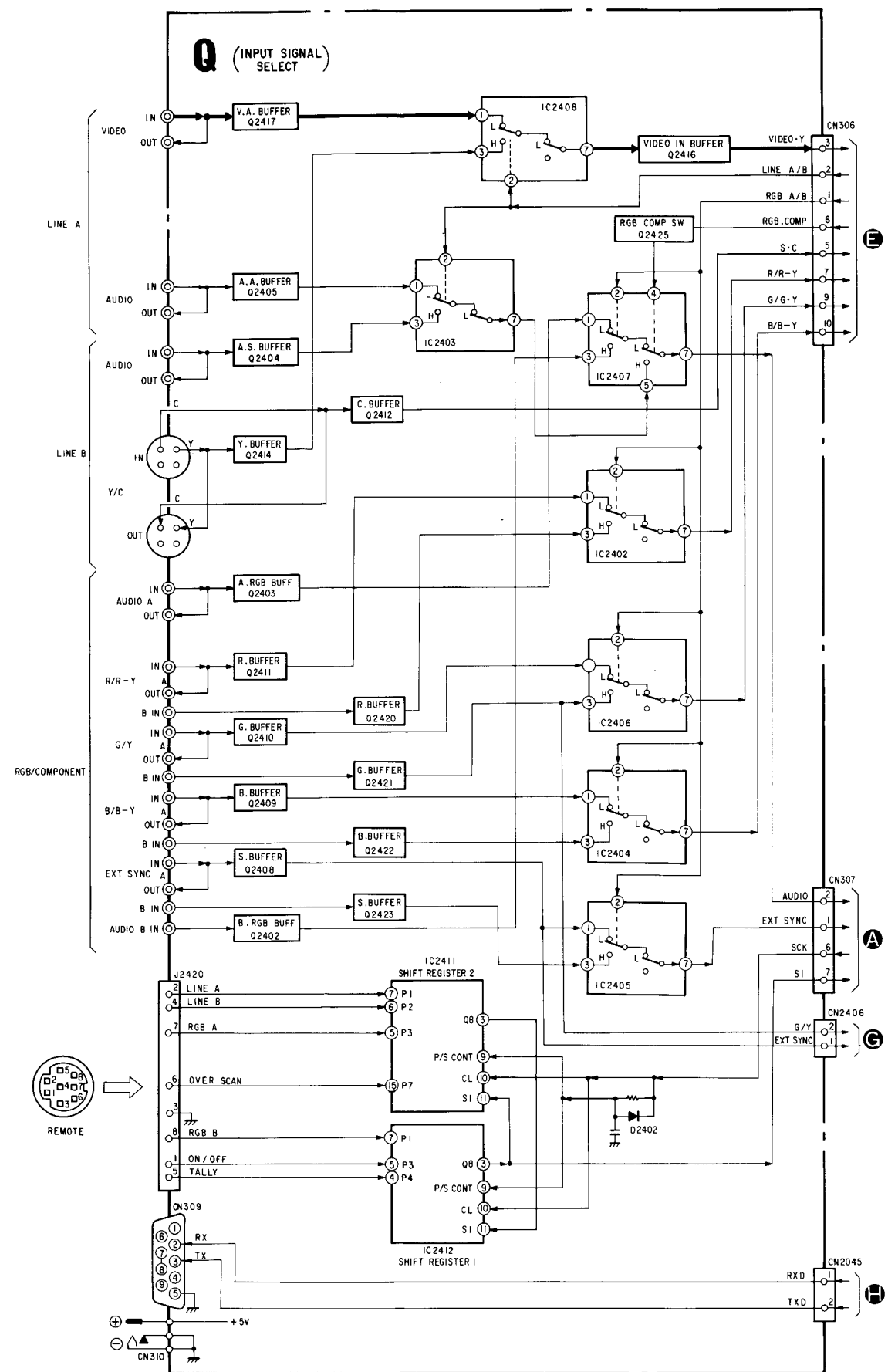
## 6-1. BLOCK DIAGRAMS (1)

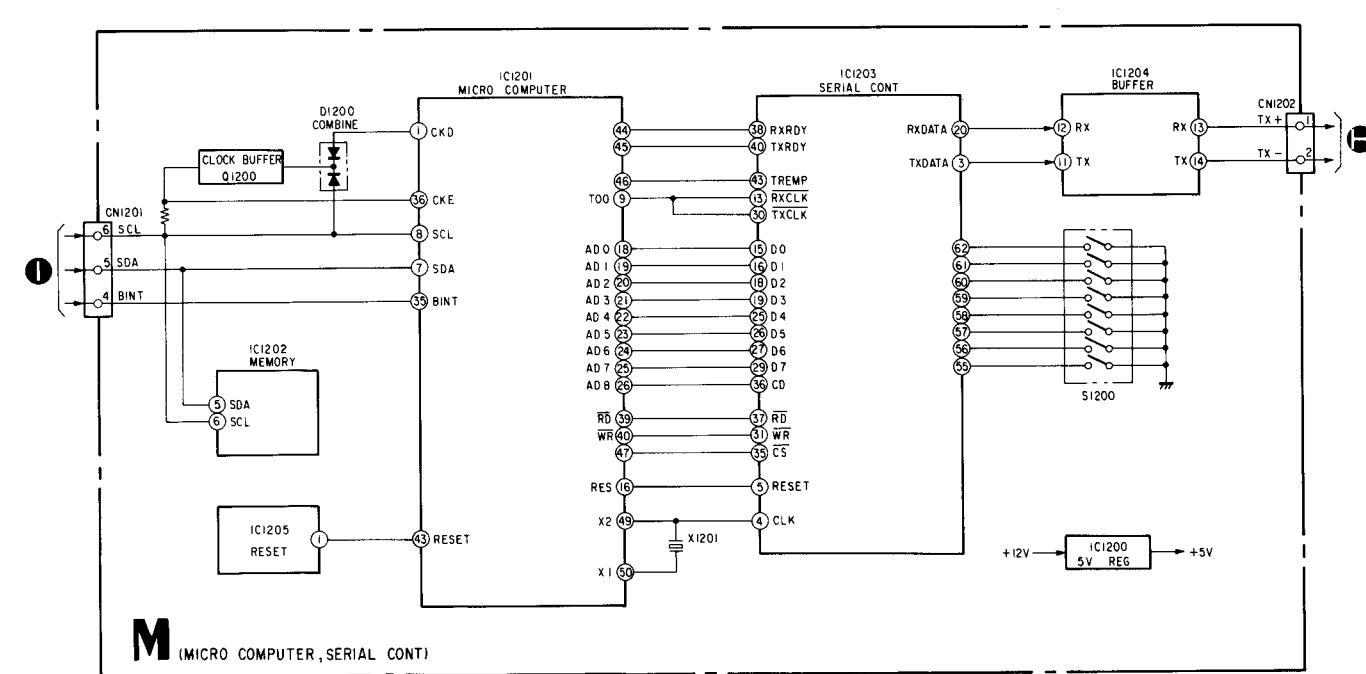
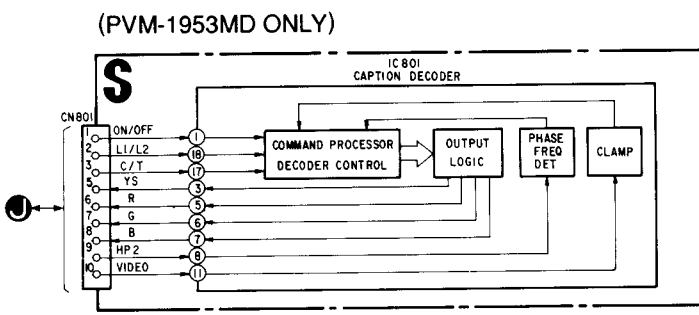
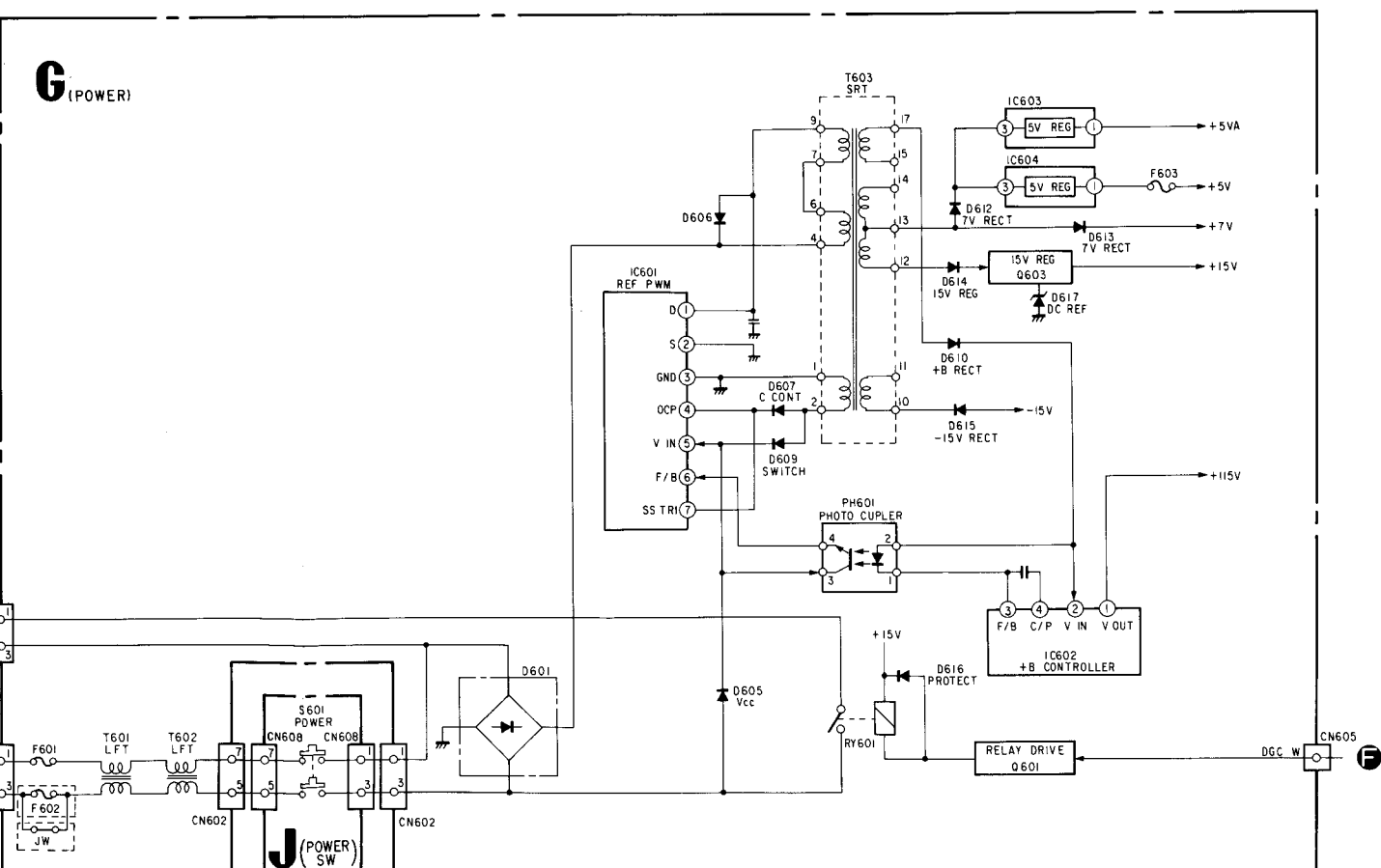
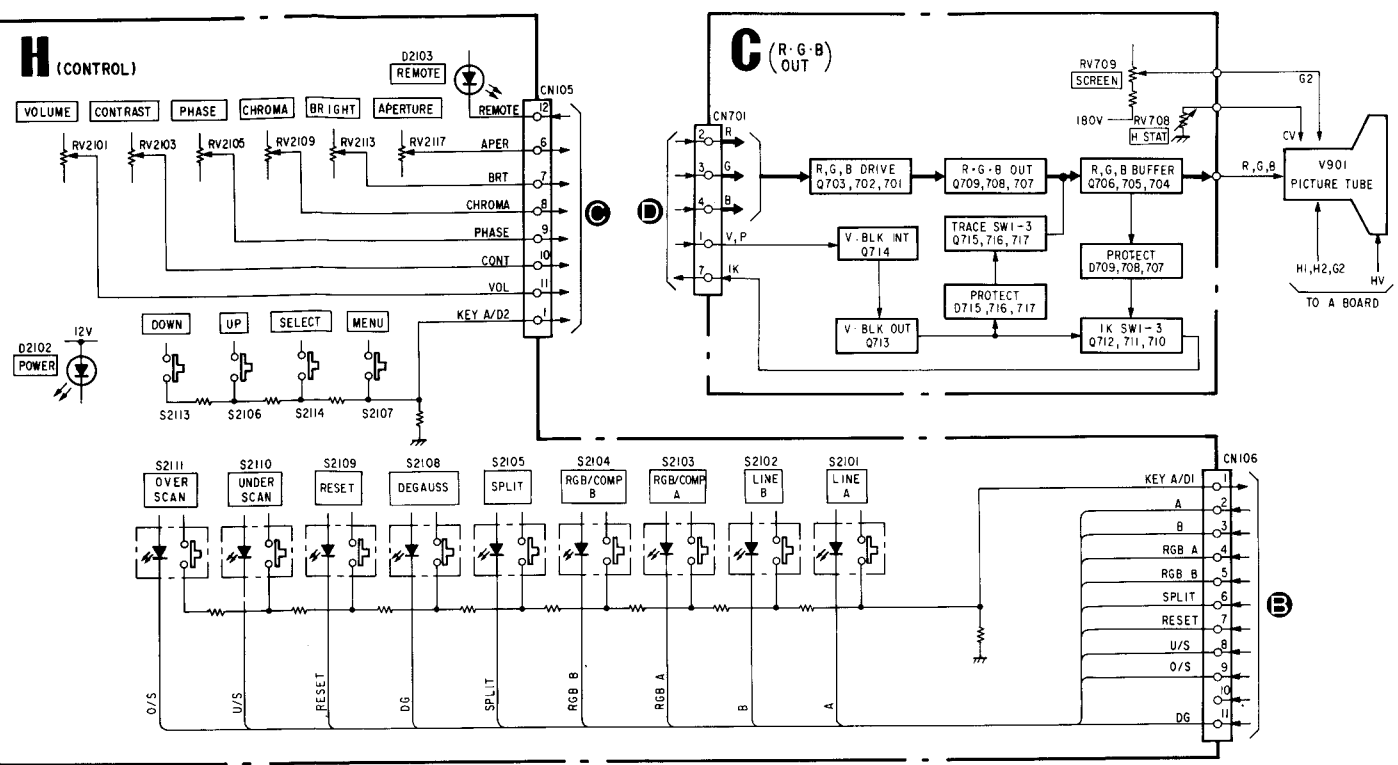




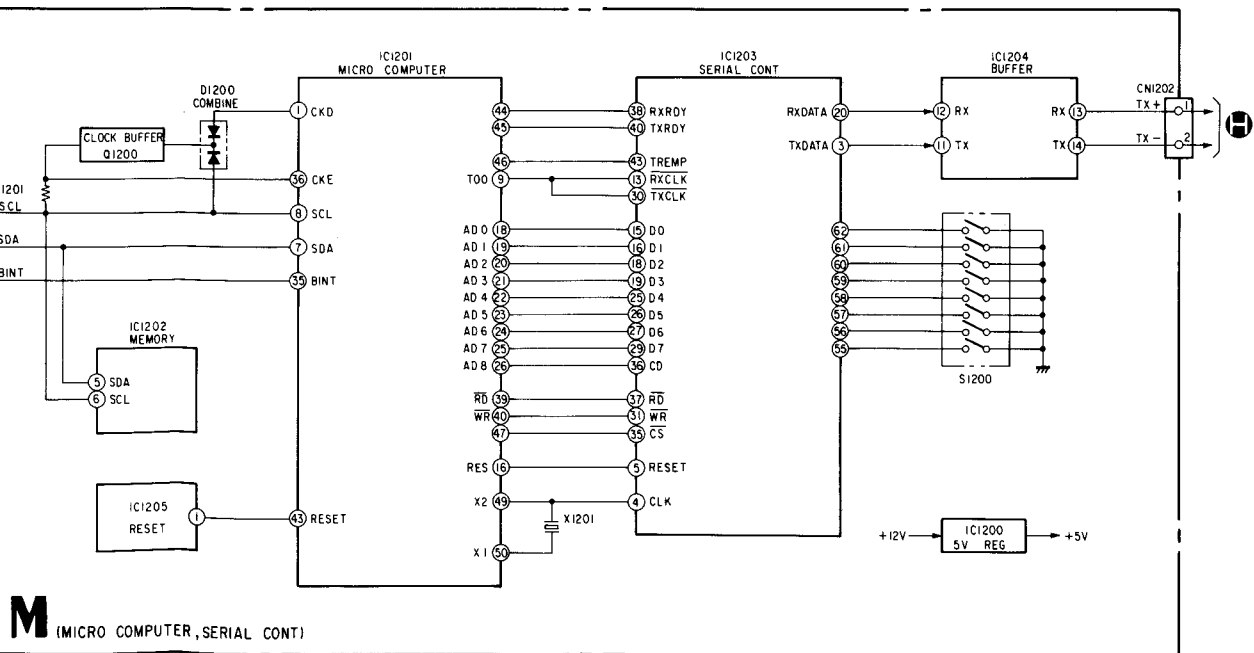
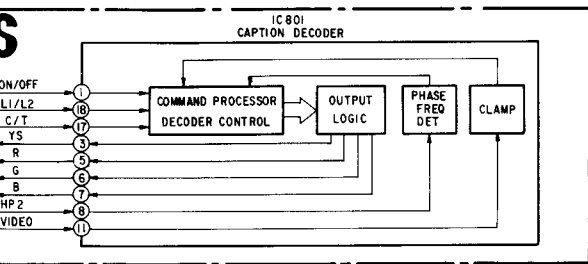


**BLOCK DIAGRAMS (2)**





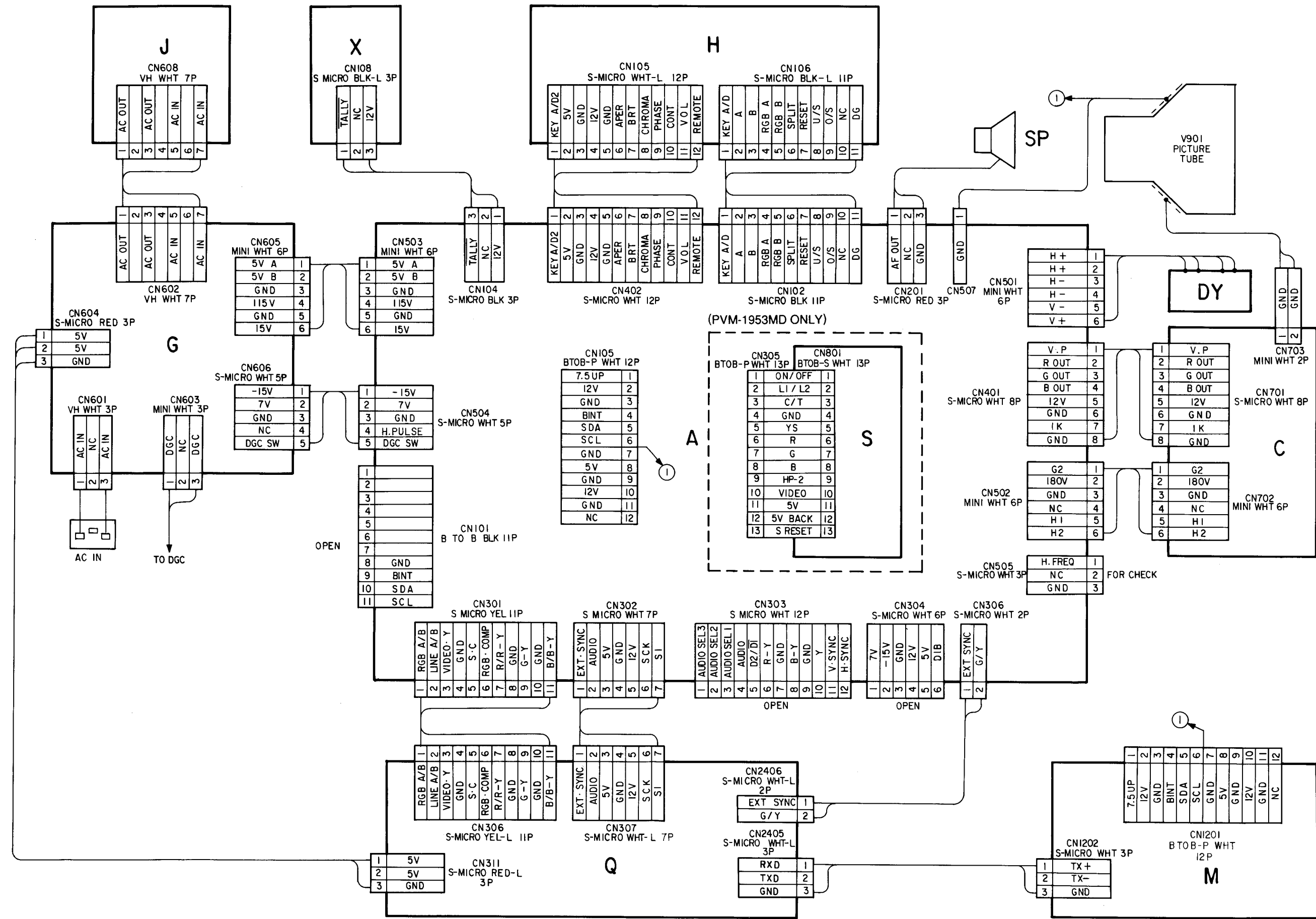
(PVM-1953MD ONLY)



M (MICRO COMPUTER, SERIAL CONT)



6-2. FRAME SCHEMATIC DIAGRAMS



6-3. CIRCUIT

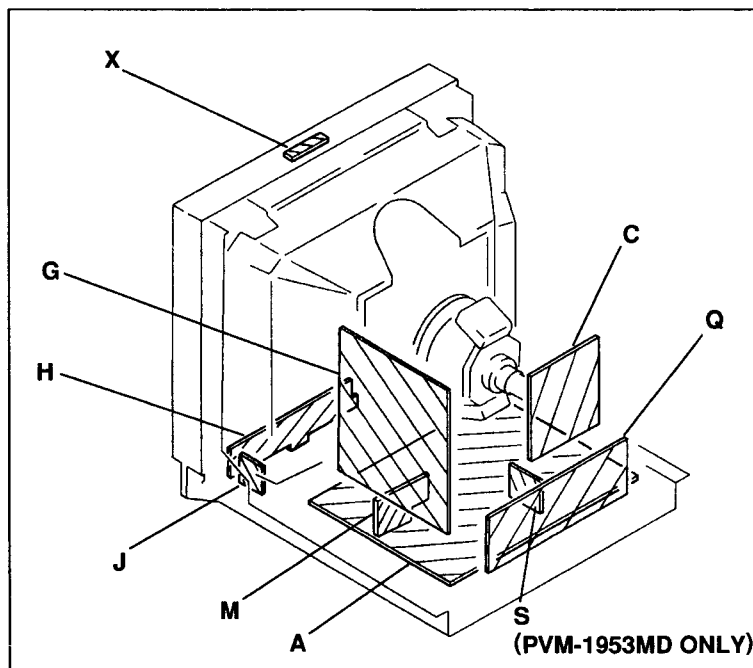
6-4. PRINTED

- Note:**
- All capacitors are not indicated except where noted.
  - All electrolytics are kΩ=1000Ω, MΩ=100000Ω.
  - All resistors are non-inductive unless otherwise noted.
  - The component values should be carefully checked regarding X-ray.
  - Should replacement be used.
  - When replacing adjustments indicate the component specified value is adjustment.

IC500, IC507
C506, C512,
R506, R508,
R519, R551,
T501
IC602, C603

**Note: The part**

6-3. CIRCUIT BOARDS LOCATION



6-4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note:

- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\text{F}$  50WV or less are not indicated except for electrolytics.
- All electrolytics are in 50V unless otherwise specified.
- All resistors are in ohms, 1/4W in resistance, 1/10W in chip resistance.  $k\Omega=1000\Omega$ ,  $M\Omega=1000k\Omega$
- : nonflammable resistor.
- : fusible resistor.
- $\triangle$  : internal component.
- : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The components identified by in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by , make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by and repeat the adjustment until the specified value is achieved. (Refer to R1535, R1536 adjust on Page 36.)
- When replacing the part in below table, be sure to perform the related adjustment.

Part replaced (■)	Adjustment (▣)
IC500, IC507, Q500, Q501, D501, D533, C506, C512, C513, C523, C549, C592, R506, R508, R515, R516, R517, R518, R519, R551, R1535, R1536, R1537, T501 .....(A BOARD) IC602, C603 .....(G BOARD)	R1535, R1536 (HOLD-DOWN)

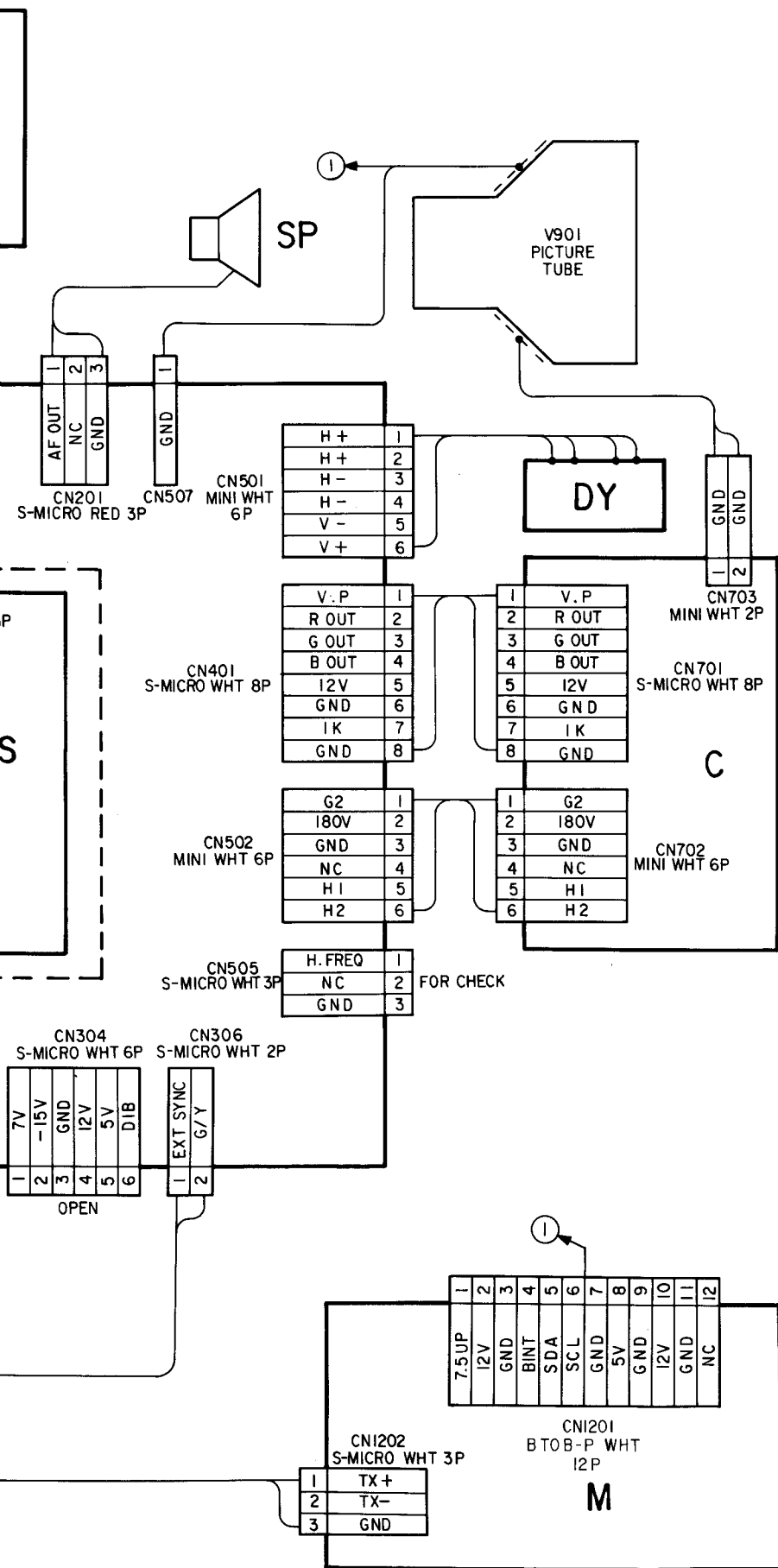
Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.

- All voltage are in V.
- Voltage are dc with respect to ground unless otherwise noted.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- : B + bus.
- - - : B - bus.
- : Signal path.
- No mark : with PAL color-bar signal is received or common voltage.
- For the respective voltage ratings in NTSC 3.58, S-VIDEO and ANALOG RGB modes, see the table.

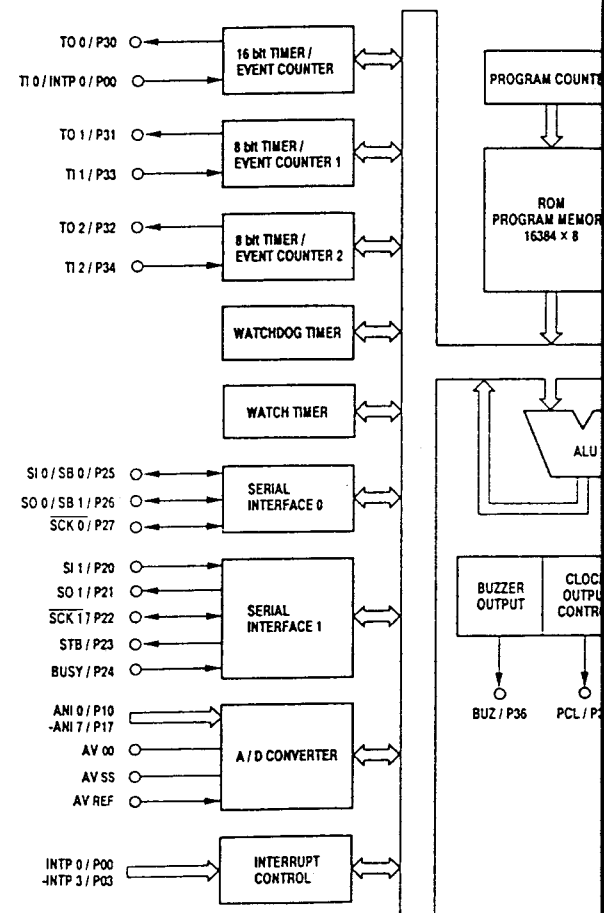
Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

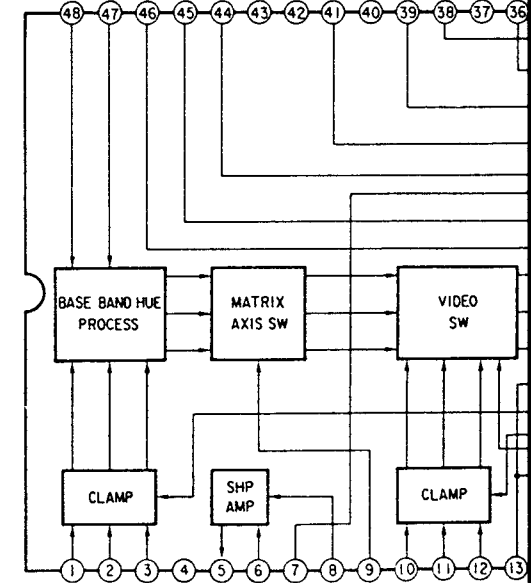
Note: Les composants identifiés par une trame et par une marque sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.

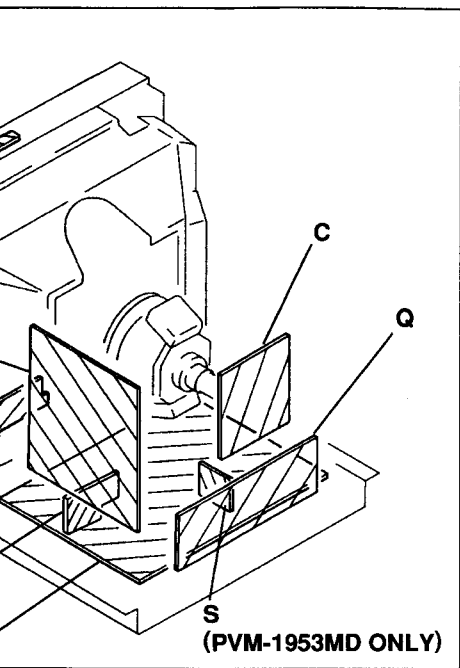


A BOARD IC101  $\mu\text{PD78013YCW}$



A BOARD IC404 CXA1478





**MATIC DIAGRAMS**

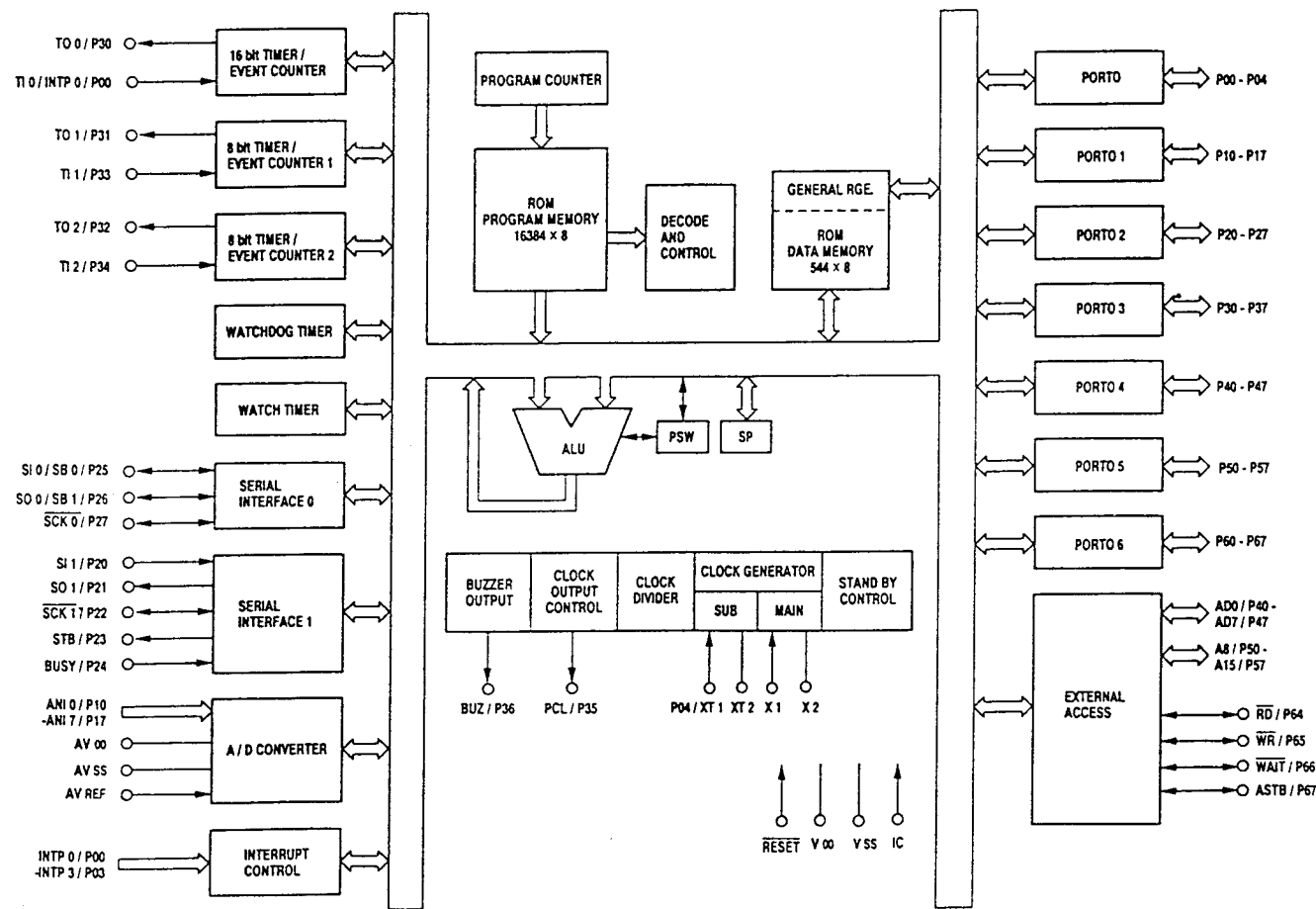
- All voltage are in V.
- Voltage are dc with respect to ground unless otherwise noted.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- **—** : B + bus.
- **- - -** : B - bus.
- **→** : Signal path.
- No mark : with PAL color-bar signal is received or common voltage.
- For the respective voltage ratings in NTSC 3.58, S-VIDEO and ANALOG RGB modes, see the table.

**Reference Information**

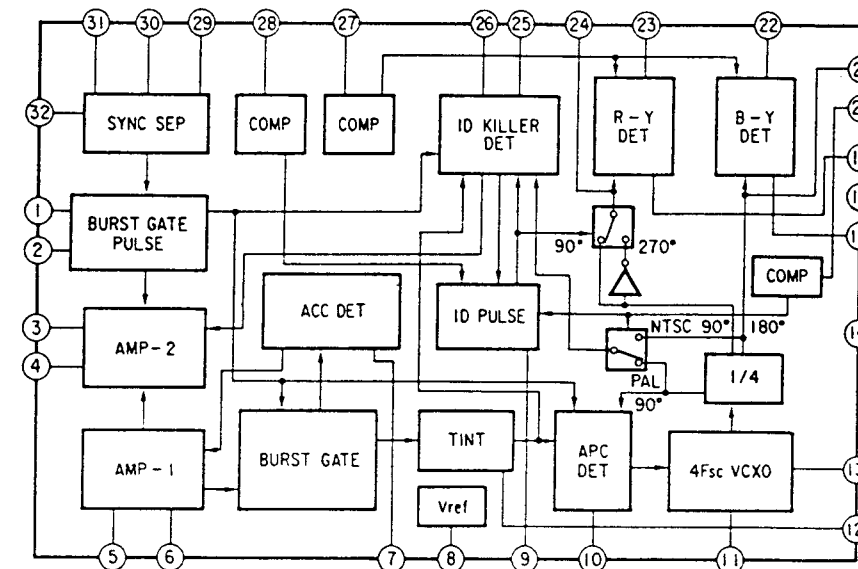
RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

**Note:** Les composants identifiés par une trame et par une marque sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.

