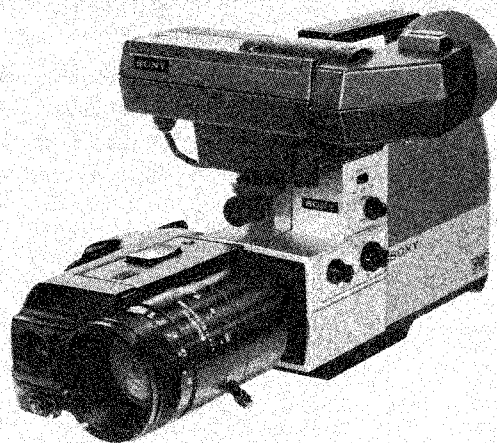


HVC-2500

HVF-2000A

SERVICE MANUAL

US Model
Canadian Model



May, 1983

Also refer to "Adjustment manual and Operation manual."

SPECIFICATIONS

System

Pickup tube	2/3-inch SMF TRINICON tube
Signal system	EIA standards, NTSC color
Scanning system	525 lines, 2 : 1 interlace
Frame	30 frames/sec
Sync system	Internal (only)
Scanning frequency	Horizontal 15.73426 kHz Vertical 59.94 Hz
Lens	Combined 6 × power zoom lens f = 12 mm (F1.4) – 72 mm (F1.8) with macro Filter diameter : 58 mm
Color temperature selector	Built-in 2-step filter (3200°K/5800°K), automatic adjustment
Minimum illumination	30 lux (F1.4)
Illumination range	30 lux to 100,000 lux (2 to 10,000 footcandles), (automatic sensitivity and iris)
Auto focus available distance (when the subject is a person)	Approx. 1.1 – 10 m (3 ft 8 in – 30 ft)
Horizontal resolution	300 lines
Video signal-to-noise ratio	48 dB

Input and output connector

VTR connector (Sony K-type, 14-pin)	Video output 1.0 Vp-p, 75 ohms unbalanced, sync negative Audio output –20 dBs (0 dBs = 0.775 Vrms) low impedance Video input 1.0 Vp-p, 75 ohms unbalanced sync negative Audio input –20 dBs
External microphone jacks (2)	Minijack –65 dBs for low impedance microphones

Earphone connector	Minijack –26 dBs for 8 ohm earphone
--------------------	--

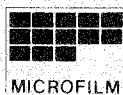
General

Power consumptions (including a viewfinder)	8.4 W (normal operation) 10.3 W (when the auto focusing motor rotating)
Operating temperature	0°C to 40°C (32°F to 104°F)
Dimensions	225 × 200 × 357 mm (w/h/d) (8 ⁷ / ₈ × 7 ⁷ / ₈ × 14 ¹ / ₈ inches) (including zoom lens, viewfinder and grip) 158 × 190 × 357 mm (w/h/d) (6 ¹ / ₄ × 7 ¹ / ₂ × 14 ¹ / ₈ inches) (camera only)
Weight	2.9 kg (6 lbs 6 oz) (including viewfinder, and not including camera cable) 2.4 kg (5 lbs 5 oz) (camera only)
Accessories supplied	Viewfinder HVF-2500 (1) Earphone ME-20H (1) Carrying case (1)

Design and specifications subject to change without notice.

* Trademark of Sony Corporation

SMF TRINICON*
COLOR VIDEO CAMERA
SONY®



Consumer
VIDEO

SAFETY CHECK-OUT

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. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ and HV (if any) to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK  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 AU COMPOSANT AYANT RAPPORT A LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UN TRAMÉ ET UNE MARQUE  SUR LES DIAGRAMMES SCHÉMATIQUES, LES VUES EXPLOSÉES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES REGLAGES DU CIRCUIT QUI SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT SONT IDENTIFIÉS DANS CE MANUEL. SUIVRE LES PROCÉDURES QUAND LES COMPOSANTS CRITIQUES SONT REMPLACÉS OU LE FONCTIONNEMENT IMPROPRE EST SUSPECTÉ.

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
HVC-2500			HVF-2000A (Electronic Viewfinder)		
1. GENERAL			1. GENERAL		
1-1.	Easy to Use High Quality Video Camera . .	4	1-1.	Focusing	67
1-2.	Connecting the Video Cassette Recorder .	5	1-2.	Viewfinder Picture Adjustment	67
1-3.	Location and Function of Controls	6	1-3.	Location and Function of Controls	68
1-4.	Camera Adjustment	9	2. REPLACEMENT OF ELECTRONIC		
1-5.	Zooming	11	VIEWFINDER CRT		69
1-6.	Fine Tuning the Camera	12	3. DIAGRAMS		
1-7.	What is White Balance	13	3-1.	Circuit Boards Location	70
2. DISASSEMBLY			3-2.	Block Diagram	71
2-1.	Disassembly of Side Panel and		3-3.	Schematic Diagram	73
	Shoulder Pad	15	3-4.	Semiconductors	75
2-2.	Disassembly of Operation Grip Sub Assy .	16	3-5.	Printed Wiring Boards	76
2-3.	Disassembly of C-29 Board	16	4. EXPLODED VIEWS		78
2-4.	Disassembly of C-26, C-27, C-31		5. ELECTRICAL PARTS LIST		80
	and C-33 Boards	16			
2-5.	Disassembly of C-3 and C-28 Boards	17			
2-6.	Replacement of SMF Trinicon Tube	18			
2-7.	Replacement of Zoom Lens Assy	19			
2-8.	Replacement of Zoom Motor				
	and AF Motor	20			
3. DIAGRAM					
3-1.	Circuit Boards Location	22			
3-2.	HVC-2500 Block Diagram	23			
3-3.	Semiconductor	27			
3-4.	HVC-2500 Schematic Diagram	28			
3-5.	Waveform	35			
3-6.	HVC-2500 Printed Wiring Boards	37			
4. EXPLODED VIEWS					
	Cabinet Side Assembly	47			
	Frame Rear Assembly	48			
	Chassis Assembly	49			
	Control Grip Assembly	50			
	Auto Focus Assembly	51			
5. ELECTRICAL PARTS LIST		52			

SECTION 1

GENERAL

1-1. EASY TO USE HIGH QUALITY VIDEO CAMERA

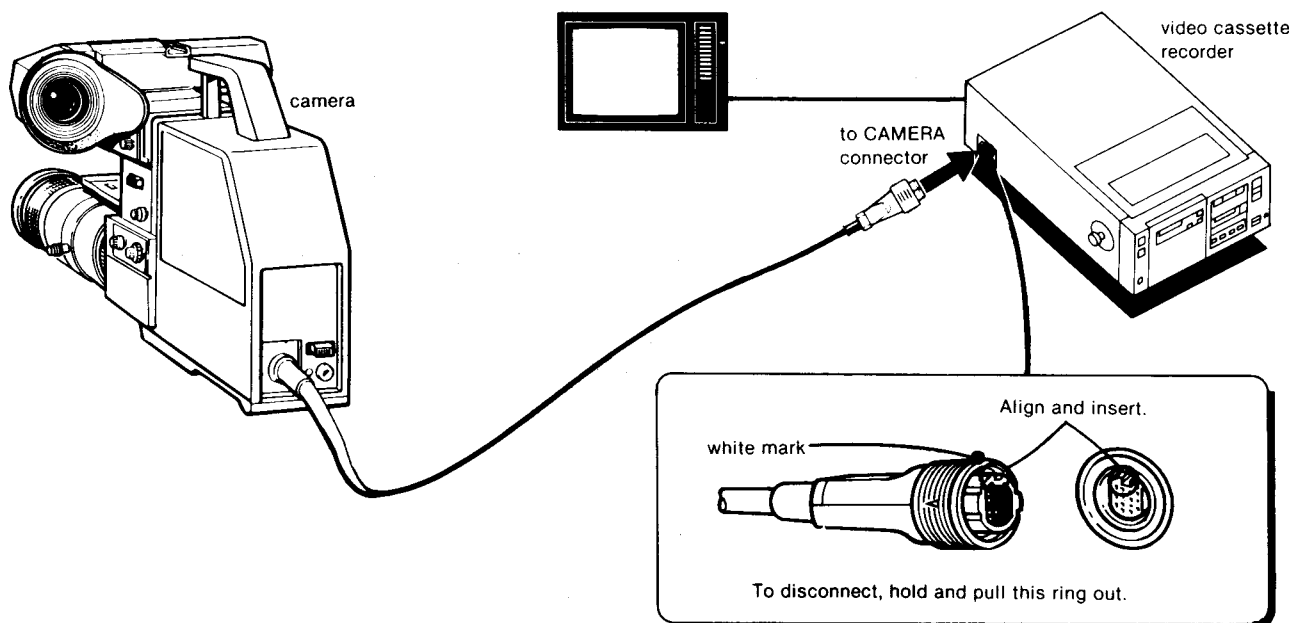
Some recorders may be unable to use all the functions of this camera. These functions are as follows. For details, see the appropriate sections of the manual.

Function Recorder	TAPE RUN/ STOP button	Fader	REC REVIEW	Monitor the play- back picture on the viewfinder.	Listen to the playback sound through an ear- phone
Recorder with K-type connector*	Yes	Yes	Yes	Yes	Yes
Recorder without K-type connector (an optional ac adaptor is required)	Yes	Yes	No	No	No

*The SL-3000 does not have REC REVIEW function.

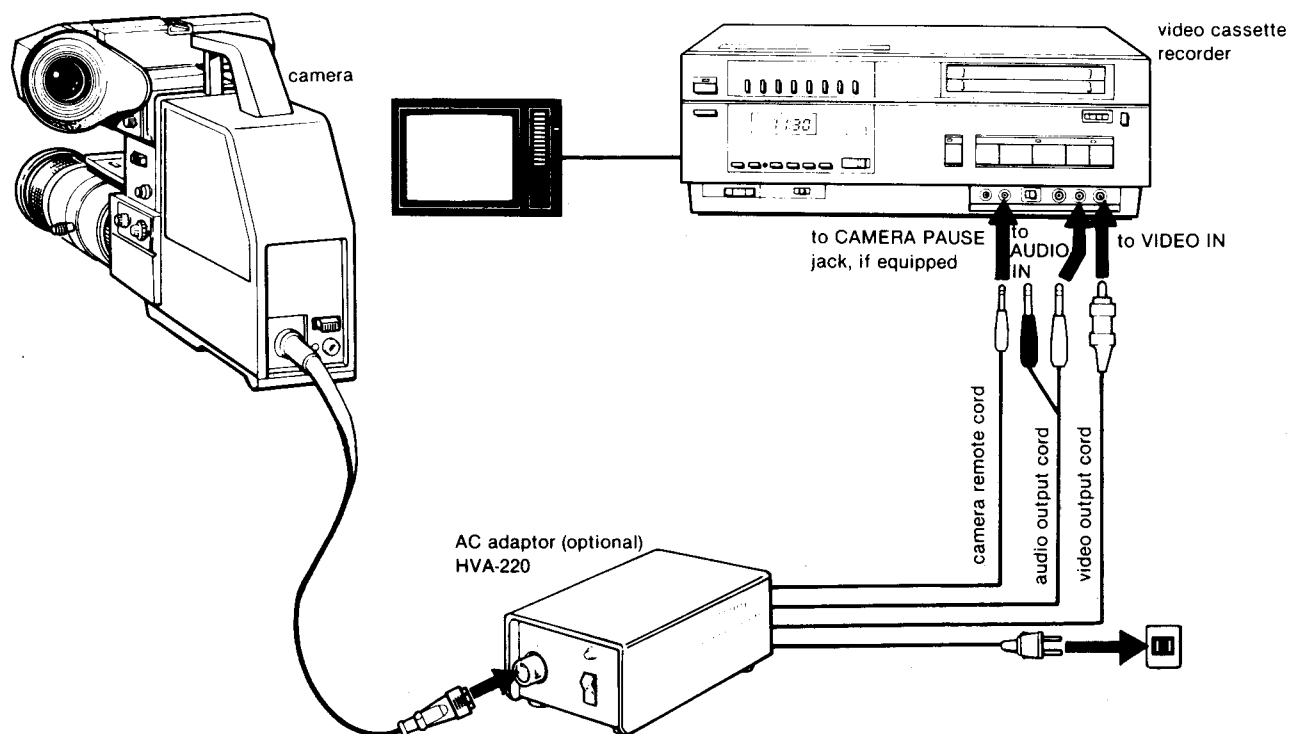
1-2. CONNECTING THE VIDEO CASSETTE RECORDER

Connection with a recorder having a Sony K-type (14-pin) camera connector



When there is no Sony K-type camera connector on your recorder

The use of Sony HVA-200 or HVA-220 ac adaptor is required.
Refer to the instruction manual furnished with the adaptor.



CAUTION

Handle the camera cable carefully.
Be careful not to pull or bend the cable as this may cause internal breakage. Bunch the extra cable with the supplied cable clamp.

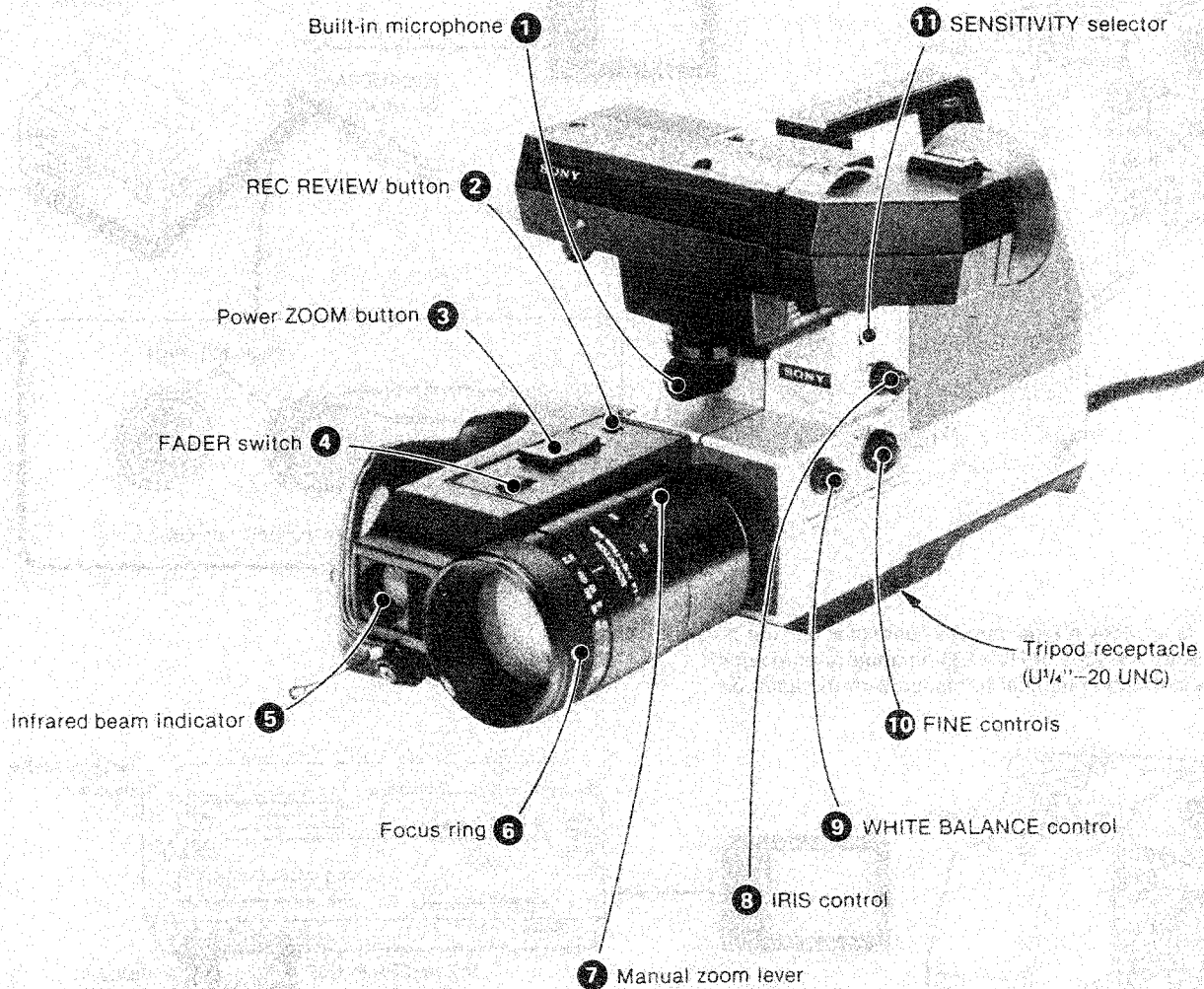
To extend the camera cable

Add the CCK-5 (5 m, 16 feet) or CCK-10 (10 m, 33 feet) extension cables (optional).

To monitor the picture being recorded

Connect a TV. For some video cassette recorders, rf signals are not supplied during battery pack or ac pack operation. In such a case, connect a TV having video input jacks.

1-3. LOCATION AND FUNCTION OF CONTROLS



① Built-in microphone

Sound recording is made while shooting.

② REC REVIEW button

When using a recorder with a REC REVIEW function, press this button to review the last few seconds of the recorded picture.

③ Power ZOOM button

Press the button for smooth power zooming between wide-angle (W) and telephoto (T) positions.

④ FADER switch

Push the switch for fade-in and fade-out effects. If pushed again, the fader function is cancelled.

⑤ Infrared beam detector

While auto focusing is activated, do not cover the detector. Make sure the detector is always clean.

⑥ Focus ring

In manual focusing, turn the ring. During auto focusing, the ring turns automatically, so do not turn or stop it forcibly.

⑦ Manual zoom lever

Turn the zoom lever for manual zooming between the wide-angle and telephoto position. For close-ups, push the lever and turn the ring to the MACRO position.

⑧ IRIS control

AUTO (pushed-in): The iris is adjusted automatically by pushing in the control.

VAR (variable, pulled-out): The iris is adjusted by turning the control.

⑨ WHITE BALANCE control

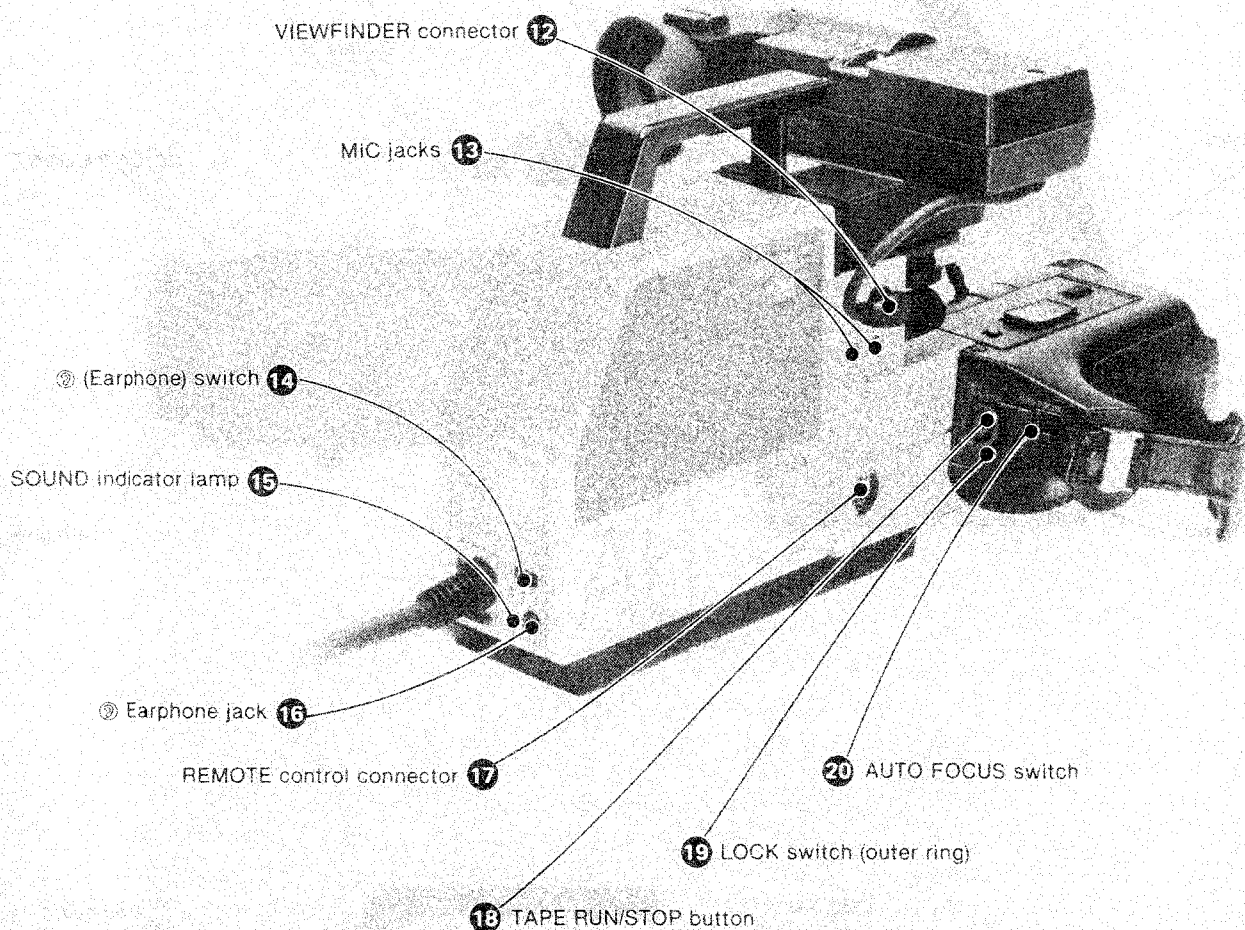
Set the control according to the light illuminating the subject. By turning the control to AUTO while shooting a white object, the white balance will be properly adjusted automatically.

⑩ FINE controls

Use to record with your desired color tone after adjusting the white balance.

⑪ SENSITIVITY selector

Selects the sensitivity of the camera. Normally, set to AUTO.



12 VIEWFINDER connector

Connect the viewfinder cord here.

13 MIC jacks (mini type)

For connections of external microphone(s). The built-in microphone will be disconnected when an external microphone is connected to the CH-1/L jack.

14 (Earphone) switch

Selects the sound monitored by the earphone.

15 SOUND indicator lamp

The lamp flashes when the microphone picks up sound.

16 Earphone jack

Connect the earphone to the connector when monitoring the sound being recorded or played back.

17 REMOTE control connector

Connect the HVR-4000 remote control unit (optional) to the connector for remote control operation.

18 TAPE RUN/STOP button

Press the button to start or stop the tape in the video recorder.

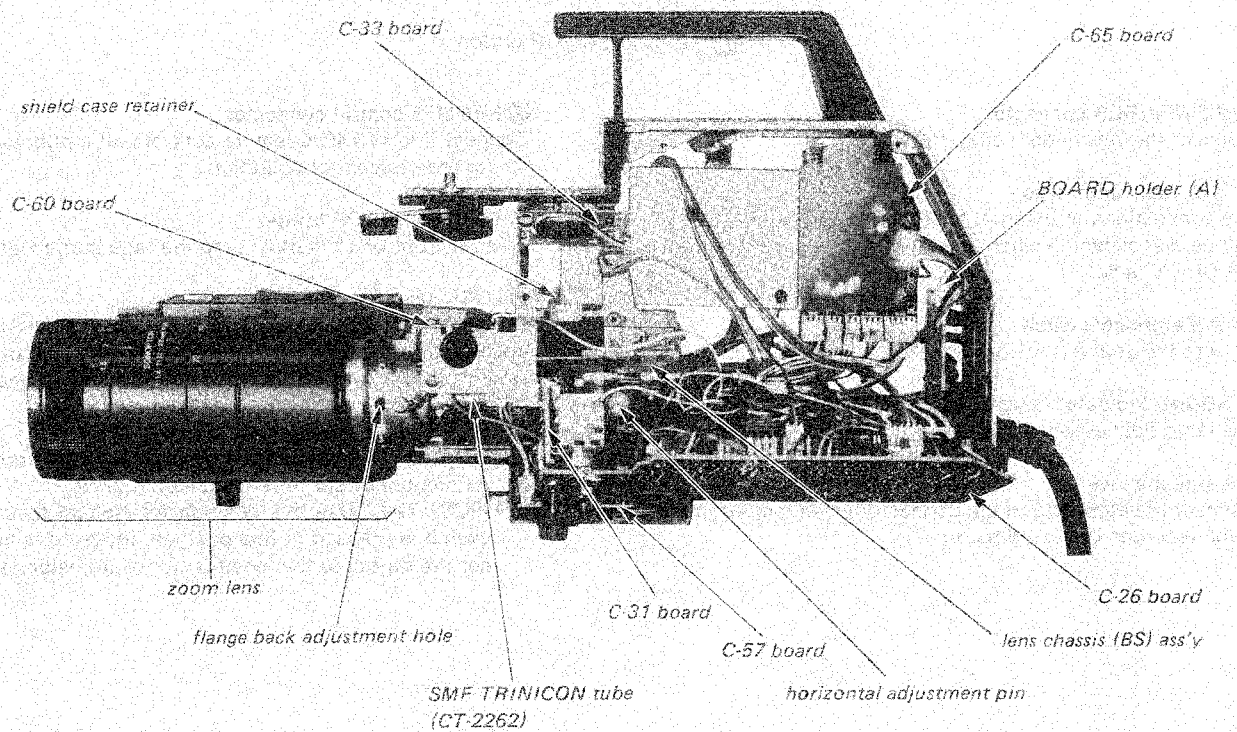
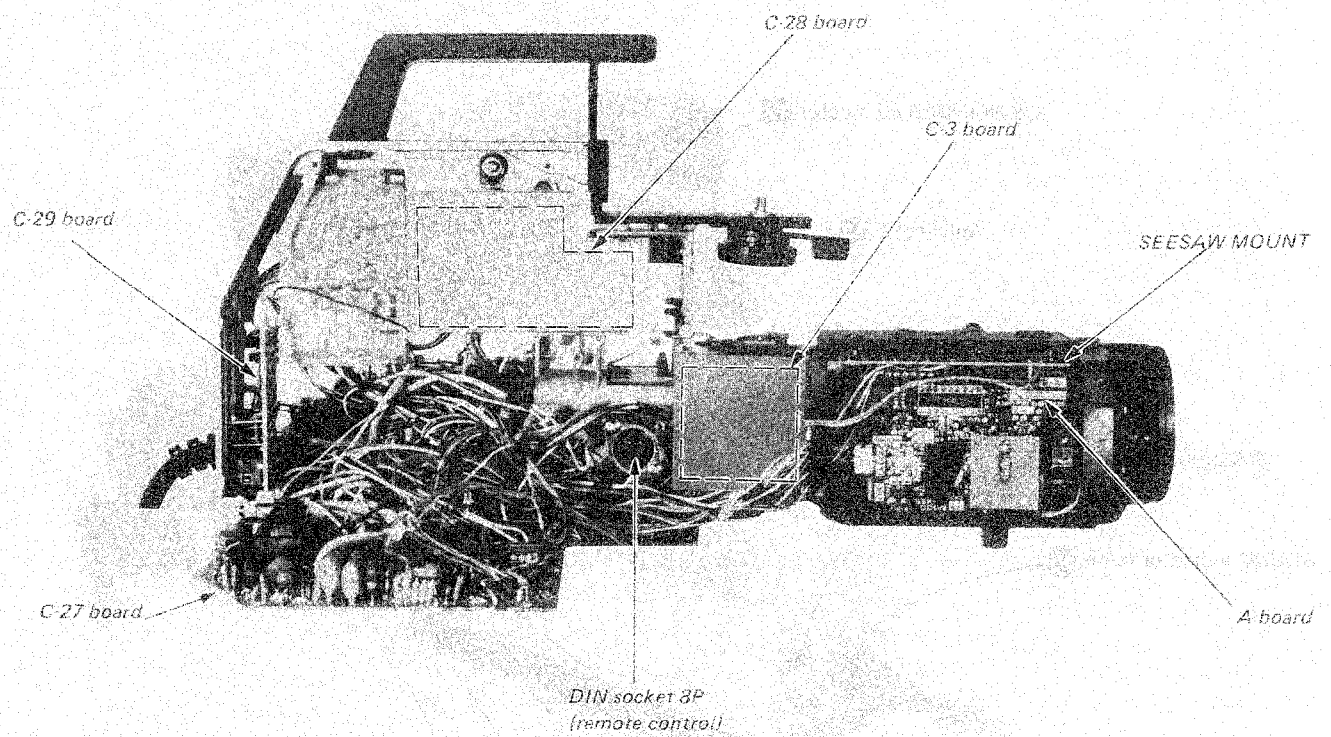
19 LOCK switch (outer ring)

To prevent accidental pressing of the TAPE RUN/STOP button, set the button to the left position (LOCK). If you move the switch during recording, the operating noise may be picked up and recorded.

20 AUTO FOCUS switch

AUTO: The marker appears in the viewfinder. Focus is automatically set for the subject marked.

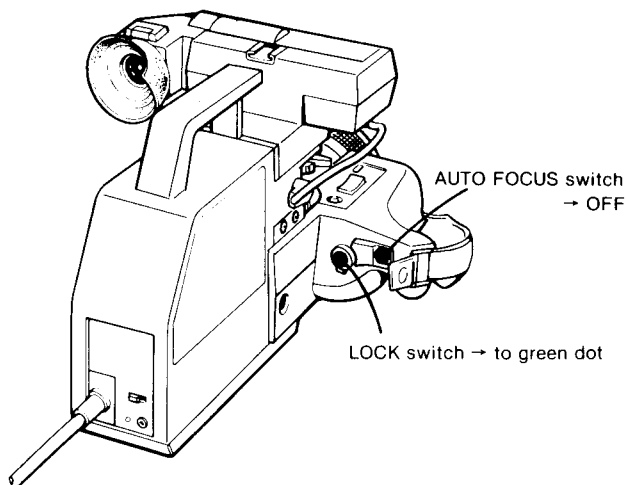
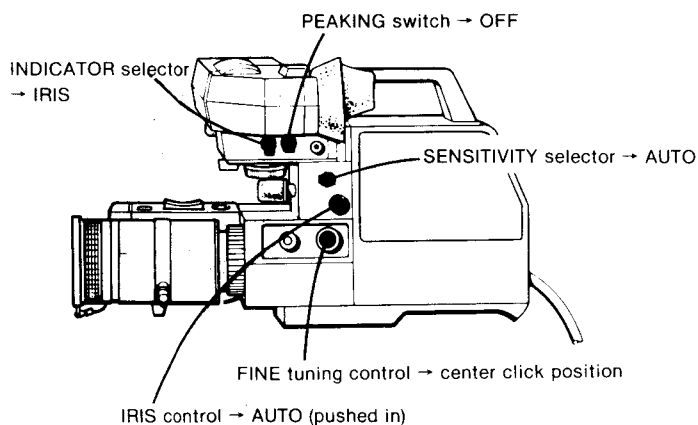
OFF/PUSH ON: Use this position for manual focusing. While the switch is pressed in this position, focusing is automatic. Also, set the switch to this position for white balance adjustment.



1-4. CAMERA ADJUSTMENT

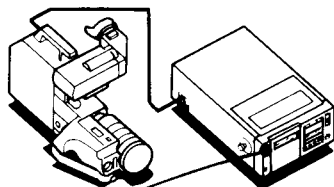
Refer to page 12 for manual adjustment or fine tuning.

- 1** Set switches and controls to the green dots.
The IRIS control and the SENSITIVITY selector are automatically adjusted, and a good quality picture can be recorded.



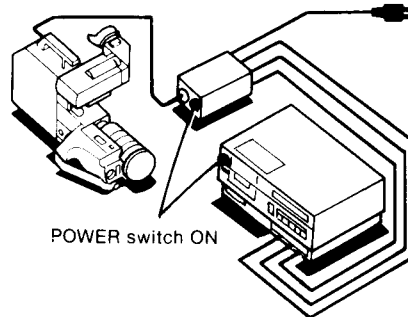
- 2** Supply power to the video camera. Be sure that the lens cap is in position.

When the camera is connected to a recorder with a K-type connector



POWER switch on
(When a recorder operates on a battery pack, press the REC and PLAY buttons simultaneously. On some recorders, only the REC button needs to be pressed.)

When the camera using an ac adaptor is connected to the recorder

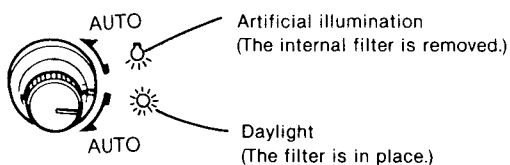


POWER switch ON

If there is an input selector on a recorder or a tuner timer unit, set it to CAMERA.

- 3** Set the WHITE BALANCE control. (For information on what white balance is, see page 13.)

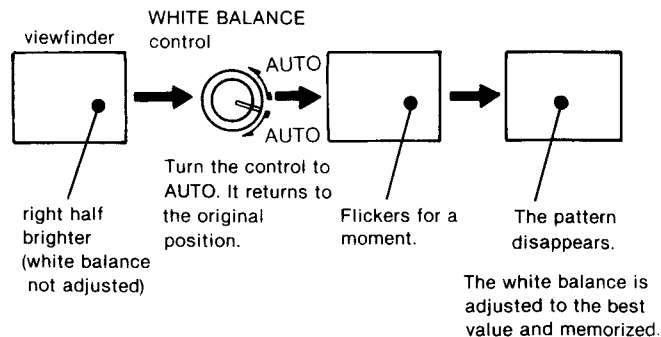
- 1** Set the WHITE BALANCE control according to the prevailing light condition.



- 2** Point the camera **with the white lens cap in position** at the light source.

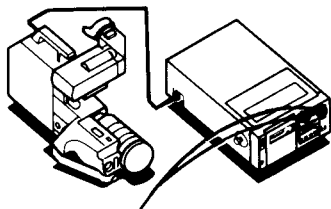
● Because a white subject, like a white wall, reflects the available lights, you can point the camera at it without using the lens cap. In this case, fill the field of the view on the viewfinder screen with the white subject.

- 3** Watching the viewfinder, turn the WHITE BALANCE control to AUTO. White balance is adjusted automatically.



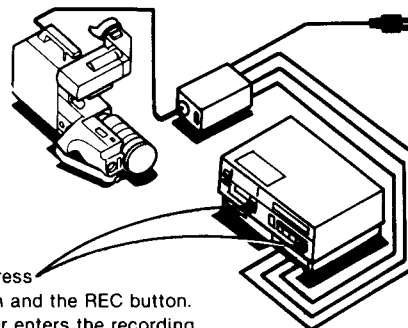
- 4** Set the video cassette recorder to the recording pause mode. Operating procedures vary with the recorder used. For details, refer to the recorder's operation manual.

When the camera is connected to a recorder with a K-type connector



Press the PLAY button while pressing the REC button. At this point, the video recorder enters the recording pause mode, and the preparation is complete. (On some recorders only the REC button needs to be pressed.)

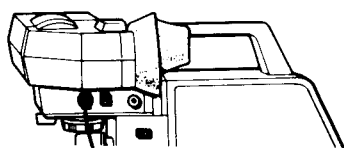
When the camera using an ac adaptor is connected to the recorder



Simultaneously press the PAUSE button and the REC button. The video recorder enters the recording pause mode, and the preparation is complete.

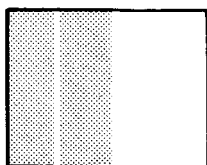
To check the position of the WHITE BALANCE control in the viewfinder

When shooting a scene indoors for instance, where the daylight comes through a window, it is better to set the WHITE BALANCE control to the daylight position. Check the control position as follows.



INDICATOR → WB

Set the INDICATOR switch to WB. Set the WHITE BALANCE control to the position in which the white line on the viewfinder screen moves as far to the left as possible.



white line

NOTES ON WHITE BALANCE ADJUSTMENT

If the yellow lamp lights in the viewfinder to show that the illumination is not sufficient, the white balance cannot be readjusted. You may be able to compensate to some extent by adjusting the color with the FINE controls.

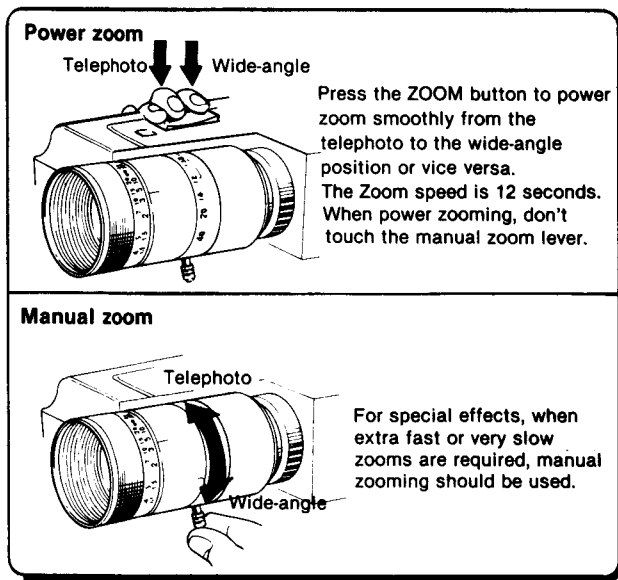
- ① Set the INDICATOR switch to WB. A white line appears on the viewfinder screen.
- ② Adjust the outer and inner FINE controls individually so that the white line moves as far to the left as possible.
- If you press the TAPE RUN/STOP button to start recording, the pattern will disappear. When you set the recorder to the pause mode, the pattern will reappear.

When the lighting condition changes, it is necessary to readjust the white balance, since it is fixed to the value set in the adjustment procedure.

Automatically fine-tuned white balance is reset when changing the WHITE BALANCE control position or turning the power of the camera off. (In the latter case, however, the white balance is maintained for about 30 minutes after the power is turned off.)

When you want a color tone different from the one obtained in this white balance adjustment, see "fine tuning the camera manually" on page 12.

1-5. ZOOMING



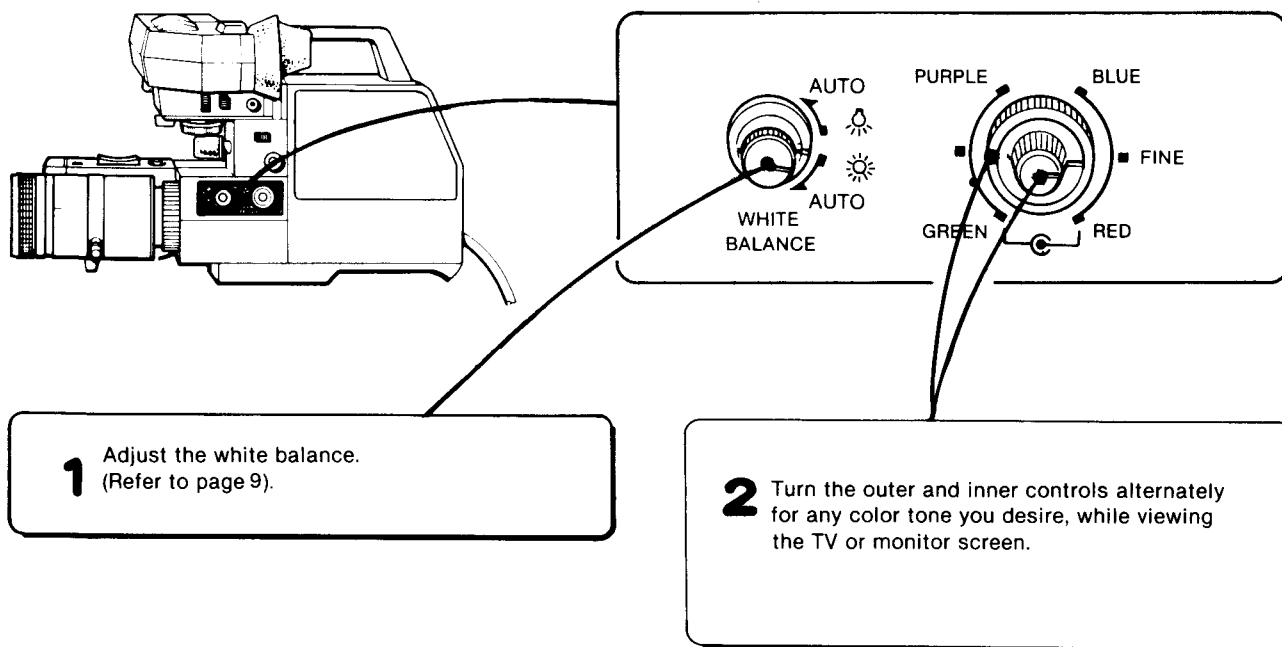
How to position your subject for a zoom-up

First position your subject the way you want in the telephoto position, then pull back to the wide-angle position. Now when you begin recording and zoom-up, your subject will be perfectly positioned.

