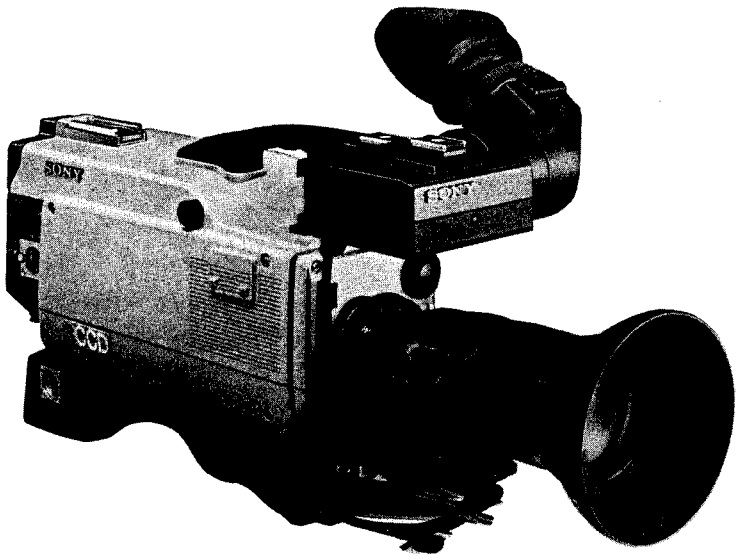
DXC-3000P
DXF-3000CE
VCL-1012BY
DC-8

3-CHIP CCD VIDEO CAMERA
ELECTRONIC VIEWFINDER
LENS
BATTERY ADAPTOR



SONY®
SERVICE MANUAL

SAFETY RELATED COMPONENT WARNING

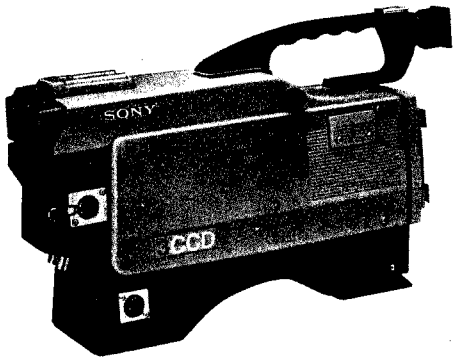
Components identified by shading and ⚠ marked on the schematic diagrams and parts list are critical to safe operation. Replace these components with SONY parts whose part numbers appear as shown in this manual or in supplements published by SONY.

X-RAY RADIATION WARNING

Be sure that parts replacement in the high voltage block and adjustments made to the high voltage circuits are carried out precisely in accordance with the procedures given in this manual.

3-CHIP CCD
VIDEO CAMERA HEAD

DXC-3000P

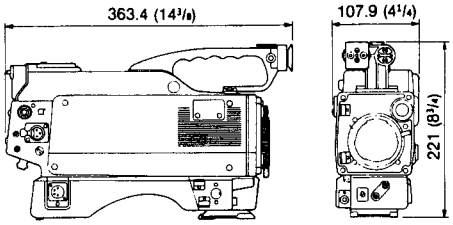


SPECIFICATIONS

Camera (DXC-3000/3000P)

Image device	Interline-transfer CCD, 3-chip
Picture elements	510 x 492 (h/v) (NTSC) 500 x 582 (h/v) (PAL)
Sensing area	8.8 mm x 6.6 mm (equivalent to a 2/3-inch pickup tube)
Built-in filters	1: 3,200°K 2: 5,600°K + 1/8 ND 3: 5,600 K
Lens mount	Bayonet mount
Signal system	EIA standards, NTSC color system (for DXC 3000) CCIR standards, PAL color system (for DXC 3000P)
Scanning system	525 lines, 2:1 interlace, 30 frames/sec. (NTSC) 625 lines, 2:1 interlace, 25 frames/sec. (PAL)
Scanning frequency	
	Horizontal: 15.734 kHz (NTSC) 15.625 kHz (PAL)
	Vertical: 59.94 Hz (NTSC) 50 Hz (PAL)
Sync system	Internal External with the BS or VBS signal supplied to the GEN LOCK input connector or the reference signal input to the VTR/CCU/CMA connector from the GEN LOCK connector of the CCU-M3/M3P
Horizontal resolution	520 lines (center)
Minimum illumination	25 lux with F1.7, + 18 dB
Sensitivity	2,000 lux with F5.6, at 3,200°K (NTSC) 2,000 lux with F5.0, at 3,200°K (PAL)
Gain selection	0 dB, 9 dB or 18 dB, selectable
Video output	1.0 V(p-p), sync negative, 75 ohms, unbalanced
Signal to noise ratio	56 dB (NTSC) 54 dB (PAL)
Registration	0.05 % for Zone I 0.05 % for Zone II 0.05 % for Zone III
Inputs/Outputs	VTR/CCU/CMA connector: Sony Q-type, 14-pin MIC IN: XLR-type, 3-pin GEN LOCK: BNC-type VIDEO OUT: BNC-type LENS: 6-pin VF: 8-pin EAR: mini jack INTERCOM: mini-intercom
Power requirements	12 V DC
Power consumption	9 W (for camera only)
Operating temperature	−5°C to +45°C (23°F to 113°F)
Storage temperature	−20°C to +60°C (−4°F to 140°F)
Weight	3.3 kg (7 lb 4 oz)

Dimensions
Unit: mm (inches)



Zoom lens (VCL-1012BY)

Focal length	10 mm to 120 mm
Zoom	Manual and motorized, selectable Zooming ratio: 12 x
Maximum aperture ratio	1:1.7
Iris control	Manual and auto, selectable 1.7 to 16 and C (closed)
Range of object field (at the distance of 1 meter)	W (wide angle): 616 x 822 mm (24 1/4 x 32 3/8 inches) T (telephoto): 51.4 x 68.5 mm (2 1/32 x 2 11/16 inches)
Minimum object distance	1 m
Filter thread	72 mm dia. 0.75 mm-pitch
Mount	Bayonet mount
Weight	Approx. 1.4 kg (3 lb 1 oz) with hood
Dimensions	Approx. 120 mm dia. x 204 mm (4 3/4 x 8 1/32 inches)

Viewfinder (DXF-3000/3000CE)

Picture tube indicators	1.5-inch monochrome REC/TALLY indicator BATT indicator LOW LIGHT indicator GAIN UP indicator
Resolution	400 lines
Power requirements	DC 12 V
Power consumption	2.3 W
Weight	Approx. 600 g (1 lb 5 oz)
Dimensions	Approx. 201 x 68 x 184mm (w/h/d) (7 7/8 x 2 11/16 x 7 1/4 inches)

Carrying case (LC-3001)

Weight	Approx. 4.4 kg (9 lb 8 oz)
Dimensions	Approx. 620 x 394 x 234 mm (w/h/d) (24 7/16 x 15 1/2 x 9 1/4 inches)

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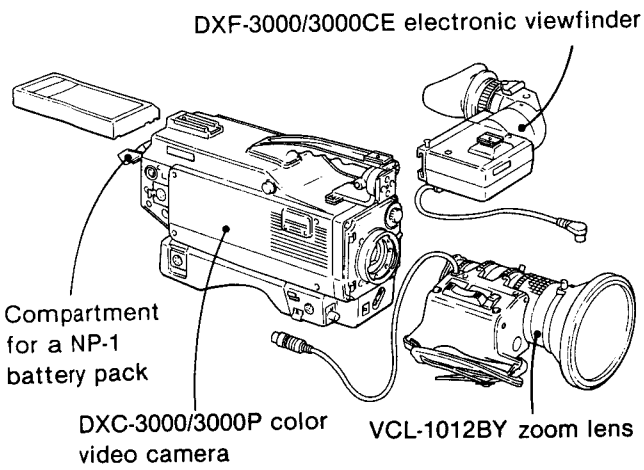
SECTION 1
GENERAL DESCRIPTION

OUTLINE

The DXC-3000/3000P is a portable color video camera which uses a 3-chip CCD (Charge Coupled Device) solid state image sensor. The camera can be used for outdoor recording when used with a portable video cassette recorder, and can also be used as a studio camera when connected to the CCU-M3/M3P camera control unit.

BASIC CONFIGURATION AND FEATURES



Adoption of CCD

- Incorporation of a CCD results in a compact, lightweight camera body which consumes less power than does a camera using pickup tube(s).
- Low lag, high resistance to image burning and no deflection distortion.
- The CCD is not affected by vibration and mechanical shock.
- The CCD imager is not influenced by terrestrial magnetism.
- Thanks to the high signal-to-noise ratio, the video output level can be raised by 9 dB or 18 dB to obtain a clear picture under low light conditions.

Various connection capability

- It is possible to connect the camera to a VTR used for home entertainment.
- The camera can be used as a studio camera when connected to a CCU-M3/M3P camera control unit.

Power sources

- A compartment for the NP-1 battery pack is built into the camera. The camera and 1.5-inch viewfinder can be used for about 1.5 hours with a fully charged NP-1 (optional).
- When a DC-8 battery adaptor (optional), containing two NP-1s, is installed, the camera can be used continually for about 3 hours.
- The power can be supplied to the camera from a portable VTR or from the CCU-M3/M3P camera control unit.
- A CMA-8/8CE camera adaptor (optional) is needed if the camera is to be used with the AC power source.

Automatic adjustment and memory functions

- The white balance and black balance are automatically adjusted by a microcomputer, and the adjusted values are retained for about 12 hours while the camera's power is off.
- The black level drift is automatically adjusted, together with the black balance.
- If the entire picture is too bright, the black level is lowered to the appropriate level by the automatic black level (ABL) adjustment so that a picture with good contrast can be obtained.

Display and related functions

- The character generator built into the camera displays title characters to be inserted on the viewfider or monitor during recording.
- In addition to title characters, the operational status of the camera and the warning indications are also displayed on the viewfinder.
- The REC indicator on the viewfinder blinks if a VTR malfunctions.
- Zebra pattern appears on the viewfinder screen when the video output level is about 70 to 80 IRE (for NTSC model) or 490 to 560 mV (for PAL model). This pattern provides a useful reference when the operator manually adjusts the iris.

Easy to operate the viewfinder

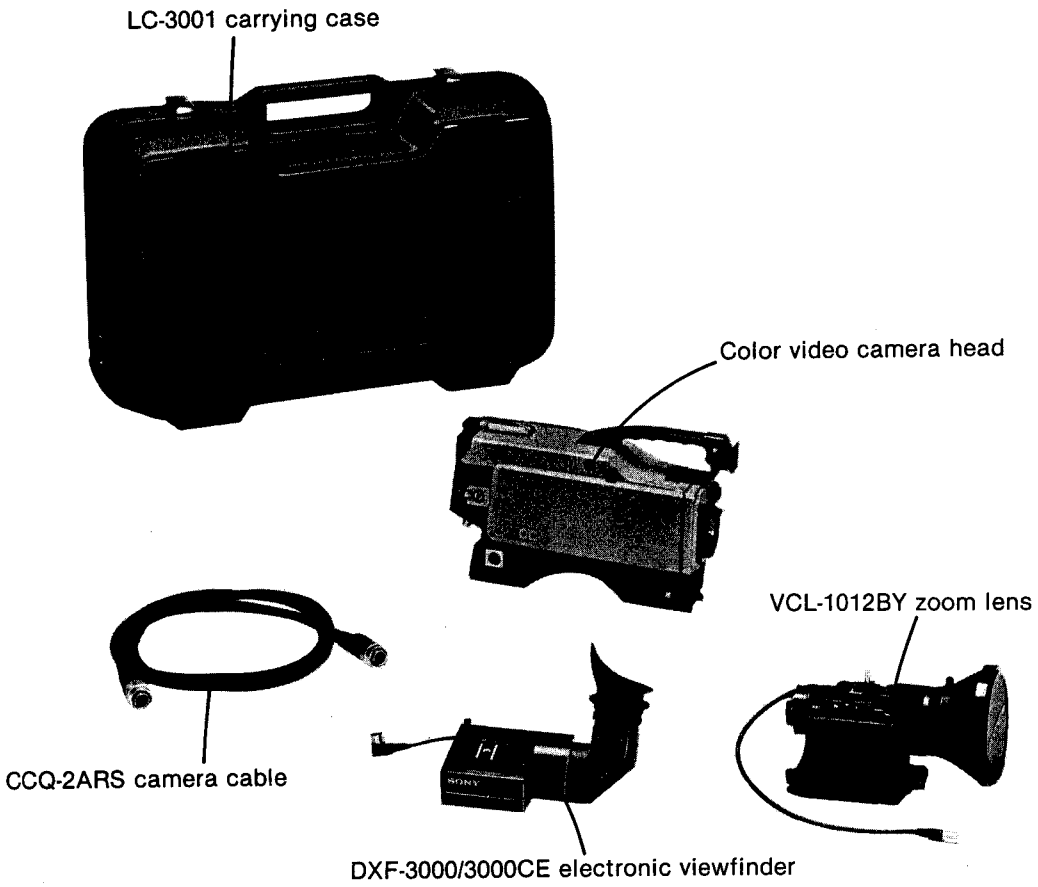
- The diopter can be adjusted to accommodate the operator's visuality.
- The viewfinder can be moved to the right and left.

Other features

- Built-in microphone
- Built-in color temperature conversion filter

COMPOSITION

The DXC-3000/3000P, the DXC-3000K/3000PK and the DXC-3000H/3000PH comprise slightly different components, as noted below. However, the operating procedure for the camera itself is the same.
If you use a zoom lens other than the VCL-1012BY zoom lens, refer to the lens' instruction manual for information about its operation.



Composition \ Model	DXC-3000/ 3000P	DXC-3000K/ 3000PK	DXC-3000H/ 3000PH
Color video camera head	Yes	Yes	Yes
Zoom lens VCL-1012BY	No	Yes	No
Viewfinder DXF-3000/3000CE	Yes	Yes	No
Carrying case LC-3001	Yes	Yes	No
Camera cable CCQ-2ARS	Yes	Yes	No

PRECAUTIONS

Safety

- Operate the camera only on 12 V DC. For operation from an ac power line, use the camera adaptor recommended for this camera. Do not use any other camera adaptor.
- Allow adequate air circulation to prevent internal heat build-up.

Operation

- Avoid rough handling or mechanical shock, especially when the lens faces downward.
- Do not operate the camera outside a −5°C to +45°C (23°F to 113°F) temperature range.
- Keep the camera in a horizontal plane.
- Keep the camera away from very strong magnetic fields to avoid distortion and flutter on the screen.
- Do not hold the camera by the viewfinder.

Operation of the viewfinder

Do not point the viewfinder directly at the sun, or the plastic inside the viewfinder may be damaged.

Cleaning

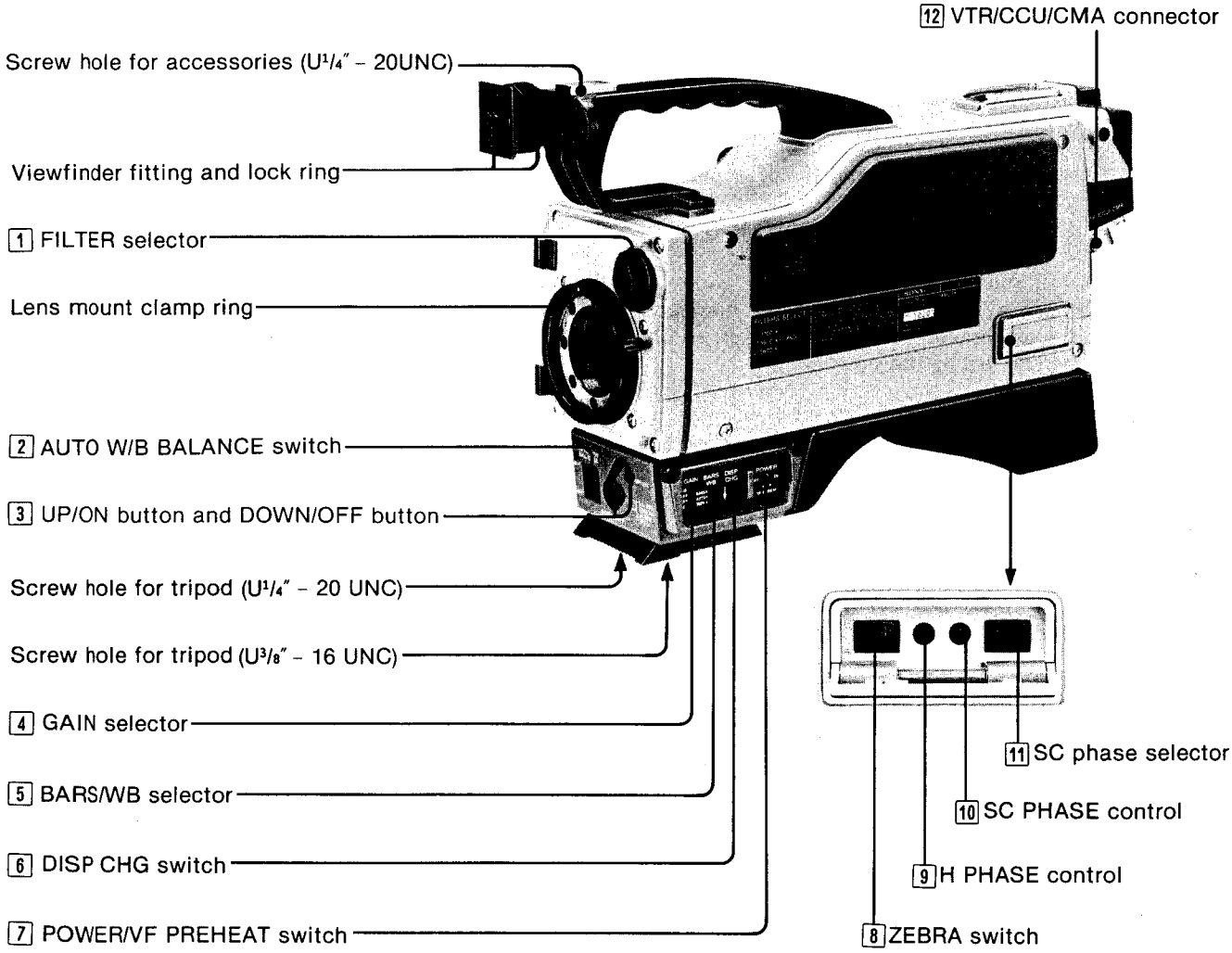
Clean the cabinet, panel and controls with a dry soft cloth, or soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzine, which might damage the finish.

Repacking

Do not discard the carton. It affords maximum protection whenever the camera is transported. Do not transport or ship the camera only in the carrying case. Repack it as it was originally packed at the factory.

Each number in the photo is keyed to the descriptive text.

DXC-3000/3000P COLOR VIDEO CAMERA



1 FILTER selector

Select the appropriate filter as indicated below.

Filter number	Color temperature	Lighting conditions
1	3200°K	Iodine lamp, sunrise or sunset
2	5600°K + 1/8 ND*	Bright outdoor
3	5600°K	Cloudy or rainy

* ND : Neutral density filter

2 AUTO W/B BALANCE (automatic white/black balance) adjustment switch

When the BARS/WB selector 5 is set to AUTO, white balance and black balance can be automatically adjusted with this switch. Black balance can also be adjusted automatically with this switch when the BARS/WB selector is set to 3200°K.

WHT: For automatic white balance adjustment, set this switch to WHT. The adjusted value will be automatically stored in the memory.

BLK: For automatic black balance and black set level adjustment, set this switch to BLK. The adjusted value will be automatically stored in the memory.

This switch automatically returns to the center position when it is released after being set to WHT or BLK.

3 UP/ON button and DOWN/OFF button

These buttons are used with the DISP CHG 6 switch (1) to set and position the title characters, (2) to switch the "LOW LIGHT" indication on or off, (3) to raise or lower the reference level of the automatic iris adjustment, or (4) to ralse or lower the master pedestal level. For details, refer to "Warning Indicators and Character Display" on page 1-35.

[4] GAIN selector
Normally set this selector to "0". When the selector is set to "9" or "18", the video output level is raised by 9 dB or 18 dB respectively.

[5] BARS/WB (color bar generation/white balance adjustment) selector
BARS: When the selector is set to this position, a color bar signal is generated, supplied to the viewfinder and output from the VIDEO OUT and the camera cable connectors. Use this position for adjusting the video monitor. At this position, the iris of the zoom lens attached to the camera will be automatically closed.
AUTO: Generally set the selector to this position. When the AUTO W/B BALANCE switch [2] is set to WHT or BLK, the white balance or black balance will be automatically adjusted (and stored in the memory). After the adjustment, the memorized white balance and black balance values are always obtained at this position. When the CCU-M3/M3P camera control unit is connected to this camera, set the selector to this position.
3200°K: At this position the white balance is set to the factory preset value of an iodine lamp (3200°K). When the selector is set to this position, set the FILTER selector [1] to an appropriate position. Use this position when there is no time to adjust the white balance. When the BARS/WB selector is set to this position, the automatic white balance adjustment of the AUTO W/B BALANCE switch [2] will not operate. (However, the automatic black balance adjustment of the AUTO W/B BALANCE switch operates.)

[6] DISP CHG (display change) switch
Each time this switch is pressed, the character display on the viewfinder screen changes in the following order: (1) alarm indication, (2) "LOW LIGHT" indication on/off, black balance, white balance, and gain settings, (3) initial indication of title setting and display of set title characters, (4) reference level setting for automatic iris adjustment, and (5) master pedestal level setting. For details, refer to "Warning Indicators and Character Display" on page 1-35.

Note
In the character display modes (3) to (5), the automatic white balance and black balance adjustment systems do not function.

[7] POWER/VF PREHEAT switch
ON: To turn on the camera
OFF: To turn off the camera
VF PREHEAT: To put the viewfinder in the standby mode
The power is supplied only to the viewfinder. When this switch is set to "VF PREHEAT", it is possible to monitor the viewfinder screen immediately after starting to shoot.

[8] ZEBRA switch
This switch is used for manual iris adjustment. When the switch is set to ON, a zebra pattern appears as a reference on the part of the viewfinder screen where the video level of the object is 70 to 80 IRE (for NTSC) or 490 to 560 mV (for PAL). If the zebra pattern is not necessary, set this switch to OFF. (See page 1-32.)

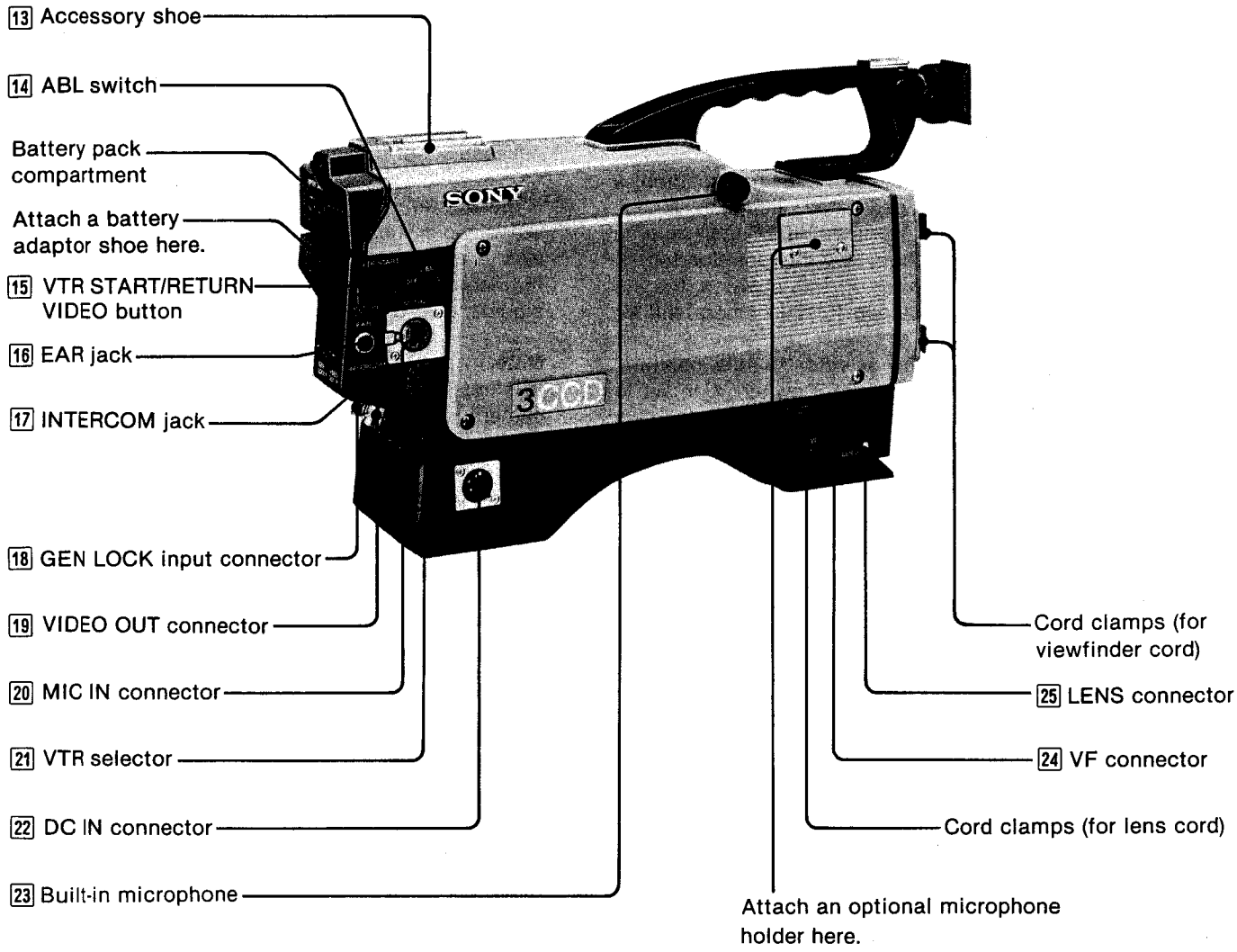
[9] H (horizontal) PHASE control
When two or more cameras are used, turn this control with a small screwdriver to adjust the H phase difference between the gen-lock input and video output signals. (See page 1-34.)

Note
It is not necessary to use this control when only one camera is used.
When a camera control unit is connected, adjust the H phase difference with the H PHASE control of the camera control unit.

[10] SC (subcarrier) PHASE control
When two or more cameras are used, this control is used for fine adjustment of the SC phase after the rough adjustment performed by the SC phase selector [11]. (See page 1-34.)

[11] SC (subcarrier) phase selector
When two or more cameras are used simultaneously, select the SC phase difference between the gen-lock input and video output signals so that it is roughly adjusted to 0° or 180°. (See page 1-34.)

[12] VTR/CCU/CMA connector (Sony Q-type, 14-pin)
This is the camera's main input/output connector. Connect a VTR, a CCU-M3/M3P camera control unit, or a CMA-8/8CE camera adaptor to this connector using the CCQ camera cable.
The title characters, which are displayed on the viewfinder screen, are output from this connector.



13 Accessory shoe
An optional DXF-40/40CE or DXF-50/50CE viewfinder can be attached here. For viewfinder attachment, refer to the viewfinder's instruction manual.

14 ABL (automatic black level) switch
When the entire picture is too bright, such as during outdoor shooting, set this switch to ON. The black level will be reduced to the appropriate level, and a well-contrasted picture will be obtained.
Normally set the switch to OFF.

15 VTR START/RETURN VIDEO button
When the camera is connected to a portable VTR, press this button to start recording. To stop recording, press the button again.
If the camera is connected to a CCU-M3/M3P camera control unit, the return video pictures can be monitored on the viewfinder screen while the button is kept depressed. When the button is released, the camera pictures can be monitored.

16 EAR (earphone) jack (mini jack)
Connect an earphone to monitor the playback or recording sound from the VTR.

17 INTERCOM jack (mini intercom jack)
Connect a DR-100 intercom headset (optional) here. It will be possible to communicate between the camera and the connected camera control unit or a video switcher.

18 GEN LOCK input connector (BNC connector)
Connect the gen-lock input signal (VBS or BS) for synchronization here. No connection is necessary when only one camera is used.

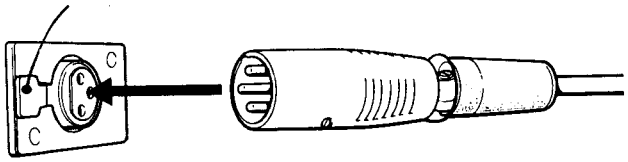
Note
When the gen-lock input signal is connected to the camera, the color framing pulse output from the camera cable connector is automatically cut off.

19 VIDEO OUT (output) connector (BNC connector)
Connect to the video input of the VTR or video monitor. Title characters displayed on the viewfinder screen are also output from this connector.

20 MIC IN (microphone input) connector (XLR 3-pin, unbalanced)
Connect a microphone here.

Pin configuration
1: Ground 2: Cold 3: Hot (for NTSC)
1: Ground 2: Hot 3: Cold (for PAL)

To remove, press here.



Note
The pins No. 1 (ground) and No.3 (hot for NTSC, cold for PAL) are connected inside the camera (unbalanced microphone input). Make sure that the pin configuration of your microphone is the same as shown above. If the microphone connector has a different pin configuration, an adaptor must be used.

21 VTR selector
Selects the VTR start/stop signal levels, etc. in accordance with the type of VTR used. For details, refer to the table on page 1-21.
1: For a VTR equipped with a Q-type (14-pin) camera connector such as the Sony VO-6800/6800PS, BVU-110/110P or for the CCU-M3/M3P.
2: For a VTR equipped with a K-type (14-pin) camera connector, such as the Sony SL-2000 (NTSC), SL-F1E (PAL) or other Betamax VTRs used for home entertainment.
3: For a VHS format VTR manufactured by JVC.
4: For a VHS format VTR manufactured by Panasonic.

Caution
Be sure to set the VTR selector to the correct position for the VTR used. If it is not, the VTR might not operate properly.

22 DC IN (input) connector (XLR 4-pin)
Connect the plug of the DC-8 battery adaptor to supply power from the batteries.

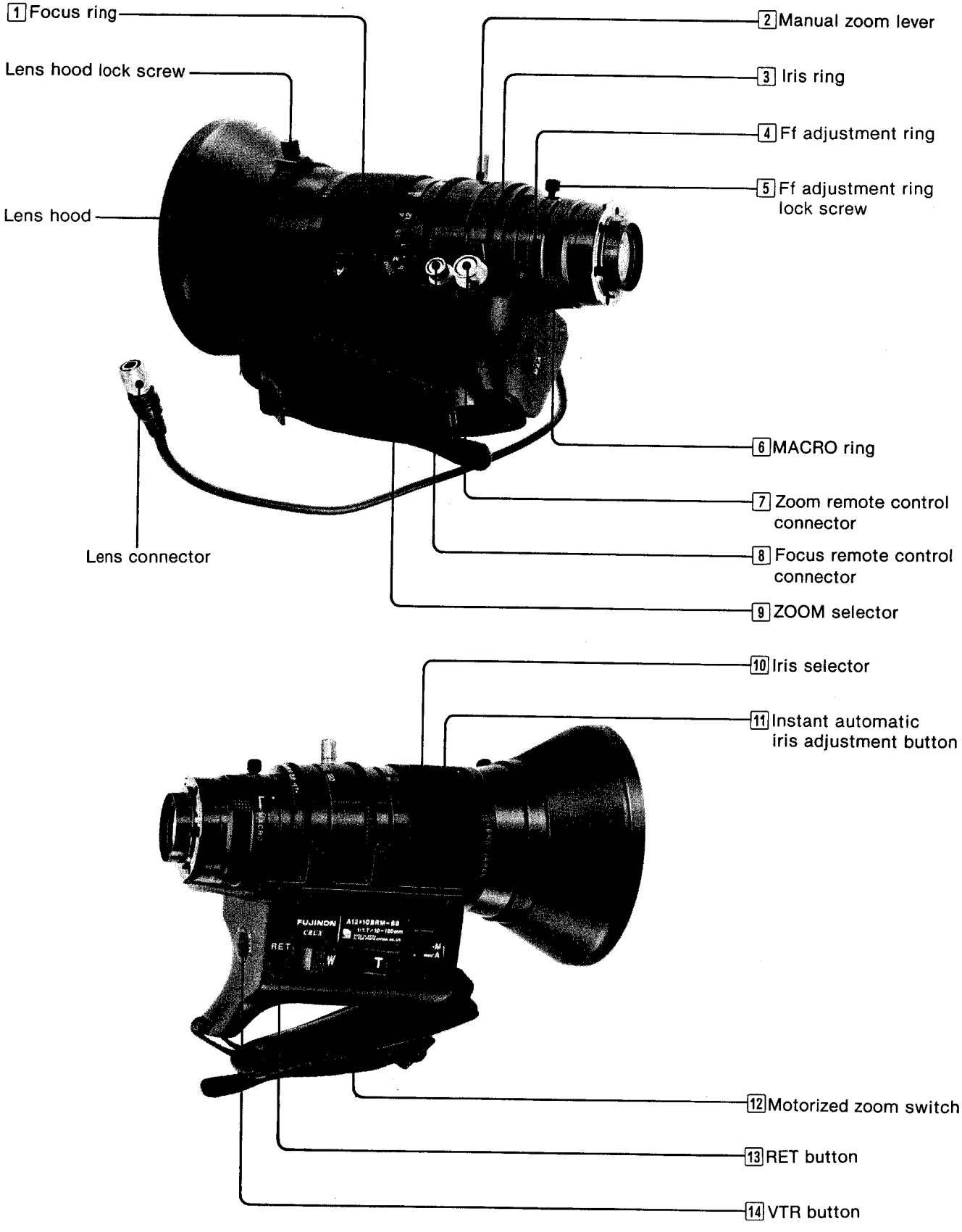
Note
When the battery is connected to this connector, the power is automatically cut off from both an NP-1 inside the battery pack compartment and the VTR/CCU/CMA connector.

23 Built-in microphone
When the camera cable is connected to a portable VTR, the built-in microphone is automatically connected, so a sound recording can be made simultaneously with the video recording.

24 VF (viewfinder) connector (8-pin)
Connect the plug of the viewfinder.

25 LENS connector (6-pin)
Connect the lens connector plug of the lens here.

VCL-1012BY ZOOM LENS



[1] **Focus ring**
Turn this ring for focusing.

[2] **Manual zoom lever**
For manual zooming, turn this lever with the ZOOM selector set to M.

[3] **Iris ring**
For manual iris adjustment, turn this ring with the iris selector set to M.

[4] **Ff (flange focal length) adjustment ring**
Turn to adjust the flange focal length. See page 1-26.

[5] **Ff (flange focal length) adjustment ring lock screw**
Locks the Ff ring at the adjusted position.

[6] **MACRO (close-up) ring**
Used for close-ups. See page 1-33.

[7] **Zoom remote control connector** (8-pin)
Connect an LO-23 lens remote control unit (optional) for remote control of zooming when the camera is attached to a tripod.

[8] **Focus remote control connector** (3-pin)
This connector is used for motorized focusing.

[9] **ZOOM selector**
S: For motorized zooming.
M: For manual zooming.

[10] **Iris selector**
A: For automatic iris adjustment.
M: For manual iris adjustment.

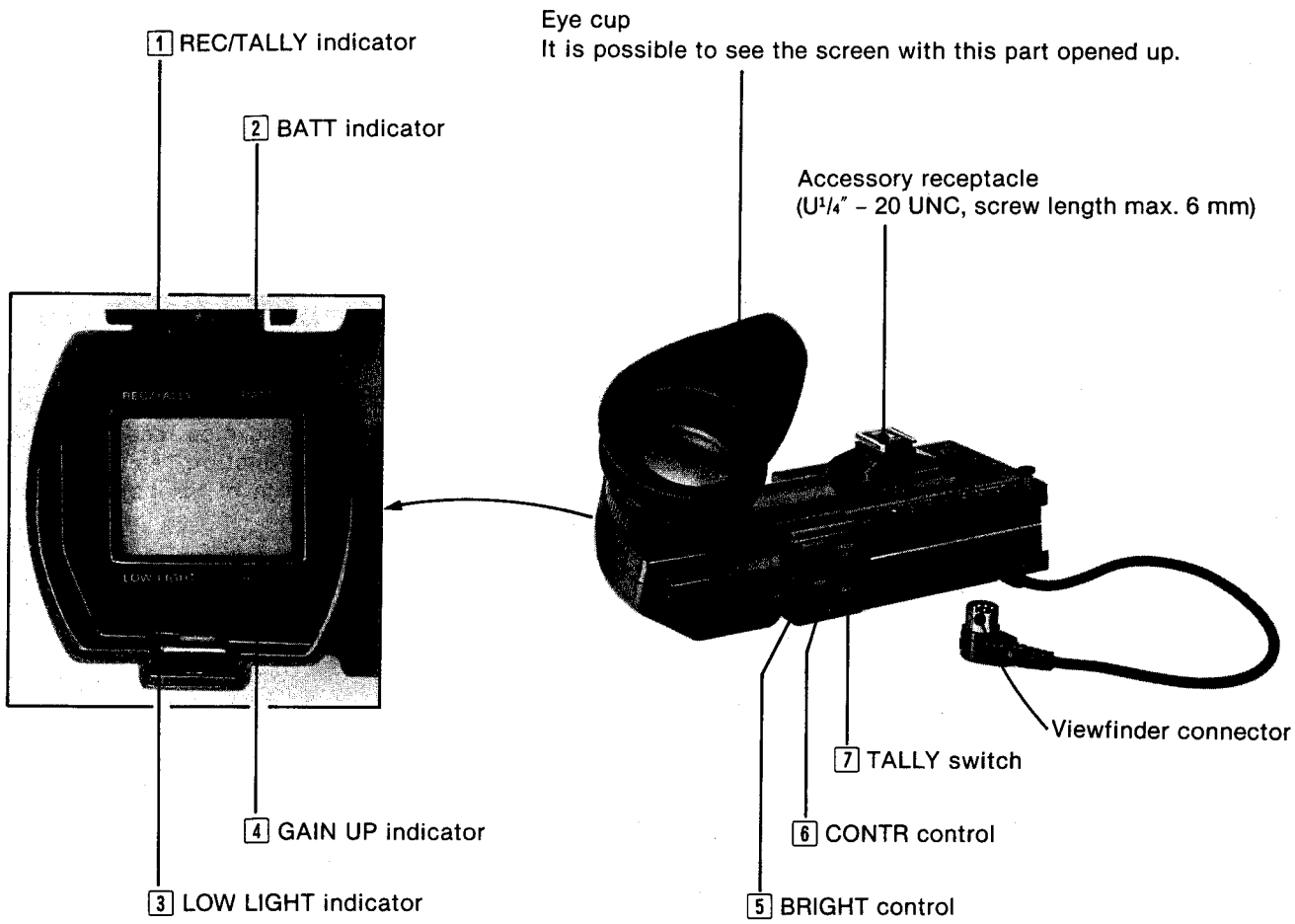
[11] **Instant automatic iris adjustment button**
The iris is automatically adjusted while this button is kept depressed, when the iris selector [10] is set to M. When the button is released, the iris will be fixed at the value that has just been obtained until the iris is adjusted again manually.

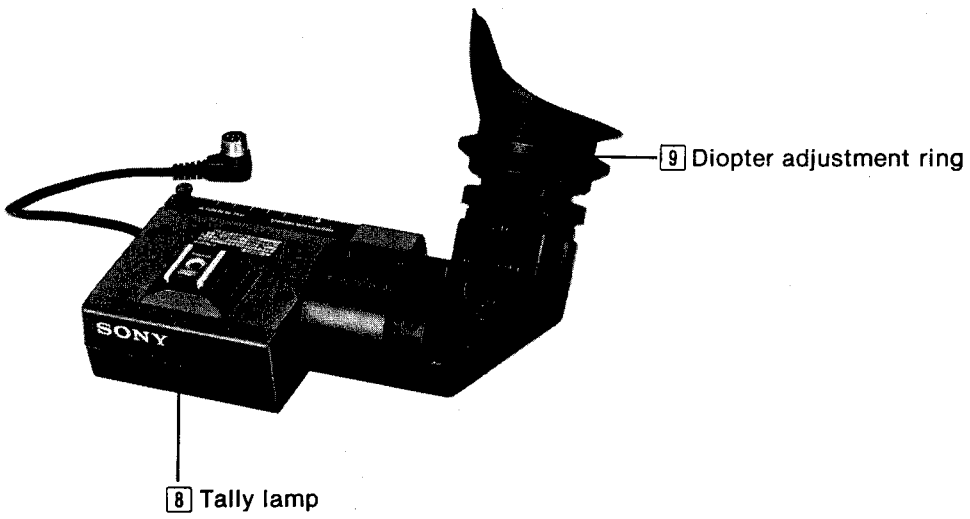
[12] **Motorized zoom switch**
Press either end of this switch for motorized zooming with the ZOOM selector set to S:W for a wide-angle picture and T for a telephoto picture. Zooming is faster when the switch is pressed down all the way and slower when the switch is pressed down only slightly.

[13] **RET (return video) button**
Press to view the picture from the VTR during recording, the playback picture during playback, or the signal from a controle console such as a video switcher on the viewfinder screen. This button has the same function as the VTR START/RETURN VIDEO button of the camera (return video switch) when a CCU-M3/M3P is connected.

[14] **VTR button**
When a portable VTR is connected to the camera, press this button to start and stop recording. This button has the same function as the VTR START/RETURN VIDEO button of the camera (start switch).

DXF-3000/3000CE VIEWFINDER





[1] REC/TALLY indicator
Illuminates during recording with one camera, and illuminates when the camera's picture is selected by a control console, a video switcher, etc., connected to the CCU-M3/M3P camera control unit which is connected to the camera.
The indicator blinks in accordance with the warning system of the VTR.

[2] BATT (battery) indicator
Starts blinking several minutes before the battery of the DC-8 battery adaptor, the VTR or the CCU-M3/M3P is discharged to a level at which it cannot power the VTR or the CCU (about 11 V), and illuminates steadily when the battery has discharged to that level. (For details, refer to the table on page 1-35.)

[3] LOW LIGHT indicator
Lights up when the video output level from the camera is too low due to insufficient lighting. (Even if the indicator is illuminated, the camera will operate, but the recording will be made at a low video output level.)

[4] GAIN UP indicator
Lights up when the GAIN selector is set to 9 dB or 18 dB.

[5] BRIGHT (brightness) control
Adjusts the brightness of the picture on the viewfinder screen. To obtain a brighter picture, turn this control clockwise.

Note
This control does not affect the output signal of the camera.

[6] CONTR (contrast) control
Adjusts the contrast of the picture on the viewfinder screen.

Note
This control does not affect the output signal of the camera.

[7] TALLY switch
The tally lamp [8] can be activated or deactivated if necessary, by setting this switch to ON or OFF.

[8] Tally lamp
When the TALLY switch [7] is set to ON, this lamp operates the same as the REC/TALLY indicator [1].

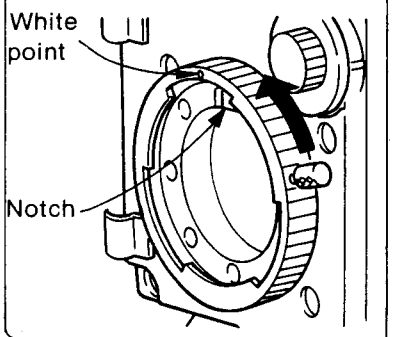
[9] Diopter adjustment ring
Adjusts the diopter. For details about adjustment procedures, refer to page 1-26.

SYSTEM SET-UP

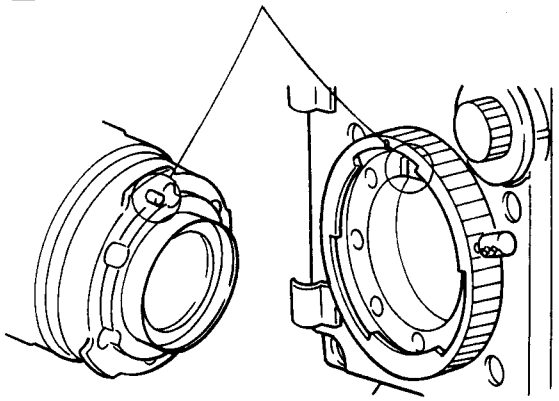
LENS ATTACHMENT

Notes
Before attaching the lens, remove the protective caps from the mounts of the camera and the lens.

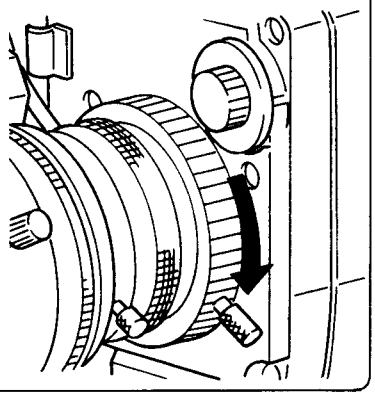
1 Turn the mount clamp ring to match its white point to the lens notch.

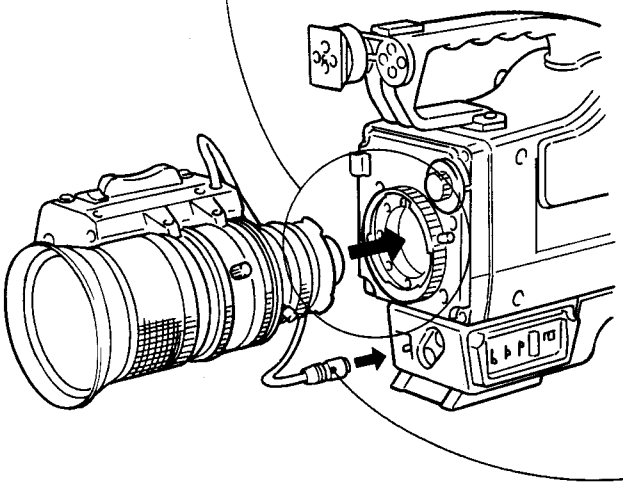


2 Align and insert the lens into the lens mount.

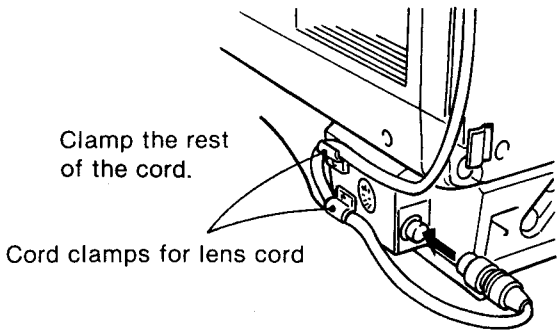


3 Tighten the ring to secure the lens.





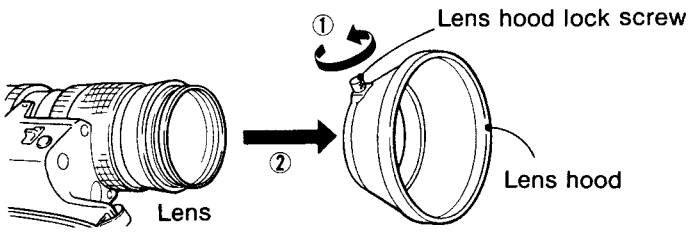
4 Connect the lens cable to the LENS connector.

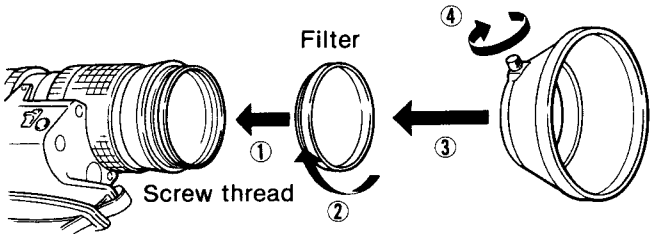


How to attach an optional filter to the lens

1 Loosen the lens hood lock screw and detach the lens hood.

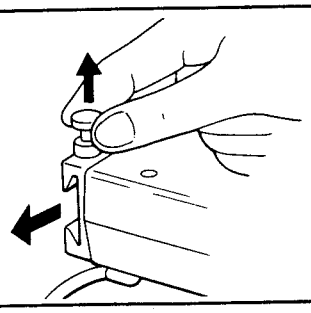
2 Screw the filter into the screw thread at the front of the lens. Then attach the lens hood and tighten the lens hood lock screw.





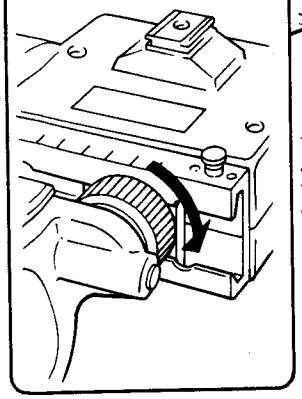
VIEWFINDER ATTACHMENT

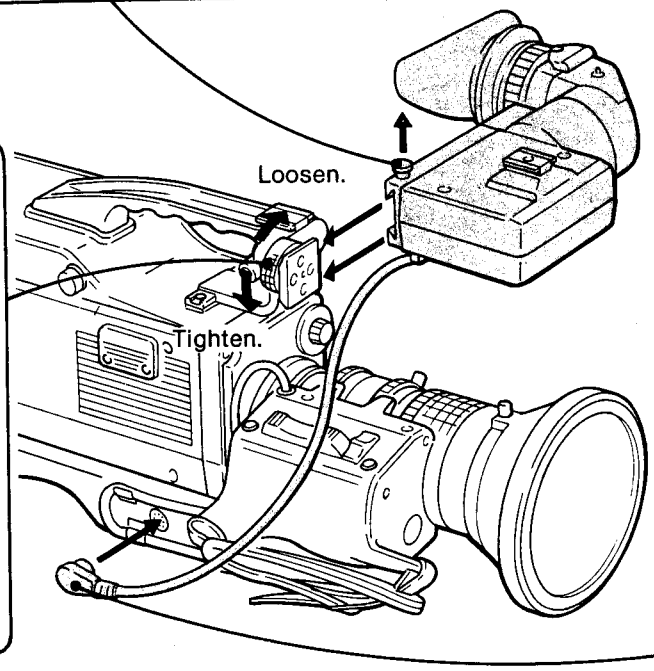
1 Loosen the lock ring, and align and slide the viewfinder into the mount, while pulling the pin up.



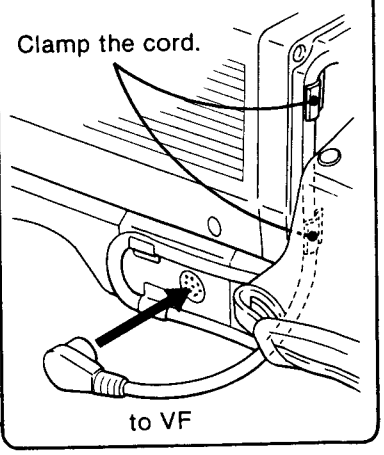
To detach the viewfinder, loosen the lock ring, and slide the view finder while pulling the pin up.

2 Tighten the lock ring.

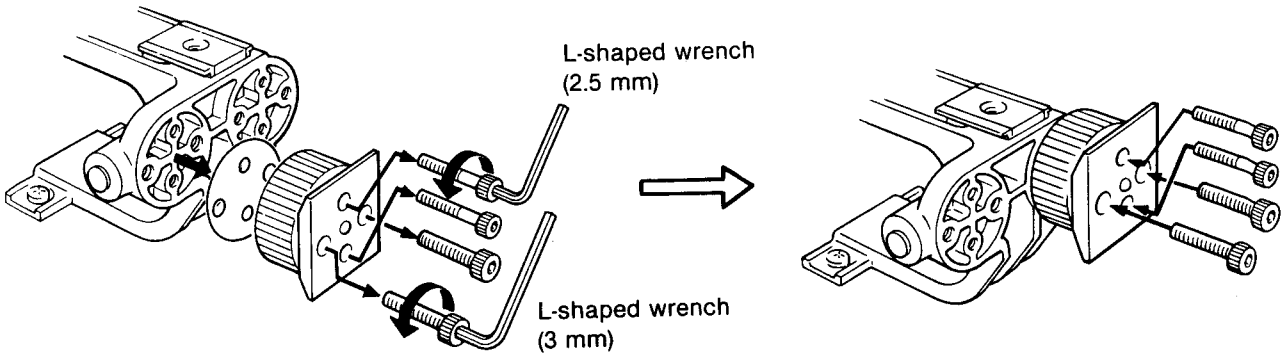




3



The position of the viewfinder mount
Change its position if you wish to use the viewfinder with your left eye.



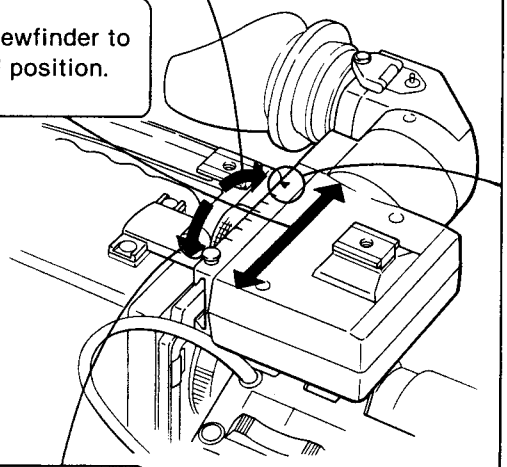
Note
If the viewfinder is mounted in a position other than the original one, the camera cannot be stored in the carrying case. In such a case, remove the viewfinder before storing the camera in the case.

For easy operation of the viewfinder

Adjustment of the horizontal position :

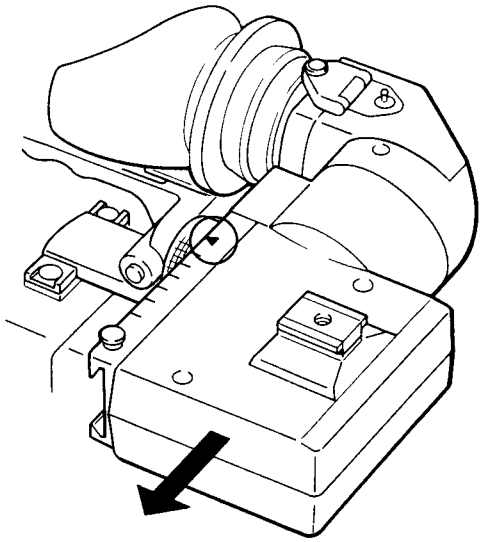
1 Loosen the lock ring.

2 Slide the viewfinder to the desired position.



3 Tighten the ring.

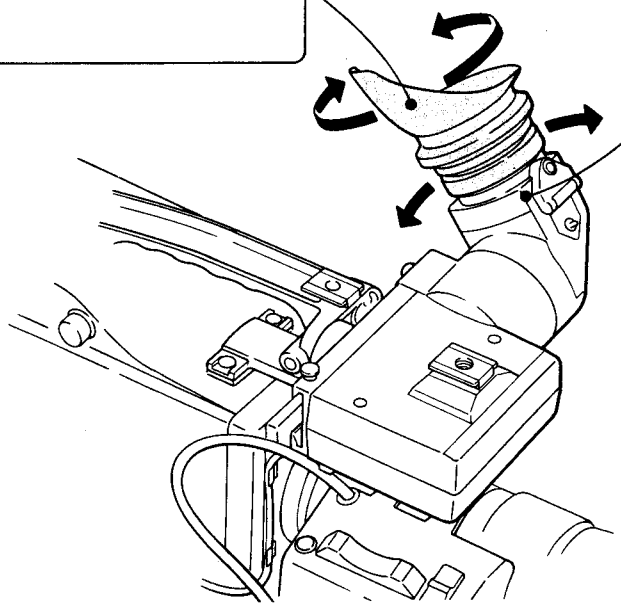
To insert the camera into the carrying case with the viewfinder attached to it, slide the viewfinder to the "▼" mark and tighten the lock ring.



The position of the eye cup :

2 Rotate the eye cup to fit the eye used for viewing.

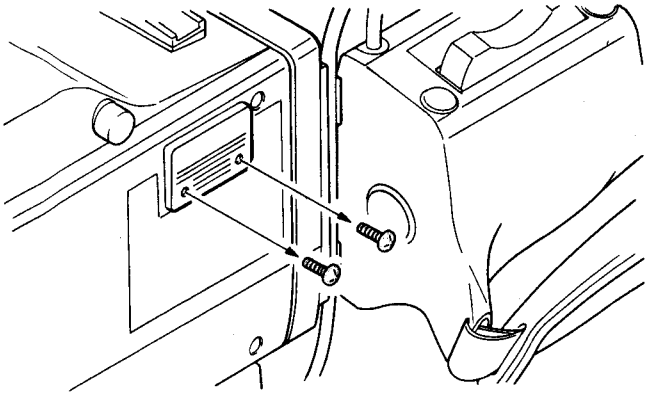
1 Move the eye cup up and down for comfortable use.



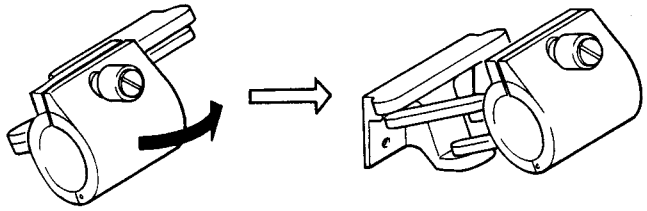
MICROPHONE ATTACHMENT

In order to use the C-74 external microphone (optional), first attach the CAC-11 microphone holder (optional) to the camera head.

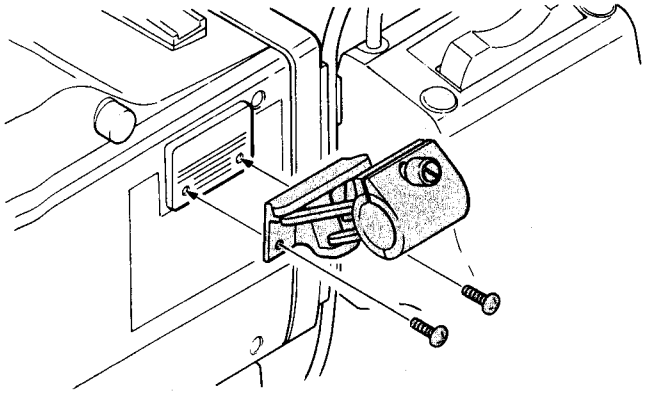
1 Remove the two screws from the side of the camera head.



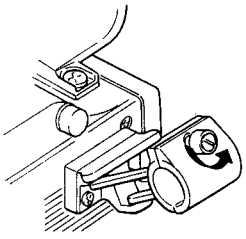
2 Extend the microphone holder as illustrated.



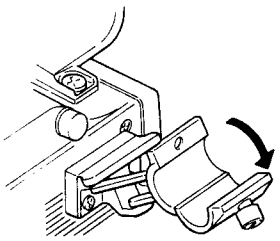
3 Attach the holder to the camera head with the screws which were removed in Step 1.



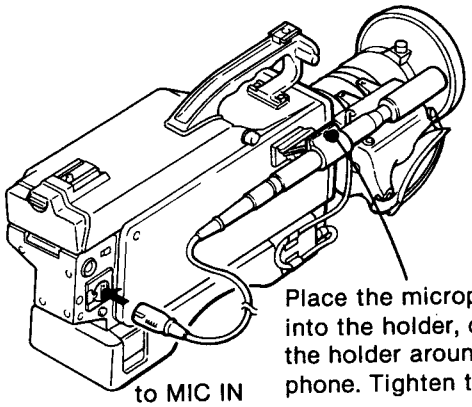
4 Loosen the screw.



5



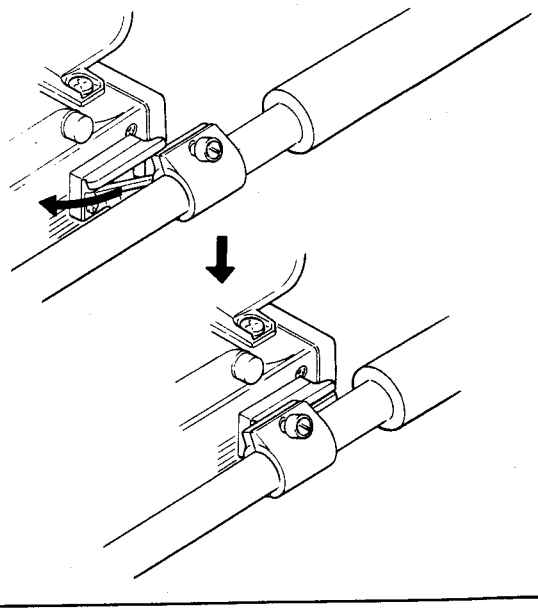
6



Place the microphone into the holder, clamp the holder around the microphone. Tighten the screw.

To store the camera in the carrying case with the microphone mounted

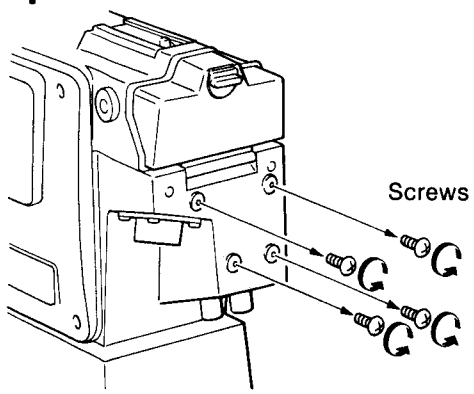
Push the microphone holder in toward the camera as illustrated.



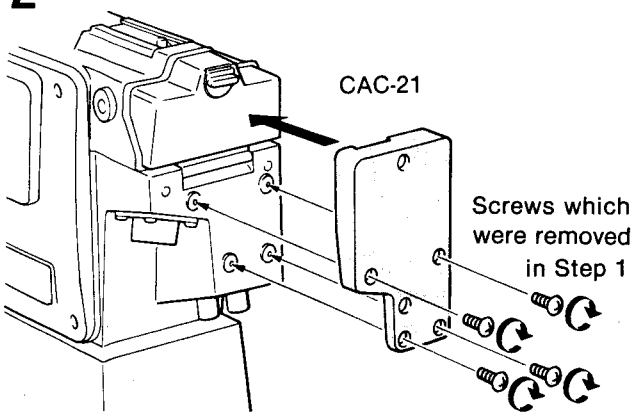
BATTERY ADAPTOR ATTACHMENT

When you wish to use the camera for an extended period of time, attach the DC-8 battery adaptor (optional) to the camera by using the CAC-21 battery shoe (optional). Insert two charged NP-1 battery packs (optional).

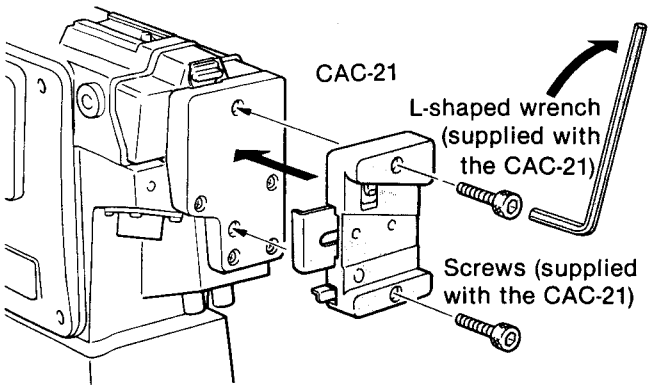
1



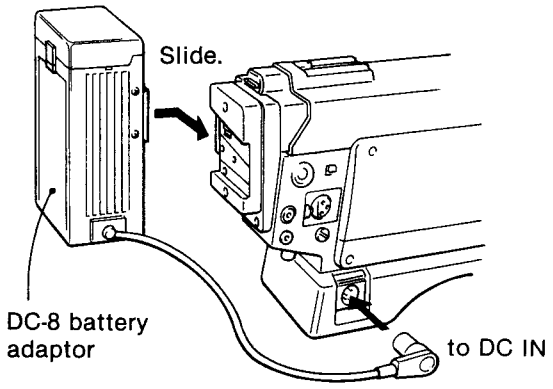
2



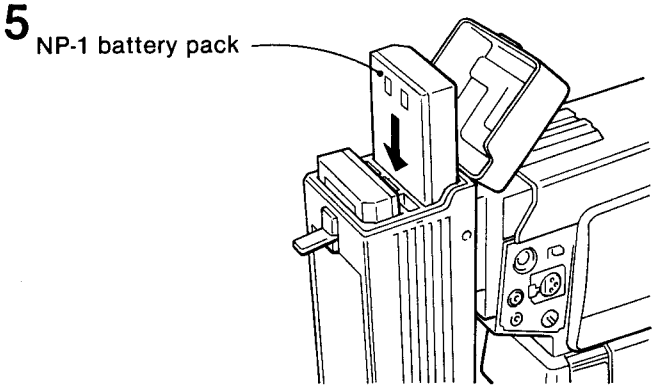
3



4

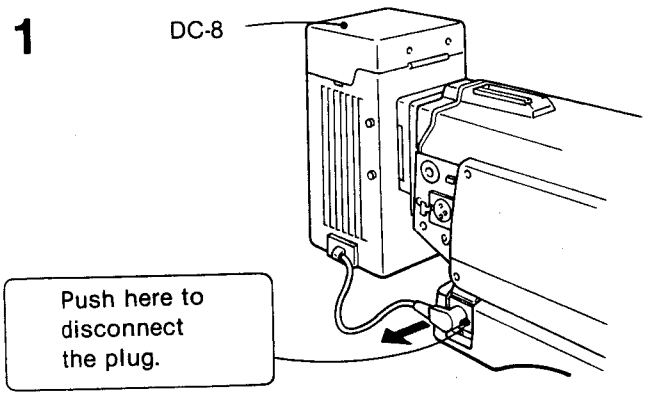


5

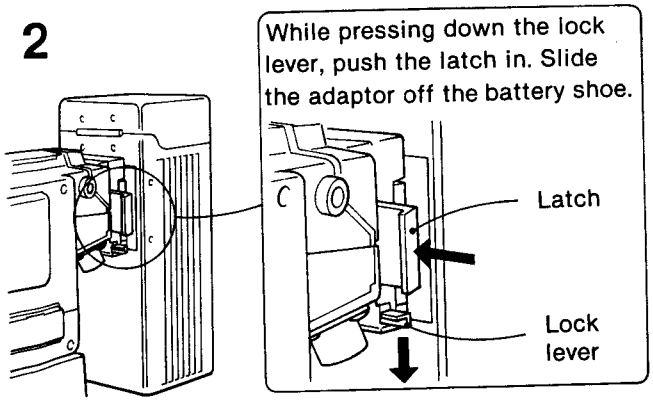


Battery adaptor detachment

1



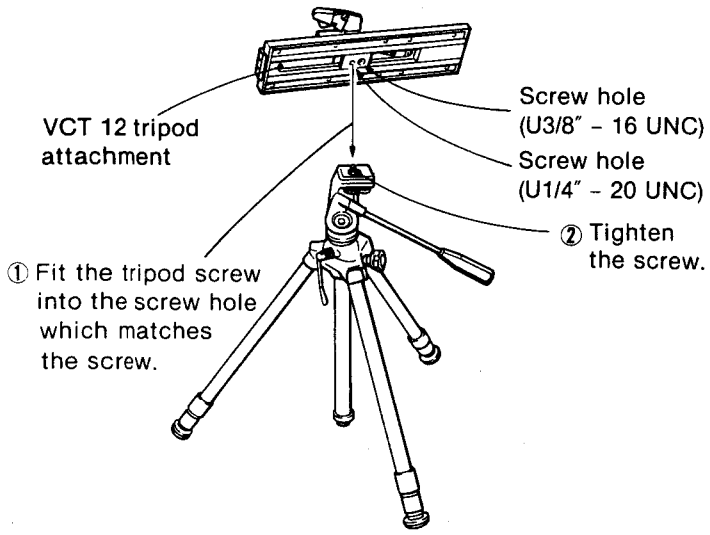
2



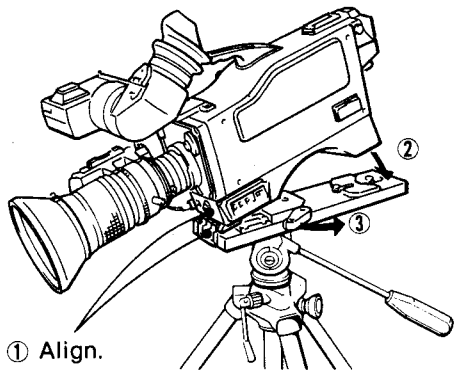
TRIPOD ATTACHMENT

Attach the camera to the tripod using the VCT-12 tripod attachment (optional).

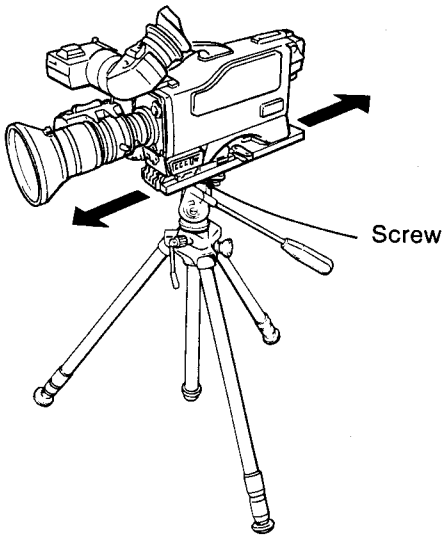
1 Attach the tripod attachment to the tripod.



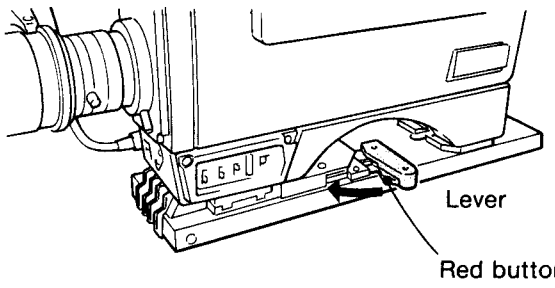
2 Attach the camera.



3 Slightly loosen the tripod screw, and move the camera to be balanced. Tighten the screw.



Camera detachment



While depressing the red button, slide the lever to the left to release the lock. Remove the camera.

POWER SOURCES

The DXC-3000/3000P operates on any of the following three types of power sources:

(1) Power from the DC IN connector, using the DC-8 battery adaptor
(2) A built-in NP-1 battery pack
(3) Power from the VTR/CCU/CMA connector
   — Power from the VTR when connecting a portable VTR
   — Power from the CCU when connecting a CCU-M3/M3P camera control unit
   — Power from the camera adaptor when connecting a CMA-8/8CE camera adaptor

Priority of power sources
When two or three of the power sources (1) to (3) are simultaneously connected to the camera, only one of them is used according to numerical order priority, and the other power source(s) is (are) automatically cut off.

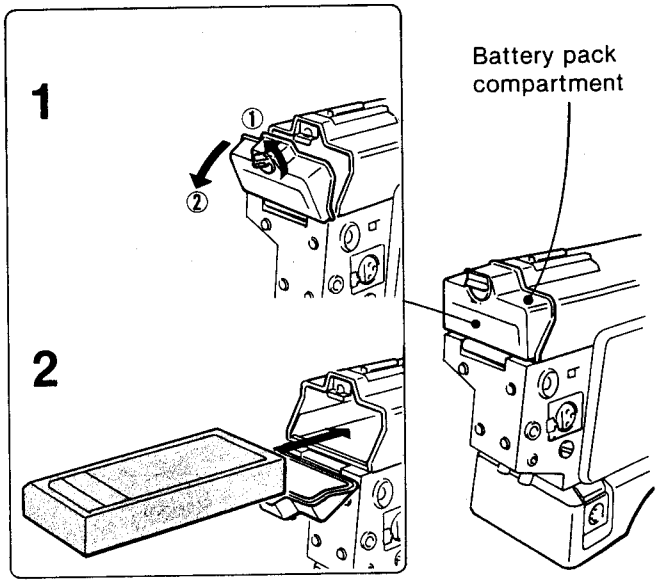
POWER FROM THE DC IN CONNECTOR

When you wish to use the camera for an extended period of time, use a DC-8 battery adaptor which contains two NP-1s. For installation of the DC-8, refer to page 18.

BUILT-IN NP-1 BATTERY PACK

Use a fully charged NP-1 battery pack (optional) by inserting it into the battery pack compartment.

How to insert the NP-1



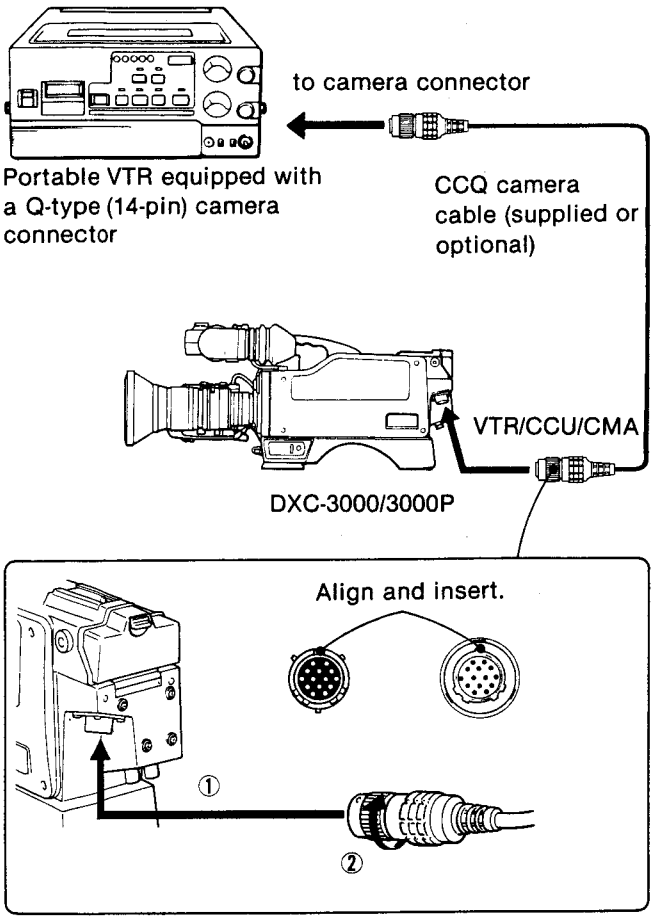
Battery life
Continuous operation time
When using two fully charged NP-1s: About 3 hours
When using one fully charged NP-1: About 1.5 hours

Battery life warning
When the battery is nearly exhausted, the warning ":BATT: EMPTY?" appears on the viewfinder screen. If you continue to use the battery after the "BATT: EMPTY?" warning has appeared, the BATT indicator of the viewfinder also lights up to indicate that the battery must be replaced immediately.

Battery charging
Recharge the NP-1 battery pack before each use, using the BC-1WA battery charger. It takes about one hour at the normal temperature. For details on recharging, refer to the battery charger's instruction manual.

POWER FROM THE VTR/CCU/CMA CONNECTOR

Power from the portable VTR



Notes

- When the portable VTR is operated from rechargeable battery packs, the continuous operating time of the camera and portable VTR is about 1 hour and 15 minutes at normal temperatures (when the VO-6800/6800PS portable videocassette recorder and two NP-1 battery packs are used). The life of the batteries installed in the portable VTR is indicated by the BATT indicator of the viewfinder. (Refer to page 1-35.)
- Refer to the VTR's instruction manual for information on the power supply to the VTR.

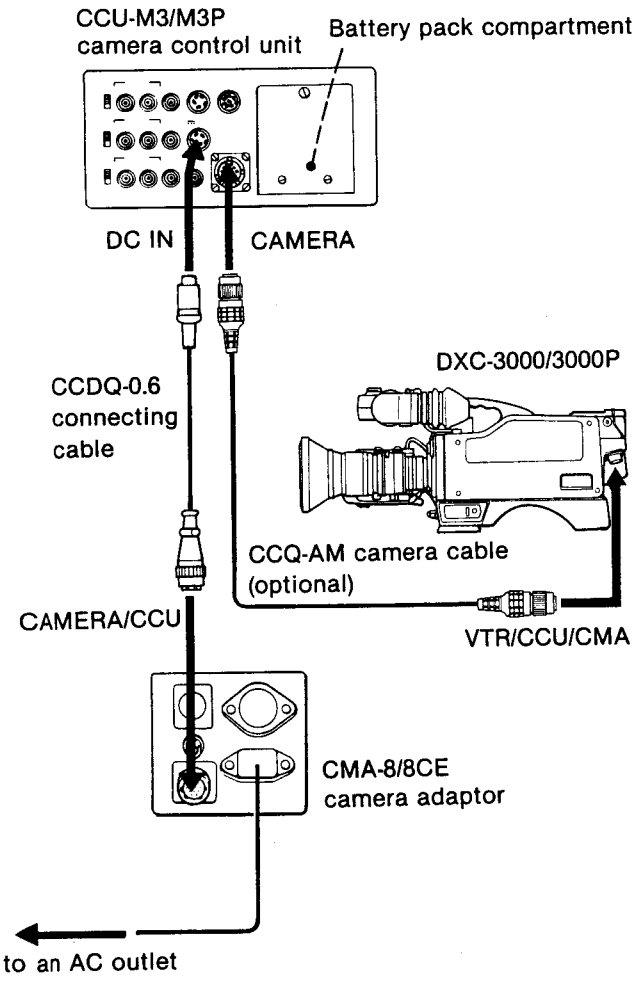
Caution

- Before operating the camera, make sure that the power supplied from the VTR to the camera is sufficient. If the power supply capacity of the VTR is not sufficient, the camera must be powered independently.
- When a portable VTR equipped with a K-type (14-pin) camera connector is used, the camera must be powered independently, because power is not supplied through the CCQK cable.

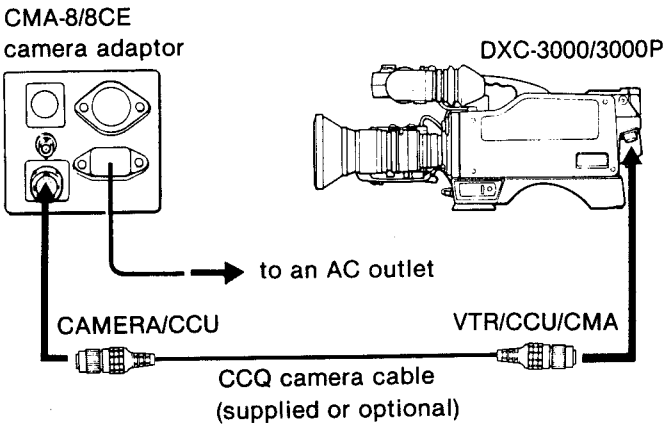
Power from the CCU-M3/M3P camera control unit

When the CCU is powered by the battery pack, the life of the battery pack installed in the CCU is indicated by the BATT indicator of the viewfinder.

For details on the power sources for the CCU, refer to the CCU's instruction manual.



Power from the camera adaptor

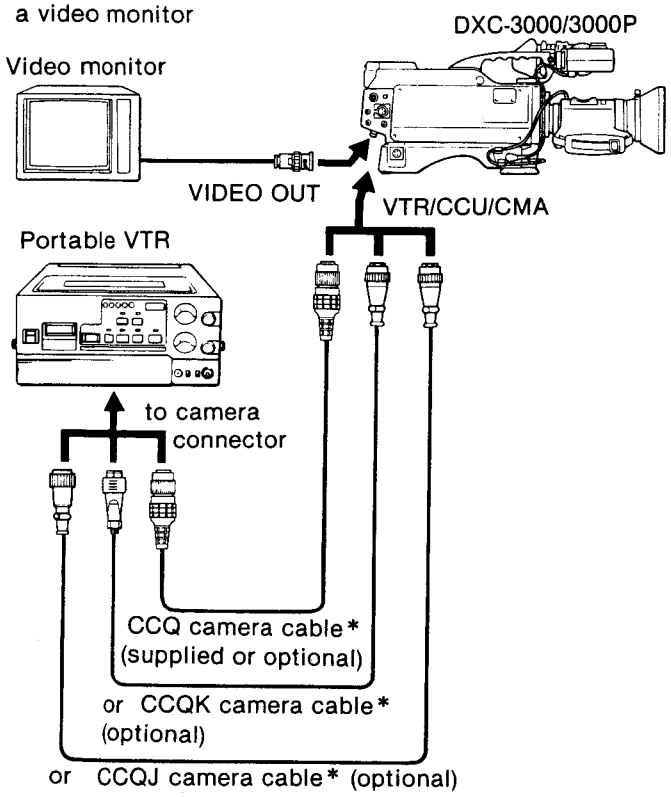


CONNECTIONS

Before making connections, make sure that the power switches of the camera and other equipment are turned off.

CONNECTION WITH A PORTABLE VTR

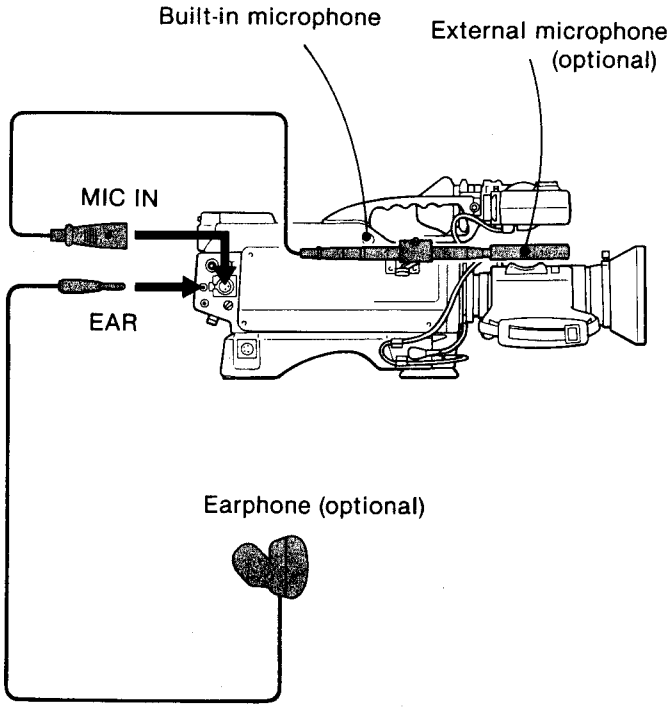
When monitoring the picture using a video monitor



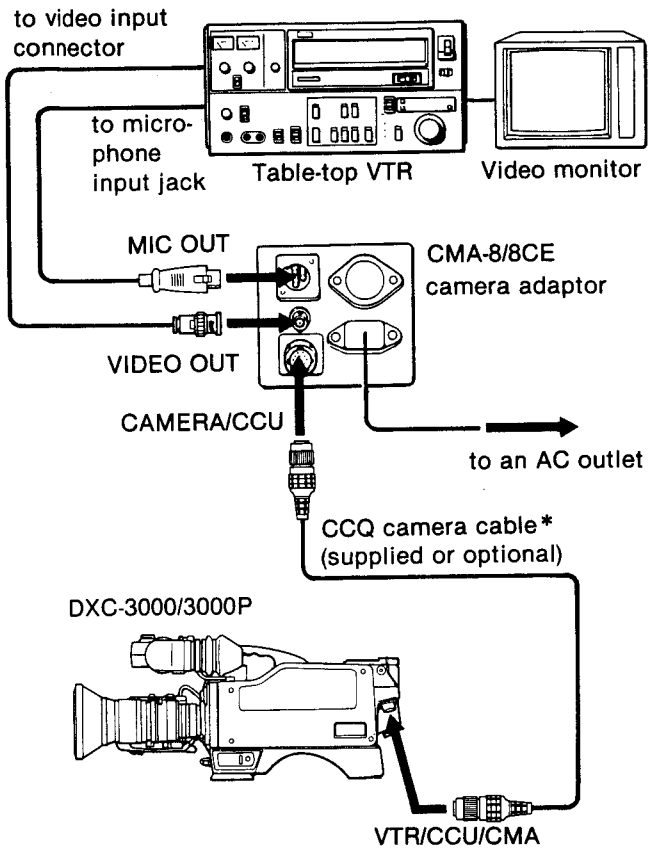
*The camera cable can be extended up to 10 meters (33 feet) using a CCQ camera cable.

Connection for simultaneous sound recording

To avoid recording noise made while handling the camera, connect an external microphone to the MIC IN connector. The built-in microphone will be automatically shut off.

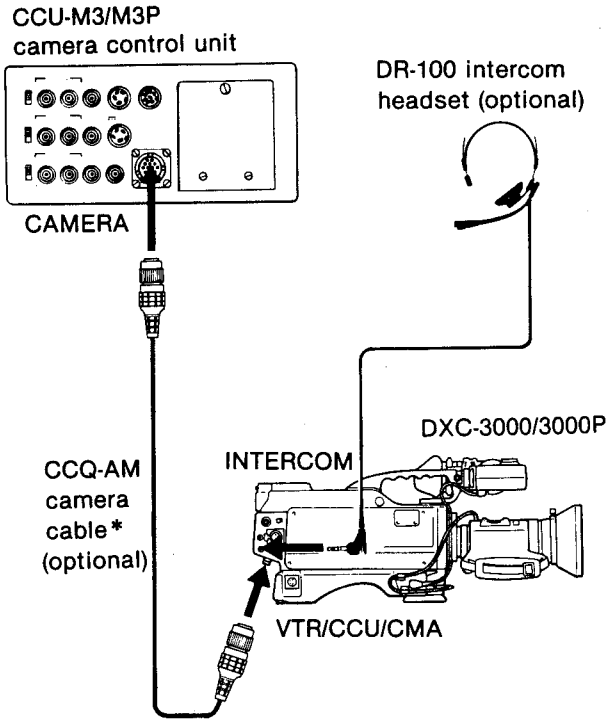


CONNECTION WITH A TABLE-TOP VTR



*The camera cable can be extended up to 30 meters (99 feet) using a CCQ camera cable.

CONNECTION WITH THE CCU-M3/M3P CAMERA CONTROL UNIT



*The camera cable can be extended up to 100 meters (330 feet) using a CCQ-AM camera cable.

Notes on operation with the CCU-M3/M3P

- When the camera is connected to the CCU-M3/M3P camera control unit, set the selector and the switch as follows:
  — VTR selector: 1
  — BARS/WB switch: AUTO
- When the camera is connected to the CCU, the following switches will not operate: GAIN selector, BARS/WB selector, H PHASE control, SC PHASE control and SC phase selector.
- If the W/B BALANCE selector of the CCU is set to PRESET, this setting of the CCU has priority over the setting of the AUTO W/B BALANCE switch of the camera to WHT. If the W/B BALANCE selector of the CCU is set to MANUAL or AUTO, automatic white balance adjustment will be performed when the AUTO W/B BALANCE switch of the camera is set to WHT. Automatic black balance adjustment is performed by setting the AUTO W/B BALANCE switch of the camera to BLK, irrespective of the position of the W/B BALANCE selector of the CCU.
- The MIC IN connector of the camera cannot be used as an external microphone input. Connect the microphone directly to or through a mixing console, etc., to the VTR.

OPERATING CONDITIONS AND FUNCTIONS OF THE CONNECTED VTR

VTR selector	Microphone level	Connected VTR	Remote control of VTR start/stop	REC indicator		BATT alarm indication	Audio monitor (on the camera)	Picture shown on the viewfinder		Cable for connection n: cable length	Power supply from VTR to camera (See note 1.)	AC power adaptor for VTR
				REC indication	VTR alarm			During recording	During playback			
1	−60 dB (See note 4.)	VO-6800 (NTSC) VO-6800PS (PAL)	Yes	Yes	Yes	Yes	Yes	Yes Camera	Yes VTR	CCQ-nAR	Yes	CMA-8 (NTSC) CMA-8CE (PAL)
		VO-4800 (NTSC) VO-4800PS (PAL)	Yes	Yes	Yes	Yes	Yes	Yes Camera	Yes VTR	CCQ-nAR	Yes	AC-340B (NTSC) AC-340CE (PAL)
		BVU-50 (NTSC) BVU-50P (PAL)	Yes	Yes	Yes	Yes	Yes	Yes Camera	No	CCQ-nAR	Yes	AC-500 (NTSC) AC-500CE (PAL)
		BVU-110 (NTSC) BVU-110P (PAL)	Yes	Yes	Yes	Yes	Yes	Yes Camera	Yes VTR	CCQ-nAR	Yes	AC-500 (NTSC) AC-500CE (PAL)
		SLO-340 (NTSC)	Yes	Yes	No	No	Yes (See note 2.)	Yes Camera (See note 3.)	Yes VTR	CCQJ-2	Yes	
2	−20 dB	SL-2000 (NTSC) SL-F1E (PAL)	Yes	Yes	Yes	No	Yes	Yes Camera	Yes VTR	CCQK-2	No	AC-220 (NTSC) AC-F1E (PAL)
3	−20 dB	HR-C3 (JVC, NTSC) HR-2200 (JVC, PAL)	Yes	Yes	No	No	Yes	Yes Camera	Yes VTR	CCQJ-2	No	
4	−20 dB	PV-5000 (Panasonic, NTSC) NV-9400 (Panasonic, PAL)	Yes	Yes	No	No	No	Yes Camera	Yes VTR	CCQJ-2	No	

Notes

1. For VTRs with "No" in the column "Power Supply from VTR to Camera", the power supply from the VTR is insufficient to operate a camera. Therefore, the independent power source must be provided for the camera. If the camera is operated without being powered independently, heat will build up in the VTR or AC power adaptor, and the protective circuit will activate. Consequently, the VTR or AC power adaptor will not operate properly.

2. The audio can be monitored when the NP-1 built into the camera is used.

3. The VTR picture is monitored in the viewfinder when the NP-1 built into the camera is used.

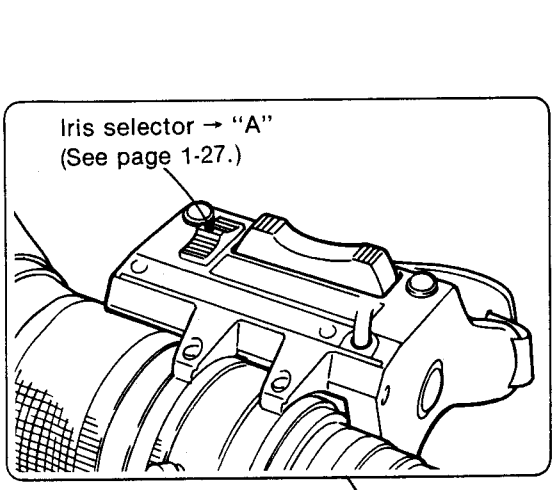
4. When the VO-6800/6800PS portable VTR is connected to the camera, the VTR's −20 dB/−60dB camera microphone input level selector is set to −60 dB.

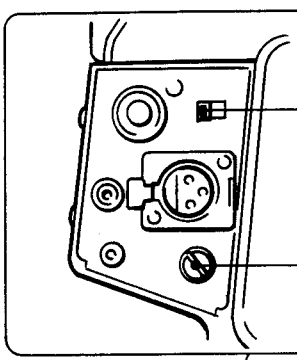
If the operating conditions of the VTR are different from those shown above, the VTR might not operate normally. If you use a VTR other than those shown above, for which the VTR selector must be set to "3" or "4, check the signal levels and other operating conditions.

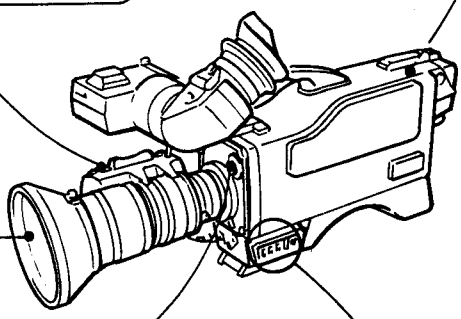
ADJUSTMENTS

PREPARATION

Check to be sure that the connections are made correctly, and set the switches as shown.

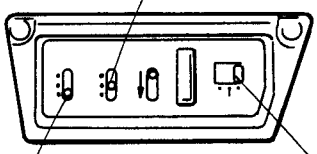






Remove the lens cap.

FILTER selector → appropriate position
(See page 1-27.)

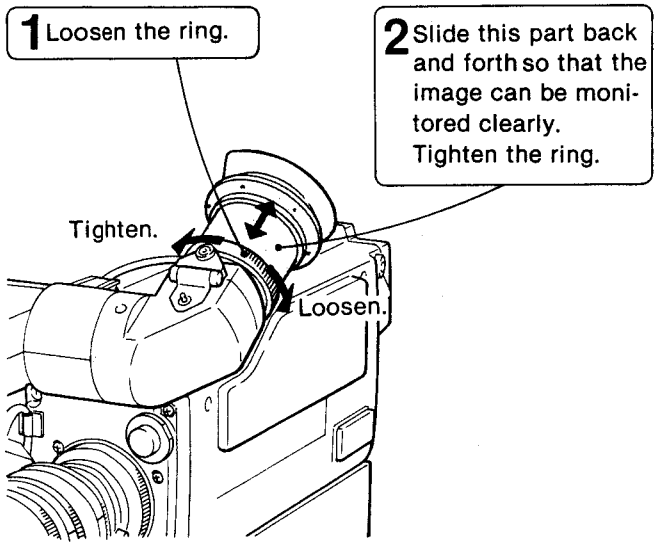


Point the camera at the object. While zooming in or out, turn the focus ring to focus the picture.