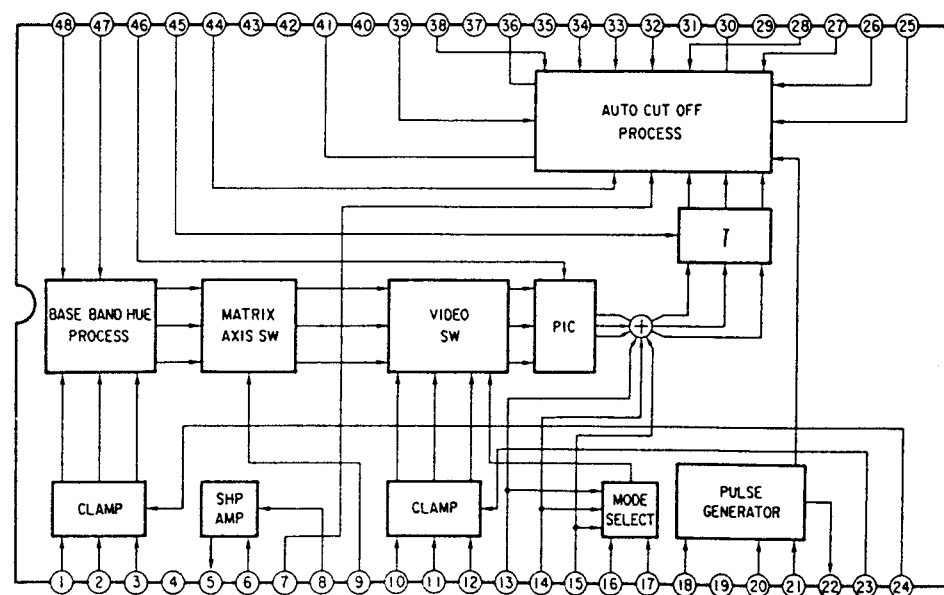
**A BOARD IC101  $\mu$ PD78013YCW**



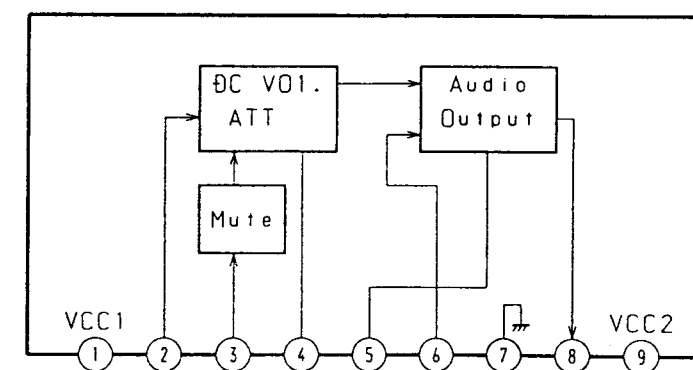
**A BOARD IC305 M51279FP**



**A BOARD IC404 CXA1478**



**A BOARD IC200 AN5265**

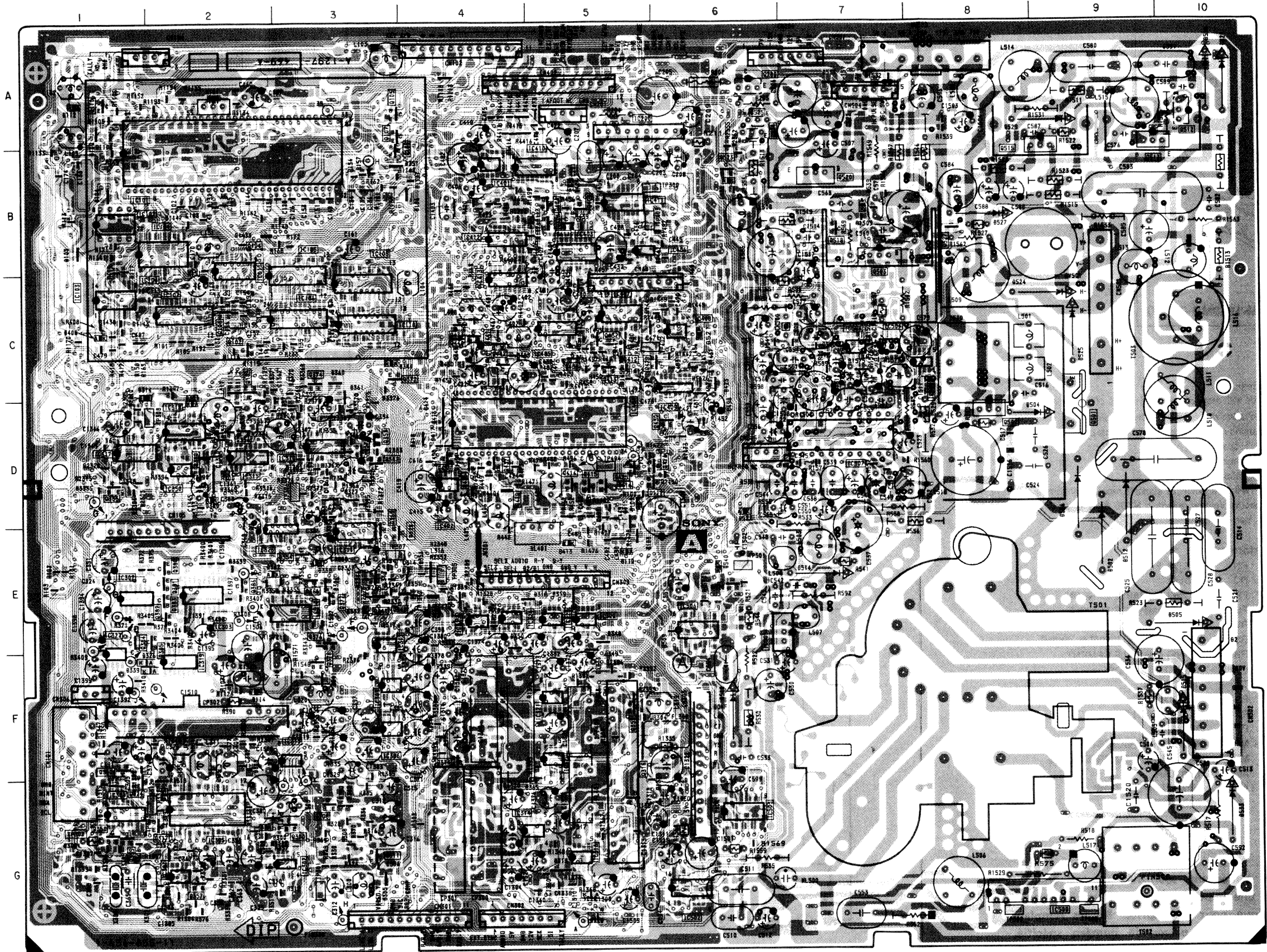




**A BOARD  
(COMPONENT SIDE)**

IC	Q108 C-2 Q109 B-3 Q110 A-1 Q112 D-6 Q200 A-6 Q300 G-3 Q308 G-3 Q311 G-3 Q314 F-4 Q316 G-5 Q320 E-3 Q324 G-1 Q335 D-1 Q341 E-3 Q342 E-3 Q343 E-4 Q353 D-3 Q354 E-3 Q355 F-5 Q356 D-2 Q357 G-2 Q358 G-1 Q359 G-1 Q360 D-2 Q362 D-3 Q366 E-3 Q372 D-3 Q373 D-3 Q374 C-3 Q376 E-3 Q377 E-3 Q378 F-3 Q380 E-2 Q381 E-2 Q382 E-2 Q383 E-2 Q384 E-1 Q385 E-2 Q386 E-2 Q404 B-5 Q406 B-5 Q408 B-5 Q410 D-4 Q411 B-5 Q412 C-5 Q413 C-5 Q414 D-5 Q415 D-5 Q416 D-5 Q425 D-5 Q426 D-6 Q429 C-6 Q430 D-6 Q432 C-5 Q433 C-4 Q435 D-4 Q436 D-4 Q437 D-4 Q438 C-5 Q440 C-4 Q441 C-4 Q442 C-4 Q445 C-5 Q501 D-9 Q502 D-8 Q503 B-7 Q512 A-10 Q513 B-9 Q515 B-9 Q518 B-7 Q520 B-7	C-2 B-3 A-1 D-6 A-6 G-3 G-3 F-4 G-5 E-3 G-1 D-1 E-3 E-3 D-3 G-2 G-1 D-2 D-3 E-3 D-3 C-3 E-3 E-3 E-2 E-2 E-1 E-2 E-2 B-5 B-5 B-5 D-4 B-5 C-5 D-5 D-5 D-5 D-6 C-6 D-6 C-5 C-4 D-4 D-4 C-5 C-4 C-4 C-4 C-5 D-9 D-8 B-7 A-10 B-9 B-9 B-7 B-7	Q523 B-6 Q524 A-6 Q525 A-6 Q527 B-8	<b>DIODE</b> D100 D-5 D104 B-1 D105 B-1 D106 B-4 D108 E-5 D109 A-1 D113 B-5 D114 F-2 D300 G-2 D305 G-3 D306 E-3 D308 F-2 D313 G-5 D314 C-1 D324 G-5 D326 F-1 D327 D-3 D332 E-3 D335 G-5 D338 E-3 D339 F-1 D341 C-3 D360 C-3 D361 C-3 D362 E-3 D365 G-4 D381 D-2 D406 C-1 D414 D-4 D415 D-5 D416 D-4 D417 D-4 D418 D-4 D423 C-6 D424 B-5 D502 E-9 D504 D-9 D505 E-10 D506 D-9 D510 F-6 D512 D-9 D514 E-7 D515 F-10 D520 E-6 D521 C-6 D522 D-6 D524 C-9 D525 C-9 D527 B-8 D528 A-10 D529 A-9 D530 A-10 D533 G-10 D535 B-6 D537 A-7 D538 D-6 D539 B-7 D540 E-6 D541 F-3	<b>VARIABLE RESISTOR</b> RV501 B-9
<b>TRANSISTOR</b>	Q102 C-2 Q103 C-2 Q104 B-2 Q105 A-3 Q107 A-3				

— A BOARD — < Component Side >



**A**

MICON, RGE  
ON SCREEN  
VOL OFF SW

< Con



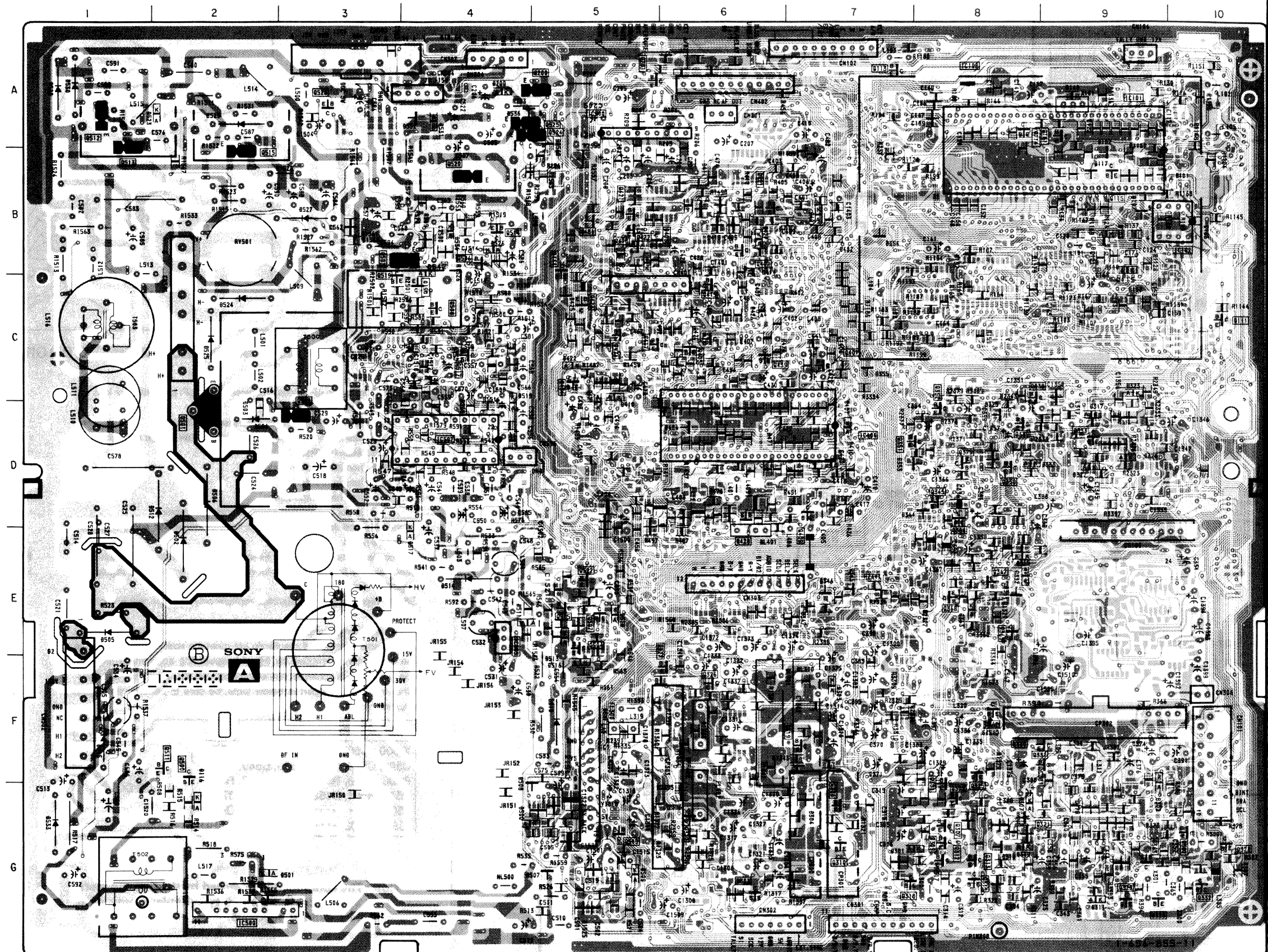
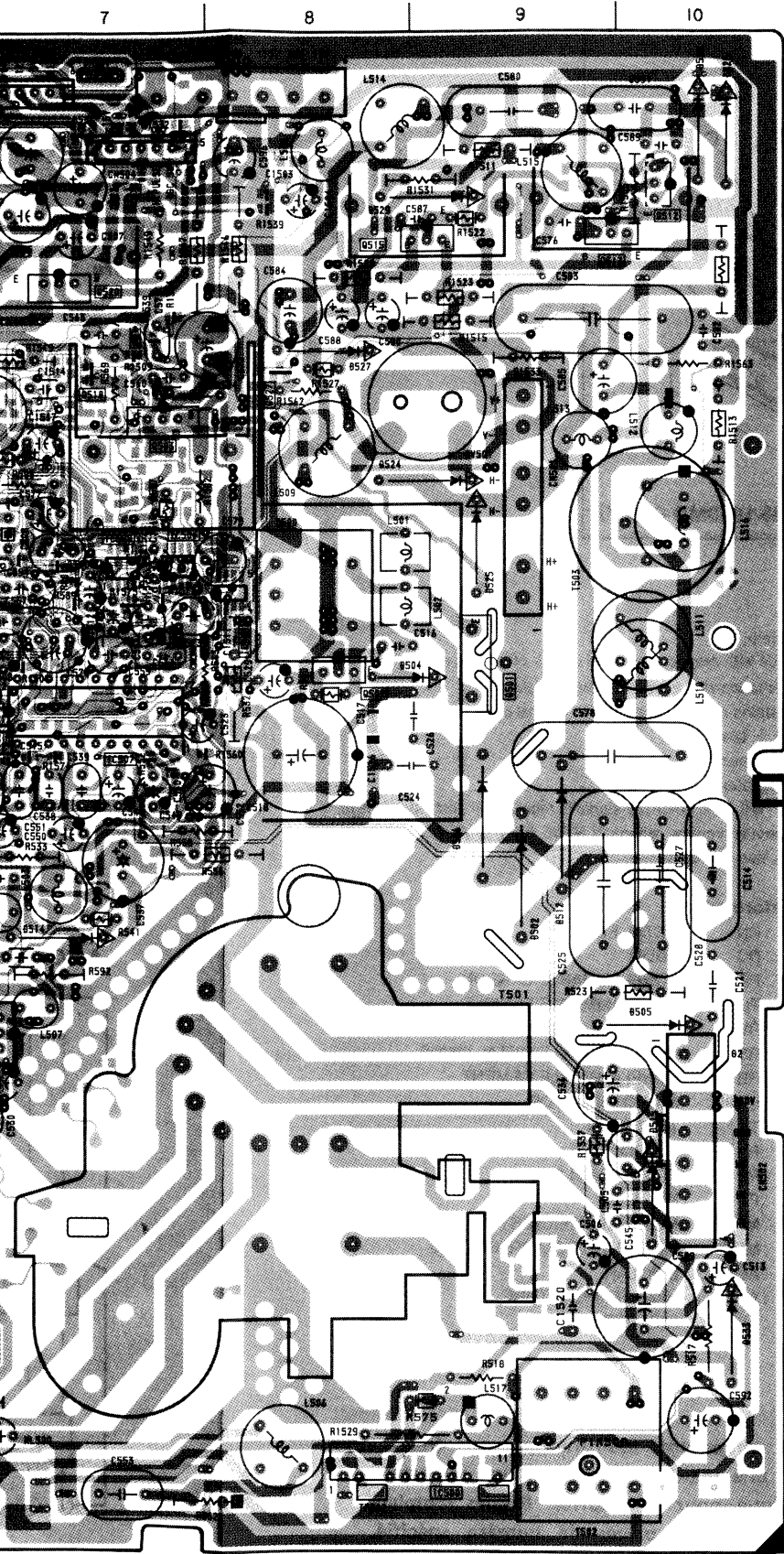
**A**

MICON, RGB-MATRIX, DAC,  
ON SCREEN DISPLAY, ON/OFF MUTE,  
VOL OFF SW, BLACK-SAMPLING, RGB SW

CHROMA DEMOD, SECAM CHROMA SELECT, SYSTEM SW,  
SYNC SELECT, B/B-Y SW, R/R-Y SW, G/Y SW,  
AUDIO SELECT, SECAM DECODER, HOLD AMP

H/V OUT, DEFLECTION SYSTEM,  
AUDIO OUT

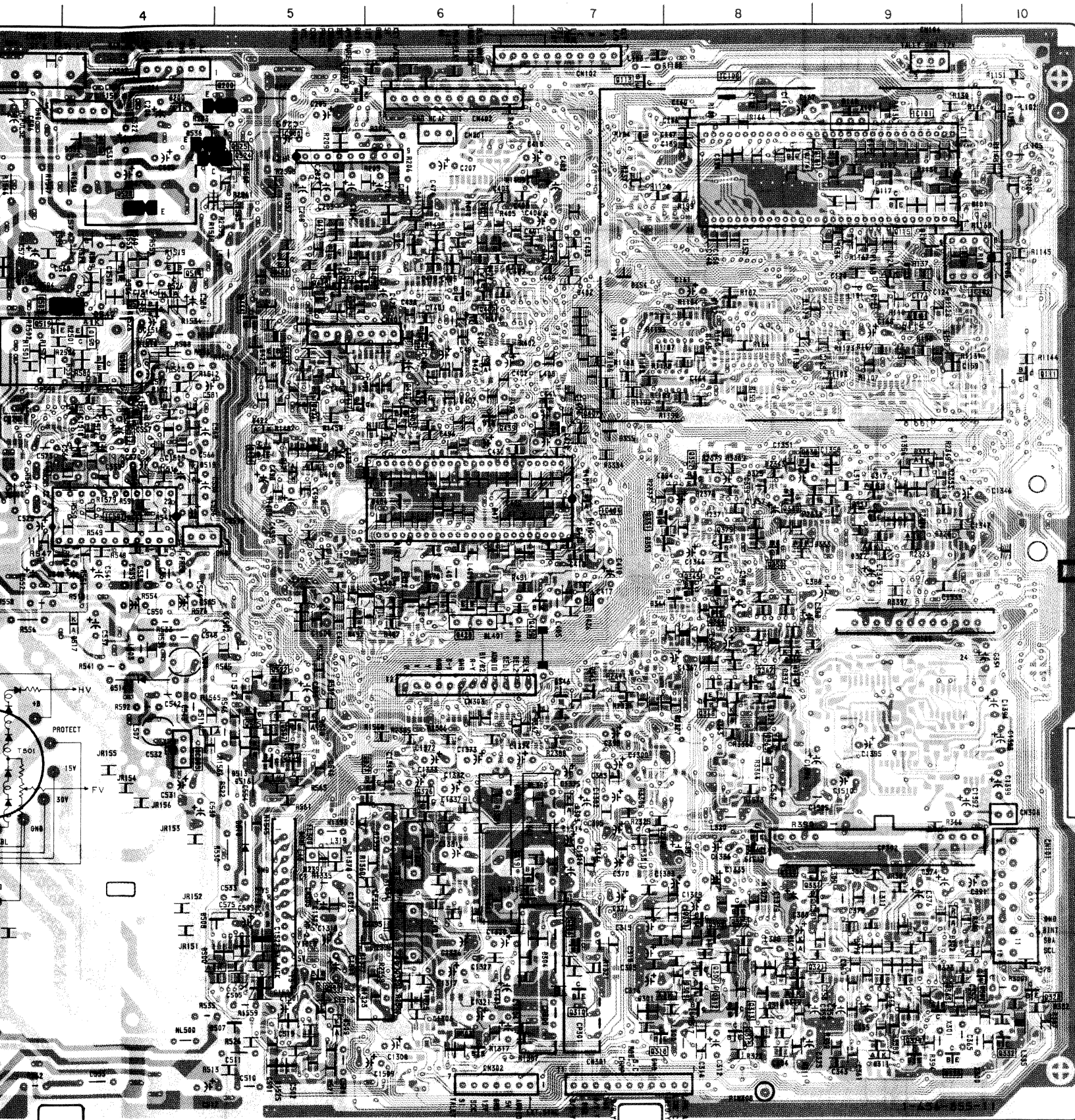
< Conductor Side >





MA DEMOD, SECAM CHROMA SELECT, SYSTEM SW,  
SELECT, B/B-Y SW, R/R-Y SW, G/Y SW,  
O SELECT, SECAM DECODER, HOLD AMP

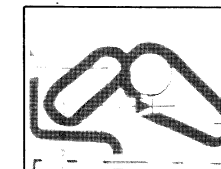
H/V OUT, DEFLECTION SYSTEM,  
AUDIO OUT



**A BOARD  
(CONDUCTOR SIDE)**

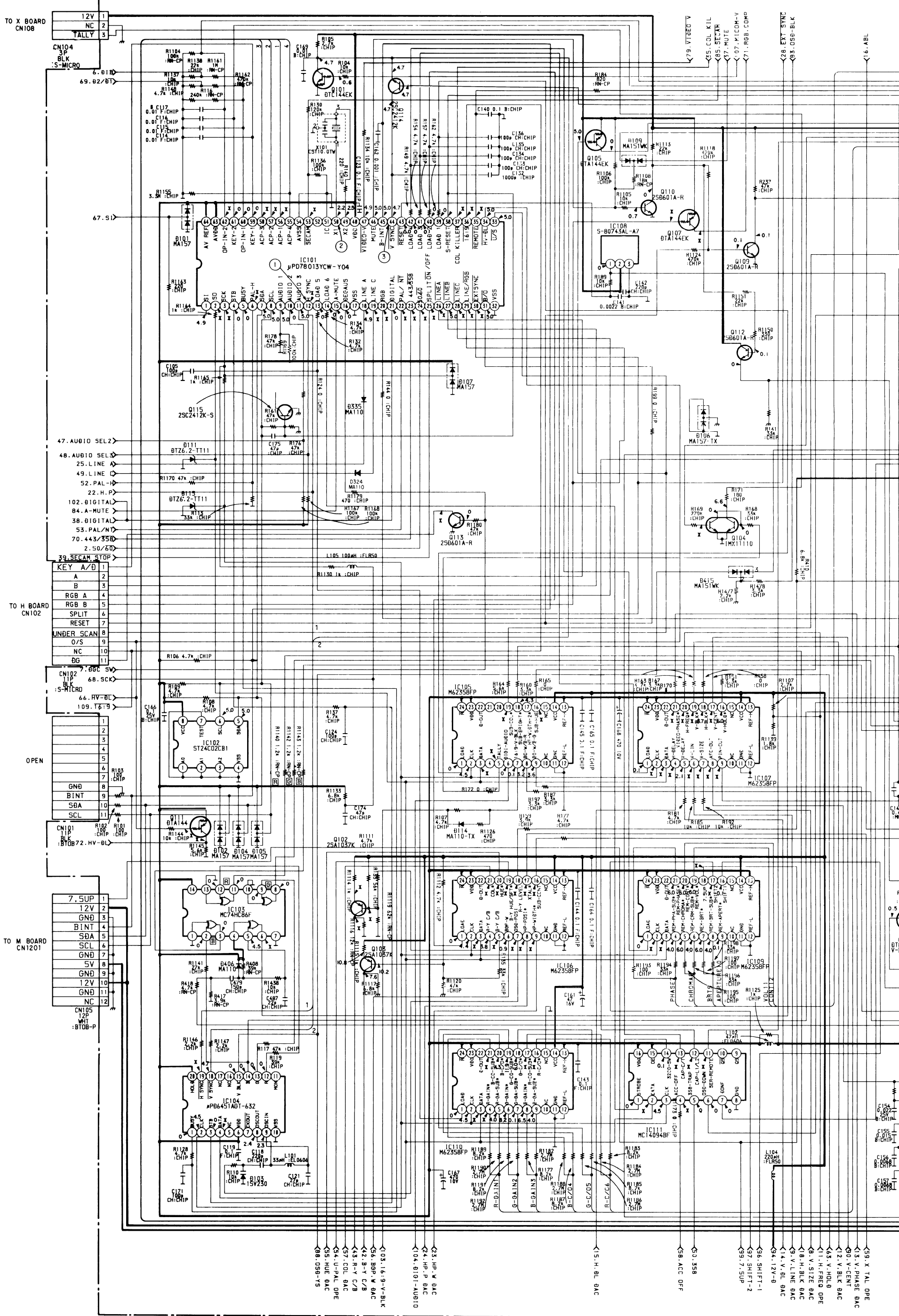
IC	Q507	E-5
	Q508	C-4
	Q509	G-5
IC108	Q510	C-4
	Q511	F-2
	Q514	B-4
	Q517	C-4
	Q519	C-3
	Q522	E-5
	Q526	A-3
TRANSISTOR		
Q101	A-9	
Q111	C-10	
Q113	A-7	
Q114	A-8	
Q115	B-9	
Q201	A-5	
Q301	F-8	
Q302	G-10	
Q303	G-6	
Q305	G-8	
Q306	G-7	
Q307	G-8	
Q309	G-8	
Q310	G-7	
Q312	G-8	
Q313	G-8	
Q315	G-8	
Q318	G-7	
Q319	F-7	
Q321	G-8	
Q322	G-6	
Q323	G-10	
Q325	F-8	
Q326	F-6	
Q327	F-6	
Q328	G-9	
Q329	G-9	
Q330	F-9	
Q331	F-9	
Q332	G-10	
Q333	D-9	
Q338	C-8	
Q339	D-8	
Q345	D-8	
Q350	D-8	
Q351	D-7	
Q352	C-8	
Q361	F-8	
Q363	G-9	
Q364	D-8	
Q367	E-8	
Q368	E-8	
Q369	E-8	
Q375	D-8	
Q401	B-6	
Q402	B-6	
Q403	B-6	
Q405	C-6	
Q407	C-7	
Q409	D-7	
Q417	C-5	
Q418	B-5	
Q419	C-6	
Q420	C-6	
Q421	B-5	
Q422	B-5	
Q423	C-5	
Q424	C-5	
Q428	D-6	
Q431	B-5	
Q434	C-5	
Q439	C-6	
Q443	C-5	
Q444	B-5	
Q500	F-2	
Q505	E-5	
Q506	B-4	
DIODE		
D101	B-10	
D102	A-9	
D103	B-9	
D107	B-9	
D111	B-9	
D115	B-9	
D116	G-2	
D200	A-4	
D301	G-7	
D302	F-9	
D303	F-7	
D304	G-7	
D307	G-8	
D309	G-8	
D310	G-8	
D311	G-9	
D315	E-8	
D317	D-9	
D320	D-9	
D322	D-9	
D323	C-9	
D325	D-8	
D333	D-8	
D337	E-8	
D344	D-8	
D345	E-7	
D346	E-7	
D347	E-7	
D363	E-8	
D364	E-8	
D401	B-7	
D404	D-6	
D405	B-5	
D407	D-7	
D408	B-5	
D410	C-5	
D411	B-6	
D421	C-5	
D422	C-5	
D425	C-5	
D426	C-6	
D427	B-6	
D500	G-4	
D501	G-2	
D503	D-2	
D507	G-5	
D508	F-4	
D509	G-5	
D513	E-5	
D516	F-5	
D517	E-4	
D518	E-5	
D519	C-4	
D523	A-2	
D526	B-4	
D531	A-4	
D532	A-4	
D534	B-4	
D536	A-4	
D542	B-4	

Note:  
 • : Pattern from the side which enables seeing.  
 • : Pattern of the rear.

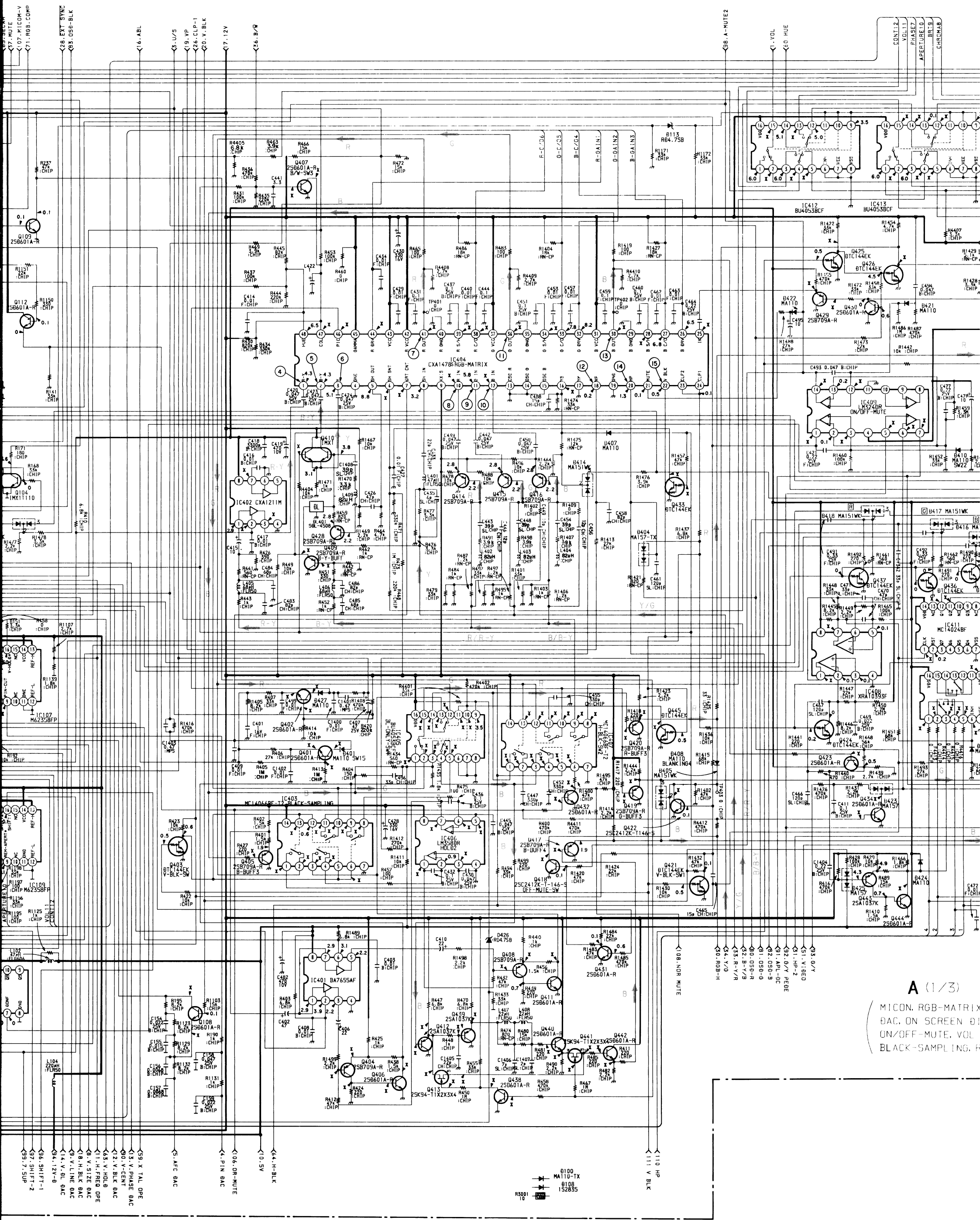


**NOTE:**  
 The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

A  
B  
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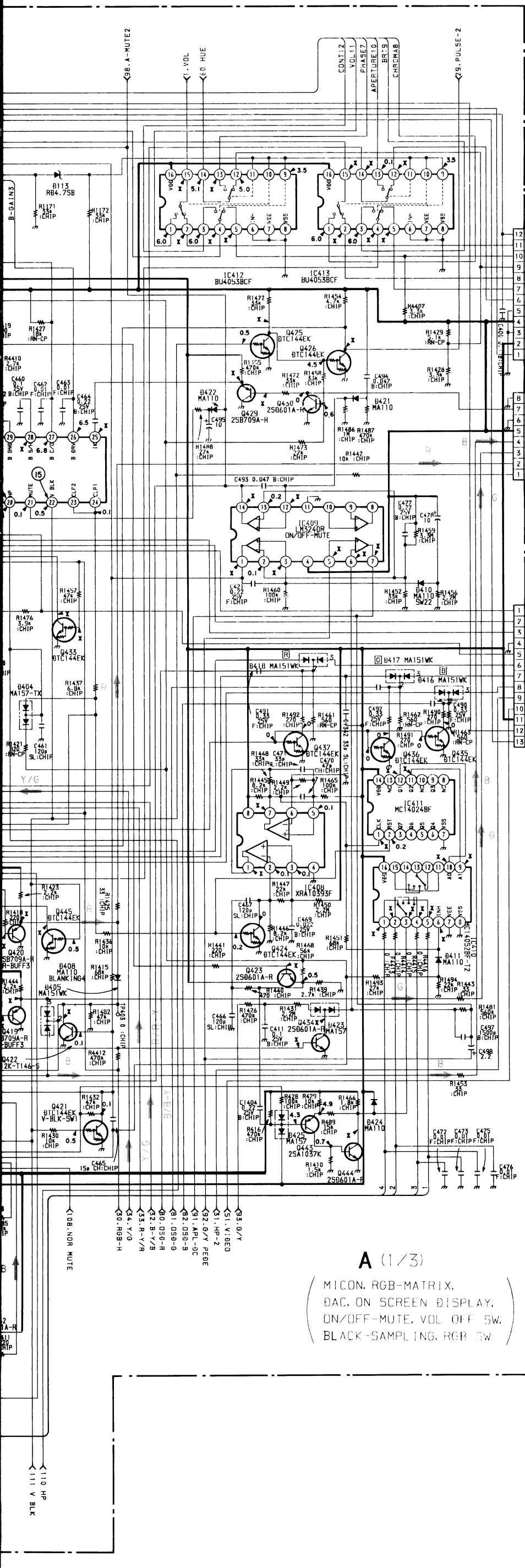






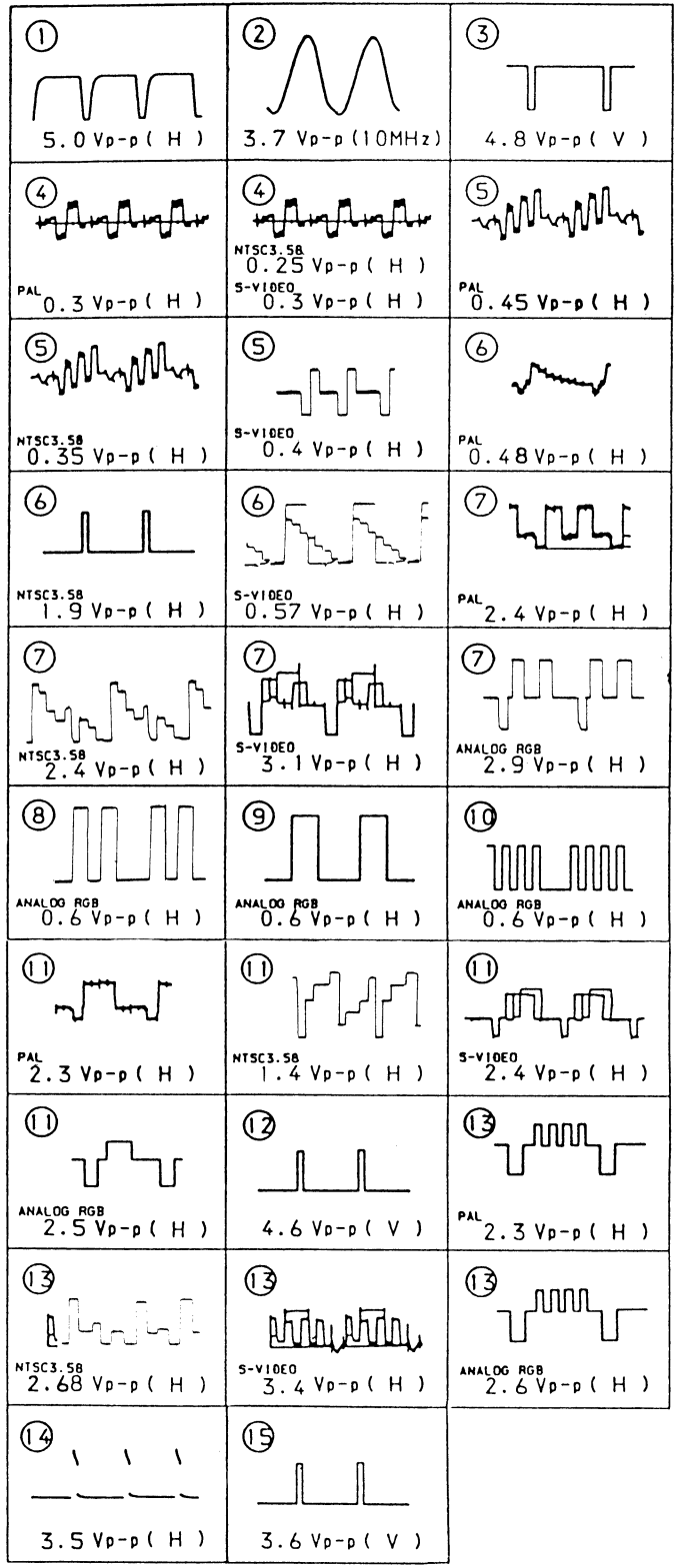
A (1/3)  
 MICON, RGB-MATRIX  
 DAC, ON SCREEN D  
 ON/OFF-MUTE, VOL  
 BLACK-SAMPLING, R