1-6. FINE TUNING THE CAMERA

FINE COLOR ADJUSTMENT TO YOUR TASTE

By adjusting the white balance, natural hue is obtained. To adjust the color to your taste, play back the picture on the TV or monitor and proceed as follows.



The color tone also is considerably affected by the COLOR and HUE controls of the color TV. Adjust these controls on TV correctly in advance.

SENSITIVITY SELECTOR

Normally, set the SENSITIVITY selector to AUTO. The Automatic Gain Control (AGC) circuit gives optimum brightness to the picture on the screen. If the IRIS control is set to VAR, and this selector is used at the same time, IRIS adjustment will give better results. For details see "IRIS adjustment".

1-7. WHAT IS WHITE BALANCE?

The human eye has the unique ability to adapt to light. For this reason, when entering a room from outdoors, a person perceives a white object as rather reddish at first but after a while as white. In addition, the human eye has the ability to memorize, so that a person can perceive a white object indoors or outdoors as being the same color. A color video camera, however, does not have this adaptability nor the ability to memorize. It records a white object according to the color temperature of the light source which illuminates the object.

Because of this, it is necessary to adjust a camera so that a white object may be recorded and reproduced as accurately white.

Color temperature

When a black body is heated, it radiates light. There is a relation between the "color of the light" radiated and temperature of an object. The temperature is measured in degrees K (Kelvin). As the

temperature gets higher, the color of the light changes: red → yellow → white → blue. (See the table of the color temperature.) Color temperature is the color of the light source, not the color of an object. For this reason, white balance should be adjusted to the light source which illuminates the subject to be shot.

White balance adjustment

The reference color temperature of the HVC-2500 is 3200°K which corresponds to the ☀ (artificial illumination) position of the WHITE BALANCE control. When shooting in daylight in which the color temperature is high (5800°K and higher), set the control to the ☀ (daylight) position so that the filter is in place to reduce the color temperature to 3200°K.

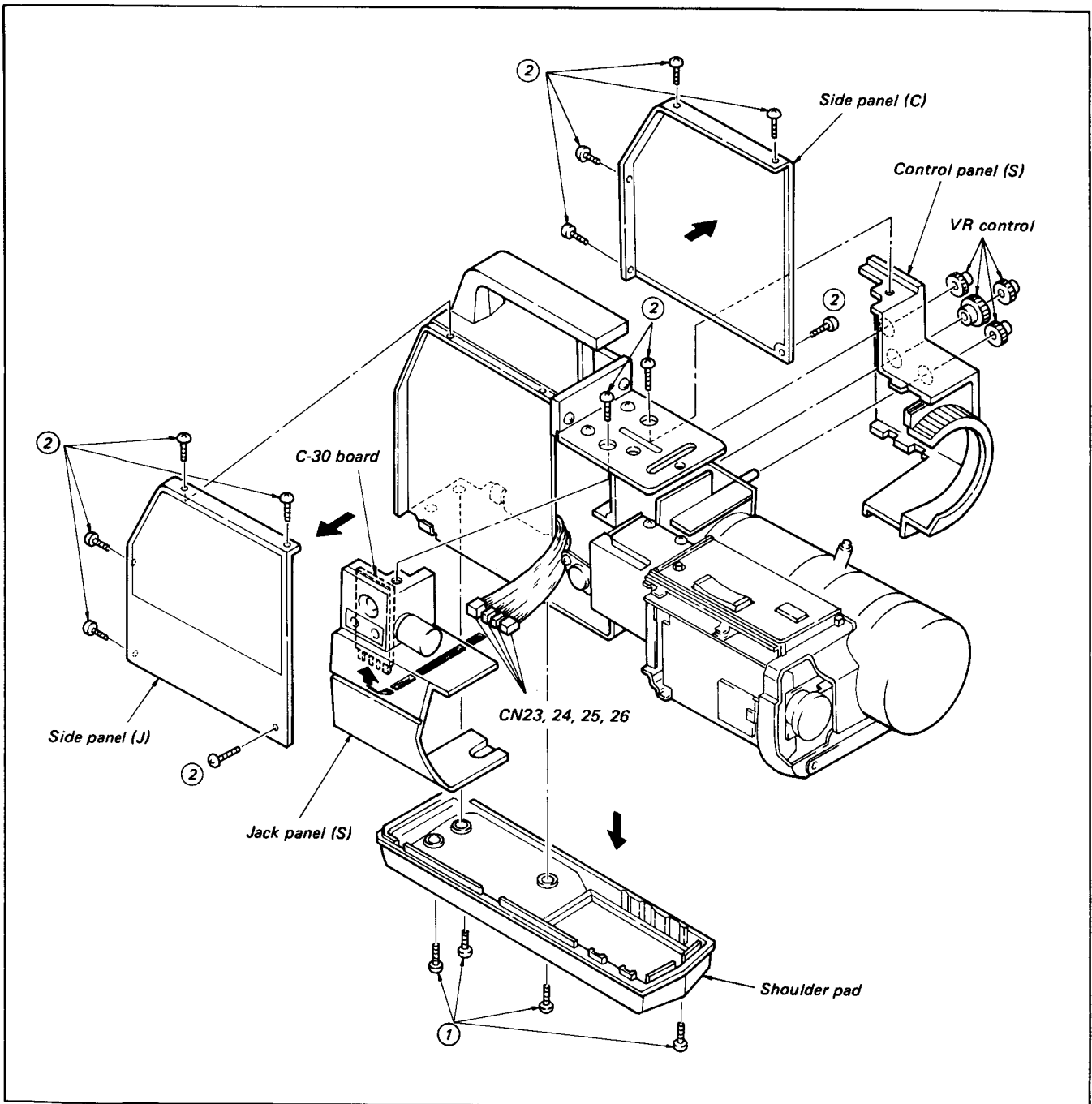
By turning the control to AUTO position, white balance is adjusted automatically.

Color temperature table

Color temperature of daylight (°K)	Change of color	Color temperature of artificial light (°K)
blue sky	10,000 (°K) ↑ 10,000 (°K)	
partly-cloudy sky	8,000	
overcast sky, rainy sky	7,000 bluish 7,000	
sunlight	6,000	fluorescent lamp (daylight)
	5,000	
2 hours	4,000 whitish 4,000	fluorescent lamp (white)
1 hour	3,500	fluorescent lamp (warm white)
40 minutes	3,200	photoflood lamp
	3,000 yellowish 3,000	halogen lamp
30 minutes	2,500	incandescent bulb
20 minutes	2,000 reddish 2,000	
sunrise, sunset		candle flame

SECTION 2 DISASSEMBLY

2-1. DISASSEMBLY OF SIDE PANEL AND SHOULDER PAD

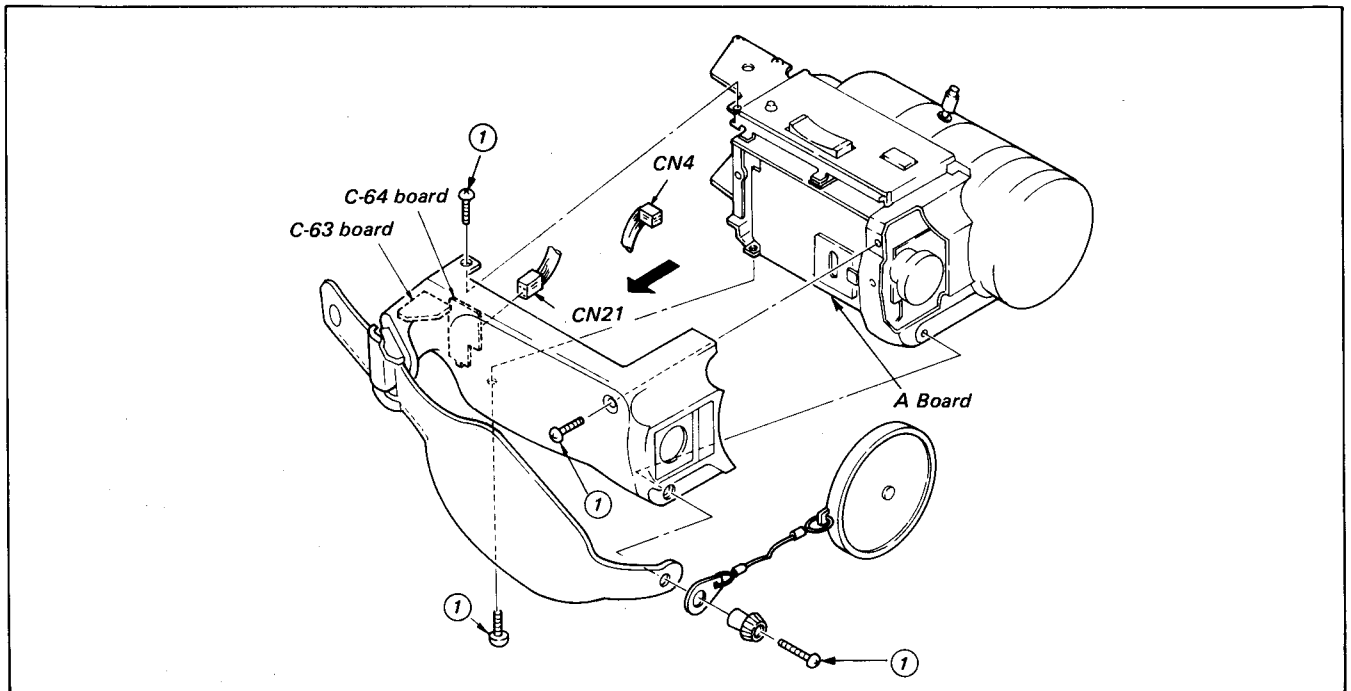


1. Remove the four screws and remove the shoulder pad.
2. Remove the twelve screws and remove the side panel.

Notes: Remove the connectors CN23 through CN26 on the C-30 board attached to the side cabinet (J) and the four VR controls attached to the side cabinet (C) (when firmly pulled, they can be removed). Be sure to turn off the power before removal of the side cabinet.

2-2. DISASSEMBLY OF OPERATION GRIP SUB ASSY

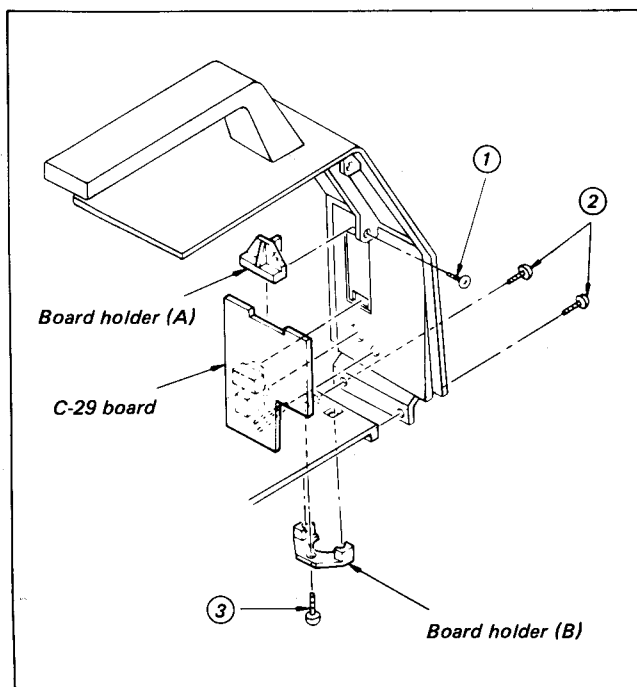
(Disassembled Without Performing the Disassembly of Side Panel and Shoulder Pad in 2-1.)



1. Remove the four screws and pull out the operation grip SUB Assy in the direction indicated by the arrow.

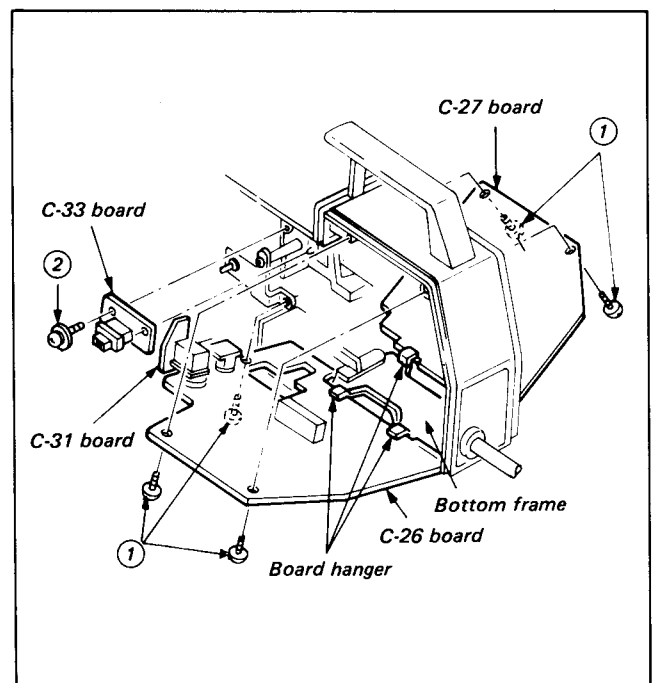
Notes: Remove the connector CN21 on the C-64 board and the connector CN4 on the A board.

2-3. DISASSEMBLY OF C-29 BOARD



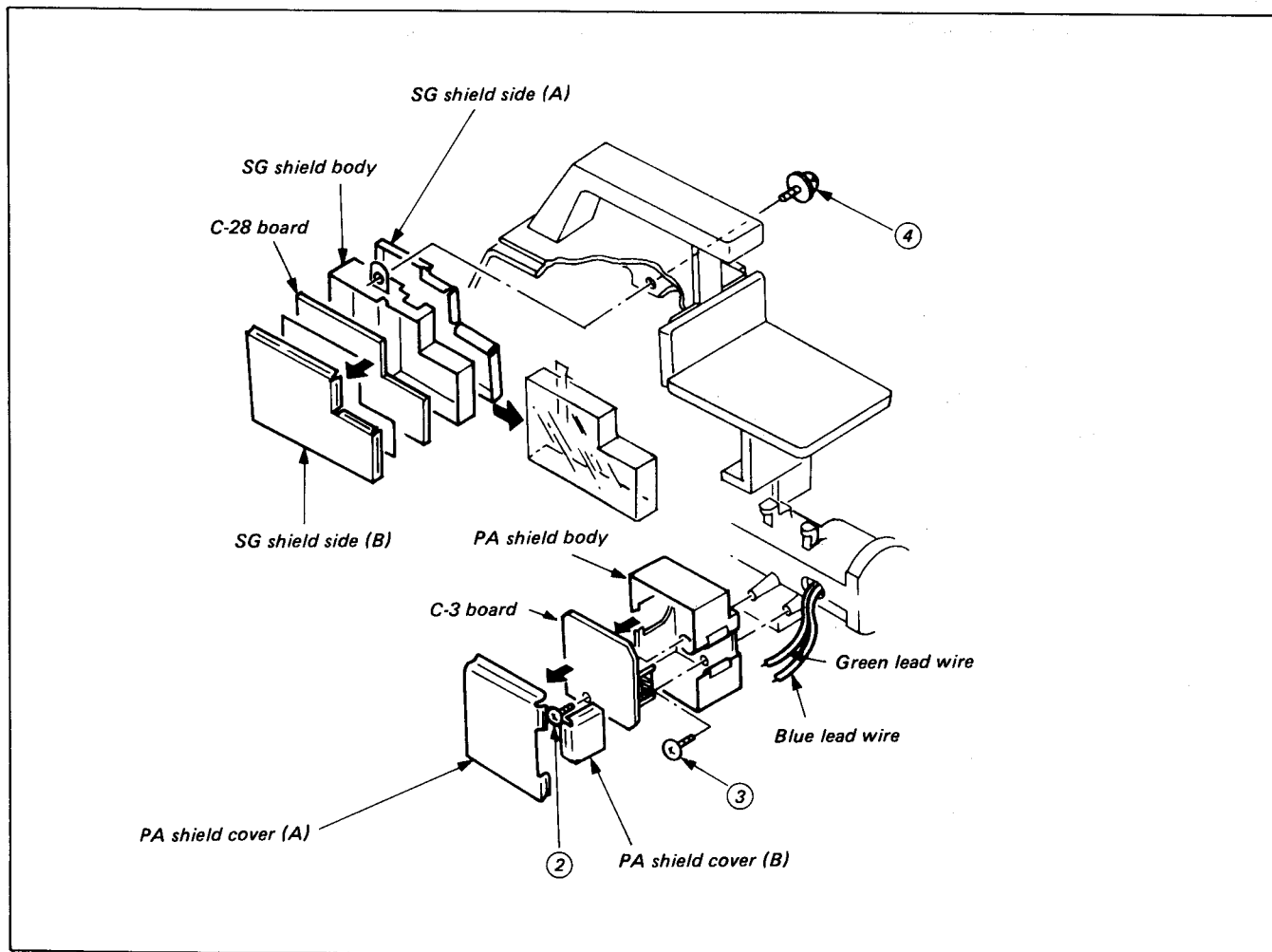
1. Remove the screw and pull out the board holder (A).
2. Remove the two screws and remove the C-29 board.
3. Remove the screw and pull out the board holder (B).

2-4. DISASSEMBLY OF C-26, C-27, C-31 and C-33 BOARDS



1. Remove the five screws, remove the C-26, C-27 and C-31 boards, and hang them on the board hanger of the bottom frame.
2. Remove the screw and remove the C-33 board.

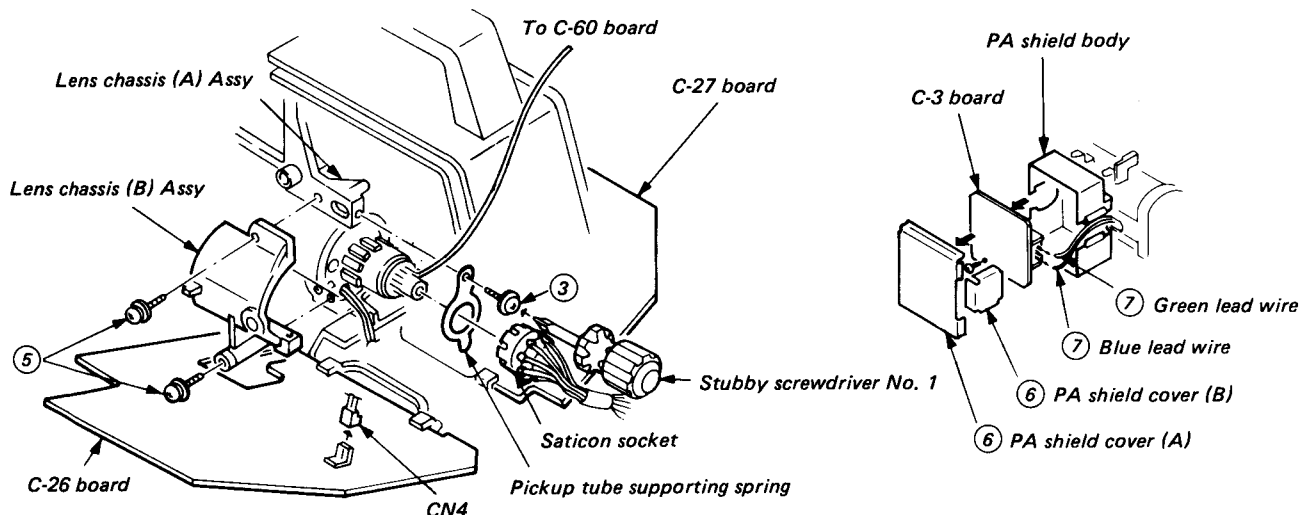
2-5. DISASSEMBLY OF C-3 AND C-28 BOARDS



1. Desolder between PA shield cover (A) and PA shield cover (B). Desolder between C-3 board and PA shield body.
2. Remove the screw and remove the C-3 board.
3. Remove the screw, remove the blue and green lead wires on the C-3 board, and detach the PA shield body.
4. Remove the screw and detach the SG shield body.
5. Remove the SG shield side (B) and desolder between C-28 board and SG shield body.

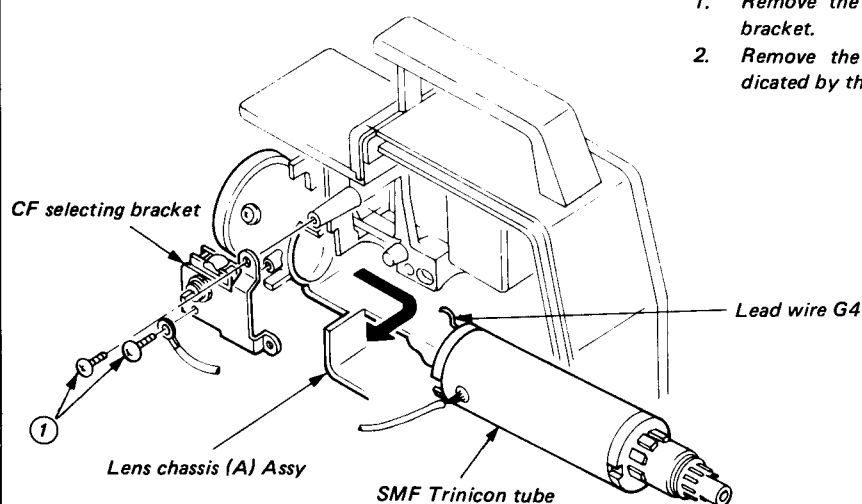
2-6. REPLACEMENT OF SMF TRINICON TUBE

1 Disassembly and Wiring Disassembly of Lens Chassis (B) Assy and Pickup Tube Supporting Spring



1. Disconnect the Saticon socket from SMF Trinicon tube.
2. Disconnect the connector CN4 from C-26 board.
3. Remove the screw and remove the pickup tube supporting spring.
Notes: To unforcibly remove the pickup tube supporting spring, remove the screw in Step 3 by using a stubby screwdriver No. 1.
4. Disconnect the lead wire G4 from C-60 board.
5. Remove the two screws and remove the lens chassis (B) Assy.
6. Remove the PA shield cover (A) and PA shield cover (B).
7. Disconnect the blue and green lead wires from C-3 board.
Notes: The green lead wire should be laid over the blue lead wire.

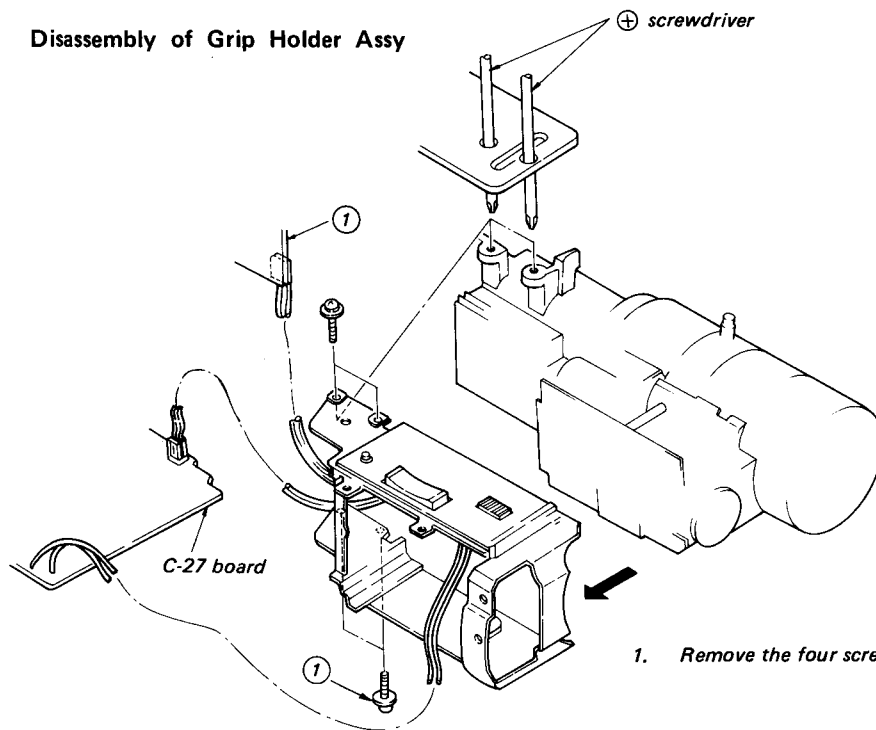
2 Disassembly of SMF Trinicon Tube



1. Remove the two screws and remove the CF selecting bracket.
2. Remove the SMF Trinicon tube in the direction indicated by the arrow.

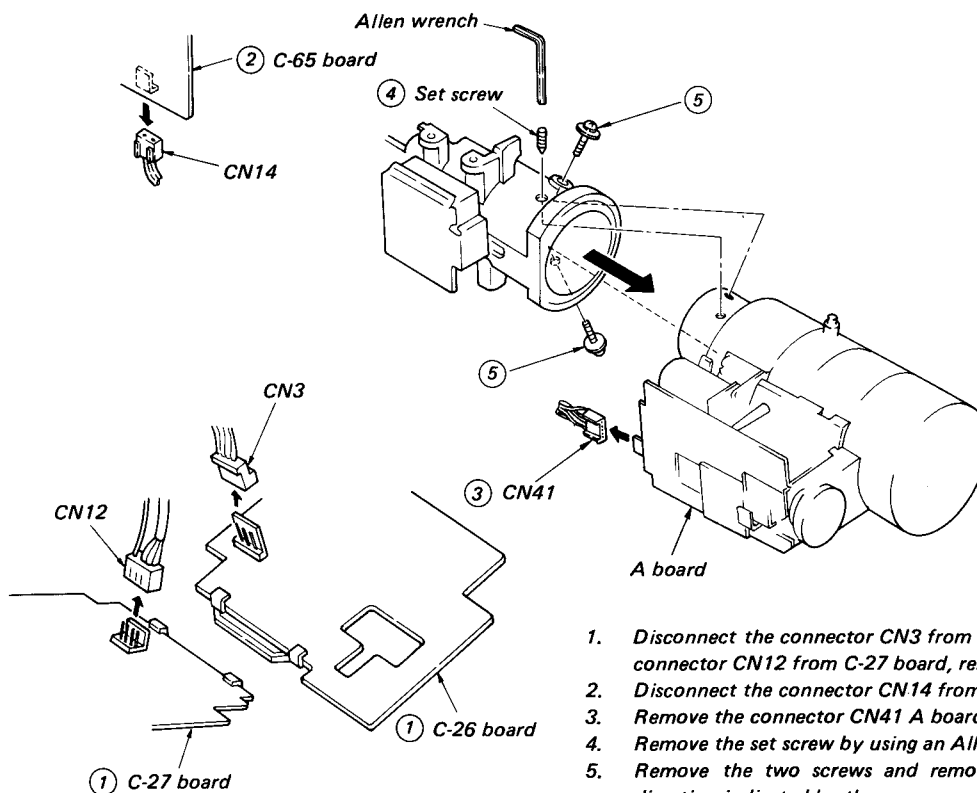
2-7. REPLACEMENT OF ZOOM LENS ASSY

1 Disassembly of Grip Holder Assy



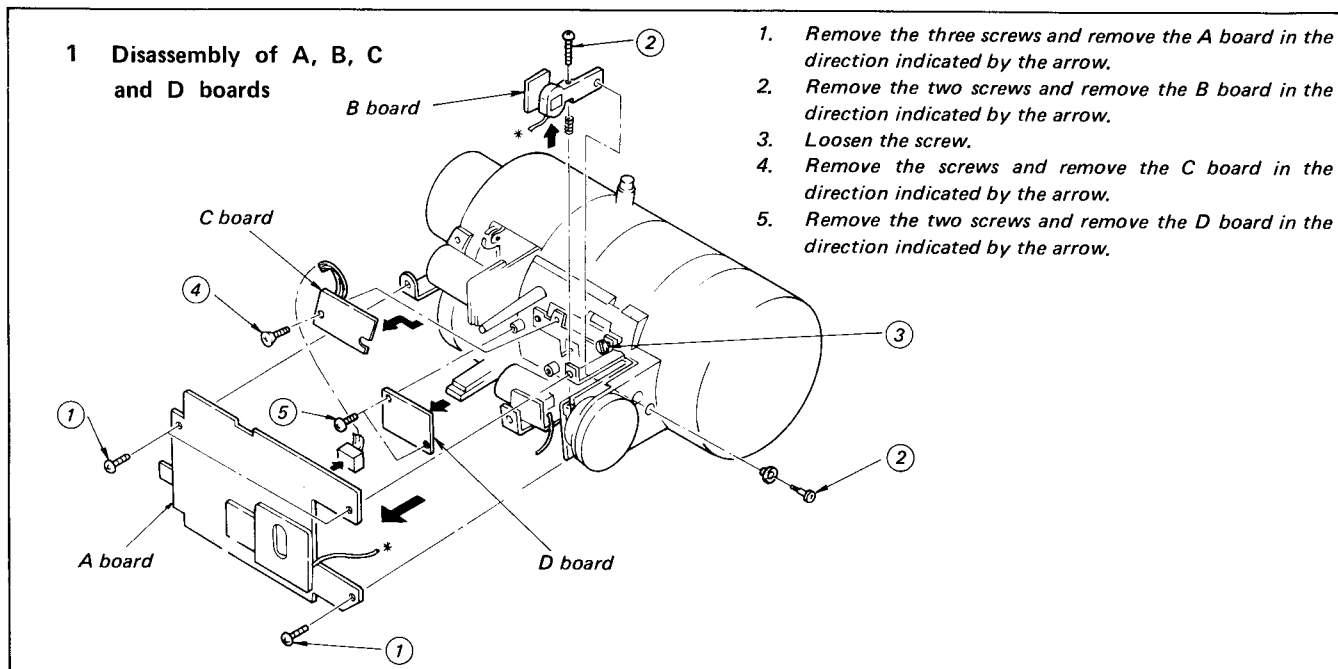
1. Remove the four screws and remove the grip holder Assy.

2 Disassembly of Zoom Motor, Lens Iris Motor Wiring (CN3, CN12 and CN38) and Zoom Lens



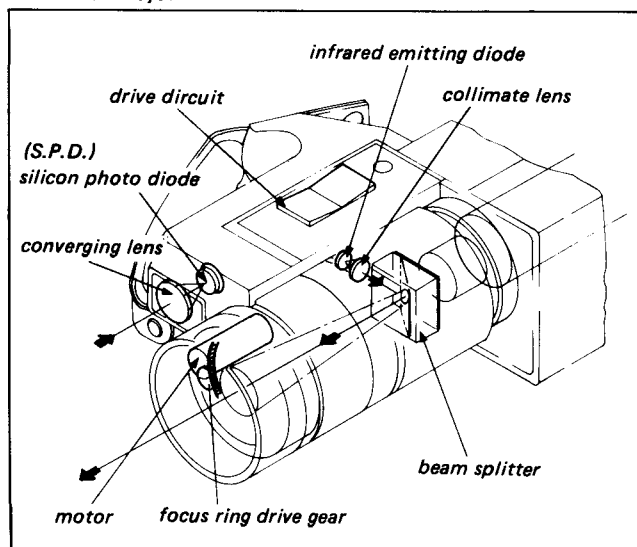
1. Disconnect the connector CN3 from C-26 board and the connector CN12 from C-27 board, respectively.
2. Disconnect the connector CN14 from C-65 board.
3. Remove the connector CN41 A board.
4. Remove the set screw by using an Allen wrench.
5. Remove the two screws and remove the lens in the direction indicated by the arrow.

2-8. REPLACEMENT OF ZOOM MOTOR AND AF MOTOR

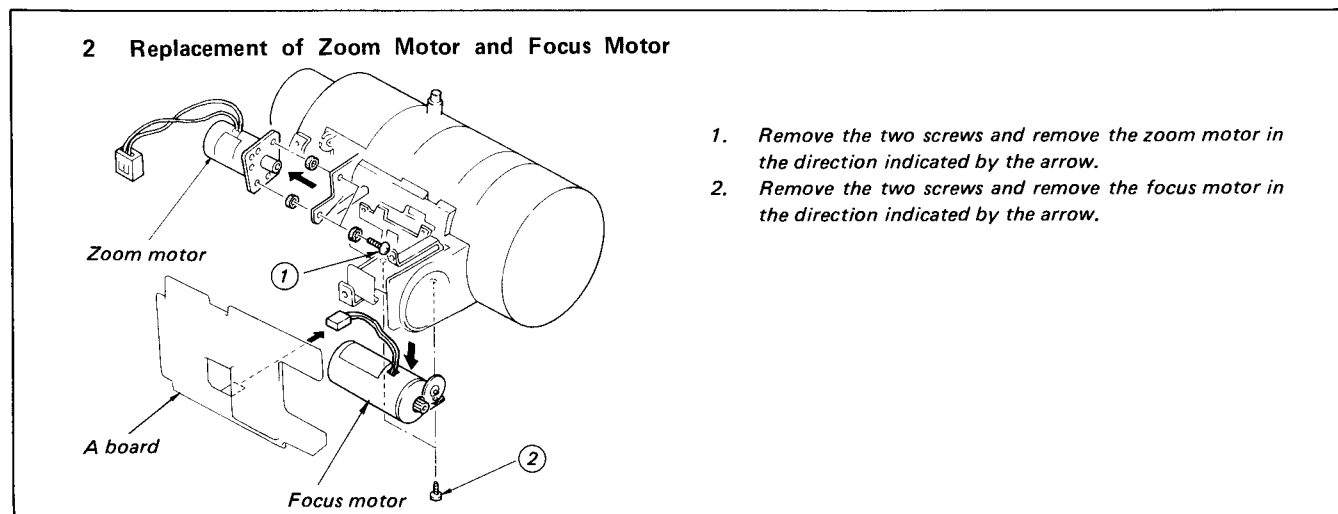


Note: Notice that loosening the mounting screws in the photo-emitting and photosensing blocks of auto focus mechanism makes it difficult to perform the auto focus adjustment.

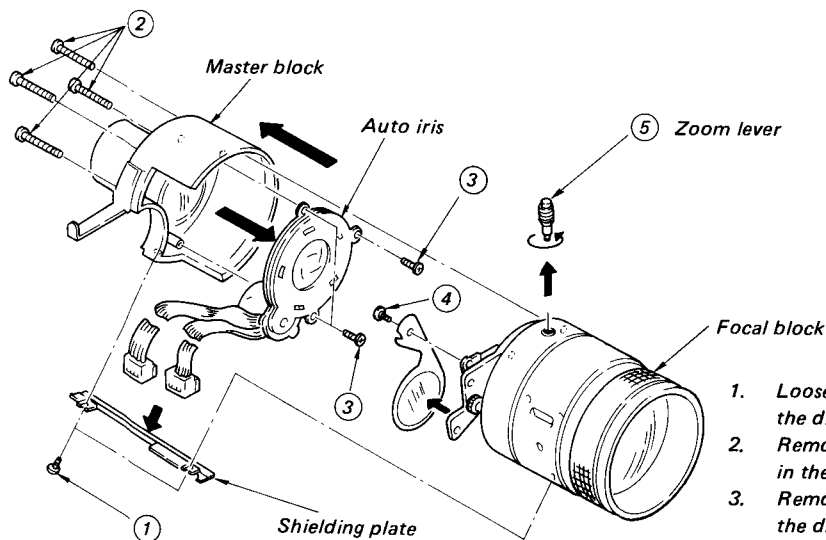
TTL infrared system



TTL: Through The Lens

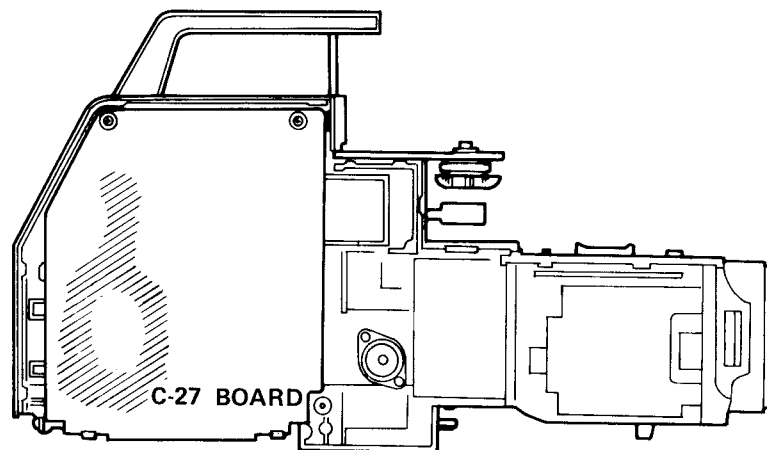


3. Replacement of Auto Iris, Color-Temperature Conversion Filter, and Zoom Lever



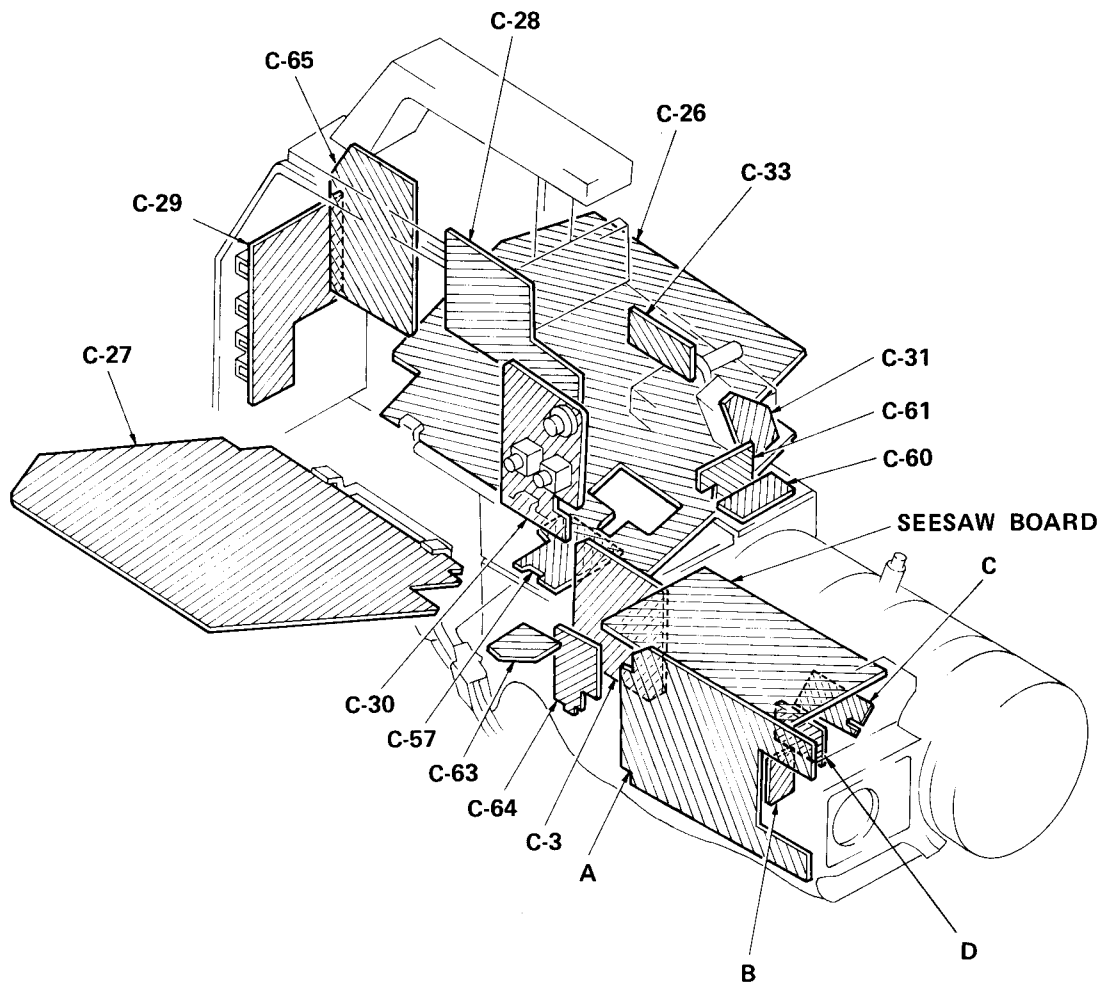
1. Loosen the two screws and remove the shielding plate in the direction indicated by the arrow.
2. Remove the four screws and take out the master block in the direction indicated by the arrow.
3. Remove the three screws and remove the auto iris in the direction indicated by the arrow.
4. Remove a screw and take out the color-temperature conversion filter.
5. Turn the zoom lever counterclockwise and remove it.