VIEWFINDER ADJUSTMENT

After adjusting the viewfinder and the eye cup, make the following adjustment so that the viewfinder screen can be seen comfortably.

Diopter adjustment (adjustable range: from −1 D to −3 D)
Since each operator's eyesight varies, it is necessary to adjust the diopter each time the viewfinder is used by a new operator.
Adjust the diopter after focusing as follows.



Viewfinder's contrast and brightness adjustments

1 Set the BARS/WB selector to BARS.
2 Adjust the contrast and brightness with the CONTR and BRIGHT controls, referring to the color bar signals on the viewfinder screen.
3 Set the BARS/WB selector to AUTO after adjustment.

Note

The CONTR and BRIGHT controls do not affect the output signals of the camera.

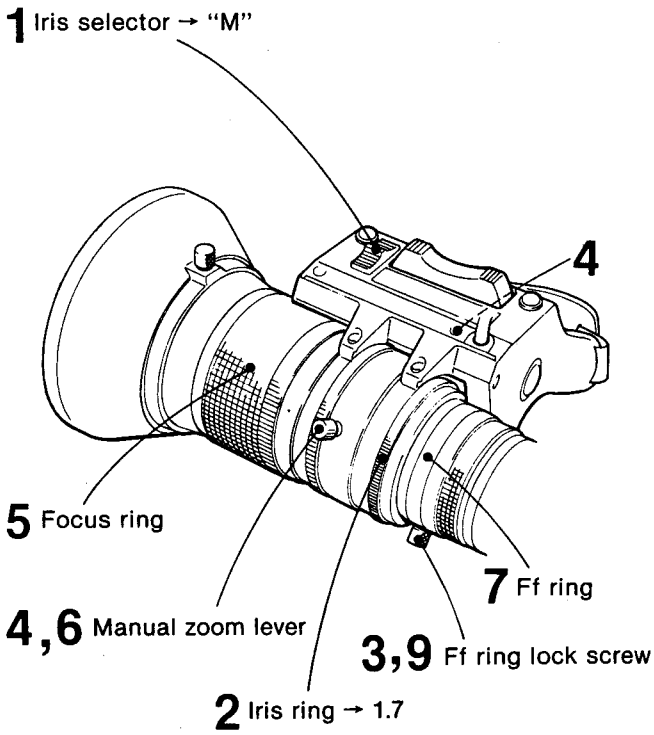
VIDEO MONITOR ADJUSTMENT

When a color video monitor is being used to monitor a picture, adjust the color of the monitor as follows.

1 Set the BARS/WB selector to BARS.
2 Adjust the color and hue controls on the monitor while viewing the color bars on the monitor screen.
3 Set the BARS/WB selector to AUTO.

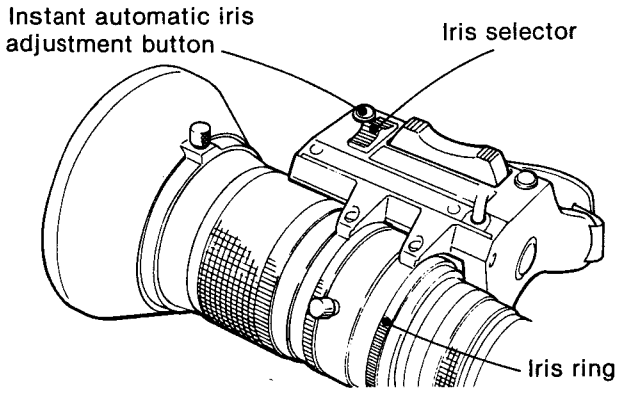
FLANGE FOCAL LENGTH ADJUSTMENT

The proper flange focal length adjustment ensures that the object is in focus both at the wide-angle position and at the telephoto position when zooming.



1 Set the iris selector to "M".
2 Set the iris ring to "1.7".
Position an appropriate object and illuminate it so that the proper video level is obtained when the iris ring is set to "1.7".
3 Loosen the Ff ring lock screw.
4 Set the ZOOM selector to M and turn the manual zoom lever to the "120" telephoto position.
5 Turn the focus ring until an object at about three meters (10 feet) from the lens is in focus. An object with fine detail is desirable.
6 Turn the manual zoom lever to the "10" wide-angle position.
7 Turn the Ff ring until the same object is in focus.
Be sure not to turn the focus ring.
8 Repeat Steps **4** through **7** until the object is in focus both at the telephoto position and at the wide-angle position.
9 Tighten the Ff ring lock screw.
Once the flange focal length adjustment has been made, readjustment is not necessary as long as the lens stays mounted on the same camera.

IRIS ADJUSTMENT



Automatic adjustment
Set the iris selector to "A", and the iris will be automatically adjusted to the brightness of the object. Normally use the "A" position.

Manual adjustment
Set the iris selector to "M", and turn the iris ring. Manual adjustment may be effective when recording an object against a bright sky or a scene with high contrast.

Temporary automatic adjustment
While the instant automatic iris adjustment button is kept depressed during manual iris adjustment, the iris is automatically adjusted. When the button is released, the iris will be fixed at the value that has just been obtained until the iris is adjusted again manually.

FILTER SELECTION

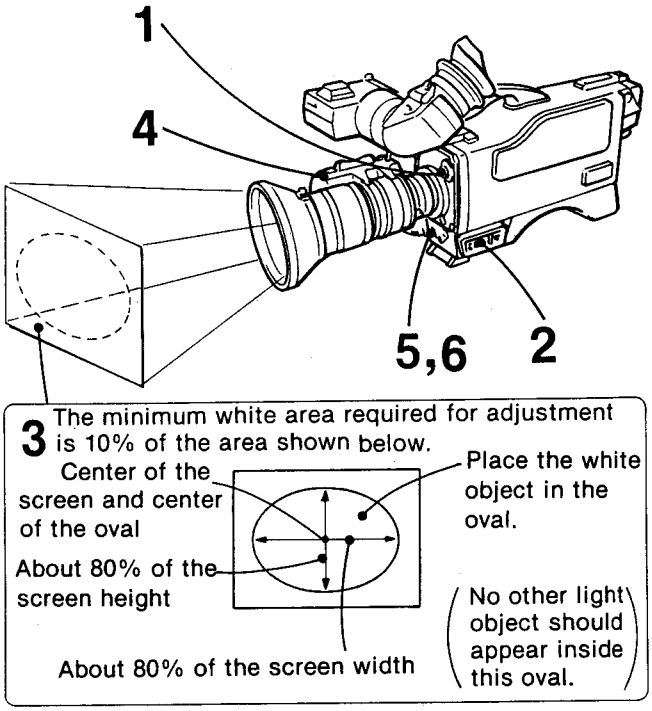
The color temperature changes according to lighting conditions. To compensate this, use the color temperature conversion filter indicated in the table below.

Filter number	Lighting conditions
1	Iodine lamp, sunrise, sunset
2	Bright outdoor
3	Cloudy, rainy

If the selected filter is not suitable for the lighting conditions, a warning such as ":LOW LIGHT" will be shown on the viewfinder screen. For details on the warning, refer to "Warning Indicators and Character Display" on page 1-35.

WHITE BALANCE AND BLACK BALANCE ADJUSTMENTS

Proceed with the following white balance and black balance adjustments in order to obtain picture clarity and lifelike color reproduction.



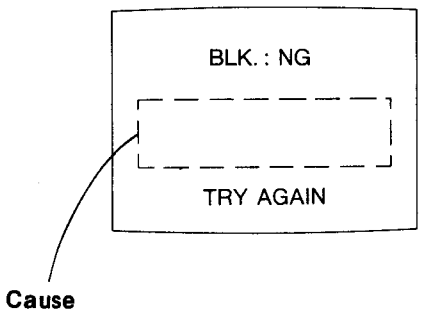
1 Set the FILTER selector properly according to the lighting conditions.
2 Set the BARS/WB selector to AUTO.
3 Zoom up on a white object using the same lighting conditions as those under which the recording will be made.
4 Set the lens iris selector to "A".
5 Press the AUTO W/B BALANCE switch toward BLK, and release it.
"BLK.:OP" will appear on the viewfinder screen during the automatic black balance adjustment. After the adjustment is completed, "BLK.:OK" will be displayed for a few seconds.
6 Press the AUTO W/B BALANCE switch toward WHT, and release it.
"WHT.:OP" will appear on the screen during the automatic white balance adjustment. After the adjustment is completed "WHT.:OK" will be displayed for a few seconds.

Note
Readjustments of the white balance and black balance are necessary under the following conditions.

White balance:
- Each time the lighting conditions are changed
- If the ":MEMORY NG" is displayed on the viewfinder screen, indicating the previous white balance value is no longer retained in the memory.

Black balance: If the ":MEMORY NG" is displayed on the viewfinder screen, indicating that the previous black balance value is no longer retained in the memory.

If the automatic black balance adjustment function does not work normally,
the following indications will appear on the viewfinder screen.



:LENS CLOSE?

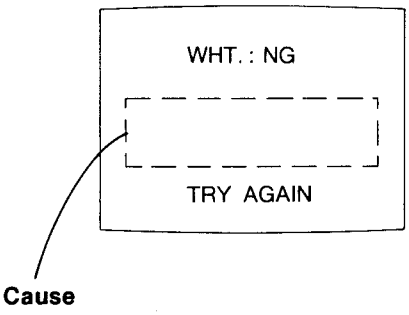
Cause: The lens iris did not close automatically during black balance adjustment.
Check: •The lens function
•The lens connection

:CB SW
MISS TOUCH?

Cause: The BARS/WB selector is set to BARS during the black balance adjustment.
Check: The BARS/WB selector. Is it set to AUTO?

Try to make the black balance adjustment again after eliminating the problems described above.

If the automatic white balance adjustment function does not work normally,
the following indications will appear on the viewfinder screen.



:C.TEMP.LOW
CHG.FILTER
or
:C.TEMP.HI
CHG.FILTER

Cause: An inappropriate color temperature conversion filter was used.
Check: The filter type

:????

Cause:
- A white object was not used to make the adjustment.
- The adjustment was made with a very bright object inside the minimum white area required for white balance adjustment.

Check: The white pattern or object, and refer to Step 3 of the "White Balance and Black Balance Adjustments".

:LOW LIGHT

Cause: The light is insufficient.
Check:
- The lighting. If necessary, increase it.
- The video output level. If necessary, raise it using the GAIN selector.

Try to make the white balance adjustment again after eliminating the problems described above.

Memorized white balance and black balance values
In the DXC-3000/3000P, a built-in memory stores the adjusted white balance and black balance values. The memorized values will be retained for about 12 hours after the power is turned off without any further power supply to the camera or until the adjustments are made once again. If the memorized values are erased, ":MEMORY NG" will be displayed on the viewfinder screen next time the camera power is turned on. If this happens, adjust the white balance and black balance.

To start recording immediately without white balance adjustment
Set the BARS/WB selector to 3,200° K to obtain the white balance value preset at the factory.

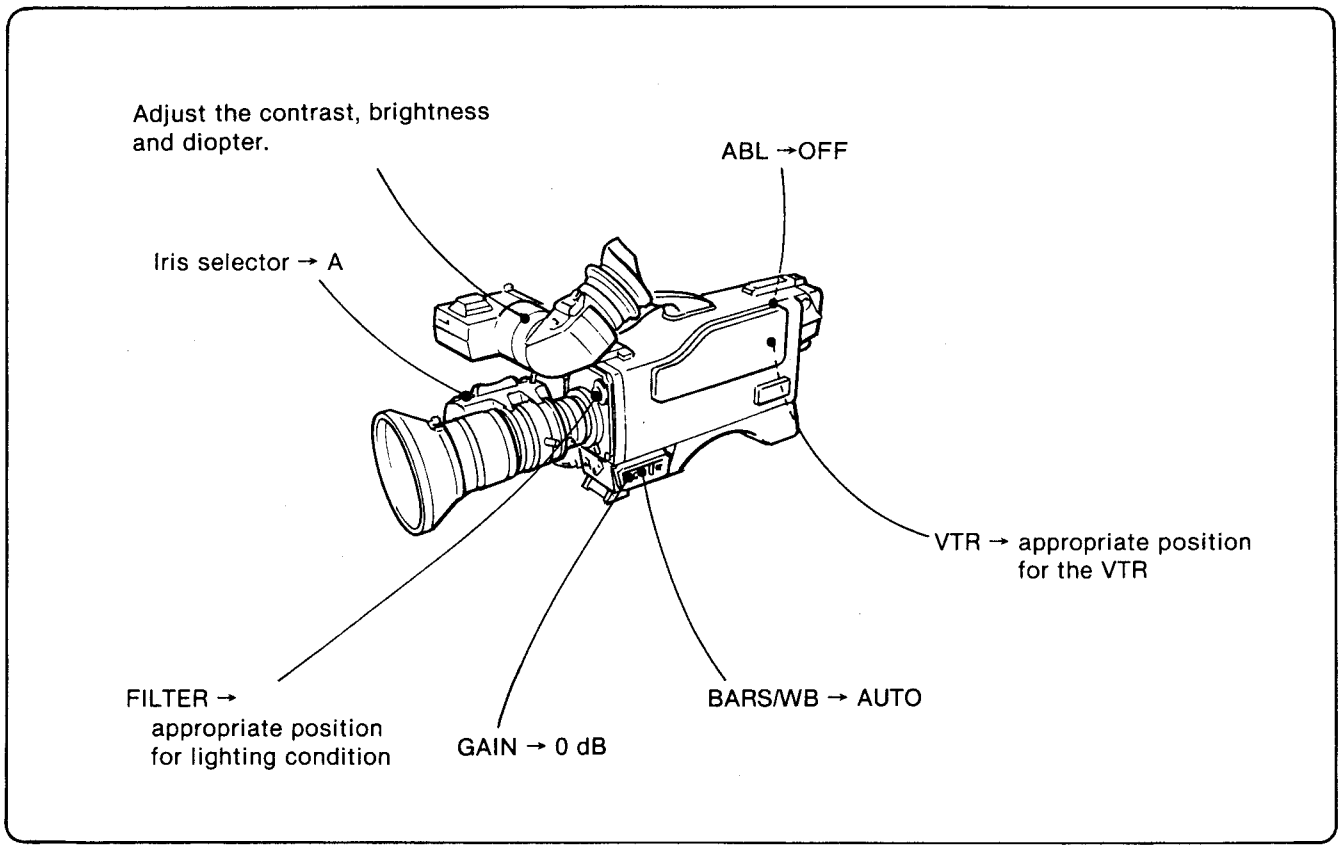
BLACK SETTING

When the AUTO W/B BALANCE switch is set to BLK, the black level drift (with respect to the reference black level) of each channel (R, G, B) is automatically adjusted, together with the black balance.

OPERATION

PREPARATION

Before operation, set the switches as follows.



RECORDING WITH A PORTABLE VTR (connected with a CCQ, CCQK or CCQJ camera cable)

1 Turn the camera and the connected equipment on.
2 Adjust the black balance and white balance. For details, refer to "White Balance and Black Balance Adjustments" on page 1-27.
3 Point the camera at an object and adjust the lens.
—Iris (Refer to page 1-27.)
—Zoom (Refer to page 1-32.)
—Focus
4 To start recording, press the VTR START/RETURN VIDEO button on the camera or the VTR button on the lens. The REC/TALLY indicator in the viewfinder will light during recording.

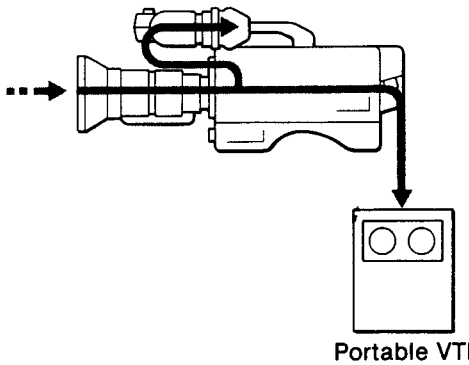
To stop recording, press the VTR START/RETURN VIDEO button or the VTR button again.

Note
For a brief period after the camera has been turned on, the BATT indicator of the viewfinder may light and random characters may be displayed on the viewfinder screen. (This is not a malfunction.)

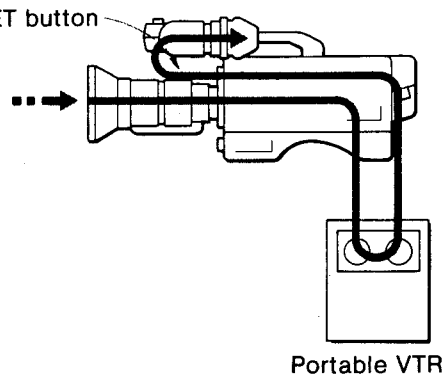
Monitoring the sound
The sound can be monitored during both recording and playback through an earphone connected to the camera's EAR jack.

Monitoring the picture
The following three types of pictures can be seen on the viewfinder screen when the camera and the VTR are connected with the CCQ camera cable. (For details on the pictures which can be shown on the viewfinder screen, refer to page 1-21.)

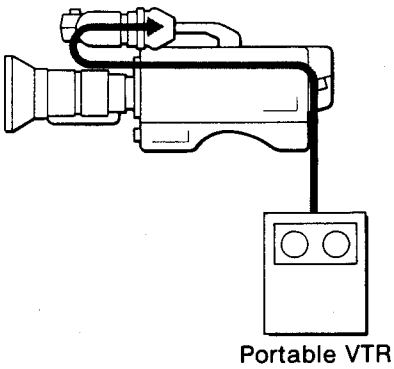
Picture picked up by the camera (during recording)



E-E mode picture from the VTR (return video) when the RET button on the lens is pressed (during recording)



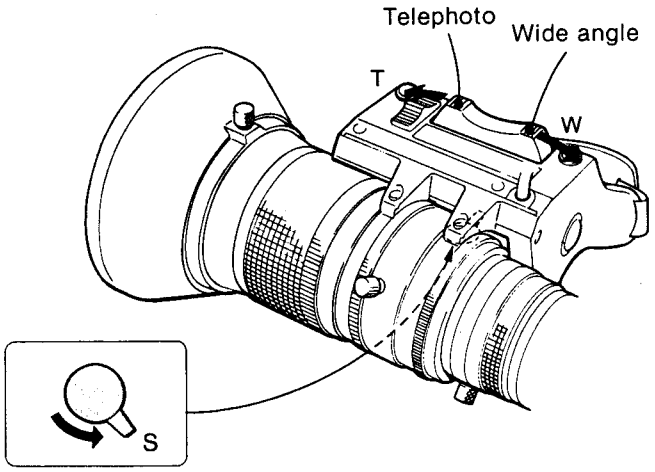
Playback picture (during playback)



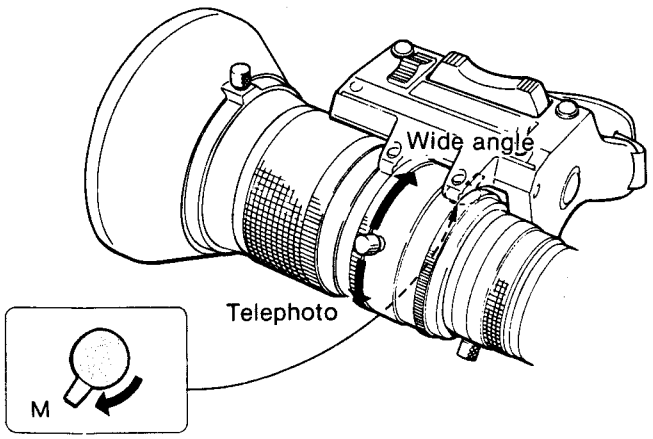
Note
While the playback picture from the VTR is displayed on the viewfinder screen, a part of the camera's video signals, such as a sync signal, may be mixed with the playback picture so that streaks of noise roll vertically or horizontally.

ZOOMING

Motorized zooming
You can zoom smoothly. Zooming is faster when the motorized zoom switch is pressed down all the way and becomes slower when it is pressed down only slightly.



Manual zooming
Manual zooming allows more precise control of the zooming speed.



Tips on zooming

Zoom in: From wide angle to telephoto. Used to bring a distant object up close.

Zoom out: From telephoto to wide angle. Used to move back from an object and gradually reveal the object's surroundings.

Following: Zoom up on the subject and follow its movement with the camera. This zoom effect is used, for example, to emphasize the speed of the subject by making the background rush past in a blur.

Correct focusing: If the focus is right in the telephoto position, it will be right when you zoom back to wide angle.

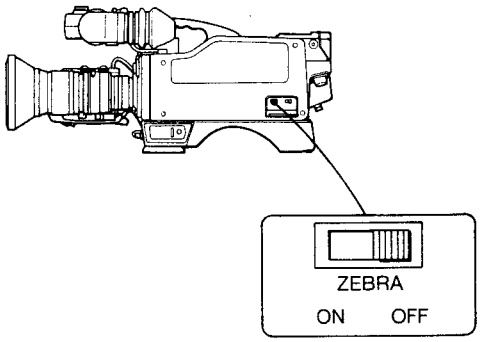
For a more stable picture, we recommend placing the camera on a tripod when zooming. If you zoom with the camera on your shoulder, stand as steady as possible.

OUTPUT LEVEL ADJUSTMENT

If a clear picture cannot be obtained because of insufficient lighting, set the GAIN selector to the appropriate position. Normally set the GAIN selector to "0".
The video output level can be raised by 9 dB by setting the GAIN selector to "9" and by 18 dB by setting the selector to "18".

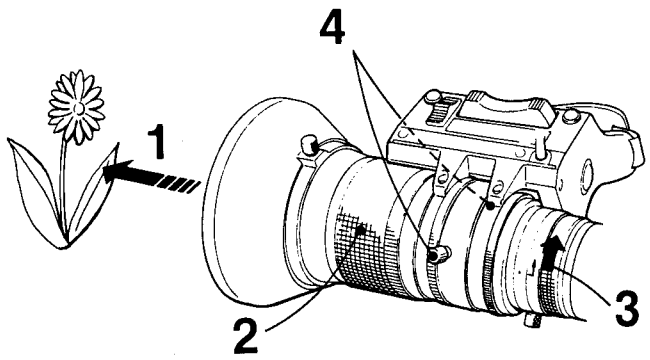
CHECKING THE VIDEO LEVEL

When the ZEBRA switch is set to ON, a zebra pattern will appear on the part of the viewfinder screen when the video output level of the picture is 70 to 80 IRE (for NTSC) or 490 to 560 mV (for PAL). You can use this zebra pattern as a reference when adjusting the iris manually. Adjust the iris so that the zebra pattern appears over the subject being shot (for example, the face of a back-lit person).
If it is not necessary to use the zebra pattern to adjust the iris, set the ZEBRA switch to OFF.



CLOSE-UPS — Shooting small or nearby objects

The close-up or macro function lets you zoom in flowers, insects and even photographs. The minimum distance from the lens to the object is 80 mm in the "10" wide-angle zoom position.



1 Adjust the distance between the lens and the object to get the desired image size.
2 Set the focus ring to the "one meter (1 m)" setting.
3 Turn the MACRO ring in the direction of the "MACRO" arrow until it stops.
4 Focus by turning the manual zoom lever with the zoom selector set to "M".

When the close-ups operation is completed, return the MACRO ring to its original position.

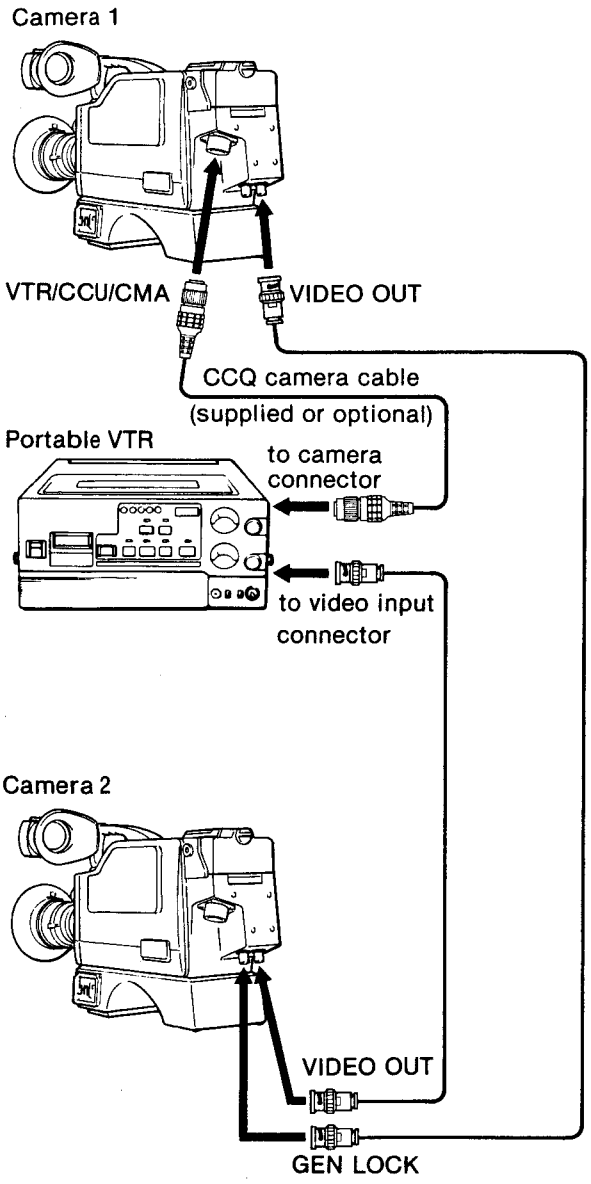
Note

- If you wish to reduce the object's size on the screen, first adjust the focus following Steps 1 through 4 above, then turn the MACRO ring slightly toward its original position and adjust the focus with the manual zoom lever again.
- If the focus ring is set to "∞" while the MACRO ring is turned to "MACRO", the focus can be continually adjusted from the close-ups position to "∞" with the manual zoom lever.

USE OF THE GEN LOCK CONNECTOR

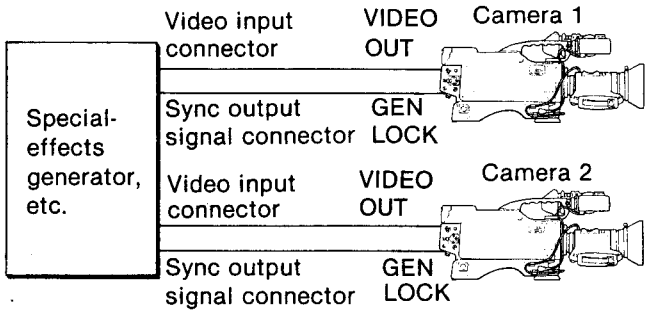
When the BS or VBS signal is connected to the GEN LOCK connector, the camera synchronizes with the connected signal. Use this connector when two or more cameras are used without a CCU.

Example 1



Camera 2 is synchronized with Camera 1.

Example 2



Camera 1 and Camera 2 are synchronized with a special-effects generator.

Adjustment of the picture tone for two or more cameras
When two or more cameras are used simultaneously in connection with a special-effects generator, etc., supply each camera with the same reference signal, and adjust each camera to obtain the same picture tone. Adjust the SC (subcarrier) phase and the H (horizontal) phase following the procedures described below.

Subcarrier phase adjustment
Adjust the subcarrier phase roughly with the SC phase selector, and make fine adjustment using the SC PHASE control. Use a vectorscope to make the adjustment easily.

Horizontal phase adjustment
Adjust the horizontal phase with the H PHASE control. Use a waveform monitor or an oscilloscope to make the adjustment easily.

RECORDING WITH A TABLE-TOP VTR

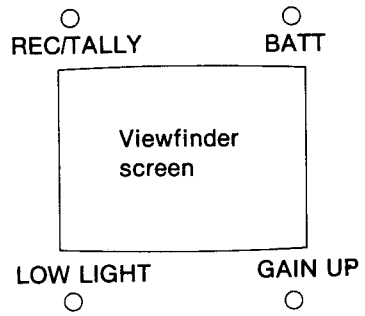
The operating procedure is almost the same as when recording with a portable VTR except for the following:

- The VTR START/RETURN VIDEO button on the camera and the VTR button on the lens do not function. Recording must be started and stopped with the function buttons on the VTR.
- The REC/TALLY indicator in the viewfinder does not function.
- The E-E mode picture (return video) and the playback picture cannot be monitored on the viewfinder screen.

WARNING INDICATORS AND CHARACTER DISPLAY

WARNING INDICATORS ON THE VIEWFINDER

The following indications show the status of the connected camera, VTR or CCU.
(Some VTRs might have no indication function by blinking or by lighting up.)



Indicator	When operant	Blinks	Lights up
REC/ TALLY	While recording, using a VTR connected with a CCQ cable	Until the VTR is put on the standby mode	During recording
	During use of a VTR (equipped with a warning system), which is connected with a CCQ or a CC-QK cable	While the VTR is malfunctioning	—
	During use of the CCU-M3/M3P	—	When a tally signal is transmitted from a video switcher, etc.
BATT	• When a camera powered by a built-in NP-1 is used	—	The battery power is weak.
	• When a VTR is connected to the camera	The battery power is weak.	When a connected equipment is continuously operated after blinking
	• When a CCU is connected to the camera *		
LOW LIGHT	Any time	—	When the lighting is insufficient
GAIN UP	Any time	—	When the GAIN selector is set to 9 dB or 18 dB

* The indicator's blinking speed denotes the following:
Slow: The battery is weak.
Fast: The CCU's switches and controls are being used.

WARNING INDICATIONS BY THE CHARACTER DISPLAY

The following indications appear on the viewfinder screen.

:LOW LIGHT
Meaning: The lighting is insufficient.
Check: — The lighting. Increase it, if necessary.
— The iris. Open the iris manually or activate the auto iris function.
— The filter. Select an appropriate filter.
— The GAIN selector. Set it to 9 dB or 18 dB.

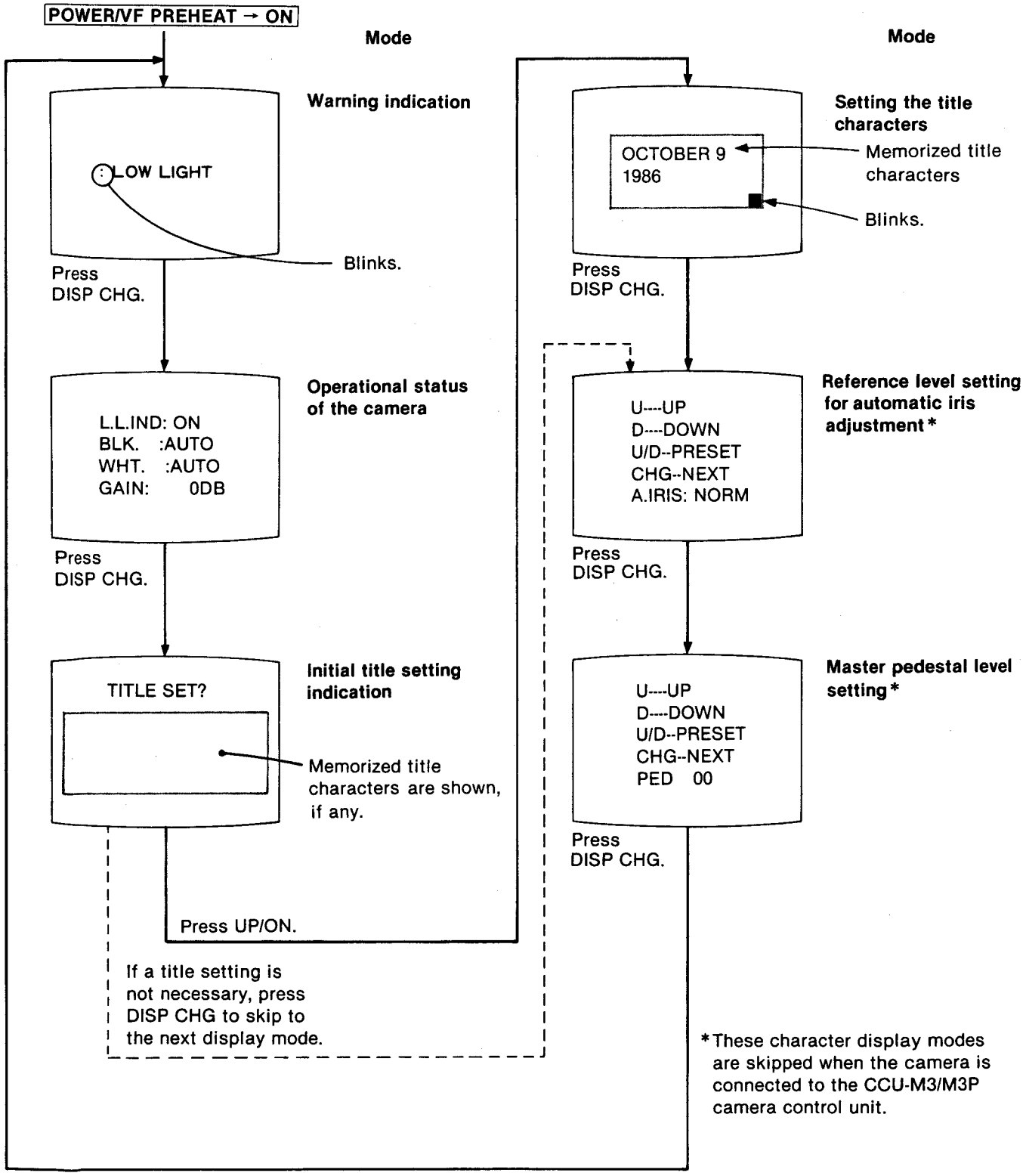
It is possible to switch the "LOW LIGHT" indication on or off.
On: Press the UP/ON button when the character display is on the "Operational Status of the Camera" mode.
Off: Press the DOWN/OFF button when the character display is on the "Operational Status of the Camera" mode. The indication does not appear on the viewfinder screen even if the lighting is insufficient.

:MEMORY NG
Meaning: The white balance and black balance adjusted values are no longer retained in the memory.
Check: The white balance and black balance values. Reset them.

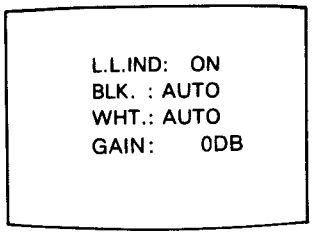
:BATT :EMPTY?
Meaning: The input voltage to the camera is less than about 11.0 V.
Check: The battery. Replace it with a fully charged one.
If you continue recording with a weak battery, the quality of the recording will deteriorate.

CHARACTER DISPLAY ON THE VIEWFINDER

The following chart shows the character display mode sequence each time the DISP CHG is pressed.



Operational status of the camera



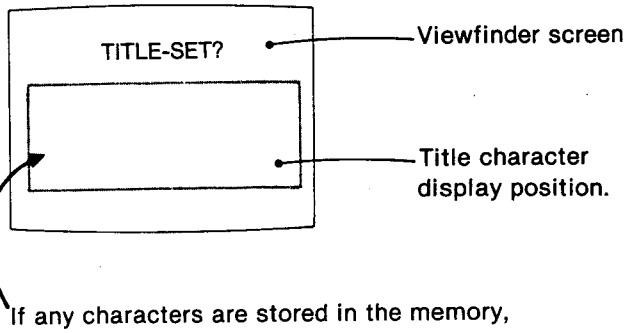
L.L. IND (Setting the "LOW LIGHT" indication)
ON: "LOW LIGHT" is displayed.
OFF: "LOW LIGHT" is not displayed.

BLK. (Black balance adjustment mode)
AUTO: For automatic adjustment
MANUAL: For manual adjustment using the CCU-M3/M3P camera control unit

WHT. (White balance adjustment mode)
AUTO: For automatic adjustment
PRESET: For the factory preset value
MANUAL: For manual adjustment using the CCU-M3/M3P

GAIN (Setting the video output level)
0 dB, 9 dB or 18 dB.

Initial title setting indication

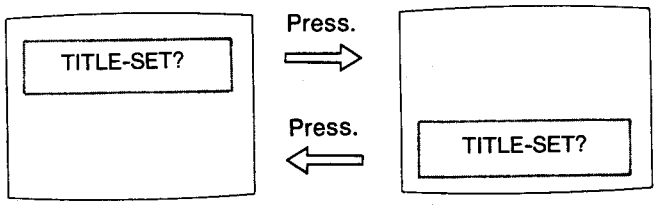


If any characters are stored in the memory, they are displayed here.

Perform the following procedures if necessary.

To clear all the memorized title characters:
Press the UP/ON button and the DOWN/OFF buttons simultaneously.

To change the character display position:
Press the DOWN/OFF button.



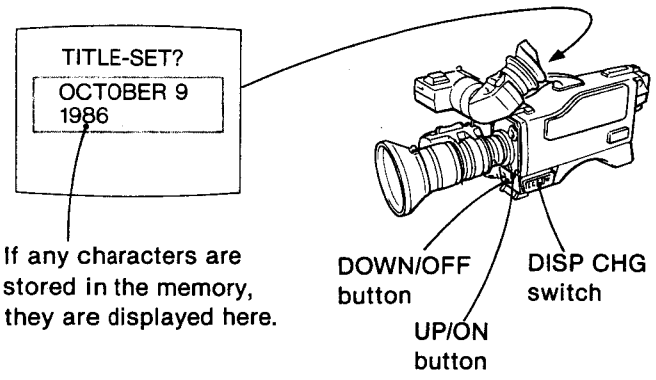
Note
When the camera is used with a VO-6800/6800PS portable VTR, use only the lower character display area, because the VTR tape remaining time is shown in the upper character display area.

Setting the title characters

This camera has a superimposition function which allows the simultaneous showing of the picture shot by the camera and the characters by the built-in character generator on the same screen. If a recording VTR or a monitor is connected to the camera, the superimposed picture can be recorded on the VTR or monitored on the monitor screen. Use the DISP CHG switch, UP/ON button, and DOWN/OFF button to set title characters.

Preparation

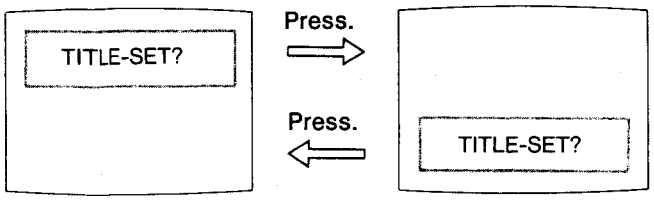
1 Press the DISP CHG switch until the following indication appears on the viewfinder screen.



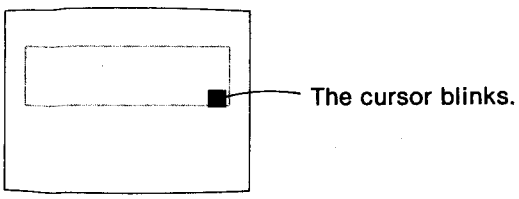
Perform the following procedures if necessary when the indications above are shown on the viewfinder screen.

To clear all the memorized title characters:
Press the UP/ON button and DOWN/OFF button simultaneously.

To change the position of the title characters:
Press the DOWN/OFF button.

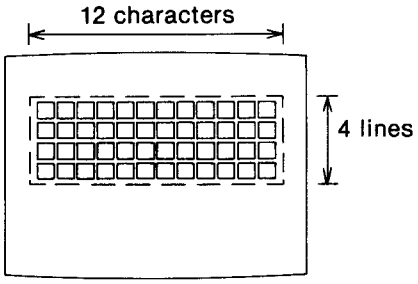


2 Press the UP/ON button to set title characters.



Setting procedures

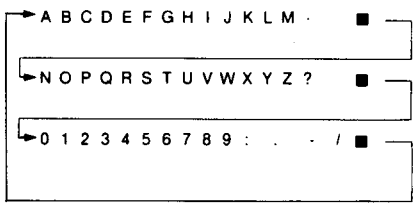
Set title characters one by one using the UP/ON button and DOWN/OFF button. Up to 12 characters can be displayed on one line, and up to 4 lines can be displayed.



Selection of letters

Repeat pressing the UP/ON button until the desired character appears inside the cursor.
Every time the UP/ON button is pressed, the characters change in the following order.

Order of scanning



Goes back to "A".

Punctuation display

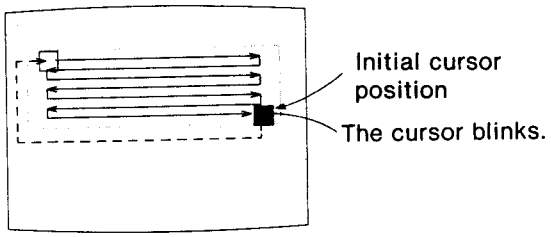
Point: "."
Space: "■"
Question mark: "?"
Colon: ":"
Period: "."
Hyphen: "–"
Slash: "/"

To change the characters in reverse alphabetical order:
Press the DOWN/OFF button with the UP/ON button pressed.

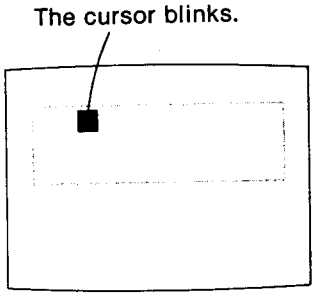
Moving the cursor

The cursor can be moved to the desired position by repeating the DOWN/OFF button. After the desired character appears, press the DOWN/OFF button, and the cursor moves one space to the right.

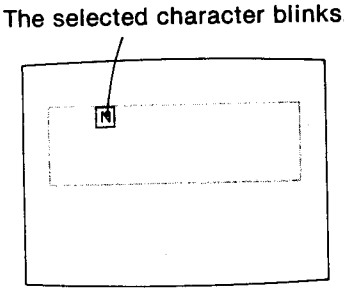
Movement of the cursor



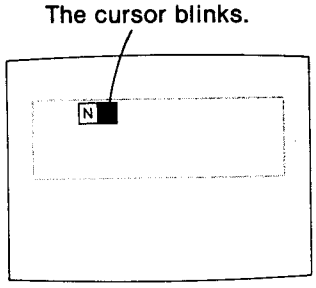
1 Move the cursor to the desired position by pressing the DOWN/OFF button.



2 Select a character by pressing the UP/ON button.



3 Press the DOWN/OFF button to set the selected character, and the cursor moves one space to the right.



Set the title characters by repeating Step 1 through 3 shown above.

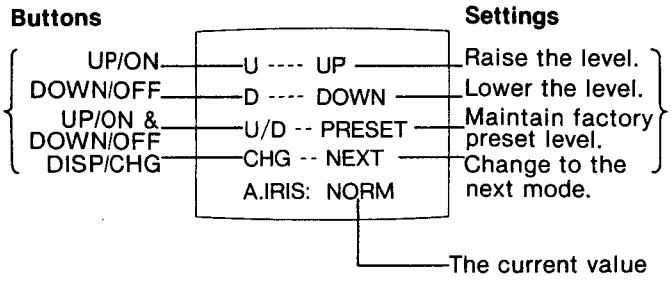
Notes

- The AUTO W/B BALANCE switch can also be used for character setting instead of the UP/ON and DOWN/OFF buttons. To set the character position, set the switch to BLK (same function as the DOWN/OFF button), and to set the character, set the switch to WHT (same function as the UP/ON button).
- To replace a character which has been set with a new one
  Return the cursor to the character's position, select the desired character with the UP/ON button, and press the DOWN/OFF button.
  The characters must be changed one by one following procedure above.

Memory of the title characters

The characters and their displayed positions are stored in the memory (about 12 hours) after the character display mode is cancelled or after the power is turned off.

Setting the reference level for automatic iris adjustment



Purpose

To adjust the video level of a back-lit subject so that it is not too dark.

Adjustable range

From about −1.0 to + 1.0 F stop in about 0.5 increments

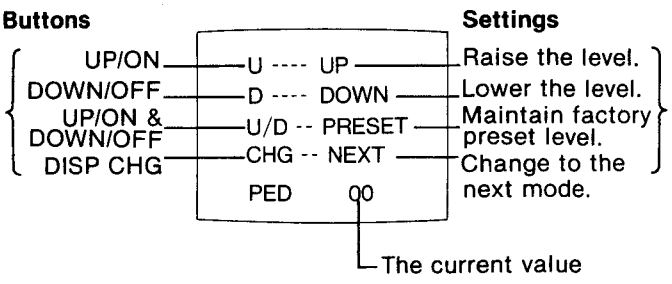
Operation

To raise the level: Press the UP/ON button.
To lower the level: Press the DOWN/OFF button.
To reset to the normal level: Press the UP/ON and DOWN/OFF buttons simultaneously.

Maintenance of the adjusted value

The adjusted iris value will be retained in the memory until the power is turned off. The next time the camera power is turned on, the iris value will return to the factory preset level.

Setting the master pedestal level



Purpose

Adjust to obtain a well contrasted picture while shooting outdoors.

Adjustable range

From about −30% to + 31% of the reference level (0.7 V as 100%) in about 1% increments.

Operation

To raise the level: Press the UP/ON button. (If this button is pressed when the master pedestal level is + 31%, "MAX" is displayed.)
To lower the level: Press the DOWN/OFF button. (If this button is pressed when the level is −30%, "MIN" is displayed.)
To reset to "00" (factory preset value): Press the UP/ON and the DOWN/OFF buttons simultaneously.

Maintenance of the adjusted value

The master pedestal level is retained in the memory for about 12 hours after the power is turned off.

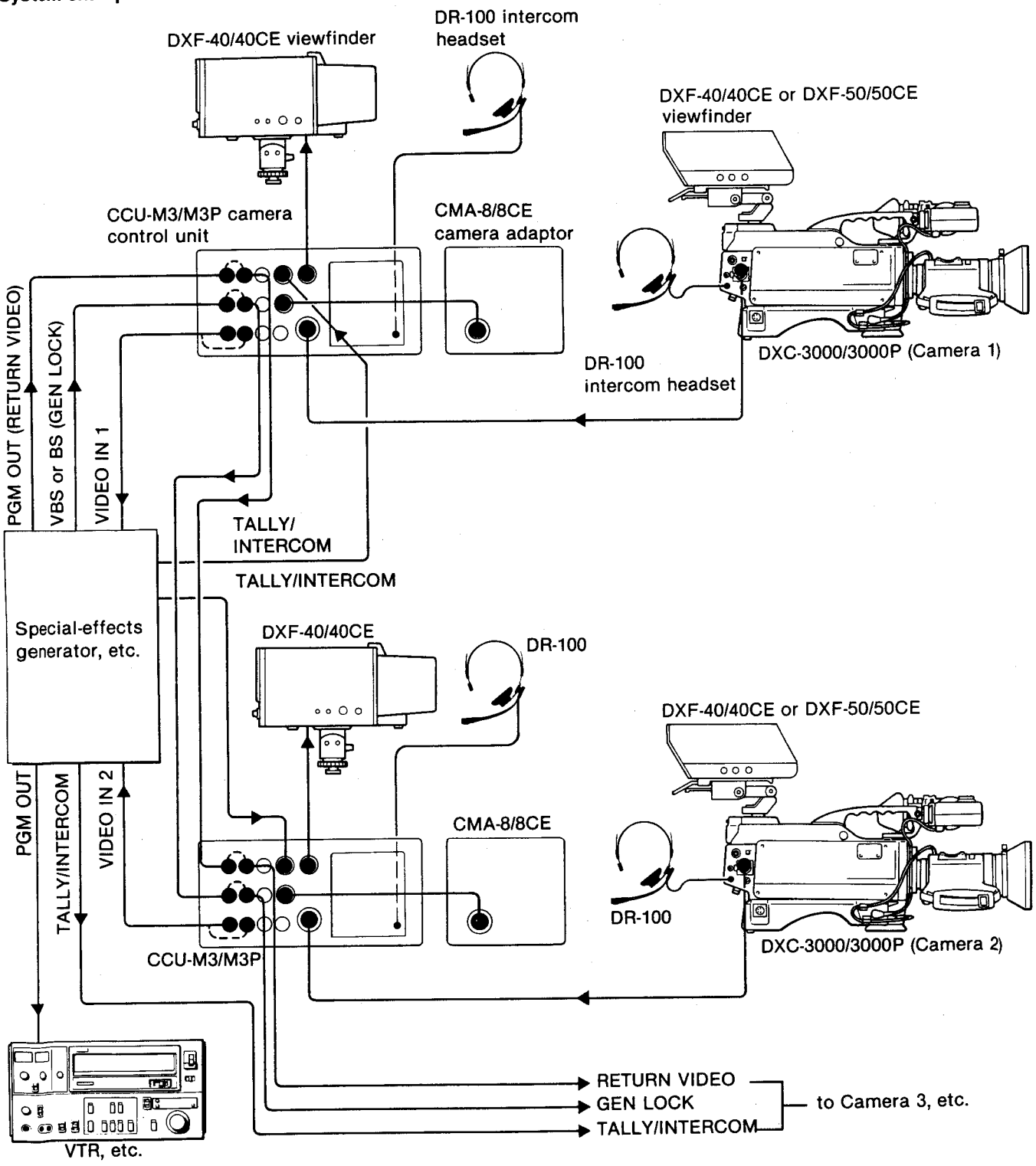
Notes

- If the pedestal level set by the UP/ON and DOWN/OFF buttons is to be monitored on a waveform monitor, set the ABL switch to OFF. If the ABL switch is set to ON, the correct waveform cannot be monitored.
- When a CCU-M3/M3P camera control unit is connected to the camera, the auto iris reference level setting mode and the master pedestal level setting mode cannot be controlled by the camera because the CCU iris and the master pedestal values take priority over the camera settings.
- The CCU master pedestal level setting is stored in the camera's memory for about 12 hours after the CCU is disconnected from the camera.

STUDIO USE

When using more than two cameras simultaneously in a video studio, a special-effects generator, such as the Sony SEG-2000A/2000AP, is necessary for wiping and switching, and a CCU-M3/M3P camera control unit for matching all the camera's picture quality and color.

System example



TIPS FOR SHOOTING AND EFFECTIVE CAMERA WORK

RECORDING LIFELIKE COLORS

If the camera is used without correct white balance adjustment, proper color reproduction cannot be obtained. Even in the same location, the color temperature will vary with the time of the day and the lighting conditions (sunlight, shade, ambient reflected light, etc.). Be sure to attach the filter appropriate to the color temperature of the lighting and adjust the white balance when the camera is moved to another location.

LIGHTING

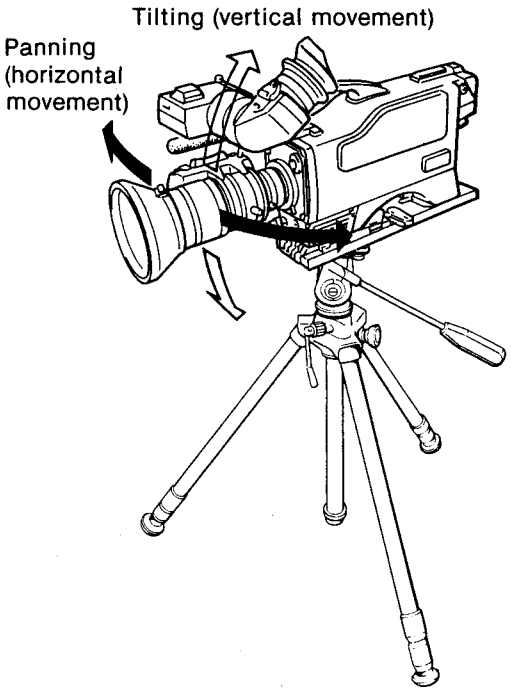
For optimum color recording, we recommend illuminating the object with two iodine lamps (500 watts, 3200°K) at a distance of 4 m (13 feet) to obtain suitable lighting conditions (i.e., an intensity of at least 1,500 lux, 150 footcandles). If the illumination is insufficient, the ":LOW LIGHT" warning will be displayed on the viewfinder screen. If this occurs, the video output level must be raised manually or lighting must be increased.
Lights should be arranged and their intensity set so that the object is illuminated evenly with sufficient brightness. When installing the lighting system, refer to the light distribution curve of the lamp used.
Undesirable shadows may occur when a three-dimensional object is illuminated. The color of the shaded areas may be affected and appear as a different color. To reduce this effect, illuminate the object as uniformly as possible. The use of a light, pale-colored background, such as pale gray, is recommended.

FOCUSING AND ZOOMING

Focusing is always more critical in the telephoto position.
Therefore, if you start by accurately focusing for a telephoto shot, you are sure to be accurately focused when you zoom back to a more wide-angle shot. In the telephoto position, the "depth of focus" is very shallow, so only one point in the scene is likely to be in focus.
Shooting a distant object means focusing over a wide range, but when shooting something close, you naturally only have to focus over a much narrower range. The narrower the angle of the lens, or in other words the more telephoto it becomes, the more pronounced camera shake will be. If you are taking a telephoto shot, be sure that the camera is held very still.

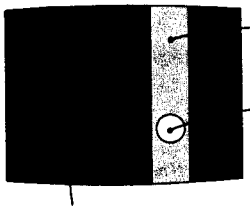
PANNING AND TILTING

These techniques are used for "sweeping" the camera over landscapes, tall buildings, etc.
Hold the camera still for a moment just before you start to shoot and just after the shot has finished. Start shooting: turn the camera slowly around to the point where the shot will end. This type of slow horizontal sweep is called "panning".
Tilting occurs when the camera is swept vertically for shots of buildings, trees, and mountains and so on to achieve subtly different effects. If you are shooting a skyscraper and want to emphasize the height, start from the bottom and tilt up. If, on the other hand, you want to dramatize a person emerging from the front entrance, start at the top and tilt down. Tilting is generally more effective if you sweep the camera more quickly than you would when panning. You can either start from the top and work down or start at the bottom and work up.



SPECIAL CHARACTERISTICS OF A CCD

Smear phenomenon
This may appear when a very bright object is shot.



Patterned noise
This may appear uniformly over the entire monitor screen when the camera is operated at high temperature.

Wavy picture
This may appear when fine stripes, straight lines, etc., are shot. Their images monitored on the screen look wavy.

Smeareffekt bei mindestens 10 X Normalpegel

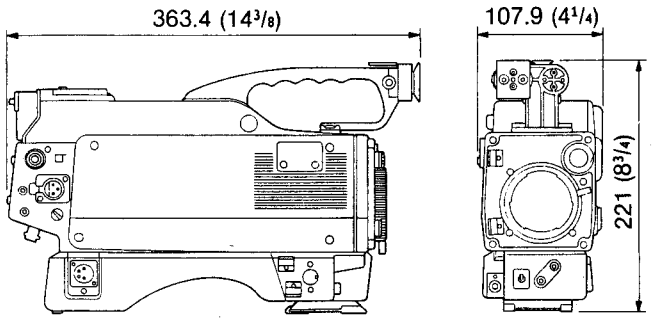
Pattern noise = fest vorgegebenes Rauschen der einzelnen Pixel

SPECIFICATIONS

Camera (DXC-3000/3000P)

Image device	Interline-transfer CCD, 3-chip
Picture elements	510 x 492 (h/v) (NTSC) 500 x 582 (h/v) (PAL)
Sensing area	8.8 mm x 6.6 mm (equivalent to a 2/3-inch pickup tube)
Built-in filters	1: 3,200°K 2: 5,600°K + 1/8 ND 3: 5,600 K
Lens mount	Bayonet mount
Signal system	EIA standards, NTSC color system (for DXC 3000) CCIR standards, PAL color system (for DXC 3000P)
Scanning system	525 lines, 2:1 interlace, 30 frames/sec. (NTSC) 625 lines, 2:1 interlace, 25 frames/sec. (PAL)
Scanning frequency	
	Horizontal: 15.734 kHz (NTSC) 15.625 kHz (PAL)
	Vertical: 59.94 Hz (NTSC) 50 Hz (PAL)
Sync system	Internal External with the BS or VBS signal supplied to the GEN LOCK input connector or the reference signal input to the VTR/CCU/CMA connector from the GEN LOCK connector of the CCU-M3/M3P
Horizontal resolution	
	520 lines (center)
Minimum illumination	
	25 lux with F1.7, + 18 dB
Sensitivity	2,000 lux with F5.6, at 3,200°K (NTSC) 2,000 lux with F5.0, at 3,200°K (PAL)
Gain selection	0 dB, 9 dB or 18 dB, selectable
Video output	1.0 V(p-p), sync negative, 75 ohms, unbalanced
Signal to noise ratio	
	56 dB (NTSC) 54 dB (PAL)
Registration	0.05 % for Zone I 0.05 % for Zone II 0.05 % for Zone III
Inputs/Outputs	VTR/CCU/CMA connector: Sony Q-type, 14-pin MIC IN: XLR-type, 3-pin GEN LOCK: BNC-type VIDEO OUT: BNC-type LENS: 6-pin VF: 8-pin EAR: mini jack INTERCOM: mini intercom
Power requirements	
	12 V DC
Power consumption	
	9 W (for camera only)
Operating temperature	
	−5°C to +45°C (23°F to 113°F)

Storage temperature
−20°C to +60°C (−4°F to 140°F)
Weight 3.3 kg (7 lb 4 oz)
Dimensions
Unit: mm (inches)



Zoom lens (VCL-1012BY)

Focal length	10 mm to 120 mm
Zoom	Manual and motorized, selectable Zooming ratio: 12 x
Maximum aperture ratio	1:1.7
Iris control	Manual and auto, selectable 1.7 to 16 and C (closed)
Range of object field (at the distance of 1 meter)	W (wide angle): 616 x 822 mm (24 1/4 x 32 3/8 inches) T (telephoto): 51.4 x 68.5 mm (2 1/32 x 2 11/16 inches)
Minimum object distance	1 m
Filter thread	72 mm dia. 0.75 mm-pitch
Mount	Bayonet mount
Weight	Approx. 1.4 kg (3 lb 1 oz) with hood
Dimensions	Approx. 120 mm dia. x 204 mm (4 3/4 x 8 1/32 inches)

Viewfinder (DXF-3000/3000CE)

Picture tube indicators	1.5-inch monochrome REC/TALLY indicator BATT indicator LOW LIGHT indicator GAIN UP indicator
Resolution	400 lines
Power requirements	DC 12 V
Power consumption	2.3 W
Weight	Approx. 600 g (1 lb 5 oz)
Dimensions	Approx. 201 x 68 x 184mm (w/h/d) (7 7/8 x 2 11/16 x 7 1/4 inches)

Carrying case (LC-3001)

Weight	Approx. 4.4 kg (9 lb 8 oz)
Dimensions	Approx. 620 x 394 x 234 mm (w/h/d) (24 7/16 x 15 1/2 x 9 1/4 inches)

Accessories supplied

CCQ-2ARS camera cable (with Q-type 14-pin connectors) (supplied with the DXC-3000/3000P/3000K/3000PK only) (1)
VCL-1012BY zoom lens (supplied with the DXC-3000K/3000PK only) (1)
DXF-3000/3000CE electronic viewfinder (supplied with the DXC-3000/3000P/3000K/3000PK only) (1)
LC-3001 carrying case (supplied with the DXC-3000/3000P/3000K/3000PK only) (1)
Lens cap (1)

While the information given is true at the time of printing, small production changes in the course of our company's policy of improvement through research and design might not necessarily be indicated in the specifications.

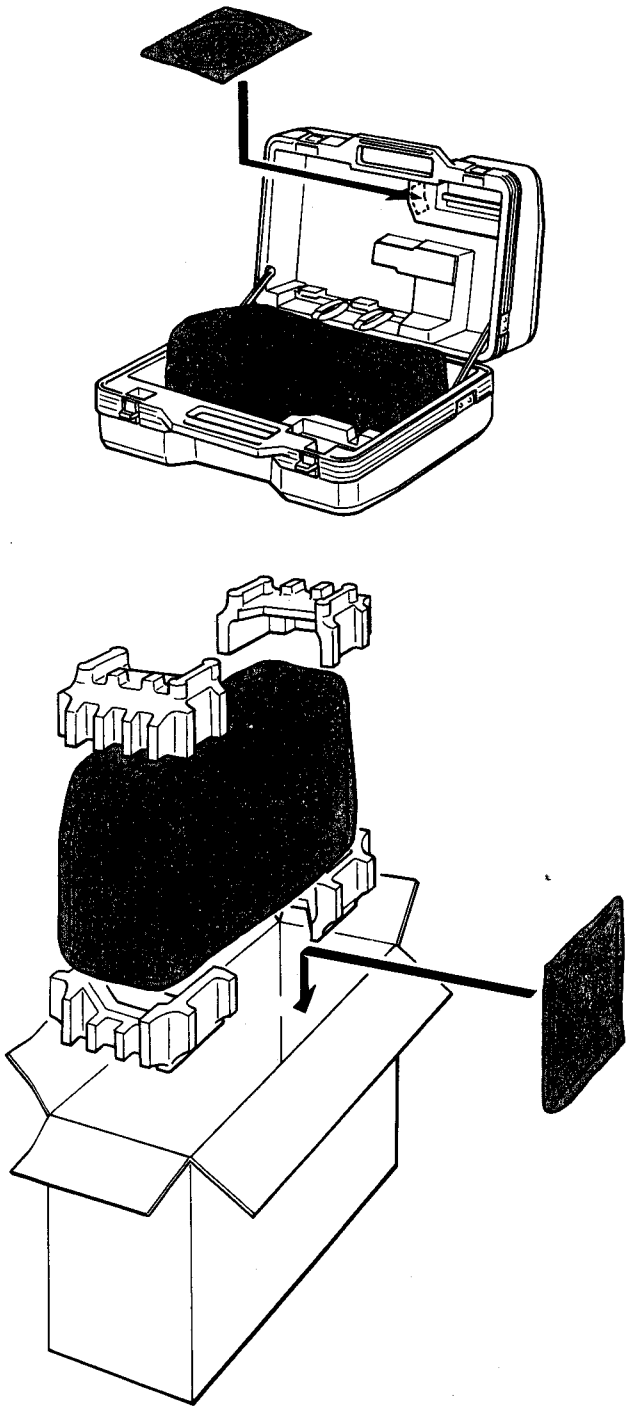
OPTIONAL ACCESSORIES AND RECOMMENDED EQUIPMENT

Camera control unit: CCU-M3/M3P
Special-effects generator: SEG-2000A/2000AP, SEG-2550/2550P
Universal chroma keyer: CRK-2000/2000P
Wipe pattern extender: WEX-2000, WEX-2000P/PM
Portable videocassette recorder: VO-6800/6800PS
Electronic viewfinder (5-inch, B/W): DXF-50/50CE
Electronic viewfinder (4-inch, B/W): DXF-40/40CE
Electronic viewfinder (1.5-inch, B/W): DXF-3000/3000CE
Camera adaptor: CMA-8/8CE
Battery adaptor: DC-8
Battery pack: NP-1
Battery charger: BC-1WA
Battery shoe: CAC-21
Zoom lens: VCL-1012BY
Lens remote control unit: LO-23
Condenser microphone: C-74
Microphone holder: CAC-11
Microphone cable: EC-0.5C2
Intercom headset: DR-100
Extension board for adjustment of the camera: EB-3000
Camera cable with Q-type 14-pin and K-type 14-pin connectors: CCQK-2
Camera cable with Q-type 14-pin and J-type 10-pin connectors: CCQJ-2
Camera cable with Q-type 14-pin connector: CCQ-2AR, CCQ-5AR, CCQ-10AR, CCQ-25AR, CCQ-50AR
Camera cable with Q-type 14-pin connector: CCQ-10AM, CCQ-25AM, CCQ-50AM, CCQ-100AM
Camera tripod: VCT-12
Rack mounting metal: RMM-1800
Carrying case: LC-3001

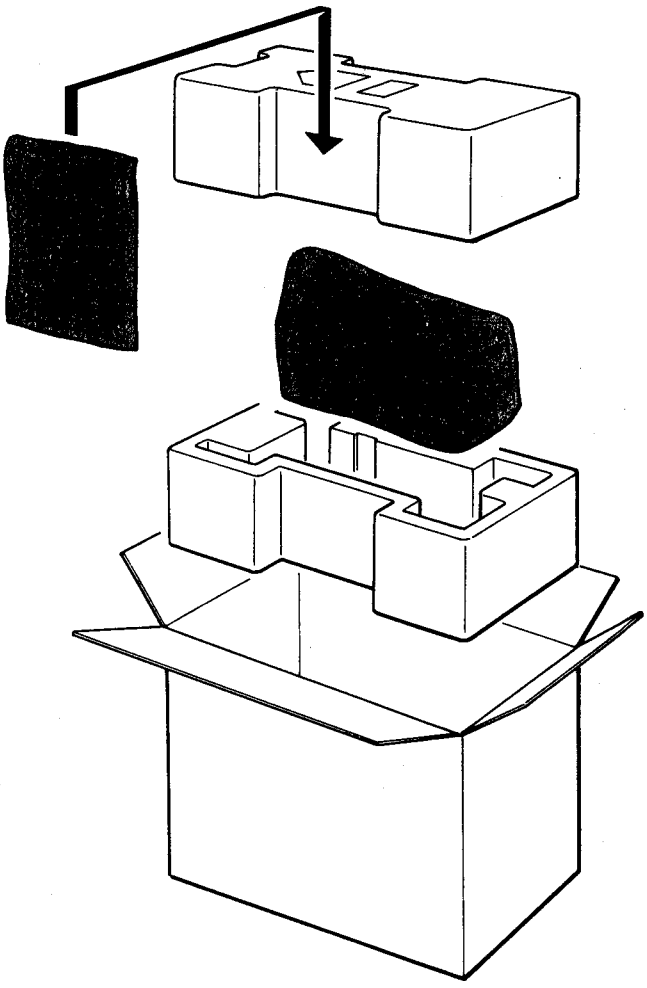
REPACKING FOR SHIPMENT

The repacking procedure is subject to change. Refer to the packing instruction on the original carton, as well as those shown here.

DXC-3000/3000P/3000K/3000PK

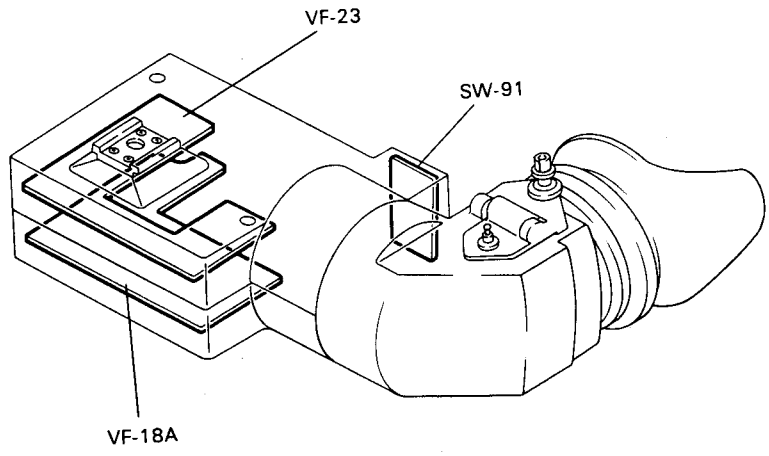


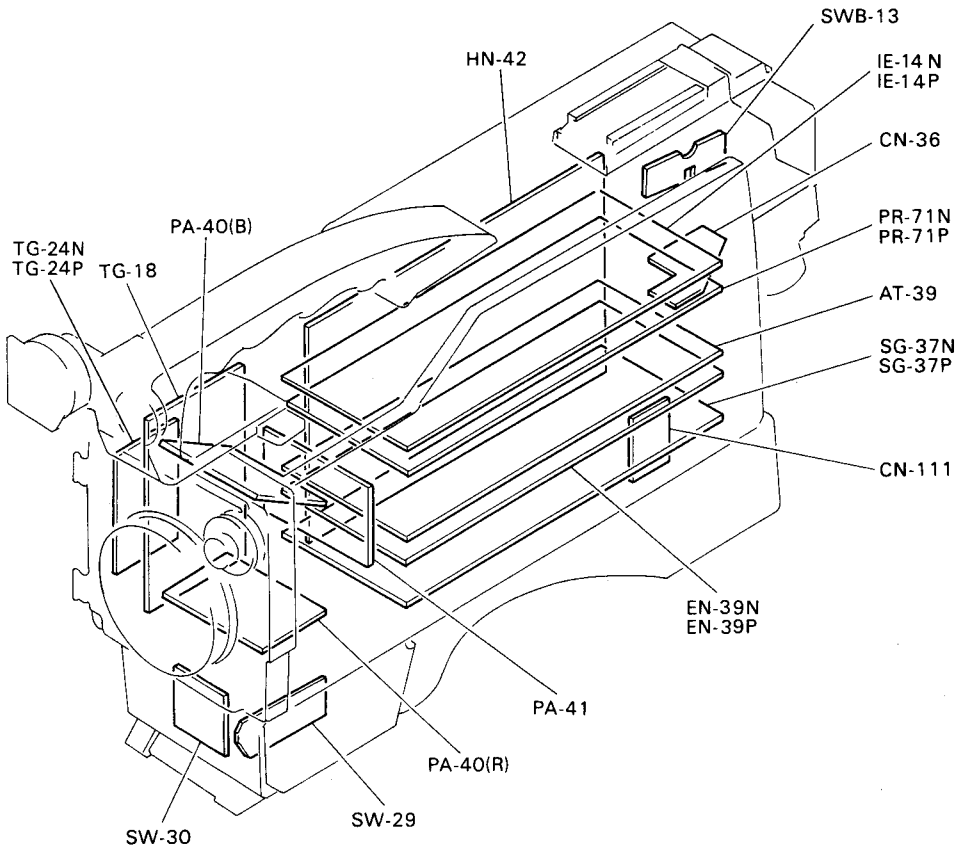
DXC-3000H/3000PH



SECTION 2
SERVICE INFORMATION

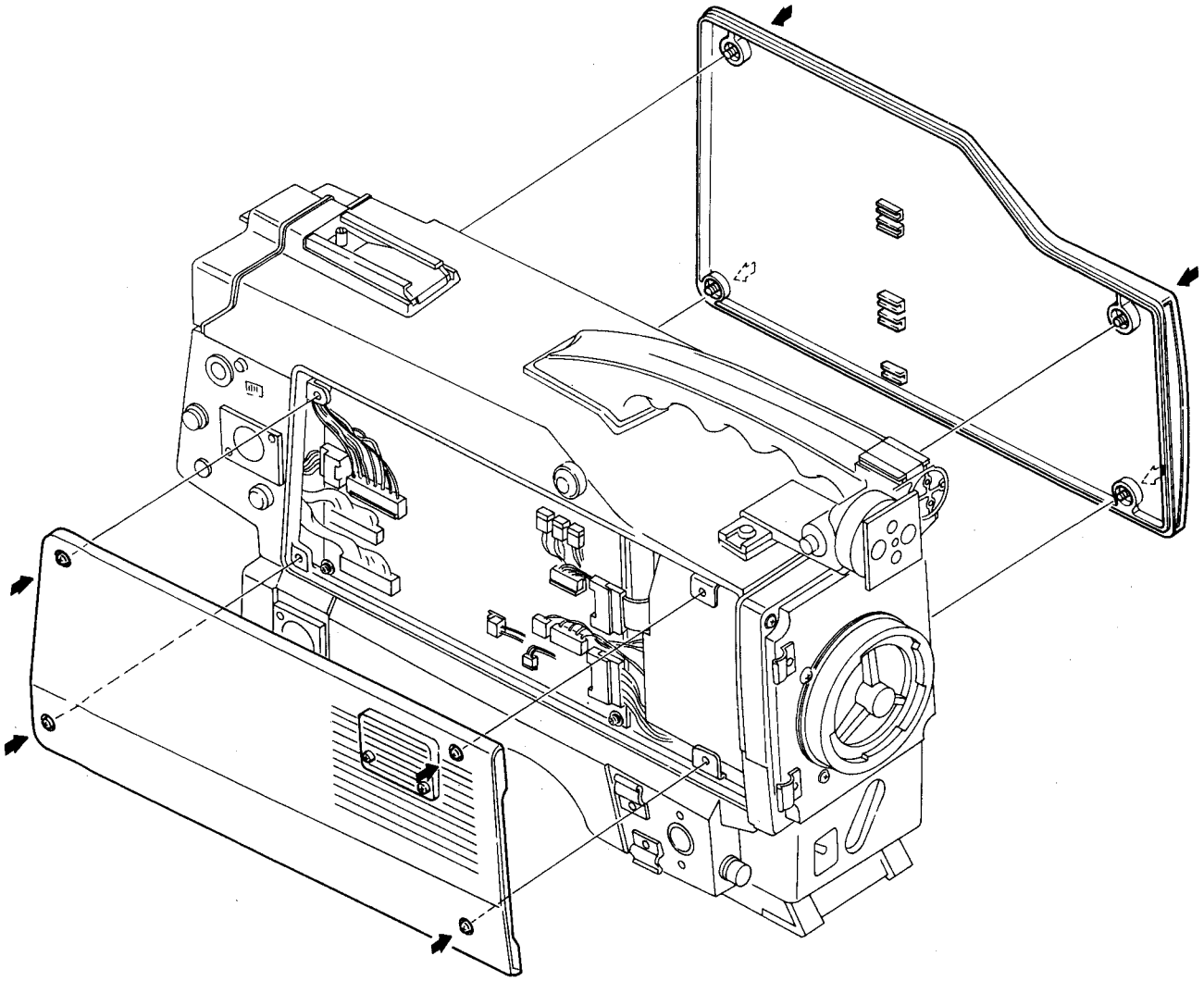
2-1. BOARD LAYOUT





2-2. REMOVAL OF OUTER

Remove the right and left side covers by loosing each four screws.

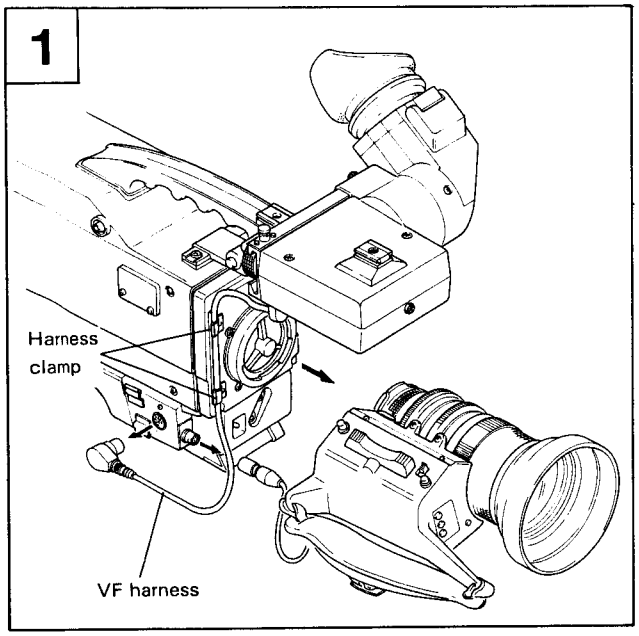


2-3. REPLACEMENT OF MAIN PARTS

2-3-1. REPLACEMENT OF FRONT UNIT

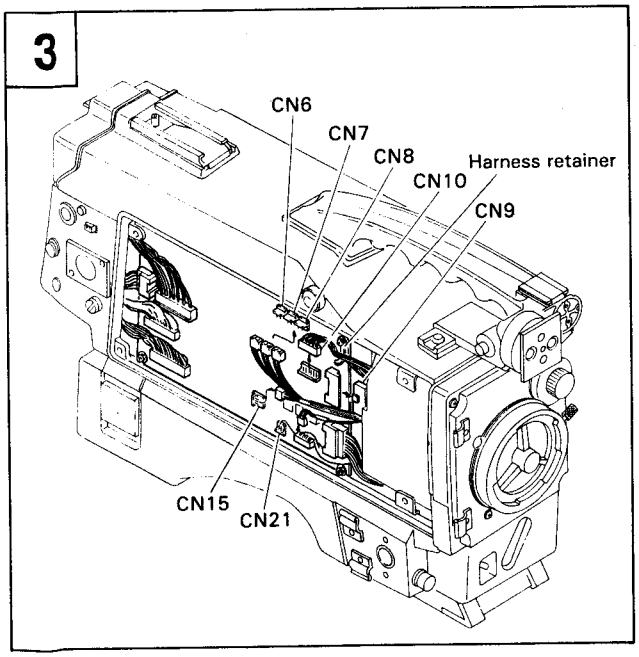
When the CCD BLOCK is replaced, replace it with the front unit.

1. Remove the lens and remove the VF harness from the harness clamp.

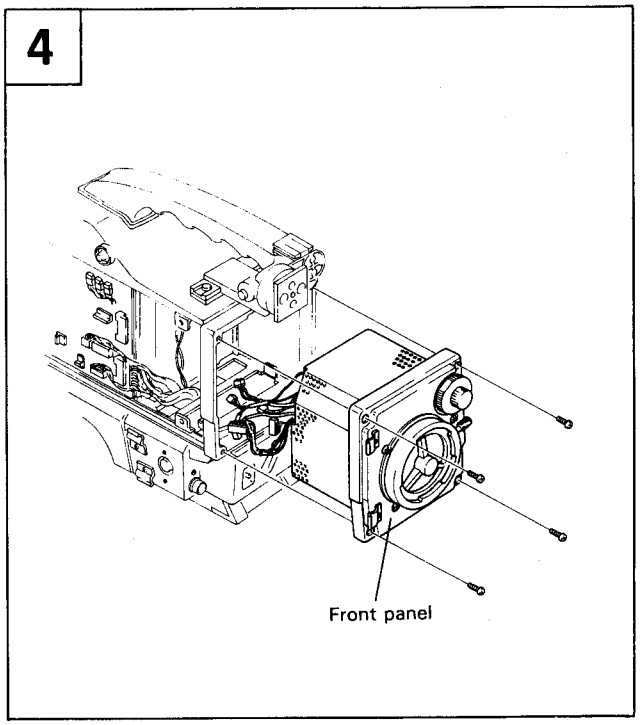


2. Remove the left side panel, refferring to REMOVAL OF OUTER.

3. Disconnect the CN6, CN7, CN8, CN9, CN10, CN15, CN21 from the HN-42 board.
   Straighten the harness retainer shown below and remove the harness.



4. Remove the four screws located in the front panel and remove the front unit.

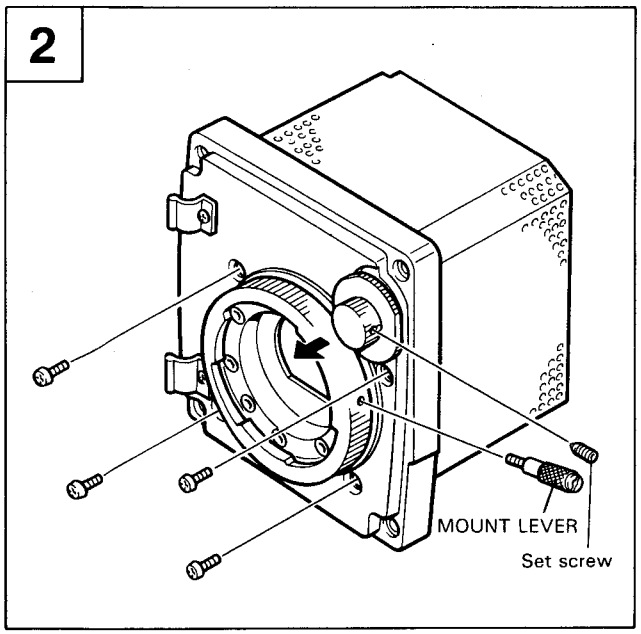


5. Install a new front unit with the four screws ( ).
   Install the connectors which is disconnected at item 3.

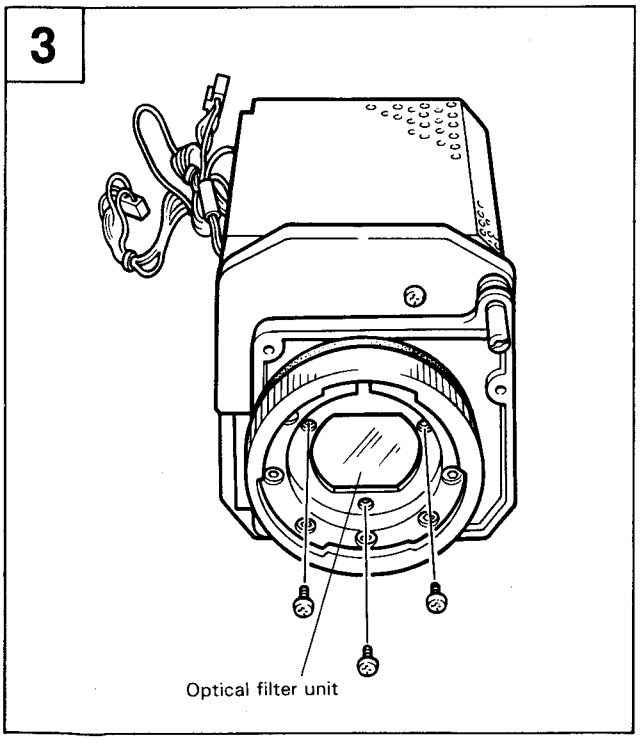
2-3-2. REPLACEMENT OF FILTER PLATE.

1. Perform the procedures from 1 to 4 of REPLACEMENT OF FRONT UNIT.

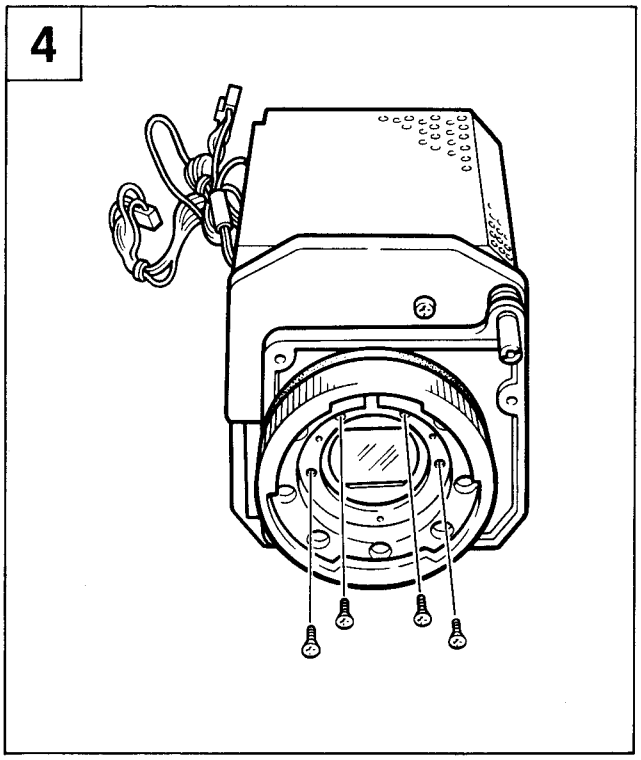
2. Remove the knob of filter by loosing the set screw.
   Remove the MOUNT LEVER.
   Remove the four screws which fix the CCD block to the front panel.



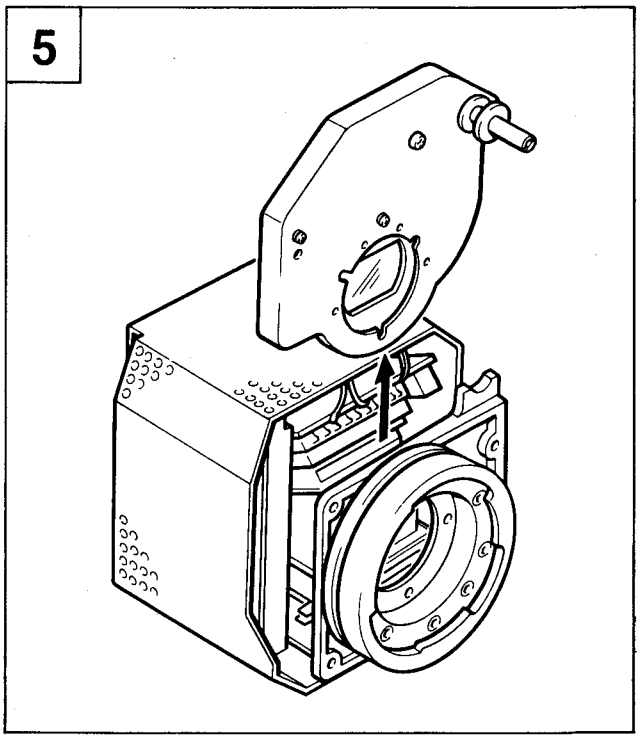
3. Remove the three screws and remove the optical filter unit.



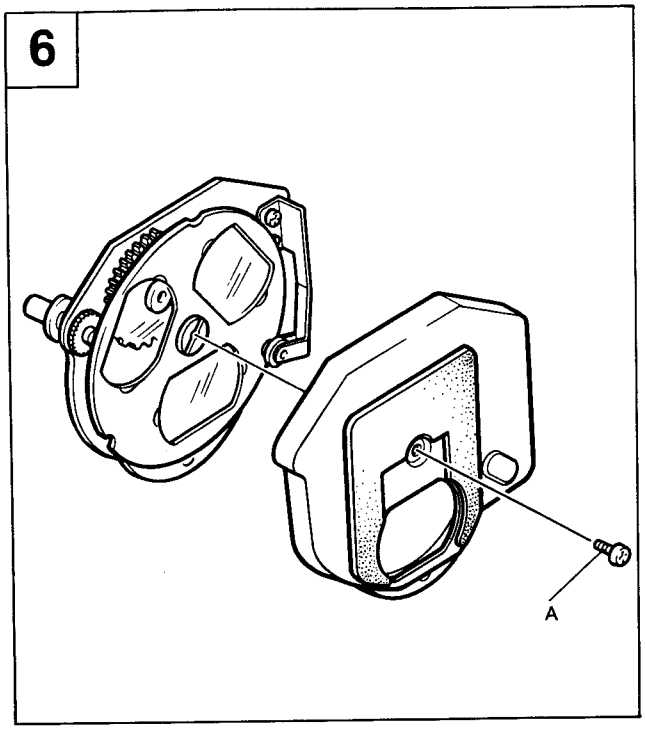
4. Remove the four screws and remove the mount base.



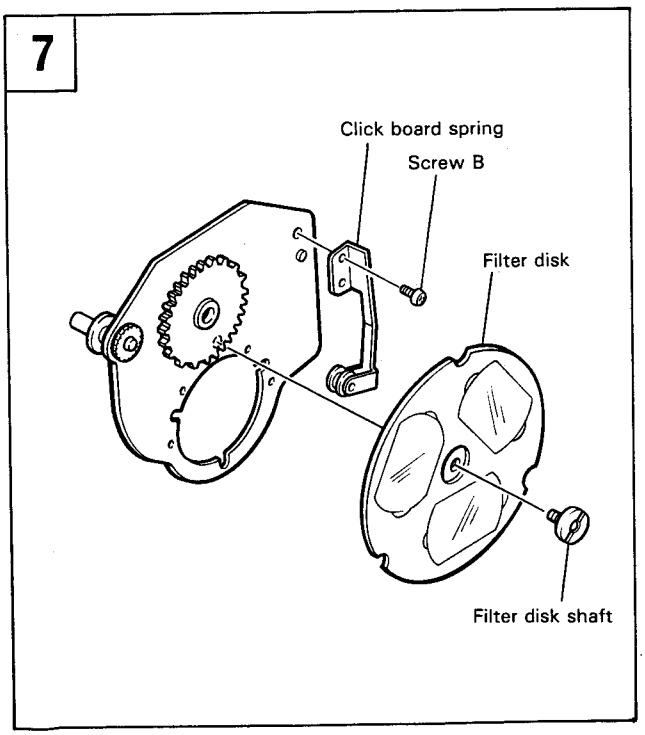
5. Lift up the filter disk unit in the direction shown by the arrow, and it can be removed.



6. Remove the screw A at the center of the filter disk unit, and the filter disk can be removed.



7. Remove the screw B, and the clik board spring can be removed.
   Remove the screw C, and the gear can be removed.



8. Reverse the removal procedure when the pick-up tube is replaced.

2-3-3. REPLACEMENT OF TG-18 BOARD

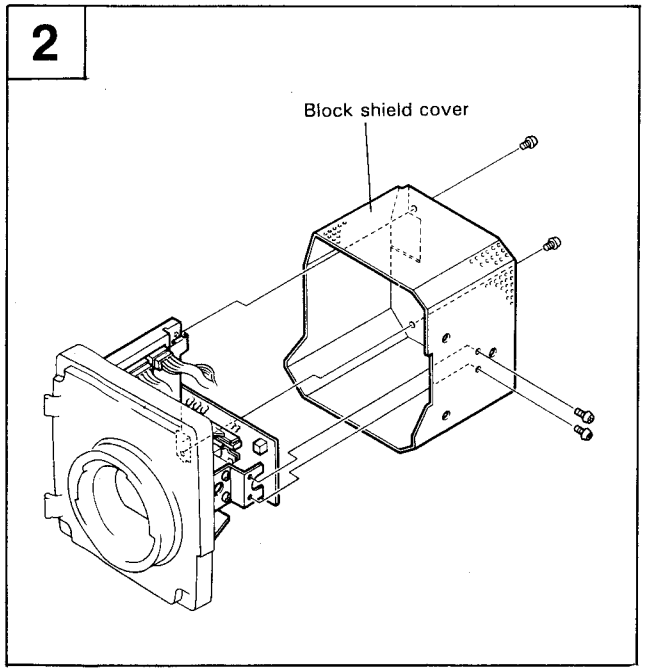
Be sure to change the ROM when replacing the TG-18 board.

When replacing the TG-18 board of DXC-3000 IP with the serial numbers described below, be sure to replace the TG-18 shielding case (A) at the same time. The old shielding case (A) does not apply to a new TG-18 board.

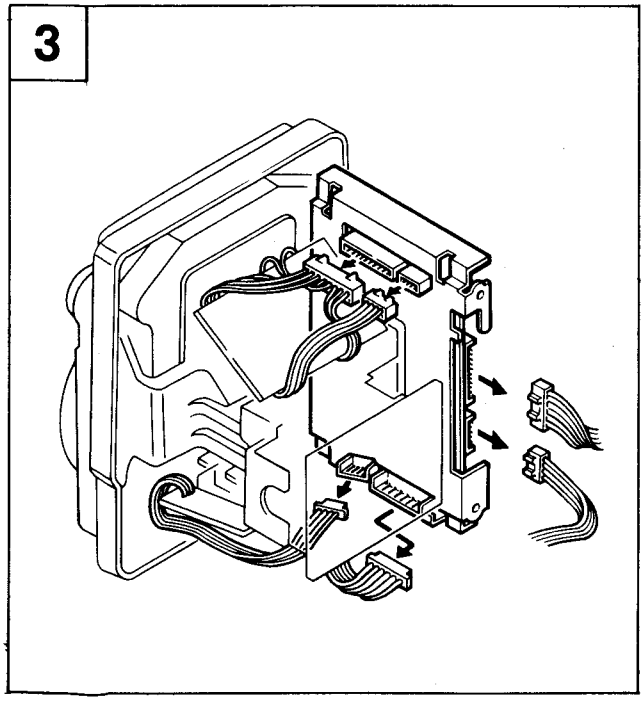
(UC) serial number 10001 ~ 10810
(EK) serial number 10001 ~ 10440

1. Perform the procedures from 1 to 4 of REPLACEMENT OF FRONT UNIT.

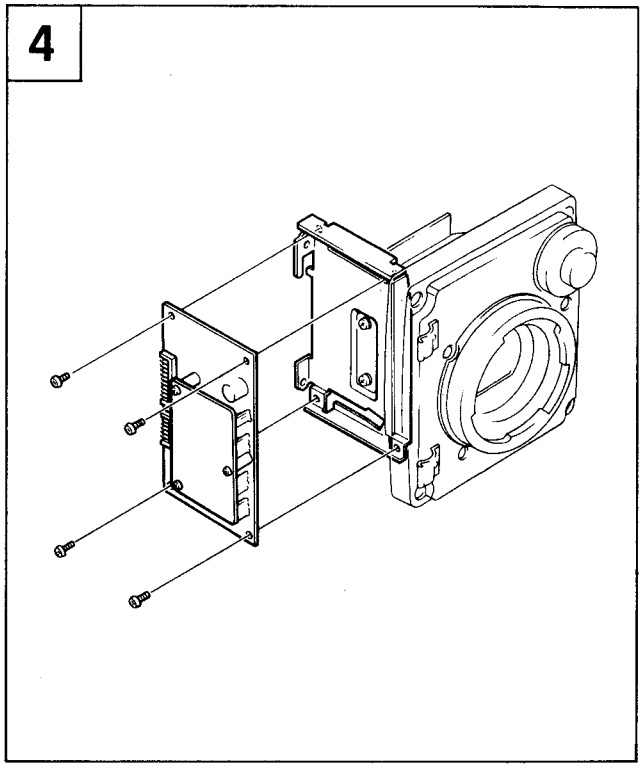
2. Remove the block shield cover.



