

SONY

SONY®

BVP-900 Series Video Camera System

BVP-900 Series Video Camera System
SYSTEM MANUAL 1st Edition (Revised 1)

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MADE IN JAPAN

SONY®

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SYSTEM MANUAL English

1st Edition (Revised 1)

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About This Manual

This system manual gives you general information for the BVP-900-series video camera system, such as the system configuration, setup method, connections, and system preparations and operations.

For additional information, please refer to the operation and maintenance manuals provided with each machine used in the system. In the operation manuals, specific functions and characteristics of the respective machines, such as their features, functions of each part and specifications, are described. The maintenance manuals provide the necessary information for checking and maintaining the machines.

Machines explained in this manual

Model number	Model name
BVP-900/900P	Color Video Camera
BVP-950/950P	
CA-530	Camera Adaptor
CA-550/550P	
CA-553/553P	
CA-570/570P	
CA-3A/3AP	
CA-905F/905K	Large Lens Adaptor
CCU-550A/550AP	Camera Control Unit
CCU-700A/700AP	
CNU-500	Camera Command Network Unit
CNU-700	
OHB-730/730P	CCD Unit
OHB-730WS/730WSP	
OHB-750A/750AP	
OHB-750WSA/750WSAP	
MSU-700A	Master Setup Unit
MSU-750	
RCP-740/741	Remote Control Panel
RCP-730/731	
RCP-720/721	
RCP-700/701	
RM-B150	Remote Control Unit
VCS-700	Video Selector

1-1 Overview of the Camera System

The BVP-900-series is a video camera systems for studio and outdoor broadcasting use developed by Sony. These systems are composed of independent units which have their own unique functions, allowing various system configurations in a variety of combinations of the units. And the command system developed for the Sony camera system allows flexible system configuration for creating the required system in most cases.

The BVP-900-series camera systems have the following features.

1-1-1 Features

Adaptable to a 16:9 wide screen, thanks to an independent CCD unit

A CCD block of the camera is designed as a plug-in type independent unit, so the camera can be used for shooting in 16:9 wide screen simply by replacing the CCD block.

Compatibility of a studio camera and portable camera

The studio camera head and portable camera head use a common CCD unit and control system of equal picture quality. This allows you to use both cameras under the same standards.

Command system for a flexible and expandible system

The CNU-700 Camera Command Network Unit developed for this camera system lets you construct a camera system with up to 96 cameras. This system opens up many possibilities, such as having one MSU-700A/750 Master Setup Unit control multiple cameras, any RCP-700-series Remote Control Panel control any BVP-900-series Video Camera.

Excellent design based on human engineering

The following features have been added for maximum ease of use.

Compact and lightweight: The camera is compact, lightweight of low power consumption, and suitable for use in an OB van.

Newly designed body: The height of the body of the BVP-900/900P is reduced, allowing wide visual field, greater convenience of operation, and reduced parallax between the lens and viewfinder. Large handles on each side of the cabinet make transportation and mounting on a tripod easy.

Rotatable triax connector: The triax connector of the BVP-900/900P and CA-550/550P/570/570P can rotate for easy cable connection and transportation.

Easy-to-see indications

On the MSU-700A/750 and RCP-700-series units, the names of buttons and controls are printed beneath, and LEDs are mounted near the surface of the buttons for better legibility when installed in a control console.

High picture quality

High horizontal resolution: Horizontal resolution of 900 TV lines of the Y channel is obtained thanks to the low-smear Power HAD (Hole-Accumulated Diode)TM 1000 CCD (Charge-Coupled Device).

High signal-to-noise ratio: High signal-to-noise ratio is obtained by adopting the high-quality CCD and superior technology of circuitry and packaging.

Improved vertical resolution: Super EVS (Enhanced Vertical Definition System)¹⁾ improves vertical resolution.

Clear picture: Thanks to the substantial detail-control functions, a clear picture is obtained.

Wide-band triax system: The bandwidth of the triax system for a component signal is now 10 MHz for a Y signal, and 6 MHz for R-Y and B-Y signals.

Electronic shutter

A six-speed electronic shutter is provided with the camera. You can also set various shutter speeds with the ECS (Extended Clear Scan)¹⁾ function. Using this function, a computer display screen can be shot clearly.

Auto setup function

With the microcomputer-controlled auto setup function, auto white balance, auto black balance and auto level adjustments can be executed accurately and quickly.

1) The EVS and ECS function only on the OHB-750A/750WSA-series CCD.

1-1 Overview of the Camera System

Power HAD sensor CCD units to suit each purpose

Each of the optional CCD units incorporates an Power HAD sensor CCD with 520,000 pixels to achieve high image quality. The various CCD units share the following characteristics:

- High sensitivity: 2000 lx (F8)
- High signal-to-noise ratio
 - NTSC: 65 dB (typical)
 - PAL: 63 dB (typical)
- Very low smear
- Very low flare

The following optional CCD units are available:

- OHB-730/730P: IT type
- OHB-730WS/730WSP: 16:9 aspect ratio, IT type (16:9/4:3 switchable)
- OHB-750A/750AP: FIT type
- OHB-750WSA/750WSAP: 16:9 aspect ratio, FIT type (16:9/4:3 switchable)

White shading and other compensation data are stored within each CCD unit, thus eliminating the need for readjustments after replacement of CCD units for upgrades or repairs, etc.

1-1-2 File System

The BVP-900-series camera system has the capability of storing the adjustment data in one of the following files, for quick setup and simpler operation. The stored data can be recalled as desired, and be transmitted to other cameras.

This system can control the following four kinds of files.

Reference file (stored in the camera head)

The reference file stores the reference values used for automatic setup adjustment and the standard settings of the switches.

Scene files (stored in the camera head)

Scene files store paint data for each scene. For example, if you store data prepared in rehearsal for a particular scene in a scene file, the data can be retrieved to reproduce the same camera settings as used in rehearsal.

Lens files (stored in the camera head)

Lens files store specific data for a lens to be used. For the recommended lens, the standard values are stored in a lens file at the factory.

OHB files (stored in the CCD unit)

OHB files store specific data for a CCD unit to be used. The standard values are stored in an OHB file at the factory.

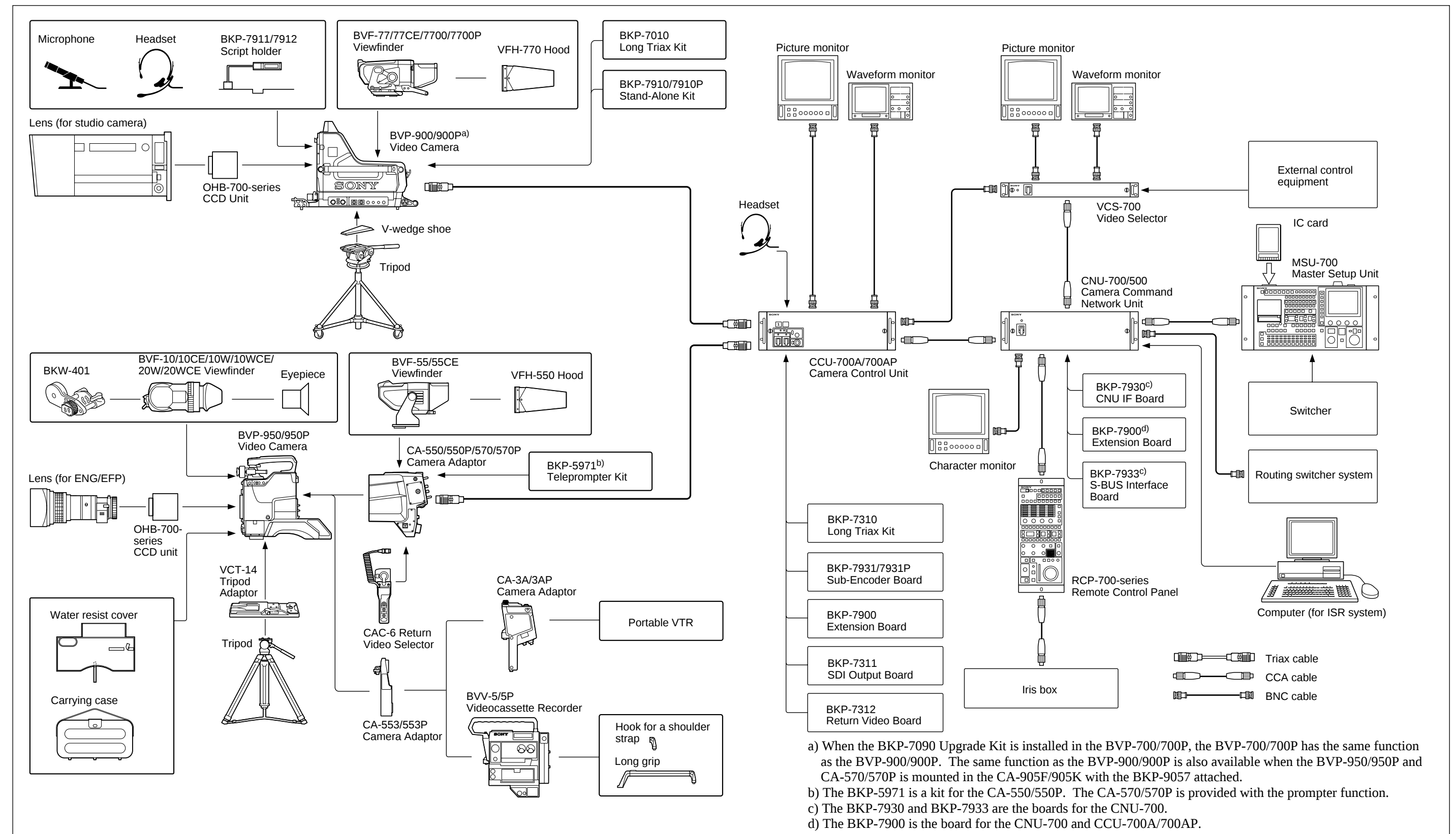
Creations, storage and retrieval of files are performed using a MSU-700A/750 Master Setup Unit, RCP-700-series Remote Control Panel or menu of the BVP-900/950-series camera system. The type and number of files which can be handled depend on the used unit.

For details, see “Chapter 5 File Operations.”

1-2 Configuration of the BVP-900-series Camera System

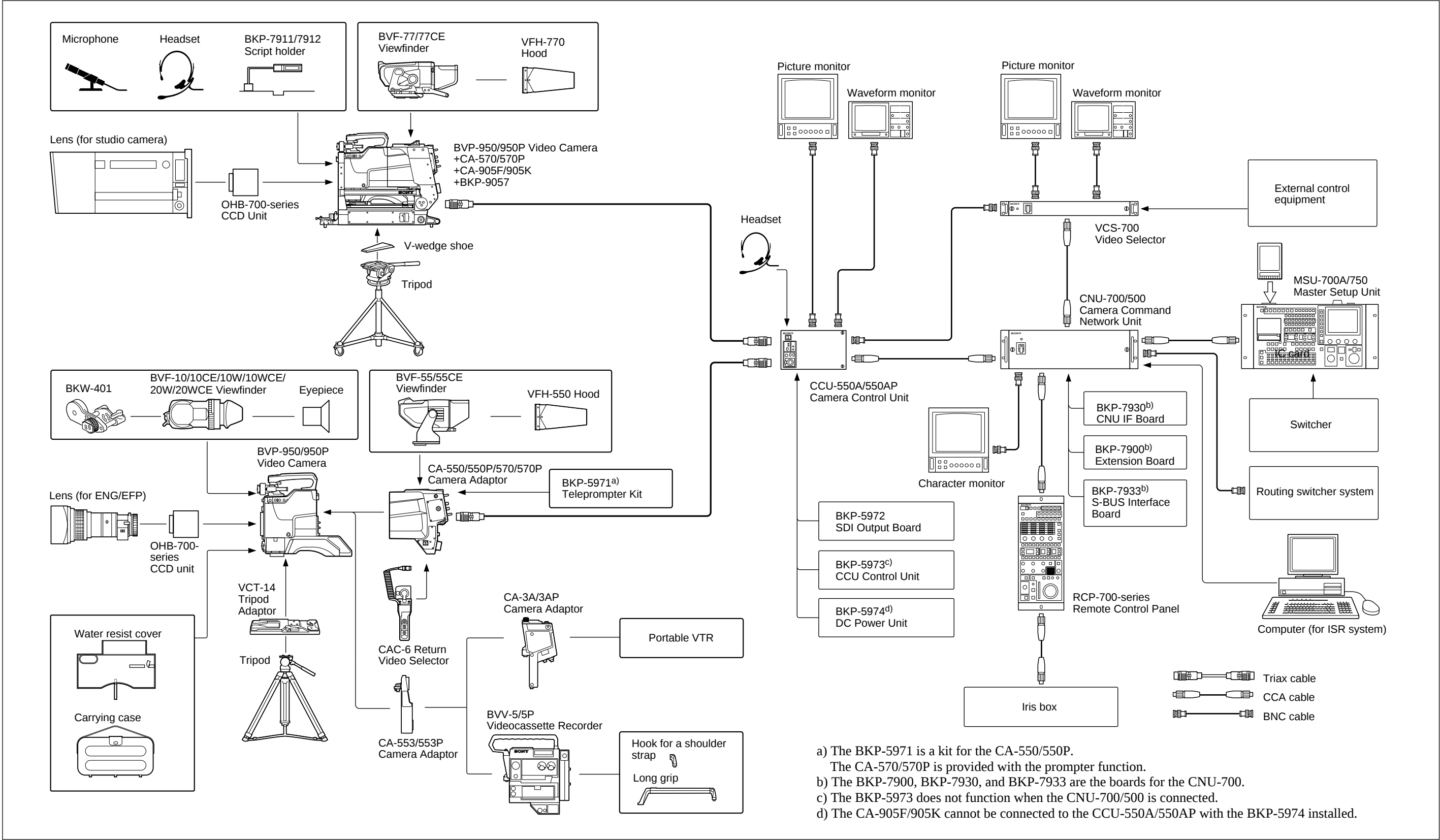
1-2-1 System Configuration

System using the CCU-700A/700AP



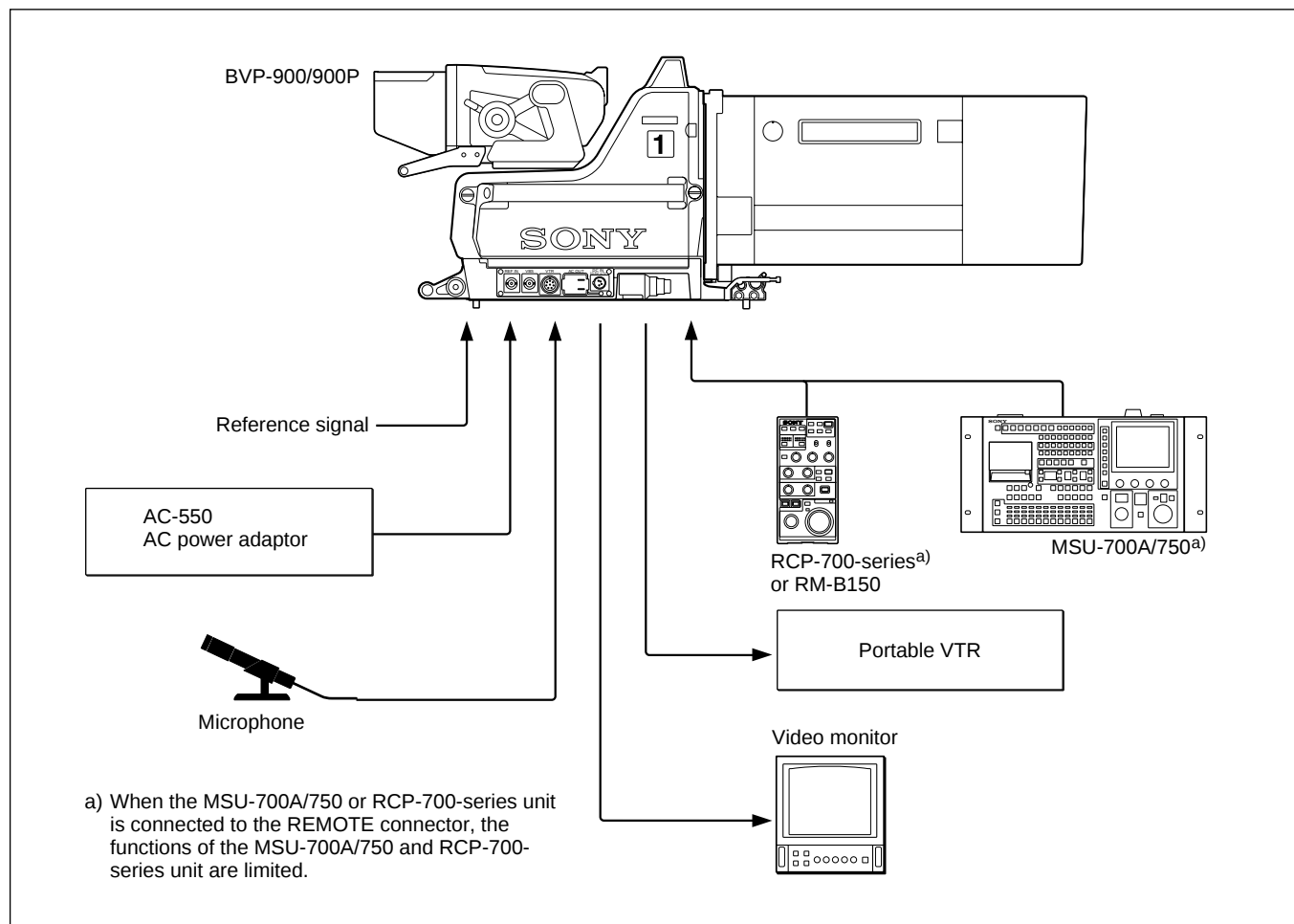
1-2 Configuration of the BVP-900-series Camera System

System using the CCU-550A/550AP



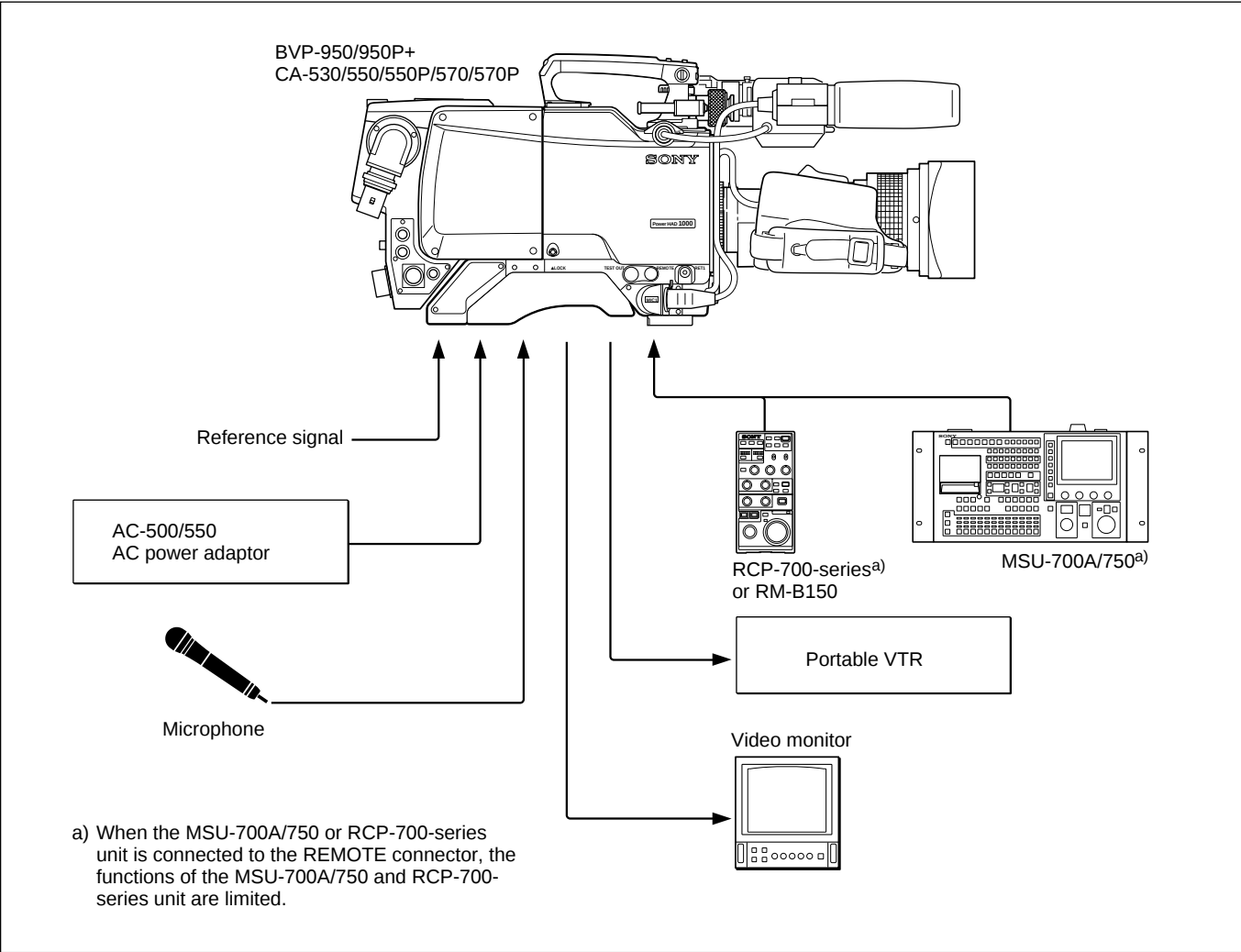
1-2-2 Example When a BVP-900/900P Is Used as a Stand-Alone Camera

A BKP-7910/7910P Stand-Alone Kit should be installed in the BVP-900/900P.

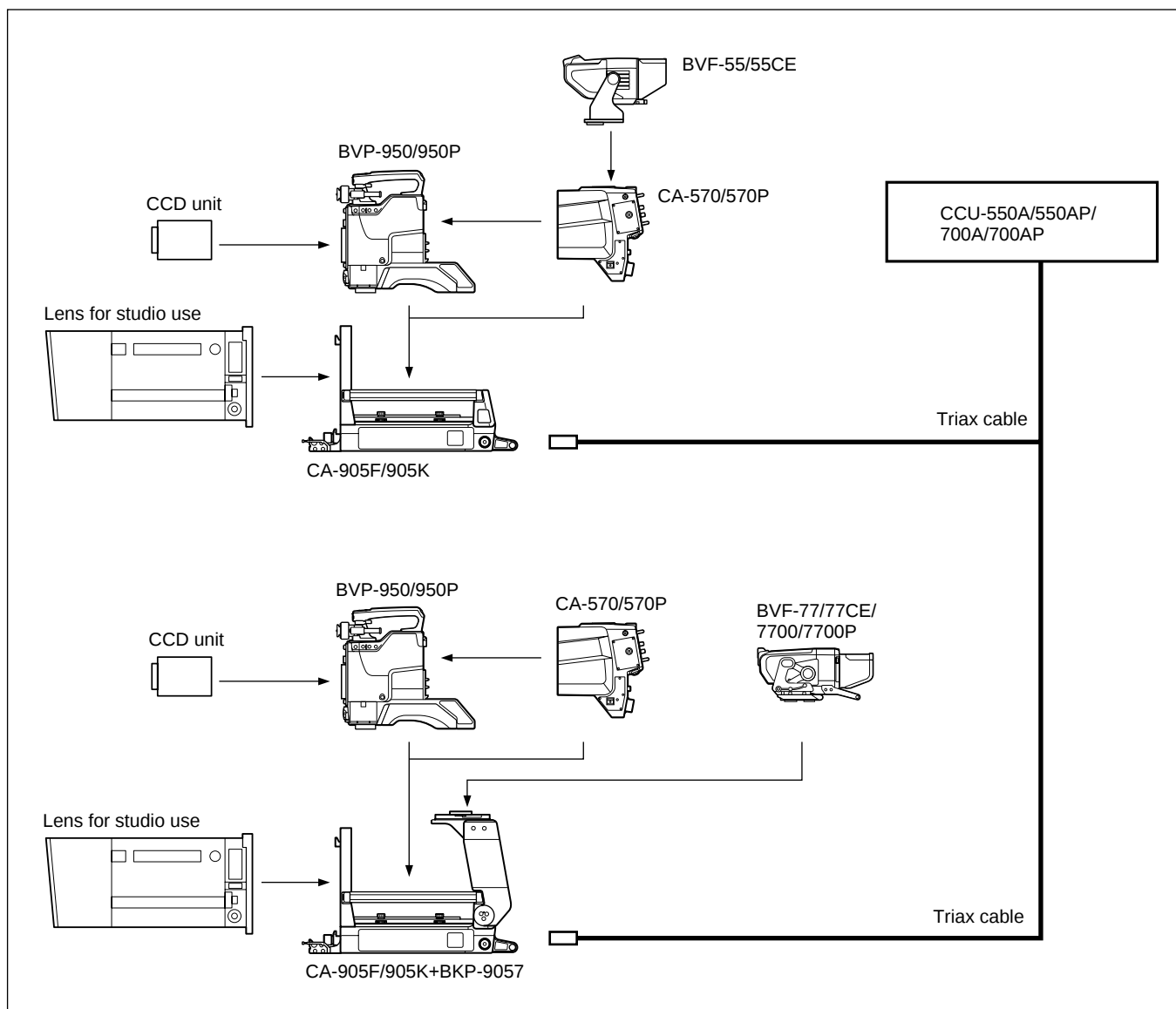


1-2 Configuration of the BVP-900-series Camera System

1-2-3 Example When a BVP-950/950P Is Used as a Stand-Alone Camera



1-2-4 Example When a BVP-950/950P Installed in a CA-905F/905K Is Used



TRIAX cable length

CCU-700A/700AP:

Diameter	Maximum length	Maximum distance for prompter signal transmission
8.5 mm	1000 m	500 m
14.5 mm	2000 m	1000 m

CCU-550A/550AP:

Diameter	Maximum length	Maximum distance for prompter signal transmission
8.5 mm	700 m	500 m
14.5 mm	1400 m	1000 m

1-2 Configuration of the BVP-900-series Camera System

Camera control unit that can be connected

The CCU-550A/550AP and CCU-700A/700AP can be connected under the following limitations:

- When the BKP-5974 DC power unit has been installed in the CCU-550A/550AP, the CA-905F/905K cannot be used.
- When you connect the BVF-7700/7700P to the unit, the CCU-550A/500AP cannot be used. Use the CCU-700A/700AP.
- When the CA-570/570P is connected to the CCU-550A/550AP, only one channel can be used for intercom transmission. Use the INCOM1 connector on the CA-570/570P.

Note

The CCU-550/550P cannot be used with the CA-905F/905K.

Setting of the intercom microphone switch

When you use the intercom microphone switch located on the zoom demand of the studio zoom lens, be sure to set the intercom microphone switch of the CA-570/570P to OFF (center position).

Check of ROM Version

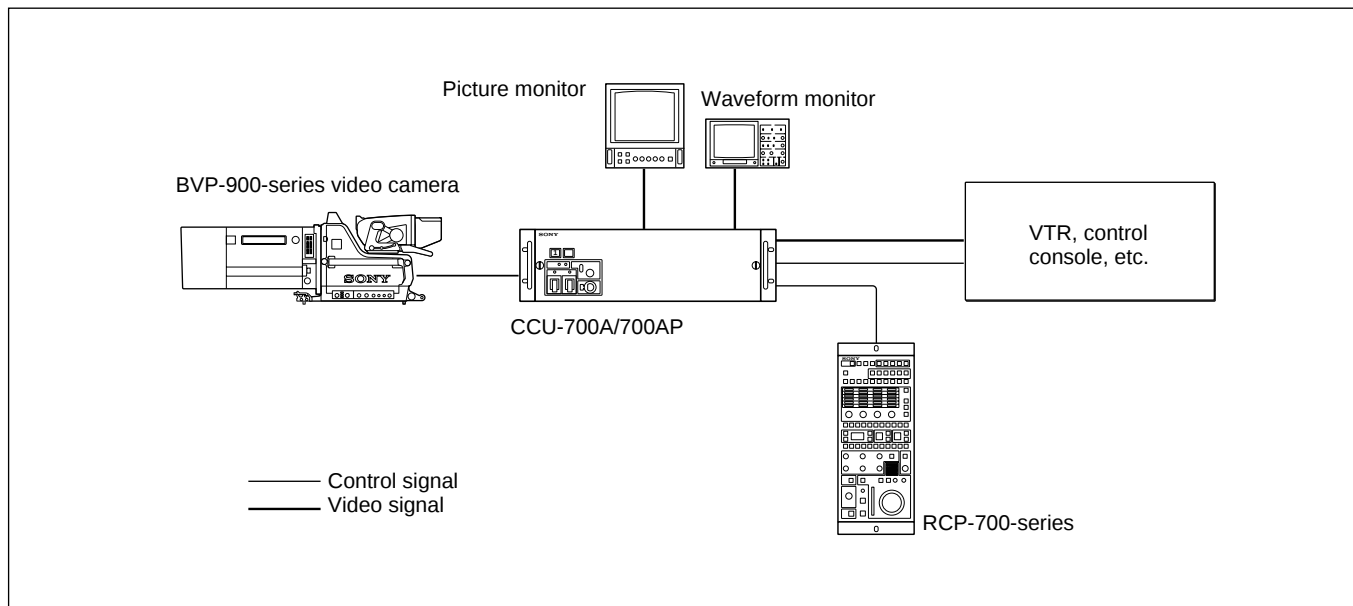
When connecting the camera, be sure to check the version of ROM on the AT-121 board corresponding to the camera to be connected.

If ROM version differ from the below table, be sure to perform ROM replacement.

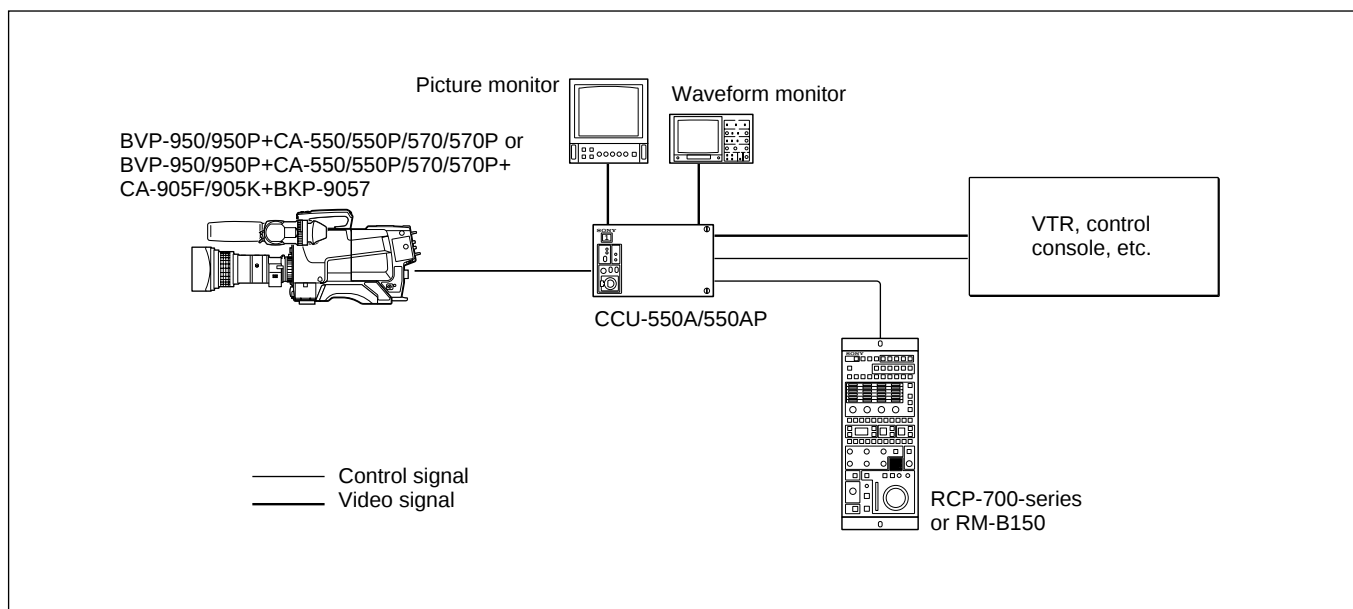
Ref. No.	ROM version
IC8	Ver.1.22 or higher
IC9	Ver.1.22 or higher

1-2-5 Camera System Using a Camera Control Unit

System using the CCU-700A/700AP

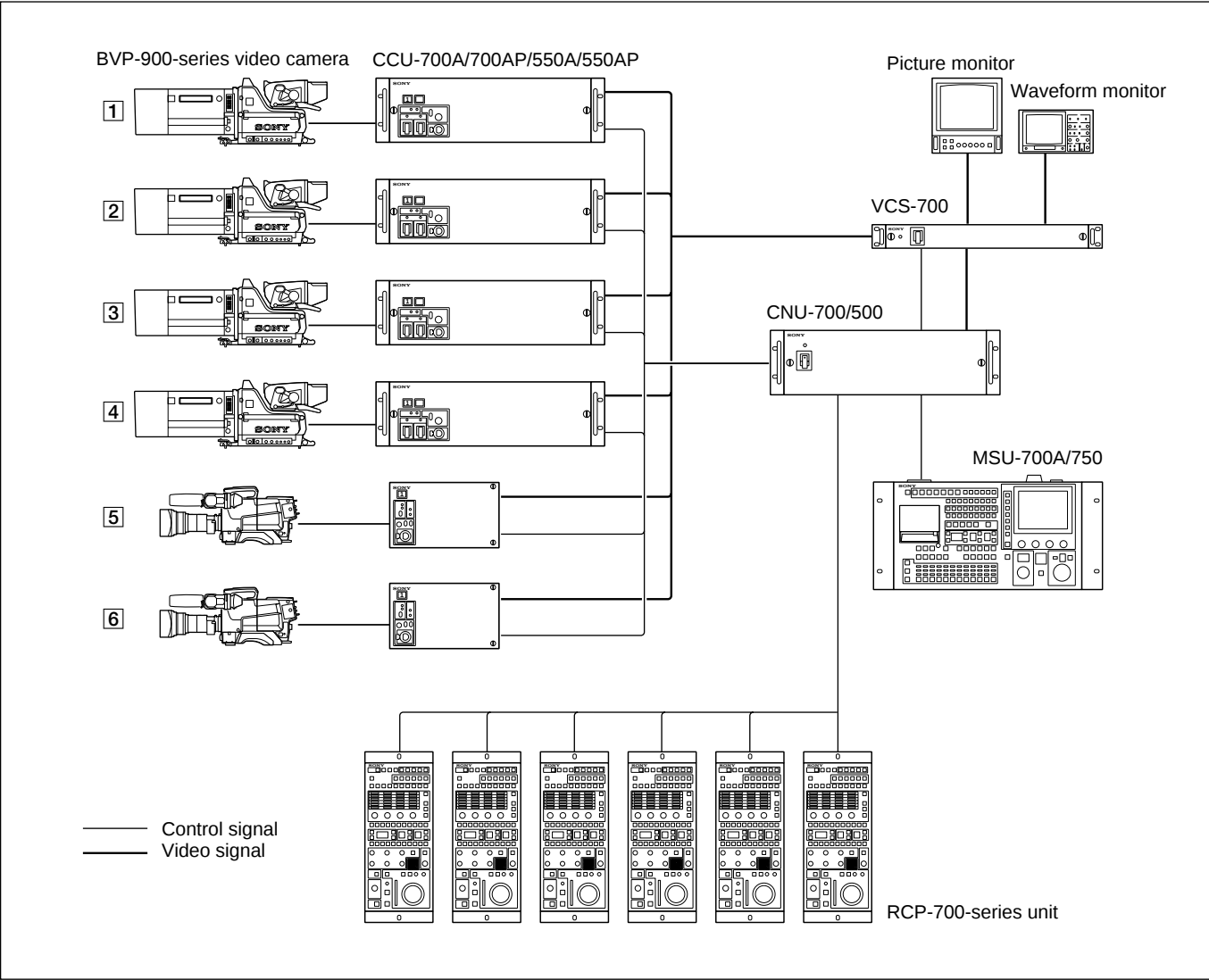


System using the CCU-550A/550AP



1-2 Configuration of the BVP-900-series Camera System

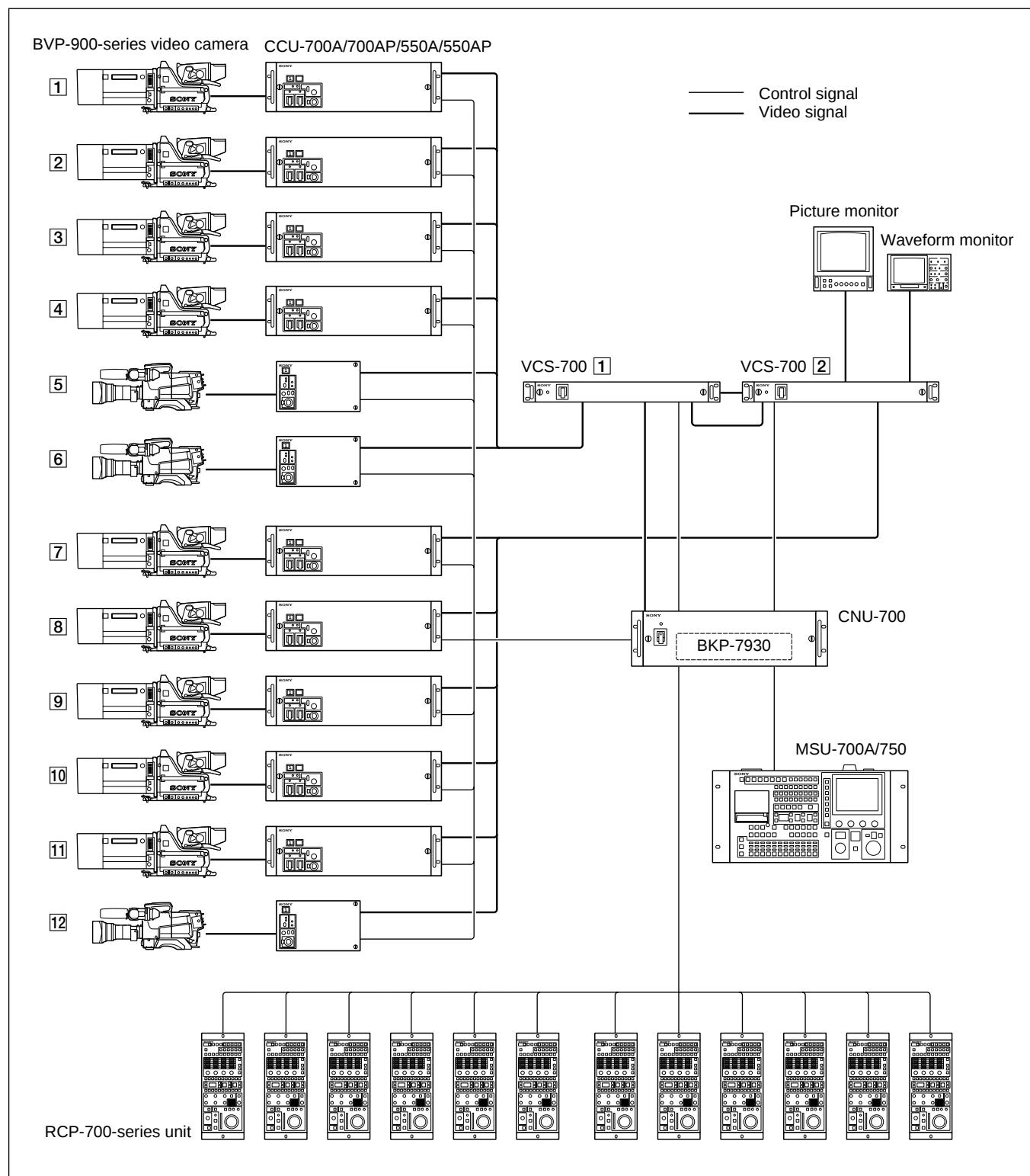
1-2-6 System To Control up to Six BVP-900-series Cameras



System to control up to six BVP-900-series cameras

1-2-7 System To Control up to 12 BVP-900-series Cameras Using the CNU-700

Install the BKP-7930 CNU IF board to the CNU-700.



System to control up to twelve BVP-900-series cameras using the CNU-700

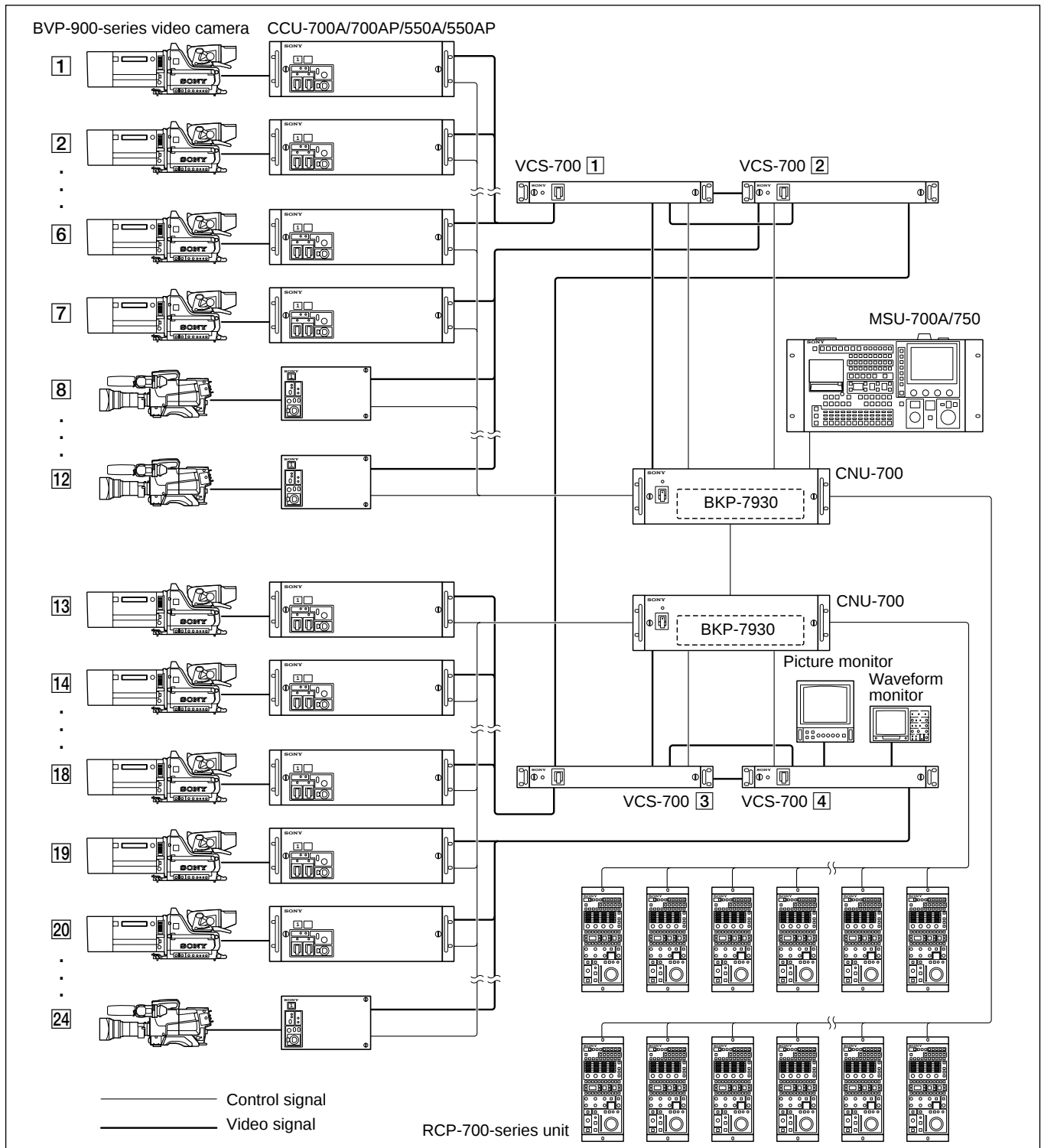
1-2 Configuration of the BVP-900-series Camera System

1-2-8 System To Control up to 24 BVP-900-series Cameras Using the CNU-700

- Up to 24 BVP-900-series video cameras can be controlled using the two CNU-700s with the BKP-7930 installed.
- To use two CNU-700 units, group number setting is required.

For details, see “3-2-5 Setting the Camera Number and Group Number.”

- If you wish to create a system using more than 25 cameras and remote control panels, consult your Sony service representative.



System to control up to 24 BVP-900-series cameras using the CNU-700

1-2-9 Control System of the CNU-700/500

The CNU-700/500 Camera Command Network Unit switches the commands sent from multiple RCP-700-series Remote Control Panels or the MSU-700A/750 Master Setup Unit and sends them to multiple BVP-900-series Video Cameras. With the factory settings, the commands are transmitted from the RCP-700-series unit to the BVP-900-series cameras connected to the same numbered connectors on the CNU-700/500. For example, the RCP-700-

series unit connected to the RCP 1 connector sends the commands to the BVP-900-series camera through the CCU-700A/700AP connected to the CCU 1 connector. You can change the combination of the RCP-700-series units and BVP-900-series cameras on the CNU-700 using the MSU-700A/750. Several examples of switching of commands by the CNU-700 are introduced here.

Example of the combination of six video cameras and six remote control panels

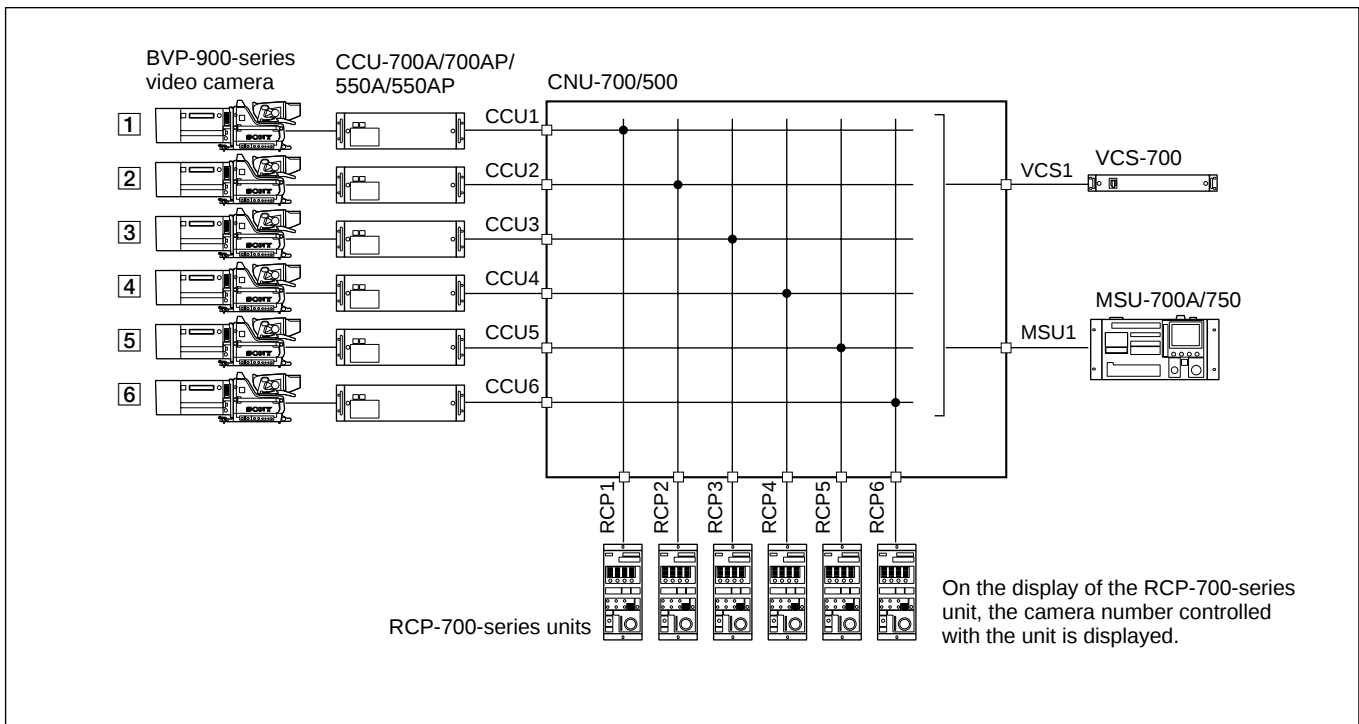
The combination of the video cameras and remote control panels can be changed with the switch on the AT board of the CNU-700 or with the MSU-700A/750.

Note

When the CNU-500 is used, the combination of the RCP-700-series units and BVP-900-series camera cannot be changed.

Factory setting

Control unit	Controlled unit
RCP-1	CCU-1 (for Camera 1)
RCP-2	CCU-2 (for Camera 2)
RCP-3	CCU-3 (for Camera 3)
RCP-4	CCU-4 (for Camera 4)
RCP-5	CCU-5 (for Camera 5)
RCP-6	CCU-6 (for Camera 6)

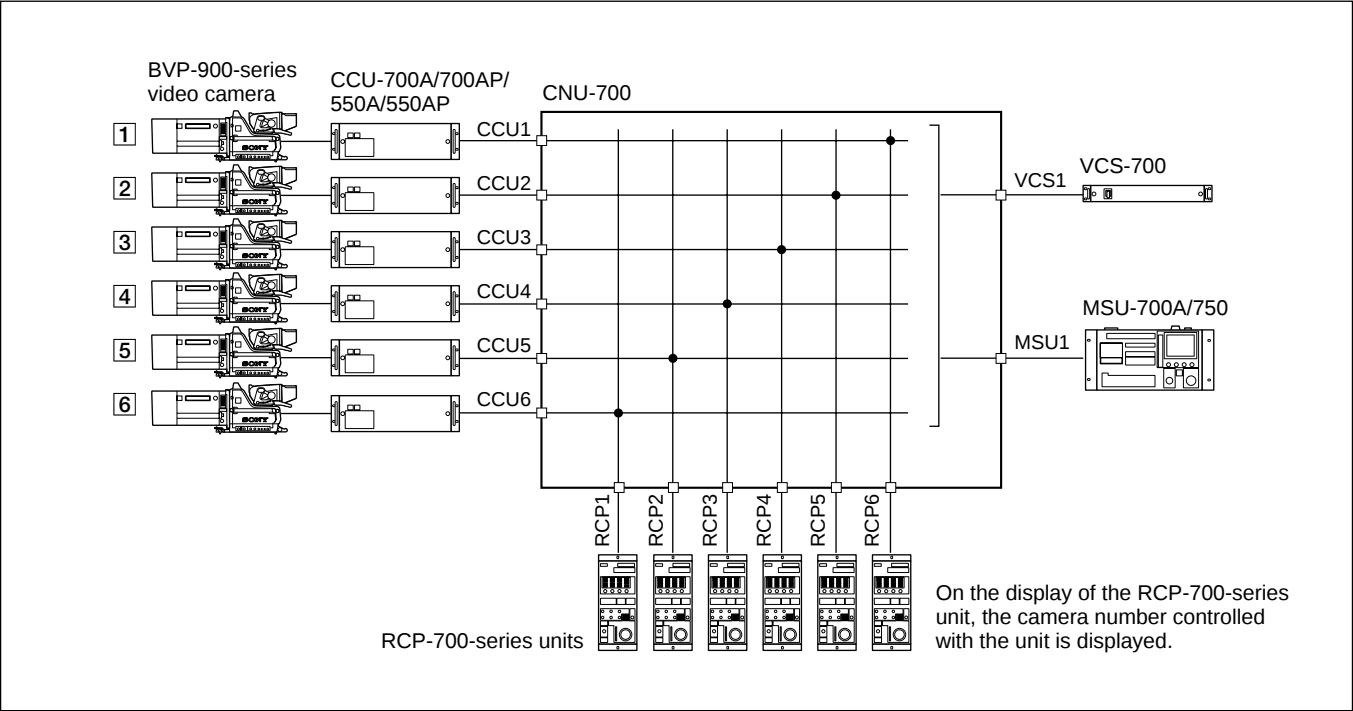


Factory setting

1-2 Configuration of the BVP-900-series Camera System

Modification example 1

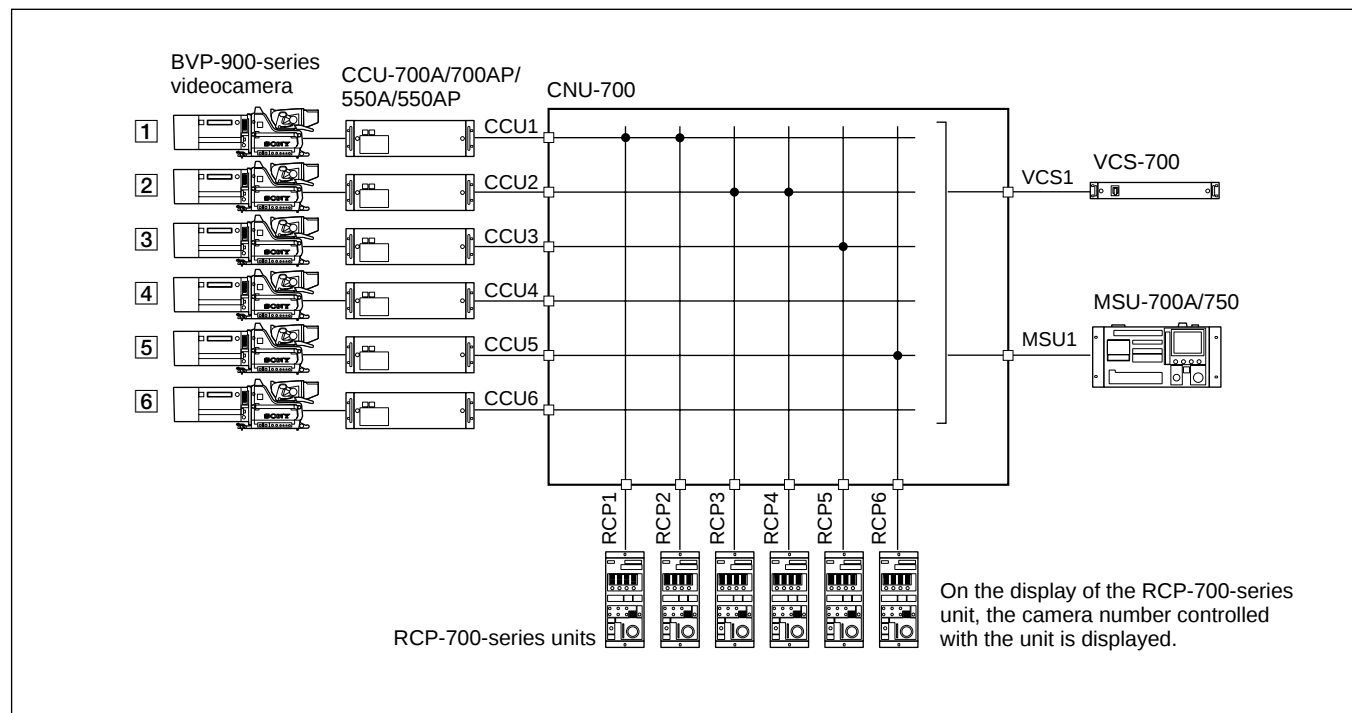
Control unit	Controlled unit
RCP-1	CCU-6 (for Camera 6)
RCP-2	CCU-5 (for Camera 5)
RCP-3	CCU-4 (for Camera 4)
RCP-4	CCU-3 (for Camera 3)
RCP-5	CCU-2 (for Camera 2)
RCP-6	CCU-1 (for Camera 1)



Modification example 1

Modification example 2

Control unit	Controlled unit
RCP-1	CCU-1 (for Camera 1)
RCP-2	CCU-1 (for Camera 1)
RCP-3	CCU-2 (for Camera 2)
RCP-4	CCU-2 (for Camera 2)
RCP-5	CCU-3 (for Camera 3)
RCP-6	CCU-5 (for Camera 5)

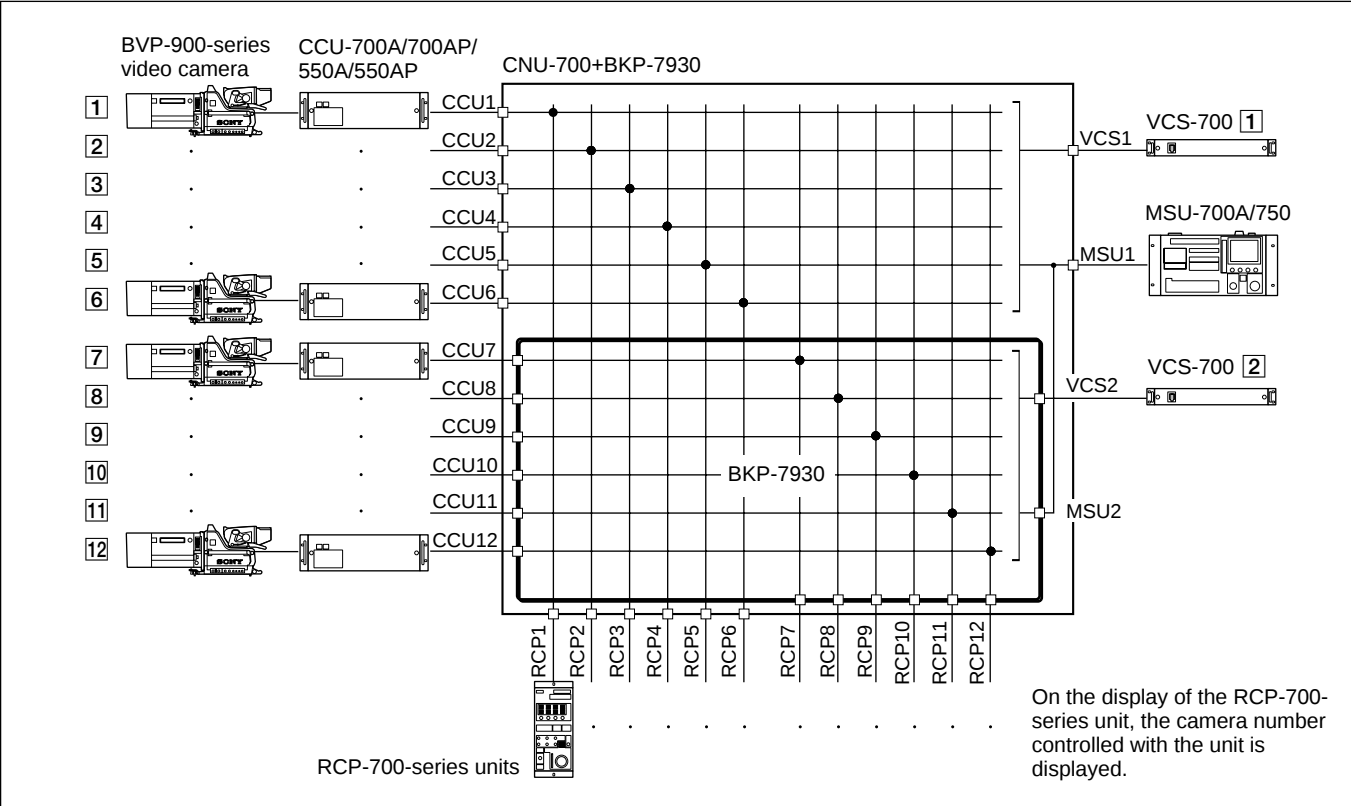


Modification example 2

1-2 Configuration of the BVP-900-series Camera System

Example of the combination of 12 video cameras and 12 remote control panels

Install the BKP-7930 to the CNU-700.



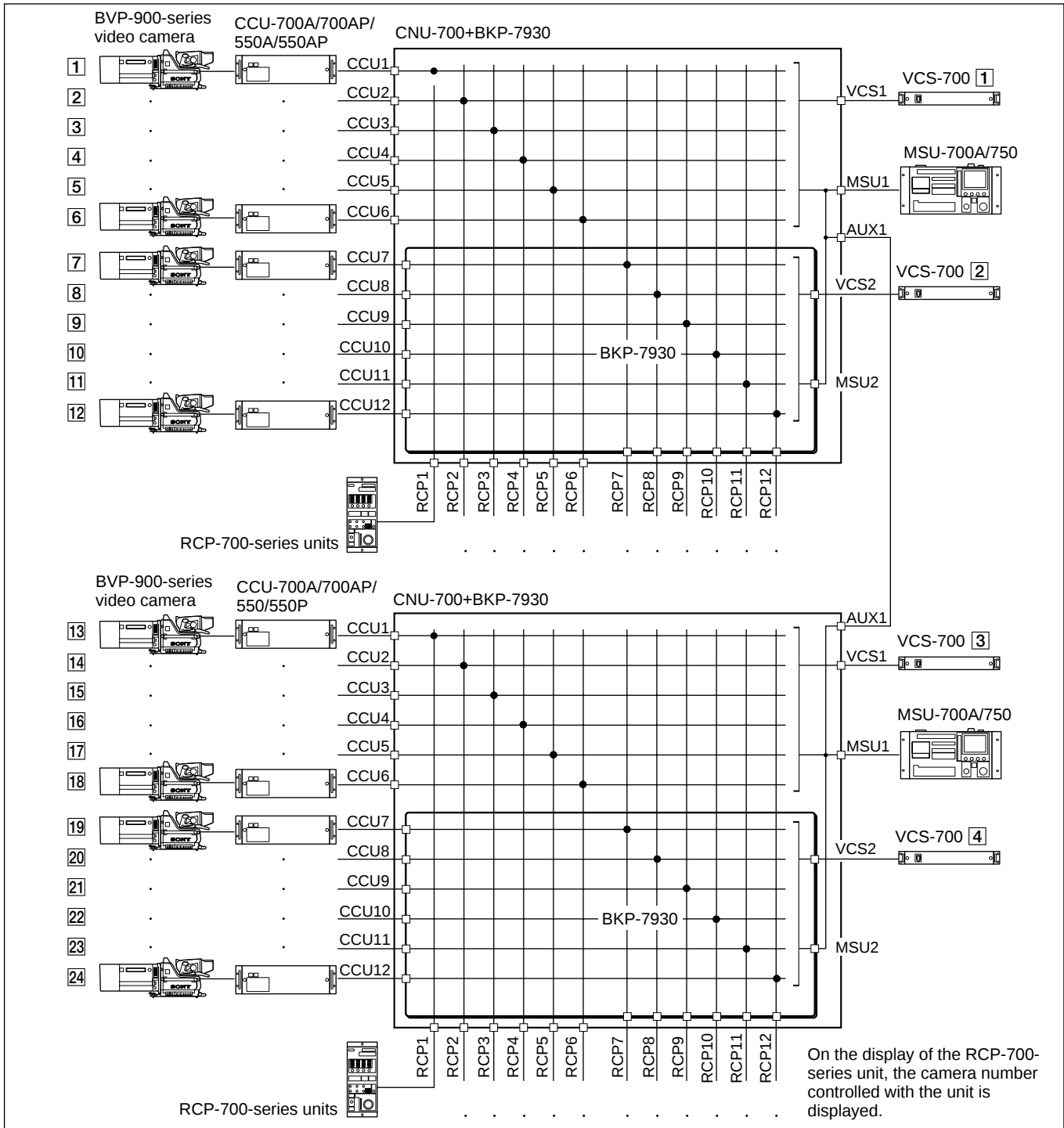
Example of the combination of 12 video cameras and 12 remote control panels

Example of a combination of 24 video cameras and 24 remote control panels

- Two CNU-700s with the BKP-7930 installed are used.
- The MSU-700A/750 can assign the combination of the video cameras and remote control panels that are connected to the CNU-700 to which the MSU-700A/750 is connected directly. (For example in the figure below, the MSU-700A/750 connected to the upper

CNU-700 can change the combination of the video cameras **1** to **12** and the remote control units connected to the upper CNU-700.)

- If you wish to create a system using more than 25 cameras and remote control panels, consult your Sony service representative.



Example of the combination of 24 video cameras and 24 remote control panels

1-2 Configuration of the BVP-900-series Camera System

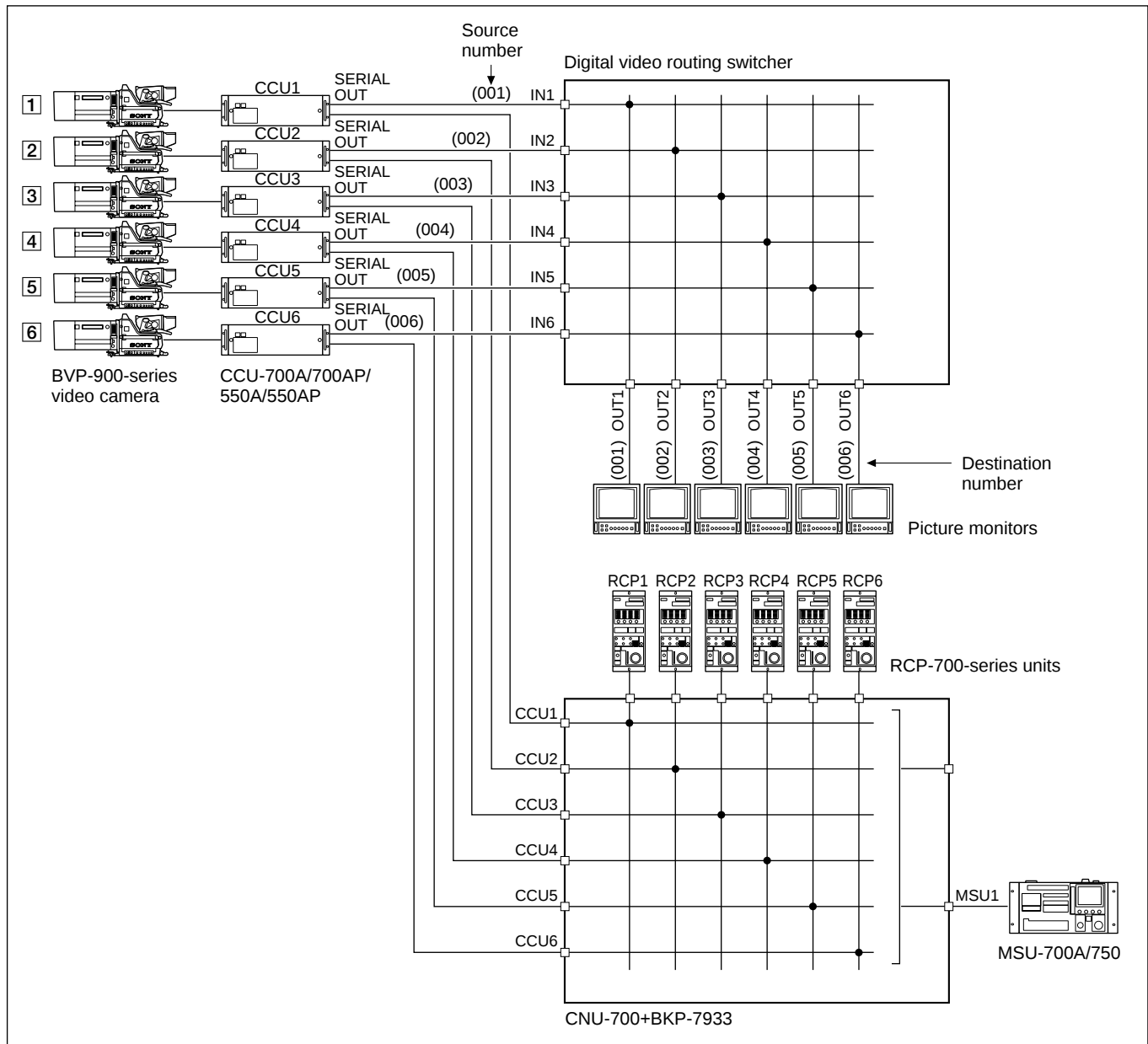
1-2-10 S-BUS Control System Using the CNU-700

When a BKP-7933 S-BUS Interface Board is installed in the CNU-700, the routing switcher system can control the BVP-900-series camera system via the S-BUS.

For details on installation and settings, refer to the Installation Manual furnished with the BKP-7933.