**A (1/3)**  
 ( MICON, RGB-MATRIX,  
 DAC, ON SCREEN DISPLAY,  
 ON/OFF-MUTE, VOL OFF SW,  
 BLACK-SAMPLING, RGB SW )

**A (1/3) BOARD WAVEFORMS**



**A (1/3) BOARD**

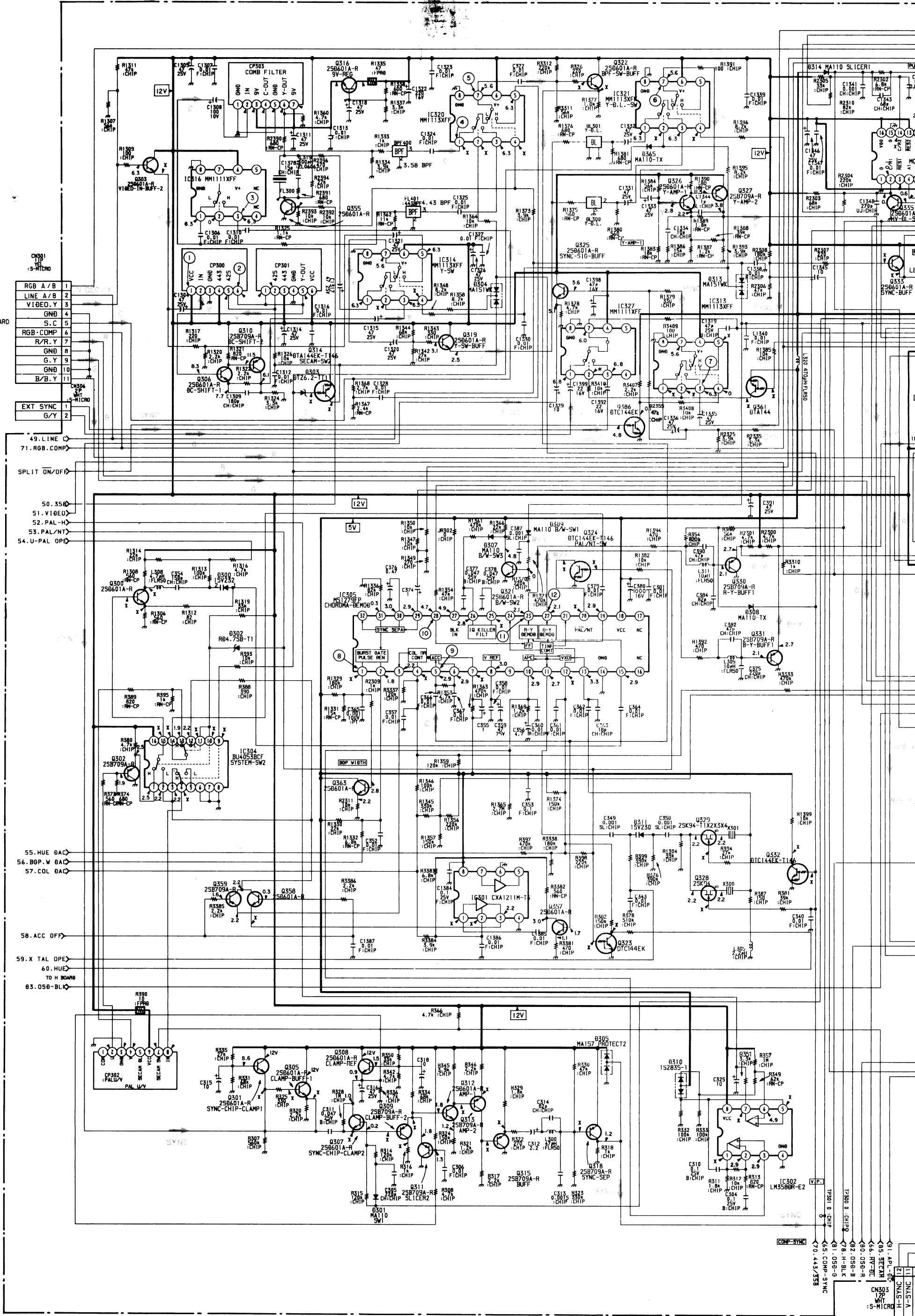
IC	Part	Value	Part	Value
IC101	②	1.9	Q430	IK BLK
③	4.3	Q431	RESET MUTE	
④	4.1	Q432	BRIGHT MUTE	
⑤	3.6	Q433	RGB SW	
⑥	0	Q434	MUTE RGB SW	
⑦	0	Q435	OSD DOWN SW	
⑧	4.9	Q436	OSD DOWN SW	
⑨	4.8	Q437	OSD DOWN SW	
⑩	4.8	Q438	BLUE ONLY SW	
⑪	0.1	Q439	BCH B/O DLY-E	
⑫	4.8	Q440	BCH B/O DLY-E	
⑬	0.1	Q441	BCH B/O SW	
⑭	4.8	Q442	BCH BUFFER	
⑮	3.4	Q443	AUTO CMROMA	
⑯	0.7	Q444	AUTO CMROMA	
⑰	0	Q445	BLUE ONLY SW	
⑱	4.2			
⑲	0			
⑳	0			
㉑	0			
㉒	0			
㉓	0.2			
㉔	2.3			
㉕	3.5			
㉖	2.3			
㉗	0			
㉘	2.6			
㉙	5.4			
㉚	2.3			
㉛	5.3			
㉜	2.4			
㉝	7.8			
㉞	5.1			
㉟	0.1			
㊱	3.1			
㊲	2.4			
㊳	6.3			
㊴	3.6			
㊵	0.8			
㊶	4.6			
㊷	2.3			
㊸	2.8			
㊹	1.5			
㊺	2.9			
㊻	2.6			
㊼	2.9			
㊽	2.6			
㊾	3.2			
㊿	4.5			
100	6.3			
101	4.6			
102	2.3			
103	11.9			
104	11.9			
105	2.3			
106	7.2			
107	5.8			
108	11.9			
109	0			
110	2.3			
111	0.3			
112	0.2			
113	0			
114	5.0			
115	3.1			
116	0			
117	2.9			
118	1.2			
119	1.4			
120	0.8			
121	0.6			
122	0.5			
123	1.0			
124	1.6			
125	1.4			
126	0.9			
127	0.6			

**A (1/3) BOARD**

IC101	MICON	Q110	MUTE BUFFER	Q430	IK BLK
IC102	ECPROM	Q111	HV DC SW	Q431	RESET MUTE
IC103	EX-OR	Q112	MUTE BUFFER	Q432	BRIGHT MUTE
IC104	ON SCREEN DISPLAY	Q113	DGC SW	Q433	RGB SW
IC105	DAC 1	Q114	V SYNC AMP	Q434	MUTE RGB SW
IC106	DAC 2	Q115	MIS ACTION PROTECT	Q435	OSD DOWN SW
IC107	DAC 4	Q401	BRIGHT ABL	Q436	OSD DOWN SW
IC108	MICON RESET	Q402	PIY ABL	Q437	OSD DOWN SW
IC109	DAC 5	Q403	V-BLK-SW	Q438	BLUE ONLY SW
IC110	DAC 3	Q404	B/O G AMP 9	Q439	BCH B/O DLY-E
IC111	EXP-OUT-PORI	Q405	B-BUFF 3	Q440	BCH B/O DLY-E
IC401	BLUE-ONLY GAIN-CONT AMP	Q406	B/O G AMP 2	Q441	BCH B/O SW
IC402	R-Y GAIN-CONT AMP	Q407	B/W-SW3	Q442	BCH BUFFER
IC403	BLACK-SAMPLING	Q408	B/O R AMP 1	Q443	AUTO CMROMA
IC404	RGB-MATRIX	Q409	B-Y-BUFF	Q444	AUTO CMROMA
IC405	BL-ONLY-SW 1	Q410	Y BUFFER	Q445	BLUE ONLY SW
IC406	HOLD 2	Q411	B/O R AMP 2		
IC407	H-BLK-SW 2	Q412	BCH BUFFER	D100	
IC408	EDGE DETECT	Q413	BCH NORMAL SW	D101	PROTECT
IC409	ON/OFF-MUTE	Q414	R BUFFER	D102	PROTECT
IC410	SIG SELECT	Q415	G BUFFER	D103	OSP POSITION
IC411	COUNTER	Q416	B BUFFER	D104	PROTECT
IC412	VOL OFF SW 4	Q417	B-BUFF	D105	PROTECT
IC413	VOL OFF SW 2	Q418	OFF-MUTE-SW	D106	
		Q419	G-BUFF 3	D107	PROTECT
		Q420	R-BUFF-3	D108	
Q101	V-BLK BUFFER	Q421	V-BLK-SW 1	D109	MUTE
Q102	R-Y C/B BUFFER	Q422	BLANKING	D111	PROTECT
Q103	B-Y C/B BUFFER	Q423	BLUE BUFFER	D113	D. C. SHIFT
Q104	TALLY SW	Q424	BLK	D114	SW
Q105	U/C SW	Q425	V-P BUFFER 1	D115	PROTECT
Q107	RGB COMP	Q426	V-P BUFFER 2	D335	SW
Q108	V SHORT SW	Q428	SHARPNESS BUFFER	D401	SW 15
Q109	RESET	Q429	IK BUFFER		



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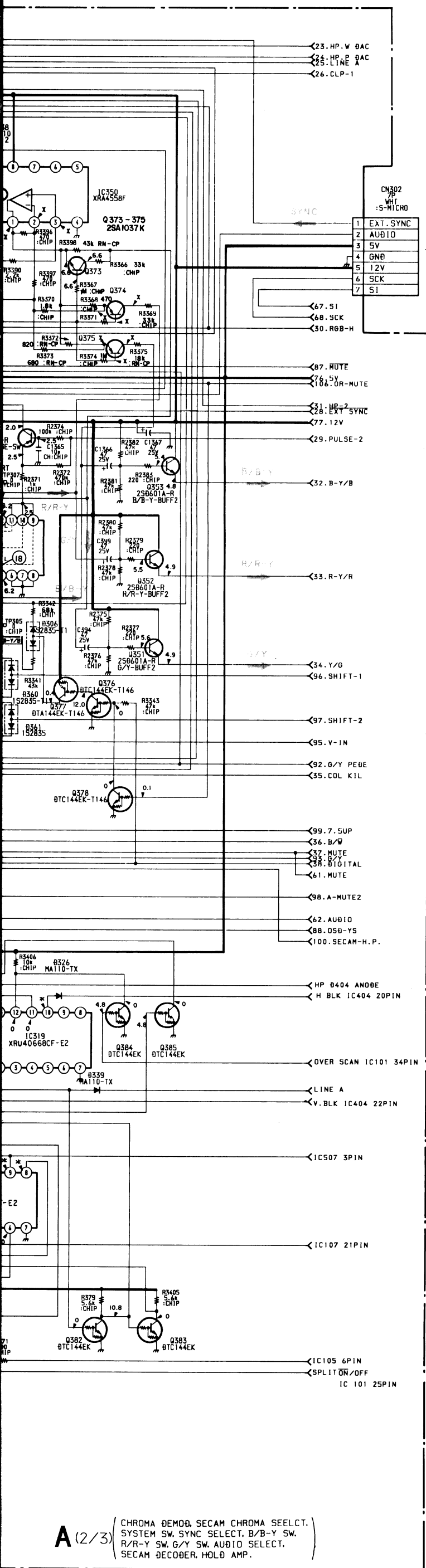
- TO O BOARD CN306
- 1 RGB A/B
  - 2 LINE A/B
  - 3 VIDEO Y
  - 4 GND
  - 5 S.C
  - 6 RGB COMP
  - 7 R/R Y
  - 8 GND
  - 9 G.Y
  - 10 GND
  - 11 B/B Y
- EXT SYNC
- 1 G/Y
  - 2

- 49. LINE
  - 71. RGB COMP
- SPLIT ON/OFF
- 50. 350
  - 51. VIDEO
  - 52. PAL-H
  - 53. PAL/NT
  - 54. U-PAL OPE

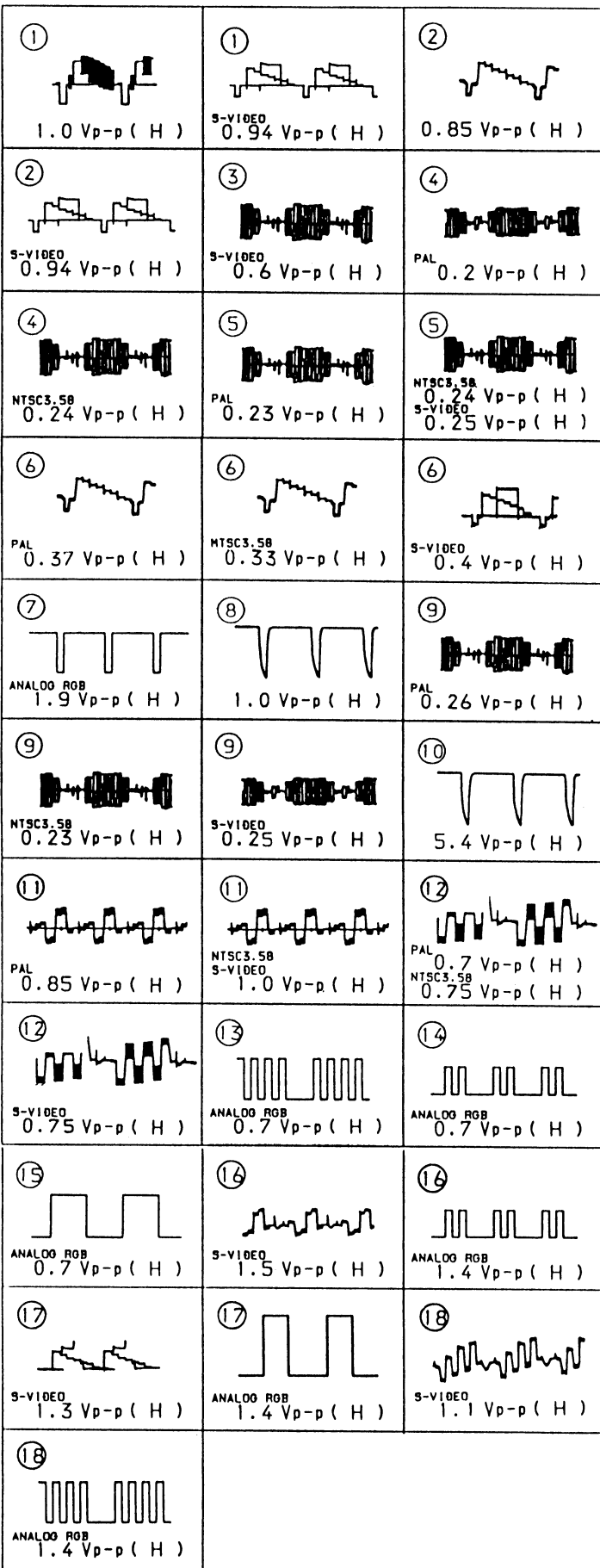
- 55. HUE DAC
  - 56. BOP W DAC
  - 57. COL DAC
58. ACC OFF
59. X TAL OPE
- 60. HUE
  - 83. OSB-BLK
- TO H BOARD







A (2/3) BOARD WAVEFORMS



A (2/3) BOARD \* MARK

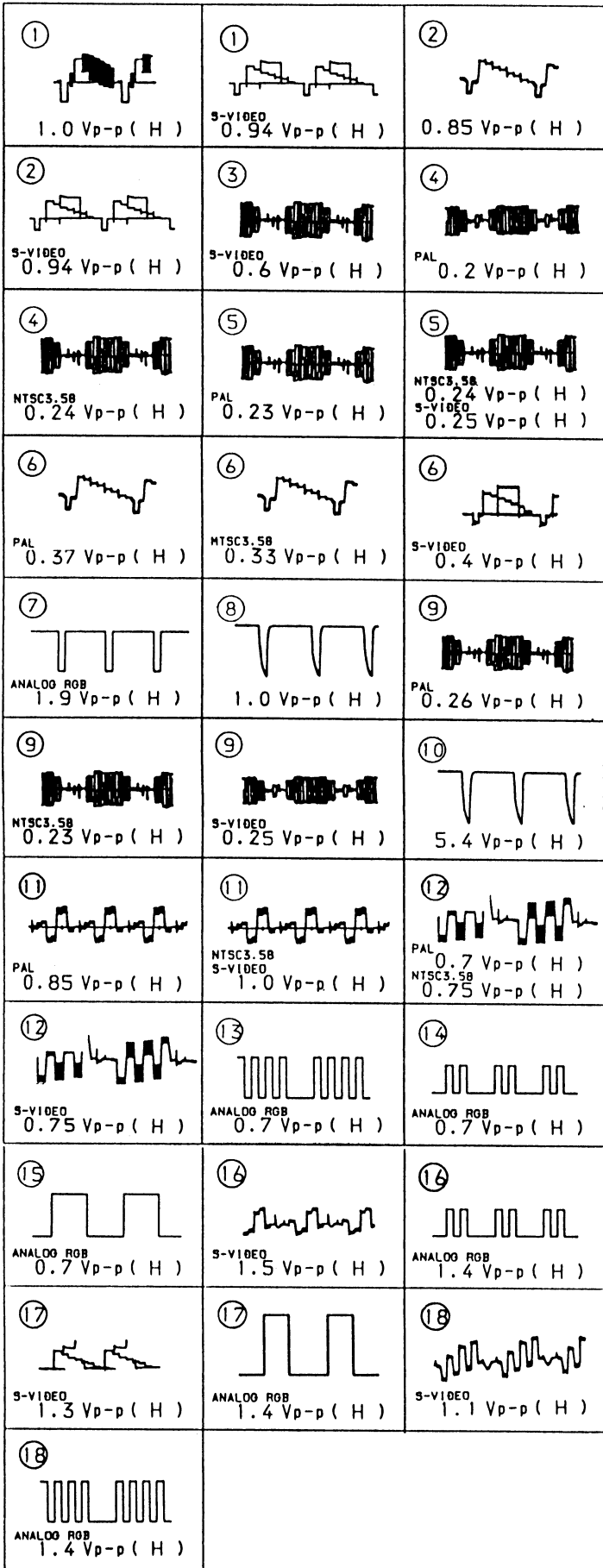
	PAL	NTSC	S-VIDEO	AN
IC301 ①	2.8	2.8	3.0	
②	2.0	1.8	1.7	
IC302 ①	2.9	2.9	2.9	
②	5.3	4.5	4.5	
③	10.5	0	0	
IC303 ②	2.2	2.0	2.0	
③	0.6	0.5	0.5	
④	1.0	0.4	0.5	
⑤	0.2	0.2	0.3	
IC304 ④	2.2	2.2	2.2	
⑤	9.4	9.4	9.4	
⑥	7.3	2.5	2.6	
⑦	7.3	2.5	2.6	
⑧	1.9	2.2	2.2	
⑨	2.5	2.2	2.3	
IC305 ①	2.8	2.8	2.8	
②	2.5	2.5	2.4	
③	4.1	4.1	4.2	
④	0.4	0	0	
⑤	2.6	2.5	2.5	
⑥	0	0.8	0.9	
⑦	2.1	1.9	1.9	
IC306 ①	8.1	8.1	8.1	
②	0	0	0.1	
IC307 ①	4.2	5.5	5.5	
②	4.4	5.7	5.7	
③	4.2	5.5	5.5	
④	4.2	5.5	5.5	
⑤	4.2	5.5	5.5	
⑥	4.2	5.5	5.5	
IC309 ②	3.6	3.6	3.6	
③	0	0	0	
IC310 ①	6.2	6.2	6.2	
②	6.3	6.2	6.2	
③	5.9	6.0	5.9	
IC311 ①	0	6.2	6.2	
②	6.2	6.2	6.2	
③	6.2	6.3	6.2	
④	3.3	2.9	2.9	
⑤	5.9	5.9	5.8	
⑥	0.4	0.4	0.5	
IC312 ②	3.6	3.6	3.6	
③	0	0	0.1	
IC313 ①	0	0	6.3	
IC314 ②	0	7.6	3.0	
③	0	0	2.9	
IC315 ①	0.4	0.4	0.4	
②	0.6	0.6	0.6	
③	9.4	9.3	9.3	
④	2.5	2.5	2.5	
⑤	0.4	0.4	0.4	
⑥	0.4	0.4	0.4	
IC317 ④	2.0	2.0	2.0	
⑤	12.0	12.0	12.0	
⑥	10.7	10.6	10.5	
⑦	9.4	9.4	9.1	
IC318 ⑤	11.5	0	11.4	
IC319 ①	1.0	0.4	0.5	
②	0.6	0.5	0.4	
IC320 ①	6.3	6.3	6.3	
②	3.0	0	0	
③	0	0	3.3	
IC321 ②	0	0.1	2.9	
③	0	0	0.1	
IC322 ⑤	5.8	6.0	5.9	
IC323 ⑤	6.2	6.2	6.2	
⑥	0	5.6	5.6	
IC324 ⑥	6.2	6.2	6.2	
IC326 ①	5.9	6.0	5.9	
②	5.9	5.9	5.8	
③	5.9	5.9	5.8	
④	1.7	1.6	2.1	
⑤	2.4	2.3	2.3	
⑥	0	10.8	-0.1	
⑦	6.3	6.3	6.2	
⑧	6.3	6.3	6.2	
⑨	6.3	6.2	6.2	
⑩	6.2	6.2	6.2	
⑪	6.2	6.2	6.2	
⑫	6.2	6.2	6.2	
IC327 ②	0	0	0	
IC350 ①	6.6	6.4	6.1	
②	6.2	6.2	6.0	
③	6.2	6.2	6.0	

A (2/3) BOARD

IC301	ACC OFF. GAIN-CONT. AMP	Q308	CLAMP-REF	Q355	258 TRIP SW
IC302	PAL-60-ID2	Q309	CLAMP-BUFF-2	Q356	MUTE SW
IC303	O/S H BLANK/SPLIT POSITION	Q310	PAL TRAP BUFFER 2	Q357	ACC OFF SW
IC304	SYSTEM-SW	Q311	SLICER 2	Q358	ACC OFF SW
IC305	CHROMA-DEMOM	Q312	AMP-1	Q359	ACC ON SW
IC306	G/Y-SW	Q313	AMP-2	Q360	HOLD
IC307	AFC SW	Q314	SECAA SW	Q361	EXT-SYNC SW
IC309	R/R-Y/SW	Q315	BUFF	Q362	OSD SW
IC310	BLACK-INSERT	Q316	NT-COMB-D.C.-REF	Q363	TEST BUFFER
IC311	SAMPLE	Q318	SYNC-SEF	Q364	V-PULSE SW
IC312	B/B-Y-SW	Q319	Y-SW-BUFF	Q366	BRIGHT UP SW 1
IC313	SYNC SELECT	Q320	BUFFER	Q367	BRIGHT UP SW 2
IC314	Y-SW	Q321	B/W-SW 2	Q368	BRIGHT UP SW 3
IC315	PULSE SELECT	Q323	PAL SW	Q369	RGB SW
IC316	SECAM CHROMA SELECT	Q324	PAL SW	Q372	RGB SW
IC317	H-PULSE-GATE	Q325	SYNC-SIG-BUFF	Q373	RGB MODE SW
IC318	NOT-GATE	Q326	Y-AMP-1	Q374	RGB MODE SW
IC319	SW	Q327	Y-AMP-2	Q375	RGB MODE SW
IC320	CHROMA BPF SELECT	Q328	443 SW	Q376	DIGITAL MODE SW 2
IC321	Y-D.L.-SW	Q329	358 SW	Q377	DIGITAL MODE SW 1
IC322	G/Y SW SELECT	Q330	R-Y-BUFF 1	Q378	MUTE SW
IC323	B/B-Y SW SELECT	Q331	B-Y-BUFF 1	Q380	SPLIT SW
IC324	R/R-Y SW SELECT	Q332	358 SW	Q381	SPLIT SW
IC325	AUDIO SELECT	Q333	SYNC-BUFF	Q382	OVER SCAN SW
IC326	HOLD AMP	Q335	HV-DL SW	Q383	OVER SCAN SW
IC327	SYNC SW	Q338	V-SYNC SSP 1	Q384	OVER SCAN SW
IC350	BUFFER AMP	Q339	V-SYNC SSP 2	Q385	SPLIT SW
		Q341	G/Y BUFFER	Q386	SPLIT SYNC SW
		Q342	R/R-Y BUFFER		
		Q343	B/B-Y BUFFER		
Q300	PHASE SHIFT	Q345	MUTE SW	D300	PHASE ADJ
Q301	SYNC-SHIP CLAMP 1	Q350	INSERT-PULSE SW	D301	SW
Q302	BUFFER	Q351	G/Y-BUFF-2	D302	D. C. SHIFT
Q303	VIDEO-IN-BUFF-1	Q352	R/R-Y-BUFF-2	D303	SECAM SW
Q305	CLAMP-BUFF-1	Q353	B/B-Y-BUFF-2	D304	SW
Q306	PAL TRAP BUFFER 1	Q354	B/W-SW2	D305	PROTECT
Q307	SYNC-CHIP-CLAMP 2				

A (2/3) CHROMA DEMOD. SECAM CHROMA SEELCT. SYSTEM SW. SYNC SELECT. B/B-Y SW. R/R-Y SW. G/Y SW. AUDIO SELECT. SECAM DECODER. HOLD AMP.

**A (2/3) BOARD WAVEFORMS**



**A (2/3) BOARD \* MARK**

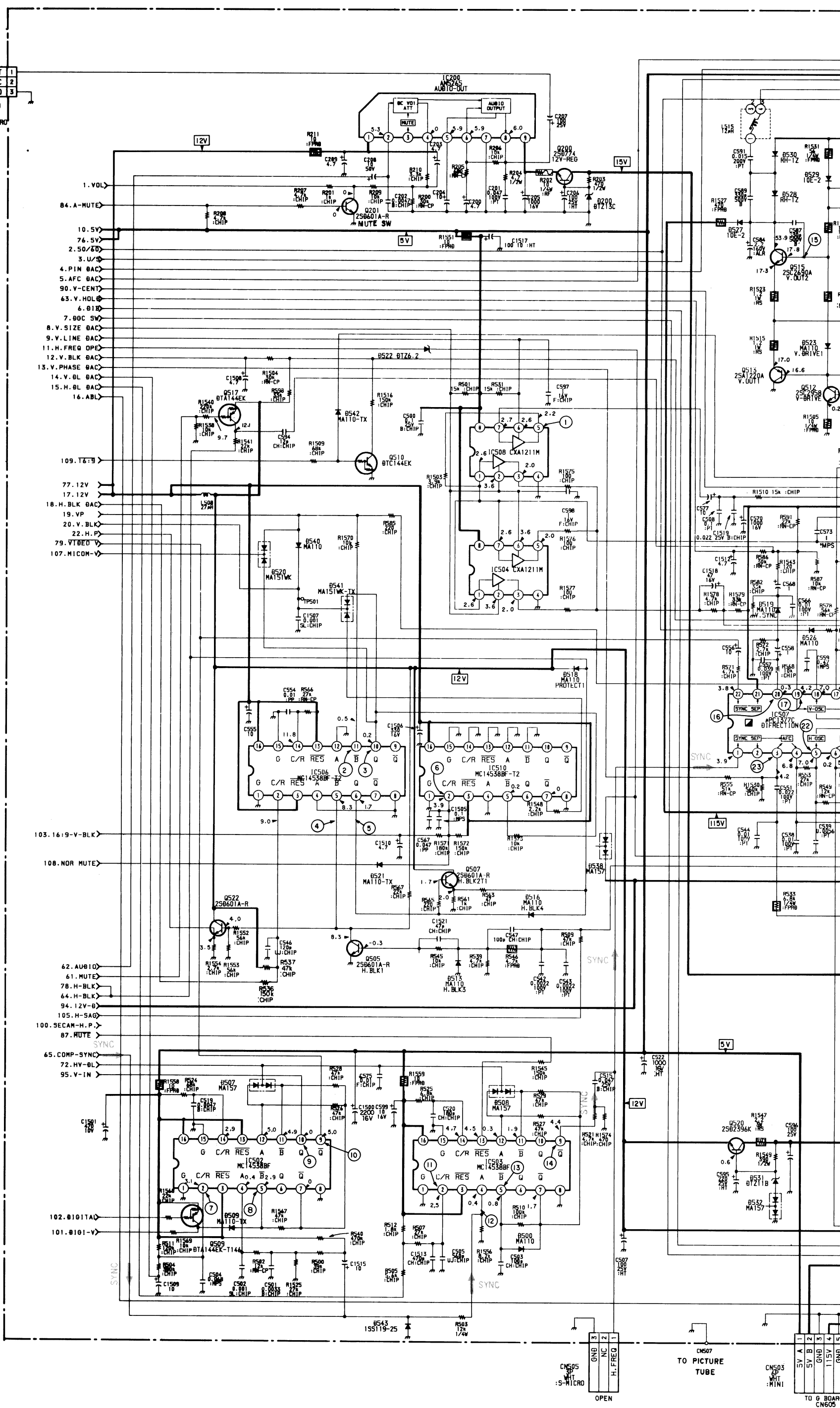
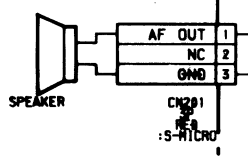
	PAL	NTSC 3.58	S-VIDEO	ANALOG RGB
IC301 ①	2.8	2.8	3.0	2.3
②	2.0	1.8	1.7	3.5
IC302 ①	2.9	2.9	2.9	2.9
②	5.3	4.5	4.5	4.5
③	10.5	0	0	0
IC303 ②	2.2	2.0	2.0	2.0
③	0.6	0.5	0.5	0.5
④	1.0	0.4	0.5	0.2
⑤	0.2	0.2	0.3	0.3
IC304 ④	2.2	2.2	2.2	2.2
⑤	9.4	9.4	9.4	9.4
⑥	7.3	2.5	2.6	2.5
⑦	7.3	2.5	2.6	2.5
⑧	1.9	2.2	2.2	2.2
⑨	2.5	2.2	2.3	2.2
IC305 ①	2.8	2.8	2.8	2.8
②	2.5	2.5	2.4	1.3
③	4.1	4.1	4.2	4.5
④	0.4	0	0	0.1
⑤	2.6	2.5	2.5	2.7
⑥	0	0.8	0.9	0.9
⑦	2.1	1.9	1.9	2.7
IC306 ①	8.1	8.1	8.1	0
②	0	0	0.1	4.4
IC307 ①	4.2	5.5	5.5	5.5
②	4.4	5.7	5.7	5.7
③	4.2	5.5	5.5	5.5
④	4.2	5.5	5.5	5.5
⑤	4.2	5.5	5.5	5.5
IC309 ②	3.6	3.6	3.6	3.6
③	0	0	0	4.4
IC310 ①	6.2	6.2	6.2	5.9
②	6.3	6.2	6.2	5.9
③	5.9	6.0	5.9	5.9
IC311 ①	0	6.2	6.2	6.2
②	6.2	6.2	6.2	5.9
③	6.2	6.3	6.2	5.9
④	3.3	2.9	2.9	0
⑤	5.9	5.9	5.8	5.9
⑥	0.4	0.4	0.5	0.7
IC312 ②	3.6	3.6	3.6	3.6
③	0	0	0.1	4.5
IC313 ①	0	0	6.3	6.3
IC314 ②	0	7.6	3.0	0
③	0	0	2.9	0.1
IC315 ①	0.4	0.4	0.4	0.6
②	0.6	0.6	0.6	0.6
③	9.4	9.3	9.3	9.4
④	2.5	2.5	2.5	7.2
⑤	0.4	0.4	0.4	0.6
⑥	0.4	0.4	0.4	0.6
IC317 ④	2.0	2.0	2.0	12.0
⑤	12.0	12.0	12.0	12.0
⑥	10.7	10.6	10.5	10.7
⑦	9.4	9.4	9.1	9.4
IC318 ⑤	11.5	0	11.4	11.4
IC319 ①	1.0	0.4	0.5	0.2
②	0.6	0.5	0.4	0.5
IC320 ①	6.3	6.3	6.3	0
②	3.0	0	0	0
③	0	0	3.3	0
IC321 ②	0	0.1	2.9	0
③	0	0	0.1	2.7
IC322 ⑤	5.8	6.0	5.9	5.9
IC323 ⑤	6.2	6.2	6.2	5.9
⑥	0	5.6	5.6	5.6
IC324 ⑤	6.2	6.2	6.2	5.9
IC326 ①	5.9	6.0	5.9	5.9
②	5.9	5.9	5.8	5.9
③	5.9	5.9	5.8	5.9
④	1.7	1.6	2.1	2.1
⑤	2.4	2.3	2.3	4.6
⑥	0	10.8	-0.1	0
⑦	6.3	6.3	6.2	5.9
⑧	6.3	6.3	6.2	5.9
⑨	6.3	6.2	6.2	5.9
⑩	6.2	6.2	6.2	5.9
⑪	6.2	6.2	6.2	5.9
⑫	6.2	6.2	6.2	5.9
IC327 ②	0	0	0	2.9
IC350 ①	6.6	6.4	6.1	6.9
②	6.2	6.2	6.0	6.4
③	6.2	6.2	6.0	6.4

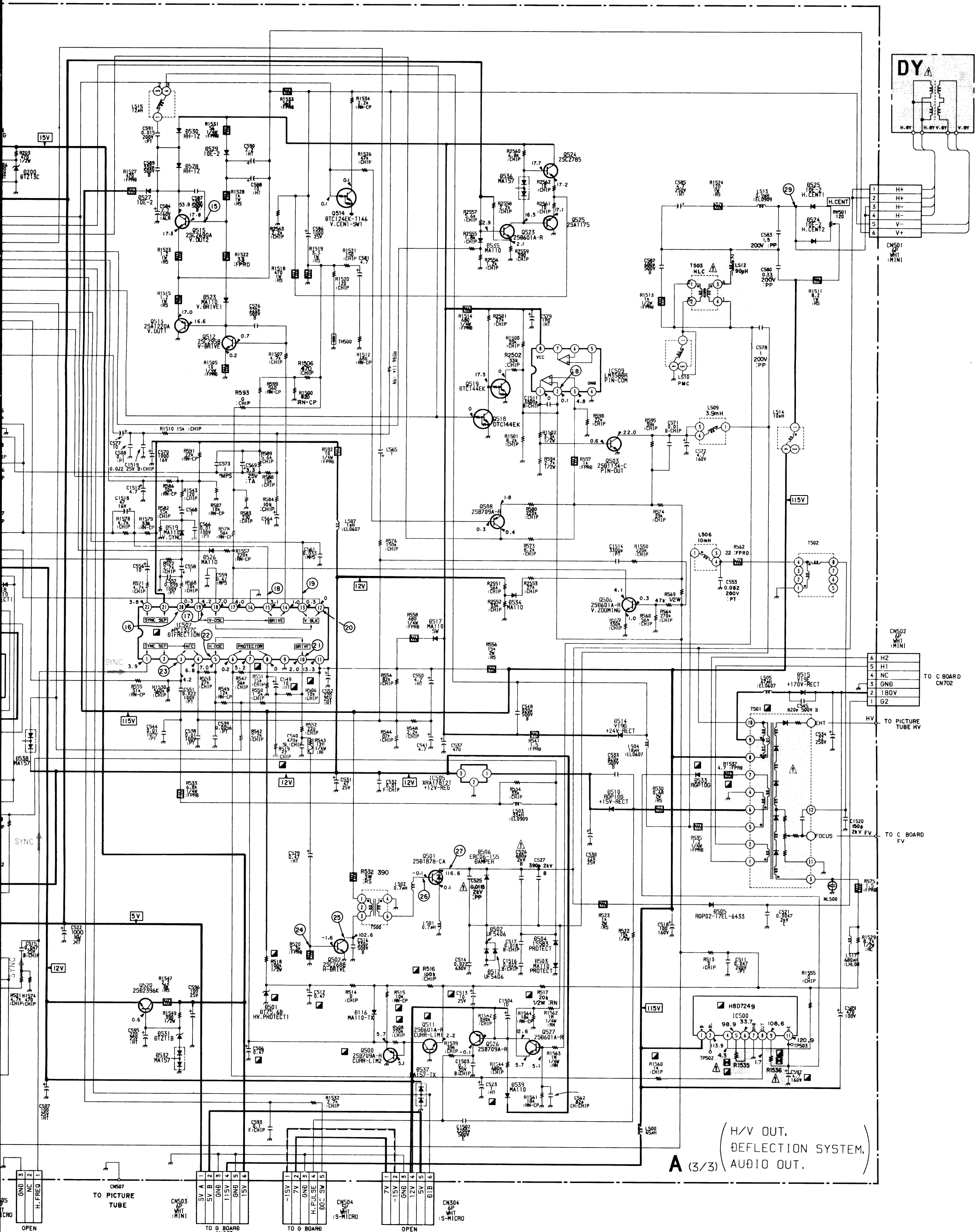
	PAL	NTSC 3.58	S-VIDEO	ANALOG RGB
Q300 B	2.5	2.2	2.2	2.2
C	10.2	10.4	10.4	10.5
E	1.9	1.6	1.6	1.6
Q301 E	8.6	8.2	8.5	9.8
Q303 E	5.7	5.7	5.5	5.7
Q304 B	6.3	6.3	6.2	6.3
E	5.7	5.7	5.5	5.7
Q305 B	8.6	8.2	8.5	9.8
E	7.9	7.6	7.9	9.1
Q307 E	1.4	1.1	1.4	2.7
Q309 B	1.4	1.1	1.4	2.6
C	0.1	0.2	0.1	0
E	0.7	1.7	0	1.8
Q312 C	8.2	8.6	8.3	8.1
Q313 B	8.2	8.6	8.2	8.1
E	8.8	9.3	8.9	8.7
Q314 B	11.9	11.9	11.9	11.9
C	0	0	0	0
Q315 B	3.3	2.9	3.2	3.3
E	3.9	3.5	3.8	4.0
Q318 B	12.1	11.7	12.1	12.1
C	1.0	1.2	1.0	0.9
Q322 B	2.4	2.3	5.6	2.4
E	1.8	1.8	5.0	1.8
Q323 B	5.0	0	0	0
C	0	3.5	3.5	3.6
Q324 B	4.1	0	0	0
C	0	0.8	0.8	0.9
Q328 G	2.8	2.8	0	0
Q329 G	0	1.6	2.9	2.8
Q332 B	4.9	0	0	0
C	0	4.4	4.3	4.4
Q333 B	1.7	1.9	1.7	1.7
E	1.5	1.7	1.5	1.4
Q339 B	12.3	12.5	12.5	12.3
Q354 B	12.0	0	0	0
E	12.0	0	0	-0.2
Q358 E	2.2	0	2.2	2.2
Q360 1	6.2	6.2	6.1	6.4
3	6.2	6.2	6	6.4
5	1.3	2.2	5.3	3.8
Q361 B	4.9	5.0	5.0	0.8
C	0.1	0	0.1	2.9
Q362 C	9.0	9.0	9.2	8.5
Q364 C	3.3	2.9	2.8	2.9
Q365 B	0.4	0.3	0.4	0.4
Q369 B	0.8	0.8	0.9	4.9
Q372 B	0	0	0	4.9
C	11.7	11.8	11.7	0
Q374 B	10.4	10.1	10.7	6.4
C	0	0	6.2	6.7
E	6.4	6.3	6.1	6.7
Q375 B	10.7	10.7	10.7	5.9
C	0	0	6.3	6.4
E	6.2	6.2	6	6.4

**A (2/3) BOARD**

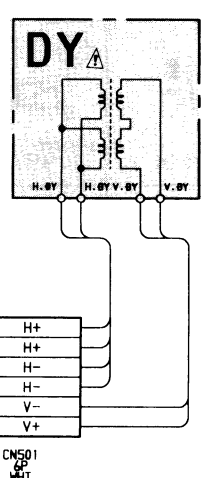
IC301	ACC OFF. GAIN-CONT. AMP	Q308	CLAMP-REF	Q355	258 TRIP SW	D306	SW
IC302	PAL-60-ID2	Q309	CLAMP-BUFF-2	Q356	MUTE SW	D307	B/W-SW
IC303	O/S H BLANK/SPLIT POSITION	Q310	PAL TRAP BUFFER 2	Q357	ACC OFF AMP	D308	SW
IC304	SYSTEM-SW	Q311	SLICER 2	Q358	ACC OFF SW	D309	B/W-SW
IC305	CHROMA-DEMOD	Q312	AMP-1	Q359	ACC ON SW	D310	CLAMP
IC306	G/Y-SW	Q313	AMP-2	Q360	HOLD	D311	XTAL ADJ
IC307	AFC SW	Q314	SECAA SW	Q361	EXT-SYNC SW	D313	SW
IC309	R/R-Y/SW	Q315	BUFF	Q362	OSD SW	D314	SLICER
IC310	BLACK-INSERT	Q316	NT-COMB-D.C.-REF	Q363	TEST BUFFER	D315	7.5 OPSW
IC311	SAMPLE	Q318	SYNC-SEF	Q364	V-PULSE SW	D317	LEVEL-SHIFT
IC312	B/B-Y-SW	Q319	Y-SW-BUFF	Q366	BRIGHT UP SW 1	D320	SLICE
IC313	SYNC SELECT	Q320	BUFFER	Q367	BRIGHT UP SW 2	D322	SLICE
IC314	Y-SW	Q321	B/W-SW 2	Q368	BRIGHT UP SW 3	D323	SW
IC315	PULSE SELECT	Q323	PAL SW	Q369	RGB SW	D324	R-Y COLOR BALANCE ADJ
IC316	SECAM CHROMA SELECT	Q324	PAL SW	Q372	RGB SW	D325	PULSE SW
IC317	H-PULSE-GATE	Q325	SYNC-SIG-BUFF	Q373	RGB MODE SW	D326	LIMITTER
IC318	NOT-GATE	Q326	Y-AMP-1	Q374	RGB MODE SW	D327	SW
IC319	SW	Q327	Y-AMP-2	Q375	RGB MODE SW	D332	RGB COMP SW
IC320	CHROMA BPF SELECT	Q328	443 SW	Q376	DIGITAL MODE SW 2	D333	H BLK SW
IC321	Y-D.L.-SW	Q329	358 SW	Q377	DIGITAL MODE SW 1	D337	SECAM-SW
IC322	G/Y SW SELECT	Q330	R-Y-BUFF 1	Q378	MUTE SW	D338	SW
IC323	B/B-Y SW SELECT	Q331	B-Y-BUFF 1	Q380	SPLIT SW	D339	LIMITTER
IC324	R/R-Y SW SELECT	Q332	358 SW	Q381	SPLIT SW	D341	D. C. SHIFT
IC325	AUDIO SELECT	Q333	SYNC-BUFF	Q382	OVER SCAN SW	D344	SW
IC326	HOLD AMP	Q335	HV-DL SW	Q383	OVER SCAN SW	D345	OSD G CLAMP
IC327	SYNC SW	Q338	V-SYNC SSP 1	Q384	OVER SCAN SW	D346	OSD B CLAMP
IC350	BUFFER AMP	Q339	V-SYNC SSP 2	Q385	SPLIT SW	D347	OSD R CLAMP
		Q341	G/Y BUFFER	Q386	SPLIT SYNC SW	D360	SW
		Q342	R/R-Y BUFFER			D361	SW
Q300	PHASE SHIFT	Q343	B/B-Y BUFFER			D362	D. C. SHIFT
Q301	SYNC-SHIP CLAMP 1	Q345	MUTE SW	D300	PHASE ADJ	D363	D. C. SHIFT
Q302	BUFFER	Q350	INSERT-PULSE SW	D301	SW	D364	SW
Q303	VIDEO-IN-BUFF-1	Q351	G/Y-BUFF-2	D302	D. C. SHIFT	D365	SECAM SW
Q305	CLAMP-BUFF-1	Q352	R/R-Y-BUFF-2	D303	SECAM SW	D381	SW
Q306	PAL TRAP BUFFER 1	Q353	B/B-Y-BUFF-2	D304	SW		
Q307	SYNC-CHIP-CLAMP 2	Q354	B/W-SW2	D305	PROTECT		