3. Disconnect from CN1 to CN6 from the TG-18 board.

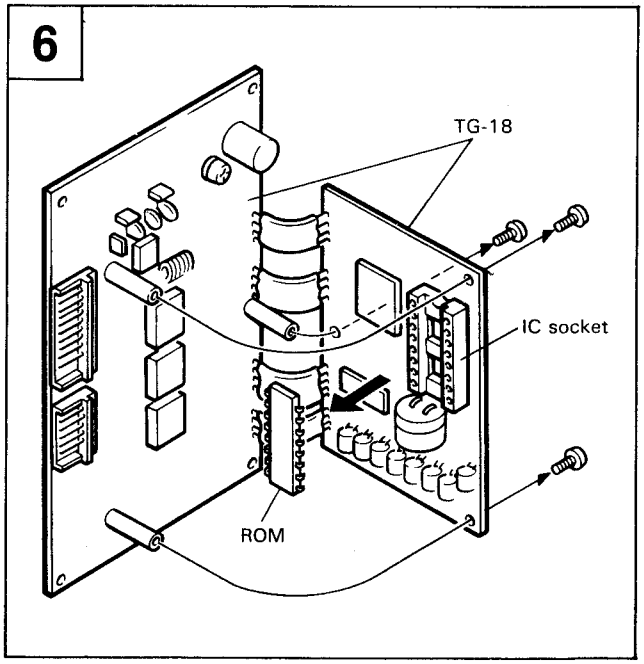


4. Remove the four screws and remove the TG-18 board.



5. Install a new TG-18 board.

6. Take out the ROM from IC2 on the TG-18 board and insert it to IC2 on the new TG-18 board.
When the TG-18 board is replaced, be sure to replace the ROM.



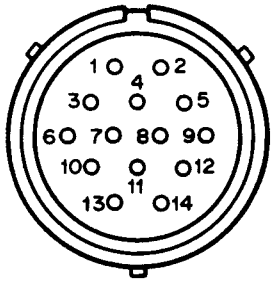
7. Insert the connector from CN1 to CN6 to the new TG-18 board and put the shield case on it.

2-4. CONNECTORS AND CABLES

2-4-1. Connector Input/Output signals

The main connector input/output signals are as follows:

VIDEO OUT; 10Vp-p ± 0.1V, sync negative
75 Ω
GEN LOCK; 1.0Vp-p, sync negative
75 Ω
VTR/CCU (14P)



(EXT VIEW)

CCU		Pin No.	VTR	
REMARK FOR SIGNAL	SIGNAL		SIGNAL	REMARK FOR SIGNAL
10.6V~17V, 3A	UNREG GND	1	UNREG GND	10.6V~17V, 3A
	UNREG +12V IN	2	UNREG +12V IN	
−20dBs, 600Ω	INCOM OUT (X)	3	MIC OUT (X)	−60dBs, 600Ω
	INCOM OUT (Y)	4	MIC OUT (Y)	
	INCOM OUT (G)	5	MIC OUT (G)	
1.0Vp-p, 75Ω	COMPOSITE VIDEO OUT (X)	6	COMPOSITE VIDEO OUT (X)	1.0Vp-p, 75Ω
	COMPOSITE VIDEO OUT (G)	7	COMPOSITE VIDEO OUT (G)	
1.0Vp-p, 75Ω	RETURN VIDEO IN (G)	8	RETURN VIDEO IN (G)	1.0Vp-p, 75Ω
	RETURN VIDEO IN (X)	9	RETURN VIDEO IN (X)	
This signal is used for controlling CCU.	SERIAL DATA IN/OUT	10	BATTERY ALARM IN	(Note 1)
0.7Vp-p, 75Ω	R OUT (X)	11	COLOR FRAMING PULSE OUT	This signal is not used in VTR.
0.7Vp-p, 75Ω	G OUT (X)	12	REC/ALARM IN	(Note 2)
ON; 4.5±0.5Vdc OFF; 0±0.5Vdc	TALLY IN	13	VTR START/STOP OUT	START; 4.5±0.5Vdc STOP ; 0±0.5Vdc
0.7Vp-p, 75Ω	B OUT (X)	14	POWER SAVE OUT/ AUDIO MONITOR IN	SAVE; 4.5±0.5Vdc (across 10kΩ) STANDBY; 9.0±0.5Vdc (across 10kΩ) MONITOR; −6dB, 750Ω

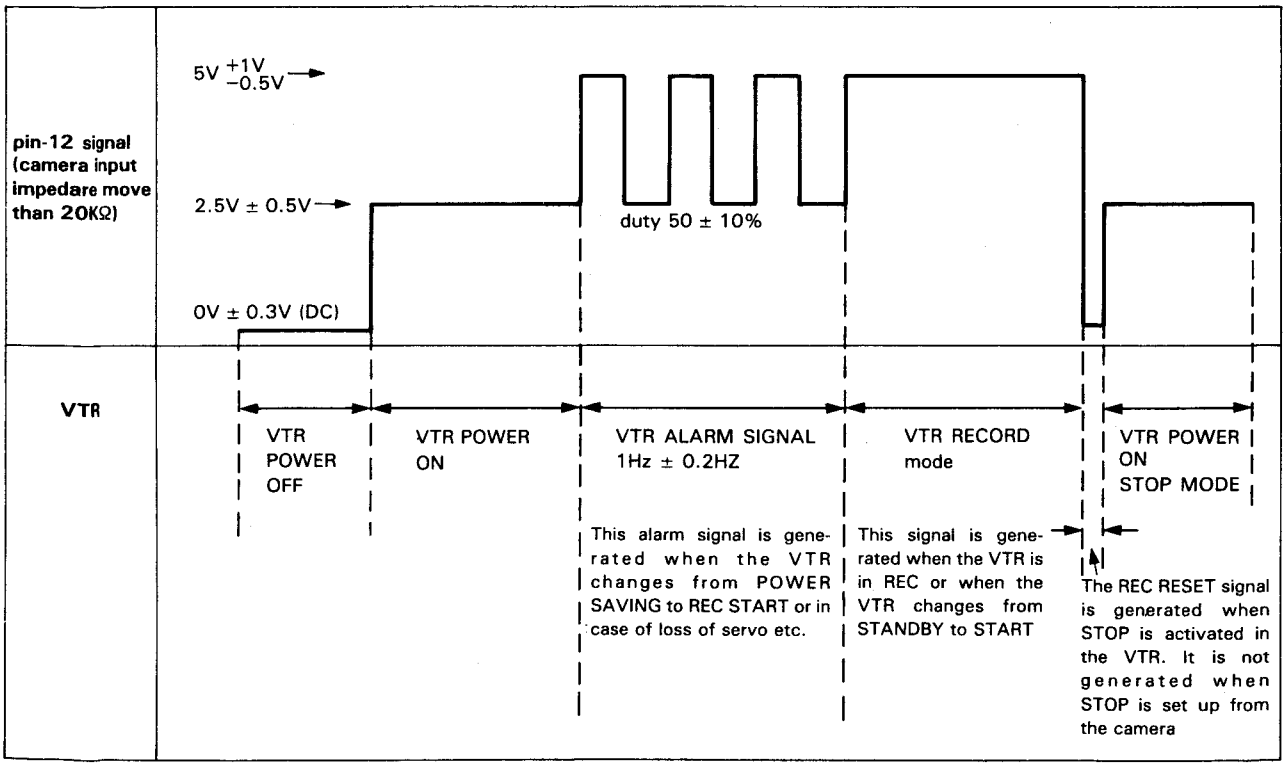
Note 1. Signal at Pin 10

Battery voltage detection and warning signal generating circuits are located within the VTR. This signals are supplied from the VTR to the camera to either blink or light the LED at the bottom of the viewfinder.

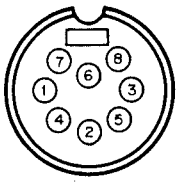
BATTERY TERMINAL ADAPTOR (VTR INTERNAL BATTERY)	**DC12V ~ 11.1V**	**DC11.1V ~ 10.8V**	**PIN 10 TURNS HIGH AT DC 10.8V. 10.6V DC or below the VTR Internal Power is cut off so that the Battery Power is sent to Pin 13.**
PIN 10 OUTPUT FROM VTR	0V	1Hz ± 0.2Hz duty 50 ± 10%	DC2 ~ 3V across 300Ω
LED IN VIEWFINDER	NEITHER BLINKS NOR LIGHTS	BLINKS AT 1Hz	LIGHTS

Note 2: Signal at Pin 12

When the VTR is ON the input to the camera at pin 15 is 2.5V DC. In VTR record mode the voltage is 5V DC. When servo is not applied or if alarm signals are generated within the VTR an alternating 1Hz signal (2.5 Vp-p with 2.5V DC as reference) is sent to the camera. At the tape end when the VTR enters Stop mode or when setting up the Stop mode from the VTR. 0V DC is generated from 10 msec to 100 msec (called REC RESET). After REC RESET the signal level returns to 2.5V DC.



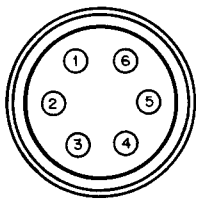
VF (8P)



(WIRING SIDE)

Pin No.	SIGNAL	REMARK FOR SIGNAL
1	UNREG GND	GND for + 12V
2	REC/TALLY OUT	(Note 2)
3	(SPARE)	
4	VF VIDEO OUT (G)	
5	BATT IND, OUT	
6	VF VIDEO OUT (X)	1Vp-p
7	UNREG + 12V OUT	10.6V ~ 17V, 3A
8	(SPARE)	

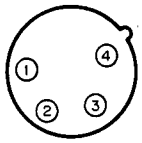
LENS (6P)



(WIRING SIDE)

Pin No.	SIGNAL	REMARK FOR SIGNAL
1	VF VIDEO CONT IN	ON: 0 ± 0.5Vdc
2	VTR START/STOP IN	TRIG: 0 ± 0.5V
3	UNREG (GND)	GND for + 12Vdc
4	FORCED AUTO IRIS OUT	5 ± 0.5Vdc
5	IRIS CONT OUT	F16 : 3.4Vdc F2.8 : 6.2Vdc
6	UNREG (+12V) OUT	10.6 ~ 17Vdc, 3A

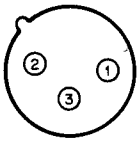
DC IN (4P)



(WIRING SIDE)

Pin No.	SIGNAL	REMARK FOR SIGNAL
1	UNREG GND	GND for + 12V
2	(SPARE)	
3	(SPARE)	
4	UNREG + 12V IN	10.6V ~ 17V, 3A

MIC IN (3P)



(WIRING SIDE)

UC	J EK		
Pin No.	Pin No.	SIGNAL	REMARK FOR SIGNAL
1	1	MIC IN (G)	−60dBs, 600Ω
2	3		
3	2	MIC IN (X)	

2-4-2. Connections

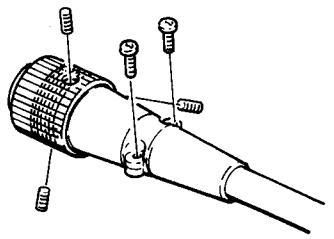
When cables with connectors are set to the respective connectors on the connector panel during installation or service, the specified or equivalent connectors with cables, or the specified cable assemblies should be used, these are listed as follows;

connector function	Parts No, and name of connector with cable
VIDEO OUT GEN LOCK (BNC)	1-560-069-11 PLUG, BNC or B-B cable assembly (Cable length 1.5m, optional)
VTR/CCU (14P, MALE)	1-561-043-00 CONNECTOR, 14P, FEMALE 1-508-171-00 CONNECTOR, 10P, MALE (for CCQJ cable) 1-508-929-00 CONNECTOR, 14P, MALE (for CCQ cable) 1-560-110-00 CONNECTOR, 14P, MALE (for CCQK cable) or cable assembly • For 10P-VTR use CCQJ-2 (2m) • For 14P-VTR use CCQK-2 (2m) CCQ-2AR (2m) CCQ-10AR (10m) • For CCU use CCQ-10AM (10m) CCQ-25AM (25m) CCQ-50AM (50m) CCQ-100AM (100m)
VF (8P, FEMALE)	1-560-247-00 CONNECTOR, 8P, MALE or extension cable assembly (optional) VK-10D VK-50X
LENS (6P, FEMALE)	HR10-7PA-6PS PLUG, 6P, MALE
DC IN (4P, MALE)	1-560-261-00 XLR-4P, FEMALE or cable assembly (optional) 1-551-969-00
MIC IN (3P, FEMALE)	1-516-125-00 XLR-3P, MALE CANON XLR-3-12C equallity
INTERCOM (JACK)	1-557-339-00 PLUG, MINI (with senser) or head set DR-100 (optional)

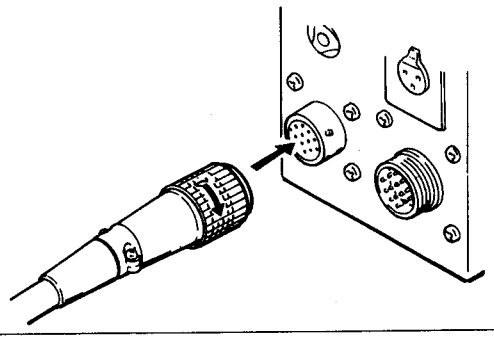
2-4-3. Removal of the CCQ connector

CCQ Connector (Removal of the connector)

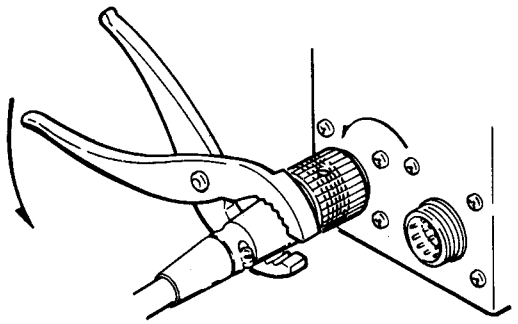
Step 1.
Remove the three hexagonal setscrews and the two ⊕ setscrews.



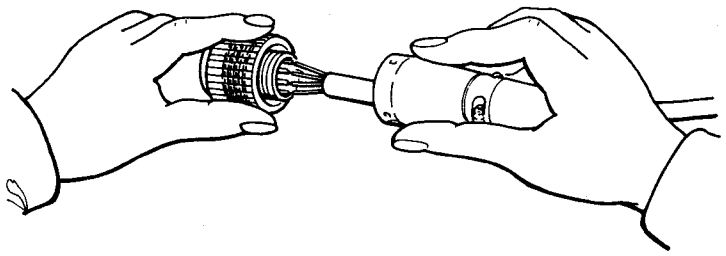
Step 2.
Fix the CCQ connector at the camera or VTR connector.



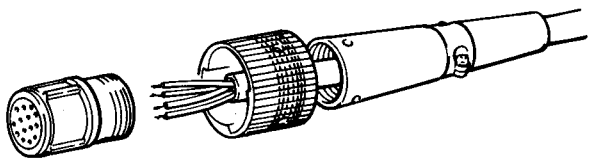
Step 3.
Rotate the CCQ connector to counterclockwise by the plier and loosen it.



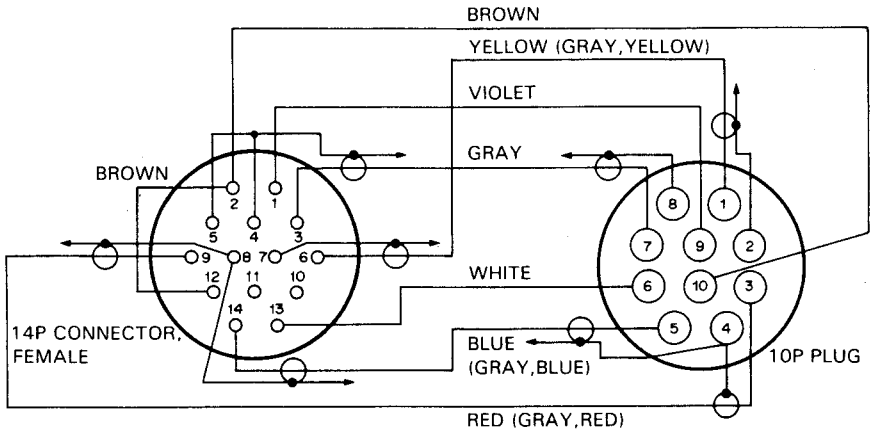
Step 4.
It can be removed by hand and unsolder



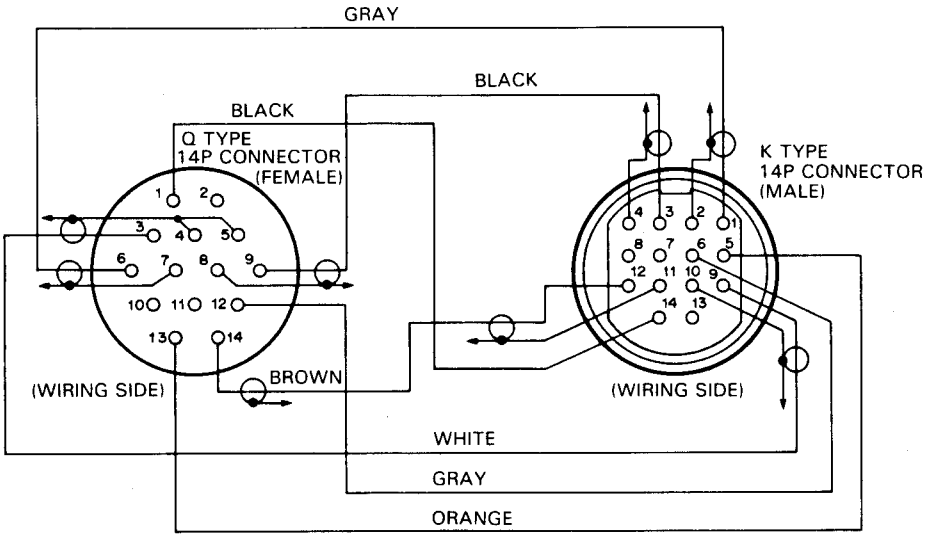
Step 5.
It can be broken up as shown in Figure.



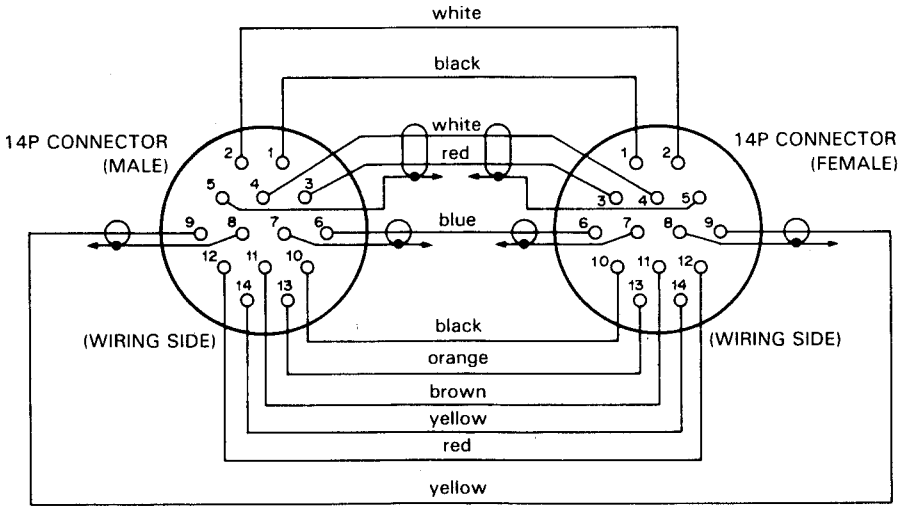
CCQJ cable (Wiring diagram)



CCQK cable (Wiring diagram)

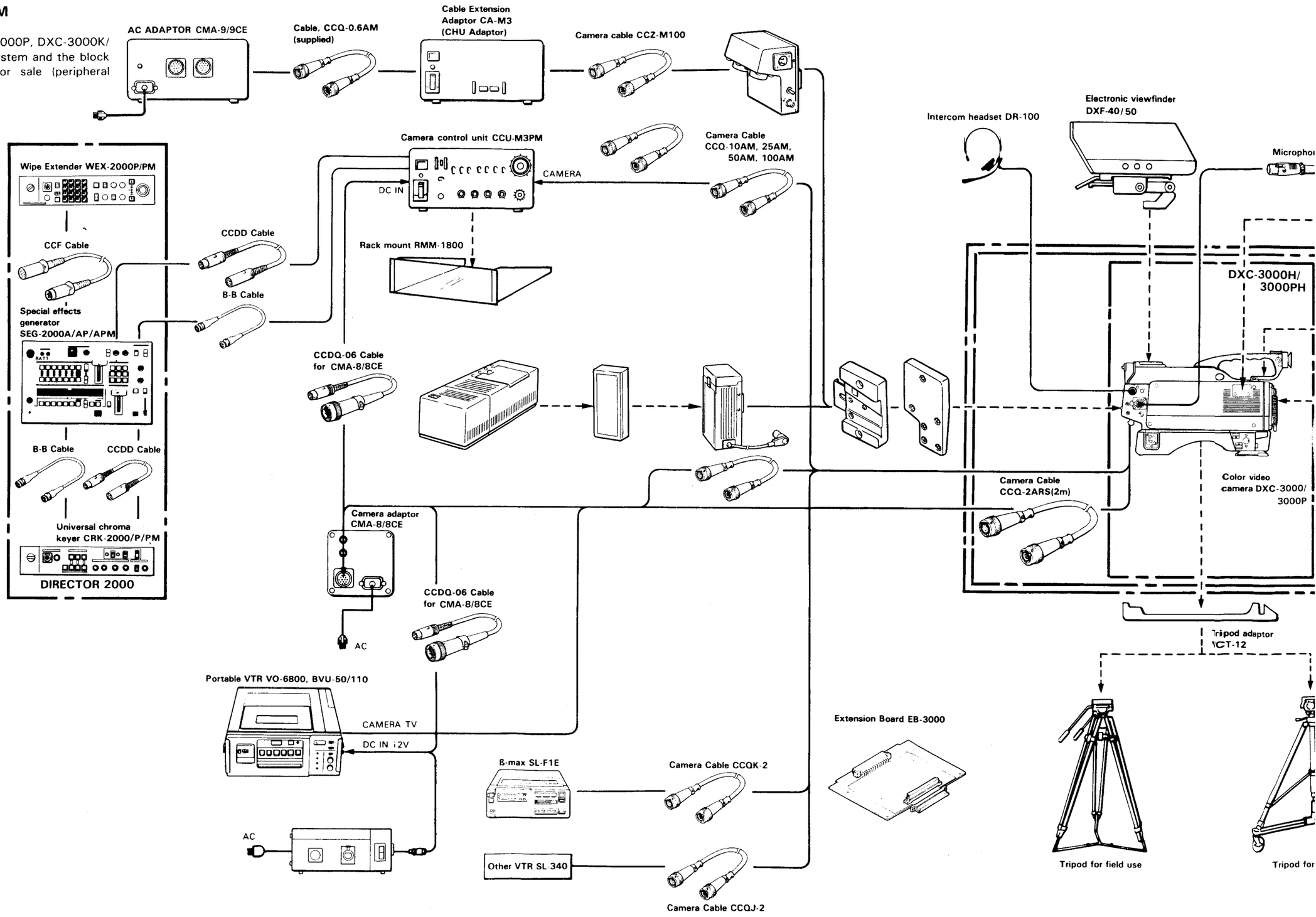


CCQ cable (Wiring diagram)



2-5. SYSTEM BLOCK DIAGRAM

The configuration of the DXC-3000/3000P, DXC-3000K/3000PK and DXC-3000H/3000PH system and the block diagram of separate accessories for sale (peripheral devices) are shown.



Cable Extension
Adaptor CA-M3
(CHU Adaptor)

Camera cable CCZ-M100

a control unit CCU-M3PM

CAMERA

Camera Cable
CCQ-10AM, 25AM,
50AM, 100AM

M-1800

Intercom headset DR-100

Electronic viewfinder
DXF-40/50

Microphone cable EC-0.5C2 (50cm)

Microphone C-74

Battery H-7D type mercury

DXC-3000H/
3000PH

DXC-3000/3000P

DXC-3000K/3000PK

Viewfinder DXF-3000/
3000CE

Zoom lens VCL-1012BY

Carrying case LC-3001

Camera Cable
CCQ-2ARS(2m)

Color video
camera DXC-3000/
3000P

SONY

Flexible cable unit
LO-23

Zoom lens
VCL-915BY

Flexible cable unit
LO-26

Flexible cable unit
LO-24F

Micro scope adaptor
MVA-31

Endo scope adaptor
MVA-302

CDQ-06 Cable
r CMA-8/8CE

Tripod adaptor
VCT-12

Extension Board EB-3000

Tripod for field use

Tripod for studio use

ß-max SL-F1E

Camera Cable CCQK-2

Other VTR SL-340

Camera Cable CCQJ-2

2-6. NOTE ON SERVICE

(1) When replacing the front unit assembly, also replace the ROM IC (supplied together with CCD block parts).

(2) When replacing board TG-18 on which the ROM IC (MB7052) is mounted, remove the ROM from the board and mount it on a new TG-18 board.

(3) The PA-40(R) board, PA-41(G) board and PA-40(B) board on which the CCD is mounted had better not be removed.
When removing it, the CCD is sometimes broken by the static electricity.
If the CCD is broken, the whole CCD unit must be replaced.

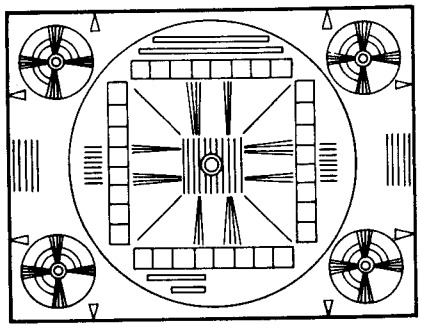
SECTION 3
ALIGNMENT

3-1. PREPARATION

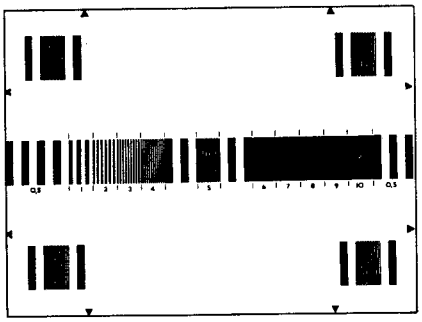
3-1-1. Equipment Required

- Oscilloscope (more than 30 MHz)
- Waveform monitor
- Vectorscope
- Black and white monitor (Sony PVM-91CE or equivalent)
- Color Monitor (Sony PVM-1320P or equivalent)
- AC Adaptor (Sony CMA-7CE or CMA-8CE)
- Frequency counter

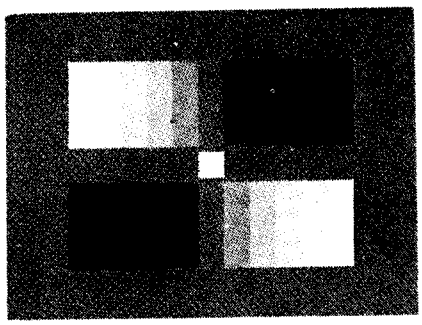
J-6026-100-A	Resolution chart



J-6026-110-A	Multiburst chart

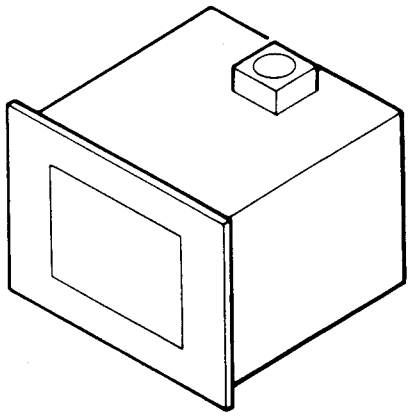


J-6026-130-A	Grayscale chart



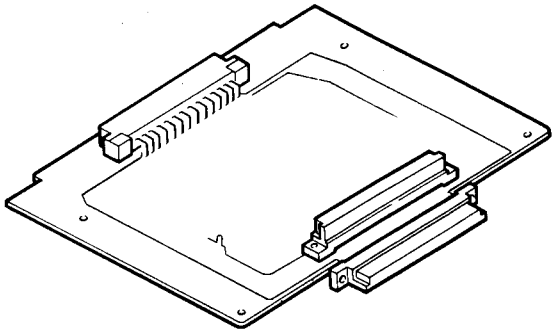
J-6020-680-A	PTB-220 Pattern Box

- Light source for test chart (190 to 240 VAC)

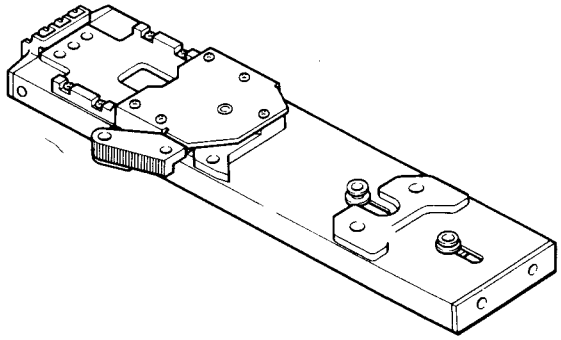


A-7513-383-A	Extension board EX-98

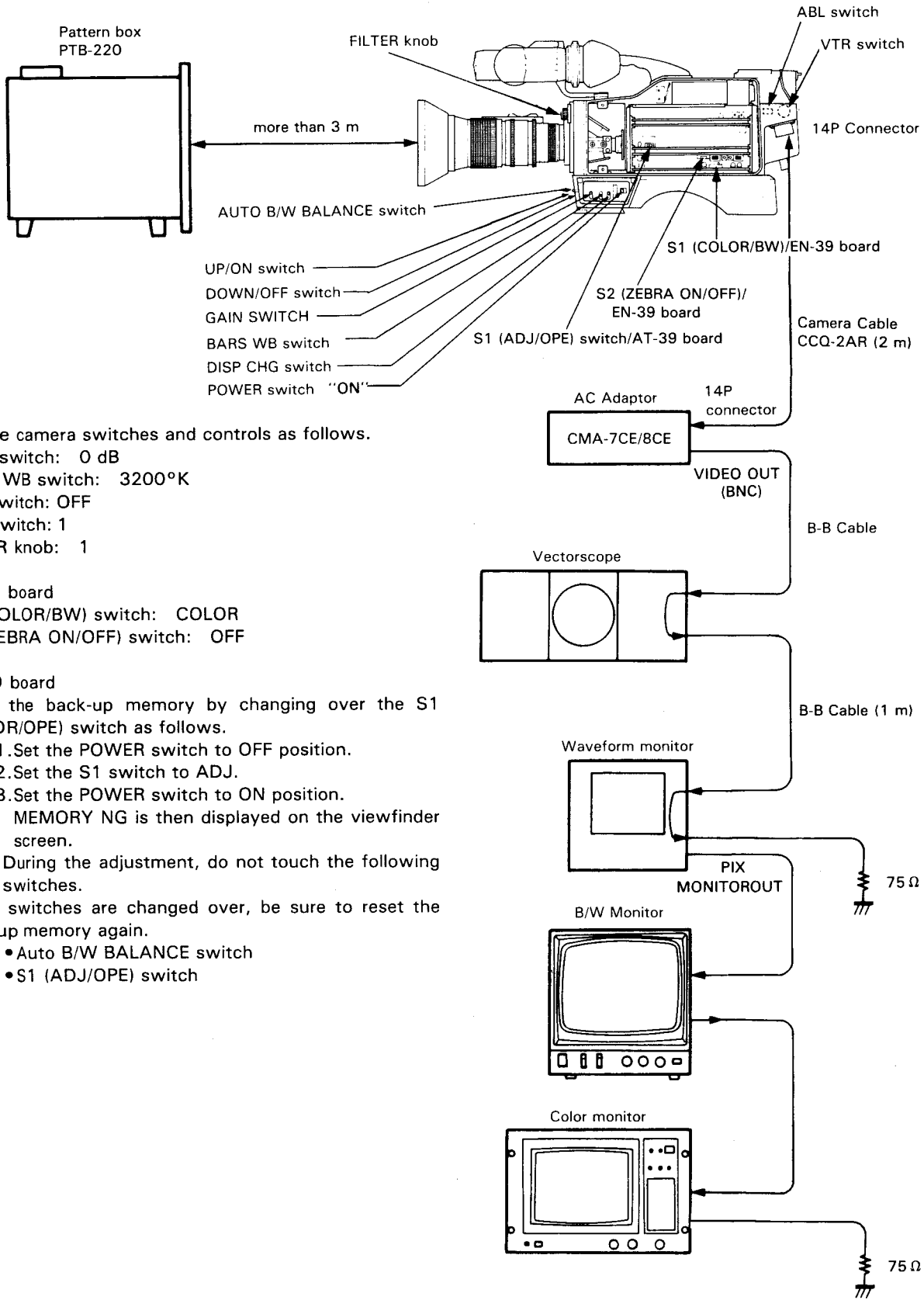
- For adjustment of IE-14, PR-71, AT-39, EN-39, and SG-37 boards



VCT-12 Tripod Adaptor



3-1-2. Connections and initial setting



Set the camera switches and controls as follows.
GAIN switch: 0 dB
BARS WB switch: 3200°K
ABL switch: OFF
VTR switch: 1
FILTER knob: 1

EN-39 board
S1 (COLOR/BW) switch: COLOR
S2 (ZEBRA ON/OFF) switch: OFF

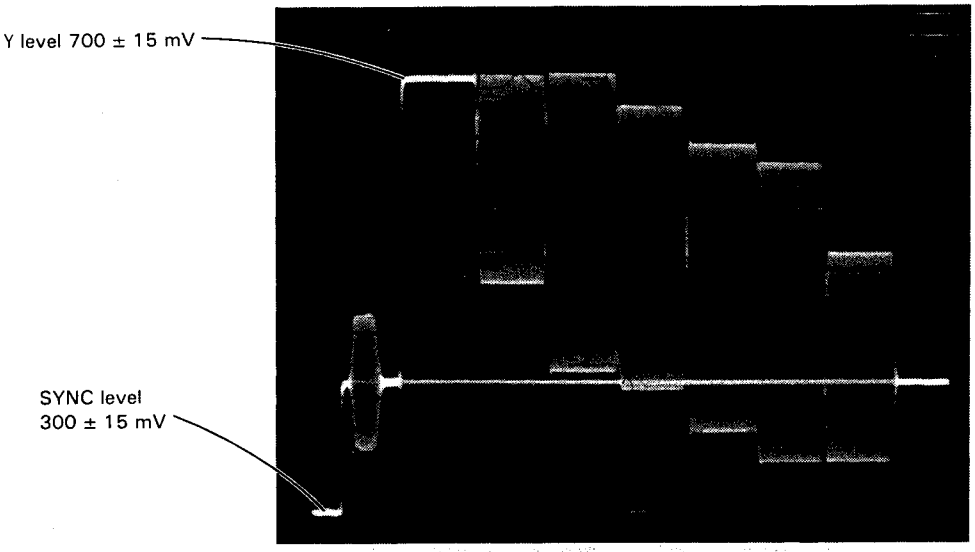
AT-39 board
Reset the back-up memory by changing over the S1 (COLOR/OPE) switch as follows.
Step 1. Set the POWER switch to OFF position.
Step 2. Set the S1 switch to ADJ.
Step 3. Set the POWER switch to ON position.
MEMORY NG is then displayed on the viewfinder screen.
Note: During the adjustment, do not touch the following switches.
If the switches are changed over, be sure to reset the back-up memory again.
- Auto B/W BALANCE switch
- S1 (ADJ/OPE) switch

3-2. BEFORE ADJUSTMENT

Note: 1. Before adjustment, connect the equipments referring to 3-1-2 Connection and Initial Setting. And cofirm that the following specifications are satisfied.
2. Before adjustment, set the POWER switch to ON and warm up for about 10 minutes.

3-2-1. Color bar signal

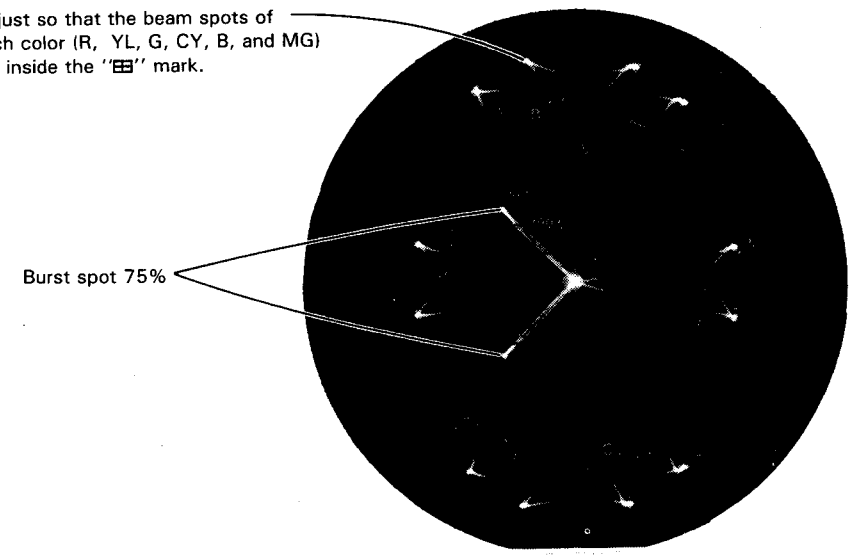
Equipment: Vectorscope, Waveform monitor
Preparation: Set the BARS WB switch on the side of the camera to BARS
Specifications:



Note: Partial difference between scale and signal level is caused by photographic error.

Chroma level

• Adjust so that the beam spots of each color (R, YL, G, CY, B, and MG) are inside the "⊞" mark.



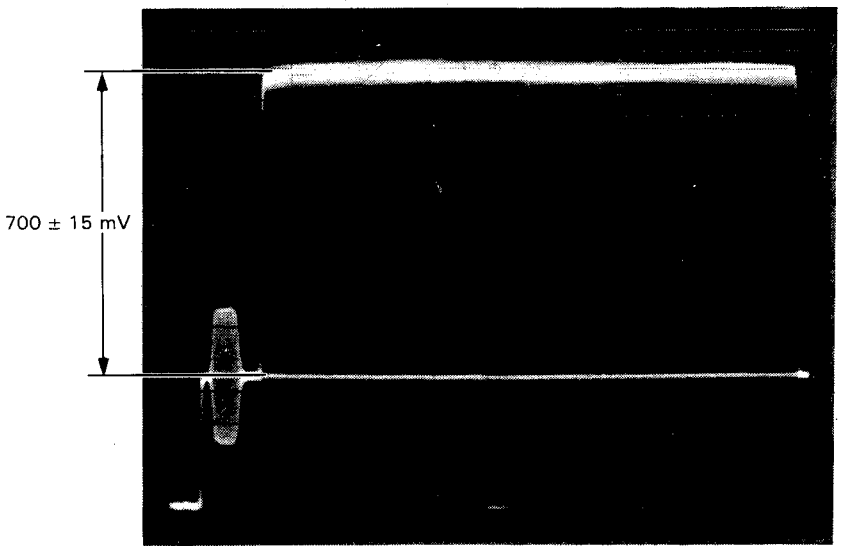
3-2-2. Sensitivity measurement

Object: White pattern
Lighting: 3200°K, 2000 lux
(If the pattern box is used, set the AUTO mode to "706 Nit")

Preparation:

1. Adjust the zoom control at "TELE" so that the white pattern frame touches the underscanned picture frame on the screen.
2. Manually set the iris control to F5.6
3. Set the BARS WB switch on the front of the camera to AUTO.
4. Perform the automatic white balancing.

Equipment: Waveform monitor
Specifications: Adjust so that the white level of the grayscale chart is 700 ± 15 mV.



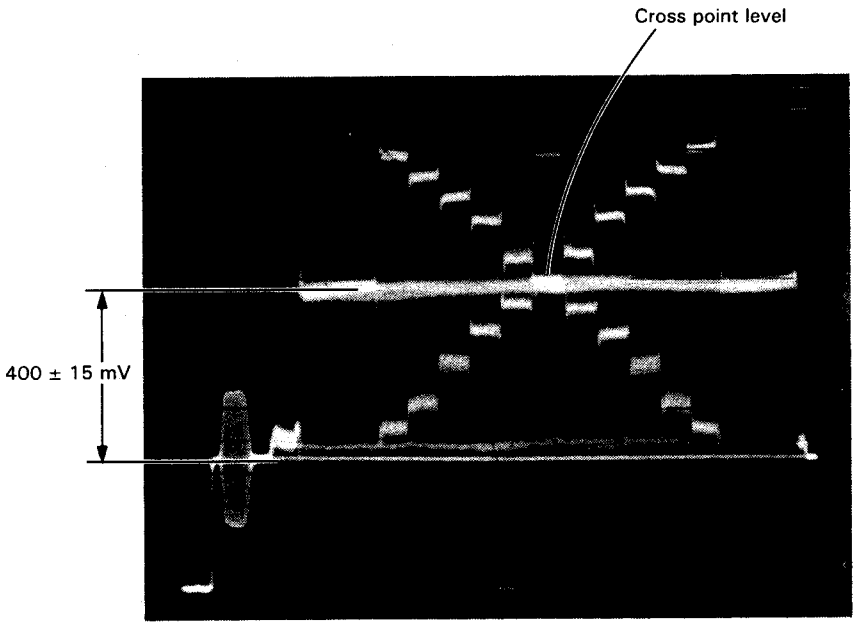
Note: When the specification is not satisfied, perform all adjustments in 3-6, Video Process System.

3-2-3. Gamma and gradation measurement

Object: Grayscale chart
(Sony parts number J-6026-130-A)
Light: Pattern box PTB-220
Equipment Waveform monitor
Preparation:

1. Set the BARS WB switch on the side of the camera to 3200 °K.
2. Adjust the zoom control so that the Grayscale chart frame touches the underscanned picture frame on the monitor.
3. Adjust the iris control so that the white level of Grayscale chart is 700 ± 15 mV on the waveform monitor.

Specification: Adjust so that the cross point level of the grayscale chart is 400 ± 15 mV.



Note: Partial difference between signal level and scale is caused by a photographic error.

Note: When the specification is not satisfied, carry out 3-6-8 G ch Gamma Balance and Gamma Set Adjustment.

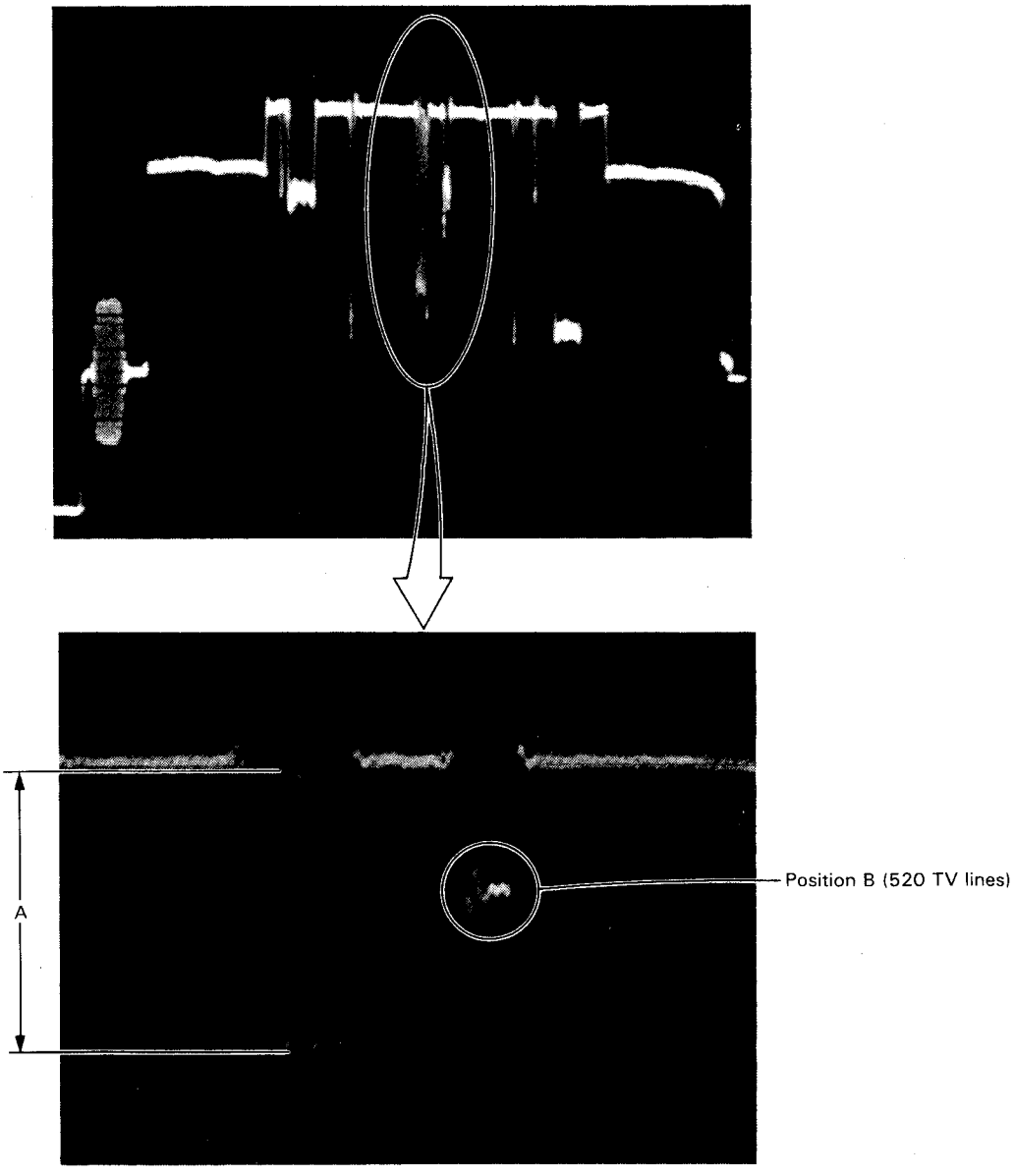
3-2-4. Resolution measurement

Object: Resolution chart
(Sony parts number J-6026-100-A)
Light: Pattern box PTB-220
Equipment: Waveform monitor
Preparation:

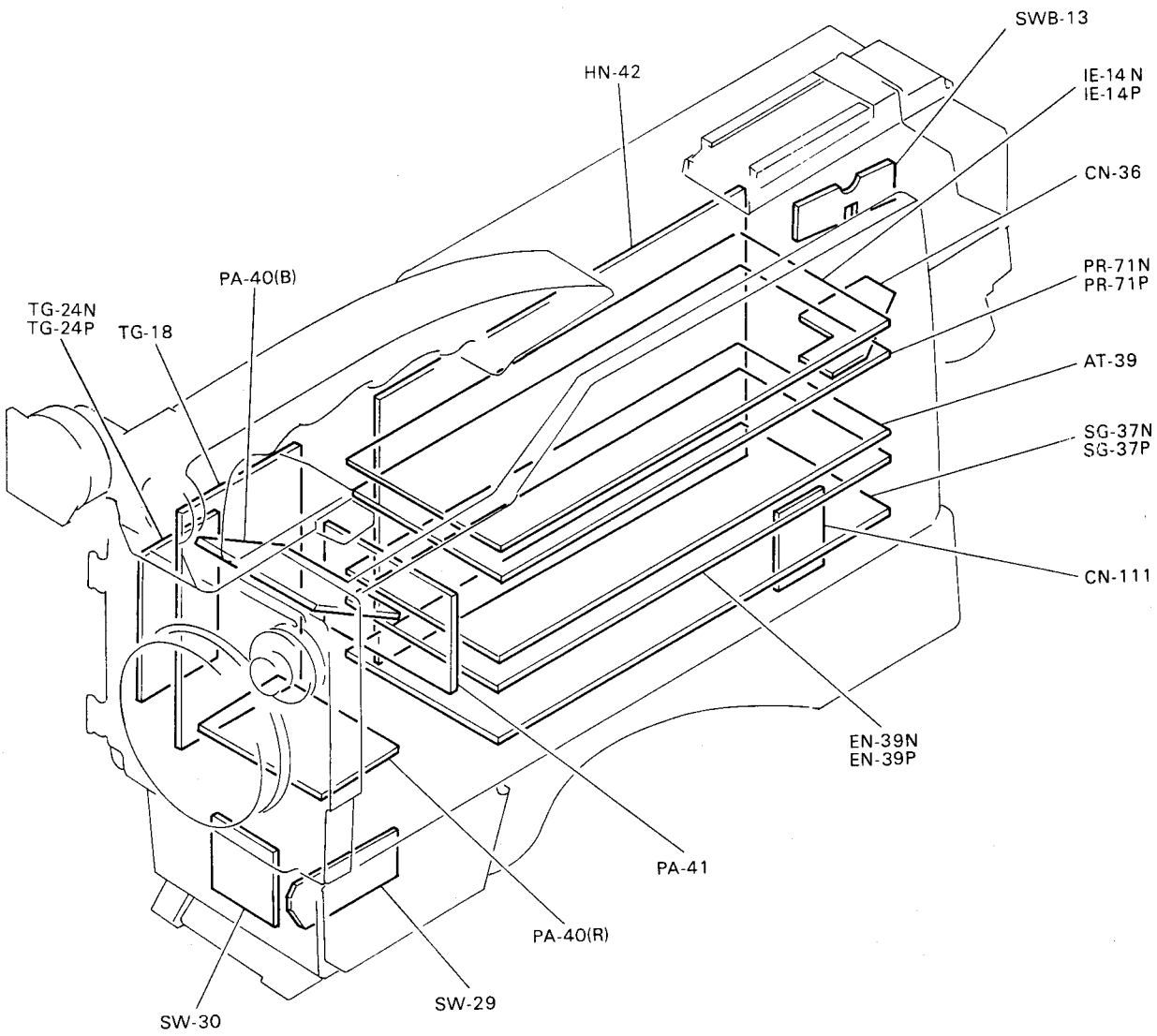
1. Set the BARS WB switch on the side of the camera to 3200°K
2. Adjust the zoom control so that the resolution chart frame touches the underscanned frame on the monitor.
3. Adjust the iris control so that the white level of the resolution chart is 560 ± 14 mV on the waveform monitor.
4. Adjust the focus control so that the amplitude "A" of the resolution chart is maximized.
5. Set the "LINE SELECTOR" of the waveform monitor to the 520 TV lines of the resolution chart.

Specification: Four negative peaks corresponding to four black stripes must appear at the 520 TV lines, position "B" of the resolution chart on the monitor.
The CCD device has 510 picture elements in the horizontal line. When the vertical black stripes corresponding to 520 TV lines are optically positioned between each element in the CCD, the black stripes do not appear on the monitor. It seems that the resolution has been reduced. In this case, pan the camera slightly so that the best resolution is obtained.

Note: When the specification is not satisfied, perform 3-9. Resolution Adjustment.



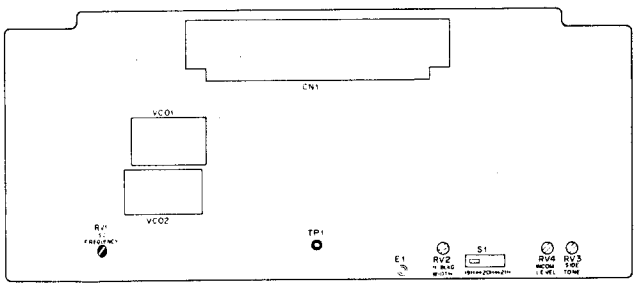
3-3. BOARD ARRANGEMENT



3-4. SYNC SIGNAL SYSTEM (SG-37 BOARD)

3-4-1. Sub carrier frequency adjustment

Equipment: Frequency counter
To be extended: SG-37 board
Test point: TP 1 (GND: E1)/SG 37 board
Adjustment point: ◐ RV1/SG-37 board
Specification: 4,433,618 Hz ± 30 Hz



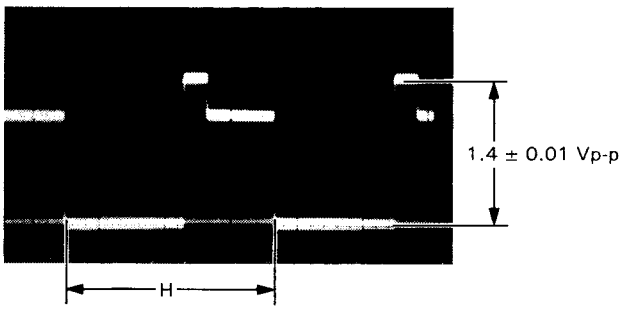
SG-37 board (component side)

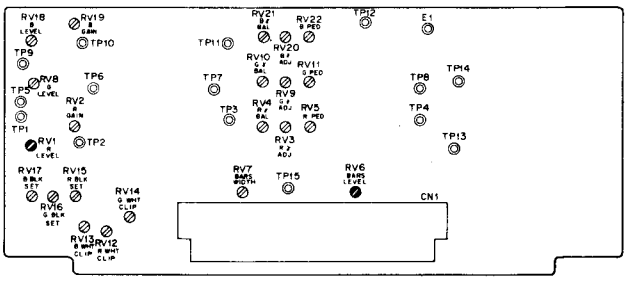
SG-37 board (panel side)

3-5. ENCODER SYSTEM (PR-71, EN-39 BOARD)

3-5-1. BARS level adjustment

Equipment: Oscilloscope
To be extended: PR-71 board
Preparation: Set the BARS WB switch on the side of camera to BARS.
Test point: B13 (GND: A1)/extension board
Trigger: ◐HD (A6 on the extension board)
Adjustment point: ◐ RV6/PR-71 board
Specification: 1.4 ± 0.01 Vp-p

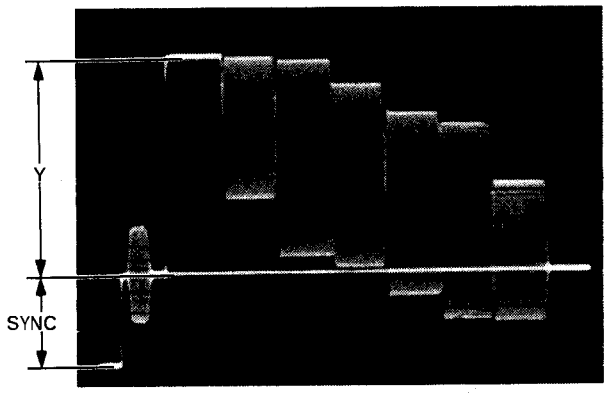




PR-71 board (component side)

3-5-2. Y. SYNC and ~~SET UP~~ Video level adjustment

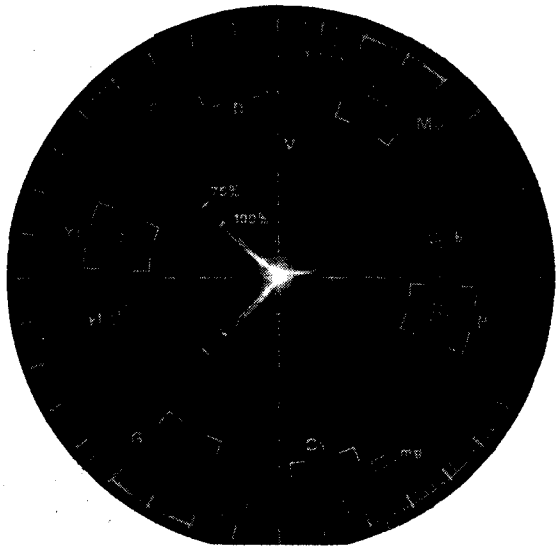
Equipment: Waveform monitor
To be extended: EN-39 board
Preparation: Set the BARS WB switch on the side of camera to BARS.
Adjustment:
1. Adjust ◐ RV10/EN-39 board so that the SYNC level of the color bars signal is 300 ± 15 mV.
2. Adjust ◐ RV1/EN-39 board so that the Y level of the color bars signal is 700 ± 15 mV.

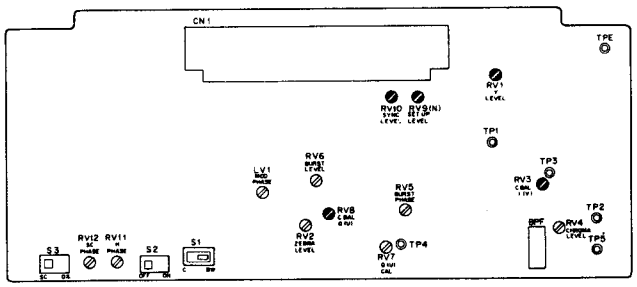


3. Repeat steps 1 to 3 several times until the specifications are satisfied.

3-5-3. Carrier balance adjustment

Equipment: Vectorscope (MAX GAIN)
To be extended: EN-39 board
Preparation: Set the BARS WB switch on the side of camera to BARS.
Adjustment: Adjust ◐ RV3 and ◐ RV8/EN-39 board so that the white beam spot is in the center of the vectorscope.



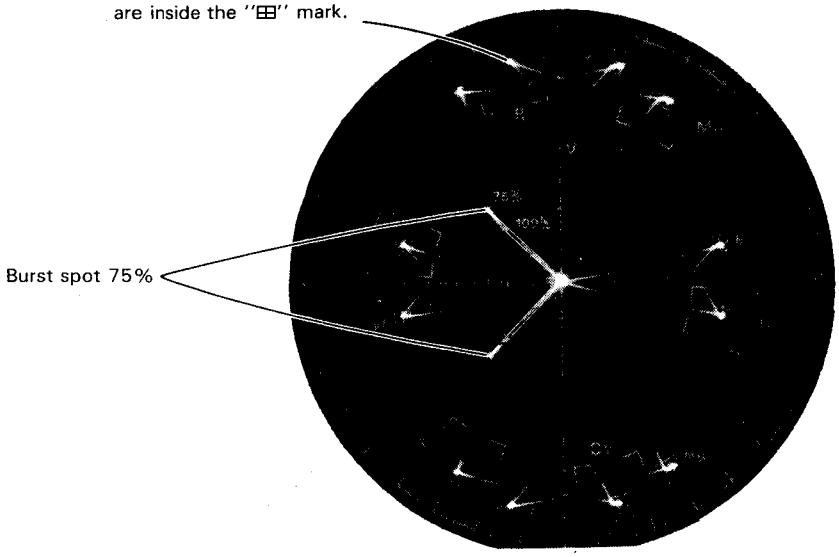


EN-39 board (component side)

3-5-4. Color vector adjustment

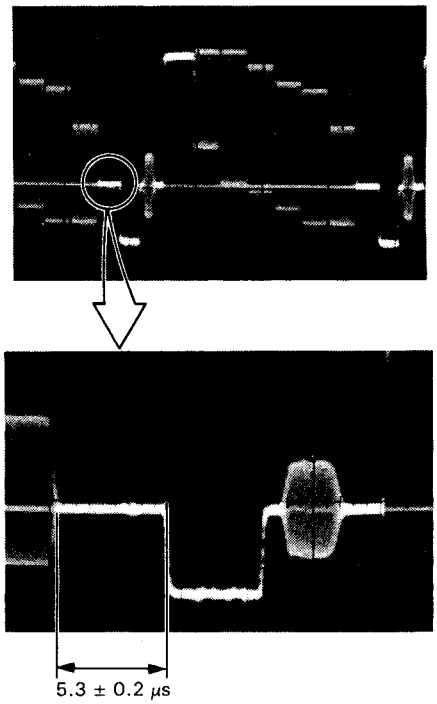
Equipment: Vectorscope
To be extended: EN-39 board
Preparation: Set the GAIN switch on the vectorscope to 75%.
Adjust "PHASE" control on the vectorscope so that the burst spot is set to the 75% axis.
Set the BARS WB switch on the side of camera to BARS.
Adjustment:

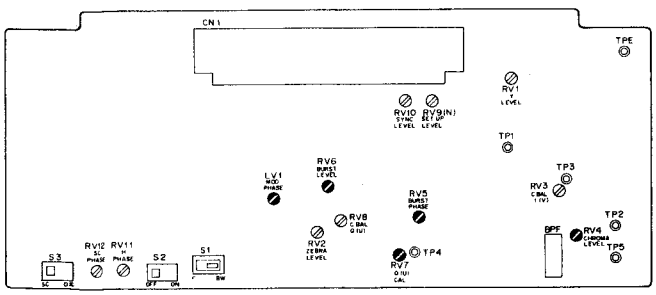
1. Adjust ◐ RV6/EN-39 board so that the burst level is set to the 75% position.
2. Adjust ◐ RV5/EN-39 board and PHASE control on the vector scope so that the burst spot is located on the burst graticule line.
3. Adjust ◐ RV4, ◐ RV7, and ◐ LV1/EN-39 board so that the beam spots of each color are inside the "⊞" mark.
4. Repeat Step 1 through step 4 several times.



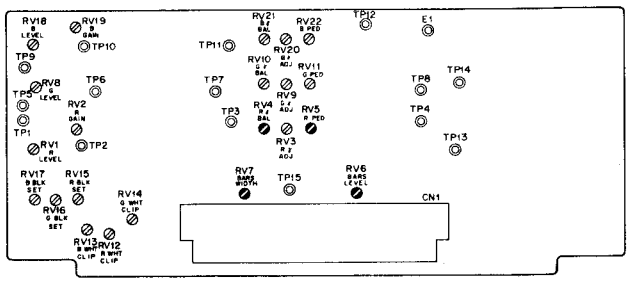
3-5-5. Color bar size adjustment

Equipment: Oscilloscope
To be extended: PR-71 board
Preparation: Set the BARS WB switch on the side of the camera to BARS.
Test point: VIDEO OUT (BNC)
Trigger: HD (A6/extension board)
Adjustment: Adjust ◐ RV7/PR-71 board so that the black level width of the color bars signal is 5.3 ± 0.2 μs.





EN-39 board (component side)



PR-71 board (component side)

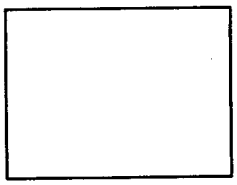
3-6. VIDEO PROCESS SYSTEM (PR-71 BOARD)

3-6-1. B ch video level and temporary gain adjustment

Note: 1. To satisfy F5.6 sensitivity, the video level adjustment must be made in order of lower sensitivity starting from B ch to R ch and then to G ch.
2. Carry out this adjustment through 3-6-3, G ch video level adjustment keeping the iris control set to F5.6.

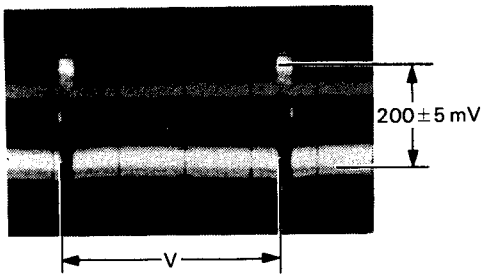
Object: White pattern (pattern box "AUTO MODE")
Equipment: Oscilloscope
To be extended: PR-71 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K.
Set the iris control to F5.6
Trigger: VD (A25/extension board)
Adjustment:

1. Adjust the zoom control at "TELE" so that the white pattern frame touches the underscanned picture frame on the monitor.

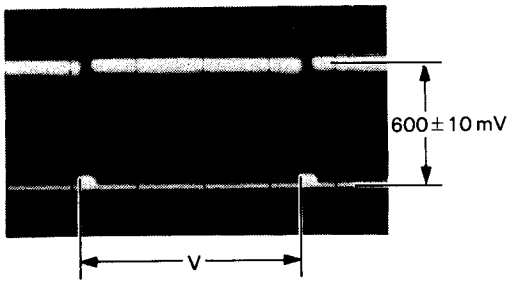


Monitor screen

2. Adjust ◐ RV18/PR-71 board so that the video level at TP-10 on the PR-71 board is 200 ± 5 mV.



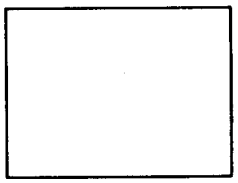
3. Adjust ◐ RV19 on the PR-71 board so that video level at TP11 on the PR-71 board is 600 ± 10 mV.



3-6-2. Rch video level and temporary gain adjustment

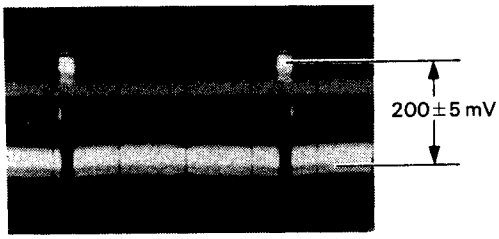
Note: Be sure to carry out 3-6-1. B ch level adjustment before this adjustment.
Object: White pattern (pattern box "AUTO Mode")
Equipment: Oscilloscope
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Set the iris control to F5.6
Test point: TP2 (GND;E1)/PR-71 board
Trigger: VD (A25/extension board)
Adjustment:

1. Adjust the zoom control at "TELE" so that the white pattern frame touches the underscanned picture frame on the screen.

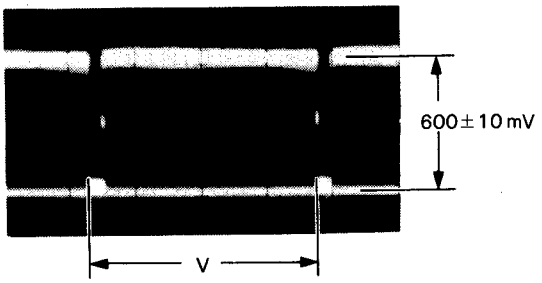


Monitor screen

2. Adjust ◐ RV1/PR-71 board so that the video level at TP 2/PR-71 board is 200 ± 5 mV.



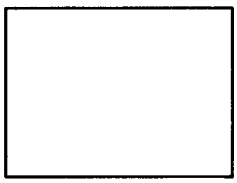
3. Adjust ◐ RV2/PR-71 board so that the video level at TP 3/PR-71 board is 600 mV ± 10 mV.



TP-5 mit Blende auf 250 mV einstellen

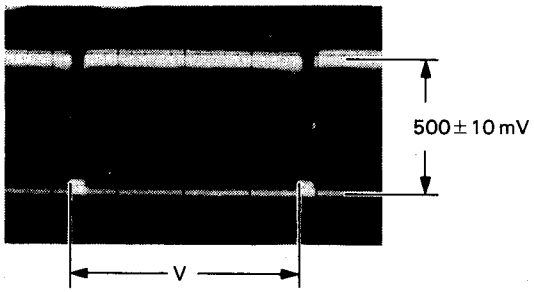
3-6-3. G ch video level adjustment

Note: Be sure to carry out 3-6-2. R ch video level adjustment before this adjustment.
Object: White pattern (pattern box "AUTO Mode")
Equipment; Oscilloscope
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Set the iris control to F5.6
Test point: TP 7 (GND: E1)/PR-71 board
Trigger: VD (A25/extension board)
Adjustment:
1. Adjust the zoom control at "TELE" so that the white pattern frame touches the underscanned picture frame on the screen.



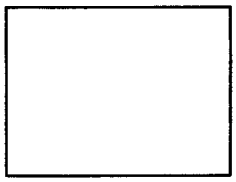
Monitor screen

2. Adjust ◐ RV8/PR-71 board so that the video level at TP7/PR-71 board is 500 mV ± 10 mV.



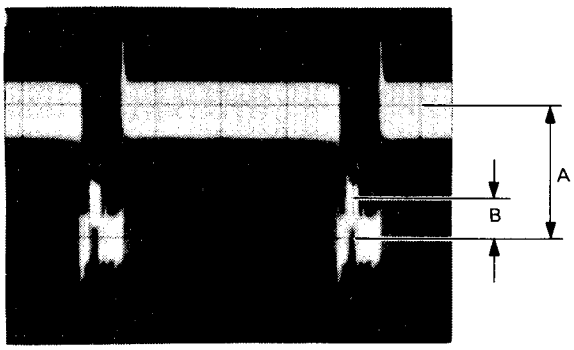
3-6-4. IE•APC Adjustment

Object: White pattern (pattern box "AUTO Mode")
Equipment: Oscilloscope
To be extended: IE-14 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Set the iris control to F5.6
Test point: TP 1 (GND: E1)/IE-14 board
Trigger: HD (A22/extension board)
Adjustment:
1. Adjust the zoom control at "TELE" so that the white pattern frame touches the underscanned picture frame on the monitor.

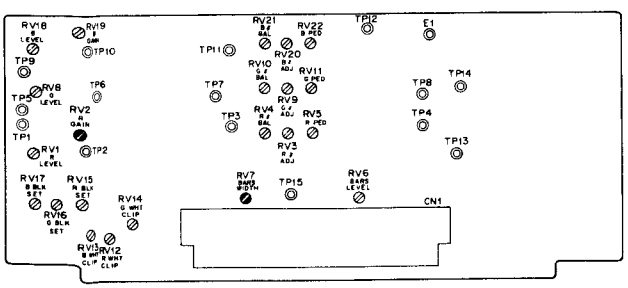


Monitor screen

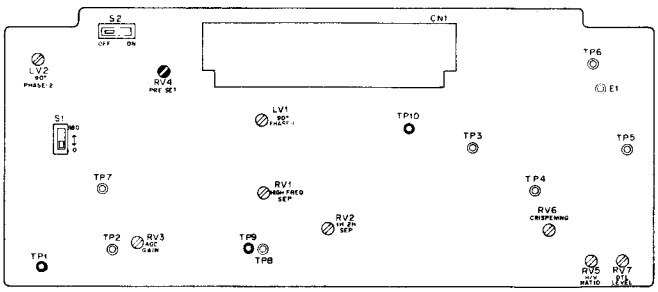
2. Connect TP 9 to TP 10 (−5 V) on the IE-14 board.
3. Adjust ◐ RV 4/IE-14 board so that the ratio of "A" level to "B" level is 5 to 1.



$\frac{B}{A} = \frac{1}{5} = \frac{1}{3}$



PR-71 board (component side)

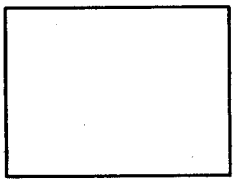


IE-14 board (component side)

3-6-5. IE•1H/2H SET adjustment

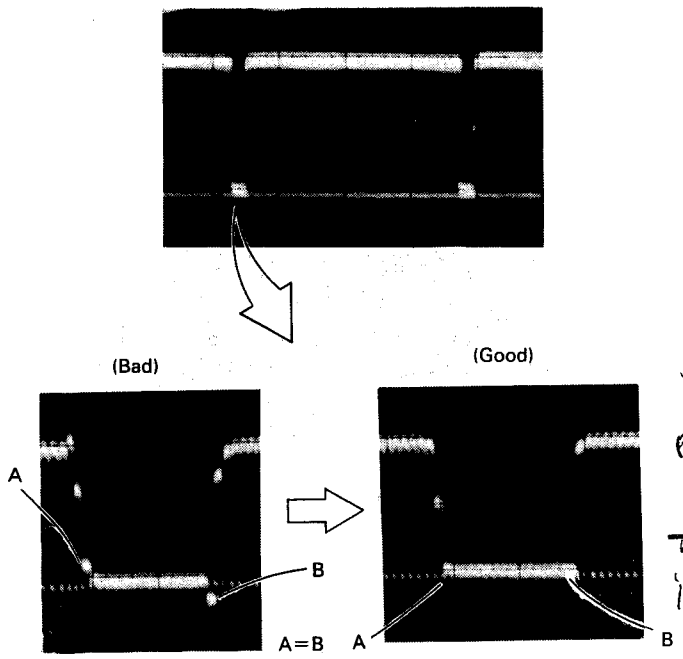
Object: White pattern (pattern box "AUTO Mode")
Equipment: Oscilloscope
To be extended: PR-71 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Set the iris control to F5.6
Test point: TP 2/IE-14 board (GND: E1/PR-71 board)
Trigger: VD (A25/extension board)
Adjustment:

1. Adjust the zoom control at "TELE" so that the white pattern frame touches the underscanned picture frame on the monitor.



Monitor screen

2. Adjust ◐ RV 2/IE-14 board so that the left and right sides of the V BLKG are equal.

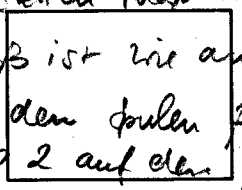


3-6-6. IE•AGC gain adjustment

Object: White pattern (pattern box "AUTO Mode")
Equipment: Oscilloscope
To be extended: PR-71 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Set the iris control to F5.6
Test point: B15 (GND: A1)/extension board
Trigger: VD (A25/extension board)
Adjustment:

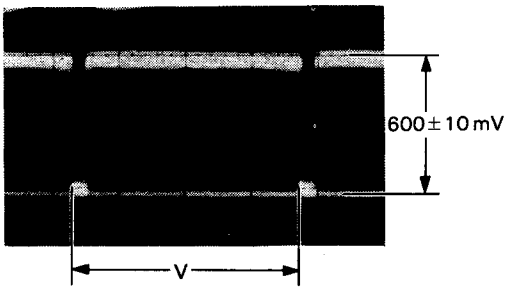
1. Adjust the zoom control at "TELE" so that the white pattern frame touches the underscanned picture frame on the monitor.

AGC so einstellen, daß am TP1 der Pegel so groß ist wie am Eingang IE, dann mit dem Poti für 90° den Pegel am TP 2 auf den gleichen Pegel einst



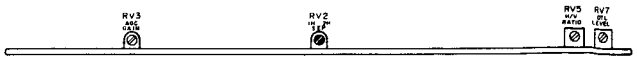
Monitor screen

2. Adjust the ◐ RV3/IE-14 board so that the video level at B15/extension board is 600 mV ± 10 mV.



nach Ausgang kontrollieren ob sich der Pegel ändert bei max V-DTL ON!

Auch darauf achten, daß kein AGC-Pulse im 1H Signal ist! am TP 1

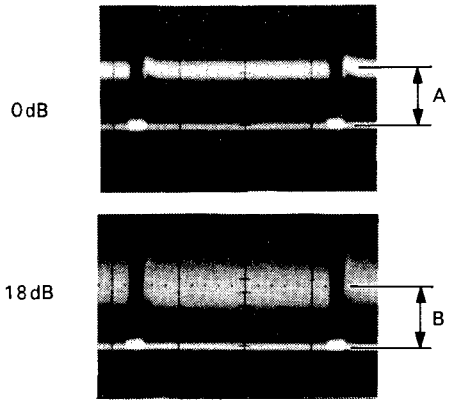


IE-14 board (panel side)

3-6-7. Black set and pedestal adjustments

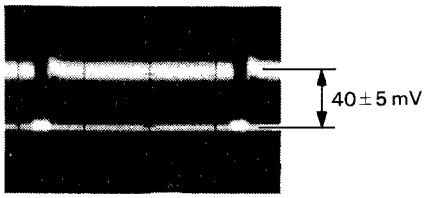
Lens iris: Close "C"
Equipment: Oscilloscope, Vectorscope (MAX GAIN)
To be extended: PR-71 board
Test point: TP 8 (GND: E1) PR71 board (Connect a 10 K ohm resistor between the oscilloscope probe and TP 8)
Trigger: VD (A25/extension board)
Adjustment:

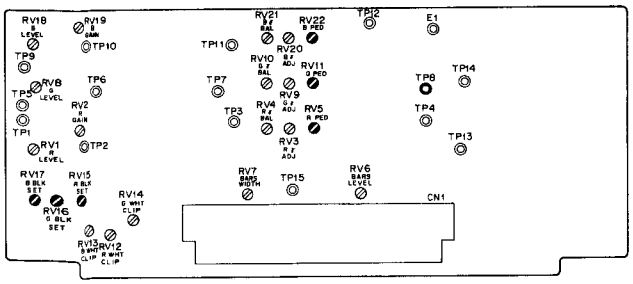
1. Adjust ◐ RV16/PR-71 board so that pedestal level does not change when the GAIN switch on the side of the camera is switched over from 0 dB to 18 dB.



A=B

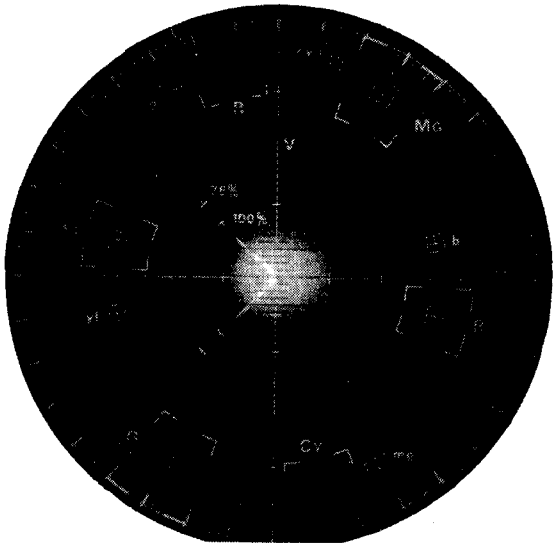
2. Set the GAIN switch on the side of the camera to 0 dB.
3. Adjust ◐ RV11/PR-71 board so that the pedestal level is 40 ± 5 mV.



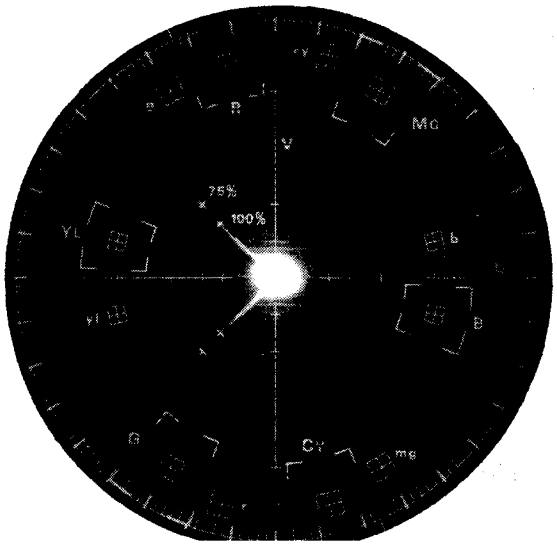


PR-71 board (component side)

4. Set the GAIN switch on the side of the camera to 18 dB.
5. Adjust ◐ RV15 ◐ RV17 6n the PR-71 board so that the beam spot is in the center of the vectorscope.



6. Set the GAIN switch on the side of the camera to 0 dB.
7. Adjust ◐ RV5 and ◐ RV22/PR-71 board so that the beam spot is in the center of vectorscope.

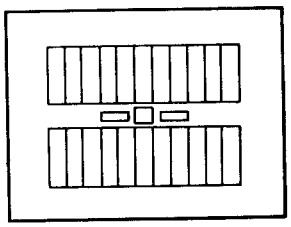


8. Repeat step 4 through step 7 several times.
9. Set the GAIN switch on the side of the camera to 0 dB.

3-6-8. G ch gamma balance and gamma set adjustment

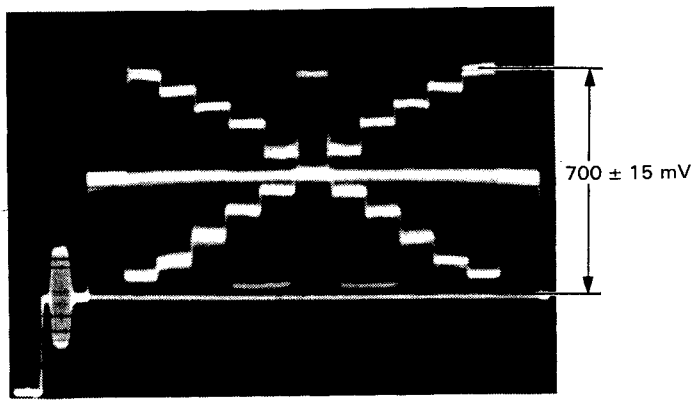
Object: Grayscale chart
Equipment: Oscilloscope
To be extended: PR-71 board
Test point: TP 8 (GND: E1)/PR-71 board
Trigger: HD (A6/extension board)
Adjustment:

1. Adjust the zoom control so that the grayscale chart frame touches the underscanned picture frame on the monitor.



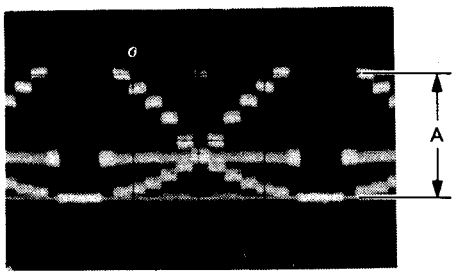
Monitor screen

2. Adjust the iris control so that the video level is 700 ± 15 mV on the waveform monitor (F4 - 5.6).

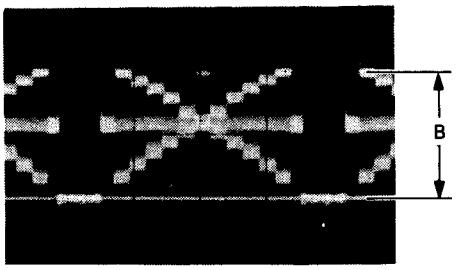


3. Adjust ◐ RV10/PR-71 board so that the white level of the video signal does not change when ◐ RV9/PR-71 board is turned either fully counterclockwise or fully clockwise.

◐ RV9: fully clockwise ↻

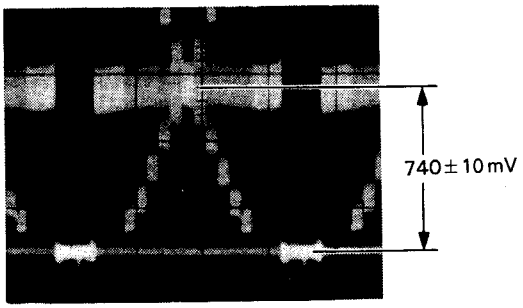


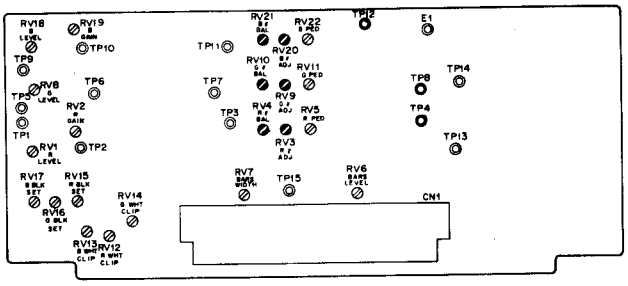
◐ RV9: fully ↺ counterclockwise



A=B

4. Adjust ◐ RV 9/PR-71 board so that the crosspoint level of the video signal is 740 mV ± 10 mV.



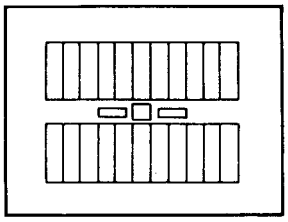


PR-71 board (component side)

3-6-9. R ch gamma balance adjustment

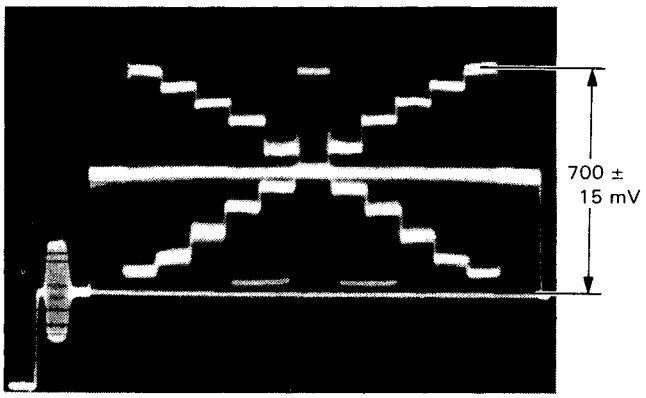
Object: Grayscale chart
Equipment: Oscilloscope
To be extended: PR-71 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Test point: TP 4 (GND: E1)/PR-71 board
Trigger: HD (A6/extension board)
Adjustment:

1. Adjust the zoom control so that the grayscale chart frame touches the underscanned picture frame on the monitor.

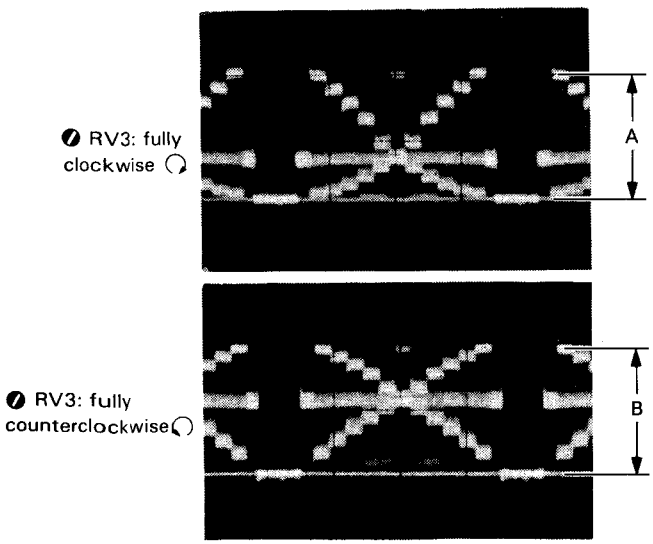


Monitor screen

2. Adjust the lens iris control so that the white level is 700 ± 15 mV on the waveform monitor.



3. Adjust ◐ RV4/PR-71 board so that the white level of the video signal at TP 4/PR-71 board does not change when ◐ RV3/PR-71 board is turned either fully **counterclockwise or fully clockwise.**

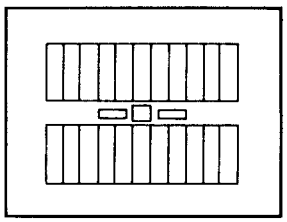


A=B

3-6-10. B ch gamma balance adjustment

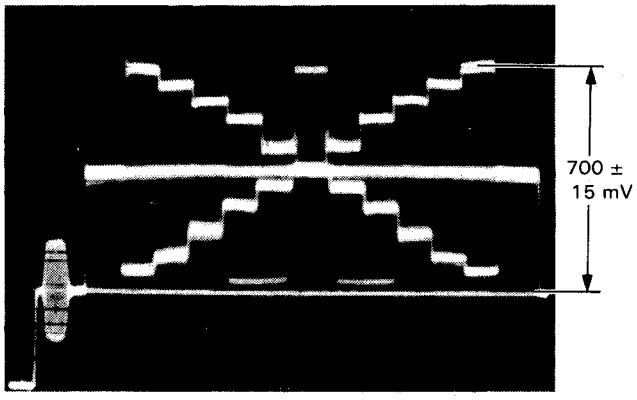
Object: Grayscale chart
Equipment: Oscilloscope
To be extended: PR-71 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Test point: TP 12 (GND: E1)/PR-71 board
Trigger: HD (A6/extension board)
Adjustment:

1. Adjust the zoom control so that the Grayscale chart frame touches the underscanned picture frame on the monitor.

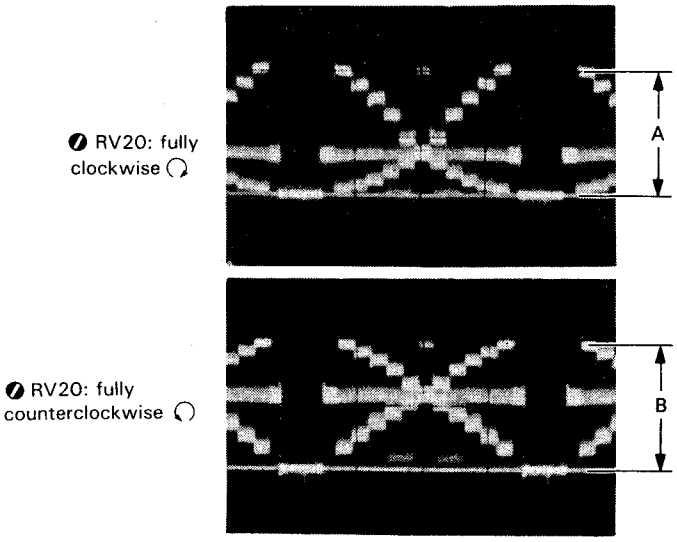


Monitor screen

2. Adjust the iris control so that the video level is 100 IRE on the waveform monitor.



3. Adjust ◐ RV21/PR-71 board so that the white level of the video signal at TP12/PR-71 board does not change when ◐ RV20/PR-71 board is turned either fully **counterclockwise or fully clockwise.**

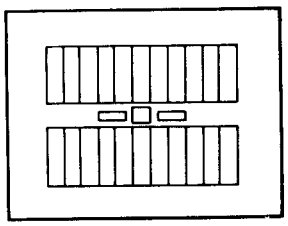


A=B

3-6-11. R/B ch gamma set and preset adjustment

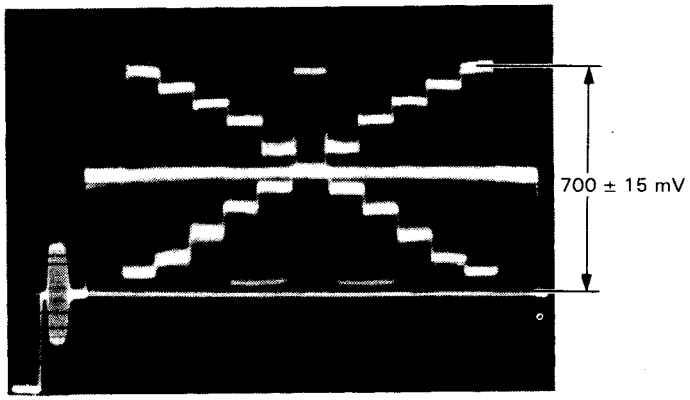
Object: Grayscale chart
Equipment: Waveform monitor, Vectorscope (MAX GAIN)
To be extended: PR-71 board
Adjustment:

1. Adjust the zoom control so that the grayscale chart frame touches the underscanned picture frame on the monitor.



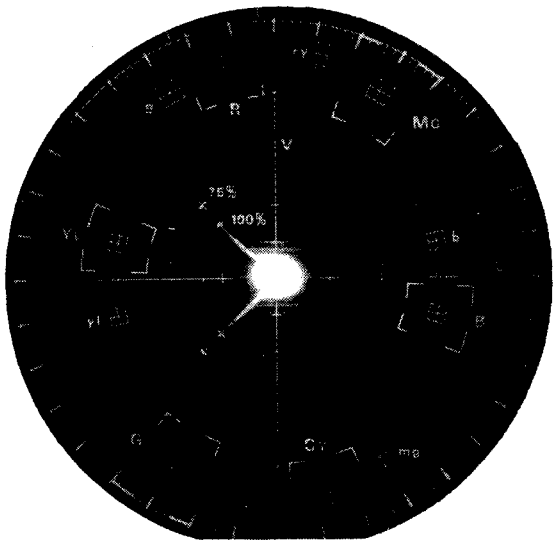
Monitor screen

2. Adjust the iris control so that the video level is 700 ± 15 mV on the waveform monitor.

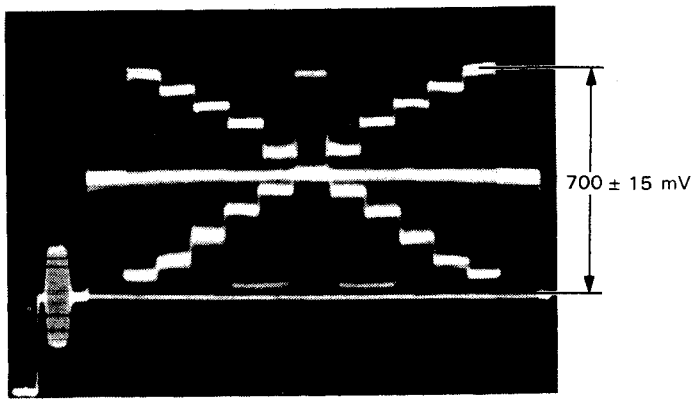


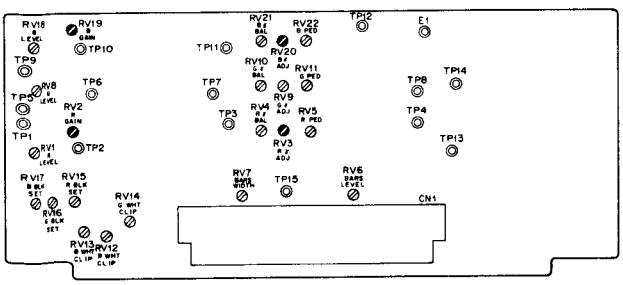
3. ● RV 2 (R GAIN)
   ● RV 19 (B GAIN)
   ● RV 3 (Rγ ADJ)
   ● RV 20 (Bγ ADJ)
   } /PR-71 board

   Alternately adjust the above four controls several times so that the beam spot is in the center of vectorscope.



4. After the adjustment, the following specifications must be satisfied.
   If not, perform from 3-6-1. B ch video level adjustment once more.