Notes: The oblique portion has high voltage. If touching it, you may receive an electric shock.

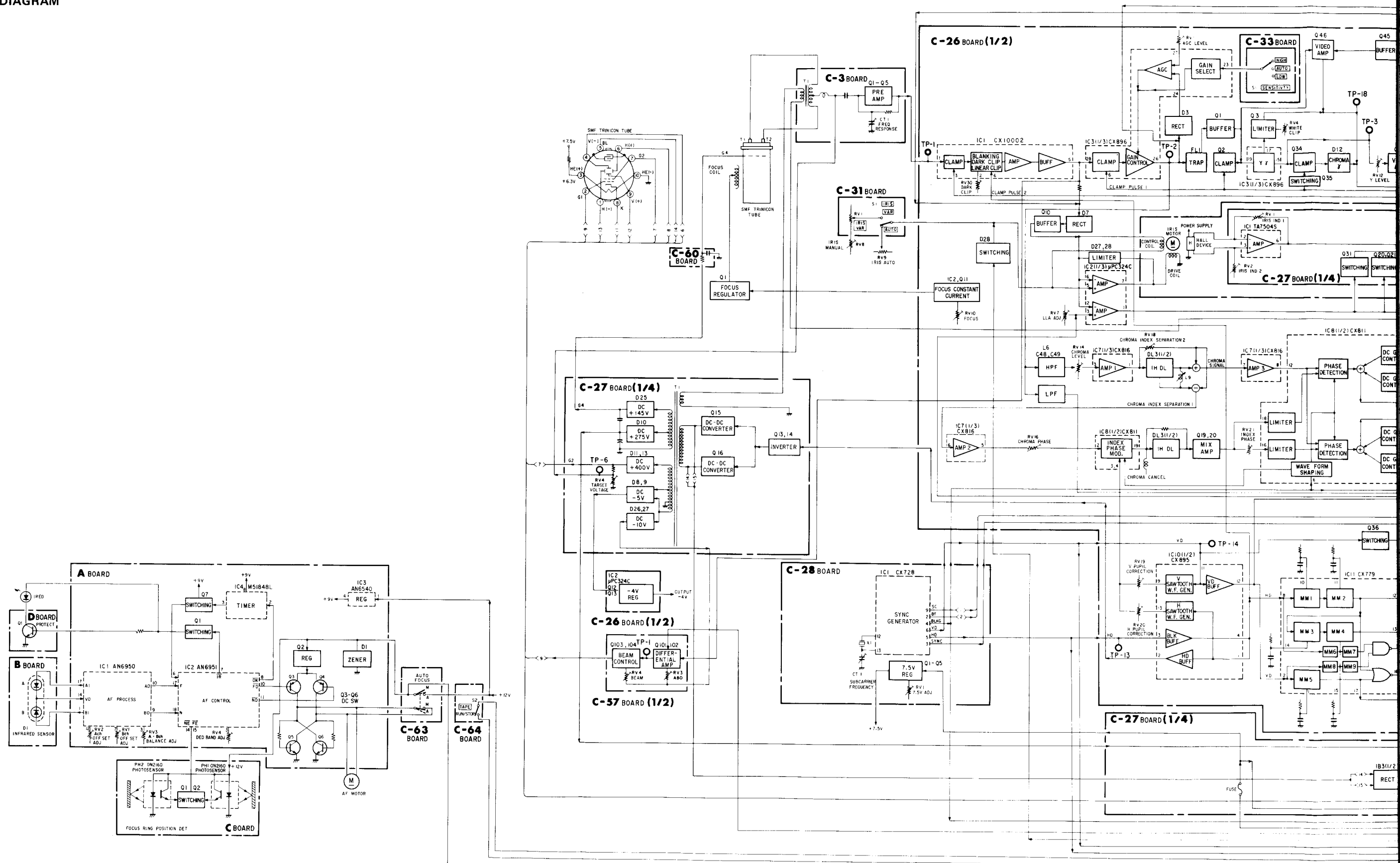


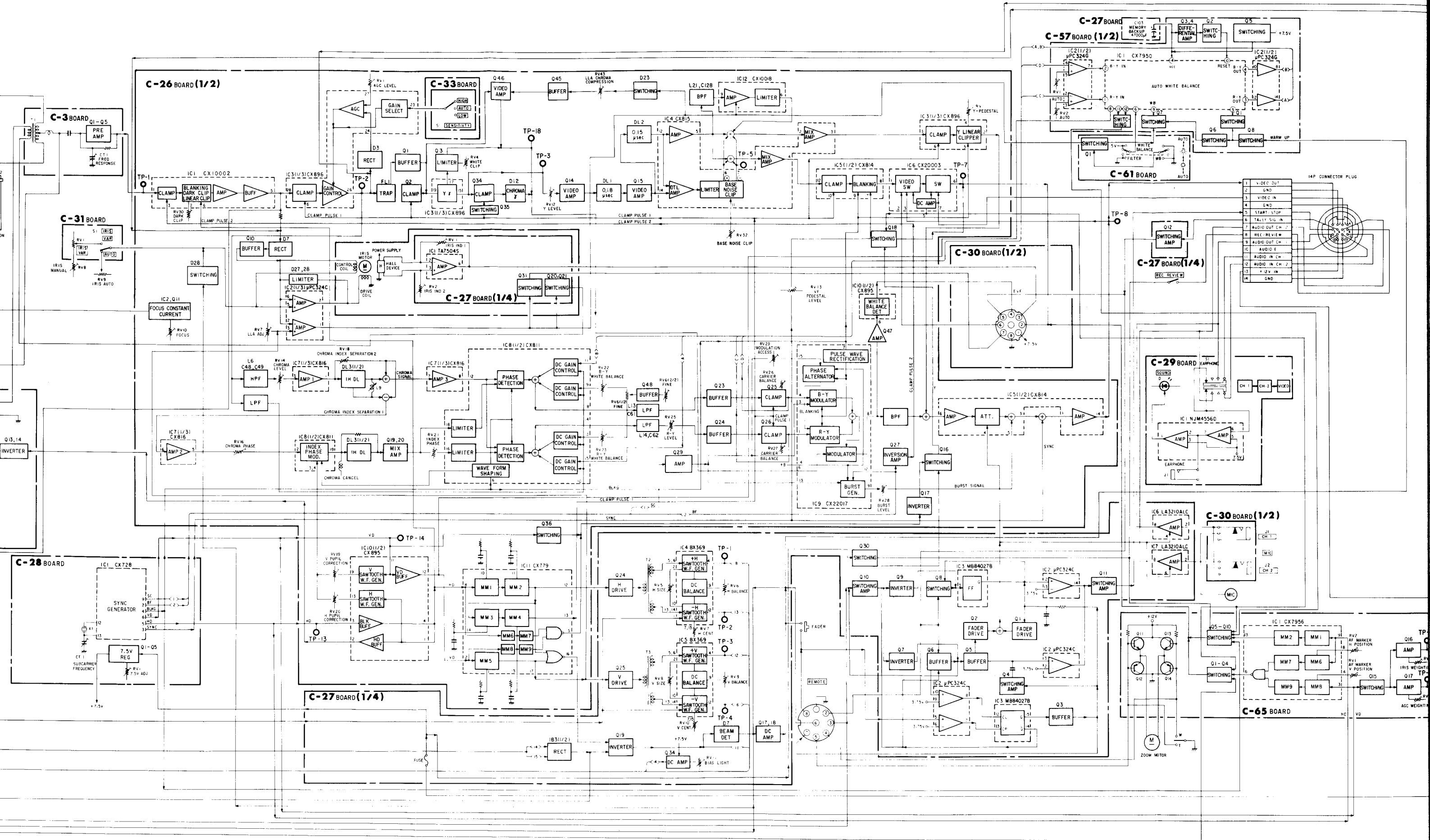
SECTION 3 DIAGRAM

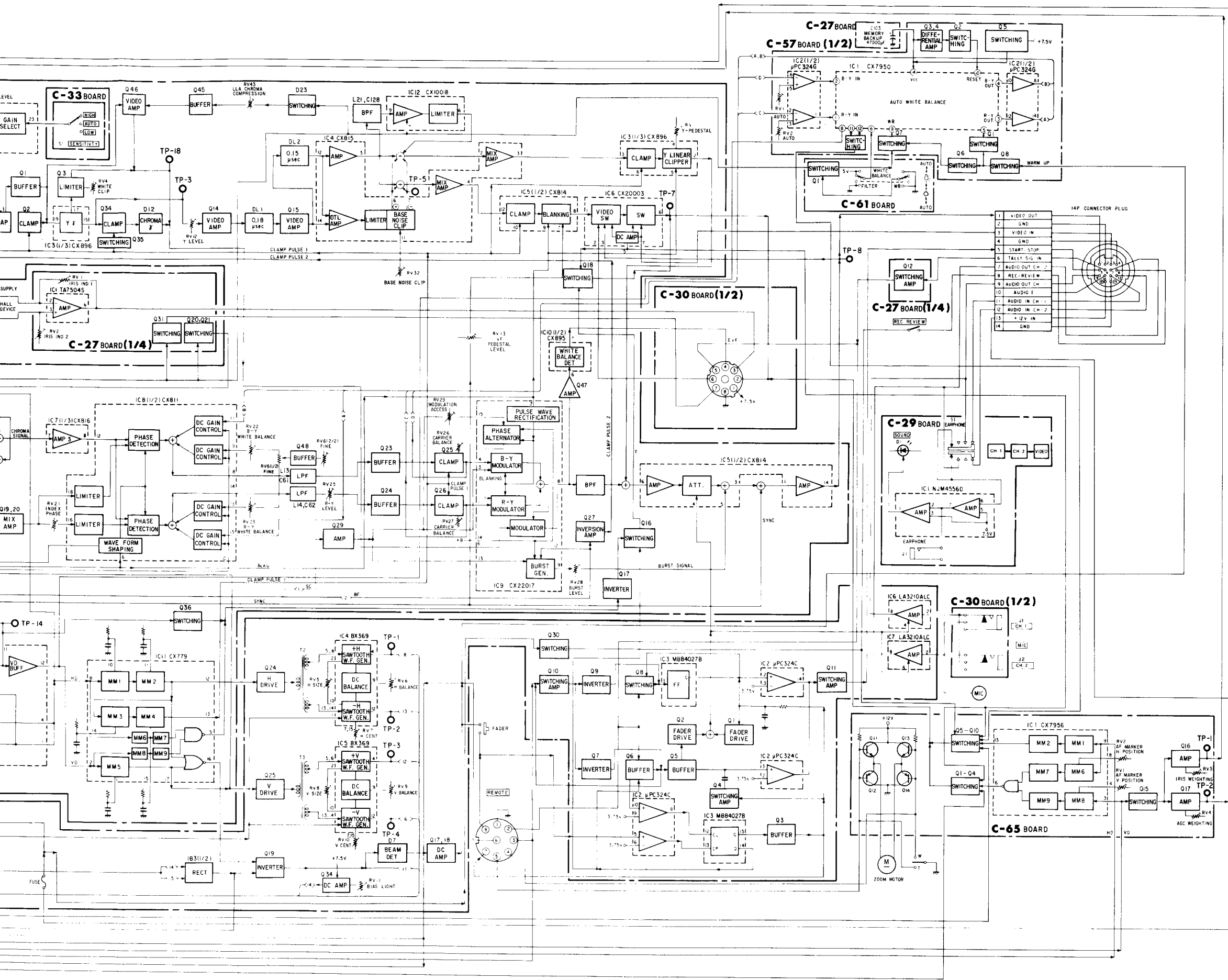
3-1. CIRCUIT BOARDS LOCATION



3-2. HVC-2500 BLOCK DIAGRAM

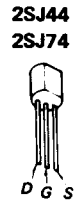
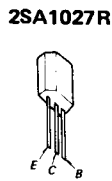
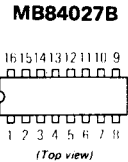
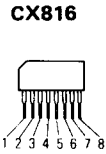
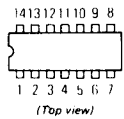




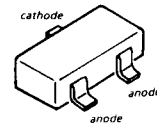


3-3. SEMICONDUCTOR

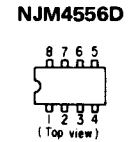
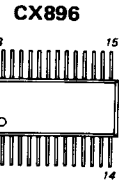
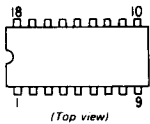
μ PC324C CX815
 μ PC324G CX895
CX728 CX7950



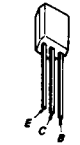
1S2837 RD4.7M-T1B2
MA151WK RD4.7M-T1B3
RD4.3M-B3 RD4.3M-T2B3
RD4.7M-B2



AN6950
AN6951
CX779



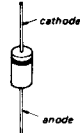
2SA1048
2SA1115
2SC2458
2SC2603



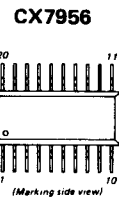
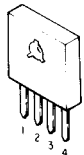
2SK105
2SK105A



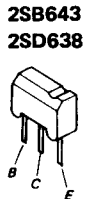
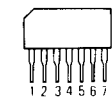
ERA81-004 IN4003
10E2 IN4005
IN4002



AN6540



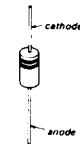
TA7504S
TA7504S-R



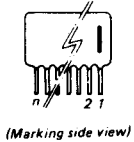
2SK152-3
2SK152-4



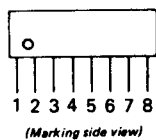
EQB01-12Z
ERB81-004
RH1A



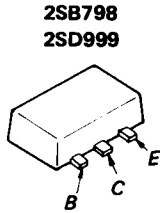
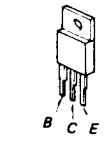
BX369
BX369A



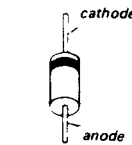
CX10002



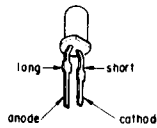
2SA671TD
2SB596
2SB834
2SB856



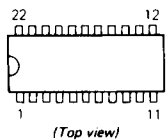
1S1555 RD3.0E-B1
1S2076 RD6.2E-B1
1S2473 RD6.2E-B1Z
1SS133 RD12E-B
MA1062 RD12E-B3
RD3.0E RD12E-BTP
RD3.0E-B



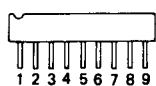
TLY124



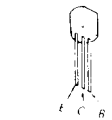
CX811



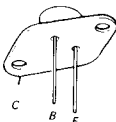
CX10018



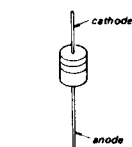
2SA772
2SC1474
2SD965
2SD1015



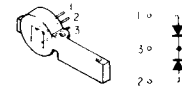
2SC1115



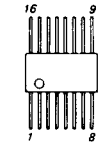
1SS119
1SS148



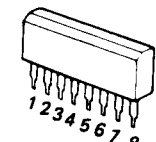
PN302C



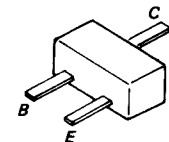
CX812
CX22017



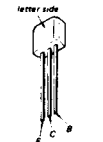
CX20003
M51848L



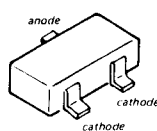
2SA812
2SA1162
2SC1623
2SC2712
2SC2812



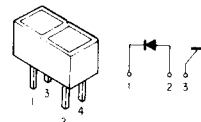
2SC2785



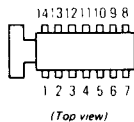
1S2835



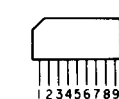
ON2160



CX814



LA3210ALC



3-4. HVC-2500 SCHEMATIC DIAGRAM

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

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

Note:

- All capacitors are in μ F unless otherwise noted. p: μ F 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, 1/6W unless otherwise noted. k Ω : 1000 Ω ; M Ω : 1000k Ω .
- Notice that the following boards have not a resistance wattage of 1/6 W.

C-28 board } 1/8 W (as a reference)
B board }
C-57 board } 1/10 W (as a reference)
C-65 board }

-  : nonflammable resistor.
-  : panel designation.
- Δ : internal component.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The following boards are provided with the chip parts mounted.

C-57 board
C-65 board
B board

- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10M Ω digital multimeter.
- All waveforms are taken in conditions below.

Color bar pattern
color temperature 3200 $\pm$ 50 $^{\circ}$ K
luminance 706 $^{+25}_{-47}$ cd/m 2 (nt)

- Voltage variations may be noted due to normal production tolerances.
- * : selected to yield optimum performance.
-  : adjustment for repair.
- The red lines show the main voltage.

Measurement

Main unit — SENSITIVITY
IRIS
FADER
Viewfinder — INDICATOR
PEAKING

Green 

Main unit — WHITE BALANCE AUTO ()

144
174

105
105A

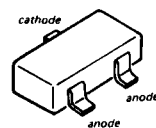
152-3
152-4

RD3.0E-B1
RD6.2E-B1
RD6.2E-B1Z
RD12E-B
RD12E-B3
RD12E-BTP

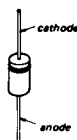
SS119
SS148

SS2835

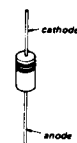
1S2837 RD4.7M-T1B2
MA151WK RD4.7M-T1B3
RD4.3M-B3 RD4.3M-T2B3
RD4.7M-B2



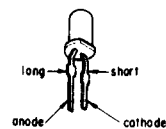
ERA81-004 IN4003
10E2 IN4005
IN4002



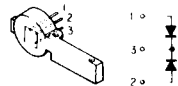
EQB01-12Z
ERB81-004
RH1A



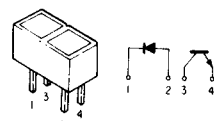
TLY124



PN302C



ON2160



3-4. HVC-2500 SCHEMATIC DIAGRAM

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

Note: Les composants identifiés par un tramé et une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note:

- All capacitors are in μF unless otherwise noted. p: μpF
- All resistors are in ohms, 1/6W unless otherwise noted. k Ω : 1000 Ω ; M Ω : 1000k Ω
- Notice that the following boards have not a resistance wattage of 1/6 W.

C-28 board	} 1/8 W (as a reference)
B board	
C-57 board	} 1/10 W (as a reference)
C-65 board	
- : nonflammable resistor.
- : panel designation.
- Δ : internal component.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The following boards are provided with the chip parts mounted.

C-57 board
C-65 board
B board
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10M Ω digital multimeter.
- All waveforms are taken in conditions below.
Color bar pattern
color temperature 3200 $\pm$ 50 $^\circ\text{K}$
luminance 706 $\begin{smallmatrix} +25 \\ -47 \end{smallmatrix}$ cd/m 2 (nt)
- Voltage variations may be noted due to normal production tolerances.
- * : selected to yield optimum performance.
- : adjustment for repair.
- The red lines show the main voltage.

Measurement

Main unit — SENSITIVITY
IRIS
FADER

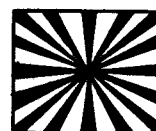
Viewfinder — INDICATOR
PEAKING

Green

Main unit — WHITE BALANCE AUTO ()

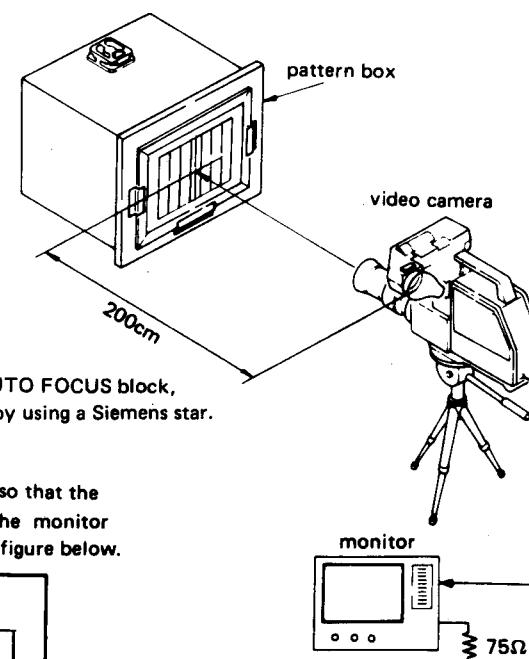
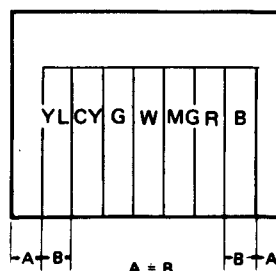
1. Connection

Siemens star



When measuring the AUTO FOCUS block, set the distance at 3m by using a Siemens star.

2. Shoot the subject so that the picture frame on the monitor is as shown in the figure below.



A B C D E

1

2

3

4

5

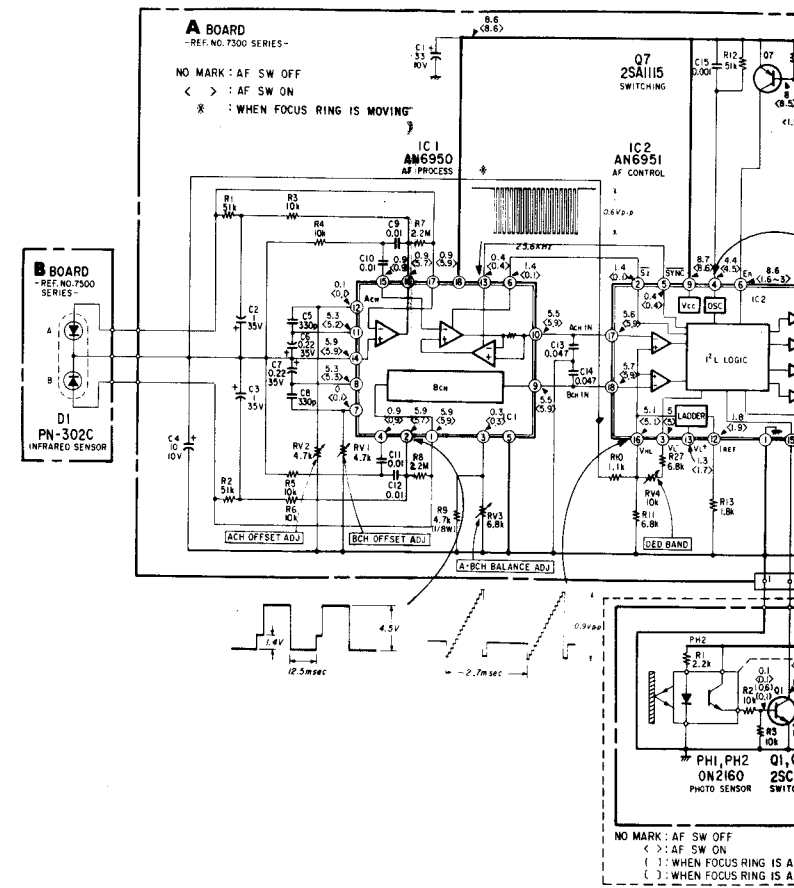
6

7

8

9

10



and mark  part number

t une marque
emplacer que

noted. p: μF
electrolytics.
erwise noted.

a resistance

characteristic

ne chip parts

less otherwise

l multimeter.

v.

o normal pro-

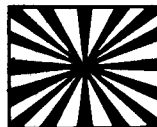
ance.

Green 

AUTO ()

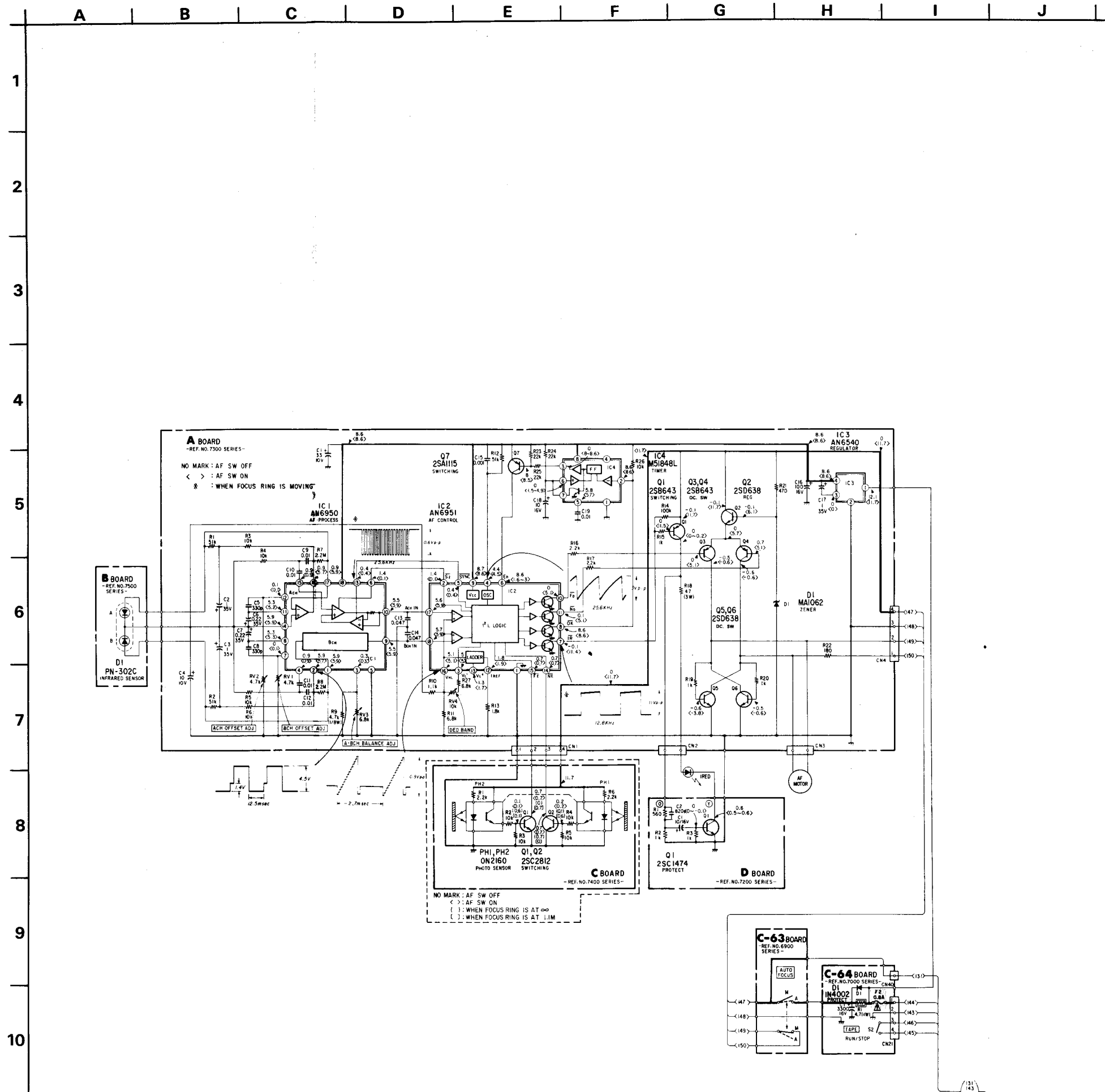
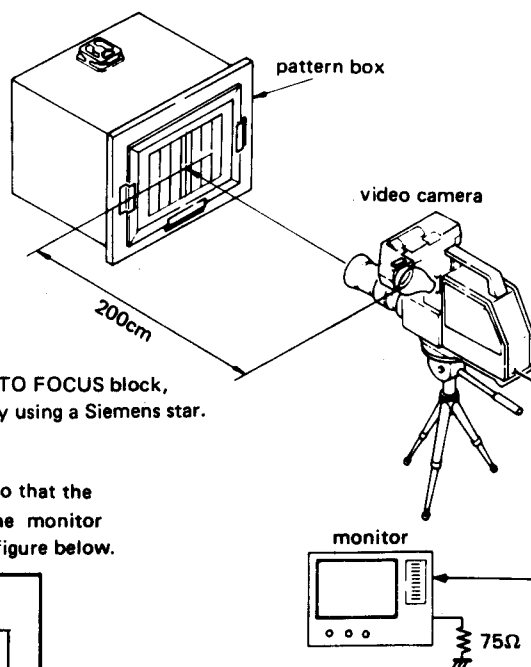
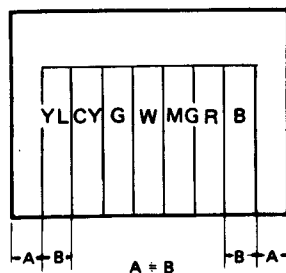
1. Connection

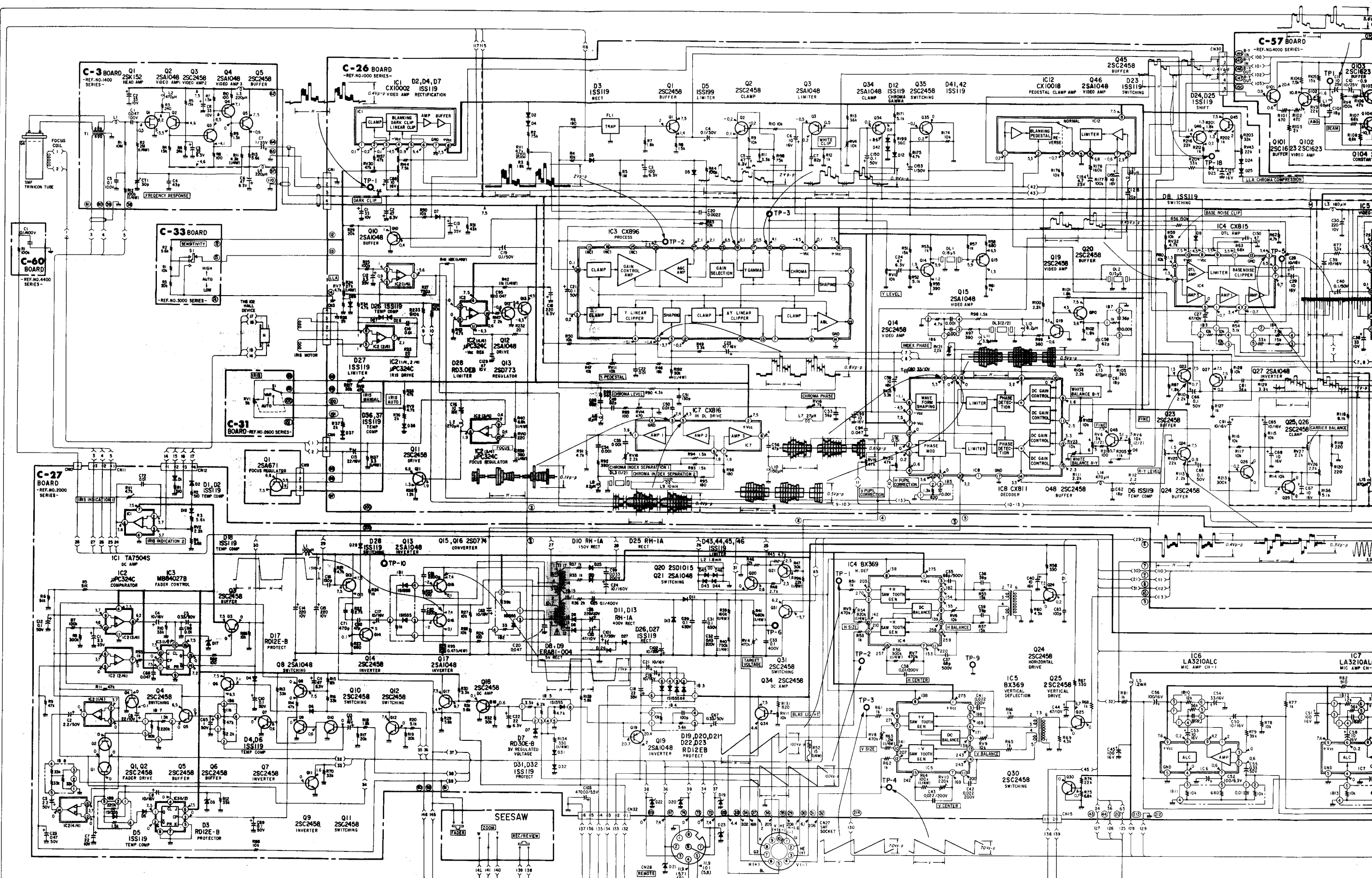
Siemens star

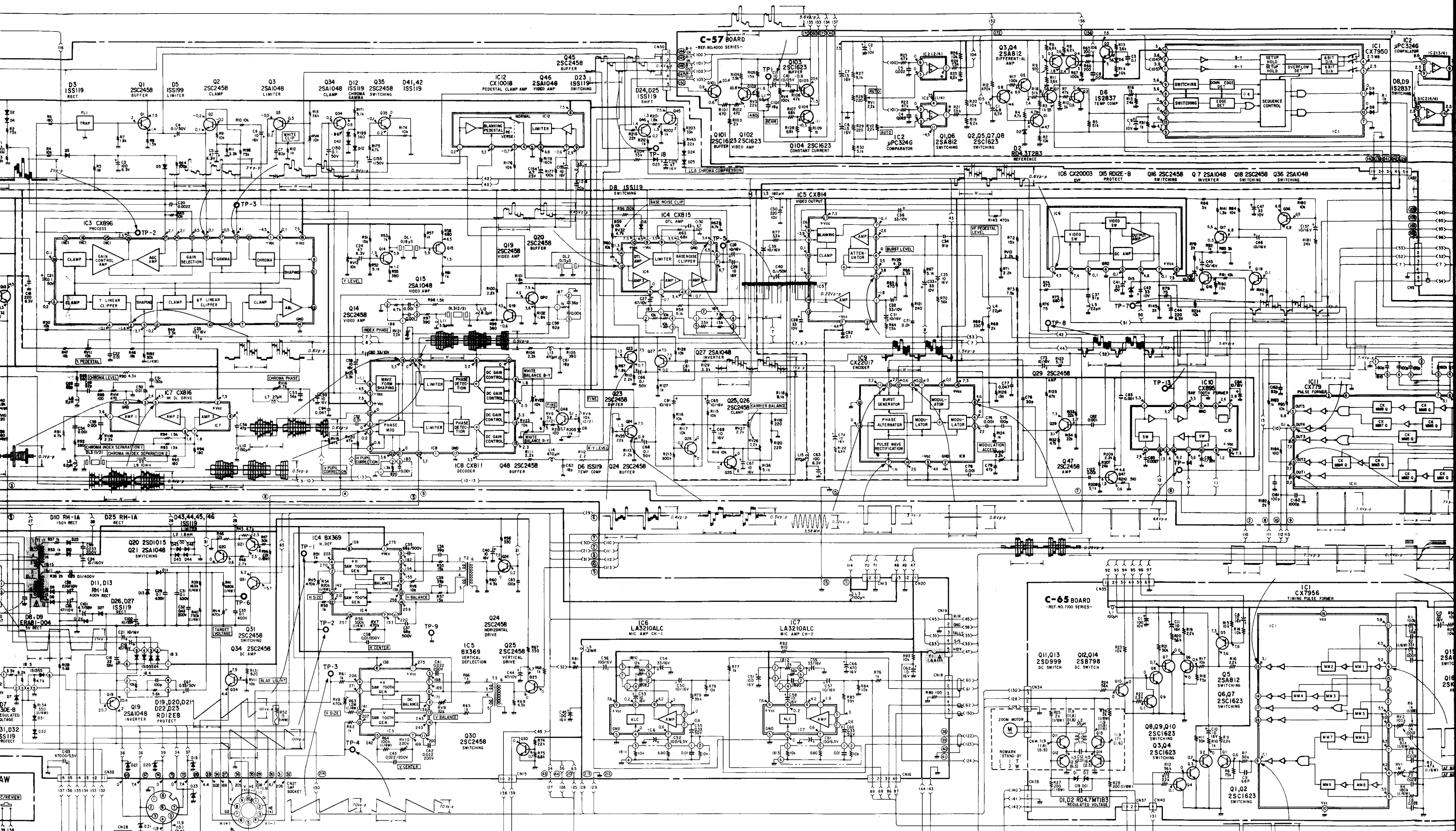


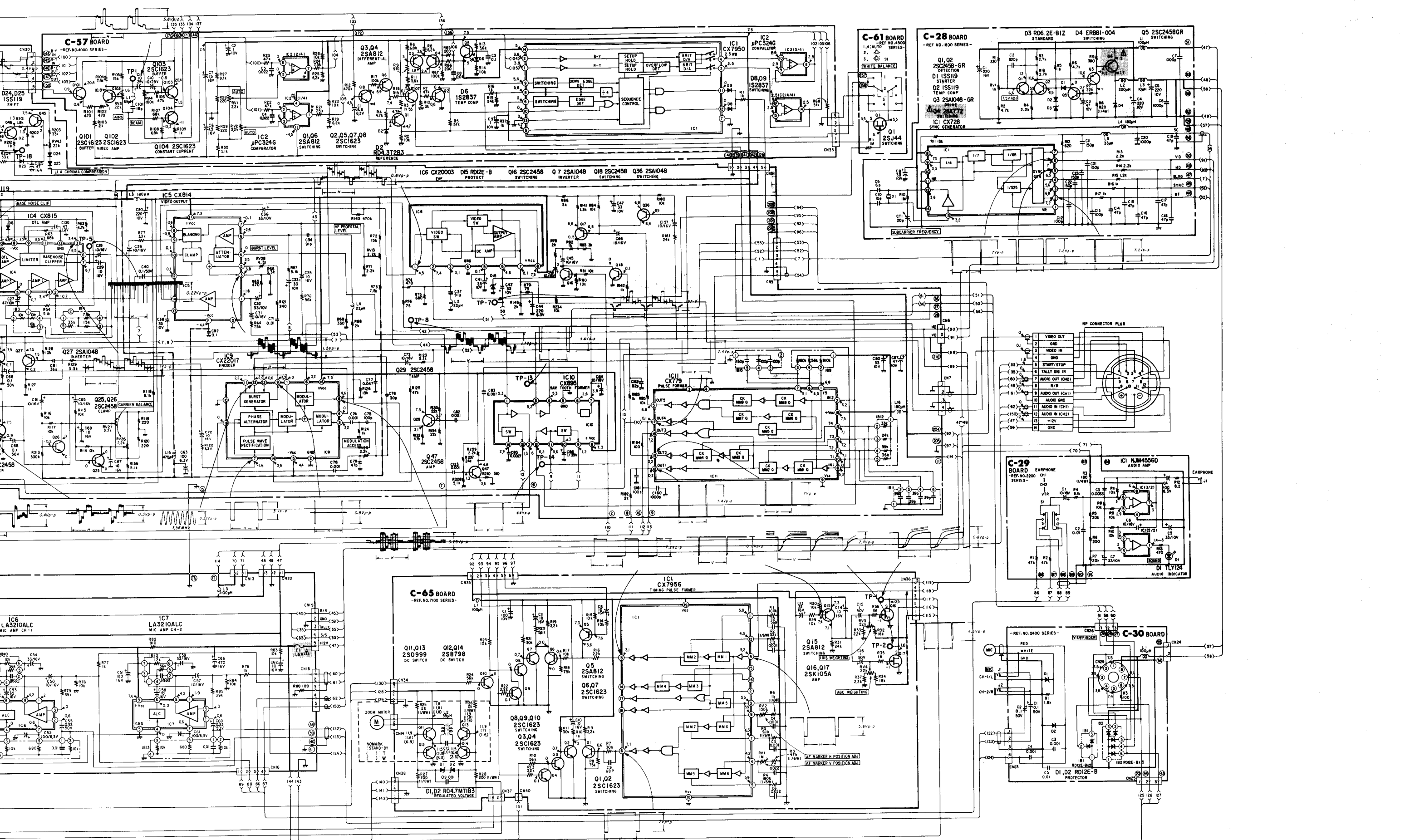
When measuring the AUTO FOCUS block,
set the distance at 3m by using a Siemens star.