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O









CN501  
:MINI

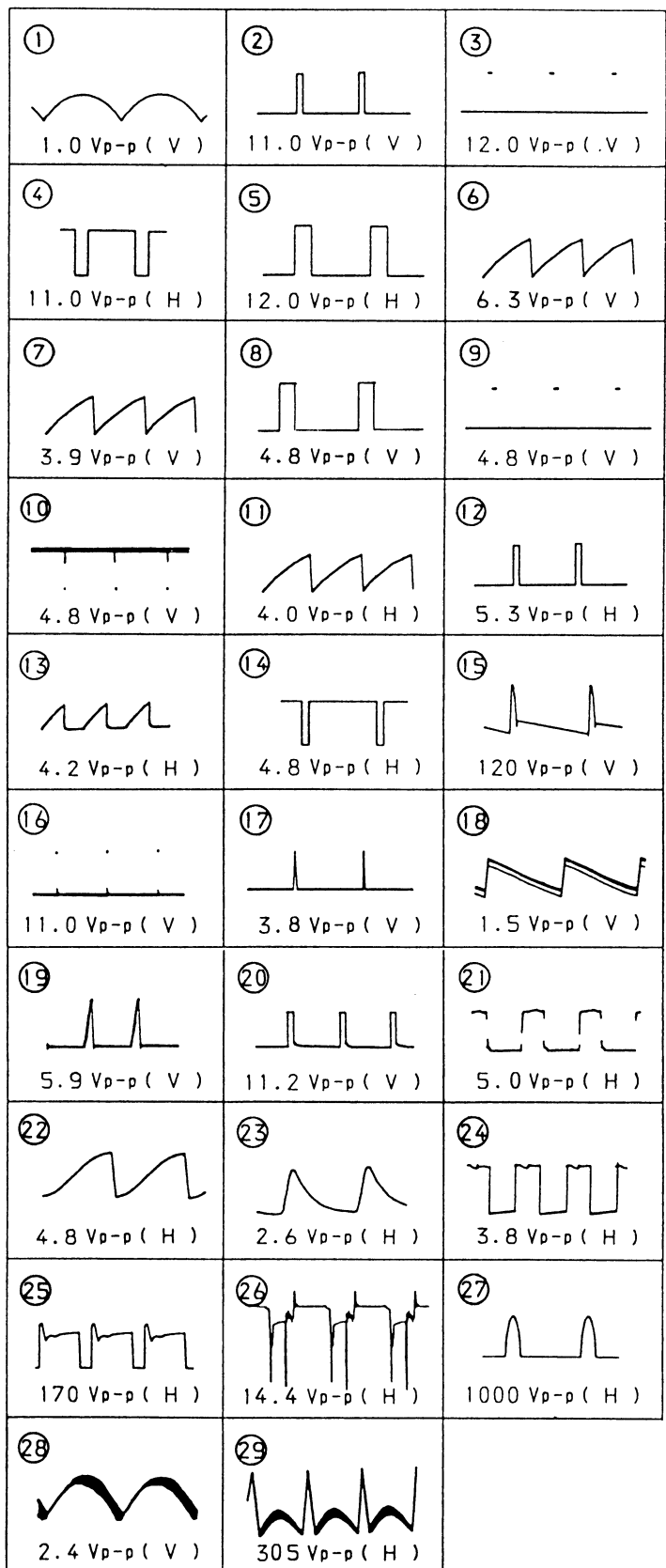
CN502  
:MINI

H2  
H1  
NC  
GND  
180V  
G2  
TO C BOARD  
CN702

TO PICTURE  
TUBE HV

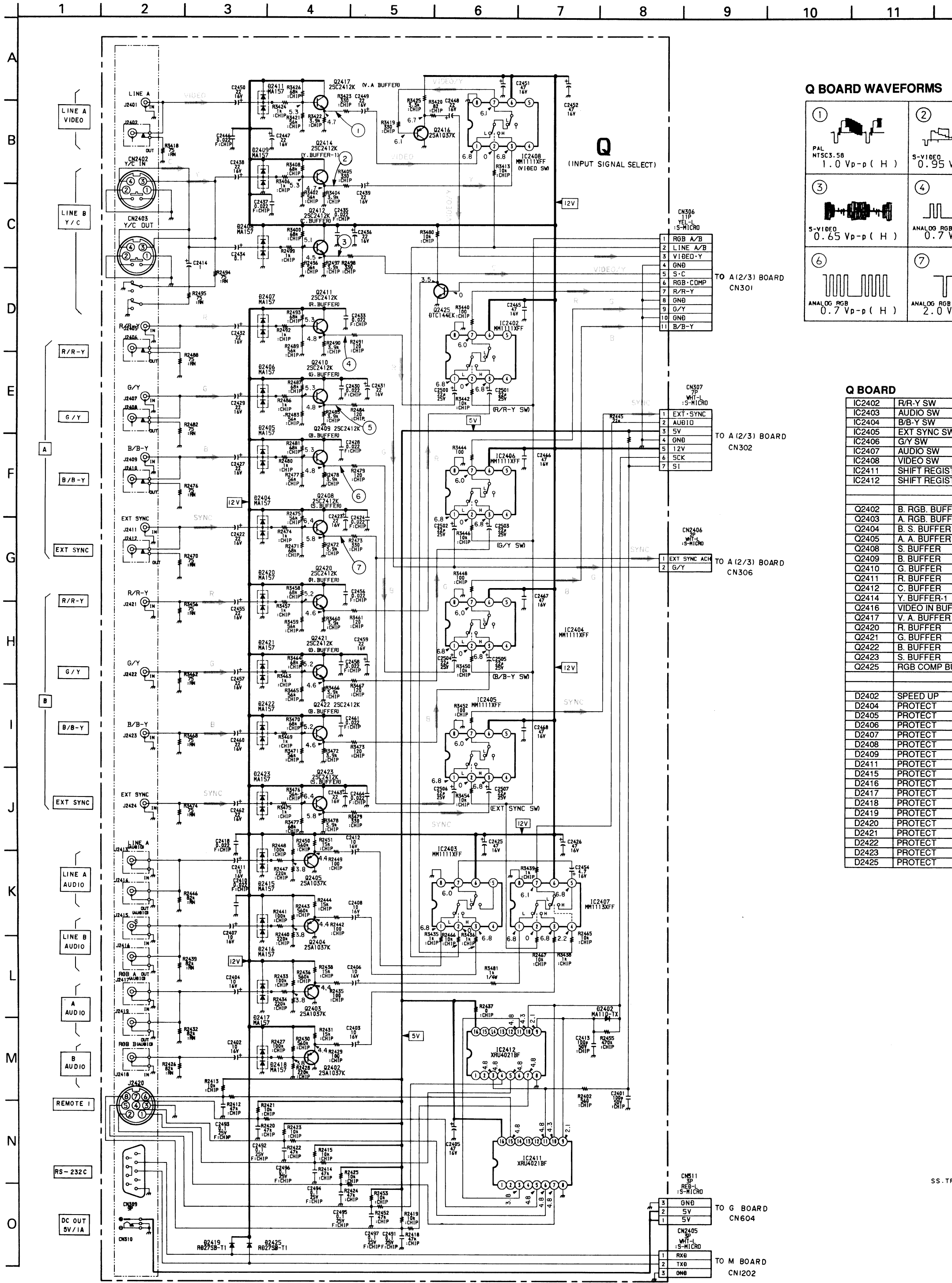
TO C BOARD  
FV

**A (3/3) BOARD WAVEFORMS**

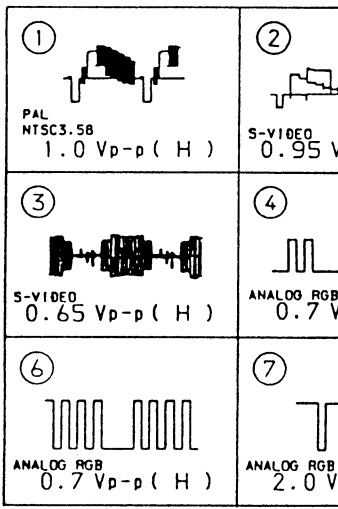


**A (3/3) BOARD**

IC200	AUDIO OUT
IC500	X-RAY PROTECT
IC502	V DELAY MONO-MULTI
IC503	H DELAY MONO-MULTI
IC504	V GAIN-CONT AMP 2
IC505	+12V REG
IC506	H BLK MONO-MULTI
IC507	DEFLECTION
IC508	V GAIN-CONT AMP 1
IC509	PIN COMPLETION
IC510	16:9 V BLK MONO-MULTI
Q200	+12 REG
Q201	MUTE SW
Q500	CURR LIM 2
Q501	H OUT
Q502	H DRIVE
Q503	PIN OUT
Q505	H BLK 1
Q506	V ZOOMING
Q507	H BLK BUFFER
Q508	50/60 SWITCH
Q509	DIGITAL V SWITCH
Q510	16:9 SWITCH
Q511	CURR LIM 1
Q512	V DRIVE
Q513	V OUT 1
Q514	50/60 SWITCH
Q515	V OUT 2
Q517	H-V PHASE LOCK SW
Q518	U/S SWITCH 1
Q519	U/S SWITCH 2
Q520	+12V REG
Q522	H PULSE BUFFER
Q523	V CENT CONT
Q524	V CENT OUT 2
Q525	V CENT OUT 1
Q526	FBT +12V FAILURE SW
Q527	FAILURE
D116	CURR LIMITER
D200	AUDIO DC SHIFT
D500	SPEED UP
D501	HV PROTECT
D502	PIN DAMPER
D503	PROTECT
D504	PROTECT
D505	G2 RECT
D506	DAMPER
D507	HV DELAY SWITCH
D508	HV DELAY SWITCH
D509	SWITCH
D510	+15V RECT
D512	PIN DAMPER 2
D513	H BLK
D514	+24V RECT
D515	+170V RECT
D516	H BLK
D517	SWITCH
D518	PROTECT
D519	V SYNC
D520	MICOM SWITCH
D521	MUTE SWITCH
D522	DC UP
D523	BIAS
D524	H CENT
D525	H CENT
D526	50/60 SWITCH
D527	DC LIMITER
D528	PUMP-UP 2
D529	SWITCH
D530	PUMP-UP
D531	+12V REF 1
D532	+12V REF 2
D533	HV PROTECT RECT
D534	SWITCH
D535	BIAS
D536	BIAS
D537	PROTECT
D538	PROTECT
D539	SWITCH
D540	V BLK SWITCH 1
D541	V BLK SWITCH 2
D542	16:9 SWITCH



**Q BOARD WAVEFORMS**



**Q BOARD**

IC2402	R/R-Y SW
IC2403	AUDIO SW
IC2404	B/B-Y SW
IC2405	EXT SYNC SW
IC2406	G/Y SW
IC2407	AUDIO SW
IC2408	VIDEO SW
IC2411	SHIFT REGISTER
IC2412	SHIFT REGISTER
Q2402	B. RGB. BUFFER
Q2403	A. RGB. BUFFER
Q2404	B. S. BUFFER
Q2405	A. A. BUFFER
Q2408	S. BUFFER
Q2409	G. BUFFER
Q2410	B. BUFFER
Q2411	R. BUFFER
Q2412	C. BUFFER
Q2414	Y. BUFFER-1
Q2416	VIDEO IN BUFF
Q2417	V. A. BUFFER
Q2420	R. BUFFER
Q2421	G. BUFFER
Q2422	B. BUFFER
Q2423	S. BUFFER
Q2425	RGB COMP BU
D2402	SPEED UP
D2404	PROTECT
D2405	PROTECT
D2406	PROTECT
D2407	PROTECT
D2408	PROTECT
D2409	PROTECT
D2411	PROTECT
D2415	PROTECT
D2416	PROTECT
D2417	PROTECT
D2418	PROTECT
D2419	PROTECT
D2420	PROTECT
D2421	PROTECT
D2422	PROTECT
D2423	PROTECT
D2425	PROTECT

Schematic diagram

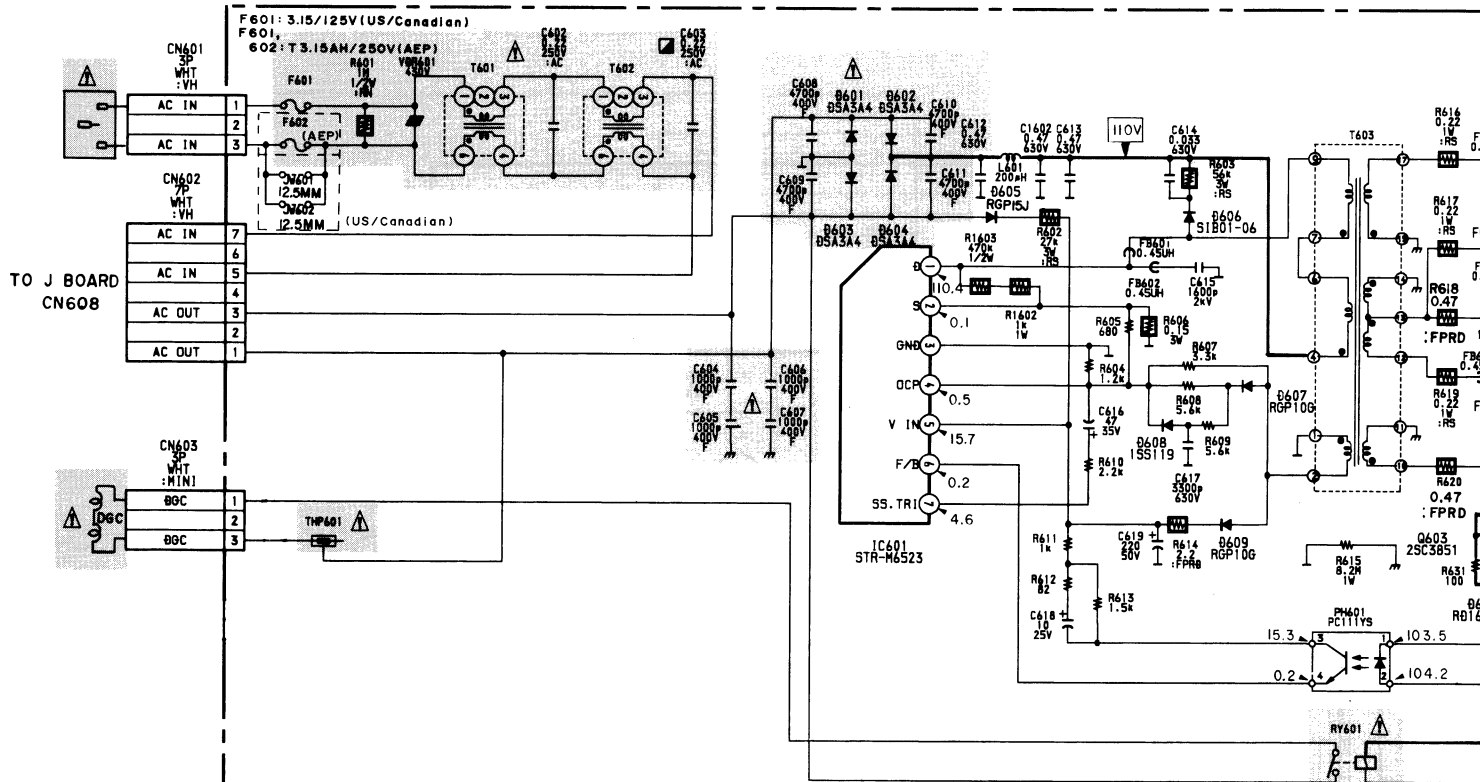
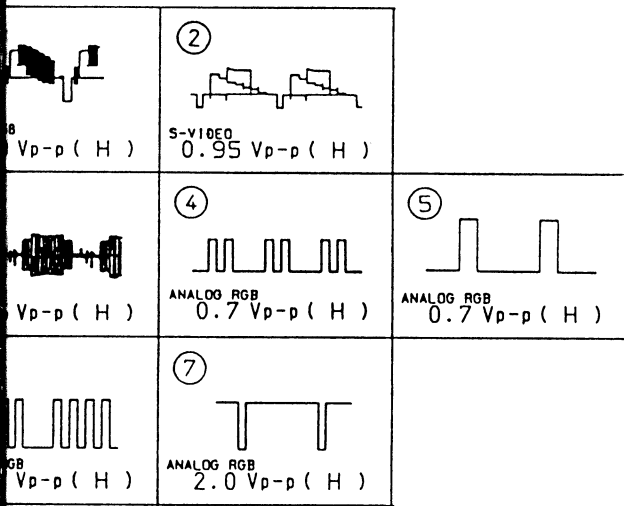
Schematic diagrams

← A (3/3) board

G, H, J, Q, S, X boards →

SS. TR

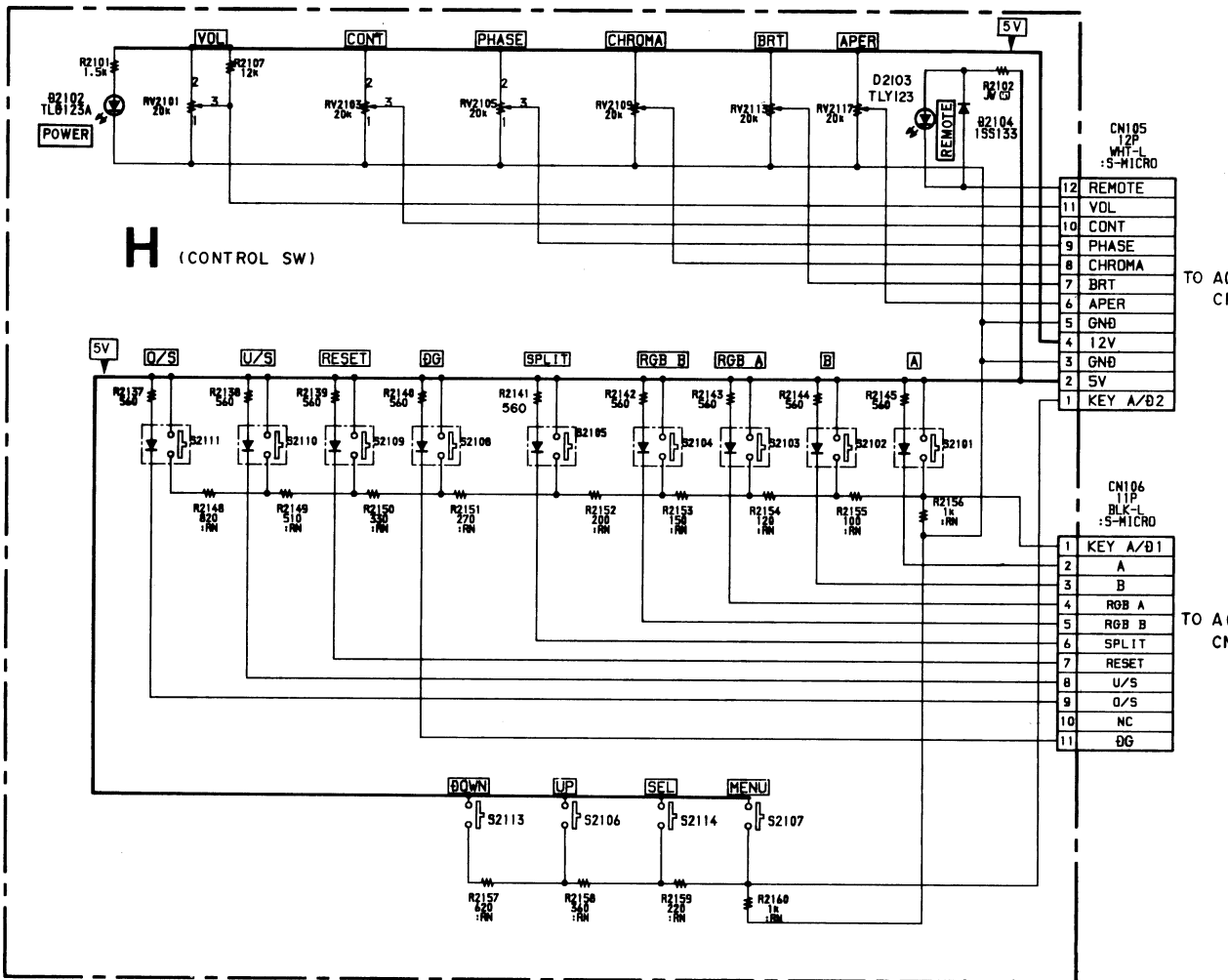
**ARD WAVEFORMS**



**G** (POWER SUPPLY)

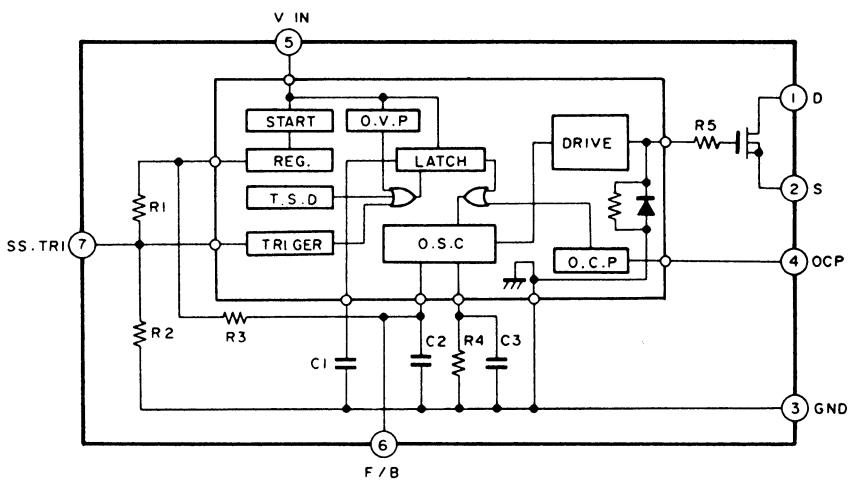
**Q BOARD**

IC2402	R/R-Y SW
IC2403	AUDIO SW
IC2404	B/B-Y SW
IC2405	EXT SYNC SW
IC2406	G/Y SW
IC2407	AUDIO SW
IC2408	VIDEO SW
IC2411	SHIFT REGISTER
IC2412	SHIFT REGISTER
Q2402	B. RGB. BUFFER
Q2403	A. RGB. BUFFER
Q2404	B. S. BUFFER
Q2405	A. A. BUFFER
Q2408	S. BUFFER
Q2409	B. BUFFER
Q2410	G. BUFFER
Q2411	R. BUFFER
Q2412	C. BUFFER
Q2414	Y. BUFFER-1
Q2416	VIDEO IN BUFFER
Q2417	V. A. BUFFER
Q2420	R. BUFFER
Q2421	G. BUFFER
Q2422	B. BUFFER
Q2423	S. BUFFER
Q2425	RGB COMP BUFFER
D2402	SPEED UP
D2404	PROTECT
D2405	PROTECT
D2406	PROTECT
D2407	PROTECT
D2408	PROTECT
D2409	PROTECT
D2411	PROTECT
D2415	PROTECT
D2416	PROTECT
D2417	PROTECT
D2418	PROTECT
D2419	PROTECT
D2420	PROTECT
D2421	PROTECT
D2422	PROTECT
D2423	PROTECT
D2425	PROTECT

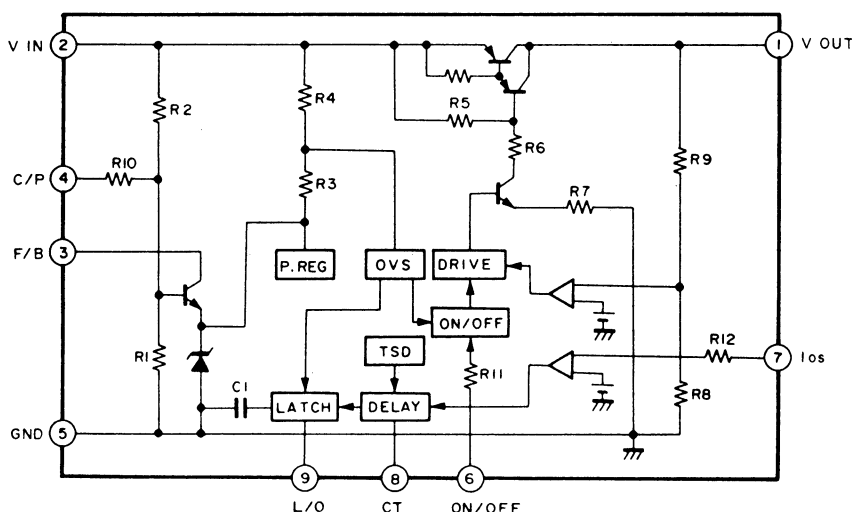


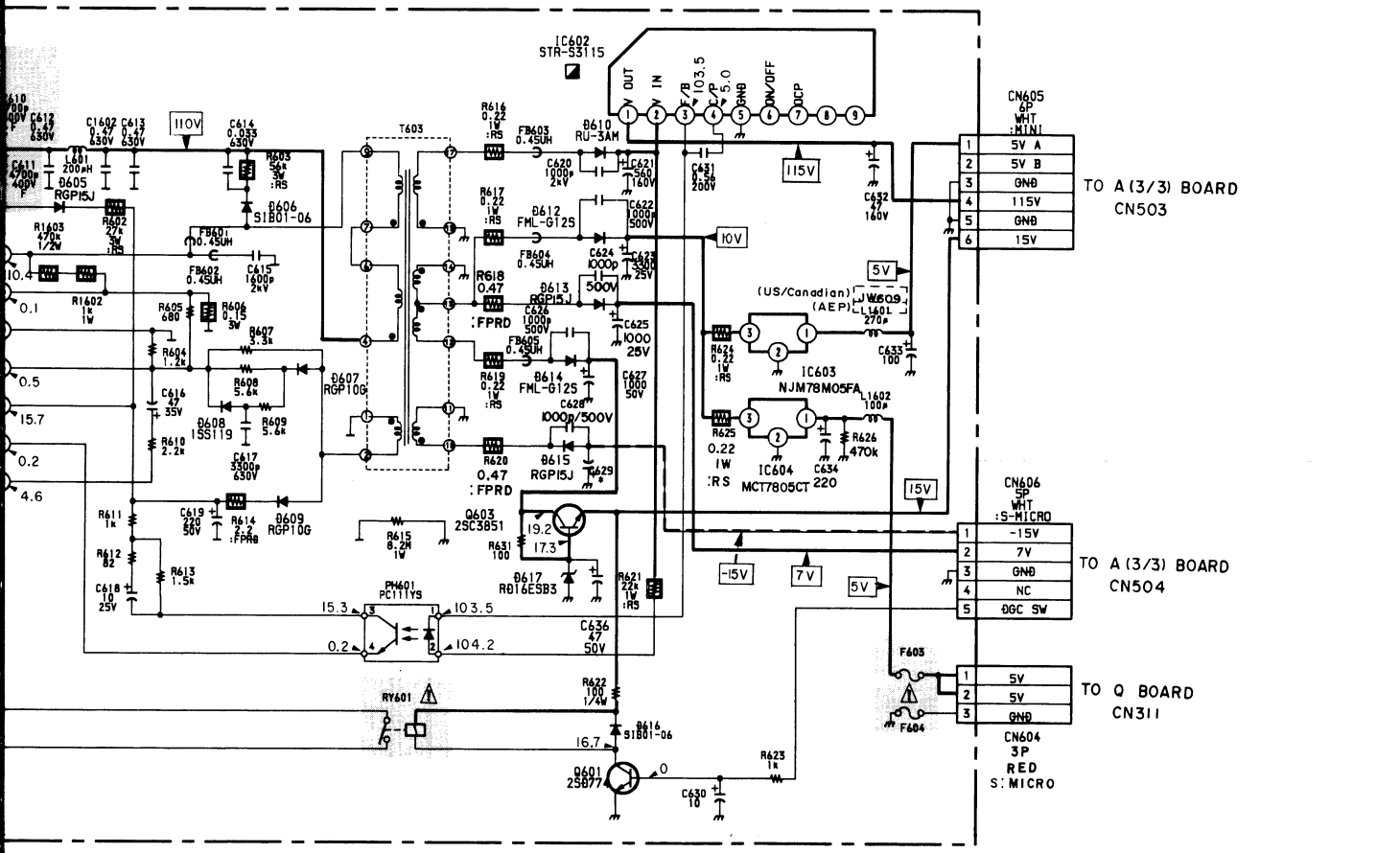
**H** (CONTROL SW)

**G BOARD IC601 STR-M6523**



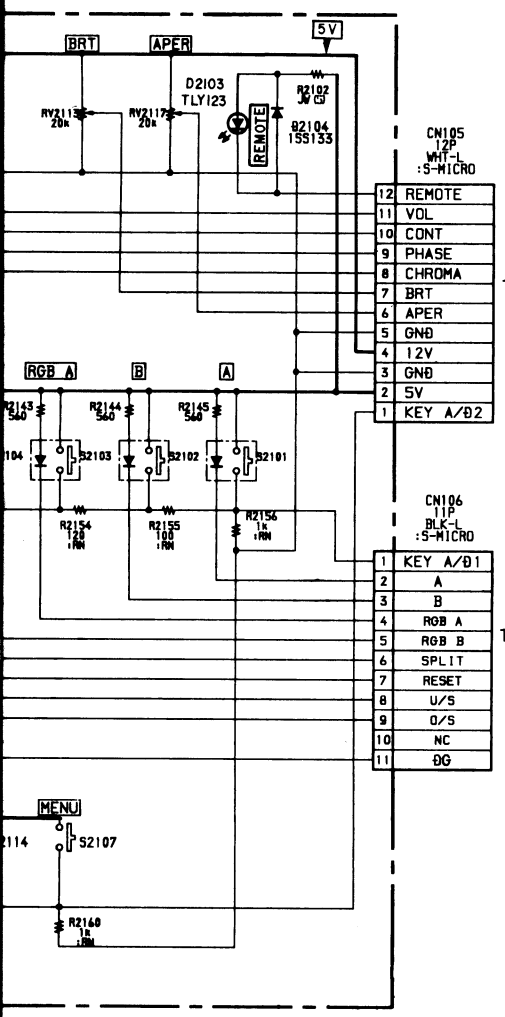
**G BOARD IC602 STR-S3115**





**G BOARD**

IC601	REF PWM
IC602	+B CONTROL
IC603	+5V A REG
IC604	+5V B REG
Q601	RELAY DRIVE
Q603	+15V REG
D601	MAIN RECT
D602	MAIN RECT
D603	MAIN RECT
D604	MAIN RECT
D605	OVP
D606	PROTECT
D607	SWITCH
D608	SWITCH
D609	SWITCH
D610	+B RECT
D612	+12V RECT
D613	+7V RECT
D614	+15V RECT
D615	-15V RECT
D616	PROTECT
D617	REF VOLTEGE

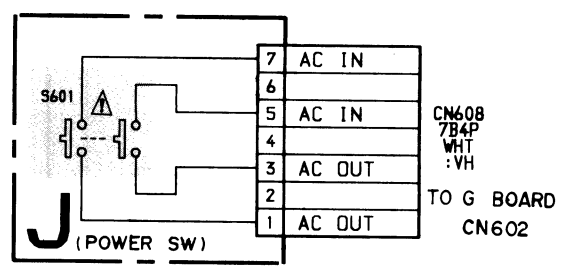


TO A(1/3) BOARD  
CN402

12	REMOTE
11	VOL
10	CONT
9	PHASE
8	CHROMA
7	BRT
6	APER
5	GND
4	12V
3	GND
2	5V
1	KEY A/B2

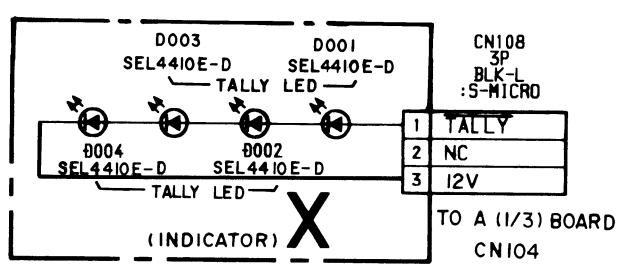
TO A(1/3) BOARD  
CN102

1	KEY A/B1
2	A
3	B
4	RGB A
5	RGB B
6	SPLIT
7	RESET
8	U/S
9	O/S
10	NC
11	OG



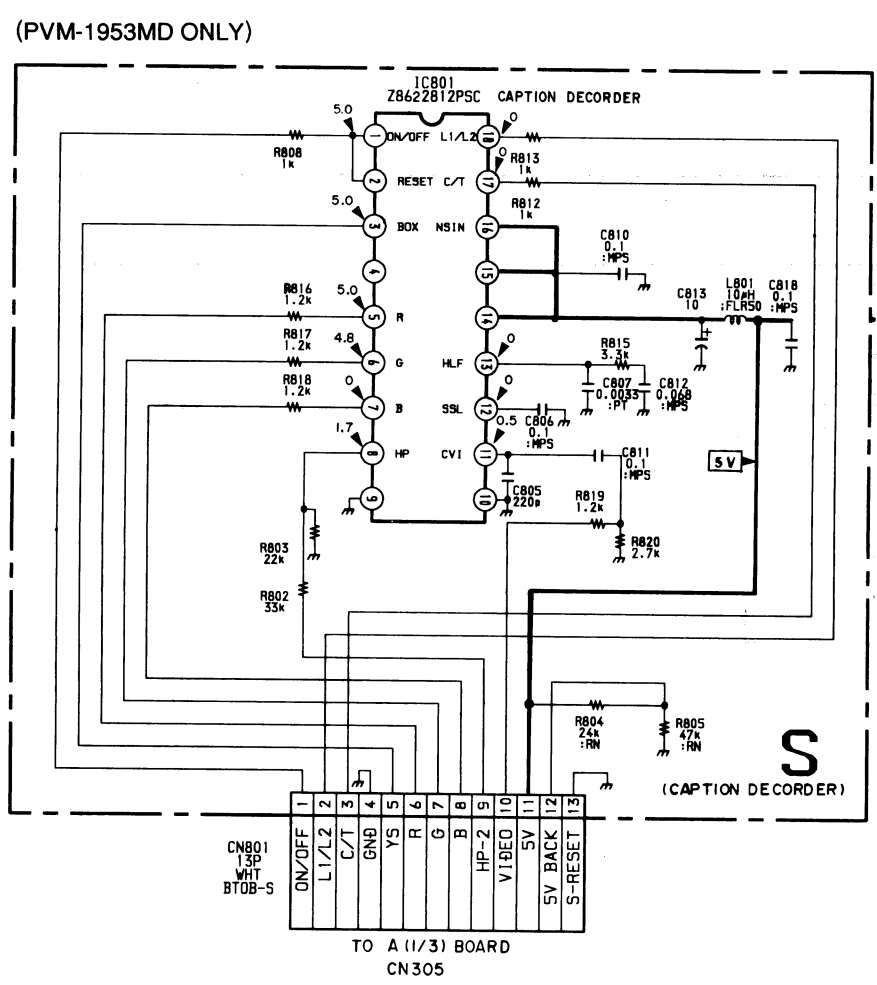
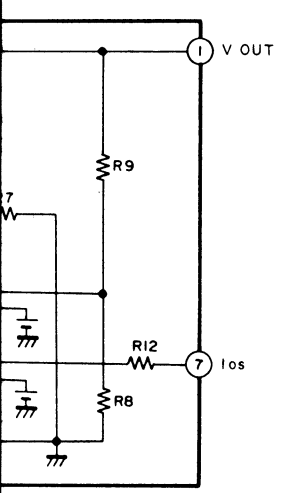
TO G BOARD  
CN602

7	AC IN
6	AC IN
5	AC IN
4	AC IN
3	AC OUT
2	AC OUT
1	AC OUT



**X BOARD**

D001	TALLY LED 1
D002	TALLY LED 2
D003	TALLY LED 3
D004	TALLY LED 4



**S BOARD**

IC801	CAPTION DECODER
-------	-----------------



**G** [POWER SUPPLY]

**Q** [INPUT SIGNAL SELECT]

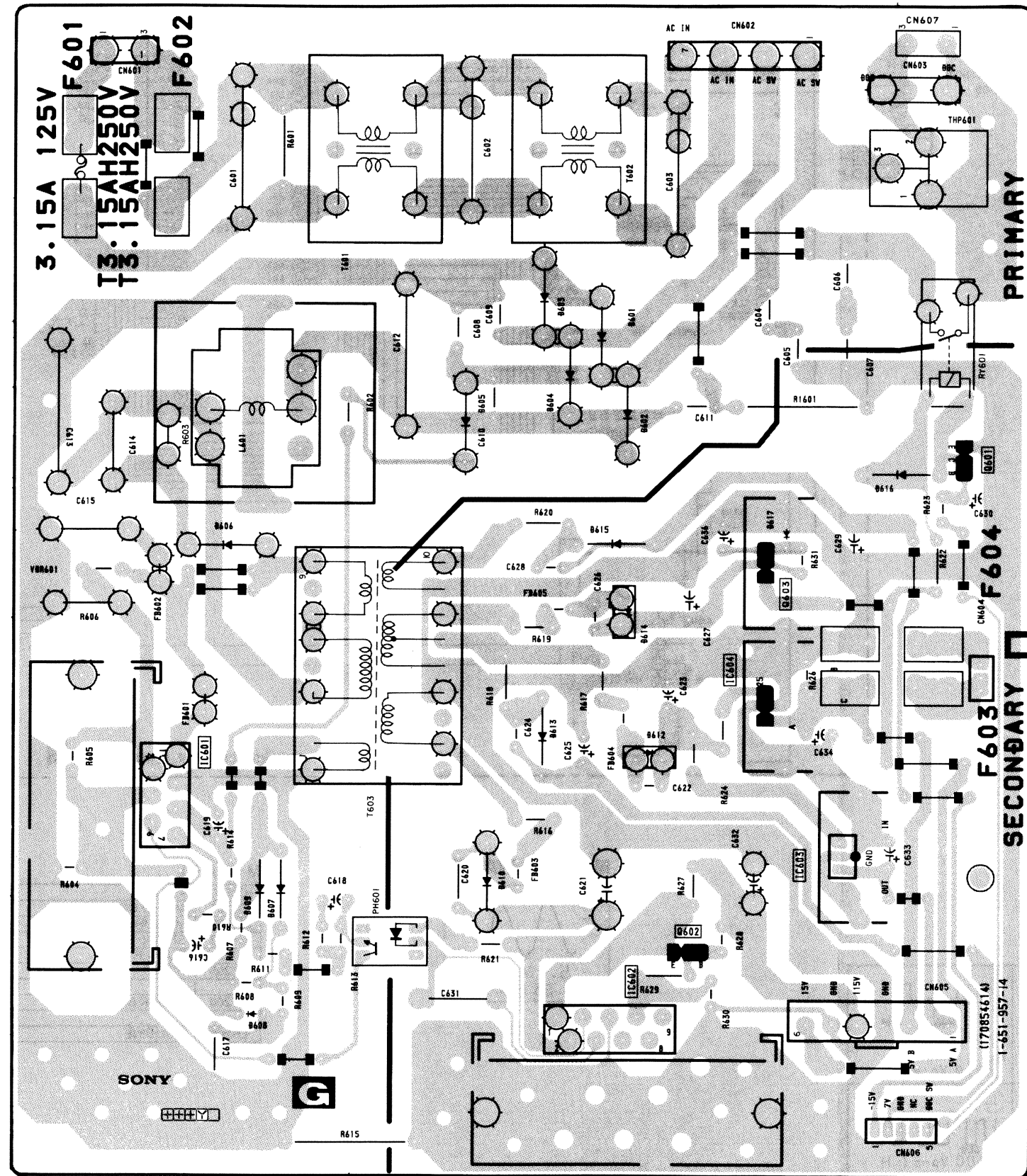
**H** [CONTROL SWITCH]