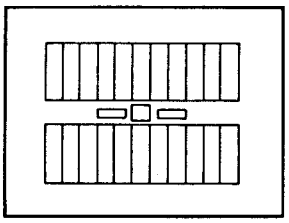


PR-71 board (component side)

3-6-12. White clip adjustment

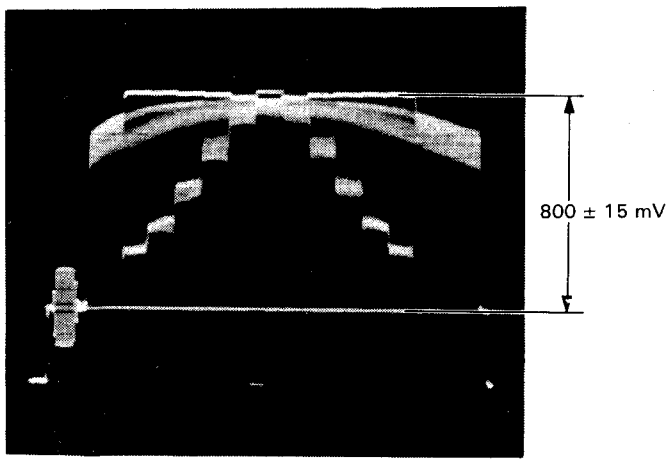
Object: Grayscale chart
Equipment: Waveform monitor
To be extended: PR-71 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Set the GAIN switch to 0 dB
Adjustment:

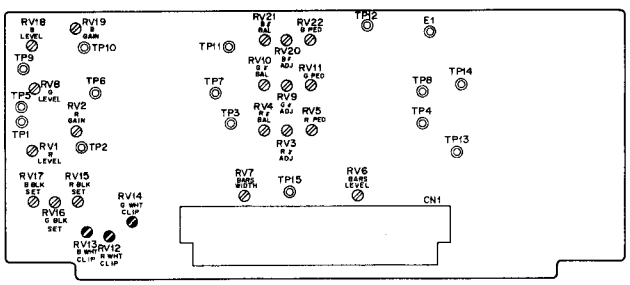
1. Adjust the zoom control so that grayscale chart frame touches the underscanned picture frame on the monitor.



Monitor screen

2. Set the iris control to OPEN.
3. Adjust ◐ RV12 and ◐ RV13/PR-71 board several times so that the carrier leakage of the white peak level is minimized.
4. Adjust ◐ RV14/PR-71 board so that the white peak level is 800 ± 15 mV on the waveform monitor.





PR-71 board (component side)

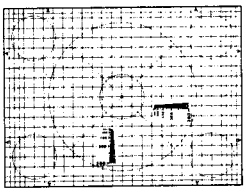
3-7. IMAGE ENHANCER SYSTEM ADJUSTMENT

Note: It is not necessary to adjust ◐ RV1, ◐ LV1 and ◐ LV2 unless these controls are replaced. Do not touch these controls.

3-7-1. Crispening adjustment

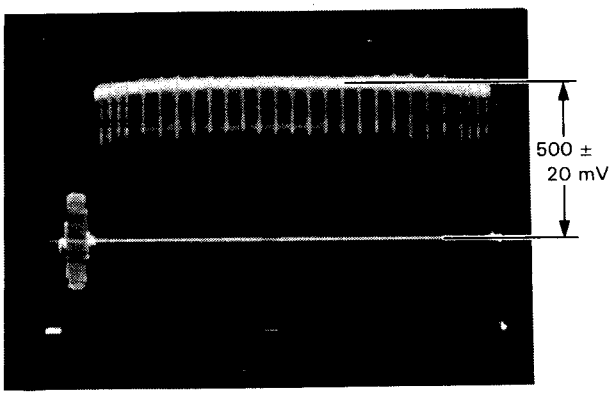
Object: Registration chart
Equipment: Oscilloscope
To be extended: IE-14 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Rotate ◐ RV5 (H.V. RATIO)/IE-14 board fully clockwise
Test point: TP5 (GND: E1)/IE-14 board
Trigger: HD (A22/extension board)
Adjustment:

1. Adjust the zoom control so that the registration chart frame touches the underscanned picture frame on the monitor.



Monitor screen

2. Adjust the iris control so that the video level is 500 ± 20 mV on the waveform monitor.

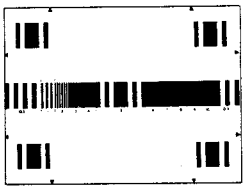


3. Adjust ◐ RV6/IE-14 board so that the level at TP5/IE-14 board is 80 ± 10 mV. Connection of a 10 K ohm resistor between the oscilloscope probe and TP5 makes it easier to detect noise.

3-7-2. H.V.RATIO adjustment

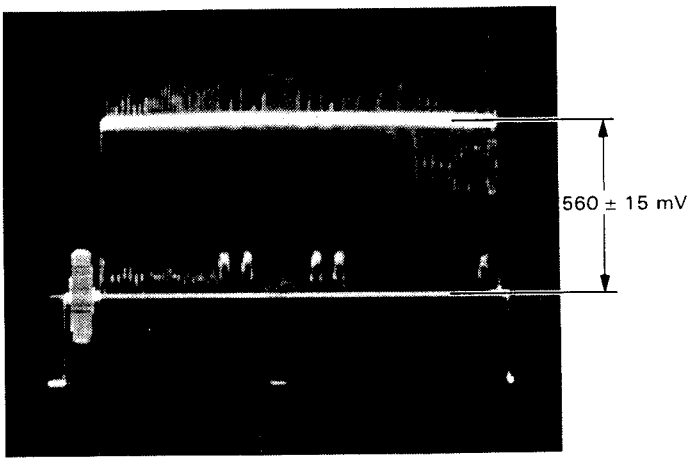
Object: Burst chart
Equipment: B/W monitor screen
To be extended: IE-14 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Rotate ◐ RV7 (DTL LEVEL)/IE-14 board fully clockwise
Adjustment:

1. Set the zoom control at TELE and shoot a burst chart.

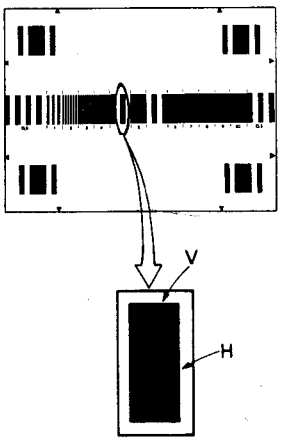


Monitor screen

2. Adjust the iris control so that the video level is 560 ± 15 mV on the waveform monitor.



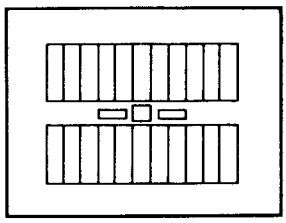
3. Adjust ◐ RV5/IE-14 board so that the overlapping detail ratio of H to V on the 0.5 MHz section of the burst chart is equal on the monitor.



3-7-3. Detail level adjustment

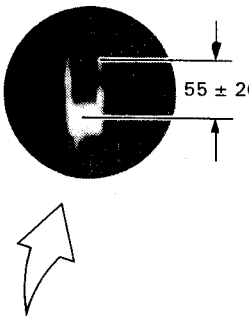
Object: Grayscale chart
Equipment: Waveform monitor
To be extended: IE-14 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Adjustment point: ◐ RV7/IE-14 board
Adjustment:

1. Adjust the zoom control so that the grayscale chart frame touches the underscanned picture frame on the monitor.



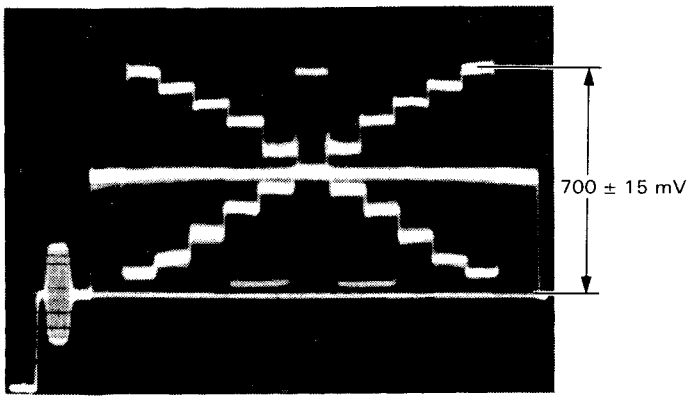
Monitor screen

2. Adjust the iris control so that the video output level is 700 ± 15 mV on the waveform monitor.
3. Adjust ◐ RV7/IE-14 board so that the smaller detail level at both ends of the white level is 55 ± 20 mV.

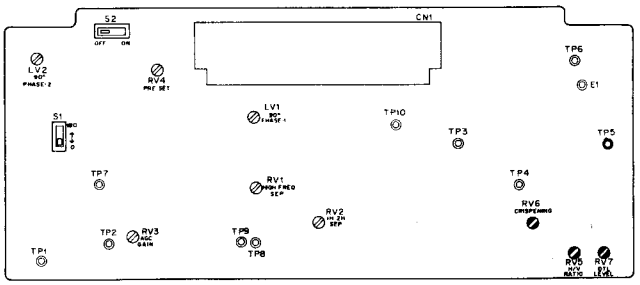


55 ± 20 mV

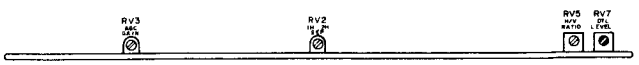
* This value should be changed according to the users' requirements.



700 ± 15 mV



IE-14 board (component side)



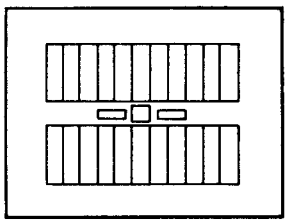
IE-14 board (panel side)

3-8. AUTO SYSTEM (AT-39 BOARD)

3-8-1. LOW LIGHT adjustment

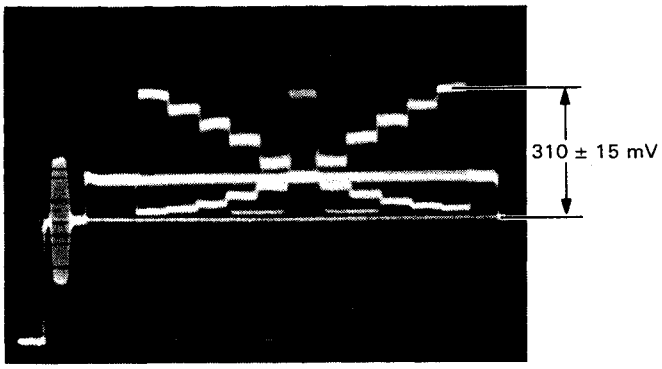
Object: Grayscale chart
Equipment: Waveform monitor
To be extended: AT-39 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Adjustment point: ◐ RV1/AT-39 board
Adjustment:

1. Adjust the zoom control so that the grayscale chart frame touches the underscanned picture frame on the monitor.



Monitor screen

2. Adjust the lens iris control so that the white level of the video signal is 310 ± 15 mV.

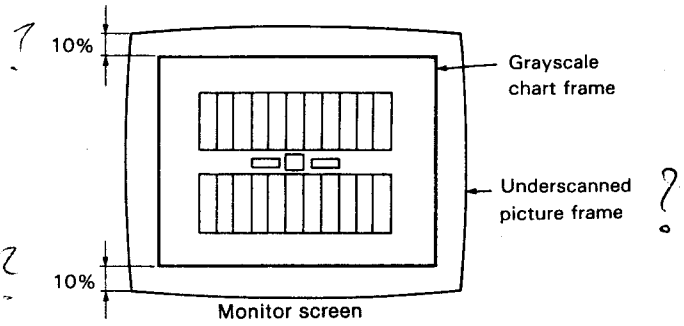


3. Rotate ◐ RV1/AT-39 board counter clockwise from the rightmose position. Until the point where the "LOW LIGHT" indication and the "LOW LIGHT" lamp light up on the viewfinder screen.
4. Open the iris control gradually and confirm that the white level of the video signal is 295 to 335 mV when the "LOW LIGHT" indication disappears. When the specification is not satisfied, repeat step 3.

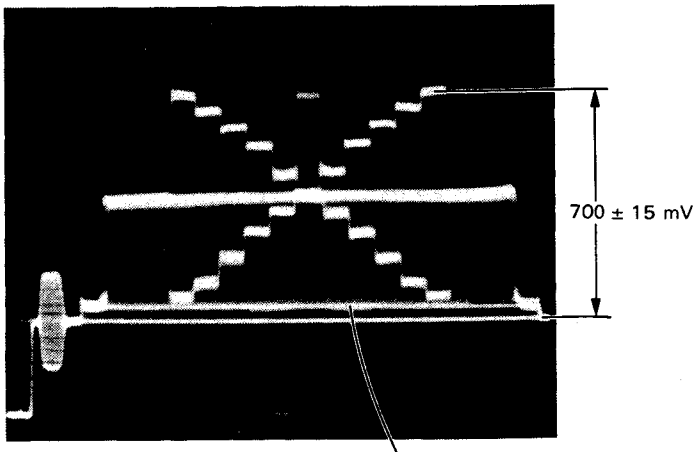
3-8-2. ABL adjustment

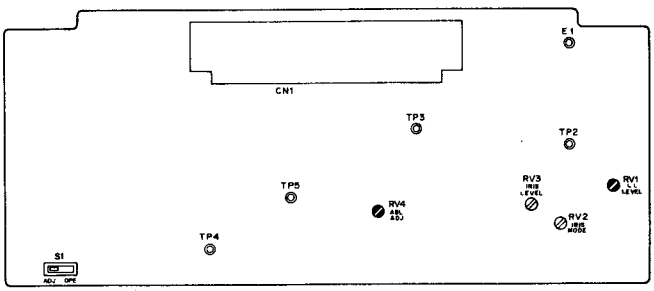
Object: Grayscale chart
Equipment: Waveform monitor
To be extended: AT-39 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Adjustment point: ◐ RV4/AT-39 board

1. Adjust the zoom control so that the grayscale chart frame is underscanned 10% from the underscanned frame on the monitor.



2. Adjust the iris control so that the white level of the video signal is 700 ± 15 mV.
3. Adjust ◐ RV4/AT-39 board so that the black level of the video signal does not change when charging over the ABL switch to ON or OFF.





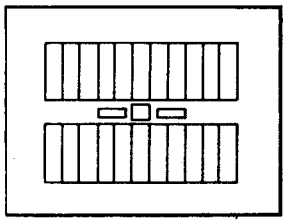
AT-39 board (component side)

3-8-3. Auto iris adjustment

Object: Grayscale chart
Equipment: Waveform monitor
To be extended: AT-39 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K.
Set the iris control to AUTO.
Rotate ◐ RV2 (IRIS MODE)/AT-39 board fully clockwise ↻.

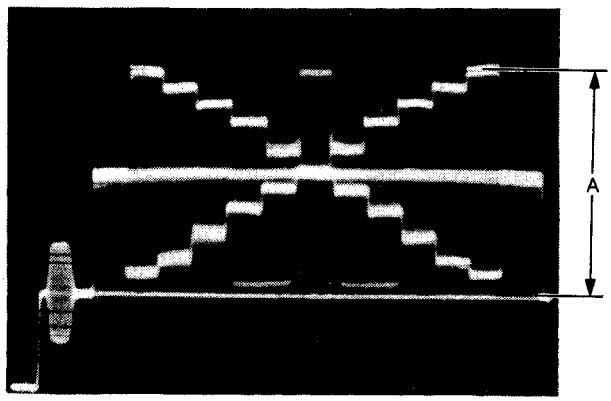
Adjustment:

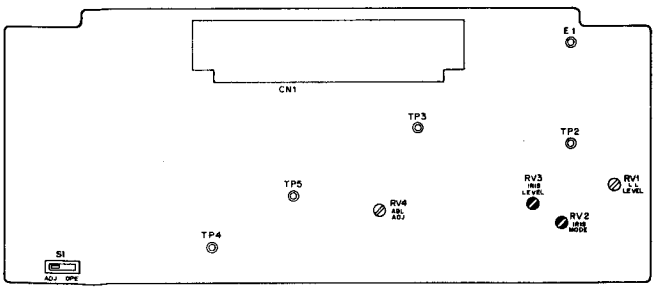
1. Adjust the zoom control so that the grayscale chart frame touches the underscanned picture frame on the monitor.



Monitor screen

2. Adjust ◐ RV3 (IRIS SET)/AT-39 board so that the white peak level "A" is 700 ± 15 mV.
3. Adjust ◐ RV2 (IRIS MODE)/AT-39 board so that the white peak level "A" is 760 ± 15 mV.
4. Adjust ◐ RV3 (IRIS SET)/AT-39 board so that the white peak level "A" is 700 ± 15 mV.



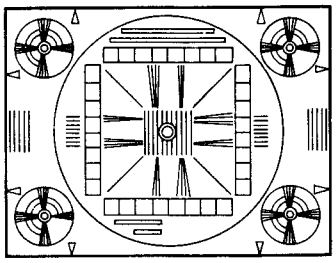


AT-39 board (component side)

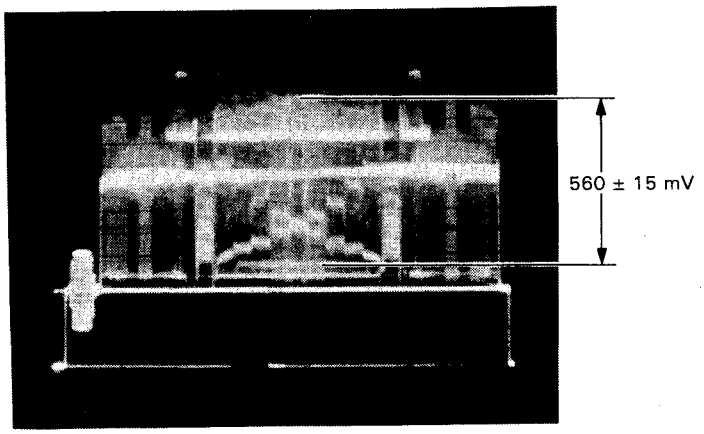
3-9. RESOLUSION ADJUSTMENT (TG-18 BOARD)

Object: Resolution chart
Equipment: Waveform monitor, Black and White monitor
Preparation: Set the BARS WB switch on the side of the camera to 3200° K
Adjustment:

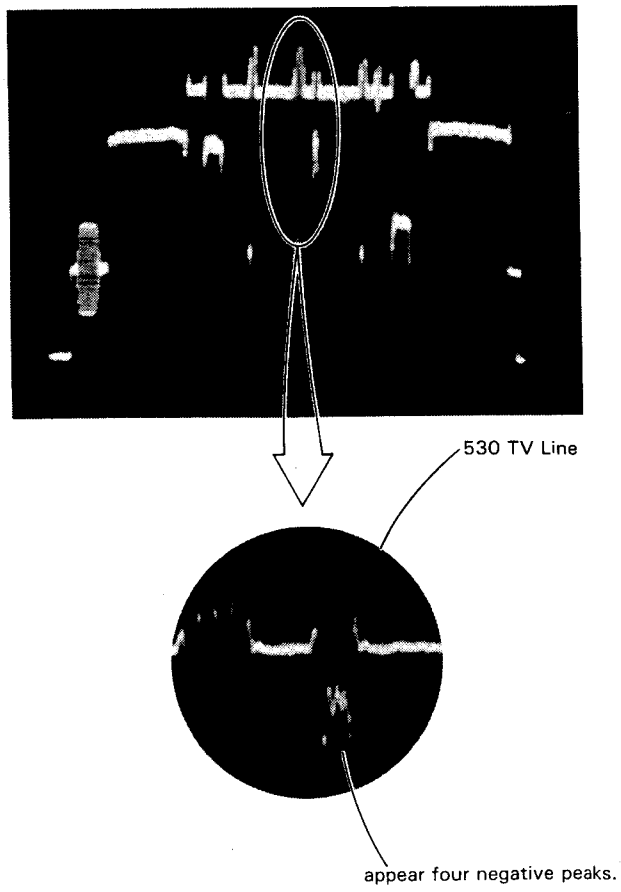
1. Adjust the zoom control so that the resolution chart frame touches the underscanned picture frame on the monitor.

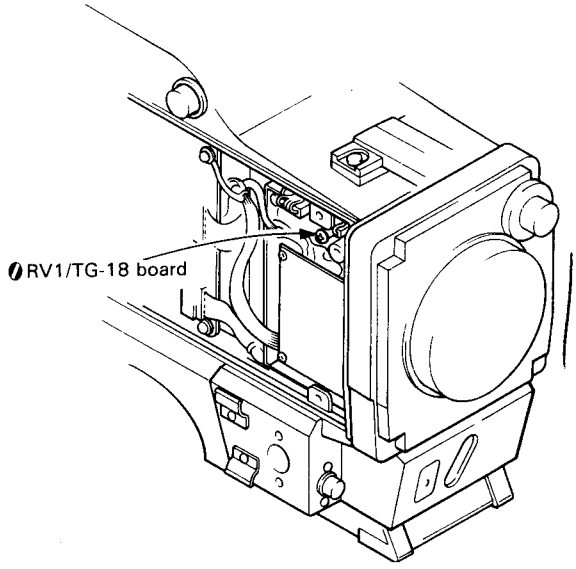


2. Adjust the iris control so that the white level of the video signal is 560 ± 15 mV.



3. Adjust "LINE SELECTOR" of the waveform monitor so that a selected line is overlapped with 530-line of the resolution chart on the waveform monitor.
4. Adjust the focus control so that the amplitude portion "A" of the video signal is maximized.
5. Adjust ◐ RV1/TG-18 board so as to appear four negative peaks at the portion A of the resolution chart.





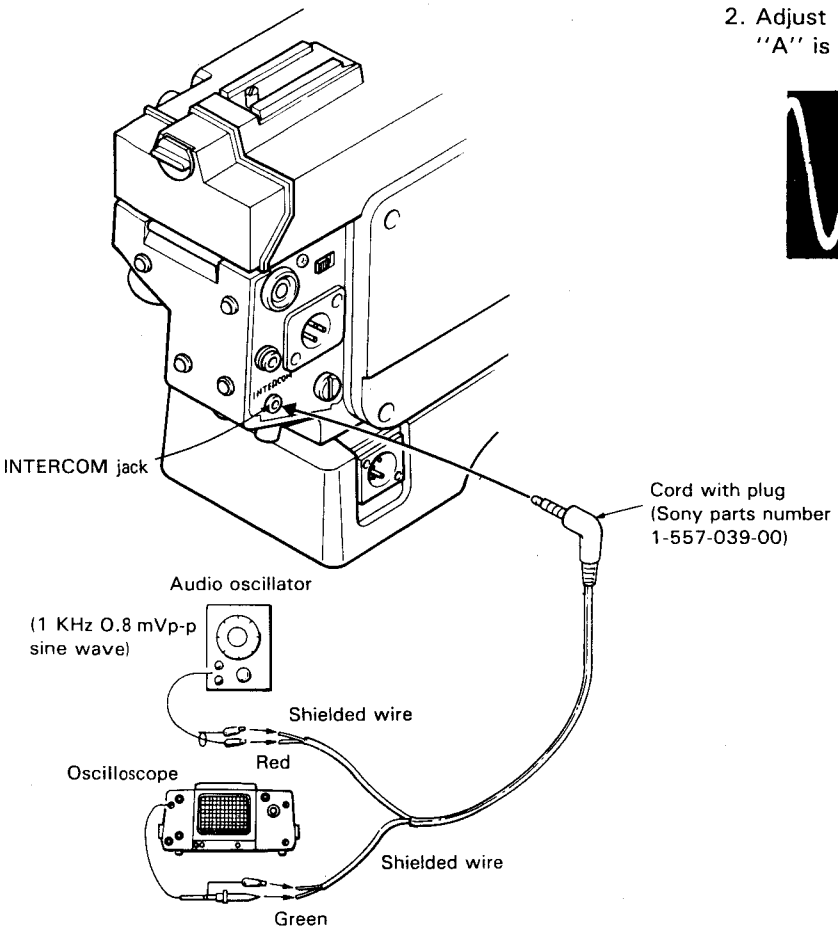
Mit hochfrequenter Vorlage auf min. Aliasing Effekt einstellen (wenig Regelbereich) (Fast Rechteckanteil a.g.)

C1 auf PA-40 R/B auf min. sichtbare Pixelausfälle einstellen!

3-10. INTERCOM SYSTEM (SG-37 BOARD)

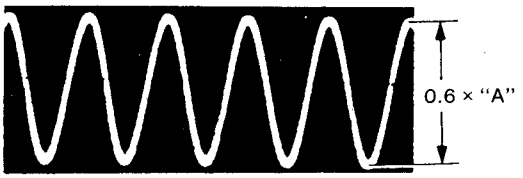
3-10-1. SIDE TONE adjustment

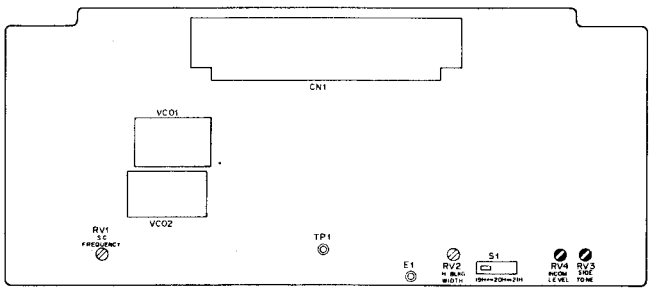
To be extended: SG-37 board
Equipment/Connection:



Preparation: Rotate ◐ RV4 on the SG-37 board fully clockwise ↻.
Adjustment point: ◐ RV3/SG-37 board

1. Measure the output level "A" when turning ◐ RV3 fully counterclockwise.
2. Adjust ◐ RV3 clockwise so that 60% of output level "A" is indicated.

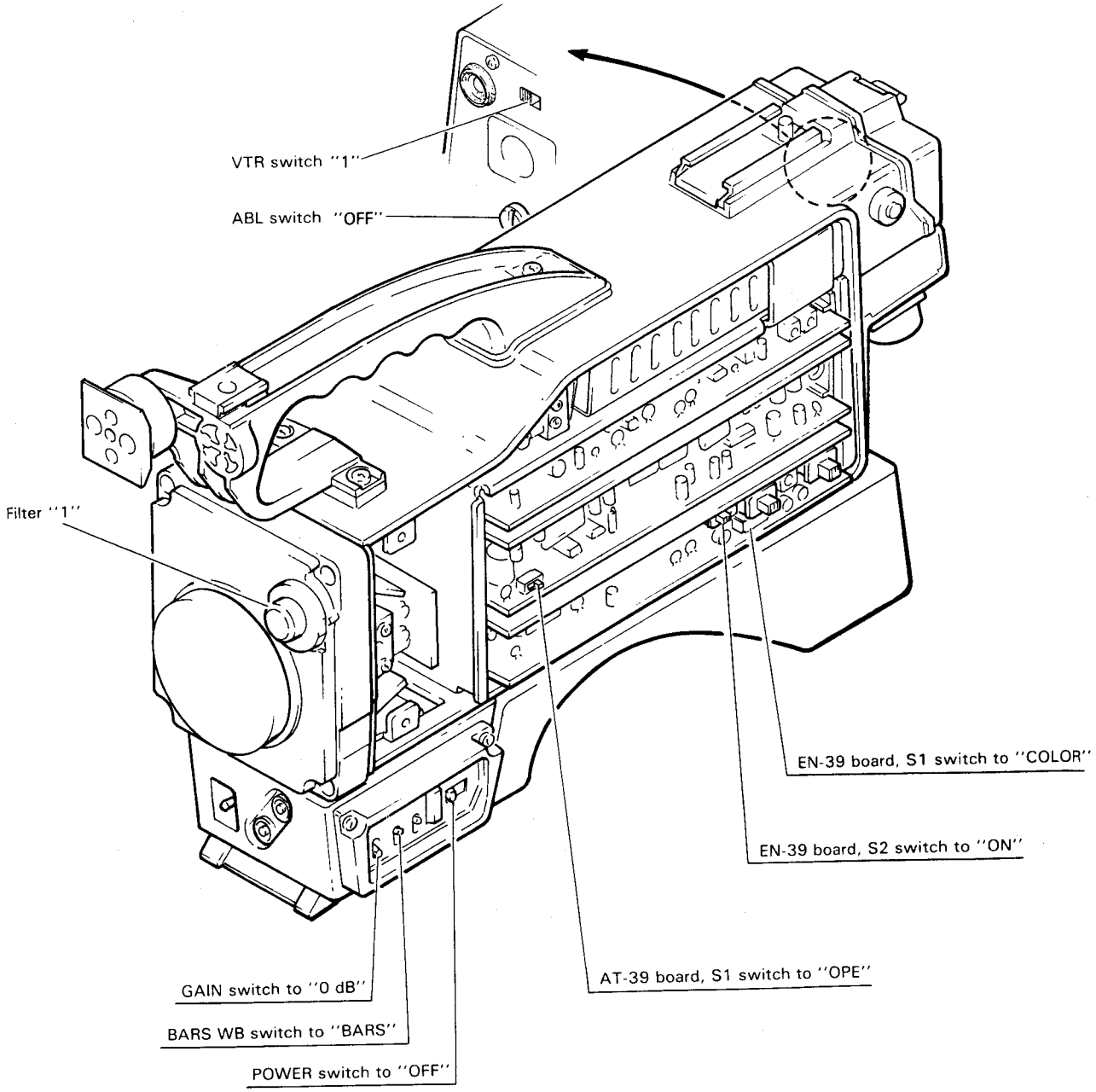




SG-37 board (component side)

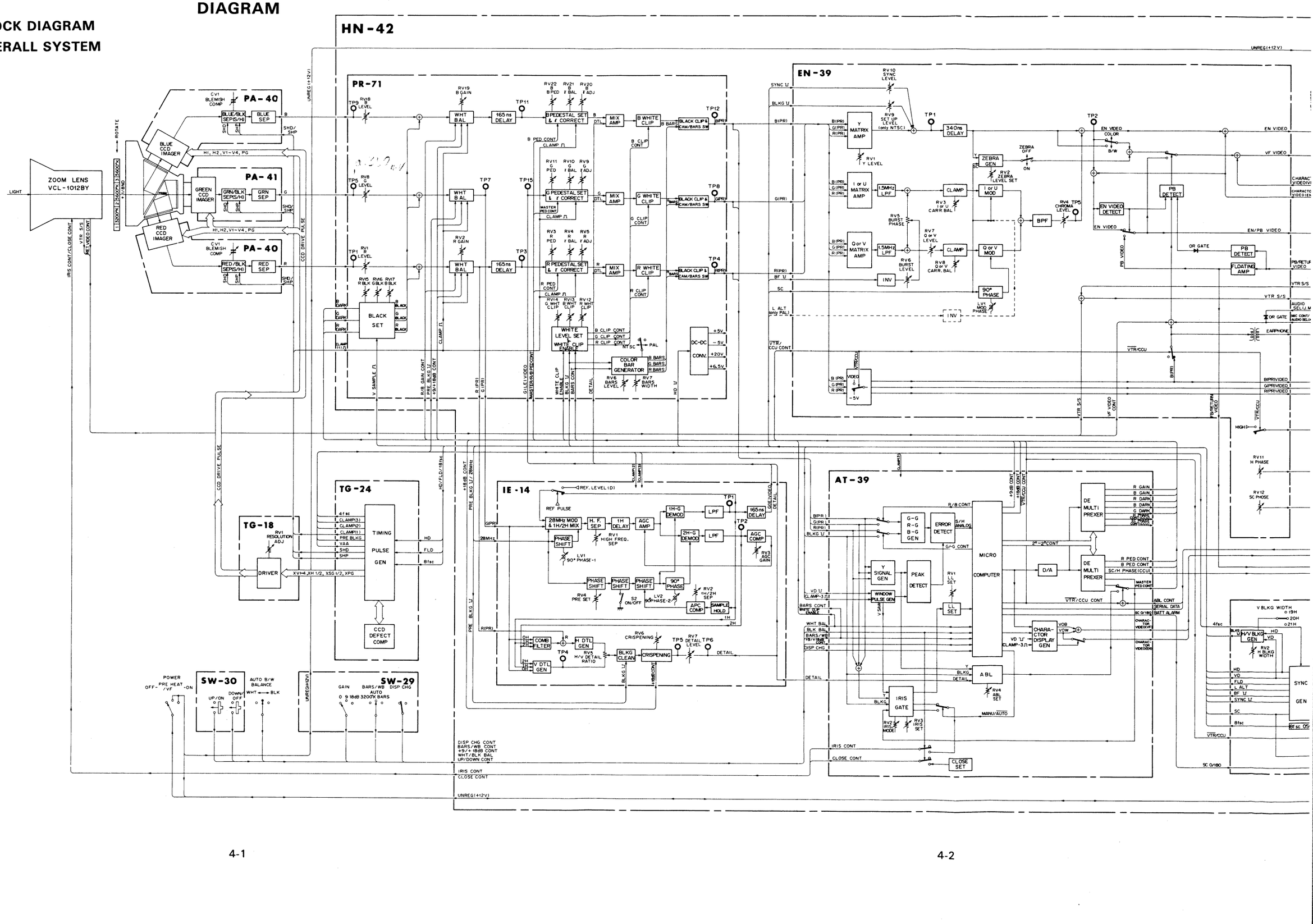
SG-37 board (panel side)

FINAL SWITCH SETTINGS

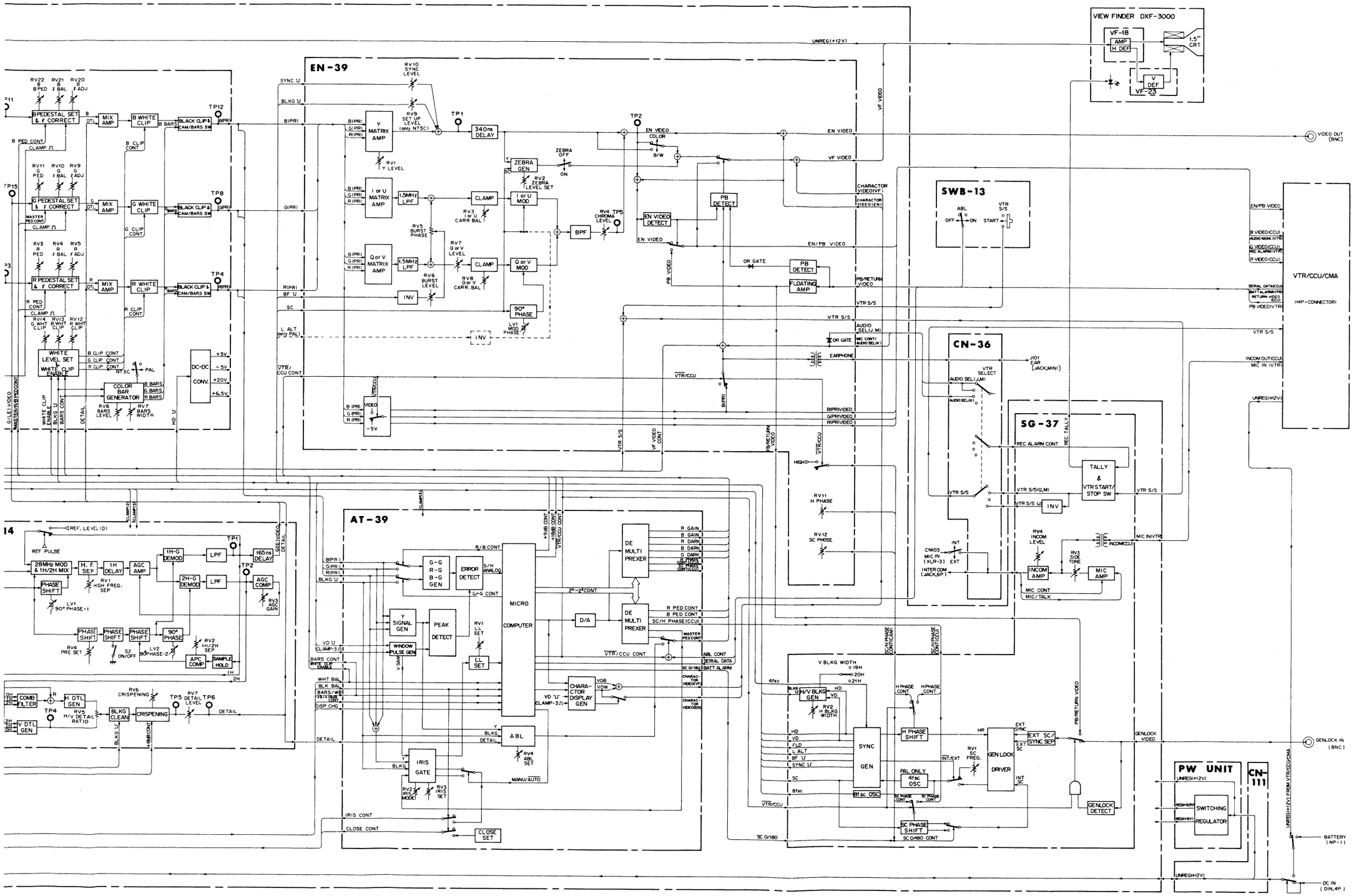


SECTION 4
DIAGRAM

4-1. BLOCK DIAGRAM
OVERALL SYSTEM

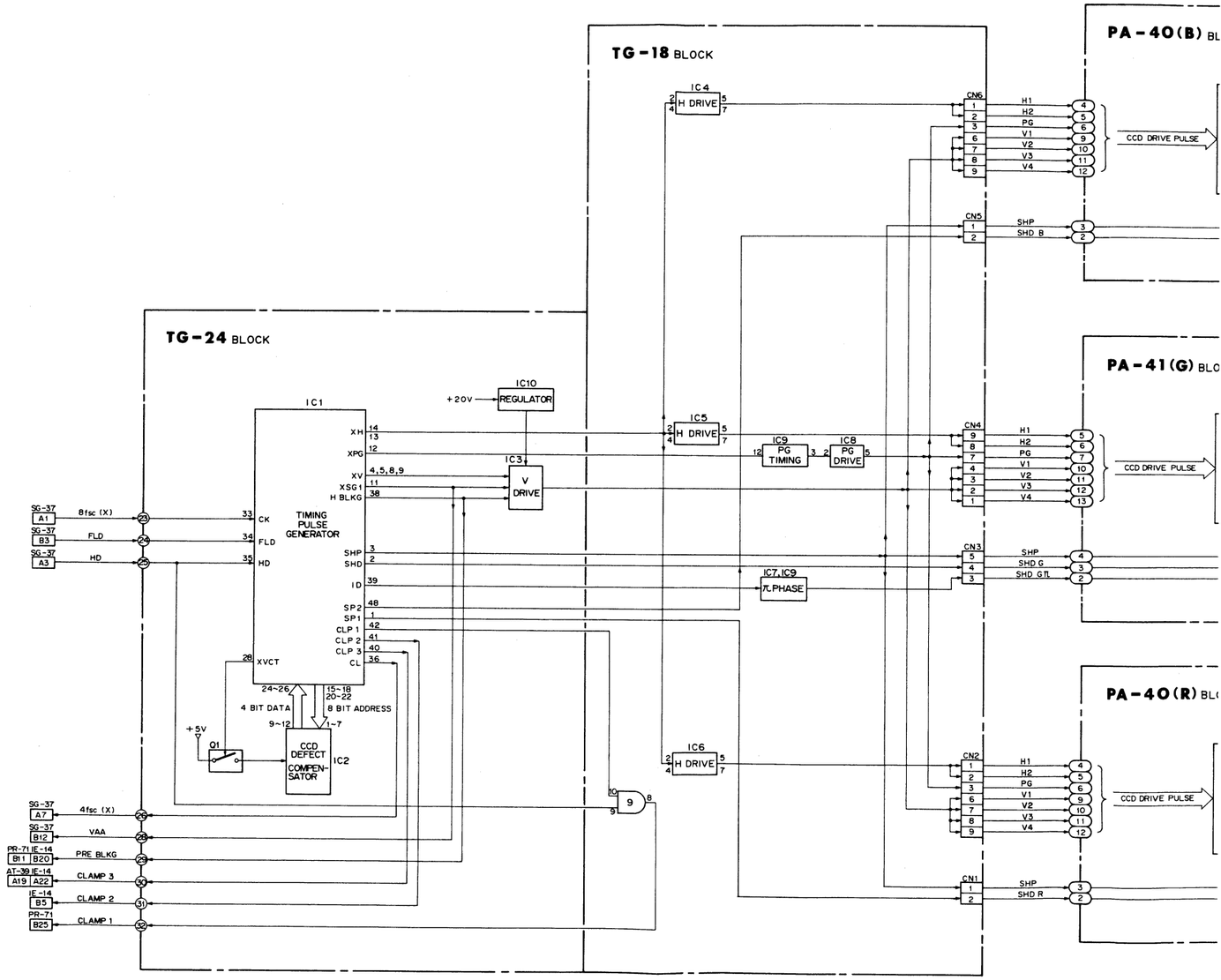


OVERALL B/D

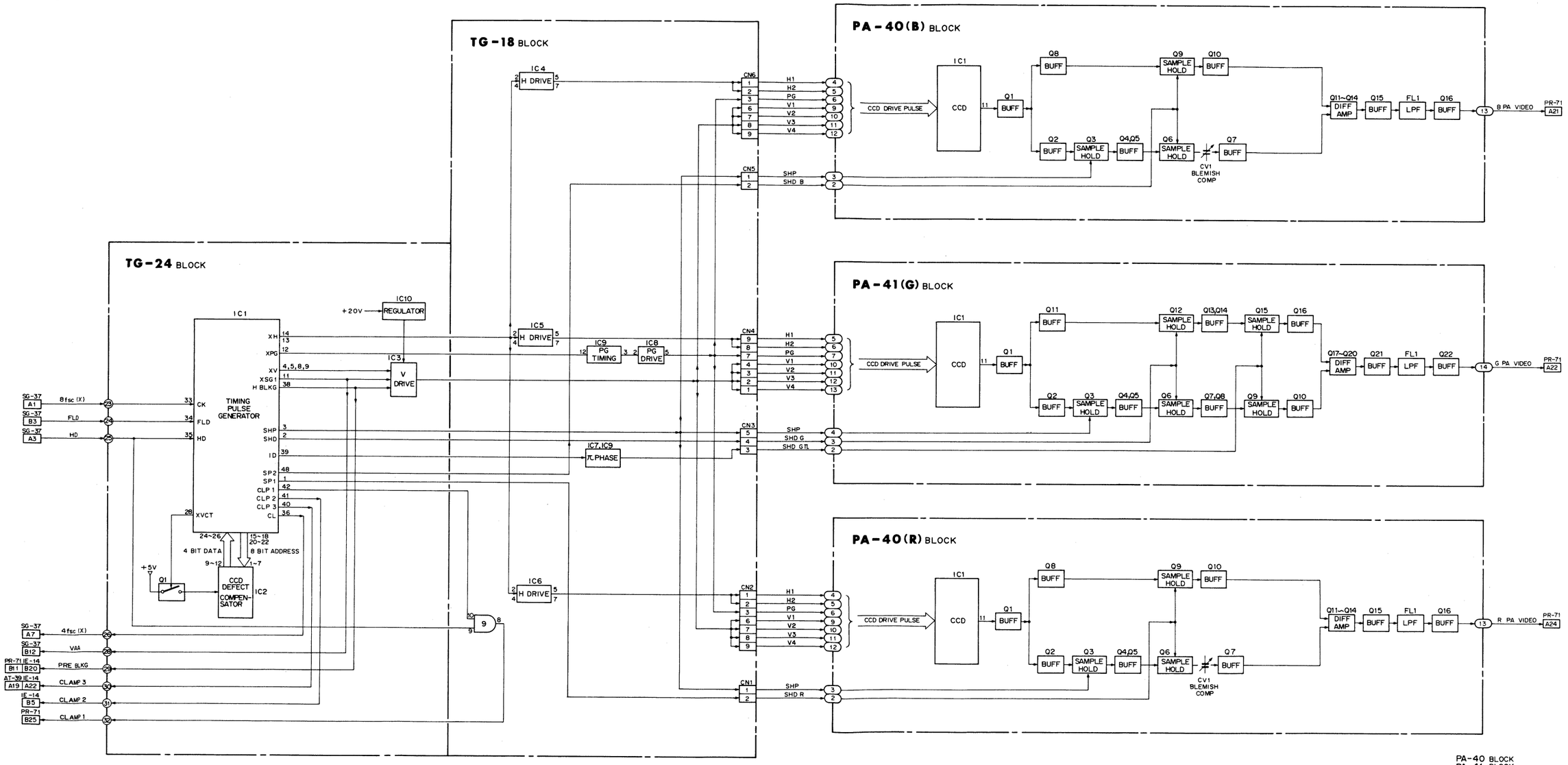


DXC-3000/P OVERALL BLOCK DIAGRAM

PA-40 BOARD
PA-41 BOARD
TG-18 BOARD
TG-24 BOARD

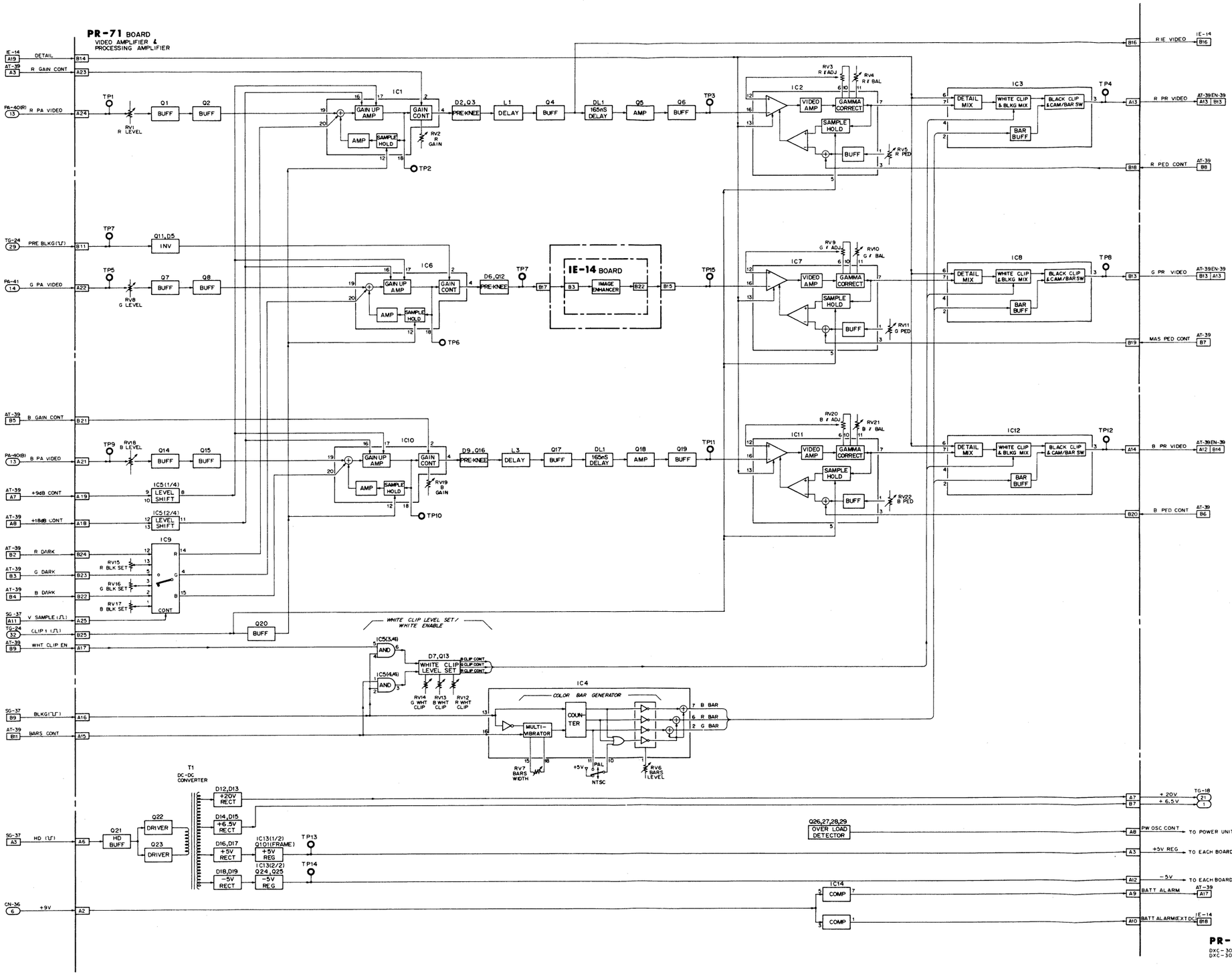


PA-40 BOARD
PA-41 BOARD
TG-18 BOARD
TG-24 BOARD



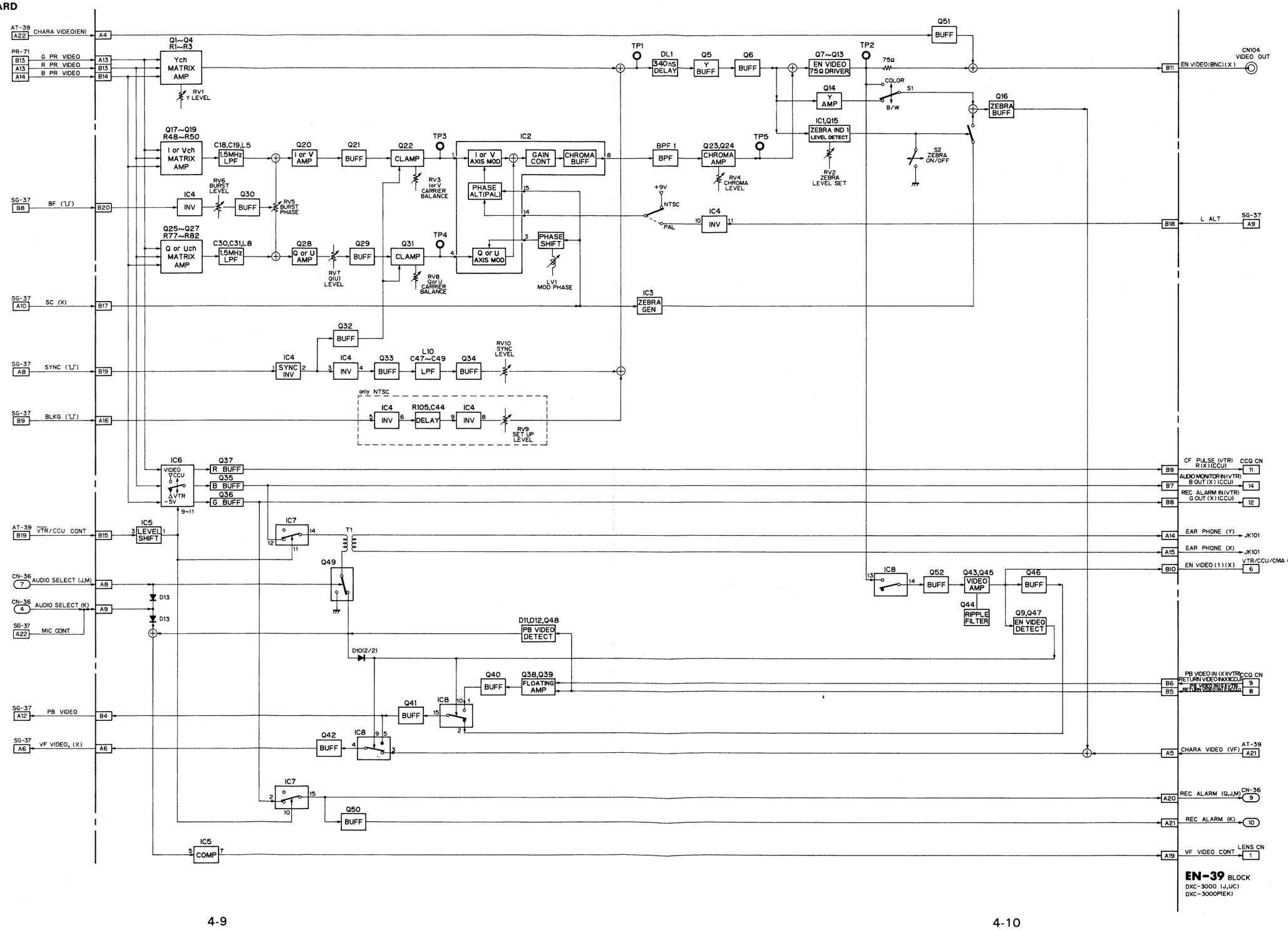
PA-40 BLOCK
PA-41 BLOCK
TG-18 BLOCK
TG-24 BLOCK
DXC-3000 (J,UC)
DXC-3000P (EK)

PR-71 BOARD



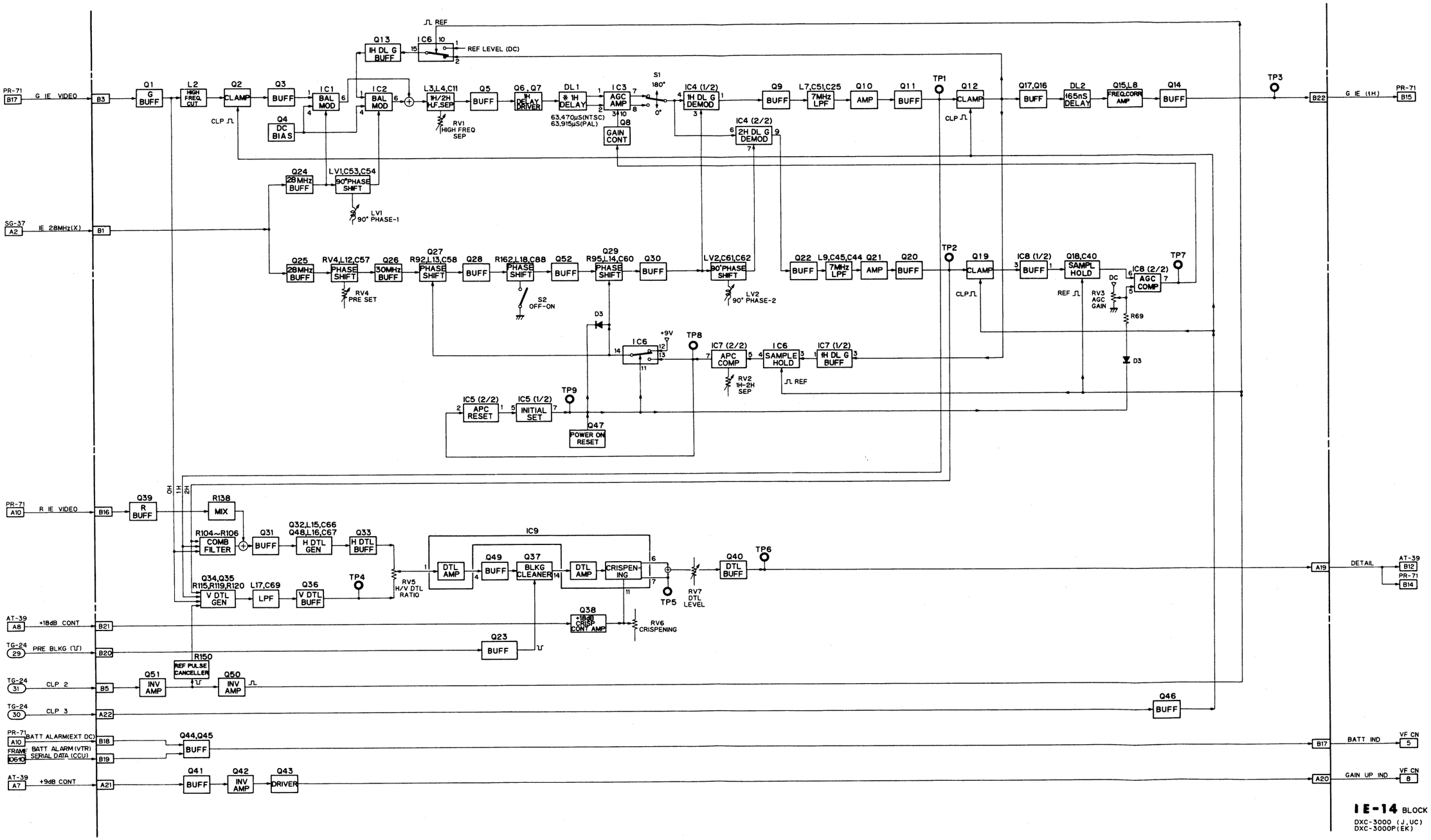
PR-71 BLOCK
DXC-3000(J,UC)
DXC-3000P(E,K)

EN-39 BOARD



EN-39 BLOCK
DXC-3000 (J,UC)
DXC-3000P(EK)

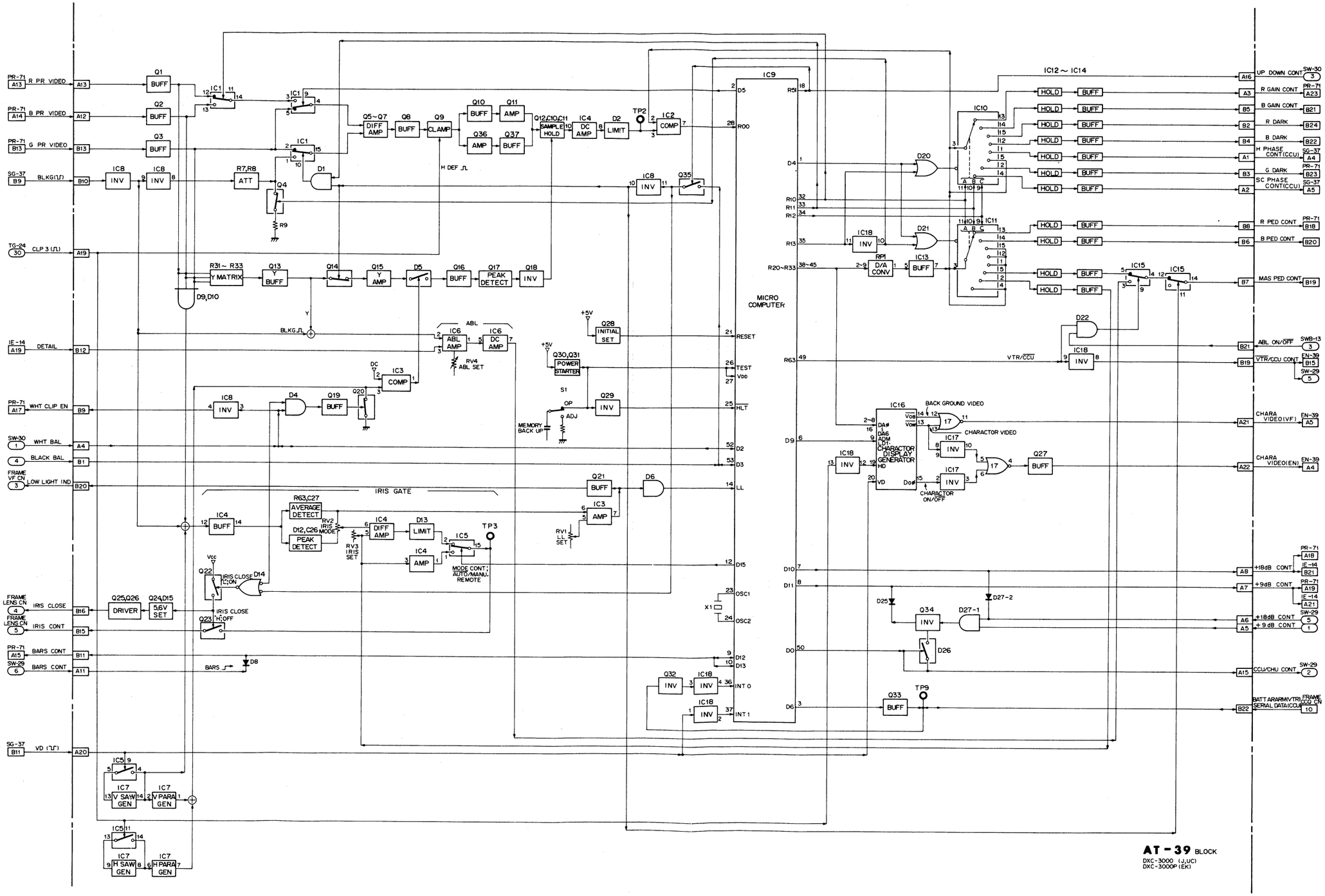
IE-14 BOARD



IE-14 BLOCK

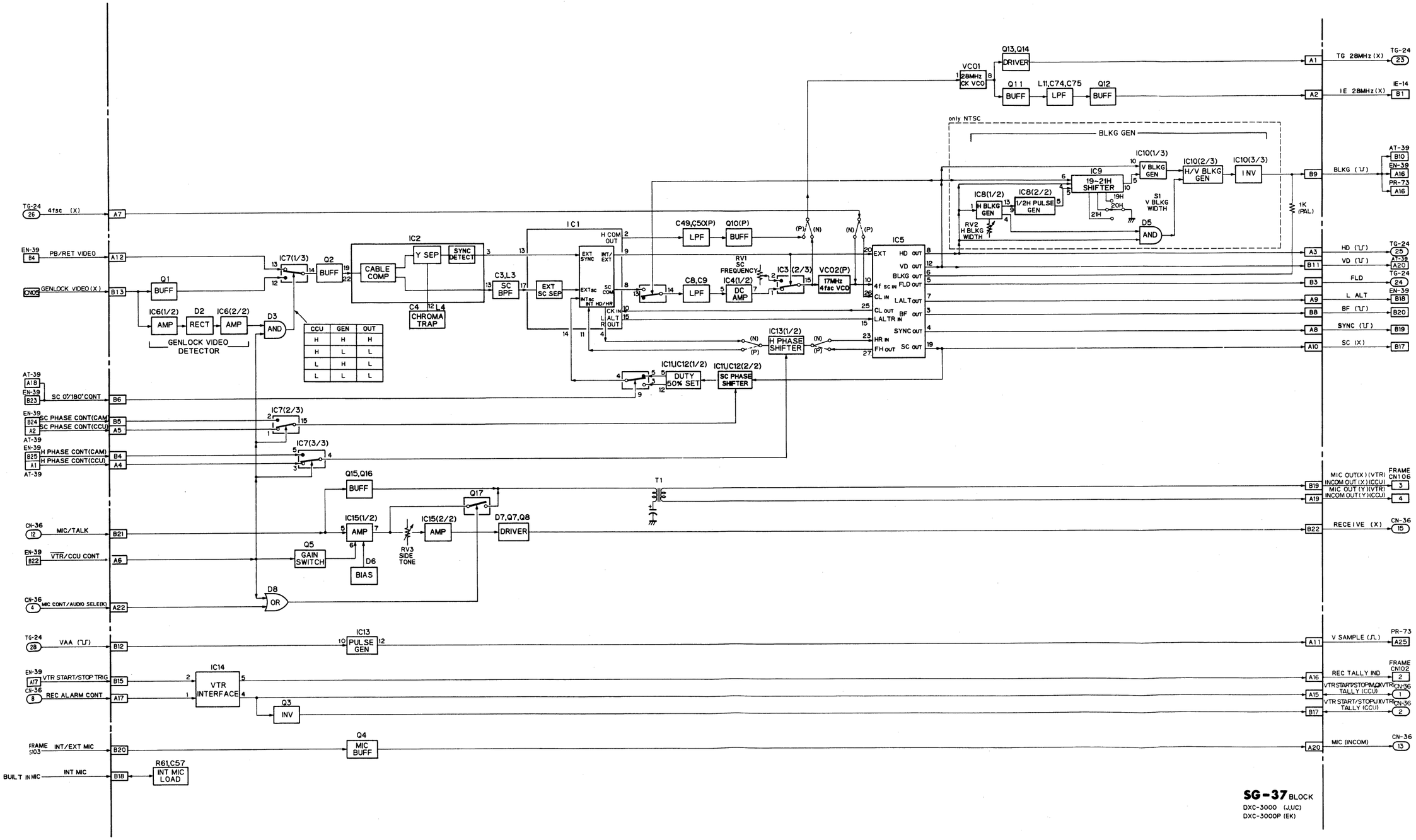
DXC-3000 (J,UC)
DXC-3000P(EK)

AT-39 BOARD



AT-39 BLOCK
DXC-3000 (J,UC)
DXC-3000P (EK)

SG-37 BLOCK

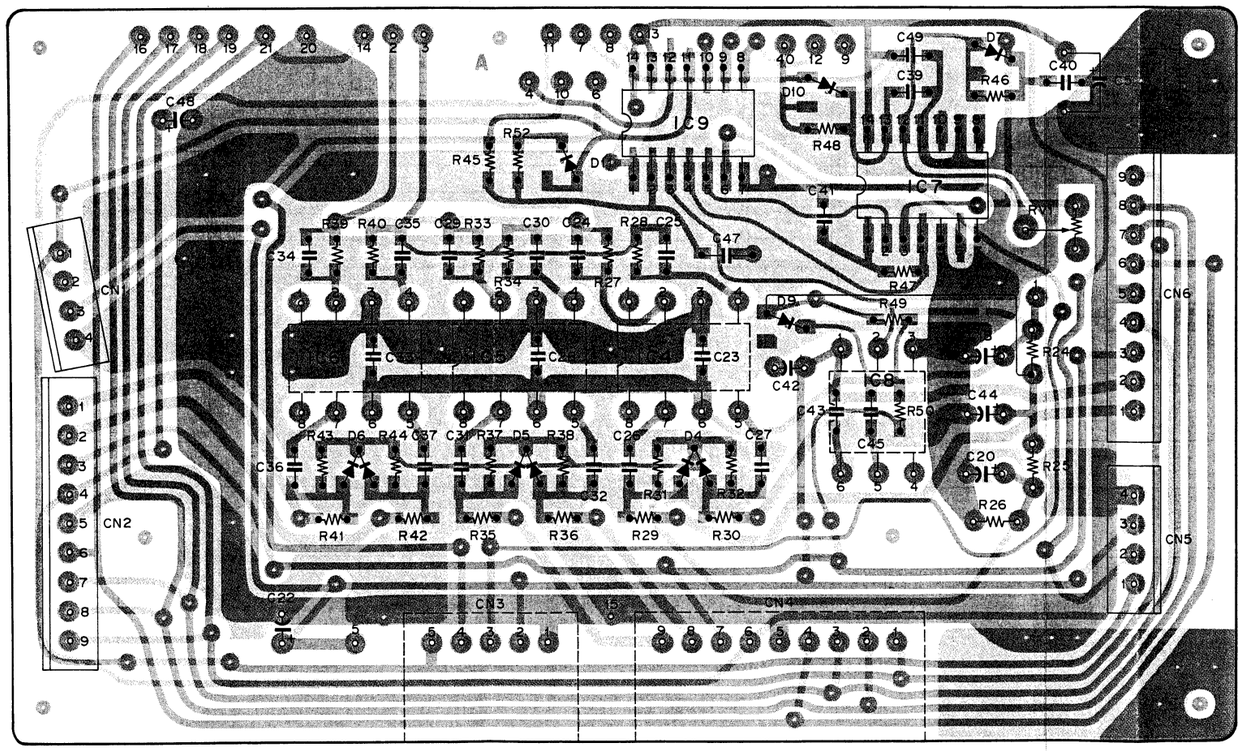


SG-37 BLOCK
DXC-3000 (J,UC)
DXC-3000P (EK)

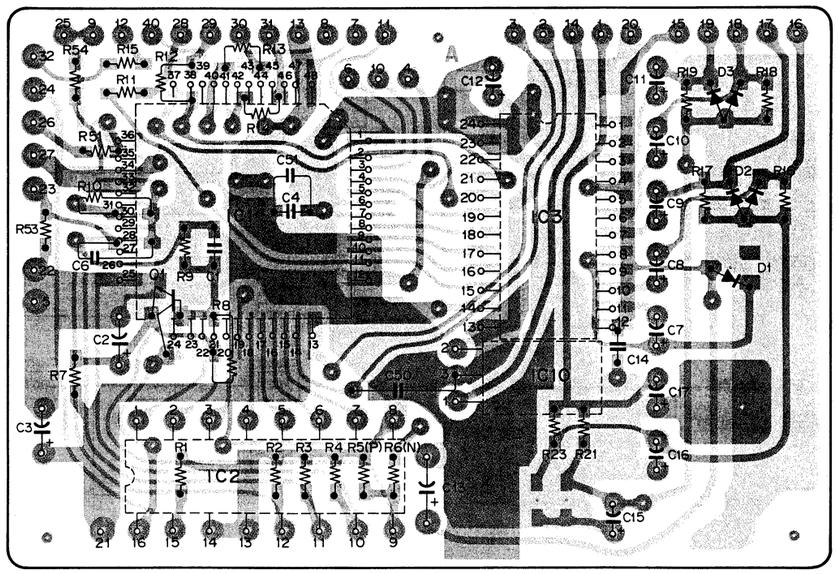
4-2. MOUNTED CIRCUIT BOARD AND SCHEMATIC DIAGRAM

TG-18 BOARD

TG-24 BOARD

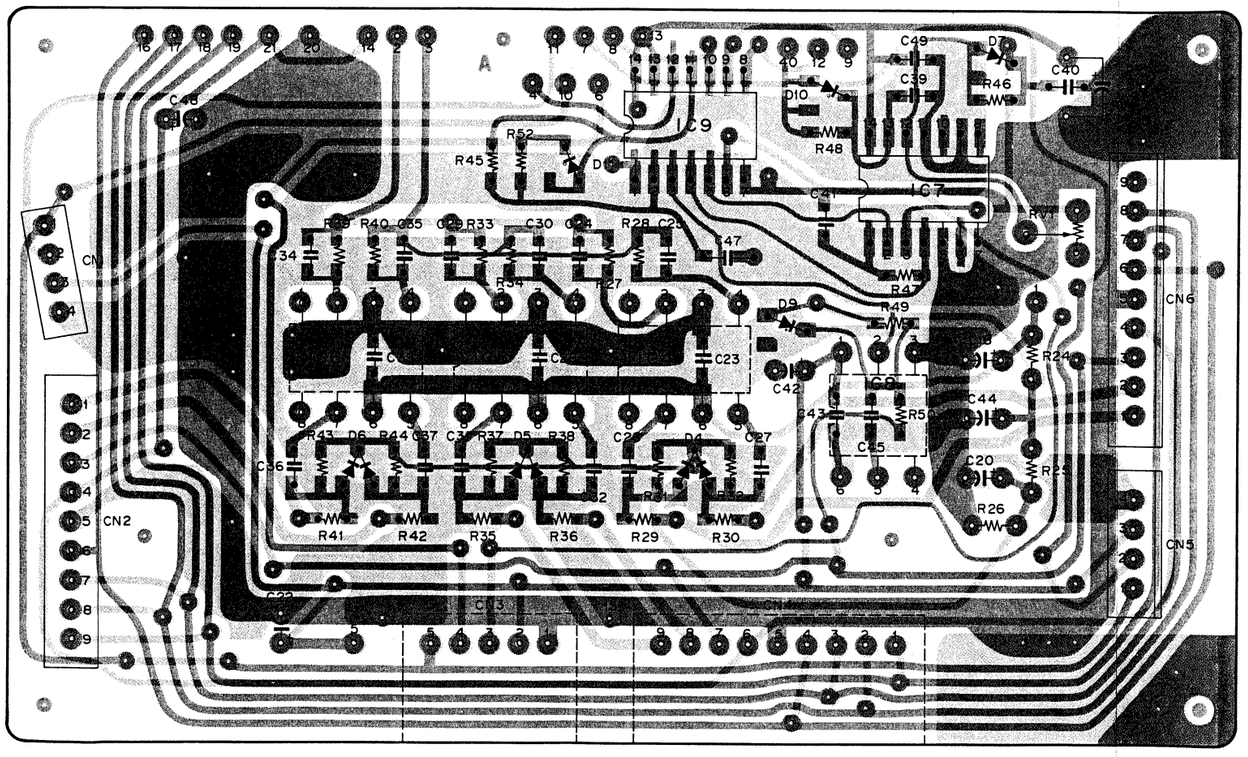


TG-18 BOARD
-SOLDERING SIDE-
1-617-365-11
DXC-3000 (J,UC)
DXC-3000P(E,K)



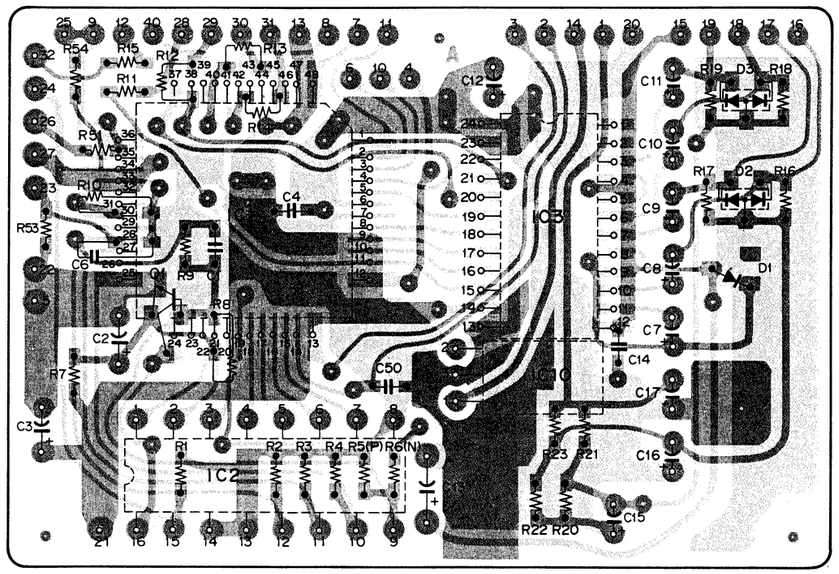
TG-24 BOARD
-SOLDERING SIDE-
1-617-366-11
DXC-3000 (J,UC)
DXC-3000P(E,K)

TG-18 BOARD
TG-24 BOARD



TG-18 BOARD
-SOLDERING SIDE-

1-617-365-12
DXC-3000 (J,UC)
DXC-3000P (EK)



TG-24 BOARD
-SOLDERING SIDE-

1-617-366-12
DXC-3000 (J,UC)
DXC-3000P (EK)

TG-18 BOARD

TG-24 BOARD

TG-24 BOARD

Q1 2SA812

IC2 MB-7052
CCD DETECT COMPENSATOR

IC1 CX-23047B
TIMING PULSE GENERATOR

IC3 CX20180
V DRIVE

IC10 TA78L012AP
REGULATOR

+9.5V
+5V

SG-37 A1 Bfsc(X)
SG-37 A3 HD
SG-37 B3 FLD
29-37 A7 4fsc(X)
AT-39 IE-14 A19 A22 CLP3
IE-14 B5 CLP2
PR-71 IE-14 B11 B20 PRE BLK
SG-37 B12 VAA
PR-71 B25 CLP1

R6 100K (NTSC)
R7 100
R8 2200
R9 2200
C1 1000P
C5 1000P
R10 1M
C51 0.01
C3 33 6.3V
C4 0.022
R53 330
R54 100K
C2 10 6.3V
R1 100K
R2 100K
R3 100K
R4 100K
R5 100K(PAL)
R51 100
R13 1K
R14 1K
R12 1K
R11 1K
R15 1K

C50 33P

XSG1 XSG2
XV1 XV2 XV3 XV4
VAA
H BLKG

SP2 SHP SHD SP1 CLP1 CLP2 CLP3 CL

C12 10 16V
C17 10 16V
C15 10 16V
C16 10 16V
C7 10 50V
C13 330 10V
C14 0.022
C8 0.47 50V
C9 0.47 50V
C10 0.47 50V
C11 0.47 50V
D1 1S2835
D3 1S2835
D2 1S2835
R19 1M
R18 1M
R17 1M
R16 1M
R21 0
R23 0

IC9 TC74HC08F

IC6 MMH0026CP1
H DRIVE

R41 22
R39 1K
C34 100P
R40 1K
C35 100P
C36 0.01
C37 0.01
C33 0.022
D6 1S2837
R42 22
R43 1M
R44 1M

4-19

TG-18 BOARD

IC4 MMH0026CP1
H DRIVE

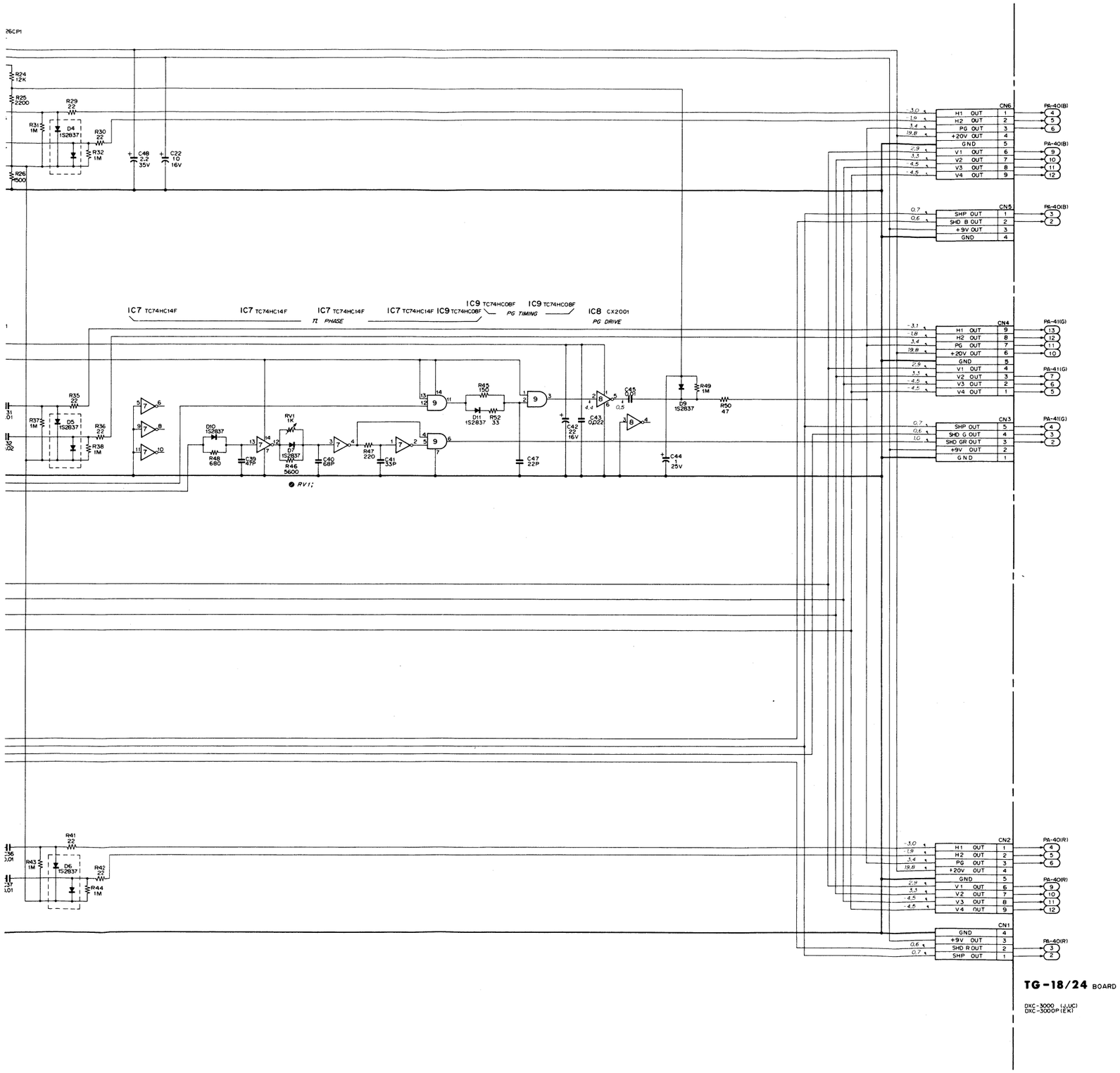
R24 12K
R25 2200
R27 1K
C24 100P
R28 1K
C25 100P
C23 0.022
C26 0.01
C27 0.01
C20 25V
R26 500
R29 22
R31 1M
D4 1S2837
R30 22
R32 1M
C48 2.2 35V

IC5 MMH0026CP1
H DRIVE

C22 220 6.3V
C49 0.022
C18 22 10V
R33 1K
C29 100P
R34 1K
C30 100P
C26 0.022
C31 0.01
C32 0.02
R35 22
R37 1M
D5 1S2837
R36 22
R38 1M

IC7 TC7

4-20



TG-18/24 BOARD

DXC-3000 (J,UC)
DXC-3000P (EK)

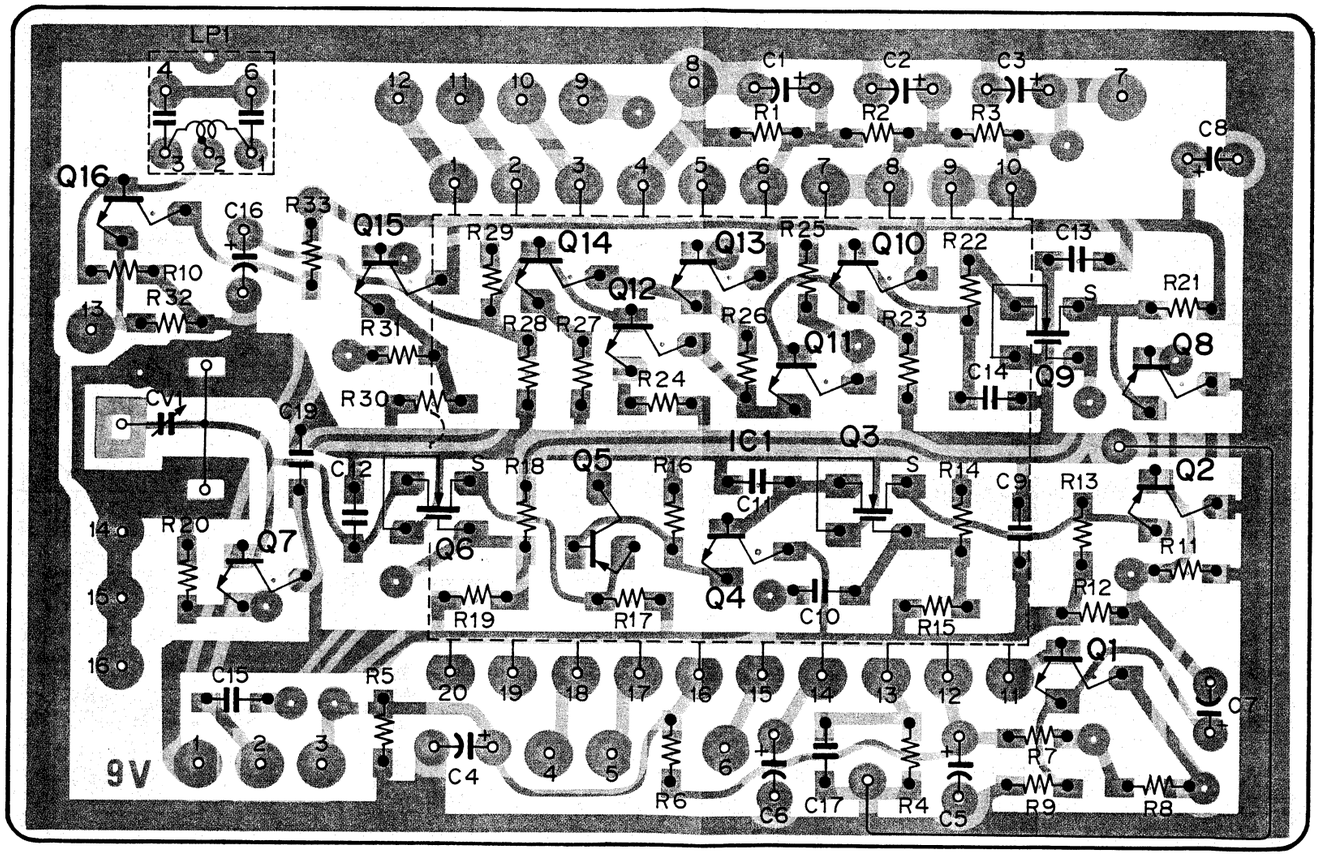
注意：

1．DC電圧はデジタル電圧計(入力インピーダンス10 MΩ)による値。

NOTE:

1. All voltage are dc, mesured with a digital voltmeter. (input impedance: 10 MΩ)

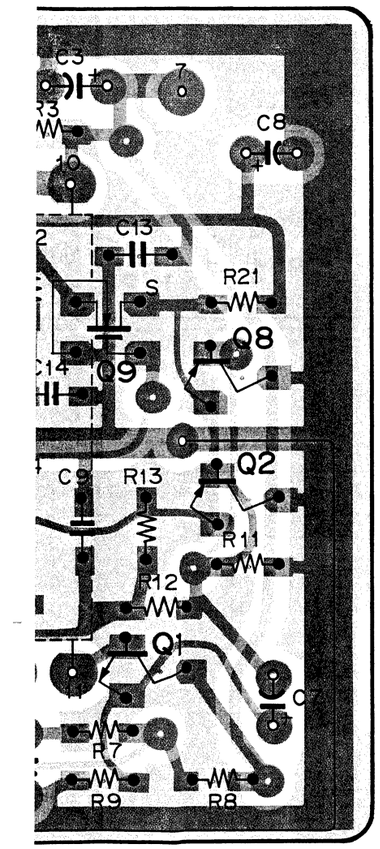
PA-40 BOARD
PA-41 BOARD



PA-40(R)(B) BOARD

-SOLDERING SIDE-

1-617-363-11
DXC-3000 (J,UC)
DXC-3000P(E,K)

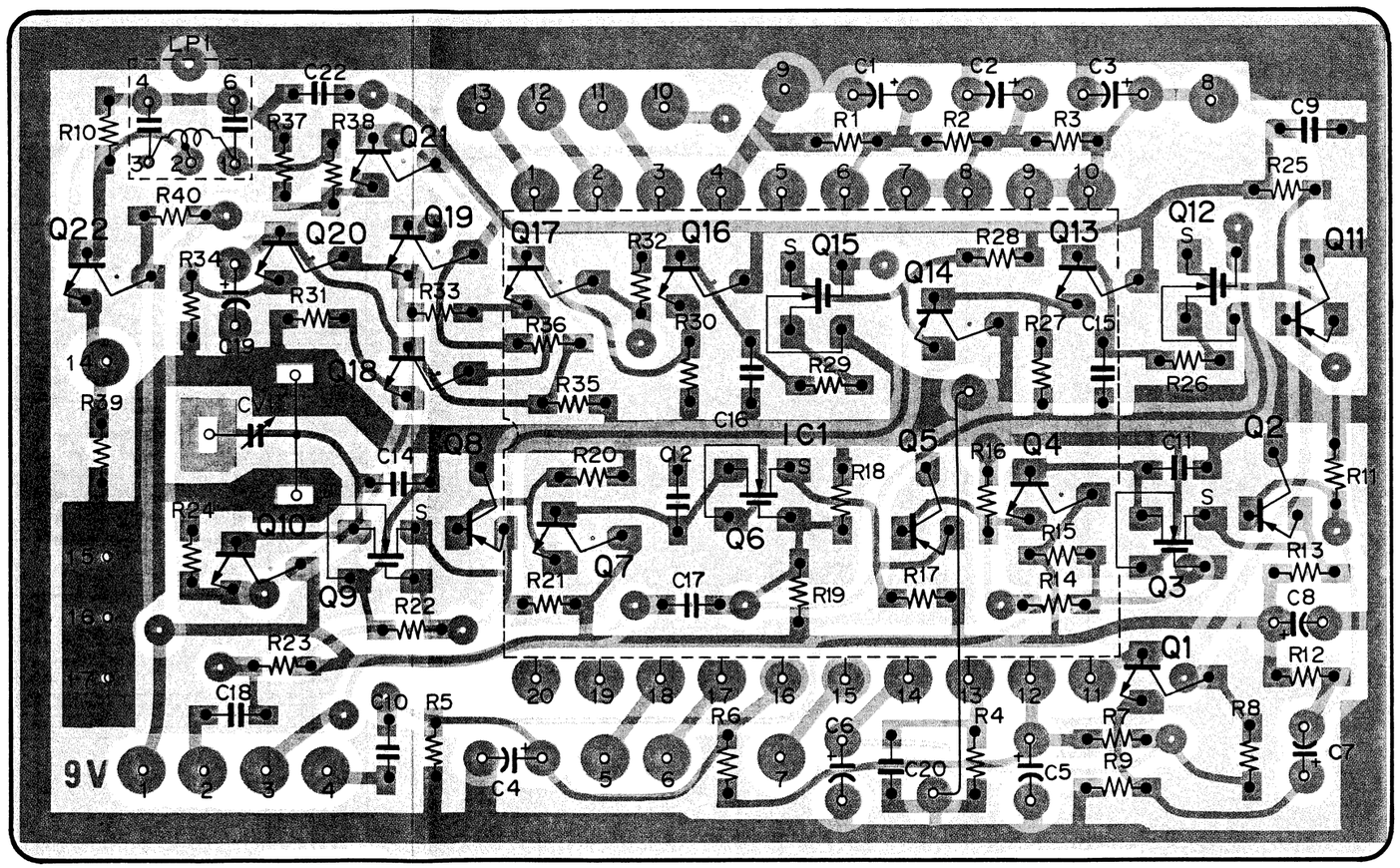


A-40(R)(B) BOARD

SOLDERING SIDE-

617-363-11

C-3000 (J,UC)
C-3000P(E K)



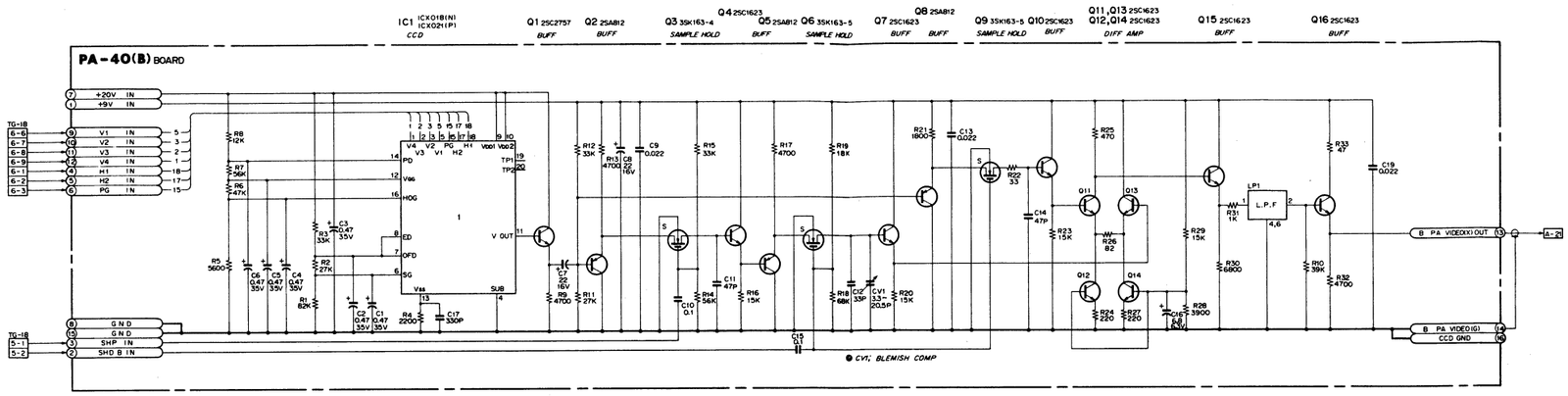
PA-41(G) BOARD

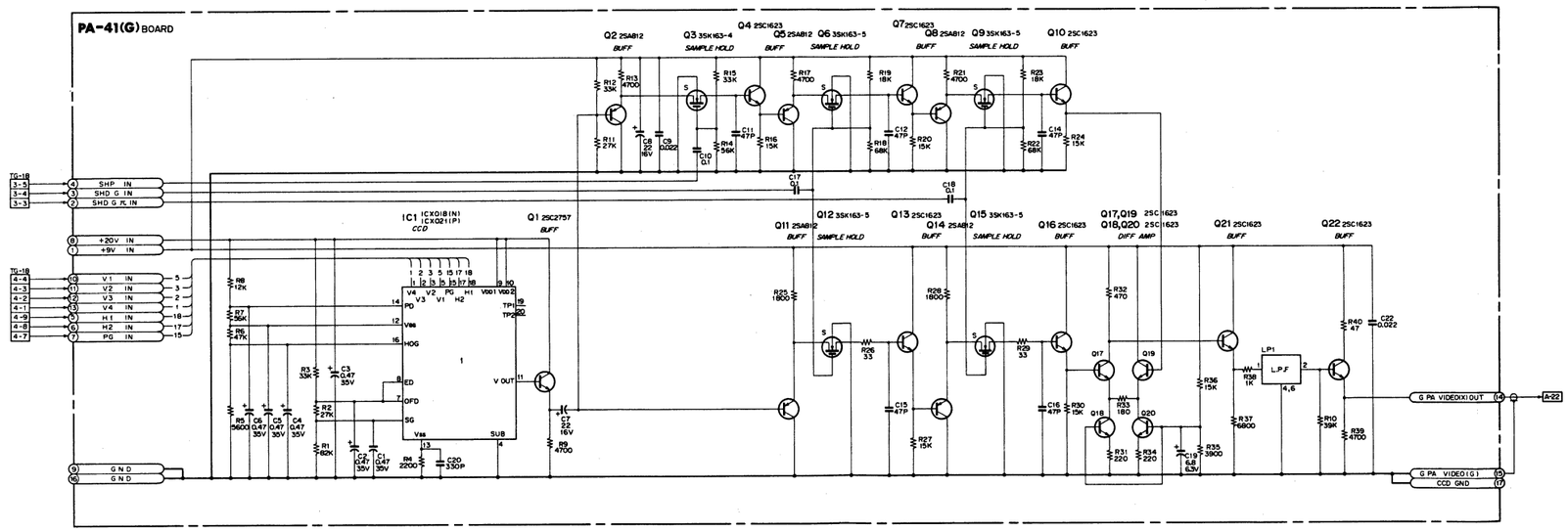
-SOLDERING SIDE-

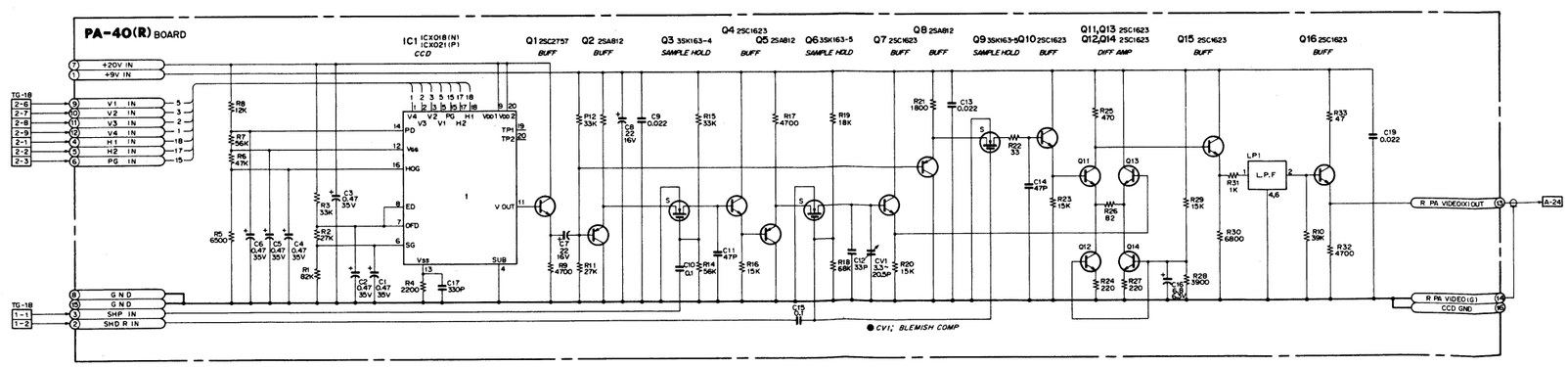
1-617-364-11

DXC-3000 (J,UC)
DXC-3000P(E K)