2. Shoot the subject so that the picture frame on the monitor is as shown in the figure below.









3-5. WAVEFORM

- Measurement conditions
 - The light source is a 500W halogen lamp (color temperature is 3,200°K).
 - Illuminance is more than 2,000 lux.

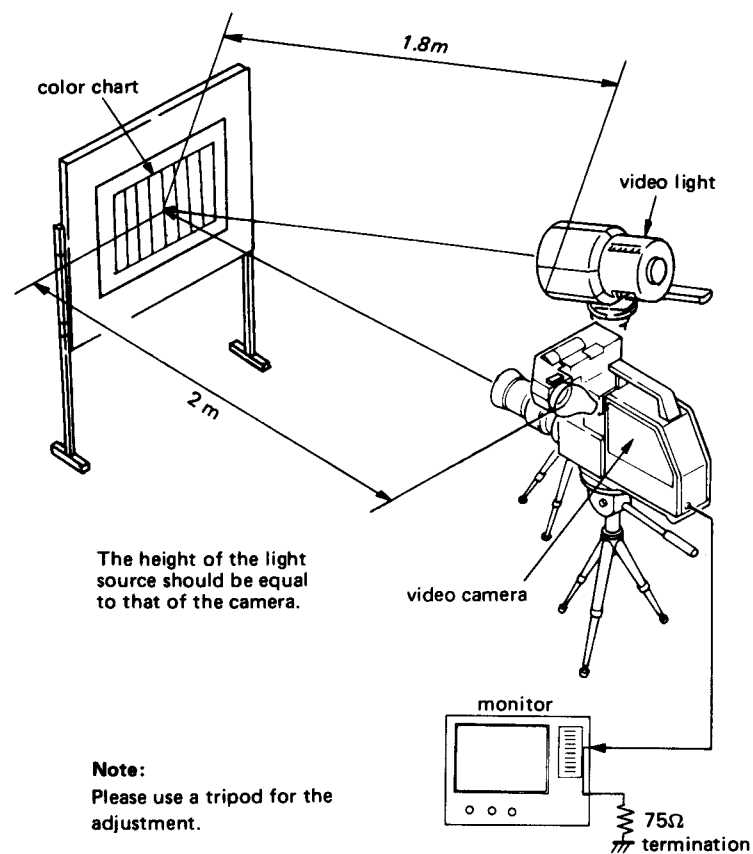
Main unit — SENSITIVITY
IRIS
FADER

Viewfinder — INDICATOR
PEAKING

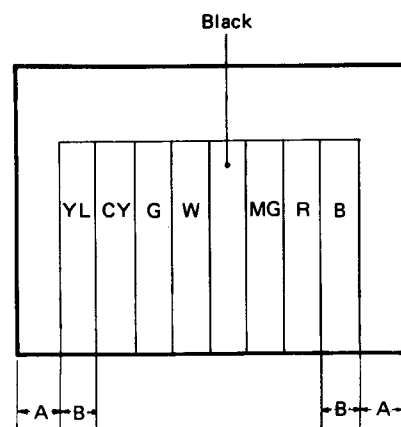
Main unit — WHITE BALANCE AUTO ()

Green 

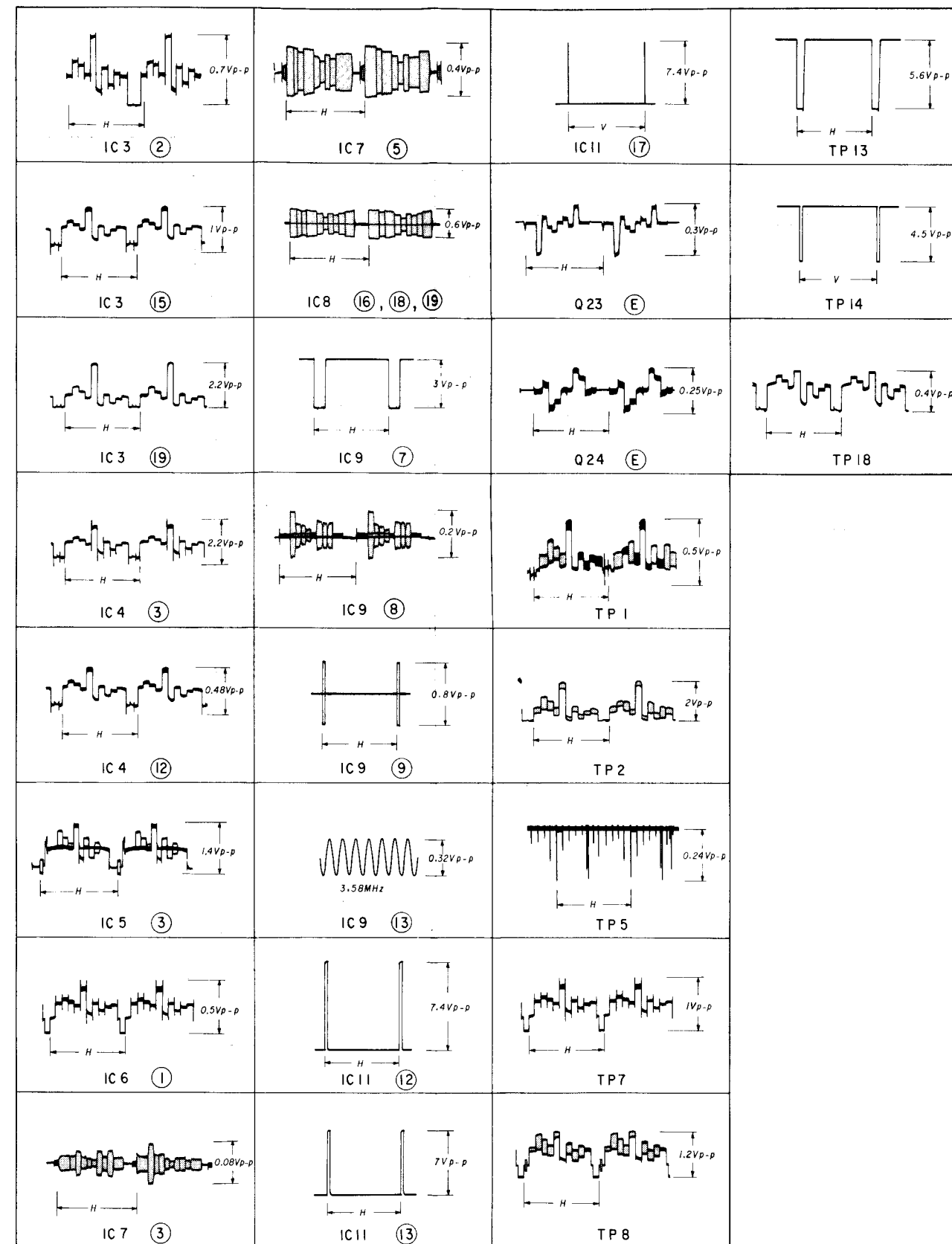
1. Connections



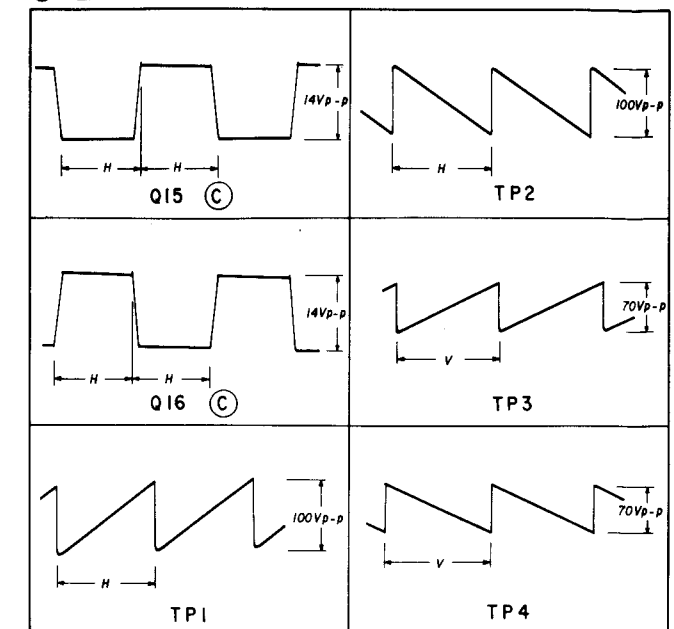
- Shoot the subject so that the picture frame on the monitor is as shown in the figure below.



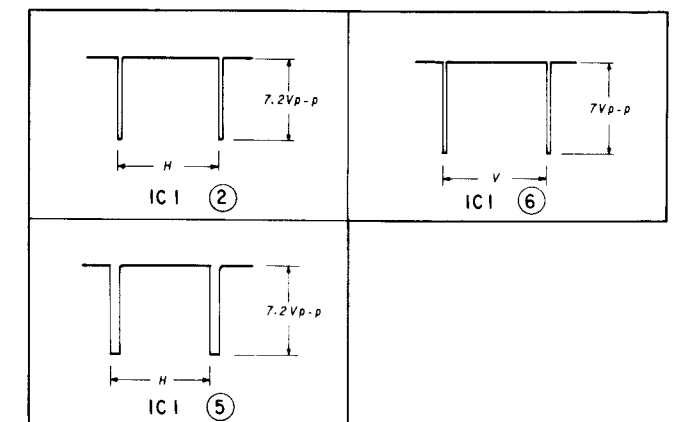
C-26 BOARD



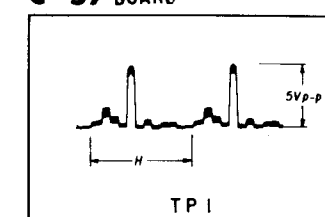
C-27 BOARD

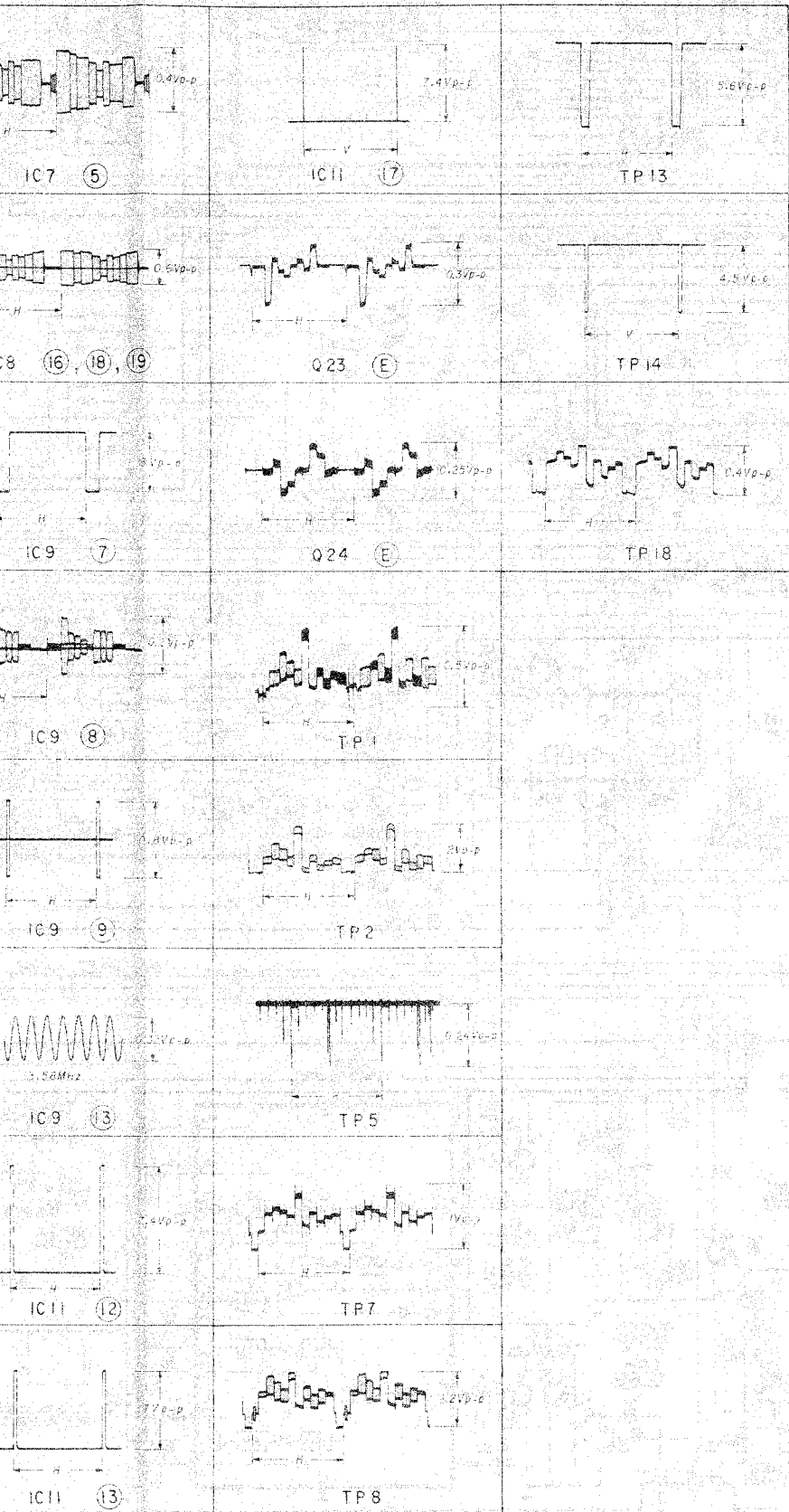


C-28 BOARD

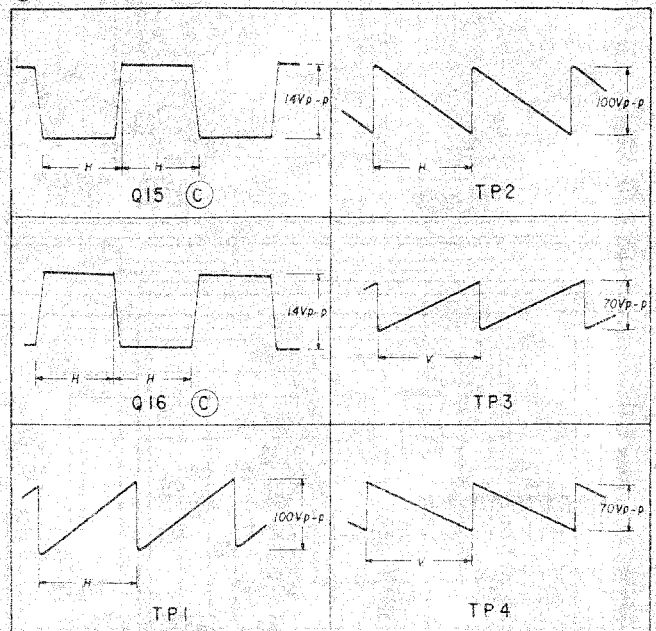


C-57 BOARD

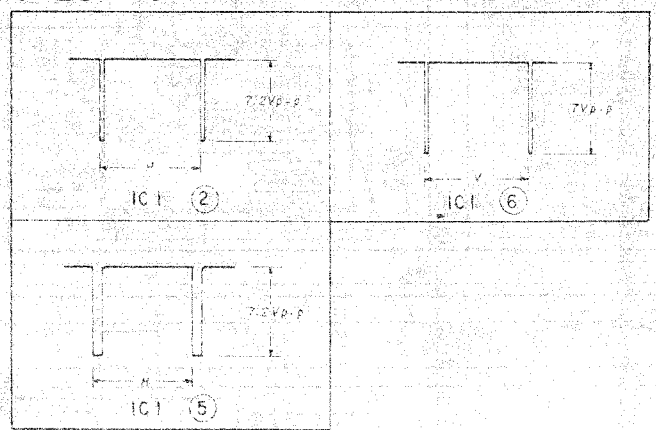




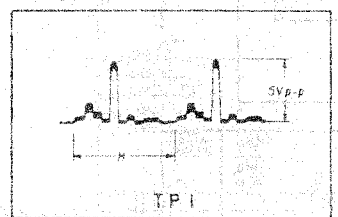
C-27 BOARD



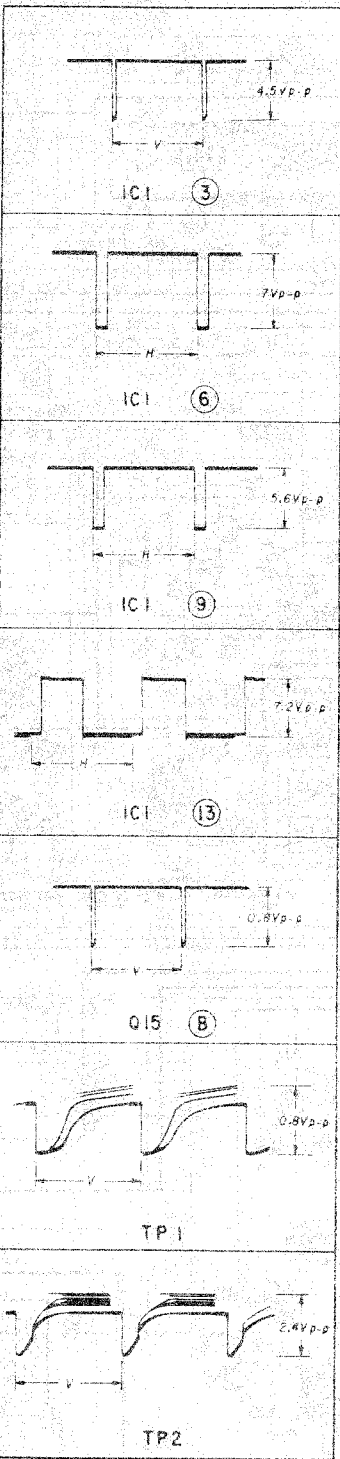
C-28 BOARD



C-57 BOARD



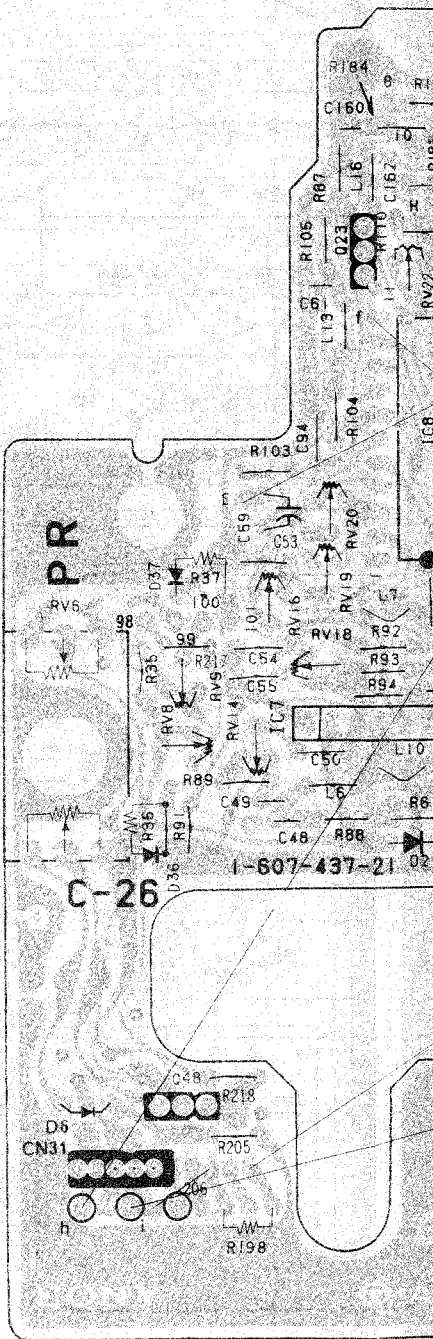
C-65 BOARD



A B C D

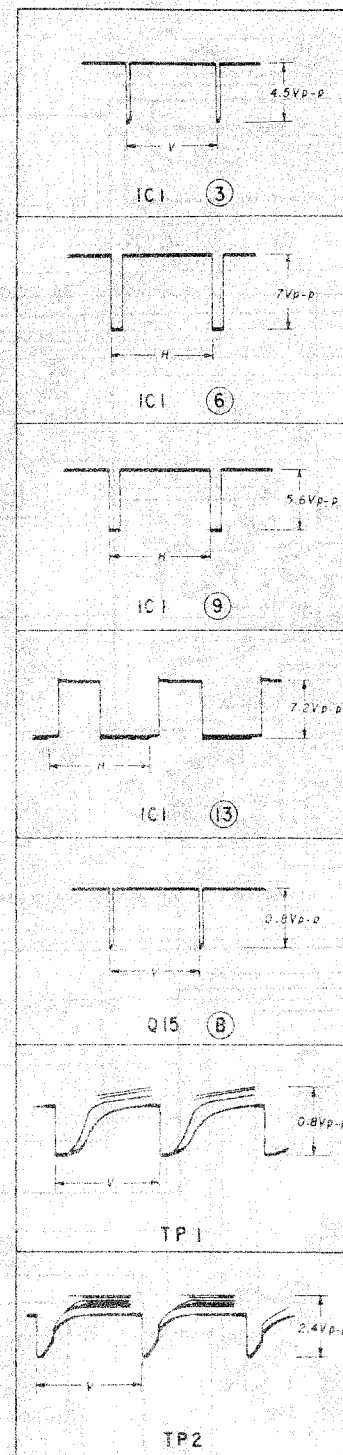
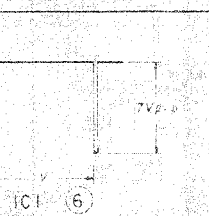
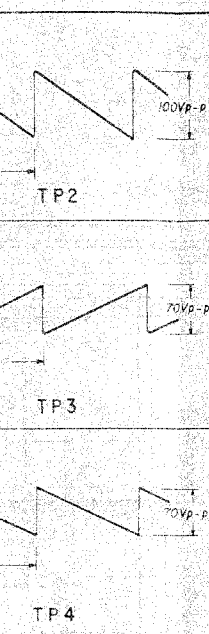
C-26 BOARD - REF. NO. 1000 SERIES

IC, Q		48	37	36	23	IC8	IC7
D	6					2	
ADJ	RV6	RV9	RV16	RV20	RV22		
TP		RV8	RV14	RV18			



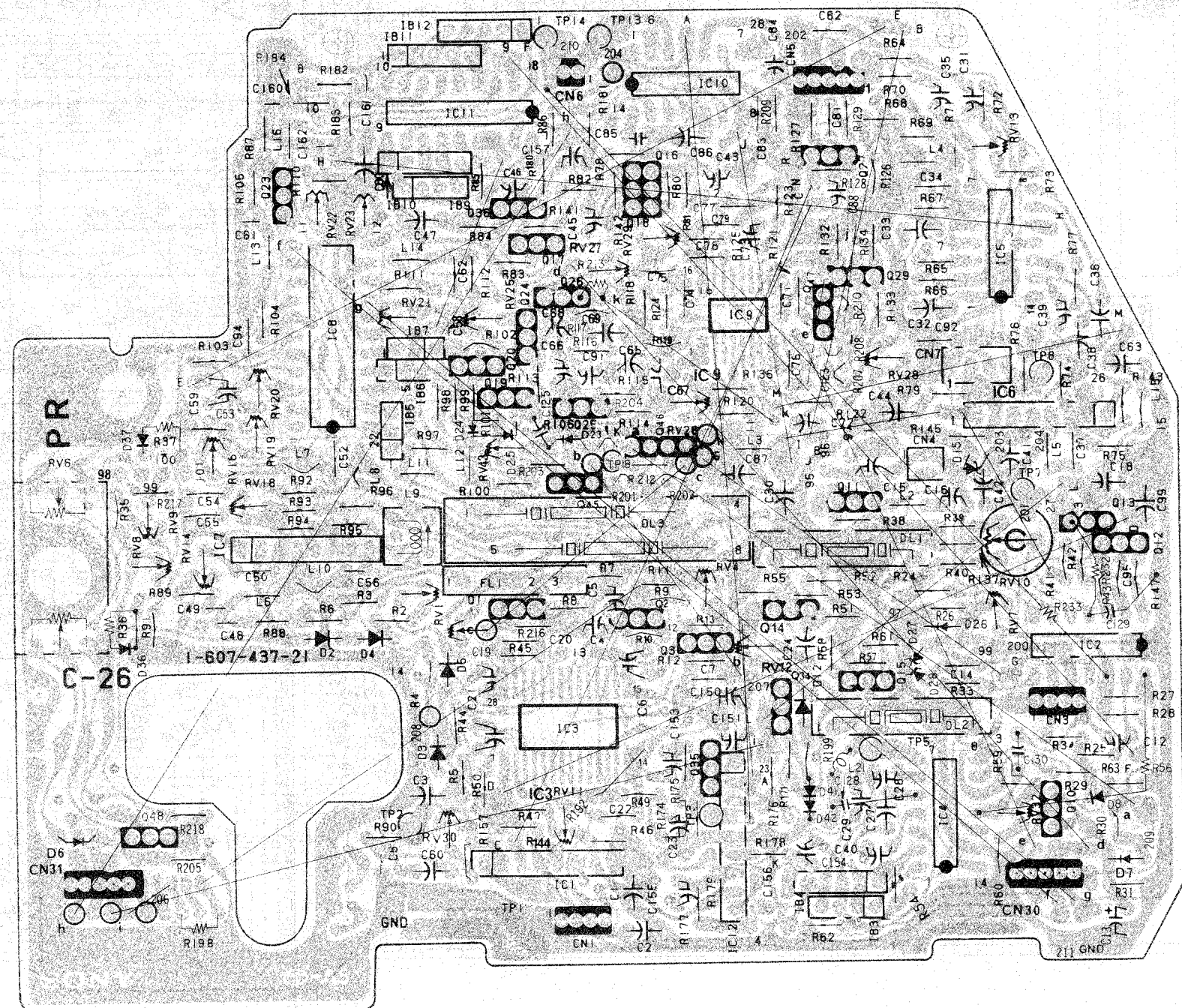
	A	B	C	D	E	F	G	H	I	J	K
--	---	---	---	---	---	---	---	---	---	---	---

C-65 BOARD



C-26 BOARD - REF. NO. 1000 SERIES -

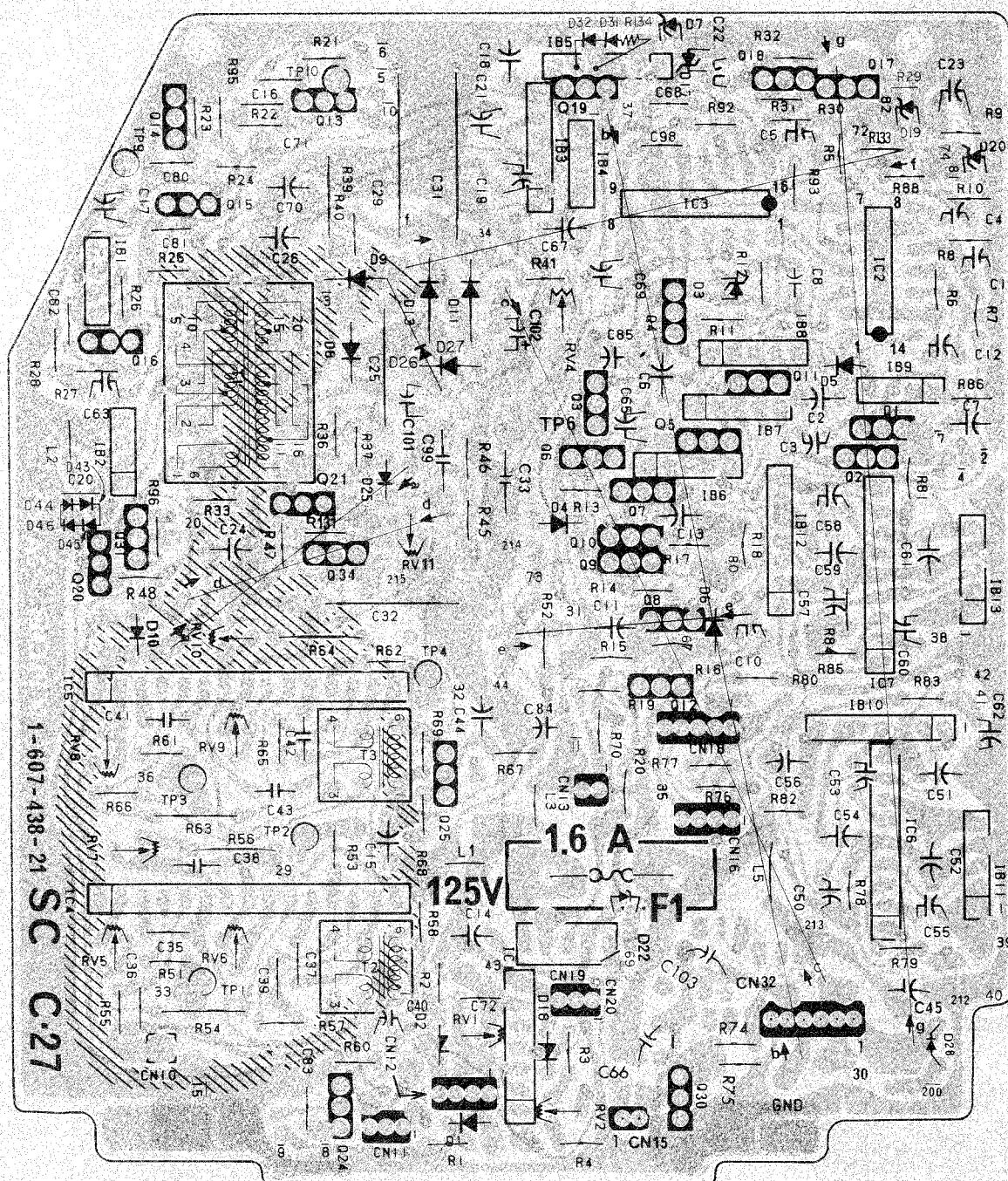
IC, Q	48	23 IC8 IC7	IC11 20 19 1	36 17 24 25 45 IC3 IC1	26 18, 16 46 2	IC10 3 35 IC12	IC9 14 34	27 47, 29 11 15	IC5 IC6 IC4	13, 12 10 IC2
D	6 37 36	2 4 3	5 24, 25	23			124, 42	27, 26 28	15	8 7
ADJ	RV6 RV9 RV8	RV16 RV14	RV20 RV19 RV18	RV22, RV23	RV25 RV43	RV27 RV11	RV29 RV26 RV4, RV12	RV28	RV13 RV10 RV7 RV32	
TP					RV30	14 13				
					2		3	5	7	8



C-27

C-27 BOARD — REF. NO. 2000 SERIES —

IC Q	16 20 31	14 15	13 21 34	25	19 3 6	4 7 10 8 9 12	IC3 11 5	18	17 IC2 1 2 IC7 IC6
D	44,43 46,45	10	9 8 25	13 26 27 2,1	11 4	32,31 7 17 3 6	5	19	20
ADJ	RV8 RV7 RV5	RV10 RV9 RV6	RV11	RV4 RV1 RV2					
TP	9	3	2	10	4	6			