**S** [CAPTION DECORDER]

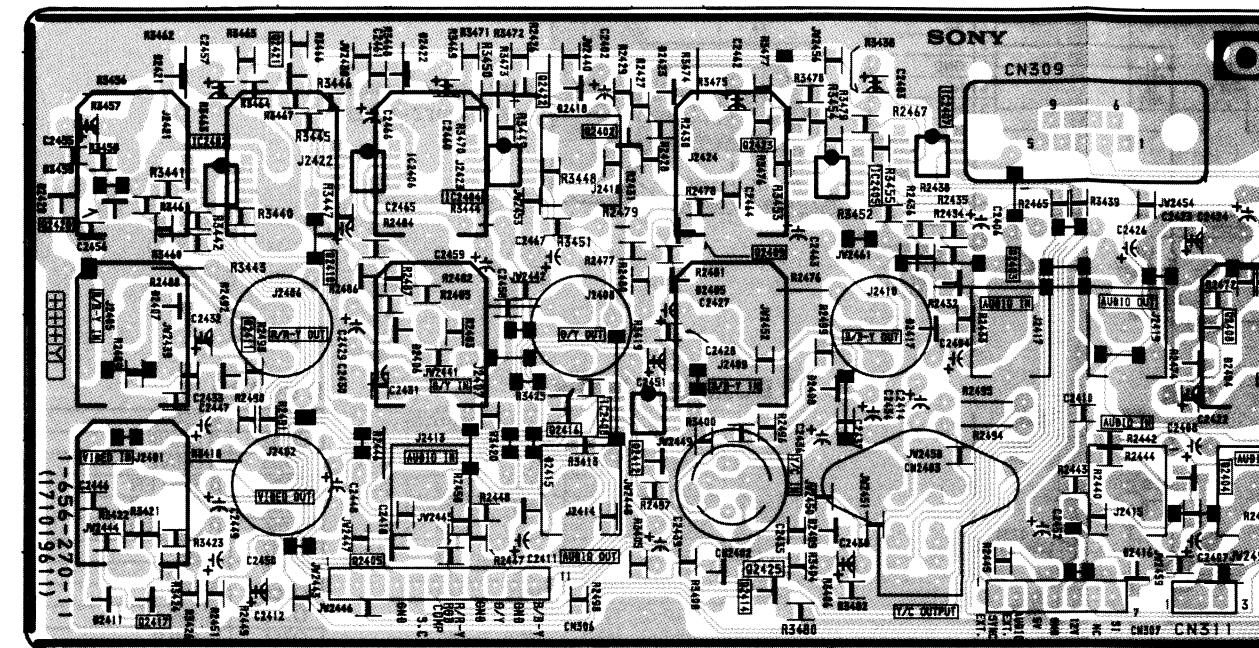
**X** [INDICATOR]

**J** [POWER SWITCH]

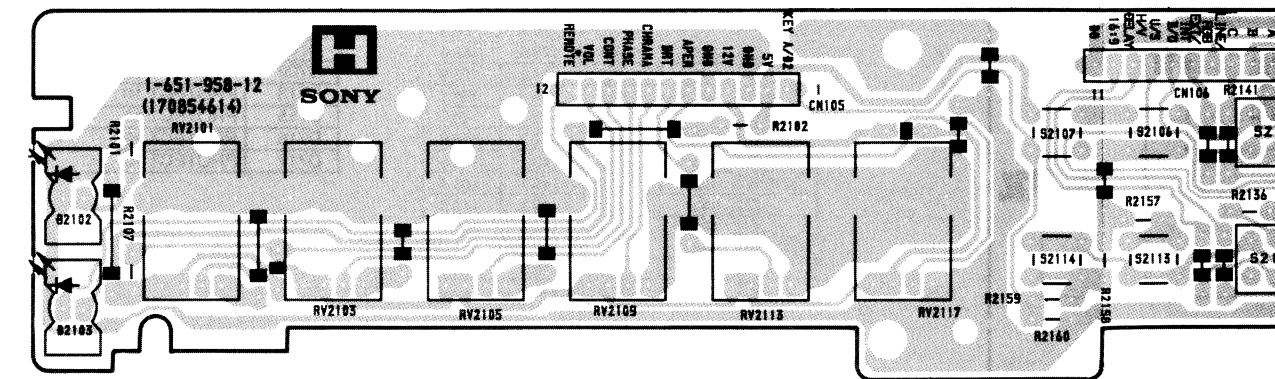
- G BOARD -



- Q BOARD -



- H BOARD -



**NOTE:**  
The circuit indicates a maximum voltage of 600 Vp-p. Care must be taken during inspection or repair.

[CONTROL SWITCH]

S

[CAPTION RECORDER]

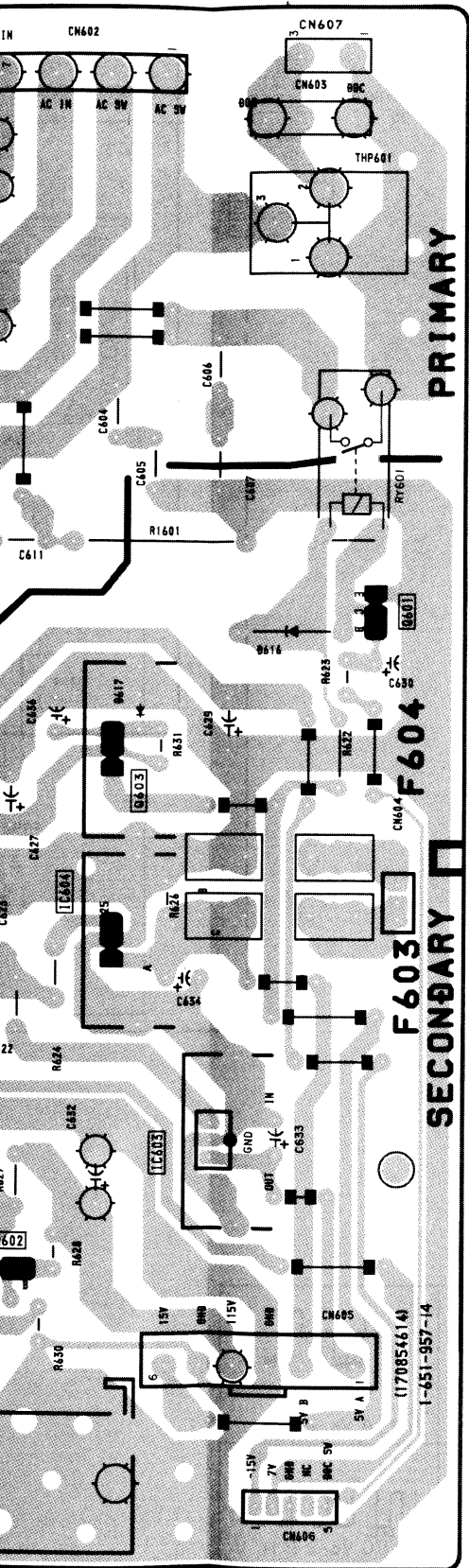
X

[INDICATOR]

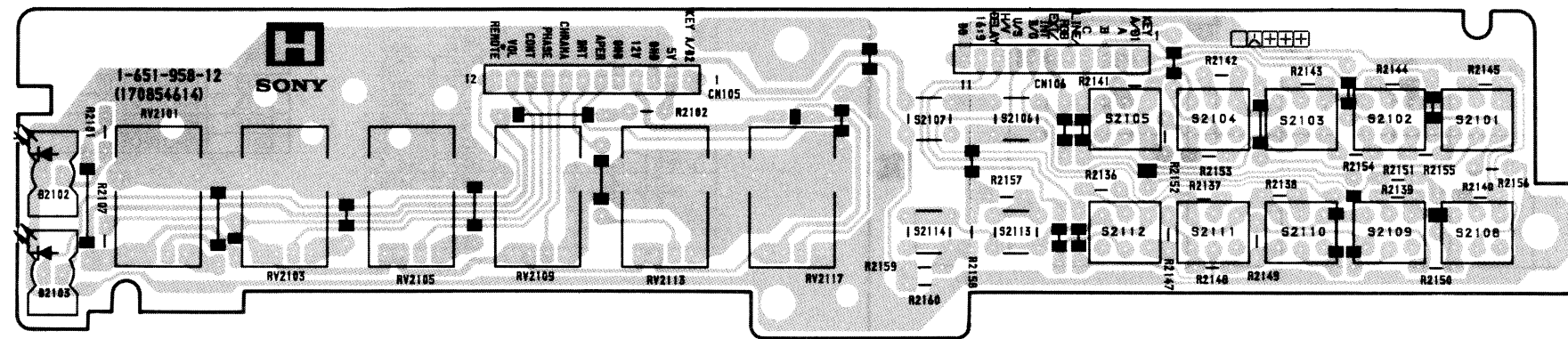
J

[POWER SWITCH]

- Q BOARD -

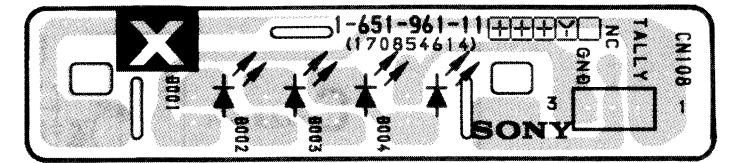


- H BOARD -



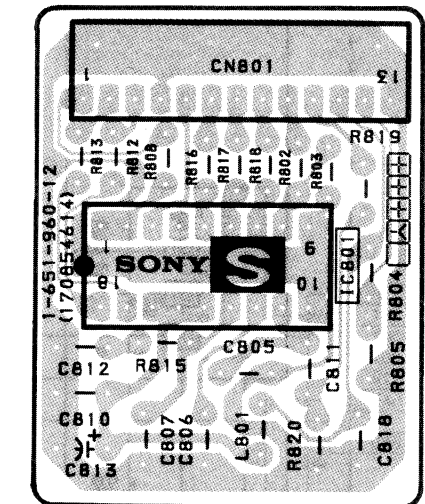
**NOTE:**  
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

- X BOARD -

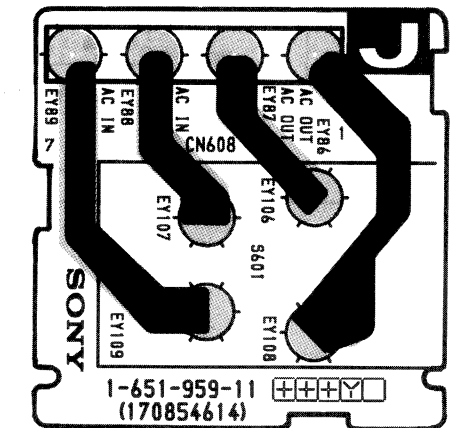


(PVM-1953MD ONLY)

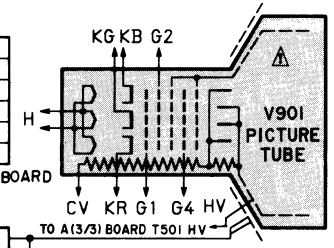
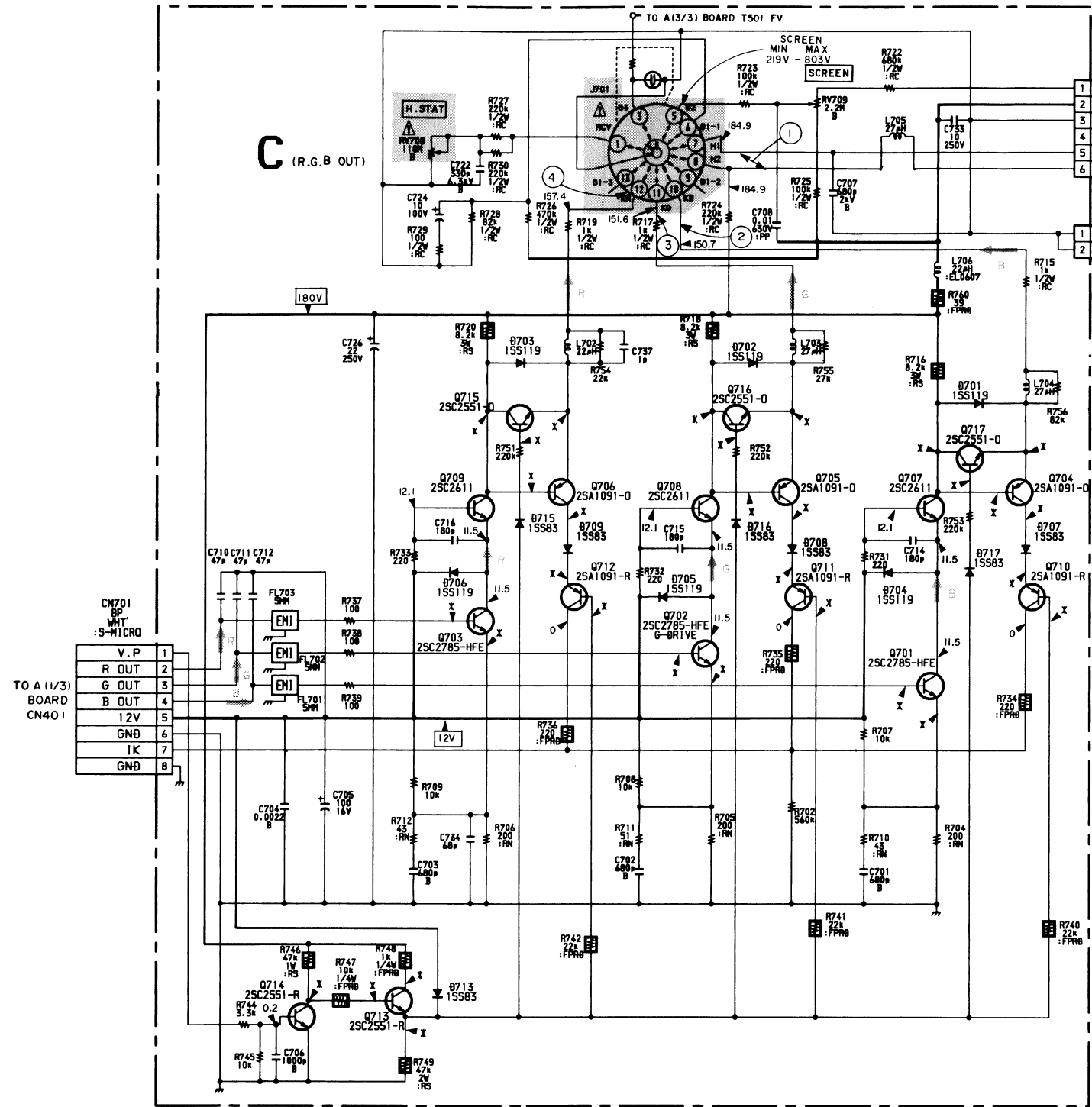
- S BOARD -



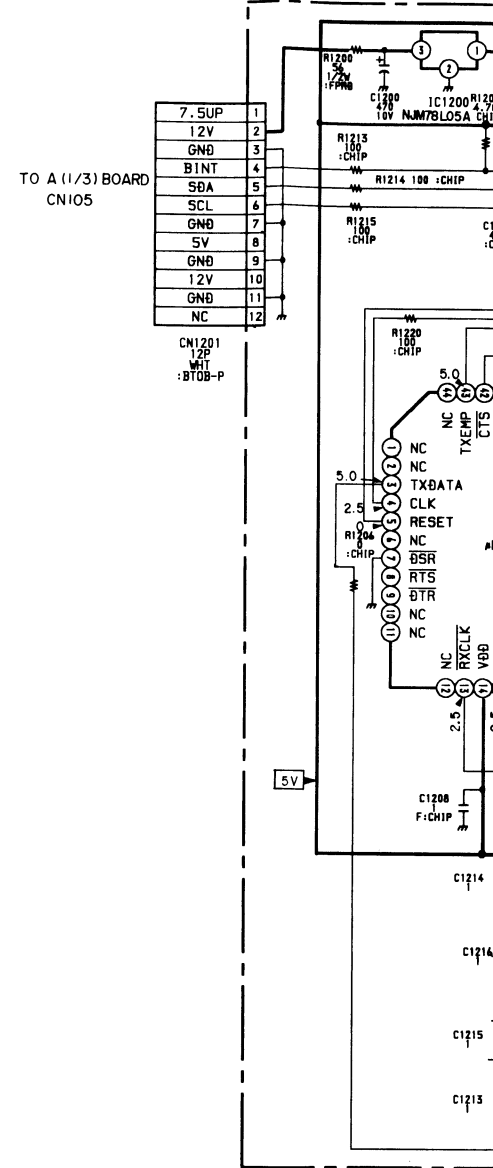
- J BOARD -







20FZ4 (US/Canadian)  
20FZ2 / 20FZ-2 (AEP)



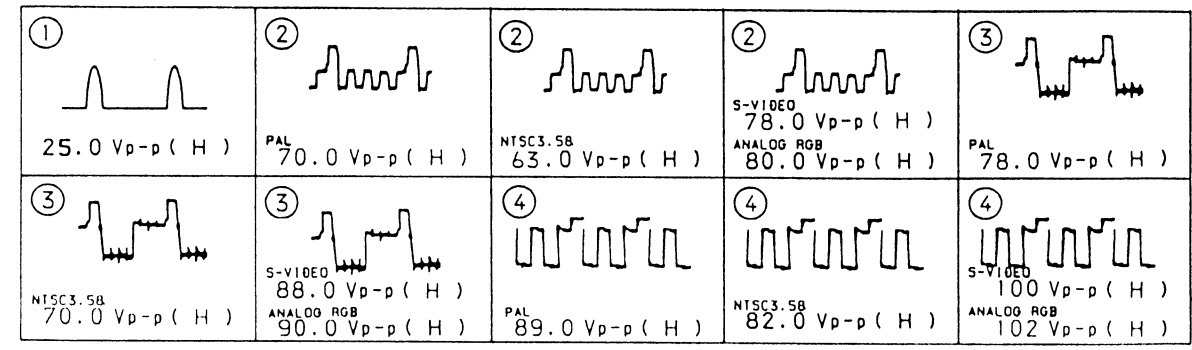
**C BOARD \* MARK**

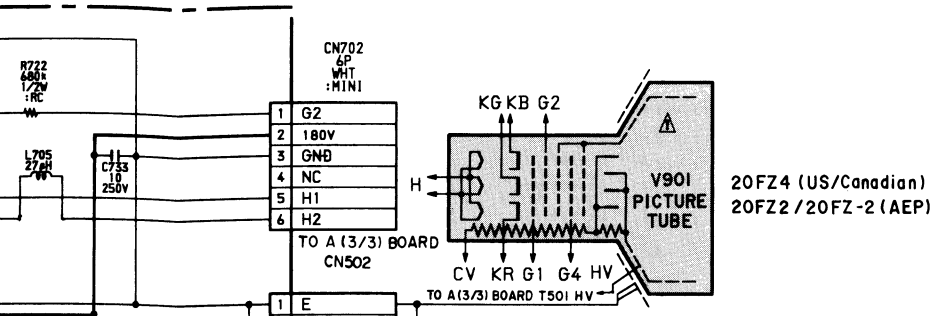
	PAL	NTSC	S-VIDEO	ANALOG
Q701 B	2.0	3.58	1.8	2.0
E	1.4	1.1	1.2	1.4
Q702 B	2.0	1.7	1.8	2.0
E	1.5	1.1	1.2	1.4
Q703 B	1.9	1.6	1.8	1.9
E	1.3	1.0	1.2	1.3
Q704 B	143.6	153.9	144.9	143.8
C	129.0	135.4	31.2	111.5
E	139.7	150.3	140.4	140.1
Q705 B	141.7	154.9	145.0	141.8
C	124.9	132.3	60.4	106.6
E	138.3	151.3	140.7	138.5
Q706 B	149.7	160.4	144.9	148.6
C	134.5	141.2	103.2	114.7
E	146.2	157.1	140.8	145.0
Q707 C	143.8	154.0	144.9	143.7
Q708 C	141.9	155.2	145.0	141.8
Q709 C	149.8	160.6	144.9	148.5
Q710 B	172.8	174.3	167.0	173.5
E	160.9	162.9	154.0	161.2
Q711 B	172.8	174.3	167.0	173.5
E	160.6	162.3	154.1	161.3
Q712 B	172.9	174.0	167.0	173.5
E	161.6	164.1	154.5	161.4
Q713 B	172.8	173.9	166.8	173.5
C	184.2	184.7	176.6	183.8
E	173.3	174.3	167.2	173.9
Q714 C	173.6	174.5	167.4	174.1
Q715 B	146.7	157.6	140.3	145.7
C	149.5	160.6	144.9	148.5
E	146.1	157.2	140.7	145.0
Q716 B	139.2	152.5	140.7	139.4
C	141.7	155.2	145.1	141.8
E	138.2	151.4	140.6	138.4
Q717 B	140.9	151.7	140.6	141.2
C	143.6	154.1	144.9	143.8
E	139.8	150.5	140.4	140.0

**C BOARD**

Q701	B DRIVE
Q702	G DRIVE
Q703	R DRIVE
Q704	B BUFFER
Q705	G BUFFER
Q706	R BUFFER
Q707	B OUT
Q708	G OUT
Q709	R OUT
Q710	IK SW 1
Q711	IK SW 2
Q712	IK SW 3
Q713	V. BLK OUT
Q714	V. BLK INT
Q715	TRACE SW 1
Q716	TRACE SW 2
Q717	TRACE SW 3
D701	PROTECT 1
D702	PROTECT 2
D703	PROTECT 3
D704	PROTECT 4
D705	PROTECT 5
D706	PROTECT 6
D707	PROTECT 7
D708	PROTECT 8
D709	PROTECT 9
D713	PROTECT 10
D715	PROTECT 11
D716	PROTECT 12
D717	PROTECT 13

**C BOARD WAVEFORMS**





20FZ4 (US/Canadian)  
20FZ2 / 20FZ-2 (AEP)

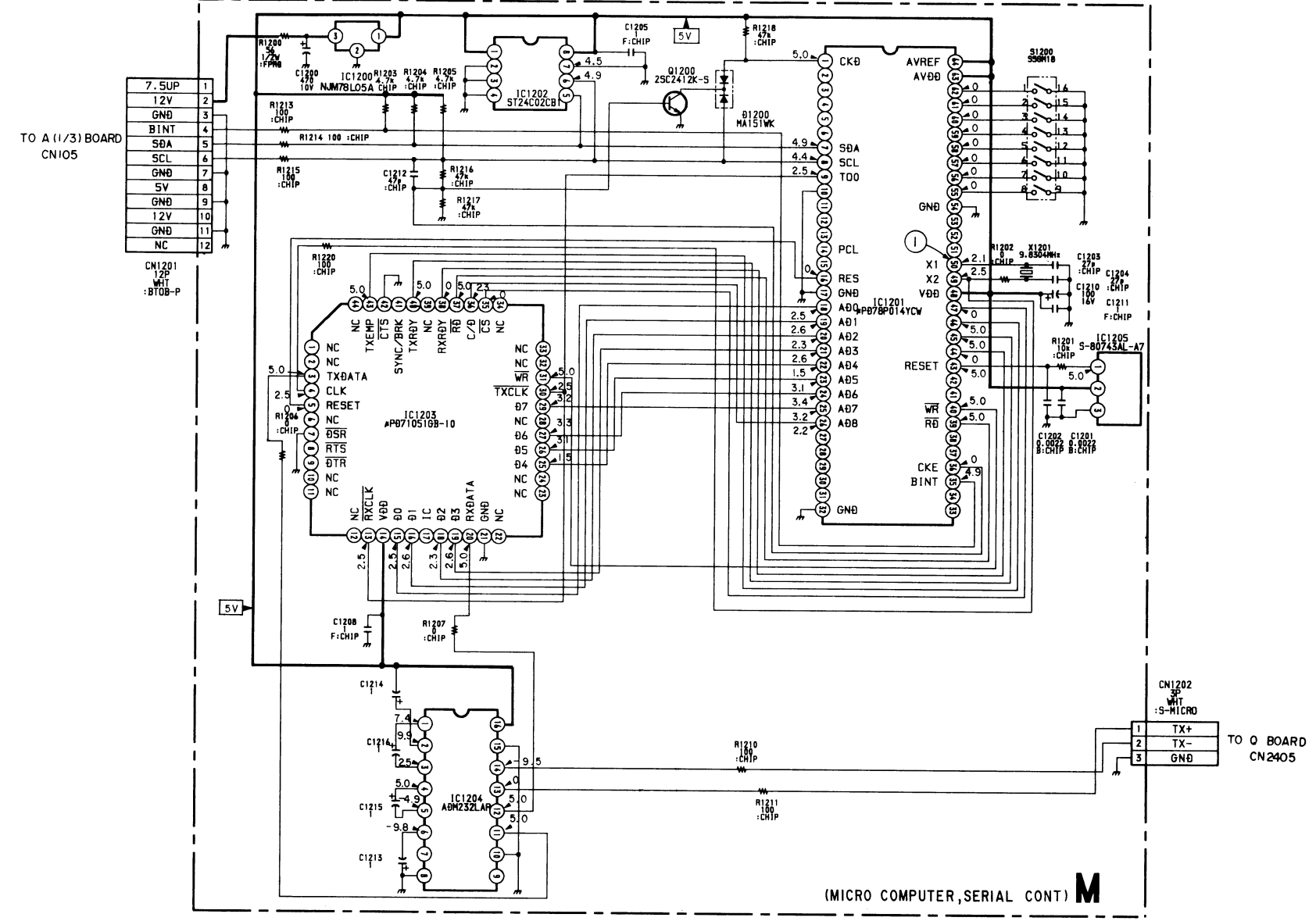
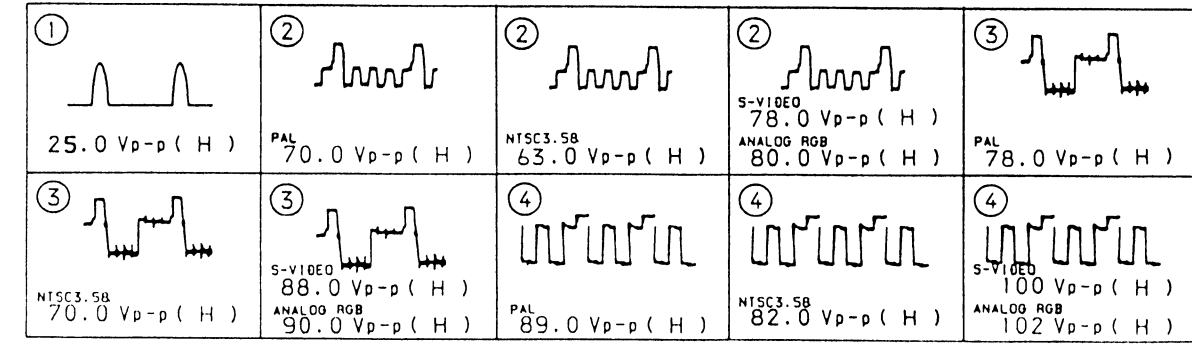
**C BOARD \* MARK**

	PAL	NTSC	S-VIDEO	ANALOG
Q701 B	2.0	1.73	1.8	2.0
E	1.4	1.1	1.2	1.4
Q702 B	2.0	1.7	1.8	2.0
E	1.5	1.1	1.2	1.4
Q703 B	1.9	1.6	1.8	1.9
E	1.3	1.0	1.2	1.3
Q704 B	143.6	153.9	144.9	143.8
C	129.0	135.4	31.2	111.5
E	139.7	150.3	140.4	140.1
Q705 B	141.7	154.9	145.0	141.8
C	124.9	132.3	60.4	106.6
E	138.3	151.3	140.7	138.5
Q706 B	149.7	160.4	144.9	148.6
C	134.5	141.2	103.2	114.7
E	146.2	157.1	140.8	145.0
Q707 C	143.8	154.0	144.9	143.7
Q708 C	141.9	155.2	145.0	141.8
Q709 C	149.8	160.6	144.9	148.5
Q710 B	172.8	174.3	167.0	173.5
E	160.9	162.9	154.0	161.2
Q711 B	172.8	174.3	167.0	173.5
E	160.6	162.3	154.1	161.3
Q712 B	172.9	174.0	167.0	173.5
E	161.6	164.1	154.5	161.4
Q713 B	172.8	173.9	166.8	173.5
C	184.2	184.7	176.6	183.8
E	173.3	174.3	167.2	173.9
Q714 C	173.6	174.5	167.4	174.1
Q715 B	146.7	157.6	140.3	145.7
C	149.5	160.6	144.9	148.5
E	146.1	157.2	140.7	145.0
Q716 B	139.2	152.5	140.7	139.4
C	141.7	155.2	145.1	141.8
E	138.2	151.4	140.6	138.4
Q717 B	140.9	151.7	140.6	141.2
C	143.6	154.1	144.9	143.8
E	139.8	150.5	140.4	140.0

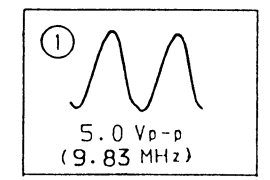
**C BOARD**

Q701	B DRIVE
Q702	G DRIVE
Q703	R DRIVE
Q704	B BUFFER
Q705	G BUFFER
Q706	R BUFFER
Q707	B OUT
Q708	G OUT
Q709	R OUT
Q710	IK SW 1
Q711	IK SW 2
Q712	IK SW 3
Q713	V. BLK OUT
Q714	V. BLK INT
Q715	TRACE SW 1
Q716	TRACE SW 2
Q717	TRACE SW 3
D701	PROTECT 1
D702	PROTECT 2
D703	PROTECT 3
D704	PROTECT 4
D705	PROTECT 5
D706	PROTECT 6
D707	PROTECT 7
D708	PROTECT 8
D709	PROTECT 9
D713	PROTECT 10
D715	PROTECT 11
D716	PROTECT 12
D717	PROTECT 13

**C BOARD WAVEFORMS**



**M BOARD WAVEFORMS**



**M BOARD**

IC1200	+5V REG
IC1201	MICRO COMPUTER
IC1202	MEMORY
IC1203	SERIAL CONT
IC1204	BUFFER
IC1205	RESET
Q1200	CLOCK BUFFER
D1200	COMBINE



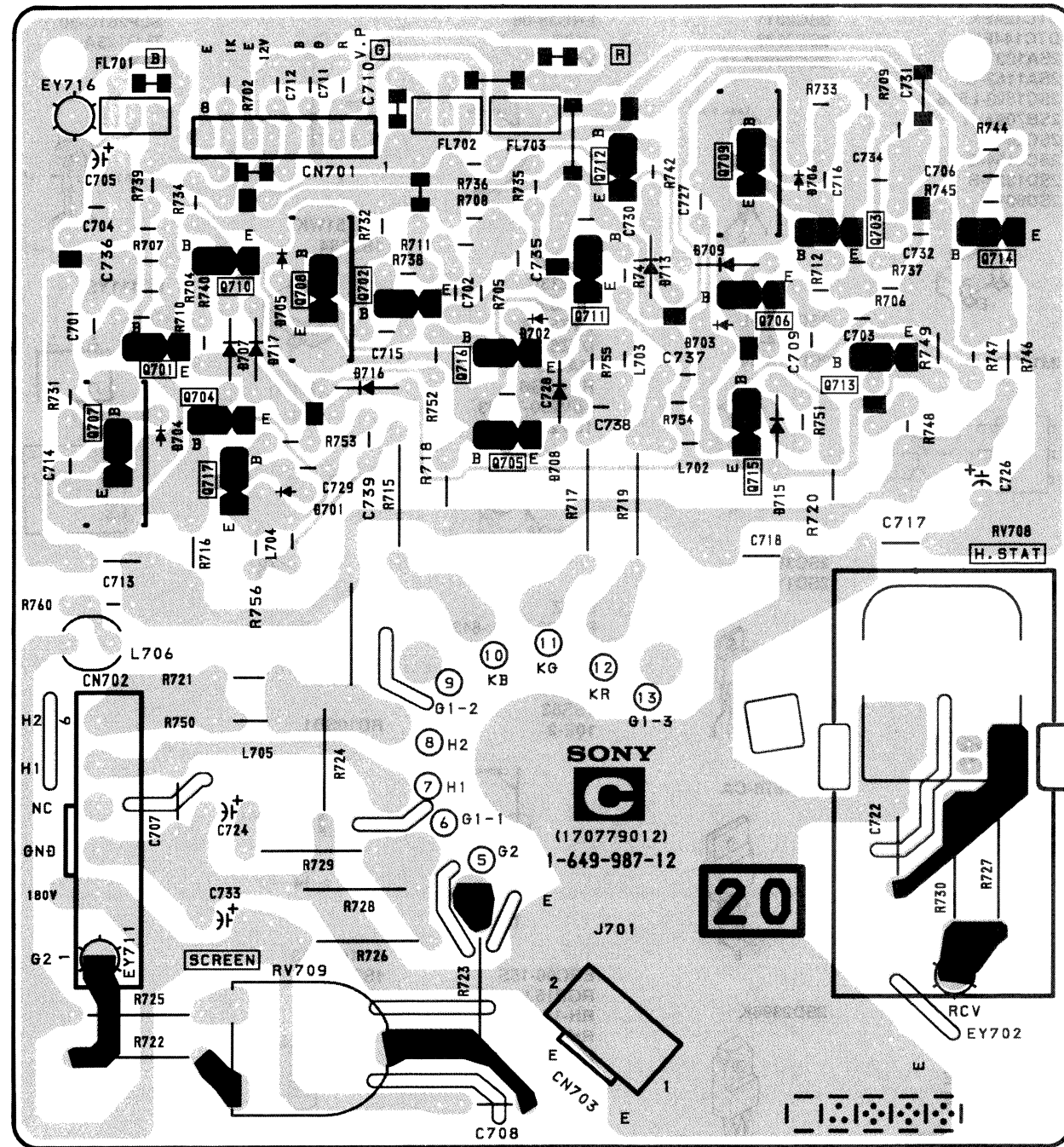
**C**

[R. G. B OUT]

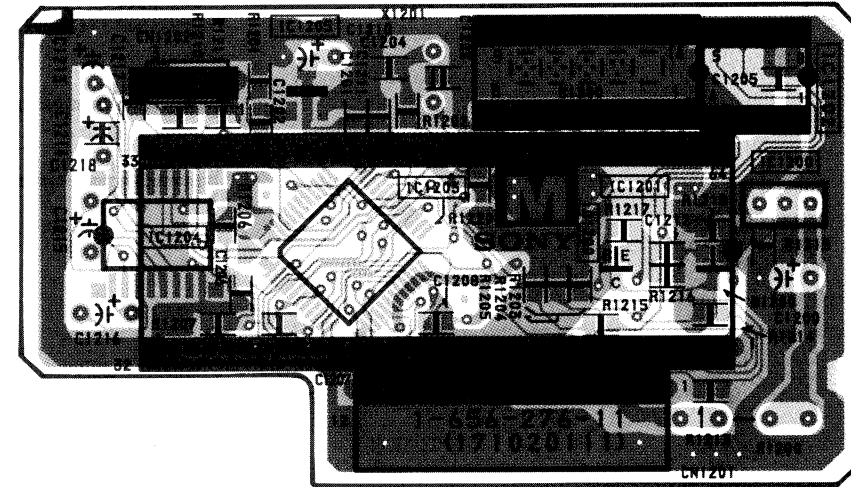
**M**

[MICRO COMPUTER, SERIAL CONT]

- C BOARD -

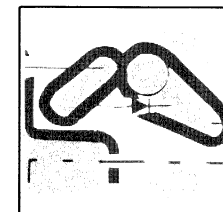


- M BOARD -



Note:

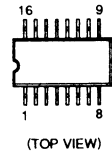
- : Pattern from the side which enables seeing.
- : Pattern of the rear.