PA-40 BOARD
PA-41 BOARD

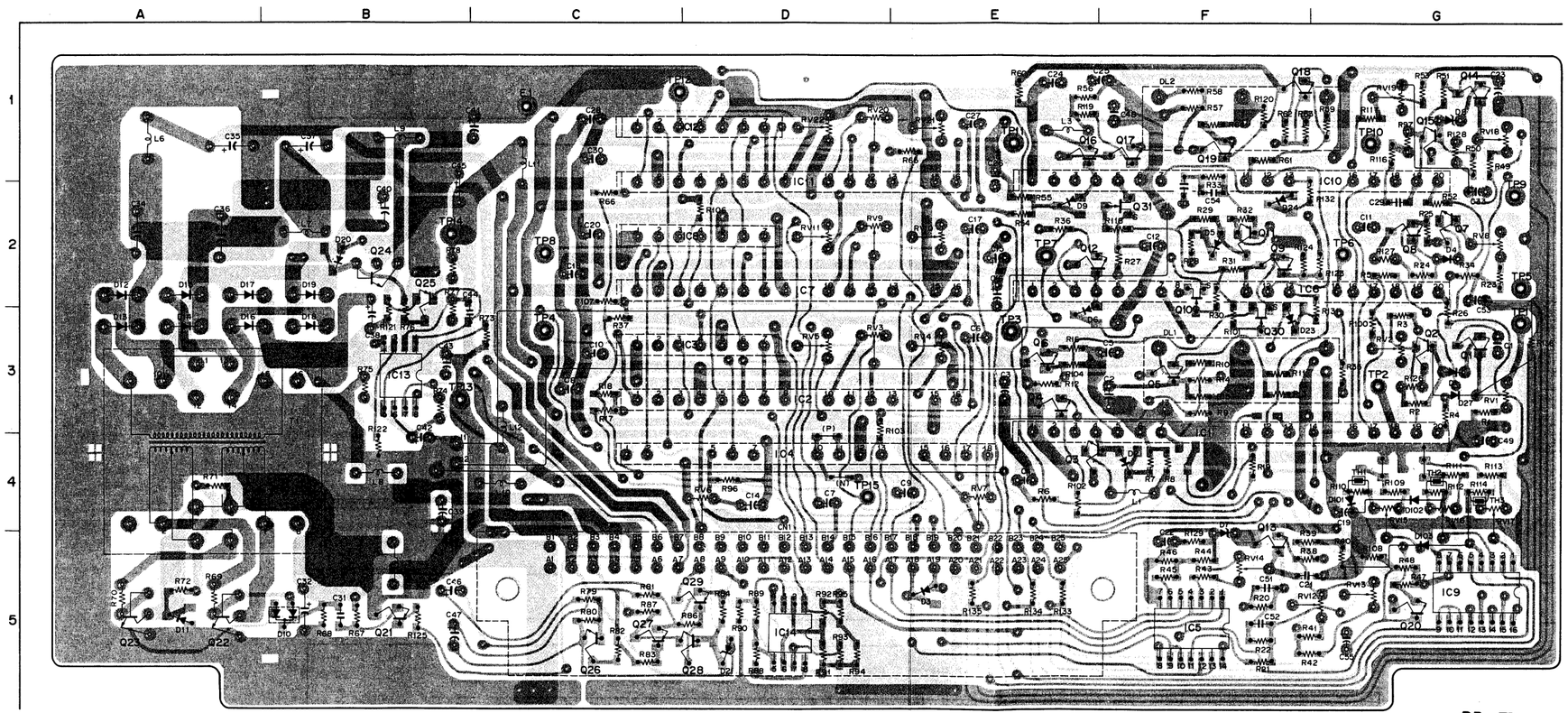






PA-40 BOARD
PA-41 BOARD
DXC-3000 (J,UC)
DXC-3000P (E,K)

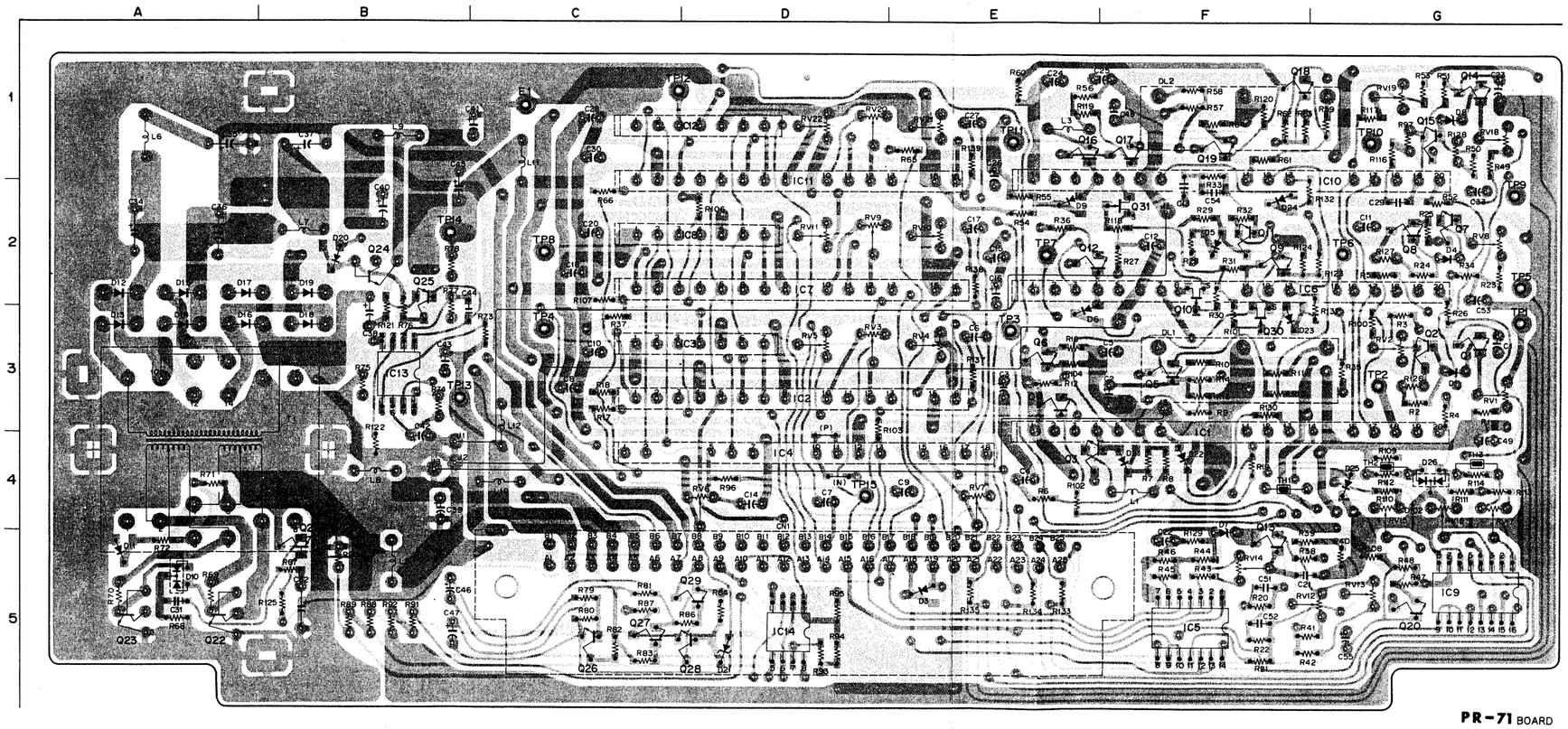
PR-71 BOARD



CN1	D-5	Q1	G-3	RV21	E-1
		Q2	G-3	RV22	D-1
D1	G-3	Q3	E-4		
D2	F-4	Q4	E-3	T1	A-4
D3	E-5	Q5	F-3		
D4	G-2			TH1	G-4
D5	F-2	Q6	E-3	TH2	G-4
		Q7	G-2	TH3	G-4
D6	E-3	Q8	G-2		
D7	F-5	Q9	F-2	TP1	G-3
D8	G-1	Q10	F-2	TP2	G-3
D9	E-2			TP3	E-3
D10	B-5	Q11	F-2	TP4	C-3
		Q12	E-2	TP5	G-2
D11	A-5	Q13	F-5		
D12	A-2	Q14	G-1	TP6	G-2
D13	A-3	Q15	G-1	TP7	E-2
D14	A-3			TP8	C-2
D15	A-2	Q16	E-1	TP9	G-2
		Q17	F-1	TP10	G-1
D16	A-3	Q18	F-1		
D17	A-2	Q19	F-1	TP11	E-1
D18	B-3	Q20	G-5	TP12	C-1
D19	B-2			TP13	B-3
D20	B-2	Q21	B-5	TP14	B-2
		Q22	A-5	TP15	D-4
D21	D-5	Q23	A-5		
D23	F-3	Q24	B-2		
D24	F-2	Q25	B-2		
D25	G-4				
D26	G-4	Q26	C-5		
		Q27	C-5		
D101	G-4	Q28	D-5		
D102	G-4	Q29	D-5		
D103	G-5	Q30	F-3		
		Q31	F-2		
DL1	F-3				
DL2	F-1	RV1	G-3		
		RV2	G-3		
E1	C-1	RV3	D-3		
		RV4	E-3		
IC1	F-3	RV5	D-3		
IC2	D-3				
IC3	D-3	RV6	D-4		
IC4	D-4	RV7	E-4		
IC5	F-5	RV8	G-2		
		RV9	D-2		
IC6	F-2	RV10	E-2		
IC7	D-2				
IC8	D-2	RV11	D-2		
IC9	G-5	RV12	G-5		
IC10	F-1	RV13	G-5		
		RV14	F-5		
IC11	D-2	RV15	G-4		
IC12	D-1				
IC13	B-3	RV16	G-4		
IC14	D-5	RV17	G-4		
		RV18	G-1		
		RV19	G-1		
		RV20	D-1		

PR-71 BOARD
-SOLDERING SIDE-
1-617-354-11
DXC-3000 (J,UC)
DXC-3000P(E,K)

PR-71 BOARD

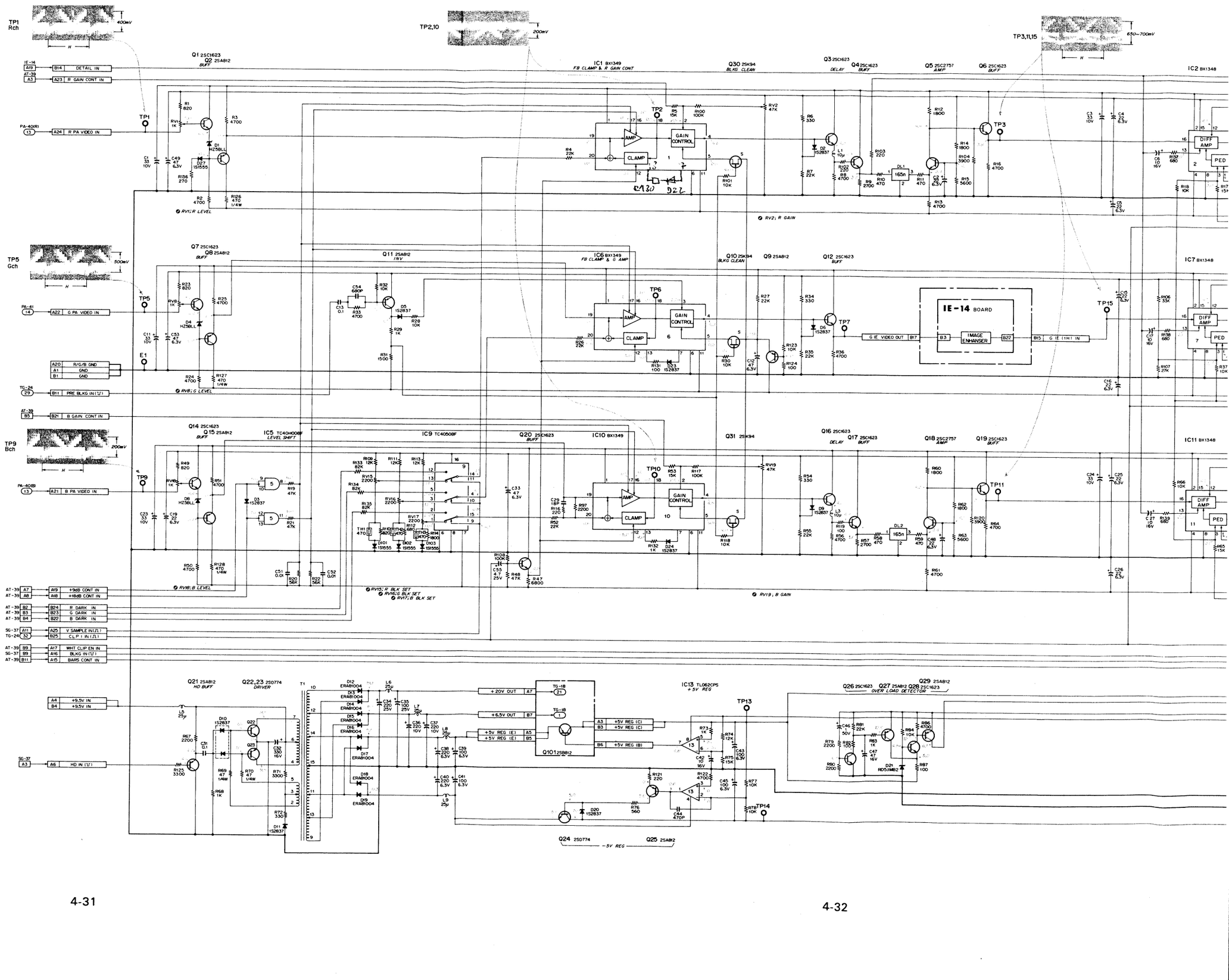


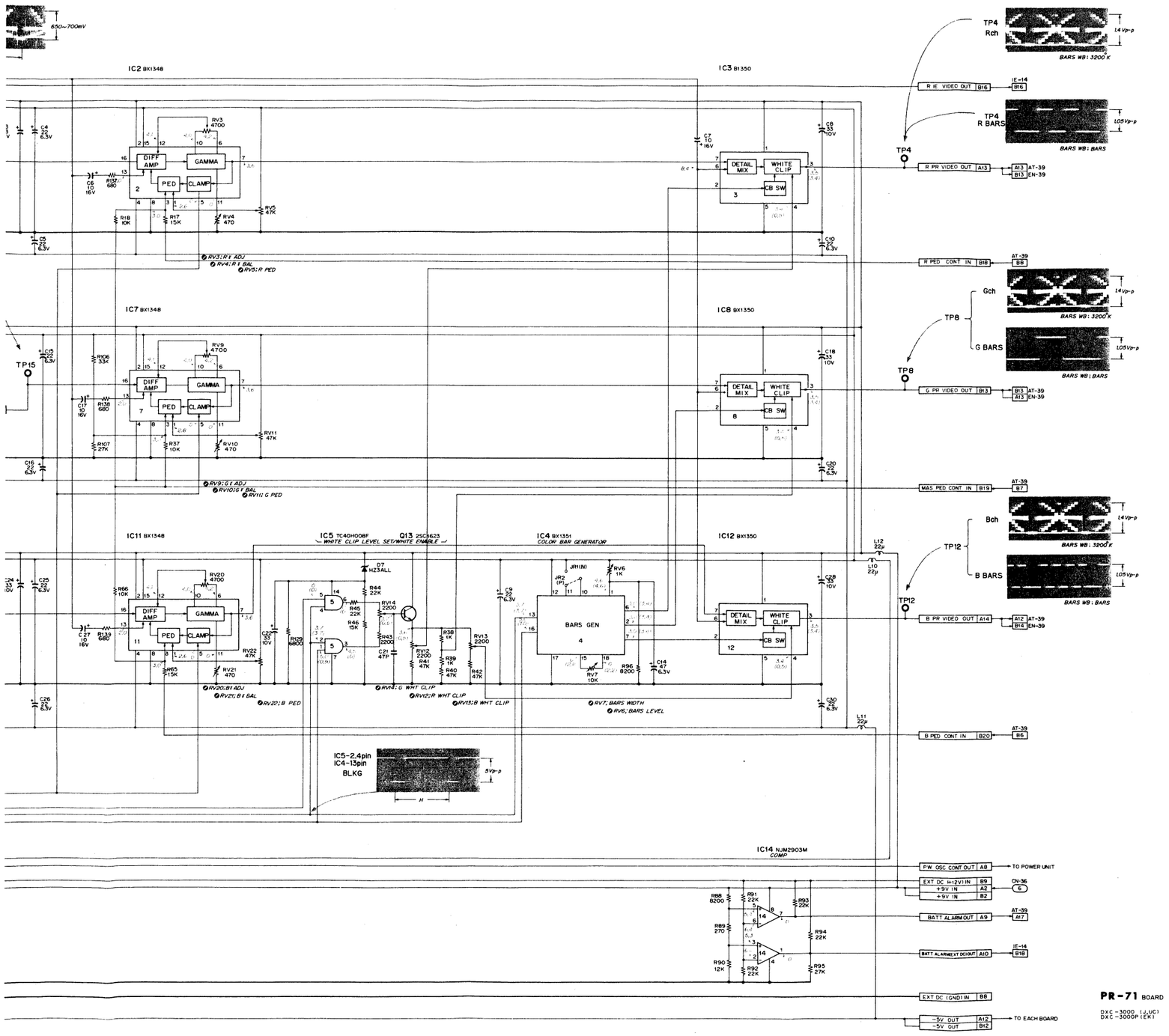
CN1	D-5	Q1	G-3	RV21	E-1
		Q2	G-3	RV22	D-1
D1	G-3	Q3	E-4		
D2	F-4	Q4	E-3	T1	A-4
D3	E-5	Q5	F-3		
D4	G-2			TH1	G-4
D5	F-2	Q6	E-3	TH2	G-4
		Q7	G-2	TH3	G-4
D6	E-3	Q8	G-2		
D7	F-5	Q9	F-2	TP1	G-3
D8	G-1	Q10	F-2	TP2	G-3
D9	E-2			TP3	E-3
D10	B-5	Q11	F-2	TP4	C-3
		Q12	E-2	TP5	G-2
D11	A-5	Q13	F-5		
D12	A-2	Q14	G-1	TP6	G-2
D13	A-3	Q15	G-1	TP7	E-2
D14	A-3			TP8	C-2
D15	A-2	Q16	E-1	TP9	G-2
		Q17	F-1	TP10	G-1
D16	A-3	Q18	F-1		
D17	A-2	Q19	F-1	TP11	E-1
D18	B-3	Q20	G-5	TP12	C-1
D19	B-2			TP13	B-3
D20	B-2	Q21	B-5	TP14	B-2
		Q22	A-5	TP15	D-4
D21	D-5	Q23	A-5		
D22	F-4	Q24	B-2		
D23	F-3	Q25	B-2		
D24	F-2				
D25	G-4	Q26	C-5		
D26	G-4	Q27	C-5		
		Q28	D-5		
D101	G-4	Q29	D-5		
D102	G-4	Q30	F-3		
D103	G-5	Q31	F-2		
DL1	F-3	RV1	G-3		
DL2	F-1	RV2	G-3		
		RV3	D-3		
E1	C-1	RV4	E-3		
		RV5	D-3		
IC1	F-3				
IC2	D-3	RV6	D-4		
IC3	D-3	RV7	E-4		
IC4	D-4	RV8	G-2		
IC5	F-5	RV9	D-2		
		RV10	E-2		
IC6	F-2				
IC7	D-2	RV11	D-2		
IC8	D-2	RV12	G-5		
IC9	G-5	RV13	G-5		
IC10	F-1	RV14	F-5		
		RV15	G-4		
IC11	D-2				
IC12	D-1	RV16	G-4		
IC13	B-3	RV17	G-4		
IC14	D-5	RV18	G-1		
		RV19	G-1		
		RV20	D-1		

PR-71 BOARD
-SOLDERING SIDE-

1-617-354-12
DXC-3000 (UC)
DXC-3000P (EK)

PR-71 BOARD


TP1 Rch
400mV
TP2,10
200mV
TP3,11,15
650~700mV
IC1 BX1349 FB CLAMP & R GAIN CONT
IC2 BX1348
Q1 2SC1623
Q2 2SA812 BUFF
Q30 2SK94 BLKG CLEAN
Q3 2SC1623 DELAY
Q4 2SC1623 BUFF
Q5 2SC2757 AMP
Q6 2SC1623 BUFF
IE-14 A19 B14 DETAIL IN
AT-39 A3 A23 R GAIN CONT IN
PA-40(R) 13 A24 R PA VIDEO IN
RV1; R LEVEL
RV2; R GAIN
TP5 Gch
500mV
Q7 2SC1623
Q8 2SA812 BUFF
Q11 2SA812 INV
IC6 BX1349 FB CLAMP & G AMP
Q10 2SK94 BLKG CLEAN
Q9 2SA812
Q12 2SC1623 BUFF
IC7 BX1348
PB-41 14 A22 G PA VIDEO IN
IE-14 BOARD
G IE VIDEO OUT B17
IMAGE ENHANSER
G IE (1H) IN B15
RV3; G LEVEL
A20 R/G/B GND
A1 GND
B1 GND
TG-24 29 B11 PRE BLKG IN (1/)
AT-39 B5 B21 B GAIN CONT IN
TP9 Bch
200mV
Q14 2SC1623
Q15 2SA812 BUFF
IC5 TC40H008F LEVEL SHIFT
IC9 TC40S08F
Q20 2SC1623 BUFF
IC10 BX1349
Q31 2SK94
Q16 2SC1623 DELAY
Q17 2SC1623 BUFF
Q18 2SC2757 AMP
Q19 2SC1623 BUFF
IC11 BX1348
PA-40(B) 13 A21 B PA VIDEO IN
RV4; B LEVEL
RV5; R BLK SET
RV6; G BLK SET
RV7; B BLK SET
RV9; B GAIN
AT-39 A7 A19 +9dB CONT IN
AT-39 A8 A18 +18dB CONT IN
AT-39 B2 B24 R DARK IN
AT-39 B3 B23 G DARK IN
AT-39 B4 B22 B DARK IN
SG-37 A11 A25 V SAMPLE IN (2/)
TG-24 32 B25 CLP I IN (2/)
AT-39 B9 A17 WHT CLIP EN IN
SG-37 B9 A16 BLKG IN (1/)
AT-39 B11 A15 BARS CONT IN
A4 +9.5V IN
B4 +9.5V IN
SG-37 A3 A6 HD IN (1/)
Q21 2SA812 HD BUFF
Q22,23 2SD774 DRIVER
IC13 TL062CPS +5V REG
Q26 2SC1623
Q27 2SA812
Q28 2SC1623 OVER LOAD DETECTOR
Q29 2SA812
+20V OUT A7
+6.5V OUT B7
+5V REG (E) A5
+5V REG (E) B5
+5V REG (C) A3
+5V REG (C) B3
+5V REG (B) B6
Q101 2SB812
Q24 2SD774 -5V REG
Q25 2SA812



注意：

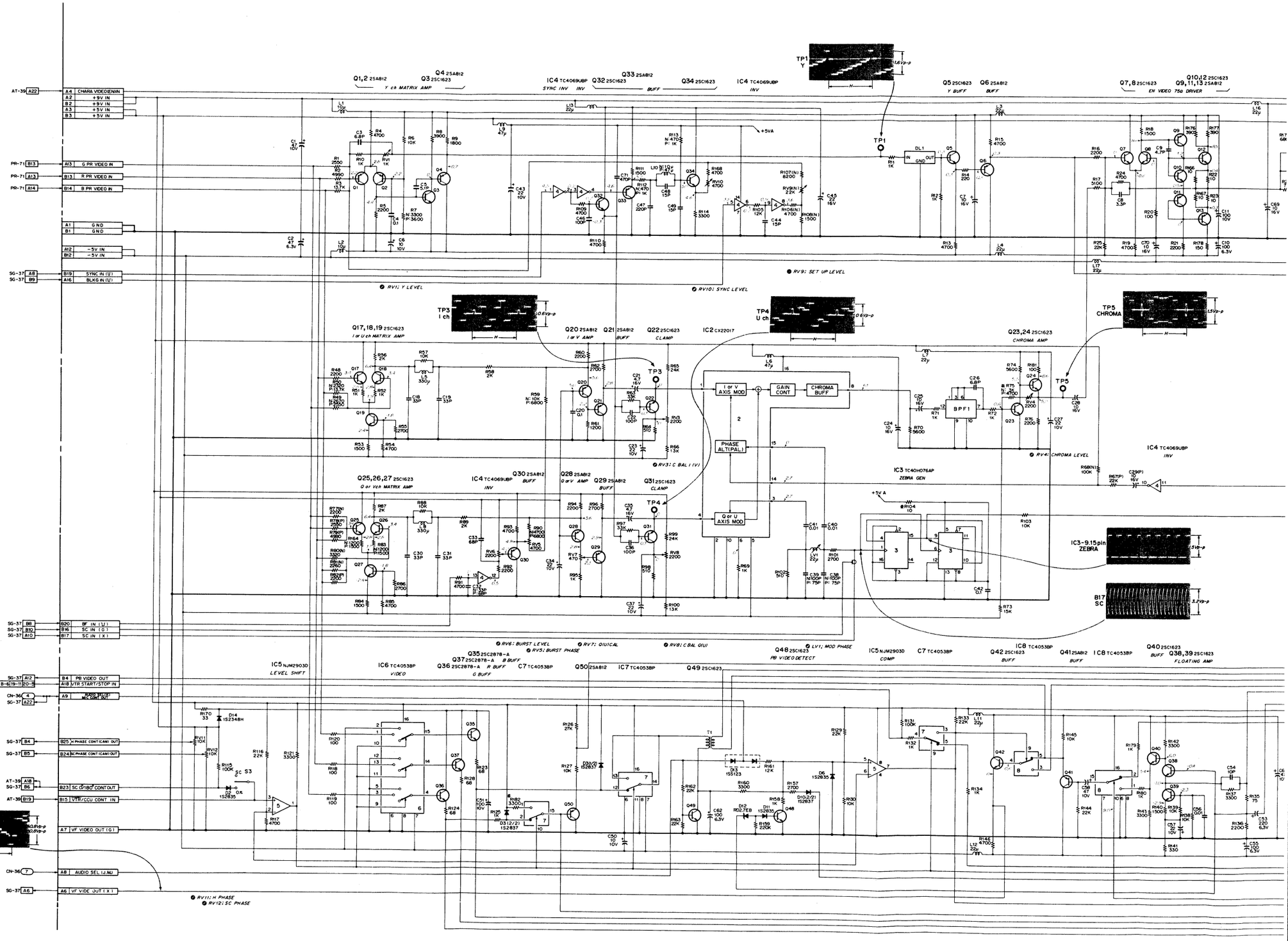
1．DC電圧はデジタル電圧計(入力インピーダンス 10 MΩ)による値。
2．波形写真及びDC電圧は下記条件で測定。
- ●FILTER切り換えつまみ→1位置
- ●BARS/WBスイッチ→3200°K位置
- ●GAIN切り換えスイッチ→0 dB位置
- ●グレースケールチャートを撮像し、波形モニターにて、ビデオ出力の白レベルが100 IREになる様に、レンズ絞りをセットする。

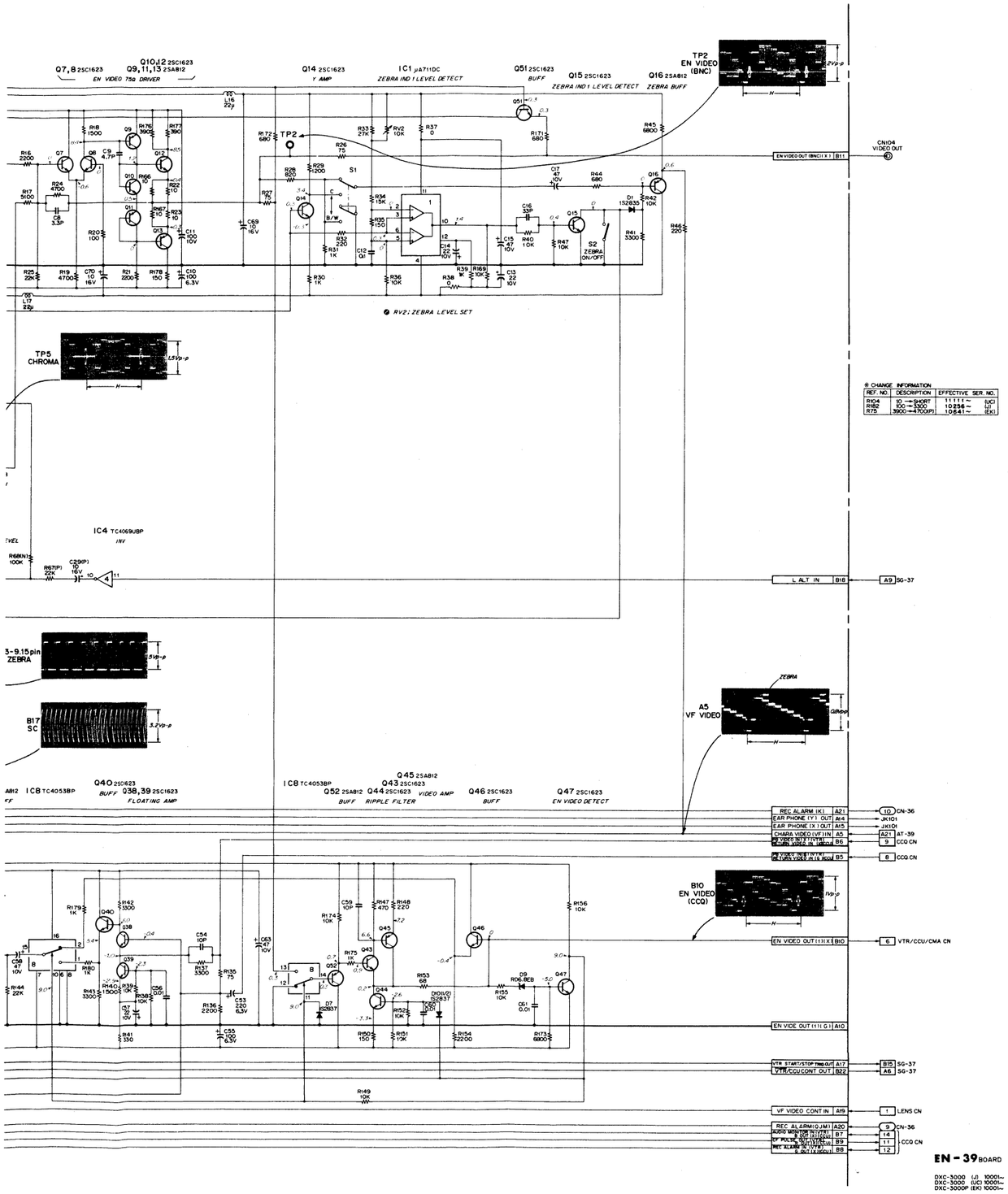
3．( )内のDC電圧は下記条件で測定。
- ●BARS/WBスイッチ→BARS位置

NOTE:

1. All voltage are dc, mesured with a digital voltmeter. (input impedance: 10 MΩ)
2. All waveforms are taken and DC voltage is mesured in condition below.
   - • Set camera FILTER selector to 1 position.
   - • Set camera BARS/WB selector to 3200°K position.
   - • Set camera GAIN selector to 0 dB position.
   - • Shoot the gray scale pattern on the pattern box. Adjust lens iris so that a white level is 100 IRE using the waveform monitor
   - • DC voltage in parentheses ( ) is mesured in condition below.
   - • Set camera BARS/WB selector to BARS position.

EN-39 BOARD


AT-39 A22
A4 CHARA VIDEO(ENIN)
A2 +9V IN
B2 +9V IN
A3 +5V IN
B3 +5V IN
PR-71 B13
A13 G PR VIDEO IN
PR-71 A13
B13 R PR VIDEO IN
PR-71 A14
B14 B PR VIDEO IN
A1 GND
B1 GND
A12 -5V IN
B12 -5V IN
SG-37 A8
SG-37 B9
B19 SYNC IN (U)
A16 BLKG IN (U)
SG-37 B8
SG-37 B10
SG-37 A10
B20 BF IN (U)
B16 SC IN (G)
B17 SC IN (R)
SG-37 A12
HN-42 B-6119-1120-5
CN-36 4
SG-37 A22
B4 PB VIDEO OUT
A18 VTR START/STOP IN
A9 SERVO RESET MEC CONT OUT
SG-37 B4
SG-37 B5
B25 H PHASE CONT(CAM) OUT
B24 SC PHASE CONT(CAM) OUT
AT-39 A18
SG-37 B6
AT-39 B19
B23 SC CHECK CONT OUT
B15 VTR/CCU CONT IN
A6 VF VIDEO
A7 VF VIDEO OUT (G)
CN-36 7
SG-37 A6
A8 AUDIO SEL (J,MJ)
A6 VF VIDE OUT (R)
TP1 Y
TP3 I ch
TP4 U ch
TP5 CHROMA
IC1 CX22017
IC2 CX22017
IC3 TC40H076AP ZEBRA GEN
IC4 TC4069UBP INV
IC5 NJM2903D LEVEL SHIFT
IC6 TC4053BP VIDEO
IC7 TC4053BP
IC8 TC4053BP
Q1,2 2SA812 Y ch MATRIX AMP
Q3 2SC1623
Q4 2SA812
Q32 2SC1623 SYNC INV
Q33 2SA812 INV
Q34 2SC1623 BUFF
Q5 2SC1623 Y BUFF
Q6 2SA812 BUFF
Q7,8 2SC1623 EN VIDEO 75Ω DRIVER
Q9,10,12,11,13 2SC1623
Q17,18,19 2SC1623 I or U ch MATRIX AMP
Q20 2SA812 I or V AMP
Q21 2SA812 BUFF
Q22 2SC1623 CLAMP
Q23,24 2SC1623 CHROMA AMP
Q25,26,27 2SC1623 Q or Vch MATRIX AMP
Q30 2SA812 BUFF
Q28 2SA812 Q or V AMP
Q29 2SA812 BUFF
Q31 2SC1623 CLAMP
Q35 2SC2878-A B BUFF
Q37 2SC2878-A R BUFF
Q36 2SC2878-A G BUFF
Q50 2SA812
Q49 2SC1623
Q48 2SC1623 PB VIDEO DETECT
Q42 2SC1623 BUFF
Q41 2SA812 BUFF
Q40 2SC1623 BUFF
Q38,39 2SC1623 FLOATING AMP
I or V AXIS MOD
GAIN CONT
CHROMA BUFF
PHASE ALT(PAL)
Q or U AXIS MOD
BPF1
DL1
RV1: Y LEVEL
RV9: SET UP LEVEL
RV10: SYNC LEVEL
RV3: C BAL (I/V)
RV4: CHROMA LEVEL
RV6: BURST LEVEL
RV7: QI/UCAL
RV5: BURST PHASE
RV8: C BAL (Q/U)
LV1: MOD PHASE
RV11: H PHASE
RV12: SC PHASE
IC3-9.15pin ZEBRA
B17 SC
0.6Vp-p
1.5Vp-p
0.5Vp-p
0.7Vp-p
A6 VF VIDEO
0.7Vp-p
0.7Vp-p
+5VA
+5V A



※ CHANGE INFORMATION

REF. NO.	DESCRIPTION	EFFECTIVE SER. NO.	
R104	10Ω→SHORT	11111~	(UC)
R182	100→330	10256~	(J)
R75	3900→4700(PT)	10641~	(EK)

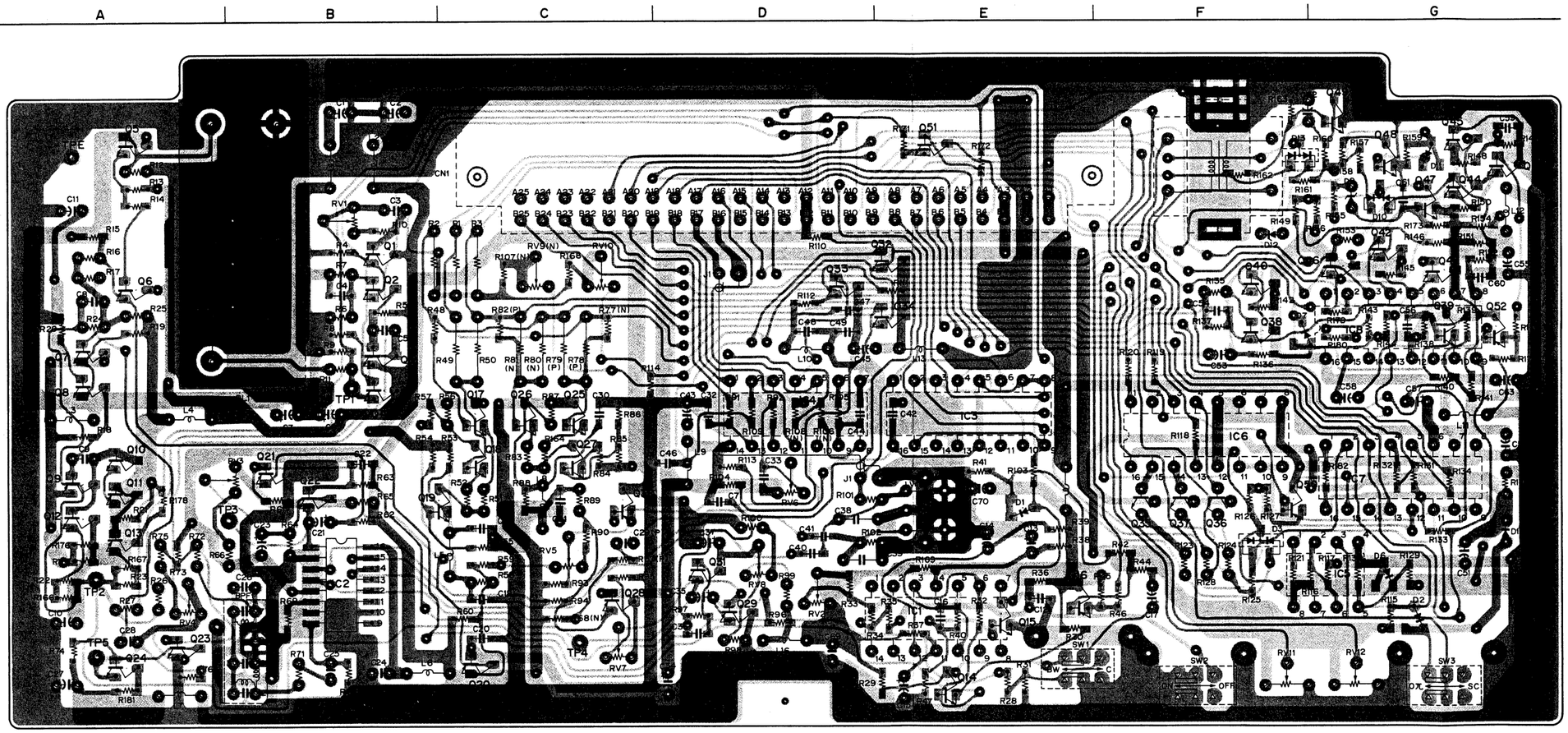
注意：

1．DC電圧はデジタル電圧計(入力インピーダンス10 MΩ)による値。
2．波形写真及びDC電圧は下記条件で測定。
- BARS/WBスイッチ→BARS位置
- S1(C/BW)/EN-39基板→BW位置
- S2(ZEBRA ON/OFF)/EN-39基板→ON位置

NOTE:

1. All voltage are dc, mesured with a digital voltmeter. (input impedance: 10 MΩ)
2. All waveforms are taken and DC voltage is mesured in condition below.
   - Set camera BARS/WB selector to BARS position.
   - Set camera S1 switch/EN-39 board (C/BW) to BW position.
   - Set camera S2 switch/EN-39 board (ZEBRA ON/OFF) to ON position.

EN-39 BOARD

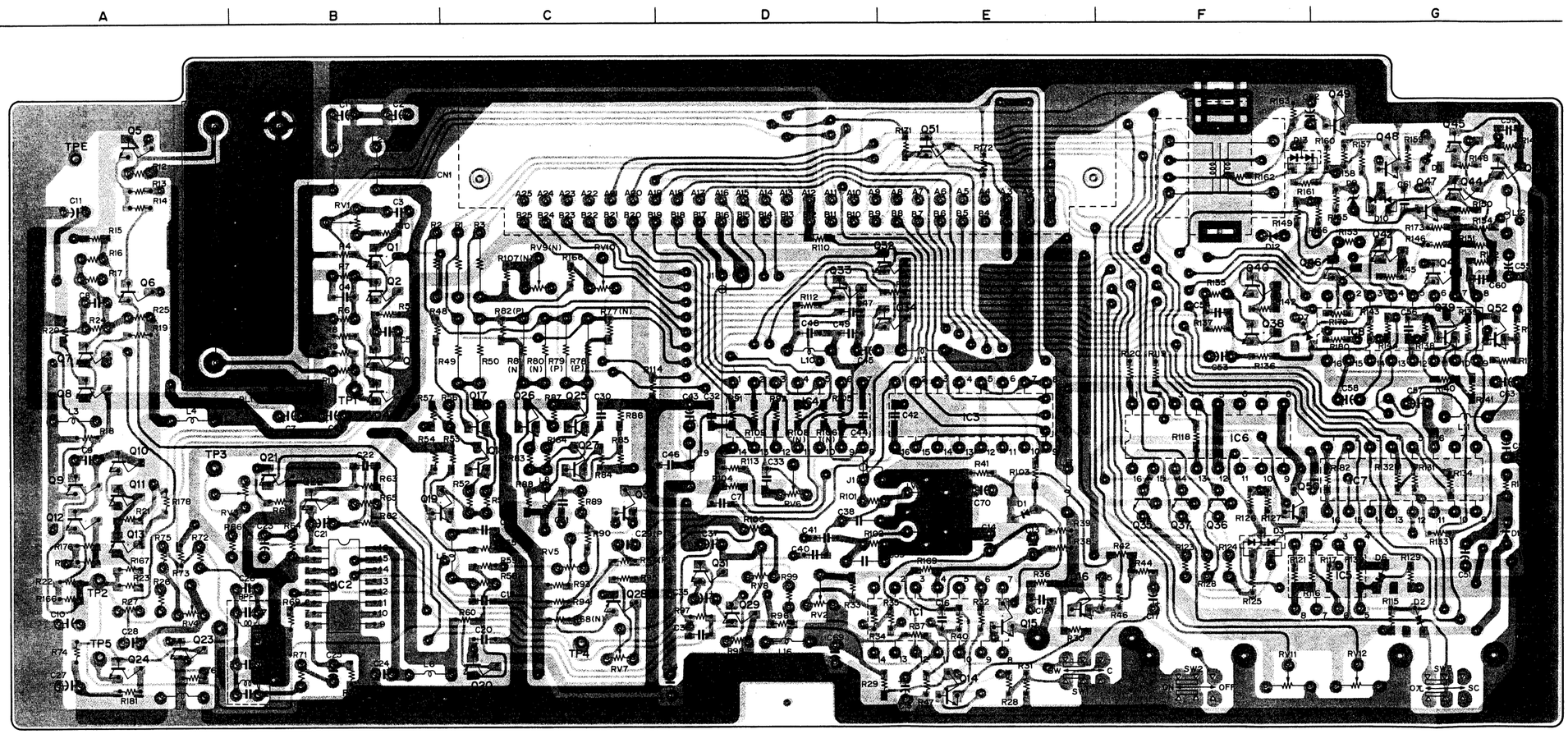


BPF	B-5	Q26	C-3
		Q27	C-4
CN1	C-1	Q28	C-5
		Q29	D-5
D1	E-4	Q30	C-4
D2	G-5		
D3	F-4	Q31	D-5
D6	G-5	Q32	E-2
D7	G-3	Q33	D-2
		Q34	E-3
D9	G-2	Q35	F-4
D10	G-2		
D11	G-1	Q36	F-4
D12	F-2	Q37	F-4
D13	F-1	Q38	F-3
D14	G-4	Q39	G-3
		Q40	F-2
DL1	B-2		
		Q41	G-2
IC1	E-5	Q42	G-2
IC2	B-5	Q43	G-1
IC3	E-3	Q44	G-2
IC4	D-3	Q45	G-1
IC5	G-5		
		Q46	G-2
IC6	E-3	Q47	G-2
IC7	G-4	Q48	G-1
IC8	G-3	Q49	G-1
		Q50	F-4
LV1	E-4		
		Q51	E-1
Q1	B-2	Q52	G-3
Q2	B-2		
Q3	B-3	RV1	B-2
Q4	B-3	RV2	D-5
Q5	A-1	RV3	B-4
		RV4	A-5
		RV5	C-4
Q6	A-2		
Q7	A-3	RV6	D-4
Q8	A-3	RV7	C-5
Q9	A-4	RV8	D-4
Q10	A-4	RV9	C-2
		RV10	C-2
Q11	A-4		
Q12	A-4	RV11	F-5
Q13	A-4	RV12	G-5
Q14	E-5		
Q15	E-5	S1	E-5
		S2	F-5
Q16	E-5	S3	G-5
Q17	C-3		
Q18	C-4	T1	F-1
Q19	C-4		
Q20	C-5	TP1	B-3
		TP2	A-5
Q21	B-4	TP3	A-4
Q22	B-4	TP4	C-5
Q23	A-5	TP5	A-5
Q24	A-5		
Q25	C-3	TPE	A-1

EN-39 BOARD
-SOLDERING SIDE-

1-617-352-12
DXC-3000 (J,UC)
DXC-3000P (EK)

EN-39 BOARD

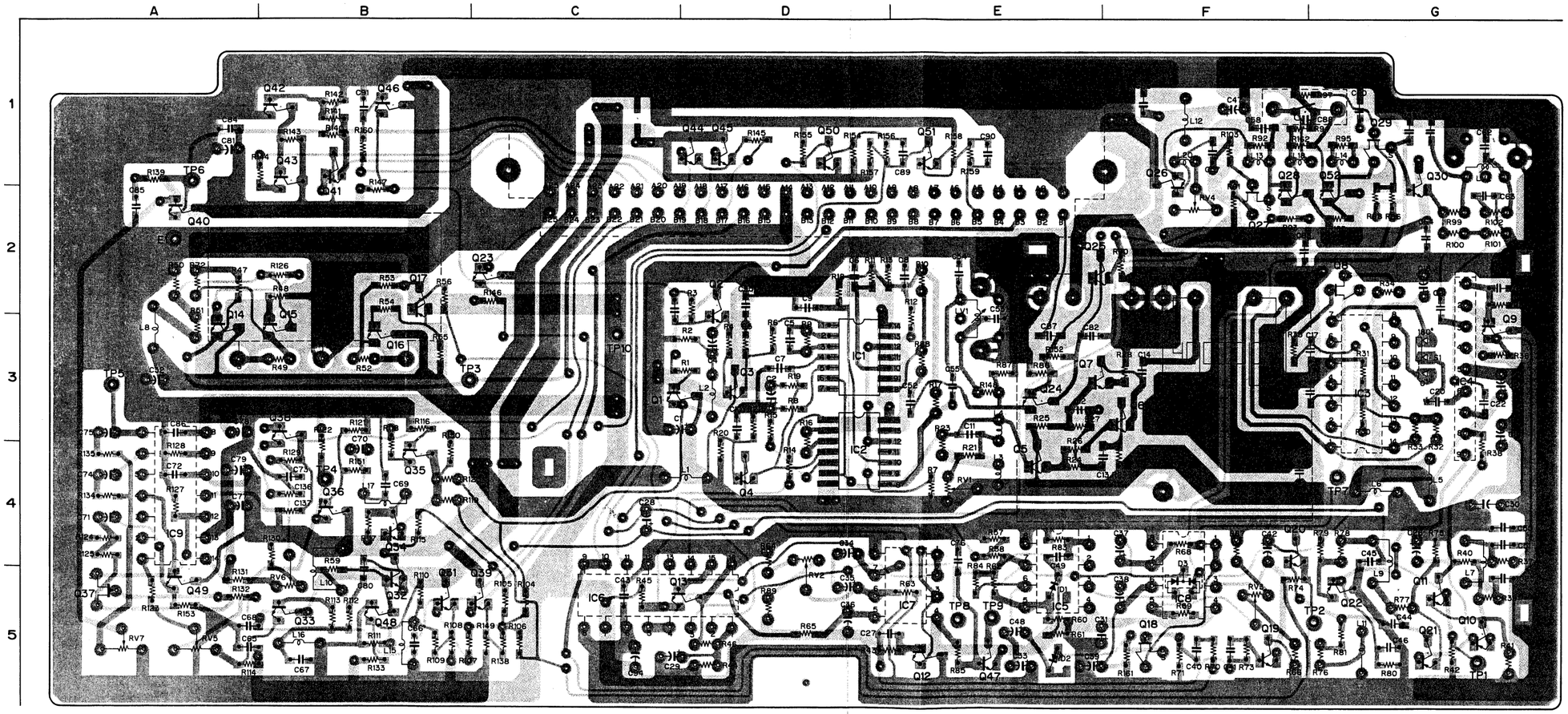


BPF	B-5	Q26	C-3
		Q27	C-4
CN1	C-1	Q28	C-5
		Q29	D-5
D1	E-4	Q30	C-4
D2	G-5		
D3	F-4	Q31	D-5
D6	G-5	Q32	E-2
D7	G-3	Q33	D-2
		Q34	E-3
D9	G-2	Q35	F-4
D10	G-2		
D11	G-1	Q36	F-4
D12	F-2	Q37	F-4
D13	F-1	Q38	F-3
D14	G-4	Q39	G-3
		Q40	F-2
DL1	B-2		
		Q41	G-2
IC1	E-5	Q42	G-2
IC2	B-5	Q43	G-1
IC3	E-3	Q44	G-2
IC4	D-3	Q45	G-1
IC5	G-5		
		Q46	G-2
IC6	E-3	Q47	G-2
IC7	G-4	Q48	G-1
IC8	G-3	Q49	G-1
		Q50	F-4
LV1	E-4		
		Q51	E-1
Q1	B-2	Q52	G-3
Q2	B-2		
Q3	B-3	RV1	B-2
Q4	B-3	RV2	D-5
Q5	A-1	RV3	B-4
		RV4	A-5
		RV5	C-4
Q6	A-2		
Q7	A-3	RV6	D-4
Q8	A-3	RV7	C-5
Q9	A-4	RV8	D-4
Q10	A-4	RV9	C-2
		RV10	C-2
Q11	A-4		
Q12	A-4	RV11	F-5
Q13	A-4	RV12	G-5
Q14	E-5		
Q15	E-5	S1	E-5
		S2	F-5
Q16	E-5	S3	G-5
Q17	C-3		
Q18	C-4	T1	F-1
Q19	C-4		
Q20	C-5	TP1	B-3
		TP2	A-5
Q21	B-4	TP3	A-4
Q22	B-4	TP4	C-5
Q23	A-5	TP5	A-5
Q24	A-5		
Q25	C-3	TPE	A-1

EN-39 BOARD
-SOLDERING SIDE-

1-617-352-11
DXC-3000 (J,UC)
DXC-3000P(E,K)

IE-14 BOARD

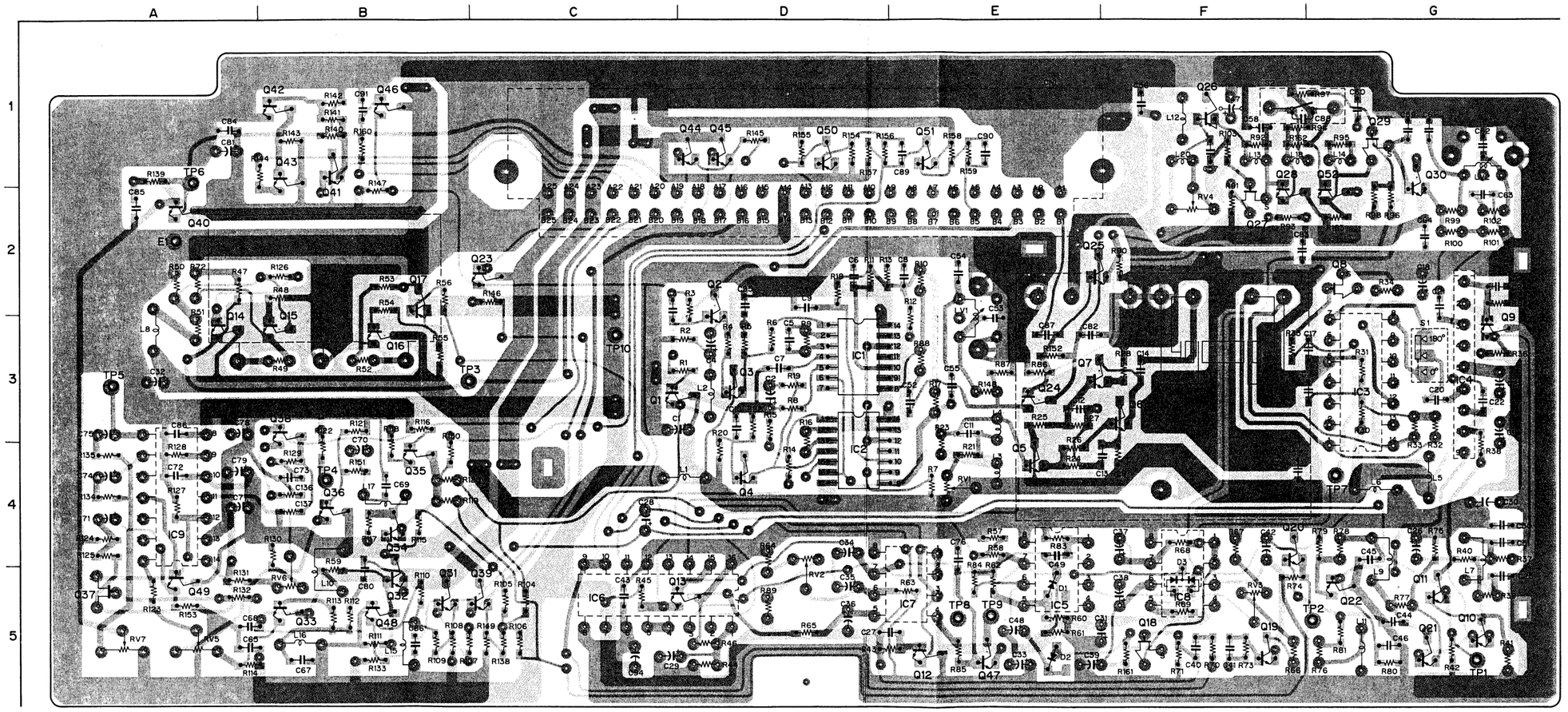


CN1	D·1	Q26	F·2
		Q27	F·2
D1	E·5	Q28	F·2
D2	E·5	Q29	G·1
D3	F·5	Q30	G·2
DL1	F·3	Q31	B·5
DL2	B·2	Q32	B·5
		Q33	B·5
E·1	A·2	Q34	B·4
		Q35	B·4
IC1	D·3		
IC2	D·4	Q36	B·4
IC3	G·3	Q37	A·5
IC4	G·3	Q38	B·3
IC5	E·5	Q39	C·5
		Q40	A·2
IC6	C·5		
IC7	E·5	Q41	B·1
IC8	F·5	Q42	B·1
IC9	A·4	Q43	B·1
		Q44	D·1
LV1	E·3	Q45	D·1
LV2	G·1		
		Q46	B·1
Q1	C·3	Q47	E·5
Q2	D·3	Q48	B·5
Q3	D·3	Q49	A·5
Q4	D·4	Q50	D·1
Q5	E·4		
		Q51	E·1
Q6	F·3	Q52	G·2
Q7	F·3		
Q8	G·2	RV1	E·4
Q9	G·3	RV2	D·5
Q10	G·5	RV3	F·5
		RV4	F·2
Q11	G·5	RV5	A·5
Q12	E·5		
Q13	C·5	RV6	B·5
Q14	A·3	RV7	A·5
Q15	B·3		
		S1	G·3
Q16	B·3	S2	F·1
Q17	B·2		
Q18	F·5	TP1	G·5
Q19	F·5	TP2	G·5
Q20	F·4	TP3	B·3
		TP4	B·4
Q21	G·5	TP5	A·3
Q22	G·5		
Q23	C·2	TP6	A·1
Q24	E·3	TP7	G·4
Q25	E·2	TP8	E·5
		TP9	E·5
Q21	G·5	TP10	C·3
Q22	G·5		
Q23	C·2		
Q24	E·3		
Q25	E·2		

IE-14 BOARD
-SOLDERING SIDE-

1-617-353-11
DXC-3000 (J,UC)
DXC-3000P(E,K)

IE-14 BOARD

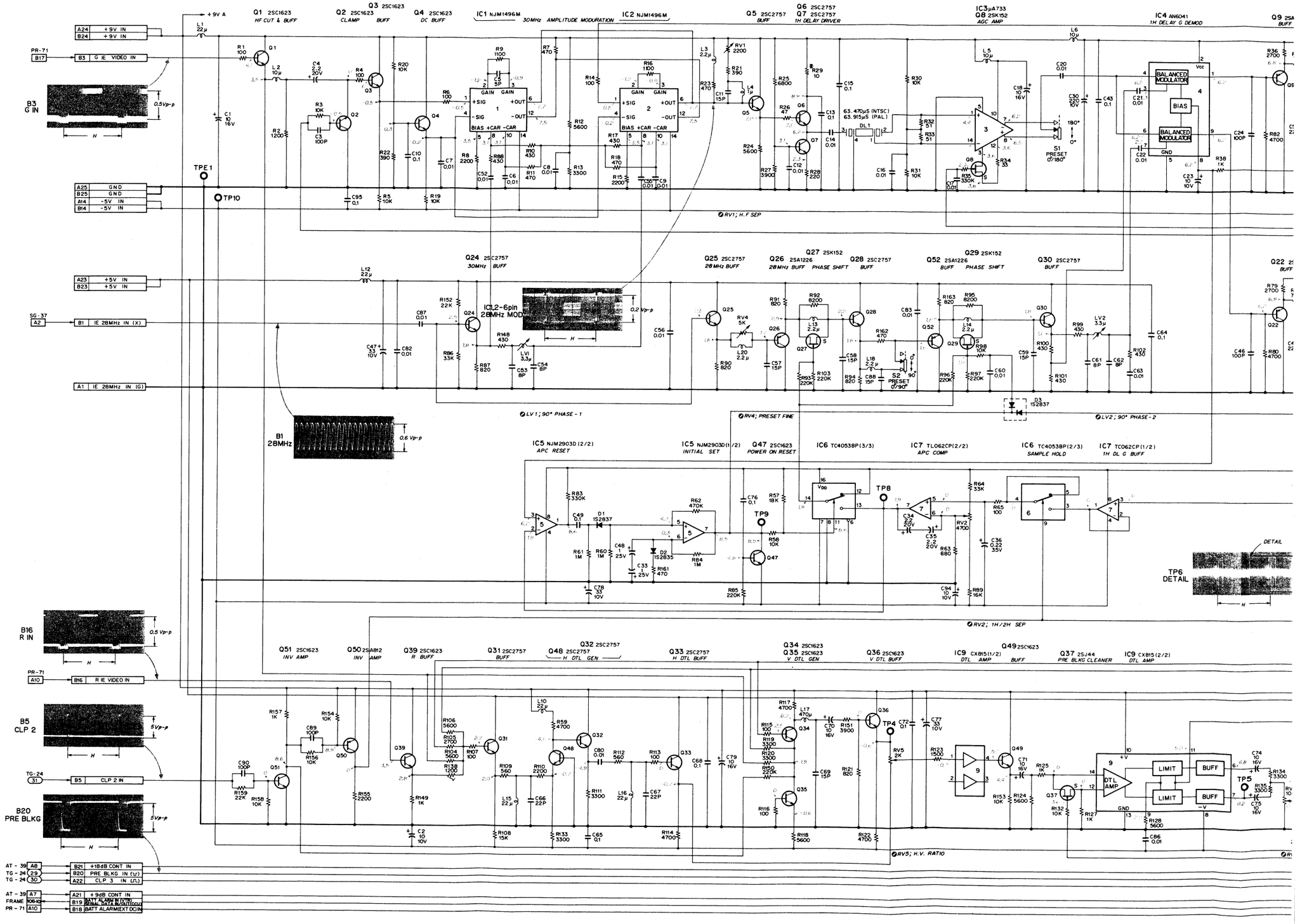


CN1	D-1	Q26	F-2
		Q27	F-2
D1	E-5	Q28	F-2
D2	E-5	Q29	G-1
D3	F-5	Q30	G-2
DL1	F-3	Q31	B-5
DL2	B-2	Q32	B-5
		Q33	B-5
E-1	A-2	Q34	B-4
		Q35	B-4
IC1	D-3		
IC2	D-4	Q36	B-4
IC3	G-3	Q37	A-5
IC4	G-3	Q38	B-3
IC5	E-5	Q39	C-5
		Q40	A-2
IC6	C-5		
IC7	E-5	Q41	B-1
IC8	F-5	Q42	B-1
IC9	A-4	Q43	B-1
		Q44	D-1
LV1	E-3	Q45	D-1
LV2	G-1		
		Q46	B-1
Q1	C-3	Q47	E-5
Q2	D-3	Q48	B-5
Q3	D-3	Q49	A-5
Q4	D-4	Q50	D-1
Q5	E-4		
		Q51	E-1
Q6	F-3	Q52	G-2
Q7	F-3		
Q8	G-2	RV1	E-4
Q9	G-3	RV2	D-5
Q10	G-5	RV3	F-5
		RV4	F-2
Q11	G-5	RV5	A-5
Q12	E-5		
Q13	C-5	RV6	B-5
Q14	A-3	RV7	A-5
Q15	B-3		
		S1	G-3
Q16	B-3	S2	F-1
Q17	B-2		
Q18	F-5	TP1	G-5
Q19	F-5	TP2	G-5
Q20	F-4	TP3	B-3
		TP4	B-4
Q21	G-5	TP5	A-3
Q22	G-5		
Q23	C-2	TP6	A-1
Q24	E-3	TP7	G-4
Q25	E-2	TP8	E-5
		TP9	E-5
Q21	G-5	TP10	C-3
Q22	G-5		
Q23	C-2		
Q24	E-3		
Q25	E-2		

IE-14 BOARD
-SOLDERING SIDE-

1-617-353-12
DXC-3000 (J,UC)
DXC-3000P (EK)

IE-14 BOARD


+9V A
Q1 2SC1623 HF.CUT & BUFF
Q2 2SC1623 CLAMP BUFF
Q3 2SC1623
Q4 2SC1623 DC BUFF
IC1 NJM1496M
30MHz AMPLITUDE MODURATION
IC2 NJM1496M
Q5 2SC2757 BUFF
Q6 2SC2757
Q7 2SC2757 1H DELAY DRIVER
IC3 μA733
Q8 2SK152 AGC AMP
IC4 AN6041 1H DELAY G DEMOD
Q9 2SA1226 BUFF
A24 +9V IN
B24 +9V IN
PR-71 B17
B3 G IE VIDEO IN
B3 G IN
0.5Vp-p
H
TPE1
TP10
A25 GND
B25 GND
A14 -5V IN
B14 -5V IN
RV1; H.F SEP
63.470μS (NTSC)
63.915μS (PAL)
DL1
S1 PRESET 0°/180°
BALANCED MODULATOR
BIAS
GND
Q24 2SC2757 30MHz BUFF
Q25 2SC2757 28MHz BUFF
Q26 2SA1226 28MHz BUFF PHASE SHIFT
Q27 2SK152
Q28 2SC2757 BUFF
Q52 2SA1226 BUFF PHASE SHIFT
Q29 2SK152
Q30 2SC2757 BUFF
A23 +5V IN
B23 +5V IN
SG-37 A2
B1 IE 28MHz IN (X)
A1 IE 28MHz IN (G)
IC12-6pin 28MHz MOD
0.2Vp-p
B1 28MHz
0.6Vp-p
LV1; 90° PHASE-1
RV4; PRESET FINE
LV2; 90° PHASE-2
D3 1S2837
IC5 NJM2903D(2/2) APC RESET
IC5 NJM2903D(1/2) INITIAL SET
Q47 2SC1623 POWER ON RESET
IC6 TC4053BP(3/3)
IC7 TL062CP(2/2) APC COMP
IC6 TC4053BP(2/3) SAMPLE HOLD
IC7 TC062CP(1/2) 1H DL G BUFF
TP8
TP9
TP6 DETAIL
RV2; 1H/2H SEP
B16 R IN
0.5Vp-p
PR-71 A10
B16 R IE VIDEO IN
B5 CLP 2
5Vp-p
TG-24 31
B5 CLP 2 IN
B20 PRE BLKG
5Vp-p
Q51 2SC1623 INV AMP
Q50 2SA812 INV AMP
Q39 2SC1623 R BUFF
Q31 2SC2757 BUFF
Q48 2SC2757 H DTL GEN
Q32 2SC2757
Q33 2SC2757 H DTL BUFF
Q34 2SC1623
Q35 2SC1623 V DTL GEN
Q36 2SC1623 V DTL BUFF
Q49 2SC1623 BUFF
IC9 CX815(1/2) DTL AMP
Q37 2SJ44 PRE BLKG CLEANER
IC9 CX815(2/2) DTL AMP
TP4
TP5
RV5; H.V. RATIO
AT-39 A8 B21 +18dB CONT IN
TG-24 29 B20 PRE BLKG IN (Y)
TG-24 30 A22 CLP 3 IN (U)
AT-39 A7 A21 +9dB CONT IN
FRAME 106-10 B19 BATT ALARM IN (VTR)
PR-71 A10 B18 BATT ALARM (EXT DC) IN

※ CHANGE INFORMATION

REF. NO.	DESCRIPTION	EFFECTIVE SER. NO.	
R29	10 → SHORT	11111 ~	(UC)
		10256 ~	(J)
		10641 ~	(EK)

IE-14 BOARD

DXC-3000 (J, UC)
DXC-3000P (EK)

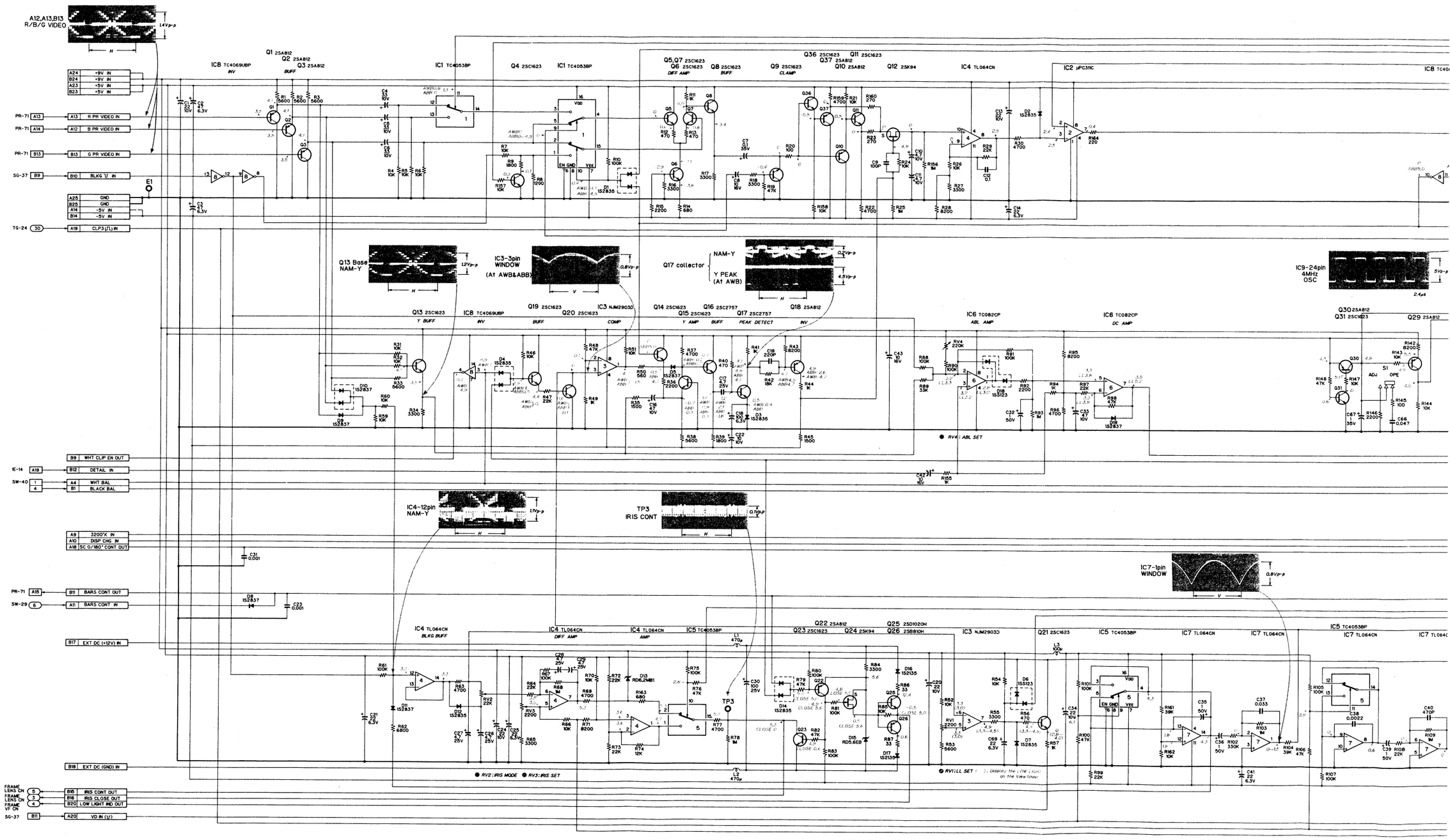
注意：

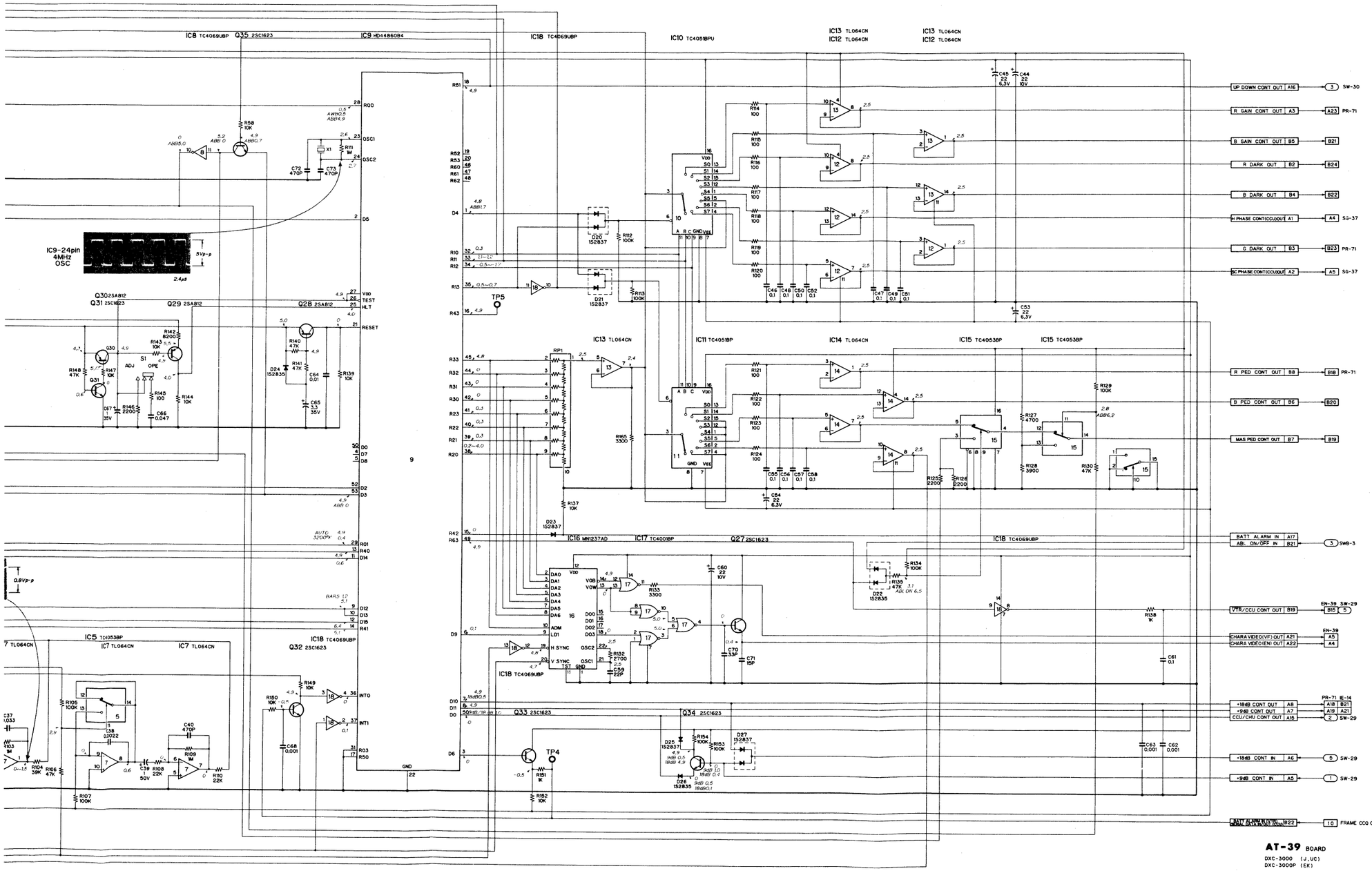
1．DC電圧はデジタル電圧計(入力インピーダンス10 MΩ)による値。
2．波形写真及びDC電圧は下記条件で測定。
- FILTER切り換えつまみ→1位置
- BARS/WBスイッチ→3200°K位置
- GAIN切り換えスイッチ→0 dB位置
- ホワイトウインドウチャートを撮像し、波形モニターにて、ビデオ出力レベルが100 IREになる様に、レンズ絞りをセットする。(F≒4～5.6)

NOTE:

1. All voltage are dc, mesured with a digital voltmeter. (input impedance: 10 MΩ)
2. All waveforms are taken and DC voltage is mesured in condition below.
   - Set camera FILTER selector to 1 position.
   - Set camera BARS/WB selector to 3200°K position.
   - Set camera GAIN selector to 0 dB position.
   - Shoot the white window pattern. Adjust lens iris so that a video output level is 100 IRE on the waveform monitor (F ≒ 4～5.6)

AT-39 BOARD

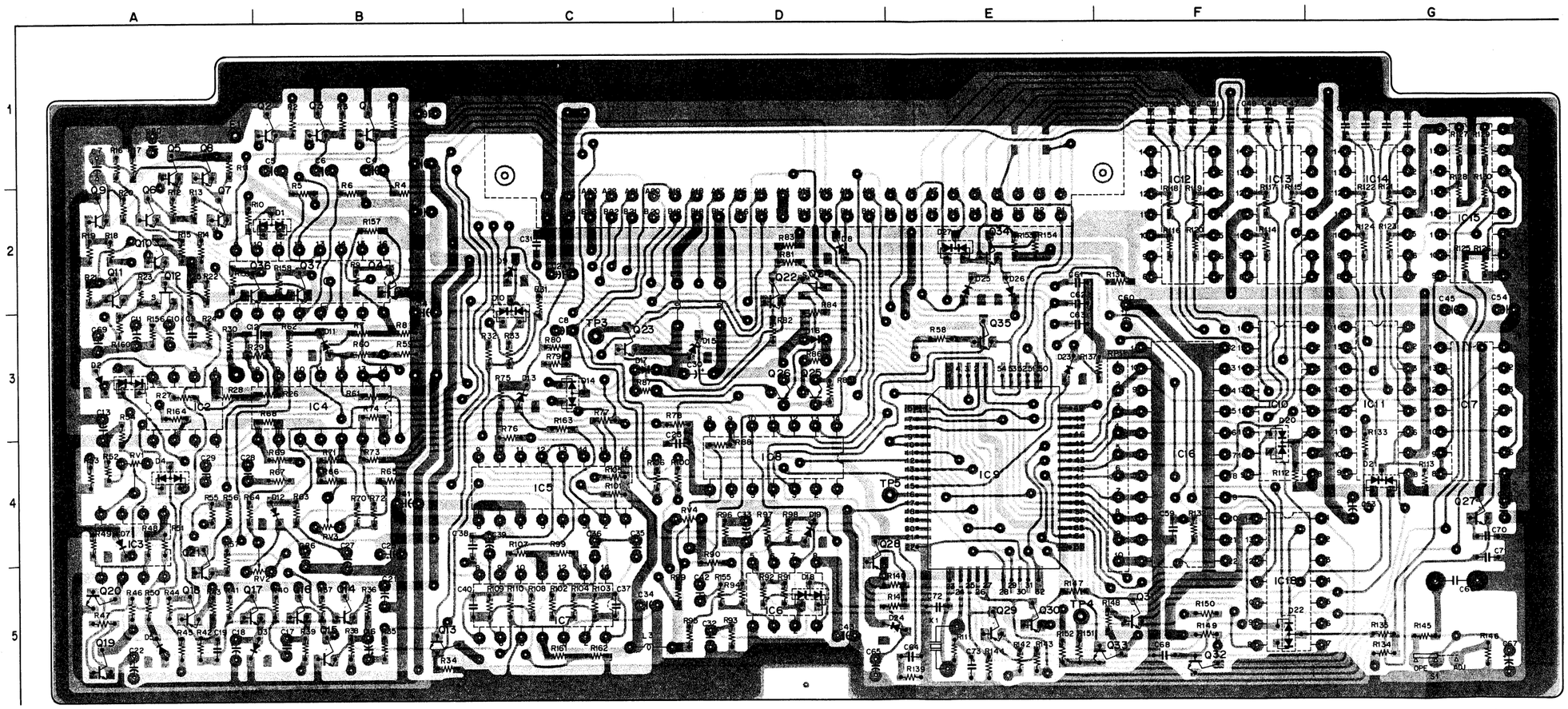

A12,A13,B13 R/B/G VIDEO
1.4Vp-p
A24 +9V IN
B24 +9V IN
A23 +5V IN
B23 +5V IN
PR-71 A13 A13 R PR VIDEO IN
PR-71 A14 A12 B PR VIDEO IN
PR-71 B13 B13 G PR VIDEO IN
SG-37 B9 B10 BLKG 'L' IN
A25 GND
B25 GND
A14 -5V IN
B14 -5V IN
TG-24 30 A19 CLP3 (FL) IN
B9 WHT CLIP EN OUT
IE-14 A19 B12 DETAIL IN
SW-40 1 A4 WHT BAL
4 B1 BLACK BAL
A9 3200°K IN
A10 DSP CHG IN
A18 SC 0/180° CONT OUT
PR-71 A15 B11 BARS CONT OUT
SW-29 6 A11 BARS CONT IN
B17 EXT DC (+12V) IN
B18 EXT DC (GND) IN
FRAME LENS CN 5 B15 IRIS CONT OUT
FRAME LENS CN 3 B16 IRIS CLOSE OUT
FRAME VF CN 4 B20 LOW LIGHT IND OUT
SG-37 B11 A20 VD IN (L)
Q13 Base NAM-Y
1.2Vp-p
IC3-3pin WINDOW (At AWB&ABB)
0.8Vp-p
Q17 collector
NAM-Y
Y PEAK (At AWB)
0.2Vp-p
4.5Vp-p
IC9-24pin 4MHz OSC
5Vp-p
IC4-12pin NAM-Y
1.1Vp-p
TP3 IRIS CONT
0.1Vp-p
IC7-1pin WINDOW
0.8Vp-p
IC8 TC4069UBP INV
IC1 TC4053BP
Q1 2SA812
Q2 2SA812
Q3 2SA812 BUFF
Q4 2SC1623
Q5,Q7 2SC1623
Q6 2SC1623 DIFF AMP
Q8 2SC1623 BUFF
Q9 2SC1623 CLAMP
Q36 2SC1623
Q11 2SC1623
Q37 2SA812
Q10 2SA812
Q12 2SK94
IC4 TL064CN
IC2 μPC311C
IC8 TC4069UBP INV
Q13 2SC1623 Y BUFF
Q19 2SC1623 BUFF
Q20 2SC1623 COMP
IC3 NJM2903D
Q14 2SC1623
Q15 2SC1623 Y AMP
Q16 2SC2757 BUFF
Q17 2SC2757 PEAK DETECT
Q18 2SA812 INV
IC6 TC082CP ABL AMP
IC6 TC082CP DC AMP
Q30 2SA812
Q31 2SC1623
Q29 2SA812
RV4 : ABL SET
IC4 TL064CN BLKG BUFF
IC4 TL064CN DIFF AMP
IC4 TL064CN AMP
IC5 TC4053BP
L1 470μ
L2 470μ
L3 100μ
Q22 2SA812
Q23 2SC1623
Q24 2SK94
Q25 2SD1020H
Q26 2SB810H
IC3 NJM2903D
Q21 2SC1623
IC5 TC4053BP
IC7 TL064CN
IC7 TL064CN
IC5 TC4053BP
IC7 TL064CN
IC7 TL064C
RV2:IRIS MODE
RV3:IRIS SET
RV1:LL SET (: Display the LOW LIGHT on the View finder)



AT-39 BOARD

DXC-3000 (J,UC)
DXC-3000P (EK)

AT-39 BOARD

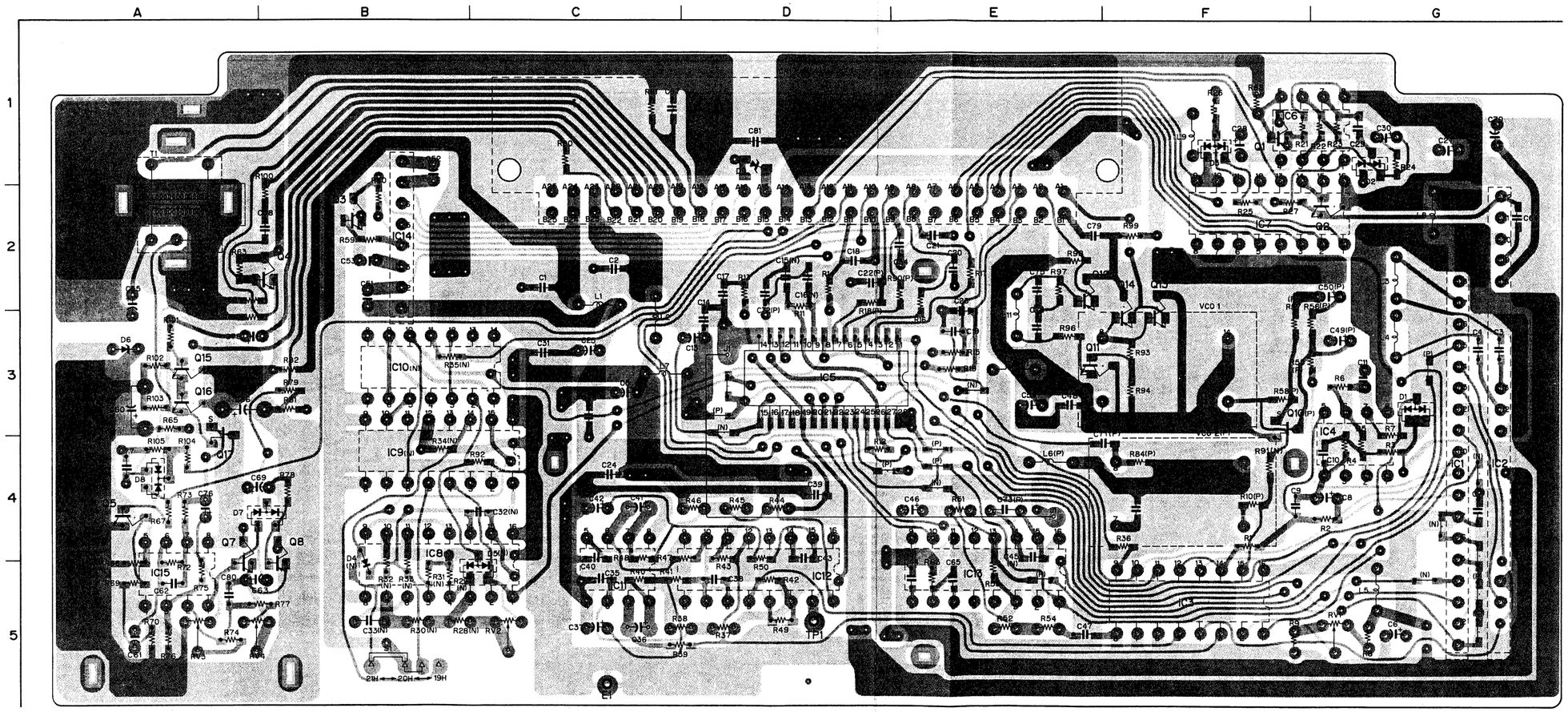


AT-39 BOARD
-SOLDERING SIDE-

1-617-351-11
DXC-3000 (J,UC)
DXC-3000P(EK)

CN1	D-1	Q1	B-1
		Q2	B-1
D1	B-2	Q3	B-1
D2	A-3	Q4	B-2
D3	B-5	Q5	A-1
D4	A-4		
D5	A-5	Q6	A-2
		Q7	A-2
D6	A-3	Q8	A-1
D7	A-4	Q9	A-2
D8	D-2	Q10	A-2
D9	C-2		
D10	C-2	Q11	A-2
		Q12	A-2
D11	B-3	Q13	B-5
D12	B-4	Q14	B-5
D13	C-3	Q15	B-5
D14	C-3		
D15	D-3	Q16	B-5
		Q17	A-5
D16	D-3	Q18	A-5
D17	C-3	Q19	A-5
D18	D-5	Q20	A-5
D19	D-4		
D20	F-4	Q21	A-5
		Q22	D-2
D21	G-4	Q23	C-3
D22	F-5	Q24	D-2
D23	E-3	Q25	D-3
D24	E-5		
D25	E-2	Q26	D-3
		Q27	G-4
D26	E-2	Q28	D-4
D27	E-2	Q29	E-5
		Q30	E-5
E1	A-1		
		Q31	F-5
IC1	B-2	Q32	F-5
IC2	A-3	Q33	F-5
IC3	A-4	Q34	E-2
IC4	B-3	Q35	E-3
IC5	C-4		
		Q36	A-2
IC6	D-5	Q37	B-2
IC7	C-5		
IC8	D-4	RP1	F-4
IC9	E-4		
IC10	F-3	RV1	A-4
		RV2	B-5
IC11	G-3	RV3	B-4
IC12	F-2	RV4	D-4
IC13	F-2		
IC14	G-2	S1	G-5
IC15	G-2		
		TP3	C-3
IC16	F-4	TP4	E-5
IC17	G-3	TP5	E-4
IC18	F-5		
		X1	E-5

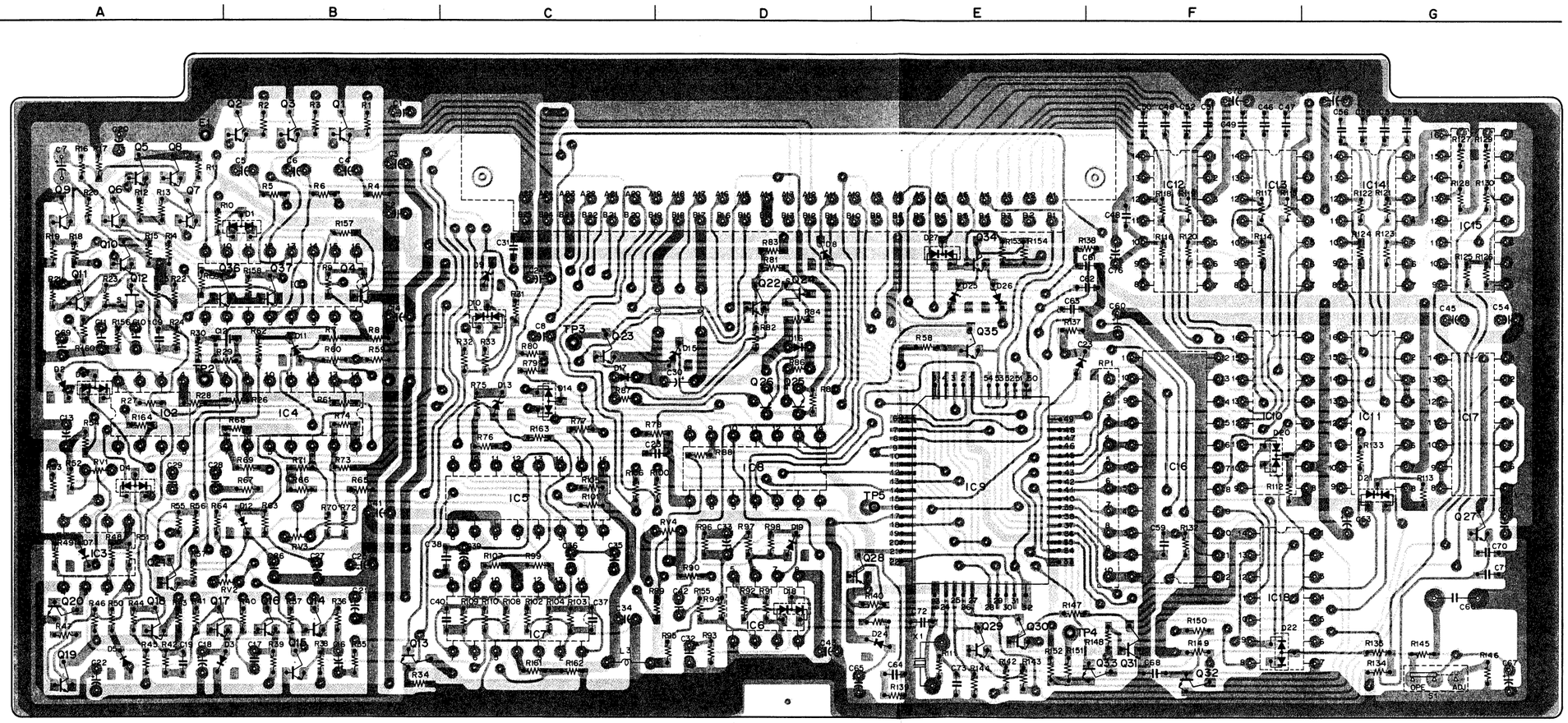
SG-37 BOARD



CN1	D-1	VC01	F-3
		VC02	F-4
D1	G-3		
D2	G-1		
D3	F-1		
D4	B-5		
D5	C-5		
D6	A-3		
D7	B-4		
D8	A-4		
D9	D-1		
E1	C-5		
IC1	G-4		
IC2	G-4		
IC3	F-5		
IC4	G-4		
IC5	D-3		
IC6	G-1		
IC7	F-2		
IC8	B-5		
IC9	B-4		
IC10	B-3		
IC11	C-5		
IC12	D-5		
IC13	E-5		
IC14	B-2		
IC15	A-5		
Q1	F-1		
Q2	G-2		
Q3	B-2		
Q4	B-2		
Q5	A-4		
Q7	A-5		
Q8	B-5		
Q10	F-3		
Q11	E-3		
Q12	E-2		
Q13	F-3		
Q14	F-3		
Q15	A-3		
Q16	A-3		
Q17	A-3		
RV1	G-5		
RV2	C-5		
RV3	A-5		
RV4	A-5		
S1	B-5		
T1	A-2		
TP1	D-5		