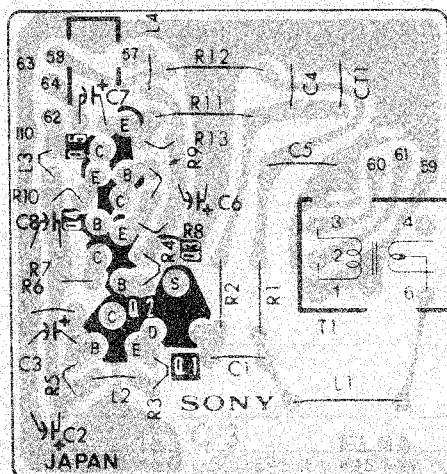
C-3

C-28

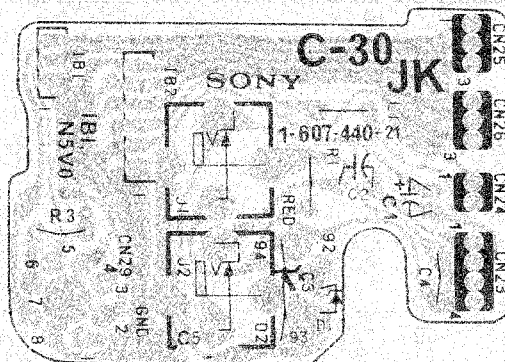
C-29

C-30

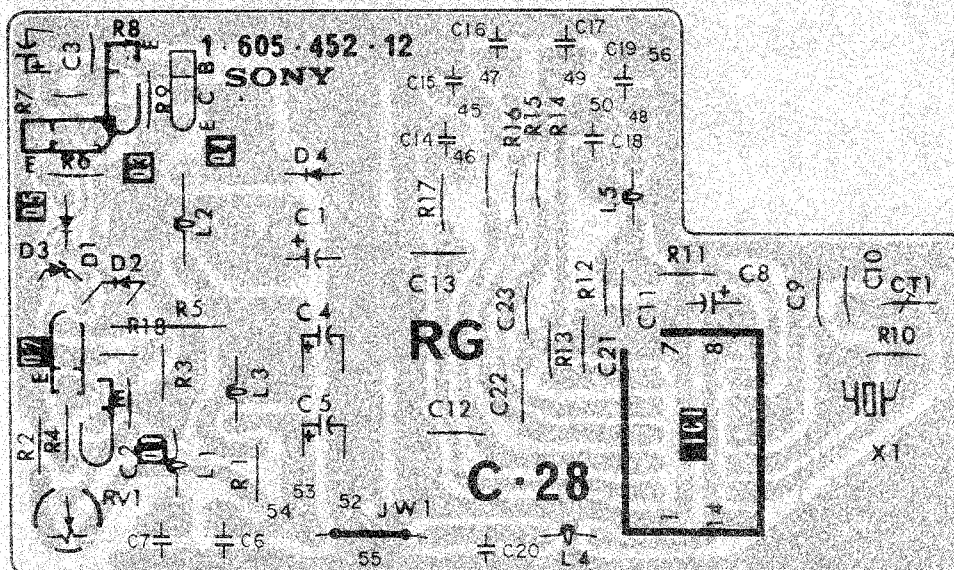
C-3 BOARD - REF. NO. 1400 SERIES -



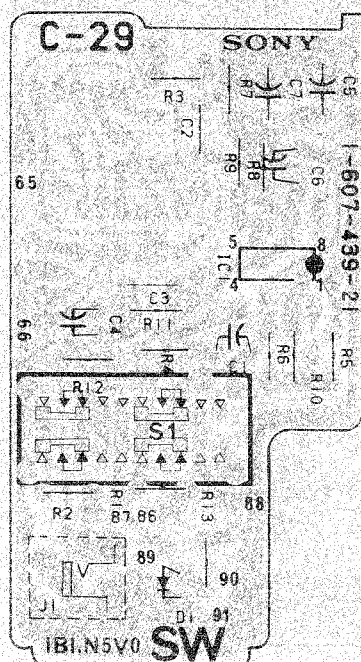
C-30 BOARD - REF. NO. 2400 SERIES -



C-28 BOARD - REF. NO. 1800 SERIES -



C-29 BOARD - REF. NO. 2200 SERIES -



C-31

C-33

C-60

C-61

C-63

C-64

A

B

C

D

E

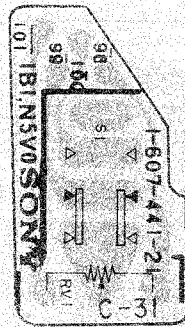
F

G

1

C-31 BOARD

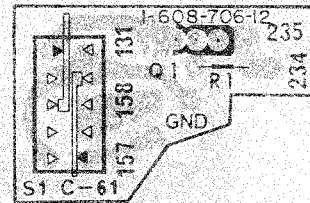
— REF. NO. 2600 SERIES —



2

C-61 BOARD

— REF. NO. 4500 SERIES —

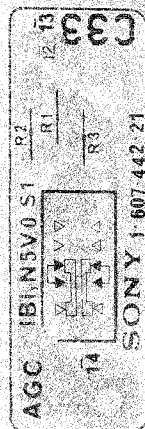


3

4

C-33 BOARD

— REF. NO. 3000 SERIES —



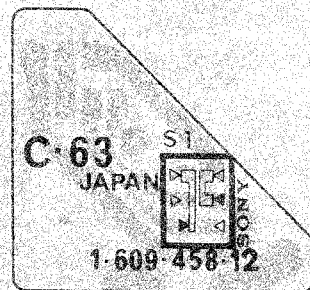
5

6

7

C-63 BOARD

— REF. NO. 6900 SERIES —



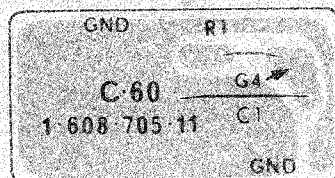
8

9

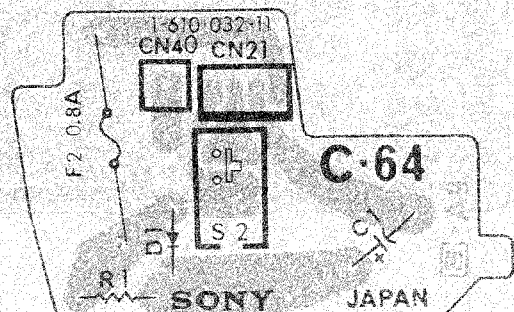
10

C-60 BOARD

— REF. NO. 4400 SERIES —

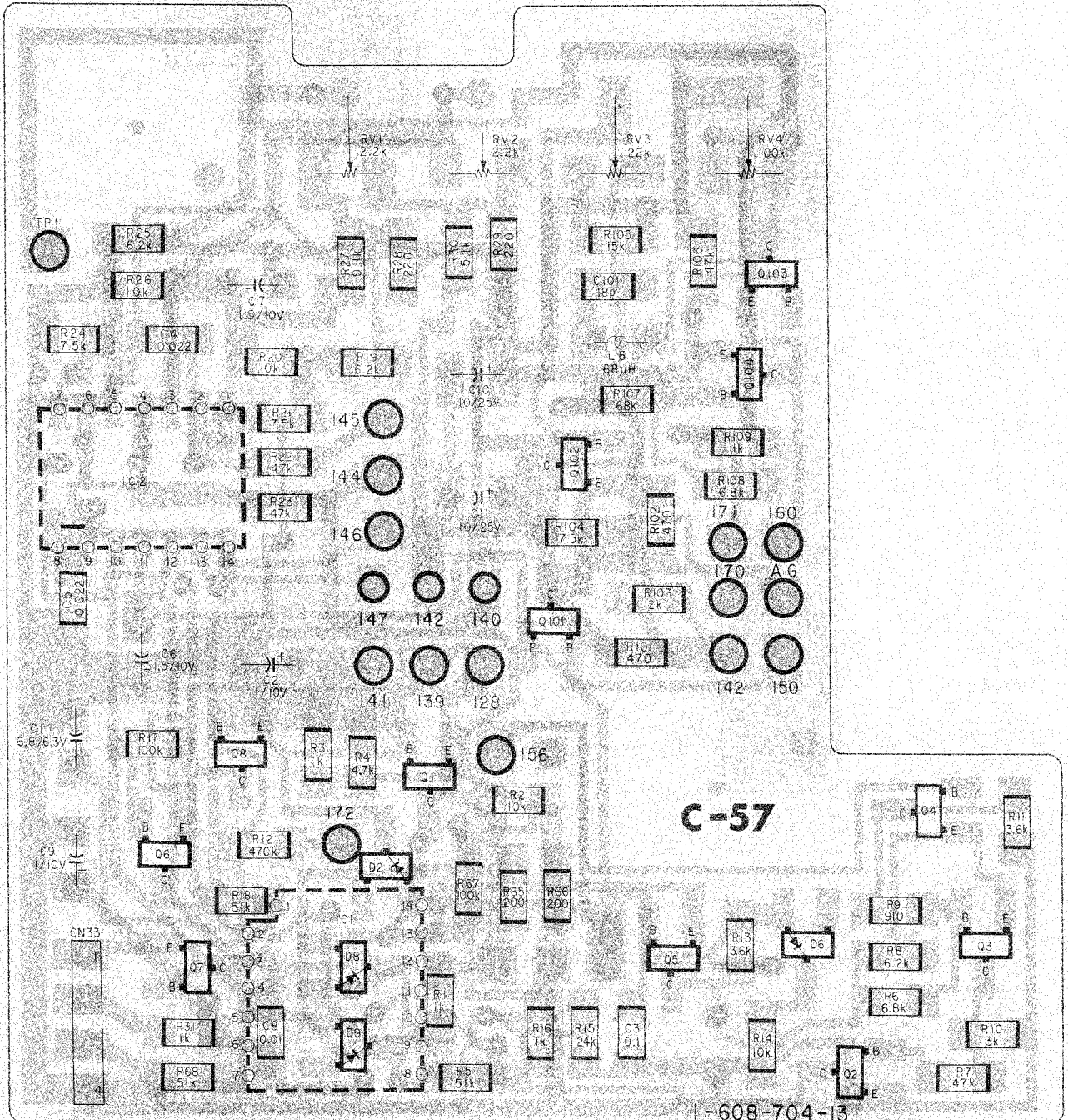


C-64 BOARD — REF. NO. 7000 SERIES —

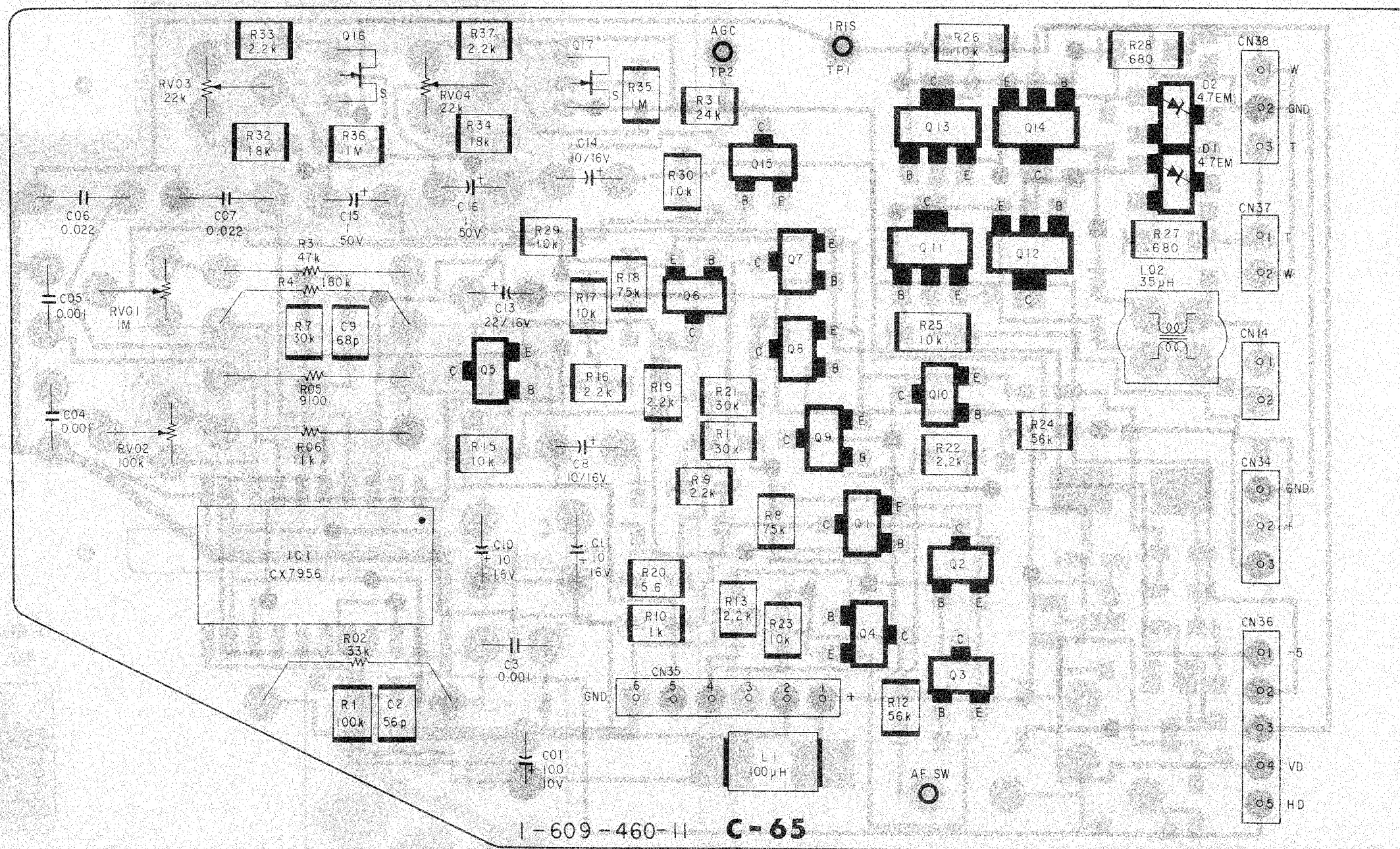


C-57

- COMPONENT SIDE -

C-57 BOARD - REF. NO. 4000 SERIES -

C-65 BOARD - REF. NO. 7100 SERIES -

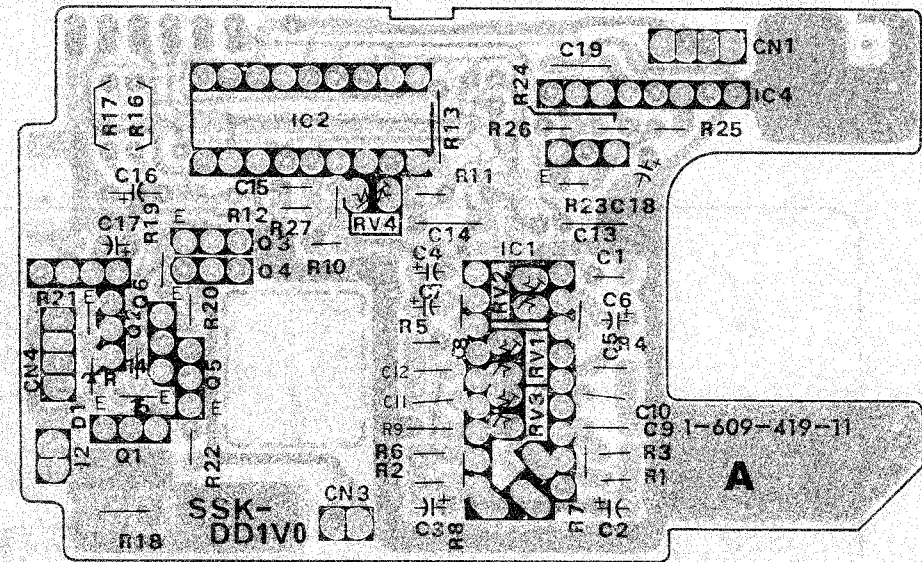


A B C D

A B C D E F G

1

A BOARD — REF. NO. 7300 SERIES —

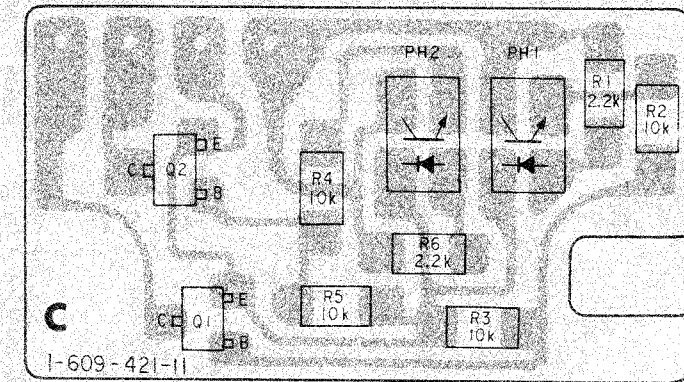


2

3

4

C BOARD — REF. NO. 7400 SERIES —



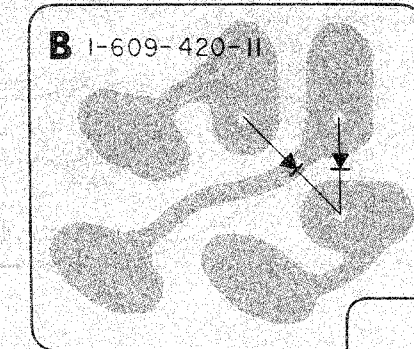
5

6

7

B BOARD

— REF. NO. 7500 SERIES —



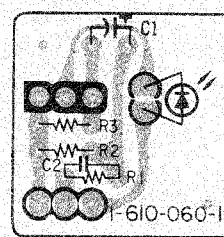
8

9

10

D BOARD

— REF. NO. 7200 SERIES —



SECTION 4 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.

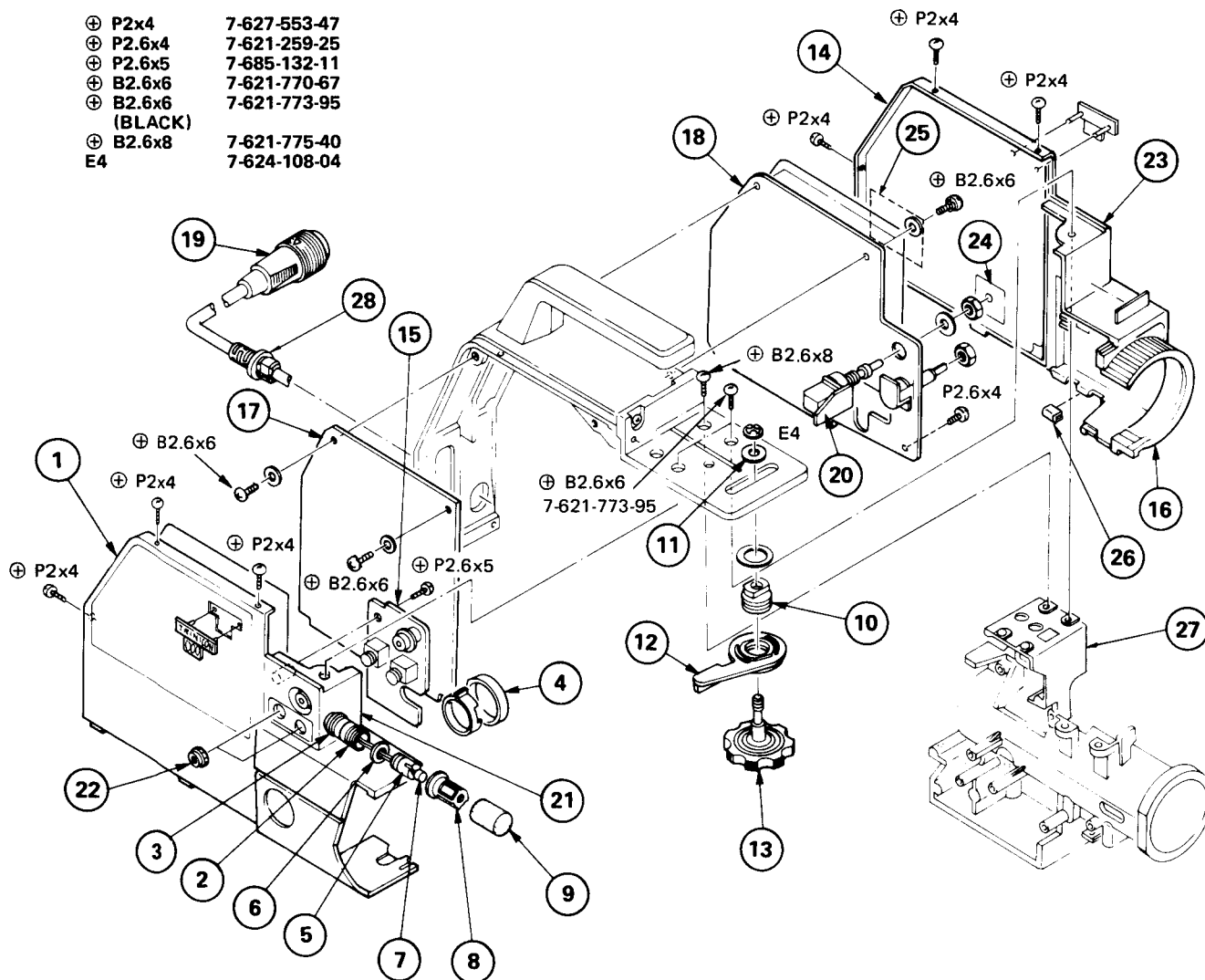
- Items marked "▲" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

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

Note: Les composants identifiés par un trame et une marque ▲ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

(1) CABINET SIDE ASSEMBLY

⊕ P2x4	7-627-553-47
⊕ P2.6x4	7-621-259-25
⊕ P2.6x5	7-685-132-11
⊕ B2.6x6	7-621-770-67
⊕ B2.6x6	7-621-773-95
(BLACK)	
⊕ B2.6x8	7-621-775-40
E4	7-624-108-04

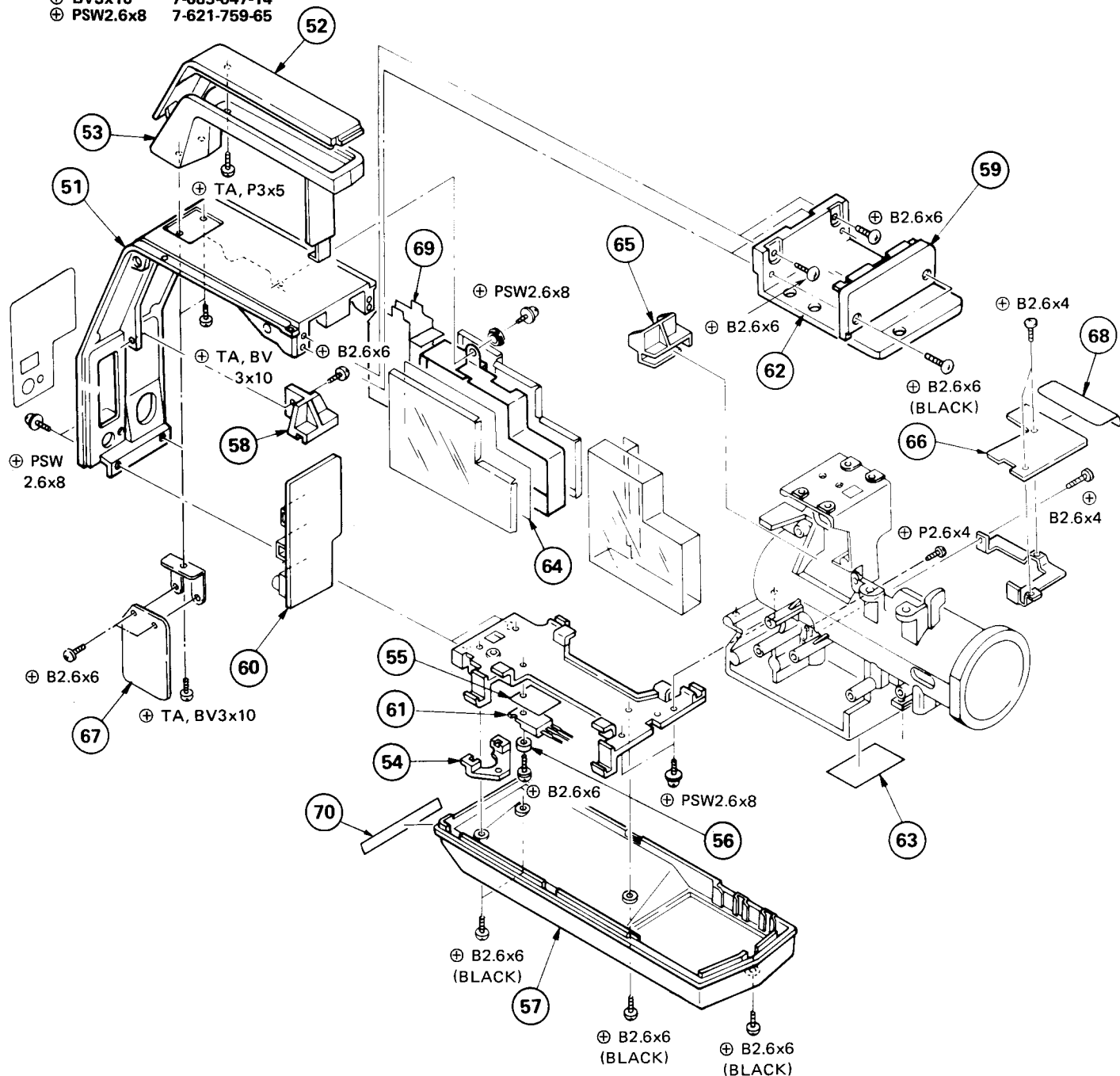


No.	Part No.	Description	Remark
1	X-3676-711-0	PANEL (J) ASSY, SIDE	
2	3-661-974-00	CASE, BUSHING	
3	3-661-975-00	BUSHING	
4	3-670-201-00	BUSHING, REMOTE CONTROL	
5	3-661-976-00	HOLDER, MICROPHONE	
6	3-662-017-00	RING, MICROPHONE	
7	8-814-189-00	MICROPHONE, BUILT-IN (C-1007A)	
8	3-661-973-00	CASE, MICROPHONE	
9	3-661-998-00	SCREEN, MICROPHONE WINDOW	
10	3-662-052-00	SCREW, CLAMP	
11	3-662-048-00	WASHER, BRACKET	
12	X-3661-921-0	LEVER ASSY, LOCK	
13	3-661-959-00	KNOB, VF LOCK	
14	X-3676-712-0	PANEL (C) ASSY, SIDE	

No.	Part No.	Description	Remark
15	▲: 1-607-440-21	C-30 BOARD	
16	3-662-025-01	RING	
17	▲: A-7511-905-A	C-27 BOARD, COMPLETE	
18	▲: A-7511-904-A	C-26 BOARD, COMPLETE	
19	1-556-742-00	CORD, CONNECTION (CAMERA)	
20	▲: 1-607-441-21	C-31 BOARD	
21	X-3676-709-0	PANEL (S) SUB ASSY, JACK	2,3
22	1-507-902-XX	JACK NUT B	
23	X-3676-710-0	PANEL (S) ASSY, CONTROL	16
24	3-662-069-00	SHEET, ORNAMENTAL	
25	3-703-707-01	STICKER, SONY SYMBOL (21)	
26	▲: 3-676-727-00	SHEET (G)	
27	3-674-526-21	SHASSIS (A), LENS	
28	3-662-076-00	BUSHING, HVC CORD	

(2) REAR FRAME ASSEMBLY

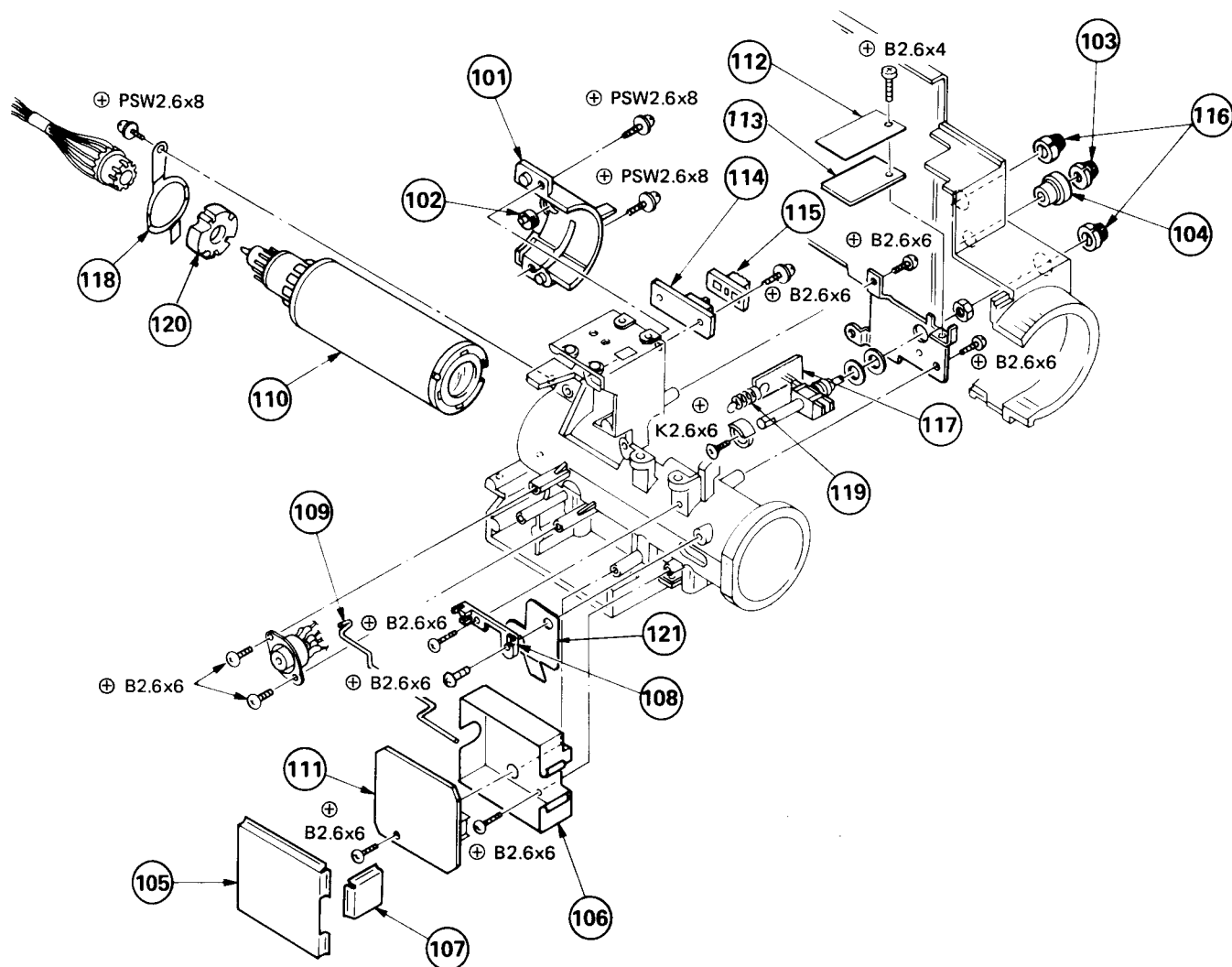
⊕ P2.6x4	7-621-259-25
⊕ P3x5	7-685-144-19
⊕ B2.6x4	7-621-773-86
⊕ B2.6x6	7-621-770-67
⊕ B2.6x6 (BLACK)	7-621-773-95
⊕ BV3x10	7-685-647-14
⊕ PSW2.6x8	7-621-759-65



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
51	X-3676-717-0	FRAME ASSY REAR	52, 53	61	8-729-315-63	TRANSISTOR 2SB856	
52	3-661-956-01	COVER, HANDY GRIP		62	3-662-095-00	BRACKET, VF	
53	3-661-955-01	GRIP, HANDY		63	⚡:3-676-730-00	LABEL, MODEL NUMBER	
54	⚡:3-661-908-02	HOLDER (B), CHASSIS		64	⚡:A-7511-813-A	C-28 BOARD, COMPLETE	
55	2-285-809-00	INSULATOR (TO-220)		65	⚡:3-670-238-00	RETAINER, SHIELD CASE	
56	2-832-007-00	BUSHING (K), INSULATING		66	⚡:A-7511-857-A	C-57 BOARD, COMPLETE	
57	3-661-965-51	PAD		67	⚡:A-7511-906-A	C-65 BOARD, COMPLETE	
58	⚡:3-661-907-00	HOLDER (A), CHASSIS		68	⚡:3-677-628-00	SHEET, PROTECTION, CHIP	
59	3-661-954-01	COVER, VF BRACKET		69	⚡:3-676-711-00	SHEET (S), INSULATING	
60	⚡:1-607-439-21	C-29 BOARD		70	4-334-187-00	LABEL, CAUTION	

(3) CHASSIS ASSEMBLY

⊕ K2.6x6	7-621-592-00
⊕ B2.6x4	7-621-773-86
⊕ B2.6x6	7-621-770-67
⊕ PSW2.6x8	7-621-759-65

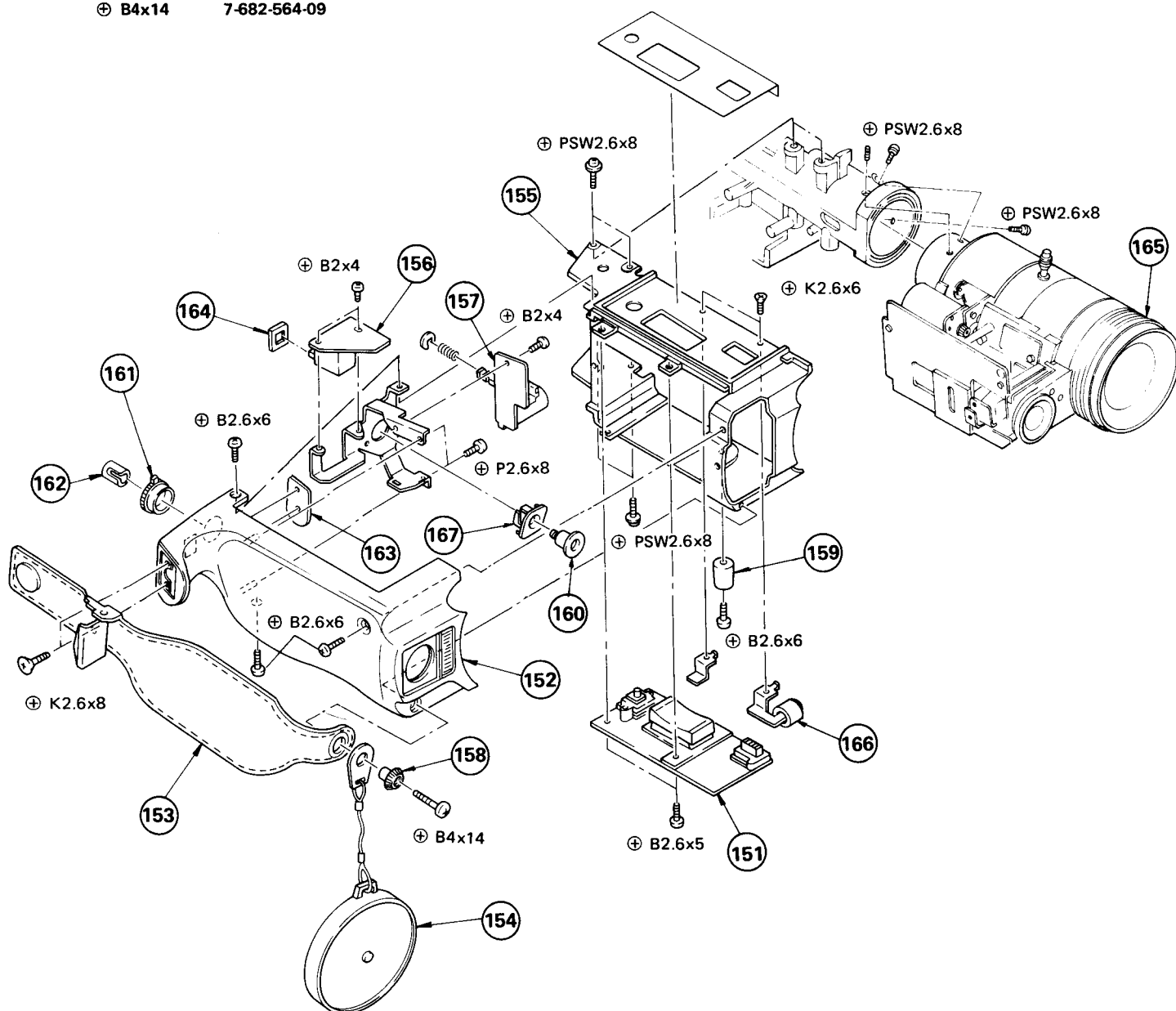


No.	Part No.	Description
101	X-3677-604-0	CHASSIS (BS) ASSY, LENS
102	3-670-206-00	CAM, ADJUSTMENT
103	X-3670-201-3	KNOB (A) ASSY, CONTROL
104	X-3670-202-3	KNOB (B) ASSY, CONTROL
105	⚡:3-670-265-00	LID (A), PA SHIELD
106	⚡:3-674-506-00	SHIELD (MAIN) (N), PA
107	⚡:3-674-507-00	LID (N), SHIELD, PA
108	3-670-211-00	RETAINER, LINK, CF
109	3-670-216-00	BAR, LINK, CF
110	8-701-022-69	CT-2262
111	⚡:A-7511-852-A	C-3 BOARD, COMPLETE

No.	Part No.	Description
112	⚡:3-677-625-00	SHEET, SAFETY
113	⚡:1-608-705-00	C-60 BOARD
114	⚡:1-607-442-21	C-33 BOARD
115	3-661-916-00	KNOB, AGC SWITCH
116	X-3670-205-3	KNOB (C) ASSY, CONTROL
117	⚡:1-608-706-00	C-61 BOARD
118	⚡:3-670-283-00	SPRING
119	3-579-048-00	SPRING, TENSION
120	3-677-617-00	SPACER
121	⚡:3-676-733-00	PLATE (I), SHIELD

(4) CONTROL GRIP ASSEMBLY

⊕ P2.6x8	7-685-134-21
⊕ K2.6x6	7-621-592-00
⊕ K2.6x8	7-621-592-10
⊕ B2x4	7-621-772-18
⊕ B2.6x5	7-621-770-87
⊕ B2.6x6	7-621-773-95
(BLACK)	
⊕ PSW2.6x8	7-621-759-65
⊕ B4x14	7-682-564-09

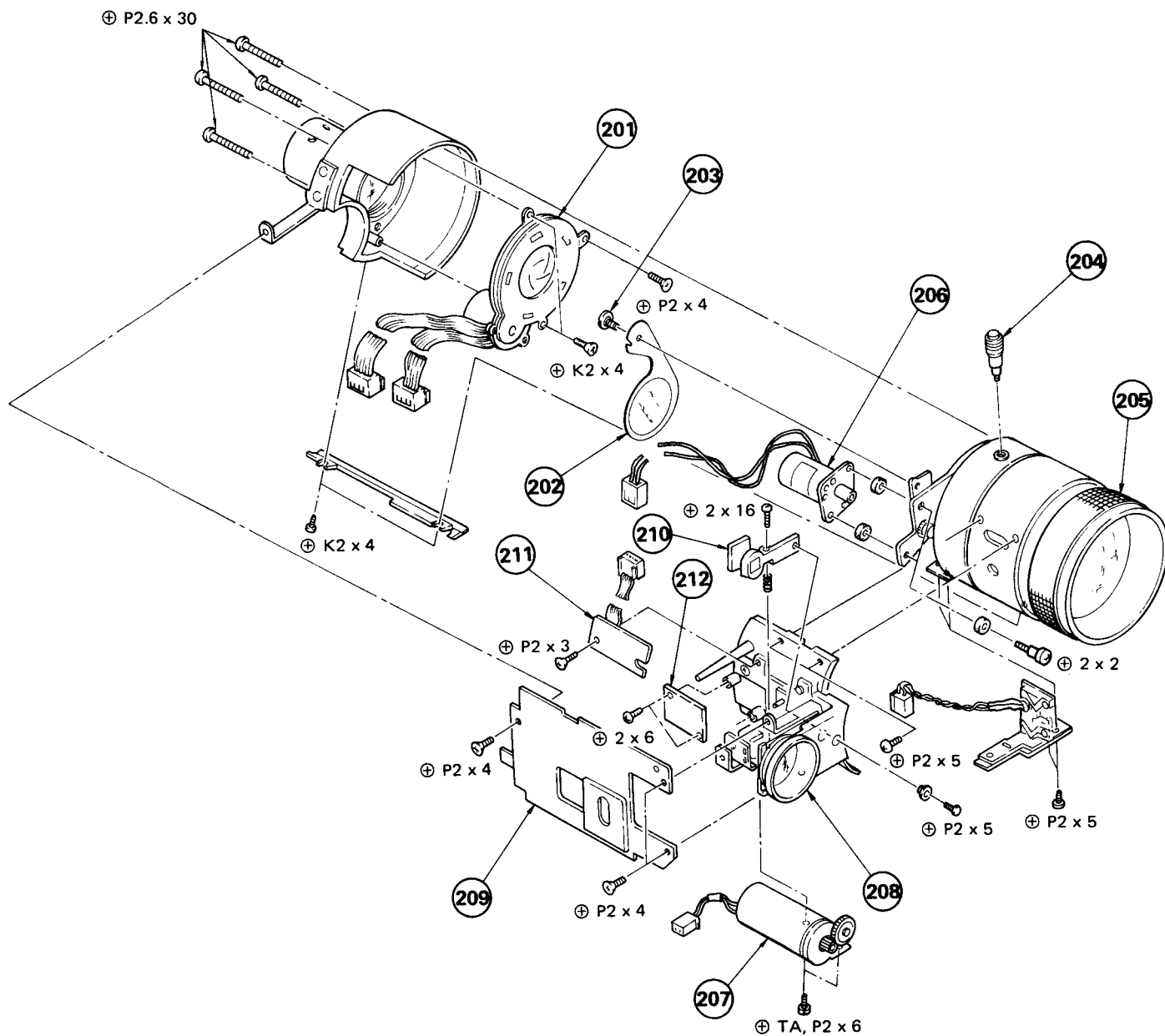


No.	Part No.	Description
151	A-7520-139-A	SEESAW BOARD, MOUNTED
152	X-3676-715-0	GRIP SUB ASSY, CONTROL
153	X-3670-218-0	BELT ASSY, GRIP
154	X-3676-708-0	CAP ASSY, LENS
155	X-3676-714-0	HOLDER ASSY, GRIP
156	:1-609-458-00	C-63 BOARD
157	:1-610-032-11	C-64 BOARD
158	3-662-013-00	STOPPER, BELT
159	3-662-014-00	LEG (A)

Remark	No.	Part No.	Description	Remark
	160	3-670-212-00	SCREW, FITTING, SWITCH, S.S.	
	161	3-670-213-00	KNOB, LOCK, SS	
	162	3-670-223-00	KNOB, S.S SWITCH	
	163	3-670-251-00	NUT, GLIP BELT FASTENING	
	164	3-676-705-00	SHEET, AF	
	165	1-547-115-12	LENS, ZOOM (VCL-1206YAF)	
	166	4-849-559-00	TUBE, ERASE	
	167	3-670-224-00	BUSHING, S.S FITTING	

(5) AUTO FOCUS ASSEMBLY

⊕ TA, P2 x 6	7-685-104-21
⊕ K2 x 4	7-621-591-00
⊕ P2 x 3	7-621-255-15
⊕ P2 x 4	7-621-255-25
⊕ P2 x 5	7-621-255-35
⊕ P2.6 x 30	7-621-260-65



No.	Part No.	Description	Remark
201	3-706-772-00	IRIS, AUTO	
202	3-706-766-00	FILTER, CHANGE, COLOR-TEMP	
203	3-706-767-00	SCREW, FILTER SHAFT	
204	3-706-768-00	LEVER, ZOOM	
205	3-706-769-00	KNURL, RUBBER, FOCUS	
206	8-835-093-00	MOTOR, DC (DNR-6300A)	

No.	Part No.	Description	Remark
207	1-541-229-00	MOTOR, FOCUS	
208	3-706-771-00	HOOD, LENS, RAY CATCHER	
209	♂:1-609-419-00	AF-A BOARD	
210	♂:1-609-420-00	AF-B BOARD	
211	♂:9-982-956-00	AF-C BOARD	
212	♂:1-610-060-00	AF-D BOARD	

C-28**C-3**

SECTION 5

ELECTRICAL PARTS LIST

NOTE:

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

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

RESISTORS

- All resistors are in ohms
- F : nonflammable

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

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

CAPACITORS

• MF : μF , PF : μF

COILS

• MMH : mH, UH : μH

Note: Les composants identifiés par un tramé 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
A :A-7511-813-A C-28 BOARD, COMPLETE *****				<u>COIL</u>			
A :3-662-040-00		CASE, SR COIL		L1801	1-421-421-00	COIL, CHOKE 100UH	
A :3-670-202-00		CASE (MAIN), SHIELD		L1802	1-421-381-00	COIL, FERRITE CHOKE 220UH	
A :3-670-203-00		LID, BOTTOM, CASE, SHIELD		L1803	1-421-329-00	COIL, CHOKE 10UH	
A :3-670-204-00		LID, UPPER, CASE, SHIELD		L1804	1-408-424-00	MICRO INDUCTOR 180UH	
A :3-670-208-00		SHEET, INSULATING, SHIELD, RG		L1805	1-408-415-00	MICRO INDUCTOR 33UH	
A :3-670-228-00		CASE, INSULATING, RG		<u>TRANSISTOR</u>			
A :3-670-267-00		BUSHING, RG INSULATING		Q1801	8-729-245-83	TRANSISTOR 2SC2458	
<u>CAPACITOR</u>				Q1802	8-729-245-83	TRANSISTOR 2SC2458	
C1801	1-123-321-00	ELECT 220MF	20% 16V	Q1803	8-729-612-77	TRANSISTOR 2SA1027R	
C1802	1-102-117-00	CERAMIC 820PF	10% 50V	A Q1804	A 8-729-801-13	A TRANSISTOR 2SA772-13	
C1803	1-123-306-00	ELECT 47MF	20% 10V	Q1805	8-729-178-54	TRANSISTOR 2SC2785	
C1804	1-123-308-00	ELECT 220MF	20% 10V	<u>RESISTOR</u>			
C1805	1-123-308-00	ELECT 220MF	20% 10V	R1801	1-246-777-00	CARBON 330	1/8W
C1806	1-161-917-00	CERAMIC 1000PF	10% 25V	R1802	1-246-791-00	CARBON 4.7K	1/8W
C1807	1-161-917-00	CERAMIC 1000PF	10% 25V	R1803	1-246-788-00	CARBON 2.7K	1/8W
C1808	1-131-380-00	TANTALUM 33MF	20% 10V	R1804	1-246-787-00	CARBON 2.2K	1/8W
C1809	1-102-505-00	CERAMIC 6PF	0.5PF 50V	R1805	1-246-783-00	CARBON 1K	1/8W
C1810	1-102-851-00	CERAMIC 15PF	5% 50V	R1806	1-246-791-00	CARBON 4.7K	1/8W
C1811	1-102-108-00	CERAMIC 150PF	10% 50V	R1807	1-246-799-00	CARBON 22K	1/8W
C1812	1-102-106-00	CERAMIC 100PF	10% 50V	R1808	1-246-471-00	CARBON 820	5% 1/4W
C1813	1-102-106-00	CERAMIC 100PF	10% 50V	R1809	1-246-778-00	CARBON 390	1/8W
C1814	1-161-916-00	CERAMIC 47PF	10% 25V	R1810	1-247-053-00	CARBON 1M	1/8W
C1815	1-161-916-00	CERAMIC 47PF	10% 25V	R1811	1-246-857-00	CARBON 13K	1/8W
C1816	1-161-916-00	CERAMIC 47PF	10% 25V	R1812	1-246-841-00	CARBON 620	1/8W
C1817	1-161-916-00	CERAMIC 47PF	10% 25V	R1813	1-246-787-00	CARBON 2.2K	1/8W
C1818	1-161-916-00	CERAMIC 47PF	10% 25V	R1814	1-246-787-00	CARBON 2.2K	1/8W
C1819	1-161-916-00	CERAMIC 47PF	10% 25V	R1815	1-246-784-00	CARBON 1.2K	1/8W
C1820	1-161-917-00	CERAMIC 1000PF	10% 25V	R1816	1-246-783-00	CARBON 1K	1/8W
C1821	1-101-361-00	CERAMIC 150PF	5% 50V	R1817	1-246-783-00	CARBON 1K	1/8W
C1822	1-101-361-00	CERAMIC 150PF	5% 50V	R1818	1-246-788-00	CARBON 2.7K	1/8W
C1823	1-101-361-00	CERAMIC 150PF	5% 50V	<u>VARIABLE RESISTOR</u>			
<u>CONNECTOR</u>				RV1801	1-226-707-00	RES, ADJ, SOLID 1K	
A CN1805:1-555-916-00		CONNECTOR ASSY (2.0MM) 5P		<u>CRYSTAL</u>			
A CN1806:1-555-932-00		CONNECTOR ASSY (2.0MM) 2P		X1801	1-527-227-00	OSCILLATOR, CRYSTAL	
A CN1820:1-555-928-00		CONNECTOR ASSY (2.0MM) 3P		*****			
A CN1824:1-555-934-00		CONNECTOR ASSY (2.0MM) 2P		A :A-7511-852-A C-3 BOARD, COMPLETE *****			
<u>TRIMMER</u>				A :3-661-918-11 PLATE, SHIELD, PA			
CT1801	1-141-227-00	TRIMMER, CERAMIC 20PF		<u>CAPACITOR</u>			
<u>DIODE</u>				C1401	1-108-385-00	MYLAR 0.047MF	10% 100V
D1801	8-719-911-19	DIODE 1SS119		C1402	1-131-380-00	TANTALUM 33MF	20% 10V
D1802	8-719-911-19	DIODE 1SS119		C1403	1-123-618-00	ELECT 22MF	20% 6.3V
D1803	8-719-100-37	DIODE RD6.2E-B1		C1404	1-102-521-00	CERAMIC 43PF	5% 50V
D1804	8-719-982-04	DIODE ERB81-004		C1405	1-130-777-00	FILM 0.1MF	5% 100V
<u>IC</u>							
IC1801	8-757-280-00	IC CX728					