Switching the pictures sent to the picture monitors linked with RCP assignment

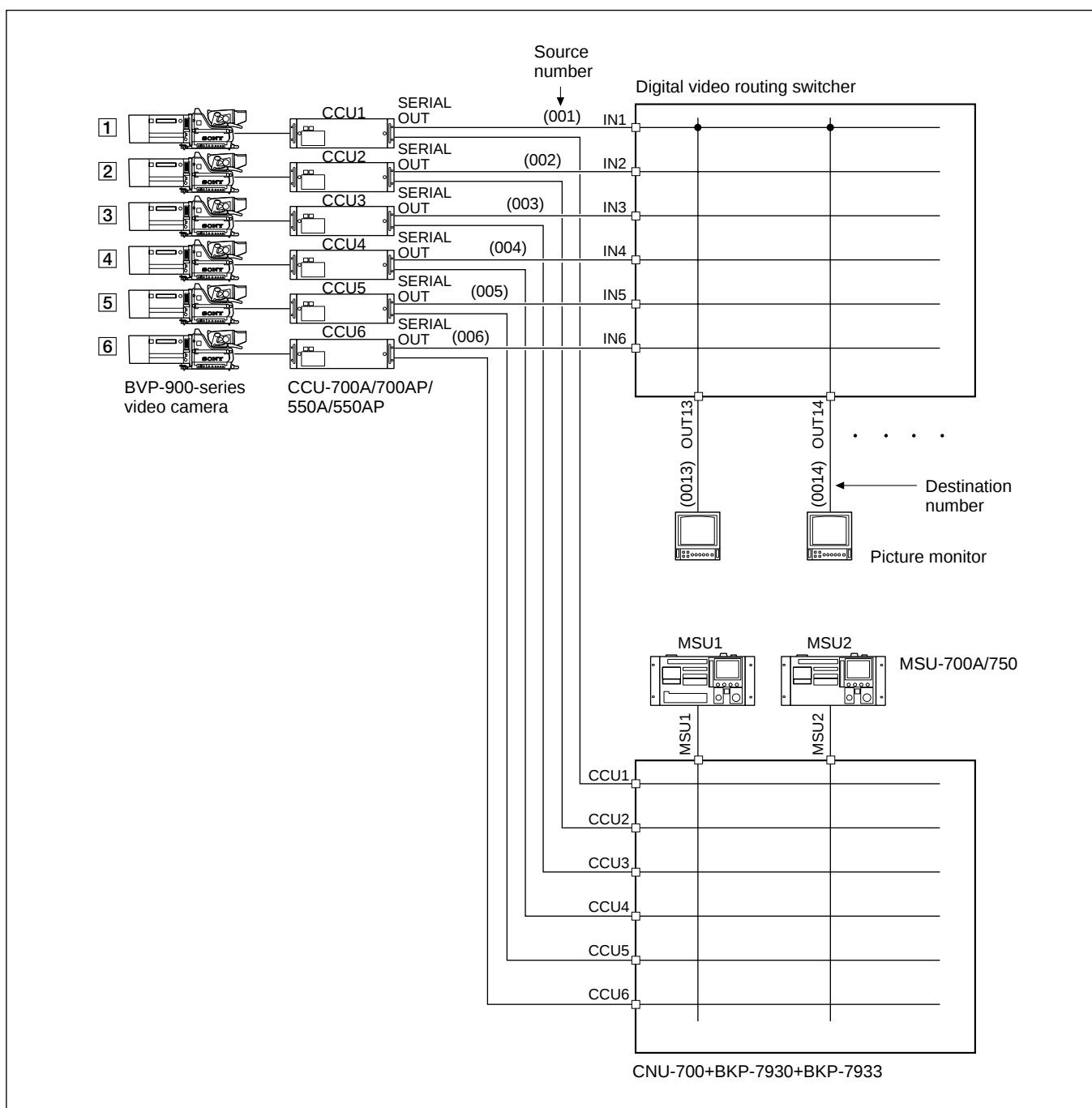
When the MSU-700A/750 assigns an RCP, the camera that is controlled with the assigned RCP-700-series unit is changed, and the picture sent to each picture monitor is also changed to the picture from the camera. For example, the camera controlled with RCP-1 is changed from CAM1 to CAM5, so the picture sent to the picture monitor for RCP1 is changed from CAM1 to CAM5.



Switching the pictures sent to the picture monitors linked with RCP assignment

Switching the pictures sent to the picture monitors linked with the camera selection on the MSU-700A/750

When a camera select button on the MSU-700A/750 is pressed, the picture from the selected camera appears on the corresponding picture monitor. This function is convenient for switching SDI signals.



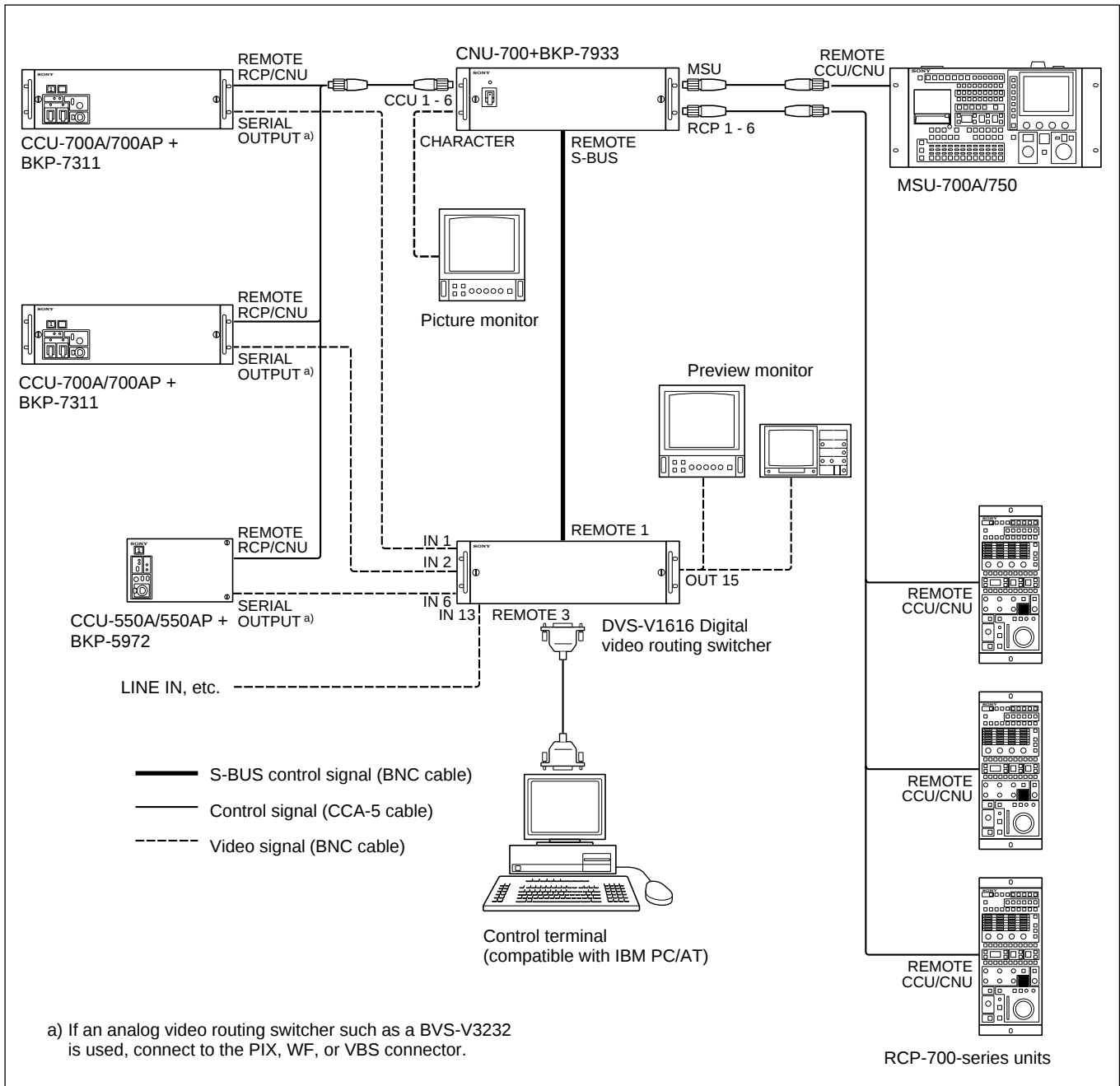
Switching the picture on the picture monitor linked with the camera selection on the MSU-700A/750

1-2 Configuration of the BVP-900-series Camera System

Switching the preview monitor with the PREVIEW button on an RCP-700-series unit

When the PREVIEW button on an RCP-700-series unit is pressed, the picture from a desired camera can be displayed on the preview monitor. It is possible to switch the preview monitor independently of the selection on the MSU-700A/750 or VCS-700.

To activate this function, modification of the RCP-700-series unit is required. Consult your Sony service representative.



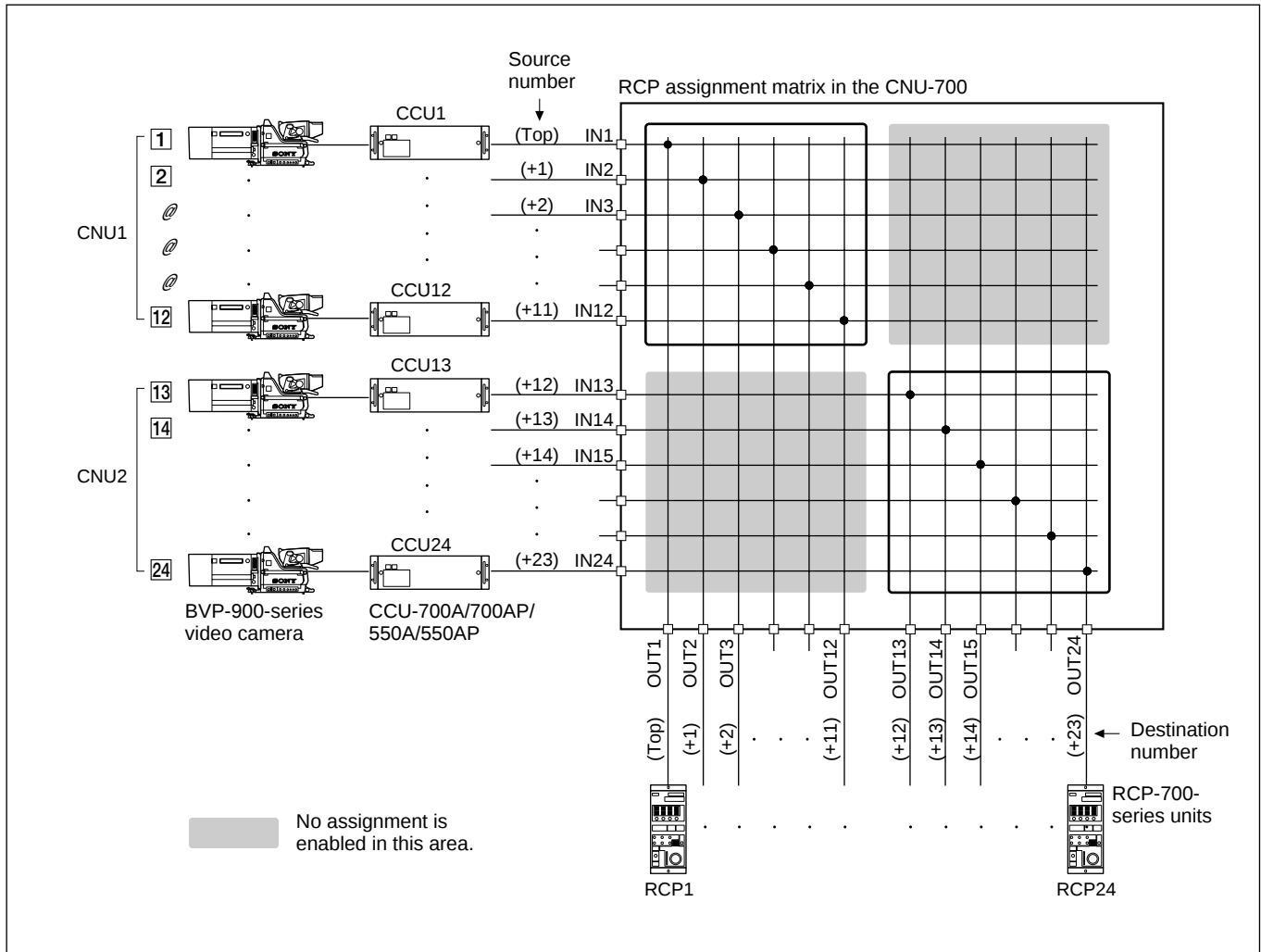
Switching the preview monitor with the PREVIEW button on an RCP-700-series unit

Assigning an RCP with a unit other than the MSU-700A/750

RCP assignment using the control unit of the routing switcher system is enabled. The settings for RCP assignment are stored on the BKP-7933.

Note

RCP-700-series units connected to the other CNU-700 cannot be assigned.

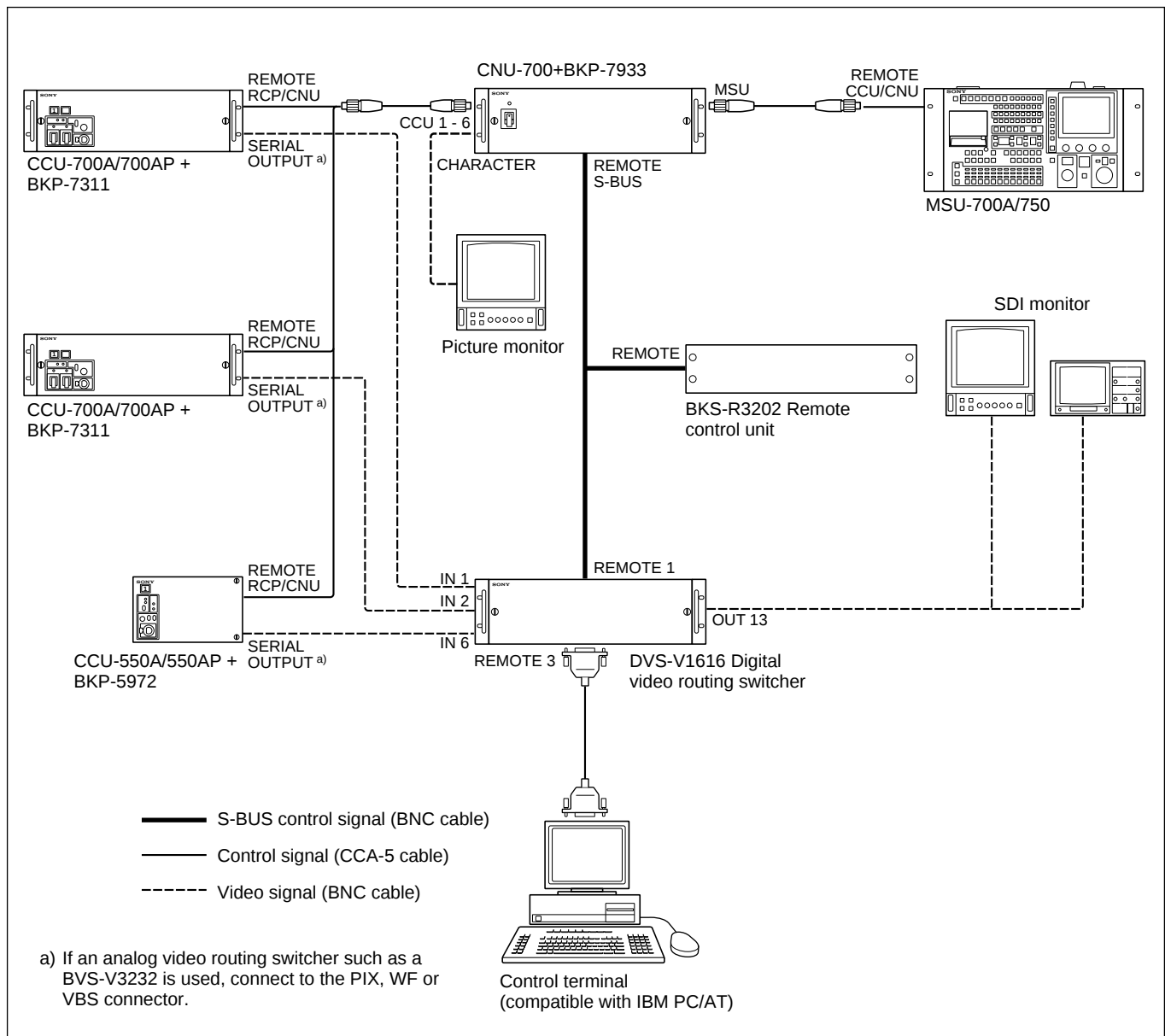


Assigning an RCP with a unit other than the MSU-700A/750

1-2 Configuration of the BVP-900-series Camera System

Controlling the camera select function on the MSU-700A/750 from an external device

The control unit in the routing switcher system can control the camera select function on the MSU-700A/750. It is possible to define which MSU-700A/750 you wish to control camera selection from among up to 16 units of the MSU-700A/750.



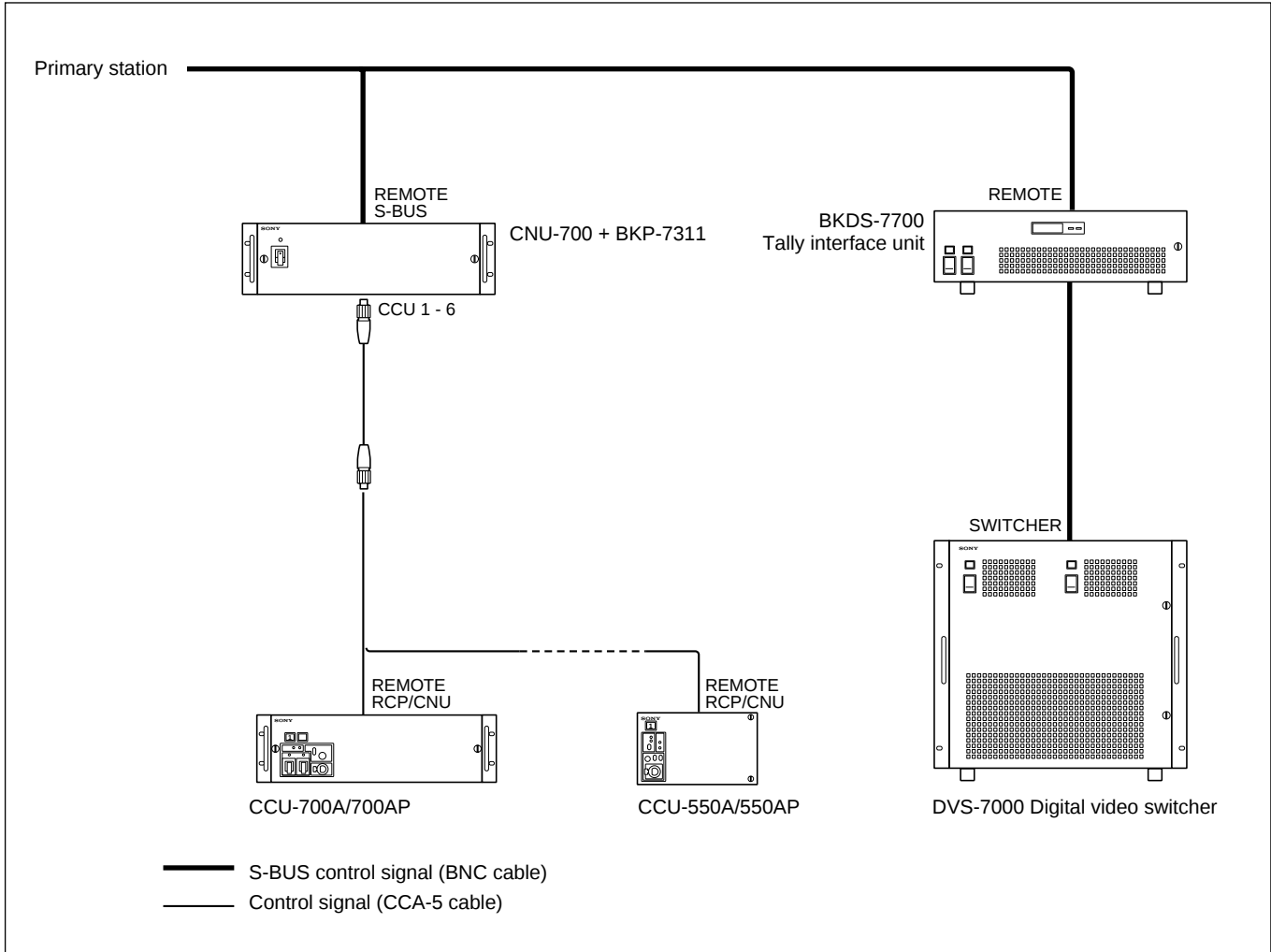
Controlling the camera select function on the MSU-700A/750 from an external device

Using a tally system

The CNU-700 accepts a red tally or green tally signal via the S-BUS, and sends the red tally or green tally commands to the CCUs and cameras.

Note

The response of tally may be delayed in the tally system via the S-BUS.



Using a tally system

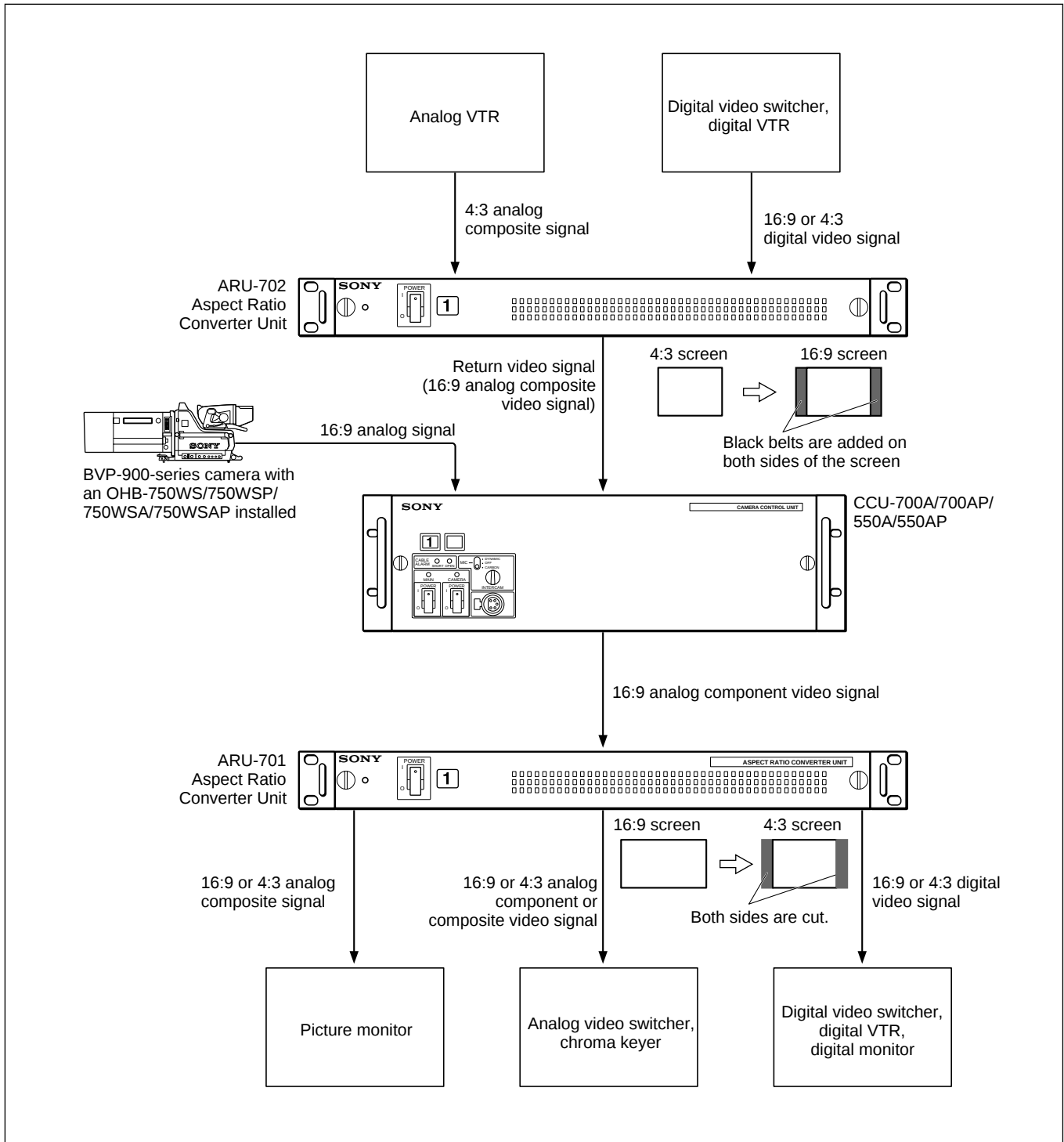
1-2 Configuration of the BVP-900-series Camera System

1-2-11 System to Convert the Aspect Ratio

The BVP-900-series camera system can process a signal for a wide screen with an aspect ratio of 16:9 by your merely replacing the CCD unit. If either of the 4:3 or 16:9 screen is used in the system, the ARU-701 is not necessary because the screen size can be selected

on the BVP-900/900P or BVP-950/950P. The aspect ratio is changed via the MIC REMOTE connector on the CCU-700A/700AP.

For more details, see “3-2-7 Selecting the Aspect Ratio.”



System to convert the aspect ratio

2-1 Mounting the Video Camera

In this section, how to mount an OHB-700-series CCD Unit, the lens, tripod and viewfinder to the video camera is explained. It is also explained to mount a BVP-950/950P with a CA-570/570P attached to a CA-905F/905K Large Lens Adaptor.

To mount other optional accessories such as an optional board, refer to the manual furnished with the accessory.

2-1 Mounting the Video Camera

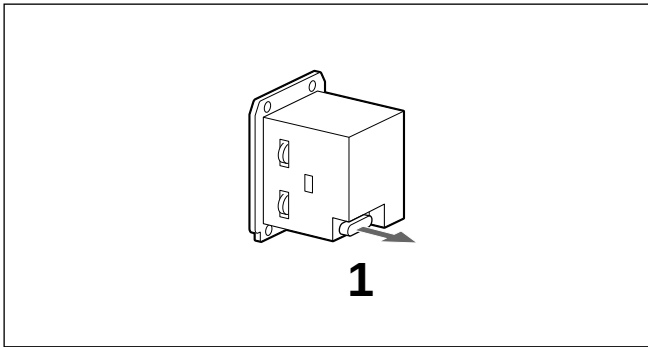
2-1-1 Mounting the BVP-900/900P

Mounting the CCD unit

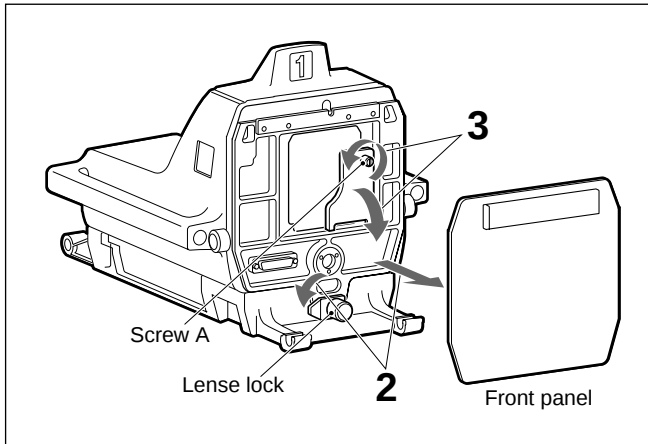
The BVP-900/900P is used in conjunction with one of four different CCD units (OHB-730/730P, OHB-730WS/730WSP, OHB-750A/750AP or OHB-750WSA/750WSAP), depending on the purpose.

Proceed as follows.

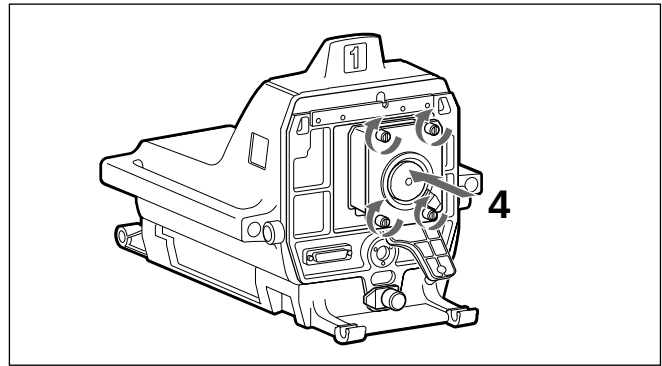
- 1** Remove the red connector cover from the rear of the CCD unit.



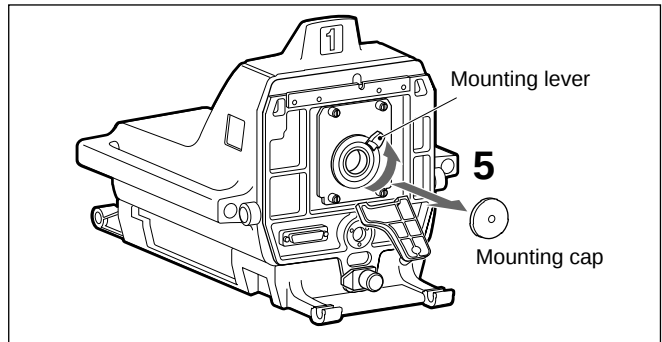
- 2** Loosen the lens-lock knob, turn the lens lock counterclockwise, and remove the front panel.



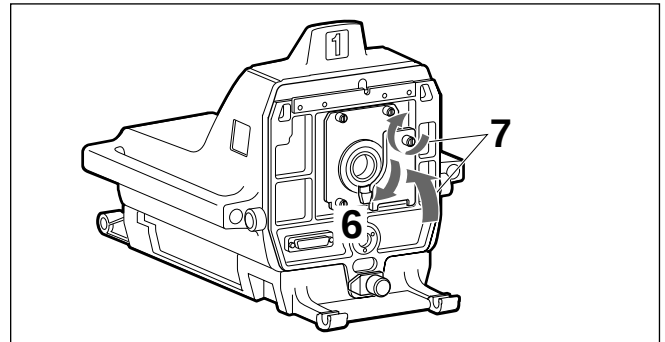
- 3** Loosen screw A on the front, and open the insertion-prevention plate.
- 4** Insert the CCD unit, and secure it with the four mounting screws.
Fasten the screws securely with a screwdriver or similar tool.



- 5** Turn the mounting lever on the CCD unit fully counterclockwise, and remove the mounting cap.



- 6** Turn the mounting lever clockwise to its lowest position.



- 7** Close the insertion-prevention plate, and secure it with screw A.

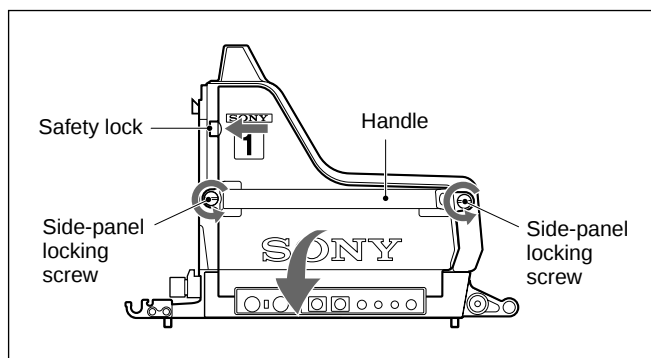
Caution

- Be sure to mount the CCD unit to the camera securely and correctly. Otherwise it may be damaged.
- Be sure to fully turn the mounting lever to its lowest position. Otherwise the lens may be damaged.
- Be sure to close the insertion-prevention plate and fix it securely. Otherwise the lens cannot be mounted.

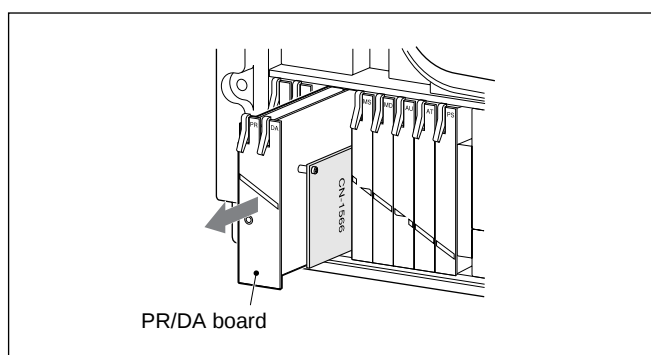
Mounting the RC Board

When the RC (aspect ratio converter) board supplied with the OHB-730WS/730WSP/750WSA/750WSAP is mounted in a BVP-900/900P video camera, the aspect ratio conversion function (from 16:9 to 4:3) can be applied.

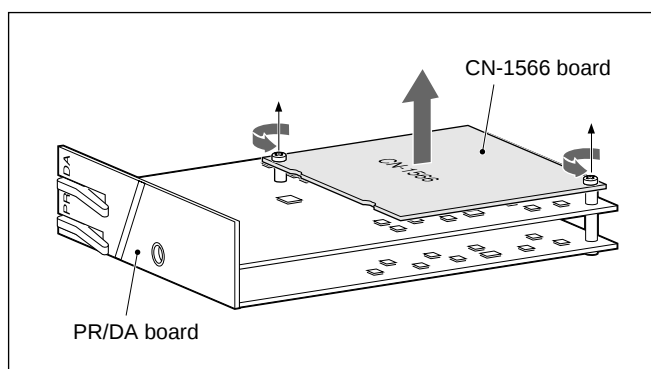
- 1 Loosen the two side-panel locking screws, and while sliding the safety lock toward the lens, open the side panel by holding the handle.



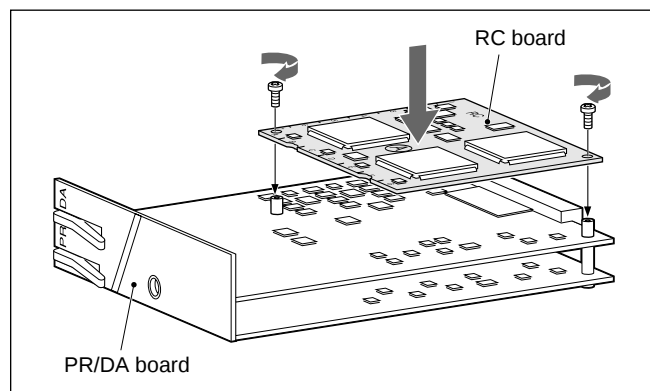
- 2 Pull the PR/DA boards out.



- 3 Remove the CN-1566 board attached to the DA board by loosening the two screws.



- 4 Mount the RC board to the DA board in place of the CN-1566 board, and secure it with the original two screws.

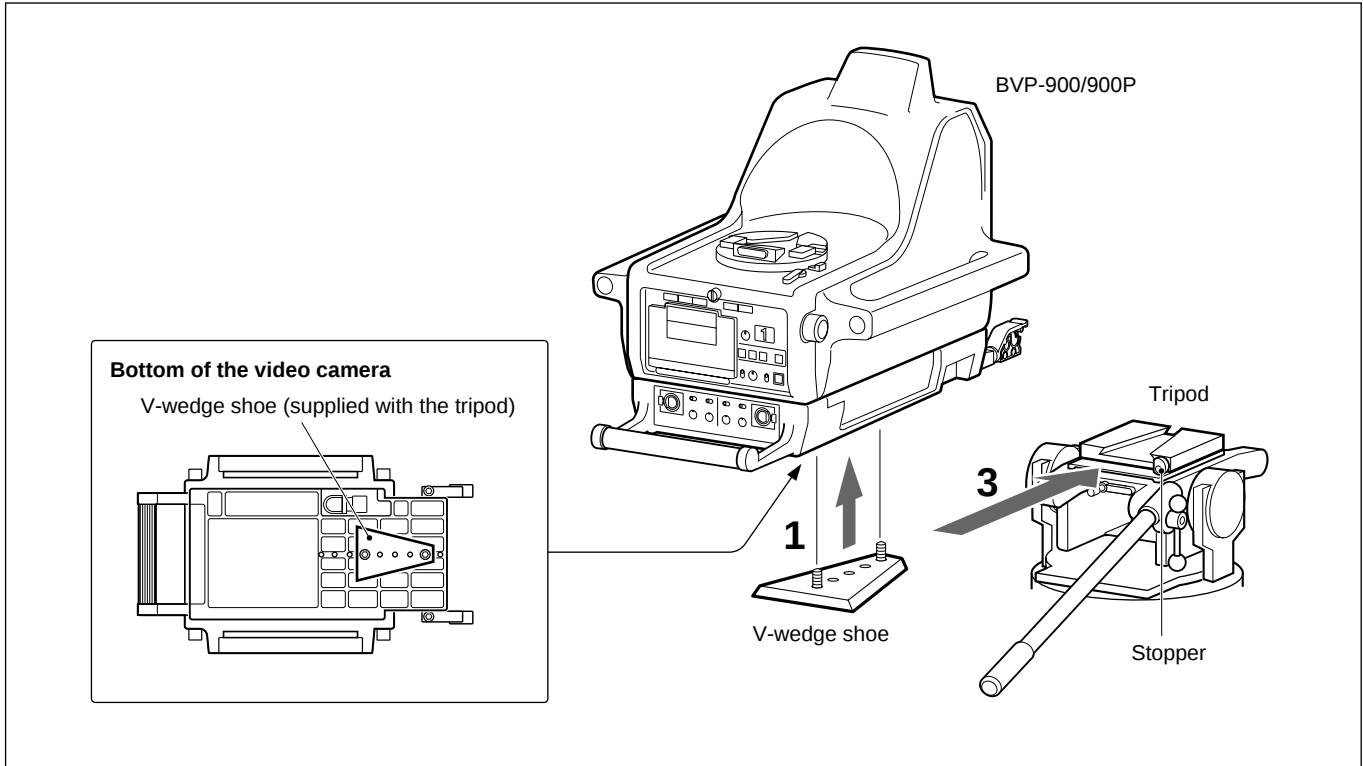


- 5 Return the PR/DA board to its original position, and close the side panel.

2-1 Mounting the Video Camera

Mounting the camera to the tripod

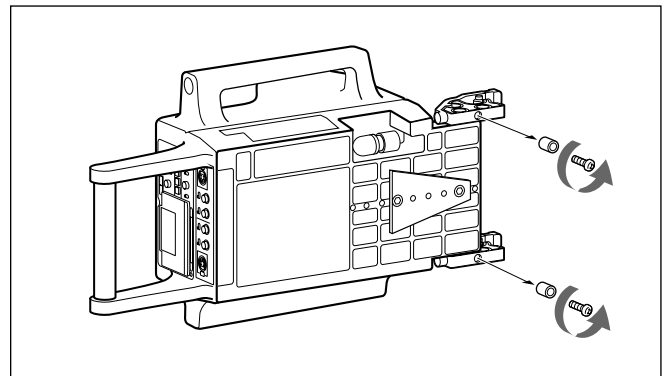
Several types of tripods are available. Select an appropriate tripod according to the type of lens to be used, and mount the camera to the tripod as described below:



- 1** Attach the V-wedge shoe (supplied with the tripod) to the bottom of the camera with the two screws. The position where the shoe should be attached is decided considering the balance of the weight of the camera and lens.
- 2** Check that the pan-lock and tilt-lock levers of the tripod are securely locked.
- 3** Mount the camera to the tripod holding it by the handles on each side.
- 4** Lock the camera to the tripod with the stopper on the tripod.

Note

If the feet on the bottom of the camera interfere with mounting the tripod, remove them as shown below.



Removing the feet on the bottom of the cable clamp

Attaching the lens to the camera

Attach a hanger-mount-type lens recommended by Sony. For details on the lens, refer to the instruction manual furnished with the lens.

When you intend to install the following lens, modification is required on the CCD unit. Refer to your Sony service representative.

Canon J40×9.5B IMS/J40×9.5B ISS

J18×8B IMS/J18×8B ISS

J14×9B IMS/J14×9B ISS

Fujinon A44×9.5 BESM-18LP

A44×9.5 BESM-18LPB

A17×8.5 BESM-18LP

A17×8.5 BESM-18LPB

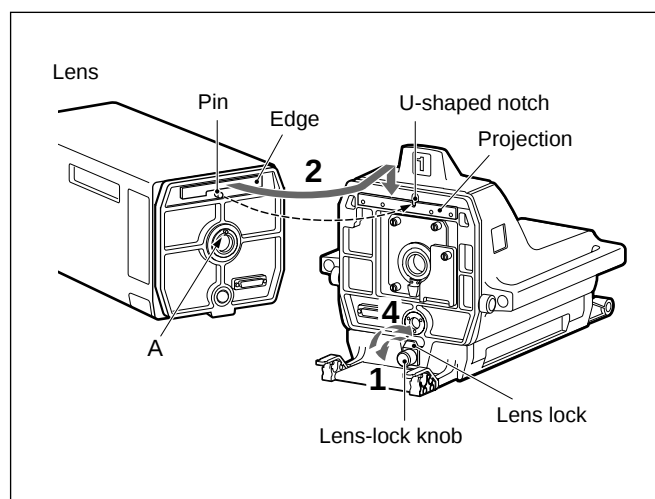
Notes

Be sure to check the following points before attaching the lens:

- That the pan-lock and tilt-lock levers on the tripod are fixed
- That the OHB-700-series CCD Unit is correctly mounted to the camera
- That there is not a pin at part A on the lens shown in the figure below (if there is, remove it). If the pin cannot be removed, consult your Sony representative.

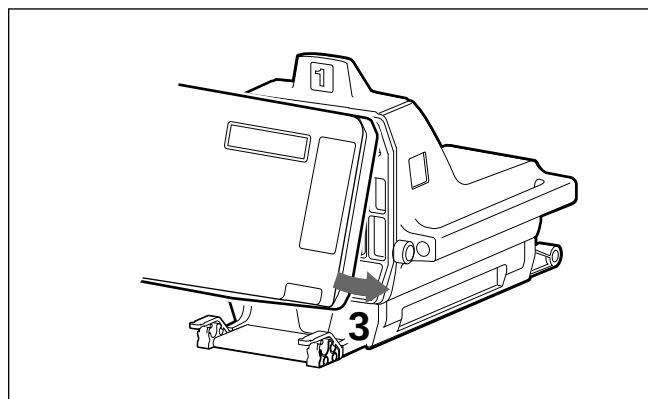
Proceed as follows

- 1 Loosen the lens-lock knob and turn the lens lock counterclockwise to the horizontal position.



- 2 Align the pin on the lens with the U-shaped notch, then hook the edge of the lens on the projection of the camera.

- 3 Couple the lens to the camera.



- 4 Turn the lens lock clockwise, then fasten the lens-lock knob.

2-1 Mounting the Video Camera

Attaching the 7-inch viewfinder

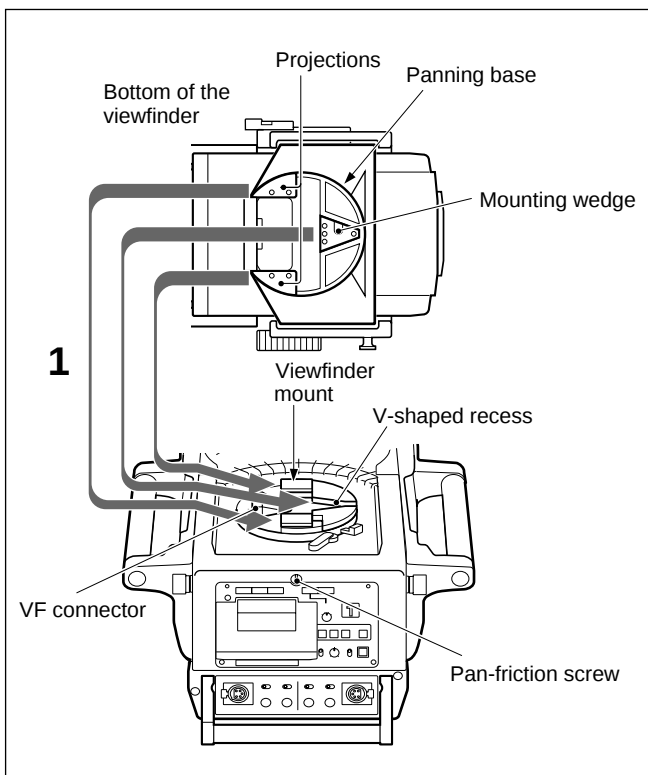
For details on attaching a viewfinder, refer to the instruction manual furnished with the viewfinder.

Note

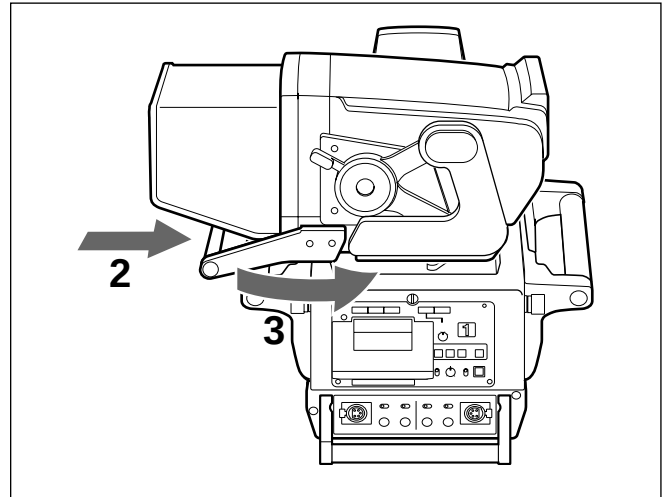
Be sure that the VF connector on the viewfinder mount is positioned at a right angle to the control panel of the camera.

Proceed as follows.

- 1 Place the viewfinder on the viewfinder mount of the camera so that the mounting wedge on the bottom of the viewfinder enters the V-shaped recess on the viewfinder mount and that the projections on the bottom of the viewfinder are placed at the position shown in the figure above.



- 2 Push the viewfinder by the handle so that the panning base is securely held by the viewfinder mount. Pull the handle to check that the viewfinder is fixed to the camera.



- 3 Turn the viewfinder counterclockwise.

Adjusting the pan-friction of the viewfinder

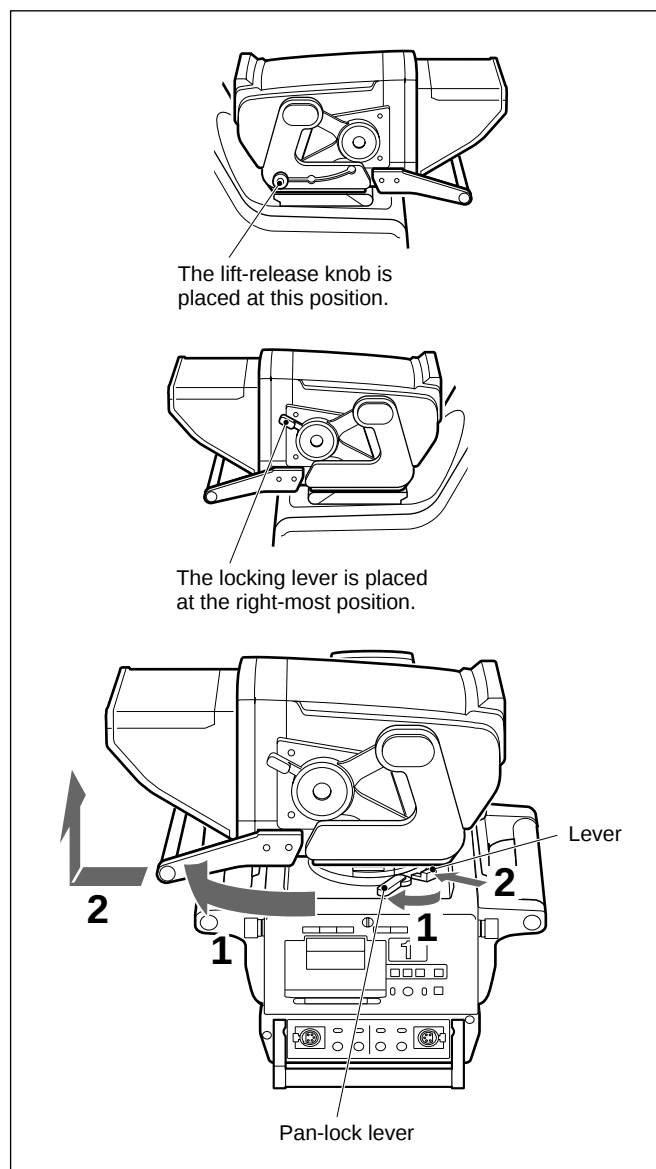
You can adjust the friction for panning the viewfinder with the pan-friction screw. The friction increases as the screw is turned clockwise, while the friction decreases as the screw is turned counterclockwise.

Detaching the viewfinder

Before detaching the viewfinder, check the following points:

- That the lift-release knob of the viewfinder is at its lowest position
- That the locking lever is fixed

Proceed as follows.

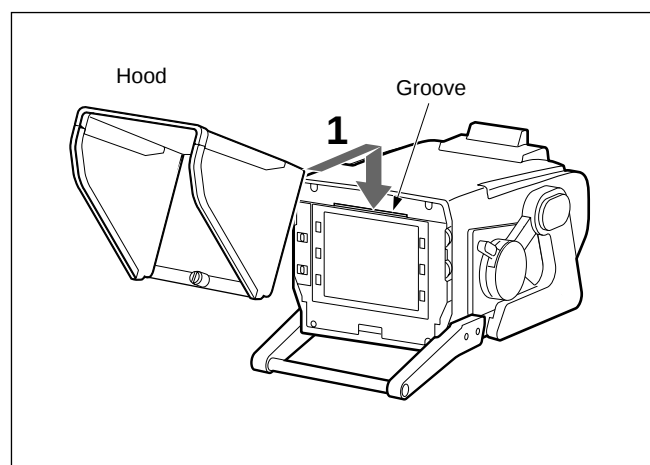


- 1 Turn the pan-lock lever on the camera counterclockwise, and turn the viewfinder mount clockwise 90 degree.
- 2 Pull the handle of the viewfinder while pushing the lever, and lift up the viewfinder.

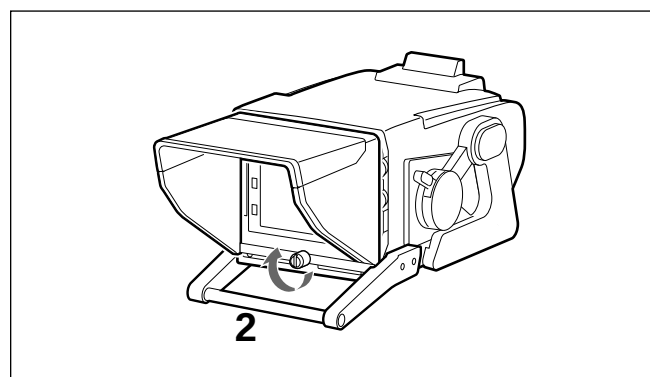
Attaching the hood

Attach the hood as shown below. The figure shows attaching the indoor-use hood, and you can attach the VFH-770 outdoor-use hood in the same way.

- 1 Hook the hood to the groove at the top of the viewfinder screen.

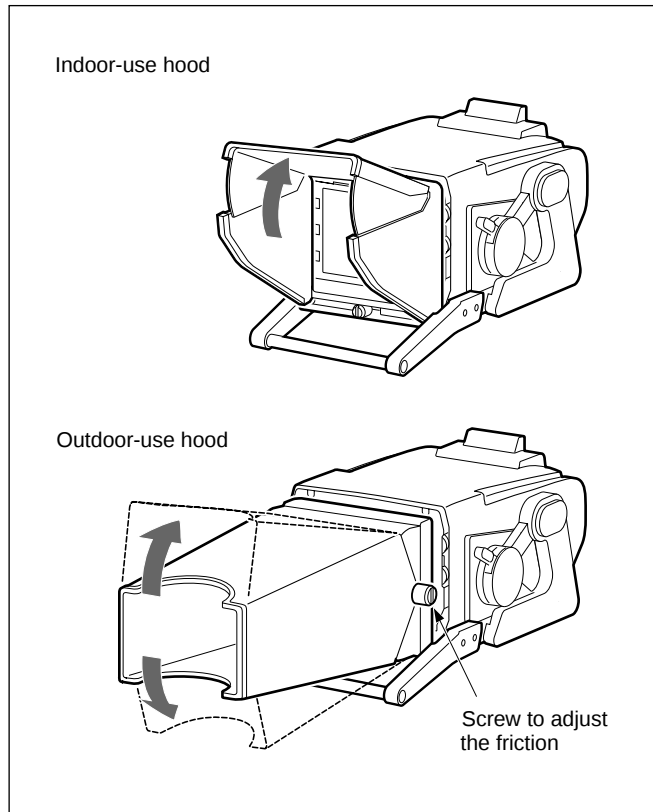


- 2 Fix the hood with the screw below the viewfinder screen.



2-1 Mounting the Video Camera

Adjusting the angle of the hood



Adjusting the angle of the hood

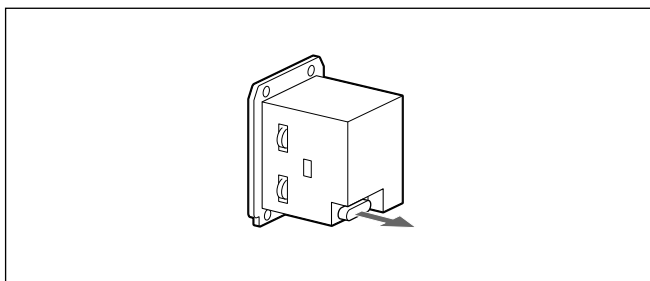
- You can change the angle of the outdoor-use hood by 30 degree upward or downward.
- You can adjust the friction of the outdoor-use hood with the screw on the side of the hood. The friction increases as the screw is turned clockwise, and the hood becomes hard to move, while the friction decreases as the screw is turned counterclockwise, and the hood can easily be moved.

2-1-2 Mounting the BVP-950/950P

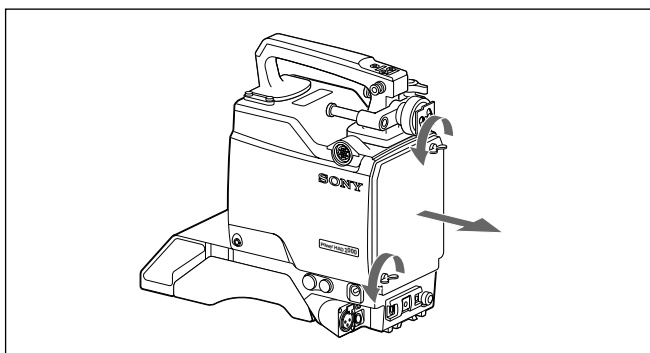
Mounting the CCD unit

The BVP-950/950P is used in conjunction with one of four different CCD units (OHB-730/730P, OHB-730WS/730WSP, OHB-750A/750AP or OHB-750WSA/750WSAP), depending on the purpose.

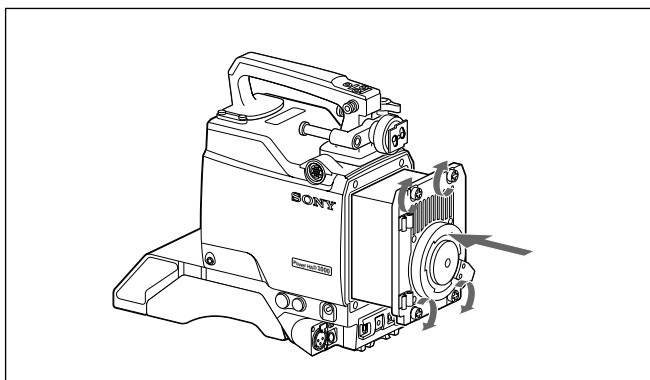
- 1 Remove the red connector cover from the rear of the CCD unit.



- 2 Loosen two screws on the front panel, and remove the front panel.



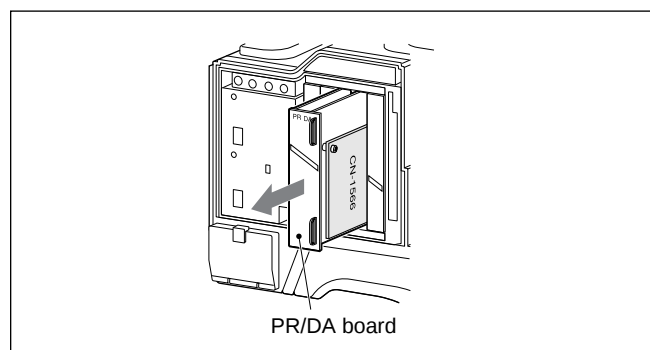
- 3 Insert the CCD unit, and secure it with the four mounting screws. Fasten the screws securely with a screwdriver or similar tool.



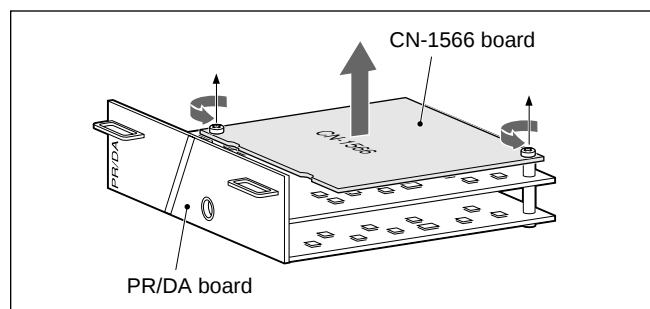
Mounting the RC Board

When the RC (aspect ratio converter) board supplied with the OHB-730WS/730WSP/750WSA/750WSAP is mounted in a BVP-950/950P video camera, the aspect ratio conversion function (from 16:9 to 4:3) can be applied.

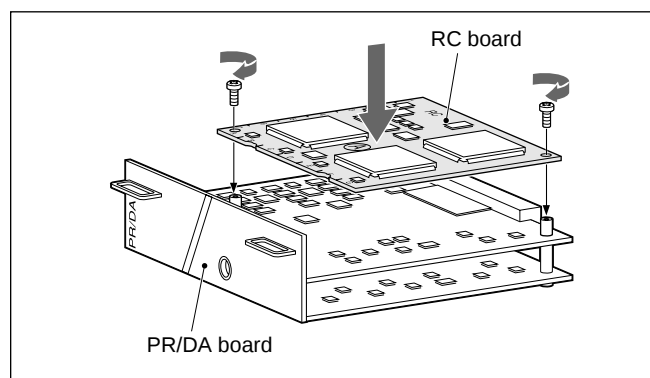
- 1 Open the side panel of a BVP-950/950P video camera, and pull the PR/DA boards out.



- 2 Remove the CN-1566 board attached to the DA board by loosening the two screws.



- 3 Mount the RC board to the DA board in place of the CN-1566 board, and secure it with the original two screws.



- 4 Return the PR/DA board to its original position, and close the side panel.

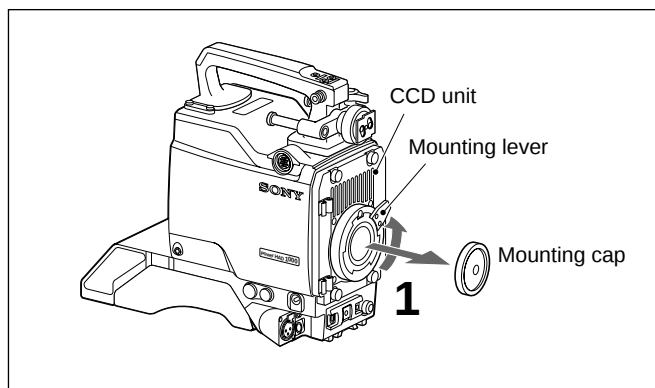
2-1 Mounting the Video Camera

Attaching a Lens to the Camera

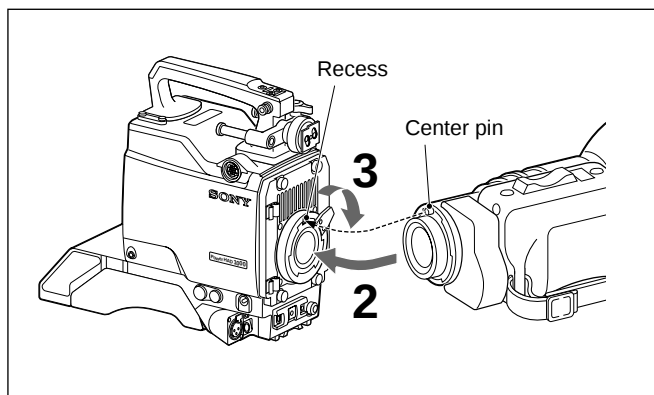
Attach an optional lens as described below.

For details on the lens, refer to the instruction manual furnished with the lens.

- 1** Turn the mounting lever on the CCD unit fully counterclockwise, and remove the mounting cap.

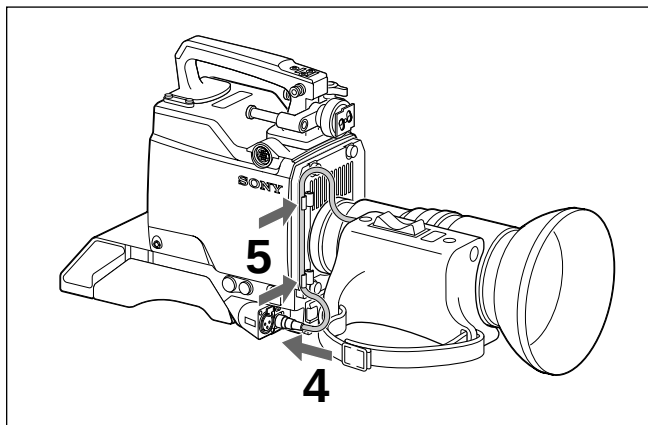


- 2** Align the center pin of the lens with the recess at the top of the lens mount section, and insert the lens to the camera.



- 3** Turn the mounting lever fully clockwise to fix the lens while holding the lens.

- 4** Connect the lens cable to the LENS connector.



- 5** Fix the lense cable with the cable clamps.

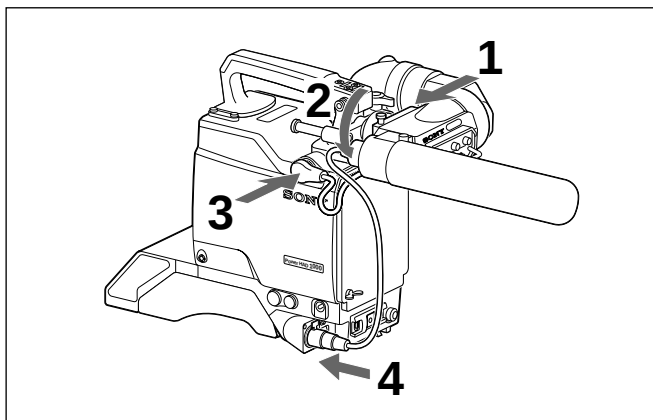
Attaching a 1.5-inch/2-inch viewfinder

Any of the following viewfinder can be attached to the camera.

BVP-950: BVF-10/10W (1.5-inch),
BVF-20W (2-inch)

BVP-950P: BVF-10CE/10WCE (1.5-inch)
BVF-20WCE (2-inch)

For details on the viewfinder, refer to the instruction manual furnished with the viewfinder.

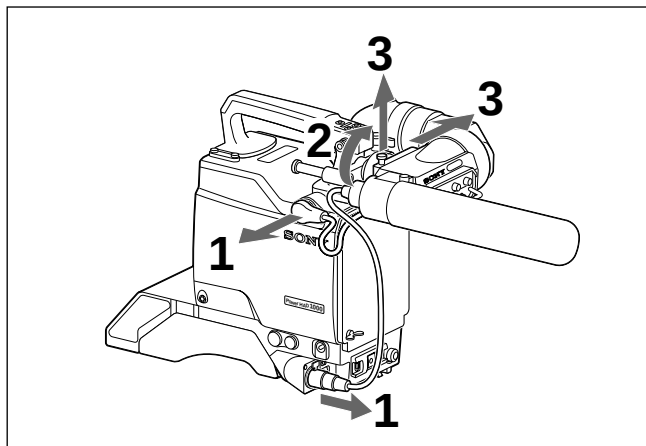


- 1** Slide the viewfinder in the direction of the arrow.

The viewfinder stopper automatically goes down.

- 2** Tighten the viewfinder fixing ring.
- 3** Connect the viewfinder cable to the VF connector on the camera.
- 4** Connect the microphone cable to the MIC 1 connector on the camera.

Detaching procedure



- 1** Remove the viewfinder cable from the VF connector and the microphone cable from the MIC 1 connector.
- 2** Turn the viewfinder fixing ring to loosen it.
- 3** Pull the viewfinder stopper up, and slide the viewfinder in the direction of the arrow to remove it.

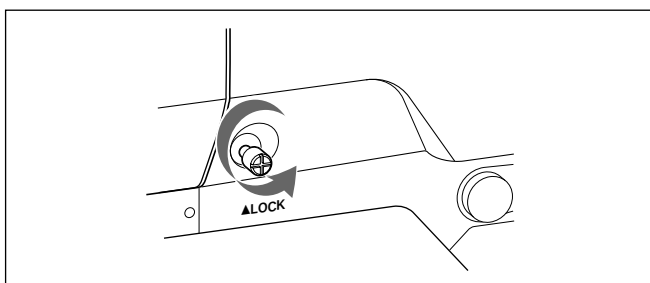
2-1 Mounting the Video Camera

Attaching the CA-530/550/550P/570/570P Camera Adaptor

When you attach the CA-530/550/550P/570/570P Camera Adaptor to the BVP-950/950P, a portable VTR, camera control unit or AC adaptor can be connected to the camera.

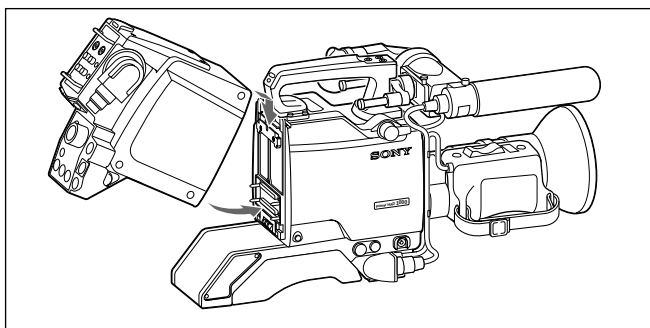
Proceed as follow:

- 1 Turn the LOCK screw on the camera counterclockwise until it skids to release the lock.

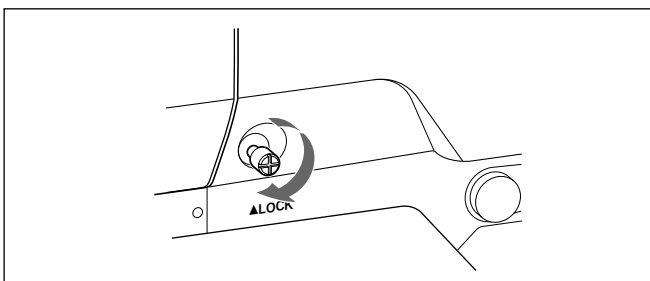


- 2 Attach the CA-530/550/550P/570/570P to the back of the camera.

Hook the upper part then push the lower part securely. Check that the adaptor is securely fixed to the camera by moving the adaptor.



- 3 Tighten the LOCK screw with a screwdriver.

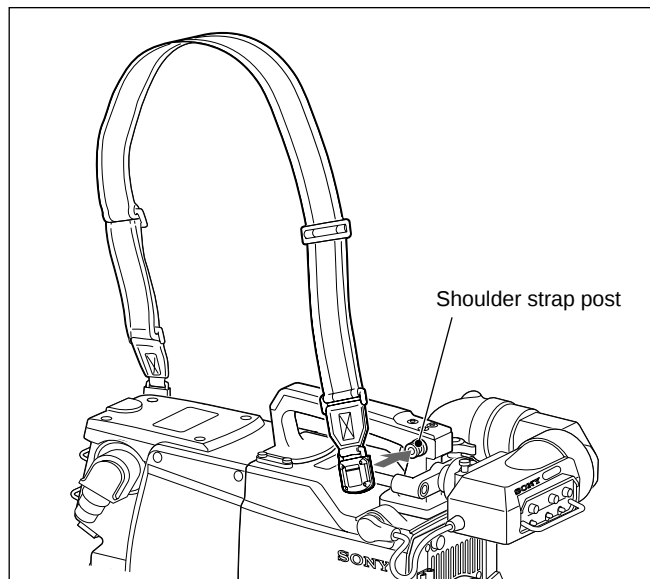


Removing a camera adaptor

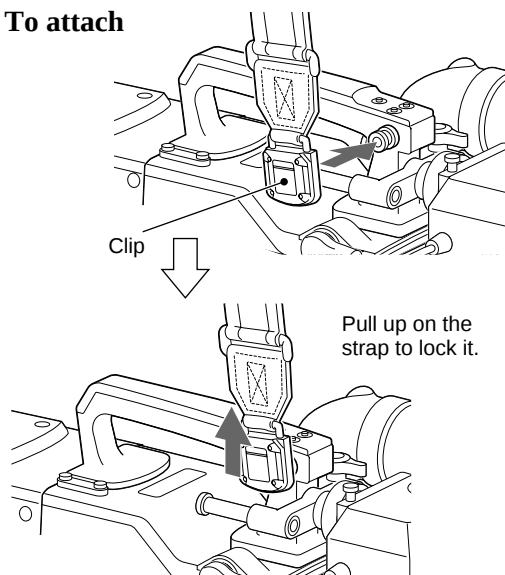
Turn the LOCK screw counterclockwise until it idles and then remove the camera adaptor while pushing the screw.

Attaching a shoulder strap

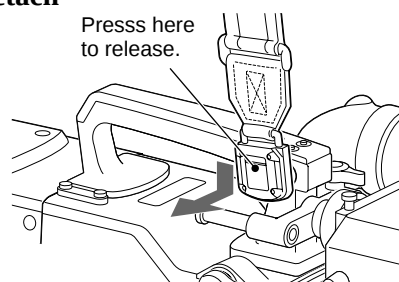
Attach a shoulder strap to the camera to which the adaptor has been mounted as shown below:



To attach



To detach

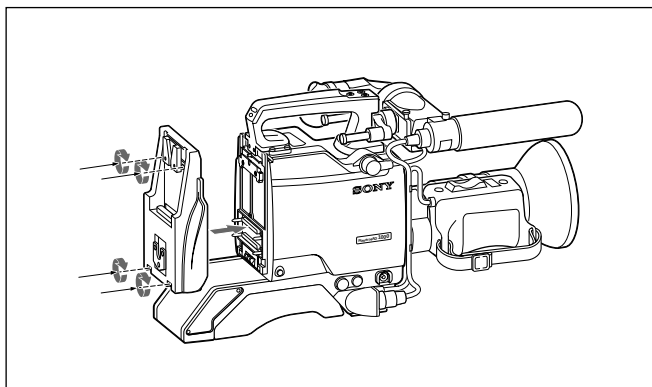


Attaching the CA-553/553P Camera Adaptor

When the CA-553/553P Camera Adaptor is attached to the BVP-950/950P, the camera can be used with the BVV-5/5PS Videocassette Recorder, or CA-3/3P/3A/3AP Camera Adaptor.