SG-37 BOARD
-SOLDERING SIDE-
1-617-355-11
DXC-3000 (J,UC)
DXC-3000P(E,K)

AT-39 BOARD

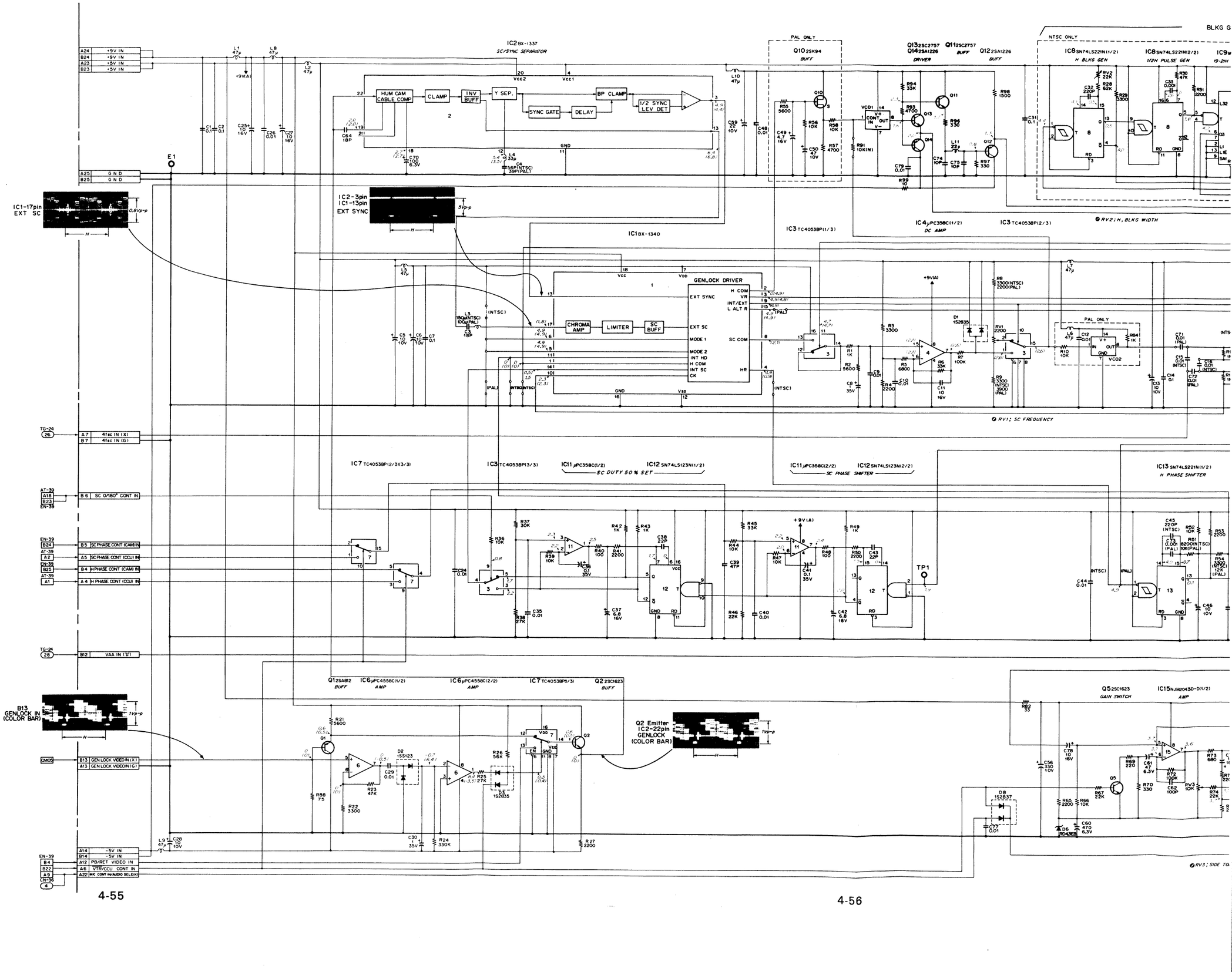


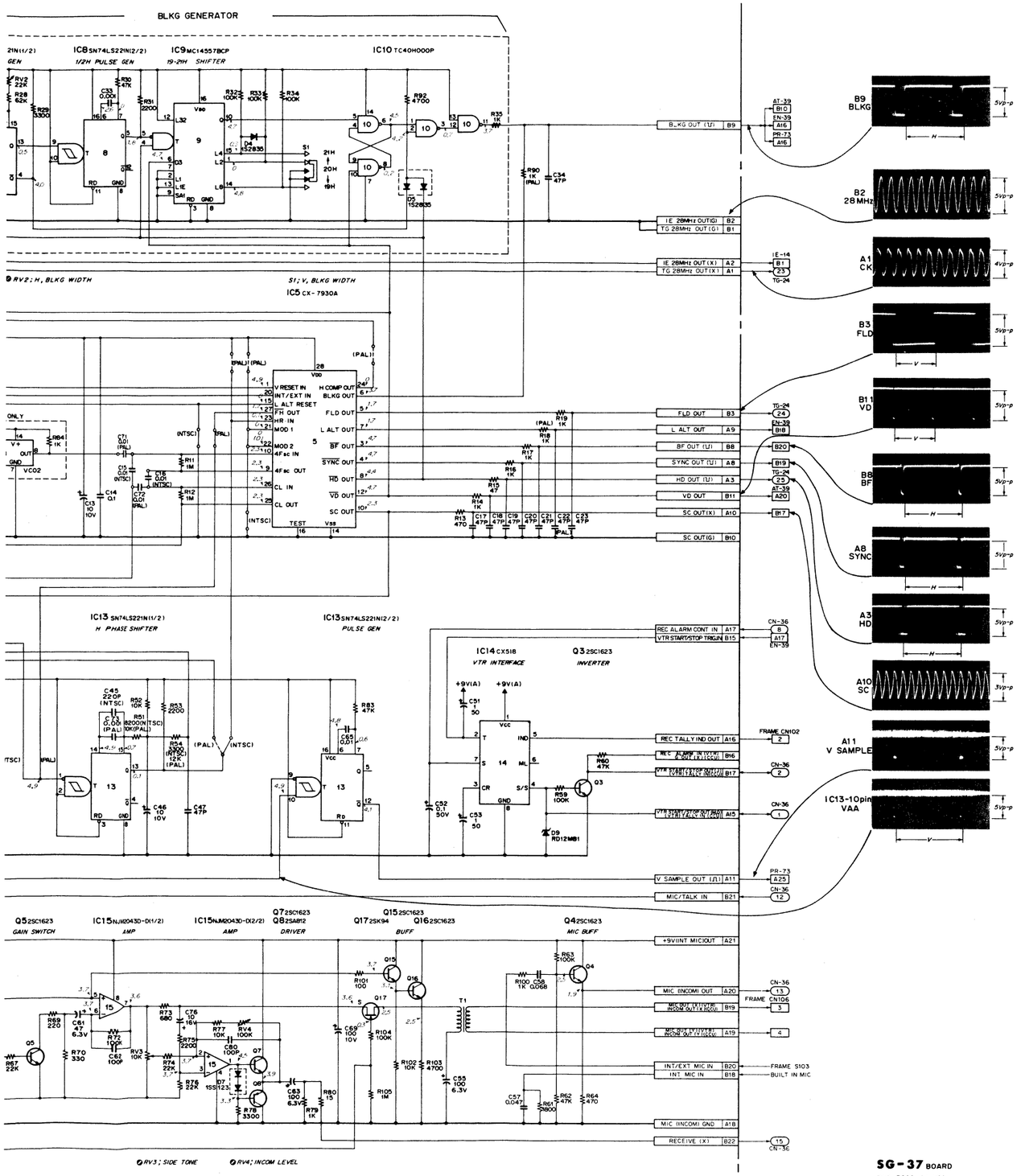
CN1	D-1	Q1	B-1
		Q2	B-1
D1	B-2	Q3	B-1
D2	A-3	Q4	B-2
D3	B-5	Q5	A-1
D4	A-4		
D5	A-5	Q6	A-2
		Q7	A-2
D6	A-3	Q8	A-1
D7	A-4	Q9	A-2
D8	D-2	Q10	A-2
D9	C-2		
D10	C-2	Q11	A-2
		Q12	A-2
D11	B-3	Q13	B-5
D12	B-4	Q14	B-5
D13	C-3	Q15	B-5
D14	C-3		
D15	D-3	Q16	B-5
		Q17	A-5
D16	D-3	Q18	A-5
D17	C-3	Q19	A-5
D18	D-5	Q20	A-5
D19	D-4		
D20	F-4	Q21	A-5
		Q22	D-2
D21	G-4	Q23	C-3
D22	F-5	Q24	D-2
D23	E-3	Q25	D-3
D24	E-5		
D25	E-2	Q26	D-3
		Q27	G-4
D26	E-2	Q28	D-4
D27	E-2	Q29	E-5
		Q30	E-5
E1	A-1		
		Q31	F-5
IC1	B-2	Q32	F-5
IC2	A-3	Q33	F-5
IC3	A-4	Q34	E-2
IC4	B-3	Q35	E-3
IC5	C-4		
		Q36	A-2
IC6	D-5	Q37	B-2
IC7	C-5		
IC8	D-4	RP1	F-4
IC9	E-4		
IC10	F-3	RV1	A-4
		RV2	B-5
IC11	G-3	RV3	B-4
IC12	F-2	RV4	D-4
IC13	F-2		
IC14	G-2	S1	G-5
IC15	G-2		
		TP3	C-3
IC16	F-4	TP4	E-5
IC17	G-3	TP5	E-4
IC18	F-5		
		X1	E-5

AT-39 BOARD
-SOLDERING SIDE-

1-617-351-12
DXC-3000 (J,UC)
DXC-3000P(EK)

SG-37 BOARD


A24 +9V IN
B24 +9V IN
A23 +5V IN
B23 +5V IN
A25 GND
B25 GND
IC2 BX-1337
SC/SYNC SEPARATOR
HUM CAM CABLE COMP
CLAMP
INV BUFF
Y SEP.
SYNC GATE
DELAY
BP CLAMP
1/2 SYNC LEV DET
PAL ONLY
Q10 2SK94
BUFF
Q13 2SC2757 Q11 2SC2757
Q14 2SA1226
DRIVER
BUFF
Q12 2SA1226
BUFF
NTSC ONLY
IC8 SN74LS221N(1/2)
H BLKG GEN
IC8 SN74LS221N(2/2)
1/2H PULSE GEN
BLKG G
IC1-17pin EXT SC
0.8Vp-p
IC2-3pin IC1-13pin EXT SYNC
5Vp-p
IC1 BX-1340
IC3 TC4053BP(1/3)
IC4 μPC358C(1/2)
DC AMP
IC3 TC4053BP(2/3)
RV2: H, BLKG WIDTH
GENLOCK DRIVER
EXT SYNC
EXT SC
MODE 1
MODE 2
INT HD
H COM
INT SC
CK
H COM
VR
INT/EXT
L ALT R
SC COM
HR
CHROMA AMP
LIMITER
SC BUFF
PAL ONLY
RV1: SC FREQUENCY
TG-24 (26)
A7 4fsc IN (X)
B7 4fsc IN (G)
IC7 TC4053BP(2/3)(3/3)
IC3 TC4053BP(3/3)
IC11 μPC358C(1/2)
SC DUTY 50% SET
IC12 SN74LS123N(1/1)
IC11 μPC358C(2/2)
SC PHASE SHIFTER
IC12 SN74LS123N(2/2)
IC13 SN74LS221N(1/2)
H PHASE SHIFTER
AT-39 A16 B23 EN-39
B6 SC 0/180° CONT IN
EN-39 B24 AT-39 A2 EN-39 B25 AT-39 A1
B5 SC PHASE CONT (CAM) IN
A5 SC PHASE CONT (CCU) IN
B4 H PHASE CONT (CAM) IN
A4 H PHASE CONT (CCU) IN
TP1
TG-24 (28)
B12 VAA IN ('L')
Q1 2SA812
BUFF
IC6 μPC4558C(1/2)
AMP
IC6 μPC4558C(2/2)
AMP
IC7 TC4053BP(3/3)
Q2 2SC1623
BUFF
Q5 2SC1623
GAIN SWITCH
IC15 NJM2043D-D(1/2)
AMP
B13 GENLOCK IN (COLOR BAR)
1Vp-p
Q2 Emitter IC2-22pin GENLOCK (COLOR BAR)
CN-05
B13 GEN LOCK VIDEO IN (X)
A13 GEN LOCK VIDEO IN (G)
D1 1S2835
D2 1SS123
D8 1S2837
D6 RD4.3EB
A14 -5V IN
B14 -5V IN
EN-39 B4 B22 A9 CN-36 (4)
A12 PB/RET VIDEO IN
A6 VTR/CCU CONT IN
A22 MIC CONT IN/AUDIO SELEKT
RV3: SIDE TO



注意：

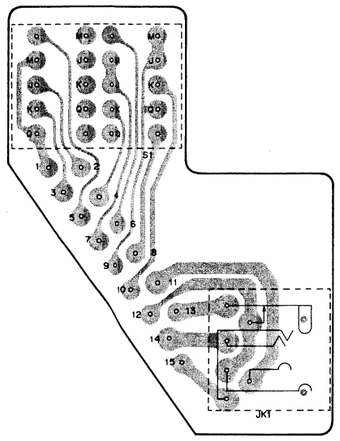
1．DC電圧はデジタル電圧計(入力インピーダンス10MΩ)による値。
2．波形写真及び( )内のDC電圧は下記条件で測定。
- ●GENLOCK IN端子よりカラーバー信号を入力する。

3．DC電圧は下記条件で測定。
- ●INTモードで動作させる。

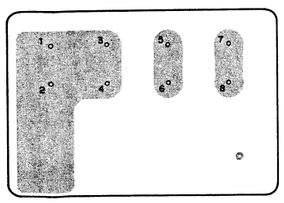
NOTE:

1. All voltage are dc, mesured with a digital voltmeter. (input impedance: 10 MΩ)
2. All waveforms are taken and DC voltage in parentheses ( ) is mesured in condition below.
   - Supply a color-bar signal to the GEN LOCK IN terminal.
3. DC voltage is mesured in condition below.
   - Work the camera in the INT mode.

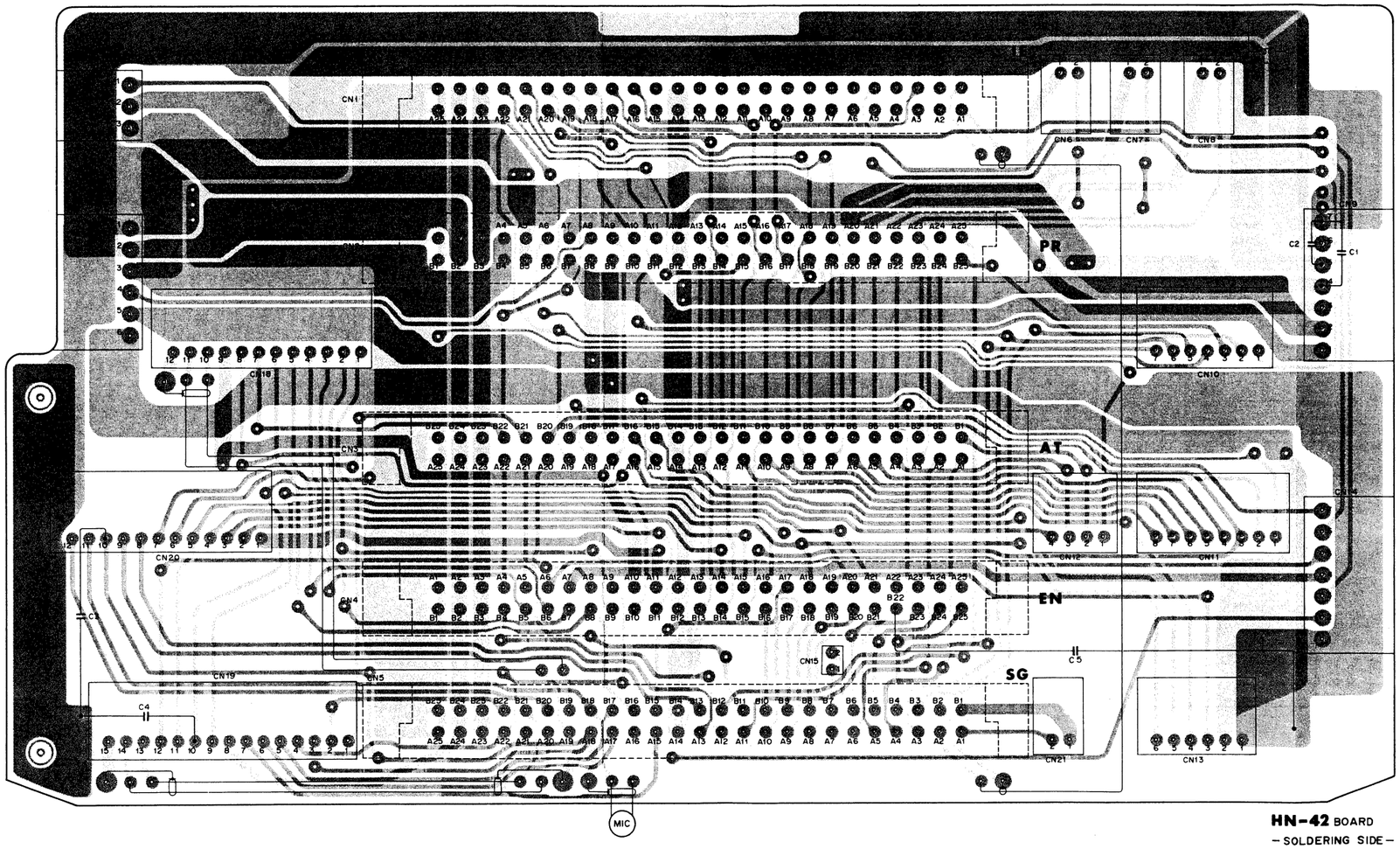
CN-36 BOARD
CN-111 BOARD
HN-42 BOARD
SW-29 BOARD
SW-30 BOARD
SWB-13 BOARD



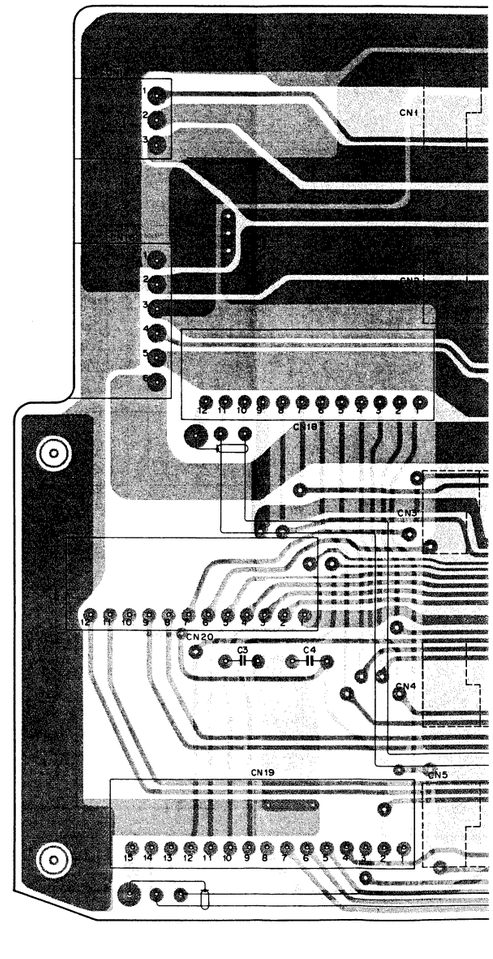
CN-36 BOARD
-SOLDERING SIDE-
1-617-360-11
DXC-3000 (J,UC)
DXC-3000P (EK)



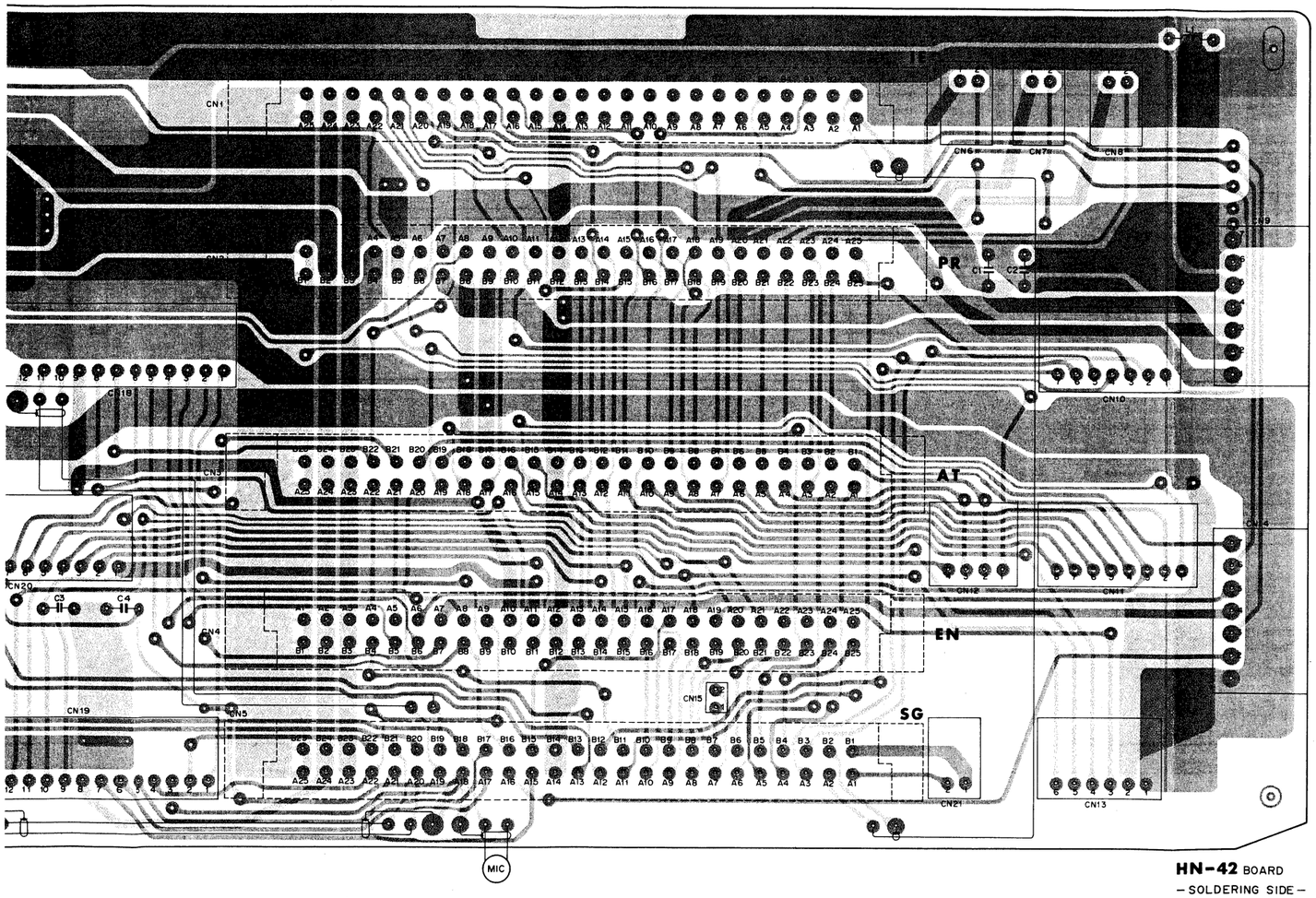
CN-111 BOARD
-SOLDERING SIDE-
1-617-361-11
DXC-3000 (J,UC)
DXC-3000P (EK)



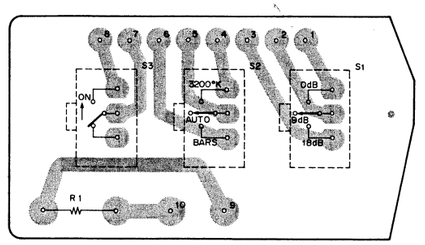
HN-42 BOARD
– SOLDERING SIDE –
1-617-356-11
DXC-3000 (J,UC)
DXC-3000P(EK)



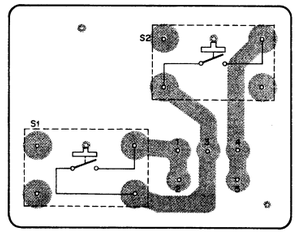
CN-36/111,HN-42,SW-29/30,SWB-13



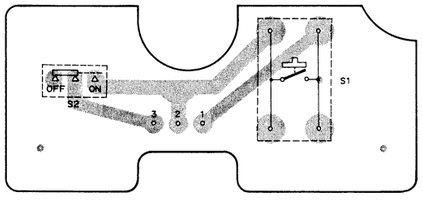
HN-42 BOARD
– SOLDERING SIDE –
1-617-356-12
DXC-3000 (J,UC)
DXC-3000P (EK)



SW-29 BOARD
-SOLDERING SIDE-
1-617-357-12
DXC-3000 (J,UC)
DXC-3000P (EK)



SW-30 BOARD
-SOLDERING SIDE-
1-617-358-11
DXC-3000 (J,UC)
DXC-3000P (EK)



SWB-13 BOARD
-SOLDERING SIDE-
1-617-359-11
DXC-3000 (J,UC)
DXC-3000P (EK)

FRAME

CN-36 BOARD

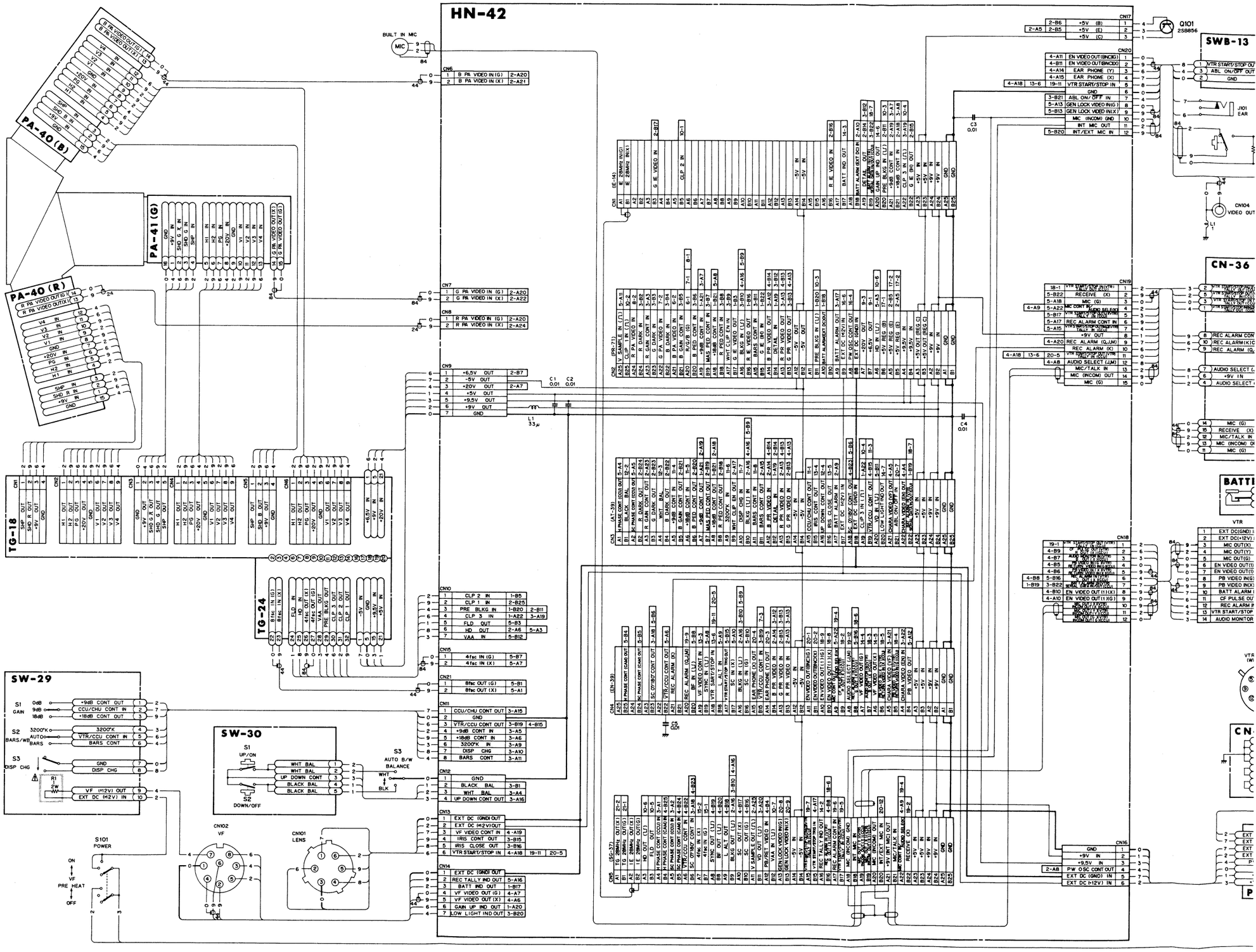
CN-111 BOARD

HN-42 BOARD

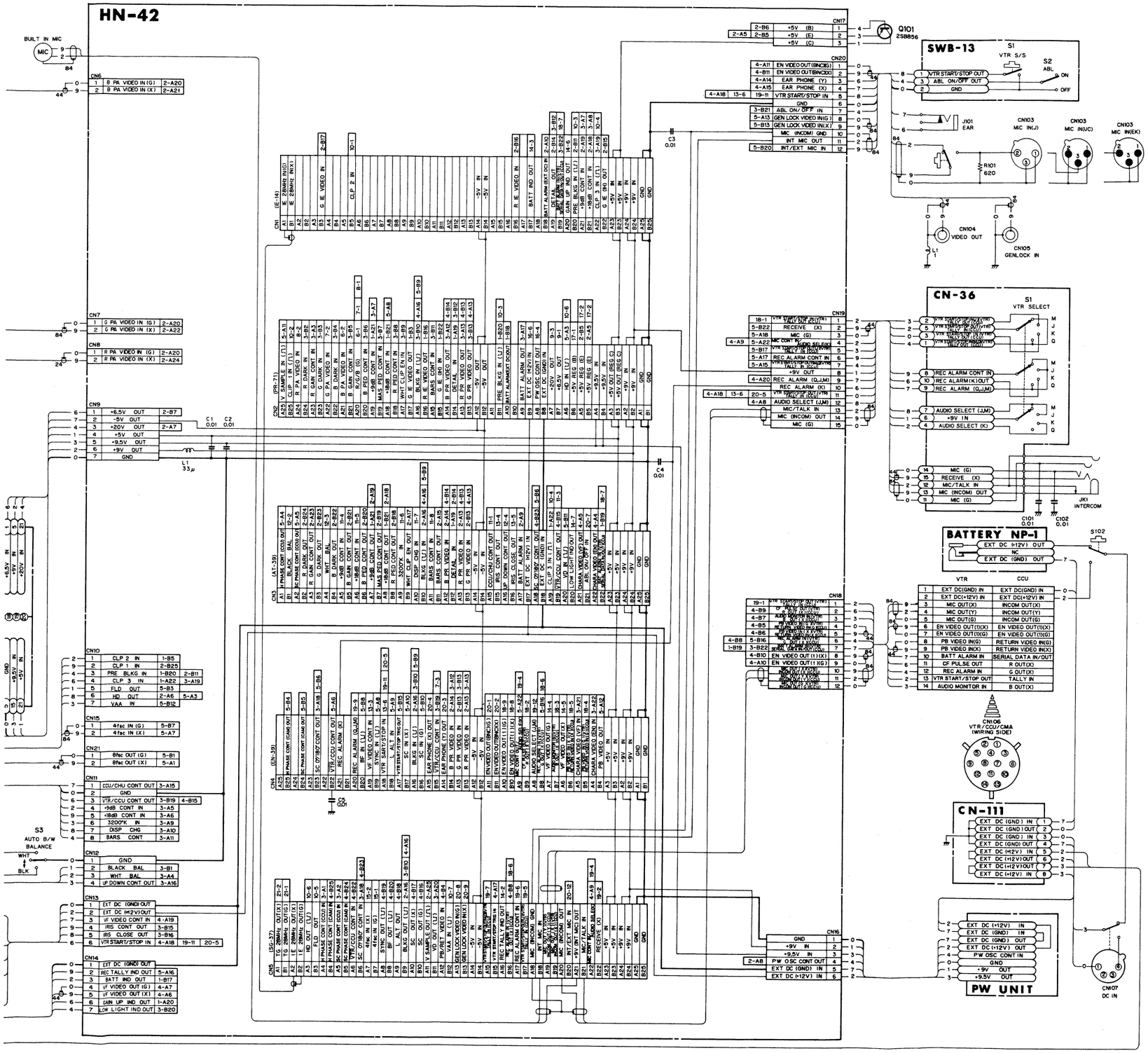
SW-29 BOARD

SW-30 BOARD

SWB-13 BOARD



FRAME,CN-36/111,HN-42,SW-29/30,SWB-13



FRAME

- CN-36
- CN-111
- HN-42
- SW-29
- SW-30
- SWB-13

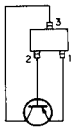
DXC-3000 (UC,J)
DXC-3000P(EK)

SECTION 5
SEMICONDUCTOR PIN ASSIGNMENT

The circuit diagram of IC is obtained from the IC data book published by the manufacturer.

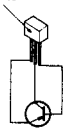
TOP VIEW (SCALE 4/1)

2SA812



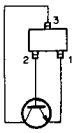
TYPE NO. PRINTED

2SB811

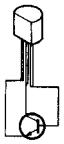


TOP VIEW (SCALE 4/1)

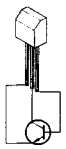
2SC1623
2SC2757



2SC2878

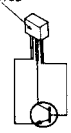


2SD774



TYPE NO. PRINTED

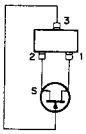
2SD1020



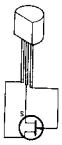
2SJ44

TOP VIEW (SCALE 4/1)

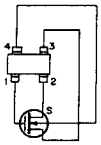
2SK94



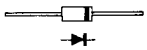
2SK152



3SK163

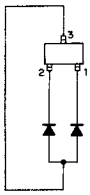


1S2348H



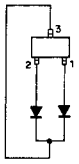
TOP VIEW (SCALE 4/1)

1S2835

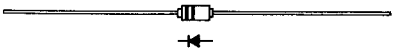


TOP VIEW (SCALE 4/1)

1S2837

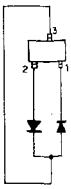


1S955

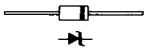


TOP VIEW (SCALE 4/1)

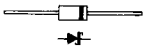
1SS123



HZ ? ?LL
RD ? ?E
RD ? ?EB



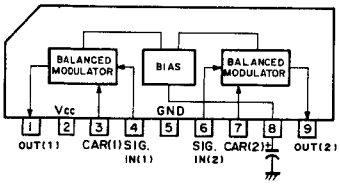
ERA81-004



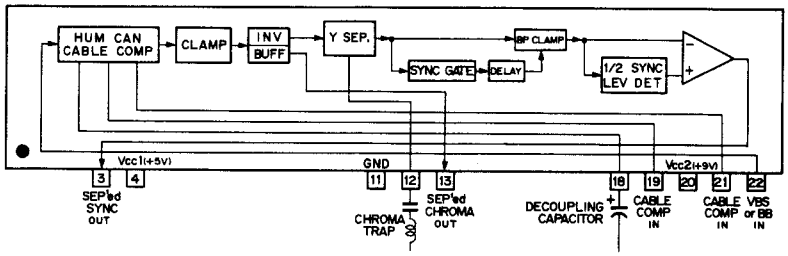
TOP VIEW (SCALE 4/1)

RD ? ?MB

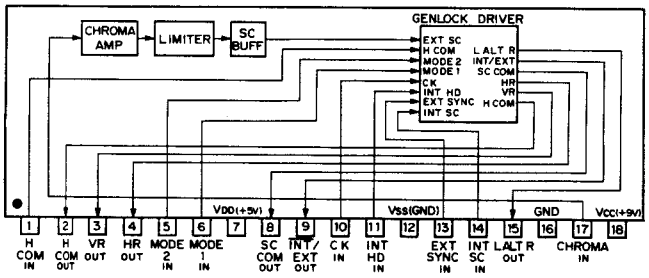
AN6041 (PANASONIC)
DUAL-BALANCED MODULATOR
— SIDE VIEW —



BX1337 (SONY)
SYNC SEPARATOR
— REAR VIEW —



BX1340 (SONY)
SC LIMITER AND GENLOCK DRIVER
— REAR VIEW —

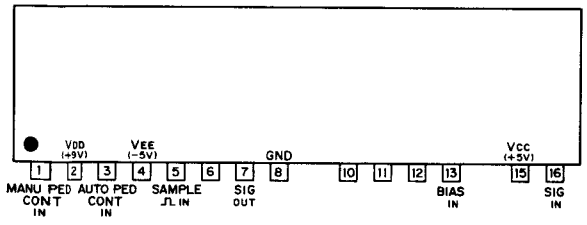


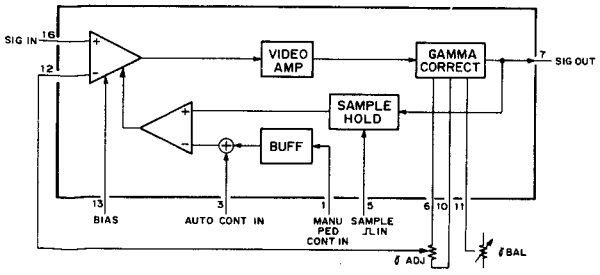
MODE SELECTION

MODE 1	MODE 2	MODE
1	1	NTSC
0	0	PAL

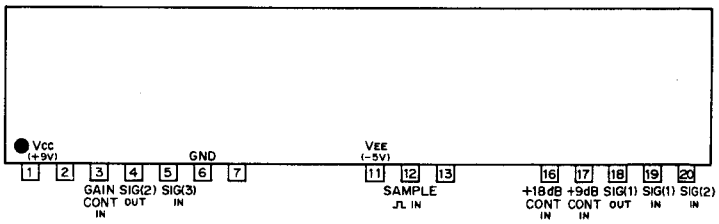
0; LOW LEVEL
1; HIGH LEVEL

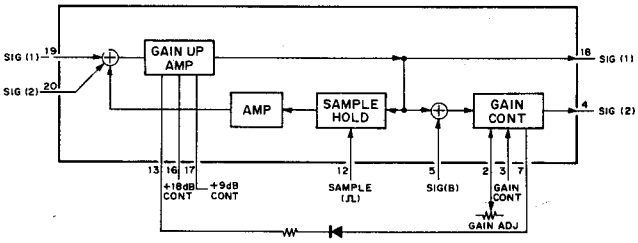
BX1348 (SONY)
PEDESTAL SET AND GAMMA CORRECT
— PRINTED SIDE VIEW —



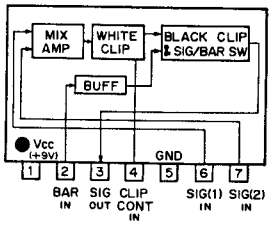


BX1349 (SONY)
VIDEO AMPLIFIER
— PRINTED SIDE VIEW —

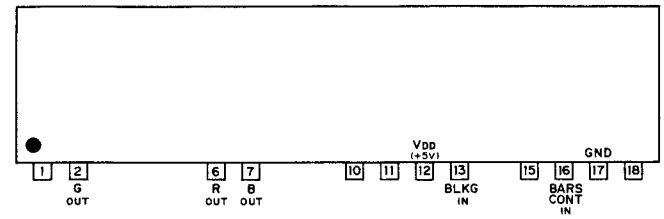


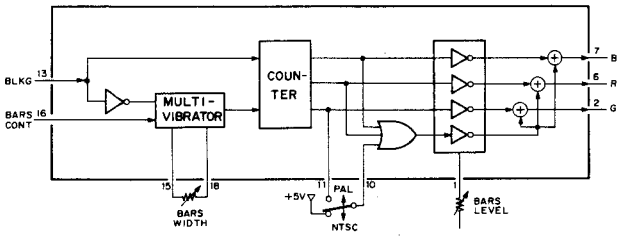


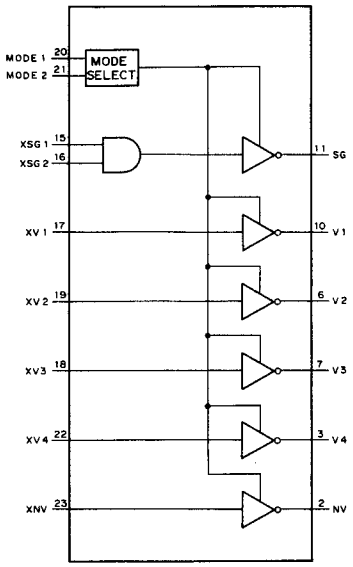
BX1350 (SONY)
MIX AMP, WHITE CLIP AND BLACK CLIP AMPLIFIER
— PRINTED SIDE VIEW —



BX1351 (SONY)
COLOR BAR GENERATOR
— PRINTED SIDE VIEW —



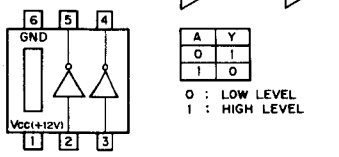




MODE SELECTION

1	2	MODE
1	1	POWER SAVE
1	0	NORMAL
0	1	
0	0	

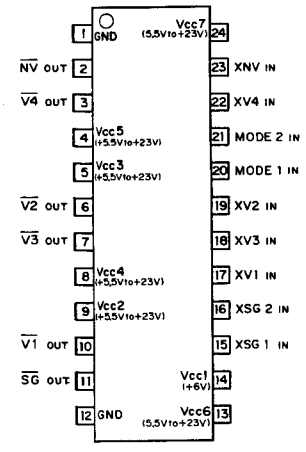
CX20011 (SONY)
HIGH SPEED INVERTING DRIVER
(C-MOS AND TTL COMPATIBLE)
— TOP VIEW —

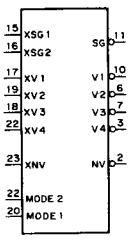


A	Y
0	1
1	0

0 : LOW LEVEL
1 : HIGH LEVEL

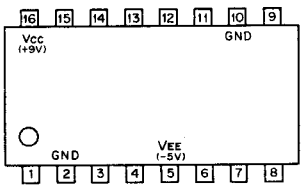
CX20180 (SONY)
INVERTING DRIVER FOR CCD CLOCK WITH POWER SAVE
— TOP VIEW —

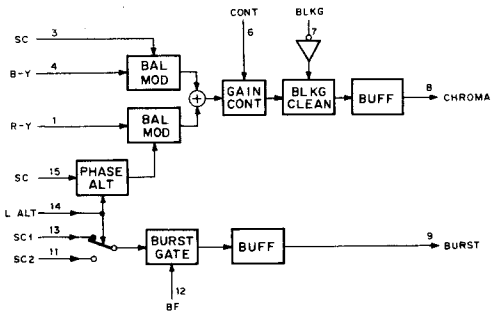




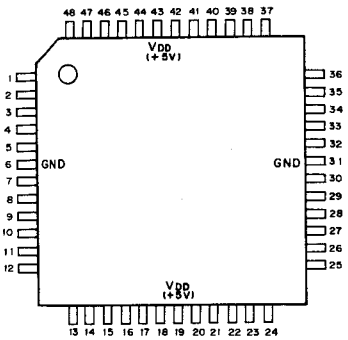
XV1-XV4 ; VERTICAL REGISTER TRANSMISSION CLOCK INPUT
$\overline{V1}$ - $\overline{V4}$; VERTICAL REGISTER TRANSMISSION CLOCK INPUT
XSG1 , XSG2 ; SENSER GATE PULSE INPUT
$\overline{SG}$; SENSER GATE PULSE OUTPUT
H BLKG ; HORIZONTAL BLANKING PULSE INPUT
XNV ; DRIVER INPUT
$\overline{NV}$; DRIVER OUTPUT
VAA ; VERTICAL PREBLANKING PULSE INPUT

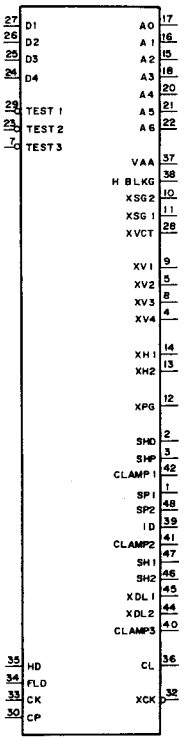
CX22017 (SONY)
VIDEO SIGNAL PROCESSOR
— TOP VIEW —

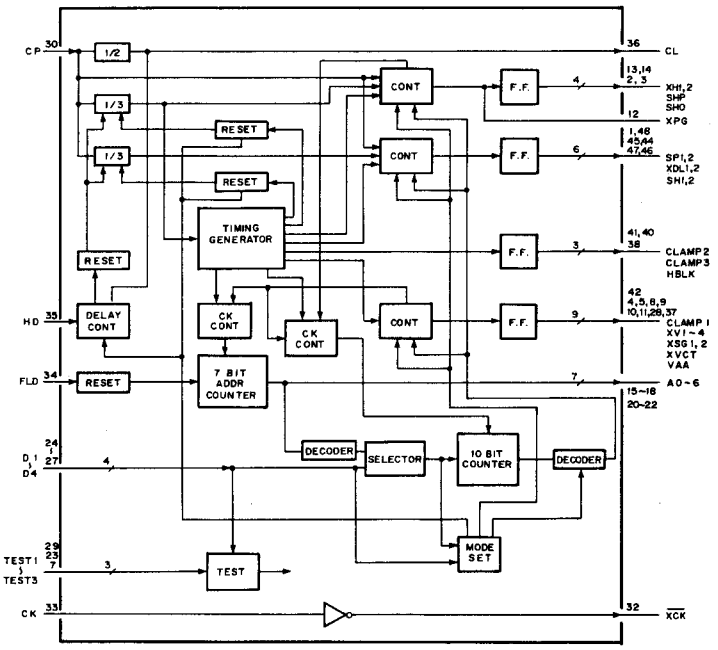




CX23047B (SONY) FLAT PACKAGE
C-MOS TIMING PULSE GENERATOR WITH CX7930 FOR CCD CAMERA
— TOP VIEW —



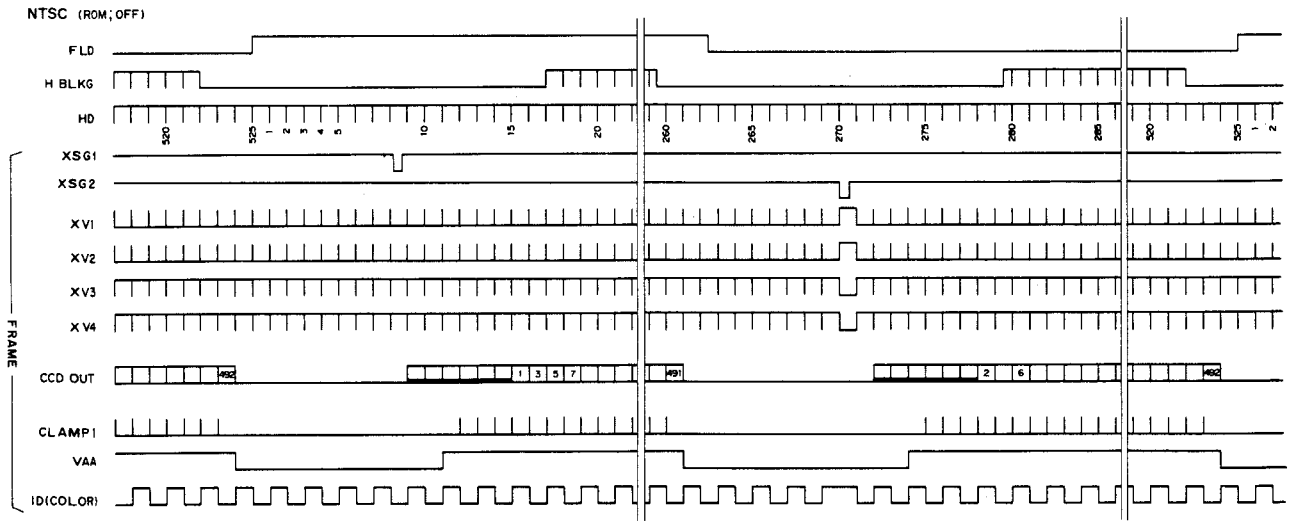


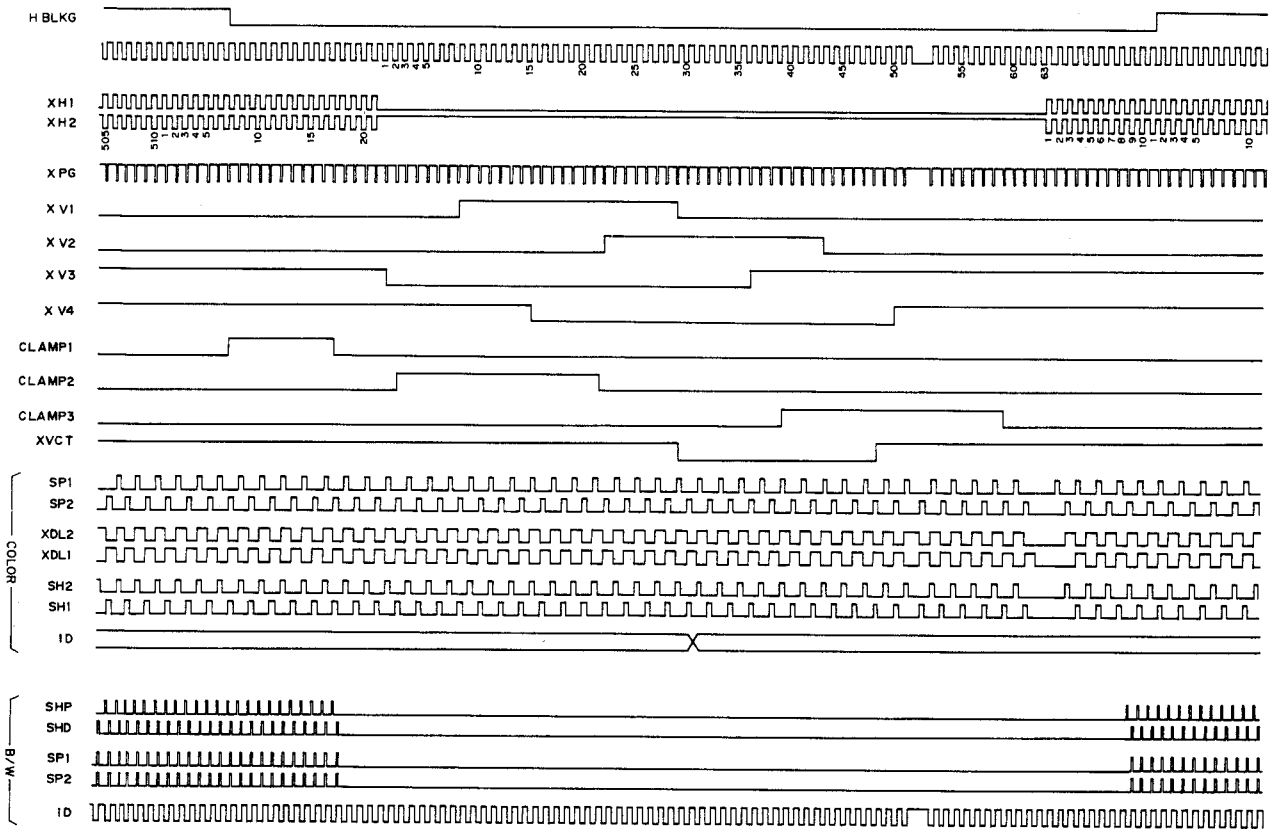


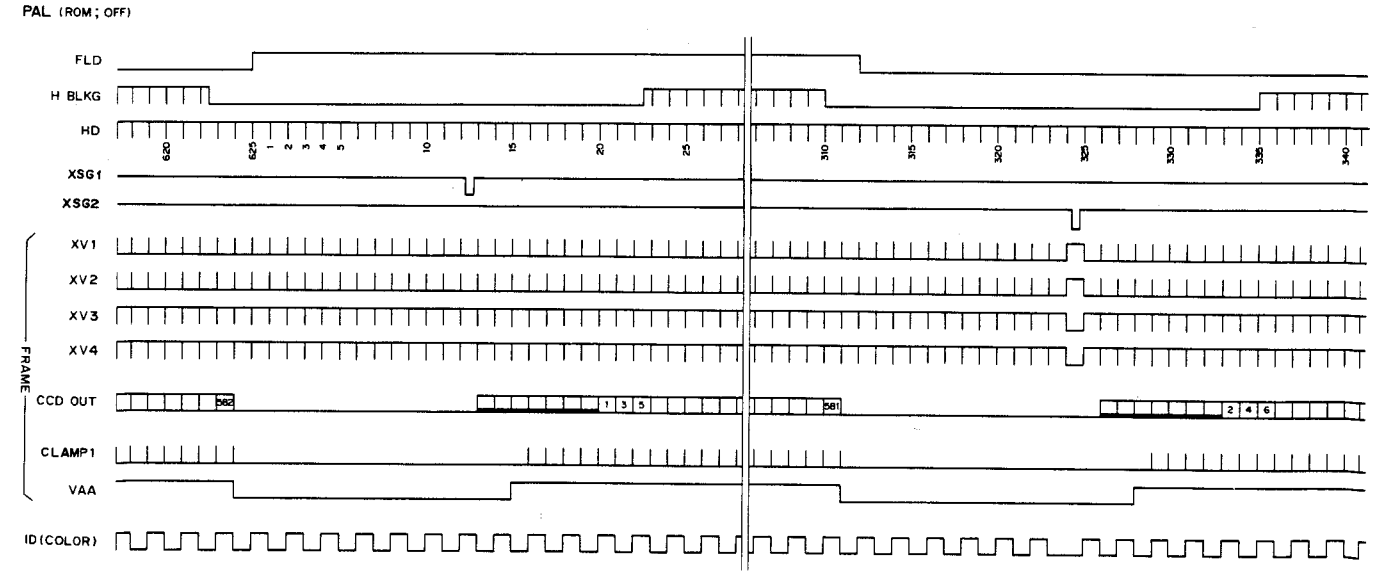
D1 — D4 ; EXTERNAL ROM DATA INPUT
A0 — A6 ; EXTERNAL ROM ADDRESS INPUT

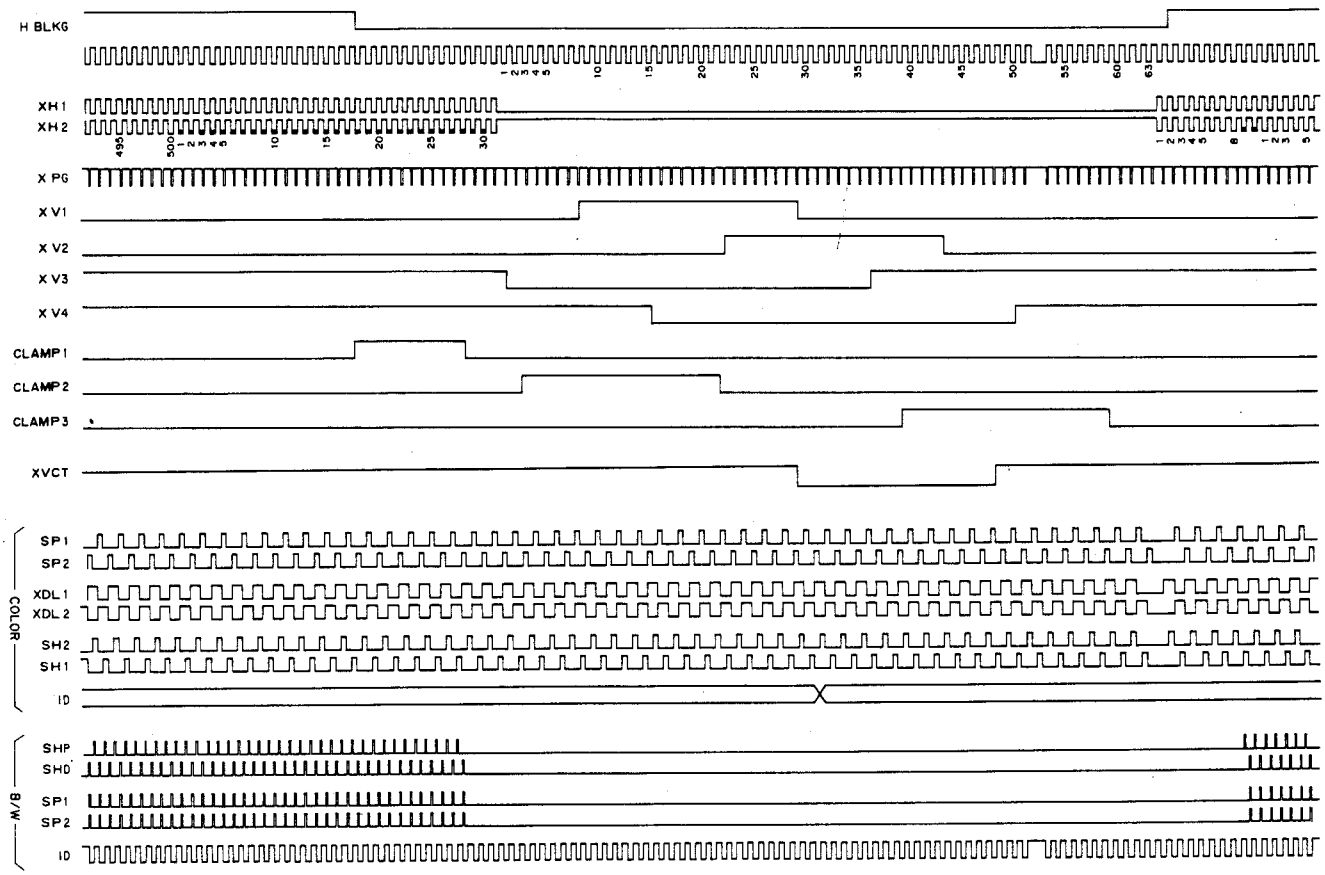
MODE SELECTION WITHOUT ROM

DATA INPUT				MODE	
D1	D2	D3	D4		
GND	GND	Vcc	GND	B/W	CCIR
GND	GND	Vcc	Vcc		NTSC
GND	Vcc	Vcc	GND	COLOR	CCIR
GND	Vcc	Vcc	Vcc		NTSC




H BLKG
XH1
XH2
XPG
XV1
XV2
XV3
XV4
CLAMP1
CLAMP2
CLAMP3
XVCT
COLOR
SP1
SP2
XDL2
XDL1
SH2
SH1
ID
B/W
SHP
SHD
SP1
SP2
ID

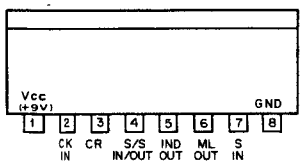

PAL (ROM; OFF)
FLD
H BLKG
HD
XSG1
XSG2
XV1
XV2
XV3
XV4
FRAME
CCD OUT
CLAMP1
VAA
ID(COLOR)

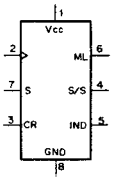


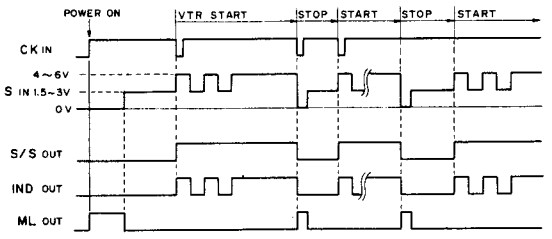
CX518 (SONY)

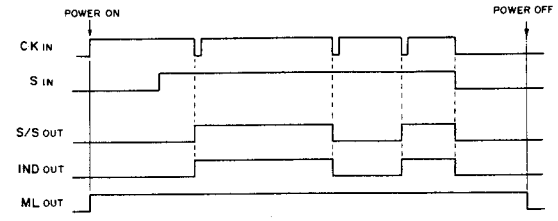
INTERFACE CIRCUIT BETWEEN VTR AND CAMERA

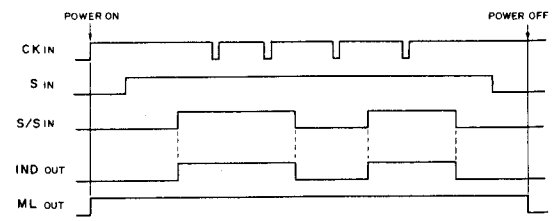
— SIDE VIEW —



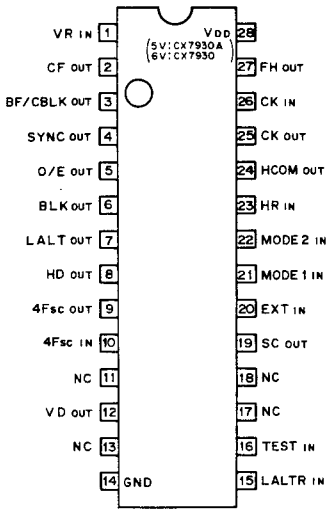


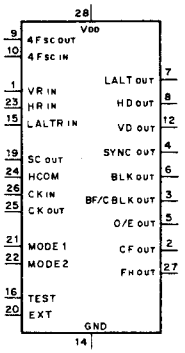






CX7930A (SONY) FLAT PACKAGE
C-MOS SYNC GENERATOR (NTSC, PAL-M, PAL, SECAM)
— TOP VIEW —





O/E : ODD/EVEN FIELD
CF : COLOR FRAME PULSE
HCOM : H COMPARATOR

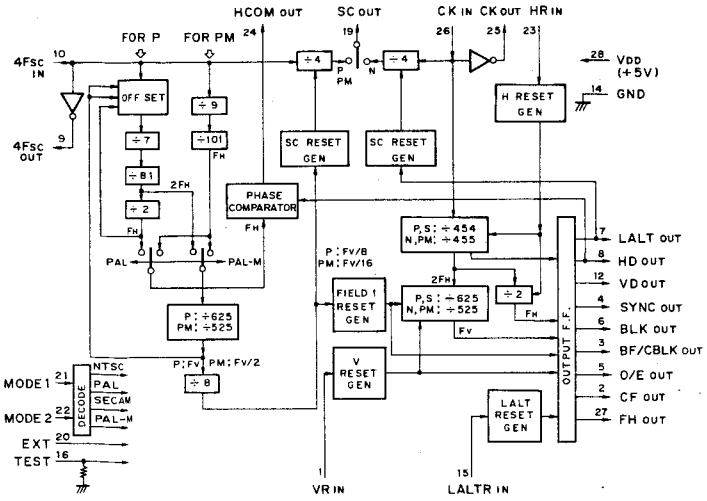
SYSTEM	4Fsc	CLOCK
NTSC	910 FH	910FH
PAL	1135FH+2Fv	908FH
PALM	909FH	910FH
SECAM	——	908FH

INPUTS MODE 1	INPUTS MODE 2	SYSTEM
0	0	NTSC
0	1	SECAM
1	0	PALM
1	1	PAL

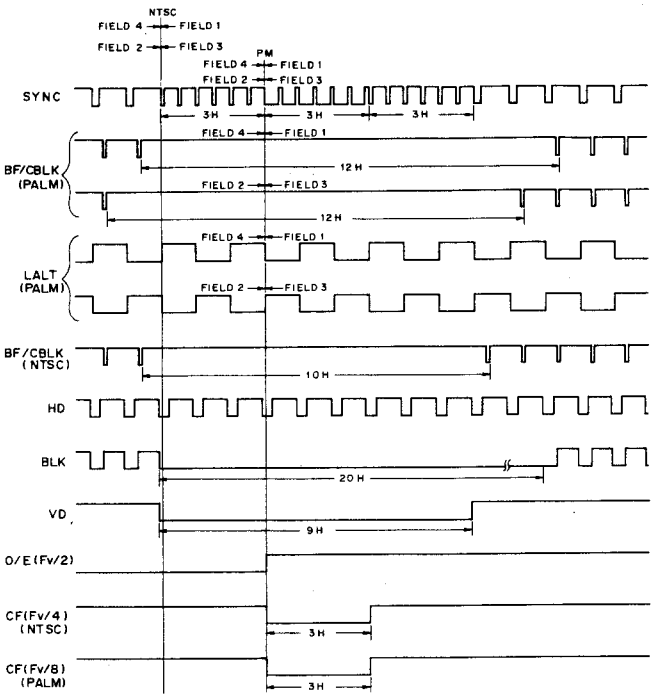
0 ; LOW LEVEL (GND)
1 ; HIGH LEVEL (VDD)

INPUTS EXT	INPUTS TEST	FUNCTION
0	0	INTERNAL
0	1	INVALID
1	0	EXT
1	1	TEST

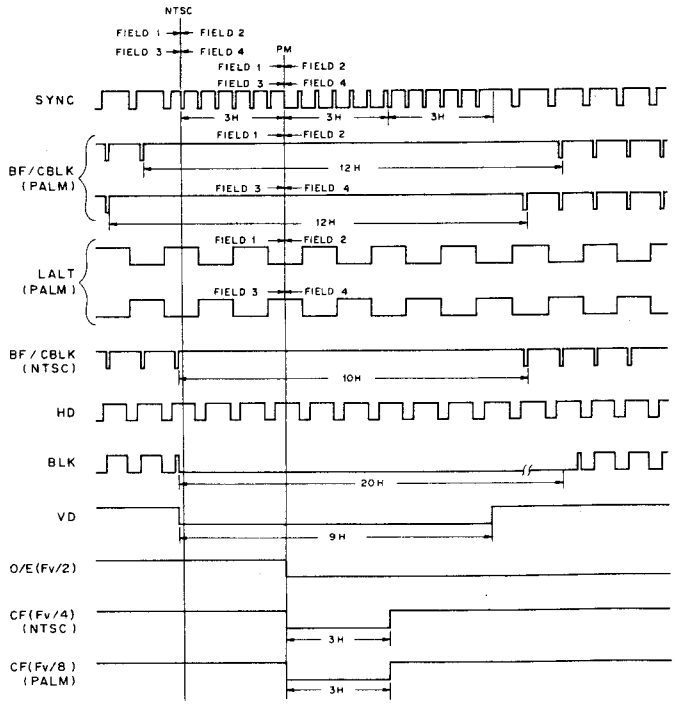
TEST "0": OPEN (INTERNALLY PULLED DOWN)

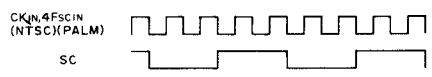


NTSC, PAL-M (FIELD 1,3)

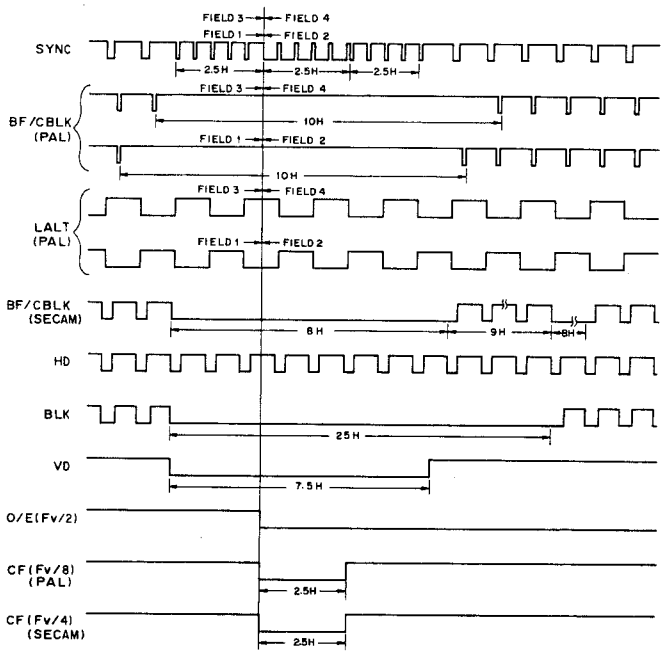


NTSC, PAL-M (FIELD 2, 4)

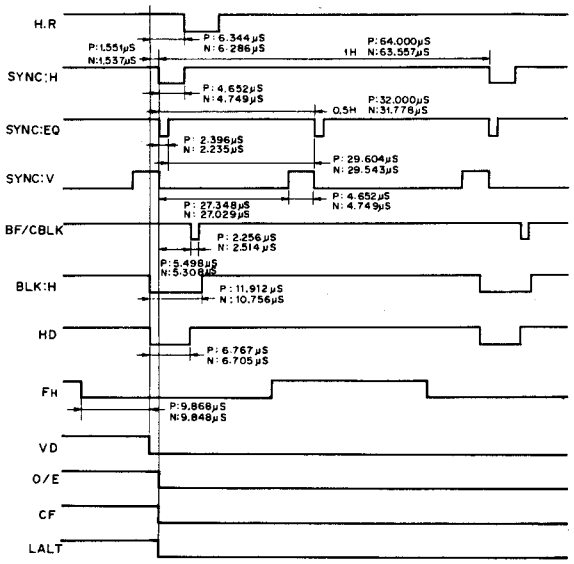




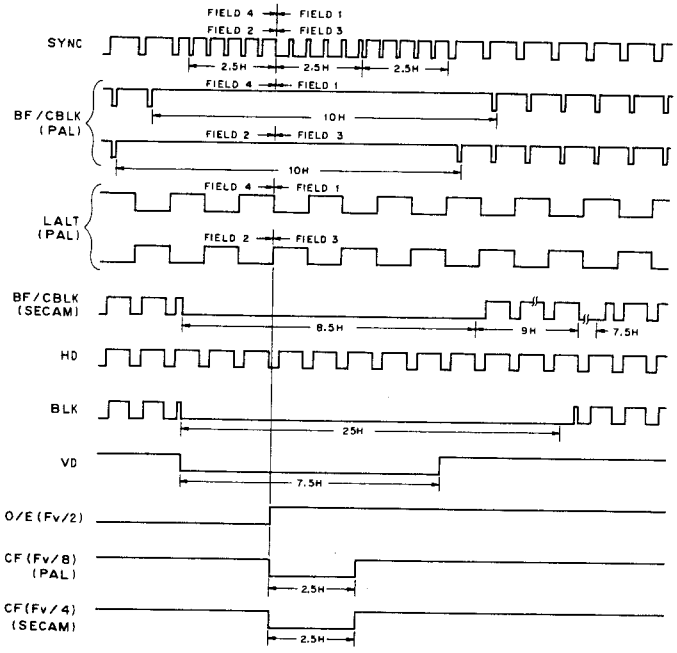
PAL, SECAM (FIELD 4, 2)



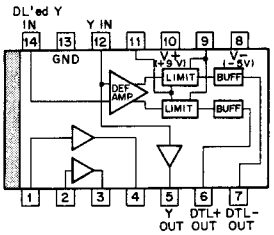
P: PAL, SECAM
N: NTSC, PALM

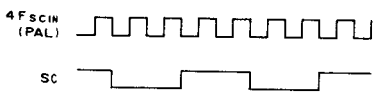


PAL, SECAM (FIELD 1, 3)

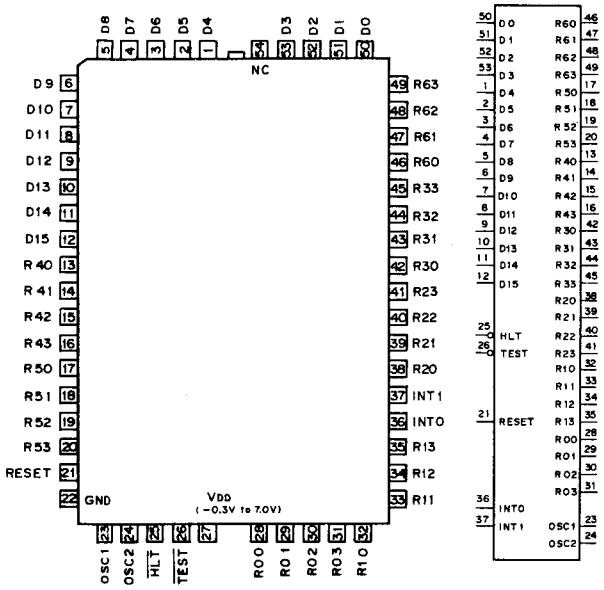


CX815 (SONY)
DTL AMPLIFIER
— TOP VIEW —



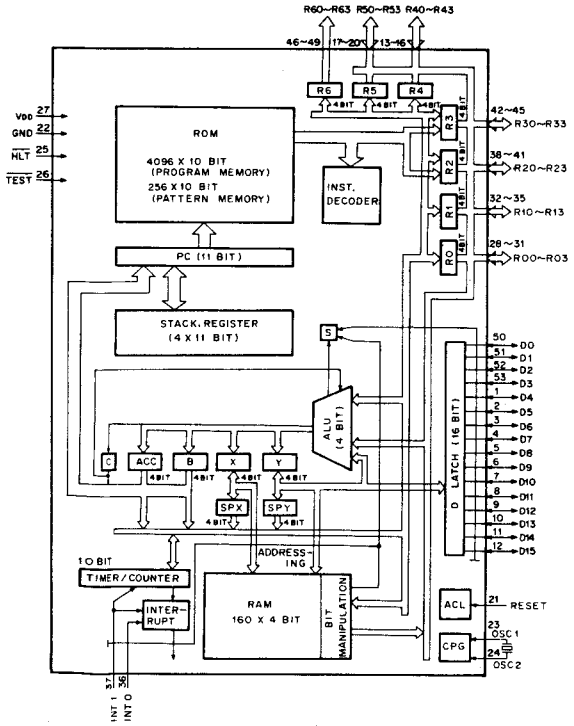


HD44860B42 (HITACHI) FLAT PACKAGE
C-MOS 4-BIT MICROPROCESSOR
— TOP VIEW —

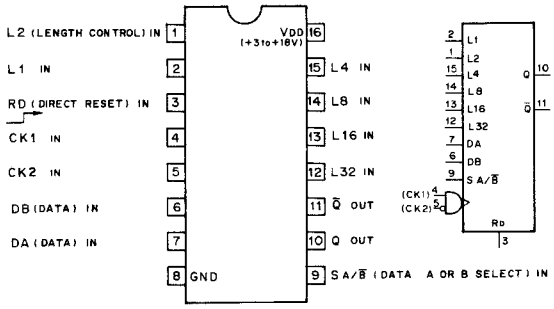


D0-D15 ; DATA INPUT/OUTPUT
R00-R03;
R10-R13;
R20-R23;
R30-R33;
R40-R43;
R50-R53; } REGIST INPUT/OUTPUT
R60-R63; REGIST OUTPUT

RESET ; RESET INPUT
OSC1, OSC2 ; OSCILLATOR INPUT
INTO, INT1 ; INTERRUPT INPUT
TEST ; TEST INPUT
HLT ; HALT INPUT



MC14557BCP (MOTOROLA)
C-MOS 1-TO-64-BIT VARIABLE LENGTH SHIFT REGISTER
— TOP VIEW —



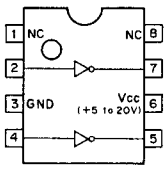
LENGTH SELECT TRUTH TABLE

L32	L16	L8	L4	L2	L1	REGISTER LENGTH
0	0	0	0	0	0	1-BIT
0	0	0	0	0	1	2-BIT
0	0	0	0	1	0	3-BIT
0	0	0	0	1	1	4-BIT
0	0	0	1	0	0	5-BIT
1	1	1	1	0	0	61-BIT
1	1	1	1	0	1	62-BIT
1	1	1	1	1	0	63-BIT
1	1	1	1	1	1	64-BIT

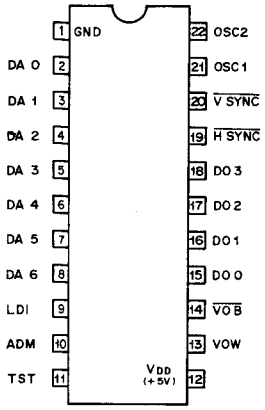
INPUTS					OUTPUT
RD	S A/B	CK1	CK2		Q
0	0	↓	0		DB
0	1	↓	0		DA
0	0	1	↓		DB
0	1	1	↓		DA
1	X	X	X		0

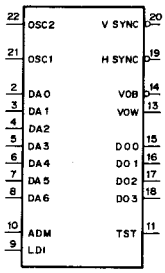
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

MMH0026CP1 (MOTOROLA)
BIPOLAR MOS CLOCK DRIVER
— TOP VIEW —

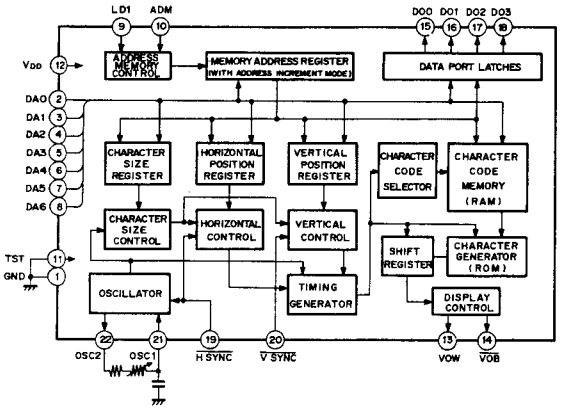


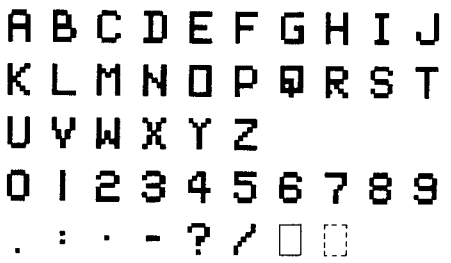
MN1237AD (MATSUSHITA)
C-MOS INDICATES DATA OF 60 CHARACTERS CRT INTERFACE
— TOP VIEW —



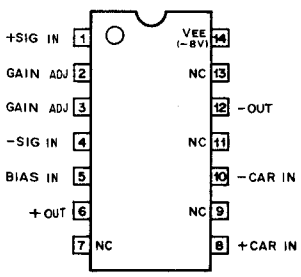


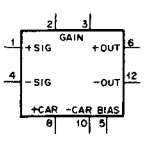
ADM	; ADDRESS MODE SELECT IN
DA0～DA6	; DATA BUS INPUT
DO0～DO3	; GENERAL OUTPUT
H SYNC	; H SYNC INPUT
LDI	; STROBE PULSE INPUT
OSC1,2	; OSC
TST	; TEST
VOB	; BACKGROUND OUTPUT
VOW	; CHARACTERS OUTPUT
V SYNC	; V SYNC INPUT



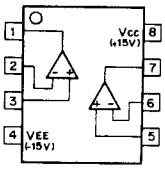


NJM1496M (JRC) FLAT PACKAGE
BALANCED MODULATOR/DEMODULATOR
— TOP VIEW —

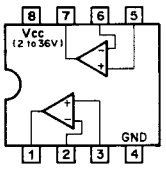




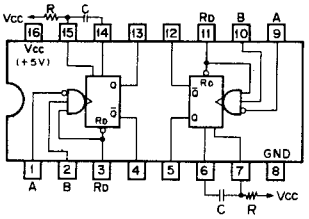
NJM2043D-D (JRC)
OPERATIONAL AMPLIFIER
— TOP VIEW —



NJM2903D (JRC)
NJM2903M (JRC) FLAT PACKAGE
VOLTAGE COMPARATOR
— TOP VIEW —



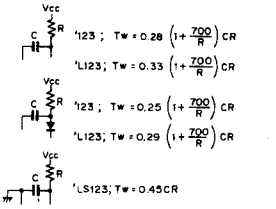
SN74LS123N (TI)
TTL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR WITH DIRECT RESET
— TOP VIEW —



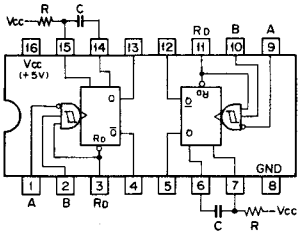
INPUTS			OUTPUTS	
RD	A	B	Q	$\overline{Q}$
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⊓	⊔
1	↓	1	⊓	⊔
↑	0	1	⊓	⊔

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

OUTPUT PULSE WIDTH



SN74LS221N (TI)
TTL MONOSTABLE MULTIVIBRATOR WITH SCHMITT TRIGGER INPUT
— TOP VIEW —

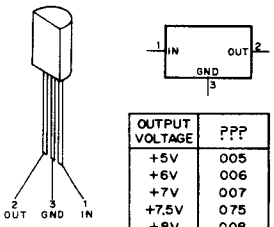


INPUTS			OUTPUTS	
RD	A	B	Q	$\overline{Q}$
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⊓	⊔
1	↓	1	⊓	⊔
↑	0	1	⊓	⊔

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

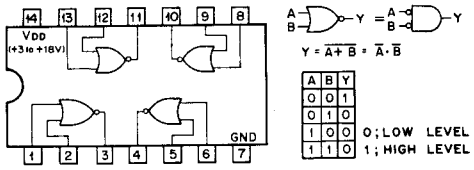
OUTPUT PULSE WIDTH = 0.7CR

TA78L? ? ?AP (TOSHIBA)
POSITIVE VOLTAGE REGULATOR (150mA)



OUTPUT VOLTAGE	???
+5V	005
+6V	006
+7V	007
+7.5V	075
+8V	008
+9V	009
+10V	010
+12V	012
+13.2V	132
+15V	015
+18V	018
+20V	020
+24V	024

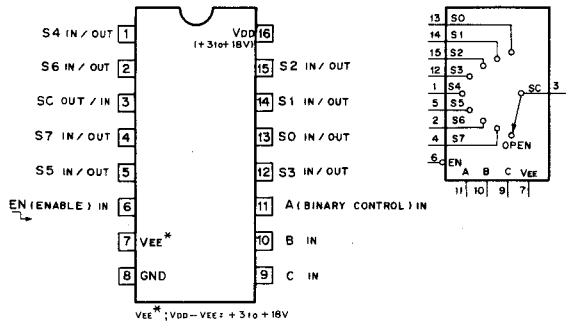
TC4001BP (TOSHIBA)
C-MOS 2-INPUT NOR GATE
— TOP VIEW —



A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

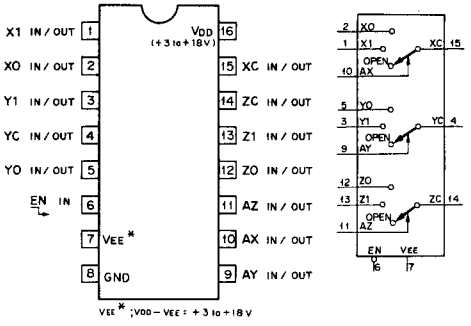
TC4051BP (TOSHIBA)
C-MOS 8-CHANNEL MULTIPLEXER/DEMULTIPLEXER
— TOP VIEW —



EN	C	B	A	"ON" CHANNEL
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	X	X	X	OPEN

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

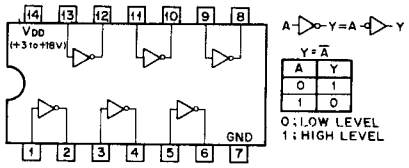
TC4053BF (TOSHIBA) FLAT PACKAGE
TC4053BP (TOSHIBA)
C-MOS 2-CHANNEL MULTIPLEXER/DEMULTIPLEXER
— TOP VIEW —



CONT. INPUTS		ON CHANNEL
EN	A (X,Y,Z)	
0	0	0
0	1	1
1	X	OPEN

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE.

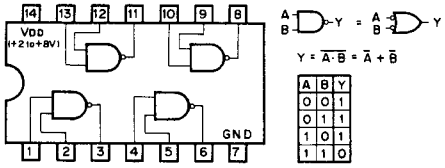
TC4069UBP (TOSHIBA)
C-MOS INVERTER
— TOP VIEW —



A	Y
0	1
1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

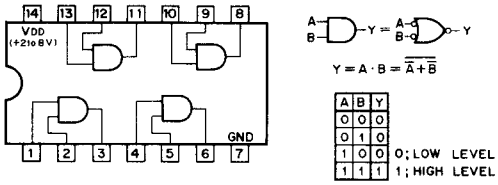
TC40H000P (TOSHIBA)
C-MOS 2-INPUT NAND GATE
— TOP VIEW —



A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

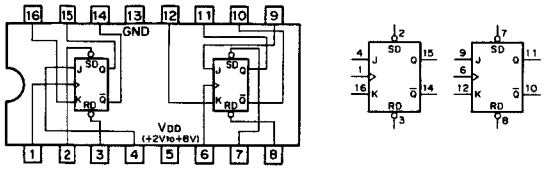
TC40H008F (TOSHIBA) FLAT PACKAGE
C-MOS 2-INPUT POSITIVE-AND GATE
— TOP VIEW —



A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL

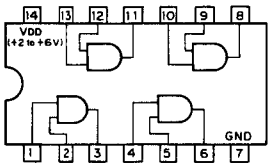
TC40H076AP (TOSHIBA)
C-MOS HIGH SPEED EDGE TRIGGER TYPE J-K FLIP-FLOP WITH DIRECT SET/RESET
— TOP VIEW —

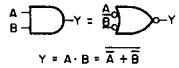


INPUTS					OUTPUTS	
RD	SD	CK	J	K	Q	$\overline{Q}$
1	0	X	X	X	1	0
0	1	X	X	X	0	1
0	0	X	X	X	1	1
1	1	↓	0	0	NO CHANGE	
1	1	↓	1	0	1	0
1	1	↓	0	1	0	1
1	1	↓	1	1	TOGGLE	
1	1	↑	X	X	NO CHANGE	

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

TC74HC08F (TOSHIBA) FLAT PACKAGE
C-MOS 2-INPUT AND GATE
— TOP VIEW —

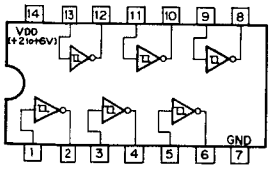


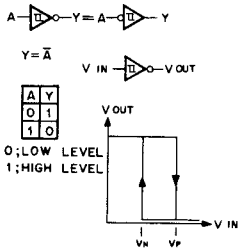


A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL

TC74HC14F (TOSHIBA) FLAT PACKAGE
C-MOS SCHMITT TRIGGER INVERTER
— TOP VIEW —



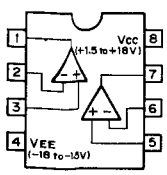


A	Y
0	1
1	0

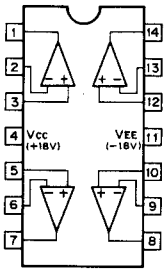
0 ; LOW LEVEL
1 ; HIGH LEVEL

VDD	VN	VP
2.0V	0.75V	1.25V
4.5V	1.9V	2.7V
6.0V	2.6V	3.6V

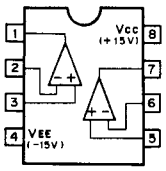
TL062CP (TI)
TL062CPS (TI) FLAT PACKAGE
OPERATIONAL AMPLIFIER
(JFET INPUT)
— TOP VIEW —



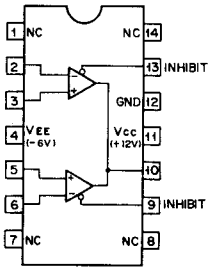
TL064CN (TI)
OPERATIONAL AMPLIFIER
(J FET-INPUT)
— TOP VIEW —



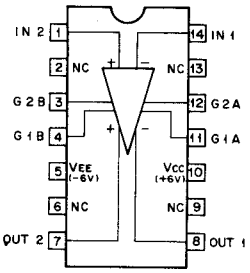
TL082CP (TI)
OPERATIONAL AMPLIFIER
(J FET-INPUT)
— TOP VIEW —



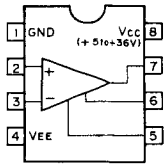
uA711CN (TI)
VOLTAGE COMPARATOR
— TOP VIEW —



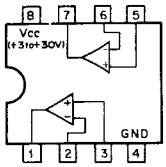
uA733CN (TI)
DIFFERENTIAL VIDEO AMP
— TOP VIEW —



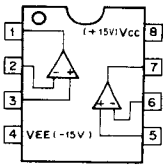
uPC311C (NEC)
VOLTAGE COMPARATOR
— TOP VIEW —



uPC358C (NEC)
DUAL OPERATIONAL AMPLIFIERS
— TOP VIEW —



uPC4558C (NEC)
OPERATIONAL AMPLIFIER
— TOP VIEW —



SECTION 6
SPARE PARTS

6-1. PARTS INFORMATION

1. Safety Related Component Warning

Components identified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service bulletins and service manual supplements published by Sony.

2. Replacement Parts supplied from Sony Parts Center will sometimes have different shape and outside view from the parts which actually in use. This is due to **"accommodating the improved parts and/or engineering changes"** or **"standardization of genuine parts."**

   - This manual's exploded views and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present".
   - Regarding engineering parts changes in our engineering department, refer Sony service bulletins and service manual supplements.

3. **Printed Components in Bold-Face type** on the exploded views and electrical spare parts list are normally stocked for replacement purposes. The remaining parts are not normally required for routine service work. Orders for parts not shown in Bold-Face type will be processed, but allow for additional delivery time.

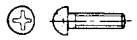
4. Item with no part number and/or no description are not stocked because they are seldom required for routine service.