C-3**C-31****C-57**

Ref.No	Part No.	Description	Remark
C1406	1-123-647-00	ELECT 47MF	20% 6.3V
C1407	1-131-347-00	TANTALUM 1MF	20% 35V
C1408	1-131-380-00	TANTALUM 33MF	20% 10V

CONNECTOR

◆CN1401:1-555-921-00 CONNECTOR ASSY (2.0MM) 4P
 ◆CN1411:1-555-927-00 CONNECTOR ASSY (2.0MM) 3P

TRIMMER

CT1401 1-141-245-00 TRIMMER, CERAMIC 30PF

COIL

L1401 1-408-323-00 COIL, FERRITE
 L1402 1-407-177-XX MICRO INDUCTOR 470UH
 L1403 1-407-173-XX MICRO INDUCTOR 220UH
 L1404 1-407-173-XX MICRO INDUCTOR 220UH

TRANSISTOR

Q1401 8-765-423-00 TRANSISTOR 2SK152-3
 Q1402 8-729-612-77 TRANSISTOR 2SA1027R
 Q1403 8-729-245-83 TRANSISTOR 2SC2458
 Q1404 8-729-612-77 TRANSISTOR 2SA1027R
 Q1405 8-729-245-83 TRANSISTOR 2SC2458

RESISTOR

R1401	1-208-259-00	RES, MICRO (HIGH MEGA OHM) 10M
R1402	1-214-971-00	METAL 2M 1% 1/4W
R1403	1-247-816-00	CARBON 240 5% 1/6W
R1404	1-247-835-00	CARBON 1.5K 5% 1/6W
R1405	1-247-859-00	CARBON 15K 5% 1/6W
R1406	1-247-864-00	CARBON 24K 5% 1/6W
R1407	1-247-835-00	CARBON 1.5K 5% 1/6W
R1408	1-247-807-00	CARBON 100 5% 1/6W
R1409	1-247-834-00	CARBON 1.3K 5% 1/6W
R1410	1-247-807-00	CARBON 100 5% 1/6W
R1411	1-246-488-00	CARBON 4.3K 5% 1/4W
R1412	1-246-521-00	CARBON 100K 5% 1/4W
R1413	1-247-849-00	CARBON 5.6K 5% 1/6W

TRANSFORMER

T1401 1-437-086-00 TRANSFORMER, DRIVE

◆:1-607-441-21 C-31 BOARD

VARIABLE REISTOR

RV2601 1-228-347-00 RES, VAR, CARBON (WITH SW) 5K

Ref.No	Part No.	Description	Remark
◆:A-7511-857-A	C-57 BOARD, COMPLETE	*****	

CAPACITOR

C4001	1-131-382-00	TANTALUM 6.8MF	20% 6.3V
C4002	1-131-418-00	TANTALUM 1MF	20% 10V
C4003	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C4004	1-163-033-00	CERAMIC CHIP 0.022MF	50V
C4005	1-163-033-00	CERAMIC CHIP 0.022MF	50V
C4006	1-131-416-00	TANTALUM 1.5MF	20% 16V
C4007	1-131-416-00	TANTALUM 1.5MF	20% 16V
C4008	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
C4009	1-131-418-00	TANTALUM 1MF	20% 10V
C4010	1-131-359-00	TANTALUM 10MF	20% 25V
C4011	1-131-359-00	TANTALUM 10MF	20% 25V
C4101	1-163-099-00	CERAMIC CHIP 18PF	5% 50V

CONNECTOR

CN4030:1-555-916-00 CONNECTOR ASSY (2.0MM) 5P
 CN4031:1-555-916-00 CONNECTOR ASSY (2.0MM) 5P
 CN4032:1-556-378-00 CONNECTOR ASSY (2.0MM) 6P
 CN4033:1-560-467-00 PIN, CONNECTOR 4P

DIODE

D4002 8-719-105-65 DIODE RD4.3M-B3
 D4006 8-719-100-05 DIODE 1S2837
 D4008 8-719-100-05 DIODE 1S2837
 D4009 8-719-100-05 DIODE 1S2837

IC

IC4001 8-759-905-90 IC CX7950
 IC4002 8-759-193-24 IC UPC324G

COIL

L4001 1-407-167-XX MICRO INDUCTOR 68UH

TRANSISTOR

Q4001	8-729-216-22	TRANSISTOR 2SA1162
Q4002	8-729-271-22	TRANSISTOR 2SC2712
Q4003	8-729-216-22	TRANSISTOR 2SA1162
Q4004	8-729-216-22	TRANSISTOR 2SA1162
Q4005	8-729-271-22	TRANSISTOR 2SC2712
Q4006	8-729-216-22	TRANSISTOR 2SA1162
Q4007	8-729-271-22	TRANSISTOR 2SC2712
Q4008	8-729-271-22	TRANSISTOR 2SC2712
Q4101	8-729-271-22	TRANSISTOR 2SC2712
Q4102	8-729-271-22	TRANSISTOR 2SC2712
Q4103	8-729-271-22	TRANSISTOR 2SC2712
Q4104	8-729-271-22	TRANSISTOR 2SC2712

RESISTOR

R4001	1-216-049-00	METAL CHIP 1K 5% 1/10W
-------	--------------	------------------------

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

C-57**C-26**

Ref.No	Part No.	Description	Remark			Ref.No	Part No.	Description	Remark		
R4002	1-216-073-00	METAL CHIP	10K	5%	1/10W	▲:A-7511-904-A	C-26 BOARD, COMPLETE *****				
R4003	1-216-049-00	METAL CHIP	1K	5%	1/10W						
R4004	1-216-065-00	METAL CHIP	4.7K	5%	1/10W						
R4005	1-216-090-00	METAL CHIP	51K	5%	1/10W						
R4006	1-216-069-00	METAL CHIP	6.8K	5%	1/10W						
R4007	1-216-089-00	METAL CHIP	47K	5%	1/10W						
R4008	1-216-068-00	METAL CHIP	6.2K	5%	1/10W						
R4009	1-216-048-00	METAL CHIP	910	5%	1/10W						
R4010	1-216-060-00	METAL CHIP	3K	5%	1/10W						
R4011	1-216-062-00	METAL CHIP	3.6K	5%	1/10W						
R4012	1-216-113-00	METAL CHIP	470K	5%	1/10W						
R4013	1-216-062-00	METAL CHIP	3.6K	5%	1/10W						
R4014	1-216-073-00	METAL CHIP	10K	5%	1/10W						
R4015	1-216-082-00	METAL CHIP	24K	5%	1/10W						
R4016	1-216-049-00	METAL CHIP	1K	5%	1/10W						
R4017	1-216-097-00	METAL CHIP	100K	5%	1/10W						
R4018	1-216-090-00	METAL CHIP	51K	5%	1/10W						
R4019	1-216-068-00	METAL CHIP	6.2K	5%	1/10W						
R4020	1-216-073-00	METAL CHIP	10K	5%	1/10W						
R4021	1-216-070-00	METAL CHIP	7.5K	5%	1/10W						
R4022	1-216-089-00	METAL CHIP	47K	5%	1/10W						
R4023	1-216-089-00	METAL CHIP	47K	5%	1/10W						
R4024	1-216-070-00	METAL CHIP	7.5K	5%	1/10W						
R4025	1-216-068-00	METAL CHIP	6.2K	5%	1/10W						
R4026	1-216-073-00	METAL CHIP	10K	5%	1/10W						
R4027	1-216-072-00	METAL CHIP	9.1K	5%	1/10W						
R4028	1-216-033-00	METAL CHIP	220	5%	1/10W						
R4029	1-216-033-00	METAL CHIP	220	5%	1/10W						
R4030	1-216-066-00	METAL CHIP	5.1K	5%	1/10W						
R4031	1-216-049-00	METAL CHIP	1K	5%	1/10W						
R4065	1-216-032-00	METAL CHIP	200	5%	1/10W						
R4066	1-216-032-00	METAL CHIP	200	5%	1/10W						
R4067	1-216-097-00	METAL CHIP	100K	5%	1/10W						
R4068	1-216-090-00	METAL CHIP	51K	5%	1/10W						
R4101	1-216-041-00	METAL CHIP	470	5%	1/10W						
R4102	1-216-041-00	METAL CHIP	470	5%	1/10W						
R4103	1-216-056-00	METAL CHIP	2K	5%	1/10W						
R4104	1-216-070-00	METAL CHIP	7.5K	5%	1/10W						
R4105	1-216-077-00	METAL CHIP	15K	5%	1/10W						
R4106	1-216-089-00	METAL CHIP	47K	5%	1/10W						
R4107	1-216-093-00	METAL CHIP	68K	5%	1/10W						
R4108	1-216-069-00	METAL CHIP	6.8K	5%	1/10W						
R4109	1-216-049-00	METAL CHIP	1K	5%	1/10W						
<u>VARIABLE RESISTOR</u>											
RV4001	1-228-519-00	RES, ADJ, METAL GRAZE	2.2K								
RV4002	1-228-519-00	RES, ADJ, METAL GRAZE	2.2K								
RV4003	1-228-759-00	RES, ADJ, METAL GLAZE	22K								
RV4004	1-228-761-00	RES, ADJ, METAL GLAZE	100K								
C1001	1-123-645-00	ELECT	33MF	20%	10V						
C1002	1-131-387-00	TANTALUM	47MF	20%	6.3V						
C1003	1-123-661-00	ELECT	100MF	20%	6.3V						
C1004	1-123-607-00	ELECT	0.1MF	20%	50V						
C1005	1-123-647-00	ELECT	47MF	20%	6.3V						
C1006	1-123-617-00	ELECT	10MF	20%	16V						
C1007	1-102-971-00	CERAMIC	82PF	5%	50V						
C1012	1-123-613-00	ELECT	3.3MF	20%	35V						
C1013	1-131-347-00	TANTALUM	1MF	20%	35V						
C1014	1-161-013-00	CERAMIC	0.01MF	10%	25V						
C1015	1-123-622-00	ELECT	22MF	20%	16V						
C1016	1-123-617-00	ELECT	10MF	20%	16V						
C1018	1-123-296-00	ELECT	220MF	20%	6.3V						
C1019	1-123-607-00	ELECT	0.1MF	20%	50V						
C1020	1-161-005-00	CERAMIC	0.0022MF	10%	25V						
C1021	1-123-607-00	ELECT	0.1MF	20%	50V						
C1022	1-161-013-00	CERAMIC	0.01MF	10%	25V						
C1023	1-123-617-00	ELECT	10MF	20%	16V						
C1024	1-123-647-00	ELECT	47MF	20%	6.3V						
C1027	1-123-306-00	ELECT	47MF	20%	10V						
C1028	1-123-617-00	ELECT	10MF	20%	16V						
C1029	1-123-617-00	ELECT	10MF	20%	16V						
C1030	1-123-308-00	ELECT	220MF	20%	10V						
C1031	1-123-617-00	ELECT	10MF	20%	16V						
C1032	1-123-645-00	ELECT	33MF	20%	10V						
C1033	1-123-645-00	ELECT	33MF	20%	10V						
C1034	1-102-528-00	CERAMIC	91PF	5%	50V						
C1035	1-123-617-00	ELECT	10MF	20%	16V						
C1036	1-123-645-00	ELECT	33MF	20%	10V						
C1037	1-102-528-00	CERAMIC	91PF	5%	50V						
C1038	1-123-645-00	ELECT	33MF	20%	10V						
C1039	1-123-617-00	ELECT	10MF	20%	16V						
C1040	1-123-607-00	ELECT	0.1MF	20%	50V						
C1041	1-123-645-00	ELECT	33MF	20%	10V						
C1042	1-123-645-00	ELECT	33MF	20%	10V						
C1043	1-123-617-00	ELECT	10MF	20%	16V						
C1044	1-123-296-00	ELECT	220MF	20%	6.3V						
C1045	1-123-617-00	ELECT	10MF	20%	16V						
C1046	1-123-617-00	ELECT	10MF	20%	16V						
C1047	1-123-645-00	ELECT	33MF	20%	10V						
C1048	1-102-971-00	CERAMIC	82PF	5%	50V						
C1049	1-102-971-00	CERAMIC	82PF	5%	50V						
C1050	1-161-013-00	CERAMIC	0.01MF	10%	25V						
C1051	1-101-081-00	CERAMIC	130PF	5%	50V						
C1052	1-161-013-00	CERAMIC	0.01MF	10%	25V						
C1053	1-102-523-00	CERAMIC	56PF	5%	50V						
C1054	1-161-039-00	CERAMIC	0.001MF	10%	25V						
C1055	1-161-039-00	CERAMIC	0.001MF	10%	25V						
C1056	1-102-852-00	CERAMIC	47PF	5%	50V						

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

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

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
<u>COIL</u>				R1006	1-247-813-00	CARBON 180 5% 1/6W	
L1002	1-408-426-00	MICRO INDUCTOR 270UH		R1007	1-247-837-00	CARBON 1.8K 5% 1/6W	
L1003	1-408-424-00	MICRO INDUCTOR 180UH		R1008	1-247-835-00	CARBON 1.5K 5% 1/6W	
L1004	1-408-413-00	MICRO INDUCTOR 22UH		R1009	1-247-855-00	CARBON 10K 5% 1/6W	
L1005	1-408-413-00	MICRO INDUCTOR 22UH		R1010	1-247-855-00	CARBON 10K 5% 1/6W	
L1006	1-408-410-00	MICRO INDUCTOR 12UH		R1011	1-247-843-00	CARBON 3.3K 5% 1/6W	
L1007	1-408-022-00	MICRO INDUCTOR 27UH		R1012	1-247-831-00	CARBON 1K 5% 1/6W	
L1008	1-407-921-00	MICRO INDUCTOR 8.2UH		R1013	1-247-868-00	CARBON 36K 5% 1/6W	
L1009	1-407-927-00	COIL, VAR 10MH		R1024	1-214-166-00	METAL 27K 1% 1/4W	
L1010	1-408-021-00	MICRO INDUCTOR 150UH		R1025	1-247-879-00	CARBON 100K 5% 1/6W	
L1011	1-408-404-00	MICRO INDUCTOR 3.9UH		R1026	1-247-838-00	CARBON 2K 5% 1/6W	
L1012	1-407-921-00	MICRO INDUCTOR 8.2UH		R1027	1-247-900-00	CARBON 750K 5% 1/6W	
L1013	1-408-429-00	MICRO INDUCTOR 470UH		R1028	1-247-896-00	CARBON 510K 5% 1/6W	
L1014	1-408-429-00	MICRO INDUCTOR 470UH		R1029	1-247-862-00	CARBON 20K 5% 1/6W	
L1015	1-408-429-00	MICRO INDUCTOR 470UH		R1030	1-247-855-00	CARBON 10K 5% 1/6W	
L1016	1-408-424-00	MICRO INDUCTOR 180UH		R1031	1-247-870-00	CARBON 43K 5% 1/6W	
L1021	1-407-167-XX	MICRO INDUCTOR 68UH		R1033	1-247-790-00	CARBON 20 5% 1/6W	
<u>TRANSISTOR</u>				R1034	1-247-847-00	CARBON 4.7K 5% 1/6W	
Q1001	8-729-245-83	TRANSISTOR 2SC2458		R1035	1-247-871-00	CARBON 47K 5% 1/6W	
Q1002	8-729-245-83	TRANSISTOR 2SC2458		R1036	1-247-838-00	CARBON 2K 5% 1/6W	
Q1003	8-729-612-77	TRANSISTOR 2SA1027R		R1037	1-247-838-00	CARBON 2K 5% 1/6W	
Q1010	8-729-612-77	TRANSISTOR 2SA1027R		R1038	1-247-833-00	CARBON 1.2K 5% 1/6W	
Q1011	8-729-245-83	TRANSISTOR 2SC2458		R1039	1-214-121-00	METAL 360 1% 1/4W	
Q1012	8-729-612-77	TRANSISTOR 2SA1027R		R1040	1-214-152-00	METAL 6.8K 1% 1/4W	
Q1013	8-729-177-32	TRANSISTOR 2SD773		R1041	1-214-162-00	METAL 18K 1% 1/4W	
Q1014	8-729-245-83	TRANSISTOR 2SC2458		R1042	1-214-157-00	METAL 11K 1% 1/4W	
Q1015	8-729-612-77	TRANSISTOR 2SA1027R		R1043	1-247-847-00	CARBON 4.7K 5% 1/6W	
Q1016	8-729-245-83	TRANSISTOR 2SC2458		R1044	1-247-879-00	CARBON 100K 5% 1/6W	
Q1017	8-729-612-77	TRANSISTOR 2SA1027R		R1045	1-247-855-00	CARBON 10K 5% 1/6W	
Q1018	8-729-245-83	TRANSISTOR 2SC2458		R1046	1-247-861-00	CARBON 18K 5% 1/6W	
Q1019	8-729-245-83	TRANSISTOR 2SC2458		R1047	1-247-855-00	CARBON 10K 5% 1/6W	
Q1020	8-729-245-83	TRANSISTOR 2SC2458		R1049	1-247-843-00	CARBON 3.3K 5% 1/6W	
Q1023	8-729-245-83	TRANSISTOR 2SC2458		R1050	1-247-855-00	CARBON 10K 5% 1/6W	
Q1024	8-729-245-83	TRANSISTOR 2SC2458		R1051	1-247-859-00	CARBON 15K 5% 1/6W	
Q1025	8-729-245-83	TRANSISTOR 2SC2458		R1052	1-247-848-00	CARBON 5.1K 5% 1/6W	
Q1026	8-729-245-83	TRANSISTOR 2SC2458		R1053	1-247-831-00	CARBON 1K 5% 1/6W	
Q1027	8-729-612-77	TRANSISTOR 2SA1027R		R1054	1-215-227-00	RESISTOR 5.1K	
Q1029	8-729-245-83	TRANSISTOR 2SC2458		R1055	1-247-821-00	CARBON 390 5% 1/6W	
Q1034	8-729-612-77	TRANSISTOR 2SA1027R		R1056	1-247-883-00	CARBON 150K 5% 1/6W	
Q1035	8-729-245-83	TRANSISTOR 2SC2458		R1057	1-247-831-00	CARBON 1K 5% 1/6W	
Q1036	8-729-612-77	TRANSISTOR 2SA1027R		R1058	1-247-827-00	CARBON 680 5% 1/6W	
Q1045	8-729-245-83	TRANSISTOR 2SC2458		R1059	1-247-855-00	CARBON 10K 5% 1/6W	
Q1046	8-729-612-77	TRANSISTOR 2SA1027R		R1060	1-247-855-00	CARBON 10K 5% 1/6W	
Q1047	8-729-245-83	TRANSISTOR 2SC2458		R1061	1-247-831-00	CARBON 1K 5% 1/6W	
Q1048	8-729-245-83	TRANSISTOR 2SC2458		R1062	1-247-847-00	CARBON 4.7K 5% 1/6W	
<u>RESISTOR</u>				R1063	1-247-875-00	CARBON 68K 5% 1/6W	
R1002	1-247-852-00	CARBON 7.5K 5% 1/6W		R1064	1-247-852-00	CARBON 7.5K 5% 1/6W	
R1003	1-247-837-00	CARBON 1.8K 5% 1/6W		R1065	1-247-823-00	CARBON 470 5% 1/6W	
R1004	1-247-855-00	CARBON 10K 5% 1/6W		R1066	1-247-843-00	CARBON 3.3K 5% 1/6W	
R1005	1-247-903-00	CARBON 1M 5% 1/6W		R1067	1-215-227-00	RESISTOR 5.1K	
				R1068	1-247-838-00	CARBON 2K 5% 1/6W	
				R1069	1-247-819-00	CARBON 330 5% 1/6W	
				R1070	1-247-873-00	CARBON 56K 5% 1/6W	

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

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R1071	1-247-839-00	CARBON	2.2K 5% 1/6W	R1128	1-247-855-00	CARBON	10K 5% 1/6W
R1072	1-247-859-00	CARBON	15K 5% 1/6W	R1129	1-247-843-00	CARBON	3.3K 5% 1/6W
R1073	1-247-852-00	CARBON	7.5K 5% 1/6W	R1132	1-247-847-00	CARBON	4.7K 5% 1/6W
R1074	1-247-823-00	CARBON	470 5% 1/6W	R1133	1-247-863-00	CARBON	22K 5% 1/6W
R1075	1-247-827-00	CARBON	680 5% 1/6W	R1134	1-247-863-00	CARBON	22K 5% 1/6W
R1076	1-247-804-00	CARBON	75 5% 1/6W	R1136	1-247-848-00	CARBON	5.1K 5% 1/6W
R1077	1-247-843-00	CARBON	3.3K 5% 1/6W	R1137	1-214-669-00	METAL	3.3 1% 1/4W
R1078	1-247-838-00	CARBON	2K 5% 1/6W	R1141	1-247-834-00	CARBON	1.3K 5% 1/6W
R1079	1-247-804-00	CARBON	75 5% 1/6W	R1142	1-247-831-00	CARBON	1K 5% 1/6W
R1080	1-247-855-00	CARBON	10K 5% 1/6W	R1143	1-247-895-00	CARBON	470K 5% 1/6W
R1081	1-247-855-00	CARBON	10K 5% 1/6W	R1144	1-247-852-00	CARBON	7.5K 5% 1/6W
R1082	1-247-831-00	CARBON	1K 5% 1/6W	R1145	1-247-838-00	CARBON	2K 5% 1/6W
R1083	1-247-842-00	CARBON	3K 5% 1/6W	R1147	1-247-839-00	CARBON	2.2K 5% 1/6W
R1084	1-247-855-00	CARBON	10K 5% 1/6W	R1157	1-247-871-00	CARBON	47K 5% 1/6W
R1085	1-247-855-00	CARBON	10K 5% 1/6W	R1171	1-247-848-00	CARBON	5.1K 5% 1/6W
R1086	1-247-842-00	CARBON	3K 5% 1/6W	R1174	1-247-855-00	CARBON	10K 5% 1/6W
R1087	1-247-837-00	CARBON	1.8K 5% 1/6W	R1175	1-247-847-00	CARBON	4.7K 5% 1/6W
R1088	1-247-825-00	CARBON	560 5% 1/6W	R1176	1-247-855-00	CARBON	10K 5% 1/6W
R1089	1-247-807-00	CARBON	100 5% 1/6W	R1177	1-247-879-00	CARBON	100K 5% 1/6W
R1090	1-247-846-00	CARBON	4.3K 5% 1/6W	R1178	1-247-884-00	CARBON	160K 5% 1/6W
R1091	1-247-847-00	CARBON	4.7K 5% 1/6W	R1180	1-247-855-00	CARBON	10K 5% 1/6W
R1092	1-247-821-00	CARBON	390 5% 1/6W	R1181	1-247-864-00	CARBON	24K 5% 1/6W
R1093	1-247-835-00	CARBON	1.5K 5% 1/6W	R1182	1-247-838-00	CARBON	2K 5% 1/6W
R1094	1-247-835-00	CARBON	1.5K 5% 1/6W	R1183	1-247-831-00	CARBON	1K 5% 1/6W
R1095	1-247-813-00	CARBON	180 5% 1/6W	R1184	1-247-807-00	CARBON	100 5% 1/6W
R1096	1-247-813-00	CARBON	180 5% 1/6W	R1192	1-246-508-00	CARBON	30K 5% 1/4W
R1097	1-247-821-00	CARBON	390 5% 1/6W	R1198	1-247-876-00	CARBON	75K 5% 1/6W
R1098	1-247-835-00	CARBON	1.5K 5% 1/6W	R1199	1-247-820-00	CARBON	360 5% 1/6W
R1099	1-247-820-00	CARBON	360 5% 1/6W	R1201	1-247-837-00	CARBON	1.8K 5% 1/6W
R1100	1-247-839-00	CARBON	2.2K 5% 1/6W	R1202	1-247-831-00	CARBON	1K 5% 1/6W
R1101	1-247-837-00	CARBON	1.8K 5% 1/6W	R1203	1-247-867-00	CARBON	33K 5% 1/6W
R1102	1-247-837-00	CARBON	1.8K 5% 1/6W	R1204	1-247-867-00	CARBON	33K 5% 1/6W
R1103	1-247-843-00	CARBON	3.3K 5% 1/6W	R1205	1-247-856-00	CARBON	11K 5% 1/6W
R1104	1-247-839-00	CARBON	2.2K 5% 1/6W	R1207	1-247-864-00	CARBON	24K 5% 1/6W
R1105	1-247-821-00	CARBON	390 5% 1/6W	R1208	1-247-848-00	CARBON	5.1K 5% 1/6W
R1110	1-247-839-00	CARBON	2.2K 5% 1/6W	R1209	1-247-839-00	CARBON	2.2K 5% 1/6W
R1111	1-247-839-00	CARBON	2.2K 5% 1/6W	R1210	1-247-824-00	CARBON	510 5% 1/6W
R1112	1-247-767-00	CARBON	2.2 5% 1/6W	R1212	1-247-831-00	CARBON	1K 5% 1/6W
R1113	1-247-839-00	CARBON	2.2K 5% 1/6W	R1213	1-247-890-00	CARBON	300K 5% 1/6W
R1114	1-247-855-00	CARBON	10K 5% 1/6W	R1216	1-247-863-00	CARBON	22K 5% 1/6W
R1115	1-247-855-00	CARBON	10K 5% 1/6W	R1217	1-247-866-00	CARBON	30K 5% 1/6W
R1116	1-247-855-00	CARBON	10K 5% 1/6W	R1218	1-247-807-00	CARBON	100 5% 1/6W
R1117	1-247-855-00	CARBON	10K 5% 1/6W	R1232	1-247-790-00	CARBON	20 5% 1/6W
R1118	1-247-854-00	CARBON	9.1K 5% 1/6W	R1233	1-247-896-00	CARBON	510K 5% 1/6W
R1119	1-247-815-00	CARBON	220 5% 1/6W	R1234	1-247-855-00	CARBON	10K 5% 1/6W
R1120	1-247-815-00	CARBON	220 5% 1/6W	<u>VARIABLE RESISTOR</u>			
R1121	1-247-816-00	CARBON	240 5% 1/6W	RV1001	1-226-709-00	RES, ADJ, SOLID 4.7K	
R1122	1-247-843-00	CARBON	3.3K 5% 1/6W	RV1004	1-226-710-00	RES, ADJ, SOLID 10K	
R1123	1-247-848-00	CARBON	5.1K 5% 1/6W	RV1006	1-228-348-00	RES, VAR, CARBON 3K/10K	
R1124	1-247-831-00	CARBON	1K 5% 1/6W	RV1007	1-226-709-00	RES, ADJ, SOLID 4.7K	
R1125	1-247-871-00	CARBON	47K 5% 1/6W	RV1008	1-226-753-00	RES, ADJ, SOLID 47K	
R1126	1-247-858-00	CARBON	13K 5% 1/6W	RV1009	1-226-709-00	RES, ADJ, SOLID 4.7K	
R1127	1-247-831-00	CARBON	1K 5% 1/6W	RV1010	1-224-550-21	RES, ADJ, METAL GLAZE 220	

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

C-26**C-27**

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
RV1011	1-226-710-00	RES, ADJ, SOLID 10K		C2033	1-110-053-00	MYLAR 0.1MF	10% 400V
RV1012	1-226-710-00	RES, ADJ, SOLID 10K		C2035	1-107-036-00	MICA 68PF	5% 500V
RV1013	1-226-708-00	RES, ADJ, SOLID 2.2K		C2036	1-102-965-00	CERAMIC 39PF	10% 50V
RV1014	1-226-706-00	RES, ADJ, SOLID 470		C2037	1-107-036-00	MICA 68PF	5% 500V
RV1016	1-226-709-00	RES, ADJ, SOLID 4.7K		C2038	1-108-421-00	MYLAR 0.01MF	10% 200V
RV1018	1-226-708-00	RES, ADJ, SOLID 2.2K		C2039	1-102-965-00	CERAMIC 39PF	10% 50V
RV1019	1-226-753-00	RES, ADJ, SOLID 47K		C2040	1-123-617-00	ELECT 10MF	20% 16V
RV1020	1-226-753-00	RES, ADJ, SOLID 47K		C2041	1-108-425-00	MYLAR 0.022MF	5% 200V
RV1021	1-226-708-00	RES, ADJ, SOLID 2.2K		C2042	1-108-425-00	MYLAR 0.022MF	5% 200V
RV1022	1-226-710-00	RES, ADJ, SOLID 10K		C2043	1-108-425-00	MYLAR 0.022MF	5% 200V
RV1023	1-226-710-00	RES, ADJ, SOLID 10K		C2044	1-123-306-00	ELECT 47MF	20% 10V
RV1025	1-226-711-00	RES, ADJ, SOLID 22K		C2045	1-123-333-00	ELECT 100MF	20% 16V
RV1026	1-226-702-00	RES, ADJ, METAL GLAZE 2.2K		C2050	1-123-617-00	ELECT 10MF	20% 16V
RV1027	1-226-702-00	RES, ADJ, METAL GLAZE 2.2K		C2051	1-123-333-00	ELECT 100MF	20% 16V
RV1028	1-226-709-00	RES, ADJ, SOLID 4.7K		C2052	1-123-661-00	ELECT 100MF	20% 6.3V
RV1029	1-226-708-00	RES, ADJ, SOLID 2.2K		C2053	1-123-617-00	ELECT 10MF	20% 16V
RV1030	1-226-753-00	RES, ADJ, SOLID 47K		C2054	1-123-318-00	ELECT 33MF	20% 16V
RV1032	1-226-709-00	RES, ADJ, SOLID 4.7K		C2055	1-123-609-00	ELECT 0.33MF	20% 50V
RV1043	1-226-711-00	RES, ADJ, SOLID 22K		C2056	1-123-333-00	ELECT 100MF	20% 16V
*****				C2057	1-123-617-00	ELECT 10MF	20% 16V
♣:A-7511-905-A C-27 BOARD COMPLETE				C2058	1-123-617-00	ELECT 10MF	20% 16V
*****				C2059	1-123-318-00	ELECT 33MF	20% 16V
CAPACITOR				C2060	1-123-609-00	ELECT 0.33MF	20% 50V
C2001	1-123-613-00	ELECT 3.3MF	20% 35V	C2061	1-123-661-00	ELECT 100MF	20% 6.3V
C2002	1-123-612-00	ELECT 2.2MF	20% 50V	C2062	1-123-617-00	ELECT 10MF	20% 16V
C2003	1-123-612-00	ELECT 2.2MF	20% 50V	C2063	1-123-617-00	ELECT 10MF	20% 16V
C2004	1-123-617-00	ELECT 10MF	20% 16V	C2065	1-123-611-00	ELECT 1MF	20% 50V
C2005	1-123-609-00	ELECT 0.33MF	20% 50V	C2066	1-123-323-00	ELECT 470MF	20% 16V
C2006	1-123-644-00	ELECT 22MF	20% 10V	C2067	1-123-609-00	ELECT 0.33MF	20% 50V
C2007	1-123-644-00	ELECT 22MF	20% 10V	C2068	1-161-021-00	CERAMIC 0.047MF	10% 25V
C2008	1-123-617-00	ELECT 10MF	20% 16V	C2069	1-123-607-00	ELECT 0.1MF	20% 50V
C2010	1-123-607-00	ELECT 0.1MF	20% 50V	C2070	1-131-381-00	TANTALUM 47MF	20% 10V
C2011	1-123-647-00	ELECT 47MF	20% 6.3V	C2071	1-102-824-00	CERAMIC 470PF	5% 50V
C2012	1-123-607-00	ELECT 0.1MF	20% 50V	C2072	1-161-013-00	CERAMIC 0.01MF	10% 25V
C2013	1-123-318-00	ELECT 33MF	20% 16V	C2080	1-101-880-00	CERAMIC 47PF	5% 50V
C2014	1-123-308-00	ELECT 220MF	20% 10V	C2081	1-102-121-00	CERAMIC 0.0022MF	10% 50V
C2015	1-123-308-00	ELECT 220MF	20% 10V	C2082	1-102-121-00	CERAMIC 0.0022MF	10% 50V
C2016	1-101-361-00	CERAMIC 150PF	5% 50V	C2083	1-102-973-00	CERAMIC 100PF	5% 50V
C2017	1-123-617-00	ELECT 10MF	20% 16V	C2098	1-161-013-00	CERAMIC 0.01MF	10% 25V
C2018	1-123-342-00	ELECT 22MF	20% 35V	C2099	1-108-427-00	MYLAR 0.033MF	10% 200V
C2019	1-123-617-00	ELECT 10MF	20% 16V	C2101	1-123-615-00	ELECT 4.7MF	20% 35V
C2020	1-161-021-00	CERAMIC 0.047MF	10% 25V	C2102	1-123-620-00	ELECT 10MF	20% 35V
C2021	1-123-617-00	ELECT 10MF	20% 16V	C2103	1-125-299-00	ELECT 47000MF	
C2022	1-123-618-00	ELECT 22MF	20% 6.3V	CONNECTOR			
C2023	1-123-610-00	ELECT 0.47MF	20% 50V	♣CN2011:1-560-466-00	PIN, CONNECTOR 3P		
C2024	1-121-999-00	ELECT 10MF	160V	♣CN2012:1-560-467-00	PIN, CONNECTOR 4P		
C2025	1-110-053-00	MYLAR 0.1MF	10% 400V	♣CN2013:1-560-456-00	PIN, CONNECTOR 2P		
C2026	1-123-308-00	ELECT 220MF	20% 10V	♣CN2015:1-560-456-00	PIN, CONNECTOR 2P		
C2029	1-130-459-00	MYLAR 0.1MF	10% 630V	♣CN2016:1-560-467-00	PIN, CONNECTOR 4P		
C2031	1-130-459-00	MYLAR 0.1MF	10% 630V	♣CN2018:1-560-468-00	PIN, CONNECTOR 5P		
C2032	1-130-069-00	FILM 0.43MF	5% 200V	♣CN2019:1-508-743-00	PIN, CONNECTOR 5P		
				♣CN2020:1-560-466-00	PIN, CONNECTOR 3P		

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

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
▲CN2021:1-556-902-00		CONNECTOR ASSY (2.0MM) 4P		COIL			
▲CN2023:1-555-920-00		CONNECTOR ASSY (2.0MM) 4P		L2001	1-421-421-00	COIL, CHOKE 100UH	
▲CN2025:1-555-925-00		CONNECTOR ASSY (2.0MM) 3P		L2002	1-407-495-00	MICRO INDUCTOR 1.8MMH	
▲CN2027:1-555-827-00		SOCKET CONNECTOR, VIDICON		L2003	1-421-421-00	COIL, CHOKE 100UH	
▲CN2028:1-562-223-00		SOCKET, DIN 8P		L2005	1-407-718-00	MICRO INDUCTOR 1.2MMH	
▲CN2032:1-560-469-00		PIN, CONNECTOR 6P		TRANSISTOR			
▲CN2034:1-556-642-00		CONNECTOR ASSY (2.0MM) 3P		Q2001	8-729-245-83	TRANSISTOR 2SC2458	
▲CN2037:1-555-934-00		CONNECTOR ASSY (2.0MM) 2P		Q2002	8-729-245-83	TRANSISTOR 2SC2458	
DIODE				Q2003	8-729-245-83	TRANSISTOR 2SC2458	
D2001	8-719-911-19	DIODE 1SS119		Q2004	8-729-245-83	TRANSISTOR 2SC2458	
D2002	8-719-911-19	DIODE 1SS119		Q2005	8-729-245-83	TRANSISTOR 2SC2458	
D2003	8-719-100-66	DIODE RD12E-B3		Q2006	8-729-245-83	TRANSISTOR 2SC2458	
D2004	8-719-911-19	DIODE 1SS119		Q2007	8-729-245-83	TRANSISTOR 2SC2458	
D2005	8-719-911-19	DIODE 1SS119		Q2008	8-729-612-77	TRANSISTOR 2SA1027R	
D2006	8-719-911-19	DIODE 1SS119		Q2009	8-729-245-83	TRANSISTOR 2SC2458	
D2007	8-719-100-14	DIODE RD3.0E-B1		Q2010	8-729-245-83	TRANSISTOR 2SC2458	
D2008	8-719-981-01	DIODE ERA81-004		Q2011	8-729-245-83	TRANSISTOR 2SC2458	
D2009	8-719-981-01	DIODE ERA81-004		Q2012	8-729-245-83	TRANSISTOR 2SC2458	
D2010	8-719-300-76	DIODE RH1A		Q2013	8-729-612-77	TRANSISTOR 2SA1027R	
D2011	8-719-300-76	DIODE RH1A		Q2014	8-729-245-83	TRANSISTOR 2SC2458	
D2013	8-719-300-76	DIODE RH1A		Q2015	8-729-177-43	TRANSISTOR 2SD774	
D2017	8-719-100-66	DIODE RD12E-B3		Q2016	8-729-177-43	TRANSISTOR 2SD774	
D2018	8-719-911-19	DIODE 1SS119		Q2017	8-729-612-77	TRANSISTOR 2SA1027R	
D2019	8-719-100-66	DIODE RD12E-B3		Q2018	8-729-245-83	TRANSISTOR 2SC2458	
D2020	8-719-100-66	DIODE RD12E-B3		Q2019	8-729-612-77	TRANSISTOR 2SA1027R	
D2022	8-719-100-66	DIODE RD12E-B3		Q2020	8-765-620-00	TRANSISTOR 2SD1015	
D2025	8-719-300-76	DIODE RH1A		Q2021	8-729-612-77	TRANSISTOR 2SA1027R	
D2026	8-719-911-19	DIODE 1SS119		Q2024	8-729-245-83	TRANSISTOR 2SC2458	
D2027	8-719-911-19	DIODE 1SS119		Q2025	8-729-245-83	TRANSISTOR 2SC2458	
D2028	8-719-911-19	DIODE 1SS119		Q2030	8-729-245-83	TRANSISTOR 2SC2458	
D2031	8-719-911-19	DIODE 1SS119		Q2031	8-729-245-83	TRANSISTOR 2SC2458	
D2032	8-719-911-19	DIODE 1SS119		Q2034	8-729-245-83	TRANSISTOR 2SC2458	
D2043	8-719-911-19	DIODE 1SS119		RESISTOR			
D2044	8-719-911-19	DIODE 1SS119		R2001	1-247-824-00	CARBON 510 5% 1/6W	
D2045	8-719-911-19	DIODE 1SS119		R2002	1-247-824-00	CARBON 510 5% 1/6W	
D2046	8-719-911-19	DIODE 1SS119		R2003	1-247-849-00	CARBON 5.6K 5% 1/6W	
FUSE				R2004	1-247-849-00	CARBON 5.6K 5% 1/6W	
F2001A	1-532-555-11	FUSE, GLASS TUBE 1.6A 125V		R2005	1-247-872-00	CARBON 51K 5% 1/6W	
▲:1-533-087-00		HOLDER, FUSE, F2001		R2006	1-247-872-00	CARBON 51K 5% 1/6W	
IC				R2007	1-247-879-00	CARBON 100K 5% 1/6W	
IC2001	8-759-205-14	IC TA7504S-R		R2008	1-247-890-00	CARBON 300K 5% 1/6W	
IC2002	8-759-132-40	IC UPC324C		R2009	1-247-871-00	CARBON 47K 5% 1/6W	
IC2003	8-759-984-27	IC MB84027B		R2010	1-247-867-00	CARBON 33K 5% 1/6W	
IC2004	8-743-690-00	IC BX369		R2011	1-247-871-00	CARBON 47K 5% 1/6W	
IC2005	8-743-690-00	IC BX369		R2012	1-247-867-00	CARBON 33K 5% 1/6W	
IC2006	8-759-832-10	IC LA3210ALC		R2013	1-247-867-00	CARBON 33K 5% 1/6W	
IC2007	8-759-832-10	IC LA3210ALC		R2014	1-247-871-00	CARBON 47K 5% 1/6W	
				R2015	1-247-857-00	CARBON 12K 5% 1/6W	
				R2016	1-247-867-00	CARBON 33K 5% 1/6W	
				R2017	1-247-862-00	CARBON 20K 5% 1/6W	