Attach the CA-553/553P to the back of the camera and fasten four screws on the CA-553/553P.

- 1** Turn the LOCK screw on the camera counterclockwise until it clicks to release the lock.
- 2** Attach the CA-553/553P to the camera, and fix it with the four screws on the adaptor.



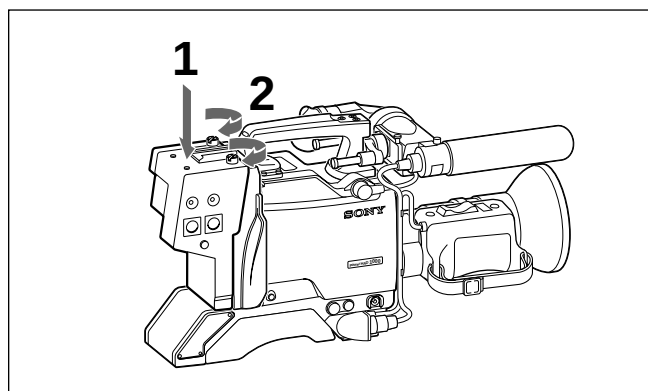
- 3** Tighten the LOCK screw with a coin or screwdriver.

Attaching the CA-3/3P/3A/3AP Camera Adaptor

When the CA-3/3P/3A/3AP Camera Adaptor is attached to the BVP-950/950P with the CA-553/553P mounted, the BVP-950/950P can be connected to a portable VTR. Attach the CA-3/3P/3A/3AP as described below.

Note

If the CA-3/3P/3A/3AP is attached to the camera, an RM-P3/P9 Remote Control Unit cannot function even if it is connected to the CA-3/3P/3A/3AP. Connect the RM-B150 or RCP-700-series unit to the REMOTE connector on the camera.



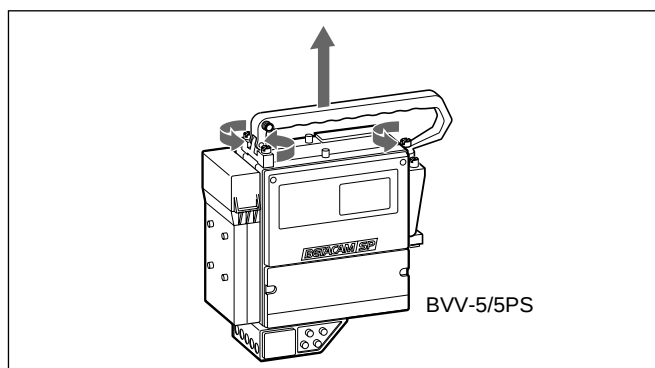
- 1** Attach the CA-3/3P/3A/3AP to the CA-553/553P.
- 2** Fix the CA-3/3P/3A/3AP with the two screws.

2-1 Mounting the Video Camera

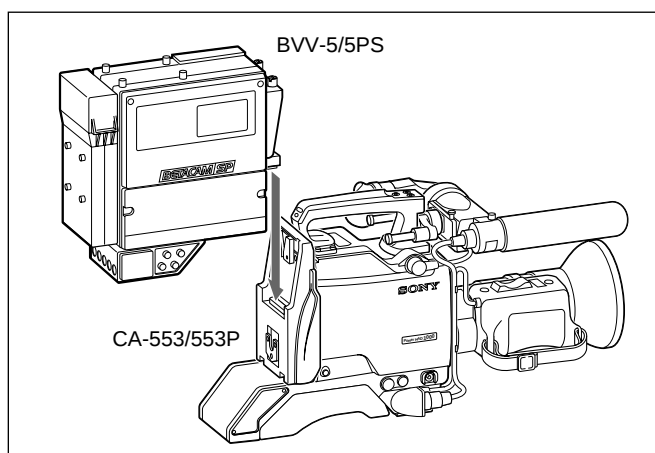
Attaching the BVV-5/5PS Videocassette Recorder

When the CA-553/553P camera adaptor is attached to the BVP-950/950P, the BVV-5/5PS videocassette recorder can be attached to the camera, which provides a convenience for using a camera and recorder as a unit.

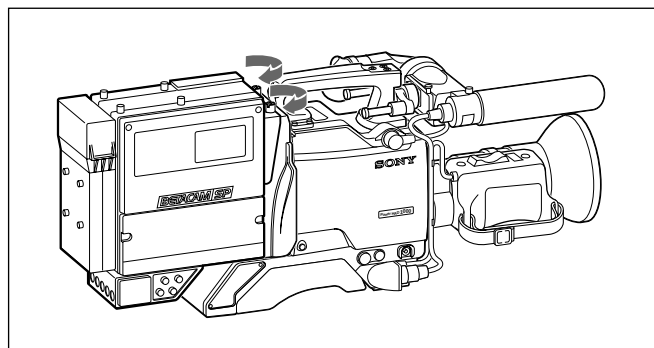
- 1 Loosen the three screws and remove the handle of the BVV-5/5PS.



- 2 Attach the BVV-5/5PS to the CA-553/553P.



- 3 Fasten the two screws on the BVV-5/5PS.

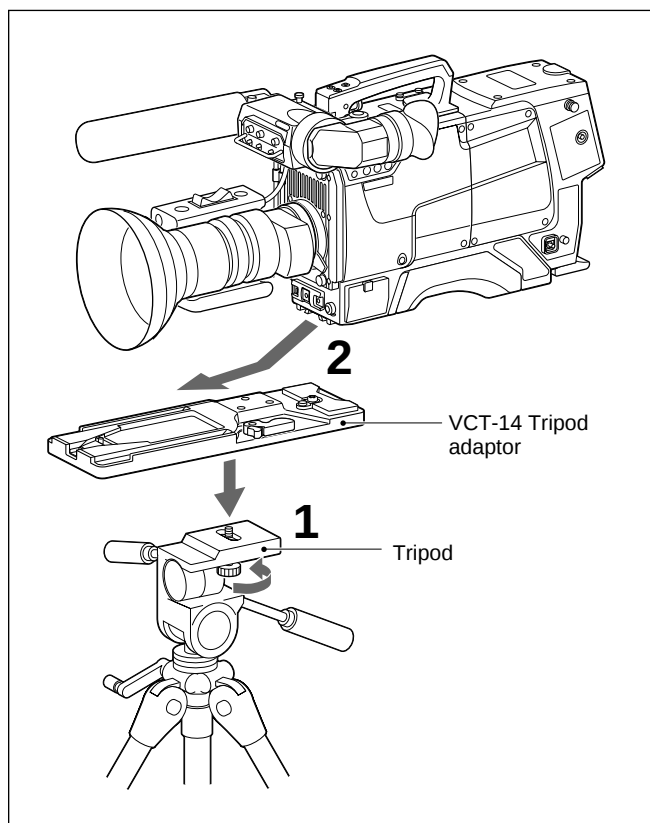


Mounting the camera to the tripod

Mount the camera to the tripod using the VCT-14 Tripod Adaptor.

Caution

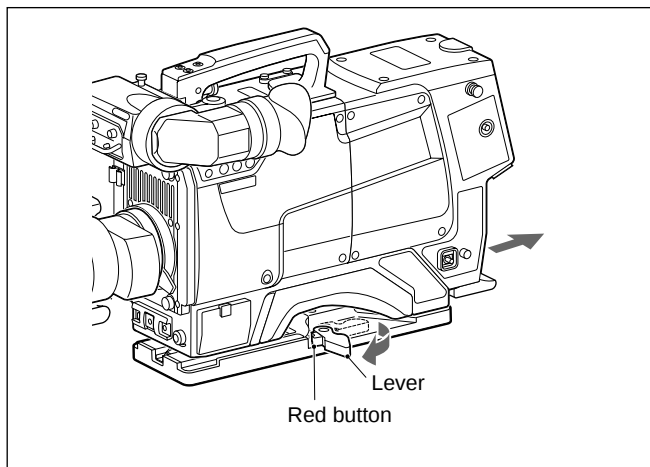
- Select an appropriate hole among from holes on the bottom of the tripod adaptor considering the balance of the weight of the camera and the tripod adaptor. If an inappropriate hole is selected, the camera may fall down.
- Check that the size of the selected hole matches that of the screw of the tripod. If they do not match, the tripod adaptor cannot be fixed to the tripod securely.



- 1 Attach the tripod adaptor to the tripod, and secure it with the screw.
- 2 Place the camera on the tripod adaptor, and slide forward along the groove on the tripod adaptor until it clicks.

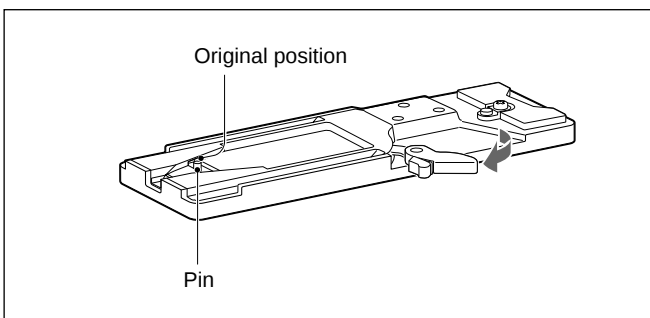
Removing the camera from the tripod adaptor

Hold down the red button and pull the lever in the direction of the arrow.



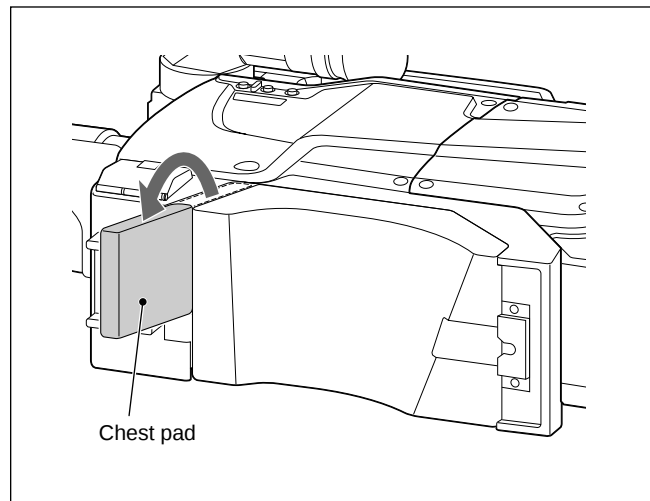
If the pin of the tripod adaptor dose not return to its original position

After removing the camera, if the pin of the tripod adaptor does not return to its original position, hold down the red button and move the lever in the direction of the arrow to return the pin to its original position. It is not possible to mount a camera with the pin left out.



Using the chest pad

Pull out the small pad on the BVP-950/950P that can be used as the chest pad.



Caution

Do not put the camera with the chest pad pulled out, or mounted it to the tripod. The chest pad may be damaged.

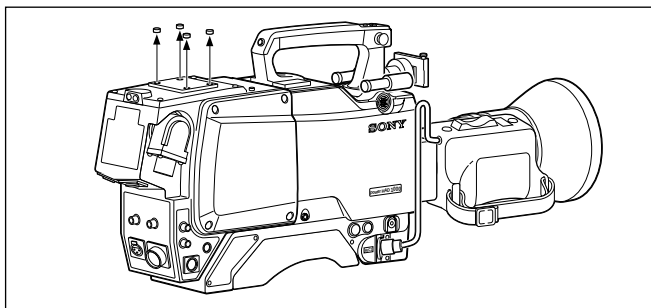
2-1 Mounting the Video Camera

Attaching the 5-inch viewfinder

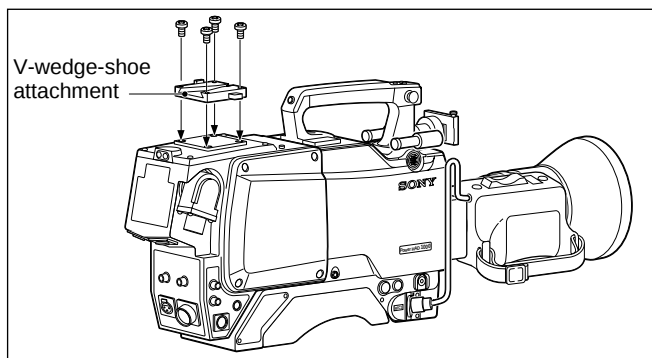
When an CA-530/550/550P/570/570P Camera Adaptor is mounted to the camera, an optional 5-inch viewfinder can be attached to the camera.

For details on the viewfinder, refer to the instruction manual furnished with the viewfinder.

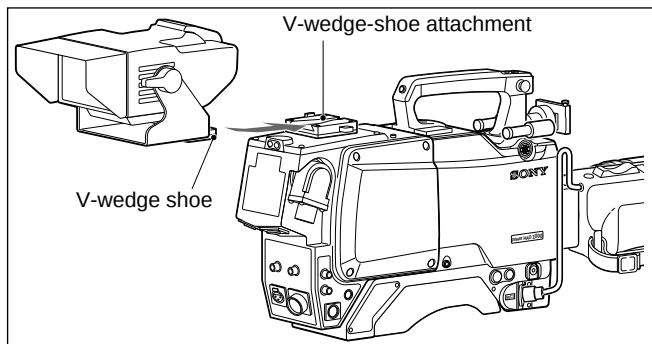
- 1 Remove the four caps or screws from the top of the camera adaptor.



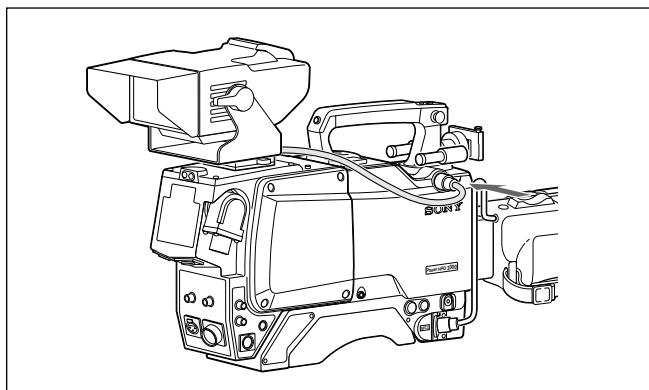
- 2 Attach the V-wedge shoe attachment supplied with the viewfinder to the camera adaptor, and fix it with the hexagonal screws supplied with the viewfinder.



- 3 Insert the V-wedge shoe on the bottom of the viewfinder to the V-wedge shoe attachment to mount the viewfinder to the camera. Click sound is heard when the viewfinder is completely mounted.

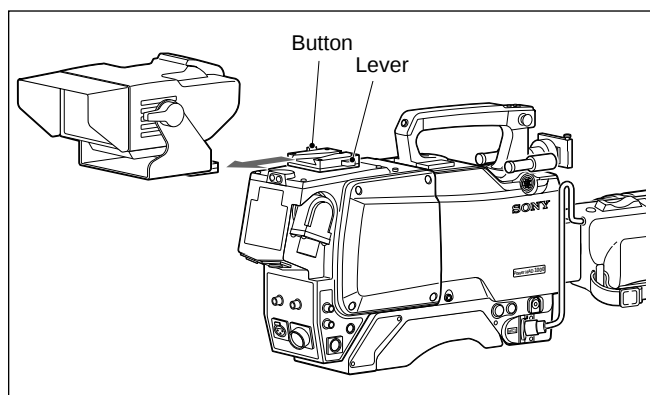


- 4 Connect the viewfinder cable to the VF connector on the camera.



Detaching the viewfinder

Press the button while pulling the lever on the V-wedge shoe attachment, and remove the viewfinder from the camera.



Attaching the hood

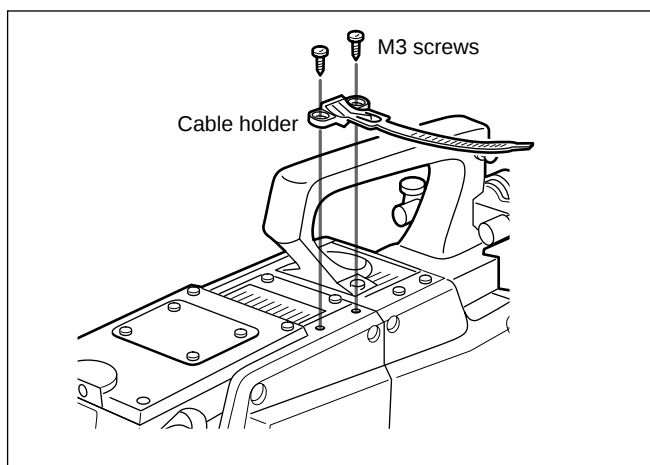
Attach the indoor-use or outdoor-use hood in the same manner as attaching the hood to the BVP-900/900P.

See "Attaching the hood" in "2-1-1 Mounting the BVP-900/900P."

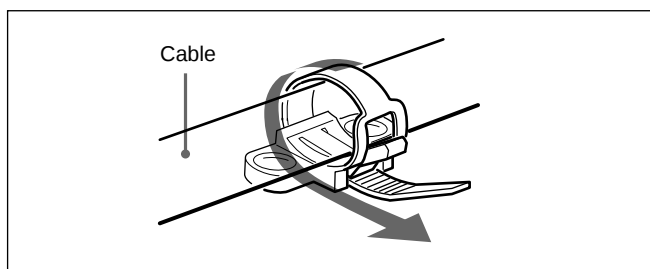
Using the cable holder

Attach a cable holder supplied with the CA-550/550P/570/570P Camera Adaptor, and fix the camera cable.

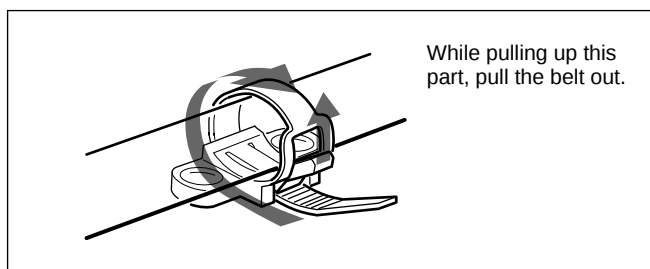
- 1 Attach the cable holder to the top of the CA-550/550P/570/570P with the two M3 screws supplied with the CA-550/550P/570/570P.



- 2 Fasten the cable clamp around the cable.



Removing the cable clamp



2-1 Mounting the Video Camera

2-1-3 Mounting the CA-905F/905K

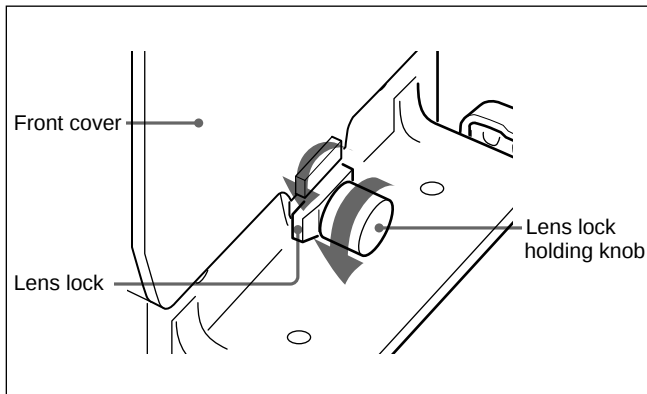
Tripod Mounting

Attach the CA-905F/905K to the tripod in the same manner as attaching the BVP-900/900P.

See “Attaching the hood” in “2-1-1 Mounting the BVP-900/900P.”

Attaching a large-lens for studio use

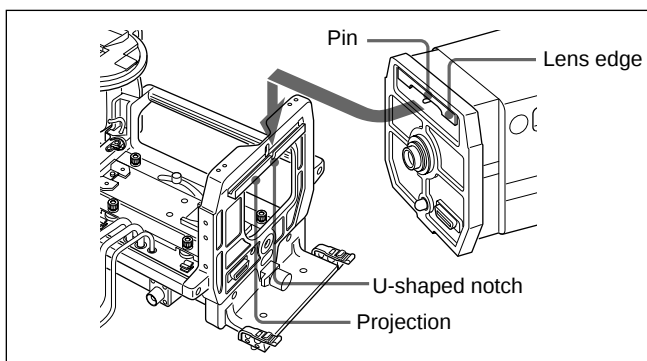
- 1 Loosen the lens lock holding knob and turn the lens lock counterclockwise.



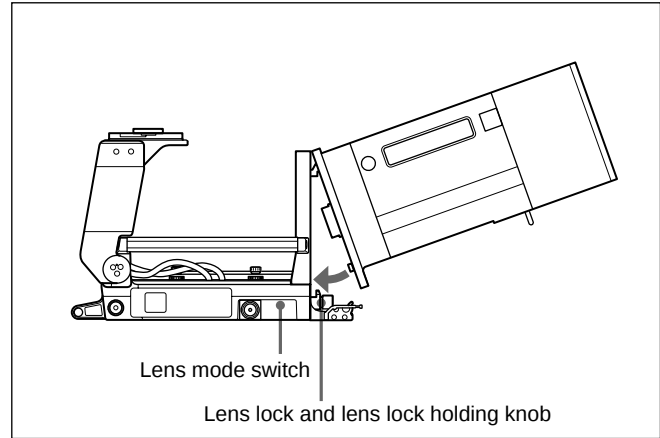
Note

Make sure the camera mount is all the way back. If it is in the forward position, it will be impossible to turn the lens lock.

- 2 Remove the front cover of the lens attachment section.
- 3 Insert the pin on the rear of the lens into the U-shaped notch on the front of the unit, and catch the lens edge on the projection of the unit.



- 4 Push the rear face of the lens onto the front face of the unit. Turn the lens lock clockwise so that it holds down the tongue-like protrusion at the lens bottom, and tighten the lens lock holding knob.



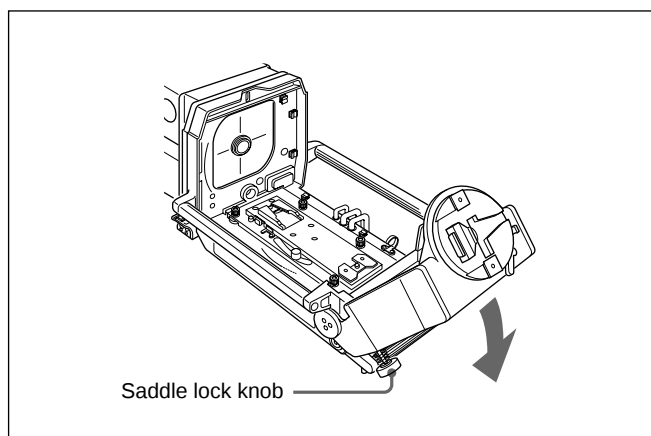
Notes

- Do not use lens ID:F. If the lens ID number is set to F, change it to another ID number. For details on verifying or changing the ID number of the lens, refer to the instruction manual of the lens.
- If you use a serial communication lens, more lens data can be captured by the camera by switching the lens mode switch to SERIAL. Normal lens operation is also possible with the switch set to NORMAL.

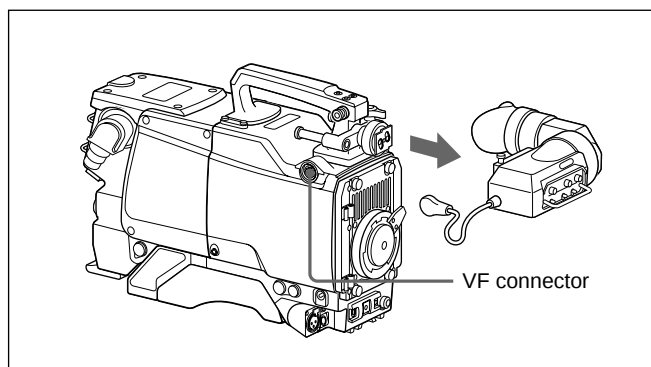
- 5 Remove the lens cap.

Preparations for attaching the camera

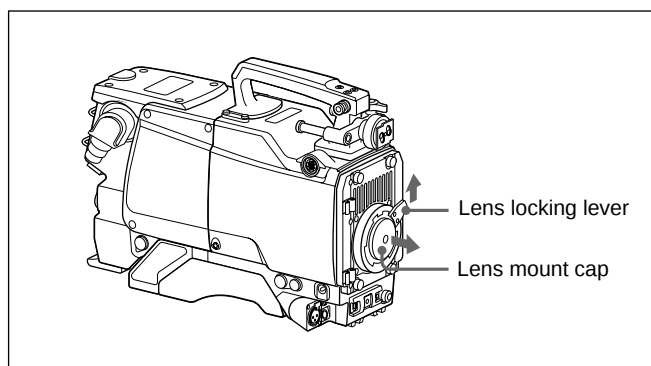
- 1 If the BKP-9057 viewfinder saddle is attached to the CA-905F/905K, turn the saddle lock knob counterclockwise to loosen it, then tilt the saddle backward.



- 2 Remove the 1.5-inch viewfinder from the camera. Push the viewfinder slide inward.

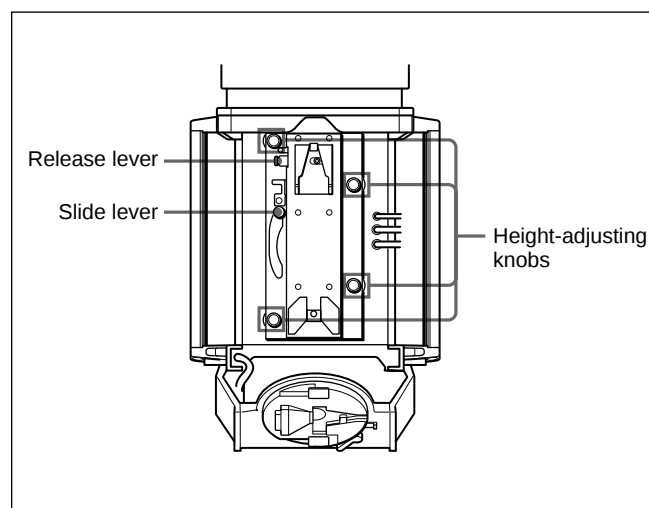


- 3 Turn the lens locking lever upward and remove the lens mount cap.

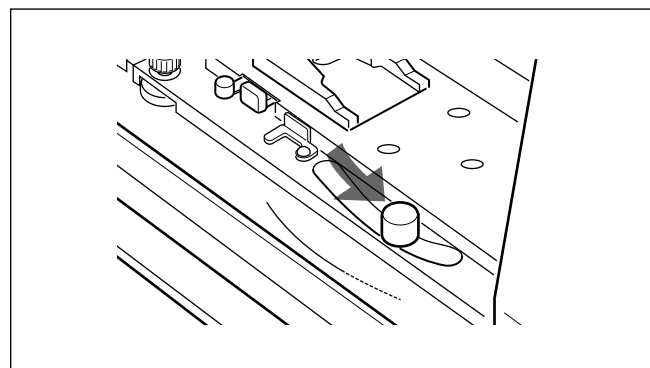


Aligning the camera mount

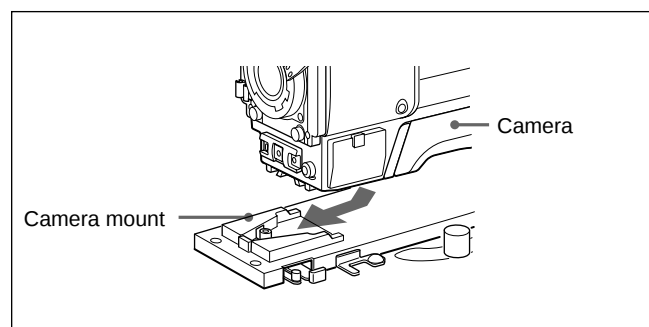
After you have aligned the camera mount once, you need not align it again if the same camera model is used.



- 1 Slide the slide lever to LOCK.



- 2 Insert the V-wedge shoe on the base of the camera into the V-shaped groove on the camera mount, and slide the camera forward until it clicks in place.

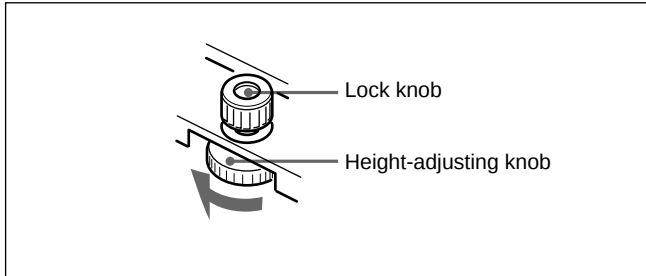


- 3 If you do not use the BKP-9057, attach the BVF-55/55CE to the camera.

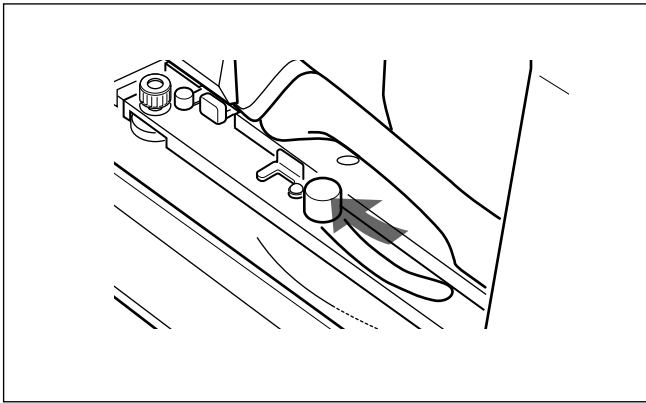
(Continued)

2-1 Mounting the Video Camera

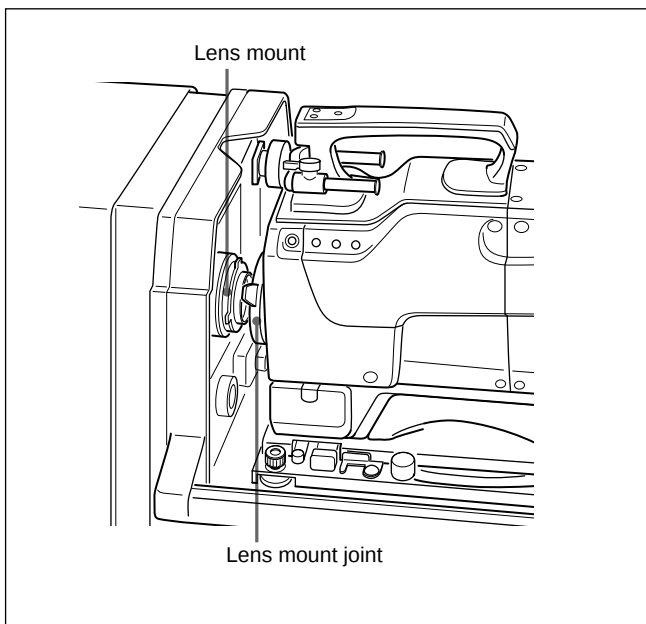
- 4** Loosen the four lock knobs of the camera mount, then turn the four height-adjusting knobs towards DOWN.



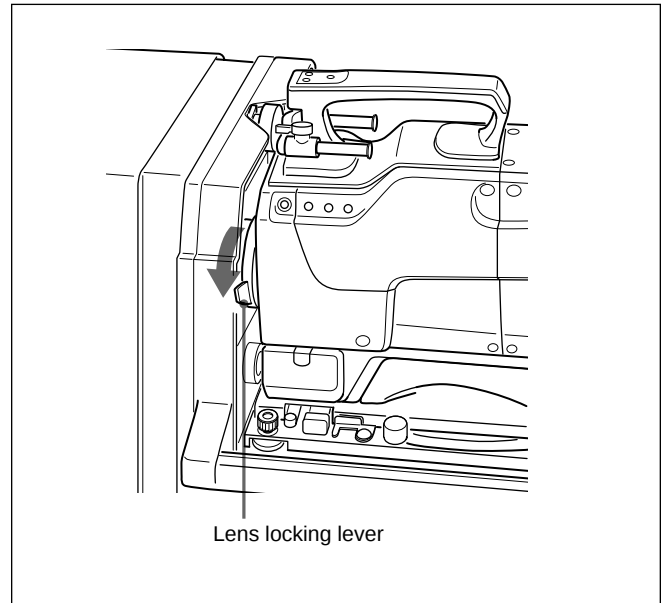
- 5** While pushing the plate, push the slide lever toward FORWARD.



- 6** Grasp the camera handle, then connect the lens to the lens mount on the camera.



- 7** While holding the camera, tighten the lens locking lever by moving it downward to attach the camera to the lens.



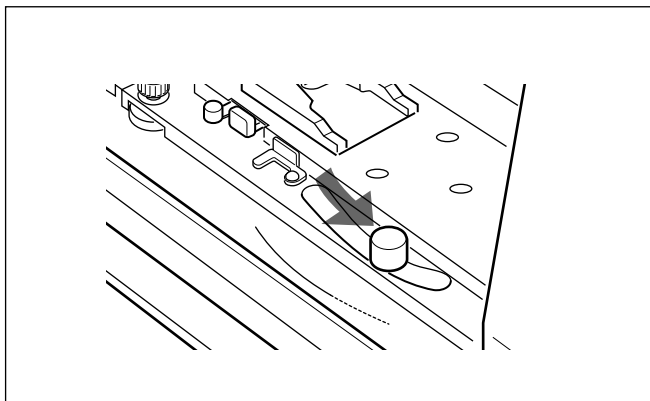
- 8** Turn the four height-adjusting knobs towards UP until they stop naturally, then secure them by turning the two lock knobs on the front.
- 9** Move the lens locking lever upward, then downward, making sure that it moves smoothly. If the lens locking lever does not move smoothly, turn the two height-adjusting knobs on the back until the height is such that the lever can move smoothly.
- 10** Turn the two lock knobs on the back to secure the height. Take note of the height setting of the height-adjusting knobs. They will serve as references when you use more than one camera.

Attaching the camera

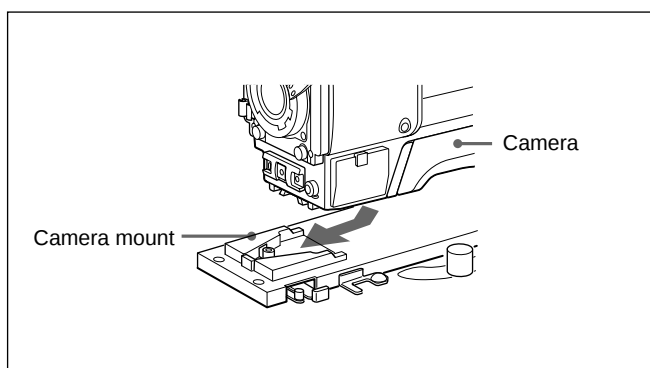
When attaching the camera for the first time, you will need to align the camera mount.

For details, see “Aligning the camera mount.”

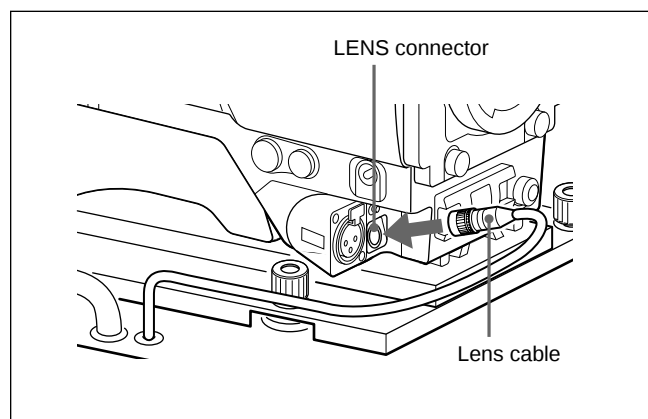
- 1 Slide the slide lever to LOCK.



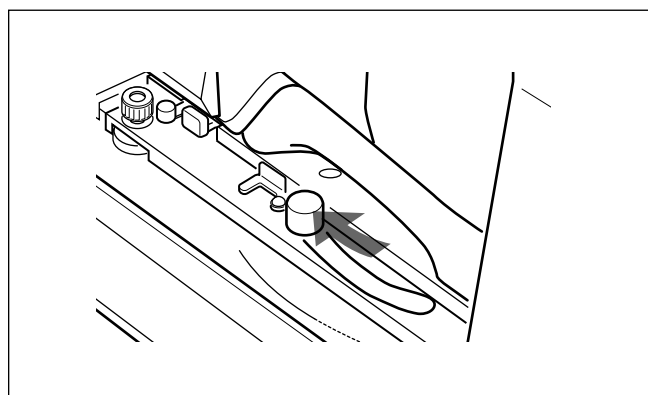
- 2 Insert the V-wedge shoe on the base of the camera into the V-shaped groove on the camera mount, and slide the camera forward until it clicks in place.



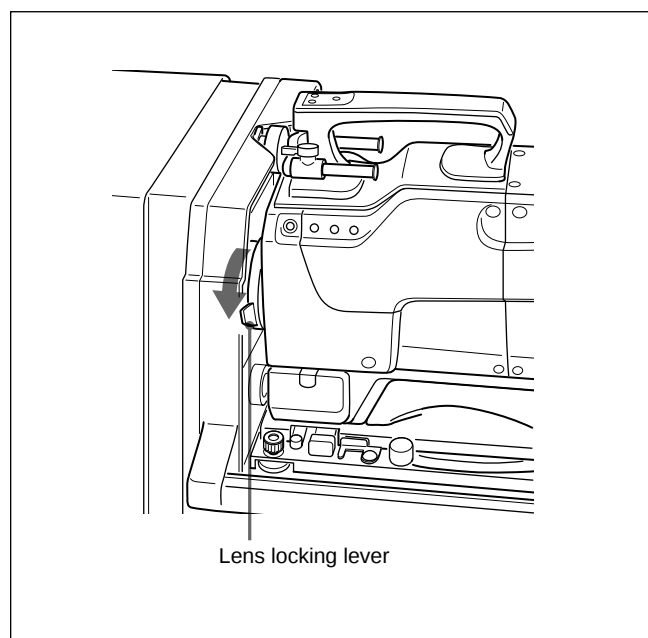
- 3 If you do not use the BKP-9057, attach the BVF-55/55CE to the camera.
- 4 **When the BVF-55/55CE is used:**
Connect the cable of the BVF-55/55CE to the VF connector on the camera.
When the BKP-9057 is used:
Connect the viewfinder cable of the unit to the VF connector on the camera.
- 5 Connect the lens cable of the CA-905F/905K to the LENS connector on the camera.



- 6 Slide the slide lever towards FORWARD.



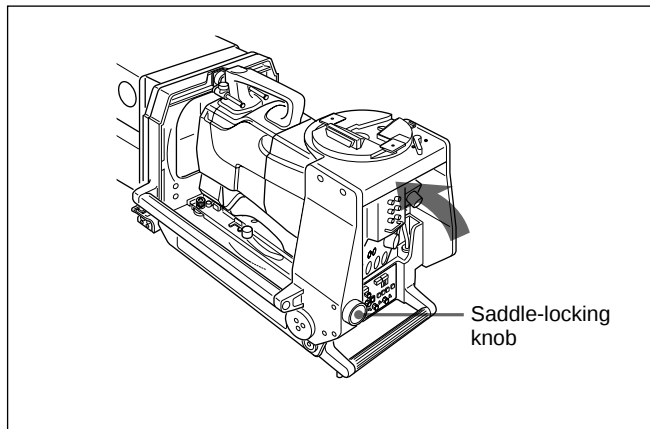
- 7 Tighten the lens lock lever by turning it down.



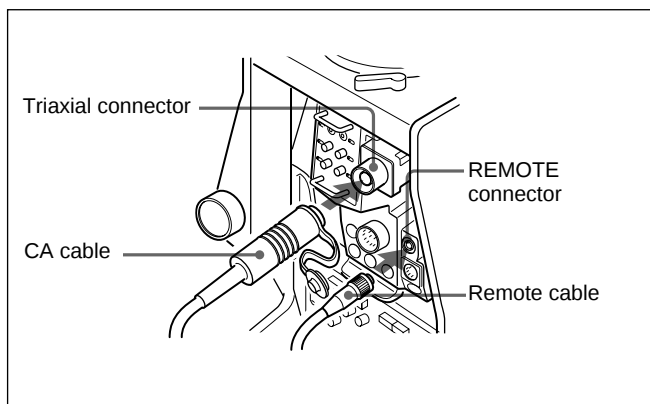
(Continued)

2-1 Mounting the Video Camera

- 8** When the BKP-9057 viewfinder saddle is attached, pull up the saddle and turn the saddle-locking knob clockwise to secure the saddle.



- 9** Connect the remote cable of the CA-905F/905K to the REMOTE connector on the rear of the CA-570/570P.
Connect the CA cable of the CA-905F/905K to the triaxial connector of the CA-570/570P.



Removing the camera

Note

If the BKP-9057 is attached, remove the viewfinder first.

For details on removing the viewfinder, see “Attaching the 7-inch viewfinder” in “2-1-1 Mounting the BVP-900/900P.”

If the BKP-9057 viewfinder saddle is attached, turn the saddle-locking knob counterclockwise to loosen the saddle, and pull down the saddle.

- 1** Remove the CA cable and remote cable from the camera adaptor.

- 2** Turn the lens-locking lever upward.

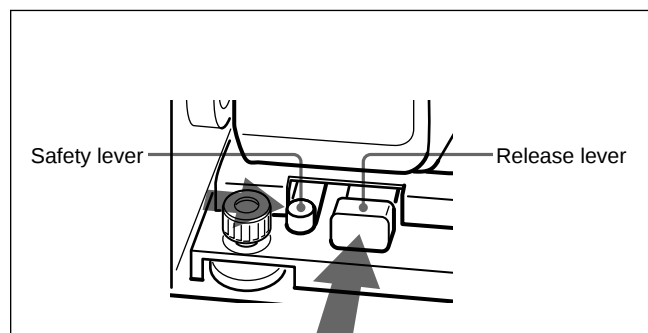
- 3** Slide the slide lever to LOCK.

Note

The lens cannot be removed unless the slide lever is set to LOCK.

- 4** Remove the VF connector and the LENS connector.

- 5** Push the safety lever and release lever to remove the camera.

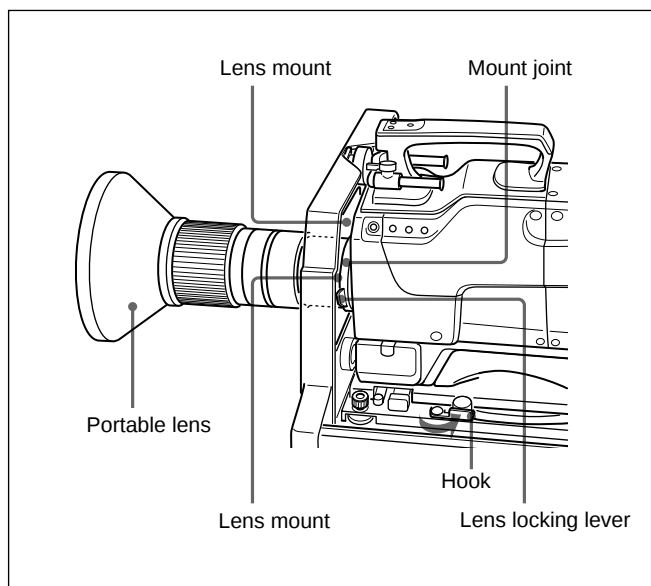


Note

If, after removing the camera, the camera mounting pin protrudes from the center of the lens attachment section, it will not be possible to connect the camera to the unit. If so, push the release lever while pushing the safety lever.

Attaching a portable lens

A portable lens can be attached to the camera mounted to the CA-905F/905K.



- 1** Insert the camera into the CA-905F/905K, following the procedure in Section “Attaching the camera” (page 2-21). Slide the slide lever forward and hook the slide lever.
- 2** Insert the mount joint of the portable lens mouth on the front of the CA-905F/905K and connect to the camera’s lens mount.
- 3** Supporting the lens, turn the lens locking lever downward.
- 4** Insert the lens cable of the portable lens through the lens mouth of the CA-905F/905K, and connect to the LENS connector of the camera.

Attaching a 5-inch viewfinder

A 5-inch viewfinder can be connected to the CA-570/570P.

For more details about connecting the viewfinder, see “Attaching the 5-inch viewfinder” in “2-1-2 Mounting the BVP-950/950P.”

Attaching a 7-inch-viewfinder

If the BKP-9057 is attached to the CA-905F/905K, the BVF-77/77CE/7700/7700P 7-inch viewfinder can be connected.

For more details about connecting the viewfinder, see “Attaching the 7-inch viewfinder” in “2-1-1 Mounting the BVP-900/900P.”

Attaching the number plates

Insert the projections on the both sides of the number plates into the notches in the holder.

For more details, see “2-1-4 Attaching the Number Plate.”

2-1 Mounting the Video Camera

2-1-4 Attaching the Number Plate

Number plates are supplied with the BVP-900/900P, CCU-700A/700AP/550A/550AP, BVF-7700/7700P/77/77CE/55/55CE, and CA-905F/905K to indicate the camera number. Attach the number plates to the tally lamps or camera number indicator on each unit.

Attaching to the BVP-900/900P

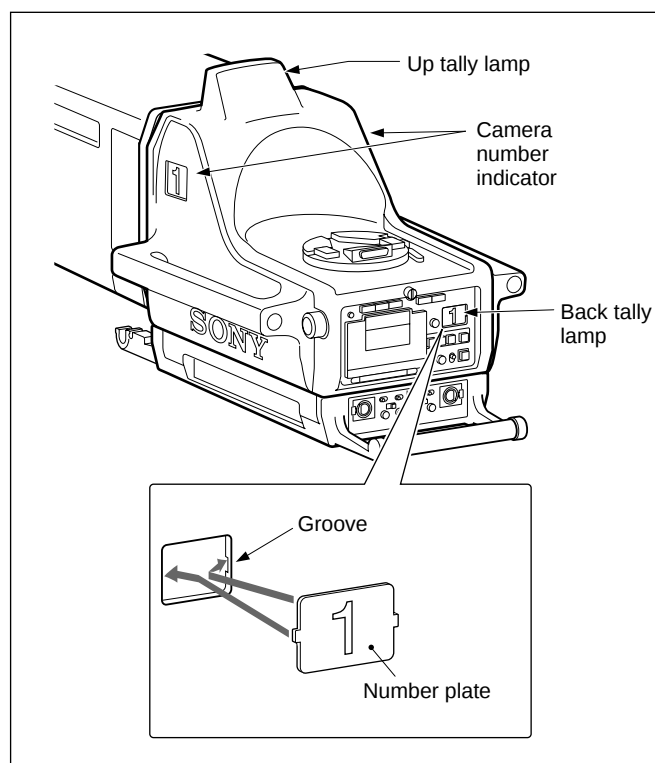
Attach the number plates supplied with the BVP-900/900P to the up tally lamp and camera number indicators as follows:

Cream-colored plates: for the camera number indicator on the side panels

Large white plates: for the up tally lamp

Small white plates: for the back tally lamp

Insert the projections on both sides of the number plate to the grooves of the tally lamp or camera-number indicator.



Attaching the number plate

Attaching to the viewfinder

Attach the number plates supplied with the BVF-7700/7700P/77/77CE/55/55CE viewfinder with the same manner as the BVP-900/900P.

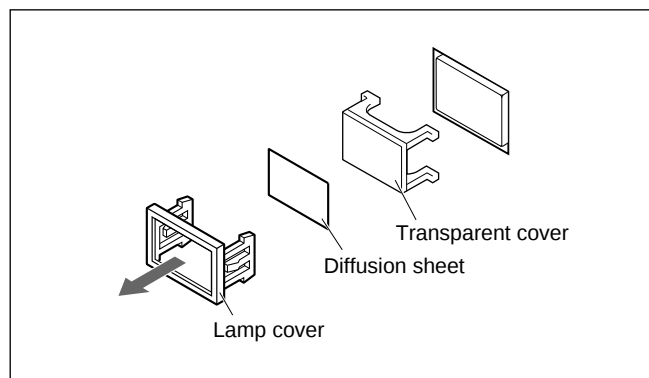
Attaching to the CA-905T

Attach the number plate supplied with the CA-905 large lens adaptor with the same manner as the BVP-900/900P.

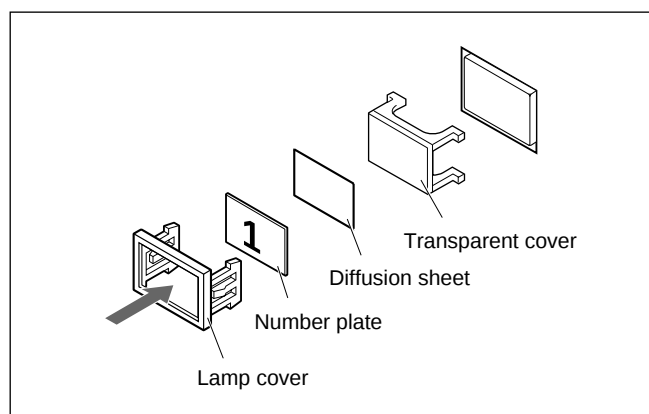
Attaching to the CCU-700A/700AP/550A/550AP

Attach the number plates supplied with the CCU-700A/700AP/550A/550AP to the tally lamp as shown below.

1 Remove the lamp cover.



2 Attach the number plate between the lamp cover and diffusion sheet.



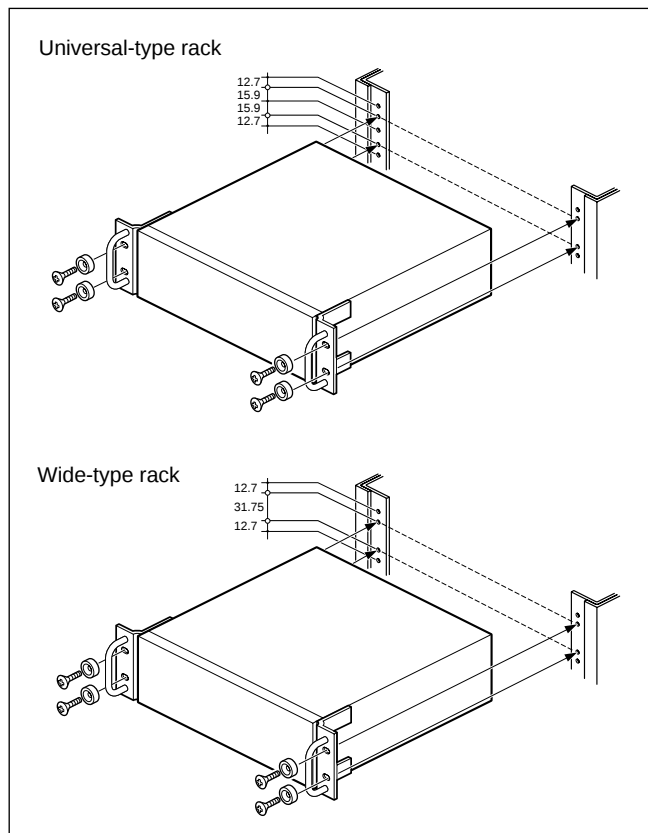
2-2 Rack Mounting

The CCU-700A/700AP Camera Control Unit, VCS-700 Video Selector, CNU-500/700 Camera Command Network Unit, ARU-701/702 Aspect Ratio Converter Unit, MSU-700 Master Setup Unit, and RCP-700-series Remote Control unit can be mounted in a 19-inch standard EIA rack.

You can mount the unit to the rack directly or by using slide rails such as a Sony RMM-30 Rack Mount Rail (optional). When the unit is mounted using the slide rails, you can pull out the unit from the rack with ease, so it is recommended to use the slide rails if you intend to pull out the unit frequently.

Mounting the unit directly to the rack

The VCS-700, CNU-500 or ARU-700-series unit can be fixed to the rack using the rack mount bracket of the unit. Daily maintenance is ease with the unit mounted by this method.



Mounting the unit directly to the rack

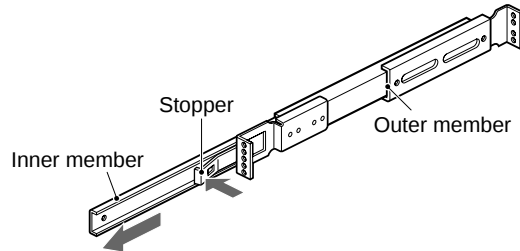
2-2 Rack Mounting

Mounting the unit using the RMM-30 Rack Mount Rail

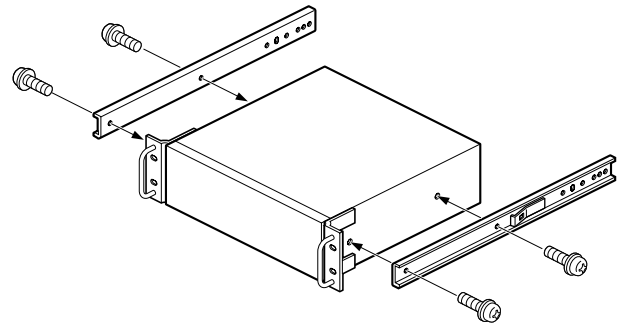
When the RMM-30 Rack Mount Rail is used, you can mount the unit to the rack 660 to 830 mm (26 to 32 ³/₄ inches) in depth.

Proceed as follows.

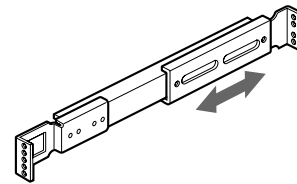
- 1 Pull out the inner member while pushing against the stopper.



- 2 Secure the inner members to both sides of the unit with the screws (⊕B4×8). Use the screws removed from or supplied with the unit.



- 3 Loosen the screw of the bracket of the outer member.



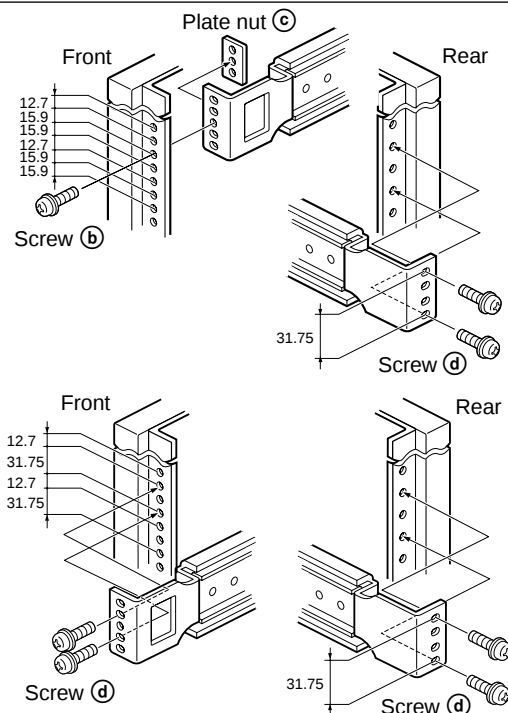
- 4 Attach the front and rear brackets of the outer member to the rack. Screws (b), (c), and (d) are supplied with the RMM-30.

When the 1-U unit is mounted

- 1) Attach the front bracket to the inside of the front of the rack at the screw hole 15.9 mm (²⁵/₃₂ inch) interval using screw (b) (⊕WH 4×10) and plate nut (c).
- 2) Attach the rear bracket to the outside of the rear of the rack at the screw hole 31.75 mm (1 ⁵/₁₆ inch) interval using screws (d) (⊕5×8).

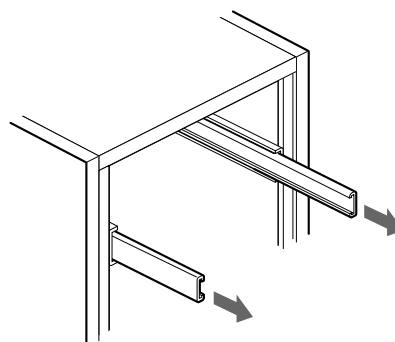
When a unit other than 1-U height is mounted

- 1) Attach the front bracket to the outside of the front of the rack at the screw hole 31.75 mm interval using screws (d).
- 2) Attach the rear bracket to the outside of the rear of the rack at the screw hole 31.75 mm interval using screws (d).

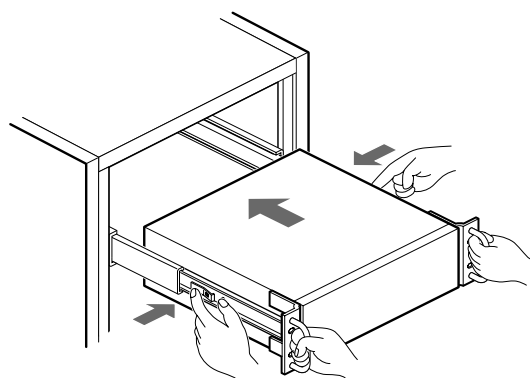


5 Fasten the screws loosened in step 3.

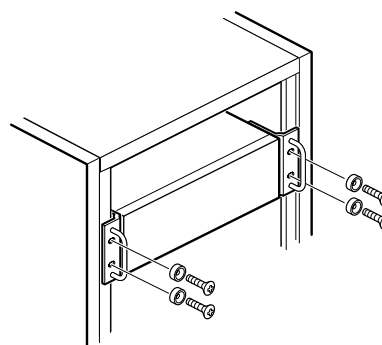
6 Pull the rails out.



7 Insert the inner member to the outer member while pushing against the stopper, then fully push the unit into the rack.



8 Push the unit into the rack, and secure the front panel to the rack with screws ($\oplus$ RK M5 $\times$ 16 to 20) and washers (ϕ 5).

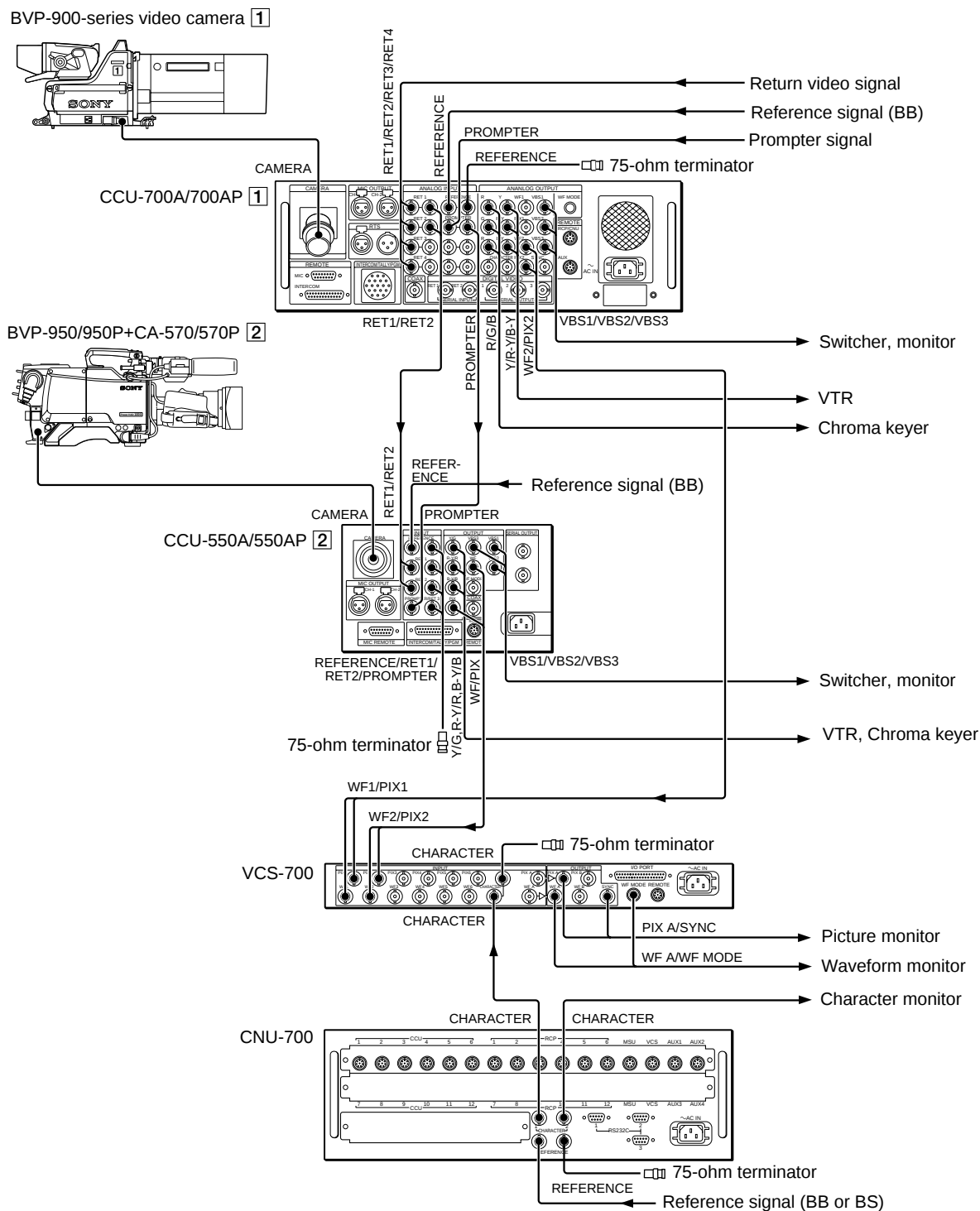


2-3 Connections

2-3-1 Basic Signal Connections

Analog video-signal connections

When you mix the character signal with the output signal of the VCS-700, set the SYNCN ON/OFF switch (S7) on the internal board of the CNU-700 to OFF.

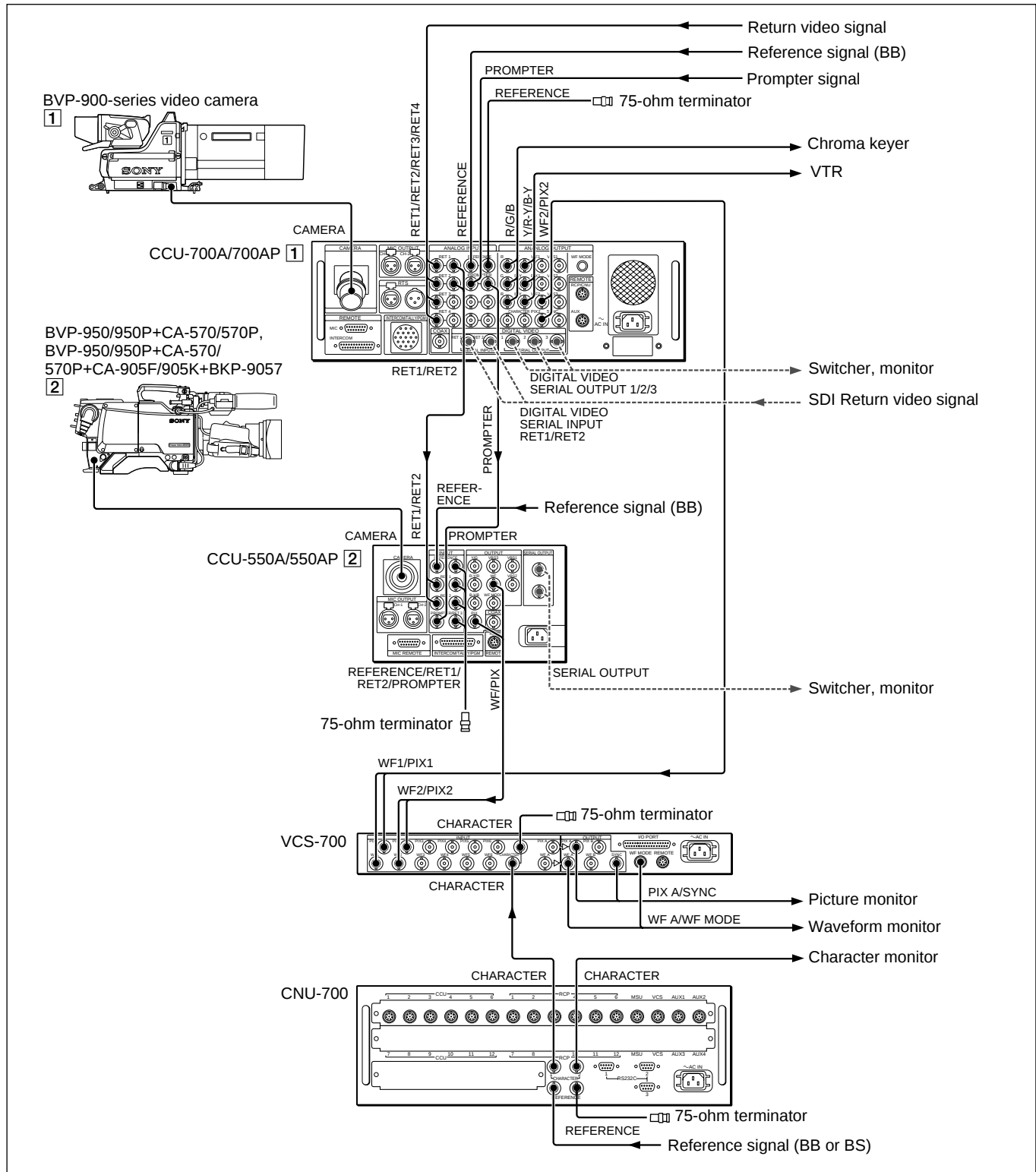


Digital video (SDI) signal connections

When an optional SDI board is installed in the CCU, the system can treat a serial digital video signal. Install the BKP-5972 to the CCU-550A/550AP, and the BKP-7311 to the CCU-700A/700AP. If the BKP-

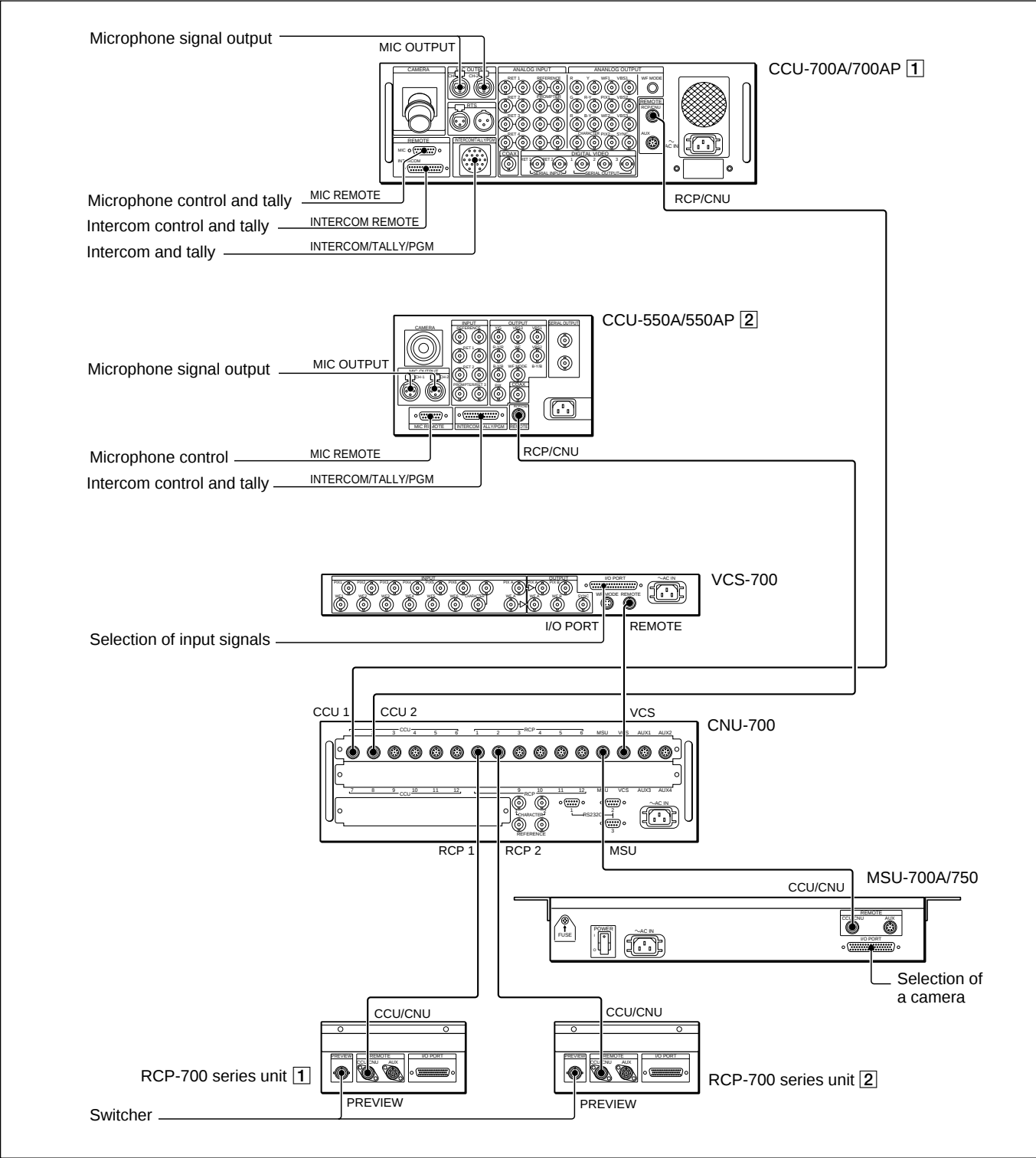
7312 is also installed in the CCU-700A/700AP, the CCU-700A/700AP can accept the SDI return video signal.