5. **Abbreviation**

REF. HO.	DESCRIPTION	REF. NO.	DESCRIPTION	REF. NO.	DESCRIPTION
C	CAPACITOR	**IC**	IC	**RP**	RESISTOR BLOCK
CN	CONNECTOR	**J**	JACK	**RV**	VARIABLE RESISTOR
CV	VARIABLE CAPACITOR	**L**	INDUCTOR	**S**	SWITCH
D	DIODE	**LV**	VARIABLE INDUCTOR	**T**	TRANSFORMER
DL	DELAY LINE	**Q**	TRANSISTOR	**TH**	THERMISTOR
FL	FILTER	**R**	RESISTOR	**X**	OSCILLATOR

SCREW

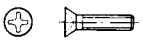
PRECISION +P
Cr-N



7-627-□□□-□□

SIZE	Parts No.
1.7 x 1.6	–
x 1.8	–
x 2	552-27
x 2.2	552-87
x 2.5	552-07
x 2.8	–
x 3*	552-37
x 3.5	–
x 4	552-47
x 4.5	552-67
x 5	552-57
x 5.5	557-07
x 6	552-77
2 x 1.8	554-37
x 2	553-17
x 2.2	554-07
x 2.5	553-27
x 2.8	–
x 3	553-37
x 3.5	554-17
x 4	553-47
x 4.5	553-57
x 5	553-67
x 5.5	–
x 6	554-27
x 7	553-87
x 8	553-97
x 10	553-77
2.6 x 2.8	556-07
x 3	–
x 3.5	–
x 4	556-37
x 4.5	–
x 5	–
x 5.5	–
x 6	556-77
x 7	–
x 8	556-97
x 9	–
x 10	557-47

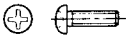
PRECISION +K
Bzn-N



7-627-□□□-□□

SIZE	Parts No.
1.7 x 1.8	–
x 2	450-28
x 2.2	–
x 2.5	450-48
x 2.8	–
x 3	450-58
x 3.5	–
x 4	450-78
x 4.5	–
x 5	450-98
x 5.5	–
x 6	–
2 x 2	452-08
x 2.2	452-88
x 2.5	452-48
x 2.8	–
x 3	452-18
x 3.5	452-98
x 4	452-28
x 4.5	–
x 5	452-38
x 5.5	–
x 6	452-58
x 7	452-68
x 8	452-78
2.6 x 3.5	–
x 4	–
x 4.5	454-28
x 5	454-38
x 5.5	–
x 6	–
x 7	–
x 8	–

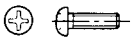
+B
Bzn-N



7-682-□□□-□□

SIZE	Parts No.
3 x 3	544-09
x 4	545-09
x 5	546-09
x 6	547-09
x 8	548-09
x 10	549-09
x 12	550-09
x 14	551-09
x 16	552-09
x 20	553-09
4 x 4	558-09
x 5	559-09
x 6	560-09
x 8	561-09
x 10	562-09
x 12	563-09
x 14	564-09
x 16	565-09
x 20	566-09

+B
Cr-N



7-682-□□□-□□

SIZE	Parts No.
3 x 3	544-04
x 4	545-04
x 5	546-04
x 6	547-04
x 8	548-04
x 10	549-04
x 12	550-04
x 14	551-04
x 16	552-04
x 20	553-04
4 x 4	558-04
x 5	559-04
x 6	560-04
x 8	561-04
x 10	562-04
x 12	563-04
x 14	564-04
x 16	565-04
x 20	566-04

+K
Bzn-N

7-682-□□□-□□

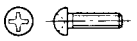
SIZE	Parts No.
3 x 4	245-09
x 5	246-09
x 6	247-09
x 8	248-09
x 10	249-09
x 12	250-09
x 14	251-09
x 16	252-09
x 20	253-09
4 x 6	260-09
x 8	261-09
x 10	262-09
x 12	263-09
x 14	264-09
x 16	265-09
x 20	266-09

+K
Cr-N

7-682-□□□-□□

SIZE	Parts No.
3 x 4	245-04
x 5	246-04
x 6	247-04
x 8	248-04
x 10	249-04
x 12	250-04
x 14	251-04
x 16	252-04
x 20	253-04
4 x 6	260-04
x 8	261-04
x 10	262-04
x 12	263-04
x 14	264-04
x 16	265-04
x 20	266-04

+P
Bzn-N



7-621-□□□-□□

SIZE	Parts No.
2 x 3	255-10
x 4	255-20
x 5	283-00
x 6	255-40
x 8	255-50
x 10	283-10
x 12	283-70
x 14	–
x 16	–
x 20	256-20
2.3 x 5	–
x 6	–
x 8	–
x 10	–
x 12	–
x 14	–
x 16	–
x 20	–
2.6 x 3	259-10
x 4	284-00
x 5	284-10
x 6	284-20
x 8	284-30
x 10	284-40
x 12	259-70
x 14	259-80
x 16	260-00
x 20	260-20

+PSW
Czn-N

7-682-□□□-□□

SIZE	Parts No.
3 x 6	947-01
x 8	948-01
x 10	949-01
x 12	950-01
x 14	951-01
x 16	952-01
x 20	953-01
x 25	954-01
x 30	955-01
x 35	956-01
x 40	957-01
4 x 8	961-01
x 10	962-01
x 12	963-01
x 14	964-01
x 16	965-01
x 20	966-01
x 25	967-01
x 30	968-01
x 35	969-01
x 40	970-01

+PSW
Czn-N

7-621-□□□-□□

SIZE	Parts No.
2.6 x 5	759-35
x 6	759-45
x 8	759-65
x 10	759-75
x 12	759-85
x 14	759-95
x 16	760-05
x 20	760-15
x 25	760-65

+RK
Bzn-N

7-621-□□□-□□

SIZE	Parts No.
2 x 3	–
x 4	–
x 5	–
x 6	–
x 8	–
x 10	–
x 12	661-30
x 14	661-40
2.6 x 4	–
x 5	662-10
x 6	662-20
x 8	662-30
x 10	–
x 12	–
x 14	–
x 16	–
x 20	–

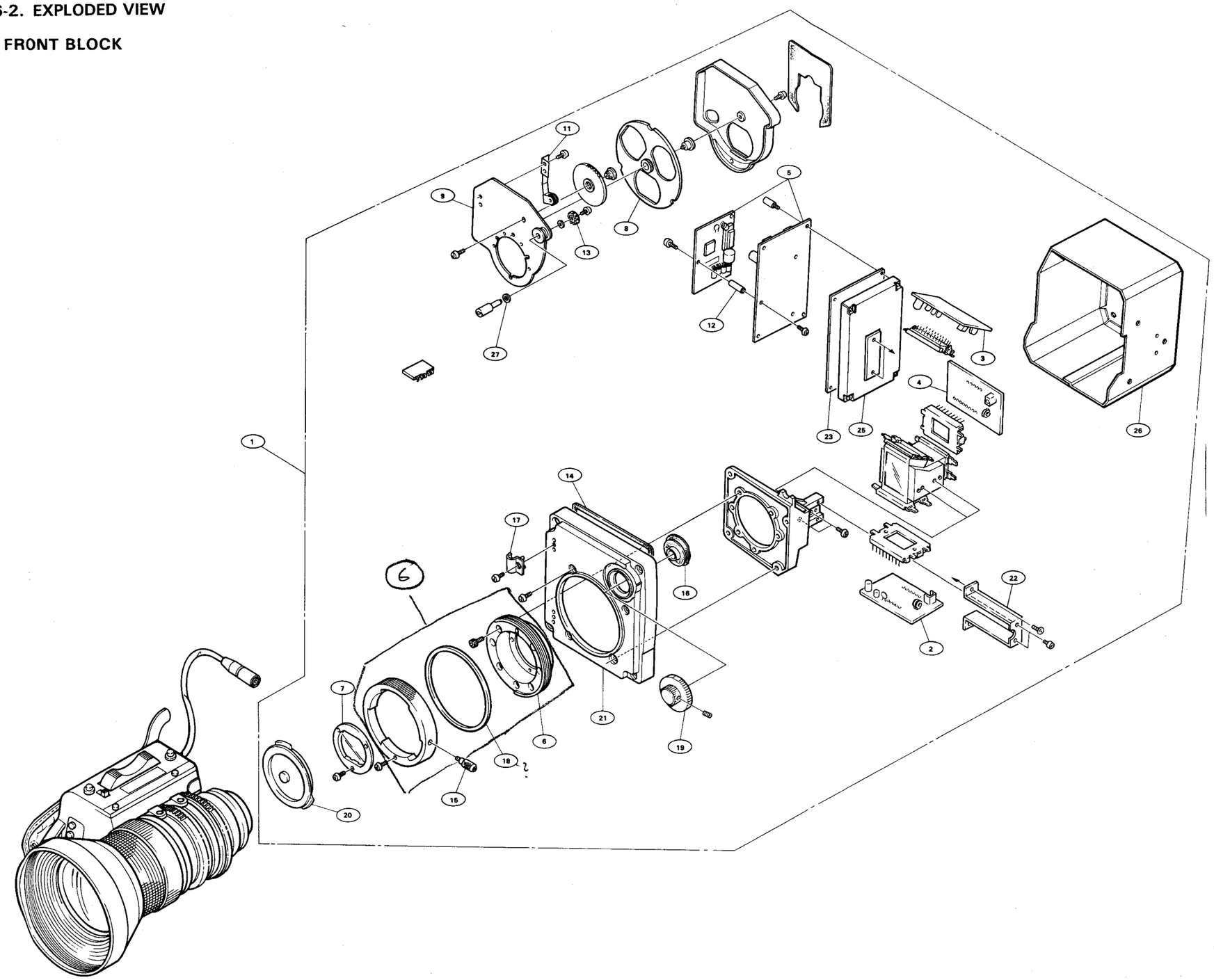
TOTSU B
Bzn-N

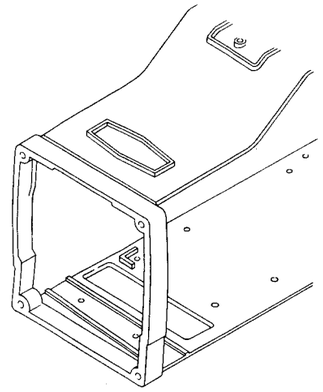
7-621-□□□-□□

SIZE	Parts No.
2 x 3	911-00
x 4	911-10
x 6	911-30
x 8	911-40
2.6 x 3	912-00
x 4	912-10
x 5	912-20
x 6	912-30
x 8	912-40
x 10	912-50
x 12	912-60
x 14	912-70
x 16	912-80
x 20	912-90

6-2. EXPLODED VIEW

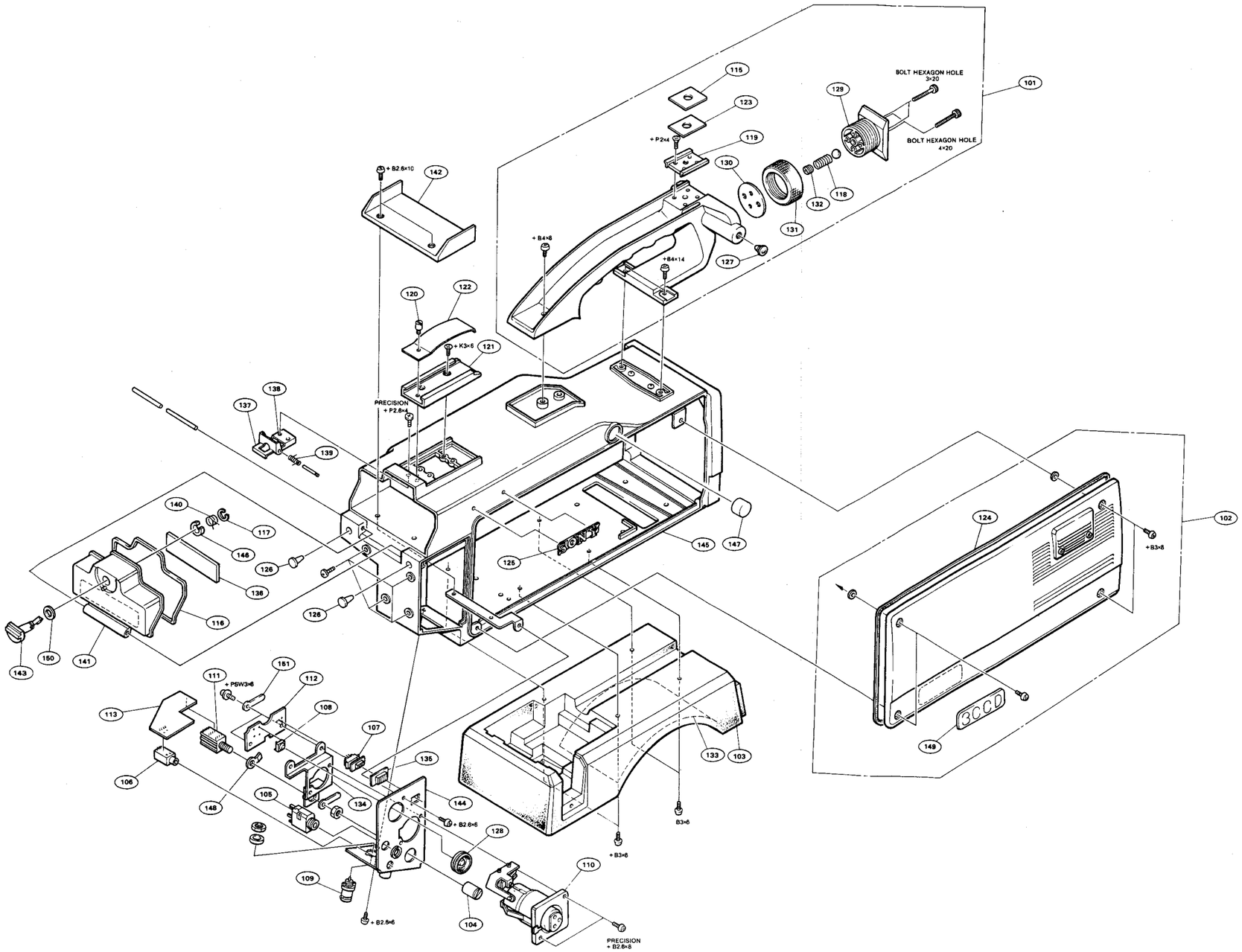
FRONT BLOCK





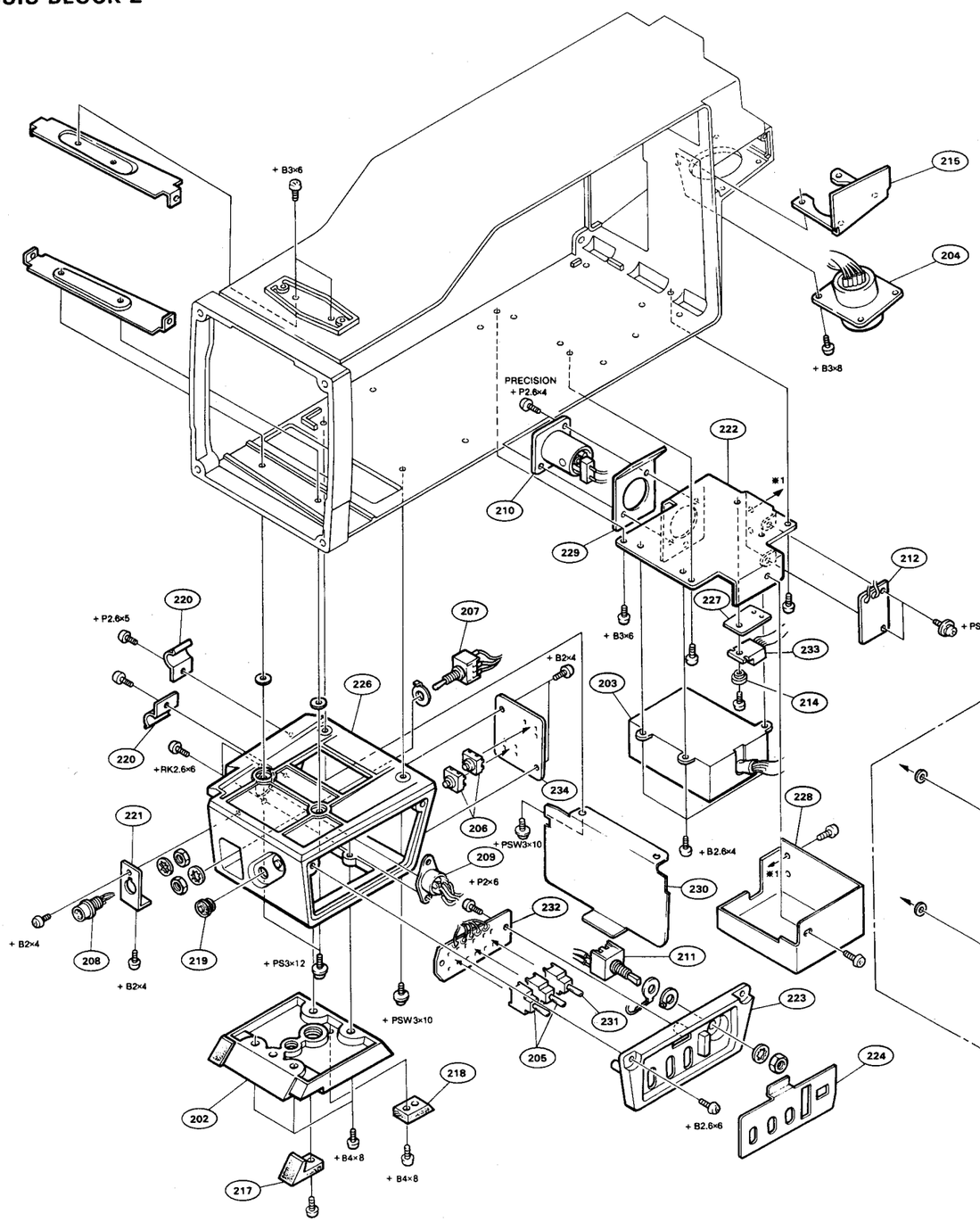
No.	Part No.	Description
1	**A-7575-089-A**	**FRONT UNIT ASSY(N)**
	A-7575-090-A	**FRONT UNIT ASSY(P)**
2	A-7513-337-A	MOUNTED CIRCUIT BOARD "PA-40"(R)
3	A-7513-338-A	MOUNTED CIRCUIT BOARD "PA-40"(B)
4	A-7513-339-A	MOUNTED CIRCUIT BOARD "PA-41"
5	A-7513-335-A	MOUNTED CIRCUIT BOARD "TG-18N"
	A-7513-336-A	MOUNTED CIRCUIT BOARD "TG-18P"
6	A-7550-031-A	MOUNT LENS
7	**1-547-198-11**	**UNIT, FILTER OPTICS**
8	**1-547-196-11**	**DISK, FILTER**
9	X-3699-001-1	PLATE ASSY, FILTER
11	X-3699-003-3	SPRING ASSY, LEAF
12	3-699-005-01	SUPPORT, TG-18
13	3-672-208-00	GEAR, IDLER
14	3-672-253-11	RUBBER, CONDUCTIVE
15	**3-678-629-00**	**LEVER, MOUNT**
16	3-678-632-00	PACKING, KNOB
17	3-678-684-00	HOLDER, CABLE
18	3-699-027-01	RING, DUST PROTECTION
19	**3-699-047-01**	**KNOB, FILTER**
20	**3-699-048-01**	**CAP, MOUNT (SUPPLIED)**
21	3-699-050-01	PANEL, FRONT
22	3-699-072-01	BRACKET, TG
23	3-699-073-02	SHEET, INSULATING A
25	3-699-076-01	CASE, SHIELD A TG-18
26	X-3699-009-1	COVER ASSY, SHIELD, BLOCK
27	**3-701-441-21**	**WASHER**

CHASSIS BLOCK 1

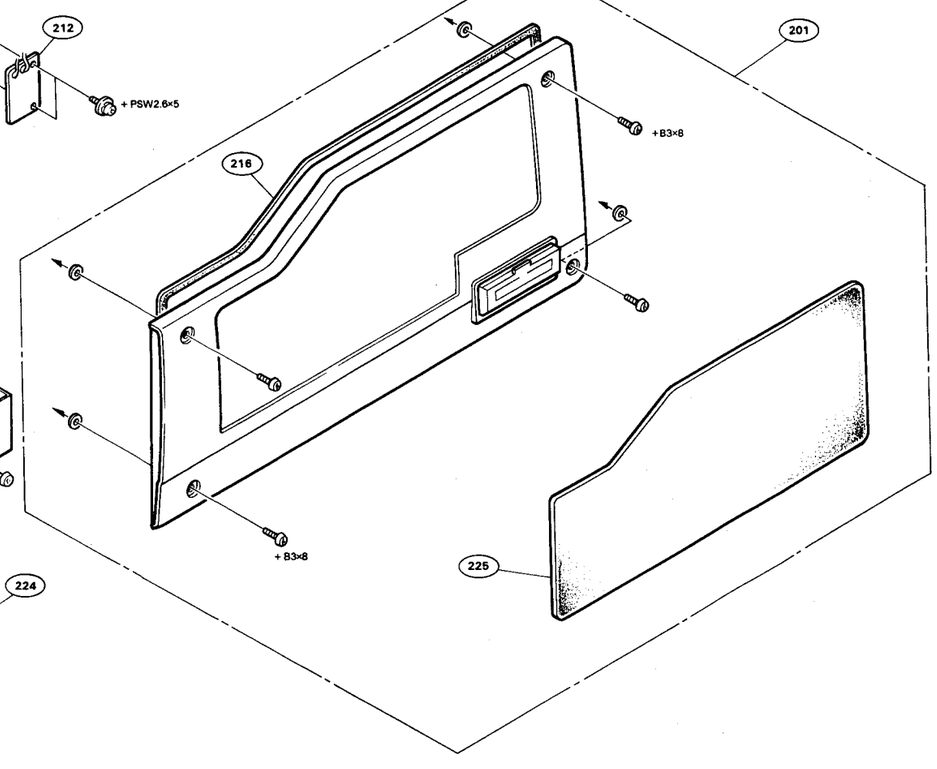


No.	Part No.	Description
101	A-7420-113-A	HANDLE ASSY
102	A-7420-118-A	PLATE (LEFT) ASSY, SIDE
103	**X-3699-004-1**	**PAD ASSY**
104	**X-3664-208-1**	**KNOB ASSY, FADE**
105	**1-507-682-00**	**JACK "EAR"**
106	**1-507-883-00**	**JACK, SMALL TYPE 4P (J1)**
107	**1-544-165-00**	**SWITCH, SLIDE (S1)**
108	**1-553-739-00**	**SWITCH KEY BOARD (S2)**
109	**1-561-781-41**	**BNC, RECEPTACLE "VIDEO OUT" "GENLOCK IN"**
110	**1-563-096-11**	**CONNECTOR(WITH SW)(F) 3P "MIC IN"(FOR UC, EK)**
	1-506-596-11	**CONNECTOR(WITH SW)(F) 3P "MIC IN"(FOR J)**
111	**1-570-491-11**	**SWITCH, ROTARY (S1)**
112	1-617-359-11	PRINTED CIRCUIT BOARD "SWB-13"
113	1-617-360-11	PRINTED CIRCUIT BOARD "CN-36"
114	**2-229-507-00**	**WASHER**
115	2-277-468-01	PLATE, ORNAMENTAL, CAMERA SHOE
116	**3-472-189-01**	**BELT, TAPE COUNTER**
117	**3-618-078-00**	**RING, RETAINING, CE TYPE**
118	**3-641-622-00**	**SPRING, COMPRESSION**
119	**3-657-700-00**	**BRACKET, ACCESSORY**
120	3-664-213-00	SCREW, STOPPER
121	3-664-218-00	SHOE
122	3-664-228-00	PLATE, SPRING
123	3-672-213-00	SHEET, ADHESIVE
124	**3-672-253-11**	**RUBBER, CONDUCTIVE**
125	3-672-268-01	EMBLEM, SONY
126	3-676-081-01	CUSHION, TC
127	**3-676-379-00**	**BUSHING(M5), SCREW**
128	3-682-716-00	COVER, PUSH SWITCH
129	3-682-718-02	SHOE, VF SLIDE
130	3-682-758-01	SPACER
131	3-682-759-01	RING, LOCK
132	3-682-760-01	SCREW(M7-0.750), ADJUSTMENT
133	3-699-011-01	SHEET, STOPPER
134	3-699-015-02	NUT, CN PLATE
135	3-699-017-01	CAP, SLIDE
136	**3-699-028-01**	**CUSHION, BATT**
137	3-699-029-02	LINK, LOCK
138	3-699-030-01	HOLDER, LOCK
139	3-699-031-01	SPRING(A)
140	3-699-033-01	SPRING(B)
141	**3-699-044-01**	**LID, BATTERY**
142	3-699-045-01	SPACER, BATT
143	**3-699-049-01**	**KNOB, BATT**
144	3-699-051-01	PLATE, CN
145	3-699-054-01	CABINET
146	3-699-061-01	SPECER(C)
147	3-699-062-01	COVER, MICROPHOE
148	3-699-063-01	PLATE, GROUND, ROTARY SW
149	3-699-070-01	ENBLEM, 3CCD
150	**3-701-444-21**	**WASHER, 6**
151	**3-701-822-00**	**HOLDER, WIRE**

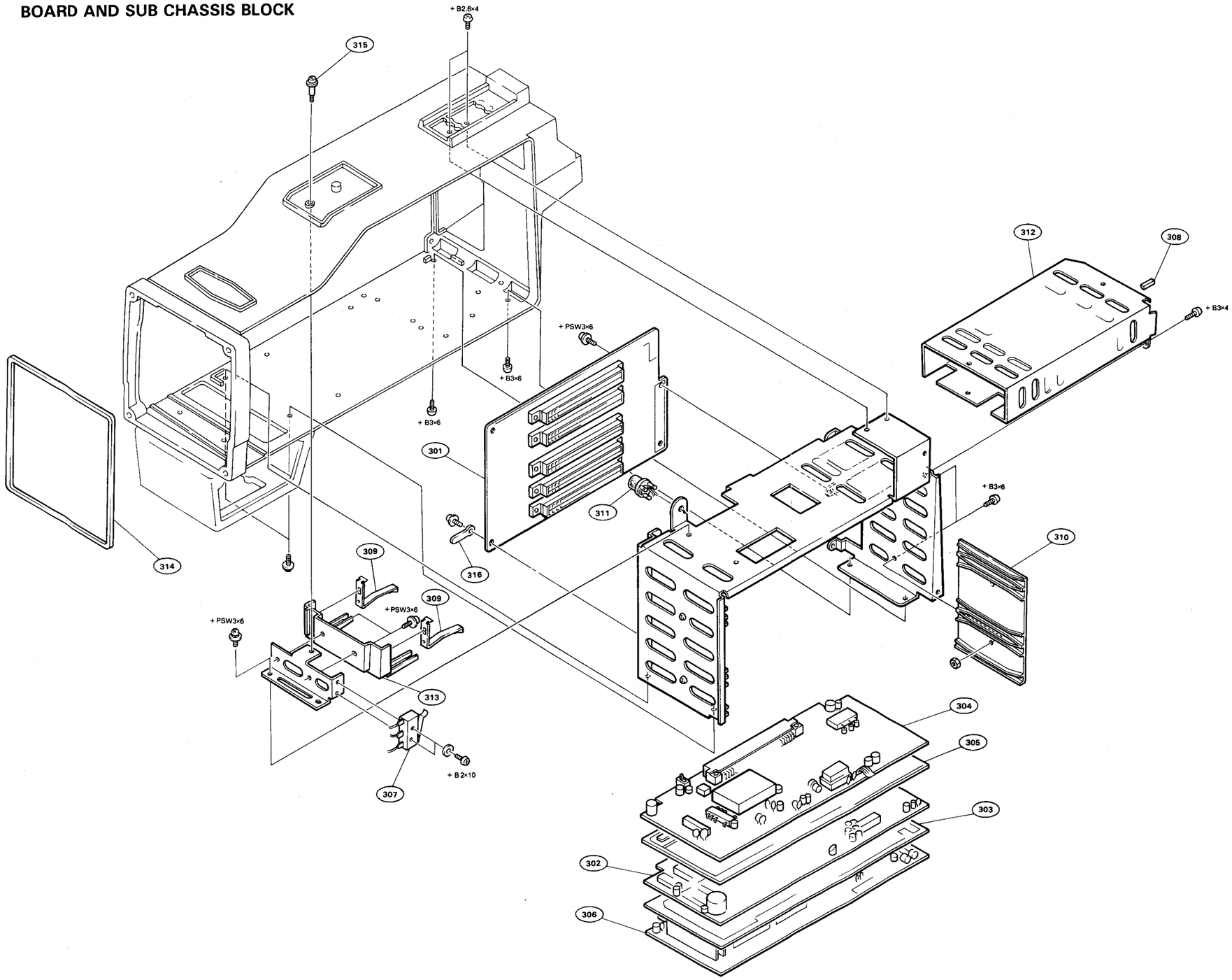
CHASSIS BLOCK 2



No.	Part No.	Description
201	A-7420-117-A	PLATE (RIGHT) ASSY, SIDE ''HN-42''
202	**X-3664-212-2**	**SHOE ASSY (B), T**
203	**1-413-163-21**	**POWER, UNIT**
204	**1-508-942-00**	**CONECTOR, 14P**
205	**1-554-506-00**	**SWITCH, TOGGLE**
206	**1-553-739-00**	**SWITCH, KEY BOARD ''DOWN/OFF''**
207	**1-554-486-00**	**SWITCH, TOGGLE (S3) ''AUTO W/B BALANCE''**
208	**1-561-233-21**	**RECEPTACLE 6P ''LENS''**
209	**1-561-320-00**	**RECEPTACLE, 8P FEMALE ''VF''**
210	**1-564-603-11**	**CONNECTOR (WITH DC SW)4P**
211	**1-570-490-11**	**SWITCH, TOGGLE ''POWER''**
212	1-617-361-11	PRINTED CIRCUIT BOARD ''CN-111''
213	2-266-238-00	GUIDE, BATTERY
214	**2-832-003-00**	**BUSH, INSULATING**
215	3-699-009-01	NUT, PLATE, CCQ
216	3-672-253-11	RUBBER, CONDUCTIVE
217	**3-675-963-02**	**FOOT, FRONT, RUBBER**
218	**3-675-964-01**	**FOOT,REAR, RUBBER**
219	3-676-244-00	COVER, SWITCH
220	3-678-684-00	HOLDER, CABLE
221	3-699-007-01	BRACKET, LENS CN
222	3-699-039-01	BRACKET, DC IN
223	3-699-040-02	ESCUTCHON, CONTROL
224	3-699-041-01	LABEL, CONTROL BLOCK
225	3-699-046-01	PAD, SIDE
226	3-699-053-02	BOX, CONTROL
227	**3-701-207-11**	**INSULATOR, TO-220**
228	3-699-065-02	CASE, SHIELD, PW
229	3-699-066-01	LABEL, DC IN
230	3-699-071-01	PLATE, SHIELD, FR
231	**1-554-507-00**	**SWITCH, TOGGLE**
232	1-617-357-12	PRINTED CIRCUIT BOARD ''SW-29''
233	**8-729-315-63**	**TRANSISTOR 2SB856(Q101)**
234	1-617-358-11	PRINTED CIRCUIT BOARD ''SW-30''

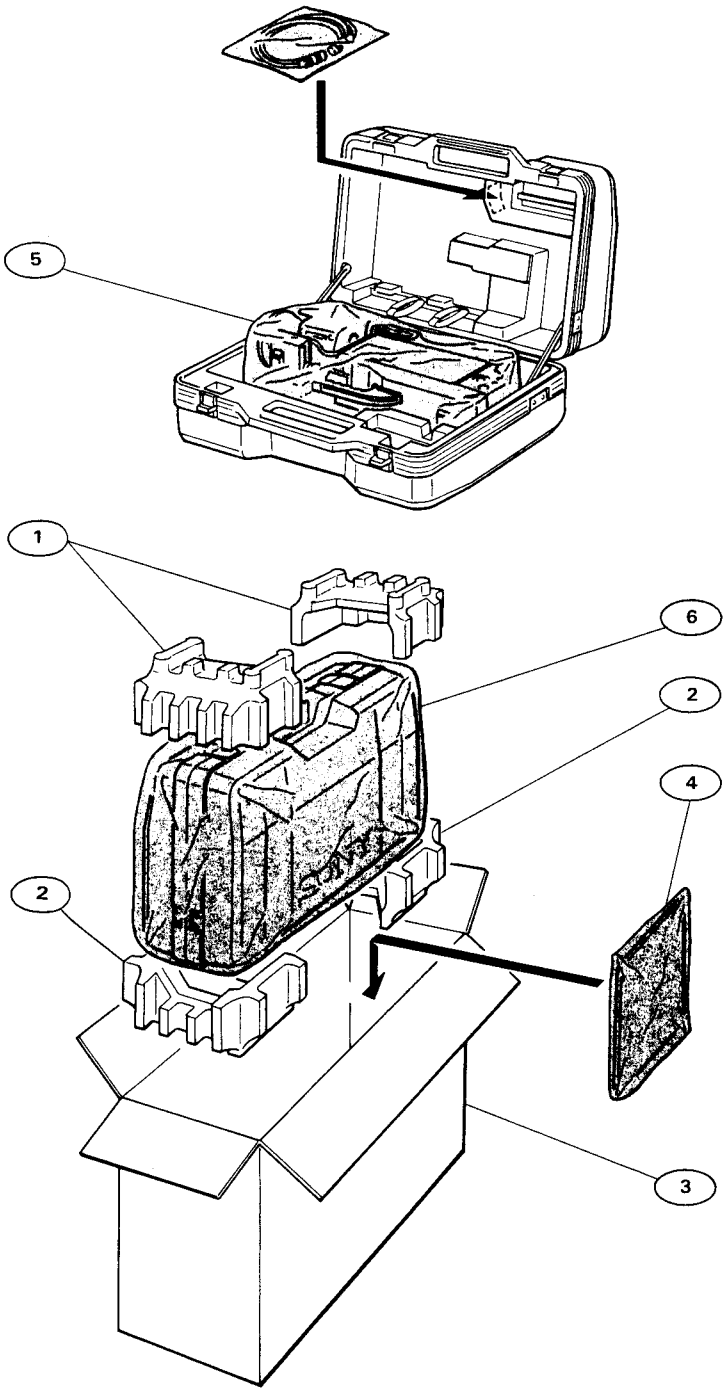


BOARD AND SUB CHASSIS BLOCK



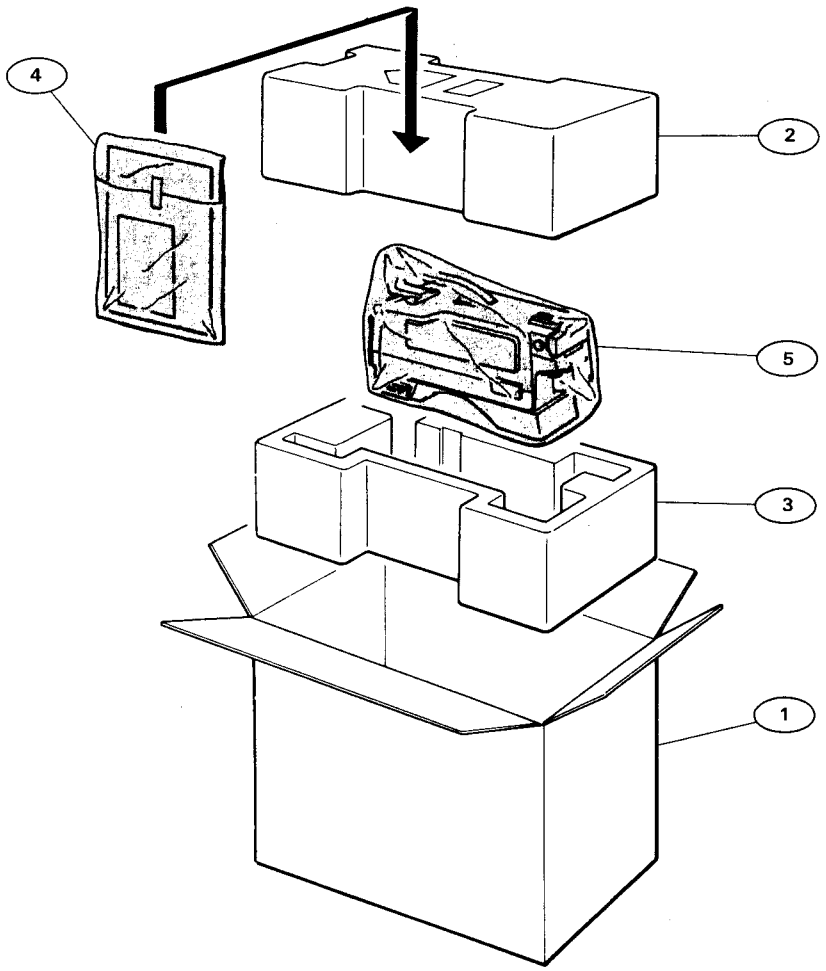
No.	Part No.	Description
301	A-7513-334-A	MOUNTED CIRCUIT BOARD "HN-42"
302	A-7513-340-A	MOUNTED CIRCUIT BOARD "AT-39"
303	A-7513-341-A	MOUNTED CIRCUIT BOARD "EN-39N"
	A-7513-342-A	MOUNTED CIRCUIT BOARD "EN-39P"
304	A-7513-343-A	MOUNTED CIRCUIT BOARD "IE-14N"
	A-7513-344-A	MOUNTED CIRCUIT BOARD "IE-14P"
305	A-7513-345-A	MOUNTED CIRCUIT BOARD "PR-71N"
	A-7513-346-A	MOUNTED CIRCUIT BOARD "PR-71P"
306	A-7513-347-A	MOUNTED CIRCUIT BOARD "SG-37N"
	A-7513-348-A	MOUNTED CIRCUIT BOARD "SG-37P"
307	**1-552-665-00**	**SWITCH, MICRO (S102)**
308	2-266-238-00	GUIDE, BATTERY
309	**3-676-314-00**	**CONTACT**
310	3-699-012-01	GUIDE, PCB
311	**3-699-016-01**	**HOLDER, MICROPHNE**
312	3-699-042-01	CASE, BATTERY
313	3-699-043-02	HOLDER, CONTACT
314	3-699-035-01	RUBBER, COLOR
315	**3-699-064-02**	**SCREW(M3x10), STEP**
316	**3-701-822-00**	**HOLDER,WIRE**

6-3. PACKING MATERIAL AND ACCESSORIES



No.	Part No.	Description
1	3-682-752-01	CUSHION, UPPER
2	3-682-753-01	CUSHION, LOWER
3	3-699-078-01	CARTON, INDIVIDUAL (UC,J)
	3-699-079-01	CARTON, INDIVIDUAL (EK)
4	**3-701-630-01**	**BAG, POLY (FOR MANUAL, WARRANTY CARD, REGISTRATION, AND QUESTIONNAIRE) (UC) (FOR MANUAL AND WARRANTY CARD) (J) (FOR MANUAL) (EK)**
	3-760-927-13	**MANUAL, INSTRUCTION (ENGLISH) (UC)**
	3-760-927-32	**MANUAL, INSTRUCTION (FRENCH) (EK)**
	3-760-927-42	**MANUAL, INSTRUCTION (GERMAN) (EK)**
5	**3-701-641-00**	**BAG, POLY (FOR DXC-3000/3000P/3000K/ 3000PK)**
6	**3-701-647-00**	**BAG, POLY (FOR CARRYING CASE)**

PACKING

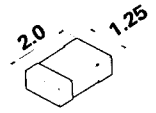


DXC-3000H/3000PH

Ref. No.	Part No.	Description
1	3-699-080-01	CARTON, INDIVIDUAL (UC,J)
	3-699-081-01	CARTON, INDIVIDUAL (EK)
2	3-699-083-01	CUSHION, UPPER
3	3-699-082-01	CUSHION, LOWER
4	**3-701-630-01**	**BAG POLY (FOR NANUAL, WARRANTY CARD, REGISTATION, AND QUESTIONNAIRE) (UC) (FOR MANUAL AND WARRANTY DARD) (J) (FOR MANUAL) (EK)**
5	**3-701-637-00**	**BAG POLY (FOR DXC-3000H/ 3000PH)**

Parts that are not listed in the "reference numbers order list " are shown in following table.
Reference numbers are omitted.

CHIP CERAMIC CAPACITOR



220pF through 0.018μF(B) ± 10% 50WV
0.022μF through 0.068μF(F) $^{+80}_{-20}$ % 50WV
0.1μF(F) $^{+80}_{-20}$ % 25WV

Parts No. 1-163-□□□-00

Value	Parts No. – □□□ –
100pF	—
120	—
150	—
180	—
220	001
270	002
330	003
390	004
470	005
560	006
680	007
820	008

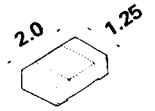
Value	Parts No. – □□□ –
0.001μF	009
0.0012	010
0.0015	011
0.0018	012
0.0022	013
0.0027	014
0.0033	015
0.0039	016
0.0047	017
0.0056	018
0.0068	019
0.0082	020

Value	Parts No. – □□□ –
0.01μF	021
0.012	022
0.015	023
0.018	024
0.022	033
0.027	—
0.033	034
0.039	—
0.047	035
0.056	—
0.068	036
0.082	—
0.1	038

R. CHIP

Parts that are not listed in the "reference numbers order list" are shown in following table.
Reference numbers are omitted.

CHIP RESISTOR



±5% 1/10W
0Ω through 3.3MΩ

Parts No. 1-216-□□□-00

Value	Parts No. – □□□ –
0Ω	295
1Ω	—
1.1	—
1.2	—
1.3	—
1.5	—
1.6	—
1.8	—
2	—
2.2	298
2.4	301
2.7	302
3	303
3.3	304
3.6	305
3.9	306
4.3	307
4.7	308
5.1	297
5.6	309
6.2	310
6.8	311
7.5	312
8.2	313
9.1	314
10Ω	001
11	002
12	003
13	004
15	005
16	006
18	007
20	008
22	009
24	010
27	011

Value	Parts No. – □□□ –
30	012
33Ω	013
36	014
39	015
43	016
47	017
51	018
56	019
62	020
68	021
75	022
82	023
91	024
100Ω	025
110	026
120	027
130	028
150	029
160	030
180	031
200	032
220	033
240	034
270	035
300	036
330	037
360	038
390	039
430	040
470	041
510	042
560	043
620	044
680	045
750	046
820	047

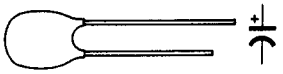
Value	Parts No. – □□□ –
910	048
1kΩ	049
1.1	050
1.2	051
1.3	052
1.5	053
1.6	054
1.8	055
2	056
2.2	057
2.4	058
2.7	059
3	060
3.3	061
3.6	062
3.9	063
4.3	064
4.7	065
5.1	066
5.6	067
6.2	068
6.8	069
7.5	070
8.2	071
9.1	072
10kΩ	073
11	074
12	075
13	076
15	077
16	078
18	079
20	080
22	081
24	082
27	083

Value	Parts No. – □□□ –
30	084
33kΩ	085
36	086
39	087
43	088
47	089
51	090
56	091
62	092
68	093
75	094
82	095
91	096
100kΩ	097
110	098
120	099
130	100
150	101
160	102
180	103
200	104
220	105
240kΩ	106
270	107
300	108
330	109
360	110
390	111
430	112
470	113
510	114
560	115
620	116
680	117
750	118
820	119

Value	Parts No. – □□□ –
910	120
1MΩ	121
1.1	122
1.2	123
1.3	124
1.5	125
1.6	126
1.8	127
2	128
2.2	129
2.4	130
2.7	131
3	132
3.3	133

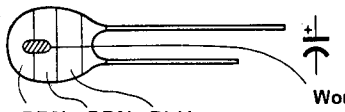
Parts that are <u>not</u> listed in the "reference numbers order list" are shown in following table.
Reference numbers are omitted.

TANTALUM CAPACITOR



0.01μF through 100μF ± 10%
3.15V through 35V

NOTE: The value of the parts that are marked by * in the below table are indicated by color code. (to the value with ±20%)



Working Voltage Color Code

Ex. BRN GRN BLU
1 5 6
15 x 10^6 pF = 15μF

BLK	RED	YEL	GRN	BLU	GRY	WHT
10V	35	6.3	16	20	25	3.15

Parts No. 1-131-□□□-00

Value		Parts No. −□□□−
0.01μ	35V	*396
0.015	35	*397
0.022	35	*398
0.033	35	*399
0.047	35	*400
0.068	35	*401
0.1	35	*402
0.15	35	*403
0.22	35	*404
0.33	25	*409
	35	*405
0.47	20	*412
	35	*406
0.68	16	*415
	25	*410
	35	*407
1.0	10	*418
	20	*413

Value		Parts No. −□□□−
1.0μ	35V	*408
1.5	6.3	*421
	16	*416
	25	*411
	35	348
2.2	3.15	*424
	10	*419
	20	*414
	25	355
	35	349
3.3	6.3	*422
	16	*417
	20	362
	25	356
	35	350
4.7	3.15	*425
	10	*420
	16	369

Value		Parts No. −□□□−
4.7μ	20V	363
	25	357
	35	351
6.8	6.3	*423
	10	376
	16	370
	20	364
	25	358
	35	352
10	3.15	*426
	6.3	383
	10	377
	16	371
	20	365
	25	359
	35	353
15	3.15	390
	6.3	384

Value		Parts No. −□□□−
15μ	10V	378
	16	372
	20	366
	25	360
22	3.15	391
	6.3	385
	10	379
	16	373
	20	367
33	3.15	392
	6.3	386
	10	380
	16	374
47	3.15	393
	6.3	387
	10	381
68	3.15	394
	6.3	388
100	3.15	395

AT-39 BOARD

Ref. No.	Part No.	Description
	A-7513-340-A	MOUNTED CIRCUIT BOARD "AT-39"
C9	1-163-251-00	CERAMIC CHIP 100PF 5% 50V
C17	1-124-280-00	ELECT 4.7 20% 25V
C19	1-163-125-00	CERAMIC CHIP 220PF 5% 50V
C23	1-163-141-00	CERAMIC CHIP 0.001 5% 50V
C30	1-124-148-00	ELECT 100 20% 25V
C31	1-163-141-00	CERAMIC CHIP 0.001 5% 50V
C40	1-163-267-00	CERAMIC CHIP 470PF 5% 50V
C59	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
C62	1-163-141-00	CERAMIC CHIP 0.001 5% 50V
C63	1-163-141-00	CERAMIC CHIP 0.001 5% 50V
C66	1-125-299-00	DOUBLE LAYERS 47000 5.5V
C68	1-163-141-00	CERAMIC CHIP 0.001 5% 50V
C70	1-163-105-00	CERAMIC CHIP 33PF 5% 50V
C71	1-163-097-00	CERAMIC CHIP 15PF 5% 50V
C72	1-163-267-00	CERAMIC CHIP 470PF 5% 50V
C73	1-163-267-00	CERAMIC CHIP 470PF 5% 50V
CN1	1-562-728-11	RECEPTACLE, 50P FEMALE
D1	8-719-100-03	1S2835
D2	8-719-100-03	1S2835
D3	8-719-100-03	1S2835
D4	8-719-100-03	1S2835
D5	8-719-100-05	1S2837
D6	8-719-101-23	1SS123
D7	8-719-100-03	1S2835
D8	8-719-100-05	1S2837
D9	8-719-100-05	1S2837
D10	8-719-100-05	1S2837
D11	8-719-100-05	1S2837
D12	8-719-100-03	1S2835
D13	8-719-105-00	RD6.2M-B1
D14	8-719-100-03	1S2835
D15	8-719-105-91	RD5.6M-B2
D16	8-719-108-13	1S955
D17	8-719-108-13	1S955
D18	8-719-101-23	1SS123
D19	8-719-100-05	1S2837
D20	8-719-100-05	1S2837
D21	8-719-100-05	1S2837
D22	8-719-100-03	1S2835
D23	8-719-100-05	1S2837
D24	8-719-100-03	1S2835
D25	8-719-100-05	1S2837
D26	8-719-100-03	1S2835
D27	8-719-100-05	1S2837
IC1	8-759-240-53	TC4053BP: TOSHIBA
IC2	8-759-131-11	μPC311C: NEC
IC3	8-759-729-03	NJM2903D: JRC
IC4	8-759-900-64	TL064CN: TI
IC5	8-759-240-53	TC4053BP: TOSHIBA
IC6	8-759-990-82	TL082CP: TI
IC7	8-759-900-64	TL064CN: TI
IC8	8-759-240-69	TC4069UBP: TOSHIBA
IC9	8-759-303-31	HD44860B42: HITACHI
IC10	8-759-240-51	TC4051BP: TOSHIBA
IC11	8-759-240-51	TC4051BP: TOSHIBA
IC12	8-759-900-64	TL064CN: TI
IC13	8-759-900-64	TL064CN: TI
IC14	8-759-900-64	TL064CN: TI
IC15	8-759-240-53	TC4053BP: TOSHIBA
IC16	8-759-400-89	MN1237AD: MATSUSHITA
IC17	8-759-240-01	TC4001BP: TOSHIBA
IC18	8-759-240-69	TC40690UBP: TOSHIBA
L1	1-408-429-00	MICRO 470
L2	1-408-429-00	MICRO 470
L3	1-408-421-00	MICRO 100
Q1	8-729-100-76	2SA812
Q2	8-729-100-76	2SA812
Q3	8-729-100-76	2SA812
Q4	8-729-100-66	2SC1623
Q5	8-729-100-66	2SC1623
Q6	8-729-100-66	2SC1623
Q7	8-729-100-66	2SC1623
Q8	8-729-100-66	2SC1623
Q9	8-729-100-66	2SC1623
Q10	8-729-100-76	2SA812
Q11	8-729-100-66	2SC1623
Q12	8-729-109-44	2SK94
Q13	8-729-100-66	2SC1623
Q14	8-729-100-66	2SC1623
Q15	8-729-100-66	2SC1623

Ref. No.	Part No.	Description
Q16	8-729-175-73	2SC2757
Q17	8-729-175-73	2SC2757
Q18	8-729-100-76	2SA812
Q19	8-729-100-66	2SC1623
Q20	8-729-100-66	2SC1623
Q21	8-729-100-66	2SC1623
Q22	8-729-100-76	2SA812
Q23	8-729-100-66	2SC1623
Q24	8-729-109-44	2SK94
Q25	8-729-102-03	2SD1020
Q26	8-729-181-13	2SB811
Q27	8-729-100-66	2SC1623
Q28	8-729-100-76	2SA812
Q29	8-729-100-76	2SA812
Q30	8-729-100-76	2SA812
Q31	8-729-100-66	2SC1623
Q32	8-729-100-66	2SC1623
Q33	8-729-100-66	2SC1623
Q34	8-729-100-66	2SC1623
Q35	8-729-100-66	2SC1623
Q36	8-729-100-66	2SC1623
Q37	8-729-100-76	2SA812
R86	1-247-694-11	CARBON 33 5% 1/4W
R87	1-247-694-11	CARBON 33 5% 1/4W
RP1	1-231-387-00	25K
RV1	1-230-521-11	METAL 2.2K
RV2	1-226-773-00	METAL 22K
RV3	1-230-521-11	METAL 2.2K
RV4	1-226-776-00	METAL 220K
S1	1-553-510-00	SLIDE
X1	1-527-730-00	400KHz

Ref. No.	Part No.	Description
CN-36 BOARD		
	1-617-360-11	PRINTED CIRCUIT BOARD "CN-36"
J1	1-507-883-00	SMALL TYPE 4P
S1	1-570-491-11	ROTARY
EN-39/39P BOARD		
	A-7513-341-A	MOUNTED CIRCUIT BOARD "EN-39" (UC)
	A-7513-342-A	MOUNTED CIRCUIT BOARD "EN-39P" (EK)
C3	1-107-048-00	MICA 6.8PF ±0.5PF 500V
C5	1-107-026-00	MICA 5.1PF ±0.5PF 500V
C8	1-107-044-00	MICA 3.3PF ±0.5PF 500V
C9	1-107-046-00	MICA 4.7PF ±0.5PF 500V
C11	1-124-139-00	ELECT 100 20% 10V
C16	1-163-105-00	CERAMIC CHIP 33PF 5% 50V
C18	1-163-105-00	CERAMIC CHIP 33PF 5% 50V
C19	1-163-105-00	CERAMIC CHIP 33PF 5% 50V
C22	1-163-251-00	CERAMIC CHIP 100PF 5% 50V
C26	1-107-048-00	MICA 6.8PF ±0.5PF 500V
C30	1-163-105-00	CERAMIC CHIP 33PF 5% 50V
C31	1-163-105-00	CERAMIC CHIP 33PF 5% 50V
C32	1-163-251-00	CERAMIC CHIP 100PF 5% 50V
C36	1-163-117-00	CERAMIC CHIP 100PF 5% 50V
C38	1-107-085-00	MICA 100PF 5% 50V (UC)
C38	1-107-082-00	MICA 75PF 5% 50V (EK)
C39	1-107-085-00	MICA 100PF 5% 50V (UC)
C39	1-107-082-00	MICA 75PF 5% 50V (EK)
C44	1-163-097-00	CERAMIC CHIP 15PF 5% 50V
C46	1-163-251-00	CERAMIC CHIP 100PF 5% 50V

Ref. No.	Part No.	Description
C47	1-163-125-00	CERAMIC CHIP 220PF 5% 50V
C48	1-163-097-00	CERAMIC CHIP 15PF 5% 50V
C49	1-163-097-00	CERAMIC CHIP 15PF 5% 50V
C51	1-124-139-00	ELECT 100 20% 10V
C53	1-124-140-00	ELECT 220 20% 6.3V
C54	1-163-093-00	CERAMIC CHIP 10PF 5% 50V
C59	1-163-093-00	CERAMIC CHIP 10PF 5% 50V
C71	1-163-267-00	CERAMIC CHIP 470PF 5% 50V
CN1	1-562-728-11	RECEPTACLE, 50P FEMALE
D1	8-719-100-03	1S2835
D2	8-719-100-03	1S2835
D3	8-719-100-05	1S2837
D6	8-719-100-03	1S2835
D7	8-719-100-05	1S2837
D9	8-719-168-07	RD6.8EB
D10	8-719-100-05	1S2837
D11	8-719-100-03	1S2835
D12	8-719-127-07	RD2.7E
D13	8-719-101-23	1SS123
D14	8-719-923-48	1S2348H
DL1	1-415-306-00	340nS
FL1	1-235-161-00	BAND PASS 3.58MHz (UC)
FL1	1-235-181-00	BAND PASS 4.43MHz (EK)
IC1	8-759-907-77	μA711CN: TI
IC2	8-759-906-59	CX22017: SONY
IC3	8-759-200-20	TC40H076AP: TOSHIBA
IC4	8-759-240-69	TC4069UBP: TOSHIBA
IC5	8-759-729-03	NJM2903D: JRC
IC6	8-759-240-53	TC4053BP: TOSHIBA
IC7	8-759-240-53	TC4053BP: TOSHIBA
IC8	8-759-240-53	TC4053BP: TOSHIBA
L1	1-408-409-00	MICRO 10
L2	1-408-409-00	MICRO 10
L3	1-408-413-00	MICRO 22
L4	1-408-413-00	MICRO 22
L5	1-408-427-00	MICRO 330

Ref. No.	Part No.	Description
L6	1-408-417-00	MICRO 47
L7	1-408-413-00	MICRO 22
L8	1-408-427-00	MICRO 330
L9	1-408-417-00	MICRO 47
L10	1-408-409-00	MICRO 10 (UC)
L10	1-408-417-00	MICRO 47 (EK)
L11	1-408-413-00	MICRO 22
L12	1-408-413-00	MICRO 22
L13	1-408-413-00	MICRO 22
L16	1-408-413-00	MICRO 22
L17	1-408-413-00	MICRO 22
LV1	1-408-844-00	22
Q1	8-729-100-76	2SA812
Q2	8-729-100-76	2SA812
Q3	8-729-100-66	2SC1623
Q4	8-729-100-76	2SA812
Q5	8-729-100-66	2SC1623
Q6	8-729-100-76	2SA812
Q7	8-729-100-66	2SC1623
Q8	8-729-100-66	2SC1623
Q9	8-729-100-76	2SA812
Q10	8-729-100-66	2SC1623
Q11	8-729-100-76	2SA812
Q12	8-729-100-66	2SC1623
Q13	8-729-100-76	2SA812
Q14	8-729-100-66	2SC1623
Q15	8-729-100-66	2SC1623
Q16	8-729-100-76	2SA812
Q17	8-729-100-66	2SC1623
Q18	8-729-100-66	2SC1623
Q19	8-729-100-66	2SC1623
Q20	8-729-100-76	2SA812
Q21	8-729-100-76	2SA812
Q22	8-729-100-66	2SC1623
Q23	8-729-100-66	2SC1623
Q24	8-729-100-66	2SC1623
Q25	8-729-100-66	2SC1623
Q26	8-729-100-66	2SC1623
Q27	8-729-100-66	2SC1623
Q28	8-729-100-76	2SA812
Q29	8-729-100-76	2SA812
Q30	8-729-100-76	2SA812

Ref. No.	Part No.	Description
Q31	8-729-100-66	2SC1623
Q32	8-729-100-66	2SC1623
Q33	8-729-100-76	2SA812
Q34	8-729-100-66	2SC1623
Q35	8-729-201-04	2SC2878
Q36	8-729-201-04	2SC2878
Q37	8-729-201-04	2SC2878
Q38	8-729-100-66	2SC1623
Q39	8-729-100-66	2SC1623
Q40	8-729-100-66	2SC1623
Q41	8-729-100-76	2SA812
Q42	8-729-100-66	2SC1623
Q43	8-729-100-66	2SC1623
Q44	8-729-100-66	2SC1623
Q45	8-729-100-76	2SA812
Q46	8-729-100-66	2SC1623
Q47	8-729-100-66	2SC1623
Q48	8-729-100-66	2SC1623
Q49	8-729-100-66	2SC1623
Q50	8-729-100-76	2SA812
Q51	8-729-100-66	2SC1623
Q52	8-729-100-76	2SA812

Ref. No.	Part No.	Description
R1	1-214-482-00	METAL 2.55K 1% 1/2W
R2	1-214-483-00	METAL 4.99K 1% 1/2W
R3	1-214-485-00	METAL 13.7K 1% 1/2W
R6	1-215-445-00	METAL 10K 1% 1/6W
R7	1-215-433-00	METAL 3.3K 1% 1/6W (UC)
R7	1-215-434-00	METAL 3.6K 1% 1/6W (EK)
R11	1-215-421-00	METAL 1K 1% 1/6W
R12	1-215-421-00	METAL 1K 1% 1/6W
R16	1-215-429-00	METAL 2.2K 1% 1/6W
R17	1-215-428-00	METAL 5.1K 1% 1/6W
R24	1-215-437-00	METAL 4.7K 1% 1/6W
R25	1-215-453-00	METAL 22K 1% 1/6W
R26	1-215-394-00	METAL 75 1% 1/6W
R27	1-215-394-00	METAL 75 1% 1/6W
R49	1-214-502-00	METAL 2.67K 0.5% 1/4W (UC)
R49	1-214-482-00	METAL 2.55K 1% 1/2W (EK)
R50	1-214-501-00	METAL 2.32K 0.5% 1/4W (UC)
R50	1-214-485-00	METAL 13.7K 1% 1/2W (EK)
R51	1-215-421-00	METAL 1K 1% 1/6W
R52	1-215-421-00	METAL 1K 1% 1/6W
R56	1-215-428-00	METAL 2K 1% 1/6W
R58	1-215-428-00	METAL 5.1K 1% 1/6W
R64	1-215-414-00	METAL 510 1% 1/6W
R65	1-215-454-00	METAL 24K 1% 1/6W
R66	1-215-448-00	METAL 13K 1% 1/6W

Ref. No.	Part No.	Description
R71	1-215-421-00	METAL 1K 1% 1/6W
R72	1-215-421-00	METAL 1K 1% 1/6W
R75	1-215-432-00	METAL 3K 1% 1/6W (UC)
R75	1-215-435-00	METAL 3.9K 1% 1/6W (EK)
R80	1-214-503-00	METAL 3.32K 0.5% 1/4W (UC)
R81	1-214-500-00	METAL 2.26K 0.5% 1/4W (UC)
R83	1-215-423-00	METAL 1.2K 1% 1/6W (UC)
R83	1-215-425-00	METAL 1.5K 1% 1/6W (EK)
R87	1-215-428-00	METAL 2K 1% 1/6W
R89	1-215-428-00	METAL 2K 1% 1/6W
R98	1-215-414-00	METAL 510 1% 1/6W
R99	1-215-454-00	METAL 24K 1% 1/6W
R100	1-215-448-00	METAL 13K 1% 1/6W
R101	1-215-431-00	METAL 2.7K 1% 1/6W
R102	1-215-414-00	METAL 510 1% 1/6W
R123	1-215-393-00	METAL 68 1% 1/6W
R124	1-215-393-00	METAL 68 1% 1/6W
R128	1-215-393-00	METAL 68 1% 1/6W
R135	1-215-394-00	METAL 75 1% 1/6W
R153	1-215-393-00	METAL 68 1% 1/6W
R164	1-215-423-00	METAL 1.2K 1% 1/6W (UC)
R164	1-215-425-00	METAL 1.5K 1% 1/6W (EK)
R170	1-247-795-00	CARBON 33 5% 1/6W

RV1	1-230-520-11	METAL 1K
RV2	1-226-703-00	METAL 10K
RV3	1-230-521-11	METAL 2.2K
RV4	1-230-521-11	METAL 2.2K
RV5	1-230-522-11	METAL 4.7K
RV6	1-230-521-11	METAL 2.2K
RV7	1-226-770-00	METAL 470
RV8	1-230-521-11	METAL 2.2K
RV9	1-226-773-00	METAL 22K
RV10	1-230-522-11	METAL 4.7K
RV11	1-228-308-00	METAL 10K
RV12	1-228-308-00	METAL 10K

Ref. No	Part No.	Description
S1	**1-554-508-00**	**SLIDE**
S2	**1-554-508-21**	**SLIDE**
S3	**1-554-508-21**	**SLIDE**
T1	**1-427-270-00**	**OUTPUT**

HN-42 BOARD

	A-7513-334-A	MOUNTED CIRCUIT BOARD "HN-42"
C1	**1-130-483-00**	**MYLAR 0.01 5% 50V**
C2	**1-130-483-00**	**MYLAR 0.01 5% 50V**
C3	**1-130-483-00**	**MYLAR 0.01 5% 50V**
C4	**1-130-483-00**	**MYLAR 0.01 5% 50V**
CN1	1-562-877-11	RECEPTACLE, 50P FEMALE
CN2	1-562-877-11	RECEPTACLE, 50P FEMALE
CN3	1-562-877-11	RECEPTACLE, 50P FEMALE
CN4	1-562-877-11	RECEPTACLE, 50P FEMALE
CN5	1-562-877-11	RECEPTACLE, 50P FEMALE

Ref. No.	Part No.	Description
CN6	1-564-012-00	RECEPTACLE, 2P MALE
	1-562-147-11	PLUG HOUSING 2P
	1-562-026-00	PLUG CONTACT
CN7	1-564-012-00	RECEPTACLE, 2P MALE
	1-562-147-11	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT
CN8	1-564-012-00	RECEPTACLE, 2P MALE
	1-562-147-11	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT
CN9	1-560-619-00	RECEPTACLE, 7P
	1-561-754-22	PLUG HOUSING 7P
	1-560-372-00	PLUG CONTACT
CN10	1-564-017-00	RECEPTACLE, 7P MALE
	1-562-152-11	PLUG HOUSING 7P
	1-564-026-00	PLUG CONTACT
CN11	1-564-018-11	RECEPTACLE, 8P MALE
	1-562-153-11	PLUG HOUSING 8P
	1-564-026-00	PLUG CONTACT
CN12	1-564-014-00	RECEPTACLE, 4P MALE
	1-562-149-11	PLUG HOUSING 4P
	1-564-026-00	PLUG CONTACT
CN13	1-564-016-00	RECEPTACLE, 6P MALE
	1-562-151-11	PLUG HOUSING 6P
	1-564-026-00	PLUG CONTACT
CN14	1-560-619-00	RECEPTACLE, 7P
	1-561-754-12	PLUG HOUSING 7P
	1-560-372-00	PLUG CONTACT
CN15	1-564-012-00	RECEPTACLE, 2P MALE
	1-562-147-11	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT
CN16	1-560-368-00	RECEPTACLE, 6P
CN17	1-560-365-00	RECEPTACLE, 3P
	1-561-515-00	PLUG HOUSING 3P
	1-560-372-00	PLUG CONTACT
CN18	1-564-022-00	RECEPTACLE, 12P MALE
	1-562-157-11	PLUG HOUSING 12P
	1-564-026-00	PLUG CONTACT
CN19	1-564-877-11	RECEPTACLE, 15P MALE
	1-562-958-11	PLUG HOUSING 15P
	1-564-026-00	PLUG CONTACT
CN20	1-564-022-00	RECEPTACLE, 12P MALE
	1-562-157-11	PLUG HOUSING 12P
	1-564-026-00	PLUG CONTACT
CN21	1-564-012-00	RECEPTACLE, 2P MALE
	1-562-147-11	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT
L1	**1-408-448-11**	**MICRO 33**

IE-14/14P BOARD

Ref. No.	Part No.	Description
	A-7513-343-A	MOUNTED CIRCUIT BOARD "IE-14" (UC)
	A-7513-344-A	MOUNTED CIRCUIT BOARD "IE-14P" (EK)
C3	1-163-251-00	CERAMIC CHIP 100PF 5% 50V
C5	1-163-088-00	CERAMIC CHIP 5PF ±0.25PF 50V
C11	1-163-097-00	CERAMIC CHIP 15PF 5% 50V
C24	1-163-251-00	CERAMIC CHIP 100PF 5% 50V
C25	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
C27	1-163-251-00	CERAMIC CHIP 100PF 5% 50V
C30	1-124-140-00	ELECT 220 20% 10V
C41	1-163-251-00	CERAMIC CHIP 100PF 5% 50V
C44	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
C45	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
C46	1-163-251-00	CERAMIC CHIP 100PF 5% 50V
C51	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
C53	1-163-091-00	CERAMIC CHIP 8PF ±0.25PF 50V
C54	1-163-091-00	CERAMIC CHIP 8PF ±0.25PF 50V
C57	1-163-097-00	CERAMIC CHIP 15PF 5% 50V
C58	1-163-097-00	CERAMIC CHIP 15PF 5% 50V
C59	1-163-097-00	CERAMIC CHIP 15PF 5% 50V
C61	1-163-091-00	CERAMIC CHIP 8PF ±0.25PF 50V
C62	1-163-091-00	CERAMIC CHIP 8PF ±0.25PF 50V
C66	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
C67	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
C69	1-163-097-00	CERAMIC CHIP 15PF 5% 50V
C88	1-163-097-00	CERAMIC CHIP 15PF 5% 50V
C89	1-163-251-00	CERAMIC CHIP 100PF 5% 50V
C90	1-163-251-00	CERAMIC CHIP 100PF 5% 50V
C91	1-163-093-00	CERAMIC CHIP 10PF 5% 50V
CN1	1-562-728-11	RECEPTACLE, 50P FEMALE
D1	8-719-100-05	1S2837
D2	8-719-100-03	1S2835
D3	8-719-100-05	1S2837

Ref. No.	Part No.	Description
DL1	1-415-305-51	63.47μS (UC)
DL1	1-415-305-61	63.915μS (EK)
DL2	1-415-307-00	165nS
IC1	8-759-700-95	NJM1496M: JRC
IC2	8-759-700-95	NJM1496M: JRC
IC3	8-759-907-33	μA733CN: TI
IC4	8-759-400-05	AN6041: PANASONIC
IC5	8-759-729-03	NJM2903D: JRC
IC6	8-759-240-53	TC4053BP: TOSHIBA
IC7	8-759-990-62	TL062CP: TI
IC8	8-759-990-62	TL062CP: TI
IC9	8-758-150-00	CX815: SONY
L1	1-408-413-00	MICRO 22
L2	1-408-409-00	MICRO 10
L3	1-408-147-00	MICRO 2.2
L4	1-408-146-00	MICRO 1
L5	1-408-409-00	MICRO 10
L6	1-408-409-00	MICRO 10
L7	1-408-413-00	MICRO 22
L8	1-408-412-00	MICRO 18
L9	1-408-413-00	MICRO 22
L10	1-408-413-00	MICRO 22
L11	1-408-413-00	MICRO 22
L12	1-408-413-00	MICRO 22
L13	1-408-147-00	MICRO 2.2
L14	1-408-147-00	MICRO 2.2
L15	1-408-413-00	MICRO 22
L16	1-408-413-00	MICRO 22
L17	1-408-429-00	MICRO 470
L18	1-408-147-00	MICRO 2.2
L20	1-408-147-00	MICRO 2.2
LV1	1-408-388-00	3.3
LV2	1-408-388-00	3.3
Q1	8-729-100-66	2SC1623
Q2	8-729-100-66	2SC1623
Q3	8-729-100-66	2SC1623
Q4	8-729-100-66	2SC1623
Q5	8-729-175-73	2SC2757
Q6	8-729-175-73	2SC2757
Q7	8-729-175-73	2SC2757
Q8	8-729-800-43	2SK152-3
Q9	8-729-100-76	2SA812
Q10	8-729-122-63	2SA1226

Ref. No.	Part No.	Description
Q11	8-729-100-66	2SC1623
Q12	8-729-100-66	2SC1623
Q13	8-729-100-66	2SC1623
Q14	8-729-100-66	2SC1623
Q15	8-729-175-73	2SC2757
Q16	8-729-100-66	2SC1623
Q17	8-729-100-76	2SA812
Q18	8-729-800-43	2SK152-3
Q19	8-729-100-66	2SC1623
Q20	8-729-100-66	2SC1623
Q21	8-729-122-63	2SA1226
Q22	8-729-100-76	2SA812
Q23	8-729-100-66	2SC1623
Q24	8-729-175-73	2SC2757
Q25	8-729-175-73	2SC2757
Q26	8-729-122-63	2SA1226
Q27	8-729-800-43	2SK152-3
Q28	8-729-175-73	2SC2757
Q29	8-729-800-43	2SK152-3
Q30	8-729-175-73	2SC2757
Q31	8-729-175-73	2SC2757
Q32	8-729-175-73	2SC2757
Q33	8-729-175-73	2SC2757
Q34	8-279-100-66	2SC1623
Q35	8-279-100-66	2SC1623
Q36	8-279-100-66	2SC1623
Q37	8-729-104-45	2SJ44
Q38	8-279-100-66	2SC1623
Q39	8-279-100-66	2SC1623
Q40	8-279-100-66	2SC1623
Q41	8-279-100-66	2SC1623
Q42	8-279-100-66	2SC1623
Q43	8-279-100-66	2SC1623
Q44	8-279-100-66	2SC1623
Q45	8-279-100-66	2SC1623
Q46	8-279-100-66	2SC1623
Q47	8-279-100-66	2SC1623
Q48	8-729-175-73	2SC2757
Q49	8-279-100-66	2SC1623
Q50	8-729-100-76	2SA812
Q51	8-279-100-66	2SC1623
Q52	8-729-122-63	2SA1226

Ref. No.	Part No.	Description
R9	1-215-422-00	METAL 1.1K 1% 1/6W
R10	1-215-412-00	METAL 430 1% 1/6W
R16	1-215-422-00	METAL 1.1K 1% 1/6W
R17	1-215-412-00	METAL 430 1% 1/6W
R23	1-215-413-00	METAL 470 1% 1/6W
R32	1-215-390-00	METAL 51 1% 1/6W
R33	1-215-390-00	METAL 51 1% 1/6W
R34	1-215-385-00	METAL 33 1% 1/6W
R37	1-215-418-00	METAL 750 1% 1/6W
R39	1-215-418-00	METAL 750 1% 1/6W
R41	1-215-437-00	METAL 4.7K 1% 1/6W
R44	1-215-420-00	METAL 910 1% 1/6W
R46	1-215-462-00	METAL 51K 1% 1/6W
R49	1-215-413-00	METAL 470 1% 1/6W
R50	1-215-437-00	METAL 4.7K 1% 1/6W
R51	1-215-426-00	METAL 1.6K 1% 1/6W
R52	1-215-413-00	METAL 470 1% 1/6W
R64	1-215-457-00	METAL 33K 1% 1/6W
R66	1-215-418-00	METAL 750 1% 1/6W
R67	1-215-463-00	METAL 56K 1% 1/6W
R72	1-215-425-00	METAL 1.5K 1% 1/6W
R76	1-215-436-00	METAL 4.3K 1% 1/6W
R77	1-215-418-00	METAL 750 1% 1/6W
R78	1-215-418-00	METAL 750 1% 1/6W
R88	1-215-412-00	METAL 430 1% 1/6W
RV1	1-230-521-11	METAL 2.2K
RV2	1-228-394-00	METAL 4.7K
RV3	1-230-893-11	METAL 220
RV4	1-224-939-00	METAL 5K
RV5	1-228-306-00	METAL 2K
RV6	1-230-522-11	METAL 4.7K
RV7	1-228-308-00	METAL 10K
S1	1-570-373-11	SLIDE
S2	1-552-509-00	DIP
R89	1-215-450-00	METAL 16K 1% 1/6W
R99	1-215-412-00	METAL 430 1% 1/6W
R100	1-215-412-00	METAL 430 1% 1/6W
R101	1-215-412-00	METAL 430 1% 1/6W
R102	1-215-412-00	METAL 430 1% 1/6W
R119	1-215-433-00	METAL 3.3K 1% 1/6W
R120	1-215-433-00	METAL 3.3K 1% 1/6W
R148	1-215-412-00	METAL 430 1% 1/6W

PA-40 BOARD

Ref. No.	Part No.	Description
	A-7513-337-A	MOUNTED CIRCUIT BOARD "PA-40" (R)
	A-7513-338-A	MOUNTED CIRCUIT BOARD "PA-40" (B)
C11	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C12	1-163-105-00	CERAMIC CHIP 33PF 5% 50V
C14	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C17	1-163-263-00	CERAMIC CHIP 330PF 5% 50V
CV1	1-141-284-00	TRIMMER 20.5
FL1	1-235-771-11	LOW PASS 9.5MHz
Q1	8-719-175-73	2SC2757
Q2	8-729-100-76	2SA812
Q3	8-769-401-84	3SK163-4
Q4	8-729-100-66	2SC1623
Q5	8-729-100-76	2SA812
Q6	8-769-401-85	3SK163-5
Q7	8-729-100-66	2SC1623
Q8	8-729-100-76	2SA812
Q9	8-769-401-85	3SK163-5
Q10	8-729-100-66	2SC1623
Q11	8-729-100-66	2SC1623
Q12	8-729-100-66	2SC1623
Q13	8-729-100-66	2SC1623
Q14	8-729-100-66	2SC1623
Q15	8-729-100-66	2SC1623
Q16	8-729-100-66	2SC1623

PA-41 BOARD

Ref. No.	Part No.	Description
	A-7513-339-A	MOUNTED CIRCUIT BOARD "PA-41"
C11	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C12	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C14	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C15	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C16	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C20	1-163-263-00	CDRAMIC CHIP 330PF 5% 50V
FL1	1-235-771-11	LOW PASS 9.5MHz
Q1	8-729-175-73	2SC2757
Q2	8-729-100-76	2SA812
Q3	8-769-401-84	3SK163-4
Q4	8-729-100-66	2SC1623
Q5	8-729-100-76	2SA812
Q6	8-769-401-85	3SK163-5
Q7	8-729-102-62	2SC1623
Q8	8-729-100-76	2SA812
Q9	8-769-401-85	3SK163-5
Q10	8-729-102-62	2SC1623
Q11	8-729-100-76	2SA812
Q12	8-769-401-85	3SK163-5
Q13	8-729-102-62	2SC1623
Q14	8-729-100-76	2SA812
Q15	8-769-401-85	3SK163-5
Q16	8-729-102-62	2SC1623
Q17	8-729-102-62	2SC1623
Q18	8-729-102-62	2SC1623
Q19	8-729-102-62	2SC1623
Q20	8-729-102-62	2SC1623
Q21	8-729-100-66	2SC1623
Q22	8-729-100-66	2SC1623

Ref. No.	Part No.	Description
PR-71/71P BOARD		
	A-7513-345-A	MOUNTED CIRCUIT BOARD "PR-71" (UC)
	A-7513-346-A	MOUNTED CIRCUIT BOARD "PR-71P" (EK)
C21	**1-163-109-00**	**CERAMIC CHIP 47PF 5% 50V**
C29	**1-163-099-00**	**CERAMIC CHIP 18PF 5% 50V**
C32	**1-124-145-00**	**ELECT 330 20% 16V**
C34	**1-124-149-00**	**ELECT 220 20% 25V**
C35	**1-124-148-00**	**ELECT 100 20% 25V**
C36	**1-124-140-00**	**ELECT 220 20% 10V**
C37	**1-124-140-00**	**ELECT 220 20% 10V**
C38	**1-124-140-00**	**ELECT 220 20% 6.3V**
C40	**1-124-140-00**	**ELECT 220 20% 6.3V**
C44	**1-163-267-00**	**CERAMIC CHIP 470 5% 50V**
CN1	1-562-728-11	RECEPTACLE, 50P FEMALE
D1	**8-719-951-12**	**HZ5BLL**
D2	**8-719-100-05**	**1S2837**
D3	**8-719-100-05**	**1S2837**
D4	**8-719-951-12**	**HZ5BLL**
D5	**8-719-100-05**	**1S2837**
D6	**8-719-100-05**	**1S2837**
D7	**8-719-942-31**	**HZ3ALL**
D8	**8-719-951-12**	**HZ5BLL**
D9	**8-719-100-05**	**1S2837**
D10	**8-719-100-05**	**1S2837**
D11	**8-719-100-05**	**1S2837**
D12	**8-719-981-01**	**ERA81-004**
D13	**8-719-981-01**	**ERA81-004**
D14	**8-719-981-01**	**ERA81-004**
D15	**8-719-981-01**	**ERA81-004**
D16	**8-719-981-01**	**ERA81-004**
D17	**8-719-981-01**	**ERA81-004**
D18	**8-719-981-01**	**ERA81-004**
D19	**8-719-981-01**	**ERA81-004**
D20	**8-719-100-05**	**1S2837**
D21	**8-719-105-82**	**RD5.1M-B2**
D22	**8-719-100-05**	**1S2837**
D23	**8-719-100-05**	**1S2837**
D24	**8-719-100-05**	**1S2837**
D101	**8-719-815-55**	**1S1555**
D102	**8-719-815-55**	**1S1555**
D103	**8-719-815-55**	**1S1555**

Ref. No.	part No.	Description
DL1	**1-415-307-00**	**165nS**
DL2	**1-415-307-00**	**165nS**
IC1	**8-741-134-90**	**BX1349: SONY**
IC2	**8-741-134-80**	**BX1348: SONY**
IC3	**8-741-135-00**	**BX1350: SONY**
IC4	**8-741-135-10**	**BX1351: SONY**
IC5	**8-759-204-51**	**TC40H008F: TOSHIBA**
IC6	**8-741-134-90**	**BX1349: SONY**
IC7	**8-741-134-80**	**BX1348: SONY**
IC8	**8-741-135-00**	**BX1350: SONY**
IC9	**8-759-200-81**	**TC4053BF: TOSHIBA**
IC10	**8-741-134-90**	**BX1349: SONY**
IC11	**8-741-134-80**	**BX1348: SONY**
IC12	**8-741-135-00**	**BX1350: SONY**
IC13	**8-759-906-53**	**TL062CPS: TI**
IC14	**8-759-700-07**	**NJM2903M: JRC**
L1	**1-408-409-00**	**MICRO 10**
L3	**1-408-409-00**	**MICRO 10**
L5	**1-421-013-00**	**CHOKE 25MH**
L6	**1-421-013-00**	**CHOKE 25MH**
L7	**1-421-013-00**	**CHOKE 25MH**
L8	**1-421-013-00**	**CHOKE 25MH**
L9	**1-421-013-00**	**CHOKE 25MH**
L10	**1-408-413-00**	**MICRO 22**
L11	**1-408-413-00**	**MICRO 22**
L12	**1-408-413-00**	**MICRO 22**
R69	**1-247-696-11**	**CARBON 47 5% 1/4W**
R70	**1-247-696-11**	**CARBON 47 5% 1/4W**
R74	**1-215-447-00**	**METAL 12K 1% 1/6W**
R75	**1-215-449-00**	**METAL 15K 1% 1/6W**
R77	**1-215-445-00**	**METAL 10K 1% 1/6W**
R78	**1-215-445-00**	**METAL 10K 1% 1/6W**
R79	**1-215-429-00**	**METAL 2.2K 1% 1/6W**
R126	**1-247-708-11**	**CARBON 470 5% 1/4W**
R127	**1-247-708-11**	**CARBON 470 5% 1/4W**
R128	**1-247-708-11**	**CARBON 470 5% 1/4W**

Ref. No.	Part No.	Description
RV1	1-230-520-11	METAL 1K
RV2	1-226-774-00	METAL 47K
RV3	1-230-522-11	METAL 4.7K
RV4	1-230-519-11	METAL 470
RV5	1-226-774-00	METAL 47K
RV6	1-230-520-11	METAL 1K
RV7	1-226-703-00	METAL 10K
RV8	1-230-520-11	METAL 1K
RV9	1-230-522-11	METAL 4.7K
RV10	1-230-519-00	METAL 470
RV11	1-226-774-00	METAL 47K
RV12	1-230-521-11	METAL 2.2K
RV13	1-230-521-11	METAL 2.2K
RV14	1-230-521-11	METAL 2.2K
RV15	1-230-521-11	METAL 2.2K
RV16	1-230-521-11	METAL 2.2K
RV17	1-230-521-11	METAL 2.2K
RV18	1-230-520-11	METAL 1K
RV19	1-226-774-00	METAL 47K
RV20	1-230-522-11	METAL 4.7K
RV21	1-226-770-00	METAL 470
RV22	1-226-774-00	METAL 47K
T1	1-448-363-11	DC-DC CONVERTER
TH1	1-807-467-11	POSITIVE 470 Ω
TH2	1-807-467-11	POSITIVE 470 Ω
TH3	1-807-467-11	POSITIVE 470 Ω

Ref. No.	Part No.	Description
SG-37/37P BOARD		
	A-7513-347-A	MOUNTED CIRCUIT BOARD "SG-37" (UC)
	A-7513-348-A	MOUNTED CIRCUIT BAORD "SG-37P" (EK)
C3	1-163-233-00	CERAMIC CHIP 18PF 5% 50V
C4	1-163-111-00	CERAMIC CHIP 56PF 5% 50V (UC)
C4	1-163-107-00	CERAMIC CHIP 39PF 5% 50V (EK)
C17	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C18	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C20	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C21	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C22	1-163-109-00	CERAMIC CHIP 47PF 5% 50V (EK)
C23	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C32	1-163-125-00	CERAMIC CHIP 220PF 5% 50V (UC)
C34	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C38	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
C39	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C43	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
C45	1-163-125-00	CERAMIC CHIP 200PF 5% 50V (UC)
C47	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C56	1-124-141-00	ELECT 330 20% 10V
C60	1-124-135-00	ELECT 470 20% 6.3V
C62	1-163-251-00	CERAMIC CHIP 100PF 5% 50V
C64	1-163-099-00	CERAMIC CHIP 18PF 5% 50V
C69	1-124-139-00	ELECT 100PF 20% 10V
C74	1-163-093-00	CERAMIC CHIP 10PF 5% 50V
C75	1-163-093-00	CERAMIC CHIP 10PF 5% 50V
C80	1-163-117-00	CERAMIC CHIP 100PF 5% 50V
CN1	1-562-728-11	RECEPTACLE, 50P FEMALE
D1	8-719-100-03	1S2835
D2	8-719-101-23	1SS123
D3	8-719-100-03	1S2835
D4	8-719-100-03	1S2835
D5	8-719-100-03	1S2835
D6	8-719-143-07	RD4.3EB
D7	8-719-101-23	1SS123
D8	8-729-100-05	1S2837
D9	8-719-106-73	RD12M-B1

Ref. No.	Part No.	Description
IC1	8-741-134-00	BX1340: SONY
IC2	8-741-133-70	BX1337: SONY
IC3	8-759-240-53	TC4053BP: TOSHIBA
IC4	8-759-135-80	μPC358C: NEC
IC5	8-757-930-11	CX7930A: SONY
IC6	8-759-145-58	μPC4558C: NEC
IC7	8-759-240-53	TC4053BP: TOSHIBA
IC8	8-759-902-21	SN74LS221N: TI
IC9	8-759-045-57	MC14557BCP: MOTOROLA
IC10	8-759-220-00	TC40H000P: TOSHIBA
IC11	8-759-990-82	TL082CP: TI
IC12	8-759-901-23	SN74LS123N: TI
IC13	8-759-902-21	SN74LS221N: TI
IC14	8-759-605-18	CX518: SONY
IC15	8-759-700-04	NJM2043D-D: JRC
L1	1-408-417-00	MICRO 47
L2	1-408-417-00	MICRO 47
L3	1-408-423-00	MICRO 150 (UC)
L3	1-408-615-00	MICRO 100 (EK)
L4	1-408-415-00	MICRO 33
L5	1-408-417-00	MICRO 47
L7	1-408-417-00	MICRO 47
L8	1-408-417-00	MICRO 47
L9	1-408-417-00	MICRO 47
L10	1-408-417-00	MICRO 47
L11	1-408-401-00	MICRO 2.2
Q1	8-729-100-76	2SA812
Q2	8-729-100-66	2SC1623
Q3	8-729-100-66	2SC1623
Q4	8-729-100-66	2SC1623
Q5	8-729-100-66	2SC1623
Q7	8-729-100-66	2SC1623
Q8	8-729-100-76	2SA812
Q10	8-729-109-44	2SK94
Q11	8-729-175-73	2SC2757
Q12	8-729-122-63	2SA1226
Q13	8-729-175-73	2SC2757
Q14	8-729-122-63	2SA1226
Q15	8-729-100-66	2SC1623
Q16	8-729-100-66	2SC1623
Q17	8-729-109-44	2SK94

Ref. No.	Part No.	Description
R8	1-215-433-00	METAL 3.3K 1% 1/6W (UC)
R8	1-215-429-00	METAL 2.2K 1% 1/6W (EK)
R9	1-215-433-00	METAL 3.3K 1% 1/6W (UC)
R9	1-215-435-00	METAL 3.9K 1% 1/6W (EK)
R28	1-215-464-00	METAL 62K 1% 1/6W (UC)
R30	1-215-461-00	METAL 47K 1% 1/6W (UC)
R37	1-215-456-00	METAL 30K 1% 1/6W
R38	1-215-455-00	METAL 27K 1% 1/6W
R44	1-215-445-00	METAL 10K 1% 1/6W
R45	1-215-457-00	METAL 33K 1% 1/6W
R46	1-215-453-00	METAL 22K 1% 1/6W
R51	1-215-443-00	METAL 8.2K 1% 1/6W
R52	1-215-445-00	METAL 10K 1% 1/6W
R54	1-216-433-00	METAL 3.3K 1% 1/6W (UC)
R54	1-215-447-00	METAL 12K 1% 1/6W (EK)
R88	1-215-394-00	METAL 75 1% 1/6W
RV1	1-228-519-11	METAL 2.2K
RV2	1-228-759-00	METAL 22K (UC)
RV3	1-228-395-00	METAL 10K
RV4	1-228-761-00	METAL 100K
S1	1-553-429-00	SLIDE (UC)
T1	1-427-487-00	OUTPUT
X1	1-567-549-11	28.63636MHz (UC)
X1	1-567-550-11	28.375MHz (EK)
X2	1-527-585-00	17.734475MHz (EK)

Ref. No. Part No. Description

SW-29 BOARD

1-617-357-12 PRINTED CIRCUIT BOARD "SW-29"

⚠R1 **1-217-200-00 WIREWOUND 1 10% 2W**

S1 1-554-506-00 TOGGLE
S2 1-554-506-00 TOGGLE
S3 1-554-507-00 TOGGLE

SW-30 BOARD

1-617-358-11 PRINTED CIRCUIT BOARD "SW-30"

S1 1-553-739-00 PUSH
S2 1-553-739-00 PUSH
S3 1-554-486-00 TOGGLE [AUTO B/W BALANCE]

SWB-13 BOARD

1-617-359-11 PRINTED CIRCUIT BOARD "SWB-13"

S1 1-553-739-00 PUSH
S2 1-554-165-00 SLIDE

Ref. No. Part No. Description

TG-18/18P BOARD

A-7513-335-A MOUNTED CIRCUIT BOARD "TG-18" (UC)
A-7513-336-A MOUNTED CITCUIT BOARD "TG-18P" (EK)

C1 1-163-141-00 CERAMIC CHIP 0.001 5% 50V
C5 1-124-140-00 ELECT 220 20% 6.3V
C6 1-163-141-00 CERAMIC CHIP 0.001 5% 50V
C13 1-124-141-00 ELECT 330 20% 10V
C24 1-163-251-00 CERAMIC CHIP 100PF 5% 50V

C25 1-163-251-00 CERAMIC CHIP 100PF 5% 50V
C29 1-163-251-00 CERAMIC CHIP 100PF 5% 50V
C30 1-163-251-00 CERAMIC CHIP 100PF 5% 50V
C34 1-163-251-00 CERAMIC CHIP 100PF 5% 50V
C35 1-163-251-00 CERAMIC CHIP 100PF 5% 50V

C39 1-163-109-00 CERAMIC CHIP 47PF 5% 50V
C40 1-163-247-00 CERAMIC CHIP 68PF 5% 50V
C41 1-163-105-00 CERAMIC CHIP 33PF 5% 50V
C47 1-163-235-00 CERAMIC CHIP 22PF 5% 50V
C50 1-107-159-00 MICA 33PF 5% 500V
Ser.No. 10001~10205 (J)
10001~10810 (UC)
10001~10440 (EK)

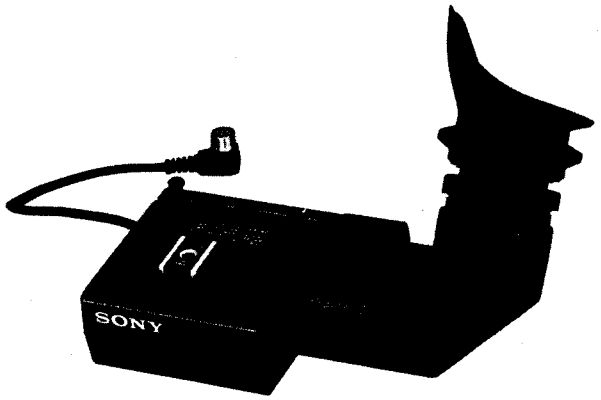
CN1 1-564-003-00 RECEPTACLE, 4P MALE
1-562-149-11 PLUG HOUSING 4P
1-564-026-00 PLUG CONTACT
CN2 1-564-008-00 RECEPTACLE, 9P MALE
1-562-154-11 PLUG HOUSING 9P
1-564-026-00 PLUG CONATCT
CN3 1-564-015-00 RECEPTACLE, 5P MALE
1-562-150-11 PLUG HOUSING 5P
1-564-026-00 PLUG CONTACT
CN4 1-564-019-00 RECEPTACLE, 9P MALE
1-564-154-11 PLUG HOUSING 9P
1-562-026-00 PLUG CONTACT
CN5 1-564-003-00 RECEPTACLE, 4P MALE
1-562-149-11 PLUG HOUSING 4P
1-564-026-00 PLUG CONTACT
CN6 1-564-008-00 RECEPTACLE, 9P MALE
1-562-154-11 PLUG HOUSING 9P
1-564-026-00 PLUG CONTACT

Ref. No.	Part No.	Description
D1	8-719-100-03	1S2835
D2	8-719-100-03	1S2835
D3	8-719-100-03	1S2835
D4	8-719-100-05	1S2837
D5	8-719-100-05	1S2837
D6	8-719-100-05	1S2837
D7	8-719-100-05	1S2837
D9	8-719-100-05	1S2837
D10	8-719-100-05	1S2837
D11	8-719-100-05	1S2837
IC1	8-759-913-03	CX23047A: SONY
IC4	8-759-000-26	MMH0026CP1: MOTOROLA
IC5	8-759-000-26	MMH0026CP1: MOTOROLA
IC6	8-759-000-26	MMN0026CP1: MOTOROLA
IC7	8-759-205-00	TC74HC14F: TOSHIBA
IC8	8-752-001-10	CX20011: SONY
IC9	8-759-204-98	TC74HC08F: TOSHIBA
IC10	8-759-278-12	TA78L012AP: TOSHIBA
Q1	8-729-100-76	2SA812
R24	1-214-583-00	METAL 12K 1% 1/8W
R25	1-214-565-00	METAL 2.2K 1% 1/8W
R26	1-214-561-00	METAL 1.5K 1% 1/8W
RV1	1-230-520-11	METAL 1K

Ref. No.	Part No.	Description
FRAME		
	A-7550-031-A	MOUNTED CIRCUIT BOARD, LENS
	A-7575-089-A	CCD UNIT (UC,J)
	A-7575-090-A	CCD UNIT (EK)
	1-413-163-21	POWER UNIT
	1-617-361-11	PRINTED CIRCUIT BOARD "CN-111"
CN101	1-561-233-21	RECEPTACLE, 6P FEMALE "LENS"
CN102	1-561-320-00	RECEPTACLE, 8P FEMALE "VF"
CN103	1-563-096-11	RECEPTACLE (WITH SW), 3P FEMALE "MIC IN" (UC, EK)
CN104	1-561-781-41	RECEPTACLE, BNC "VIDEO OUT"
CN105	1-561-781-41	RECEPTACLE, BNC "GEN LOCK IN"
CN106	1-508-942-00	RECEPTACLE, 14P MALE "VTR/CCU/CMA"
CN107	1-564-603-11	RECEPTACLE (WITH DC SW), 4P MALE "DC IN"
D101	8-719-100-65	RD12EB1
D102	8-719-112-01	RD12EB
J101	1-507-682-00	"EAR"
Q101	8-729-315-63	2SB856
R101	1-247-826-00	CARBON 620 5% 1/6W
S101	1-570-490-11	TOGGLE "POWER"

DXF-3000CE

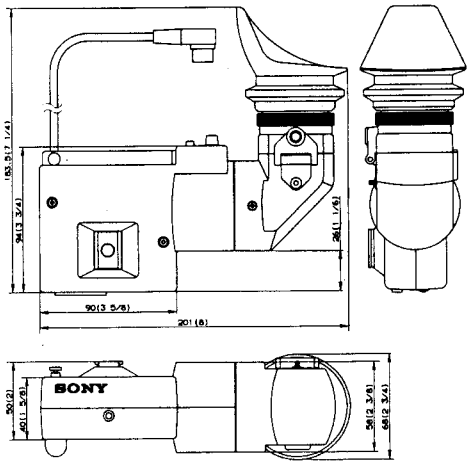
1.5-INCH
ELECTRONIC VIEWFINDER



SPECIFICATION

Picture tube	1.5-inch monochrome
Indicators	REC/TALLY indicator, BATT indicator GAIN UP indicator, LOW LIGHT indicator
Signal system	CCIR standards
Scanning system	625 lines, 2 : 1 interlace
Resolution	400 lines
Power requirements	12 V dc
Power consumption	2.3W
Weight	Approx. 600 g (1 lb 4 oz)

Dimensions Unit : mm (inches)

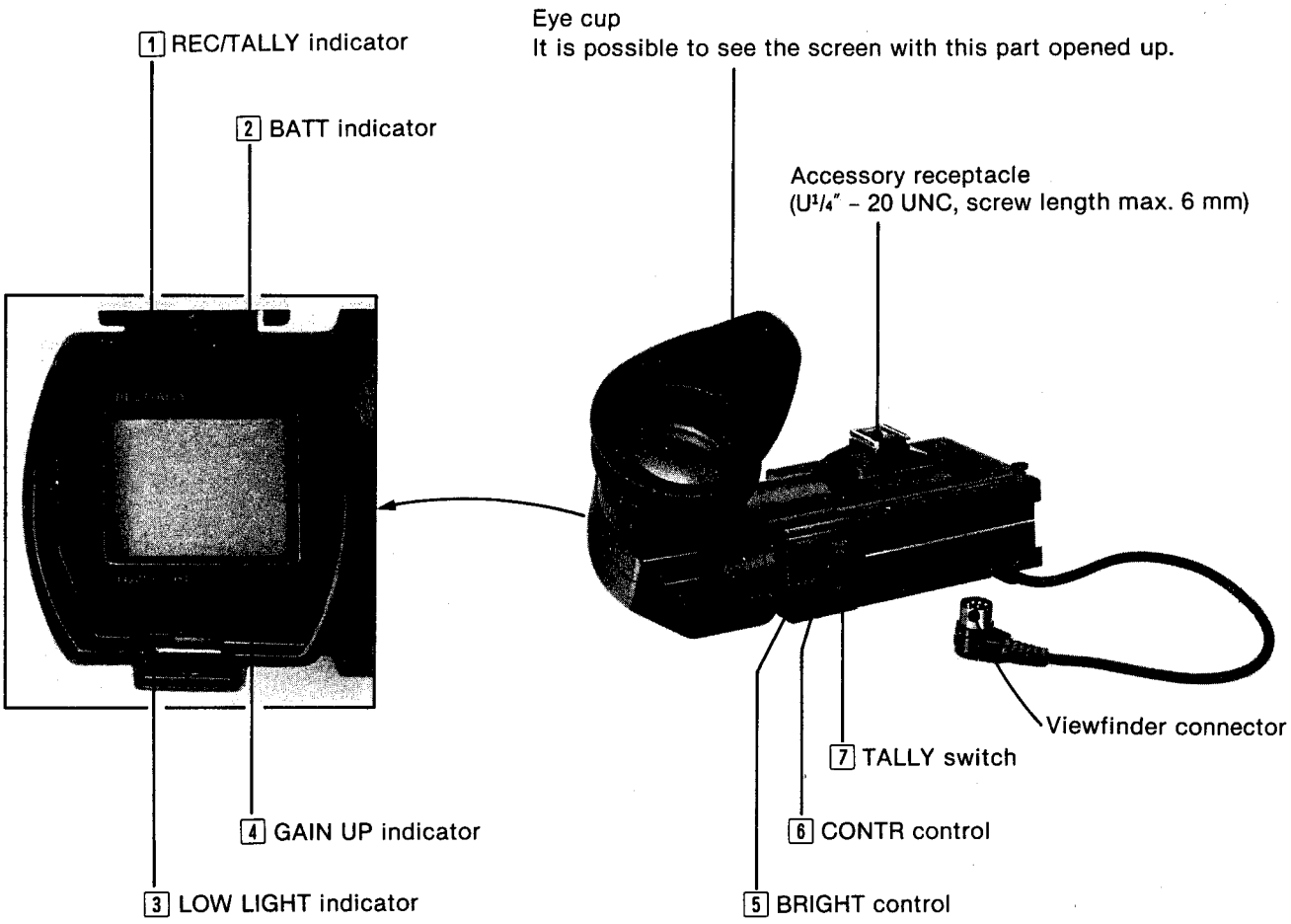


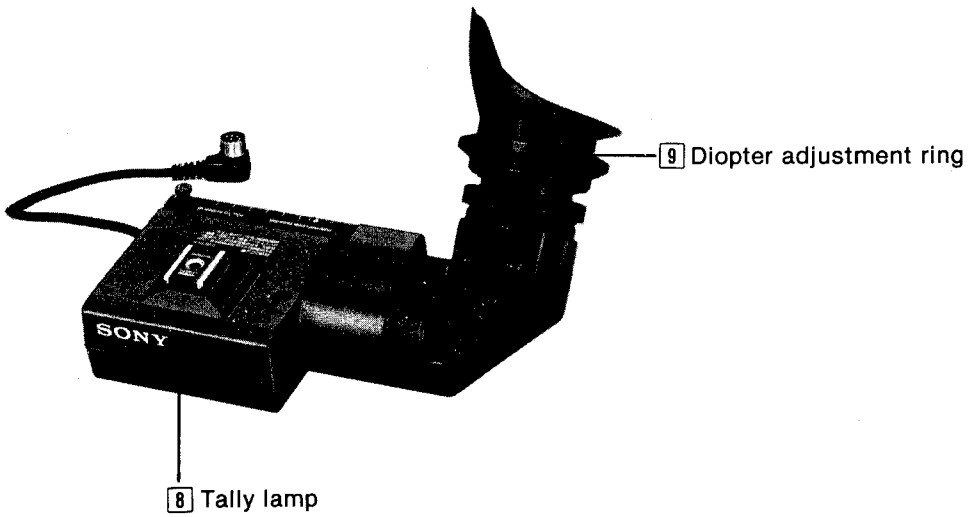
SONY
SERVICE MANUAL

TABLE OF CONTENTS

SECTION 1
GENERAL DESCRIPTION

1-1. LOCATION AND FUNCTION OF CONTROLS





[1] REC/TALLY indicator
Illuminates during recording with one camera, and illuminates when the camera's picture is selected by a control console, a video switcher, etc., connected to the CCU-M3/M3P camera control unit which is connected to the camera.
The indicator blinks in accordance with the warning system of the VTR.