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

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

C-27**C-65**

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R2018	1-247-837-00	CARBON	1.8K 5% 1/6W	R2083	1-247-855-00	CARBON	10K 5% 1/6W
R2019	1-247-862-00	CARBON	20K 5% 1/6W	R2084	1-247-855-00	CARBON	10K 5% 1/6W
R2020	1-247-848-00	CARBON	5.1K 5% 1/6W	R2085	1-247-869-00	CARBON	39K 5% 1/6W
R2021	1-247-847-00	CARBON	4.7K 5% 1/6W	R2086	1-247-855-00	CARBON	10K 5% 1/6W
R2022	1-247-841-00	CARBON	2.7K 5% 1/6W	R2088	1-247-855-00	CARBON	10K 5% 1/6W
R2023	1-247-827-00	CARBON	680 5% 1/6W	R2092	1-247-807-00	CARBON	100 5% 1/6W
R2024	1-247-831-00	CARBON	1K 5% 1/6W	R2093	1-247-831-00	CARBON	1K 5% 1/6W
R2025	1-247-807-00	CARBON	100 5% 1/6W	R2095	1-214-996-00	METAL	0.47 1% 1/4W
R2026	1-247-807-00	CARBON	100 5% 1/6W	R2096	1-246-799-00	CARBON	22K 5% 1/8W
R2027	1-247-855-00	CARBON	10K 5% 1/6W	R2131	1-247-829-00	CARBON	820 5% 1/6W
R2028	1-247-855-00	CARBON	10K 5% 1/6W	R2133	1-247-849-00	CARBON	5.6K 5% 1/6W
R2029	1-247-849-00	CARBON	5.6K 5% 1/6W	R2134	1-247-125-00	CARBON	560 5% 1/4W
R2030	1-247-843-00	CARBON	3.3K 5% 1/6W	VARIABLE RESISTOR			
R2031	1-247-849-00	CARBON	5.6K 5% 1/6W	RV2001	1-226-772-00	RES, ADJ, METAL GLAZE	4.7K
R2032	1-247-866-00	CARBON	30K 5% 1/6W	RV2002	1-226-702-00	RES, ADJ, METAL GLAZE	2.2K
R2033	1-247-831-00	CARBON	1K 5% 1/6W	RV2004	1-226-704-00	RES, ADJ, METAL GLAZE	470K
R2036	1-247-838-00	CARBON	2K 5% 1/6W	RV2005	1-226-704-00	RES, ADJ, METAL GLAZE	470K
R2037	1-247-831-00	CARBON	1K 5% 1/6W	RV2006	1-226-703-00	RES, ADJ, METAL GLAZE	10K
R2039	1-214-782-00	METAL	160K 1% 1/4W	RV2007	1-226-704-00	RES, ADJ, METAL GLAZE	470K
R2040	1-214-961-00	METAL	750K 1% 1/4W	RV2008	1-226-704-00	RES, ADJ, METAL GLAZE	470K
R2041	1-214-960-00	METAL	680K 1% 1/4W	RV2009	1-226-703-00	RES, ADJ, METAL GLAZE	10K
R2045	1-247-847-00	CARBON	4.7K 5% 1/6W	RV2010	1-226-776-00	RES, ADJ, METAL GLAZE	220K
R2046	1-247-857-00	CARBON	12K 5% 1/6W	RV2011	1-226-710-00	RES, ADJ, SOLID	10K
R2047	1-247-866-00	CARBON	30K 5% 1/6W	TRANSFORMER			
R2048	1-247-841-00	CARBON	2.7K 5% 1/6W	T2001A	1-447-434-12	TRANSFORMER, CONVERTER	
R2051	1-247-831-00	CARBON	1K 5% 1/6W	T2002	1-433-240-00	TRANSFORMER, FERRITE	
R2052	1-217-389-00	FUSIBLE	15 5% 1/4W	T2003	1-433-240-00	TRANSFORMER, FERRITE	
R2053	1-247-831-00	CARBON	1K 5% 1/6W	*****			
R2054	1-214-962-00	METAL	820K 1% 1/4W	▲:A-7511-906-A C-65 BOARD, COMPLETE			
R2055	1-247-859-00	CARBON	15K 5% 1/6W	*****			
R2056	1-214-788-00	METAL	300K 1% 1/4W	CAPACITOR			
R2057	1-247-859-00	CARBON	15K 5% 1/6W	C7101	1-123-307-00	ELECT	100MF 20% 10V
R2058	1-247-819-00	CARBON	330 5% 1/6W	C7102	1-163-245-00	CERAMIC CHIP	56PF 5% 50V
R2060	1-247-846-00	CARBON	4.3K 5% 1/6W	C7103	1-108-555-00	MYLAR	0.001MF 5% 50V
R2061	1-247-831-00	CARBON	1K 5% 1/6W	C7104	1-108-555-00	MYLAR	0.001MF 5% 50V
R2062	1-247-831-00	CARBON	1K 5% 1/6W	C7105	1-108-555-00	MYLAR	0.001MF 5% 50V
R2063	1-214-966-00	METAL	1.2M 1% 1/4W	C7106	1-108-587-00	MYLAR	0.022MF 5% 50V
R2064	1-214-777-00	METAL	100K 1% 1/4W	C7107	1-108-587-00	MYLAR	0.022MF 5% 50V
R2065	1-247-831-00	CARBON	1K 5% 1/6W	C7108	1-124-233-00	ELECT	10MF 20% 16V
R2066	1-247-831-00	CARBON	1K 5% 1/6W	C7109	1-163-113-00	CERAMIC CHIP	68PF 5% 50V
R2067	1-247-819-00	CARBON	330 5% 1/6W	C7110	1-124-233-00	ELECT	10MF 20% 16V
R2068	1-247-831-00	CARBON	1K 5% 1/6W	C7111	1-124-233-00	ELECT	10MF 20% 16V
R2069	1-247-846-00	CARBON	4.3K 5% 1/6W	C7112	1-163-021-00	CERAMIC CHIP	0.01MF 10% 50V
R2070	1-247-867-00	CARBON	33K 5% 1/6W	C7113	1-124-234-00	ELECT	22MF 20% 16V
R2074	1-247-863-00	CARBON	22K 5% 1/6W	C7114	1-131-371-00	TANTALUM	10MF 20% 16V
R2075	1-247-851-00	CARBON	6.8K 5% 1/6W	C7115	1-124-255-00	ELECT	1MF 20% 50V
R2076	1-247-831-00	CARBON	1K 5% 1/6W	C7116	1-124-255-00	ELECT	1MF 20% 50V
R2077	1-247-831-00	CARBON	1K 5% 1/6W	C7119	1-163-021-00	CERAMIC CHIP	0.01MF 10% 50V
R2078	1-247-855-00	CARBON	10K 5% 1/6W				
R2079	1-247-869-00	CARBON	39K 5% 1/6W				
R2080	1-247-807-00	CARBON	100 5% 1/6W				
R2081	1-247-831-00	CARBON	1K 5% 1/6W				
R2082	1-247-830-00	CARBON	910 5% 1/6W				

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

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

C-65

C-30

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
<u>CONNECTOR</u>							
▲CN7114	1-560-455-00	PIN, CONNECTOR 2P		R7112	1-216-091-00	METAL CHIP 56K 5%	1/10W
▲CN7134	1-564-013-00	PIN, CONNECTOR 3P		R7113	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
▲CN7135	1-564-016-00	PIN, CONNECTOR 6P		R7114	1-216-073-00	METAL CHIP 10K 5%	1/10W
▲CN7136	1-564-015-00	PIN, CONNECTOR 5P		R7115	1-216-073-00	METAL CHIP 10K 5%	1/10W
▲CN7137	1-560-455-00	PIN, CONNECTOR 2P		R7116	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
▲CN7138	1-564-013-00	PIN, CONNECTOR 3P		R7117	1-216-073-00	METAL CHIP 10K 5%	1/10W
▲CN7140	1-555-642-51	CONNECTOR ASSY		R7118	1-216-094-00	METAL CHIP 75K 5%	1/10W
<u>DIODE</u>				R7119	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
D7101	8-719-105-73	DIODE RD4.7M-B3		R7120	1-216-067-00	METAL CHIP 5.6K 5%	1/10W
D7102	8-719-105-73	DIODE RD4.7M-B3		R7121	1-216-084-00	METAL CHIP 30K 5%	1/10W
<u>IC</u>				R7122	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
IC7101	8-759-905-87	IC CX7956		R7123	1-216-073-00	METAL CHIP 10K 5%	1/10W
<u>COIL</u>				R7124	1-216-091-00	METAL CHIP 56K 5%	1/10W
L7101	1-408-789-21	INDUCTOR CHIP 100UH		R7125	1-216-205-00	METAL CHIP 2K 5%	1/8W
L7102	1-407-847-00	MICRO INDUCTOR 35UH		R7126	1-216-205-00	METAL CHIP 2K 5%	1/8W
<u>TRANSISTOR</u>				R7127	1-216-181-00	METAL CHIP 200 5%	1/8W
Q7101	8-729-271-22	TRANSISTOR 2SC2712		R7128	1-216-181-00	METAL CHIP 200 5%	1/8W
Q7102	8-729-271-22	TRANSISTOR 2SC2712		R7129	1-216-073-00	METAL CHIP 10K 5%	1/10W
Q7103	8-729-271-22	TRANSISTOR 2SC2712		R7130	1-216-073-00	METAL CHIP 10K 5%	1/10W
Q7104	8-729-271-22	TRANSISTOR 2SC2712		R7131	1-216-082-00	METAL CHIP 24K 5%	1/10W
Q7105	8-729-216-22	TRANSISTOR 2SA1162		R7132	1-216-079-00	METAL CHIP 18K 5%	1/10W
Q7106	8-729-271-22	TRANSISTOR 2SC2712		R7133	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
Q7107	8-729-271-22	TRANSISTOR 2SC2712		R7134	1-216-079-00	METAL CHIP 18K 5%	1/10W
Q7108	8-729-271-22	TRANSISTOR 2SC2712		R7135	1-216-121-00	METAL CHIP 1M 5%	1/10W
Q7109	8-729-271-22	TRANSISTOR 2SC1712		R7136	1-216-121-00	METAL CHIP 1M 5%	1/10W
Q7110	8-729-271-22	TRANSISTOR 2SC2712		R7137	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
Q7111	8-729-199-92	TRANSISTOR 2SD999		<u>VARIABLE RESISTOR</u>			
Q7112	8-729-101-07	TRANSISTOR 2SB798		RV7101	1-226-777-00	RES, ADJ, METAL GLAZE 1M	
Q7113	8-729-199-92	TRANSISTOR 2SD999		RV7102	1-226-775-00	RES, ADJ, METAL GLAZE 100K	
Q7114	8-729-101-07	TRANSISTOR 2SB798		RV7103	1-226-711-00	RES, ADJ, SOLID 22K	
Q7115	8-729-216-22	TRANSISTOR 2SA1162		RV7104	1-226-711-00	RES, ADJ, SOLID 22K	
Q7116	8-729-115-30	TRANSISTOR 2SK105A-30		*****			
Q7117	8-729-115-30	TRANSISTOR 2SK105A-30		▲:1-607-440-21	C-30 BOARD	*****	
<u>RESISTOR</u>				▲:3-670-233-00	RETAINER, SOCKET		
R7101	1-216-097-00	METAL CHIP 100K 5%	1/10W	<u>CAPACITOR</u>			
R7102	1-215-457-00	METAL 33K 1%	1/6W	C2401	1-123-607-00	ELECT 0.1MF 20%	50V
R7103	1-215-461-00	METAL 47K 1%	1/6W	C2402	1-123-607-00	ELECT 0.1MF 20%	50V
R7104	1-215-475-00	METAL 180K 1%	1/6W	C2403	1-161-039-00	CERAMIC 0.001MF 10%	25V
R7105	1-215-444-00	METAL 9.1K 1%	1/6W	C2404	1-161-039-00	CERAMIC 0.001MF 10%	25V
R7106	1-215-421-00	METAL 1K 1%	1/6W	C2405	1-161-013-00	CERAMIC 0.01MF 10%	25V
R7107	1-216-084-00	METAL CHIP 30K 5%	1/10W	<u>CONNECTOR</u>			
R7108	1-216-094-00	METAL CHIP 75K 5%	1/10W	▲CN2423	1-560-460-00	PIN, CONNECTOR 4P	
R7109	1-216-057-00	METAL CHIP 2.2K 5%	1/10W	▲CN2424	1-560-455-00	PIN, CONNECTOR 2P	
R7110	1-216-049-00	METAL CHIP 1K 5%	1/10W	▲CN2425	1-560-459-00	PIN, CONNECTOR 3P	
R7111	1-216-084-00	METAL CHIP 30K 5%	1/10W	▲CN2426	1-560-459-00	PIN, CONNECTOR 3P	
				▲CN2429	1-561-454-00	SOCKET 8P	

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

C-30**C-29****C-60****C-61****C-33**

Ref.No	Part No.	Description	Remark
<u>DIODE</u>			
D2401	8-719-100-66	DIODE RD12E-B3	
D2402	8-719-100-66	DIODE RD12E-B3	
<u>JACK</u>			
J2401	1-507-755-00	JACK (SMALL TYPE)	
J2402	1-507-755-00	JACK (SMALL TYPE)	
<u>COIL</u>			
L2401	1-421-421-00	COIL, CHOKE 100UH	
<u>RESISTOR</u>			
R2401	1-247-837-00	CARBON 1.8K 5% 1/6W	
R2403	1-247-807-00	CARBON 100 5% 1/6W	

▲:1-607-439-21	C-29 BOARD	*****	
<u>CAPACITOR</u>			
C2201	1-123-617-00	ELECT 10MF 20% 16V	
C2202	1-161-013-00	CERAMIC 0.01MF 10% 25V	
C2203	1-161-007-00	CERAMIC 0.0033MF 10% 25V	
C2204	1-123-661-00	ELECT 100MF 20% 6.3V	
C2205	1-123-645-00	ELECT 33MF 20% 10V	
C2206	1-123-617-00	ELECT 10MF 20% 16V	
C2207	1-123-645-00	ELECT 33MF 20% 10V	
<u>CONNECTOR</u>			
▲CN2213:1-555-933-00	CONNECTOR ASSY (2.0MM) 2P		
▲CN2216:1-555-919-00	CONNECTOR ASSY (2.0MM) 4P		
<u>DIODE</u>			
D2201	8-719-812-42	DIODE TLY124	
<u>IC</u>			
IC2201	8-759-745-56	IC NJM4556D	
<u>JACK</u>			
J2201	1-507-756-00	JACK (SMALL TYPE)	
<u>RESISTOR</u>			
R2201	1-247-871-00	CARBON 47K 5% 1/6W	
R2202	1-247-871-00	CARBON 47K 5% 1/6W	
R2203	1-246-455-00	CARBON 180 5% 1/4W	
R2204	1-247-854-00	CARBON 9.1K 5% 1/6W	
R2205	1-247-862-00	CARBON 20K 5% 1/6W	
R2206	1-247-814-00	CARBON 200 5% 1/6W	
R2207	1-247-862-00	CARBON 20K 5% 1/6W	
R2208	1-247-855-00	CARBON 10K 5% 1/6W	

Ref.No	Part No.	Description	Remark
R2209	1-247-855-00	CARBON 10K 5% 1/6W	
R2210	1-247-855-00	CARBON 10K 5% 1/6W	
R2211	1-247-855-00	CARBON 10K 5% 1/6W	
R2212	1-247-781-00	CARBON 8.2 5% 1/6W	
R2213	1-247-823-00	CARBON 470 5% 1/6W	
<u>SWITCH</u>			
S2201	1-513-254-00	SLIDE SWITCH	

▲:1-608-705-00	C-60 BOARD	*****	
▲:1-555-642-41	CONNECTOR ASSY, RECEPTACLE		
<u>CAPACITOR</u>			
C4401	1-110-053-00	MYLAR 0.1MF 10% 400V	
<u>RESISTOR</u>			
R4401	1-247-879-00	CARBON 100K 5% 1/6W	

▲:1-608-706-00	C-61 BOARD	*****	
<u>CONNECTOR</u>			
▲CN4533:1-555-920-00	CONNECTOR ASSY (2.0MM) 4P		
<u>TRANSISTOR</u>			
Q4501	8-729-104-45	TRANSISTOR 2SJ44	
<u>RESISTOR</u>			
R4501	1-247-903-00	CARBON 1M 5% 1/6W	
<u>SWITCH</u>			
S4501	1-554-301-00	SWITCH, ROTARY	

▲:1-607-442-21	C-33 BOARD	*****	
<u>RESISTOR</u>			
R3001	1-247-855-00	CARBON 10K 5% 1/6W	
R3002	1-247-849-00	CARBON 5.6K 5% 1/6W	
R3003	1-247-866-00	CARBON 30K 5% 1/6W	
<u>SWITCH</u>			
S3001	1-552-409-00	SWITCH, SLIDE	

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

C-63

SEESAW

C-64

A

Ref.No	Part No.	Description	Remark
--------	----------	-------------	--------

▲:1-609-458-00 C-63 BOARD

CONNECTOR

▲CN6941:1-555-917-00 CONNECTOR ASSY (2.0MM) 5P

SWITCH

S6901 1-554-409-00 SWITCH, LEVER PUSH

A-7520-139-A SEESAW BOARD, COMPLETE

CONNECTOR

CN015▲:1-555-934-00 CONNECTOR ASSY (2.0MM) 2P
CN038▲:1-556-642-00 CONNECTOR ASSY (2.0MM) 3P

▲:1-610-032-00 C-64 BOARD

CAPACITOR

C7001 1-124-416-00 ELECT 3300MF 20% 16V

CONNECTOR

▲CN7021:1-560-460-00 PIN, CONNECTOR 4P

DIODE

D7001 8-719-200-02 DIODE 10E2

FUSE

F7002▲:1-532-682-11 FUSE, GLASS TUBE, 0.8A

RESISTOR

R7001 1-212-368-00 METAL OXIDE 4.7 5% 1W F

SWITCH

S7002 1-553-813-00 SWITCH, PUSH

▲:1-609-419-00 A BOARD

CAPACITOR

C7301	1-124-229-00	ELECT	33MF	10V
C7302	1-131-408-00	TANTALUM	1MF	35V
C7303	1-131-408-00	TANTALUM	1MF	35V
C7304	1-131-377-00	TANTALUM	10MF	10V
C7305	1-102-112-00	CERAMIC	330PF	50V

Ref.No	Part No.	Description	Remark
--------	----------	-------------	--------

C7306	1-131-404-00	TANTALUM	0.22MF 35V
C7307	1-131-404-00	TANTALUM	0.22MF 35V
C7308	1-102-112-00	CERAMIC	330PF 50V
C7309	1-130-620-00	MYLAR	0.01MF 50V
C7310	1-130-620-00	MYLAR	0.01MF 50V

C7311	1-130-620-00	MYLAR	0.01MF 50V
C7312	1-130-620-00	MYLAR	0.01MF 50V
C7313	1-130-628-00	MYLAR	0.047MF 50V
C7314	1-130-628-00	MYLAR	0.047MF 50V
C7315	1-161-039-00	CERAMIC	1000PF 25V

C7316	1-123-307-00	ELECT	100MF 10V
C7317	1-131-408-00	TANTALUM	1MF 35V
C7318	1-124-233-00	ELECT	10MF 16V
C7319	1-161-013-00	CERAMIC	10000PF 25V

CONNECTOR

▲CN7301:1-560-467-00 PIN, CONNECTOR 4P (2.0MM)
▲CN7302:1-560-466-00 PIN, CONNECTOR 3P (2.0MM)
▲CN7303:1-560-456-00 PIN, CONNECTOR 2P (2.0MM)
▲CN7341:1-560-461-00 PIN, CONNECTOR 5P (2.0MM)

DIODE

D7301 8-719-100-37 DIODE RD6.2E-B1

IC

IC7301 9-982-957-01 IC AN6950
IC7302 9-982-958-01 IC AN6951
IC7303 9-982-959-01 IC AN6540
IC7304 8-759-618-48 IC M51848L

TRANSISTOR

Q7301	9-982-961-01	TRANSISTOR	2SB643
Q7302	9-982-962-01	TRANSISTOR	2SD638
Q7303	9-982-963-01	TRANSISTOR	2SB643
Q7304	9-982-963-01	TRANSISTOR	2SB643
Q7305	9-982-962-01	TRANSISTOR	2SD638

Q7306	9-982-962-01	TRANSISTOR	2SD638
Q7307	8-729-612-77	TRANSISTOR	2SA1027R

RESISTOR

R7301	1-247-872-00	CARBON	51K 1/6W
R7302	1-247-872-00	CARBON	51K 1/6W
R7303	1-247-855-00	CARBON	10K 1/6W
R7304	1-247-855-00	CARBON	10K 1/6W
R7305	1-247-855-00	CARBON	10K 1/6W

R7306	1-247-855-00	CARBON	10K 1/6W
R7307	9-982-967-00	CARBON	2.2M 1/6W
R7308	9-982-967-00	CARBON	2.2M 1/6W
R7309	9-982-969-00	RESISTOR	4.7K 1/8W
R7310	1-247-832-00	CARBON	1.1K 1/6W

R7311	1-247-851-00	CARBON	6.8K 1/6W
R7312	1-247-872-00	CARBON	51K 1/6W
R7313	1-247-837-00	CARBON	1.8K 1/6W

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

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



Ref.No	Part No.	Description		Remark
R7314	1-247-879-00	CARBON	100K	1/6W
R7315	1-247-831-00	CARBON	1K	1/6W
R7316	1-247-839-00	CARBON	2.2K	1/6W
R7317	1-247-839-00	CARBON	2.2K	1/6W
R7318	9-982-968-00	METAL	47	3W
R7319	1-247-831-00	CARBON	1K	1/6W
R7320	1-247-831-00	CARBON	1K	1/6W
R7321	1-247-823-00	CARBON	470	1/6W
R7322	1-247-813-00	CARBON	180	1/6W
R7323	1-247-863-00	CARBON	22K	1/6W
R7324	1-247-863-00	CARBON	22K	1/6W
R7325	1-247-863-00	CARBON	22K	1/6W
R7326	1-247-855-00	CARBON	10K	1/6W
R7327	1-247-851-00	CARBON	6.8K	1/6W

VARIABLE RESISTOR

RV7301	9-982-964-00	RES, ADJ 4.7K (CHIP)
RV7302	9-982-964-00	RES, ADJ 4.7K (CHIP)
RV7303	9-982-965-00	RES, ADJ 6.8K (CHIP)
RV7304	9-983-017-00	RES, ADJ, CERAMIC 10K

♣:1-609-420-00 B BOARD

D7501 9-982-970-01 INFRARED SENSOR PN-302C

♣:9-982-956-00 C BOARD

♣:1-610-060-00 D BOARD

CAPACITOR

C7201	1-123-617-00	ELECT	10MF	16V
C7202	1-102-117-00	CERAMIC	820PF	25V

CONNECTOR

♣CN7202:	9-983-079-01	CONNECTOR ASSY (2.0MM) 3P
♣CN7205:	1-560-455-00	PIN, CONNECTOR (2.0MM) 2P

TRANSISTOR

Q7201 9-983-018-01 TRANSISTOR 2SD965

RESISTOR

R7201	1-247-825-00	CARBON	560	1/6W
R7202	1-247-831-00	CARBON	1K	1/6W
R7203	1-247-831-00	CARBON	1K	1/6W

Ref.No	Part No.	Description	Remark
		MISCELLANEOUS *****	
	1-541-229-00	MOTOR, FOCUS	
	1-547-115-12	LENS, ZOOM (VCL-1206YAF)	
	1-507-902-XX	JACK NUT B	
	1-556-742-00	CORD, CONNECTION (CAMERA)	
	1-560-110-00	CONNECTOR, P PLUG	
	1-561-148-00	HOUSING, CONNECTOR 4P	
	1-561-149-00	CONNECTOR, HOUSING	
	1-561-586-00	HOUSING, CONNECTOR 5P	
	8-701-022-69	CT-2262	
	8-814-189-00	MICROPHONE, BUILT-IN (C-1007A)	
	8-835-093-01	MOTOR, DC (DNR-6300A)	
D021	8-719-100-66	DIODE RD12E-B3	
D023	8-719-100-66	DIODE RD12E-B3	
Q001	8-729-315-63	TRANSISTOR 2SB856	

ACCESSORIES AND PACKING MATERIALS *****

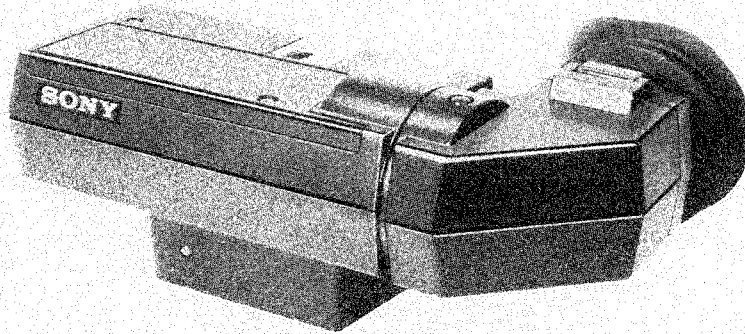
Part No.	Description	Remark
A-7403-057-A	EVF (HVF-2000A)	
X-3676-716-0	CASE ASSY, CARRYING	
1-504-059-11	MAGNETIC EARPHONE (ME-20H)	
3-674-515-00	SHEET, PROTECTION	
3-674-516-00	CUSHION (LOWER)	
3-674-517-00	CUSHION (UPPER)	
3-674-518-00	CUSHION, FIXED, EVF	
3-676-634-00	INDIVIDUAL CARTON	
3-773-295-21	MANUAL, INSTRUCTION	
3-773-295-31	MANUAL, INSTRUCTION	
3-795-499-22	CARD, TAG	

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

HVF-2000A

SERVICE MANUAL

US Model
Canadian Model



May, 1983

Also refer to "Adjustment manual".

SPECIFICATIONS

Viewfinder

1½ inch monochrome
Dimensions 190 × 76 × 105 mm (w/h/d)
(7½ × 3 × 4¼ inches)
Weight 0.5 kg (1 lb 2 oz)



ELECTRONIC VIEWFINDER
SONY®

ACC

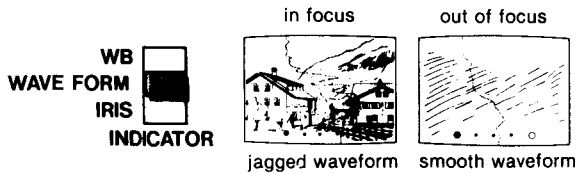
SECTION 1

GENERAL

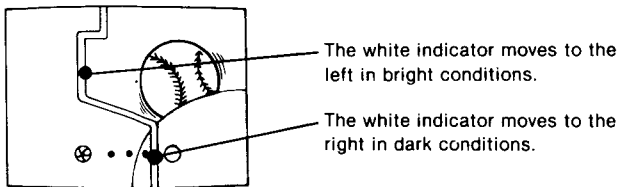
1-1. FOCUSING

To check the focusing using the waveform indication in the viewfinder

Set the AUTO FOCUS switch to OFF/PUSH ON and the INDICATOR selector to WAVEFORM.



This also indicates the approximate level of the output signal of the camera.



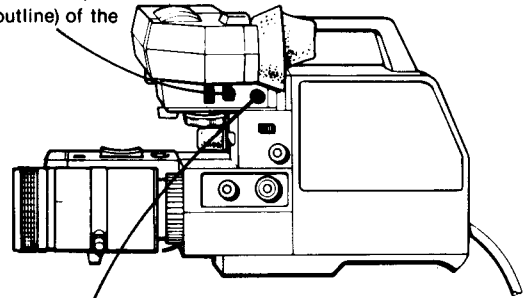
1-2. VIEWFINDER PICTURE ADJUSTMENT

VIEWFINDER PICTURE ADJUSTMENT

● These controls only adjust the picture on the viewfinder screen and do not affect the picture being recorded.

PEAKING switch

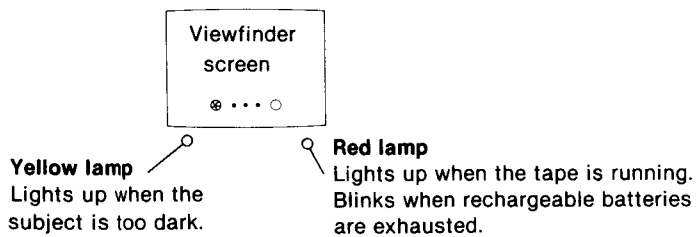
Normally, set the switch to OFF. Set the switch to ON when you want to sharpen the contour (outline) of the picture.



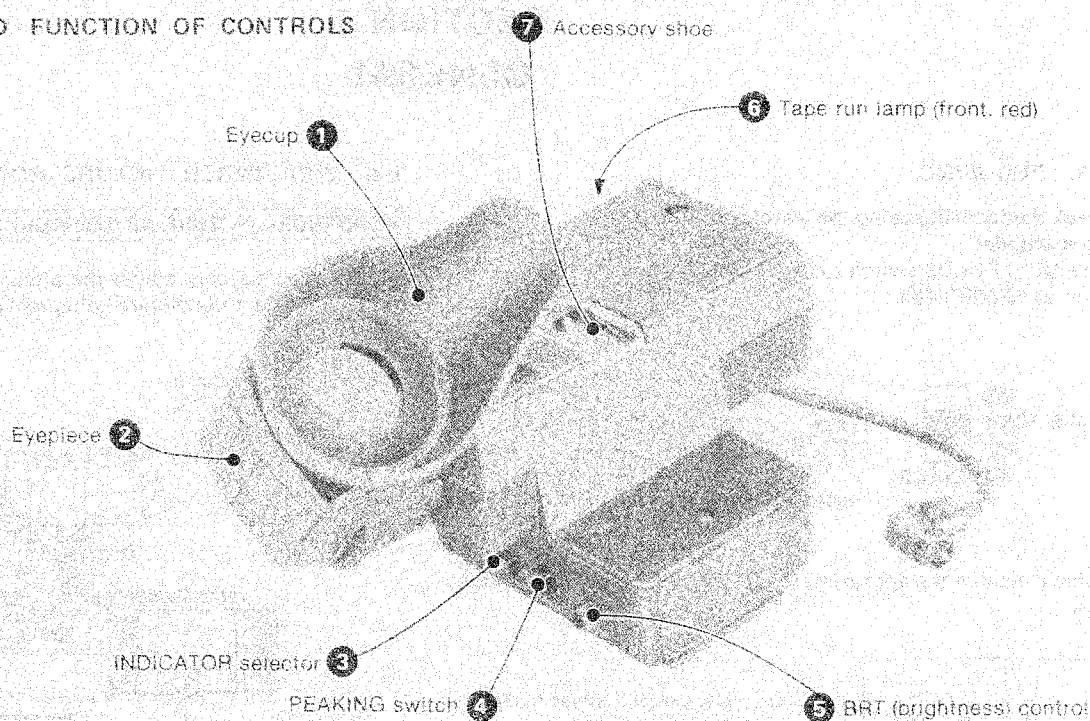
BRT control

Adjusts the brightness of the picture on the viewfinder.

Indicator lamps in the viewfinder



1-3. LOCATION AND FUNCTION OF CONTROLS



① Eyecup

The viewfinder screen can be viewed by raising the eyecup.

② Eyepiece

This can be angled 90 degrees up through 10 degrees down. Adjust the position for easy viewing.

③ INDICATOR selector

Selects the indication on the viewfinder.

④ PEAKING switch

Set ON to sharpen the picture contour or for monitoring on the viewfinder regardless of the fader effect. Normally, set OFF.

⑤ BRT (brightness) control

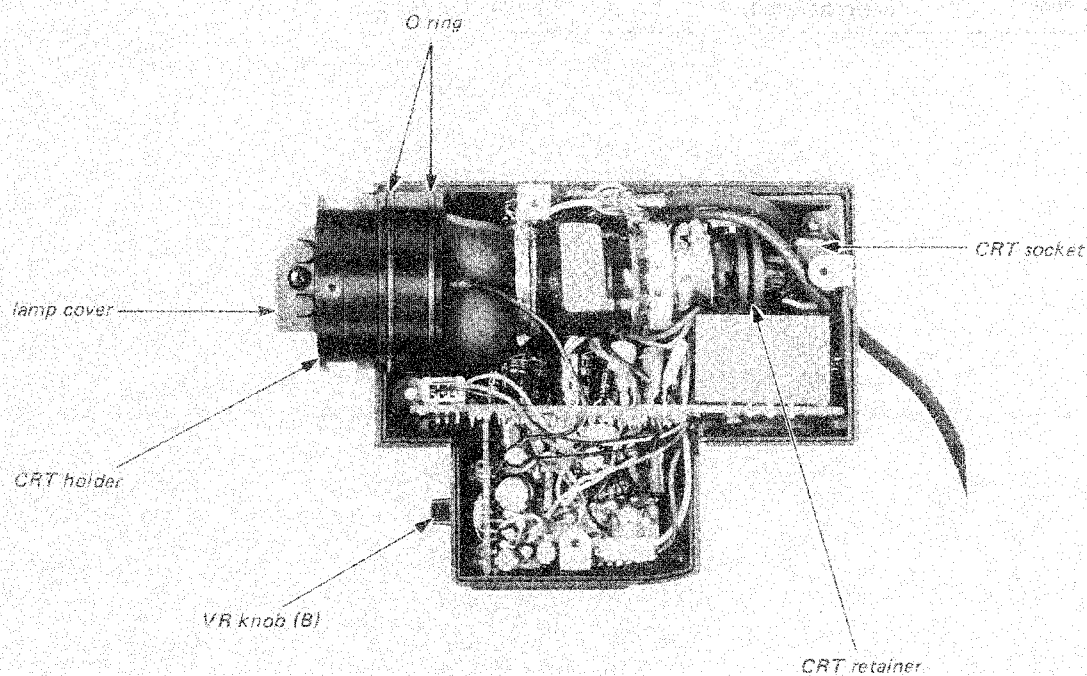
Adjusts the brightness of the picture on the viewfinder.

⑥ Tape run lamp (front, red)

The lamp goes on and off at the same time as the red lamp in the viewfinder.

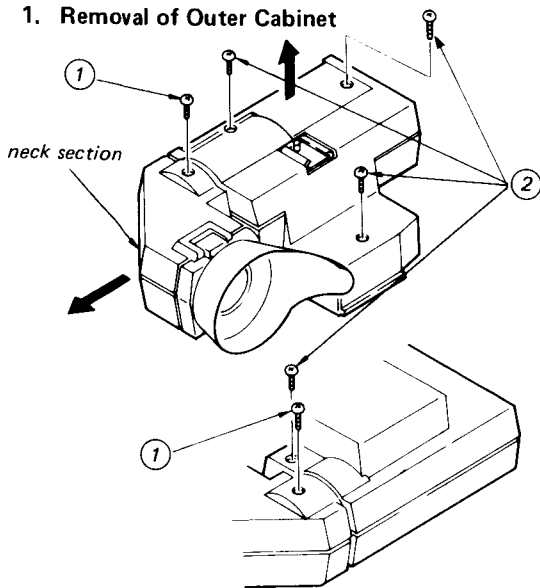
⑦ Accessory shoe

The supplied microphone may be attached here.



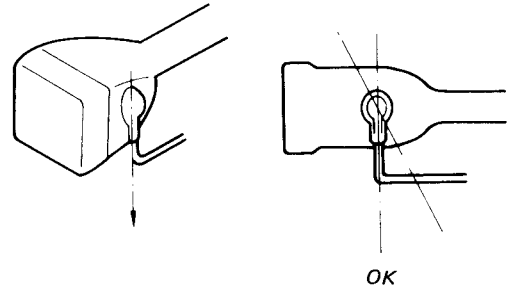
SECTION 2 REPLACEMENT OF ELECTRONIC VIEWFINDER CRT

1. Removal of Outer Cabinet



- ① Remove the two screws ① and remove the neck section in the direction of the arrow.
- ② Remove the four screws ② and remove the upper case in the direction of the arrow.

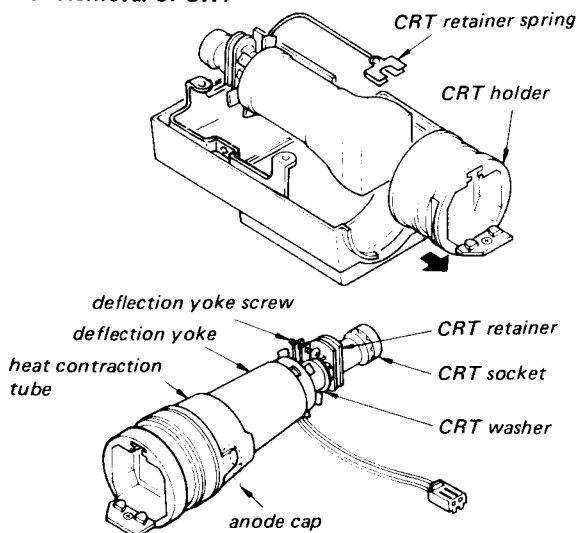
3. Mounting of CRT (1)



- ① Wrap mending tape around the DY tightening section of the CRT.
- ② After attaching the anode cap to the CRT, wind tape around both of them. Or, cover them with the heat contraction tube and contract using a hair dryer.