**NOTE:**

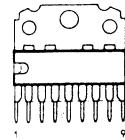
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

6-5. SEMICONDUCTORS

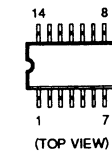
ADM232LAR-REEL  
BU4053BCF  
MC14052BF  
MC14094BF  
MC14538BF  
SN74HC4040ANS



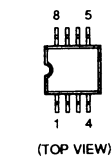
AN5265



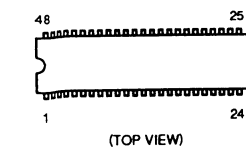
BA10324AF  
LM324DR  
MC14024BF  
MC14066BF  
MC14584BF  
XRU4066BCF-E2



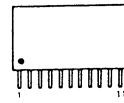
BA7655AF-E2  
CXA1211M  
LM358D  
LM358DR  
MM1111XF  
MM1113XFF  
MM1114XFF  
NJM2245M  
XRA10393F  
XRA10393FU  
XRA4558F  
UPC4558G2



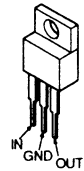
CXA1478S



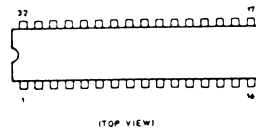
H8D7249



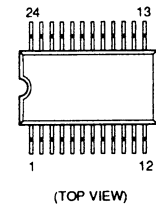
MCT78M05FA  
NJM78M05FA  
TA7805S



M51279FP



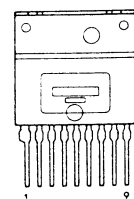
M62358FP-E1



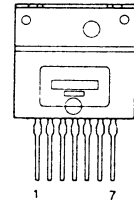
NJM78L05A



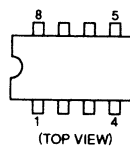
STR-S3115



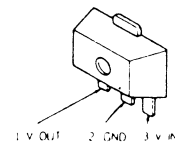
STR-M6523



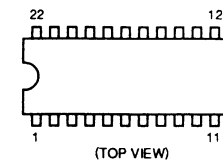
ST24C02CB1



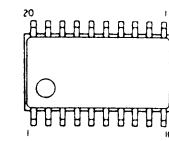
S-80743AL-A7



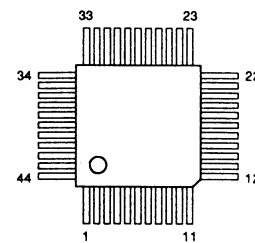
UPC1377C



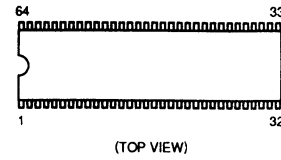
UPD6451AGT-632-E2



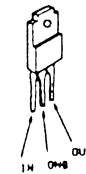
UPC71051GB-10



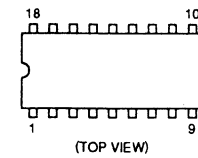
UPD78P014YCW  
UPD78013YCW-Y04



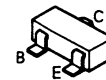
XRA17812T



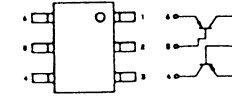
Z8612812PSC



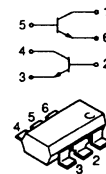
DTA144EK  
DTC124EK  
DTC144EK  
2SA1037K  
2SA1162-G  
2SC1623-L5L6  
2SB709A-R  
2SC2412K  
2SC4154-E  
2SD1328-S  
2SD601A



IMT1US



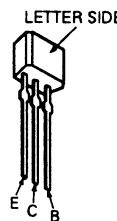
IMX1



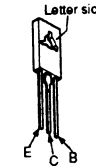
2SA1091-O  
2SC2551-O  
2SC2551-RO



2SA1175-HFE  
2SC2785-HFE



2SA1220A  
2SC2611  
2SC2688  
2SC2690A-Q



2SC2958-L  
2SD774-3  
2SD774-34



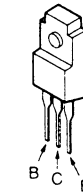
2SC3851  
2SD1134-C



2SD1878-CA



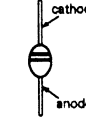
2SD2396K



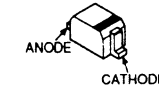
2SK94



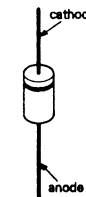
DSA3A4  
ERC38-06  
V19E  
V19G



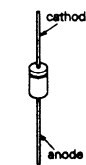
DTZ11B  
DTZ13C  
DTZ3.6A  
DTZ5.6B  
DTZ6.2  
MA110  
RD4.7SB  
1SV230-TPH3  
1SV232-TPH3



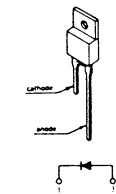
EL1Z  
RGP02-17EL-6433  
RGP10G  
RGP10GPKG23  
UF5406  
1SS83  
10E-2



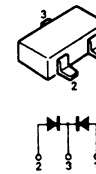
ERC06-15S  
RGP15J-6040  
RH-1A  
RH-1Z  
RU-3AM  
SIB01-06



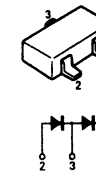
FML-G12S



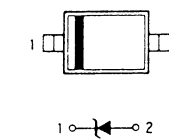
MA151WK  
1SS184



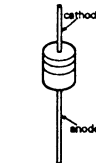
MA157  
1SS226



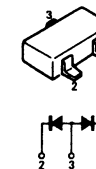
RD10SB1



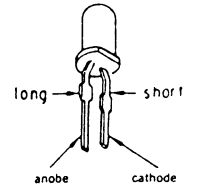
RD16ESB3  
1SS119  
1SS133



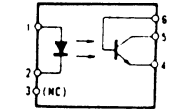
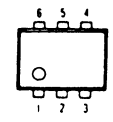
1S2835  
1S2836



SEL4410E-D  
SLP281C-50  
TLG123A  
TLY123



PC111YS



## SECTION 7 EXPLODED VIEWS

**NOTE:**

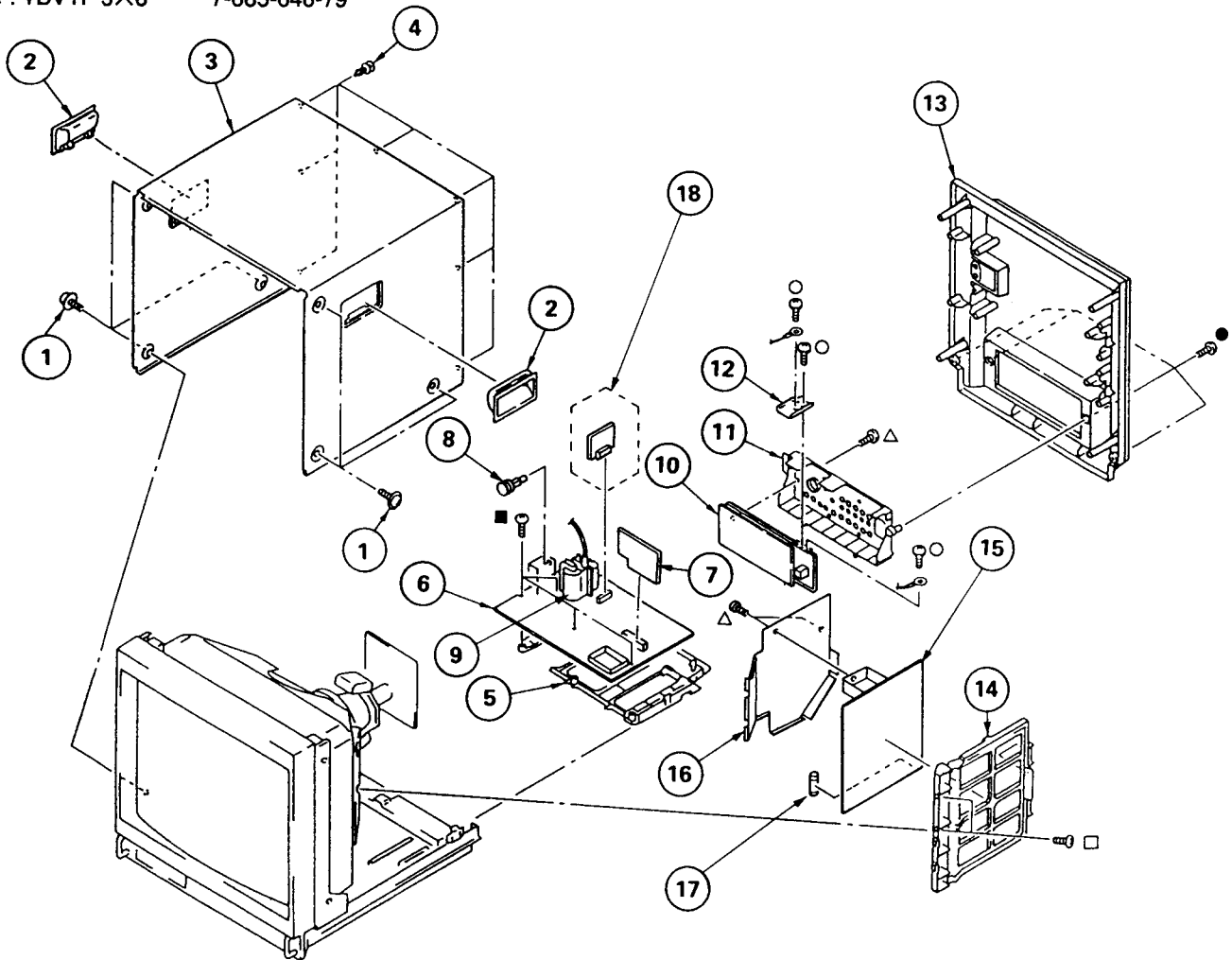
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark  $\triangle$  are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque  $\triangle$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

### 7-1. CHASSIS

- : +BVTP 4X16      7-685-663-79
- : +BVTP 3X12      7-685-648-79
- : +PS 4X8          7-682-661-09
- : +BVTT 4X8        7-682-561-04
- $\triangle$  : +BVTP 3X8        7-685-646-79



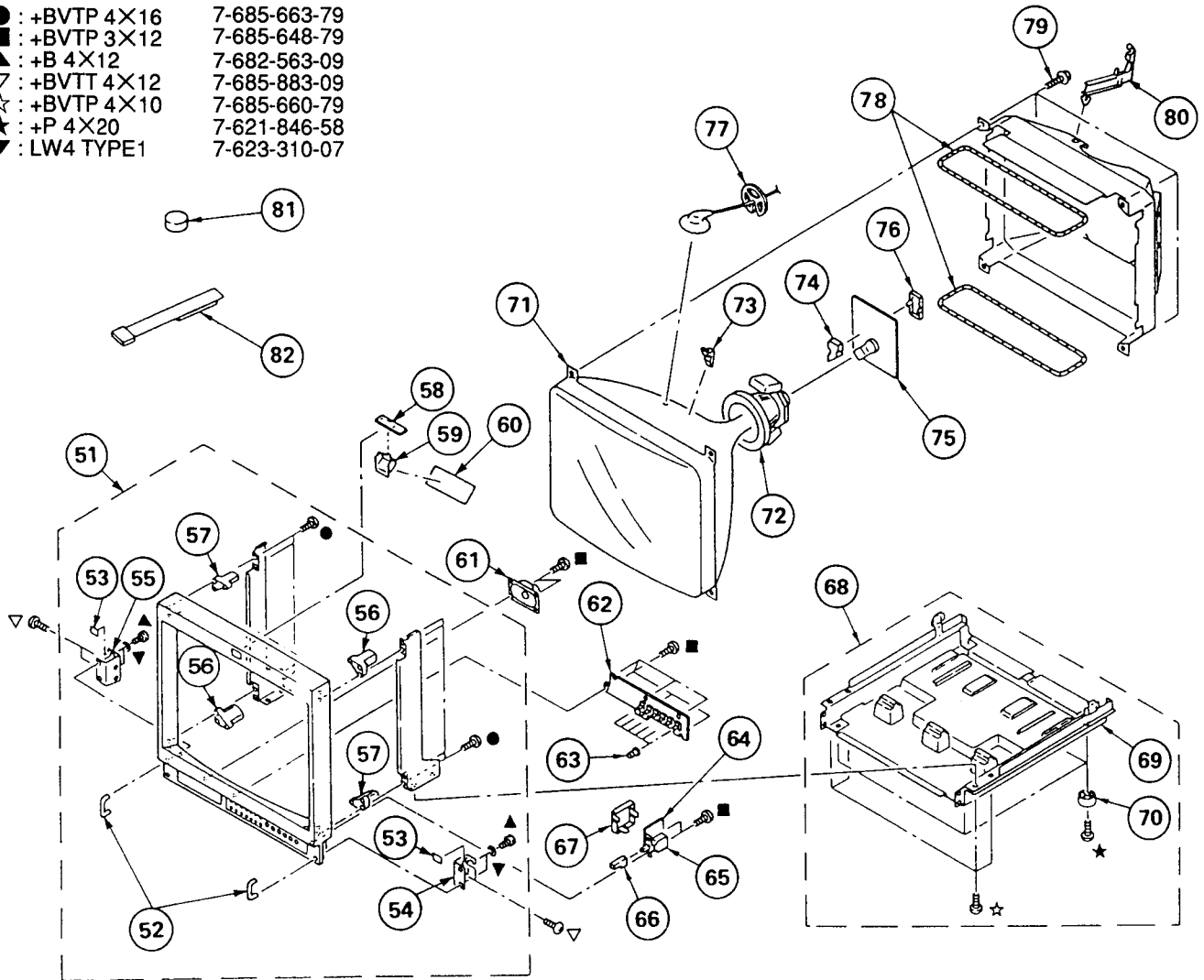
REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
1	4-847-802-11	SCREW (OS), CASE, CLAW		11	*4-043-688-21	PANEL, CONNECTOR	
2	4-043-825-11	HANDLE		12	*4-043-678-01	TERMINAL, GROUND	
3	4-043-675-31	COVER, TOP		13	4-043-677-01	COVER, REAR	
4	4-391-825-01	RIVET, NYLON		14	*4-043-689-01	BRACKET, G	
5	*4-043-690-01	BRACKET, MAIN		15	*A-1316-215-A	G BOARD, COMPLETE (PVM-2053MD)	
6	*A-1297-470-A	A BOARD, COMPLETE			*A-1316-216-A	G BOARD, COMPLETE (PVM-1953MD)	
7	*A-1304-032-A	M BOARD, COMPLETE		16	*4-047-436-01	SHIELD, G PC BOARD	
8	4-386-618-01	RIVET, T TYPE		17	$\triangle$ 1-532-745-11	FUSE, GLASS TUBE 3.15A/125V (PVM-1953MD)	
9	$\triangle$ 1-453-164-11	TRANSFORMER ASSY, FLYBACK			$\triangle$ 1-576-230-11	FUSE, (H.B.C.) 3.15A/250V (PVM-2053MD)	
10	1-537-877-11	TERMINAL BOARD ASSY, I/O (Q BOARD)		18	*A-1390-391-B	S BOARD, COMPLETE (PVM-1953MD)	

The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

## 7-2. PICTURE TUBE

- : +BVTP 4X16 7-685-663-79
- : +BVTP 3X12 7-685-648-79
- ▲ : +B 4X12 7-682-563-09
- ▽ : +BVTT 4X12 7-685-883-09
- ☆ : +BVTP 4X10 7-685-660-79
- ★ : +P 4X20 7-621-846-58
- ▼ : LW4 TYPE1 7-623-310-07



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
51	X-4032-541-1	BEZEL ASSY		71	$\Delta$ 8-736-122-05	PICTURE TUBE 20FZ2 (PVM-2053MD)	
52	4-043-680-11	HANDLE, PROTECTOR			$\Delta$ 8-736-126-05	PICTURE TUBE 20FZ-2 (PVM-2053MD)	
53	*4-043-797-01	PLATE, BLIND			$\Delta$ 8-736-124-05	PICTURE TUBE 20FZ4 (PVM-1953MD)	
54	*4-043-670-01	REINFORCEMENT (R), HANDLE		72	$\Delta$ 1-451-349-12	DEFLECTION YOKE (Y20FZA)	
55	*4-043-669-01	REINFORCEMENT (L), HANDLE		73	3-703-961-01	SPACER, DY	
56	*4-043-672-01	BRACKET (A), PICTURE TUBE		74	*4-379-167-01	COVER (MAIN), CV	
57	*4-043-673-01	BRACKET (B), PICTURE TUBE		75	*A-1331-300-A	C BOARD, COMPLETE	
58	*A-1390-498-A	X BOARD, COMPLETE		76	*4-379-160-01	COVER (REAR LID), CV	
59	*4-043-671-01	REFLECTOR, LED		77	*3-704-372-01	HOLDER, HV CABLE	
60	4-044-606-01	CUSHION, TALLY		78	$\Delta$ 1-426-505-11	COIL, DEMAGNETIZATION	
61	1-544-063-12	SPEAKER		79	4-365-808-01	SCREW (5), TAPPING	
62	*A-1372-094-A	H BOARD, COMPLETE		80	*4-387-284-01	HOLDER, LEAD	
63	X-4030-162-3	KNOB ASSY, CONTROL		81	1-452-032-00	MAGNET DISC	
64	*A-1388-166-A	J BOARD, COMPLETE		82	X-4309-608-0	PERMALLOY ASSY, CONVERGENCE	
65	$\Delta$ 1-692-921-11	SWITCH, PUSH (A.C. POWER)					
66	4-043-683-01	BUTTON, POWER SWITCH					
67	4-043-681-01	COVER, AC SWITCH					
68	*X-4031-740-1	CABINET ASSY, BOTTOM					
69	*4-043-674-01	CABINET, BOTTOM					
70	4-901-947-01	LEG					

# SECTION 8 ELECTRICAL PARTS LIST

A

**NOTE:**

The components identified by shading and mark **△** are critical for safety.  
Replace only with part number specified.

Les composants identifiés par une trame et une marque **△** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

• Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

• All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

**RESISTORS**

• All resistors are in ohms  
• F : nonflammable

When indicating parts by reference number, please include the board name.

**CAPACITORS**

**COILS**

• MF :  $\mu$ F, PF :  $\mu$  $\mu$ F • MMH : mH, UH :  $\mu$ H

• The components identified by **☒** in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

• \* : Selected to yield optimum performance.

• There are some cases the reference number on one board overlaps on the other board. Therefore, when ordering parts by the reference number, please include the board name.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
*A-1297-470-A		A BOARD, COMPLETE *****		C171	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
1-540-044-11		SOCKET, IC		C174	1-163-243-11	CERAMIC CHIP 47PF	5% 50V
*4-030-359-01		HEAT SINK, H. PIN		C175	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
*4-043-154-01		HOLDER, IC		C200	1-124-927-11	ELECT 4.7MF	20% 50V
*4-043-994-01		PLATE (CF), SHIELD		C201	1-106-383-00	MYLAR 0.047MF	10% 100V
4-363-414-00		SPACER, MICA		C202	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
4-382-854-11		SCREW (M3X10), P. SW (+)		C203	1-124-927-11	ELECT 4.7MF	20% 50V
		<FILTER>		C204	1-124-907-11	ELECT 10MF	20% 50V
BPF400	1-236-363-11	FILTER, BAND PASS		C205	1-124-360-00	ELECT 1000MF	20% 16V
		<CAPACITOR>		C206	1-126-375-11	ELECT 100MF	20% 25V
C105	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C207	1-124-478-11	ELECT 100MF	20% 25V
C114	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C208	1-124-907-11	ELECT 10MF	20% 50V
C115	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C209	1-124-927-11	ELECT 4.7MF	20% 50V
C116	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C304	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C117	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C305	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
C118	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C306	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C119	1-165-319-11	CERAMIC CHIP 0.1MF	50V	C310	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C121	1-163-237-11	CERAMIC CHIP 27PF	5% 50V	C311	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
C123	1-165-319-11	CERAMIC CHIP 0.1MF	50V	C312	1-124-925-11	ELECT 2.2MF	20% 50V
C124	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C313	1-163-145-00	CERAMIC CHIP 0.0015MF	5% 50V
C132	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	C314	1-163-249-11	CERAMIC CHIP 82PF	5% 50V
C133	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C315	1-124-907-11	ELECT 10MF	20% 50V
C134	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C316	1-124-477-11	ELECT 47MF	20% 25V
C135	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C318	1-124-907-11	ELECT 10MF	20% 50V
C136	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C325	1-124-907-11	ELECT 10MF	20% 50V
C140	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C340	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C141	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V	C343	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C142	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C349	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C143	1-165-319-11	CERAMIC CHIP 0.1MF	50V	C350	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C144	1-165-319-11	CERAMIC CHIP 0.1MF	50V	C352	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C145	1-165-319-11	CERAMIC CHIP 0.1MF	50V	C353	1-165-319-11	CERAMIC CHIP 0.1MF	50V
C154	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	C354	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
C155	1-163-023-00	CERAMIC CHIP 0.015MF	10% 50V	C355	1-124-903-11	ELECT 1MF	20% 50V
C156	1-163-019-00	CERAMIC CHIP 0.0068MF	10% 50V	C356	1-124-927-11	ELECT 4.7MF	20% 50V
C157	1-163-019-00	CERAMIC CHIP 0.0068MF	10% 50V	C357	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C158	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	C358	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C159	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	C359	1-124-477-11	ELECT 47MF	20% 25V
C161	1-124-477-11	ELECT 47MF	20% 16V	C360	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C162	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	C361	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C164	1-165-319-11	CERAMIC CHIP 0.1MF	50V	C362	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C165	1-165-319-11	CERAMIC CHIP 0.1MF	50V	C363	1-163-099-00	CERAMIC CHIP 18PF	5% 50V
C166	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C364	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C167	1-124-472-11	ELECT 470MF	20% 10V	C365	1-106-343-00	MYLAR 0.001MF	10% 100V
C168	1-124-472-11	ELECT 470MF	20% 10V	C366	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C169	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C367	1-163-031-11	CERAMIC CHIP 0.01MF	50V
				C368	1-124-907-11	ELECT 10MF	20% 50V
				C369	1-164-298-11	CERAMIC CHIP 0.15MF	10% 25V
				C370	1-124-477-11	ELECT 47MF	20% 25V
				C371	1-124-477-11	ELECT 47MF	20% 25V
				C372	1-163-031-11	CERAMIC CHIP 0.01MF	50V
				C373	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C374	1-124-903-11	ELECT 1MF	20%	50V	C444	1-165-319-11	CERAMIC CHIP 0.1MF 50V
C375	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	C445	1-163-809-11	CERAMIC CHIP 0.047MF 10%
C376	1-124-902-00	ELECT 0.47MF	20%	50V	C446	1-163-229-11	CERAMIC CHIP 12PF 5%
C377	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V	C447	1-163-263-11	CERAMIC CHIP 330PF 5%
C378	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V	C448	1-163-107-00	CERAMIC CHIP 39PF 5%
C379	1-163-031-11	CERAMIC CHIP 0.01MF		50V	C449	1-163-227-11	CERAMIC CHIP 10PF 0.5PF
C380	1-124-360-00	ELECT 1000MF	20%	16V	C450	1-163-809-11	CERAMIC CHIP 0.047MF 10%
C381	1-163-031-11	CERAMIC CHIP 0.01MF		50V	C451	1-164-004-11	CERAMIC CHIP 0.1MF 10%
C382	1-163-243-11	CERAMIC CHIP 47PF	5%	50V	C452	1-163-263-11	CERAMIC CHIP 330PF 5%
C383	1-124-477-11	ELECT 47MF	20%	25V	C453	1-163-031-11	CERAMIC CHIP 0.01MF 50V
C384	1-163-249-11	CERAMIC CHIP 82PF	5%	50V	C454	1-163-107-00	CERAMIC CHIP 39PF 5%
C385	1-124-477-11	ELECT 47MF	20%	25V	C455	1-163-263-11	CERAMIC CHIP 330PF 5%
C386	1-124-907-11	ELECT 10MF	20%	50V	C456	1-163-229-11	CERAMIC CHIP 12PF 5%
C387	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	C457	1-163-031-11	CERAMIC CHIP 0.01MF 50V
C388	1-124-907-11	ELECT 10MF	20%	50V	C458	1-163-249-11	CERAMIC CHIP 82PF 5%
C390	1-163-243-11	CERAMIC CHIP 47PF	5%	50V	C459	1-165-319-11	CERAMIC CHIP 0.1MF 50V
C391	1-124-477-11	ELECT 47MF	20%	25V	C460	1-164-004-11	CERAMIC CHIP 0.1MF 10%
C392	1-164-298-11	CERAMIC CHIP 0.15MF	10%	25V	C461	1-163-119-00	CERAMIC CHIP 120PF 5%
C393	1-164-298-11	CERAMIC CHIP 0.15MF	10%	25V	C462	1-163-031-11	CERAMIC CHIP 0.01MF 50V
C394	1-124-477-11	ELECT 47MF	20%	25V	C463	1-163-031-11	CERAMIC CHIP 0.01MF 50V
C395	1-163-235-11	CERAMIC CHIP 22PF	5%	50V	C464	1-164-299-11	CERAMIC CHIP 0.22MF 10%
C396	1-164-299-11	CERAMIC CHIP 0.22MF	10%	25V	C465	1-163-097-00	CERAMIC CHIP 15PF 5%
C397	1-124-477-11	ELECT 47MF	20%	25V	C466	1-163-119-00	CERAMIC CHIP 120PF 5%
C398	1-124-477-11	ELECT 47MF	20%	25V	C467	1-163-119-00	CERAMIC CHIP 120PF 5%
C399	1-124-477-11	ELECT 47MF	20%	25V	C468	1-163-037-11	CERAMIC CHIP 0.022MF 10%
C400	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	C469	1-163-243-11	CERAMIC CHIP 47PF 5%
C401	1-164-346-11	CERAMIC CHIP 1MF		16V	C470	1-163-243-11	CERAMIC CHIP 47PF 5%
C402	1-124-910-11	ELECT 47MF	20%	50V	C471	1-163-105-00	CERAMIC CHIP 33PF 5%
C403	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	C472	1-163-031-11	CERAMIC CHIP 0.01MF 50V
C406	1-124-916-11	ELECT 22MF	20%	50V	C473	1-163-031-11	CERAMIC CHIP 0.01MF 50V
C407	1-124-477-11	ELECT 47MF	20%	25V	C475	1-163-031-11	CERAMIC CHIP 0.01MF 50V
C408	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	C476	1-163-031-11	CERAMIC CHIP 0.01MF 50V
C409	1-163-031-11	CERAMIC CHIP 0.01MF		50V	C477	1-164-299-11	CERAMIC CHIP 0.22MF 10%
C410	1-124-916-11	ELECT 22MF	20%	50V	C478	1-124-907-11	ELECT 10MF 20%
C411	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	C479	1-163-121-00	CERAMIC CHIP 150PF 5%
C414	1-163-031-11	CERAMIC CHIP 0.01MF		50V	C482	1-124-472-11	ELECT 470MF 20%
C415	1-124-907-11	ELECT 10MF	20%	50V	C483	1-163-249-11	CERAMIC CHIP 82PF 5%
C416	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	C484	1-163-113-00	CERAMIC CHIP 68PF 5%
C417	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	C485	1-163-113-00	CERAMIC CHIP 68PF 5%
C418	1-164-182-11	CERAMIC CHIP 0.0033MF	10%	50V	C486	1-163-249-11	CERAMIC CHIP 82PF 5%
C419	1-124-472-11	ELECT 470MF	20%	10V	C487	1-163-235-11	CERAMIC CHIP 22PF 5%
C420	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V	C488	1-163-097-00	CERAMIC CHIP 15PF 5%
C421	1-164-222-11	CERAMIC CHIP 0.22MF		25V	C490	1-164-336-11	CERAMIC CHIP 0.33MF 25V
C422	1-124-903-11	ELECT 1MF	20%	50V	C491	1-164-336-11	CERAMIC CHIP 0.33MF 25V
C423	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V	C492	1-164-336-11	CERAMIC CHIP 0.33MF 25V
C424	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V	C493	1-104-760-11	CERAMIC CHIP 0.047MF 10%
C426	1-163-243-11	CERAMIC CHIP 47PF	5%	50V	C494	1-104-760-11	CERAMIC CHIP 0.047MF 10%
C427	1-163-031-11	CERAMIC CHIP 0.01MF		50V	C495	1-124-907-11	ELECT 10MF 20%
C428	1-124-119-00	ELECT 330MF	20%	16V	C496	1-163-239-11	CERAMIC CHIP 33PF 5%
C429	1-163-031-11	CERAMIC CHIP 0.01MF		50V	C497	1-163-011-11	CERAMIC CHIP 0.0015MF 10%
C430	1-124-119-00	ELECT 330MF	20%	16V	C498	1-124-925-11	ELECT 2.2MF 20%
C431	1-165-319-11	CERAMIC CHIP 0.1MF		50V	C499	1-163-031-11	CERAMIC CHIP 0.01MF 50V
C432	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	C500	1-164-004-11	CERAMIC CHIP 0.1MF 10%
C433	1-163-235-11	CERAMIC CHIP 22PF	5%	50V	C501	1-164-182-11	CERAMIC CHIP 0.0033MF 10%
C434	1-163-031-11	CERAMIC CHIP 0.01MF		50V	C502	1-163-141-00	CERAMIC CHIP 0.001MF 5%
C435	1-163-089-00	CERAMIC CHIP 6PF	0.25PF	50V	C503	1-163-251-11	CERAMIC CHIP 100PF 5%
C436	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	C504	1-136-495-11	FILM 0.068MF 5%
C437	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	C505	1-163-199-00	CERAMIC CHIP 560PF 5%
C438	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V	C506	1-124-902-00	ELECT 0.47MF 20%
C439	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V	C507	1-126-375-11	ELECT 100MF 20%
C440	1-163-031-11	CERAMIC CHIP 0.01MF		50V	C508	1-130-495-00	MYLAR 0.1MF 5%
C441	1-126-962-11	ELECT 3.3MF	20%	50V	C509	1-124-935-11	ELECT 470MF 20%
C442	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V	C511	1-108-700-11	MYLAR 0.047MF 10%
C443	1-163-107-00	CERAMIC CHIP 39PF	5%	50V	C512	1-124-902-00	ELECT 0.47MF 20%

The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C513	1-126-096-11	ELECT	10MF	20%	25V		
C514	1-129-718-00	FILM	0.022MF	10%	630V		
C515	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V		
C516	1-102-030-00	CERAMIC	330PF	10%	500V		
C517	1-163-024-00	CERAMIC CHIP	0.018MF	10%	50V		
C518	1-107-995-11	ELECT	100MF	0	160V		
C519	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V		
C520	1-163-257-11	CERAMIC CHIP	180PF	5%	50V		
C521	1-162-114-00	CERAMIC	0.0047MF		2KV		
C522	1-124-360-00	ELECT	1000MF	20%	16V		
C523	1-126-801-11	ELECT	1MF	20%	50V		
C525 $\Delta$	1-136-904-11	FILM	0.0115MF	3%	2KV		
C526 $\Delta$	1-162-116-91	CERAMIC	680PF	10%	2KV		
C527	1-162-133-00	CERAMIC	390PF	10%	2KV		
C529	1-104-797-11	ELECT	0.47MF	20%	50V		
C530	1-124-120-11	ELECT	220MF	20%	25V		
C531	1-124-477-11	ELECT	47MF	20%	25V		
C532	1-163-031-11	CERAMIC CHIP	0.01MF		50V		
C533	1-102-212-00	CERAMIC	820PF	10%	500V		
C534	1-123-948-00	ELECT	22MF	20%	250V		
C537	1-124-913-11	ELECT	470MF	20%	50V		
C538	1-106-367-00	MYLAR	0.01MF	10%	100V		
C539	1-130-480-00	FILM	0.0056MF	5%	50V		
C540	1-163-133-00	CERAMIC CHIP	470PF	5%	50V		
C541	1-124-927-11	ELECT	4.7MF	20%	50V		
C542	1-106-351-00	MYLAR	0.0022MF	10%	100V		
C543	1-106-351-00	MYLAR	0.0022MF	10%	100V		
C544	1-106-367-00	MYLAR	0.01MF	10%	100V		
C545	1-102-212-00	CERAMIC	820PF	10%	500V		
C546	1-163-119-00	CERAMIC CHIP	120PF	5%	50V		
C547	1-163-251-11	CERAMIC CHIP	100PF	5%	50V		
C548	1-102-212-00	CERAMIC	820PF	10%	500V		
C549	1-124-667-11	ELECT	10MF	20%	50V		
C550	1-126-163-11	ELECT	4.7MF	20%	50V		
C551	1-106-375-12	MYLAR	0.022MF	10%	100V		
C552	1-126-336-11	ELECT	220MF	20%	25V		
C553	1-106-389-00	MYLAR	0.082MF	10%	200V		
C554	1-130-736-11	FILM	0.01MF	5%	50V		
C555	1-124-907-11	ELECT	10MF	20%	50V		
C556	1-124-907-11	ELECT	10MF	20%	50V		
C557	1-106-381-12	MYLAR	0.039MF	10%	100V		
C558	1-124-903-11	ELECT	1MF	20%	50V		
C559	1-136-173-00	FILM	0.47MF	5%	50V		
C561	1-136-159-00	FILM	0.033MF	5%	50V		
C562	1-163-249-11	CERAMIC CHIP	82PF	5%	50V		
C564	1-124-907-11	ELECT	10MF	20%	50V		
C565	1-124-903-11	ELECT	1MF	20%	50V		
C566	1-106-367-00	MYLAR	0.01MF	10%	100V		
C567	1-136-499-11	FILM	0.047MF	5%	50V		
C568	1-124-903-11	ELECT	1MF	20%	50V		
C569	1-131-350-00	TANTALUM	3.3MF	10%	25V		
C570	1-124-360-00	ELECT	1000MF	20%	16V		
C571	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V		
C572	1-104-709-11	ELECT	4.7MF	0	160V		
C573	1-136-177-00	FILM	1MF	5%	50V		
C575	1-163-031-11	CERAMIC CHIP	0.01MF		50V		
C576	1-102-244-00	CERAMIC	220PF	10%	500V		
C577	1-124-907-11	ELECT	10MF	20%	50V		
C578	1-136-111-00	FILM	1MF	5%	200V		
C579	1-126-804-11	ELECT	100MF	20%	50V		
C580	1-136-105-00	FILM	0.33MF	5%	200V		
C581	1-124-927-11	ELECT	4.7MF	20%	50V		
C582	1-102-002-00	CERAMIC	680PF	10%	500V		
C583	1-136-541-11	FILM	1.5MF	5%	200V		
C584	1-123-267-00	ELECT	2.2MF	20%	160V		
C585	1-124-666-11	ELECT	4.7MF	20%	250V		
C586	1-124-557-11	ELECT	1000MF	20%	25V		
C587	1-102-030-00	CERAMIC	330PF	10%	500V		
C588	1-124-667-11	ELECT	10MF	20%	50V		
C589	1-102-030-00	CERAMIC	330PF	10%	500V		
C590	1-126-387-11	ELECT	2.2MF	20%	50V		
C591	1-106-371-00	MYLAR	0.015MF	10%	200V		
C592	1-123-932-00	ELECT	4.7MF	20%	160V		
C593	1-165-319-11	CERAMIC CHIP	0.1MF		50V		
C594	1-163-229-11	CERAMIC CHIP	12PF	5%	50V		
C595	1-126-336-11	ELECT	220MF	20%	25V		
C596	1-124-478-11	ELECT	100MF	20%	25V		
C597	1-164-346-11	CERAMIC CHIP	1MF		16V		
C598	1-164-346-11	CERAMIC CHIP	1MF		16V		
C599	1-126-157-11	ELECT	10MF	20%	16V		
C1300	1-124-477-11	ELECT	47MF	20%	25V		
C1302	1-163-131-00	CERAMIC CHIP	390PF	5%	50V		
C1304	1-124-477-11	ELECT	47MF	20%	25V		
C1305	1-124-477-11	ELECT	47MF	20%	25V		
C1306	1-163-031-11	CERAMIC CHIP	0.01MF		50V		
C1307	1-163-031-11	CERAMIC CHIP	0.01MF		50V		
C1308	1-124-443-00	ELECT	100MF	20%	10V		
C1309	1-163-257-11	CERAMIC CHIP	180PF	5%	50V		
C1310	1-163-031-11	CERAMIC CHIP	0.01MF		50V		
C1311	1-124-477-11	ELECT	47MF	20%	25V		
C1312	1-163-031-11	CERAMIC CHIP	0.01MF		50V		
C1313	1-163-031-11	CERAMIC CHIP	0.01MF		50V		
C1314	1-124-477-11	ELECT	47MF	20%	25V		
C1315	1-124-477-11	ELECT	47MF	20%	25V		
C1316	1-163-031-11	CERAMIC CHIP	0.01MF		50V		
C1317	1-124-477-11	ELECT	47MF	20%	25V		
C1318	1-124-477-11	ELECT	47MF	20%	25V		
C1319	1-124-477-11	ELECT	47MF	20%	25V		
C1320	1-124-477-11	ELECT	47MF	20%	25V		
C1321	1-124-477-11	ELECT	47MF	20%	25V		
C1322	1-124-120-11	ELECT	220MF	20%	16V		
C1323	1-163-031-11	CERAMIC CHIP	0.01MF		50V		
C1324	1-163-031-11	CERAMIC CHIP	0.01MF		50V		
C1325	1-163-031-11	CERAMIC CHIP	0.01MF		50V		
C1326	1-124-477-11	ELECT	47MF	20%	25V		
C1327	1-163-031-11	CERAMIC CHIP	0.01MF		50V		
C1328	1-163-031-11	CERAMIC CHIP	0.01MF		50V		
C1329	1-124-907-11	ELECT	10MF	20%	50V		
C1330	1-163-031-11	CERAMIC CHIP	0.01MF		50V		
C1331	1-124-477-11	ELECT	47MF	20%	25V		
C1332	1-124-477-11	ELECT	47MF	20%	25V		
C1333	1-124-477-11	ELECT	47MF	20%	25V		
C1334	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V		
C1335	1-124-477-11	ELECT	47MF	20%	25V		
C1336	1-124-477-11	ELECT	47MF	20%	25V		
C1338	1-163-031-11	CERAMIC CHIP	0.01MF		50V		
C1339	1-163-031-11	CERAMIC CHIP	0.01MF		50V		
C1340	1-163-031-11	CERAMIC CHIP	0.01MF		50V		
C1341	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V		
C1342	1-163-105-00	CERAMIC CHIP	33PF	5%	50V		
C1343	1-163-113-00	CERAMIC CHIP	68PF	5%	50V		
C1344	1-163-083-00	CERAMIC CHIP	1PF	0.25PF	50V		
C1345	1-124-907-11	ELECT	10MF	20%	50V		
C1346	1-124-477-11	ELECT	47MF	20%	25V		
C1347	1-163-031-11	CERAMIC CHIP	0.01MF		50V		
C1348	1-163-127-00	CERAMIC CHIP	270PF	5%	50V		
C1349	1-163-117-00	CERAMIC CHIP	100PF	5%	50V		