[2] BATT (battery) indicator
Starts blinking several minutes before the battery of the DC-8 battery adaptor, the VTR or the CCU-M3/M3P is discharged to a level at which it cannot power the VTR or the CCU (about 11 V), and illuminates steadily when the battery has discharged to that level. (For details, refer to the table on page 1-35.)

[3] LOW LIGHT indicator
Lights up when the video output level from the camera is too low due to insufficient lighting. (Even if the indicator is illuminated, the camera will operate, but the recording will be made at a low video output level.)

[4] GAIN UP indicator
Lights up when the GAIN selector is set to 9 dB or 18 dB.

[5] BRIGHT (brightness) control
Adjusts the brightness of the picture on the viewfinder screen. To obtain a brighter picture, turn this control clockwise.

Note
This control does not affect the output signal of the camera.

[6] CONTR (contrast) control
Adjusts the contrast of the picture on the viewfinder screen.

Note
This control does not affect the output signal of the camera.

[7] TALLY switch
The tally lamp [8] can be activated or deactivated if necessary, by setting this switch to ON or OFF.

[8] Tally lamp
When the TALLY switch [7] is set to ON, this lamp operates the same as the REC/TALLY indicator [1].

[9] Diopter adjustment ring
Adjusts the diopter. For details about adjustment procedures, refer to page 1-26.

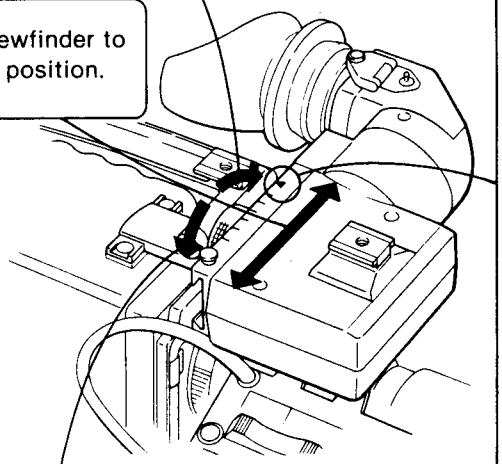
1-2. FOR EASY OPERATION OF THE VIEWFINDER

Adjustment of the horizontal position:

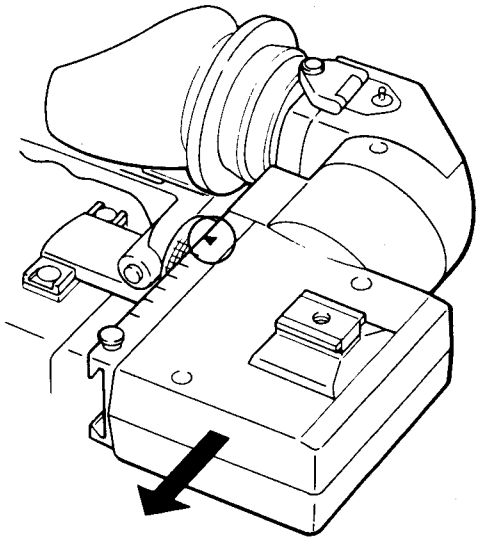
1 Loosen the lock ring.

2 Slide the viewfinder to the desired position.

3 Tighten the ring.



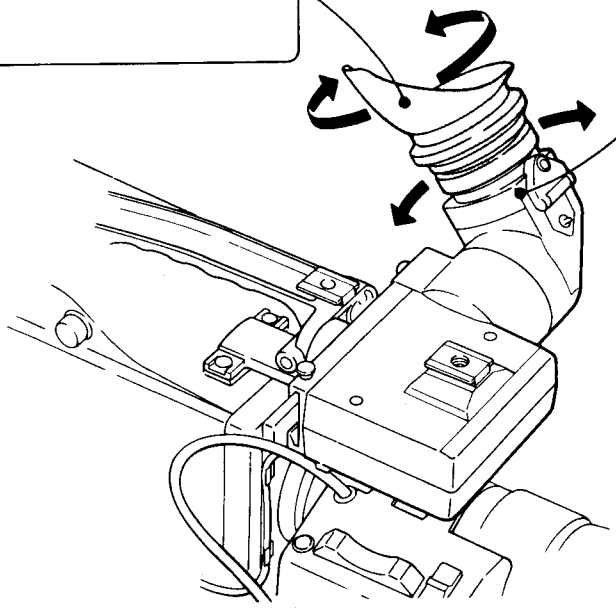
To insert the camera into the carrying case with the viewfinder attached to it, slide the viewfinder to the "▼" mark and tighten the lock ring.



The position of the eye cup:

2 Rotate the eye cup to fit the eye used for viewing.

1 Move the eye cup up and down for comfortable use.



1-3. PRECAUTIONS

Safety

- Operate the camera only on 12 V DC. For operation from an ac power line, use the camera adaptor recommended for this camera. Do not use any other camera adaptor.
- Allow adequate air circulation to prevent internal heat build-up.

Operation

- Avoid rough handling or mechanical shock, especially when the lens faces downward.
- Do not operate the camera outside a −5°C to +45°C (23°F to 113°F) temperature range.
- Keep the camera in a horizontal plane.
- Keep the camera away from very strong magnetic fields to avoid distortion and flutter on the screen.
- Do not hold the camera by the viewfinder.

Operation of the viewfinder

Do not point the viewfinder directly at the sun, or the plastic inside the viewfinder may be damaged.

Cleaning

Clean the cabinet, panel and controls with a dry soft cloth, or soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzine, which might damage the finish.

Repacking

Do not discard the carton. It affords maximum protection whenever the camera is transported. Do not transport or ship the camera only in the carrying case. Repack it as it was originally packed at the factory.

SECTION 2
ALIGNMENT

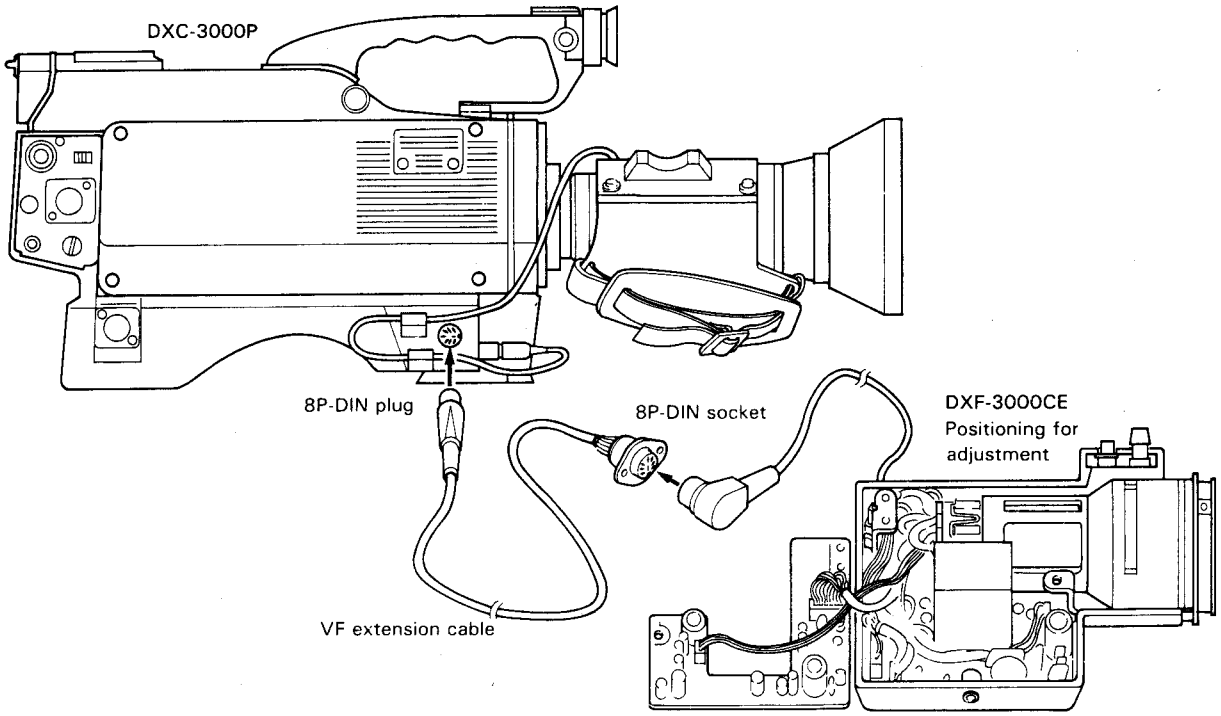
2-1. PREPARATION

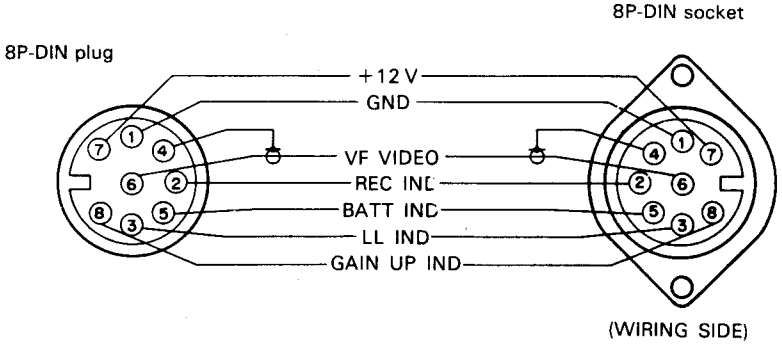
2-1-1. Equipment Required

1. Pattern Box PTB-220
   Sony part number J-6020-680-A
2. Resolution chart: Sony part number J-6021-870-A
3. Video Camera DXC-3000P
4. AC Adapter CMA-7CE or CMA-8CE
5. Camera Cable CCQ-2AR
6. Black and White monitor PVM-91CE or equivalent
7. Digital multimeter
8. Dualtrace oscilloscope
9. VF extension cable: See 2-1-2.

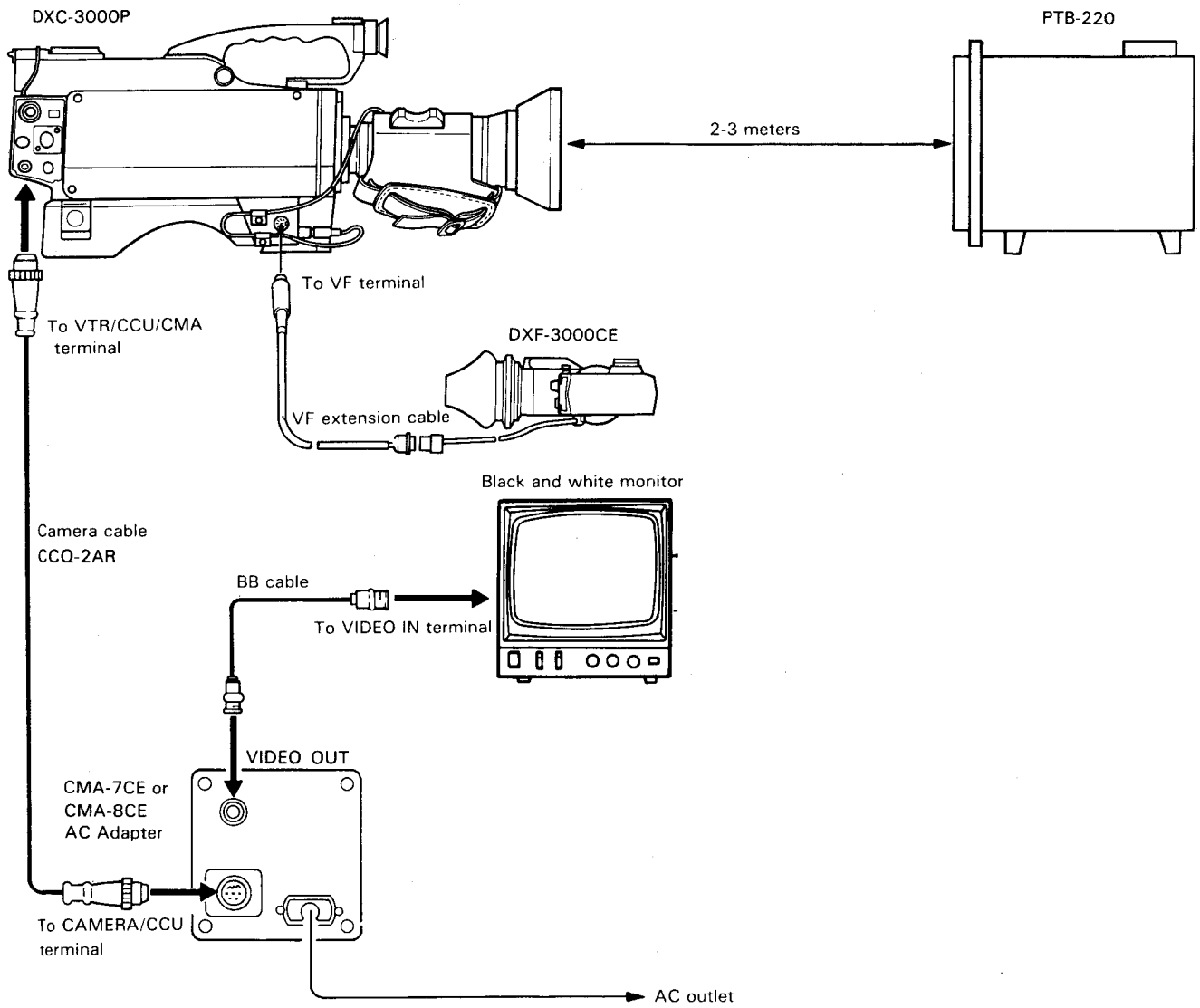
2-1-2. How to make the VF extension cable

8P-DIN plug (male) ..... Sony part number 1-560-173-00
8P-DIN socket (female) ..... Sony part number 1-561-320-00





2-2. CONNECTION AND INITIAL SETTING



2-2-1. Initial settings

1. Set the camera switches and controls as follows.
   DXC-3000P Video Camera
   - BARS WB switch: AUTO
   - GAIN switch: 0 dB
   - PRF HEAT switch: ON

   DXF-3000CE Viewfinder
   - CONTRAST control: Fully clockwise
   - BRIGHTNESS control: Center

   Lens
   - AUTO/MANUAL switch: AUTO

2. Preparation for picture
   (1) Adjust the zoom control so that the resolution chart frame touches the underscanned picture frame on the monitor.
   (2) Adjust the iris control for the best resolution of the monitor.

2-3. VF SYSTEM ADJUSTMENT

2-3-1. 9V Adjustment

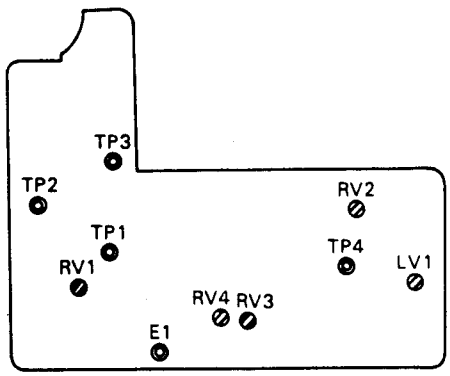
Equipment: DC voltmeter
Test point: TP1(GND:E1)/VF-18A board
Adjustment point: ◐ RV1/VF-18A board
Specification: 9.0 ±0.05 VDC

2-3-2. Focus Adjustment

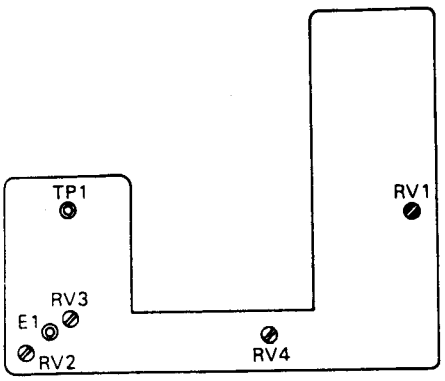
Object: Resolution pattern
Preparations: 1. CONTRAST → Fully clockwise
2. BRIGHTNESS → Center
3. Adjust the RV4 (BRIGHT)/VF-18A board so that the gradation of the resolution pattern is seen clearly.
Adjustment point: ◐ RV3 on the VF-18A board
Adjustment: Adjust for the best resolution of the viewfinder.

Specifications:	Center	Circumference
Horizontal	More than 420	More than 350
Vertical	More than 350	More than 300

Note: If this adjustment is performed, adjust 2-3-6. V.H deflection size adjustment.



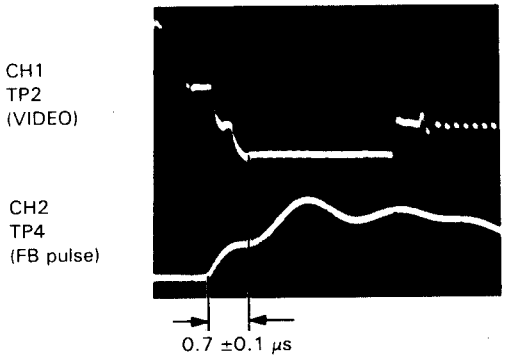
VF-18A board (component side)



VF-23 board (component side)

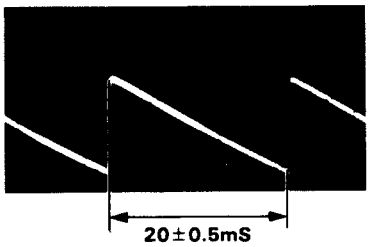
2-3-3. Horizontal hold adjustment

Equipment: Dual trace oscilloscope
Test point: CH-1 TP2 (GND:E1) on the VF-18A board
CH-2 TP4 (GND:chassis) on the VF-18A board
Mode: ALT
Trigger: TP4/VF-18A board
Adjustment point: ◐ RV1/VF-23 board
Specification: 0.6 ±0.1 μS



2-3-4. Vertical hold adjustment

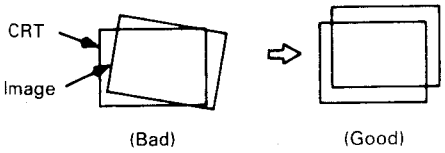
Preparation: Set the PREHEAT switch on the DXC-3000P to OFF.
Equipment: Oscilloscope
Test point: TP1/VF-23 board
Trigger: CN1-1 pin/VF-23 board
Adjustment point: ◐ RV4/VF-23 board
Specification: 20 ±0.5 mS

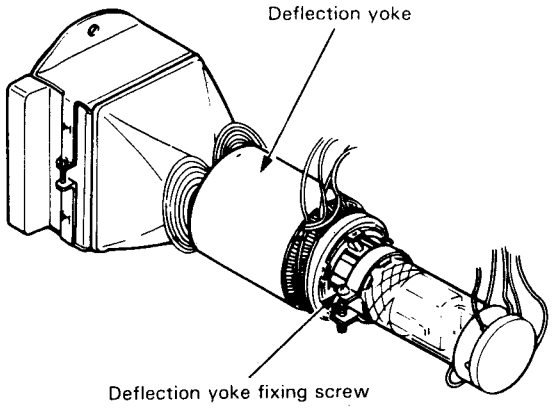


2-3-5. Deflection yoke tilt adjustment

Note: 2-3-6. V.H deflection size adjustment, 2-3-7. Centering adjustment and this adjustment affect each other, so carry out these adjustments alternately several times.

Adjustment: 1. Loosen the deflection yoke fixing screw, and turn the deflection yoke until any inclination on the viewfinder picture is eliminated.
2. After this adjustment is completed, tighten the fixing screw, pushing the deflection yoke toward the CRT.





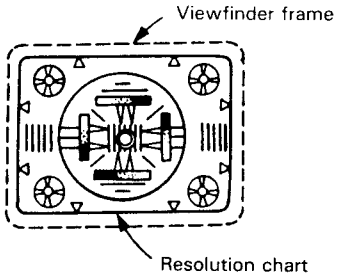
2-3-6. V.H deflection size adjustment

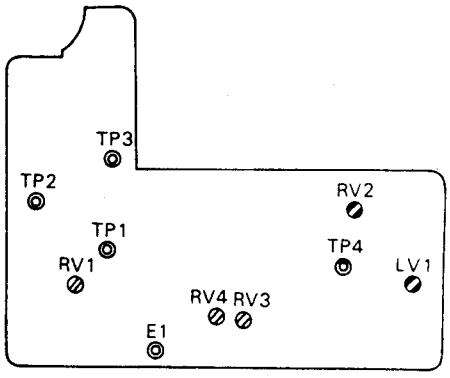
Note: 2-3-5. Deflection yoke tilt adjustment, 2-3-7. Centering adjustment and this adjustment affect each other, so carry out these adjustments alternately several times.

Object: Resolution chart

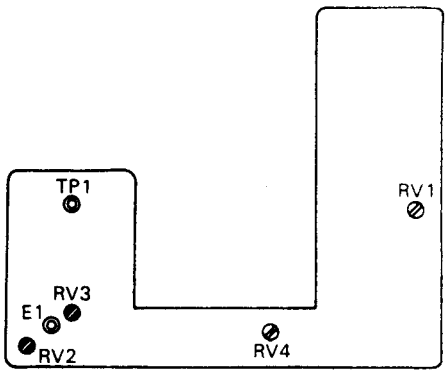
Preparation: 1. Set the external BRIGHT control at the center.
Adjust the external CONTR control so that the second gradation of the resolution chart is disappeared.

Adjustment: 1. Adjust ◐ RV2 (V SIZE) and ◐ RV3 (V LIN)/VF-23 board so that the picture's hight becomes 97±1% (3±1% reduced scan) of viewfinder screen's hight with best longitudinal balance of the circle.
2. Adjust ◐ RV2 (H SIZE) and ◐ LV1 (H LIN)/VF-18A board so that the picture's width becomes 98±1% (2±1% reduced scan) of viewfinder screen's width with best lateral balance of the circle.





VF-18A board (component side)

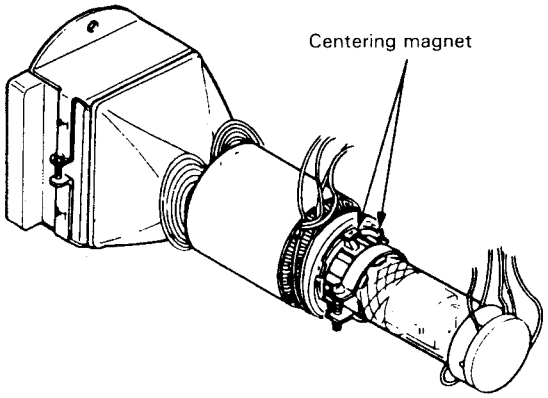


VF-23 board (component side)

2-3-7. Centering adjustment

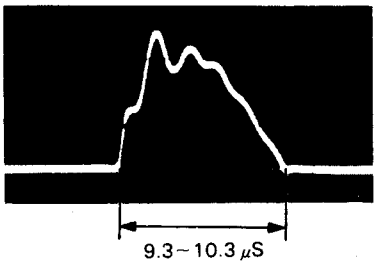
Note: 2-3-5. Deflection yoke tilt adjustment, 2-3-6. V.H deflection size adjustment and this adjustment affect each other, so carry out these adjustments alternately several times.

Adjustment: Turn the two centering magnets until the Hand V centerings are obtained.

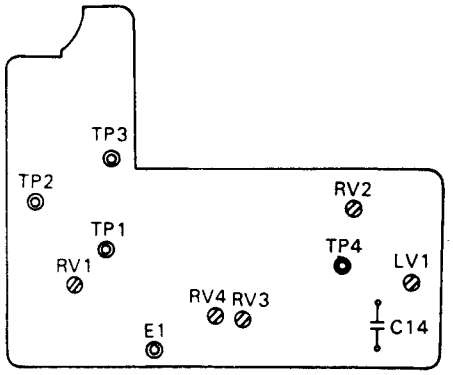


2-3-8. FB pulse wide adjustment

Equipment: Oscilloscope
Test point TP4 (GND:EI)/VF-18A board
Trigger: TP4/VF-18A board
Specification: 9.3 μS to 10.3 μS



Adjustment: C14/VF-18A board 0.001 μF Select one
0.0022 μF of these for
0.0033 μF the specification.

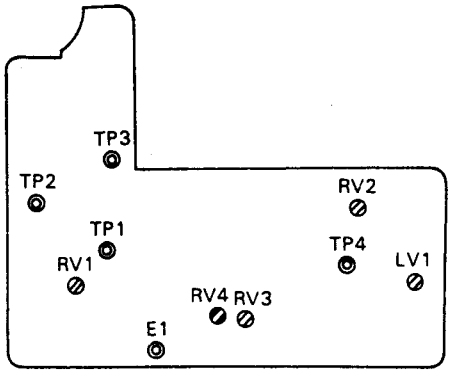


VF-18A board (component side)

2-3-9. Bright calibration adjustment

Object: Resolution pattern
Preparation: Turn RV1/SW-91 board (BRIGHTNESS) → fully counterclockwise.
Turn RV2/SW-91 (CONTRAST) → fully clockwise.

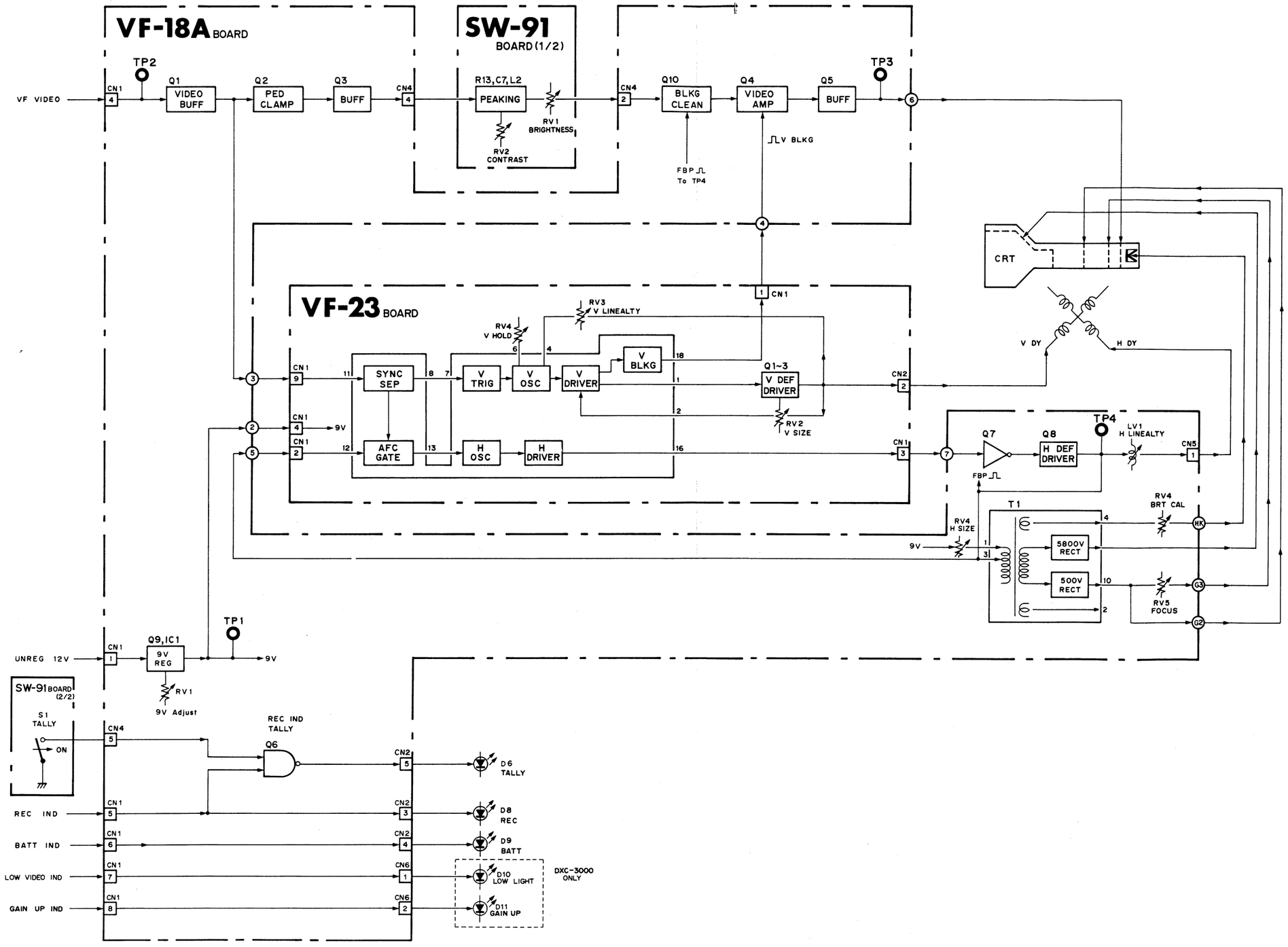
Adjustment: Adjust the picture by turning ◐ RV4/VF-18A counterclockwise from the rightmost position so that the black and white gradation scale is black up to the third step and the fourth step is recognizable.



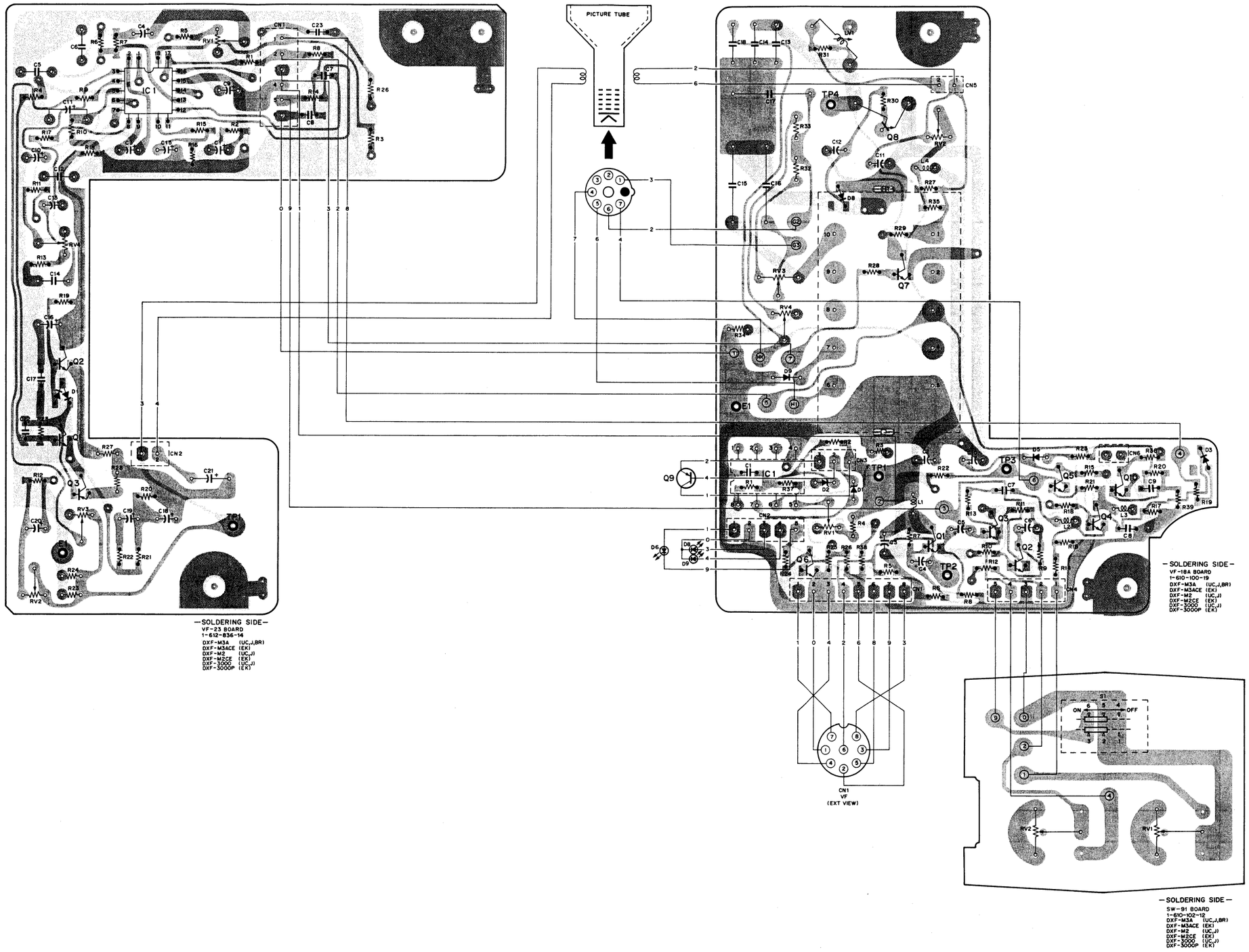
VF-18A board (component side)

SECTION 3
DIAGRAM

3-1. BLOCK DIAGRAM



3-2. MOUNTING DIAGRAM

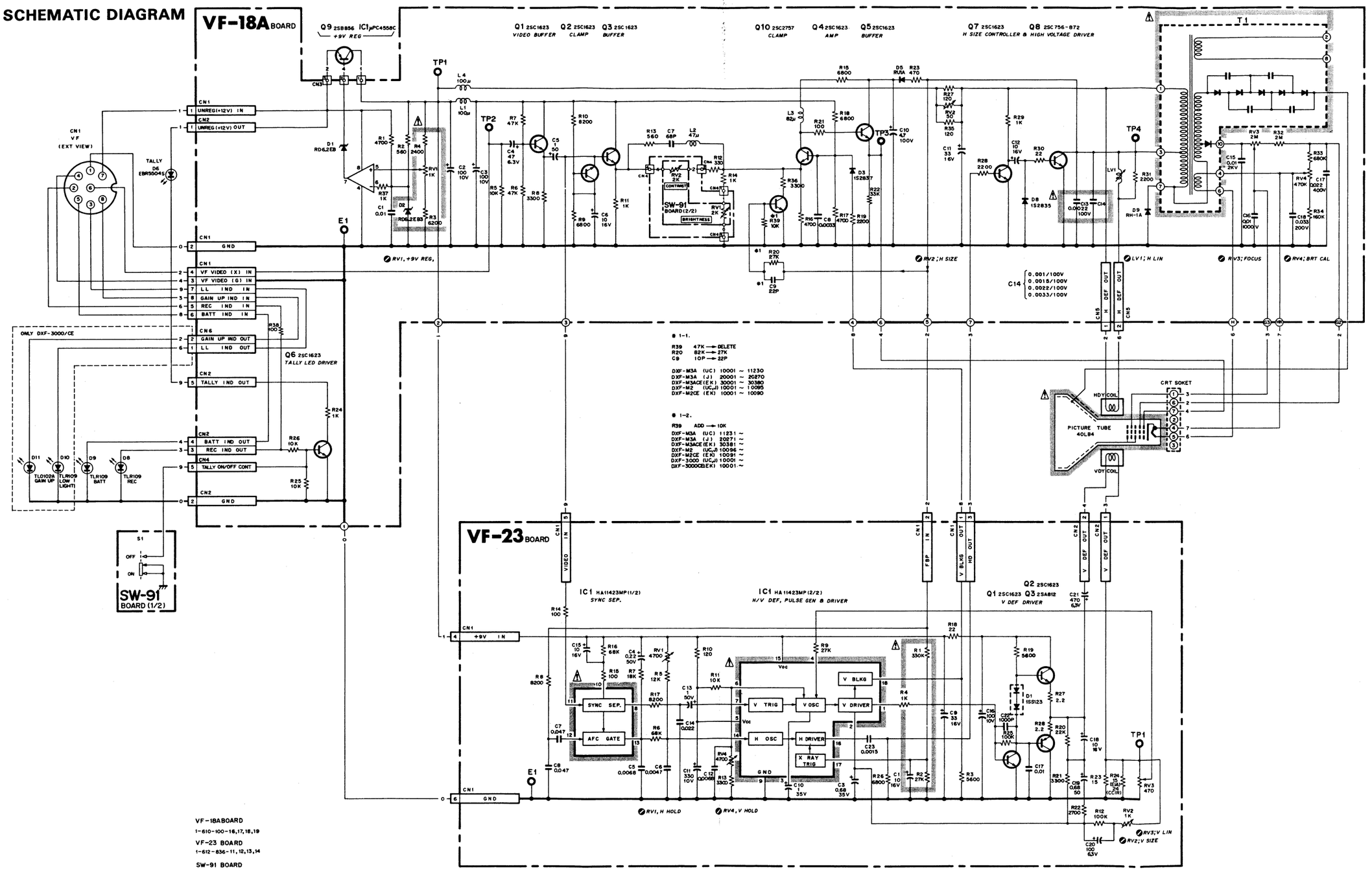


— SOLDERING SIDE —
VF-23 BOARD
1-612-836-14
DXF-M3A (UC,J,BR)
DXF-M3ACE (EK)
DXF-M2 (UC,J)
DXF-M2CE (EK)
DXF-3000 (UC,J)
DXF-3000P (EK)

— SOLDERING SIDE —
VF-18A BOARD
1-610-100-19
DXF-M3A (UC,J,BR)
DXF-M3ACE (EK)
DXF-M2 (UC,J)
DXF-M2CE (EK)
DXF-3000 (UC,J)
DXF-3000P (EK)

— SOLDERING SIDE —
SW-91 BOARD
1-610-102-12
DXF-M3A (UC,J,BR)
DXF-M3ACE (EK)
DXF-M2 (UC,J)
DXF-M2CE (EK)
DXF-3000 (UC,J)
DXF-3000P (EK)

3-3. SCHEMATIC DIAGRAM



SECTION 4
SEMICONDUCTOR PIN ASSIGNMENTS

The circuit diagram of IC is obtained from the IC data book published by the manufacturer.

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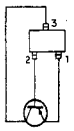
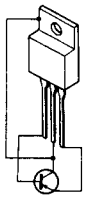
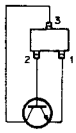
TOP VIEW (SCALE 4/1) 2SA812



2SB856



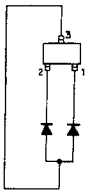
TOP VIEW (SCALE 4/1) 2SC1623 2SC2757



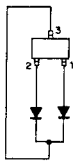
BOTTOM VIEW 2SC756

< Di >

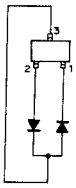
TOP VIEW (SCALE 4/1) 1S2835



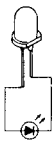
TOP VIEW (SCALE 4/1) 1S2837



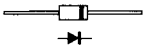
TOP VIEW (SCALE 4/1)



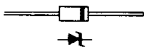
1SS123



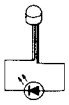
EBR5504S ; RED



RH1 RH1A



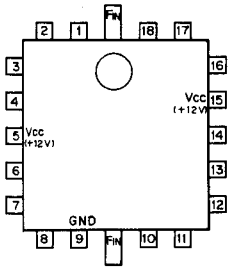
RD ? ?EB

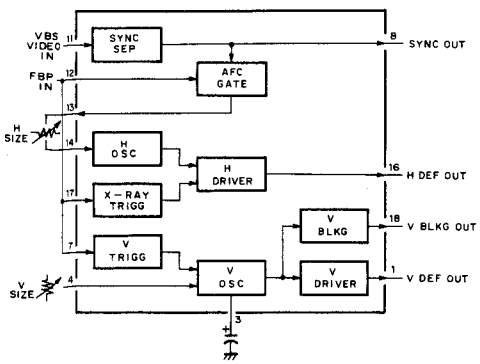


TLO102A ; ORANGE

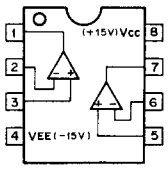
< IC >

HA11423MP (HITACHI) FLAT PACKAGE
TV H/V SYNC SIGNAL PROCESSOR
— TOP VIEW —





uPC4558C (NEC)
OPERATIONAL AMPLIFIER
— TOP VIEW —



SECTION 5
SPARE PARTS

5-1. PARTS INFORMATION

1. **Safety Related Component Warning**

   Components identified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service bulletins and service manual supplements published by Sony.

2. Replacement Parts supplied from Sony Parts Center will sometimes have different shape and outside view from the parts which actually in use. This is due to "**accommodating the improved parts and/or engineering changes**" or "**standardization of genuine parts.**"

   - This manual's exploded views and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present".
   - Regarding engineering parts changes in our engineering department, refer Sony service bulletins and service manual supplements.

3. **Printed Components in Bold-Face type** on the exploded views and electrical spare parts list are normally stocked for replacement purposes. The remaining parts are not normally required for routine service work. Orders for parts not shown in Bold-Face type will be processed, but allow for additional delivery time.

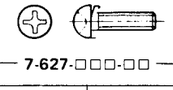
4. Item with no part number and/or no description are not stocked because they are seldom required for routine service.

5. **Abbreviation**

REF. NO.	DESCRIPTION	REF. NO.	DESCRIPTION	REF. NO.	DESCRIPTION
C	CAPACITOR	IC	IC	R	RESISTOR
CN	CONNECTOR	L	INDUCTOR	RV	VARIABLE RESISTOR
D	DIODE	LV	VARIABLE INDUCTOR	S	SWITCH
HT		Q	TRANSISTOR	T	TRANSFORMER

6. Screws
   - All the screws used in this machine are the TOTSU type unless otherwise noted. The screws are interchangeable with the Phillips type (⊕) and slotted type (⊖) screws.

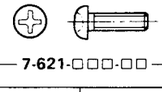
PRECISION +P Bzn-N



7-627-□□□-□□

SIZE	Parts No.
1.7 x 1.6	552-18
x 1.8	–
x 2	552-28
x 2.2	–
x 2.5	552-08
x 2.8	–
x 3	552-38
x 3.5	552-78
x 4	552-48
x 4.5	–
x 5	552-58
x 5.5	–
x 6	–
2 x 1.8	554-38
x 2	553-18
x 2.2	–
x 2.5	553-28
x 2.8	554-58
x 3	553-38
x 3.5	554-18
x 4	553-48
x 4.5	553-58
x 5	–
x 5.5	–
x 6	553-68
x 7	553-88
x 8	553-98
x 10	553-78
2.6 x 2.8	556-08
x 3	–
x 3.5	556-28
x 4	556-38
x 4.5	556-48
x 5	556-58
x 5.5	–
x 6	556-78
x 7	–
x 8	–
x 9	–
x 10	–

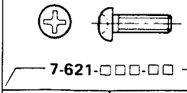
+B Cr-N



7-621-□□□-□□

SIZE	Parts No.
2 x 3	772-08
x 4	772-18
x 5	771-06
x 6	772-38
x 8	772-48
x 10	772-58
x 12	772-68
x 14	772-78
x 16	772-88
x 20	–
2.6 x 3	775-08
x 4	773-86
x 5	770-87
x 6	770-67
x 8	770-99
x 10	773-87
x 12	775-68
x 14	775-78
x 16	775-88
x 20	773-91

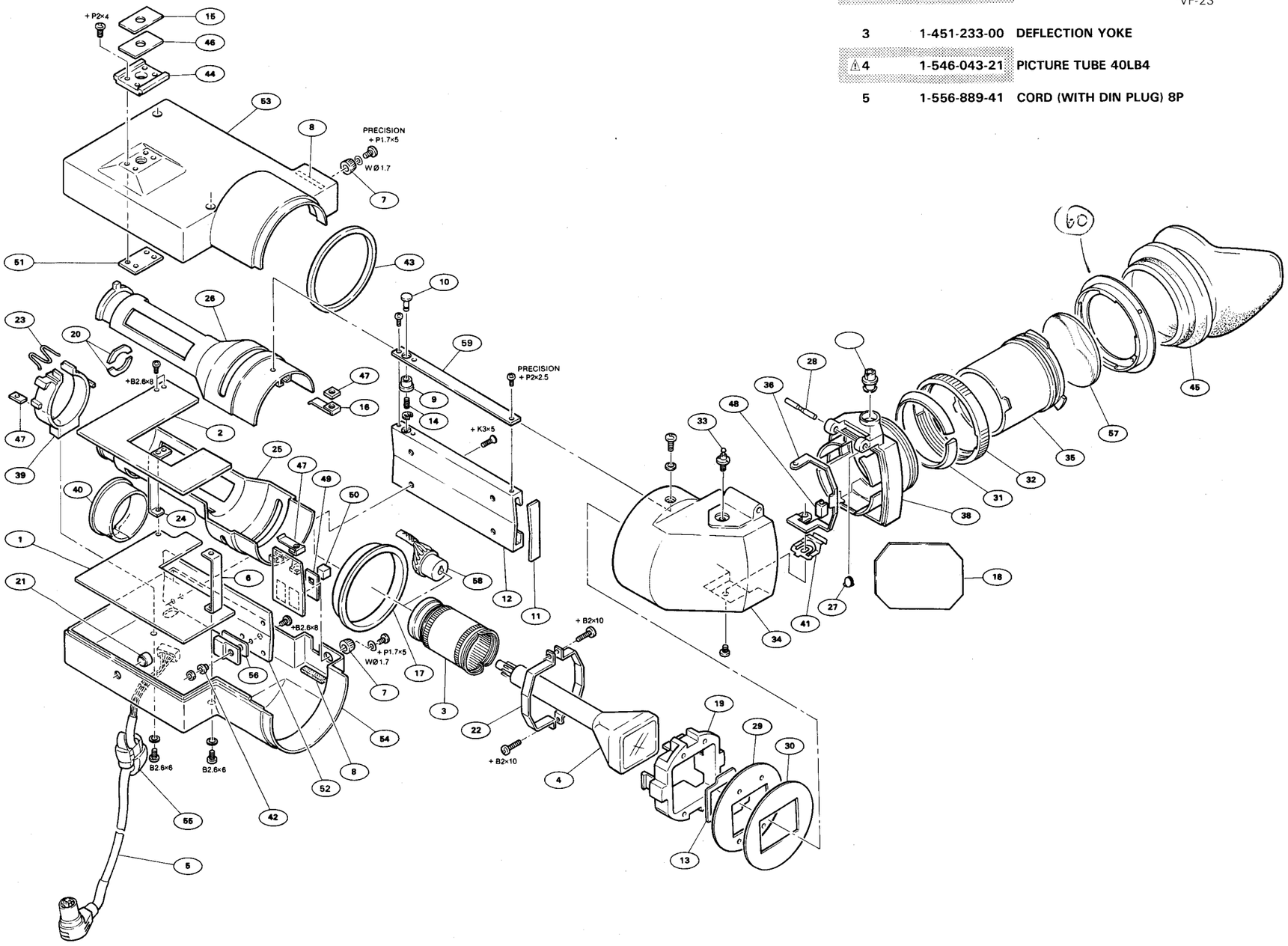
+B Bzn-N



7-621-□□□-□□

SIZE	Parts No.
2 x 3	772-00
x 4	772-10
x 5	772-20
x 6	772-30
x 8	772-40
x 10	772-50
x 12	772-60
x 14	772-70
x 16	772-80
x 20	–
2.6 x 3	775-00
x 4	775-10
x 5	775-20
x 6	773-95
x 8	775-40
x 10	775-50
x 12	775-60
x 14	775-70
x 16	775-80
x 20	775-90

EXPLODED VIEW



No.	Part No.	Description
⚠1	A-7513-073-A	MOUNTED CIRCUIT BOARD "VF-18A"
⚠2	A-7513-075-A	MOUNTED CIRCUIT BOARD "VF-23"
3	**1-451-233-00**	**DEFLECTION YOKE**
⚠4	**1-546-043-21**	**PICTURE TUBE 40LB4**
5	**1-556-889-41**	**CORD (WITH DIN PLUG) 8P**

No.	Part No.	Description
6	2-277-452-00	BRACKET (B), PC BOARD
7	2-277-453-00	KNOB, CONTROL
8	2-277-454-00	CUSHION, SWITCH
9	2-277-456-00	COLLALR, STOPPER
10	**2-277-457-00**	**KNOB, CONTROL**
11	2-277-458-00	RUBBER, STOPPER
12	2-277-459-00	GUIDE, VF SLIDE
13	2-277-464-00	ILLUMINATOR
14	2-277-466-01	SPRING, COMPRESSION
15	2-277-468-01	PLATE,ORNAMENTAL, CAMERA SHOE
16	2-277-469-01	TERMINAL, VF GROUND
17	2-381-409-02	RING, SLEEVE
18	2-381-411-00	MIRROR
19	2-381-419-00	HOLDER, CRT
20	2-381-420-00	RETAINER, CRT
21	2-381-421-00	HOLDER,LED
22	2-381-423-00	BAND, CRT
23	2-381-424-11	SPRING
24	2-381-427-00	STOPPER, PC BORAD
25	2-381-428-04	CASE(REAR)(1), CRT
26	2-381-429-05	CASE(REAR)(2), CRT
27	**2-381-461-02**	**PIN, BLIND**
28	2-381-462-01	PIN
29	2-381-463-01	SHEET, ADHESIVE, LABEL
30	2-381-465-01	PLATE, ORNAMENTAL, CRT
31	2-381-466-01	RING, RETAIER
32	2-381-467-01	RING (2), LENS
33	**2-381-468-01**	**RING, STOPPER**
34	2-381-469-01	TUBE, VF
35	2-381-470-02	HOLDER, LENS
36	2-381-471-01	HOLDER, MIRROR
37	2-381-472-02	STOPPER
38	2-381-473-02	LID
39	2-381-476-01	HOLDER(B), CRT CASE
40	2-381-477-01	RING(C)
41	2-381-478-02	CLAW, LOCK
42	**2-832-007-00**	**BUSHING (K), INSULATING**
43	**3-561-892-01**	**BELT, COUNTER**
44	**3-657-700-01**	**BRACKET, ACCESSORY**
45	**3-657-771-02**	**EYECUP (2)**
46	3-672-213-00	SHEET, ADHESIVE
47	3-673-015-00	PLATE, NUT(M2.6)
48	3-678-515-11	EDGING, RUBBER
49	3-680-604-01	PLATE, BLIND
50	3-680-605-00	CAP, SLIDE
51	3-688-709-01	NUT, PLATE, SHOE
52	3-688-718-01	NUT, PLATE, CASE
53	3-688-719-01	COVER(UPPER), VF
54	3-688-720-01	COVER, (LOWER), VF
55	**3-703-001-00**	**BUSHING, CORD**
56	**3-703-037-00**	**INSULATOR, TO-220**
57	3-657-626-00	LOUPE, FINDER
58	1-526-540-00	SCOKET, CRT
59	2-277-463-01	LABEL, SLIDE BLOCK
60	2-381-426-01	

VF-18A BOARD

Ref. No.	Part No.	Description
⚠	A-7513-073-A	MOUNTED CIRCUIT BOARD "VF-18A" (UC,J)
⚠	A-7513-074-A	MOUNTED CIRCUIT BOARD "VF-18A" (EK)
C1	1-163-021-00	CERAMIC CHIP 0.01 50V
C2	1-124-139-00	ELECT 100 20% 10V
C3	1-124-139-00	ELECT 100 20% 10V
C4	1-123-647-00	ELECT 47 20% 6.3V
C5	1-123-611-00	ELECT 1 20% 50V
C6	1-123-617-00	ELECT 10 20% 16V
C7	1-163-247-00	CERAMIC CHIP 68PF 5% 50V
C8	1-163-015-00	CERAMIC CHIP 0.0033 10% 50V
C9	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
C10	1-123-383-00	ELECT 4.7 20% 100V
C11	1-131-374-00	TANTALUM 33 10% 16V
C12	1-131-371-00	TANTALUM 10 10% 16V
⚠C13	1-108-369-00	MYLAR 0.0022 10% 100V
⚠C14	1-106-172-00	MYLAR 0.001 10% 100V
	1-108-367-00	MYLAR 0.001 10% 100V
	1-108-369-00	MYLAR 0.0022 10% 100V (EK)
	1-106-184-00	MYLAR 0.0033 10% 100V (EK)
C15	1-162-445-11	CERAMIC 0.01 2KV
C16	1-102-047-21	CERAMIC 0.01 1KV
C17	1-130-802-00	FILM 0.022 5% 400V
C18	1-108-427-00	MYLAR 0.033 10% 200V
CN1	1-564-007-00	RECEPTACLE, 8P MALE
CN2	1-564-004-00	RECEPTACLE, 5P MALE
	1-562-150-00	PLUG HOUSING 5P
	1-564-026-00	PLUG CONTACT
CN3	1-564-002-00	RECEPTACLE, 3P MALE
	1-562-148-00	PLUG HOUSING 3P
	1-562-026-00	PLUG CONTACT
CN4	1-564-004-00	RECEPTACLE, 5P MALE
	1-562-150-00	PLUG HOUSING 5P
	1-564-026-00	PLUG CONTACT
CN5	1-564-001-11	RECEPTACLE, 2P MALE
	1-562-147-00	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT
CN6	1-564-001-11	RECEPTACLE, 2P MALE
	1-562-147-00	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT

Ref No.	Part No.	Description
D1	8-719-100-39	RD6.2EB3
⚠D2	8-719-100-39	RD6.2EB3
D3	8-719-100-05	1S2837
D5	8-719-300-86	RU1A
D8	8-719-100-03	1S2835
D9	8-719-300-76	RH1A
⚠IC1	8-759-145-58	μPC4558C
L1	1-407-169-00	MICRO 100
L2	1-407-165-00	MICRO 47
L3	1-407-168-00	MICRO 82
L4	1-407-169-00	MICRO 100
LV1	1-459-203-00	350/103
Q1	8-729-100-66	2SC1623
Q2	8-729-100-66	2SC1623
Q3	8-729-100-66	2SC1623
Q4	8-729-100-66	2SC1623
Q5	8-729-100-66	2SC1623
Q6	8-729-100-66	2SC1623
Q7	8-729-100-66	2SC1623
Q8	8-727-587-28	2SC756-872
Q10	8-729-175-73	2SC2757
R1	1-216-065-00	METAL CHIP 4.7K 5% 1/10W
R2	1-216-043-00	METAL CHIP 560 5% 1/10W
⚠R3	1-215-440-00	METAL 6.2K 1% 1/6W
⚠R4	1-215-430-00	METAL 2.4K 1% 1/6W
R5	1-216-073-00	METAL CHIP 10K 5% 1/10W
R6	1-216-089-00	METAL CHIP 47K 5% 1/10W
R7	1-216-089-00	METAL CHIP 47K 5% 1/10W
R8	1-216-061-00	METAL CHIP 3.3K 5% 1/10W
R9	1-216-069-00	METAL CHIP 6.8K 5% 1/10W
R10	1-216-071-00	METAL CHIP 8.2K 5% 1/10W

Ref. No.	Part No.	Description
R11	1-216-049-00	METAL CHIP 1K 5% 1/10W
R12	1-216-037-00	METAL CHIP 330 5% 1/10W
R13	1-216-043-00	METAL CHIP 560 5% 1/10W
R14	1-216-049-00	METAL CHIP 1K 5% 1/10W
R15	1-216-069-00	METAL CHIP 6.8K 5% 1/10W
R16	1-216-065-00	METAL CHIP 4.7K 5% 1/10W
R17	1-216-065-00	METAL CHIP 4.7K 5% 1/10W
R18	1-216-069-00	METAL CHIP 6.8K 5% 1/10W
R19	1-216-057-00	METAL CHIP 2.2K 5% 1/10W
R20	1-216-083-00	METAL CHIP 27K 5% 1/10W
R21	1-216-025-00	METAL 100 5% 1/10W
R22	1-216-085-00	METAL CHIP 33K 5% 1/10W
R23	1-216-041-00	METAL CHIP 470 5% 1/10W
R24	1-216-049-00	METAL CHIP 1K 5% 1/10W
R25	1-216-073-00	METAL CHIP 10K 5% 1/10W
R26	1-216-073-00	METAL CHIP 10K 5% 1/10W
R27	1-216-027-00	METAL CHIP 120 5% 1/10W
R28	1-216-057-00	METAL CHIP 2.2K 5% 1/10W
R29	1-216-049-00	METAL CHIP 1K 5% 1/10W
R30	1-216-009-00	METAL CHIP 22 5% 1/10W
R31	1-216-057-00	METAL CHIP 2.2K 5% 1/10W
R32	1-214-971-00	METAL 2M 1% 1/4W
R33	1-215-489-00	METAL 680K 1% 1/6W
R34	1-215-474-00	METAL 160K 1% 1/6W
R35	1-216-027-00	METAL CHIP 120 5% 1/10W
R36	1-216-061-00	METAL CHIP 3.3K 5% 1/10W
R37	1-216-049-00	METAL CHIP 1K 5% 1/10W
R38	1-216-025-00	METAL CHIP 100 5% 1/10W
R39	1-216-073-00	METAL CHIP 10K 5% 1/10W
⚠RV1	1-228-888-00	METAL 1K
RV2	1-228-452-00	METAL 50
RV3	1-226-279-00	METAL 2M
RV4	1-228-897-00	METAL 470K
⚠T1	1-453-097-11	HIGH VOLTAGE BLOCK

Ref. No.	Part No.	Description
VF-23 BOARD		
⚠A-7513-075-A		MOUNTED CIRCUIT BOARD "VF-23" (UC,J)
⚠A-7513-076-A		MOUNTED CITCUIT BOARD "VF-23" (EK)
C1	1-123-617-00	ELECT 10 20% 16V
C3	1-131-346-00	TANTALUM 0.68 10% 35V
C4	1-123-608-00	ELECT 0.22 20% 50V
C5	1-130-481-00	MYLAR 0.0068 5% 50V
C6	1-130-479-00	MYLAR 0.0047 5% 50V
C7	1-163-035-00	CERAMIC CHIP 0.047 50V
C8	1-163-035-00	CERAMIC CHIP 0.047 50V
C9	1-131-374-00	TANTALUM 33 10% 16V
C10	1-131-347-00	TANTALUM 1 10% 35V
C11	1-124-141-00	ELECT 330 20% 10V
C12	1-130-481-00	MYLAR 0.0068 5% 50V
C13	1-123-611-00	ELECT 1 20% 50V
C14	1-130-487-00	MYLAR 0.022 5% 50V
C15	1-123-617-00	ELECT 10 20% 16V
C16	1-124-139-00	ELECT 100 20% 10V
C17	1-163-021-00	CERAMIC CHIP 0.01 50V
C18	1-123-617-00	ELECT 10 20% 16V
C19	1-123-902-00	ELECT 0.68 20% 50V
C20	1-123-661-00	ELECT 100 20% 6.3V
C21	1-124-135-00	ELECT 470 20% 6.3V
C22	1-163-141-00	CERAMIC CHIP 0.001 10% 50V
C23	1-163-145-00	CERAMIC CHIP 0.0015 10% 50V
CN1	1-564-005-00	RECEPTACLE, 6P MALE
	1-562-151-11	PLUG HOUSING 6P
	1-564-026-00	PLUG CONTACT
CN2	1-564-001-11	RECEPRACLE, 2P MALE
	1-562-147-00	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT
D1	8-719-101-23	1SS123
⚠IC1	8-759-300-28	HA11423MP: HITACHI

Ref. No.	Part No.	Description
Q1	8-729-100-66	2SC1623
Q2	8-729-100-66	2SC1623
Q3	8-729-100-76	2SA812
⚠R1	1-216-109-00	METAL 330 5% 1/10W
⚠R2	1-216-083-00	METAL CHIP 27K 5% 1/10W
R3	1-216-067-00	METAL 5.6K 5% 1/10W
R4	1-216-049-00	METAL CHIP 1K 5% 1/10W
R5	1-216-075-00	METAL CHIP 12K 5% 1/10W
R6	1-216-093-00	METAL CHIP 68K 5% 1/10W
R7	1-216-079-00	METAL CHIP 18K 5% 1/10W
R8	1-216-071-00	METAL CHIP 8.2K 5% 1/10W
R9	1-216-083-00	METAL CHIP 27K 5% 1/10W
R10	1-216-027-00	METAL CHIP 120 5% 1/10W
R11	1-216-073-00	METAL CHIP 10K 5% 1/10W
R12	1-216-097-00	METAL CHIP 100K 5% 1/10W
R13	1-216-061-00	METAL CHIP 3.3K 5% 1/10W
R14	1-216-025-00	METAL CHIP 100 5% 1/10W
R15	1-216-025-00	METAL CHIP 100 5% 1/10W
R16	1-216-093-00	METAL CHIP 68K 5% 1/10W
R17	1-216-071-00	METAL CHIP 8.2K 5% 1/10W
R18	1-216-009-00	METAL CHIP 22 5% 1/10W
R19	1-216-067-00	METAL CHIP 5.6K 5% 1/10W
R20	1-216-081-00	METAL CHIP 22K 5% 1/10W
R21	1-216-061-00	METAL CHIP 3.3K 5% 1/10W
R22	1-216-059-00	METAL CHIP 2.7K 5% 1/10W
R23	1-215-377-00	METAL 15 1% 1/6W
R24	1-215-377-00	METAL 15 1% 1/6W (UC,J)
R24	1-215-382-00	METAL 24 1% 1/6W (EK)
R25	1-216-097-00	METAL CHIP 100K 5% 1/10W
R26	1-216-069-00	METAL CHIP 6.8K 5% 1/10W
R27	1-247-767-00	CARBON 2.2 5% 1/6W
R28	1-247-767-00	CARBON 2.2 5% 1/6W
RV1	1-228-890-00	METAL 4.7K
RV2	1-228-888-00	METAL 1K
RV3	1-228-887-00	METAL 470
RV4	1-228-890-00	METAL 4.7K

Ref. No.	Part No.	Description
SW-91 BOARD		
	1-610-102-00	PRINTED CIRCUIT BOARD "SW-91"
RV1	1-230-075-00	CARBON 2K
RV2	1-230-075-00	CARBON 2K
S1	1-554-078-21	SLIDE
VIEWFINDER FRAME		
⚠	1-526-540-00	SOCKET, CRT
⚠	1-546-043-21	PICTURE TUBE 40LB4
CN1	1-556-889-41	8P PLUG WITH HARNESS (VF)
CN2	1-451-233-00	DEFLECTION YOKE
D6	8-719-905-56	EBR5504A LED "TALLY"
D8	8-719-800-25	TLR109A "REC"
D9	8-719-800-25	TLR109A "BATTERY"
D10	8-719-800-25	TLR109A "LOW LIGHT"
D11	8-719-800-19	TLR102A "+18 dB"
Q9	8-29-315-63	2SB856

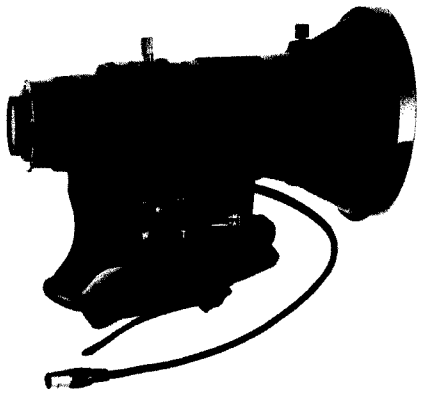
Ref. No. Part No. Description

PACKING MATERIAL AND ACCESSORIES

2-277-467-02	CUSHION, LOWER
2-381-442-00	CARTON, INDIVIDUAL
2-381-443-00	CUSHION, UPPER
3-701-613-00	**BAG, POLY (FOR VF CONNECTOR)**
3-701-630-00	**BAG, POLY (FOR MANUAL AND DXF-3000/3000CE)**

ZOOM LENS

VCL-1012BY



SPECIFICATION

Zoom lens (VCL-1012BY)

Focal length	10 mm to 120 mm
Zoom	Manual and motorized, selectable Zooming ratio: 12 x
Maximum aperture ratio	1:1.7
Iris control	Manual and auto, selectable 1.7 to 16 and C (closed)
Range of object field (at the distance of 1 meter)	
	W (wide angle): 616 x 822 mm (24 1/4 x 32 3/8 inches)
	T (telephoto): 51.4 x 68.5 mm (2 1/32 x 2 11/16 inches)
Minimum object distance	1 m
Filter thread	72 mm dia. 0.75 mm-pitch
Mount	Bayonet mount
Weight	Approx. 1.4 kg (3 lb 1 oz) with hood
Dimensions	Approx. 120 mm dia. x 204 mm (4 3/4 x 8 1/32 inches)

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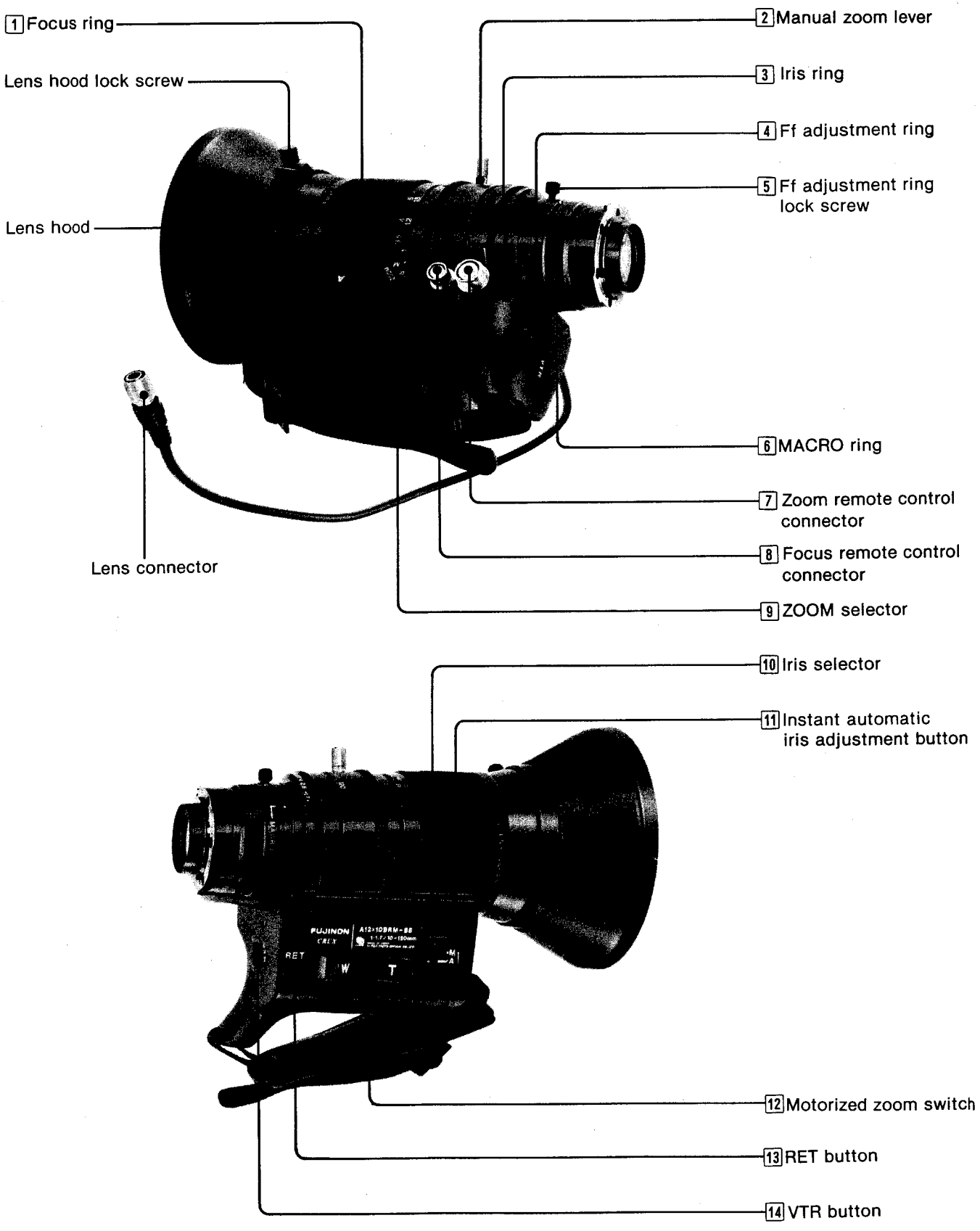
SECTION 1
GENERAL DESCRIPTION

1-1. LOCATION AND FUNCTION OF CONTROLS



[1] **Focus ring**
Turn this ring for focusing.

[2] **Manual zoom lever**
For manual zooming, turn this lever with the ZOOM selector set to M.

[3] **Iris ring**
For manual iris adjustment, turn this ring with the iris selector set to M.

[4] **Ff (flange focal length) adjustment ring**
Turn to adjust the flange focal length. See page 1-26.

[5] **Ff (flange focal length) adjustment ring lock screw**
Locks the Ff ring at the adjusted position.

[6] **MACRO (close-up) ring**
Used for close-ups. See page 1-33.

[7] **Zoom remote control connector** (8-pin)
Connect an LO-23 lens remote control unit (optional) for remote control of zooming when the camera is attached to a tripod.

[8] **Focus remote control connector** (3-pin)
This connector is used for motorized focusing.

[9] **ZOOM selector**
S: For motorized zooming.
M: For manual zooming.

[10] **Iris selector**
A: For automatic iris adjustment.
M: For manual iris adjustment.

[11] **Instant automatic iris adjustment button**
The iris is automatically adjusted while this button is kept depressed, when the iris selector [10] is set to M. When the button is released, the iris will be fixed at the value that has just been obtained until the iris is adjusted again manually.

[12] **Motorized zoom switch**
Press either end of this switch for motorized zooming with the ZOOM selector set to S:W for a wide-angle picture and T for a telephoto picture. Zooming is faster when the switch is pressed down all the way and slower when the switch is pressed down only slightly.

[13] **RET (return video) button**
Press to view the picture from the VTR during recording, the playback picture during playback, or the signal from a controle console such as a video switcher on the viewfinder screen. This button has the same function as the VTR START/RETURN VIDEO button of the camera (return video switch) when a CCU-M3/M3P is connected.

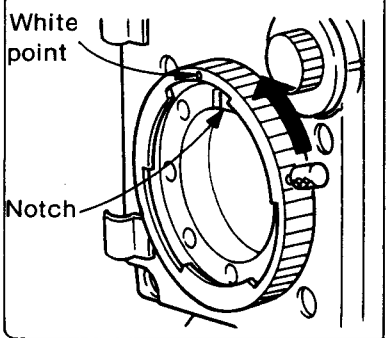
[14] **VTR button**
When a portable VTR is connected to the camera, press this button to start and stop recording. This button has the same function as the VTR START/RETURN VIDEO button of the camera (start switch).

1-2. SYSTEM SET-UP

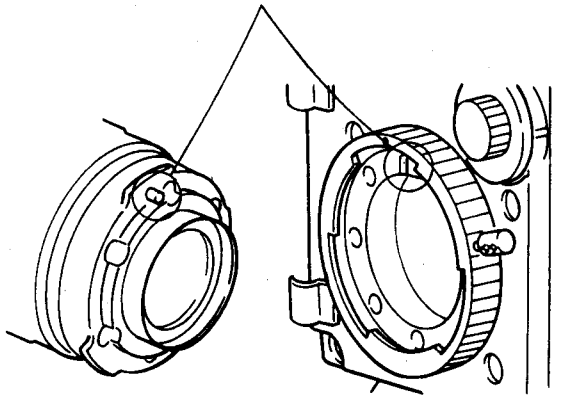
LENS ATTACHMENT

Notes
Before attaching the lens, remove the protective caps from the mounts of the camera and the lens.

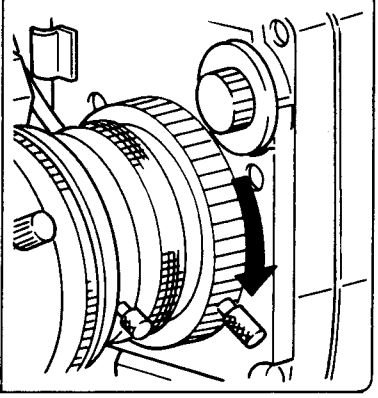
1 Turn the mount clamp ring to match its white point to the lens notch.

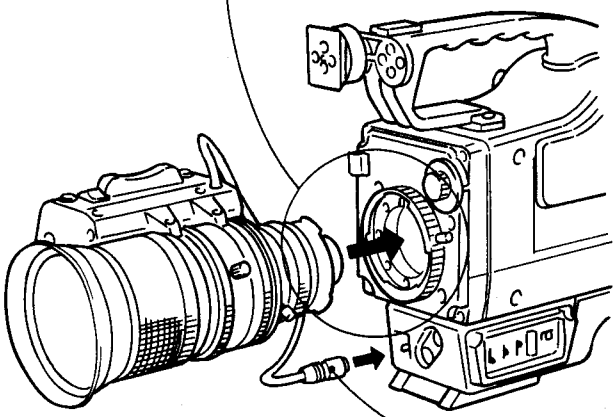


2 Align and insert the lens into the lens mount.

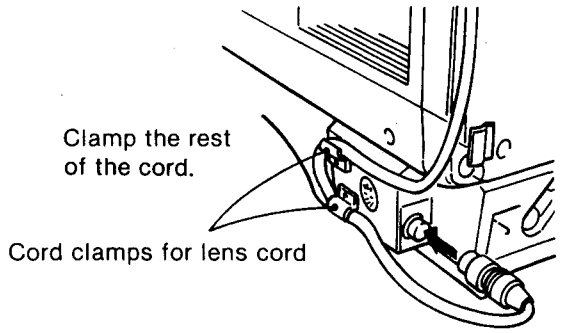


3 Tighten the ring to secure the lens.



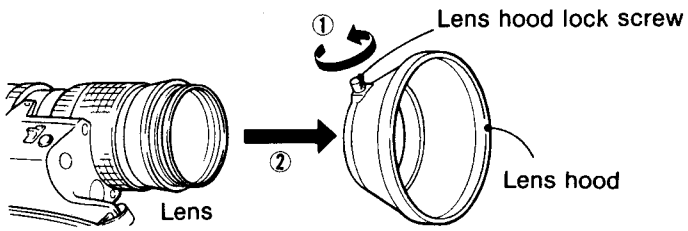


4 Connect the lens cable to the LENS connector.

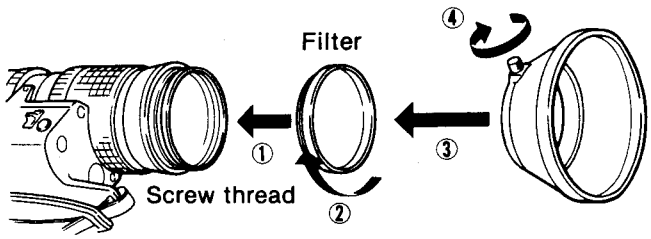


How to attach an optional filter to the lens

1 Loosen the lens hood lock screw and detach the lens hood.

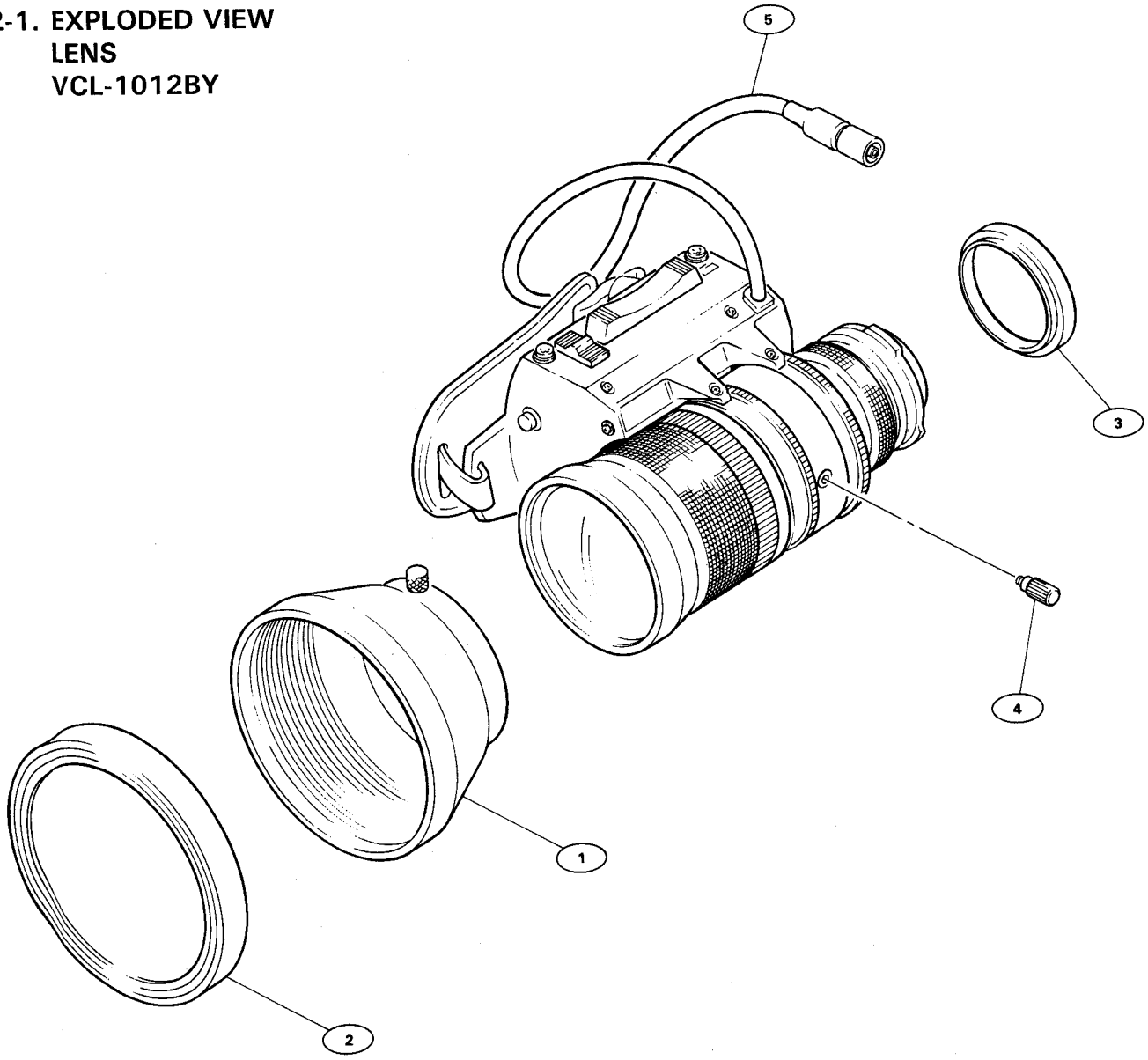


2 Screw the filter into the screw thread at the front of the lens. Then attach the lens hood and tighten the lens hood lock screw.



SECTION 2
SPARE PARTS

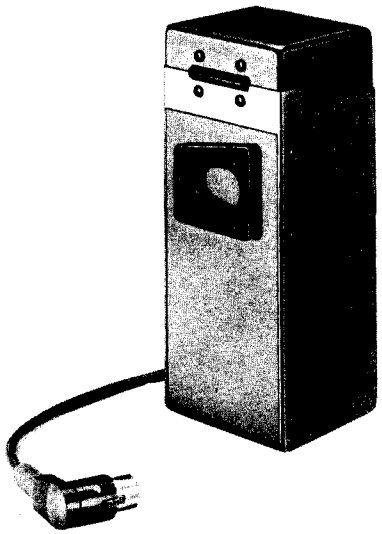
2-1. EXPLODED VIEW
LENS
VCL-1012BY



No.	Parts No.	Description
1	3-707-244-01	HOOD
2	3-707-245-01	CAP, HOOD
3	3-707-246-01	CAP, DAST
4	3-707-247-01	LEVER, ZOOM
5	**1-558-472-11**	**CABLE, WITH 6P PLUG**

DC-8

BATTERY ADAPTOR



SPECIFICATION

Usable battery	Two NP-1 battery packs
Output voltage	11 V to 14.5 V dc
Weight	Approx. 580 g (1 lb 4 oz)
Dimensions	Approx. 91.2 × 207.5 × 91.8 mm (w/h/d) ($3^5/_8 \times 8^1/_4 \times 3^5/_8$ inches)

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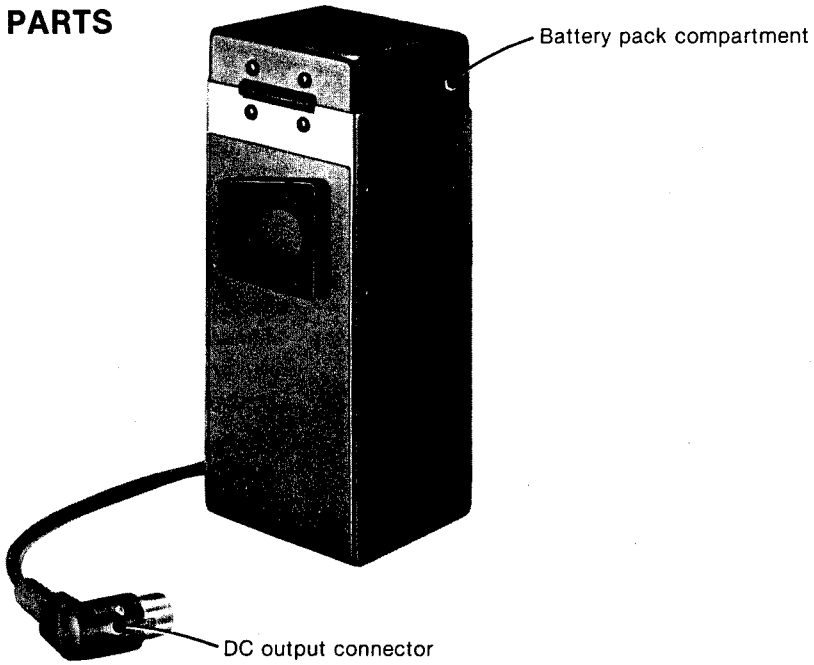
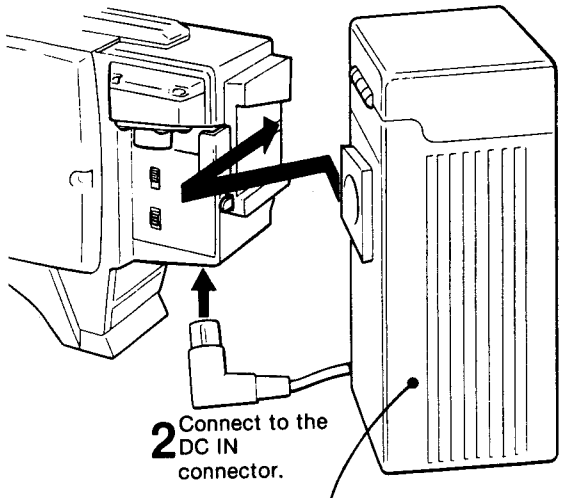
1-1. LOCATION OF PARTS

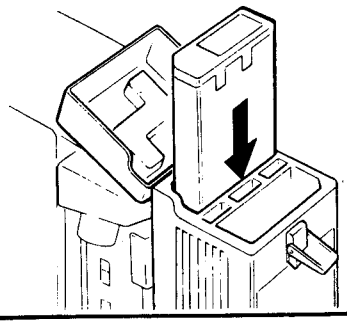


1-2. HOW TO ATTACH THE BATTERY ADAPTOR

1 Insert the battery adaptor into the battery adaptor shoe on the camera.

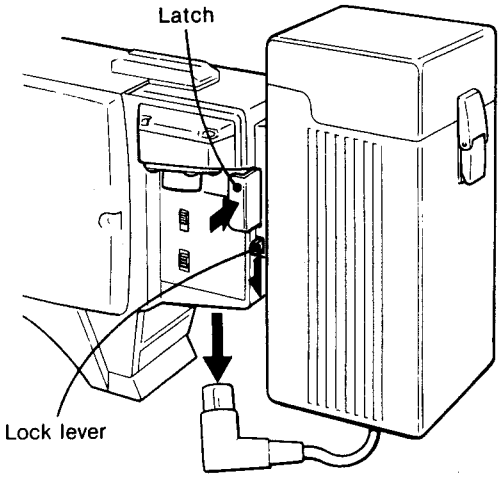


3 Insert two NP-1 battery packs into the battery pack compartment.



1-3. HOW TO DETACH THE BATTERY ADAPTOR

While pressing down the lock lever, push the latch in.



Disconnect the plug.

SECTION 2
SPARE PARTS

2-1. PARTS INFORMATION

Notes on Repair Parts

(1) Safety Related Components Warning

Components identified by shading marked with ⚠ on the exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose part numbers appear in this manual or in service bulletins and service manual supplements published by Sony.

(2) Standardization of Parts

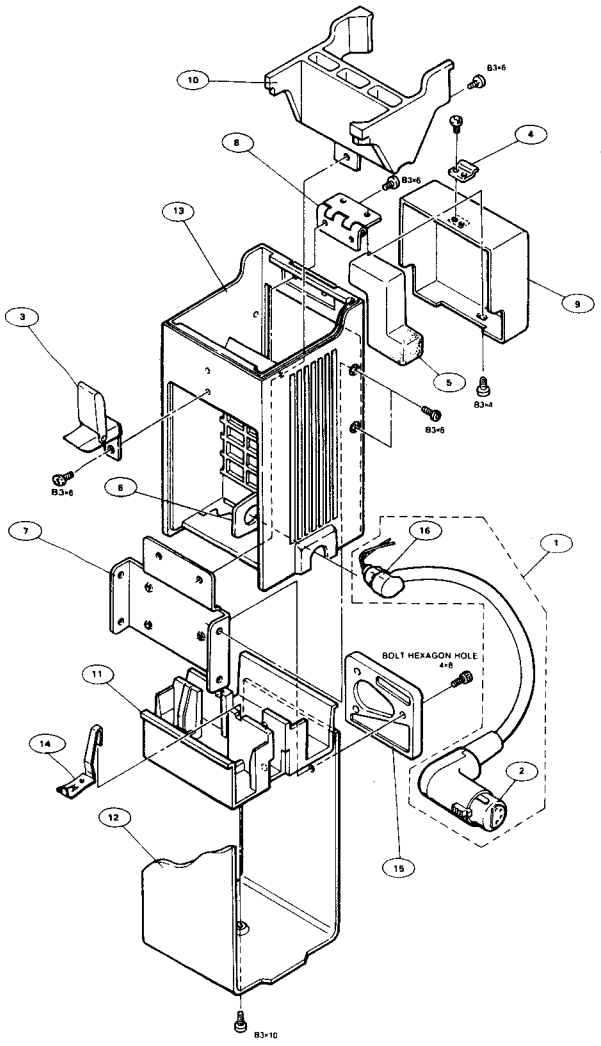
Repair parts supplied from Sony Parts Center may not be always identical with the part which actually in use due to "accommodating the improved parts and/or engineering changes" or "standardization of genuine parts".

This manual's exploded views and electrical spare parts list are indicating the parts numbers of "the standardized genuine parts at present".

(3) Stock of Parts

Parts marked with ( ) on the spare parts list are not normally required for routine service work. Orders for parts marked with ( ) will be processed, but allow for additional delivery time.

2-2. EXPLODED VIEW



No.		Parts no.	Description
1		1-557-553-11	CORD (WITH ROUND CONNECTOR) 4P
3	()	2-266-239-01	STOPPER (A),LID P TYPE
4	()	2-266-240-01	STOPPER (B),LID P TYPE
5	()	2-381-449-01	CUSHION, BATT
6	()	2-381-450-01	PLATE, CLAMP, CORD
7	()	2-381-451-01	BRACKET, SHOE
8	()	2-381-452-01	HINGE
9	()	2-381-453-01	BATT, LID
10	()	2-381-454-01	GUIDE, BATTERY
11	()	2-381-455-01	CASE, CONTACT
12	()	2-381-456-01	COVER, CASE
13	()	2-381-457-01	CASE, BATT
14		3-676-314-01	CONTACT
15	()	3-680-682-02	SHOE, BATT
16		3-703-001-01	BUSHING, CORD
PACKING			
		2-266-234-01	CARTON, INDVUDAL
		2-381-459-01	CUSTION, UPPER
		2-381-460-01	CUSTION, LOWER
		3-701-625-01	BAG POLY