For mounting the boards, consult your Sony service representative.



2-3 Connections

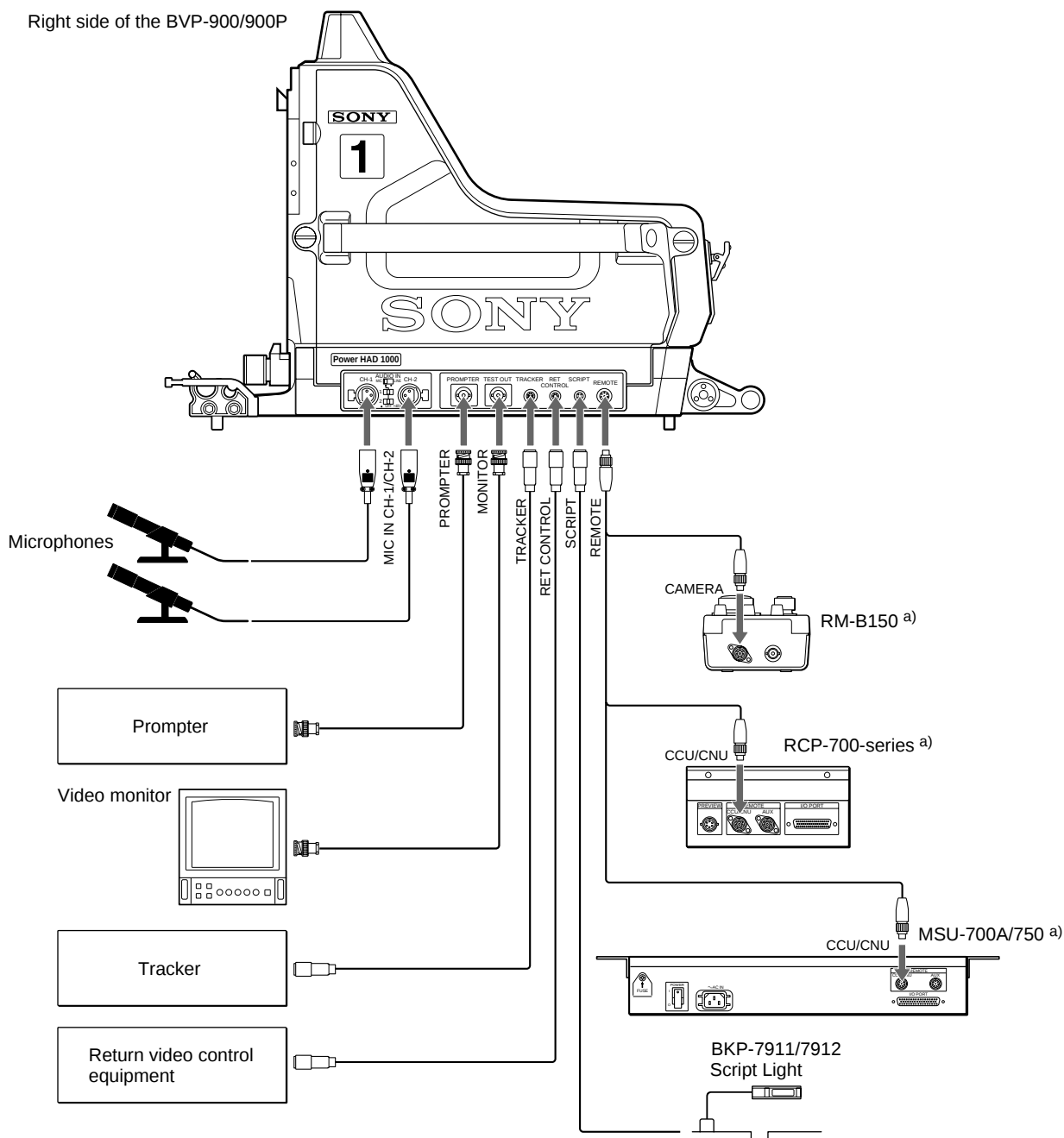
Connections of control, intercom, tally and audio signals



2-3-2 Cable Connections

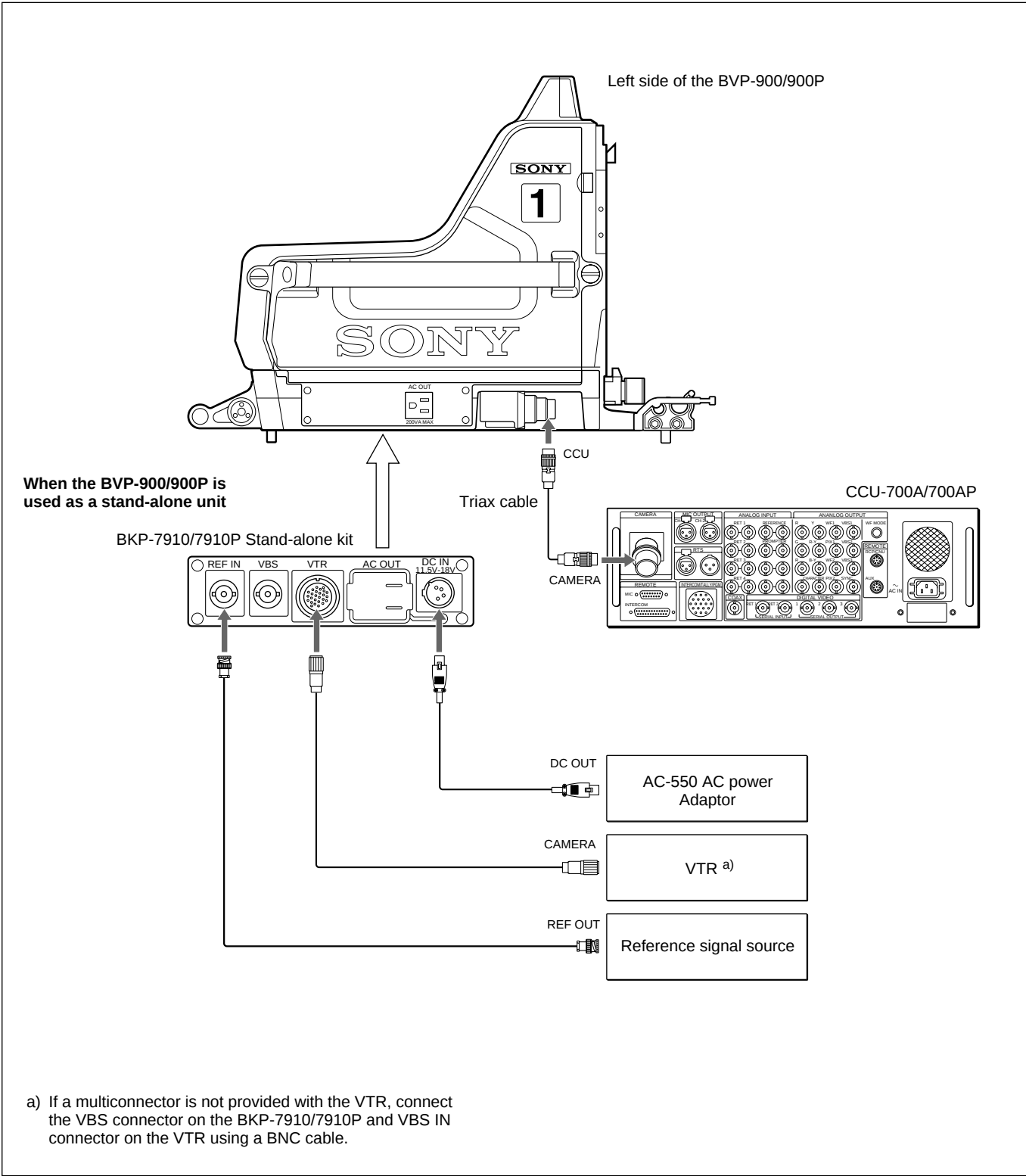
Connecting to the BVP-900/900P

- When the BVP-900/900P is used as a stand-alone camera, a BKP-7910/7910P Stand-Alone Kit is necessary.
- For details on mounting the stand-alone kit, consult your Sony service representative.



a) Connect only when the camera is used as a stand-alone camera.

2-3 Connections

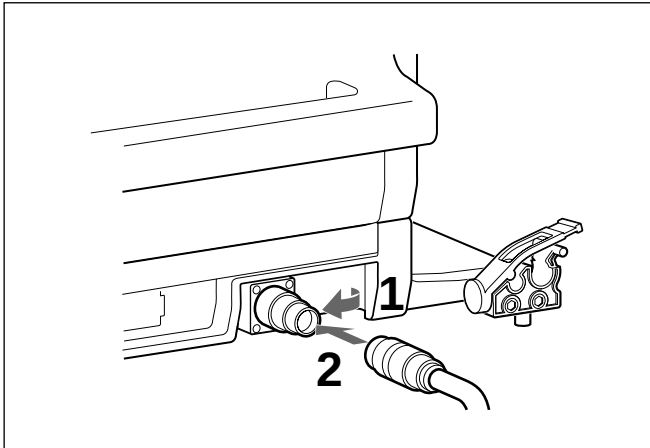


Connecting a triax cable

Notes

- Be sure to use a triax cable of more than 50 meters (165 feet) long.
- When connecting and disconnecting a triax cable, be sure to turn the power of the CCU OFF.

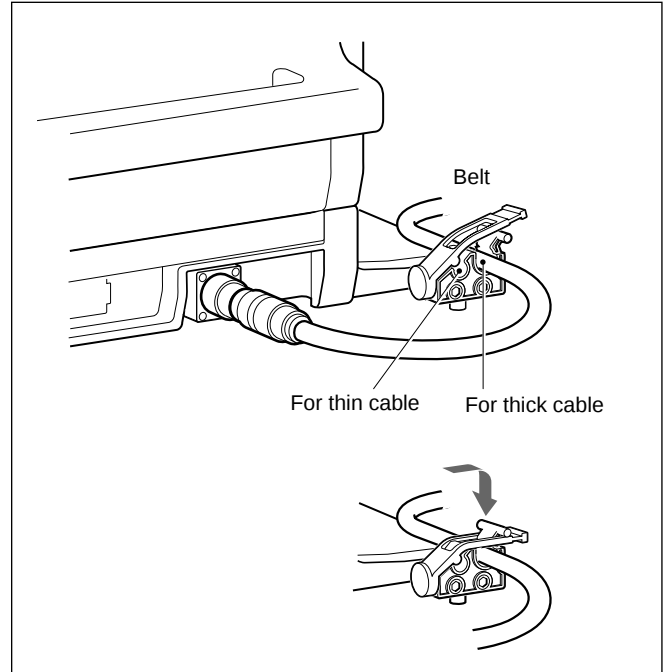
Proceed as follows.



- 1** Pull the triax connector outside.
- 2** Insert the connector of the triax cable to the pulled-out connector.

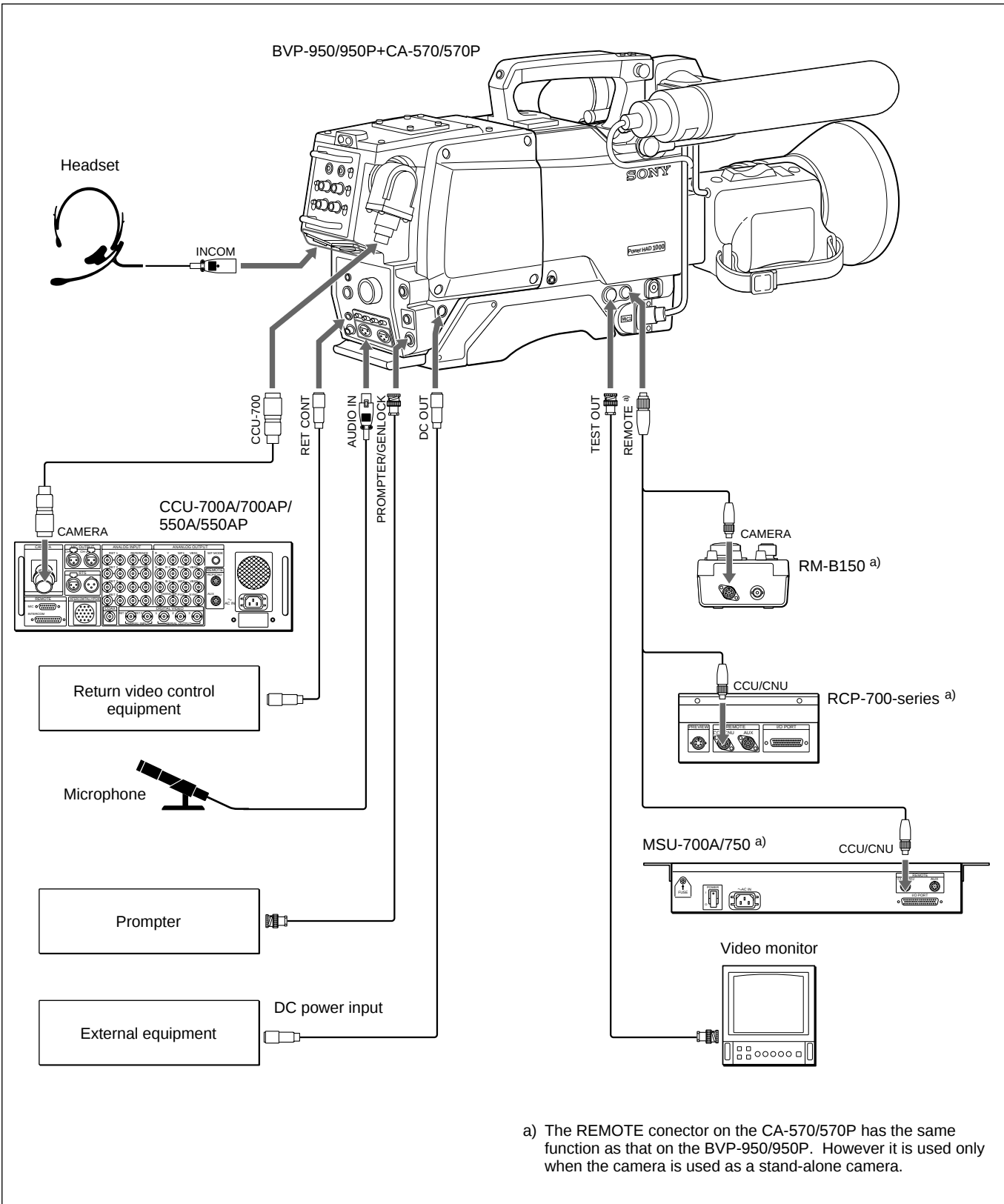
Using the cable clamp

Set the cable into the groove that fits the size of the cable, and clamp it down with the belt supplied with the camera.

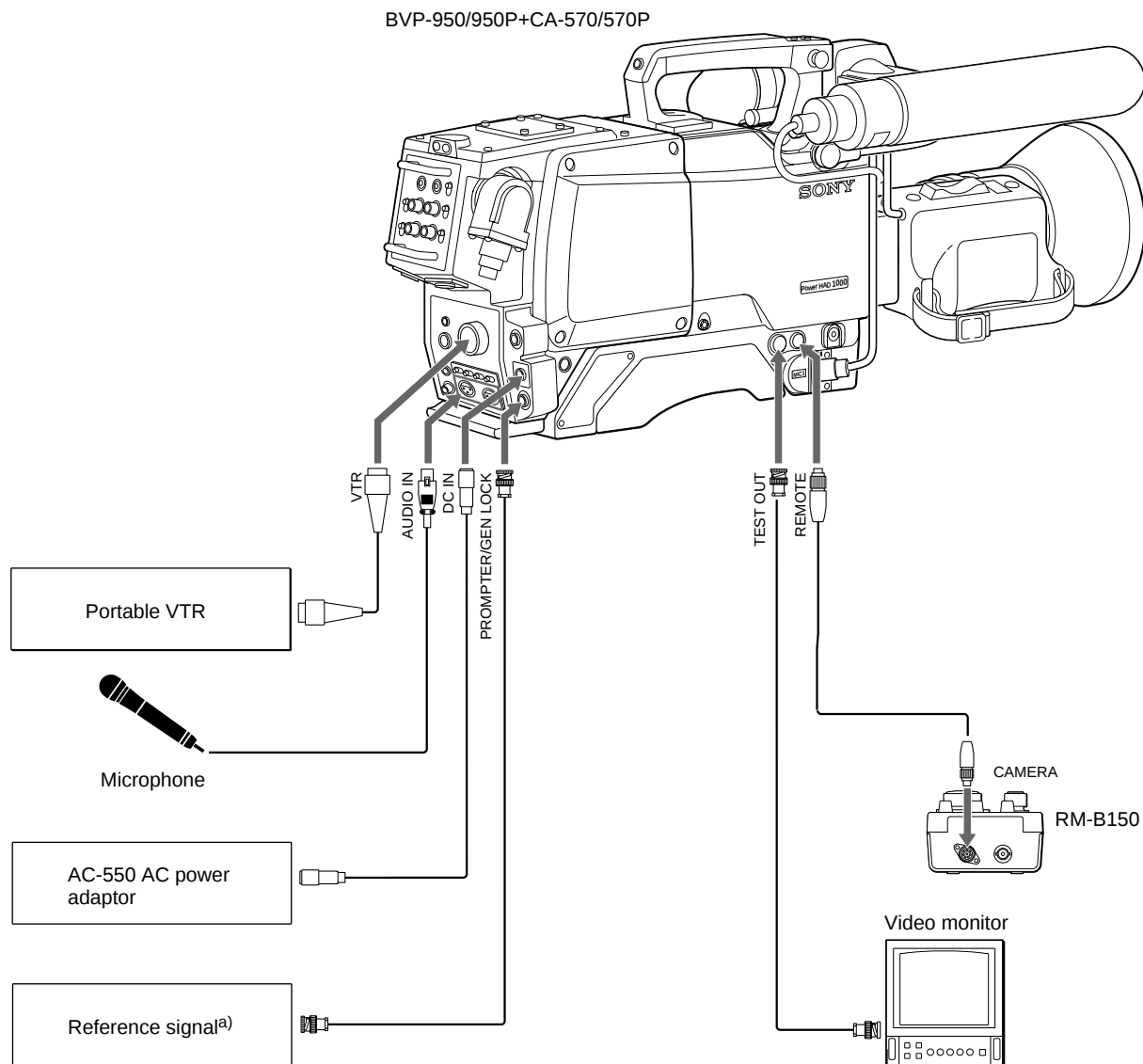


2-3 Connections

Connecting to the BVP-950/950P



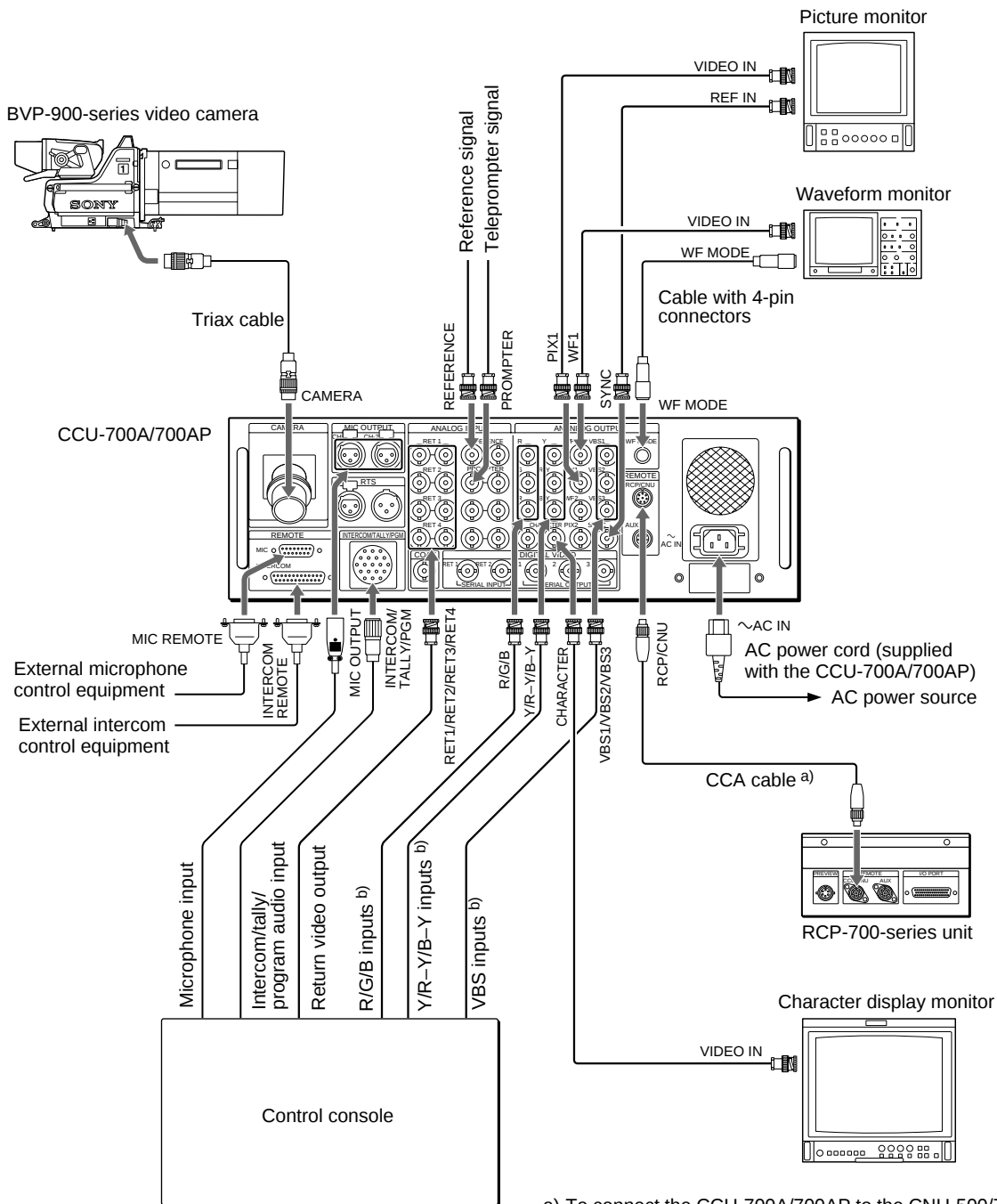
Connection when the BVP-950/950P is used as a stand-alone camera



a) When a reference signal is used, set the PROMPTER/GENLOCK switch on the panel of the MD board of the CA-570/570P to GENLOCK.

2-3 Connections

Connecting to the CCU-700A/700AP (analog signals)

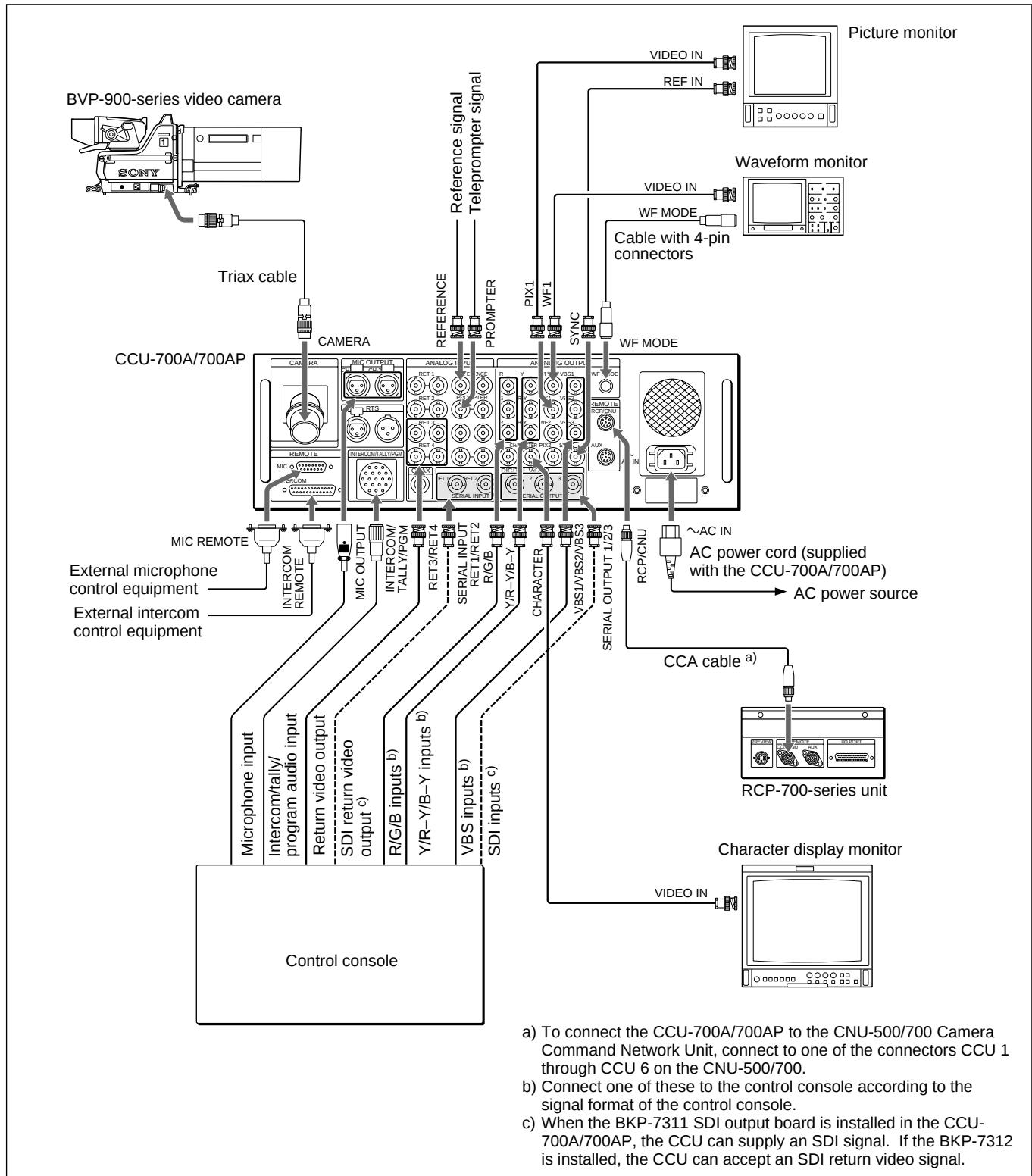


- a) To connect the CCU-700A/700AP to the CNU-500/700 Camera Command Network Unit, connect to one of the connectors CCU 1 through CCU 6 on the CNU-500/700.
- b) Connect one of these to the control console according to the signal format of the control console.

Note

The video input connectors which have loop-through configuration but are not used for bridge connections, should be terminated with 75-ohm terminators.

Connecting to the CCU-700A/700AP (digital signals)

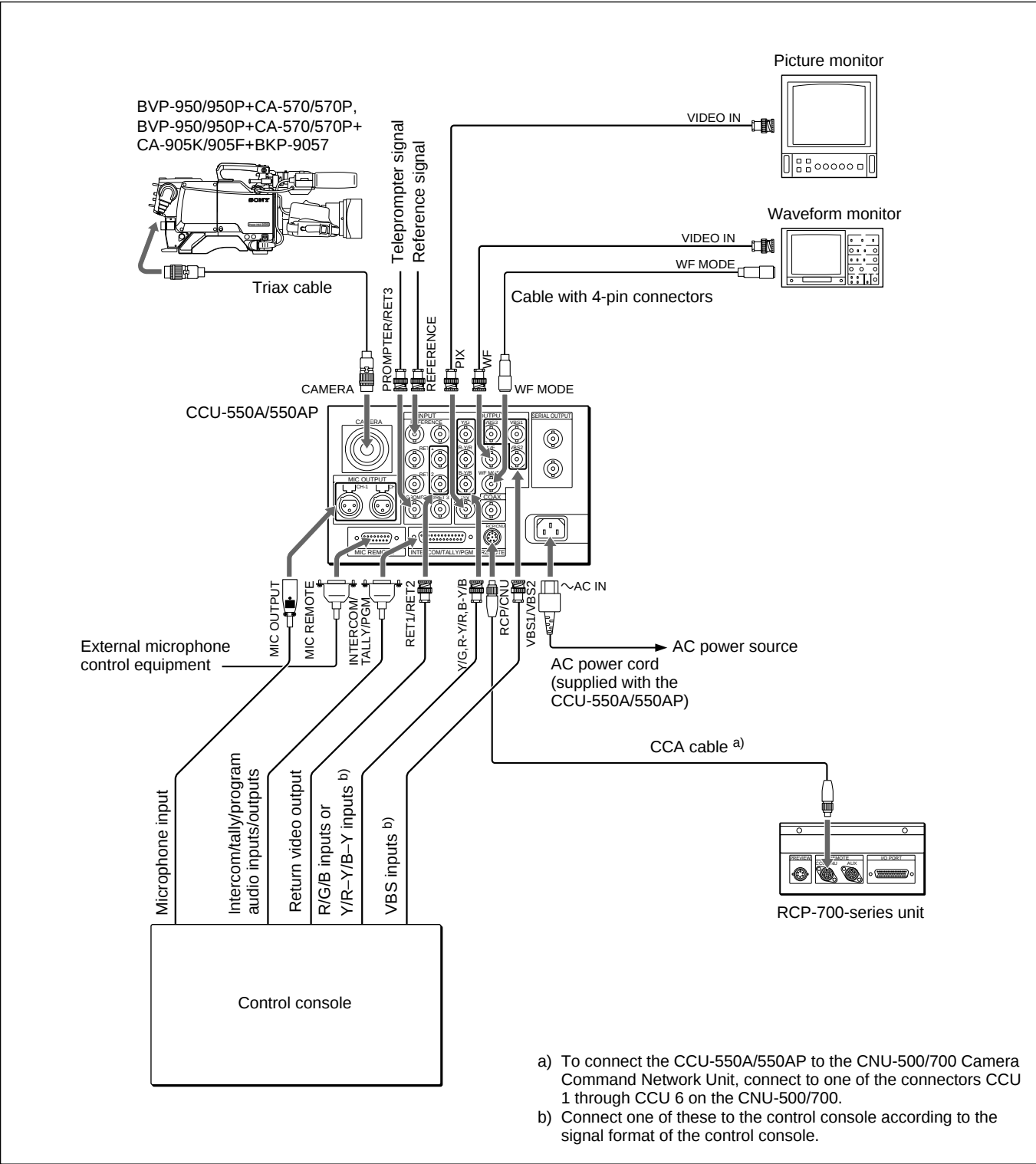


Note

The video input connectors which have loop-through configuration but are not used for bridge connections, should be terminated with 75-ohm terminators.

2-3 Connections

Connecting to the CCU-550A/550AP (analog signals)



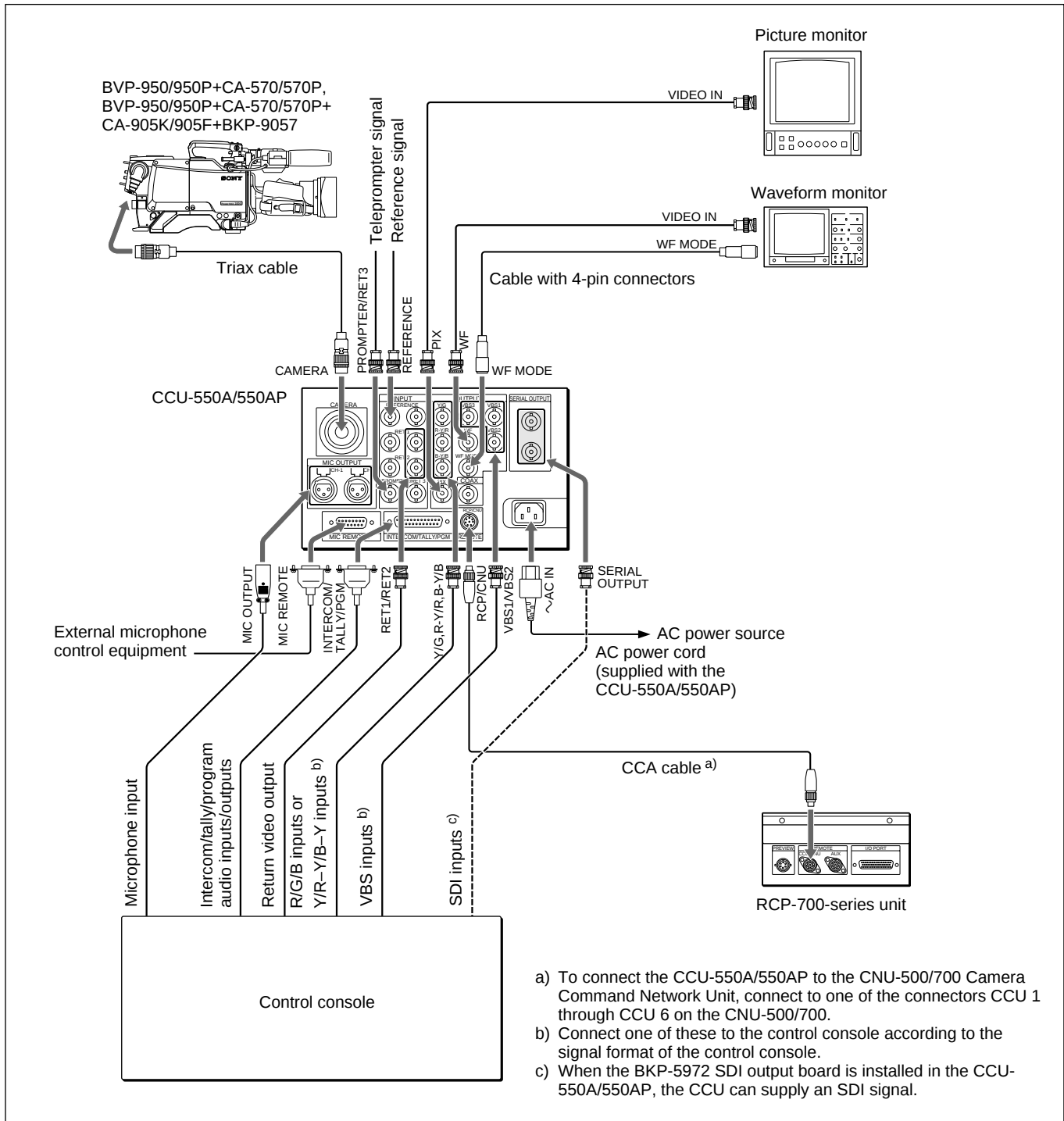
- a) To connect the CCU-550A/550AP to the CNU-500/700 Camera Command Network Unit, connect to one of the connectors CCU 1 through CCU 6 on the CNU-500/700.
- b) Connect one of these to the control console according to the signal format of the control console.

Notes

- The video input connectors which have loop-through configuration but are not used for bridge connections, should be terminated with 75-ohm terminators.

- The BVP-900/900P does not work when it is connected to the CCU-550A/550AP.

Connecting to the CCU-550A/550AP (digital signals)



Note

The video input connectors which have loop-through configuration but are not used for bridge connections, should be terminated with 75-ohm terminators.

2-3 Connections

Connecting to the VCS-700

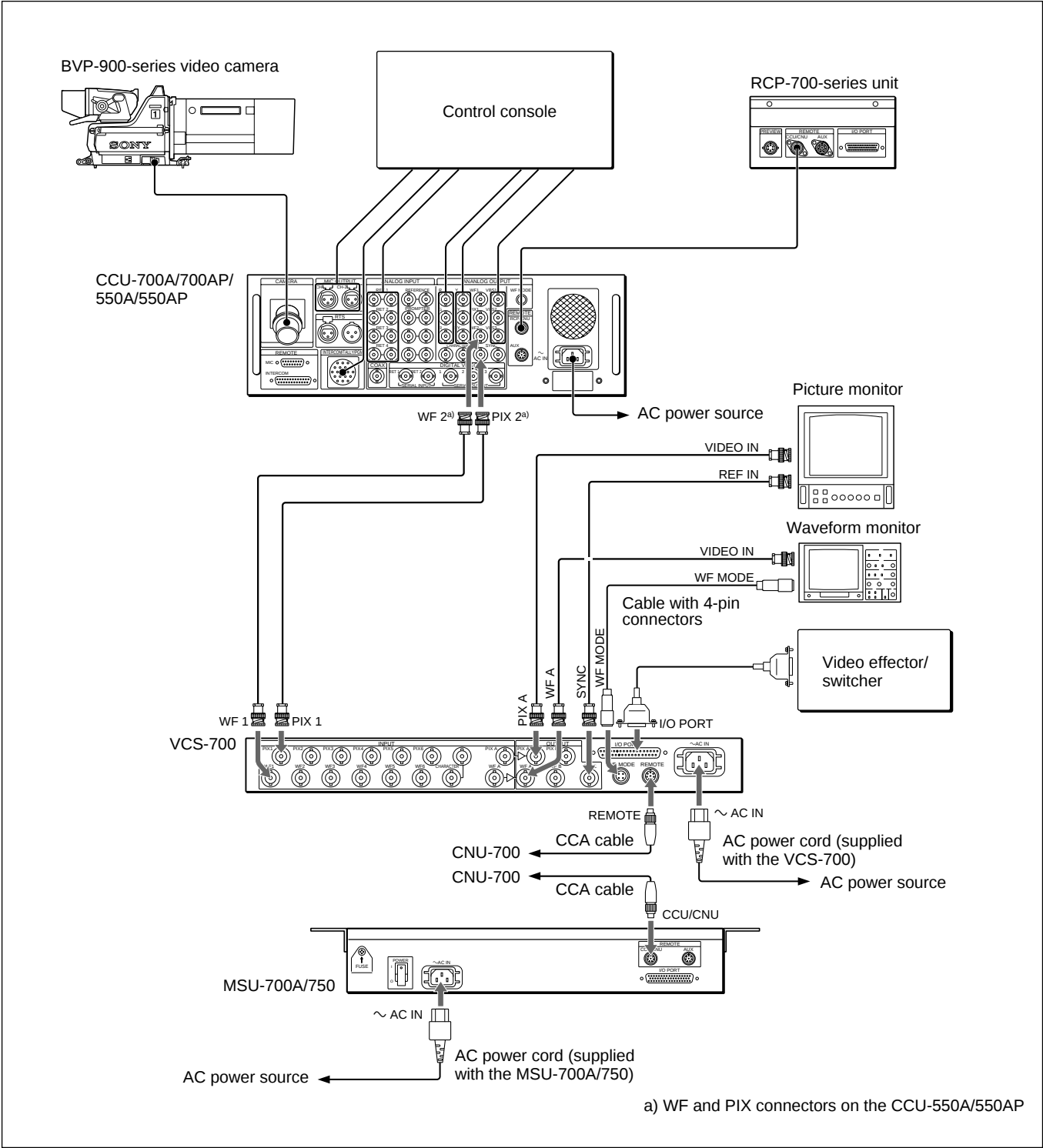
One MSU-700A/750 can control up to six video cameras.

Notes

- The video input connectors which have loop-through configuration but are not used for bridge

connections, should be terminated with 75-ohm terminators.

- The video signals input to the PIX 1 through PIX 6 connectors on the VCS-700 should have sync signals.



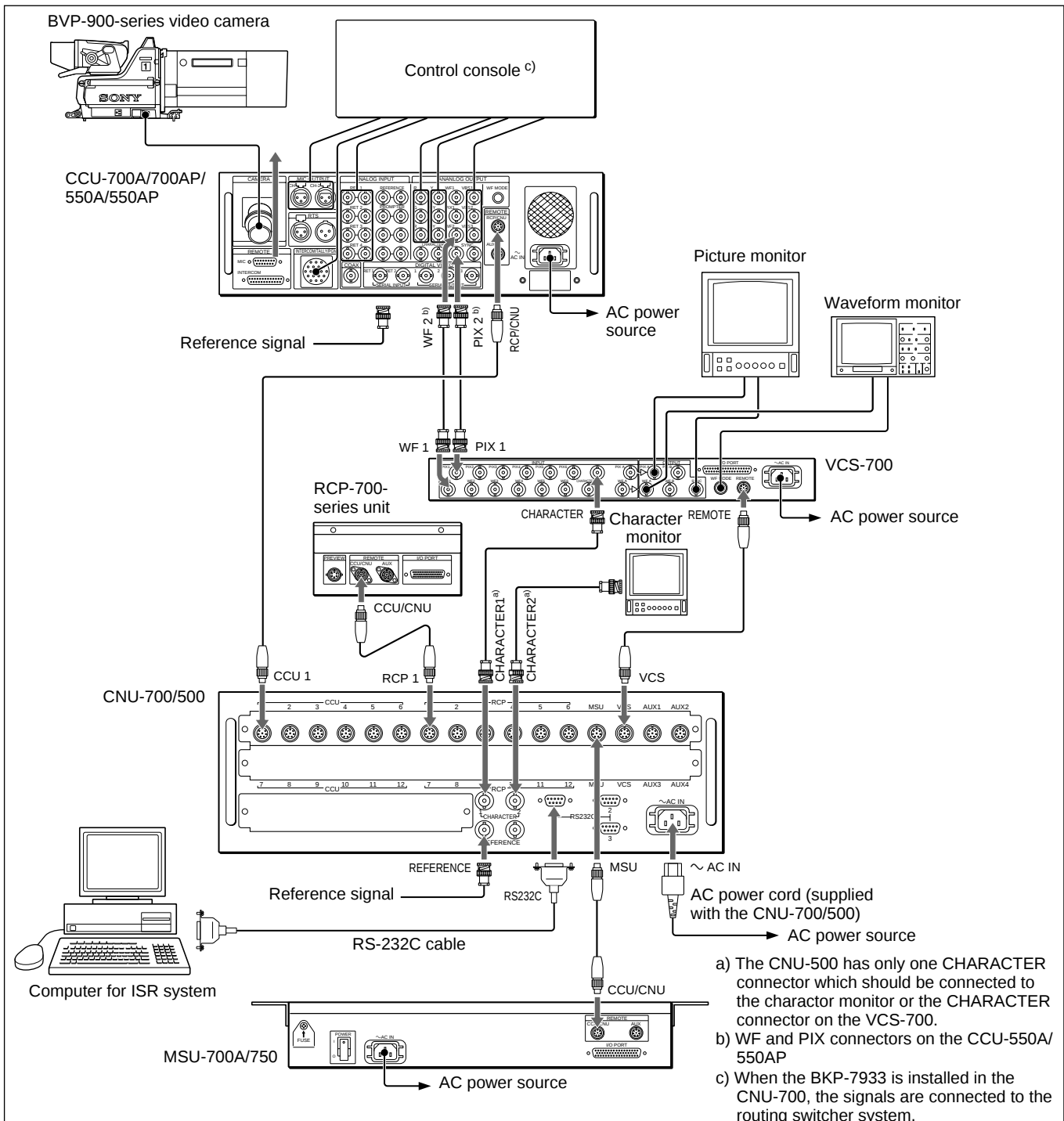
Connecting to the CNU-700/500

- You can connect up to six CCU-700A/700AP/550A/550AP units and up to six RCP-700-series units and a VCS-700 and MSU-700A/750 to the standard CNU-700/500.
- When the optional BKP-7930 is installed in the CNU-700, up to 12 CCU-700A/700AP/550A/550AP units and up to 12 RCP-700-series units and two VCS-700s and two MSU-700A/750s can be connected to the

CNU-700. If you wish to use more than two VCS-700s, consult your Sony service representative.

Note

The video input connectors which have loop-through configuration but are not used for bridge connections, should be terminated with 75-ohm terminators.



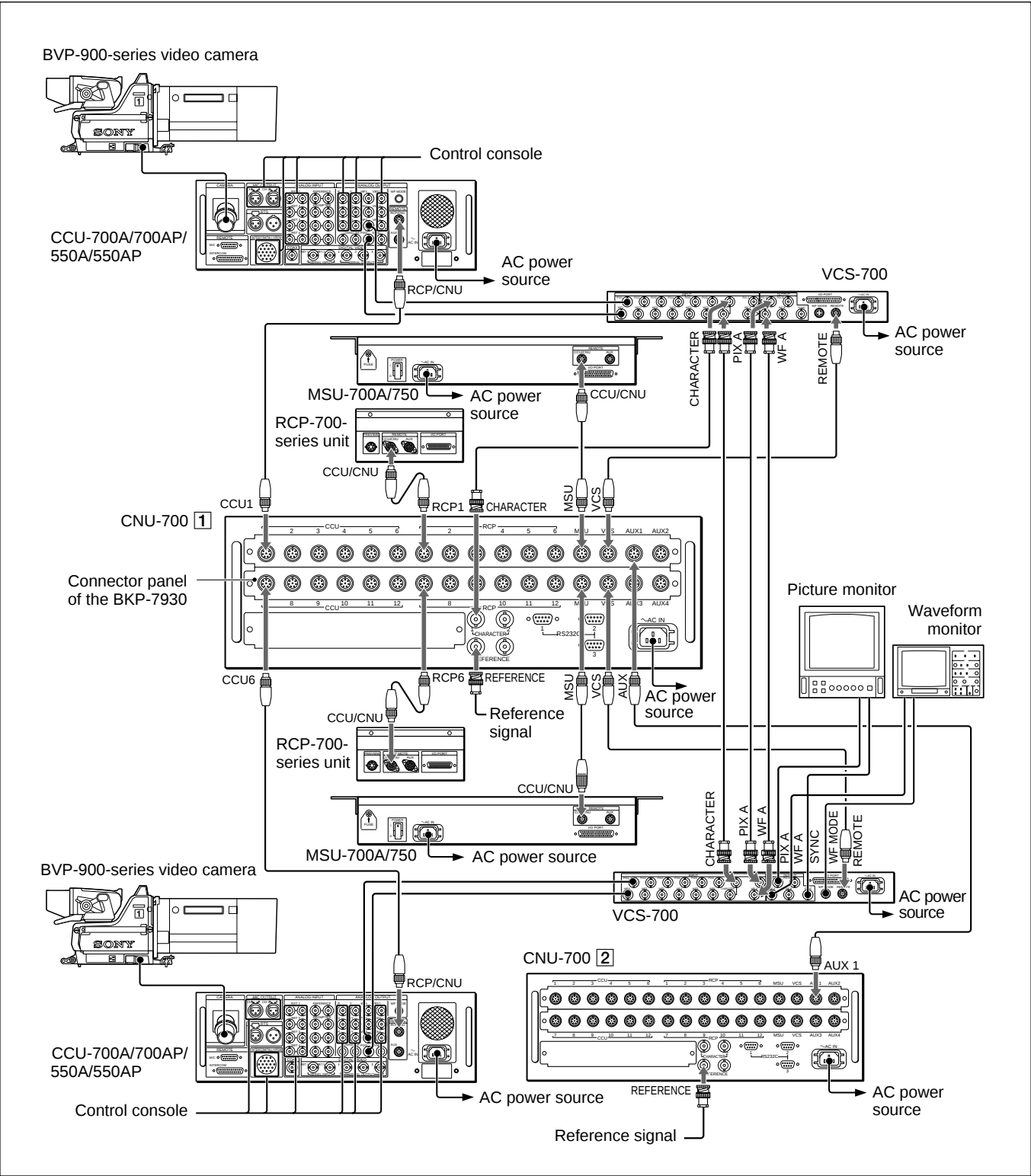
2-3 Connections

Connecting using two CNU-700s

When the system uses two CNU-700s, up to 24 CCU-700A/700AP/550A/550AP units and up to 24 RCP-700-series units can be used in the system.

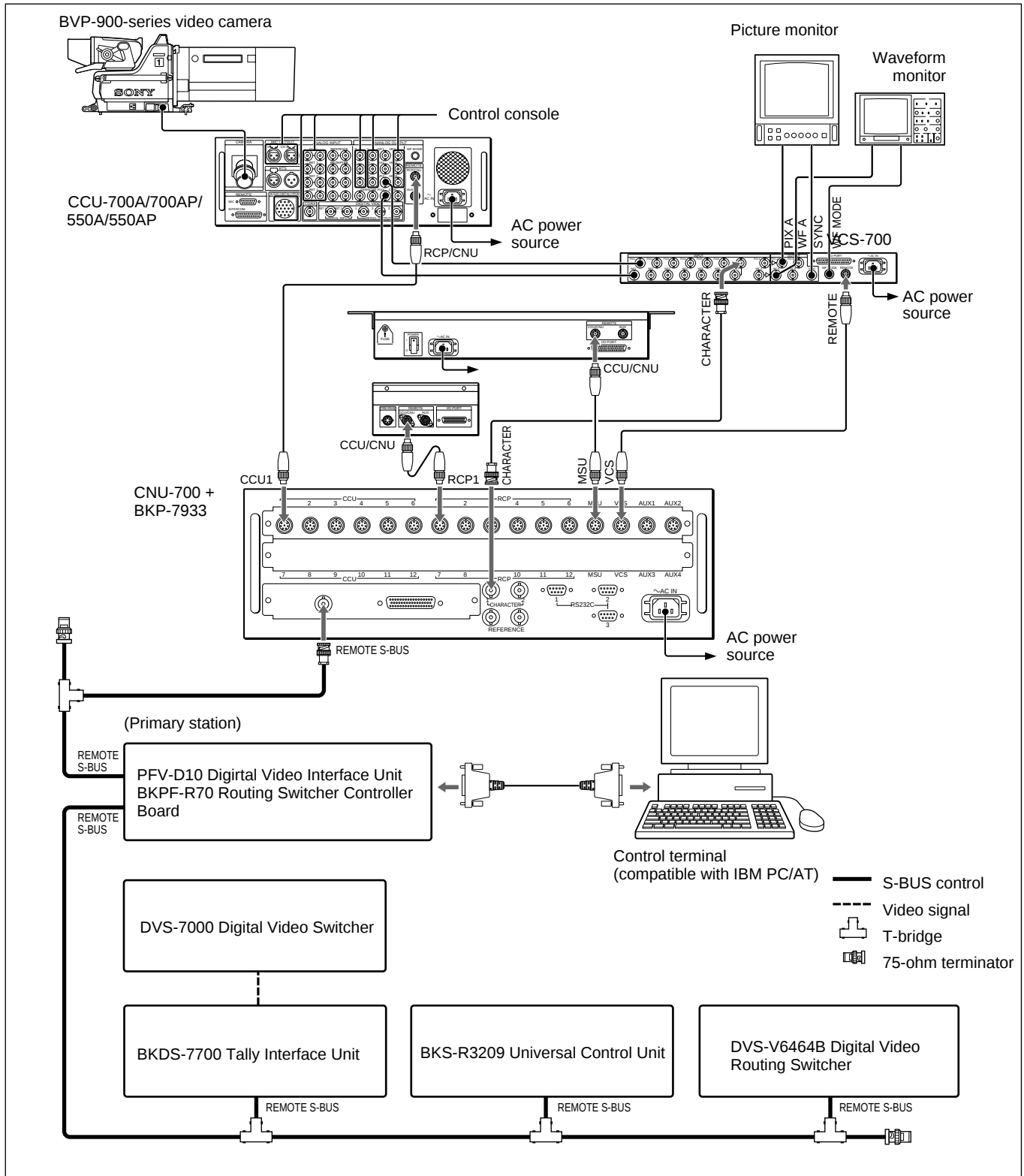
Note

The video input connectors which have loop-through configuration but are not used for bridge connections, should be terminated with 75-ohm terminators.



Connecting to the CNU-700 with the BKP-7933 installed

When the BKP-7933 is installed in the CNU-700, the BVP-900-series video camera can be connected to the routing switcher system via the S-BUS.



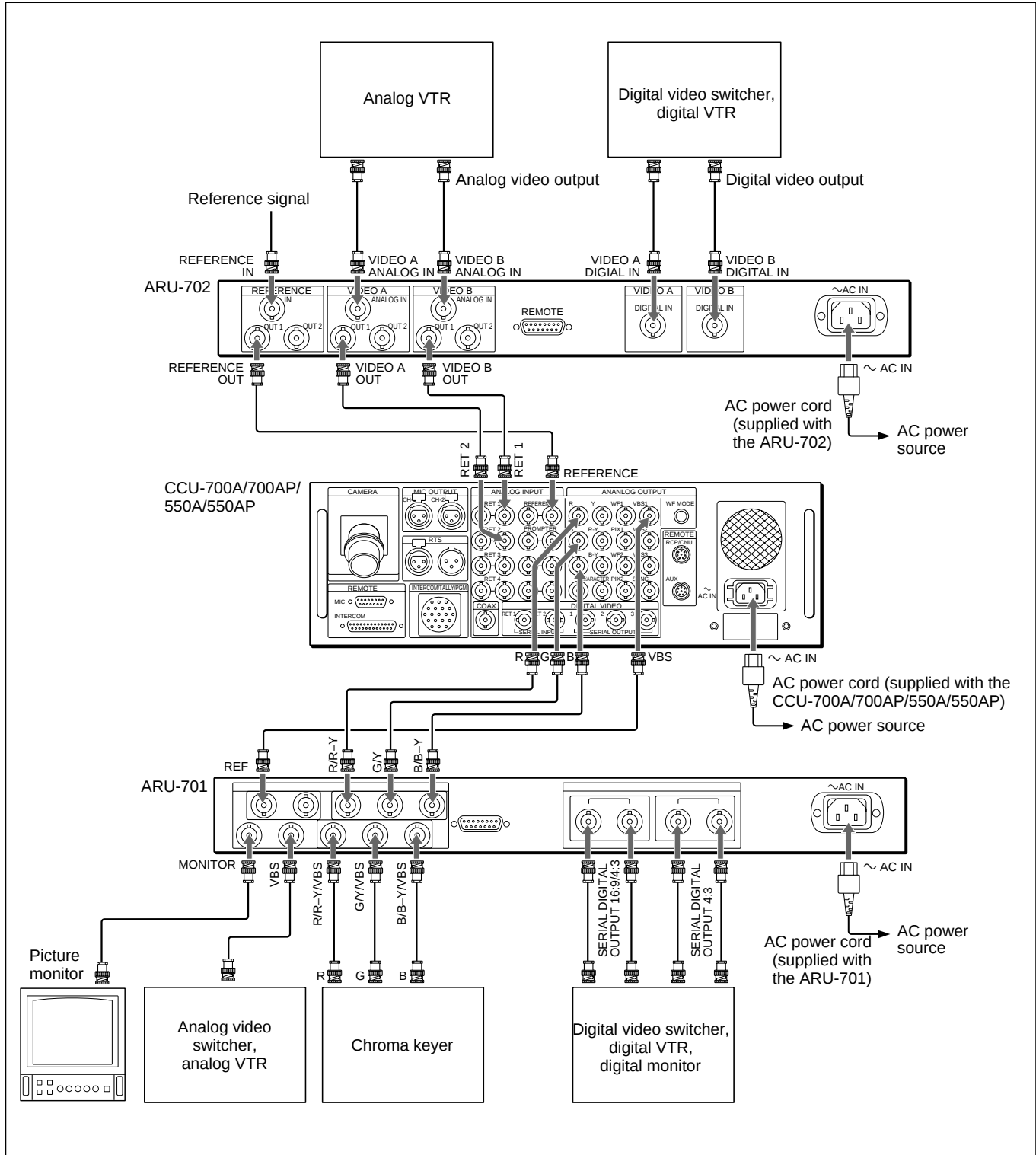
2-3 Connections

Connecting to the ARU-701 and ARU-702 (for converting the aspect ratio)

Notes

- The video input connectors which have loop-through configuration but are not used for bridge connections, should be terminated with 75-ohm terminators.

- If the screen size used in the system is either 4:3 or 16:9, the ARU-701 is not necessary because the screen size can be selected on the BVP-900/900P/950/950P or CCU-700A/700AP. For details, see “3-2-7 Selecting the Aspect Ratio.”

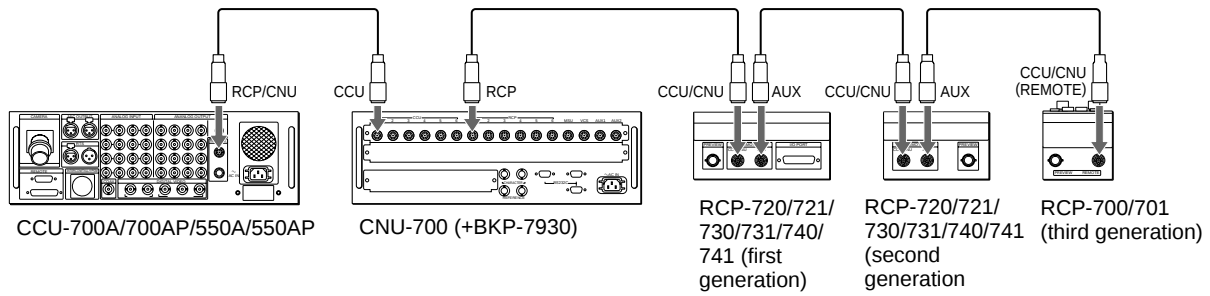


Connecting the RCP-700-series units in series

The RCP-700-series units which has two REMOTE connectors such as the RCP-720, RCP-721, RCP-730, RCP-731, RCP-740 or RCP-741, can be connected in series each other.

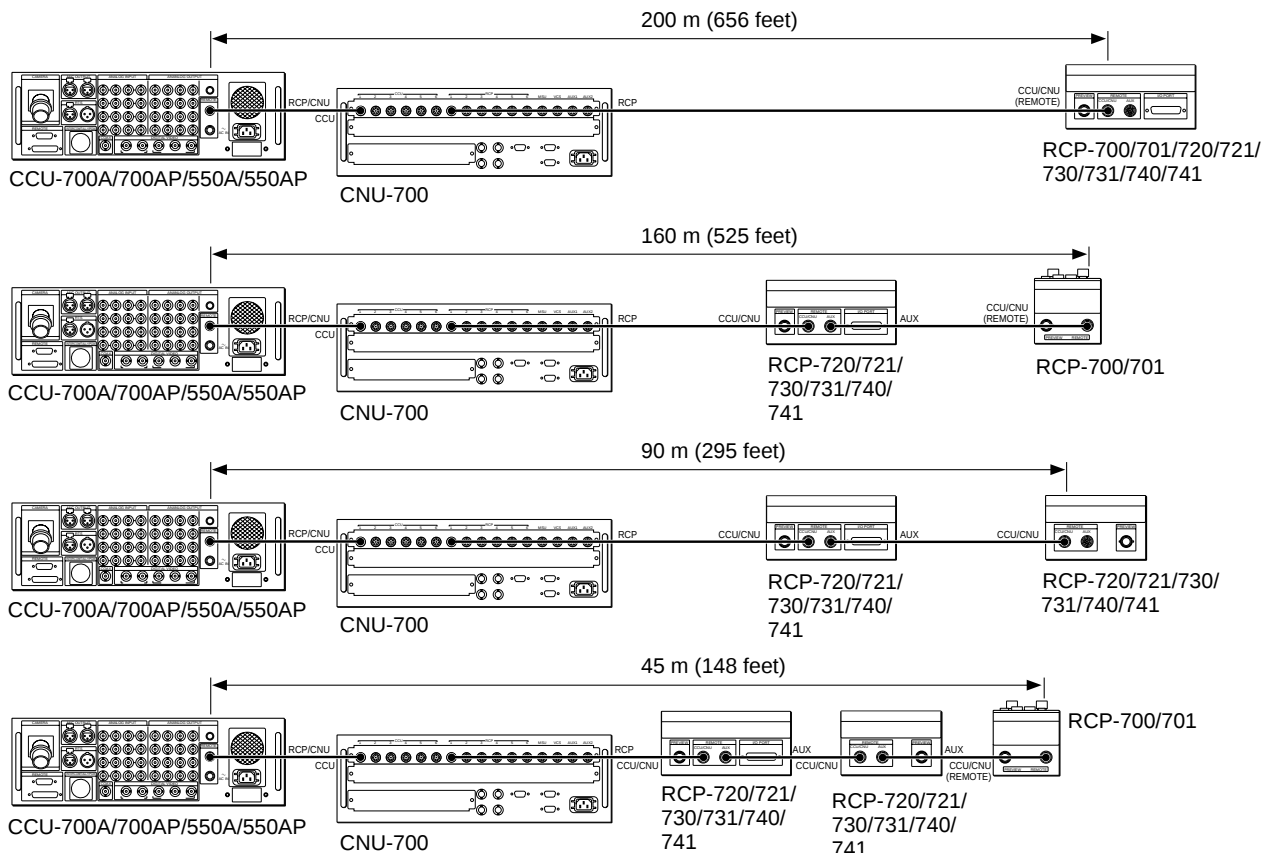
Note

The second-generation RCP-700-series units used in a series-connections require the internal switch setting. Consult your Sony service representative.



Cable-length limitation for series-connection

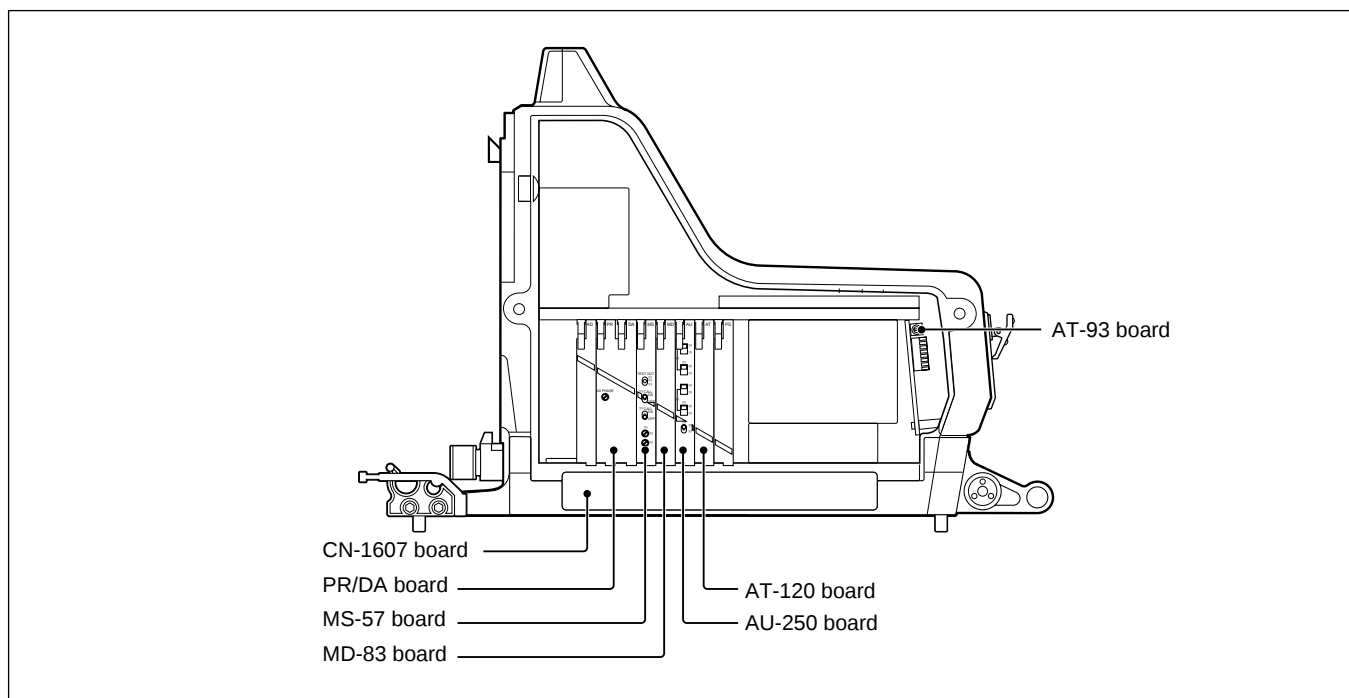
The length of the CCA-5 cables which connect the RCP-700-series units in series is limited as shown below.



3-1 Internal Boards

3-1-1 Internal Boards of the BVP-900/900P

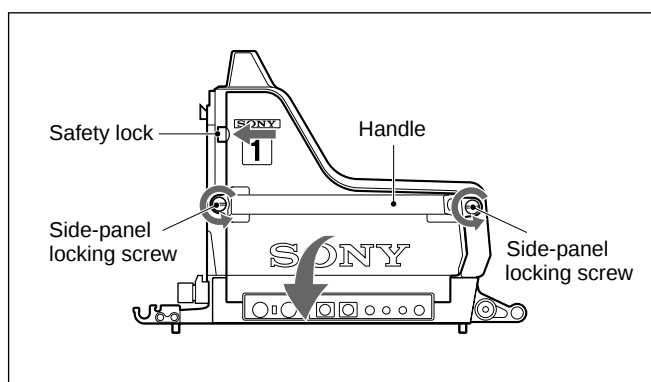
The internal boards of the BVP-900/900P on which switches and controls used for system setup are provided, are introduced here.



Opening and closing the side panel of the camera

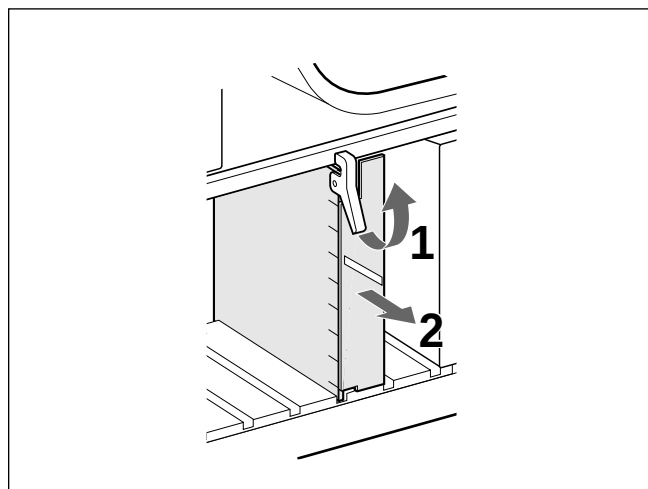
Loosen the two side-panel locking screws, and while sliding the safety lock toward the lens, open the side panel by holding the handle.

When you close the side panel, the safety lock is automatically locked. Fasten the side-panel locking screws securely.



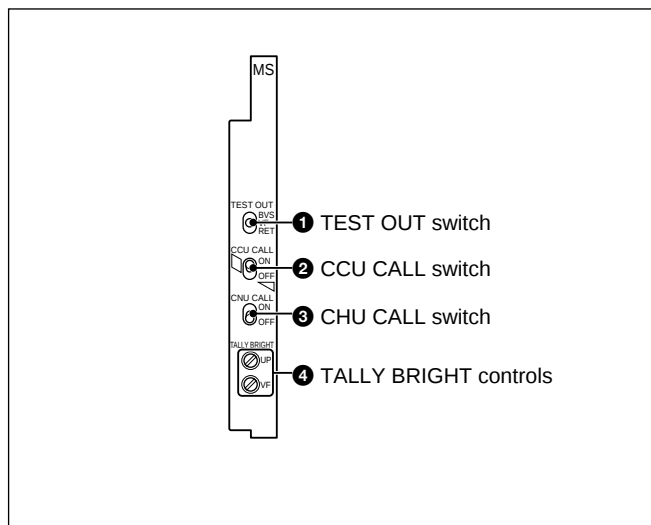
Detaching an internal board

Open the side panel, then pull up the lever and pull out an internal board.



3-1 Internal Boards

MS-57 board



❶ TEST OUT switch

Selects a signal output from the TEST OUT connector.

VBS: A VBS signal ¹⁾

VF: A signal of a picture displayed on a viewfinder

RET: A return video signal from the CCU

Factory setting: VF

❷ CCU (camera control unit) CALL switch

When this switch is set to ON, the tally lamp goes out if it has been lit or lights up if it has not been lit when the CALL button on the RCP-700-series unit or MSU-700A/750 is pressed.

Factory setting: ON

❸ CHU (camera) CALL switch

When this switch is set to ON, the tally lamps of the camera and viewfinder go out if they have been lit or light up if they have not been lit up by pressing the CALL button on the BVP-900/900P.

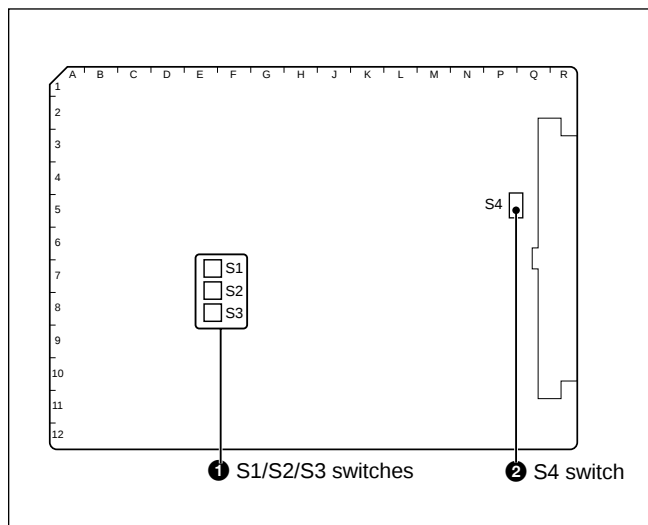
Factory setting: OFF

❹ TALLY BRIGHT (tally lamp brightness) controls

UP: Adjusts the brightness of the up tally lamp on the BVP-900/900P.