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C1350	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C1520	1-162-129-00	CERAMIC 150PF	10% 2KV
C1351	1-124-903-11	ELECT 1MF	20% 50V	C1521	1-163-243-11	CERAMIC CHIP 47PF	5% 50V
C1352	1-163-023-00	CERAMIC CHIP 0.015MF	10% 50V	<CONNECTOR>			
C1353	1-163-031-11	CERAMIC CHIP 0.01MF	50V	CN101	*1-573-979-11	CONNECTOR, BOARD TO BOARD 11P	
C1354	1-163-121-00	CERAMIC CHIP 150PF	5% 50V	CN102	*1-564-514-11	PLUG, CONNECTOR 11P	
C1355	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	CN104	*1-564-506-11	PLUG, CONNECTOR 3P	
C1356	1-163-235-11	CERAMIC CHIP 22PF	5% 50V	CN105	*1-565-503-11	CONNECTOR, BOARD TO BOARD 12P	
C1357	1-124-119-00	ELECT 330MF	20% 16V	CN201	*1-564-506-11	PLUG, CONNECTOR 3P	
C1358	1-124-477-11	ELECT 47MF	20% 25V	CN301	*1-564-514-11	PLUG, CONNECTOR 11P	
C1359	1-163-263-11	CERAMIC CHIP 330PF	5% 50V	CN302	*1-564-510-11	PLUG, CONNECTOR 7P	
C1360	1-163-001-11	CERAMIC CHIP 220PF	10% 50V	CN303	*1-564-515-11	PLUG, CONNECTOR 12P	
C1362	1-163-249-11	CERAMIC CHIP 82PF	5% 50V	CN304	*1-564-509-11	PLUG, CONNECTOR 6P	
C1363	1-163-235-11	CERAMIC CHIP 22PF	5% 50V	CN305	*1-565-504-11	CONNECTOR, BOARD TO BOARD 13P	
C1364	1-163-133-00	CERAMIC CHIP 470PF	5% 50V	CN306	1-564-505-11	PLUG, CONNECTOR 2P	
C1365	1-163-227-11	CERAMIC CHIP 10PF	0.5PF 50V	CN401	*1-564-511-11	PLUG, CONNECTOR 8P	
C1366	1-124-477-11	ELECT 47MF	20% 25V	CN402	*1-564-515-11	PLUG, CONNECTOR 12P	
C1367	1-124-477-11	ELECT 47MF	20% 25V	CN501	*1-580-798-11	CONNECTOR PIN (DY) 6P	
C1372	1-124-477-11	ELECT 47MF	20% 25V	CN502	*1-573-964-11	PIN, CONNECTOR (PC BOARD) 6P	
C1373	1-124-477-11	ELECT 47MF	20% 25V	CN503	*1-573-964-11	PIN, CONNECTOR (PC BOARD) 6P	
C1374	1-124-477-11	ELECT 47MF	20% 25V	CN504	*1-564-508-11	PLUG, CONNECTOR 5P	
C1375	1-124-927-11	ELECT 4.7MF	20% 50V	CN505	*1-564-506-11	PLUG, CONNECTOR 3P	
C1378	1-163-097-00	CERAMIC CHIP 15PF	5% 50V	CN507	*1-535-419-00	TAB, FASTEN (PCB)	
C1382	1-124-443-00	ELECT 100MF	20% 10V	<COMPOSITION CIRCUIT BLOCK>			
C1384	1-163-038-91	CERAMIC CHIP 0.1MF	25V	CP300	1-236-366-11	MODULE, TRAP	
C1385	1-163-031-11	CERAMIC CHIP 0.01MF	50V	CP301	1-236-365-11	MODULE, TRAP	
C1386	1-163-031-11	CERAMIC CHIP 0.01MF	50V	CP302	1-808-654-21	MODULE	
C1387	1-163-031-11	CERAMIC CHIP 0.01MF	50V	CP303	1-466-162-61	FILTER BLOCK, COM (CFB-4)	
C1391	1-164-222-11	CERAMIC CHIP 0.22MF	25V	<DIODE>			
C1392	1-124-234-00	ELECT 22MF	20% 16V	D100	8-719-404-46	DIODE MA110	
C1394	1-124-477-11	ELECT 47MF	20% 16V	D101	8-719-800-76	DIODE 1SS226	
C1395	1-124-477-11	ELECT 47MF	20% 16V	D102	8-719-800-76	DIODE 1SS226	
C1396	1-163-275-11	CERAMIC CHIP 0.001MF	5% 50V	D103	8-719-045-70	DIODE 1SV230TPH3	
C1397	1-163-031-11	CERAMIC CHIP 0.01MF	50V	D104	8-719-800-76	DIODE 1SS226	
C1398	1-124-477-11	ELECT 47MF	20% 16V	D105	8-719-800-76	DIODE 1SS226	
C1399	1-124-234-00	ELECT 22MF	20% 16V	D106	8-719-800-76	DIODE 1SS226	
C1400	1-163-031-11	CERAMIC CHIP 0.01MF	50V	D107	8-719-800-76	DIODE 1SS226	
C1401	1-136-173-00	FILM 0.47MF	5% 50V	D108	8-719-104-34	DIODE 1S2836	
C1402	1-163-031-11	CERAMIC CHIP 0.01MF	50V	D109	8-719-801-78	DIODE 1SS184	
C1403	1-136-173-00	FILM 0.47MF	5% 50V	D111	8-719-977-05	DIODE DTZ6.2	
C1404	1-164-299-11	CERAMIC CHIP 0.22MF	10% 25V	D113	8-719-159-06	DIODE RD4.7SB-T2	
C1405	1-163-235-11	CERAMIC CHIP 22PF	5% 50V	D114	8-719-404-46	DIODE MA110	
C1406	1-163-090-00	CERAMIC CHIP 7PF	0.25PF 50V	D115	8-719-977-05	DIODE DTZ6.2	
C1407	1-163-085-00	CERAMIC CHIP 2PF	0.25PF 50V	D116	8-719-404-46	DIODE MA110	
C1408	1-163-107-00	CERAMIC CHIP 39PF	5% 50V	D200	8-719-977-46	DIODE DTZ13C	
C1500	1-124-556-11	ELECT 2200MF	20% 16V	D300	8-719-025-07	DIODE 1SV232-TPH3	
C1501	1-124-472-11	ELECT 470MF	20% 10V	D301	8-719-404-46	DIODE MA110	
C1502	1-101-821-00	CERAMIC 0.0022MF	500V	D302	8-719-159-06	DIODE RD4.7SB-T2	
C1503	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D303	8-719-977-05	DIODE DTZ6.2	
C1504	1-124-907-11	ELECT 10MF	20% 50V	D304	8-719-801-78	DIODE 1SS184	
C1505	1-136-165-00	FILM 0.1MF	5% 50V	D305	8-719-800-76	DIODE 1SS226	
C1506	1-124-119-00	ELECT 330MF	20% 16V	D306	8-719-104-34	DIODE 1S2836	
C1507	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	D307	8-719-404-46	DIODE MA110	
C1508	1-124-927-11	ELECT 4.7MF	20% 50V	D308	8-719-404-46	DIODE MA110	
C1509	1-124-907-11	ELECT 10MF	20% 50V	D309	8-719-404-46	DIODE MA110	
C1510	1-124-927-11	ELECT 4.7MF	20% 50V	D310	8-719-104-34	DIODE 1S2836	
C1511	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V	D311	8-719-045-70	DIODE 1SV230TPH3	
C1512	1-124-927-11	ELECT 4.7MF	20% 50V	D313	8-719-801-78	DIODE 1SS184	
C1513	1-163-197-00	CERAMIC CHIP 470PF	5% 50V	D314	8-719-404-46	DIODE MA110	
C1514	1-130-477-00	MYLAR 0.0033MF	5% 50V				
C1515	1-124-907-11	ELECT 10MF	20% 50V				
C1516	1-163-063-00	CERAMIC CHIP 0.022MF	10% 50V				
C1517	1-126-101-11	ELECT 100MF	20% 10V				
C1518	1-124-477-11	ELECT 47MF	20% 16V				
C1519	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V				





REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
D315	8-719-404-46	DIODE MA110		D518	8-719-404-46	DIODE MA110	
D317	8-719-404-46	DIODE MA110		D519	8-719-404-46	DIODE MA110	
D320	8-719-404-46	DIODE MA110		D520	8-719-801-78	DIODE ISS184	
D322	8-719-404-46	DIODE MA110		D521	8-719-404-46	DIODE MA110	
D323	8-719-404-46	DIODE MA110		D522	8-719-977-05	DIODE DTZ6.2	
D324	8-719-404-46	DIODE MA110		D523	8-719-404-46	DIODE MA110	
D325	8-719-801-78	DIODE ISS184		D524	8-719-200-02	DIODE 10E-2	
D326	8-719-404-46	DIODE MA110		D525	8-719-200-02	DIODE 10E-2	
D327	8-719-104-34	DIODE 1S2836		D526	8-719-404-46	DIODE MA110	
D332	8-719-404-46	DIODE MA110		D527	8-719-200-02	DIODE 10E-2	
D333	8-719-404-46	DIODE MA110		D528	8-719-300-76	DIODE RH-1A	
D335	8-719-404-46	DIODE MA110		D529	8-719-200-02	DIODE 10E-2	
D337	8-719-404-46	DIODE MA110		D530	8-719-300-76	DIODE RH-1A	
D338	8-719-404-46	DIODE MA110		D531	8-719-977-32	DIODE DTZ11B	
D339	8-719-404-46	DIODE MA110		D532	8-719-800-76	DIODE 1SS226	
D341	8-719-159-06	DIODE RD4.7SB-T2		D533	8-719-302-43	DIODE EL1Z	
D344	8-719-801-78	DIODE ISS184		D534	8-719-404-46	DIODE MA110	
D345	8-719-104-34	DIODE 1S2836		D535	8-719-404-46	DIODE MA110	
D346	8-719-104-34	DIODE 1S2836		D536	8-719-800-76	DIODE 1SS226	
D347	8-719-104-34	DIODE 1S2836		D537	8-719-800-76	DIODE 1SS226	
D360	8-719-104-34	DIODE 1S2836		D538	8-719-800-76	DIODE 1SS226	
D361	8-719-104-34	DIODE 1S2836		D539	8-719-404-46	DIODE MA110	
D362	8-719-158-40	DIODE RD10SB1		D540	8-719-404-46	DIODE MA110	
D363	8-719-158-40	DIODE RD10SB1		D541	8-719-801-78	DIODE ISS184	
D364	8-719-104-34	DIODE 1S2836		D542	8-719-404-46	DIODE MA110	
D365	8-719-404-46	DIODE MA110		D543	8-719-911-19	DIODE 1SS119-25	
D381	8-719-404-46	DIODE MA110				<DELAY LINE>	
D401	8-719-404-46	DIODE MA110		DL300	1-415-633-11	DELAY LINE, Y	
D404	8-719-800-76	DIODE 1SS226		DL301	1-415-632-11	DELAY LINE, Y	
D405	8-719-801-78	DIODE ISS184		DL401	1-409-547-11	DELAY LINE	
D406	8-719-404-46	DIODE MA110				<FILTER>	
D407	8-719-404-46	DIODE MA110		FL300	1-236-547-11	TRAP, LC	
D408	8-719-404-46	DIODE MA110		FL401	1-236-364-11	FILTER, BAND PASS	
D410	8-719-404-46	DIODE MA110				<IC>	
D411	8-719-404-46	DIODE MA110		IC101	8-759-287-40	IC UPD78013YCW-Y04	
D414	8-719-801-78	DIODE ISS184		IC102	8-759-280-74	IC ST24C02CB1	
D415	8-719-801-78	DIODE ISS184		IC103	8-759-008-48	IC MC74HC86F	
D416	8-719-801-78	DIODE ISS184		IC104	8-759-262-59	IC UPD6451AGT-632-E2	
D417	8-719-801-78	DIODE ISS184		IC105	8-759-196-70	IC M62358FP-E1	
D418	8-719-801-78	DIODE ISS184		IC106	8-759-196-70	IC M62358FP-E1	
D421	8-719-404-46	DIODE MA110		IC107	8-759-196-70	IC M62358FP-E1	
D422	8-719-404-46	DIODE MA110		IC108	8-759-042-02	IC S-80743AL-A7-S	
D423	8-719-800-76	DIODE 1SS226		IC109	8-759-196-70	IC M62358FP-E1	
D424	8-719-404-46	DIODE MA110		IC110	8-759-196-70	IC M62358FP-E1	
D425	8-719-800-76	DIODE 1SS226		IC111	8-759-009-22	IC MC14094BF	
D426	8-719-159-06	DIODE RD4.7SB-T2		IC200	8-759-420-04	IC AN5265	
D427	8-719-404-46	DIODE MA110		IC301	8-752-053-21	IC CXA1211M	
D500	8-719-404-46	DIODE MA110		IC302	8-759-998-98	IC LM358D	
D501	8-719-977-03	DIODE DTZ5.6B		IC303	8-759-926-98	IC SN74HC4040ANS	
D502	8-719-979-80	DIODE UF5406		IC304	8-759-932-67	IC BU4053BCF	
D503	8-719-404-46	DIODE MA110		IC305	8-759-631-08	IC M51279FP	
D504	8-719-901-83	DIODE 1SS83		IC306	8-759-711-32	IC NJM2245M	
D505	8-719-028-72	DIODE RGP02-17EL-6433		IC307	8-759-509-05	IC XRU4066BCF	
D506	8-719-945-80	DIODE ERC06-15S		IC309	8-759-711-32	IC NJM2245M	
D507	8-719-800-76	DIODE 1SS226		IC310	8-759-932-67	IC BU4053BCF	
D508	8-719-800-76	DIODE 1SS226		IC311	8-759-008-67	IC MC14066BF	
D509	8-719-404-46	DIODE MA110		IC312	8-759-711-32	IC NJM2245M	
D510	8-719-302-43	DIODE EL1Z					
D512	8-719-979-80	DIODE UF5406					
D513	8-719-404-46	DIODE MA110					
D514	8-719-971-20	DIODE ERC38-06					
D515	8-719-971-20	DIODE ERC38-06					
D516	8-719-404-46	DIODE MA110					
D517	8-719-404-46	DIODE MA110					

**A**

The components identified by shading and mark **Δ** are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque **Δ** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifique.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
IC313	8-759-287-89	IC MM1113XFF		L404	1-410-215-31	INDUCTOR CHIP 82UH	
IC314	8-759-287-89	IC MM1113XFF		L405	1-408-419-00	INDUCTOR 68UH	
IC315	8-759-932-67	IC BU4053BCF		L406	1-408-419-00	INDUCTOR 68UH	
IC316	8-759-084-76	IC MM1111XF		L407	1-408-413-00	INDUCTOR 22UH	
IC317	8-759-009-51	IC MC14538BF		L408	1-408-413-00	INDUCTOR 22UH	
IC318	8-759-009-67	IC MC14584BF		L409	1-410-215-31	INDUCTOR CHIP 82UH	
IC319	8-759-509-05	IC XRU4066BCF		L500	1-459-155-00	COIL (WITH CORE) 45UH	
IC320	8-759-287-89	IC MM1113XFF		L501	1-407-365-00	COIL, CHOKE	
IC321	8-759-287-89	IC MM1113XFF		L502	1-407-365-00	COIL, CHOKE	
IC322	8-759-287-89	IC MM1113XFF		L503	1-410-093-11	INDUCTOR 33MMH	
IC323	8-759-287-89	IC MM1113XFF		L504	1-410-666-31	INDUCTOR 18UH	
IC324	8-759-287-89	IC MM1113XFF		L505	1-410-671-31	INDUCTOR 47UH	
IC325	8-759-287-89	IC MM1113XFF		L506	1-459-104-00	COIL, DUST CORE	
IC326	8-759-060-00	IC BA10324AF		L507	1-410-686-11	INDUCTOR 1MMH	
IC327	8-759-084-76	IC MM1111XF		L508	1-412-530-31	INDUCTOR 27UH	
IC350	8-759-100-96	IC UPC4558G2		L509	1-459-087-00	COIL, HCC DUST CORE 3.9MMH	
IC401	8-759-196-69	IC BA7655AF-E2		L510	1-459-106-00	COIL, DUST CORE	
IC402	8-752-053-21	IC CXA1211M		L512	Δ 1-459-232-11	COIL, CORE	
IC403	8-759-008-67	IC MC14066BF		L513	1-412-447-11	INDUCTOR 3.9MMH	
IC404	8-752-052-62	IC CXA1478S		L514	1-459-104-00	COIL, DUST CORE	
IC405	8-759-932-67	IC BU4053BCF		L515	1-459-059-00	COIL, DUST CORE	
IC406	8-759-998-98	IC LM358D		L517	1-412-547-21	INDUCTOR 680UH	
IC407	8-759-008-67	IC MC14066BF				<NEON LAMP>	
IC408	8-759-509-91	IC XRA10393F		NL500	1-519-526-11	LAMP, NEON	
IC409	8-759-060-00	IC BA10324AF				<TRANSISTOR>	
IC410	8-759-009-06	IC MC14052BF		Q101	8-729-901-01	TRANSISTOR DTC144EK	
IC411	8-759-008-92	IC MC14024BF		Q102	8-729-216-22	TRANSISTOR 2SA1162-G	
IC412	8-759-932-67	IC BU4053BCF		Q103	8-729-216-22	TRANSISTOR 2SA1162-G	
IC413	8-759-932-67	IC BU4053BCF		Q104	8-729-907-26	TRANSISTOR 1MX1	
IC500	8-749-010-08	IC H8D7249		Q105	8-729-901-06	TRANSISTOR DTA144EK	
IC502	8-759-009-51	IC MC14538BF		Q107	8-729-901-06	TRANSISTOR DTA144EK	
IC503	8-759-009-51	IC MC14538BF		Q108	8-729-422-29	TRANSISTOR 2SD601A-S	
IC504	8-752-053-21	IC CXA1211M		Q109	8-729-422-29	TRANSISTOR 2SD601A-S	
IC505	8-759-520-07	IC XRA17812T		Q110	8-729-422-29	TRANSISTOR 2SD601A-S	
IC506	8-759-009-51	IC MC14538BF		Q111	8-729-901-06	TRANSISTOR DTA144EK	
IC507	8-759-100-60	IC UPC1377C		Q112	8-729-422-29	TRANSISTOR 2SD601A-S	
IC508	8-752-053-21	IC CXA1211M		Q113	8-729-422-29	TRANSISTOR 2SD601A-S	
IC509	8-759-998-98	IC LM358D		Q114	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC510	8-759-009-51	IC MC14538BF		Q115	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
		<CONDCTOR CHIP>		Q200	8-729-140-96	TRANSISTOR 2SD774-34	
JR302	1-216-295-91	CONDCTOR, CHIP		Q201	8-729-422-29	TRANSISTOR 2SD601A-S	
		<COIL>		Q300	8-729-422-29	TRANSISTOR 2SD601A-S	
L101	1-408-609-41	INDUCTOR 33UH		Q301	8-729-422-29	TRANSISTOR 2SD601A-S	
L102	1-408-417-00	INDUCTOR 47UH		Q302	8-729-422-37	TRANSISTOR 2SB709A-R	
L104	1-408-425-00	INDUCTOR 220UH		Q303	8-729-422-29	TRANSISTOR 2SD601A-S	
L105	1-410-482-31	INDUCTOR 100UH		Q305	8-729-422-29	TRANSISTOR 2SD601A-S	
L300	1-410-478-11	INDUCTOR 47UH		Q306	8-729-422-29	TRANSISTOR 2SD601A-S	
L305	1-410-196-11	INDUCTOR CHIP 2.2UH		Q307	8-729-422-29	TRANSISTOR 2SD601A-S	
L308	1-410-466-41	INDUCTOR 4.7UH		Q308	8-729-422-29	TRANSISTOR 2SD601A-S	
L309	1-410-470-11	INDUCTOR 10UH		Q309	8-729-422-37	TRANSISTOR 2SB709A-R	
L311	1-410-470-11	INDUCTOR 10UH		Q310	8-729-422-37	TRANSISTOR 2SB709A-R	
L312	1-412-011-31	INDUCTOR CHIP 27UH		Q311	8-729-422-37	TRANSISTOR 2SB709A-R	
L314	1-412-011-31	INDUCTOR CHIP 27UH		Q312	8-729-422-29	TRANSISTOR 2SD601A-S	
L316	1-412-011-31	INDUCTOR CHIP 27UH		Q313	8-729-422-37	TRANSISTOR 2SB709A-R	
L317	1-410-090-41	INDUCTOR 18MMH		Q314	8-729-901-06	TRANSISTOR DTA144EK	
L319	1-408-421-00	INDUCTOR 100UH		Q315	8-729-422-37	TRANSISTOR 2SB709A-R	
L320	1-410-682-31	INDUCTOR 470UH		Q316	8-729-422-29	TRANSISTOR 2SD601A-S	
L401	1-410-478-11	INDUCTOR 47UH		Q318	8-729-422-37	TRANSISTOR 2SB709A-R	
L402	1-410-215-31	INDUCTOR CHIP 82UH		Q319	8-729-422-29	TRANSISTOR 2SD601A-S	
L403	1-410-215-31	INDUCTOR CHIP 82UH		Q320	8-729-120-28	TRANSISTOR 2SC1623-L5L6	



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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R103	1-216-025-91	METAL GLAZE	100 5% 1/10W	R237	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R104	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R302	1-216-025-91	METAL GLAZE	100 5% 1/10W
R105	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R304	1-216-025-91	METAL GLAZE	100 5% 1/10W
R106	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R307	1-216-115-00	METAL GLAZE	560K 5% 1/10W
R107	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R308	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R108	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R311	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R109	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R312	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R110	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R313	1-216-649-11	METAL CHIP	820 0.50% 1/10W
R113	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R314	1-216-099-00	METAL GLAZE	120K 5% 1/10W
R116	1-218-761-11	METAL CHIP	240K 0.50% 1/10W	R315	1-216-099-00	METAL GLAZE	120K 5% 1/10W
R117	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R316	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R119	1-216-689-11	METAL GLAZE	39K 5% 1/10W	R317	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R124	1-216-295-91	CONDUCTOR, CHIP		R318	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R130	1-216-099-00	METAL GLAZE	120K 5% 1/10W	R320	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R132	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R321	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R133	1-216-091-00	METAL GLAZE	56K 5% 1/10W	R322	1-216-035-00	METAL GLAZE	270 5% 1/10W
R134	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R323	1-216-109-00	METAL GLAZE	330K 5% 1/10W
R135	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R324	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R137	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R325	1-216-037-00	METAL GLAZE	330 5% 1/10W
R140	1-216-033-00	METAL GLAZE	220 5% 1/10W	R326	1-216-033-00	METAL GLAZE	220 5% 1/10W
R141	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R328	1-216-121-00	METAL GLAZE	1M 5% 1/10W
R144	1-216-295-91	CONDUCTOR, CHIP		R329	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R149	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R330	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R151	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R331	1-216-093-00	METAL GLAZE	68K 5% 1/10W
R154	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R332	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R157	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R333	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R158	1-216-295-91	CONDUCTOR, CHIP		R334	1-216-093-00	METAL GLAZE	68K 5% 1/10W
R159	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	R335	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R160	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R336	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R161	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R342	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R162	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R345	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R163	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R346	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R164	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R349	1-216-694-11	METAL CHIP	62K 0.50% 1/10W
R165	1-216-295-91	CONDUCTOR, CHIP		R350	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R167	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R351	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R168	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R354	1-216-119-00	METAL GLAZE	820K 5% 1/10W
R169	1-216-107-00	METAL GLAZE	270K 5% 1/10W	R357	1-216-121-00	METAL GLAZE	1M 5% 1/10W
R171	1-216-031-00	METAL GLAZE	180 5% 1/10W	R366	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R172	1-216-295-91	CONDUCTOR, CHIP		R371	1-216-025-91	METAL GLAZE	100 5% 1/10W
R176	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R372	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R177	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R373	1-216-645-11	METAL CHIP	560 0.50% 1/10W
R178	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R374	1-216-647-11	METAL CHIP	680 0.50% 1/10W
R181	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R375	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R184	1-216-649-11	METAL CHIP	820 0.50% 1/10W	R376	1-216-111-00	METAL GLAZE	390K 5% 1/10W
R185	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R378	1-216-114-00	METAL GLAZE	510K 5% 1/10W
R187	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R379	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R189	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R380	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R190	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R381	1-216-689-11	METAL GLAZE	39K 5% 1/10W
R192	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R382	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R195	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R386	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R197	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R387	1-216-029-00	METAL GLAZE	150 5% 1/10W
R199	1-216-295-91	CONDUCTOR, CHIP		R388	1-216-039-00	METAL GLAZE	390 5% 1/10W
R200	1-208-817-11	METAL CHIP	30K 0.50% 1/10W	R389	1-216-649-11	METAL CHIP	820 0.50% 1/10W
R201	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R390	1-249-393-11	CARBON	10 5% 1/4W F
R202	1-212-857-00	FUSIBLE	10 5% 1/4W F	R393	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R203	1-260-095-11	CARBON	470 5% 1/2W	R394	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R204	1-260-072-11	CARBON	4.7 5% 1/2W	R395	1-216-651-11	METAL CHIP	1K 0.50% 1/10W
R205	1-216-647-11	METAL CHIP	680 0.50% 1/10W	R397	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R206	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R398	1-216-105-91	METAL GLAZE	220K 5% 1/10W
R207	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R399	1-216-111-00	METAL GLAZE	390K 5% 1/10W
R208	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R400	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R209	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R401	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R210	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R402	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R211	1-249-393-11	CARBON	10 5% 1/4W F				



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R403	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R475	1-216-025-91	METAL GLAZE	100 5% 1/10W
R404	1-216-029-00	METAL GLAZE	150 5% 1/10W	R476	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R405	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R477	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R406	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R478	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R407	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R479	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R408	1-216-689-11	METAL CHIP	39K 0.50% 1/10W	R480	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R410	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R481	1-216-033-00	METAL GLAZE	220 5% 1/10W
R411	1-216-033-00	METAL GLAZE	220 5% 1/10W	R482	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R412	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R483	1-216-025-91	METAL GLAZE	100 5% 1/10W
R413	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R484	1-216-651-11	METAL CHIP	1K 0.50% 1/10W
R414	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R485	1-216-033-00	METAL GLAZE	220 5% 1/10W
R416	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R486	1-208-812-11	METAL CHIP	18K 0.50% 1/10W
R417	1-216-665-11	METAL CHIP	3.9K 0.50% 1/10W	R487	1-208-784-11	METAL CHIP	1.2K 0.50% 1/10W
R418	1-216-667-11	METAL CHIP	4.7K 0.50% 1/10W	R488	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R420	1-216-105-91	METAL GLAZE	220K 5% 1/10W	R489	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R422	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R490	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R423	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R491	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R424	1-216-033-00	METAL GLAZE	220 5% 1/10W	R492	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R425	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R494	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R426	1-216-039-00	METAL GLAZE	390 5% 1/10W	R495	1-216-651-11	METAL CHIP	1K 0.50% 1/10W
R427	1-216-033-00	METAL GLAZE	220 5% 1/10W	R496	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R428	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R497	1-208-784-11	METAL CHIP	1.2K 0.50% 1/10W
R429	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R498	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R430	1-216-119-00	METAL GLAZE	820K 5% 1/10W	R499	1-216-033-00	METAL GLAZE	220 5% 1/10W
R431	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R500	1-216-689-11	METAL GLAZE	39K 5% 1/10W
R432	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R501	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R434	1-216-109-00	METAL GLAZE	330K 5% 1/10W	R502	1-216-677-11	METAL CHIP	12K 0.50% 1/10W
R435	1-216-105-91	METAL GLAZE	220K 5% 1/10W	R503	1-249-430-11	CARBON	12K 5% 1/4W
R436	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R504	1-216-111-00	METAL GLAZE	390K 5% 1/10W
R437	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R505	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R438	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R506	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R439	1-216-033-00	METAL GLAZE	220 5% 1/10W	R507	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R440	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R508	1-216-105-91	METAL GLAZE	220K 5% 1/10W
R441	1-216-645-11	METAL CHIP	560 0.50% 1/10W	R509	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R442	1-216-647-11	METAL CHIP	680 0.50% 1/10W	R510	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R443	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R511	1-216-099-00	METAL GLAZE	120K 5% 1/10W
R444	1-216-105-91	METAL GLAZE	220K 5% 1/10W	R512	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R445	1-216-095-00	METAL GLAZE	82K 5% 1/10W	R513	1-216-295-91	CONDCTOR, CHIP	
R447	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R514	1-216-295-91	CONDCTOR, CHIP	
R448	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R515	1-208-806-11	METAL CHIP	10K 0.50% 1/10W
R449	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R516	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R450	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R517	1-214-896-81	METAL	20K 1% 1/2W
R451	1-216-037-00	METAL GLAZE	330 5% 1/10W	R518	1-260-123-11	CARBON	100K 5% 1/2W
R452	1-216-651-11	METAL CHIP	1K 0.50% 1/10W	R519	1-216-017-00	METAL GLAZE	47 5% 1/10W
R453	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R520	1-249-423-11	CARBON	3.3K 5% 1/4W F
R455	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R521	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R456	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R522	1-260-111-11	CARBON	10K 5% 1/2W
R457	1-216-025-91	METAL GLAZE	100 5% 1/10W	R523	1-215-892-11	METAL OXIDE	1K 5% 2W F
R458	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R524	1-216-093-00	METAL GLAZE	68K 5% 1/10W
R459	1-216-649-11	METAL CHIP	820 0.50% 1/10W	R525	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R460	1-216-295-91	CONDCTOR, CHIP		R526	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R462	1-216-651-11	METAL CHIP	1K 0.50% 1/10W	R527	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R463	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	R528	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R464	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R529	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R465	1-216-025-91	METAL GLAZE	100 5% 1/10W	R530	1-216-367-11	METAL OXIDE	0.68 5% 2W F
R466	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R531	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R467	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R532	1-216-478-11	METAL OXIDE	390 5% 3W F
R468	1-216-105-91	METAL GLAZE	220K 5% 1/10W	R533	1-247-723-11	CARBON	6.8K 5% 1/4W F
R469	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	R534	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R470	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R535	1-249-448-11	CARBON	1.2 5% 1/4W F
R471	1-216-109-00	METAL GLAZE	330K 5% 1/10W	R536	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R472	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R537	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R473	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R539	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R474	1-216-649-11	METAL CHIP	820 0.50% 1/10W				

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R540	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R1114	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R541	1-249-383-11	CARBON	1.5 5% 1/4W F	R1115	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R542	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R1116	1-216-677-11	METAL CHIP	12K 0.50% 1/10W
R543	1-212-883-00	FUSIBLE	120 5% 1/4W F	R1117	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R544	1-216-095-00	METAL GLAZE	82K 5% 1/10W	R1118	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R545	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1119	1-216-694-11	METAL CHIP	62K 0.50% 1/10W
R546	1-249-425-11	CARBON	4.7K 5% 1/4W F	R1120	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R547	1-216-091-00	METAL GLAZE	56K 5% 1/10W	R1123	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R548	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R1124	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R549	1-216-677-11	METAL CHIP	12K 0.50% 1/10W	R1125	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R550	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R1126	1-216-041-00	METAL GLAZE	470 5% 1/10W
R551	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R1128	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R552	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1129	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R553	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R1130	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R554	1-216-095-00	METAL GLAZE	82K 5% 1/10W	R1131	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R555	1-208-823-11	METAL CHIP	51K 0.50% 1/10W	R1132	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R556	1-215-899-11	METAL OXIDE	15K 5% 2W F	R1133	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R558	1-247-711-11	CARBON	680 5% 1/4W F	R1134	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R559	1-216-109-00	METAL GLAZE	330K 5% 1/10W	R1136	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R560	1-216-091-00	METAL GLAZE	56K 5% 1/10W	R1137	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R561	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R1138	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R562	1-247-692-11	CARBON	22 5% 1/4W F	R1139	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R563	1-216-017-00	METAL GLAZE	47 5% 1/10W	R1140	1-208-784-11	METAL CHIP	1.2K 0.50% 1/10W
R564	1-216-107-00	METAL GLAZE	270K 5% 1/10W	R1141	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R565	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1142	1-208-784-11	METAL CHIP	1.2K 0.50% 1/10W
R566	1-216-685-11	METAL CHIP	27K 0.50% 1/10W	R1143	1-208-784-11	METAL CHIP	1.2K 0.50% 1/10W
R567	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1144	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R568	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1145	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R569	1-260-119-11	CARBON	47K 5% 1/2W	R1146	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R571	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R1147	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R572	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R1148	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R573	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R1150	1-216-037-00	METAL GLAZE	330 5% 1/10W
R574	1-216-689-11	METAL GLAZE	39K 5% 1/10W	R1151	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R575	1-249-383-11	CARBON	1.5 5% 1/4W F	R1155	1-216-133-00	METAL GLAZE	3.3M 5% 1/10W
R576	1-216-101-00	METAL GLAZE	150K 5% 1/10W	R1161	1-218-776-11	METAL CHIP	1M 0.50% 1/10W
R578	1-208-824-11	METAL CHIP	56K 0.50% 1/10W	R1162	1-218-768-11	METAL CHIP	470K 0.50% 1/10W
R580	1-216-105-91	METAL GLAZE	220K 5% 1/10W	R1163	1-216-033-00	METAL GLAZE	220 5% 1/10W
R582	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R1164	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R583	1-216-039-00	METAL GLAZE	390 5% 1/10W	R1165	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R584	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1167	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R585	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1168	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R586	1-208-817-11	METAL CHIP	30K 0.50% 1/10W	R1169	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R587	1-208-806-11	METAL CHIP	10K 0.50% 1/10W	R1170	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R588	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R1171	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R589	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R1172	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R590	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1173	1-216-295-91	CONDCTOR, CHIP	
R591	1-208-814-11	METAL CHIP	22K 0.50% 1/10W	R1177	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R592	1-247-688-11	CARBON	10 5% 1/4W F	R1179	1-216-041-00	METAL GLAZE	470 5% 1/10W
R593	1-216-295-91	CONDCTOR, CHIP		R1180	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R594	1-260-104-91	CARBON	2.7K 5% 1/2W	R1182	1-216-131-11	METAL GLAZE	2.7M 5% 1/10W
R595	1-216-689-11	METAL GLAZE	39K 5% 1/10W	R1183	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R596	1-214-754-00	METAL	11K 1% 1/4W	R1184	1-216-131-11	METAL GLAZE	2.7M 5% 1/10W
R597	1-249-417-11	CARBON	1K 5% 1/4W F	R1185	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R598	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R1186	1-216-131-11	METAL GLAZE	2.7M 5% 1/10W
R599	1-216-645-11	METAL CHIP	560 0.50% 1/10W	R1187	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R1103	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R1188	1-216-131-11	METAL GLAZE	2.7M 5% 1/10W
R1104	1-216-699-11	METAL CHIP	100K 0.50% 1/10W	R1189	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R1105	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1190	1-216-131-11	METAL GLAZE	2.7M 5% 1/10W
R1106	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R1191	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R1107	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R1192	1-216-131-11	METAL GLAZE	2.7M 5% 1/10W
R1108	1-208-812-11	METAL CHIP	18K 0.50% 1/10W	R1193	1-216-025-91	METAL GLAZE	100 5% 1/10W
R1111	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R1194	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R1112	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R1195	1-216-025-91	METAL GLAZE	100 5% 1/10W
R1113	1-216-081-00	METAL GLAZE	22K 5% 1/10W				



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R1196	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R1370	1-216-105-91	METAL GLAZE	220K 5% 1/10W
R1197	1-216-025-91	METAL GLAZE	100 5% 1/10W	R1371	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R1198	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R1372	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R1304	1-216-689-11	METAL GLAZE	39K 5% 1/10W	R1373	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R1305	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1374	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R1306	1-216-645-11	METAL CHIP	560 0.50% 1/10W	R1375	1-216-645-11	METAL CHIP	560 0.50% 1/10W
R1307	1-216-091-00	METAL GLAZE	56K 5% 1/10W	R1376	1-216-647-11	METAL CHIP	680 0.50% 1/10W
R1308	1-216-645-11	METAL CHIP	560 0.50% 1/10W	R1377	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R1309	1-216-025-91	METAL GLAZE	100 5% 1/10W	R1378	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R1311	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1379	1-216-037-00	METAL GLAZE	330 5% 1/10W
R1312	1-216-023-00	METAL GLAZE	82 5% 1/10W	R1380	1-216-645-11	METAL CHIP	560 0.50% 1/10W
R1313	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R1381	1-216-647-11	METAL CHIP	680 0.50% 1/10W
R1314	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1382	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1316	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R1383	1-208-812-11	METAL CHIP	18K 0.50% 1/10W
R1317	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1384	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R1319	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R1385	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1320	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R1386	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R1321	1-216-649-11	METAL CHIP	820 0.50% 1/10W	R1387	1-208-784-11	METAL CHIP	1.2K 0.50% 1/10W
R1322	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R1388	1-216-689-11	METAL CHIP	39K 0.50% 1/10W
R1324	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R1389	1-216-657-11	METAL CHIP	1.8K 0.50% 1/10W
R1325	1-216-652-11	METAL CHIP	1.1K 0.50% 1/10W	R1390	1-216-647-11	METAL CHIP	680 0.50% 1/10W
R1326	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1391	1-216-025-91	METAL GLAZE	100 5% 1/10W
R1327	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1392	1-216-041-00	METAL GLAZE	470 5% 1/10W
R1328	1-216-125-00	METAL GLAZE	1.5M 5% 1/10W	R1393	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R1329	1-216-103-91	METAL GLAZE	180K 5% 1/10W	R1394	1-216-041-00	METAL GLAZE	470 5% 1/10W
R1330	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1395	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R1331	1-208-810-11	METAL CHIP	15K 0.50% 1/10W	R1396	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R1332	1-216-671-11	METAL CHIP	6.8K 0.50% 1/10W	R1397	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R1333	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R1399	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1334	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	R1401	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R1335	1-249-401-11	CARBON	47 5% 1/4W F	R1402	1-216-295-91	CONDCTOR, CHIP	
R1336	1-216-095-00	METAL GLAZE	82K 5% 1/10W	R1403	1-216-651-11	METAL CHIP	1K 0.50% 1/10W
R1337	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R1404	1-208-812-11	METAL CHIP	18K 0.50% 1/10W
R1338	1-216-647-11	METAL CHIP	680 0.50% 1/10W	R1405	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R1339	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1406	1-208-784-11	METAL CHIP	1.2K 0.50% 1/10W
R1340	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1407	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R1341	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1408	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R1342	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R1409	1-216-295-91	CONDCTOR, CHIP	
R1343	1-216-037-00	METAL GLAZE	330 5% 1/10W	R1410	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R1344	1-216-093-00	METAL GLAZE	68K 5% 1/10W	R1411	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1345	1-216-109-00	METAL GLAZE	330K 5% 1/10W	R1412	1-216-107-00	METAL GLAZE	270K 5% 1/10W
R1346	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R1413	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R1347	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1414	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R1348	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R1415	1-216-093-00	METAL GLAZE	68K 5% 1/10W
R1349	1-216-035-00	METAL GLAZE	270 5% 1/10W	R1416	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R1350	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1417	1-216-033-00	METAL GLAZE	220 5% 1/10W
R1351	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1418	1-216-033-00	METAL GLAZE	220 5% 1/10W
R1353	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R1419	1-216-025-91	METAL GLAZE	100 5% 1/10W
R1354	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1420	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R1355	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1421	1-216-649-11	METAL CHIP	820 0.50% 1/10W
R1356	1-216-105-91	METAL GLAZE	220K 5% 1/10W	R1422	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R1357	1-216-101-00	METAL GLAZE	150K 5% 1/10W	R1423	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R1358	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R1424	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R1359	1-216-099-00	METAL GLAZE	120K 5% 1/10W	R1425	1-216-013-00	METAL GLAZE	33 5% 1/10W
R1360	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R1426	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R1361	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R1427	1-208-812-11	METAL CHIP	18K 0.50% 1/10W
R1362	1-216-676-11	METAL CHIP	11K 0.50% 1/10W	R1428	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R1363	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R1429	1-208-799-11	METAL CHIP	5.1K 0.50% 1/10W
R1364	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1430	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1365	1-216-131-11	METAL GLAZE	2.7M 5% 1/10W	R1431	1-216-129-00	METAL GLAZE	2.2M 5% 1/10W
R1366	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1432	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R1367	1-216-660-11	METAL CHIP	2.4K 0.50% 1/10W	R1433	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R1368	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R1434	1-216-645-11	METAL CHIP	560 0.50% 1/10W
R1369	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W				

**A**

• The components identified by **A** in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque **A** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R1435	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	R1502	1-260-105-11	CARBON	3.3K 5% 1/2W
R1436	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1503	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R1437	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R1504	1-208-817-11	METAL CHIP	30K 0.50% 1/10W
R1438	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1505	1-247-688-11	CARBON	10 5% 1/4W F
R1439	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R1506	1-216-041-00	METAL GLAZE	470 5% 1/10W
R1440	1-216-041-00	METAL GLAZE	470 5% 1/10W	R1507	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R1441	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1508	1-216-689-11	METAL GLAZE	39K 5% 1/10W
R1442	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1509	1-216-093-00	METAL GLAZE	68K 5% 1/10W
R1443	1-216-013-00	METAL GLAZE	33 5% 1/10W	R1510	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R1444	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R1511	1-216-360-11	METAL OXIDE	8.2 5% 1W F
R1445	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R1512	1-216-647-11	METAL CHIP	680 0.50% 1/10W
R1446	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R1513	1-247-752-11	CARBON	1K 5% 1/2W F
R1447	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1514	1-247-711-11	CARBON	680 5% 1/4W F
R1448	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R1515	1-216-350-11	METAL OXIDE	1.2 5% 1W F
R1449	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R1516	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R1450	1-216-129-00	METAL GLAZE	2.2M 5% 1/10W	R1518	1-215-867-00	METAL OXIDE	470 5% 1W F
R1451	1-216-093-00	METAL GLAZE	68K 5% 1/10W	R1519	1-216-355-11	METAL OXIDE	3.3 5% 1W F
R1452	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R1520	1-216-027-00	METAL GLAZE	120 5% 1/10W
R1453	1-216-013-00	METAL GLAZE	33 5% 1/10W	R1521	1-216-029-00	METAL GLAZE	150 5% 1/10W
R1454	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R1522	1-249-887-11	CARBON	33 5% 1/4W F
R1455	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R1523	1-216-350-11	METAL OXIDE	1.2 5% 1W F
R1456	1-216-129-00	METAL GLAZE	2.2M 5% 1/10W	R1524	1-216-427-00	METAL OXIDE	120 5% 1W F
R1457	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1525	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R1458	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R1526	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R1459	1-216-133-00	METAL GLAZE	3.3M 5% 1/10W	R1527	1-249-413-11	CARBON	470 5% 1/4W F
R1460	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R1528	1-215-869-11	METAL OXIDE	1K 5% 1W F
R1461	1-216-645-11	METAL CHIP	560 0.50% 1/10W	R1529	1-202-829-11	SOLID	8.2K 20% 1/2W
R1462	1-216-645-11	METAL CHIP	560 0.50% 1/10W	R1530	1-216-115-00	METAL GLAZE	560K 5% 1/10W
R1463	1-216-645-11	METAL CHIP	560 0.50% 1/10W	R1531	1-247-697-11	CARBON	56 5% 1/4W F
R1464	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R1532	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R1465	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R1533	1-249-414-11	CARBON	560 5% 1/4W F
R1466	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	R1534	1-216-659-11	METAL CHIP	2.2K 0.50% 1/10W
R1467	1-216-073-00	METAL GLAZE	10K 5% 1/10W	<del>R1535A</del>			
R1468	1-216-091-00	METAL GLAZE	56K 5% 1/10W	<del>R1536A</del>			
R1469	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R1537	1-249-389-11	CARBON	4.7 5% 1/4W F
R1470	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R1538	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1471	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R1539	1-216-689-11	METAL GLAZE	39K 5% 1/10W
R1472	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R1540	1-216-105-91	METAL GLAZE	220K 5% 1/10W
R1473	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1541	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R1474	1-216-687-11	METAL CHIP	33K 0.50% 1/10W	R1542	1-216-111-00	METAL GLAZE	390K 5% 1/10W
R1475	1-216-677-11	METAL CHIP	12K 0.50% 1/10W	R1543	1-216-027-00	METAL GLAZE	120 5% 1/10W
R1476	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	R1544	1-216-117-00	METAL GLAZE	680K 5% 1/10W
R1477	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R1545	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R1478	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R1547	1-216-393-00	METAL OXIDE	2.2 5% 3W F
R1480	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1548	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R1481	1-216-115-00	METAL GLAZE	560K 5% 1/10W	R1549	1-260-094-11	CARBON	390 5% 1/2W
R1482	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1550	1-216-105-91	METAL GLAZE	220K 5% 1/10W
R1483	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1551	1-249-393-11	CARBON	10 5% 1/4W F
R1484	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1552	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R1485	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R1553	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R1486	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R1554	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R1487	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R1555	1-216-295-91	CONDCTOR, CHIP	
R1488	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R1556	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R1489	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R1557	1-218-760-11	METAL CHIP	220K 0.50% 1/10W
R1490	1-216-035-00	METAL GLAZE	270 5% 1/10W	R1558	1-249-393-11	CARBON	10 5% 1/4W F
R1491	1-216-035-00	METAL GLAZE	270 5% 1/10W	R1559	1-249-393-11	CARBON	10 5% 1/4W F
R1492	1-216-035-00	METAL GLAZE	270 5% 1/10W	R1560	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R1493	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R1561	1-208-812-11	METAL CHIP	18K 0.50% 1/10W
R1494	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1562	1-214-964-00	METAL	1M 1% 1/4W
R1495	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1563	1-214-964-00	METAL	1M 1% 1/4W
R1498	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R1564	1-208-812-11	METAL CHIP	18K 0.50% 1/10W
R1499	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R1567	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R1500	1-216-649-11	METAL CHIP	820 0.50% 1/10W	R1568	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R1501	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W				