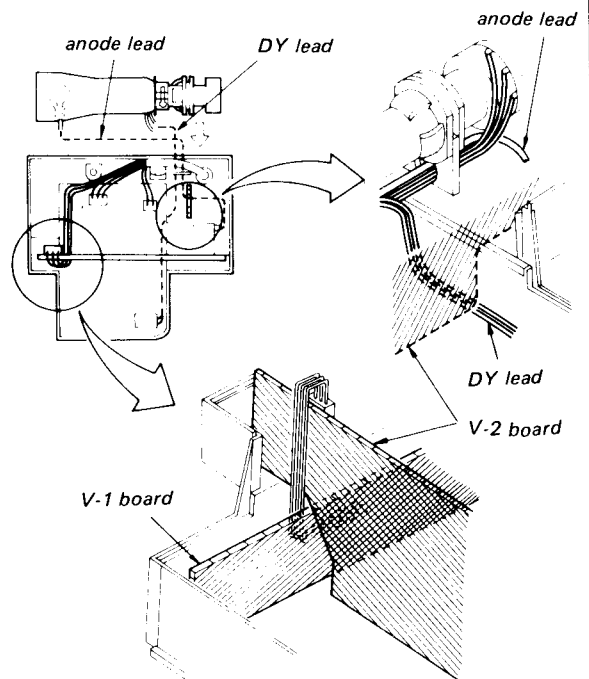
Note: The anode lead should be as shown below.

2. Removal of CRT



- ① Remove the CRT holder in the direction of the arrow. (The CRT retainer spring can be removed also.)
- ② Pull the heat contraction tube off of the CRT neck section so that the anode cap can be removed.
- ③ Remove the CRT socket, retainer and washer.
- ④ Loosen the deflection yoke screw and pull the CRT off of the deflection yoke.

4. Mounting of CRT (2)

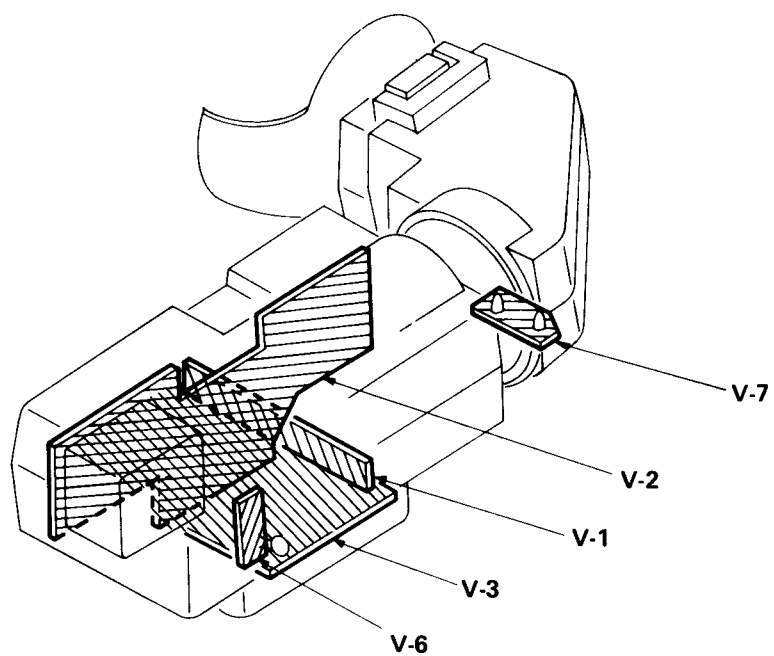


Be especially careful of the CRT wiring. The DY lead, anode lead and connector to V-2 board must be as shown in the figure.

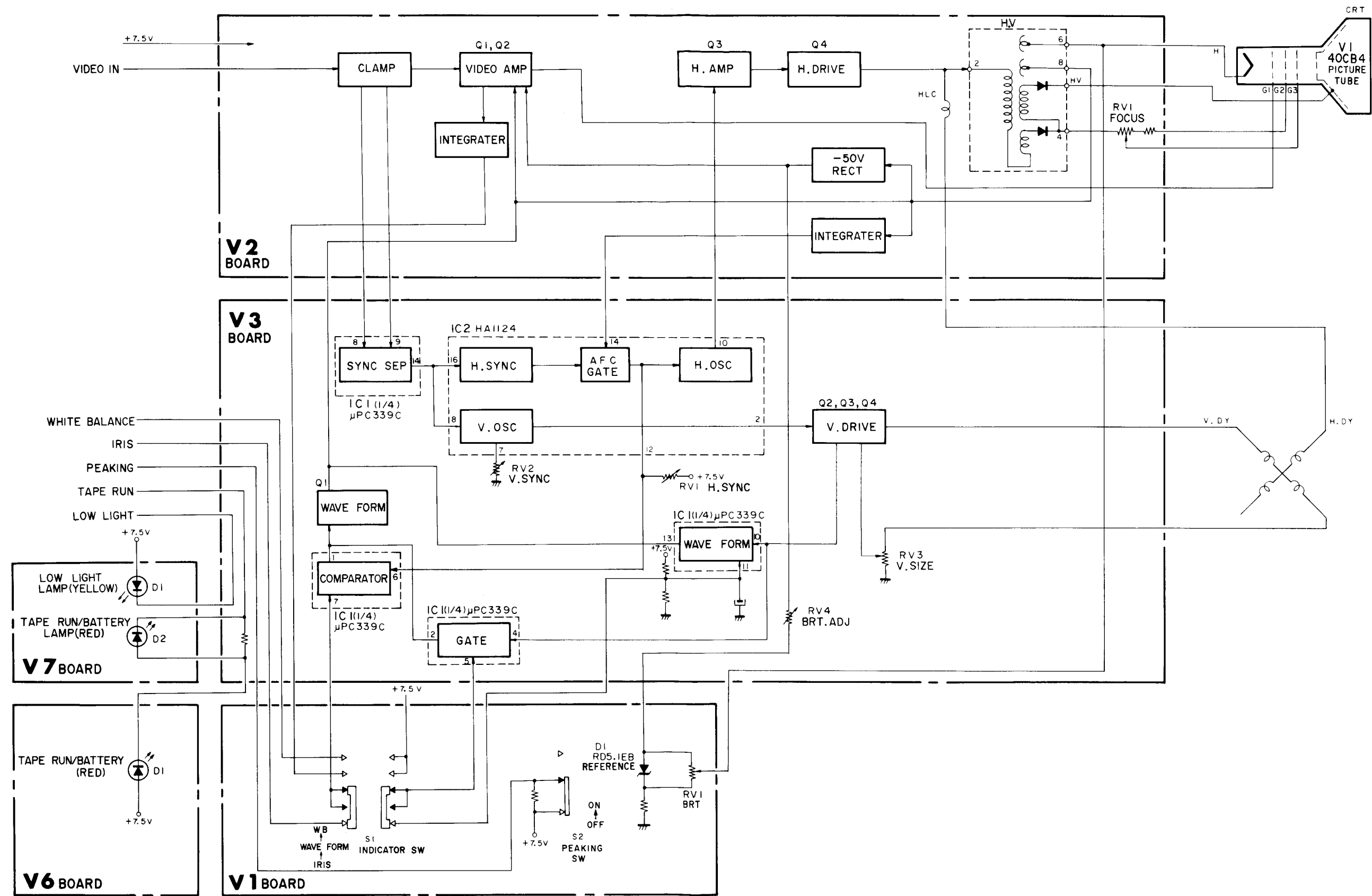
➡ **DISASSEMBLY** ➡ **INSTALLATION**

SECTION 3 DIAGRAMS

3-1. CIRCUIT BOARDS LOCATION

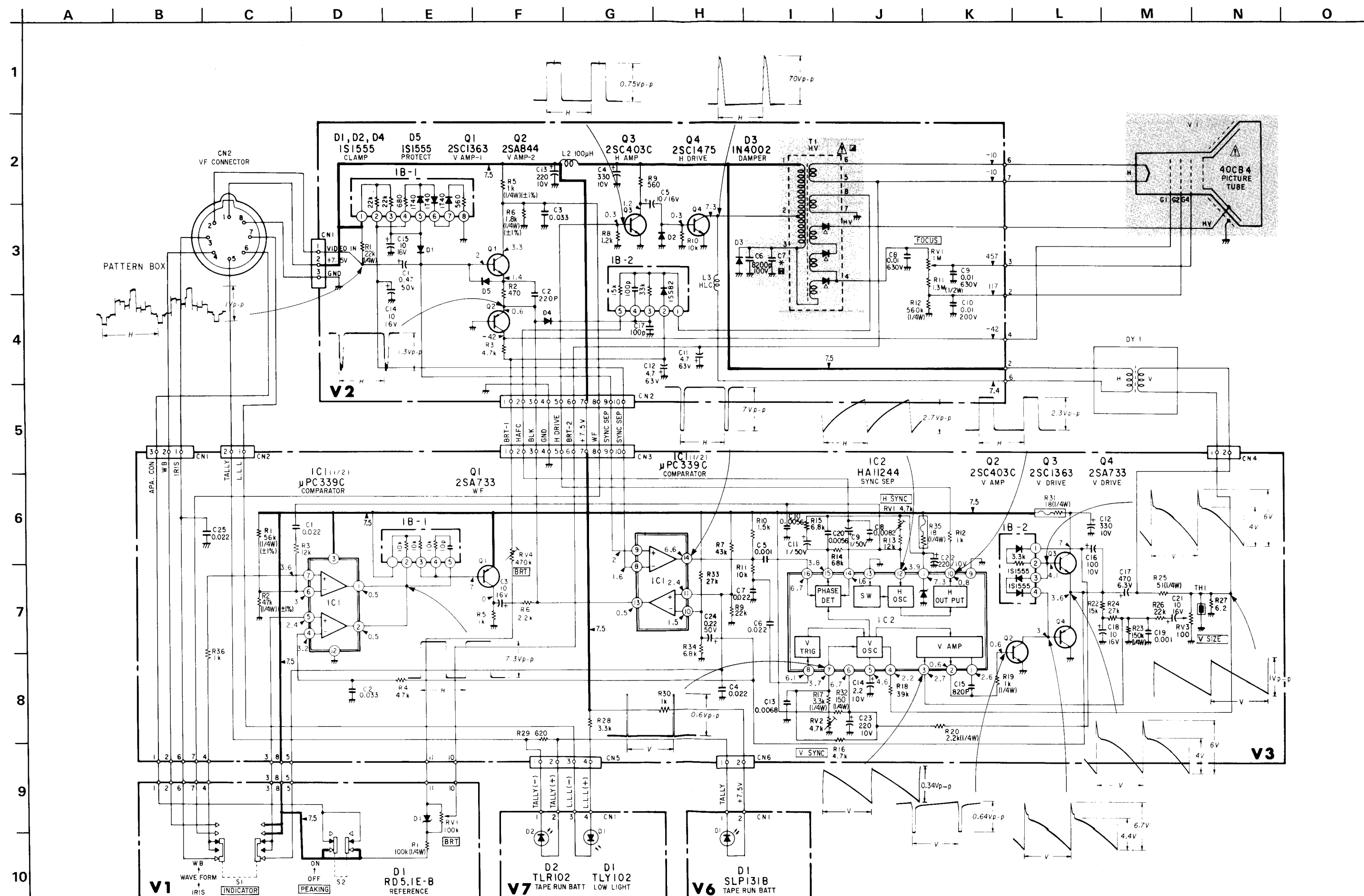


3-2. BLOCK DIAGRAM



3-3. SCHEMATIC DIAGRAM

— Ref. No. V-1 BOARD: 5000 series, V-2 BOARD: 5200 series, V-3 BOARD: 5400 series, V-6 BOARD: 6000 series, V-7 BOARD: 6200 series —



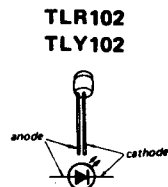
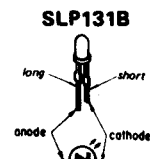
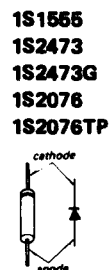
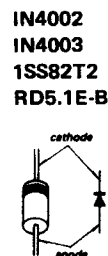
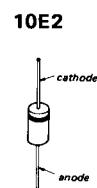
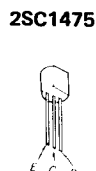
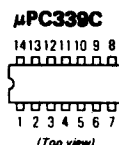
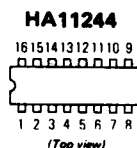
Note: The components identified by shading and mark  are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- All capacitors are in μF unless otherwise noted. pF: μF 50 WV or less are not indicated except for electrolytics.
- All resistors are in ohms, $\frac{1}{8}\text{W}$ unless otherwise noted. k: 1000 Ω , M: 1000 k Ω
-  : nonflammable resistor.
-  : fusible resistor
-  : internal component.
-  : panel designation.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The components marked by (*) are the adjusting elements.
- The value of the component marked by  is confirmed for every set when it is manufactured and determined for satisfying the specification of the X-ray regulation. Whenever the component is replaced, replace it only with the same component as the one used in the machine. The specified adjustment and confirmation are necessary when the component marked by  on the schematic diagram is replaced. If the result of the confirmation does not satisfy the instructed value, replace the component marked by  and perform the adjustment until the value is satisfied. (The adjustment procedure of C7 is described in the [FB Pulse Width Adjustment], separate adjustment manual.
- All voltages are in V.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10M Ω digital multimeter.
-  : adjustment for repair.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
-  : B+ bus.

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

3-4. SEMICONDUCTORS



V-1

V-2

3-5. PRINTED WIRING BOARDS

A

B

C

D

E

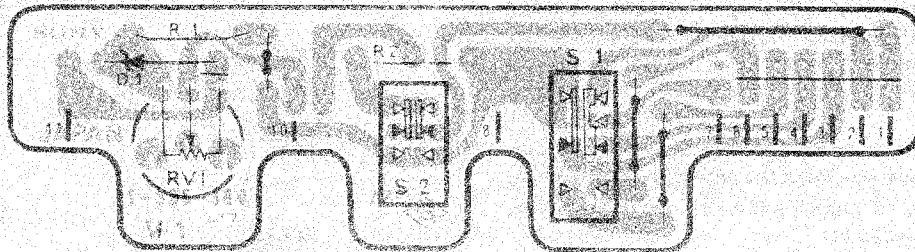
F

G

1

V-1 BOARD - REF. NO. 5000 SERIES -

2



3

V-2 BOARD - REF. NO. 5200 SERIES -

4

5

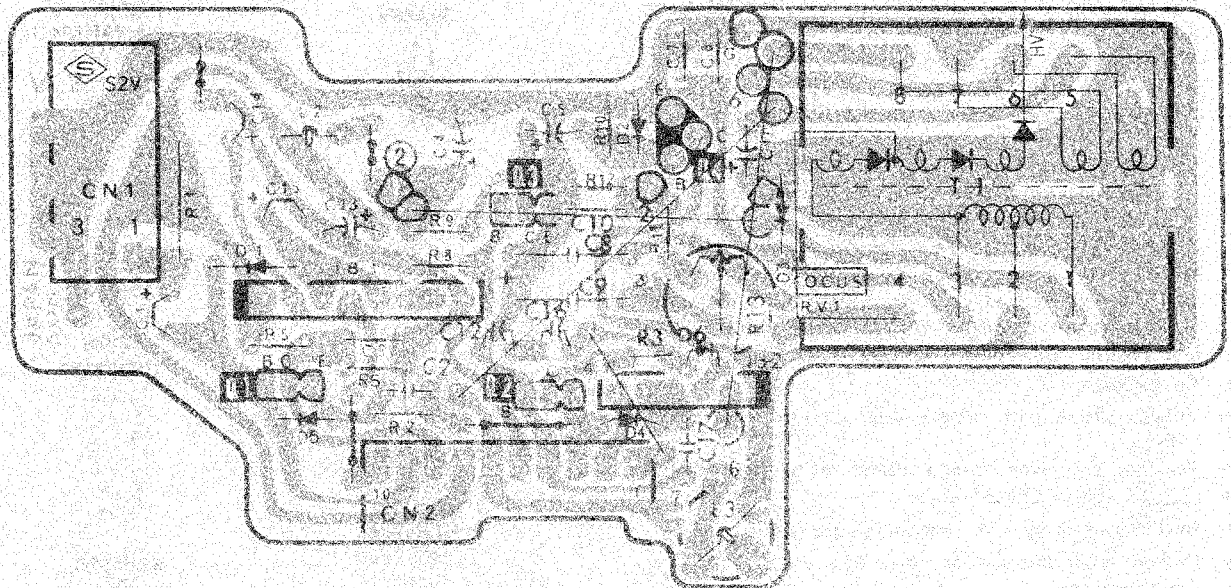
6

7

8

9

10



A

B

C

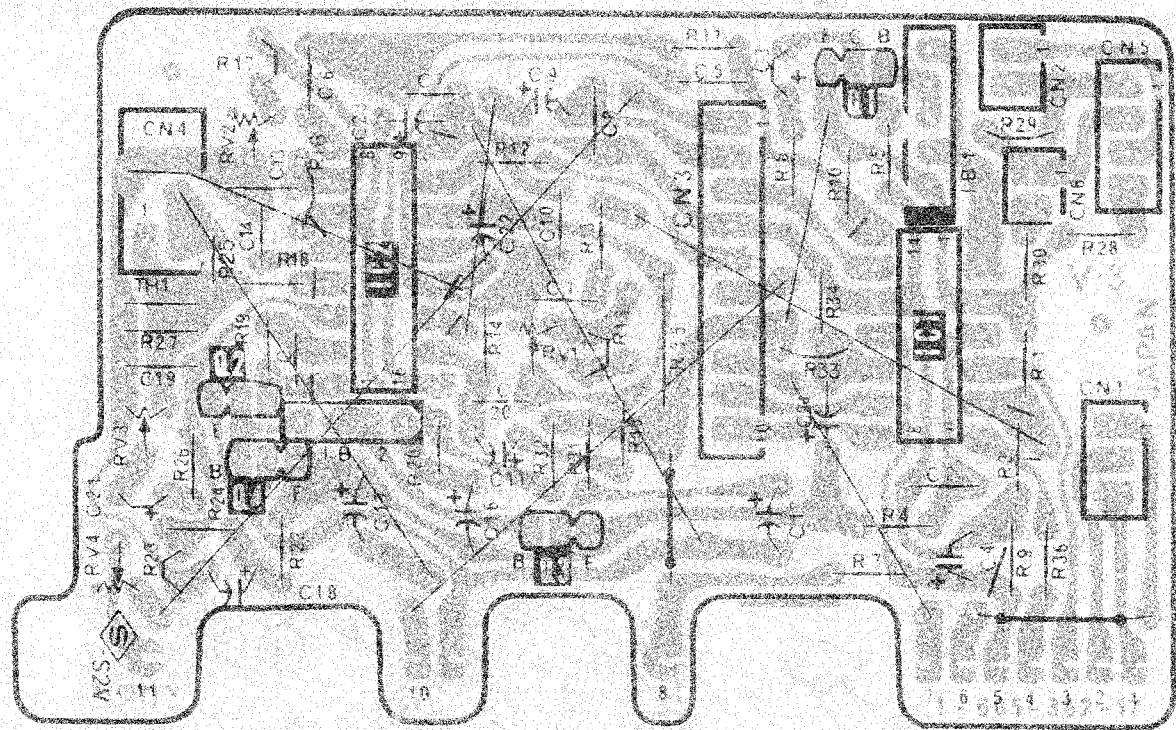
D

E

F

G

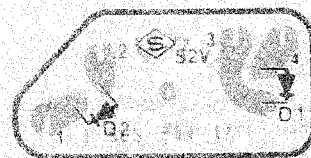
V-3 BOARD -- REF. NO. 5400 SERIES --



V-6 BOARD
-- REF. NO. 6000 SERIES



V-7 BOARD
-- REF. NO. 6200 SERIES --



SECTION 4 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.

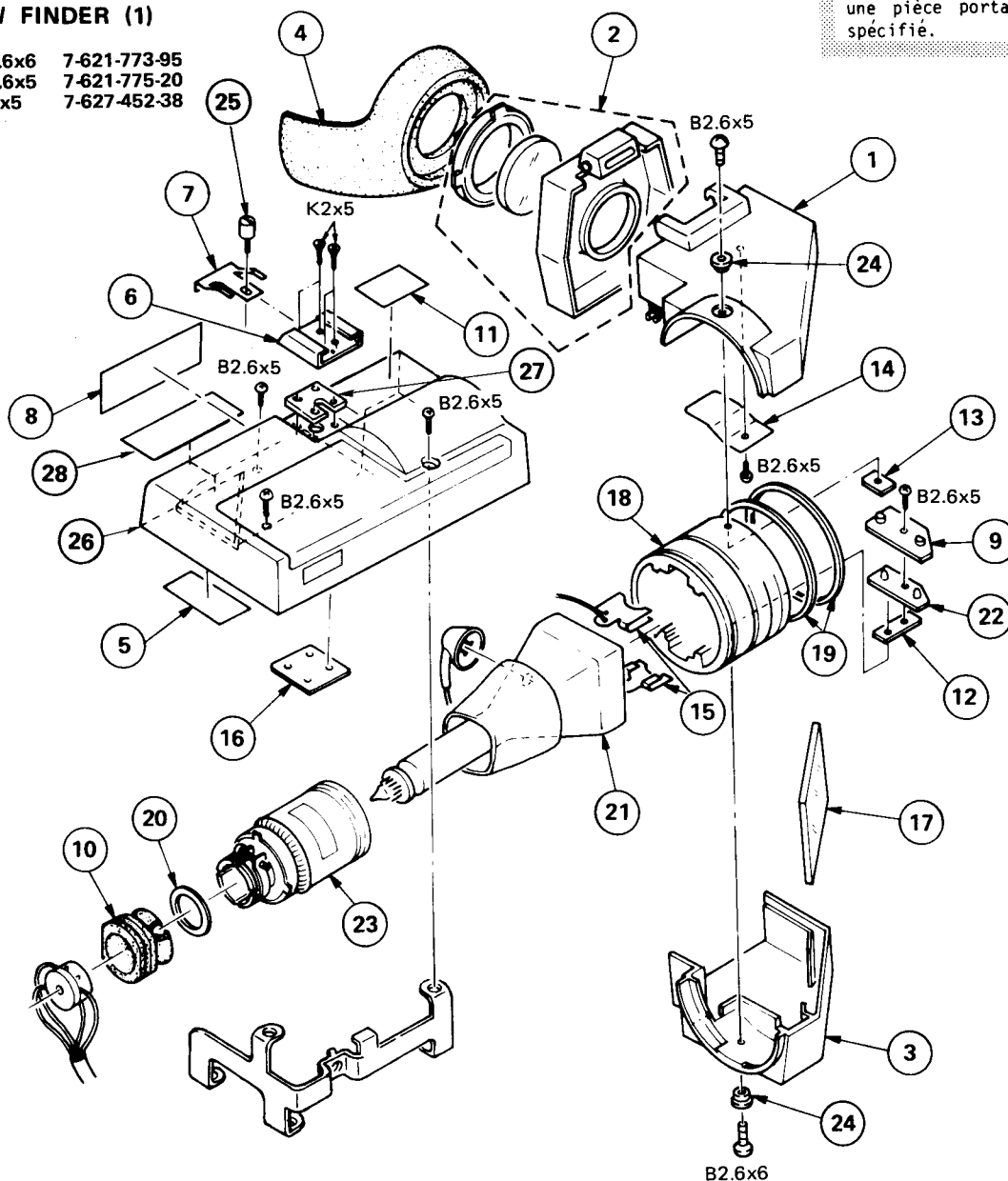
- Items marked "▲" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ▲ 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.

VIEW FINDER (1)

- ⊕ B2.6x6 7-621-773-95
- ⊕ B2.6x5 7-621-775-20
- ⊕ K2x5 7-627-452-38

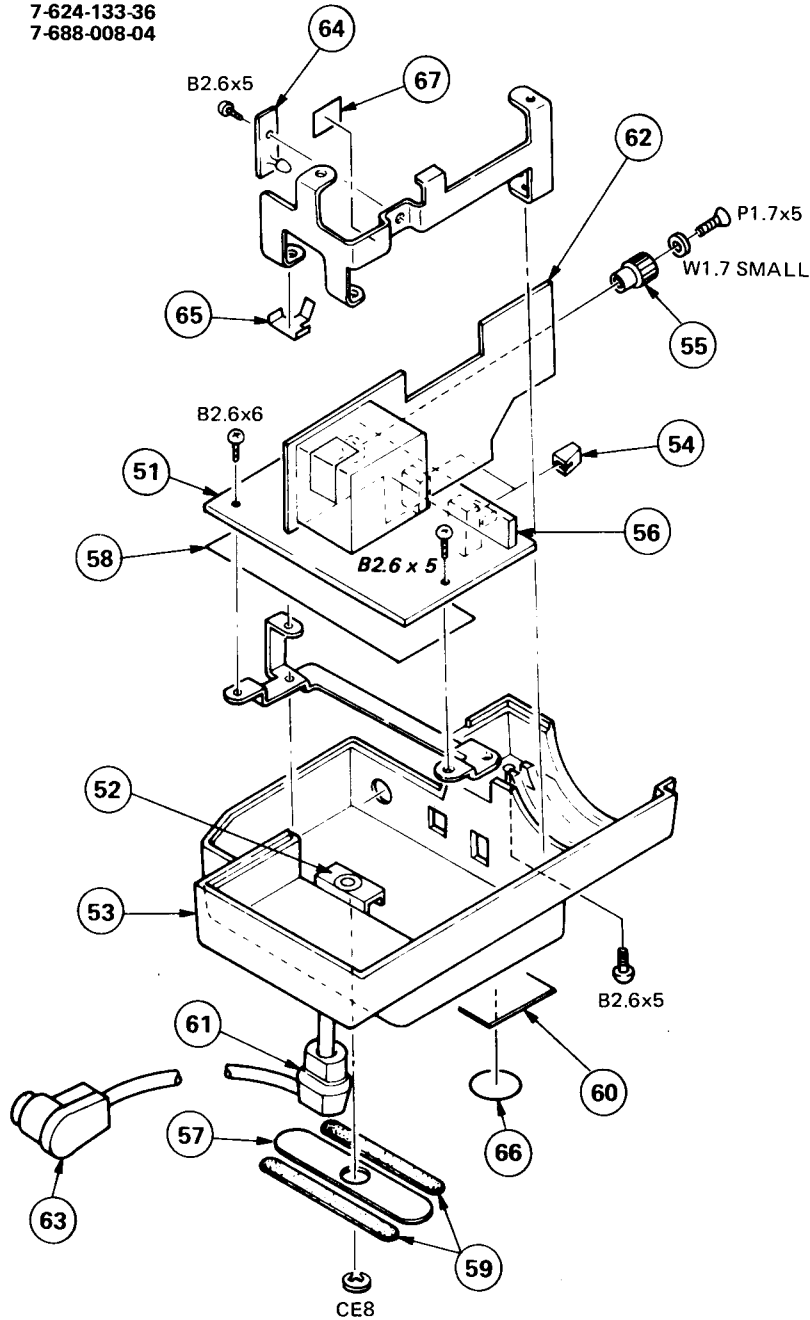


No.	Part No.	Description
1	X-3661-928-0	CASE (A) ASSY, MIRROR
2	X-3670-235-0	TABLE ASSY, LENS
3	X-3663-809-0	CASE (B) ASSY, MIRROR
4	2-235-902-00	CUP, EYE
5	▲:3-646-675-00	LABEL, PICTURE TUBE
6	3-657-420-02	SHOE
7	3-657-421-00	SPRING, LEAF
8	3-703-043-00	LABEL, CAUTION, MAIN
9	3-661-928-00	COVER, LAMP
10	3-661-931-00	RETAINER, CRT
11	3-663-807-00	LABEL, CAUTION, EVF
12	3-661-937-00	NUT (A), PLATE
13	3-661-938-00	NUT (B), PLATE
14	3-661-939-00	SPRING, LEAF

No.	Part No.	Description
15	▲:3-661-940-00	SPRING
16	3-661-946-00	BRACKET, SHOE
17	3-661-947-00	MIRROR
18	3-661-957-00	HOLDER, CRT
19	3-670-229-00	RING, O
20	3-662-034-00	WASHER, CRT
21	▲A-7609-011-A	PICTURE TUBE ASSY 40CB4
22	▲1-605-384-00	V-7 BOARD
23	1-451-205-00	DEFLECTION YOKE (B/W)
24	▲:3-674-508-00	SLEEVE
25	3-674-514-00	SCREW, STOPPER
26	X-3661-927-0	CASE ASSY, VF UPPER
27	▲:3-674-528-00	SPACER
28	▲:3-662-098-00	LABEL, CAUTION

VIEW FINDER (2)

⊕ B2.6x5	7-621-775-20
⊕ P1.7x5	7-627-552-58
CE8	7-624-133-36
W1.7 SMALL	7-688-008-04



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
51	▲:A-7511-676-A	V-3 BOARD, COMPLETE	265	60	▲:3-674-201-02	LABEL, MODEL NUMBER	
52	X-3661-926-0	PLATE ASSY, BOTTOM		61	3-703-001-00	BUSHING, CORD	
53	X-3663-808-0	CASE ASSY, VF LOWER		62	▲:A-7511-661-A	V-2 BOARD, COMPLETE	
54	3-661-929-00	KNOB, SWITCH		63	1-555-075-00	CONNECTOR, VF	
55	3-661-930-00	KNOB (B), CONTROL		64	▲:1-605-383-17	V-6 BOARD	
56	▲:1-605-380-00	V-1 BOARD		65	▲:3-670-277-00	PLATE, GROUND	
57	▲:3-661-941-00	PLATE, COVER		66	3-701-915-01	LABEL, UL	
58	▲:3-670-276-00	SHEET (A), INSULATING, VF		67	▲:3-701-937-00	LABEL, CAUTION, HIGH VOLTAGE	
59	3-662-036-00	CUSHION, VF					

V-1

V-2

V-3

SECTION 5

ELECTRICAL PARTS LIST

NOTE:

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

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

- Items marked "A" 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

- 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.

CAPACITORS

COILS

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

Note: Les composants identifiés par un 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
	▲:1-605-380-00	V-1 BOARD *****				COIL	
		DIODE		L5202	1-421-421-00	COIL, CHOKE 100UH	
D5001	8-719-151-07	DIODE RD5.1E-B		L5203	1-459-356-21	FERRITE: HLC	
		RESISTOR				TRANSISTOR	
R5001	1-246-521-00	CARBON 100K 5% 1/4W		Q5201	8-729-600-27	TRANSISTOR 2SC634SP	
		VARIABLE RESISTOR		Q5202	8-729-384-48	TRANSISTOR 2SA844	
RV5001	1-226-724-00	RES, VAR, CARBON 100K		Q5203	8-724-375-01	TRANSISTOR 2SC403C	
		SWITCH		Q5204	8-729-177-43	TRANSISTOR 2SD774	
S5001	1-552-409-00	SWITCH, SLIDE				RESISTOR	
S5002	1-553-121-00	SWITCH, SLIDE		R5201	1-246-505-00	CARBON 22K 5% 1/4W	
*****				R5202	1-246-779-00	CARBON 470 1/8W	
	▲:A-7511-661-A	V-2 BOARD, COMPLETE *****		R5203	1-246-791-00	CARBON 4.7K 1/8W	
	1-526-540-00	SOCKET, PICTURE TUBE		R5205	1-214-132-00	METAL 1K 1% 1/4W	
		CAPACITOR		R5206	1-214-138-00	METAL 1.8K 1% 1/4W	
C5201	1-123-610-00	ELECT 0.47MF 20% 50V		R5208	1-246-784-00	CARBON 1.2K 1/8W	
C5202	1-102-110-00	CERAMIC 220PF 10% 50V		R5209	1-246-780-00	CARBON 560 1/8W	
C5203	1-161-019-00	CERAMIC 0.033MF 10% 25V		R5210	1-246-795-00	CARBON 10K 1/8W	
C5204	1-123-309-00	ELECT 330MF 20% 10V		R5211	1-202-648-00	COMPOSITION 1.3M 5% 1/2W	
C5205	1-123-617-00	ELECT 10MF 20% 16V		R5212	1-246-539-00	CARBON 560K 5% 1/4W	
■C5206A	1-108-376-00	MYLAR 0.0082MF 10% 100V				VARIABLE RESISTOR	
■C5207A	1-130-579-00	MYLAR 0.01MF 10% 630V		RV5201	1-222-846-00	RES, ADJ, SOLID 1M	
C5208	1-130-579-00	MYLAR 0.01MF 10% 630V				TRANSFORMER	
C5209	1-130-579-00	MYLAR 0.01MF 10% 630V		T5201A	1-453-090-00	DC BLOCK, HIGH-VOLTAGE: HV	
C5210	1-108-421-00	MYLAR 0.01MF 10% 200V		*****			
C5211	1-123-369-00	ELECT 4.7MF 20% 63V		▲:A-7511-676-A	V-3 BOARD, COMPLETE *****		
C5212	1-123-369-00	ELECT 4.7MF 20% 63V		1-535-079-00	TERMINAL (7P)		
C5213	1-123-308-00	ELECT 220MF 20% 10V		1-535-248-00	TERMINAL		
C5214	1-123-617-00	ELECT 10MF 20% 16V		1-800-194-11	THERMISTORC DIRECT-HEATING DISK		
C5215	1-123-617-00	ELECT 10MF 20% 16V				CAPACITOR	
C5217	1-102-973-00	CERAMIC 100PF 5% 50V		C5401	1-161-017-00	CERAMIC 0.022MF 10% 25V	
		CONNECTOR		C5402	1-161-019-00	CERAMIC 0.033MF 10% 25V	
■CN5201	1-560-090-00	PIN, CONNECTOR (3P)		C5403	1-123-617-00	ELECT 10MF 20% 16V	
CN5202	1-561-104-00	SOCKET, CONNECTOR		C5404	1-161-017-00	CERAMIC 0.022MF 10% 25V	
		DIODE		C5405	1-102-074-00	CERAMIC 0.001MF 10% 50V	
D5201	8-719-815-55	DIODE 1S1555		C5406	1-108-242-00	MYLAR 0.022MF 10% 50V	
D5202	8-719-815-55	DIODE 1S1555		C5407	1-161-017-00	CERAMIC 0.022MF 10% 25V	
D5203	8-719-200-02	DIODE 10E2		C5408	1-161-012-00	CERAMIC 0.082MF 10% 25V	
D5204	8-719-815-55	DIODE 1S1555		C5409	1-123-611-00	ELECT 1MF 20% 50V	
D5205	8-719-815-55	DIODE 1S1555		C5410	1-130-027-00	FILM 0.0056MF 5% 50V	
				C5411	1-123-611-00	ELECT 1MF 20% 50V	
				C5412	1-123-309-00	ELECT 330MF 20% 10V	
				C5413	1-161-011-00	CERAMIC 0.0068MF 10% 25V	
				C5414	1-131-419-00	TANTALUM 2.2MF 20% 10V	
				C5415	1-102-117-00	CERAMIC 820PF 10% 50V	

V-3

V-7

V-6

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
C5416	1-123-307-00	ELECT 100MF	20% 10V	R5426	1-246-799-00	CARBON 22K	1/8W
C5417	1-123-298-00	ELECT 470MF	20% 6.3V	R5427	1-246-817-00	CARBON 6.2	1/8W
C5418	1-123-617-00	ELECT 10MF	20% 16V	R5428	1-246-789-00	CARBON 3.3K	1/8W
C5419	1-102-074-00	CERAMIC 0.001MF	10% 50V	R5429	1-246-841-00	CARBON 620	1/8W
C5420	1-161-010-00	CERAMIC 0.0056MF	10% 25V	R5430	1-246-783-00	CARBON 1K	1/8W
C5421	1-123-617-00	ELECT 10MF	20% 16V	R5431	1-212-863-00	FUSIBLE 18 5%	1/4W F
C5422	1-123-308-00	ELECT 220MF	20% 10V	R5432	1-246-453-00	CARBON 150 5%	1/4W
C5423	1-123-308-00	ELECT 220MF	20% 10V	R5433	1-246-800-00	CARBON 27K	1/8W
C5424	1-123-608-00	ELECT 0.22MF	20% 50V	R5434	1-246-793-00	CARBON 6.8K	1/8W
C5425	1-161-017-00	CERAMIC 0.022MF	10% 25V	R5435	1-212-863-00	FUSIBLE 18 5%	1/4W F
<u>CONNECTOR</u>				R5436	1-246-783-00	CARBON 1K	1/8W
●CN5401:1-560-123-00 PLUG, CONNECTOR (2.5MM PITCH)				<u>VARIABLE RESISTOR</u>			
●CN5402:1-560-290-00 PLUG, CONNECTOR (2.5MM PITCH)				RV5401	1-226-709-00	RES, ADJ, SOLID 4.7K	
●CN5403 1-508-974-00 PIN, CONNECTOR				RV5402	1-226-709-00	RES, ADJ, SOLID 4.7K	
●CN5404:1-508-916-00 CONNECTOR PIN 2P				RV5403	1-226-705-00	RES, ADJ, SOLID 100	
●CN5405:1-508-797-00 PIN, CONNECTOR 4P				RV5404	1-226-715-00	RES, ADJ, SOLID 470K	
●CN5406:1-508-796-00 PIN, CONNECTOR 2P				<u>THERMISTOR</u>			
<u>IC</u>				TH5401	1-806-213-00	THERMISTOR	
IC5401	8-759-133-90	IC UPC339C		*****			
IC5402	8-759-312-44	IC HA11244		●:1-605-384-17 V-7 BOARD			
<u>TRANSISTOR</u>				*****			
Q5401	8-729-117-54	TRANSISTOR 2SA1175		<u>DIODE</u>			
Q5402	8-724-375-01	TRANSISTOR 2SC403C		D6201	8-719-810-20	DIODE TLY102	
Q5403	8-729-600-27	TRANSISTOR 2SC634SP		D6202	8-719-801-02	DIODE TLR102	
Q5404	8-729-117-54	TRANSISTOR 2SA1175		*****			
<u>RESISTOR</u>				●:1-605-383-17 V-6 BOARD			
R5401	1-214-174-00	METAL 56K 1%	1/4W	*****			
R5402	1-214-172-00	METAL 47K 1%	1/4W	3-440-113-00	WASHER, HANDLE		
R5403	1-246-796-00	CARBON 12K	1/8W	<u>CONNECTOR</u>			
R5404	1-246-800-00	CARBON 27K	1/8W	●CN6001:1-551-808-00	CONNECTOR 2P		
R5405	1-246-783-00	CARBON 1K	1/8W	<u>DIODE</u>			
R5406	1-246-787-00	CARBON 2.2K	1/8W	D6001	8-719-901-31	DIODE SLP131B	
R5407	1-246-863-00	CARBON 43K	1/8W	*****			
R5409	1-246-799-00	CARBON 22K	1/8W	<u>MISCELLANEOUS</u>			
R5410	1-246-785-00	CARBON 1.5K	1/8W	*****			
R5411	1-246-795-00	CARBON 10K	1/8W	1-451-205-00	DEFLECTION YOKE (B/W)		
R5412	1-246-783-00	CARBON 1K	1/8W	●:1-555-040-00	CONNECTOR (4P)		
R5413	1-246-796-00	CARBON 12K	1/8W	CN2	1-555-075-00	CONNECTOR, VF	
R5414	1-246-805-00	CARBON 68K	1/8W	V1	▲A-7609-011-A	PICTURE TUBE ASSY 40CB4	
R5415	1-246-793-00	CARBON 6.8K	1/8W				
R5416	1-246-791-00	CARBON 4.7K	1/8W				
R5417	1-246-485-00	CARBON 3.3K 5%	1/4W				
R5418	1-246-802-00	CARBON 39K	1/8W				
R5419	1-246-473-00	CARBON 1K 5%	1/4W				
R5420	1-246-481-00	CARBON 2.2K 5%	1/4W				
R5422	1-246-797-00	CARBON 15K	1/8W				
R5423	1-246-525-00	CARBON 150K 5%	1/4W				
R5424	1-246-800-00	CARBON 27K	1/8W				
R5425	1-246-442-00	CARBON 51 5%	1/4W				

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

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