VF: Adjusts the brightness of the top tally lamp on the viewfinder.

MD-83 board



❶ S1 (R ON/OFF)/S2 (G ON/OFF)/S3 (B ON/OFF) switches

Change the R, G, and B signal combination input to the Y, R-Y, B-Y matrix circuits. Normally be sure to keep these switches set to ON.

Factory setting: All ON

❷ S4 (PROMPTER DIRECTION) switch

Selects the direction to send the prompter signal between the CCU and the BVP-900/900P.

CCU → CAM: The video signal from the CCU is sent to the BVP-900/900P, and output from the PROMPTER connector.

CAM → CCU: The signal input to the PROMPTER connector on the camera is sent to the CCU.

Factory setting: CCU → CAM

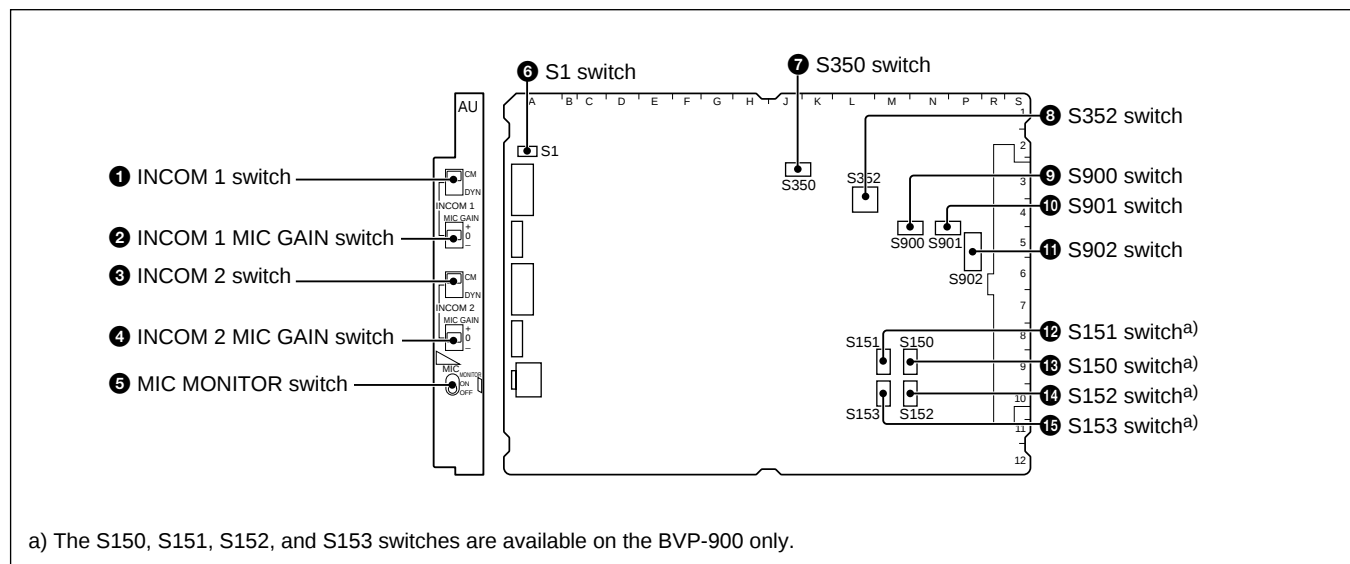
Note

When you set the switch to CAM→CCU, the green coaxial connector indicated as CN35 (GREEN) on the MD board should be disconnected, and be connected to the coaxial connector indicated as CN27 (PROMPTER REVERSE GREEN). Then the setting of the S5 and S6 switches on the DM board of the CCU-700A/700AP should be changed from TX to RX.

For details, consult your Sony representative.

1) This signal is output only when the BKP-7910/7910P stand-alone kit is installed in the BVP-900/900P.

AU-250 board



❶ INCOM 1 (intercom 1 microphone select) switch

Set this switch according to the microphone connected to the INTERCOM 1 connector.

CM: When a carbon microphone is used

DYN: When a dynamic microphone is used

Factory setting: CM

❷ INCOM 1 MIC GAIN switch

Set the gain of Intercom 1 microphone to be supplied to the CCU.

+: +6 dB

0: 0 dB

–: –6 dB

Factory setting: 0 dB

❸ INCOM 2 (intercom 2 microphone select) switch

Set this switch according to the microphone connected to the INTERCOM 2 connector.

CM: When a carbon microphone is used

DYN: When a dynamic microphone is used

Factory setting: CM

❹ INCOM 2 MIC GAIN switch

Set the gain of Intercom 2 microphone to be supplied to the CCU.

+: +6 dB

0: 0 dB

–: –6 dB

Factory setting: 0 dB

❺ MIC MONITOR switch

Set to ON to monitor the sound mixing the signals of the microphones connected to the AUDIO IN CH-1/CH-2 connectors and the intercom 1 signal.

Factory setting: OFF

❻ S1 (INTERCOM 1/2 MIC UNBALANCE) switch

When dynamic microphones are connected to the INTERCOM 1/2 connectors with unbalanced, hum may occur. In such a case, set this switch to ON, and the hum may be reduced.

Factory setting: OFF

❼ S350 switch

Set this switch to 0 dBu or –20 dBu according to the level of the microphone signal input to the TRACKER connector.

Factory setting: 0 dBu

3-1 Internal Boards

⑧ S352 switch

Set the signal mode of the tracker and Intercom 2.

S352-1: Set to ON for mixing the program audio signal onto the signal output from the TRACKER connector.

Factory setting: OFF

S352-2¹⁾: Set to ON for mixing the Intercom 2 signal onto the signal output from the TRACKER connector.

Factory setting: OFF

S352-3¹⁾: Set to ON for mixing the signal sent from the TRACKER connector onto the microphone output signal of Intercom 2 sent to the CCU.

Factory setting: OFF

S352-4¹⁾: Set to ON for mixing the signal sent from the TRACKER connector onto the Intercom 2 receive output signal sent from the CCU.

Factory setting: OFF

⑨ S900 (RTS 1 select) switch²⁾

Select whether Intercom 1 of the BVP-900/900P is set to the RTS system or not.

RTS: Set to the RTS intercom system

NORM: Set to the normal intercom system

Factory setting: NORM

⑩ S901 (RTS 2 select) switch²⁾

Select whether Intercom 2 of the BVP-900/900P is set to the RTS system or not.

RTS: Set to the RTS intercom system

NORM: Set to the normal intercom system

Factory setting: NORM

⑪ S902 (RTS power select) switch²⁾

Select the RTS belt-pack power, RTS CH1 or RTS CH2.

Factory setting: CH2

⑫ S151 (MIX MODE 1) switch (only on the BVP-900)

Selects a method for adjusting the signal level when a program audio signal is mixed with the Intercom 1 audio signal of the video camera.

IND: The Intercom 1 audio level is adjusted with the INTERCOM control, and the program audio level is adjusted with the PGM control.

MIX: The mixed sound is adjusted with the INTERCOM control, and the mix ratio is adjusted with the PGM control.

Factory setting: IND

⑬ S150 (INTERCOM 1/PGM MIX) switch (only on the BVP-900)

Selects whether to mix the program audio signal and Intercom 1 signal of the video camera.

IND: The signals are not mixed.

MIX: The signals are mixed.

Factory setting: IND

⑭ S152 (INTERCOM 2/PGM MIX) switch (only on the BVP-900)

Selects whether to mix the program audio signal and Intercom 2 signal of the video camera.

IND: The signals are not mixed.

MIX: The signals are mixed.

Factory setting: IND

⑮ S153 (MIX MODE 2) switch (only on the BVP-900)

Selects a method for adjusting the signal level when a program audio signal is mixed with the Intercom 2 audio signal of the video camera.

IND: The Intercom 2 audio level is adjusted with the INTERCOM control, and the program audio level is adjusted with the PGM control.

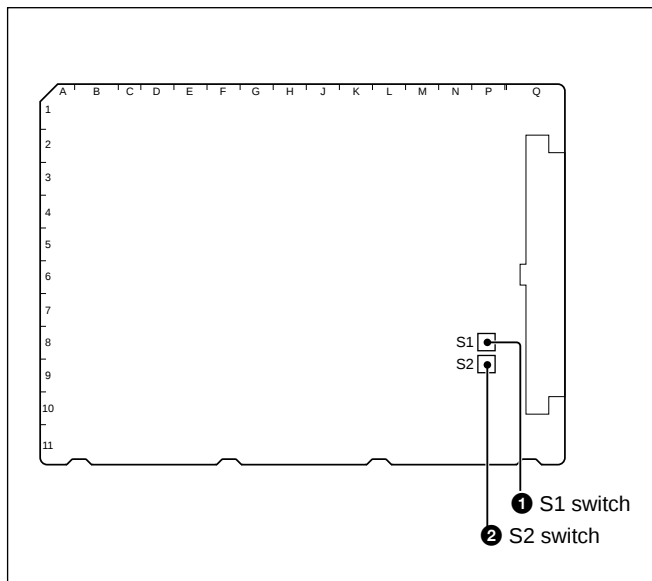
MIX: The mixed sound is adjusted with the INTERCOM control, and the mix ratio is adjusted with the PGM control.

Factory setting: IND

1) Normally set S352-2, S352-3, and S352-4 switches to the same position.

2) Set these switches only when an optional BKP-7913 RTS Kit is connected to the INTERCOM 2 connector.

AU-120 board



1 S1 switch

For factory use only.

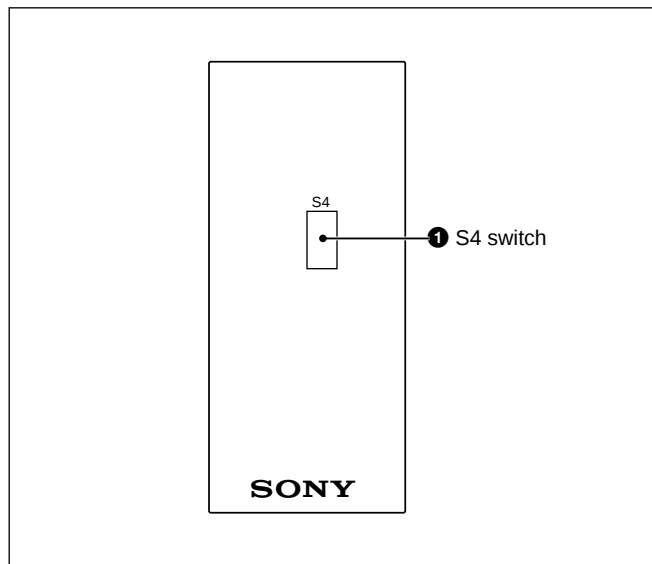
At the factory, the switch is set to fully counterclockwise position.

2 S2 switch

For factory use only.

At the factory, the switch is set to fully counterclockwise position.

CN-1607 board



1 S4 (+12V power) switch

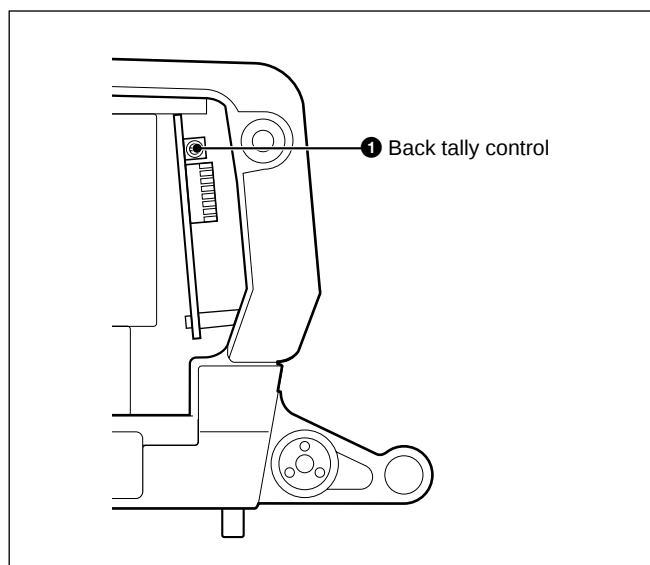
Set this switch to ON, and the +12 V power is supplied to the microphone when the mic power switch on the side panel of the BVP-900/900P is set to “•”.

Factory setting: OFF

Caution

If +12 V power is supplied to a microphone of +48 V power supply system, the microphone may be damaged.

AT-73 board



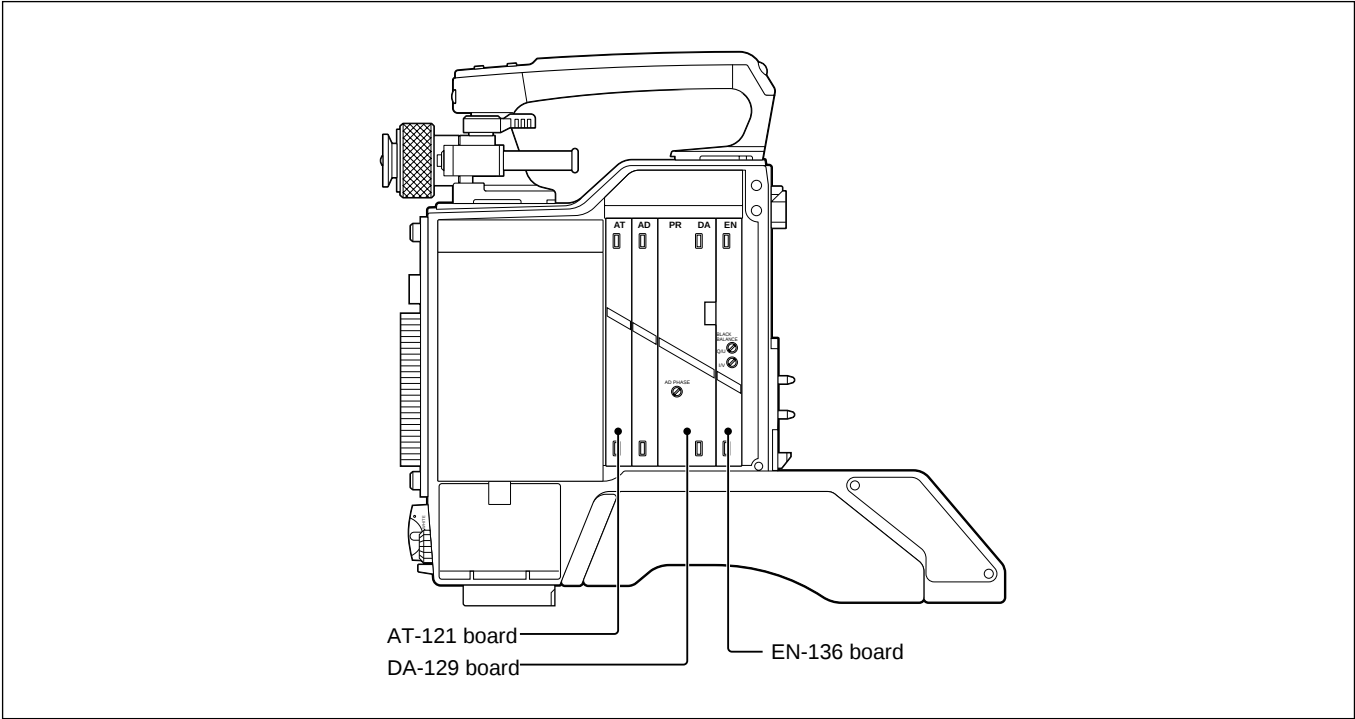
1 Back tally control

Adjusts the brightness of the back tally lamp on the rear of the BVP-900/900P.

3-1 Internal Boards

3-1-2 Internal Boards of the BVP-950/950P

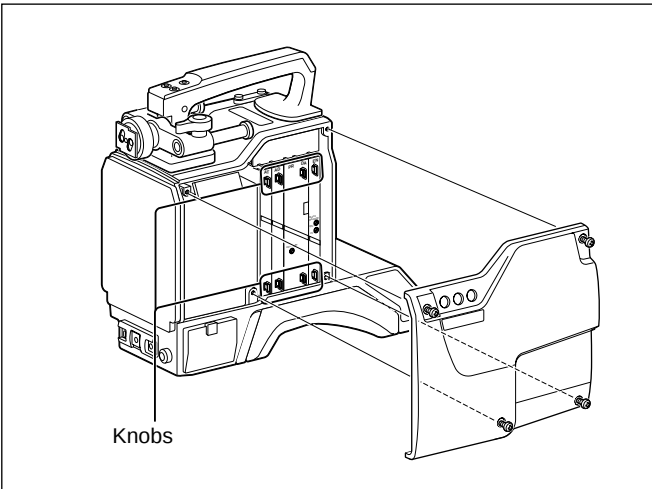
The internal boards of the BVP-950/950P on which switches and controls used for system setup are provided, are introduced here.



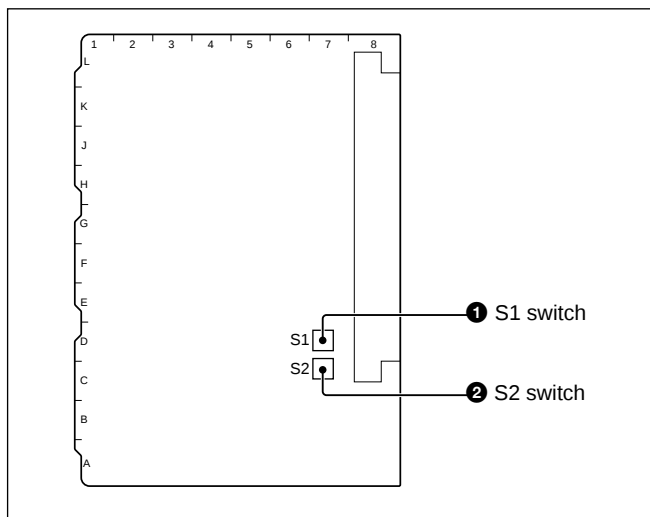
Detaching an internal board

Loosen the four screws on each side panel, and remove the side panels. Then pull out an internal board with the white knob.

The internal boards of the CA-570/570P are detached in the same way.



AT-121 board



❶ S1 switch

For factory use only.

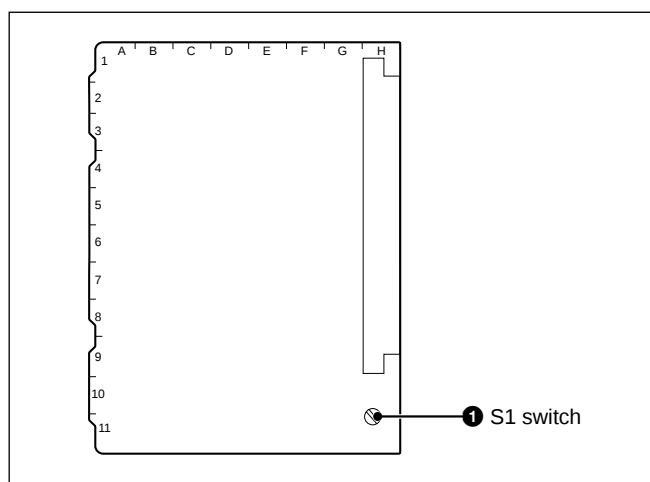
At the factory, the switch is set to fully counterclockwise position.

❷ S2 switch

For factory use only.

At the factory, the switch is set to fully counterclockwise position.

DA-129 board

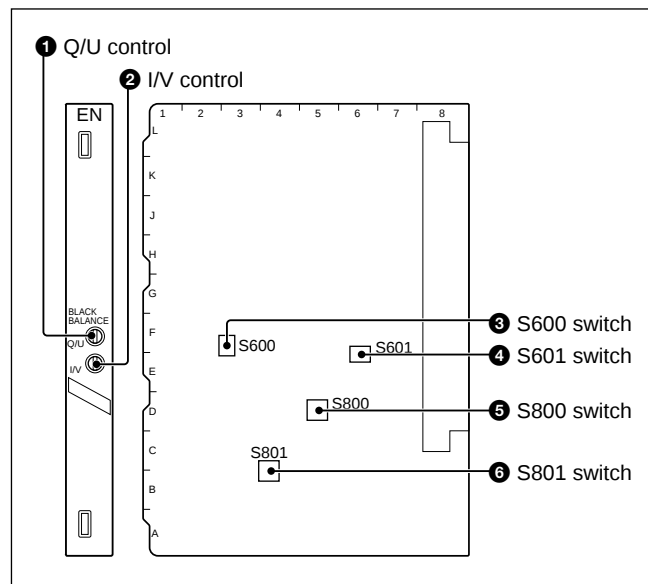


❶ S1 switch

For factory use only.

Be sure to set the switch fully counterclockwise. This switch is for the model whose serial number is 10061 or after, 30011 or after, or 40031 or after.

EN-136 board



❶ Q/U control

❷ I/V control

❶ Q/U (Q/U balance) control

Finely adjusts the 0 level of the Q/U axis of the encode signal.

❷ I/V (I/V balance) control

Finely adjusts the 0 level of the I/V axis of the encode signal.

❸ S600 (I/Q signal ON/OFF) switch

Used when the VBS signal is adjusted.

Factory setting: 0

❹ S601 (CHROMA signal ON/OFF) switch

Used to set the chroma signal OFF.

Factory setting: ON

❺ S800 (RET/REF select) switch

Selects a return video signal sent to a viewfinder when the camera is used as a stand-alone camera.

When a CCU is connected, be sure to set to RET.

RET: A playback video signal

REF: A reference video signal

Factory setting: RET

❻ S801 (TEST OUT select) switch

Selects a signal output from the TEST OUT connector.

CAM: A camera signal is output.

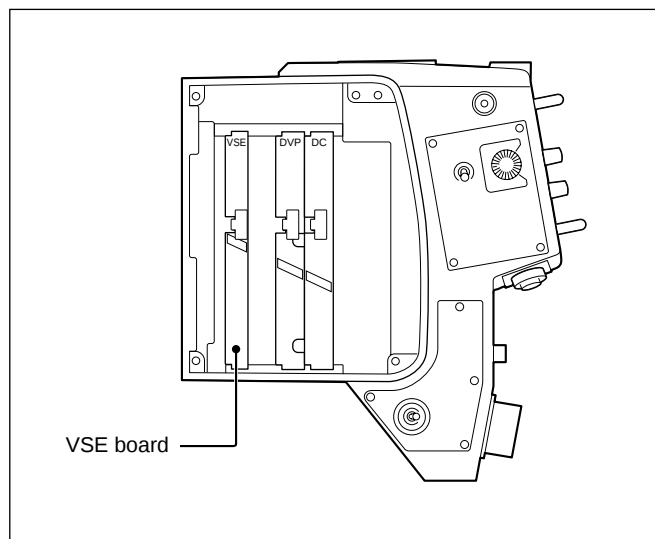
RET: A return video signal is output.

Factory setting: CAM

3-1 Internal Boards

3-1-3 Internal Board of the CA-530

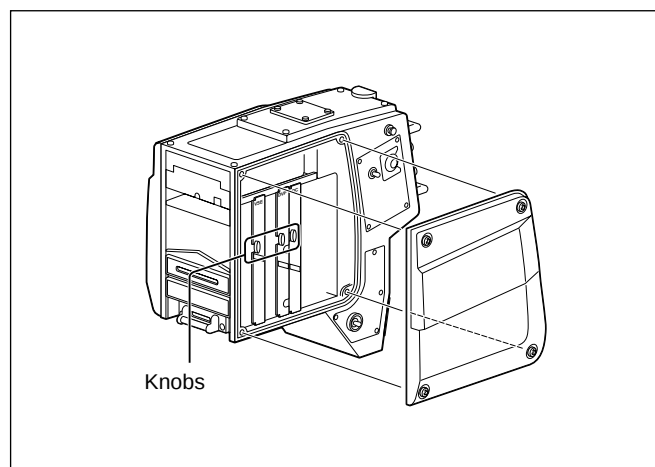
The internal board of the CA-530 on which switches and controls used for system setup are provided, is introduced here.



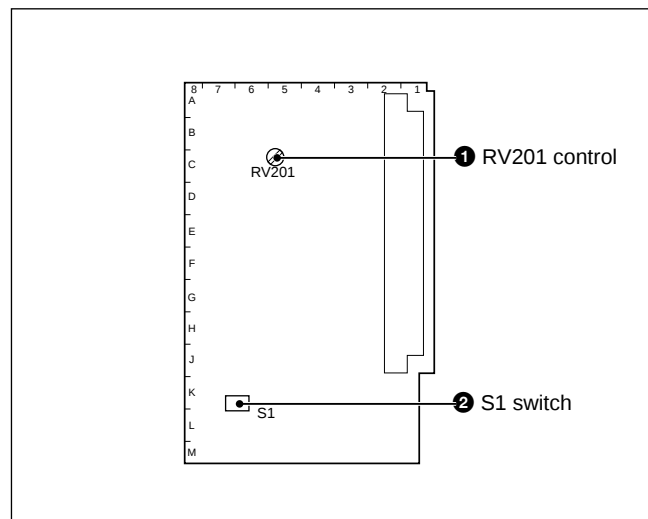
Detaching an internal board

Loosen the four screws on the panel, and remove the side panel. Then pull out an internal board with the black knob.

The internal board in the CA-550/550P are detached in the same way.



VSE board



① RV201 (earphone level) control

Adjusts the earphone signal level as required.

② S1 switch

S1-1: Selects a signal output from the MONITOR connector.

MONITOR: Supplies a VF video signal set on the Menu of the BVP-950/950P

VBS: Supplies a composite video signal.
Factory setting: MONITOR

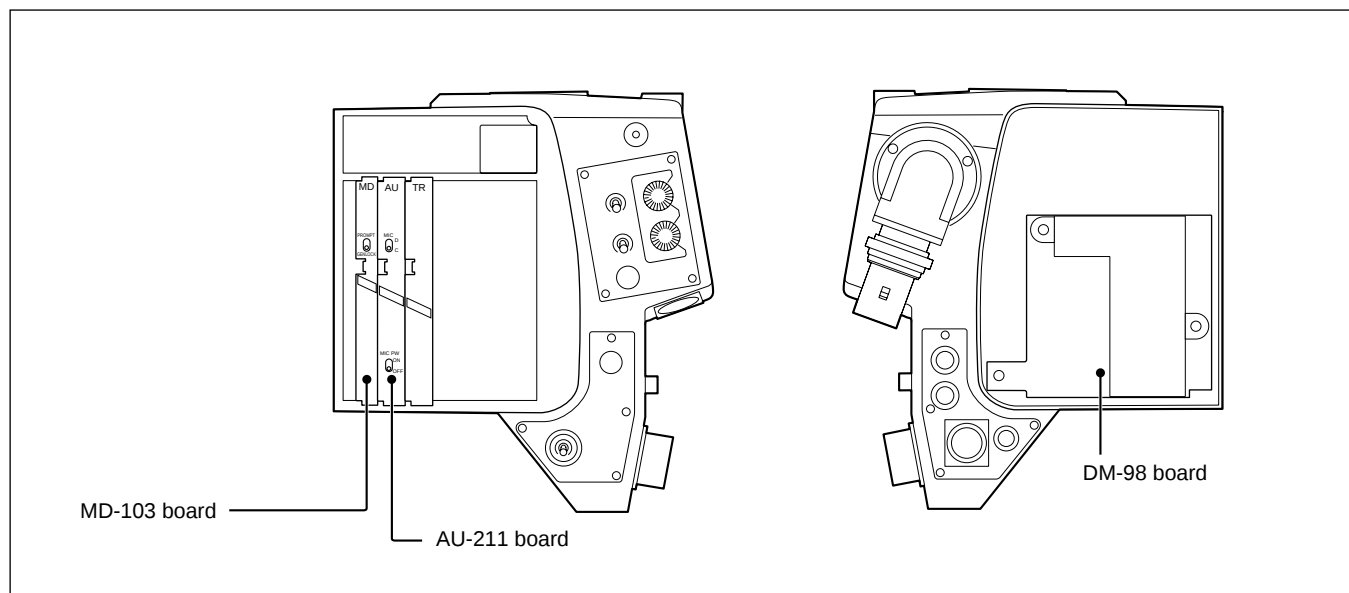
S1-2: Selects a signal output from the EARPHONE jack.

ON: Supplies a microphone signal.

OFF: Supplies an audio monitor signal.
Factory setting: OFF

3-1-4 Internal Boards of the CA-550/550P

The internal boards of the CA-550/550P on which switches and controls used for system setup are provided, are introduced here.

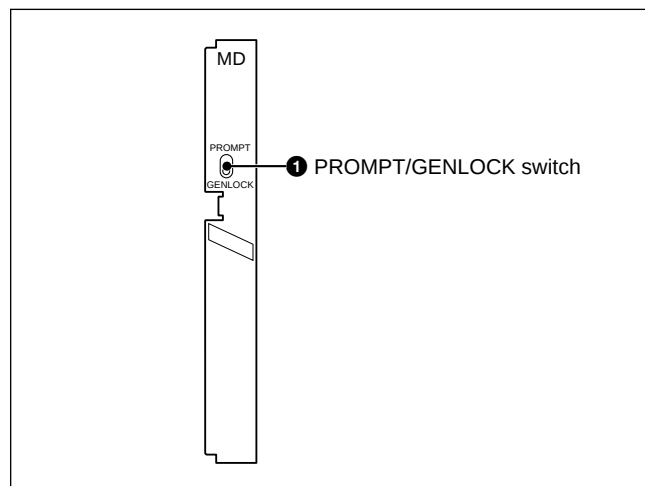


Detaching an internal board

Loosen the four screws on each side panel, and remove the side panels. Then pull out an internal board with the black knob.

See “3-1-3 Internal Boards of the CA-530.”

MD-103 board



① PROMPT/GENLOCK (prompter signal output/external sync signal input) switch

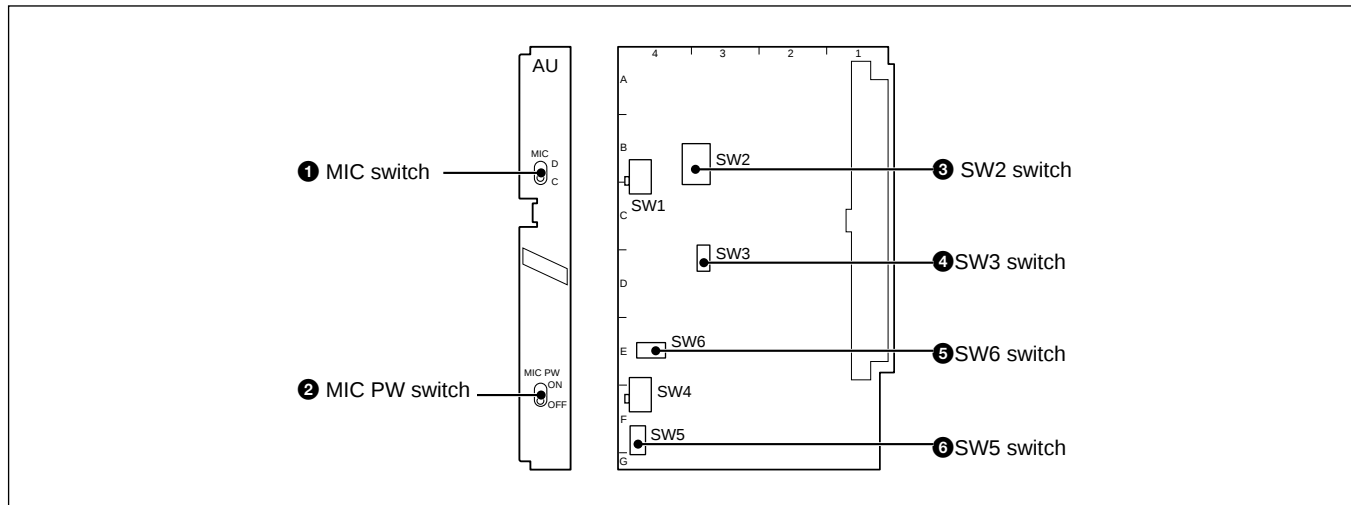
Selects the function of the PROMPT/GENLOCK connector.

PROMPT: Outputs a prompter signal. When the switch is set to PROMPT, an optional BKP-5971 Teleprompter Kit must be connected.

GENLOCK: Inputs an external sync signal.
Factory setting: GENLOCK

3-1 Internal Boards

AU-211 board



① MIC (microphone select) switch

Set to C or D according to the microphone connected to the INCOM connector.

C: When a carbon microphone is used

D: When a dynamic microphone is used

Factory setting: C

② MIC PW (microphone power) switch

Set to ON when a microphone of external power supply system is used.

Factory setting: OFF

③ SW2 (intercom control mode select) switch

SW2-1 (INCOM MIX): Set to ON to mix an intercom signal onto a program audio signal.

Factory setting: OFF

SW2-2 (INCOM/PGM MIX): Set to ON to mix an intercom and program audio signals before the IC5 (EVR).

Factory setting: OFF

SW2-3 (PGM MIX): Set to ON to mix a program audio signal onto an intercom signal.

Factory setting: OFF

SW2-4 (level control mode select):

ON: The INCOM control on the CA-550/550P adjusts the intercom and program audio signal level, and the PGM control on the CA-550/550P adjusts the mix ratio of the intercom and program audio signals.

OFF: The INCOM control adjusts the intercom signal level, and the PGM control adjusts the program audio signal level.

Factory setting: OFF

SW2-5 (SIDE TONE ON/OFF): Set to ON to mix a side tone signal (mixing level: -26 dB). The RV3 adjusts the level of the side tone signal.

Factory setting: ON

SW2-6: Not used

Factory setting: OFF

SW2-7 (PGM ON/OFF): Keep to OFF.

SW2-8 (PB AUDIO ON/OFF): Keep to OFF.

④ SW3 (TALLY CONTROL) switch

SW3-1 (BATTERY ALARM ON/OFF): Set to ON to send a battery alarm signal to the back tally lamp.

Factory setting: OFF

SW3-2 (POWER SAVE): Power supply to the remote control is saved when the CCU is connected. Keep to ON.

⑤ SW6 (MIC LINE select) switch

Selects a signal supplied to the MIC 1 line.

MIC 1: An input signal to the MIC 1 connector on the BVP-950/950P

MIC 2: An input signal to the MIC IN connector on the CA-550/550P

Factory setting: MIC 1

⑥ SW5 (AB/PHANTOM MIC select) switch

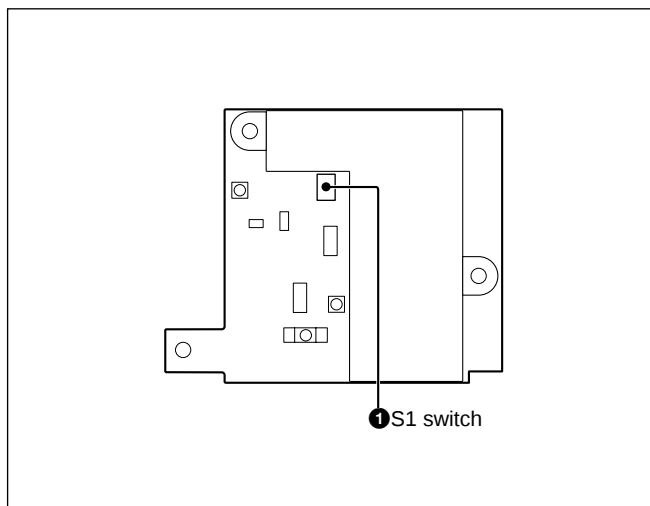
Select the power supply system according to the microphone to be used.

AB: For A/B power supply system of $+12$ V.

PHANTOM: For phantom power supply system of $+48$ V.

Factory setting: PHANTOM

DM-98 board



❶ S1 Switch

Switches the signal output from the RET OUT connector.

S1-1: Disables the automatic switching between the playback video signal and return video signal.

ON: Outputs the playback video signal.

OFF: Outputs the return video signal when the CCU is connected and the playback video signal when the VTR is attached.

Factory setting: OFF

S1-2: Disables the automatic switching between the VBS/monitor output signal and the playback video/return video signal.

ON: Outputs the VBS/monitor output signal.

OFF: Outputs the VBS/monitor output signal when the camera is used as stand-alone, and the playback/return video signal when the CCU is connected.

Factory setting: OFF

S1-3: Switches between the VBS signal and the monitor output signal.

ON: Outputs the monitor output signal.

OFF: Outputs the VBS signal.

Factory setting: OFF

S1-4: Disables the return control.

ON: Receives the return control signal and outputs the playback video/return video signal though S1-2 is set to ON.

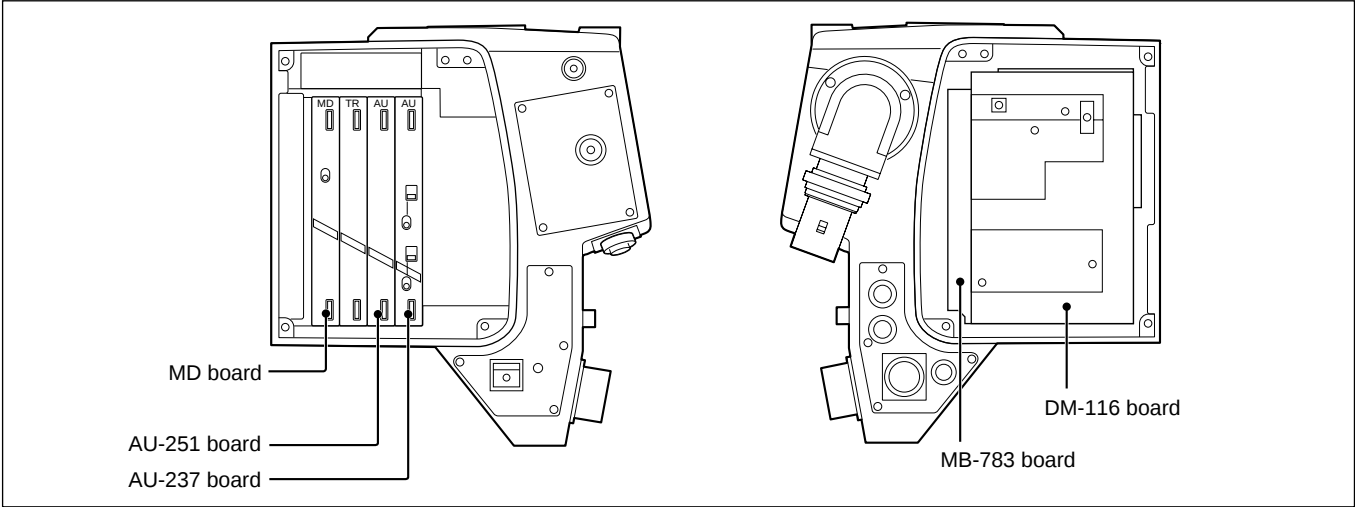
OFF: The return control signal is not received.

Factory setting: ON

3-1 Internal Boards

3-1-5 Internal Boards of the CA-570/570P

The internal boards of the CA-570/570P on which switches and controls used for system setup are provided, are introduced here.

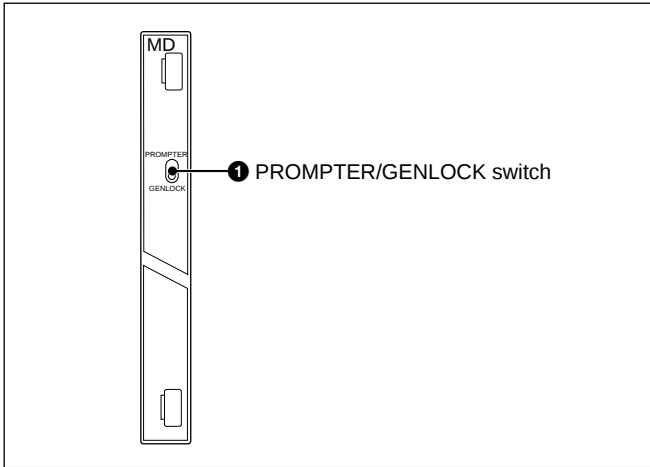


Detaching an internal board

Loosen the four screws on each side panel, and remove the side panels. Then pull out an internal board with the black knob.

See “3-1-2 Internal Boards of the BVP-950/950P.”

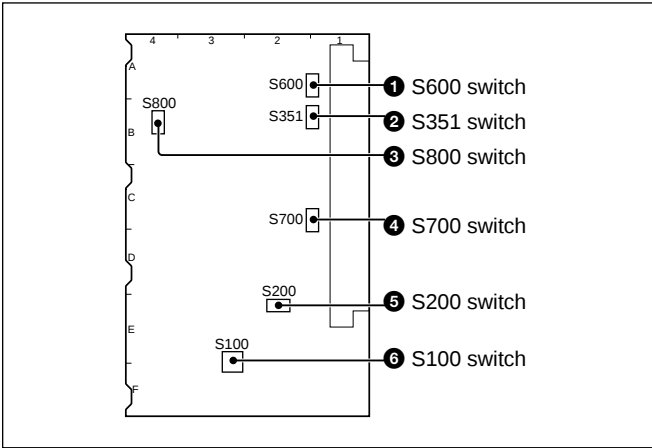
MD board



1 PROMPTER/GENLOCK (prompter signal input/output/external sync signal input) switch
Selects the function of the PROMPTER/GENLOCK connector.

PROMPTER: Inputs or outputs a prompter video signal.
GENLOCK: Inputs an external sync signal.
Factory Setting: PROMPTER

AU-251 board



1 S600 switch
Selects an input signal sent to the CCU as a microphone 1 signal.
CHU: A signal input to the MIC connector on the camera
CA: A signal input to the MIC 1 connector on the CA-570/570P
Factory Setting: CA

② S351 switch

Selects whether to monitor the microphone input signal using a headset connected to the INCOM connector.

ON: To monitor the signal

OFF: To not monitor the signal

Factory setting: OFF

③ S800 switch

Selects whether to supply +12 V power to the microphone connected to the CA-570/570P.

ON: Supplies +12 V A/B power.

OFF: Supplies no power.

Factory setting: OFF

Note

If the MIC POWER switch on the rear panel is set to OFF or +48 V, no A/B power is supplied even if the S800 switch is set to ON.

④ S700 switch

Selects whether to supply +48 V power to the microphone connected to the CA-570/570P.

ON: Supplies +48 V phantom power.

OFF: Supplies no power.

Factory setting: OFF

⑤ S200 switch

S200-1: Selects whether to activate the function to turn the battery alarm indicator ON/OFF when a battery alarm signal is detected.

ON: The battery alarm indicator lights.

OFF: The battery alarm indicator does not light.

Factory setting: OFF

S200-2: When a CCU is connected to the CA-570/570P, this switch specifies whether power is supplied from the REMOTE connector or not.

ON: When a CCU is connected, the power is automatically turned off. When the camera is used as stand-alone, the power is turned on.

OFF: The power is always supplied from the REMOTE connector.

Factory setting: ON

⑥ S100 switch

Selects the signal output from the TEST OUT connector.

S100-1: Disables automatic switching between the playback video signal and the return video signal.

ON: Outputs the playback video signal.

OFF: Outputs the return video signal when a CCU

is attached; outputs the playback video signal when a VTR is attached.

Factory setting: OFF

S100-2: Specifies output of the VBS signal from the camera or the return/playback video signal.

ON: Outputs the VBS signal from the camera.

OFF: Outputs the return or playback video signal.

Factory setting: OFF

S100-3: Selects whether the control signal from the RET CONT connector is received or not.

ON: Outputs the return video signal only when a return control signal is L.

OFF: Outputs the return video signal only when a CCU is connected.

S100-4: Selects either a VBS video signal output or monitor signal output.

ON: Outputs the monitor signal.

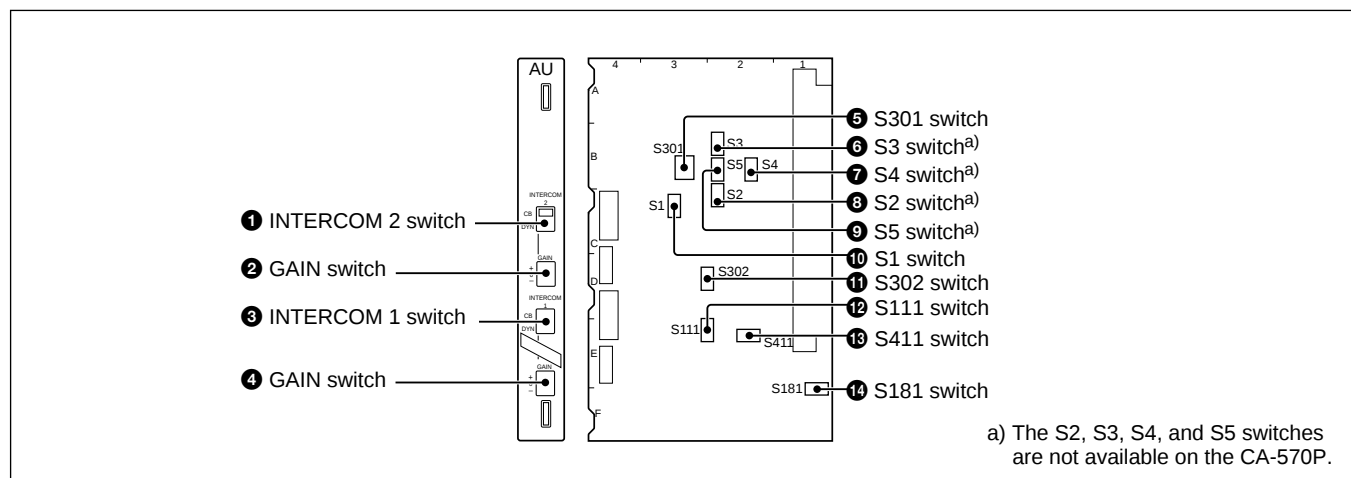
OFF: Outputs the VBS signal.

The various combinations of switch S100 settings and their corresponding video output signal are as follows:

S100-1	S100-2	S100-3	S100-4	RET CONT	Video output signal
OFF	OFF	—	—	—	Return video (When a CCU is connected)
					Playback video (when a VTR is connected)
ON	OFF	—	—	—	Playback video
—	ON	OFF	OFF	—	VBS video
—	ON	ON	OFF	—	Monitor video
OFF	ON	OFF	ON	L	Return video (when a CCU is connected)
				L	Playback video (when a VTR is connected)
				H	VBS video
OFF	ON	ON	ON	L	Return video (when a CCU is connected)
				L	Playback video (when a VTR is connected)
				H	Monitor video

3-1 Internal Boards

AU-237 board



❶ INTERCOM 2 (intercom 2 microphone select) switch

Set this switch according to the microphone connected to the INCOM 2 connector.

CB: When a carbon microphone is used

DYN: When a dynamic microphone is used

Factory setting: CB

❷ GAIN switch

Set the audio signal level of Intercom 2 to be supplied to the CCU.

+: +6 dBu

0: 0 dBu

-: -6 dBu

Factory setting: 0 dBu

❸ INTERCOM 1 (intercom 1 microphone select) switch

Set this switch according to the microphone connected to the INCOM 1 connector.

CB: When a carbon microphone is used

DYN: When a dynamic microphone is used

Factory setting: CB

❹ GAIN switch

Set the audio signal level of Intercom 1 to be supplied to the CCU.

+: +6 dBu

0: 0 dBu

-: -6 dBu

Factory setting: 0 dBu

❺ S301 switch

Set the signal mode of the tracker and Intercom 2.

S301-1: Set to ON for mixing the program audio signal onto the signal to the TRACKER connector.
Factory setting: OFF

S301-2: Set to ON for mixing the Intercom 2 signal onto the signal to the TRACKER connector.
Factory setting: OFF

S301-3: Set to ON for mixing the signal from the tracker onto the Intercom 2 microphone output signal sent to the CCU.
Factory setting: OFF

S301-4: Set to ON for mixing the signal from the tracker onto the Intercom 2 receive output signal sent from the CCU.
Factory setting: OFF

❻ S3 (INTERCOM 2/PGM MIX) switch (only on the CA-570)

Selects whether to mix the program audio signal and Intercom 2 signal of the video camera.

IND: The signals are not mixed.

MIX: The signals are mixed.

Factory setting: IND

❼ S4 (INTERCOM 1/PGM MIX) switch (only on the CA-570)

Selects a method for adjusting the signal level when a program audio signal is mixed with Intercom 1 of the video camera.

IND: The intercom audio level is adjusted with the INCOM control, and the program audio level is adjusted with the PGM control.

MIX: The mixed sound is adjusted with the INCOM control, and the mix ratio is adjusted with the PGM control.

Factory setting: IND

⑧ S2 (INTERCOM 1/PGM MIX) switch (only on the CA-570)

Selects whether to mix the program audio signal and Intercom 1 signal of the video camera.

IND: The signals are not mixed.

MIX: The signals are mixed.

Factory setting: IND

⑨ S5 (INTERCOM 2/PGM MIX) switch (only on the CA-570)

Selects a method for adjusting the signal level when a program audio signal is mixed with Intercom 2 of the video camera.

IND: The intercom audio level is adjusted with the INCOM control, and the program audio level is adjusted with the PGM control.

MIX: The mixed sound is adjusted with the INCOM control, and the mix ratio is adjusted with the PGM control.

Factory setting: IND

⑩ S1 switch

Not used. Be sure to keep to OFF.

Factory setting: OFF

⑪ S302 (RTS 2 select) switch

Select whether to set the Intercom 2 to the RTS system or not.

RTS: To set to the RTS intercom system

NORM: To set to the normal intercom system

Factory setting: NORM

⑫ S111 (RTS 1 select) switch

Select whether to set the Intercom 1 to the RTS system or not.

RTS: To set to the RTS intercom system

NORM: To set to the normal intercom system

Factory setting: NORM

⑬ S411 switch

Selects the microphone input level of the TRACKER connector (0 dBu or -20 dBu).

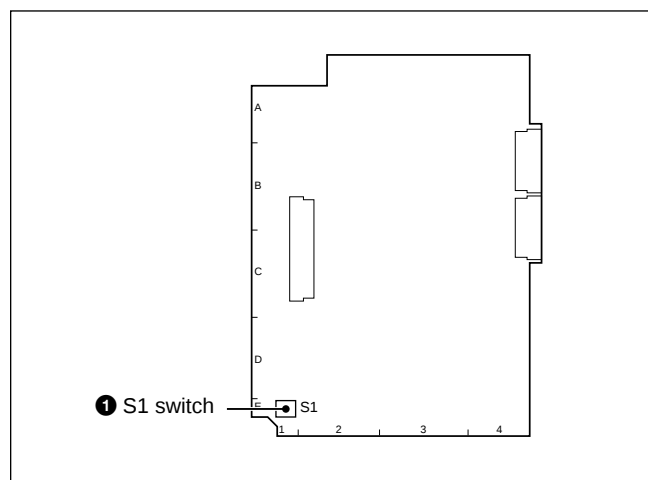
Factory setting: 0 dBu

⑭ S181 switch

When dynamic microphones are connected to the INCOM 1/2 connectors with unbalanced, hum may occur. In such a case, set this switch to UNBAL, and the hum may be reduced.

Factory setting: BAL

MB-783 board



① S1 switch

S1-1 (PGM): Selects whether a program audio signal is sent to the earphone.

ON: A program audio signal is sent.

OFF: A program audio signal is not sent.

Factory setting: ON

S1-2 (INCOM 2): Selects whether an intercom 2 audio signal is sent to the earphone.

ON: An intercom 2 audio signal is sent.

OFF: An intercom 2 audio signal is not sent.

Factory setting: OFF

S1-3 (INCOM 1): Selects whether an intercom 1 audio signal is sent to the earphone.

ON: An intercom 1 audio signal is sent.

OFF: An intercom 1 audio signal is not sent.

Factory setting: OFF

S-4 (VTR): Selects whether a playback audio signal is sent to the earphone during VTR playback.

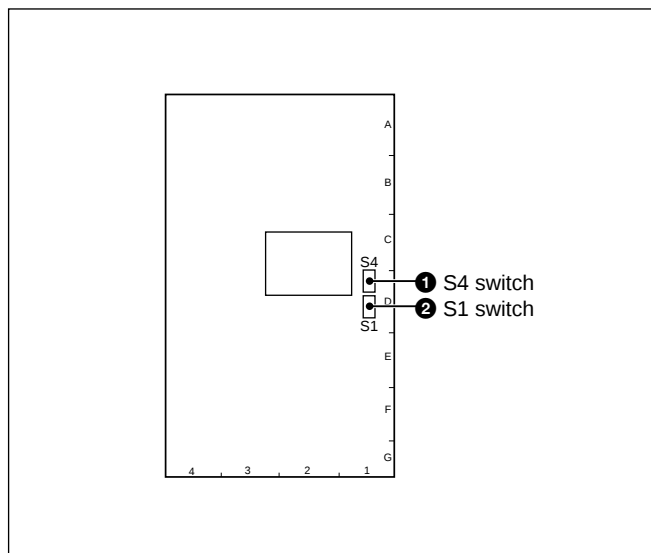
ON: A playback audio signal is sent.

OFF: A playback audio signal is not sent.

Factory setting: OFF

3-1 Internal Boards

DM-116 board



① S4 switch

Selects the direction of the prompter signal flow between the CCU and camera when the BVP-950/950P with the CA-570/570P attaches is connected to the CCU-700A/700AP.

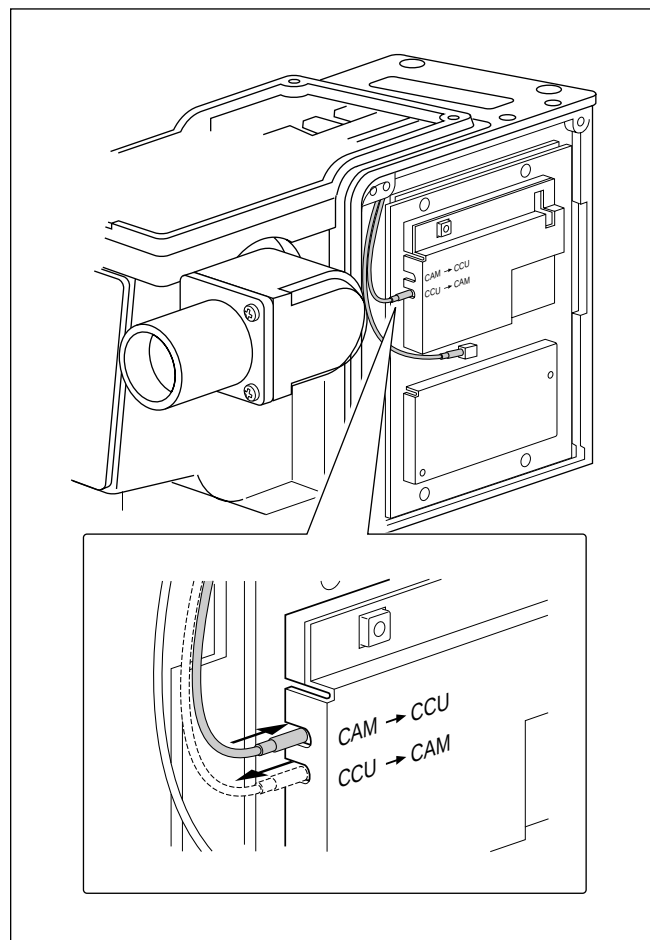
CCU → CAM: The prompter signal from the CCU is output from the PROMPTER/GENLOCK connector on the CA-570/570P.

CAM → CCU: The signal input to the PROMPTER/GENLOCK connector on the CA-570/570P is sent to the CCU.

Factory setting: CCU → CAM

Note

When you set the S4 switch to CAM→CCU, change the connection of the RF cable (green) on the DM-116 board. Then the setting of the S5 and S6 switches on the DM board of the CCU-700A/700AP should be changed from TX to RX.



② S1 switch

For factory use only.

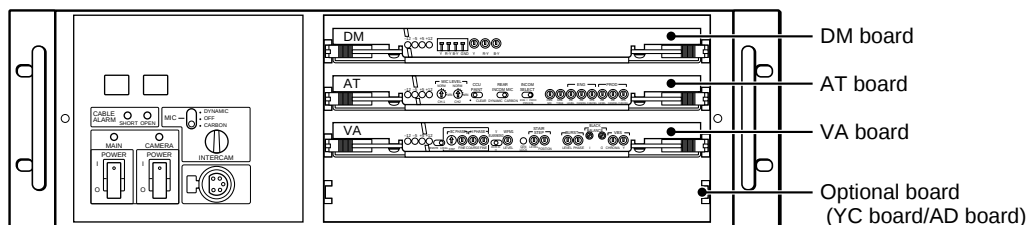
Factory setting: PROMPT

Note

Do not change the factory setting.

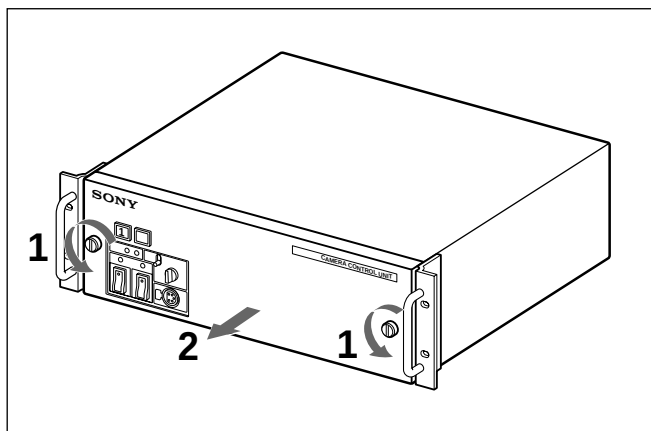
3-1-6 Internal Boards of the CCU-700A/700AP

The functions of the switches and controls on the internal boards of the CCU-700A/700AP are introduced here.



Removing the front panel

Loosen the left and right screws on the front panel, and remove the panel as shown below.



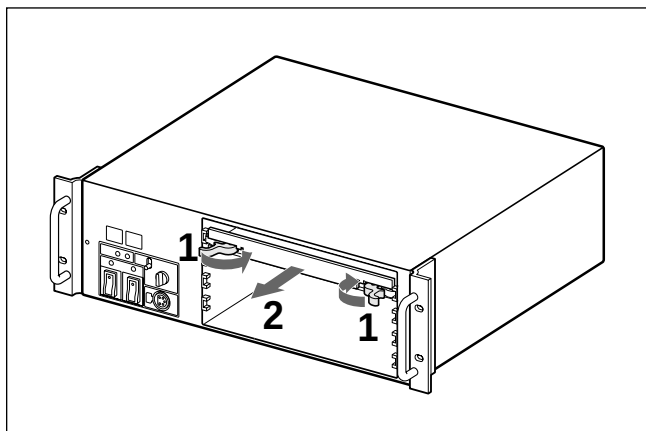
You can remove the front panel of the CNU-700 in the same way.

Attaching the front panel

Place the front panel as it was, and secure it with the left and right screws.

Detaching an internal board

Remove the front panel, then push and turn the left and right eject levers to the board. Then pull the board out from the CCU-700A/700AP.

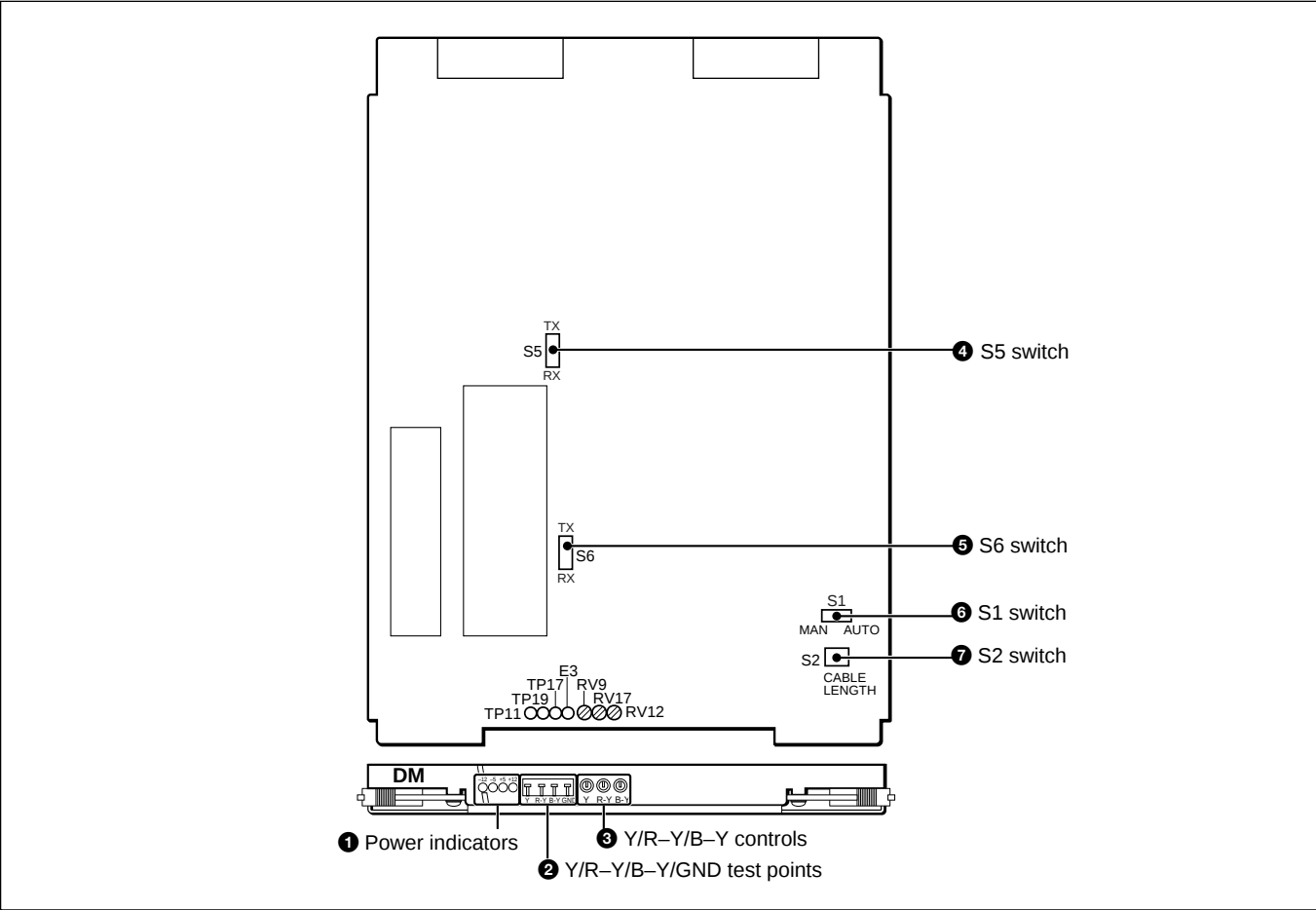


You can remove the internal board of the CNU-700 in the same way.

Installing the board

Turn the left and right eject levers inside. Then insert the board in the slot, and push it until it stops. Then push the eject levers toward the side panels to lock the inserted board.

DM board



❶ Power indicators

Light when the specified power is supplied to the DM board.

❷ Y/R-Y/B-Y/GND test points

Used for checking the Y, R-Y, and B-Y signals output from the DM board.

❸ Y/R-Y/B-Y controls

Adjust the level of the signals output from the DM board.

❹ S5 switch

❺ S6 switch

When this unit is connected to the BVP-900/900P or the BVP-950/950P with the CA-570/570P attached, the direction of the prompter signal is selected.

TX: A prompter signal is sent from the CCU to the camera

RX: A prompter signal is sent from the camera to the CCU

❻ S1 (MAN/AUTO) switch

Sets the cable compensation of a triax cable.

MAN: For manual cable compensation with the S2 switch. (for adjustment only)

AUTO: For automatic cable compensation according to the cable length. Normally use this position.

Factory setting: AUTO

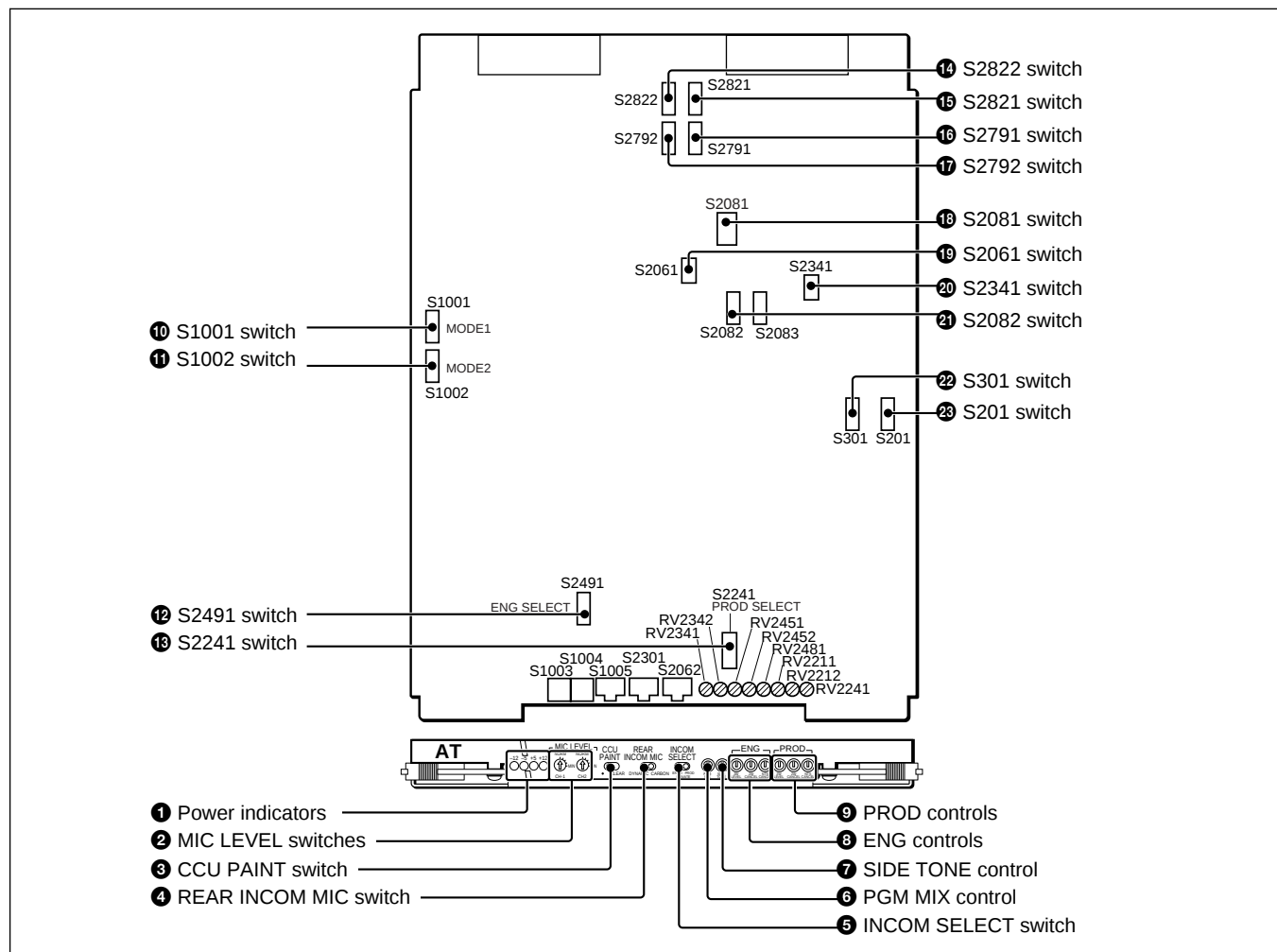
❼ S2 (CABLE LENGTH) switch

Set to the appropriate position according to the length of a triax cable when the S1 switch is set to MAN.

Switch setting	Cable length		
	FUJIKURAø8.5	FUJIKURAø14.5	Belden 9238
0	100 m (328 feet)	200 m (656 feet)	150 m (492 feet)
1	280 m (919 feet)	560 m (1,837 feet)	420 m (1,378 feet)
2	460 m (1,509 feet)	920 m (3,018 feet)	690 m (2,264 feet)
3	640 m (2,100 feet)	1,280 m (4,199 feet)	960 m (3,150 feet)
4	820 m (2,690 feet)	1,680 m (5,512 feet)	1,230 m (4,035 feet)
5	1,000 m (3,281 feet)	2,000 m (6,562 feet)	1500 m (4,921 feet)

Switches 6, 7 and 8 are not used.

AT board



❶ Power indicators

Light when the specified power is supplied to the AT board.

❷ MIC (microphone) LEVEL switches

Adjust the microphone signal level output from the MIC OUTPUT connectors on the rear panel of the CCU-700A/700AP. Adjustable range is from NORM (−60 dBu) to MIN (−20 dBu) in 10 dBu steps. This switch changes the gain of a microphone amplifier in the camera.

CH-1: Adjusts the signal level output from the MIC OUTPUT CH-1 connector.

CH-2: Adjusts the signal level output from the MIC OUTPUT CH-2 connector.

❸ CCU PAINT switch

Set to CLEAR for making adjustment using the switches and controls on the internal boards of the CCU-700A/700AP. The center value of the adjustable range is retrieved.

❹ REAR INCOM MIC switch

Not used.

❺ INCOM (intercom) SELECT switch

Selects an intercom line connected to the INTERCOM connector on the front of the CCU-700A/700AP.

ENG: For connecting to an engineer line

PRIVATE: For connecting to a private line

PROD: For connecting to a producer line

❻ PGM (program audio) MIX control

Adjusts the mix ratio of the program audio signal to the intercom audio signal supplied to the INTERCOM connector on the front panel of the CCU-700A/700AP.