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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R1569	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R2354	1-216-025-91	METAL GLAZE	100 5% 1/10W
R1570	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R2355	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R1571	1-216-103-91	METAL GLAZE	180K 5% 1/10W	R2356	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R1572	1-216-101-00	METAL GLAZE	150K 5% 1/10W	R2358	1-216-025-91	METAL GLAZE	100 5% 1/10W
R1573	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R2361	1-216-099-00	METAL GLAZE	120K 5% 1/10W
R1574	1-216-041-00	METAL GLAZE	470 5% 1/10W	R2362	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R1575	1-216-025-91	METAL GLAZE	100 5% 1/10W	R2363	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R1576	1-216-025-91	METAL GLAZE	100 5% 1/10W	R2364	1-216-025-91	METAL GLAZE	100 5% 1/10W
R1577	1-216-025-91	METAL GLAZE	100 5% 1/10W	R2365	1-216-687-11	METAL CHIP	33K 0.50% 1/10W
R1578	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R2366	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R1579	1-216-687-11	METAL CHIP	33K 0.50% 1/10W	R2367	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R2300	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R2368	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R2301	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R2369	1-216-690-11	METAL CHIP	43K 0.50% 1/10W
R2302	1-216-671-11	METAL CHIP	6.8K 0.50% 1/10W	R2370	1-216-689-11	METAL GLAZE	39K 5% 1/10W
R2303	1-216-093-00	METAL GLAZE	68K 5% 1/10W	R2371	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R2304	1-216-105-91	METAL GLAZE	220K 5% 1/10W	R2372	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R2305	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R2374	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R2306	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R2375	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R2307	1-216-033-00	METAL GLAZE	220 5% 1/10W	R2376	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R2308	1-216-103-91	METAL GLAZE	180K 5% 1/10W	R2377	1-216-033-00	METAL GLAZE	220 5% 1/10W
R2309	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R2378	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R2310	1-216-095-00	METAL GLAZE	82K 5% 1/10W	R2379	1-216-033-00	METAL GLAZE	220 5% 1/10W
R2311	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R2380	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R2312	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R2381	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R2313	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R2382	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R2314	1-216-645-11	METAL CHIP	560 0.50% 1/10W	R2383	1-216-033-00	METAL GLAZE	220 5% 1/10W
R2315	1-208-810-11	METAL CHIP	15K 0.50% 1/10W	R2384	1-216-689-11	METAL GLAZE	39K 5% 1/10W
R2316	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R2385	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R2317	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R2386	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R2318	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R2387	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R2319	1-216-093-00	METAL GLAZE	68K 5% 1/10W	R2389	1-216-033-00	METAL GLAZE	220 5% 1/10W
R2320	1-216-677-11	METAL CHIP	12K 0.50% 1/10W	R2390	1-216-647-11	METAL CHIP	680 0.50% 1/10W
R2321	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R2391	1-216-647-11	METAL CHIP	680 0.50% 1/10W
R2322	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R2392	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R2323	1-208-814-11	METAL CHIP	22K 0.50% 1/10W	R2393	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R2324	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R2394	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R2325	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	R2396	1-216-041-00	METAL GLAZE	470 5% 1/10W
R2326	1-216-041-00	METAL GLAZE	470 5% 1/10W	R2397	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R2327	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R2398	1-216-109-00	METAL GLAZE	330K 5% 1/10W
R2328	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R2399	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R2329	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R2501	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R2330	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R2502	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R2331	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R2551	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R2332	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R2552	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R2333	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R2553	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R2334	1-216-041-00	METAL GLAZE	470 5% 1/10W	R2555	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R2335	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R2556	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R2336	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R2557	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R2337	1-216-037-00	METAL GLAZE	330 5% 1/10W	R2558	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R2338	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R2559	1-216-039-00	METAL GLAZE	390 5% 1/10W
R2339	1-216-037-00	METAL GLAZE	330 5% 1/10W	R2560	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R2341	1-216-037-00	METAL GLAZE	330 5% 1/10W	R2561	1-216-001-00	METAL GLAZE	10 5% 1/10W
R2342	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R2562	1-216-001-00	METAL GLAZE	10 5% 1/10W
R2343	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R2563	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R2344	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R3001	1-249-393-11	CARBON	10 5% 1/4W F
R2345	1-208-812-11	METAL CHIP	18K 0.50% 1/10W	R3301	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R2346	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R3302	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R2347	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R3303	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R2348	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R3304	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R2349	1-208-810-11	METAL CHIP	15K 0.50% 1/10W	R3305	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R2350	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R3306	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R2351	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R3307	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R2352	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R3308	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R2353	1-216-041-00	METAL GLAZE	470 5% 1/10W				



The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R3309	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R4401	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R3310	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R4402	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R3311	1-216-091-00	METAL GLAZE	56K 5% 1/10W	R4404	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R3312	1-216-105-91	METAL GLAZE	220K 5% 1/10W	R4405	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R3317	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R4407	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R3320	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R4408	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R3333	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R4409	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R3334	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R4410	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R3335	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R4411	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R3337	1-216-099-00	METAL GLAZE	120K 5% 1/10W	R4412	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R3338	1-216-103-91	METAL GLAZE	180K 5% 1/10W	R4413	1-216-295-91	CONDUCTOR, CHIP	
R3341	1-216-690-11	METAL CHIP	43K 0.50% 1/10W	R4414	1-216-295-91	CONDUCTOR, CHIP	
R3342	1-216-095-00	METAL GLAZE	82K 5% 1/10W	R4415	1-216-295-91	CONDUCTOR, CHIP	
R3343	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R4416	1-216-295-91	CONDUCTOR, CHIP	
R3346	1-216-025-91	METAL GLAZE	100 5% 1/10W			<VARIABLE RESISTOR>	
R3347	1-216-025-91	METAL GLAZE	100 5% 1/10W	RV501	1-223-102-00	RES, ADJ, WIREWOUND	120
R3348	1-216-025-91	METAL GLAZE	100 5% 1/10W			<TRANSFORMER>	
R3349	1-216-025-91	METAL GLAZE	100 5% 1/10W	T500	1-426-668-11	TRANSFORMER, FERRITE (HDT)	
R3350	1-216-117-00	METAL GLAZE	680K 5% 1/10W	T501 $\Delta$	1-453-164-11	TRANSFORMER ASSY, FLYBACK	
R3356	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	T502	1-413-059-00	TRANSFORMER, FERRITE (DFT)	
R3357	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	T503 $\Delta$	1-460-017-11	TRANSFORMER	
R3358	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W			<THERMISTOR>	
R3359	1-216-081-00	METAL GLAZE	22K 5% 1/10W	TH500	1-807-970-11	THERMISTOR	
R3360	1-216-073-00	METAL GLAZE	10K 5% 1/10W			<CRYSTAL>	
R3361	1-216-089-00	METAL GLAZE	47K 5% 1/10W	X101	1-579-175-11	VIBRATOR, CERAMIC	
R3362	1-216-049-91	METAL GLAZE	1K 5% 1/10W	X300	1-577-259-11	VIBRATOR, CRYSTAL	
R3363	1-216-049-91	METAL GLAZE	1K 5% 1/10W	X301	1-527-722-00	OSCILLATOR, CRYSTAL	
R3364	1-216-073-00	METAL GLAZE	10K 5% 1/10W			*****	
R3366	1-216-085-00	METAL GLAZE	33K 5% 1/10W			*A-1304-032-A	M BOARD, COMPLETE
R3367	1-216-121-00	METAL GLAZE	1M 5% 1/10W			*****	
R3368	1-216-041-00	METAL GLAZE	470 5% 1/10W			1-540-044-11	SOCKET, IC
R3369	1-216-085-00	METAL GLAZE	33K 5% 1/10W			<CAPACITOR>	
R3370	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	C1200	1-124-472-11	ELECT	470MF 20% 10V
R3371	1-216-121-00	METAL GLAZE	1M 5% 1/10W	C1201	1-164-161-11	CERAMIC CHIP	0.0022MF 10% 50V
R3372	1-216-649-11	METAL CHIP	820 0.50% 1/10W	C1202	1-164-161-11	CERAMIC CHIP	0.0022MF 10% 50V
R3373	1-216-647-11	METAL CHIP	680 0.50% 1/10W	C1203	1-163-103-00	CERAMIC CHIP	27PF 5% 50V
R3374	1-216-121-00	METAL GLAZE	1M 5% 1/10W	C1204	1-163-103-00	CERAMIC CHIP	27PF 5% 50V
R3375	1-208-812-11	METAL CHIP	18K 0.50% 1/10W	C1205	1-164-346-11	CERAMIC CHIP	1MF 16V
R3376	1-216-081-00	METAL GLAZE	22K 5% 1/10W	C1208	1-164-346-11	CERAMIC CHIP	1MF 16V
R3378	1-216-121-00	METAL GLAZE	1M 5% 1/10W	C1210	1-126-101-11	ELECT	100MF 20% 16V
R3381	1-216-041-00	METAL GLAZE	470 5% 1/10W	C1211	1-164-346-11	CERAMIC CHIP	1MF 16V
R3382	1-216-645-11	METAL CHIP	560 0.50% 1/10W	C1212	1-163-109-00	CERAMIC CHIP	47PF 5% 50V
R3383	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	C1213	1-126-301-11	ELECT	1MF 20% 50V
R3384	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	C1214	1-126-301-11	ELECT	1MF 20% 50V
R3385	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	C1215	1-126-301-11	ELECT	1MF 20% 50V
R3386	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	C1216	1-126-301-11	ELECT	1MF 20% 50V
R3390	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W			<CONNECTOR>	
R3394	1-216-089-00	METAL GLAZE	47K 5% 1/10W	CN1201*	1-565-488-11	CONNECTOR, BOARD TO BOARD	12P
R3395	1-216-049-91	METAL GLAZE	1K 5% 1/10W	CN1202*	1-564-518-11	PLUG, CONNECTOR	3P
R3396	1-216-041-00	METAL GLAZE	470 5% 1/10W				
R3397	1-216-041-00	METAL GLAZE	470 5% 1/10W				
R3398	1-216-690-11	METAL CHIP	43K 0.50% 1/10W				
R3399	1-216-025-91	METAL GLAZE	100 5% 1/10W				
R3400	1-216-091-00	METAL GLAZE	56K 5% 1/10W				
R3401	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W				
R3402	1-216-092-00	METAL GLAZE	62K 5% 1/10W				
R3403	1-216-025-91	METAL GLAZE	100 5% 1/10W				
R3404	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R3405	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W				
R3406	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R3407	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W				
R3408	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R3409	1-216-025-91	METAL GLAZE	100 5% 1/10W				
R3410	1-216-073-00	METAL GLAZE	10K 5% 1/10W				

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
		<DIODE>					
D1200	8-719-801-78	DIODE 1SS184		C611 $\Delta$	1-161-953-71	CERAMIC 0.0047MF 20% 400V	
		<IC>		C612 $\Delta$	1-137-484-61	FILM 0.47MF 10% 630V	
IC1200	8-759-708-05	IC NJM78L05A		C613	1-137-484-11	FILM 0.47MF 10% 630V	
IC1201	8-759-284-18	IC UPD78P014YCW		C614	1-129-720-00	FILM 0.033MF 10% 630V	
IC1202	8-759-280-74	IC ST24C02CB1		C615	1-136-619-11	FILM 0.0016MF 3% 2KV	
IC1203	8-759-149-05	IC UPD71051GB-10-3B4		C616	1-124-910-11	ELECT 47MF 20% 35V	
IC1204	8-759-335-70	IC ADM232LAR-REEL		C617	1-136-557-11	FILM 0.0033MF 10% 630V	
IC1205	8-759-042-02	IC S-80743AL-A7-S		C618	1-126-096-11	ELECT 10MF 20% 25V	
		<TRANSISTOR>		C619	1-124-911-11	ELECT 220MF 20% 50V	
Q1200	8-729-120-28	TRANSISTOR 2SC1623-L5L6		C620	1-161-754-00	CERAMIC 0.001MF 10% 2KV	
		<RESISTOR>		C621	1-125-494-11	ELECT (BLOCK) 560MF 20% 160V	
R1200	1-260-313-51	CARBON 56 5% 1/2W		C622	1-102-038-00	CERAMIC 0.001MF 500V	
R1201	1-216-073-00	METAL GLAZE 10K 5% 1/10W		C623	1-126-944-11	ELECT 3300MF 20% 25V	
R1202	1-216-295-91	CONDUCTOR, CHIP		C624	1-102-038-00	CERAMIC 0.001MF 500V	
R1203	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W		C625	1-124-557-11	ELECT 1000MF 20% 25V	
R1204	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W		C626	1-102-038-00	CERAMIC 0.001MF 500V	
R1205	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W		C627	1-124-922-11	ELECT 1000MF 20% 50V	
R1206	1-216-295-91	CONDUCTOR, CHIP		C628	1-102-038-00	CERAMIC 0.001MF 500V	
R1207	1-216-295-91	CONDUCTOR, CHIP		C629	1-124-922-11	ELECT 1000MF 20% 50V	
R1210	1-216-025-91	METAL GLAZE 100 5% 1/10W		C630	1-124-907-11	ELECT 10MF 20% 50V	
R1211	1-216-025-91	METAL GLAZE 100 5% 1/10W		C631	1-136-853-11	FILM 0.56MF 5% 200V	
R1213	1-216-025-91	METAL GLAZE 100 5% 1/10W		C632	1-124-562-11	ELECT 47MF 20% 160V	
R1214	1-216-025-91	METAL GLAZE 100 5% 1/10W		C633	1-124-122-11	ELECT 100MF 20% 50V	
R1215	1-216-025-91	METAL GLAZE 100 5% 1/10W		C634	1-124-911-11	ELECT 220MF 20% 50V	
R1216	1-216-089-00	METAL GLAZE 47K 5% 1/10W		C636	1-124-910-11	ELECT 47MF 20% 50V	
R1217	1-216-089-00	METAL GLAZE 47K 5% 1/10W		C1602	1-137-484-11	FILM 0.47MF 10% 630V	
R1218	1-216-089-00	METAL GLAZE 47K 5% 1/10W				<CONNECTOR>	
R1220	1-216-025-91	METAL GLAZE 100 5% 1/10W		CN601	1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P	
		<SWITCH>		CN602	*1-695-561-11	PIN, CONNECTOR (PC BOARD) 7P	
S1200	1-570-623-11	SWITCH, DIP		CN603	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
		<CRYSTAL>		CN604	*1-564-506-11	PLUG, CONNECTOR 3P	
X1201	1-577-619-11	VIBRATOR, CRYSTAL		CN605	*1-573-964-11	PIN, CONNECTOR (PC BOARD) 6P	
		*****		CN606	*1-564-508-11	PLUG, CONNECTOR 5P	
*A-1316-215-A	G BOARD, COMPLETE (PVM-2053MD)	*****				<DIODE>	
*A-1316-216-A	G BOARD, COMPLETE (PVM-1953MD)	*****		D601 $\Delta$	8-719-032-39	DIODE DSA3A4-F3	
		<CAPACITOR>		D602 $\Delta$	8-719-032-39	DIODE DSA3A4-F3	
C602 $\Delta$	1-136-360-51	FILM 0.22MF 20% 250V		D603 $\Delta$	8-719-032-39	DIODE DSA3A4-F3	
C603 $\Delta$	1-136-360-51	FILM 0.22MF 20% 250V		D604 $\Delta$	8-719-032-39	DIODE DSA3A4-F3	
C604 $\Delta$	1-161-741-21	CERAMIC 0.001MF 10% 400V		D605	8-719-971-65	DIODE RGP15J-6040	
C605 $\Delta$	1-161-741-21	CERAMIC 0.001MF 10% 400V		D606	8-719-300-33	DIODE RU-3AM	
C606 $\Delta$	1-161-741-21	CERAMIC 0.001MF 10% 400V		D607	8-719-300-33	DIODE RU-3AM	
C607 $\Delta$	1-161-741-21	CERAMIC 0.001MF 10% 400V		D608	8-719-911-19	DIODE 1SS119-25	
C608 $\Delta$	1-161-953-71	CERAMIC 0.0047MF 20% 400V		D609	8-719-300-33	DIODE RU-3AM	
C609 $\Delta$	1-161-953-71	CERAMIC 0.0047MF 20% 400V		D610	8-719-300-33	DIODE RU-3AM	
C610 $\Delta$	1-161-953-71	CERAMIC 0.0047MF 20% 400V		D612	8-719-045-48	DIODE FML-G12S	
				D613	8-719-971-65	DIODE RGP15J-6040	
				D614	8-719-045-48	DIODE FML-G12S	
				D615	8-719-971-65	DIODE RGP15J-6040	
				D616	8-719-300-33	DIODE RU-3AM	
				D617	8-719-110-46	DIODE RD16ESB3	
						<FUSE>	
				F603 $\Delta$	1-532-742-11	FUSE, GLASS TUBE 1.6A/125V	
					1-533-189-11	HOLDER, FUSE	
				F604 $\Delta$	1-532-742-11	FUSE, GLASS TUBE 1.6A/125V	
					1-533-189-11	HOLDER, FUSE	
						<FERRITE BEAD>	



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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
FB601	1-410-396-41	FERRITE BEAD	INDUCTOR 0.45UH	R626	1-247-895-00	CARBON	470K 5% 1/4W
FB602	1-410-396-41	FERRITE BEAD	INDUCTOR 0.45UH	R631	1-247-807-31	CARBON	100 5% 1/4W
FB603	1-410-396-41	FERRITE BEAD	INDUCTOR 0.45UH	R1602	1-215-869-11	METAL OXIDE	1K 5% 1W F
FB604	1-410-396-41	FERRITE BEAD	INDUCTOR 0.45UH	R1603	1-202-846-00	SOLID	470K 20% 1/2W
FB605	1-410-396-41	FERRITE BEAD	INDUCTOR 0.45UH				
<IC>				<RELAY>			
IC601	8-749-924-69	IC STR-M6523		RY601 $\Delta$	1-515-738-11	RELAY	
	4-382-854-11	SCREW (M3X10), P. SW (+);	IC601	<TRANSFORMER>			
IC602	8-749-010-47	IC STR-S3115		T601 $\Delta$	1-426-716-11	TRANSFORMER, LINE FILTER (LFT)	
	4-382-854-11	SCREW (M3X10), P. SW (+);	IC602	T602 $\Delta$	1-426-716-11	TRANSFORMER, LINE FILTER (LFT)	
IC603	8-759-701-56	IC NJM78M05FA		T603	1-427-885-11	TRANSFORMER, CONVERTER (SRT)	
	4-382-854-11	SCREW (M3X10), P. SW (+);	IC603	<THERMISTOR>			
IC604	8-759-231-53	IC TA7805S		THP601 $\Delta$	1-808-059-32	THERMISTOR, POSITIVE	
	4-382-854-11	SCREW (M3X10), P. SW (+);	IC604	<VARISTOR>			
<JUMPER>				VDR601 $\Delta$	1-809-942-71	VARISTOR	
JW609	1-410-679-31	INDUCTOR	270UH (PVM-1953MD)	*****			
<COIL>				*A-1331-300-A	C BOARD, COMPLETE		
L601	1-411-215-11	COIL, CHOKE	200UH	*****			
L1601	1-410-679-31	INDUCTOR	270UH (PVM-2053MD)	*4-379-160-01	COVER (REAR LID), CV		
L1602	1-421-421-00	COIL, CHOKE		*4-379-167-01	COVER (MAIN), CV		
<PHOTO COUPLER>				<CAPACITOR>			
PH601	8-749-923-50	PHOTO COUPLER	PC111YS	C701	1-102-116-00	CERAMIC	680PF 10% 50V
<TRANSISTOR>				C702	1-102-116-00	CERAMIC	680PF 10% 50V
Q601	8-729-140-96	TRANSISTOR	2SD774-34	C703	1-102-116-00	CERAMIC	680PF 10% 50V
Q603	8-729-303-61	TRANSISTOR	2SC3851-G	C704	1-102-121-00	CERAMIC	0.0022MF 10% 50V
	4-382-854-11	SCREW (M3X10), P. SW (+);	Q603	C705	1-126-101-11	ELECT	100MF 20% 16V
<RESISTOR>				C706	1-102-074-00	CERAMIC	0.001MF 10% 50V
R601 $\Delta$	1-202-885-91	SOLID	1M 20% 1/2W	C707	1-162-116-00	CERAMIC	680PF 10% 2KV
R602	1-216-489-11	METAL OXIDE	27K 5% 3W F	C708	1-136-601-11	FILM	0.01MF 10% 630V
R603	1-216-491-11	METAL OXIDE	56K 5% 3W F	C710	1-101-880-00	CERAMIC	47PF 5% 50V
R604	1-249-418-11	CARBON	1.2K 5% 1/4W	C711	1-101-880-00	CERAMIC	47PF 5% 50V
R605	1-249-415-11	CARBON	680 5% 1/4W	C712	1-101-880-00	CERAMIC	47PF 5% 50V
R606	1-207-642-00	WIREWOUND	0.15 10% 3W F	C714	1-102-976-00	CERAMIC	180PF 5% 50V
R607	1-249-423-11	CARBON	3.3K 5% 1/4W	C715	1-102-976-00	CERAMIC	180PF 5% 50V
R608	1-249-426-11	CARBON	5.6K 5% 1/4W	C716	1-102-976-00	CERAMIC	180PF 5% 50V
R609	1-249-426-11	CARBON	5.6K 5% 1/4W	C722	1-162-622-11	CERAMIC	330PF 10% 6.3KV
R610	1-249-421-11	CARBON	2.2K 5% 1/4W	C724	1-124-667-11	ELECT	10MF 20% 100V
R611	1-249-417-11	CARBON	1K 5% 1/4W	C726	1-123-948-00	ELECT	22MF 20% 250V
R612	1-249-404-00	CARBON	82 5% 1/4W	C733	1-123-947-00	ELECT	10MF 20% 250V
R613	1-249-419-11	CARBON	1.5K 5% 1/4W	C734	1-101-888-00	CERAMIC	68PF 5% 50V
R614	1-249-385-11	CARBON	2.2 5% 1/4W F	C737	1-102-934-00	CERAMIC	1PF 0.25PF 50V
R615	1-218-265-11	METAL	8.2M 5% 1W	<CONNECTOR>			
R616	1-216-341-11	METAL OXIDE	0.22 5% 1W F	CN701	*1-564-511-11	PLUG, CONNECTOR	8P
R617	1-216-341-11	METAL OXIDE	0.22 5% 1W F	CN702	*1-573-964-11	PIN, CONNECTOR (PC BOARD)	6P
R618	1-249-443-11	CARBON	0.47 5% 1/4W F	CN703	*1-691-134-11	PIN, CONNECTOR (PC BOARD)	2P
R619	1-216-341-11	METAL OXIDE	0.22 5% 1W F	<DIODE>			
R620	1-249-443-11	CARBON	0.47 5% 1/4W F	D701	8-719-911-19	DIODE	1SS119-25
R621	1-215-877-11	METAL OXIDE	22K 5% 1W F	D702	8-719-911-19	DIODE	1SS119-25
R622	1-247-700-11	CARBON	100 5% 1/4W	D703	8-719-911-19	DIODE	1SS119-25
R623	1-249-417-11	CARBON	1K 5% 1/4W				
R624	1-216-341-11	METAL OXIDE	0.22 5% 1W F				
R625	1-216-341-11	METAL OXIDE	0.22 5% 1W F				

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D704	8-719-911-19	DIODE 1SS119-25		R726	1-202-846-00	SOLID 470K 20% 1/2W	
D705	8-719-911-19	DIODE 1SS119-25		R727	1-202-842-11	SOLID 220K 20% 1/2W	
D706	8-719-911-19	DIODE 1SS119-25		R728	1-202-837-00	SOLID 82K 20% 1/2W	
D707	8-719-901-83	DIODE 1SS83		R729	1-202-549-00	SOLID 100 20% 1/2W	
D708	8-719-901-83	DIODE 1SS83		R730	1-202-842-11	SOLID 220K 20% 1/2W	
D709	8-719-901-83	DIODE 1SS83		R731	1-249-409-11	CARBON 220 5% 1/4W	
D713	8-719-901-83	DIODE 1SS83		R732	1-249-409-11	CARBON 220 5% 1/4W	
D715	8-719-901-83	DIODE 1SS83		R733	1-249-409-11	CARBON 220 5% 1/4W	
D716	8-719-901-83	DIODE 1SS83		R734	1-249-409-11	CARBON 220 5% 1/4W	F
D717	8-719-901-83	DIODE 1SS83		R735	1-249-409-11	CARBON 220 5% 1/4W	F
<SOCKET>				R736	1-249-409-11	CARBON 220 5% 1/4W	F
J701	$\Delta$ 1-526-798-51	SOCKET, PICTURE TUBE		R737	1-247-807-31	CARBON 100 5% 1/4W	
<COIL>				R738	1-247-807-31	CARBON 100 5% 1/4W	
L702	1-408-413-00	INDUCTOR 22UH		R739	1-247-807-31	CARBON 100 5% 1/4W	
L703	1-408-414-00	INDUCTOR 27UH		R740	1-249-433-11	CARBON 22K 5% 1/4W	F
L704	1-408-414-00	INDUCTOR 27UH		R741	1-249-433-11	CARBON 22K 5% 1/4W	F
L705	1-412-530-31	INDUCTOR 27UH		R742	1-249-433-11	CARBON 22K 5% 1/4W	F
L706	1-410-667-31	INDUCTOR 22UH		R744	1-249-423-11	CARBON 3.3K 5% 1/4W	
<TRANSISTOR>				R745	1-249-429-11	CARBON 10K 5% 1/4W	
Q701	8-729-119-78	TRANSISTOR 2SC2785-HFE		R746	1-215-879-11	METAL OXIDE 47K 5% 1W	F
Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE		R747	1-247-725-11	CARBON 10K 5% 1/4W	F
Q703	8-729-119-78	TRANSISTOR 2SC2785-HFE		R748	1-249-923-11	CARBON 1K 5% 1/4W	F
Q704	8-729-200-17	TRANSISTOR 2SA1091-0		R749	1-215-902-11	METAL OXIDE 47K 5% 2W	F
Q705	8-729-200-17	TRANSISTOR 2SA1091-0		R751	1-247-887-00	CARBON 220K 5% 1/4W	
Q706	8-729-200-17	TRANSISTOR 2SA1091-0		R752	1-247-887-00	CARBON 220K 5% 1/4W	
Q707	8-729-326-11	TRANSISTOR 2SC2611		R753	1-247-887-00	CARBON 220K 5% 1/4W	
Q708	8-729-326-11	TRANSISTOR 2SC2611		R754	1-247-863-91	CARBON 22K 5% 1/4W	
Q709	8-729-326-11	TRANSISTOR 2SC2611		R755	1-249-434-11	CARBON 27K 5% 1/4W	
Q710	8-729-200-17	TRANSISTOR 2SA1091-0		R756	1-249-440-11	CARBON 82K 5% 1/4W	
Q711	8-729-200-17	TRANSISTOR 2SA1091-0		R760	1-249-400-11	CARBON 39 5% 1/4W	F
Q712	8-729-200-17	TRANSISTOR 2SA1091-0		<VARIABLE RESISTOR>			
Q713	8-729-255-12	TRANSISTOR 2SC2551-0		RV708	$\Delta$ 1-230-619-11	RES, ADJ, METAL GLAZE 110M	
Q714	8-729-255-12	TRANSISTOR 2SC2551-0		RV709	1-226-114-00	RES, ADJ, METAL GLAZE 2.2M	
Q715	8-729-255-12	TRANSISTOR 2SC2551-0		*****			
Q716	8-729-255-12	TRANSISTOR 2SC2551-0		*A-1372-094-A	H BOARD, COMPLETE		
Q717	8-729-255-12	TRANSISTOR 2SC2551-0		*****			
<RESISTOR>				*4-348-208-00	HOLDER, LED		
R702	1-247-897-11	CARBON 560K 5% 1/4W		<CONNECTOR>			
R704	1-215-404-00	METAL 200 1% 1/4W		CN105	*1-564-527-11	PLUG, CONNECTOR 12P	
R705	1-215-404-00	METAL 200 1% 1/4W		CN106	*1-564-526-11	PLUG, CONNECTOR 11P	
R706	1-215-404-00	METAL 200 1% 1/4W		<DIODE>			
R707	1-249-429-11	CARBON 10K 5% 1/4W		D2102	8-719-920-05	DIODE SLP231C-50	
R708	1-249-429-11	CARBON 10K 5% 1/4W		D2103	8-719-812-32	DIODE TLY123	
R710	1-215-388-00	METAL 43 1% 1/4W		D2104	8-719-901-33	DIODE 1SS133	
R711	1-215-390-00	METAL 51 1% 1/4W		<RESISTOR>			
R712	1-215-388-00	METAL 43 1% 1/4W		R2101	1-249-419-11	CARBON 1.5K 5% 1/4W	
R715	1-202-818-00	SOLID 1K 20% 1/2W		R2107	1-249-430-11	CARBON 12K 5% 1/4W	
R716	1-216-486-00	METAL OXIDE 8.2K 5% 3W	F	R2137	1-249-414-11	CARBON 560 5% 1/4W	
R717	1-202-818-00	SOLID 1K 20% 1/2W		R2138	1-249-414-11	CARBON 560 5% 1/4W	
R718	1-216-486-00	METAL OXIDE 8.2K 5% 3W	F	R2139	1-249-414-11	CARBON 560 5% 1/4W	
R719	1-202-818-00	SOLID 1K 20% 1/2W		R2140	1-249-414-11	CARBON 560 5% 1/4W	
R720	1-216-486-00	METAL OXIDE 8.2K 5% 3W	F	R2141	1-249-414-11	CARBON 560 5% 1/4W	
R722	1-202-883-11	SOLID 680K 20% 1/2W		R2142	1-249-414-11	CARBON 560 5% 1/4W	
R723	1-202-838-00	SOLID 100K 20% 1/2W		R2143	1-249-414-11	CARBON 560 5% 1/4W	
R724	1-202-842-11	SOLID 220K 20% 1/2W					
R725	1-202-838-00	SOLID 100K 20% 1/2W					

**H J S X**

The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

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REF. NO.	PART NO.	DESCRIPTION	REMARK
R2144	1-249-414-11	CARBON 560 5% 1/4W	
R2145	1-249-414-11	CARBON 560 5% 1/4W	
R2148	1-215-419-00	METAL 820 1% 1/4W	
R2149	1-215-414-00	METAL 510 1% 1/4W	
R2150	1-215-409-00	METAL 330 1% 1/4W	
R2151	1-215-407-00	METAL 270 1% 1/4W	
R2152	1-215-404-00	METAL 200 1% 1/4W	
R2153	1-215-401-11	METAL 150 1% 1/4W	
R2154	1-215-399-00	METAL 120 1% 1/4W	
R2155	1-215-397-00	METAL 100 1% 1/4W	
R2156	1-215-421-00	METAL 1K 1% 1/4W	
R2157	1-215-416-00	METAL 620 1% 1/4W	
R2158	1-215-410-00	METAL 360 1% 1/4W	
R2159	1-215-405-00	METAL 220 1% 1/4W	
R2160	1-215-421-00	METAL 1K 1% 1/4W	
<VARIABLE RESISTOR>			
RV2101	1-223-504-21	RES, VAR, CARBON 20K	
RV2103	1-223-735-11	RES, VAR, CARBON 20K	
RV2105	1-223-735-11	RES, VAR, CARBON 20K	
RV2109	1-223-735-11	RES, VAR, CARBON 20K	
RV2113	1-223-735-11	RES, VAR, CARBON 20K	
RV2117	1-223-504-21	RES, VAR, CARBON 20K	
<SWITCH>			
S2101	1-570-101-41	SWITCH, KEY BOARD	
S2102	1-570-101-41	SWITCH, KEY BOARD	
S2103	1-570-101-41	SWITCH, KEY BOARD	
S2104	1-570-101-41	SWITCH, KEY BOARD	
S2105	1-570-101-41	SWITCH, KEY BOARD	
S2106	1-570-969-11	SWITCH, KEY BOARD	
S2107	1-570-969-11	SWITCH, KEY BOARD	
S2108	1-570-101-41	SWITCH, KEY BOARD	
S2109	1-570-969-11	SWITCH, KEY BOARD	
S2110	1-570-101-41	SWITCH, KEY BOARD	
S2111	1-570-101-41	SWITCH, KEY BOARD	
S2113	1-570-969-11	SWITCH, KEY BOARD	
S2114	1-570-969-11	SWITCH, KEY BOARD	
*****			
*A-1388-166-A	J BOARD, COMPLETE	*****	
<CONNECTOR>			
CN608	*1-695-561-11	PIN, CONNECTOR (PC BOARD) 7P	
<SWITCH>			
S601	$\Delta$ 1-692-921-11	SWITCH, PUSH (A.C. POWER)	
*****			
*A-1390-391-B	S BOARD, COMPLETE (PVM-1953MD)	*****	
<CAPACITOR>			
C805	1-102-978-00	CERAMIC 220PF 5% 50V	
C806	1-136-165-00	FILM 0.1MF 5% 50V	
C807	1-130-477-00	MYLAR 0.0033MF 5% 50V	
C810	1-136-165-00	FILM 0.1MF 5% 50V	
C811	1-136-165-00	FILM 0.1MF 5% 50V	

REF. NO.	PART NO.	DESCRIPTION	REMARK
C812	1-136-495-11	FILM 0.068MF 5% 50V	
C813	1-124-907-11	ELECT 10MF 20% 50V	
C818	1-136-165-00	FILM 0.1MF 5% 50V	
<CONNECTOR>			
CN801	*1-565-489-11	CONNECTOR, BOARD TO BOARD 13P	
<IC>			
IC801	8-759-328-12	IC Z8622812PSC	
<COIL>			
L801	1-410-470-11	INDUCTOR 10UH	
<RESISTOR>			
R802	1-249-435-11	CARBON 33K 5% 1/4W	
R803	1-247-863-91	CARBON 22K 5% 1/4W	
R804	1-215-454-00	METAL 24K 1% 1/4W	
R805	1-215-461-00	METAL 47K 1% 1/4W	
R808	1-249-417-11	CARBON 1K 5% 1/4W	
R812	1-249-417-11	CARBON 1K 5% 1/4W	
R813	1-249-417-11	CARBON 1K 5% 1/4W	
R815	1-249-423-11	CARBON 3.3K 5% 1/4W	
R816	1-249-418-11	CARBON 1.2K 5% 1/4W	
R817	1-249-418-11	CARBON 1.2K 5% 1/4W	
R818	1-249-418-11	CARBON 1.2K 5% 1/4W	
R819	1-249-418-11	CARBON 1.2K 5% 1/4W	
R820	1-249-422-11	CARBON 2.7K 5% 1/4W	
*****			
*A-1390-498-A	X BOARD, COMPLETE	*****	
<CONNECTOR>			
CN108	*1-564-518-11	PLUG, CONNECTOR 3P	
<DIODE>			
D001	8-719-301-36	DIODE SEL4410E-D	
D002	8-719-301-36	DIODE SEL4410E-D	
D003	8-719-301-36	DIODE SEL4410E-D	
D004	8-719-301-36	DIODE SEL4410E-D	
*****			
MISCELLANEOUS			
*****			
$\Delta$ 1-426-505-11	COIL, DEMAGNETIZATION		
$\Delta$ 1-451-349-12	DEFLECTION YOKE (Y20FZA)		
$\Delta$ 1-532-745-11	FUSE, GLASS TUBE 3.15A/125V (PVM-1953MD)		
$\Delta$ 1-576-230-11	FUSE (H.B.C.) 3.15A/250V (PVM-2053MD)		
1-537-877-11	TERMINAL BOARD ASSY, I/O (Q BOARD)		
1-544-063-12	SPEAKER		
1-690-871-11	CABLE (MINI DIN) 8P		
Y901	$\Delta$ 8-736-122-05	PICTURE TUBE 20FZ2 (PVM-2053MD)	
$\Delta$ 8-736-126-05	PICTURE TUBE 20FZ-2 (PVM-2053MD)		
$\Delta$ 8-736-124-05	PICTURE TUBE 20FZ4 (PVM-1953MD)		
*****			

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REF.NO. PART NO. DESCRIPTION REMARK

ACCESSORIES AND PACKING MATERIALS

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$\Delta$ 1-551-631-22	CORD, POWER 6.0A/250V (PVM-2053MD)
$\Delta$ 1-559-945-11	CORD, POWER 10A/125V (PVM-1953MD)
1-690-871-11	CABLE (MINI DIN) 8P
3-170-078-01	HOLDER (B), PLUG
3-798-310-21	MANUAL, INSTRUCTION (PVM-1953MD)
3-798-310-41	MANUAL, INSTRUCTION (PVM-2053MD)
3-798-710-11	MANUAL, PROTOCOL
*4-043-769-01	CUSHION (UPPER) (ASSY)
*4-043-770-01	CUSHION (LOWER) (ASSY)
4-048-070-01	HINGE, COVER
4-048-072-01	COVER, CONTROL PANEL
4-048-073-01	COVER, DROP PROTECTION
4-048-145-01	MANUAL, INSTANT INFORMATION (PVM-1953MD)
4-048-145-11	MANUAL, INSTANT INFORMATION (PVM-2053MD)
4-048-176-01	SHEET, ADHESIVE
*4-048-225-01	INDIVIDUAL CARTON (PVM-1953MD)
*4-048-228-01	INDIVIDUAL CARTON (PVM-2053MD)
*4-048-421-01	SPACER
*4-381-155-01	BAG, PROTECTION

**PVM-1953MD/2053MD**

**9-920-602-01**

**Sony Corporation**  
**B & I Systems Company**

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