❼ SIDE TONE control

Adjusts the side tone sound level of the intercom connected to the INTERCOM connector on the front of the CCU-700A/700AP.

3-1 Internal Boards

8 ENG (engineer line) controls

Adjust the engineer line.

2W LEVEL: For adjusting the level when a 2W intercom system is used.

2W CANCEL: For adjusting the leakage of the talk signal to the receive line when a 2W intercom system is used.

RTS CANCEL: For adjusting the leakage of the talk signal to the receive line when an RTS intercom system is used.

9 PROD (producer line) controls

Adjust the producer line.

2W LEVEL: For adjusting the level when a 2W intercom system is used.

2W CANCEL: For adjusting the leakage of the talk signal to the receive line when a 2W intercom system is used.

RTS CANCEL: For adjusting the leakage of the talk signal to the receive line when an RTS intercom system is used.

10 S1001 switch

Sets the camera number of the system in which the CNU-700 is not used.

For details, see “3-2-5 Setting the Camera Number and Group Number.”

11 S1002 switch

Used for setting and adjusting the camera system. When S1002-7 switch is set to ON, the color-bar character function is set to ON.

For details, see “3-3 Checking and Adjusting the Signal of the System.”

12 S2491 switch

Selects the intercom system for an engineer line.

2W: When a 2W system is used

4W: When a 4W system is used

RTS: When an RTS system is used

Factory setting: 4W

13 S2241 switch

Selects the intercom system for a producer line.

2W: When a 2W system is used

4W: When a 4W system is used

RTS: When an RTS system is used

Factory setting: 4W

14 S2822 switch

Selects the power source for the green tally system, together with the S2821 switch.

POWER: For 24 V power supply

TTL: For 5 V power supply

Factory setting: POWER

15 S2821 switch

Selects the power source for the green tally system, together with the S2822 switch.

POWER: For 24 V or 5 V power supply

CONTACT: For contact supply

Factory setting: POWER

16 S2791 switch

Selects the power source for the red tally system, together with the S2792 switch.

POWER: For 24 V or 5 V power supply

CONTACT: For contact supply

Factory setting: POWER

17 S2792 switch

Selects the power source for the red tally system, together with the S2791 switch.

POWER: For 24 V power supply

TTL: For 5 V power supply

Factory setting: POWER

18 S2081 switch

Sets the program audio signal level, 0 dBu or –20 dBu, according to the system audio level.

Factory setting: 0 dBu

19 S2061 switch

Select the operating mode of the intercom system, 1CH (one channel) or 2CH (two channels).

Factory setting: 2CH

20 S2341 switch

Selects the intercom line of the CCU-700A/700AP.

ON: For mixing the producer and engineer lines

OFF: For selecting the intercom line with the INCOM

SELECT switch on the front panel of the AT board.

Factory setting: OFF

21 S2082 switch

Selects whether the program audio signal is to be mixed with the intercom audio signal or not.

Factory setting: OFF (not mixed)

22 S301 switch

Sets the level of the audio signal output from the MIC OUTPUT CH-2 connector on the rear panel.

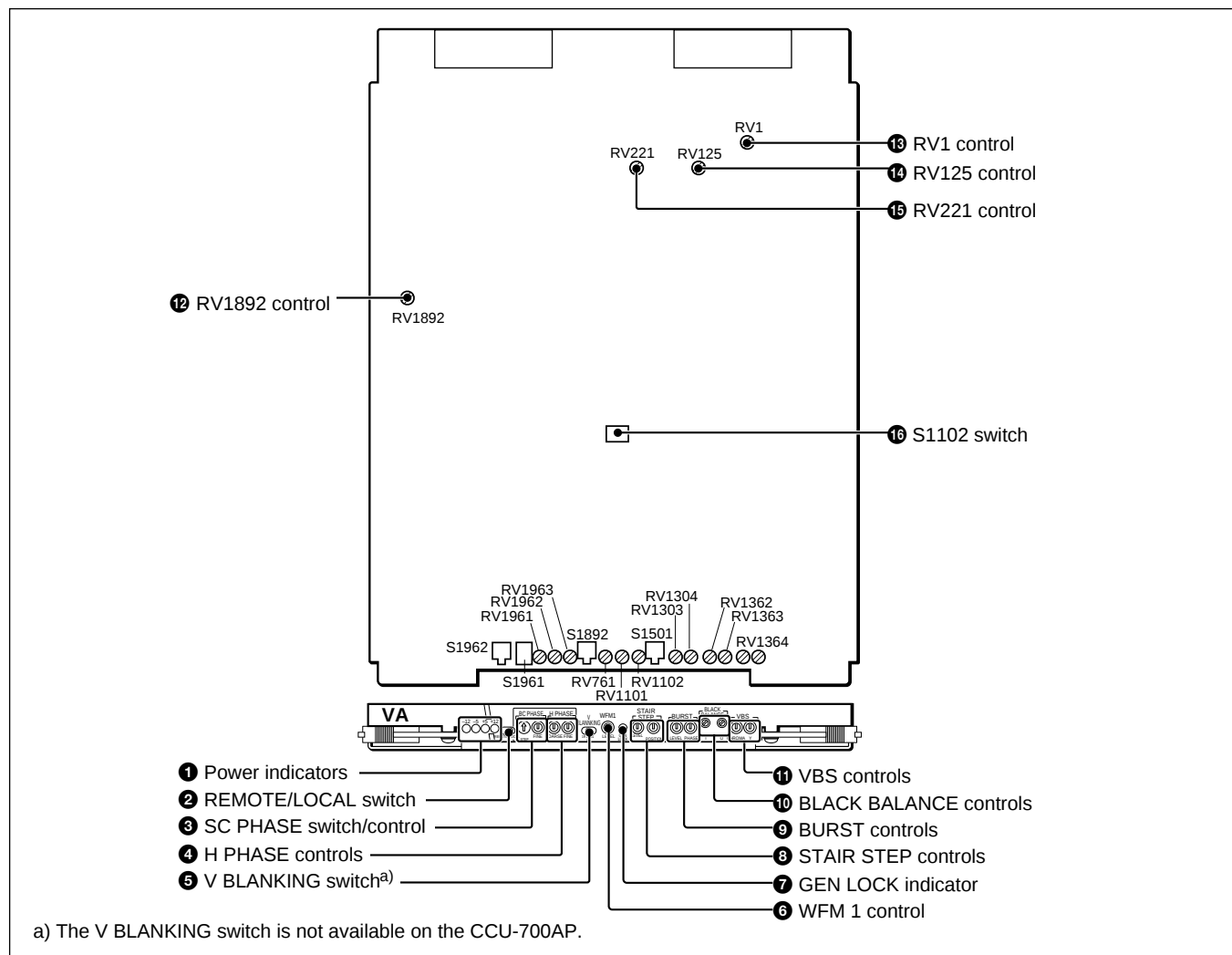
Factory setting: 0 dBu

23 S201 switch

Sets the level of the audio signal output from the MIC OUTPUT CH-1 connector on the rear panel.

Factory setting: 0 dBu

VA board



❶ Power indicators

Light when the specified power is supplied to the VA board.

❷ REMOTE/LOCAL switch

Selects the control mode.

REMOTE: For controlling with external equipment connected to the RCP/CNU or AUX connector on the rear panel.

LOCAL: For controlling with the switches and controls on the internal boards. When the switch is set to this position, the value set with the switches and controls on this board is retrieved.

❸ SC PHASE switch/control

Adjust the SC phase. Roughly adjust the SC phase with the STEP switch, then execute fine adjustment with the FINE control.

❹ H PHASE controls

Adjust the H phase. Roughly adjust the H phase with the COARSE control, then execute fine adjustment with the FINE control.

❺ V BLANKING switch (only on the CCU-700A)

Selects the vertical blanking line among from 19H, 20H and 21H.

❻ WFM (waveform monitor) 1 control

Adjusts the level of the signal output from the WF 1 connector on the rear panel.

❼ GEN LOCK indicator

Lights when the signal output from the CCU-700A/700AP is synchronized with the reference signal input to the REFERENCE INPUT connector on the rear panel.

3-1 Internal Boards

⑧ STAIR STEP controls

Adjust the position of the signal displayed on a waveform monitor in sequential mode.

LEVEL: Adjusts the interval of the displayed signals.

POSITION: Adjusts the display position on the monitor screen.

⑨ BURST controls

Adjust the burst signal.

LEVEL: Adjusts the level of the burst signal.

PHASE: Adjusts the phase of the burst signal.

⑩ BLACK BALANCE controls

Adjust the black balance.

I: Adjusts the I signal.

Q: Adjusts the Q signal.

⑪ VBS controls

Adjust the composite video signal.

CHROMA: Adjusts the chroma signal.

Y: Adjusts the Y (luminance) signal.

⑫ RV1892 control

Adjusts the phase of the camera signal.

For details, see “3-2-2 Adjusting the Phases of the Signals.”

⑬ RV1 control

Adjusts the black level of the Y signal sent from the camera.

⑭ RV125 control

Adjusts the black level of the R–Y signal sent from the camera.

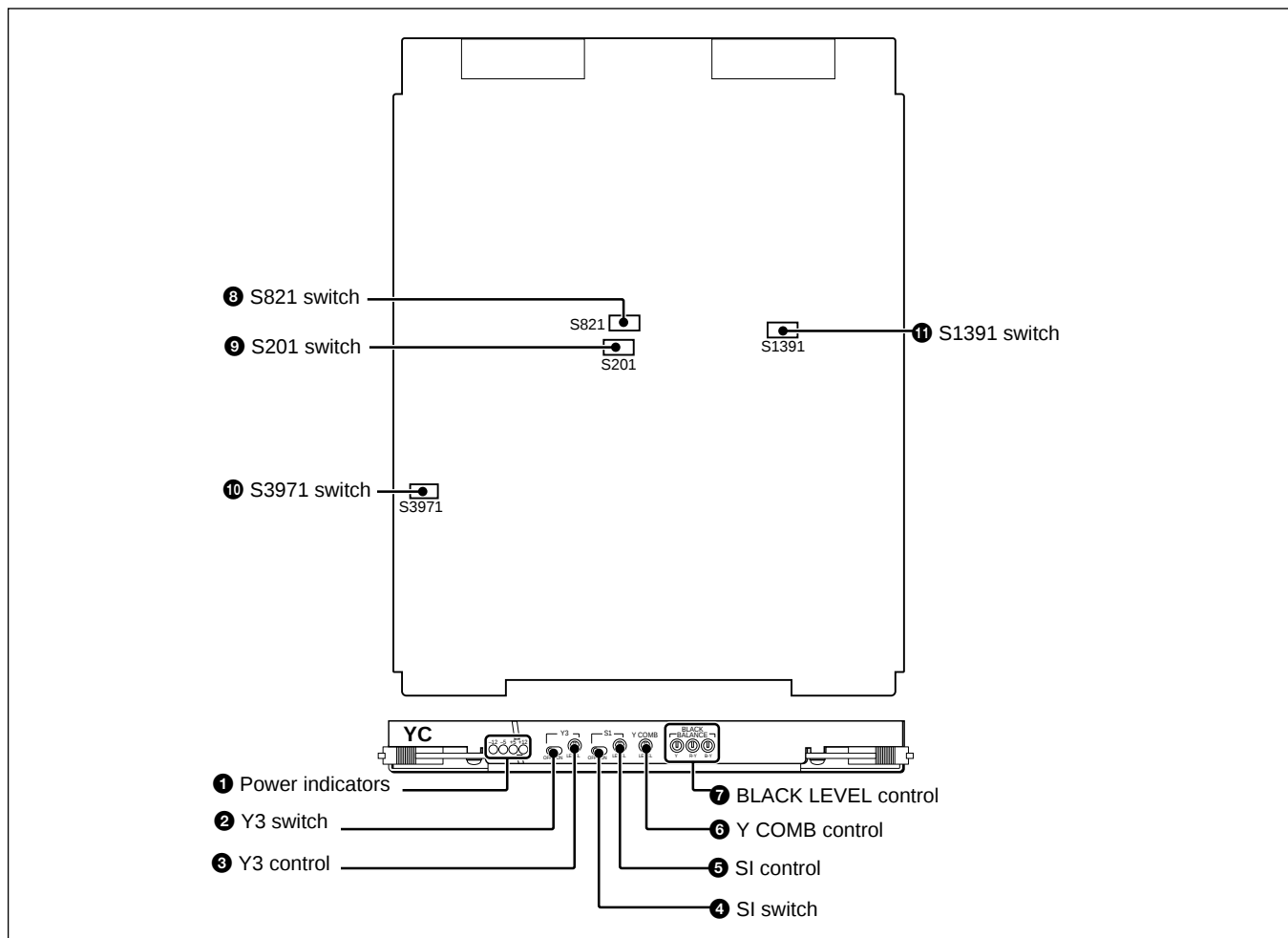
⑮ RV221 control

Adjusts the black level of the B–Y signal sent from the camera.

⑯ S1102 switch

Reverses the direction of the sequential control signal supply.

YC board (only on the CCU-700A)



❶ Power indicators

Light when the specified power is supplied to the YC board.

❷ Y3 switch

Turns the Y3 signal ON or OFF.

❸ Y3 control

Adjusts the Y3 signal level.

❹ SI switch

Turns the SI signal ON or OFF.

❺ SI control

Adjusts the SI signal level.

❻ Y COMB control

Adjusts the cross color of the VBS signal.

❼ BLACK LEVEL control

Adjusts the black level of the Y, R-Y, B-Y signals.

❽ S821 (TEST) switch

Uses to adjust the board.

❾ S201 (Y COM ON/OFF) switch

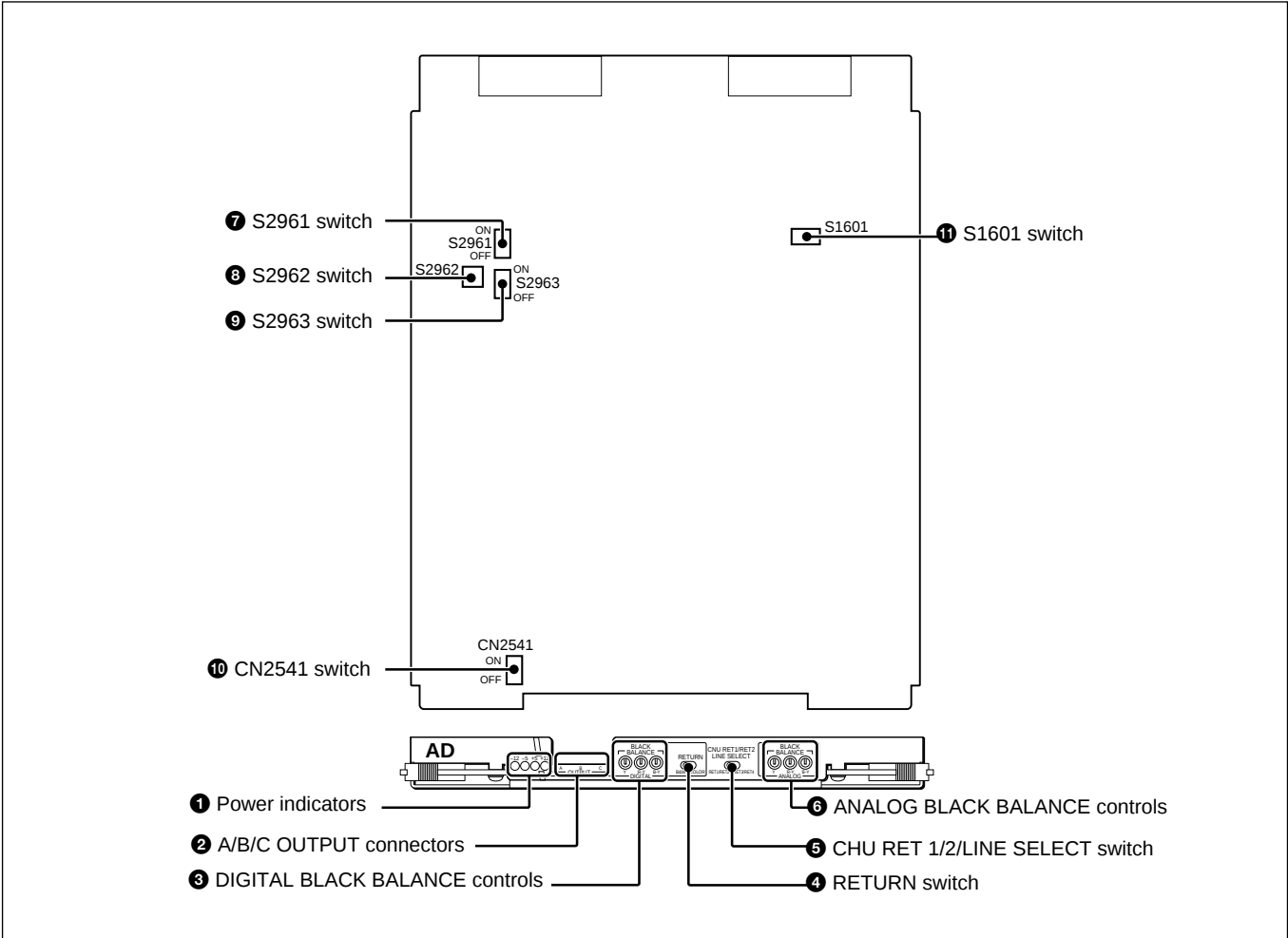
❿ S3971 (R-Y COMB ON/OFF) switch

⓫ S1391 (B-Y COMB ON/OFF) switch

Turns the COMB filter ON or OFF.

3-1 Internal Boards

AD board



1 Power indicators

Light when the specified power is supplied to the AD board.

2 A/B/C OUTPUT connectors

Connect to the DIGITAL VIDEO SERIAL OUTPUT connectors on the rear panel.
To remove the AD board, disconnect the connectors.

3 DIGITAL BLACK BALANCE controls

Adjust the black balance of the digital signals.

4 RETURN (return video) switch

Selects the digital return video signal when the DA-101 board (BKPF-7312) is installed in the CCU-700A/700AP.

B&W: A black and white return video signal

COLOR: A color return video signal

Factory setting: COLOR

5 CHU RET 1/2/LINE SELECT switch

Selects the return video signal sent to the viewfinder when the return video 1/2 signal is selected on the camera.

Switch setting	Switch setting on a camera	Return video signal to a viewfinder
RET1/RET2	RET1	RET1
	RET2	RET2
RET3/RET4	RET1	RET3
	RET2	RET4

Factory setting: RET1/RET2

6 ANALOG BLACK BALANCE controls

Adjust the black balance of the analog signals.

⑦ S2961 (SDI TEST ON/OFF) switch

When this switch is set to ON, a test pattern selected with the S2962 switch is supplied to the SERIAL OUTPUT connector on the CCU.

Factory setting: OFF

⑧ S2962 (DI BAR MODE) switch

Selects a test signal output from the SERIAL OUTPUT connector on the CCU.

Switch settings			Test signal
S2962-1	S2962-2	S2962-3	
OFF	OFF	ON	75% color bar signal
ON	OFF	ON	100% color bar signal
OFF	ON	ON	Black burst signal
ON	ON	ON	Multi-burst signal
—	—	OFF	Worst pattern

Note

S2962-4 switch is not used.

⑨ S2963 (REMOTE ON/OFF) switch

Select a signal supplied from the SERIAL OUTPUT connector when a color bar output is selected on the CCU.

ON: Supplies a test pattern signal selected with the S2962 switch.

OFF: Supplies an A/D converted signal of a color bar signal output from the VA board.

Factory setting: ON

⑩ CN2541 (SDI ON/OFF) switch

Set to OFF to adjust the free run frequency of the SDI output.

Factory setting: ON

⑪ S1601 (TEST ON/OFF) switch

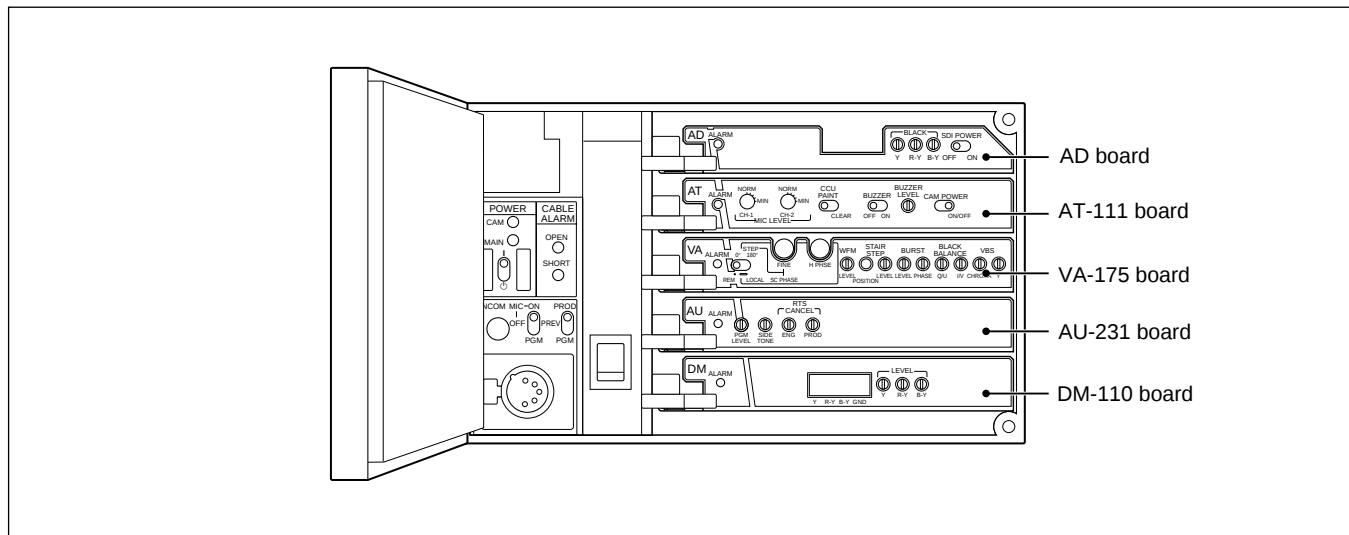
Used to adjust an analog signal system on the AD-117 board.

Factory setting: OFF

3-1 Internal Boards

3-1-7 Internal Boards of the CCU-550A/550AP

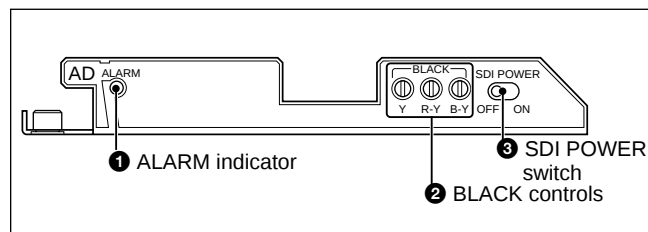
The internal boards of the CCU-550A/550AP on which switches and controls used for system setup are provided, are introduced here.



Detaching an internal board

- 1 Loosen the two screws on the right of the front panel, and open the panel.
- 2 Turn the eject lever on the internal board to the left, and pull out the board.

AD board



1 ALARM indicator

Lights when an error occurs.

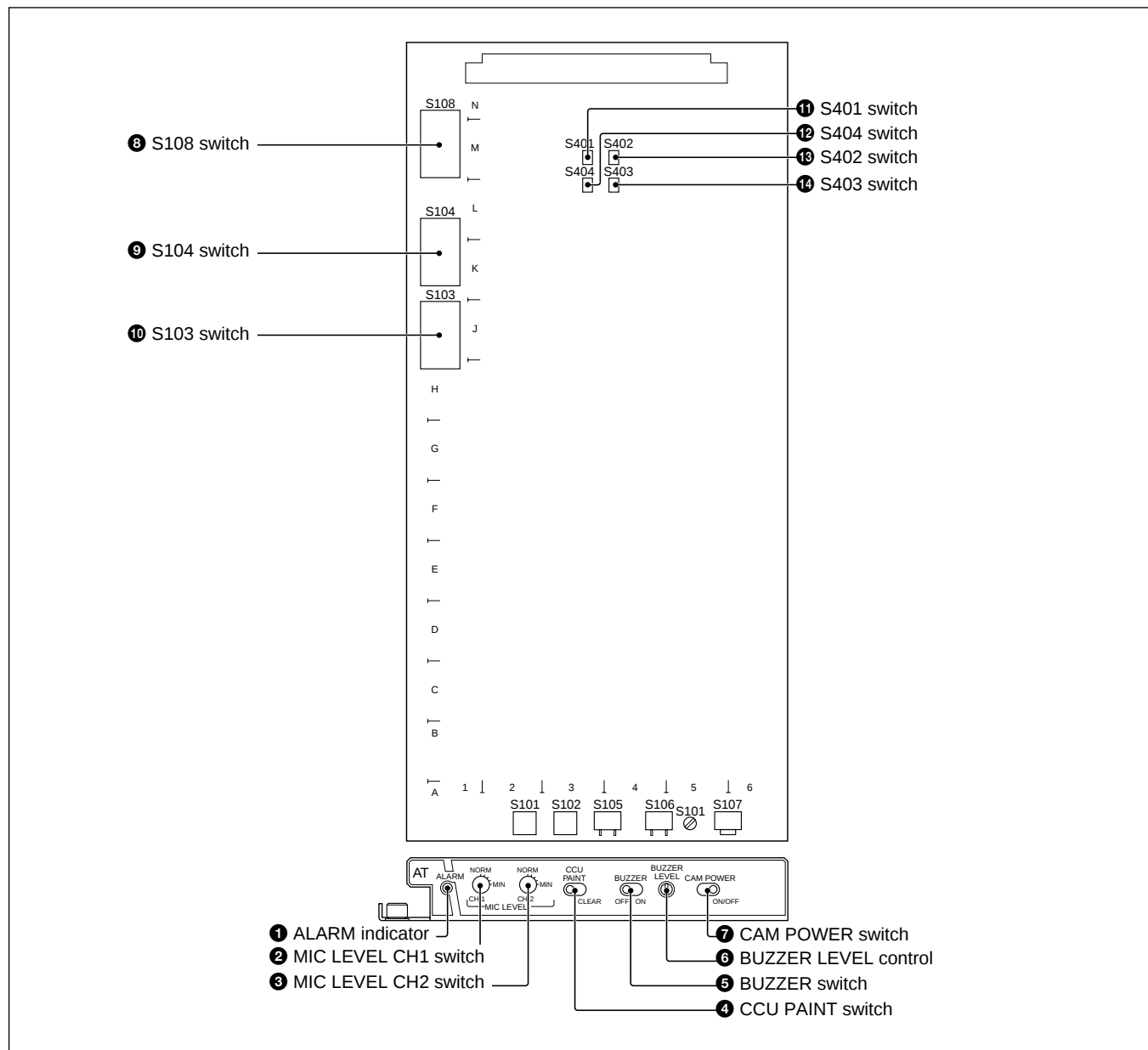
2 BLACK controls

Adjust the black level of the Y, R-Y, B-Y signals of the SDI signal.

3 SDI POWER switch

When the CCU operates on the DC power with the optional BKP-5974 DC Power Unit installed, and SDI signal is not output, set the switch to OFF to save the power.

AT-111 board



❶ ALARM indicator

Lights when an error occurs.

❷ MIC LEVEL CH1 (microphone level channel 1) switch

Adjusts the audio gain of the microphone channel 1 sent from the camera according to the sensitivity or sound conditions of the microphone when used. Set to -60 dBu (NORM), -50 dBu, -40 dBu, -30 dBu, or -20 dBu (MIN).

Factory setting: NORM (-60 dBu)

❸ MIC LEVEL CH2 (microphone level channel 2) switch

Adjusts the audio gain of the microphone channel 2 sent from the camera according to the sensitivity or sound conditions of the microphone when used. Set to -60 dBu (NORM), -50 dBu, -40 dBu, -30 dBu, or -20 dBu (MIN).

Factory setting: NORM (-60 dBu)

3-1 Internal Boards

④ CCU PAINT switch

Set to CLEAR for making adjustment using the switches and controls on the internal boards of the CCU-550A/550AP. The center value of the adjustable range is retrieved.

Factory setting: left

⑤ BUZZER switch

Set to ON to use the buzzer.

Factory setting: OFF

⑥ BUZZER LEVEL control

Adjusts the sound level of the buzzer.

Factory setting: MAX

⑦ CAM POWER (camera power) switch

Turns ON or OFF the BVP-950/950P camera head. When the power of the camera head is ON, this switch turns the power OFF; when the power of the camera head is OFF, this switch turns the power ON.

⑧ S108 switch

Not used.

Factory setting: OFF

⑨ S104 switch

S104-1: Not used

Factory setting: OFF

S104-2: Selects whether the warning display appears on the MSU-700A/750, RCP-700-series units, and CNU-700/500 when no external sync signal is supplied to the CCU.

ON: No warning display appears.

OFF: Warning display appears.

Factory setting: OFF

S104-3: Selects the signal output from the CCU when the power of the camera is OFF.

ON: A color bar signal is output.

OFF: An output signal is muted.

Factory setting: OFF

S104-4: Selects a method to control the signal output from the PIX and WF connectors.

ON: Control from the MSU-700A/750 only.

OFF: Control from the MSU-700A/750 and RCP-700-series unit.

Factory setting: OFF

S104-5 to S104-7: Not used

Factory setting: OFF

S104-8: When set to ON, all analog control data are reset to the center value and all switch settings are reset to the factory settings when the power is turned ON.

Factory setting: OFF

Notes

- Setting of this switch is effective only on the camera whose camera number set with the S103 switch is 96 or lower.
- If all switches 1 to 8 of the S103 switch is set to ON with the S104-8 switch set to ON, the hours meter on the AT board is reset.

⑩ S103 (CCU No.) switch

Sets the camera number of the system in which the CNU-700/500 is not used.

Factory setting: All OFF

For details, see “3-2-5 Setting the Camera Number and Group Number.”

⑪ S401 (R TALLY POWER/CONTACT) switch

⑫ S404 (R TALLY POWER/TTL) switch

Set properly according to the standards of the red tally signal input to the INCOM/TALLY/PGM connector on the rear panel.

Switch settings and input signals are shown in the table below.

Factory setting: POWER

⑬ S402 (G TALLY POWER/CONTACT) switch

⑭ S403 (G TALLY POWER/TTL) switch

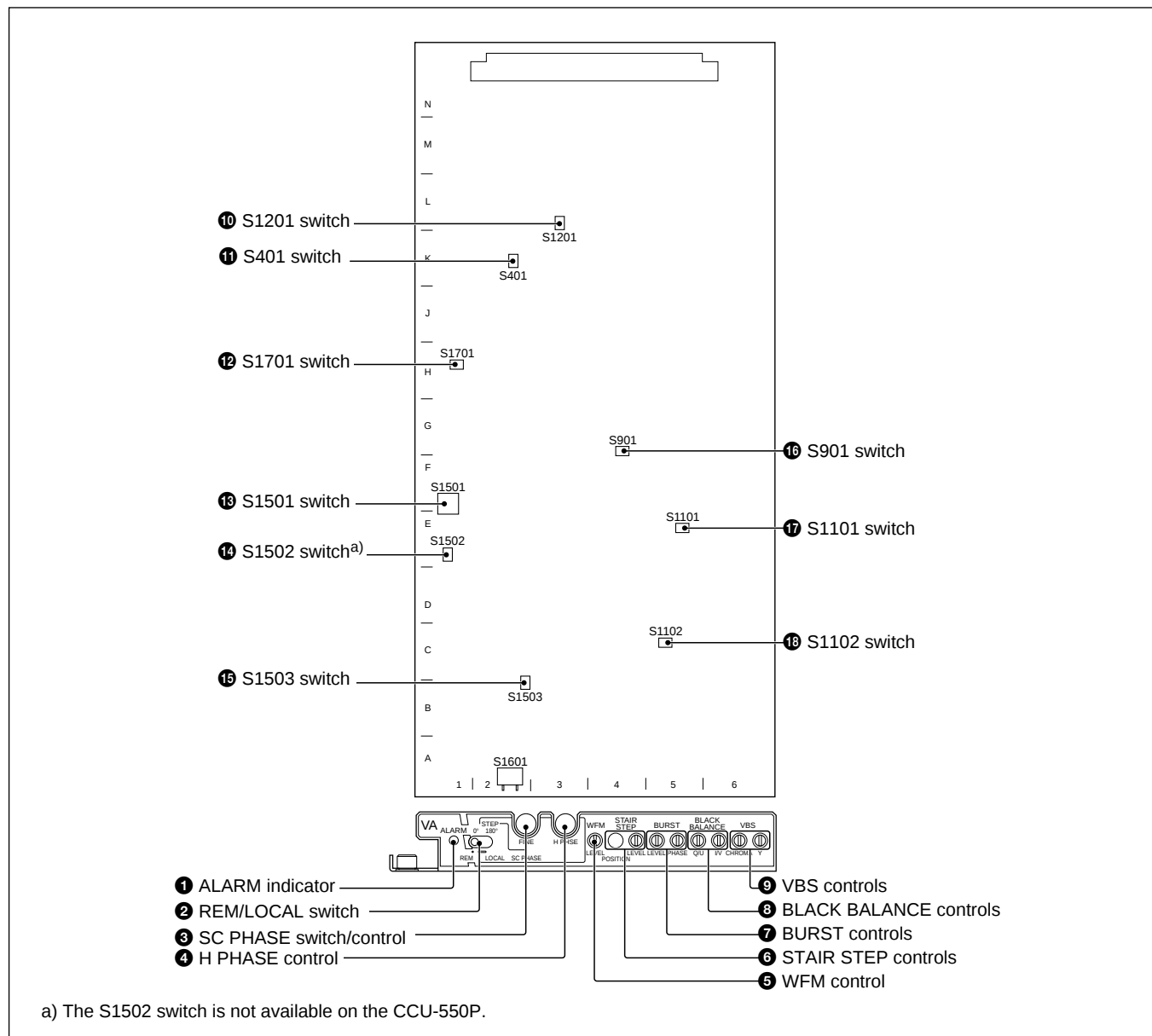
Set properly according to the standards of the green tally signal input to the INCOM/TALLY/PGM connector on the rear panel.

Switch settings and input signals are shown in the table below.

Factory setting: POWER

Switch	Signal		
	Contact	Power (+24 V)	TTL
S401, S402	Contact	Power	Power
S404, S403	Any position	Power	TTL

VA-175 board



1 ALARM indicator

Lights when an error occurs.

2 REM/LOCAL switch

Selects the control mode of an external sync signal phase.

REM: For controlling with external equipment such as an MSU-700A/750, RCP-700-series unit.

LOCAL: For controlling with the switches and controls on the front panel of the internal boards.

If the connected RCP-700-series unit does not have a function to control the phase, use this position.

Factory setting: REM

3 SC PHASE switch/control

Adjust the SC phase. Roughly adjust the SC phase with the STEP (REM/LOCAL) switch setting to 0° or 180°, then execute fine adjustment with the FINE control.

4 H PHASE control

Adjusts the H phase.

5 WFM (waveform monitor) control

Adjusts the level of the signal output from the WF connector on the rear panel.

3-1 Internal Boards

⑥ STAIR STEP controls

Adjust the position of the signal displayed on a waveform monitor in sequential mode.

LEVEL: Adjusts the interval of the displayed signals.

POSITION: Adjusts the display position on the monitor screen.

⑦ BURST controls

Adjust the burst signal.

LEVEL: Adjusts the level of the burst signal.

PHASE: Adjusts the phase of the burst signal.

⑧ BLACK BALANCE controls

Adjust the black balance of the VBS signal.

I/V: Adjusts the I/V signal.

Q/U: Adjusts the Q/U signal.

⑨ VBS controls

Adjust the composite video signal.

CHROMA: Adjusts the chroma signal.

Y: Adjusts the Y (luminance) signal.

⑩ S1201 (VBS3/SYNC) switch

Selects the signal output from the VBS 3 OUTPUT connector on the rear panel.

VBS3: A VBS signal is output.

SYNC: A sync signal is output.

Factory setting: VBS3

⑪ S401 (Y/R–Y/B–Y/RGB) switch

Selects the signal output from the Y/G, R–Y/R, B–Y/B OUTPUT connectors on the rear panel.

Y/R–Y/B–Y: The Y/R–Y/B–Y signals are supplied.

RGB: The RGB signals are supplied.

Factory setting: Y/R–Y/B–Y

⑫ S1701 (CB SELECT) switch

Selects the color bar signals (SMPTE, EIAJ or FULL).

Factory setting: SMPTE

⑬ S1501 (H BLKG) switch

Adjusts the horizontal blanking width.

At the factory, the horizontal blanking width is adjusted to $10.9 \pm 0.2 \mu\text{s}$ (CCU-550) or $12.0 \pm 0.5 \mu\text{s}$ (CCU-550P).

⑭ S1502 (V BLKG 19H/20H/21H) switch (only on the CCU-550)

Selects the vertical blanking line from among 19H, 20H and 21H.

Factory setting: 20H

⑮ S1503 (VCO ON/OFF) switch

Set to OFF for free running of the oscillation of the VCO.

Factory setting: ON

⑯ S901 (SEQ ON +/-) switch

Set to + or – according to the waveform monitor connected.

+: NPN open corrector output

–: PNP open corrector output

Factory setting: –

⑰ S1101 (I/V ON/OFF) switch

Adjusts the encoder circuit.

When the switch is set to OFF, the I signal is not input to the chroma circuit (parallel double circuit) so that the I signal is not included in the composite video signal (VBS signal) output from this unit.

Factory setting: ON

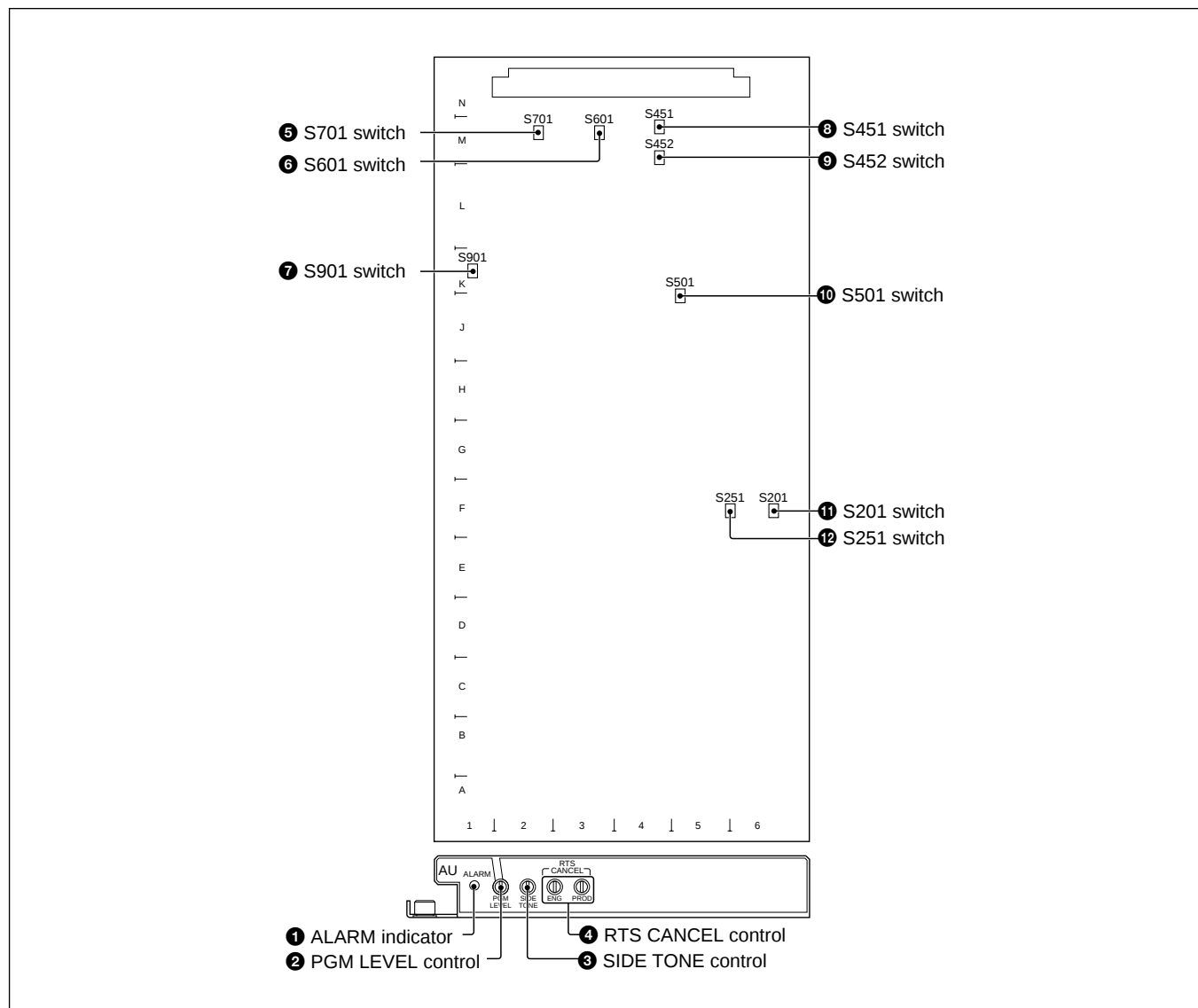
⑱ S1102 (Q/U ON/OFF) switch

Adjusts the encoder circuit.

When the switch is set to OFF, the Q signal is not input to the chroma circuit (parallel double circuit) so that the Q signal is not included in the composite video signal (VBS signal) output from this unit.

Factory setting: ON

AU-231 board



① ALARM indicator

Lights when an error occurs.

② PGM LEVEL (program level) control

Adjust the program audio level of the INCOM connector on the front panel.

③ SIDE TONE control

Adjust the side tone audio level of the intercom connected to the INCOM connector on the front panel.

④ RTS CANCEL control

Adjusts the leakage of the talk signal to the receive line when an RTS intercom system is used.

⑤ S701 (INCOM ENG SELECT) switch

Selects the intercom system for an engineer line.

4W: When a 4W system is used

RTS: When an RTS system is used

Factory setting: 4W

⑥ S601 (INCOM PROD SELECT) switch

Selects the intercom system for a producer line.

4W: When a 4W system is used

RTS: When an RTS system is used

Factory setting: 4W

3-1 Internal Boards

⑦ S901 (INPUT SELECT) switch

Set according to the intercom system to be used.

1CH (PROD): A producer line is selected independent of the setting of the intercom line select switch on the camera or CCU.

2CH (PROD/ENG): A producer line or engineer line is selected according to the setting of the intercom line select switch on the camera or CCU.

Factory setting: 2CH

⑧ S451 (PGM IN) switch

Sets the program audio signal level to 0 dBu or -20 dBu.

Factory setting: 0 dBu

⑨ S452 switch

Not used.

⑩ S501 (PGM MIX) switch

Selects whether to mix the program audio signal with the intercom audio signal on the front panel.

MIX: To mix the program audio signal and the intercom audio signal.

SEP: To supply the intercom audio signal and program audio signal separately to the headset with two channels.

OFF: To not mix the program audio signal to the intercom audio signal.

Factory setting: OFF

⑪ S201 (MIC1 LEV) switch

Sets the level of the audio signal output from the MIC OUTPUT CH-1 connector on the rear panel (0 dBu or -20 dBu).

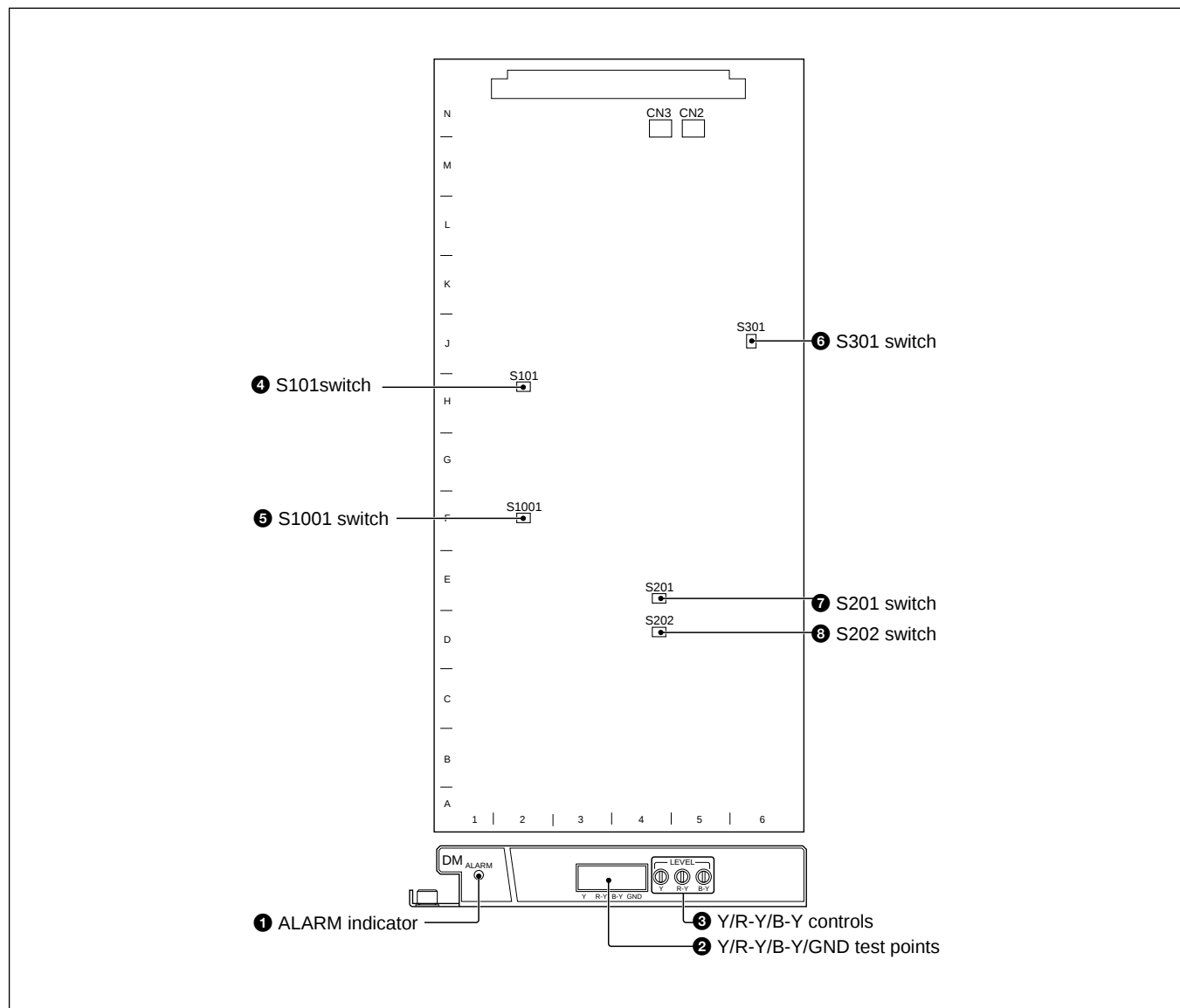
Factory setting: 0 dBu

⑫ S251 (MIC2 LEV) switch

Sets the level of the audio signal output from the MIC OUTPUT CH-2 connector on the rear panel (0 dBu or -20 dBu).

Factory setting: 0 dBu

DM-110 board



❶ ALARM indicator

Lights when an error occurs.

❷ Y/R-Y/B-Y/GND test points

Used for checking the Y, R-Y, and B-Y signals output from the DM board.

❸ Y/R-Y/B-Y controls

Adjust the level of the Y, R-Y, and B-Y signals output from the DM board.

❹ S101 (Y-ch 2nd AGC ON/OFF) switch

Adjusts the RF AGC. Normally keep to ON.
Factory setting: ON

❺ S1001 (PROMPT SELECT RET3/PROMPT) switch

Selects the circuit to which the signal input to the PROMPTER/RET 3 connector on the rear panel is to be connected.

RET3: Connect to the RET 3 select circuit.

PROMPT: Connect to the prompter output circuit.

Factory setting: PROMPT

❻ S301 (CHROMA-ch 2nd AGC ON/OFF) switch

Adjust the RF AGC. Normally keep to ON.

Factory setting: ON

3-1 Internal Boards

7 S201 (AUTO/MANU) switch

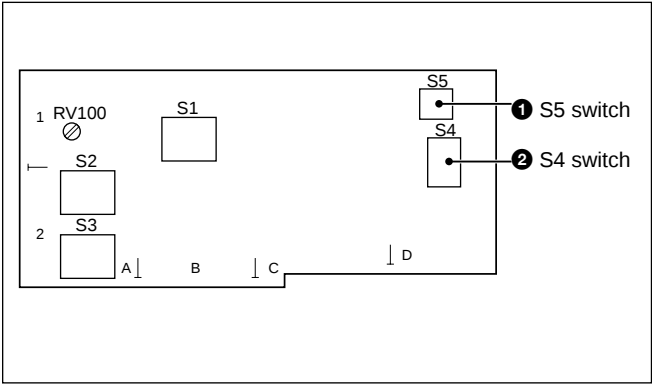
Sets the cable compensation of a triax cable.
AUTO: For automatic cable compensation detecting the cable length automatically.
MANU: For manual cable compensation with the S202 switch.
Factory setting: AUTO

8 S202 (CABLE LENGTH SELECT) switch

Set to the appropriate position according to the length of a triax cable that connects BVP-950/950P and the CCU-550A/550AP when the S201 switch is set to MANU.
Factory setting: 1 (120 m)

Switch setting	Cable length (center value)		
	FUJIKURAø8.5	FUJIKURAø14.5	Belden 9238
1	120 m (394 feet)	240 m (787 feet)	180 m (591 feet)
2	360 m (1,181 feet)	720 m (2,362 feet)	540 m (1,772 feet)
3	600 m (1,969 feet)	1,200 m (3,937 feet)	900 m (2,953 feet)

AU-236 board



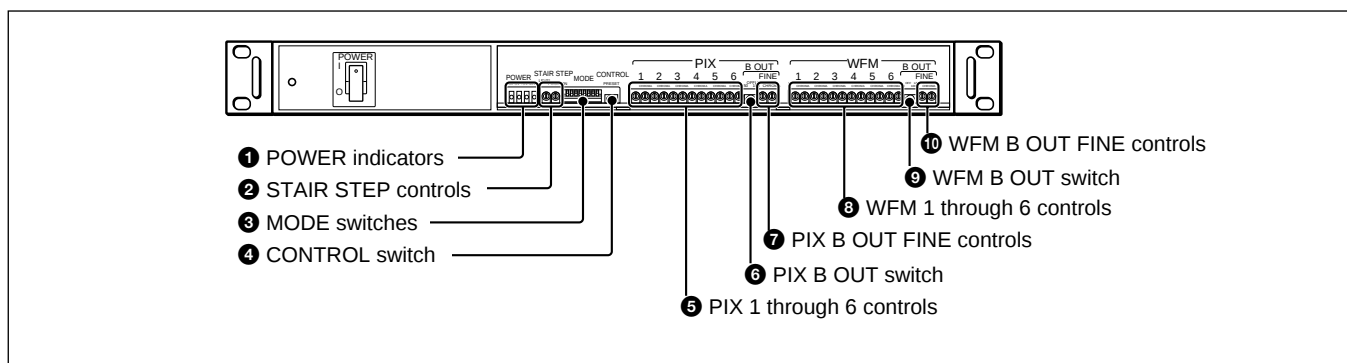
1 S5 (OPEN/GND) switch

When a dynamic microphone is connected to the INCOM connector on the front panel, set to the appropriate position according to the microphone type.
OPEN: For balanced type
GND: For unbalanced type
Factory setting: OPEN

2 S4 (DYN/CM) switch

Set to the appropriate position according to the microphone connected to the INCOM connector on the front panel.
DYN: For a dynamic microphone
CM: For a carbon microphone
Factory setting: CM

3-1-8 Internal Board of the VCS-700



❶ POWER indicators

Light when the specified power is supplied to the VSW board.

❷ STAIR STEP controls

Adjust the signal displayed on the waveform monitor in sequential mode.

LEVEL: Adjusts the interval of the displayed signals.

POSITION: Adjusts the display position on the monitor screen.

❸ MODE switches

Use these switches for setting the system of the VCS-700. To control the system with the MSU-700A/750 connected to the CNU-700/500, set the S4-5 switch to OFF.

For details, consult your Sony representative.

❹ CONTROL switch

When the adjustment is made on the switches and controls on the VSW board, set the switch to PRESET. The value set with external equipment connected to the REMOTE connector on the rear panel is returned to the center value of the adjustable range.

❺ PIX (picture monitor input signal) 1 through 6 controls

Adjust the signal input to the PIX 1 through 6 connectors on the rear panel.

LEVEL: Adjusts the level of the input signals.

CHROMA: Adjusts the chroma level of the input signals.

❻ PIX B OUT (picture monitor B output) switch

Sets the cable compensation according to the length of the cable used for connecting the picture monitor to the PIX B OUTPUT connector.

50: For a cable of 50 meters (165 feet) long

OFF: For no cable compensation

100: For a cable of 100 (328 feet) meters long

❼ PIX B OUT (picture monitor B output) FINE controls

Adjust the signal output from the PIX B OUTPUT connector.

LEVEL: Adjusts the level of the output signals.

CHROMA: Adjusts the chroma level of the output signals.

❽ WFM (waveform monitor input signal) 1 through 6 controls

Adjust the signal input to the WF 1 through 6 connectors on the rear panel.

LEVEL: Adjusts the level of the input signals.

CHROMA: Adjusts the chroma level of the input signals.

❾ WFM B OUT (waveform monitor B output) switch

Sets the cable compensation according to the length of the cable used for connecting the picture monitor to the WF B OUTPUT connector.

50: For a cable of 50 meters (165 feet) long

OFF: For no cable compensation

100: For a cable of 100 (328 feet) meters long

❿ WFM B OUT (waveform monitor B output) FINE controls

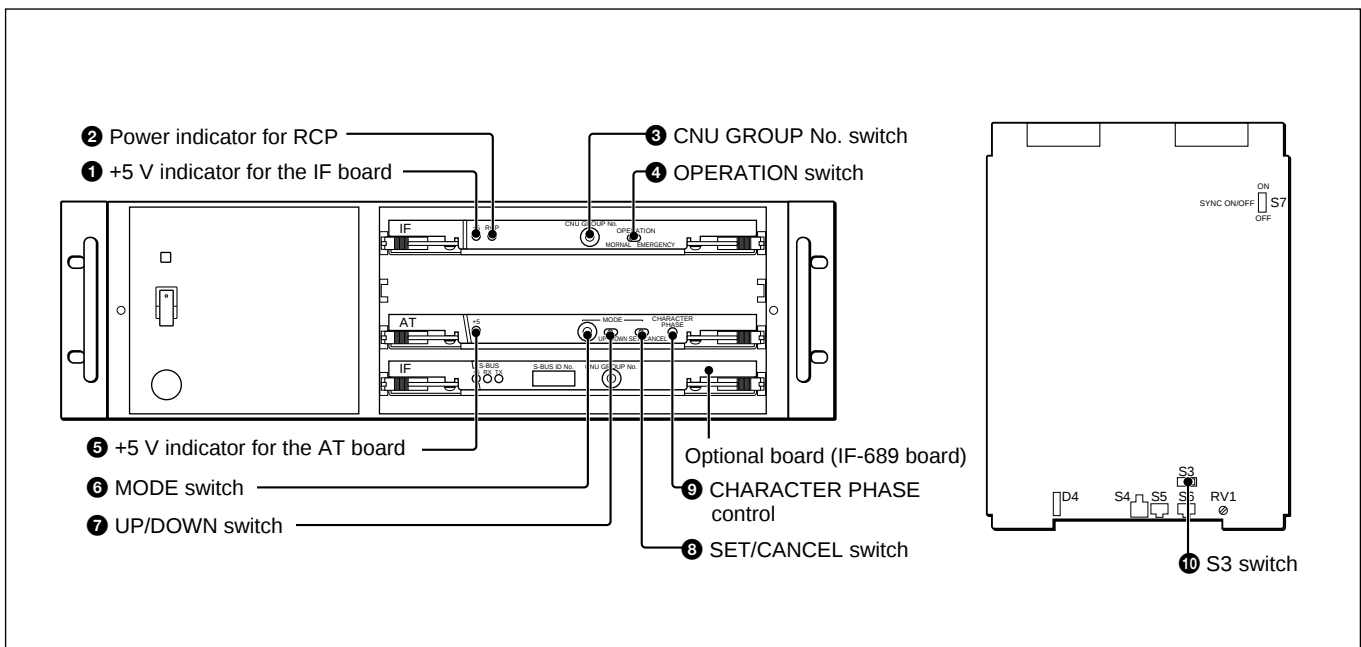
Adjust the signal output from the WF B OUTPUT connector.

LEVEL: Adjusts the level of the output signals.

CHROMA: Adjusts the chroma level of the output signals.

3-1 Internal Boards

3-1-9 Internal Boards of the CNU-700



1 +5 V indicator for the IF board

Lights when +5 V power is normally supplied to the IF board.

2 Power indicator for RCP

Lights when power is normally supplied to the RCP-700-series Remote Control Panels connected via the RCP connectors.

3 CNU GROUP No. (group number setting) switch

For setting the group number of the CNU-700. Do not set the same number for two or more devices in one system.

For details, see “3-2-5 Setting the Camera Number and Group Number.”

4 OPERATION switch

NORMAL: Set to this position for normal operation.

EMERGENCY: Set to this position when the CNU-700 or MSU-700A/750 cannot function normally. The RCP-700-series Remote Control Panels are directly connected to the cameras connected to the connectors of the same number as the panels, and the RCP-700-series units control the corresponding cameras.

5 +5 V indicator for the AT board

Lights when +5 V power is normally supplied to the AT board.

6 MODE switch

Sets the function of the CNU-700.

0: Factory setting

1: For changing the displayed page of the character display function.

2: For RCP assignment

For details, see “4-2-3 RCP Assignment.”

3: For MSU assignment

For details, see “4-3-3 MSU Assignment.”

4: For returning the RCP assignment to default.

For details, see “4-2-3 RCP Assignment.”

5: For linking the camera number displayed on pages 9 and 11 of the character display with the camera selection on the MSU-700A/750.

For details, see “4-2-3 RCP Assignment.”

6: For assigning the AUX port.

Consult your Sony service representative on operation.

7 to F: Not used

7 UP/DOWN switch

Used for changing the character display or for RCP assignment.

For details, see “6-5 Character Display of the CNU-700/500.”

8 SET/CANCEL switch

Used for changing the character display or for RCP assignment.

For details, see “6-5 Character Display of the CNU-700/500.”

⑨ CHARACTER PHASE control

For adjusting the horizontal phase of the signal output from the CHARACTER connector.

⑩ S3 switch

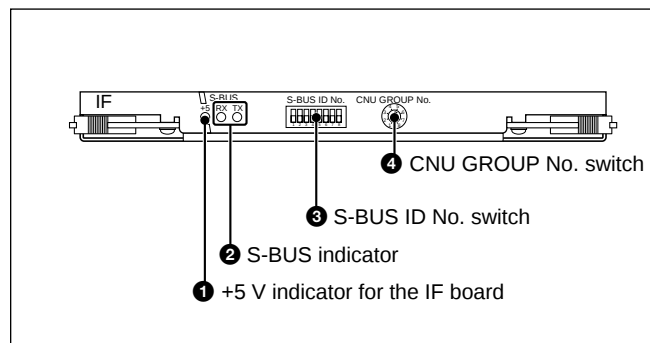
The S3-1 switch selects the broadcast system of the signal output from the CHARACTER connector if no signal is input to the REFERENCE connector.

OFF: 525 line

ON: 625 line

The 3-2 to 3-8 switches are not used.

IF-689 board



① +5 V indicator for the IF board

Lights when +5 V power is supplied normally to the IF-689 board.

② S-BUS indicator

Lights to indicate the status of the S-BUS communication.

③ S-BUS ID No. (station ID setting) switch

For setting the station number of the CNU-700 on the S-BUS data link.

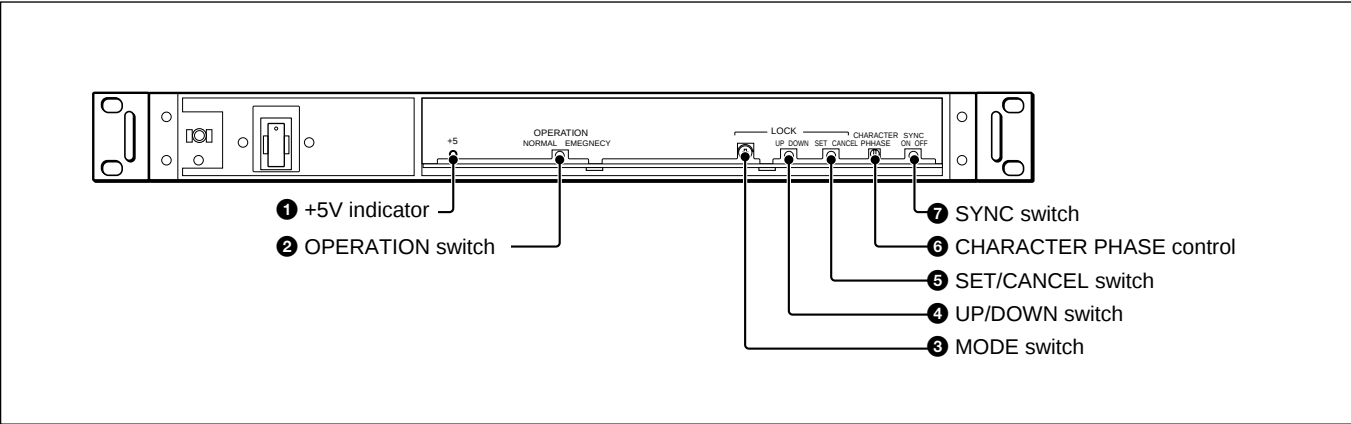
For details, see “3-2-6 Setting the Station ID.”

④ CNU GROUP No. (group number setting) switch

For setting the group number of the CNU-700. Do not set the same number for two or more devices in one system.

For details, see “3-2-5 Setting the Camera Number and Group Number.”

3-1-10 Internal Board of the CNU-500



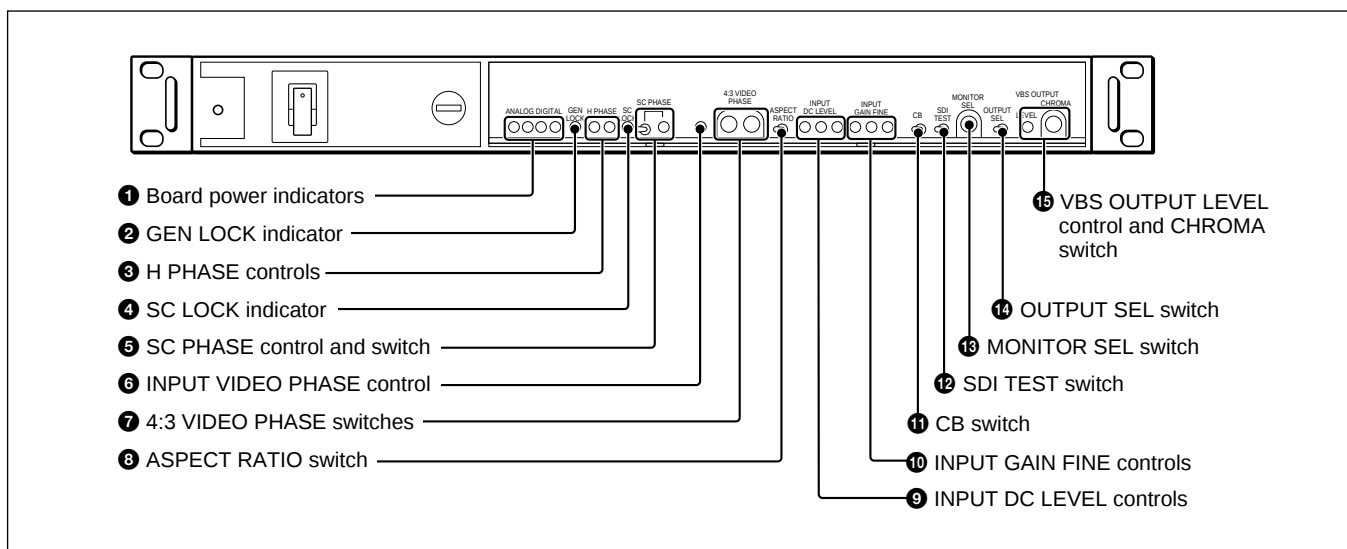
- 1 +5 V indicator**
Lights when +5 V power is normally supplied.
- 2 OPERATION switch**
NORMAL: Set to this position for normal operation.
EMERGENCY: Set to this position when the CNU-500 or MSU-700A/750 cannot function normally. The RCP-700-series Remote Control Panels are directly connected to the cameras connected to the connectors of the same number as the panels, and the RCP-700-series units control the corresponding cameras.
- 3 MODE switch**
Sets the function of the CNU-500.
0: Factory setting
1: For changing the displayed page of the character display connected to the CHARACTER connector with the UP/DOWN switch.
2 to F: Not used
- 4 UP/DOWN switch**
Used for changing the character display displayed on the monitor screen. This switch is activated when the MODE switch is set to “1.”

On each page, the following contents are displayed.

Page	Displayed contents
1	Normally nothing is displayed when the power is turned ON. If a trouble is detected on self-diagnostics, it is displayed.
2	Connecting conditions of Camera 1 to 6
3	Not used
4	Not used
5	Auto setup results of Camera 1 to 6
6	Not used
7	DIAGNOSIS OF ALL CAMERAS display that shows the self-diagnostics results of Camera 1 to 6
8	Not used
9	DIAGNOSIS OF ONE CAMERA display that shows the self-diagnostics results of a selected camera
10	DATA OF ALL CAMERAS display that shows the setting conditions of all the connected cameras
11	DATA OF ONE CAMERA display that shows the setting conditions of a selected cameras

- 5 SET/CANCEL switch**
Used for changing the character display or camera when page 9, 10, or 11 is displayed on the monitor screen.
- 6 CHARACTER PHASE control**
For adjusting the horizontal phase of the signal output from the CHARACTER connector.
- 7 SYNC switch**
Selects whether to add a sync signal to the video signal output from the CHARACTER connector.
ON: To add a sync signal
OFF: Not to add a sync signal
Factory setting: ON

3-1-11 Internal Board of the ARU-701



1 Board power indicators (green)

All four indicators light when the power supplied to the internal board are normal.

2 GEN LOCK indicator (green)

Lights when an external reference signal or a G or Y signal with sync signal is input.

3 H (horizontal) PHASE controls

Adjust the horizontal sync phase of all output signals. First adjust the phase with the COARSE control, then make fine adjustment with the FINE control.

4 SC (subcarrier) LOCK indicator (green)

Lights when the subcarrier of the output signal is synchronized with the burst signal of an external reference signal.

5 SC (subcarrier) PHASE control and switch

Adjust the subcarrier phase of an output signal. First set the switch to 0° or 180°, then make fine adjustment with the FINE control.

6 INPUT VIDEO PHASE control

Adjusts the horizontal sync phase of the input signal with that of the reference signal.

7 4:3 VIDEO PHASE switches

Set the horizontal cut-off position when converting the aspect ratio from 16:9 to 4:3. First adjust the position with the COARSE control, then make fine adjustment with the FINE switch.

If both COARSE and FINE switches are set to 0, it is possible to control the cut-off position through the REMOTE connector on the rear panel.

Note

When not using the REMOTE connector, set the COARSE switch to a position other than 0.

8 ASPECT RATIO switch

Selects the aspect ratio, 16:9 or 4:3, for the video signals output from the following connectors on the rear panel.

- 16:9/4:3 connectors 1 and 2 in the SERIAL DIGITAL OUTPUT section.
 - All five connectors in the ANALOG OUT section.
- When this switch is set to 16:9, it is possible to control the aspect ratio of the signals output from these connectors, through the REMOTE connector on the rear panel.

Note

If a 4:3 signal is input, set this switch to 16:9. Then 4:3 video signals are output from all the output connectors.

3-1 Internal Boards

⑨ INPUT DC LEVEL controls

Adjust the black balance of the input signal.

⑩ INPUT GAIN FINE controls

Adjust the gain of the input video signal precisely.

⑪ CB (color bars) switch

ON: Color bar signals are output from the output connectors (16:9/4:3 connector in SERIAL DIGITAL OUTPUT section, and all connectors in ANALOG OUT section) which can be used for aspect ratio conversion.

OFF: It is possible to control the output of color bar signals through the REMOTE connector on the rear panel.

⑫ SDI (serial digital interface) TEST switch

When this switch is set to ON, a signal to check the serial digital interface path is output from the connectors in the SERIAL DIGITAL OUTPUT section on the rear panel.

⑬ MONITOR SEL (select) switch

Selects the signal output from the MONITOR connector on the rear panel.

0: an ENC (composite) signal

1: an R signal

2: a G signal

3: a B signal

When this switch is set to 0 (ENC), it is possible to select the signal output from the MONITOR connector through the REMOTE connector on the rear panel.

⑭ OUTPUT SEL (select) switch

Selects the signals output from the R/R–Y/VBS, G/Y/VBS, and B/B–Y/VBS connectors.

RGB/YCd: The R/G/B or R–Y/Y/B–Y signals are output.

VBS: Composite signals are output.

To select the R/G/B or R–Y/Y/B–Y signals is made with an internal switch on the board.

For internal switch setting, consult your Sony service representative.

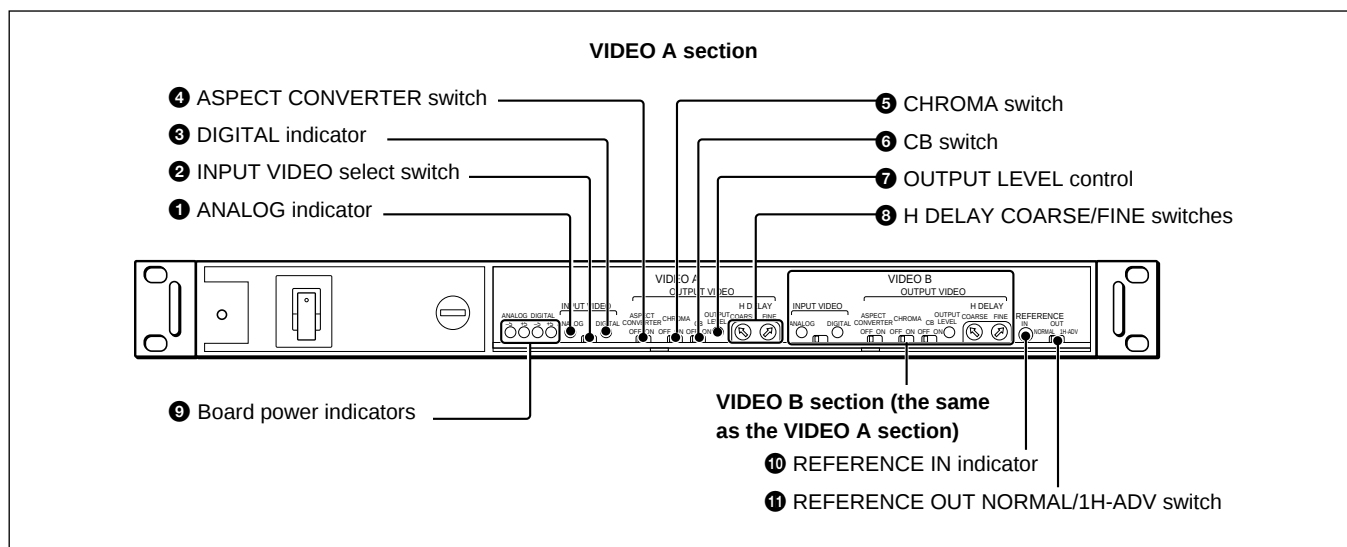
⑮ VBS OUTPUT LEVEL control and CHROMA switch

Adjusts the VBS output signals.

LEVEL control: Adjusts the output level.

CHROMA switch: Adjusts the chroma level.

3-1-12 Internal Board of the ARU-702



① ANALOG indicator

Lights when an analog composite signal is input.

② INPUT VIDEO select switch

Selects which signal, an analog composite signal or 4:2:2 component serial digital signal, is to be processed. If the selected signal is not input, only a sync signal is output.

When this switch is set to ANALOG, it is possible to select the input signal through the REMOTE connector on the rear panel.

③ DIGITAL indicator

Lights when a 4:2:2 component serial digital signal is input.

④ ASPECT CONVERTER switch

ON: A 4:3 aspect ratio input video signal is compressed horizontally, and the edges are filled with black strips to convert the aspect ratio to 16:9.

OFF: The aspect ratio of the input signal is not changed. For a 16:9 video signal, be sure to use this position. It is possible to select whether or not to change the aspect ratio through the REMOTE connector on the rear panel.

⑤ CHROMA switch

OFF: The chroma signal is removed from the analog composite signal output from OUT connectors 1 and 2 in VIDEO A, B ANALOG section.

ON: It is possible to select whether or not to remove the chroma signal through the REMOTE connector

on the rear panel.

Note

This switch has no effect when outputting a color bar signal.

⑥ CB (color bar) switch

ON: Color bar signals are output from the OUT connectors 1 and 2 in VIDEO A, B ANALOG sections.

OFF: It is possible to control the output of color bar signals through the REMOTE connector on the rear panel.

⑦ OUTPUT LEVEL control

Adjusts the level of the analog composite signal output from the OUT connectors 1 and 2 in the VIDEO A or B ANALOG section.

⑧ H (horizontal) DELAY COARSE/FINE switches

The output video signal is normally delayed by one scanning line from the input video signal. Using this switch, it is possible to adjust the phase in steps of approximately 150 ns in the range of $1 \pm 1/4$ lines. Use the COARSE switch to make the approximate setting, then make fine adjustment with the FINE switch.

Note

Do not set the COARSE switch to 0, since this may cause noise to appear on the picture.

3-1 Internal Boards

⑨ Board power indicators (green)

All four indicators light when the power supplies to the internal board are normal.

Note

Unless all four indicators are on, there is a fault.
Contact your Sony representative.

⑩ REFERENCE IN (reference signal input) indicator

Lights when a reference signal is input.

⑪ REFERENCE OUT NORMAL/1H-ADV switch

By setting this switch to 1H-ADV, it is possible to output a synchronizing signal advanced by one line.

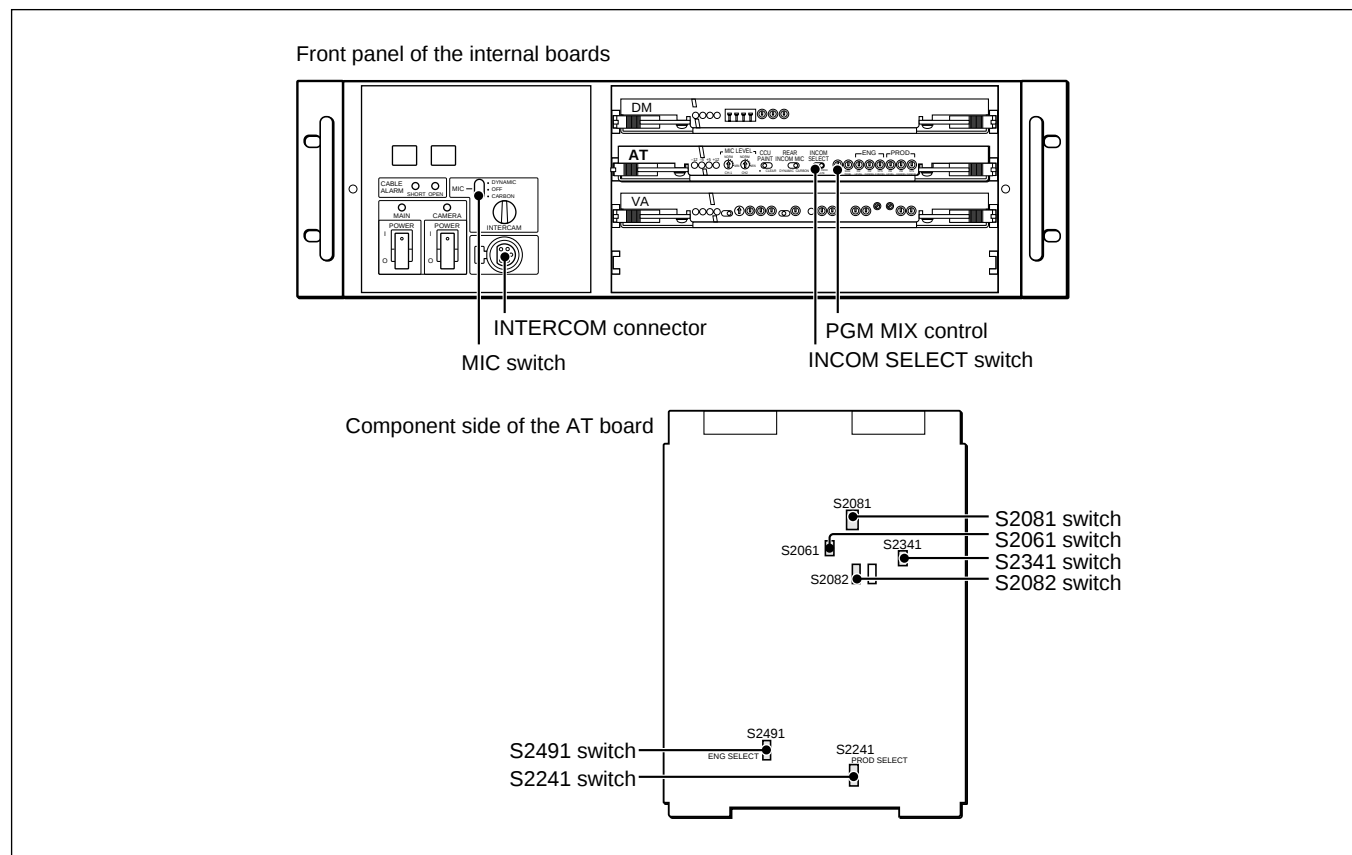
3-2 Setting and Adjusting on Setup

3-2-1 Settings for the Intercom Systems

The BVP-900-series video camera system can use two intercom lines, a producer line and an engineer line. It can also be connected to various intercom systems, such as 4W, 2W or RTS. Set the internal switches on

the CCU-700A/700AP/550A/550AP, BVP-900/900P, and CA-550/550P/570/570P according to the system to be used.

Setting the internal switches of the CCU-700A/700AP



Selecting the intercom system

Select the intercom system, 2W, 4W or RTS, for each engineer or producer line.

For the producer line: Set the S2241 (PROD SELECT) switch on the AT board according to the intercom system to be used.

For the engineer line: Set the S2491 (ENG SELECT) switch on the AT board according to the intercom system to be used.

Factory setting: 4 W

Notes

- When the RTS system is selected, be sure to connect the RTS intercom system to this camera system. Otherwise oscillation may occur.
- When the RTS system is selected, the INTERCOM/TALLY/PGM connector (19-pin) on the rear panel is also set for the RTS system, and can be used in the same manner as the RTS connectors (XLR 3-pin), however do not use both connectors simultaneously.

3-2 Setting and Adjusting on Setup

Setting the headset microphone

Set the MIC switch according to the type of headset microphone connected to the INTERCOM connector on the front panel.

When a carbon microphone is used: CARBON

When a dynamic microphone is used: DYNAMIC

When a microphone is not used: OFF (factory setting)

Mixing with a program audio signal

A program audio signal can be mixed with an intercom audio signal of the headset connected to the INTERCOM connector on the front panel of the CCU-700A/700AP. To mix the signals, set the S2082 switch on the AT board to ON.

Factory setting: OFF

Setting the input signal level of the program audio signal

Set the S2081 switch on the AT board to 0 dB or -20 dB, according to the audio signal level of the camera system.

Factory setting: 0 dB

Setting the intercom line connected to the INTERCOM connector

Select the intercom line according to the line connected to the INTERCOM connector on the front of the CCU-700A/700AP.

To connect only the engineer line: Set the INCOM SELECT switch on the front panel of the AT board to ENG.

To connect only the producer line: Set the INCOM SELECT switch on the front panel of the AT board to PROD.

To connect only the camera: Set the INCOM SELECT switch on the front panel of the AT board to PRIVATE. When the INCOM SELECT switch is set to PRIVATE, the external intercom line is deactivated, and only the intercom with the camera is activated. "CCU Private" appears on the monitor screen.

To connect the engineer and producer lines: Set the S2341 switch on the AT board to ON. Any setting of the INCOM SELECT switch on the front panel of the AT board other than the PRIVATE position is deactivated.

Factory setting of the S2341 switch: OFF

To connect only channel 1 of the intercom system:

Set the S2061 switch on the AT board to 1CH.

When the switch is set to 1CH, the channel-2 intercom between the CCU-700A/700AP and camera is set to the producer line, and the INTERCOM PROD/ENG switches on the BVP-900/900P, the PROD/ENG switch on the CA-550/550P/570/570P, and any setting of the INCOM SELECT switch on the CCU-700A/700AP other than the PRIVATE position are deactivated.

Interrupting the intercom line

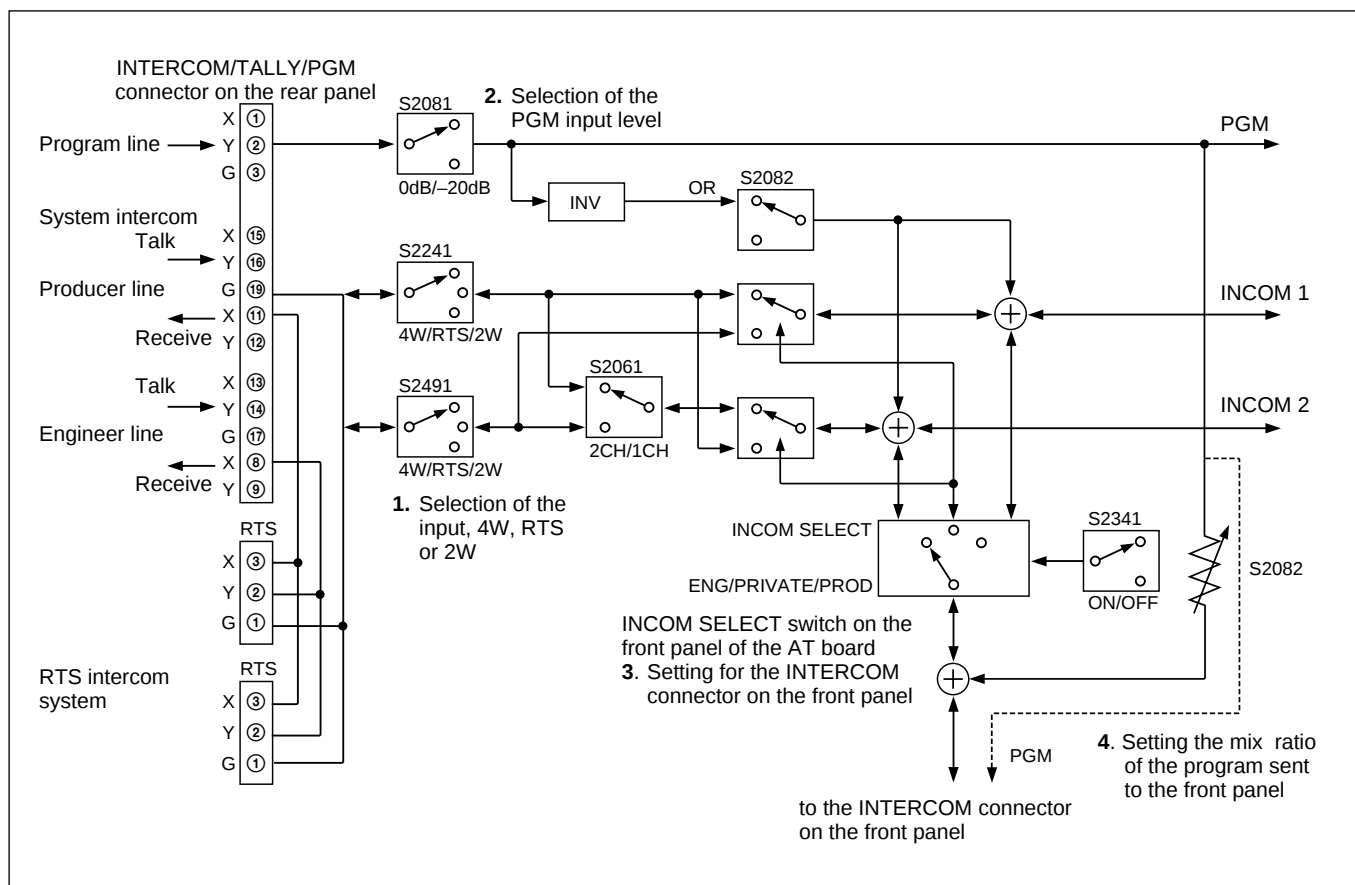
A control signal from external equipment connected to the INTERCOM REMOTE connector on the rear of the CCU-700A/700AP can switch the intercom line independent of the selection on the CCU-700A/700AP or BVP-900/900P/950/950P in the following priority.

1. Producer line
2. Engineer line
3. Private line

A control signal from the external equipment connected to the INTERCOM REMOTE connector can also turn off the intercom microphone of the BVP-900/900P/950/950P.

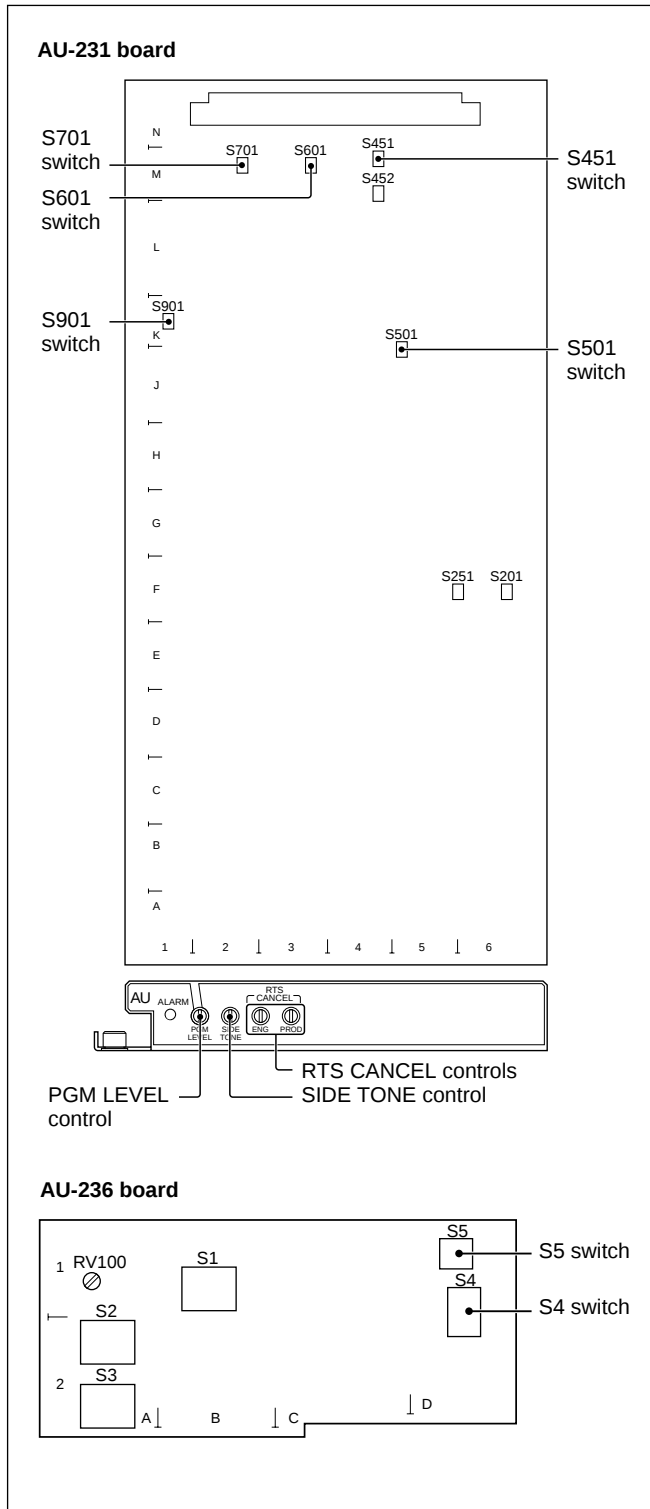
Switch settings on the AT board

The switch settings and the signal flow of the AT board are as shown below.



3-2 Setting and Adjusting on Setup

Setting the switches of the CCU-550A/550AP



Internal boards of the CCU-550A/550AP

Selecting the intercom system

Select the intercom system (4W or RTS) and the intercom channels for each engineer or producer line.

For the producer line: Set the S601 (PROD

SELECT) switch on the AU-231 board according to the intercom system to be used.

Factory setting: 4 W

For the engineer line: Set the S701 (ENG SELECT) switch on the AU-231 board according to the intercom system to be used.

Factory setting: 4 W

For a one-channel intercom: Set the S901 (INPUT SELECT) switch on the AU-231 board to 1 ch, and connect the intercom line to the producer line of the CCU-550A/550AP.

For a two-channel intercom: Set the S901 (INPUT SELECT) switch on the AU-231 board to 2 ch.

Factory setting: 2 ch

Adjusting the RTS cancellation

When the RTS intercom system is used, the following adjustment is required:

- 1 Connect a headset to the INCOM connector on the front panel, and follow the instructions in “Setting the headset microphone.”
- 2 Turn the SIDE TONE control on the front panel of the AU-231 board fully counterclockwise to minimize the side tone volume.
- 3 Set the MIC/PGM switch on the front panel to MIC-ON.
- 4 Set the PROD/PRIV/ENG switch on the front panel to PROD.
- 5 Speak into a headset microphone and turn the PROD RTS CANCEL control on the panel of the AU-231 board to minimize the side tone level.
- 6 Set the PROD/PRIV/ENG switch on the front panel to ENG.
- 7 Speak into a headset microphone and turn the ENG RTS CANCEL control on the panel of the AU-231 board to minimize the side tone level.
- 8 Return the SIDE TONE control to the original position.

Notes

When the RTS system is selected, be sure to connect the RTS intercom system to this camera system. Otherwise oscillation may occur.

Setting the headset microphone

Set the S4 switch on the AU-236 board according to the type of headset microphone connected to the INCOM connector on the front panel.

When a carbon microphone is used: CM (factory setting)

When a dynamic microphone is used: DYN

Note

When the S4 switch is set to DYN, the S5 switch is also set according to the type of microphone, balanced or unbalanced.

For a balanced type microphone: OPEN (factory setting)

For an unbalanced type microphone: GND.

Adjusting the side-tone volume

The side-tone volume of the headset connected to the INCOM connector on the front panel can be adjusted. Turn the SIDE TONE control on the panel of the AU-231 board.

Mixing with a program audio signal

A program audio signal can be mixed with an intercom audio signal of the headset connected to the INCOM connector on the front panel. The S501 (PGM MIX) switch on the AU-231 board sets whether the signals are to be mixed or not.

To mix the signals: MIX

To output the left and right signals separately: SEP

To not mix the signals: OFF (factory setting)

Setting the input signal level of the program audio signal

Set the S451 (PGM IN) switch on the AU-231 board to 0 dB or -20 dB, according to the audio signal level of the camera system.

Factory setting: 0 dB

Adjusting the mix ratio of a program audio signal

The mix ratio of the program audio signal of the headset connected to the INCOM connector on the front panel can be adjusted. Turn the PGM LEVEL control on the panel of the AU-231 board.

Setting the intercom line connected to the INCOM connector

Select the intercom line connected to the INCOM connector on the front panel.

To connect the producer line: Set the PROD/PRIV/ENG switch on the front panel to PROD.

To connect the engineer line: Set the PROD/PRIV/ENG switch on the front panel to ENG.

To connect only the camera: Set the PROD/PRIV/ENG switch on the front panel to PRIV. When the switch is set to PRIV, the external intercom line is deactivated, and only the intercom with the camera is activated.

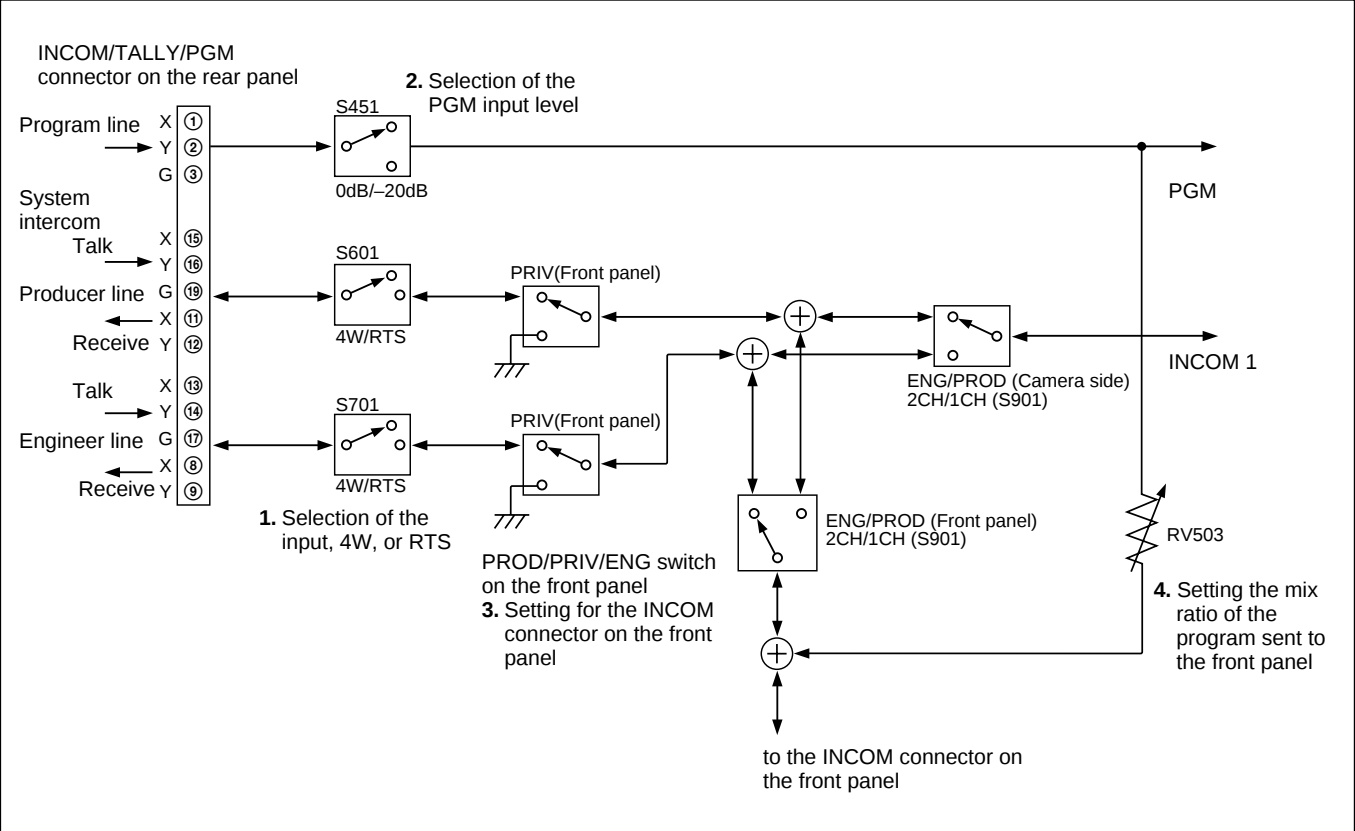
Note

If the S901 (INPUT SELECT) switch on the AU-231 board is set to 1CH (PROD), the producer line is connected independently of the setting of the PROD/PRIV/ENG switch.

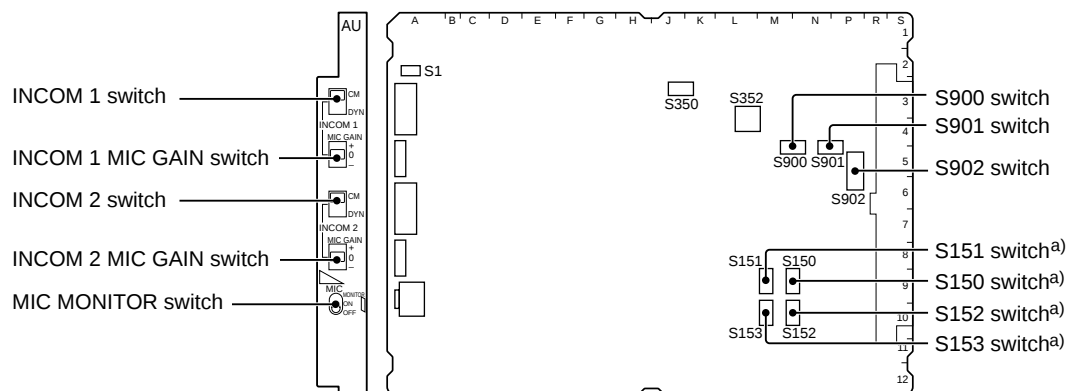
3-2 Setting and Adjusting on Setup

Switch settings on the AU-231 board

The switch settings and the signal flow of the AU-231 board are as shown below.



Setting on the BVP-900/900P



a) The S150, S151, S152, and S153 switches are not available on the BVP-900P.

AU-250 board BVP-900/900P

Setting the headset microphone

Set the switches on the front panel of the AU-250 board according to the type of microphones connected to the INTERCOM 1 and INTERCOM 2 connectors on the rear of the BVP-900/900P.

When a dynamic microphone is connected to the INTERCOM 1 connector: Set the INCOM 1 switch to DYN.

When a carbon microphone is connected to the INTERCOM 1 connector: Set the INCOM 1 switch to CM.

When a dynamic microphone is connected to the INTERCOM 2 connector: Set the INCOM 2 switch to DYN.

When a carbon microphone is connected to the INTERCOM 2 connector: Set the INCOM 2 switch to CM.

Mixing with a microphone signal

You can mix the signals input to the AUDIO IN CH-1 and CH-2 connectors and an intercom audio signal of the video camera. For mixing, set the MIC MONITOR switch on the front panel of the AU-250 board to ON.

Mixing with a program audio signal (only on the BVP-900)

You can mix a program audio signal and an intercom audio signal of the video camera. There are two methods for mixing. Select either method, and set the switches on the AU-250 board as shown in the table below.

Method 1: The signal levels of the intercom and program audio are adjusted separately.

Method 2: The INTERCOM control on the rear of the BVP-900 adjusts the mixed signal level, and the PGM control adjusts the mix ratio.

Switching settings for mixing the intercom and program audio signals

	Intercom 1		Intercom 2	
Switch	S150 (INCOM 1 PGM MIX)	S151 (MIX MODE 1)	S152 (INCOM 2 PGM MIX)	S153 (MIX MODE2)
Setting for method 1	MIX	IND	MIX	IND
Setting for method 2	MIX	MIX	MIX	MIX

3-2 Setting and Adjusting on Setup

Settings for installing an optional RTS intercom kit

When you use an RTS intercom system by installing an optional RTS intercom kit to the BVP-900/900P, set the switches as follows.

For details on the RTS intercom kit, refer to the operation manual supplied with the RTS intercom kit.

Setting the power for the RTS belt pack: Set the S902 switch on the AU-250 board according to the belt pack to be used.

Factory setting: CH2

Setting the intercom channel for the RTS belt pack:

Set the S900 (RTS 1) and S901 (RTS 2) switches on the AU-250 board to RTS.

Factory setting: NORMAL

Note

On the BVP-900, the signal for intercom 1 is supplied from the INTERCOM 1 connector and RTS connector. The INTERCOM 1 connector is for CH 1 of RTS, and the RTS connector is for CH2.

On the BVP-900P, the same intercom signals are output from the CH 1 and CH 2 of RTS.

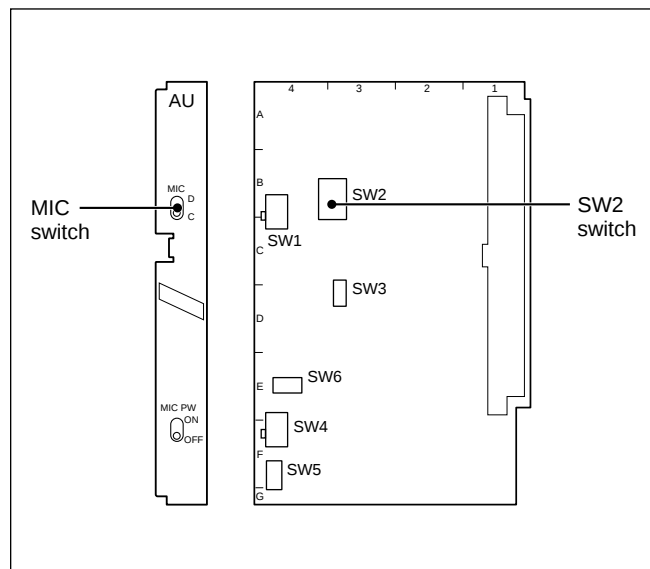
Setting the intercom audio signal level

You can change the level of the intercom microphone signal sent to the CCU by ± 6 dBu. For the intercom 1 microphone, set the INCOM 1 MIC GAIN switch on the front panel of the AU-250 board, and for the intercom 2 microphone, set the INCOM 2 MIC GAIN switch as follows:

For setting +6 dBu: Set the switch to the + side.

For setting -6 dBu: Set the switch to the - side.

Setting on the CA-550/550P



AU-211 board of the CA-550/550P

Setting the headset microphone

Set the switches on the AU-211 board of the CA-550/550P according to the type of the microphone connected to the INCOM connector on the rear panel of the CA-550/550P.

When a dynamic microphone is connected to the INCOM connector: Set the MIC switch to D

When a carbon microphone is connected to the INCOM connector: Set the MIC switch to C.

Mixing with a program audio signal

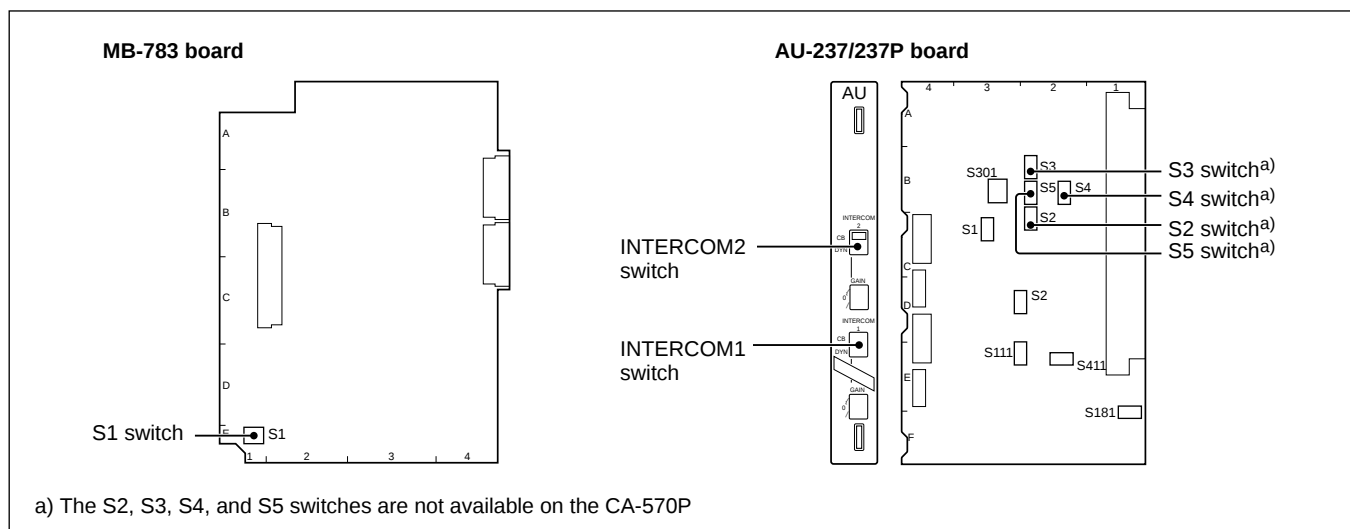
You can mix a program audio signal and an intercom audio signal of the video camera. For mixing, set the switches on the AU-211 board as shown below.

To mix an intercom signal onto a program audio signal: Set the SW2-1 switch to ON.

To mix a program audio signal and intercom signal: Set the SW2-2 switch to ON.

To mix a program audio signal onto an intercom signal: Set the SW2-3 switch to ON.

Setting on the CA-570/570P



MB-783 and AU-237/237P boards on the CA-570/570P

Setting the output to an earphone

You can set whether the program or intercom audio signal is supplied to the EARPHONE connector with the S1 switch on the MB-783 board.

To supply the program audio signal: Set the S1-1 switch to ON.

To supply the intercom 1 audio signal: Set the S1-3 switch to ON.

To supply the intercom 2 audio signal: Set the S1-2 switch to ON.

Setting the headset microphone

Set the switches on the front panel of the AU-237/237P board according to the type of microphone connected to the INCOM 1 and INCOM 2 connectors on the rear of the CA-570/570P.

When a dynamic microphone is connected to the INCOM 1 connector: Set the INTERCOM 1 switch to DYN.

When a carbon microphone is connected to the INCOM 1 connector: Set the INTERCOM 1 switch to CB.

When a dynamic microphone is connected to the INCOM 2 connector: Set the INTERCOM 2 switch to DYN.

When a carbon microphone is connected to the INCOM 2 connector: Set the INTERCOM 2 switch to CB.

Mixing with a program audio signal (only on the CA-570)

You can mix a program audio signal and an intercom audio signal of the video camera. There are two methods for mixing. Select either method, and set the switches on the AU-237 board as shown in the table below.

Method 1: The signal levels of the intercom and program audio are adjusted separately.

Method 2: The INCOM control on the rear of the CA-570 adjusts the mixed signal level, and the PGM control adjusts the mix ratio.

Switching settings for mixing the intercom and program audio signals

Switch	Intercom 1		Intercom 2	
	S2 (INCOM 1 PGM MIX)	S4 (MIX MODE 1)	S3 (INCOM 2 PGM MIX)	S5 (MIX MODE2)
Setting for method 1	MIX	IND	MIX	IND
Setting for method 2	MIX	MIX	MIX	MIX

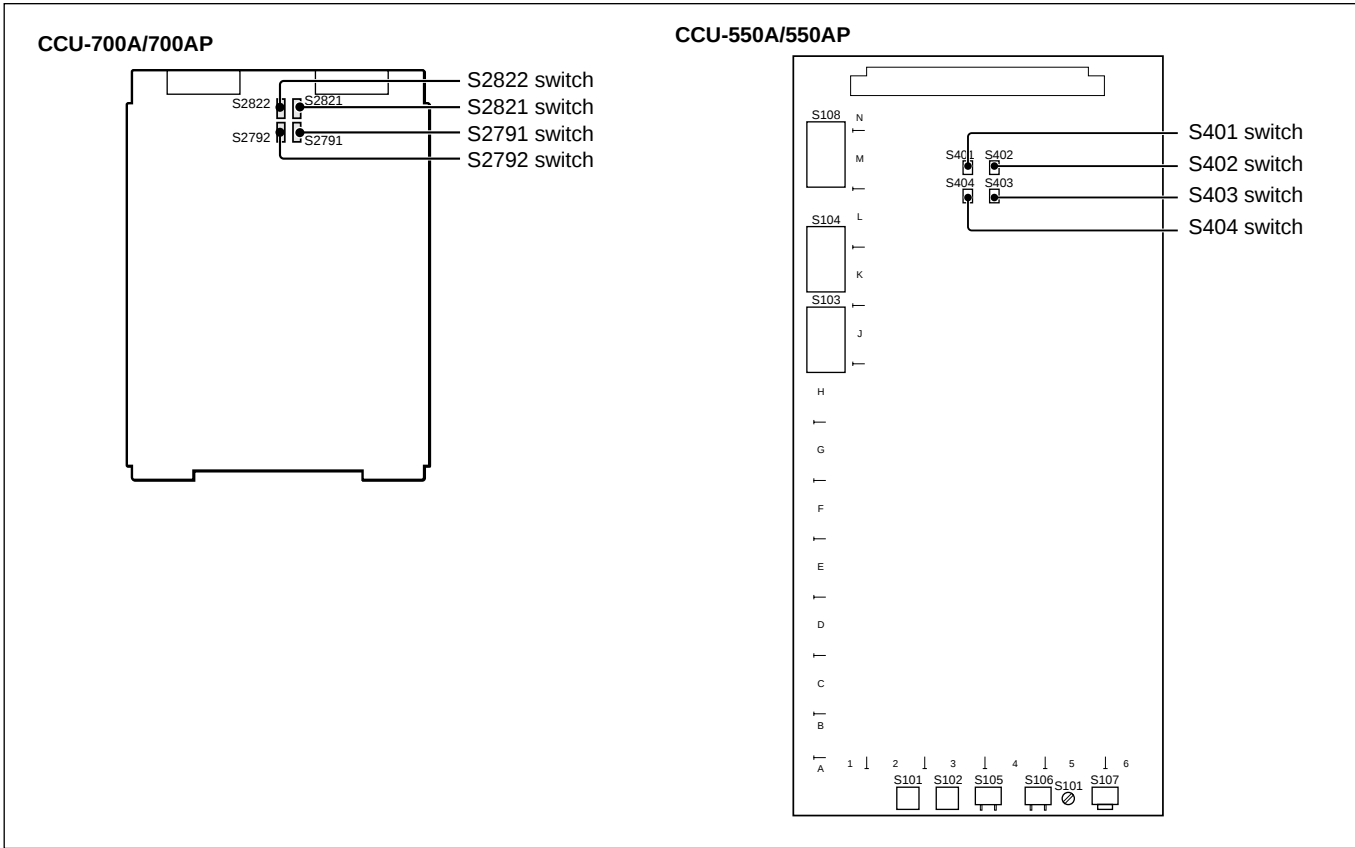
3-2 Setting and Adjusting on Setup

3-2-2 Setting for the Tally System

The CCU-700A/700AP/550A/550AP can use red-tally and green-tally systems and also contact, 24 V or 5 V power supply. Set the switches on the AT board of the CCU-700A/700AP/550A/550AP according to the tally system to be used.

Setting for the tally system

Use the following switches to set for the tally system.



AT board of the CCU-700A/700AP/550A/550AP

Set the switches as follows:

Settings for the tally system

Switches	Red tally		Green tally	
	S2791/S401	S2792/S404	S2821/S402	S2822/S403
Contact supply	CONTACT	—	CONTACT	—
24 V power supply	POWER	POWER	POWER	POWER
5 V power supply	POWER	TTL	POWER	TTL

At the factory, all switches are set to POWER. When the tally system is not used, set the S2791 and S2821

switches on the CCU-700A/700AP or the S401 and S402 switches on the CCU-550A/550AP to CONTACT.

Tally signal output

The CCU-700A/700AP supplies the red tally, green tally and tally signal which satisfy the following conditions from the INTERCOM REMOTE and MIC REMOTE connectors. This function is optional on the CCU-550A/550AP.

NPN open collector

Maximum current: 30 mA

GND when a tally signal is output

3-2-3 Settings for Tally Call

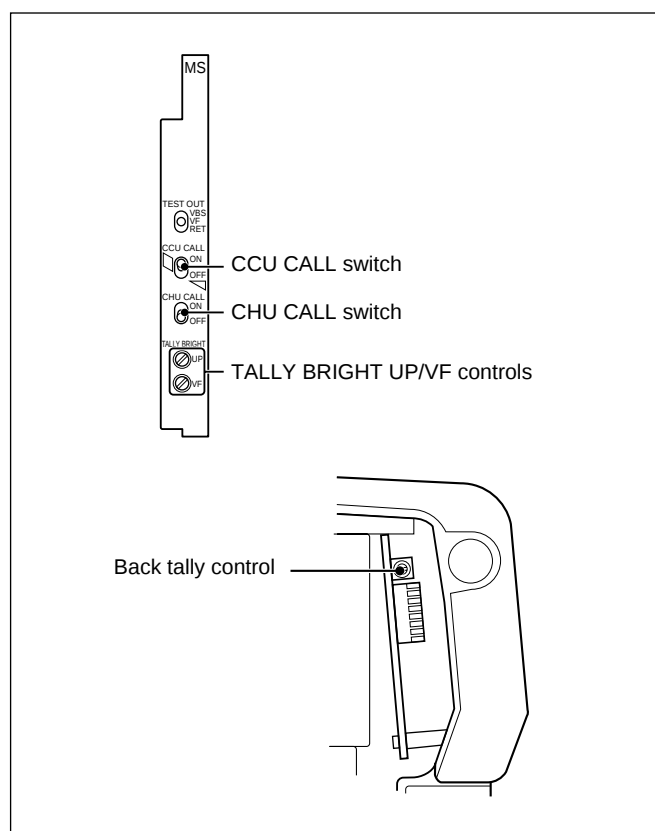
Tally call of the CCU-700A/700AP/550A/550AP

The CCU-700A/700AP supplies the following call signal from the INTERCOM REMOTE connector when it receives the call signal from the MSU-700A/750, RCP-700-series unit, and BVP-900/900P/950/950P. This function is optional on the CCU-550A/550AP.

NPN open collector
Maximum current: 30 mA
GND when a tally signal is output

Tally call of the BVP-900/900P

Use the following switches to set for tally call system.



MS-57 and AT-73 boards of the BVP-900/900P

Setting the lighting mode of the up tally lamp

Set the lighting conditions of the up tally lamps of the BVP-900/900P and the viewfinder when the UP TALLY switch on the rear of the BVP-900/900P is set to ON.

To make the up tally lamps light or go out with a control signal from the control panel: Set the CCU CALL switch on the front panel of the MS-57 board to ON.

Factory setting: ON

To make the up tally lamps light or go out with a control signal from the BVP-900/900P: Set the CHU CALL switch on the front panel of the MS-57 board to ON.

Factory setting: OFF

Adjusting the brightness of the tally lamps

Adjust the brightness of the up tally and back tally lamps of the BVP-900/900P and the up tally lamp of the viewfinder as follows:

To adjust the up tally lamp of the camera: Turn the TALLY BRIGHT UP control on the front panel of the MS-57 board.

To adjust the back tally lamp of the camera: Turn the back tally control on the AT-73 board.

To adjust the up tally lamp of the viewfinder: Turn the TALLY BRIGHT VF control on the front panel of the MS-57 board.

3-2 Setting and Adjusting on Setup

3-2-4 Adjusting the Program Microphone Signal

The BVP-900-series video camera system has two program microphone lines (MIC 1 and MIC 2). When the camera is used as a stand-alone unit, the MIC 1 signal is recorded on the VTR, and the playback sound

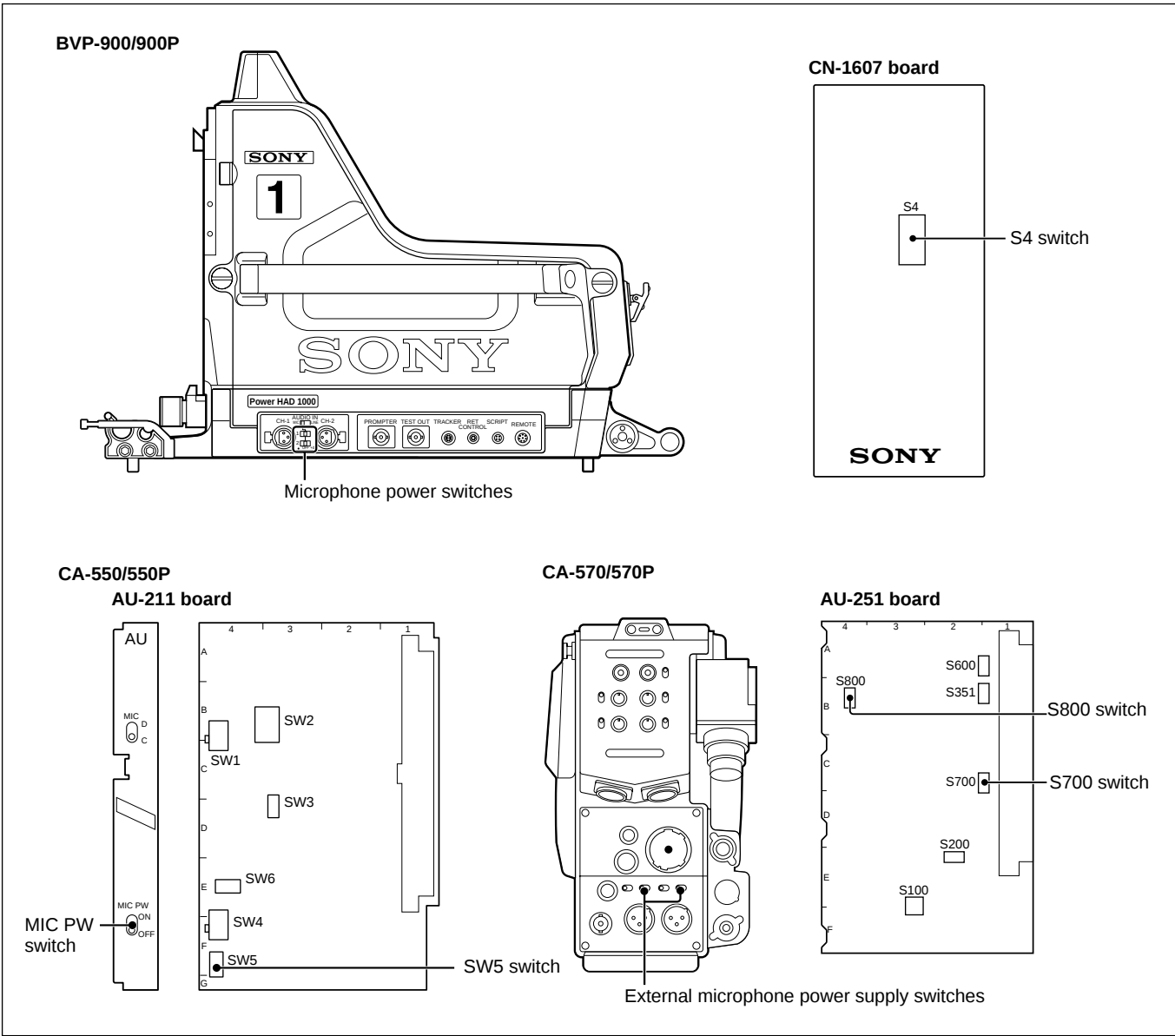
is monitored with the headset of Intercom 1. You can set the gain of the microphone amplifier with a control signal from the CCU-700A/700AP/550A/550AP.

Power supply to the microphones

The BVP-900/900P or the CA-550/550P/570/570P can supply phantom power or A/B power to the microphones by setting the switches on the internal boards.

The factory settings on the BVP-900/900P and CA-

570/570P is not to supply A/B power. To supply A/B power, internal switch setting to supply A/B power is required, and also the switch setting according to the power required by the connected microphone. Incorrect setting may damage the microphone.



Internal boards of the BVP-900/900P or CA-550/550P/570/570P

To supply no power

If power supply to the microphone is not necessary, set the switches as follows:

On the BVP-900/900P: Set the microphone power switches on the right side panel to OFF.

On the CA-570/570P: Set the S700 and S800 switches on the AU-251 board to OFF.

To supply A/B power

On the BVP-900/900P: Set the S4 switch on the CN-1607 board, back of the microphone board, to ON, and set the microphone power switches on the right side panel to “•”.

On the CA-550/550P: Set the SW5 switch on the AU-211 board to AB, and the MIC PW switch on the front panel of the board to ON.

On the CA-570/570P: Set the S800 switch on the AU-251 board to ON, and the external microphone power supply mode switches on the rear to “•”.

To supply phantom power

On the BVP-900/900P: Set the microphone power switches on the right side panel to +48 V.

On the CA-550/550P: Set the SW5 switch on the AU-211 board to PHANTOM, and the MIC PW switch on the front panel of the board to ON.

On the CA-570/570P: Set the external microphone power supply mode switches on the rear to +48 V.

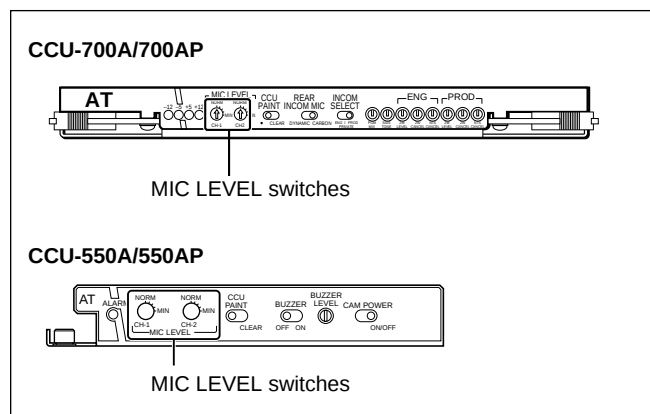
Monitoring a microphone sound

You can monitor a microphone sound with the headset connected to the intercom 1 channel. Set the MIC MONITOR switch on the front panel of the AU-250 board of the BVP-900/900P, or the S351 switch on the AU-251 board of the CA-570/570P to ON.
Factory setting: OFF

Remote control of the input level of a microphone

You can control the level of the microphone signal input to the AUDIO IN CH-1/CH-2 connectors on the BVP-900/900P, the MIC IN connectors on the CA-550/550P or the MIC connector on the CA-570/570P from the CCU-700A/700AP/550A/550AP. The adjustable range is from –60 dBu to –20 dBu in 10 dBu steps.

Adjusting using the MIC LEVEL switches on the CCU-700A/700AP/550A/550AP



AT board of the CCU-700A/700AP/550A/550AP

When nothing is connected to the MIC REMOTE connector on the rear of the CCU-700A/700AP/550A/550AP or the level of pin 8 (MIC 1) and pin 15 (MIC 2) of the MIC REMOTE connector is high, you can adjust the microphone input level with the MIC LEVEL switches on the front panel of the AT board of the CCU-700A/700AP/550A/550AP.

Adjusting from the MIC REMOTE connector on the CCU-700A/700AP/550A/550AP

You can adjust the microphone input level via the MIC REMOTE connector on the rear of the CCU-700A/700AP/550A/550AP.

If the software version of the AT board is 2.00 or before

When the level of pin 8 (MIC 1) and pin 15 (MIC 2) of the MIC REMOTE connector is GND, you can adjust the microphone input level via the MIC REMOTE connector.

Setting the microphone input level of the video camera

Microphone	MIC IN CH-1			MIC IN CH-2		
Pin No.	7	6	5	14	13	12
–60 dBu	H	H	H	H	H	H
–50 dBu	L	H	H	L	H	H
–40 dBu	H	L	H	H	L	H
–30 dBu	L	L	H	L	L	H
–20 dBu	H	H	L	H	H	L

H: +5 V (C-MOS level)

L: GND

Input impedance: 47 kilohms (CCU-700A/700AP)
100 kilohms (CCU-550A/550AP) +5 V pull up

3-2 Setting and Adjusting on Setup

If the software version of the AT board is after 2.00
The microphone input level control is set via pin 8 and pin 15 of the MIC REMOTE connector.

Setting the microphone input level control			
Pin No.		Microphone connector	
8	15	MIC IN CH-1	MIC IN CH-2
L	L	ON	ON
L	H	ON	OFF
H	L	OFF	ON
H	H	Internal settings	

The microphone input level is adjusted via pin 5, pin 6, and pin 7 of the MIC REMOTE connector.

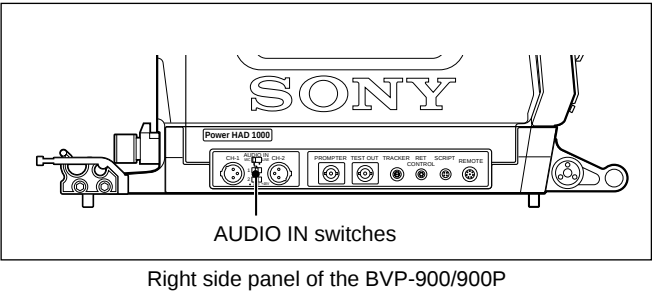
Setting the microphone input level			
Pin No.	7	6	5
−60 dBu	H	H	H
−50 dBu	L	H	H
−40 dBu	H	L	H
−30 dBu	L	L	H
−20 dBu	H	H	L

H: +5 V (C-MOS level)

L: GND

Input impedance: 47 kilohms (CCU-700A/700AP)
100 kilohms (CCU-550/500P) +5 V pull up

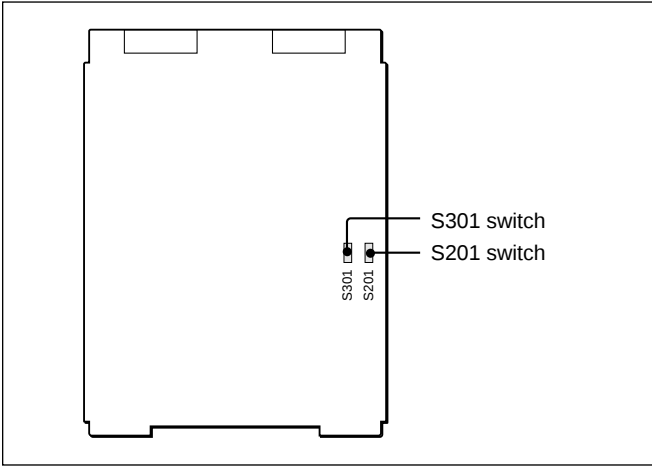
Selecting the mic or line input



The AUDIO IN CH-1/CH-2 connectors on the BVP-900/900P can accept line and microphone signals. Set the AUDIO IN switches on the right side of the BVP-900/900P to LINE or MIC.

Setting the microphone output level

Setting on the CCU-700A/700AP



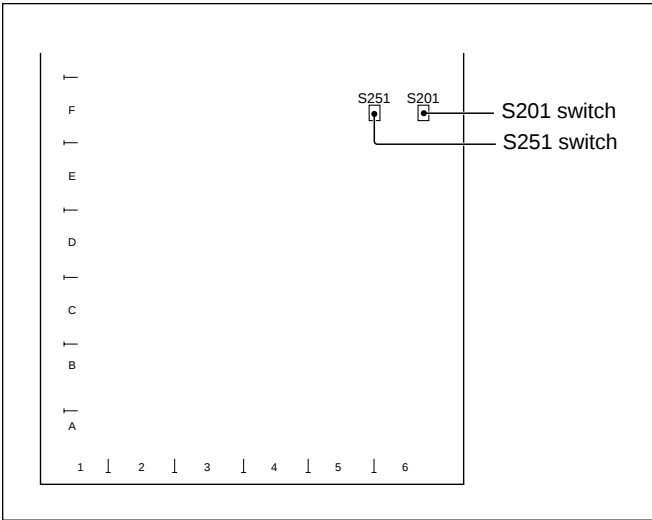
AT board of the CCU-700A/700AP

The level of the signal output from the MIC OUT connectors on the rear panel of the CCU-700A/700AP is adjusted with the switches on the AT board in the CCU-700A/700AP.

Level of the MIC 1 connector: S201 switch

Level of the MIC 2 connector: S301 switch

Setting on the CCU-550A/550AP



AU-231 board of the CCU-550A/550AP

The level of the signal output from the MIC OUTPUT connectors on the rear panel of the CCU-550A/550AP is adjusted with the switches on the AU-231 board in the CCU-550A/550AP.

Level of the MIC OUTPUT 1 connector: S201 switch

Level of the MIC OUTPUT 2 connector: S251 switch

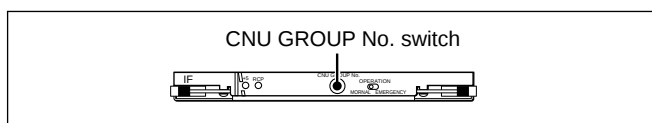
3-2-5 Setting the Camera Number and Group Number

Every video camera used in this video camera system must have its own camera number. The numbering method differs depending on whether you use the CNU-700 in the camera system or not. If the system is composed of seven or more video cameras, group

number settings are also required.

The camera numbers set with the following method will appear on the displays on the RCP-700-series unit and MSU-700A/750.

Setting the camera number and group number in the system using the CNU-700



IF board of the CNU-700

The number of each CCU connector on the rear of the CNU-700 (1 through 12) is the camera number for the camera connected to that connector. For example, the camera number of the camera connected to the CCU 1 connector is “1.”

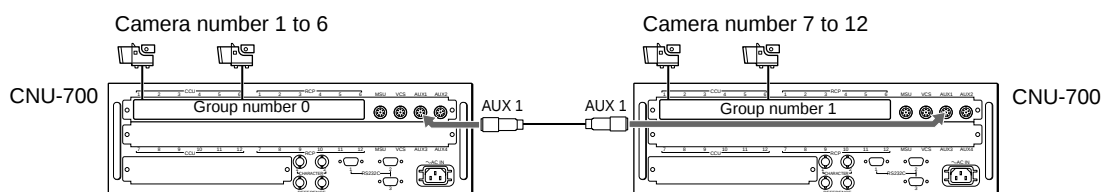
When seven or more cameras are used in a system, an

optional BKP-7930 CNU IF board should be installed in the CNU-700. In this case, group numbers are to be set with the CNU GROUP No. switch on the IF board.

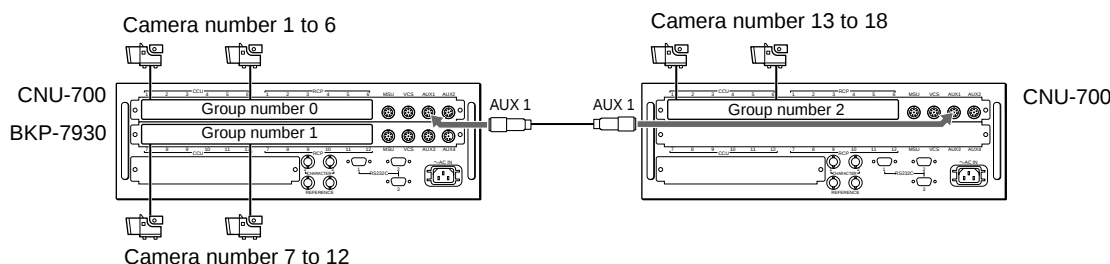
Notes

- Do not assign the duplicate group numbers in a system.
- The CNU GROUP No. switch setting becomes active when the CNU-700 is turned ON. When you change the setting, turn the power of the CNU-700 OFF, then turn it ON again.

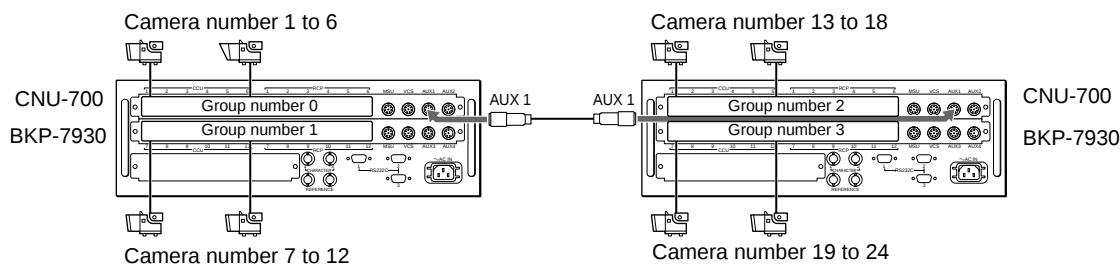
When connecting two CNU-700s



When connecting a CNU-700 and a CNU-700 with a BKP-7930 installed



When connecting two CNU-700s with a BKP-7930 installed



Camera number and group number

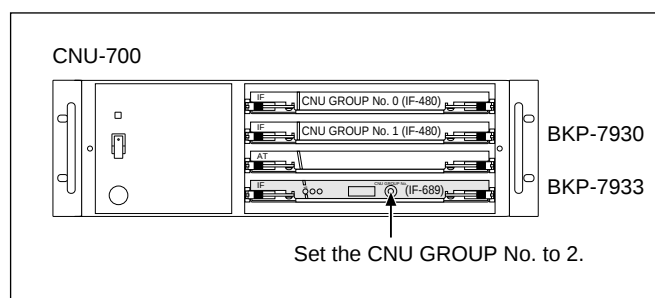
When the BKP-7933 is installed in the CNU-700, the group number is as shown below.

Notes

- Do not assign duplicate group numbers in a system.
- The CNU GROUP No. switch setting becomes active when the CNU-700 is turned ON. If you change the setting, turn the power of the CNU-700 OFF, then turn it ON again.

When the BKP-7933 is installed in the CNU-700 with the BKP-7930 installed

The group number of the BKP-7933 is 2 (factory setting).

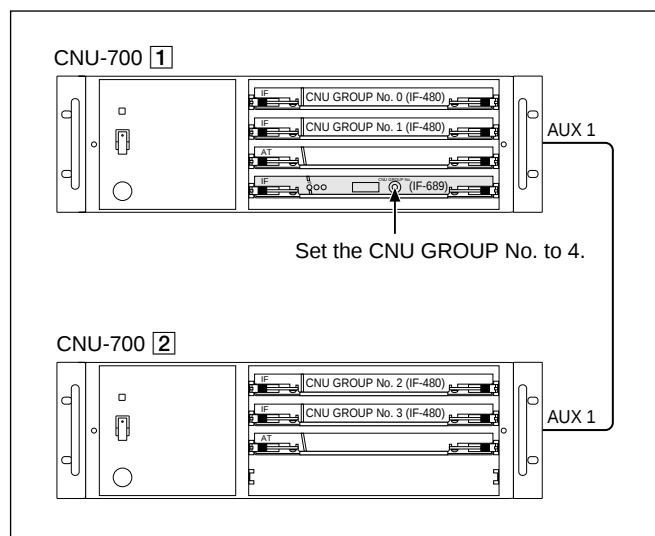


When the BKP-7933 is installed in one of the two CNU-700s with the BKP-7930s installed

Set the group number of the BKP-7933 to 4.

Note

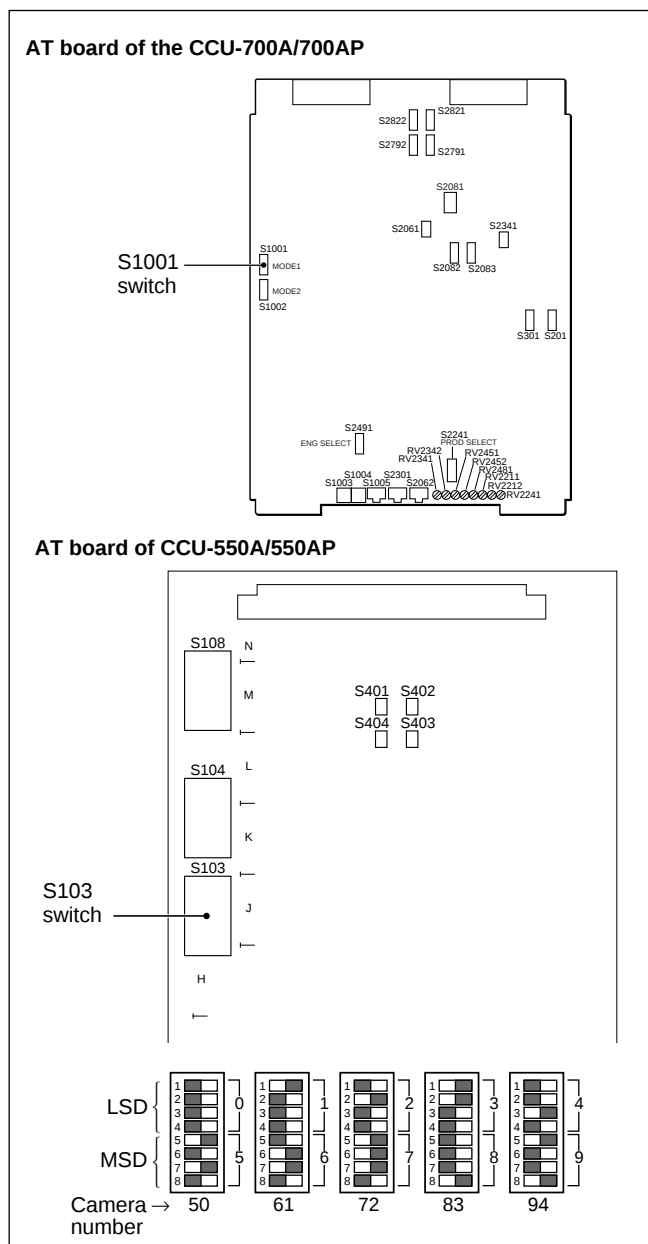
The BKP-7933 cannot be installed in the second CNU-700.



Setting the camera numbers in a system not using the CNU-700

Set the camera numbers with the S1001 (MODE 1) switch on the AT board of the CCU-700A/700AP or the S103 switch on the AT board of the CCU-550A/550AP.

Set the least significant binary-coded decimal digit (LSD) with switches 1 through 4, and the most significant binary-coded decimal digit (MSD) with switches 5 through 8 as shown below. Each switch can set from “0” through “f,” but “a” through “f” are ignored. Camera numbers set with these switches are from 1 through 96.

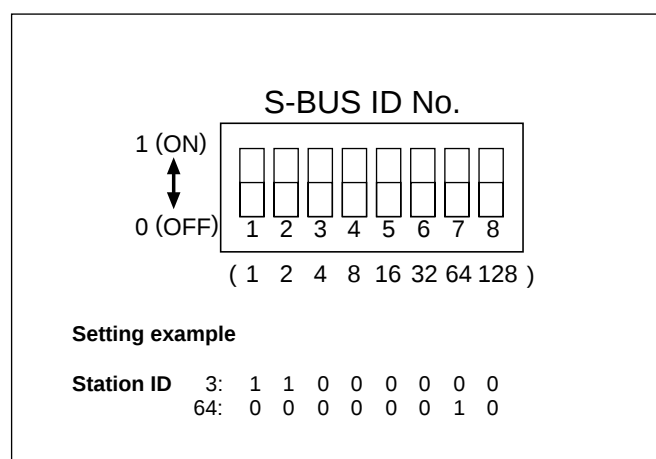


3-2-6 Setting the Station ID

When a CNU-700 with a BKP-7933 installed is connected to the routing switcher system via the S-BUS, the station ID of the CNU-700 should be set.

Notes

- Do not assign duplicate station IDs in an S-bus data link.
- The S-BUS ID No. switch should be set upon BKP-7933 installation. Never change the setting after installation. Otherwise the S-BUS may not function correctly.



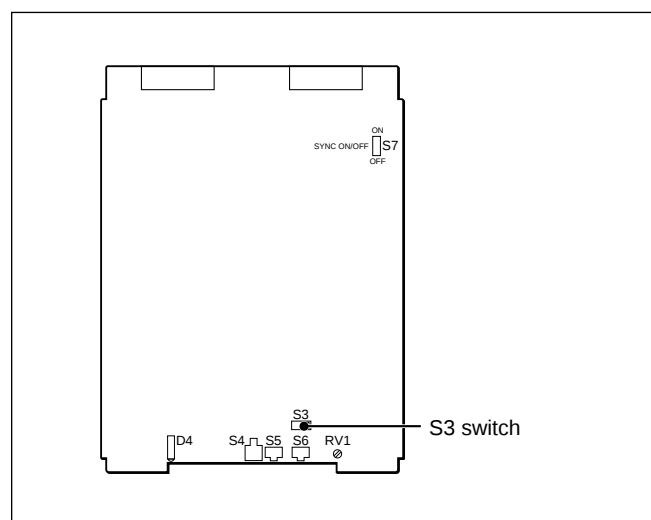
3-2-7 Setting the Broadcasting System

If a reference signal is input to the REFERENCE connector on the CNU-700 when the power of the CNU-700 is turned ON, the broadcasting system (NTSC or PAL) is automatically set to that of the reference signal. If no reference signal is input, select the system with the S3-1 switch on the component side of the AT board as follows:

For the 525-line system: OFF

For the 625-line system: ON

At the factory, the switch for the NTSC model is set to OFF and that for the PAL model is set to ON.



AT board of the CNU-700

3-2 Setting and Adjusting on Setup

3-2-8 Selecting the Aspect Ratio

The BVP-900/900P/950/950P operates on the aspect ratio of 4:3 or 16:9. The used aspect ratio is set with either of the following two methods.

Method 1

Attach the RC board supplied with the OHB-700-series CCD unit whose aspect ration is 16:9 to the PR/DA board of the camera.

If the software version of the AT board of the CCU-700A/700AP is after 2.00, you can set the aspect ratio via pin 12 and pin 13 of the MIC REMOTE connector on the rear of the camera as shown in the table below.

Signal level	Low	High
pin 12 (activating pin 13)	ON	OFF
pin 13 (selecting the aspect ratio)	16:9	4:3

If the version is 1.xx, consult your Sony service representative.

For attaching the RC board, see “2-1-1 Mounting the BVP-900/900P” or “2-1-2 Mounting the BVP-950/950P.”

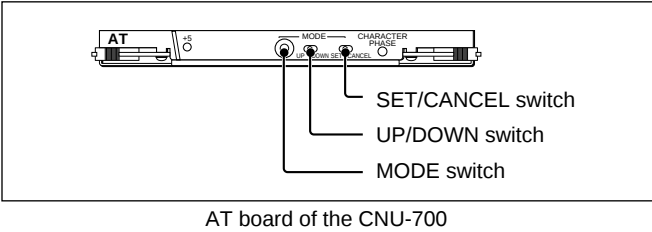
Method 2

Use the ARU-701 and ARU-702 Aspect Ratio Converter Unit.

For details, refer to the operating instructions supplied with the ARU-701 and ARU-702.

3-2-9 Setting the Character Display of the CNU-700

You can link the camera number displayed on pages 9 and 11 of the character display of the CNU-700 with the selection of the camera on the MSU-700A/750. Use the switches on the internal board as shown below for setting.

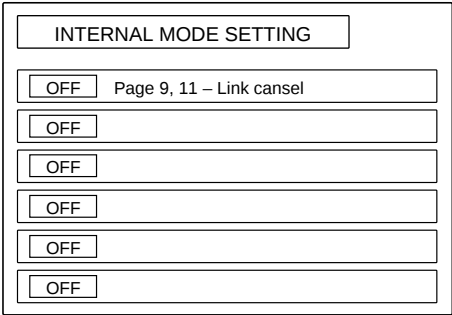


- 1 Set the MODE switch to 5.

“INTERNAL MODE SETTING” appears on the character monitor screen.

- 2 Flip the SET/CANCEL switch to SET.

The INTERNAL MODE SETTING display appears.



- 3 Select “Page 9, 11-Link cancel” with the UP/DOWN switch.
- 4 Flip the SET/CANCEL switch to SET to change the setting to ON.

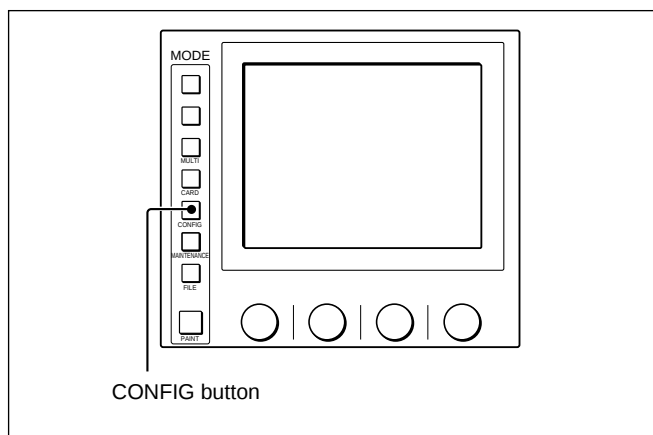
Each time you flip the SET/CANCEL switch to SET, ON and OFF settings are toggled.

- 5 Set the MODE switch to 0.

3-2-10 Initial Settings of the Camera

Set the adjustment mode or compensation mode of the camera. Setting is done by displaying the CAM Mode display on the MSU-700A/750.

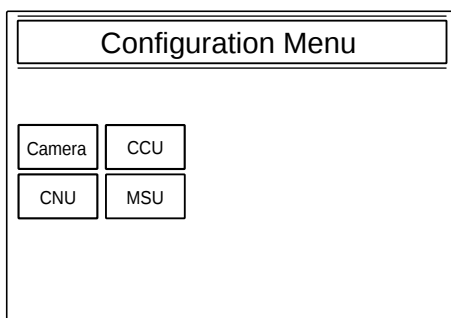
Displaying the CAM Mode Setting display



Menu operation block of the MSU-700A/750

- 1 Press and light the CONFIG button in the MODE block of the MSU-700A/750.

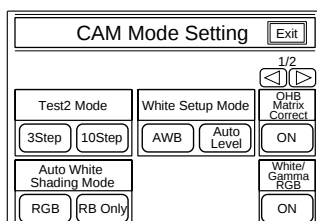
Configuration Menu appears.



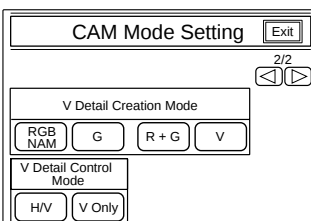
- 2 Press **Camera**.

The CAM Mode Setting display appears.

Page 1



Page 2



Making settings

Selecting the output signal in test 2 mode

Select the output signal in test 2 mode, tri-level waveform or ten-level waveform, in Test 2 Mode section.

To select a tri-level waveform: Press **3Step** to set it in inverse video.

To select a ten-level waveform: Press **10Step** to set it in inverse video.

Setting the white-balance adjustment mode

Select the status of the white balance when the paint is cleared or the standard button is pressed in White Setup Mode section.

To retrieve the auto-white-balance adjustment value just before the button is pressed: Press **AWB** to set it in inverse video.

To retrieve the reference value (displayed value: 0): Press **Auto Level** to set it in inverse video.

Setting the auto white shading mode

Select the status of the R, G and B channels when the auto white shading is executed in Auto White Shading Mode section.

To automatically adjust the R, G and B channels to be flat: Press **RGB** to set it in inverse video.

To automatically adjust the shading waveform of the R and B channels to be the same as that of the G channel: Press **PB Only** to set it in inverse video.

Setting the compensation of the OHB file

Select whether the matrix correction of the OHB file is activated or not in OHB Matrix Correct Mode section. Each time the button is pressed, ON and OFF settings are toggled. When ON is selected, the matrix correction is activated.

Setting the white gamma

When the setting in the White/Gamma RGB section is set to ON, the reference file settings for the R, G, and B channels are displayed “0” on the automatic level adjustment.

When set to OFF, the R and B channels are adjusted referring the G channel, and the settings are displayed “0.”

Each time the button is pressed, ON and OFF settings are toggled.

Factory setting: ON

3-2 Setting and Adjusting on Setup

Setting the V-detail creation mode

Select the method to create the V-detail in V Detail Creation Mode section.

To create from the largest one from among R/G/B V details: Press **[RGB NAM]** to set it in inverse video.

To create from the G channel: Press **[G]** to set it in inverse video.

To create from the signal obtained by adding the R and G channels: Press **[R+G]** to set it in inverse video.

To create from the luminance signal Y: Press **[Y]** to set it in inverse video.

Factory setting: **[RGB NAM]**

Setting the V-detail control mode

Select the change of the H/V ratio in paint menu → Detail → Detail 2 in V Detail Control Mode section.

To decrease the V detail as the H detail increases, or to increase the V detail as the H detail decreases:

Press **[H/V]** to set in inverse video.

To change the V detail only with keeping the H detail: Press **[V only]** to set in inverse video.

Factory setting: **[V only]**

When settings are finished

Press the CONFIG button to make it extinguish.

3-3 Checking and Adjusting the Signal of the System

The signal levels of the units used in the BVP-900-series camera system are set to the standard values at the factory. Before starting operation, check the levels of the units, and adjust them if necessary. Basically, adjustment is performed with the controls and switches on the internal boards, but some adjustment can be made from the Maintenance Menu of the MSU-700A/750. For such items, perform basic adjustment with the switches and controls on the boards, and fine adjustment with the Maintenance Menu. If level difference between the units is extreme, adjust the levels referring to the maintenance manuals.

Adjustment after “3-3-2 Adjusting the Phases of the Signals” should be performed with the power on. After resetting the control data as shown in “3-3-1 Resetting the Control Data” below turn the power of all the units on.

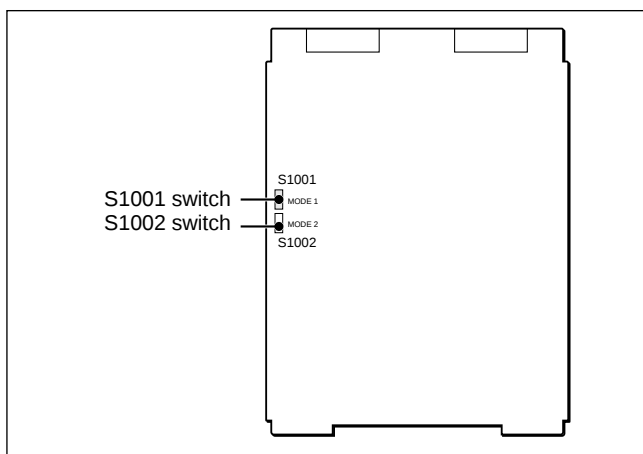
For details on power supply, see “4-2-1 Power Supply.”

3-3-1 Resetting the Control Data

Before adjustment, reset the control data of the CCU-700A/700AP/550A/550AP, VCS-700, and BVP-900/900P/950/950P.

Resetting the control data of the CCU-700A/700AP

Proceed as follows.



AT board of the CCU-700A/700AP

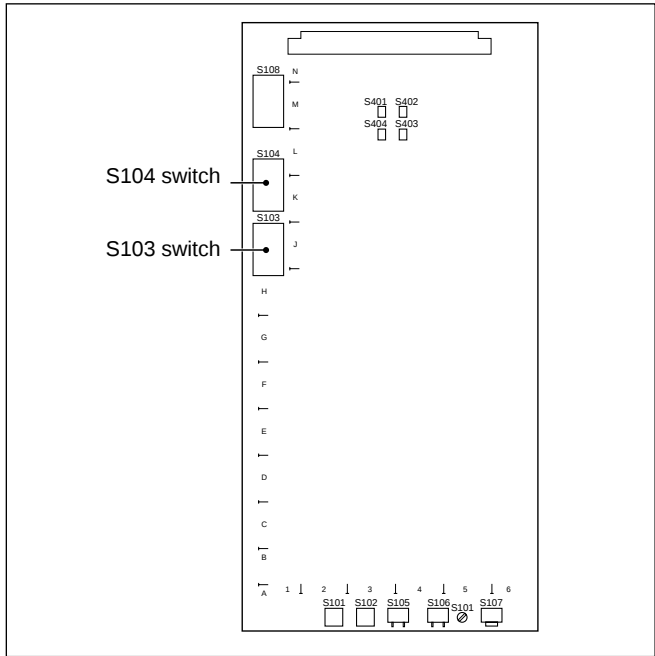
- 1** Set all switches of the S1001 switch and switches 1 through 7 of the S1002 switch on the AT board to OFF.
- 2** Set switch 8 of the S1002 switch to ON.
- 3** Turn the power of the CCU-700A/700AP ON.
- 4** Turn the power of the CCU-700A/700AP OFF.
The control data are then reset.
- 5** Set all switches of the S1001 and S1002 switches to OFF or to their previous settings.

All switches of the S1001 and S1002 switches are set to OFF at the factory.

3-3 Checking and Adjusting the Signal of the System

Resetting the control data of the CCU-550A/550AP

Proceed as follows.



AT board of the CCU-550A/550AP

- 1 Set all switches of the S103 switch and switch 1 through 7 of the S104 switch on the AT board to OFF.
- 2 Set switch 8 of the S104 switch to ON.
- 3 Turn the power of the CCU-550A/550AP ON.
- 4 Turn the power of the CCU-550A/550AP OFF.

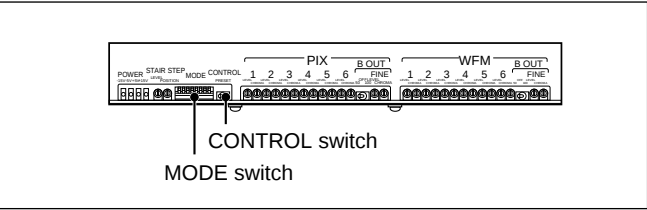
The control data are then reset.

- 5 Set all switches of the S103 and S104 switches to OFF or to their previous settings.

All switches of the S103 and S104 switches are set to OFF at the factory.

Resetting the control data of the VCS-700

Proceed as follows.



VSW board of the VCS-700

- 1 Set the third switch from the left of the MODE switch on the VSW board to its lower position (ON).
- 2 Set the CONTROL switch to PRESET.
- 3 Turn the power of the VCS-700 ON.
- 4 Turn the power of the VCS-700 OFF several seconds after turning the power ON.

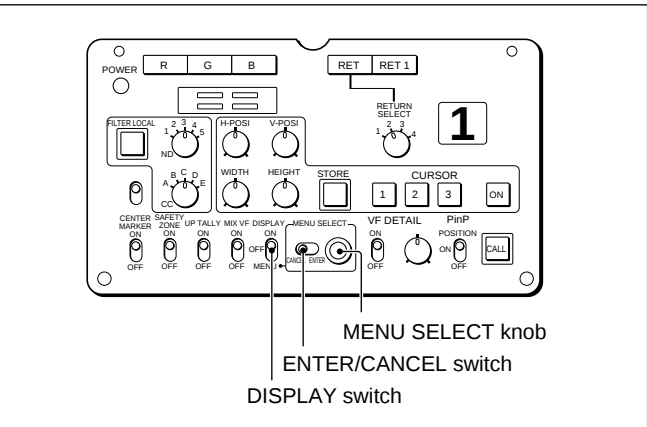
The control data are then reset.

- 5 Set the MODE switch and CONTROL switch to their previous settings.

The third switch from the left of the MODE switch is set to its upper position (OFF), and the CONTROL switch is to a position other than PRESET at the factory.

Resetting the control data of the BVP-900/900P

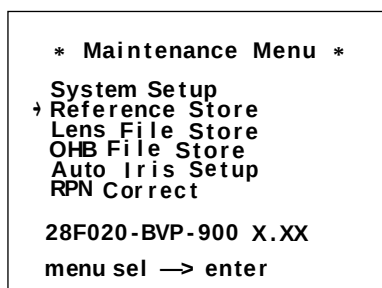
Turn the power of the BVP-900/900P ON, then perform the following procedure.



Rear panel of the BVP-900/900P

- 1 While holding the ENTER/CANCEL switch to ENTER, set the DISPLAY switch to MENU.

The Maintenance Menu appears on the monitor screen.



- 2 Turn the MENU SELECT knob to place the cursor to the Reference Store line.
- 3 Flip the ENTER/CANCEL switch to ENTER.

The Reference Store menu appears.



- 4 Turn the MENU SELECT knob to place the cursor to the All Preset line, and flip the ENTER/CANCEL switch to ENTER.

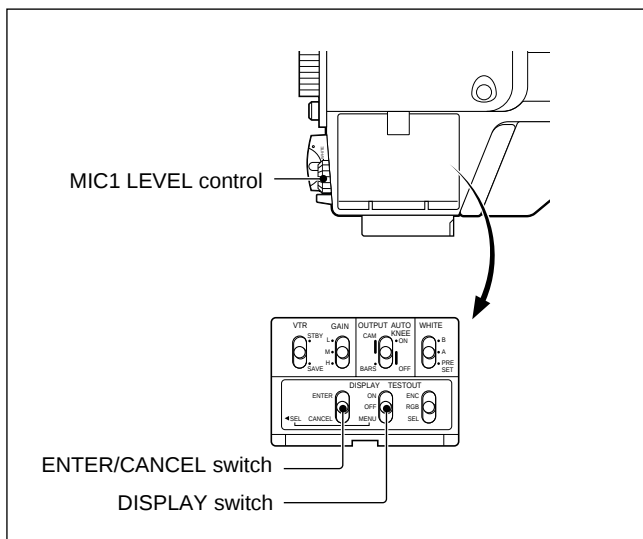
The control data are then reset.

When resetting is finished

Set the DISPLAY switch to OFF. The display disappears.

Resetting the control data of the BVP-950/950P

Turn the power of the BVP-950/950P ON, then perform the following procedure.



Side panel of the BVP-950/950P

- 1 While holding the ENTER/CANCEL switch to ENTER, set the DISPLAY switch to MENU.

The Maintenance Menu appears on the monitor screen.

- 2 Turn the MIC 1 LEVEL control to place the cursor to the Reference Store line.
- 3 Flip the ENTER/CANCEL switch to ENTER.

The Reference Store menu appears.

- 4 Turn the MIC 1 LEVEL control to place the cursor to the All Preset line, and flip the ENTER/CANCEL switch to ENTER.

The control data are then reset.

When resetting is finished

Set the DISPLAY switch to OFF. The display disappears.

Resetting the control data of the BVP-950/950P mounted on the CA-905F/905K

The control data can be reset in the same way as for the BVP-900/900P.

For details, see "Resetting the control data of the BVP-900/900P."

3-3 Checking and Adjusting the Signal of the System

3-3-2 Adjusting the Phases of the Signals

The signal phases between the units used in the BVP-900-series video camera system must be adjusted so that the phases are aligned. Before starting adjustment, supply the following reference signals to each piece of equipment, and turn the power of each unit ON.

CCU-700A/700AP/550A/550AP

A signal including a burst and sync signals

Signal level: 40 IRE (for CCU-700A/550) or 0.3 Vp-p (for CCU-700AP/550P)

CNU-700/500

A signal including a sync signal

Signal level: 40 IRE (for the NTSC model) or 0.3 Vp-p (for the PAL model)

Waveform monitor

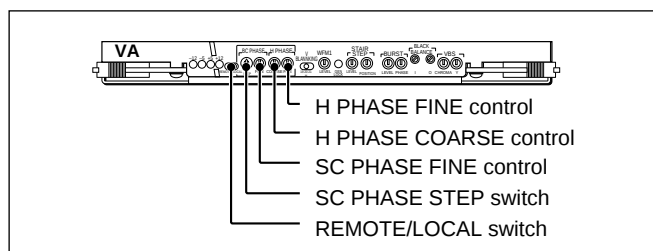
A sync signal specified by the waveform monitor to be used

Adjusting the phases of the sync signal of the CCU-700A/700AP/550A/550AP

Adjust the phases of the output signals of all the CCU used in the system so that the phases of the output signals align the phase of the reference signal. You can adjust the phase using the controls and switches on the VA board of the CCU-700A/700AP/550A/550AP and also with the Maintenance Menu of the MSU-700A/750.

Adjusting on the VA board of the CCU-700A/700AP

Proceed as follows.



VA board of the CCU-700A/700AP

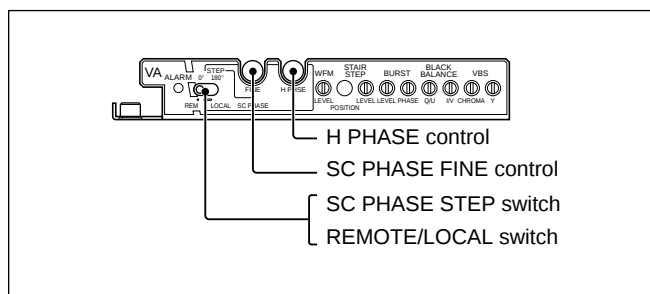
- 1 Set the REMOTE/LOCAL switch on the VA board to LOCAL.
- 2 Roughly adjust the SC phase with the SC PHASE STEP switch.

- 3 Perform fine adjustment of the SC phase with the SC PHASE FINE control.
- 4 Roughly adjust the H phase with the H PHASE COARSE control.
- 5 Perform fine adjustment of the H phase and SC-H phase with the H PHASE FINE control.

Repeat steps **2** through **5** on all the CCU-700A/700APs in the system.

Adjusting on the VA board of the CCU-550A/550AP

Proceed as follows.



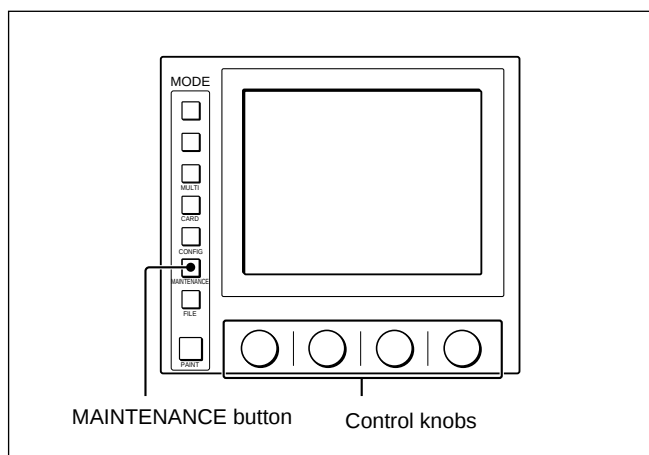
VA board of the CCU-550A/550AP

- 1 Set the REMOTE/LOCAL switch on the VA board to LOCAL.
- 2 Roughly adjust the SC phase with the SC PHASE STEP switch.
- 3 Perform fine adjustment of the SC phase with the SC PHASE FINE control.
- 4 Adjust the H phase and SC-H phase with the H PHASE control.

Repeat steps **2** through **4** on all the CCU-550A/550APs in the system.

Adjusting using the MSU-700A/750

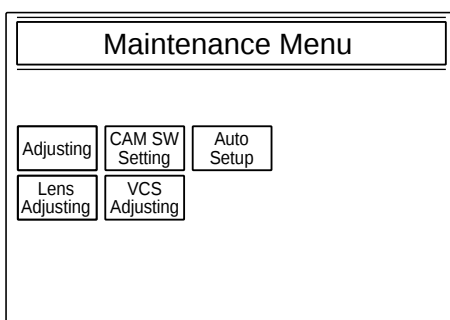
Proceed as follows.



Menu operation block of the MSU-700A/750

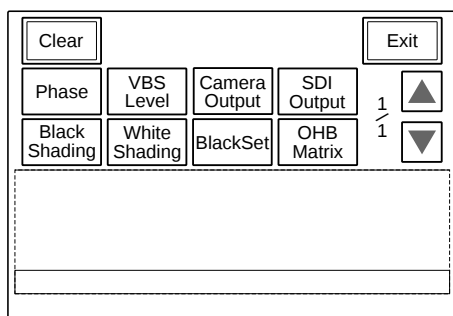
- 1 Set the REMOTE/LOCAL switch on the VA board of the CCU to REMOTE.
- 2 Press the MAINTENANCE button in the MODE block of the MSU-700A/750.

The Maintenance Menu appears.



- 3 Press **[Adjusting]**.

The Maintenance adjusting item menu appears.

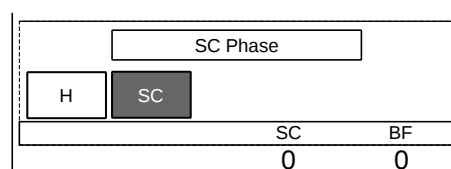


- 4 Press **[Phase]** to set it in inverse video.

The lower half of the display becomes the Phase control display. There are two Phase control displays for SC and H, which can be selected on the submenu.

- 5 Press **[SC]** to set it in inverse video to turn on SC Phase control mode.

The lower half of the display becomes the SC Phase display.



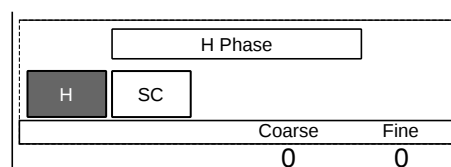
- 6 Adjust the phase of SC or BF with the two right control knobs.

SC: To adjust the SC phase

BF: To adjust the phase of a burst signal of the encoded output signal

- 7 Press **[H]** to set it in inverse video to turn on H Phase control mode.

The lower half of the display becomes the H Phase display.



- 8 Adjust the phase with two right control knobs.

Coarse: To roughly adjust the H phase

Fine: To precisely adjust the H phase and SC-H phase

To terminate the adjustment

Press the MAINTENANCE button to make it distinguish.

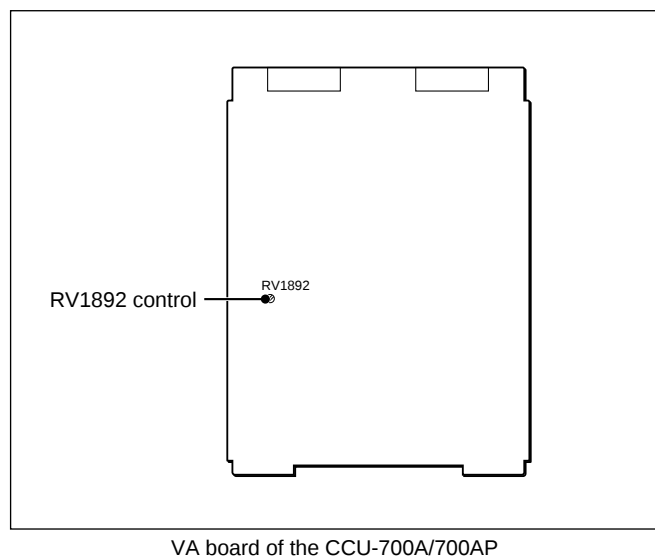
3-3 Checking and Adjusting the Signal of the System

Adjusting the phases of the camera signals

Adjusting the phases on the CCU-700A/700AP

Adjust the sync signal phase of the Y signal (pin A36 of an extension board) output from the CCU so that the phase aligns with the phase of the sync signal of the camera signal (pin C18 of an extension board). Turn the RV1892 control on the VA board.

The phases are adjusted at the factory.



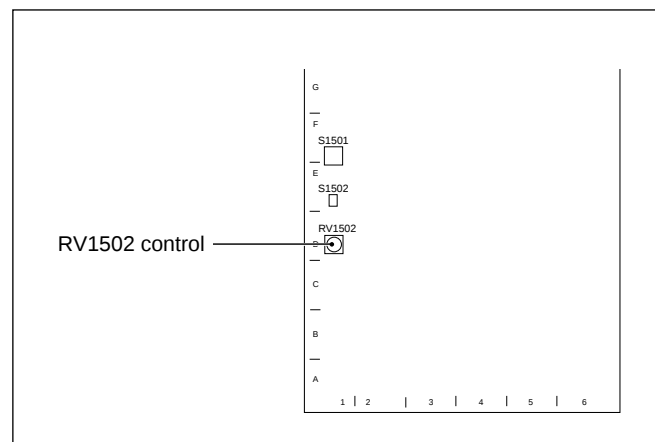
Note

When an optional BKP-7931 Sub-Encoder Board is installed in the CCU-700A/700AP, advance the phase of the camera signal.

For details, refer to the Operation and Maintenance Manual of the BKP-7931.

Adjusting the phases on the CCU-550A/550AP

Proceed as follows.

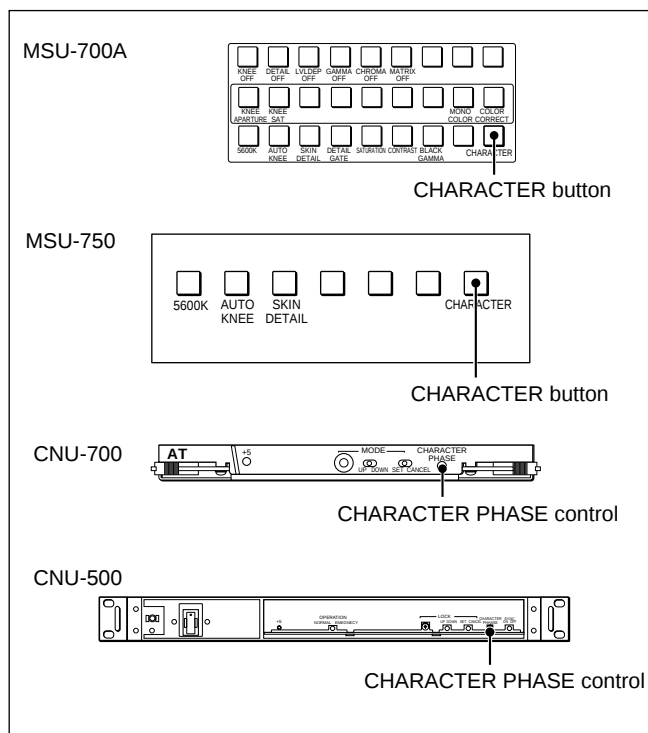


VA board of the CCU-550A/550AP

- 1 Close the iris on the lens.
- 2 Set the master black level of the camera to the maximum value (99).
- 3 Monitoring the VBS signal, turn the RV1502 control on the VA board so that the blanking period of the camera signal disappears from the monitor screen.

Adjusting the phases on the CNU-700/500

Adjust the phase of the signal output from the CHARACTER connector on the rear panel of the CNU-700/500. Proceed as follows.



MSU-700A/750 and internal boards of the CNU-700/500

- 1 Press the CHARACTER button on the MSU-700A/750, and a character signal is supplied to the monitor connected to the CHARACTER connector.
- 2 Turn the CHARACTER PHASE control on the internal board of the CNU-700/500 so that the characters are displayed on the monitor screen correctly.

Adjusting the VCS-700

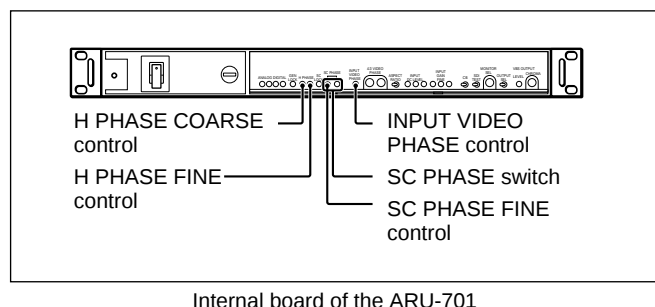
No phase adjustment is required.

Note

The VCS-700 is synchronized with the sync signal of the signals input to the PIX 1 through 6 connectors on the rear of the VCS-700. If the input signal does not have a sync signal, control signals such as a staircase signal for a waveform monitor may not work correctly.

Adjusting the phase on the ARU-701

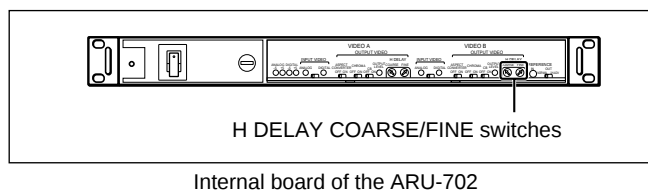
Adjust the output signal of the ARU-701 so that the phase aligns with that of the reference signal. Perform the adjustment using the controls on the front panel of the internal board. Proceed as follows.



- 1** Adjust the input signal so that the phase aligns with that of the reference signal using the INPUT VIDEO PHASE control.
- 2** Select the SC phase of the output signal, 0° or 180°, with the SC PHASE switch.
- 3** Perform fine adjustment of the SC phase with the SC PHASE FINE control.
- 4** Perform rough adjustment of the H phase with the H PHASE COARSE control.
- 5** Perform fine adjustment of the H phase and SC-H phase with the H PHASE FINE control.

Adjusting the phase on the ARU-702

The output video signal is delayed by about 1 H against the input video signal. The amount of the delay can be adjusted with the H DELAY COARSE/FINE switches on the front panel of the internal board within the range of $1H \pm 1/4H$ in about 150 ns steps. First roughly adjust the phase with the COARSE switch, and make fine adjustment with the FINE switch.



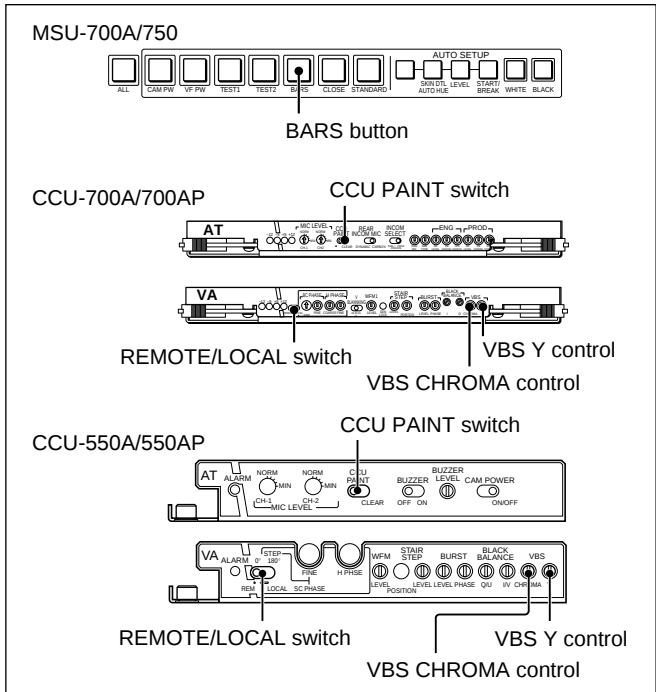
Note

Do not set the COARSE switch to 0. When set to 0, noise may appear on the picture.

3-3 Checking and Adjusting the Signal of the System

3-3-3 Checking and Adjusting the VBS Signal Level

Check the level of the VBS signal output from the VBS connector on the rear of the CCU-700A/700AP/550A/550AP using a color-bar signal, and adjust it if necessary. You can adjust the signal level with the controls on the VA board of the CCU-700A/700AP/550A/550AP. The signal level can also be adjusted from the Maintenance Menu of the MSU-700A/750 when the CCU-700A/700AP is used.



MSU-700A/750 and AT and VA boards of the CCU-700A/700AP/550A/550AP

Adjusting the level of the VBS signal output from the standard CCU-700A/700AP/550A/550AP

Select one CCU-700A/700AP/550A/550AP as a standard unit, and adjust the output signal level to the specified level. Proceed as follows.

- 1 Press the BARS button on the MSU-700A/750 to display the color-bar signals on a waveform monitor.
- 2 Set the CCU PAINT switch on the AT board to CLEAR.
- 3 Adjust the color-bar signals with the VBS CHROMA and VBS Y controls on the VA board so that the signal reaches the specified level.

Note

If the paint data has not been cleared, the color-bar signal cannot be set to the specified level. Be sure to return the value to the center of the adjustable range.

Adjusting the level of the VBS signals output from the other CCU-700A/700AP/550A/550APs

After adjusting the level of your standard CCU-700A/700AP/550A/550AP, adjust the VBS signal level of all the other CCU to the level of the standard CCU. Proceed as follows.

- 1 Set the CCU PAINT switch on the AT board of the next CCU whose level is to be adjusted to CLEAR.
- 2 Adjust the output signal level with the VBS CHROMA and VBS Y controls on the VA board to the level of your standard CCU.

Note

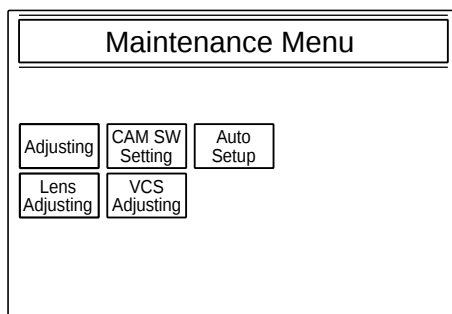
If the paint data has not been cleared, the adjusted level cannot be correct. Be sure to return the value to the center of the adjustable range.

Adjusting the VBS signal level using the MSU-700A/750

You can adjust the VBS signal level of the CCU-700A/700AP using the Maintenance Menu of the MSU-700A/750. Proceed as follows.

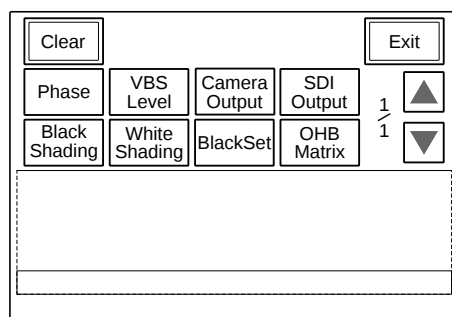
- 1 Press the **MAINTENANCE** button in the **MODE** block of the MSU-700A/750.

The Maintenance Menu appears.



- 2 Press **Adjusting**.

The Maintenance adjusting item menu appears.

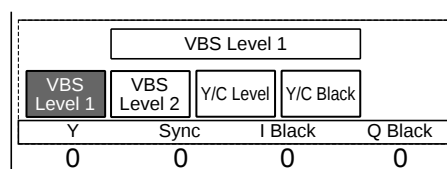


- 3 Press **VBS Level** to set it in inverse video to turn on VBS Level control mode.

The lower half of the display becomes the VBS Level display. There are two VBS Level displays, VBS Level 1 and VBS Level 2, which can be selected on the submenu.

- 4 Press **VBS Level 1** to set it in inverse video to turn on VBS Level 1 control mode.

The lower half of the display becomes the VBS Level 1 control display.

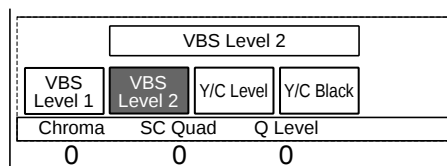


(display for the NTSC model)

- 5 Adjust the signal level with the four control knobs.
Y: To adjust the Y signal level
SYNC: To adjust the sync signal level
<NTSC model>
I Black: To adjust the black level of the I axis
Q Black: To adjust the black level of the Q axis.
<PAL model>
V Black: To adjust the black level of the V axis
U Black: To adjust the black level of the U axis.

- 6 Press **VBS Level 2** to set it in inverse video to turn on VBS Level 2 control mode.

The lower half of the display becomes the VBS Level 2 control display.

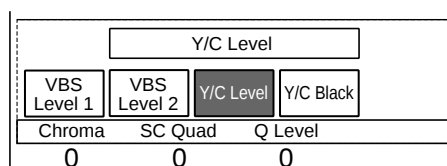


(display for the NTSC model)

- 7 Adjust the signal level with the three left control knobs.
CHROMA: To adjust the chroma signal level
SC QUAD: To adjust the right angle of the chroma signal
<NTSC model>
Q Level: To adjust the level of the Q axis.
<PAL model>
U Level: To adjust the level of the U axis.

- 8 Press **Y/C Level** to set it in inverse video to turn on Y/C Level control mode.

The lower half of the display becomes the Y/C Level control display.



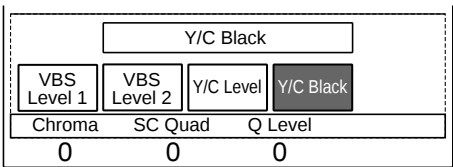
(Continued)

3-3 Checking and Adjusting the Signal of the System

- 9** Adjust the signal level of the YC board or AD board of the CCU-700A/700AP with the three left control knobs.
- Y:** To adjust the Y signal level
 - B–Y:** To adjust the B–Y signal level
 - R–Y:** To adjust the R–Y signal level

- 10** Press **Y/C Black** to set it in inverse video to turn on Y/C Black control mode.

The lower half of the display becomes the Y/C Black control display.



- 11** Adjust the signal level of the YC board or AD board of the CCU-700A/700AP with the three left control knobs.
- Y:** To adjust the black level of the Y signal
 - B–Y:** To adjust the black level of the B–Y signal
 - R–Y:** To adjust the black level of the R–Y signal

To terminate the adjustment

Press the MAINTENANCE button to make it go dark.

3-3-4 Adjusting the Triax Signal

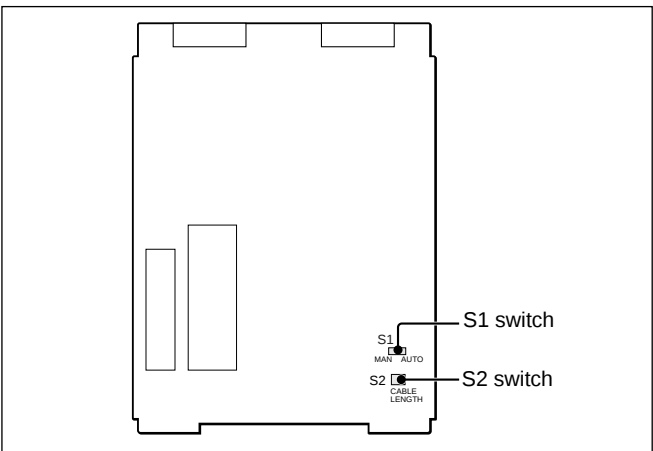
When the adjustment of the VBS signal level of the CCU-700A/700AP/550A/550AP is finished, adjust the triax signal. If an optional board is inserted in the CCU-700A/700AP, be sure to remove it.

Setting the cable compensation

Set the cable compensation according to the length of the triax cable connecting the camera and CCU-700A/700AP/550A/550AP. Automatic compensation is set at the factory.

To adjust the cable-length compensation manually, proceed as follows.

Setting on the CCU-700/700AP



DM board of the CCU-700A/700AP

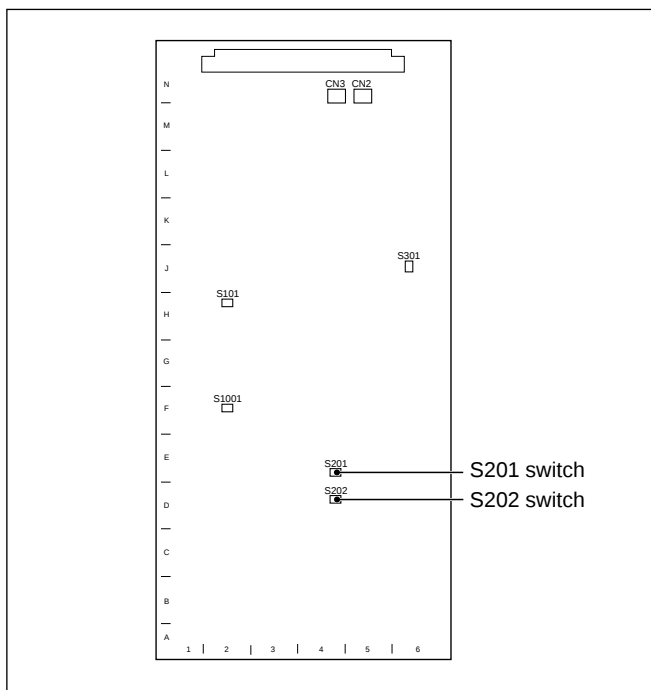
- Set the S1 switch on the DM board to MAN.
- Set the S2 (CABLE LENGTH) switch to the appropriate position according to the cable length as shown below.

Cable length			Switch setting
FUJIKURAø8.5	FUJIKURAø14.5	Belden 9238	
100 m (328 feet)	200 m (656 feet)	150 m (492 feet)	0
280 m (919 feet)	560 m (1,837 feet)	420 m (1,378 feet)	1
460 m (1,509 feet)	920 m (3,018 feet)	690 m (2,264 feet)	2
640 m (2,100 feet)	1,280 m (4,199 feet)	960 m (3,150 feet)	3
820 m (2,690 feet)	1,680 m (5,512 feet)	1,230 m (4,035 feet)	4
1,000 m (3,281 feet)	2,000 m (6,562 feet)	1500 m (4,921 feet)	5

Switches 6, 7, 8 and 9 are not used.

Setting on the CCU-550A/550AP

Proceed as follows.



DM board of the CCU-550A/550AP

- 1 Set the S201 switch on the DM board to MANU.
- 2 Set the S202 (CABLE LENGTH) switch to the appropriate position according to the cable length as shown below.

Cable length			Switch setting
FUJIKURAø8.5	FUJIKURAø14.5	Belden 9238	
120 m (394 feet)	240 m (787 feet)	180 m (591 feet)	1
360 m (1,181 feet)	720 m (2,362 feet)	540 m (1,772 feet)	2
600 m (1,969 feet)	1,200 m (3,937 feet)	900 m (2,953 feet)	3

Adjusting the black level of the camera signal

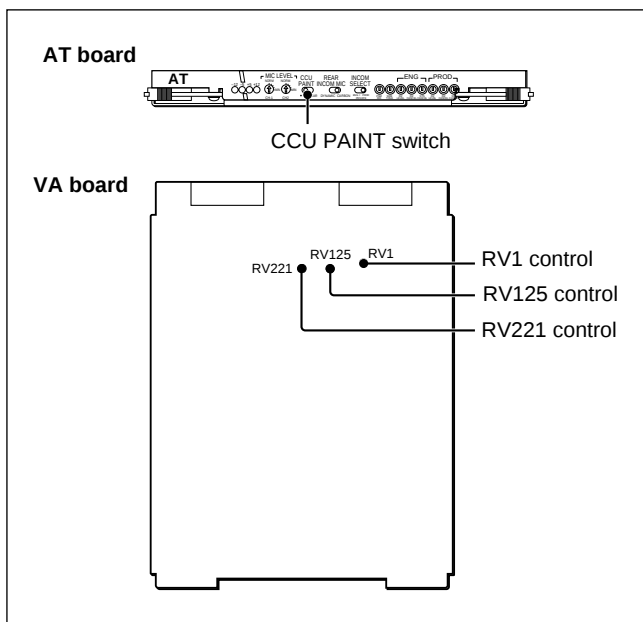
Adjust the black level of the camera signal.

Note

Perform the black-level adjustment with the lens on the camera closed and the master black value set to -99.

Adjusting on the CCU-700/700AP

Proceed as follows.



AT and VA boards of the CCU-700A/700AP

- 1 Set the CCU PAINT switch on the front of the AT board to CLEAR.

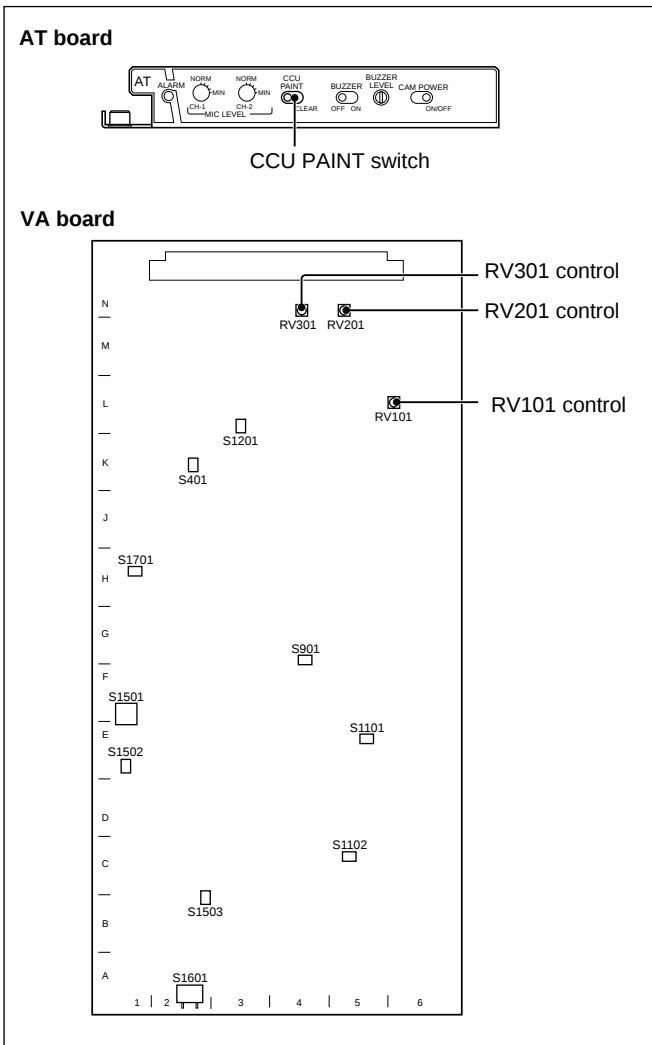
The center value of the adjustable range is retrieved.

- 2 Adjust the level with the following controls on the VA board.
 - RV1:** To adjust the black level of the Y signal sent from the camera
 - RV125:** To adjust the black level of the R-Y signal sent from the camera
 - RV221:** To adjust the black level of the B-Y signal sent from the camera

3-3 Checking and Adjusting the Signal of the System

Adjusting on the CCU-550A/550AP

Proceed as follows.



- 1 Set the CCU PAINT switch on the AT board to CLEAR.

The center value of the adjustable range is retrieved.

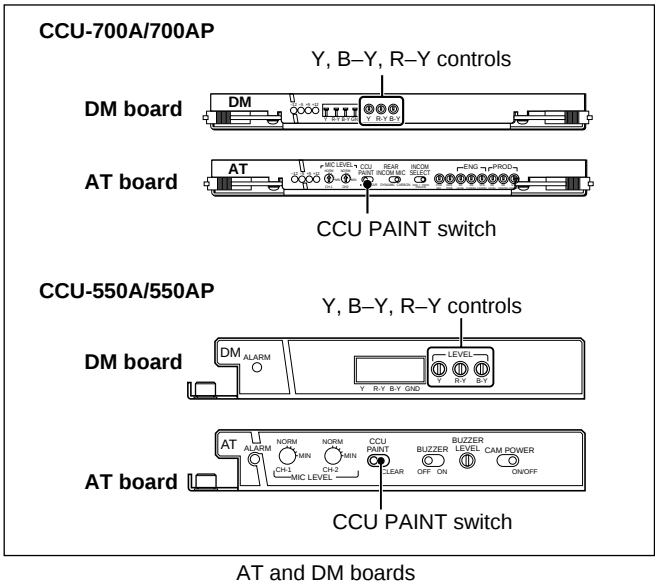
- 2 Adjust the level with the following controls on the VA board.
 - RV101:** To adjust the black level of the Y signal sent from the camera
 - RV201:** To adjust the black level of the R-Y signal sent from the camera
 - RV301:** To adjust the black level of the B-Y signal sent from the camera

Adjusting the level of the camera signal

Supply a camera signal from the VBS connector on the CCU-700A/700AP/550A/550AP and the color bar signals from the camera. Then adjust the level of the camera signal with the controls on the DM board of the CCU-700A/700AP/550A/550AP so that it matches the level of the color-bar signals. To supply the color bar signals, set the CB on the VTR/CCU display of the System Config Menu to ON.

For details on supplying the color bar signals, see Chapter 7 “Stand-Alone Operations of Cameras, etc.”

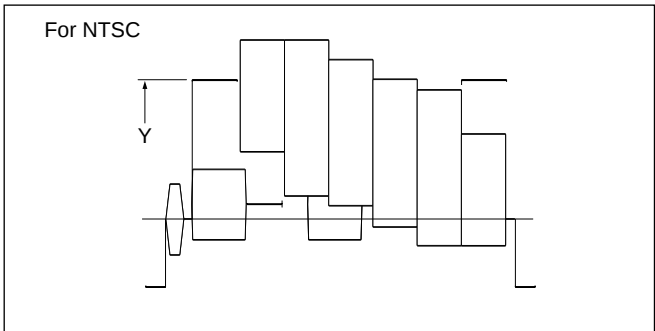
Proceed as follows.



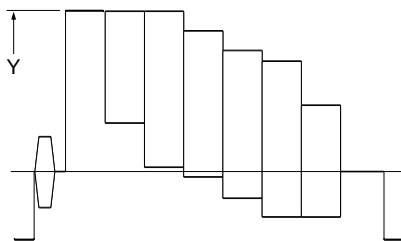
- 1 Set the CCU PAINT switch on the front of the AT board to CLEAR.

The center value of the adjustable range is retrieved.

- 2 Adjust the Y signal level with the Y control on the DM board as shown below.

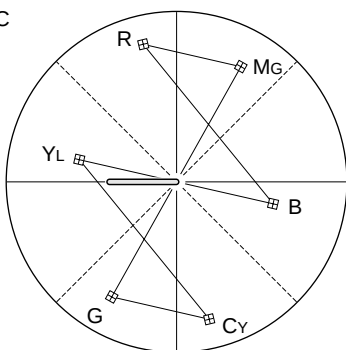


For PAL

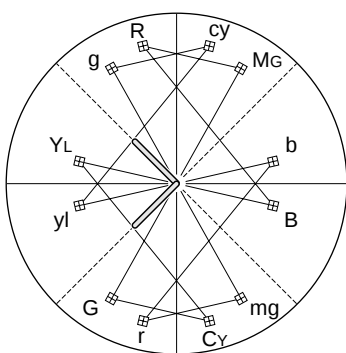


- 3** Adjust the B-Y and R-Y signal levels with the B-Y and R-Y controls on the DM board as shown below.

For NTSC



For PAL



When the above adjusting is finished, be sure to set the CB on the VTR/CCU display of the System Config Menu to OFF.

Adjusting the level and the black level of the camera signal using the MSU-700A/750

You can adjust the level and black level of the camera signal using the Maintenance Menu of the MSU-700A/750.

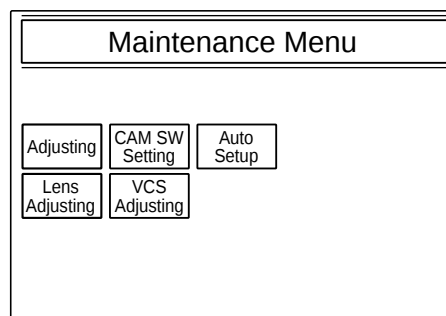
Note

Perform the following adjustment with the lens on the camera closed and the master black value set to -99.

Proceed as follows.

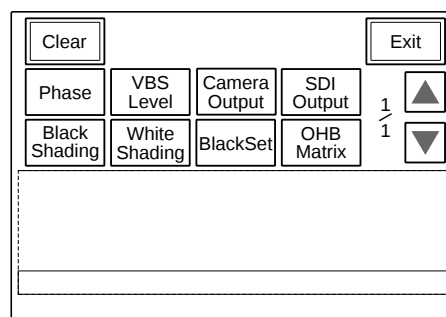
- 1** Press the MAINTENANCE button in the MODE block of the MSU-700A/750.

The Maintenance Menu appears.



- 2** Press **Adjusting**.

The Maintenance adjusting item menu appears.



- 3** Press **Camera Output** to set it in inverse video to turn on Camera Output Level mode.

The lower half of the display becomes the Camera Output Level display.

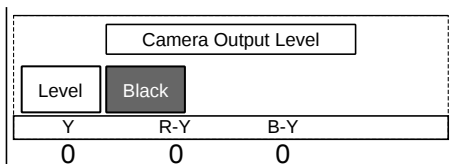
There are two Camera Output Level displays, Level and Black, which can be selected on the submenu.

(Continued)

3-3 Checking and Adjusting the Signal of the System

- 4** Press **Black** to set it in inverse video to turn on Black control mode.

The lower half of the display becomes the Black control display.



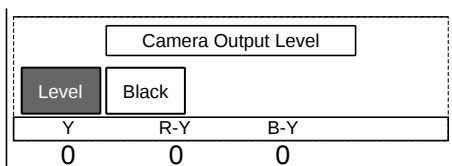
- 5** Adjust the signal level with the three left control knobs.
- Y:** To adjust the black level of the Y signal sent from the camera
 - R-Y:** To adjust the black level of the R-Y signal sent from the camera
 - B-Y:** To adjust the black level of the B-Y signal sent from the camera

- 6** Set the CB to ON on the VTR/CCU display of the SYSTEM CONFIG menu of the camera, and output the color bar signals from the camera.

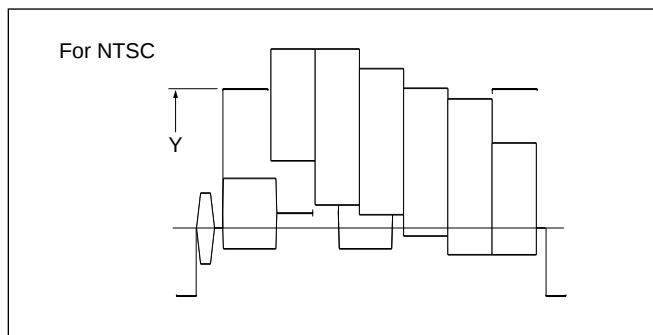
For details on the color bar signal output, see Chapter 7 “Stand-Alone Operations of Camers, etc.”

- 7** Press **Level** to set it in inverse video to turn on Level control mode.

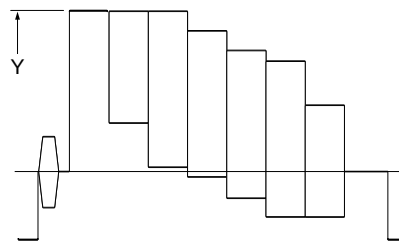
The lower half of the display becomes the Level control display.



- 8** Adjust the Y signal level with the Y control knob as shown below.

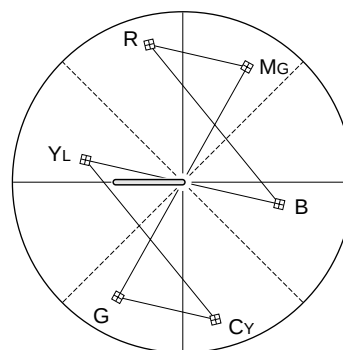


For PAL

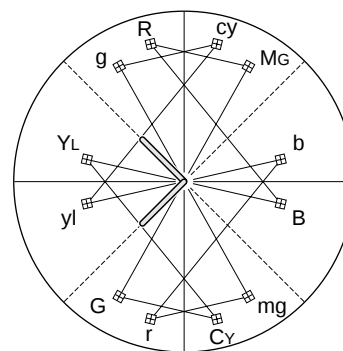


- 9** Adjust the B-Y and R-Y signal levels with the B-Y and R-Y control knobs as shown below.

For NTSC



For PAL



To terminate the adjustment

Press the MAINTENANCE button to make it go dark.

3-3-5 Adjusting the Signal of the Optional Boards

When the cable compensation setting is finished, adjust the signal of the optional boards.

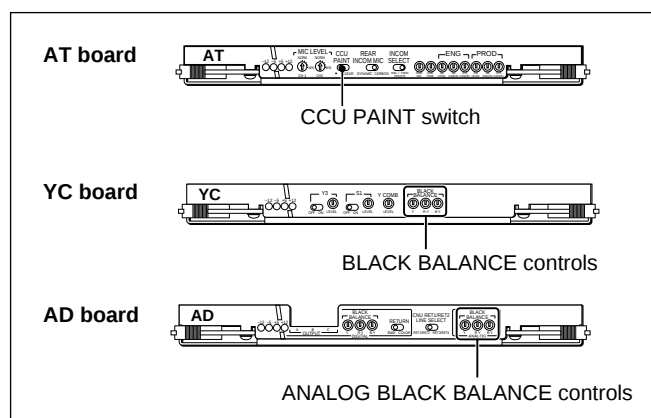
Adjusting the black level of the camera signal

Note

Perform the black-level adjustment with the lens of the camera closed and the master black value set to -99.

Adjusting on the CCU-700A/700AP

Adjust the black level of the camera signal using the controls on the YC board and AD board of the CCU-700A/700AP. Proceed as follows.



Internal boards of the CCU-700A/700AP

- 1 Set the CCU PAINT switch on the AT board to CLEAR.

The center value of the adjustable range is retrieved.

- 2 Adjust the level with the following controls on the front panel of the optional board.
 - 1) Adjust the black balance of the YC board with the BLACK BALANCE controls, and check the balance using the VBS output signal of the CCU-700A/700AP.
 - Y:** To adjust the black level of the Y signal sent from the camera
 - R-Y:** To adjust the black level of the R-Y signal sent from the camera
 - B-Y:** To adjust the black level of the B-Y signal sent from the camera

- 2) Adjust the black balance of the AD board with the ANALOG BLACK BALANCE controls and check the balance using the VBS output signal of the CCU-700A/700AP.
 - Y:** To adjust the black level of the Y signal sent from the camera
 - R-Y:** To adjust the black level of the R-Y signal sent from the camera
 - B-Y:** To adjust the black level of the B-Y signal sent from the camera

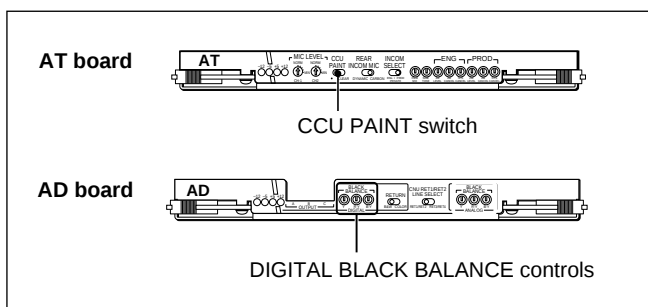
Adjusting the black level of the SDI signal

Note

Perform the black-level adjustment with the lens of the camera closed and the master black value set to -99.

Adjusting on the CCU-700A/700AP

Adjust the black level of the SDI signal using the controls on the YC board and AD board of the CCU-700A/700AP. Proceed as follows.



Internal boards of the CCU-700A/700AP

- 1 Set the CCU PAINT switch on the front of the AT board to CLEAR.

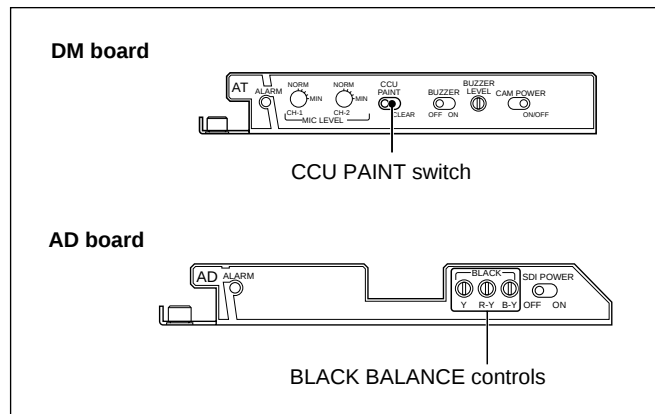
The center value of the adjustable range is retrieved.

- 2 Adjust the following level with the DIGITAL BLACK BALANCE controls on the AD board and check the level using the SDI output signal of the CCU-700A/700AP.
 - Y:** To adjust the black level of the Y signal sent from the camera
 - R-Y:** To adjust the black level of the R-Y signal sent from the camera
 - B-Y:** To adjust the black level of the B-Y signal sent from the camera

3-3 Checking and Adjusting the Signal of the System

Adjusting on the CCU-550A/550AP

Adjust the black level of the SDI signal using the controls on the AD board of the CCU-550A/550AP. Proceed as follows.



Internal boards of the CCU-550A/550AP

- 1 Set the CCU PAINT switch on the front of the AT board to CLEAR.

The center value of the adjustable range is retrieved.

- 2 Adjust the following level with the BLACK BALANCE controls on the AD board and check the level using the SDI output signal of the CCU-550A/550AP.
Y: To adjust the black level of the Y signal sent from the camera
R-Y: To adjust the black level of the R-Y signal sent from the camera
B-Y: To adjust the black level of the B-Y signal sent from the camera

Adjusting the level and the black level of the SDI signal using the MSU-700A/750

You can adjust the level and black level of the camera signal using the Maintenance Menu of the MSU-700A/750 when an optional AD board is installed in the CCU.

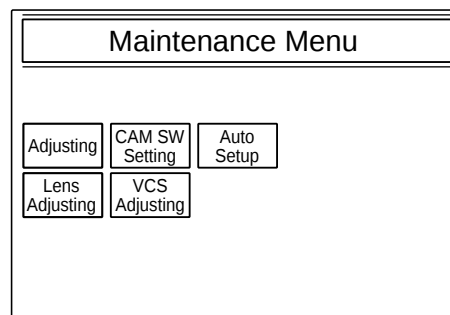
Note

Perform the following adjustment with the lens of the camera closed and the master black value set to -99.

Proceed as follows.

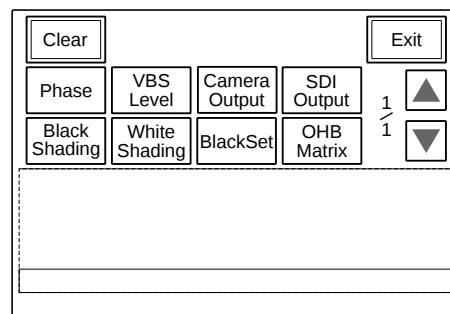
- 1 Press the MAINTENANCE button in the MODE block of the MSU-700A/750.

The Maintenance Menu appears.



- 2 Press **Adjusting**.

The Maintenance adjusting item menu appears.

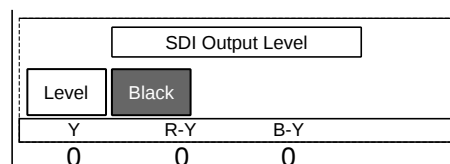


- 3 Press **SDI Output** to set it in inverse video to turn on Camera Output Level mode.

The lower half of the display becomes the SDI Output Level display. There are two SDI Output Level displays (Level and Black) which can be selected on the submenu.

- 4 Press **Black** to set it in inverse video to turn on Black control mode.

The lower half of the display becomes the Black control display.

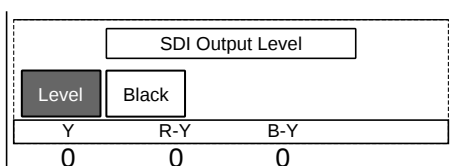


- 5 Adjust the signal level with the three left control knobs.
Y: To adjust the black level of the Y signal sent from the camera
R–Y: To adjust the black level of the R–Y signal sent from the camera
B–Y: To adjust the black level of the B–Y signal sent from the camera
- 6 Set the CB to ON on the VTR/CCU display of the SYSTEM CONFIG menu of the camera and output the color bar signals from the camera.

For details on the color bar signal output, see Chapter 7 “Stand-Alone Operations of Cameras, etc.”

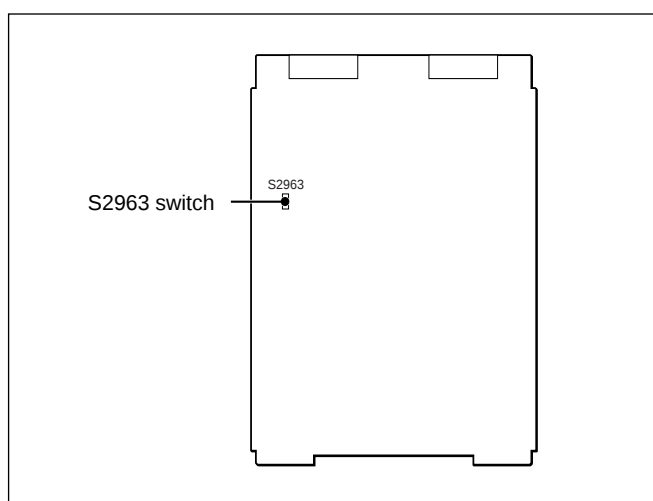
- 7 Press **[Level]** to set it in inverse video to turn on Level control mode.

The lower half of the display becomes the Level control display.



- 8 Adjust the signal level with the control knobs as shown below.

Adjusting on the CCU-700A/700AP



AD board of the CCU-700A/700AP

- 1) Set the S2963 switch on the AD board to OFF.
- 2) Select the color-bar signals.
- 3) Select Y, R–Y, and B–Y on the SDI waveform monitor.

- 4) Turn the Y control so that the Y signal level becomes 100%.

- 5) Turn the R–Y control so that the R–Y signal level becomes 75%.

- 6) Turn the B–Y control so that the B–Y signal level becomes 75%.

When the above adjustments are completed, set the S2963 switch to ON.

Adjusting on the CCU-550A/550AP

- 1) Select the color-bar signals.
- 2) Select Y, R–Y, and B–Y on the SDI waveform monitor.
- 3) Turn the Y control so that the Y signal level becomes 100%.
- 4) Turn the R–Y control so that the R–Y signal level becomes 75%.
- 5) Turn the B–Y control so that the B–Y signal level becomes 75%.

To terminate the adjustment

Press the MAINTENANCE button to make it go dark.

3-3 Checking and Adjusting the Signal of the System

3-3-6 Selecting and Adjusting the Signal on a Waveform Monitor

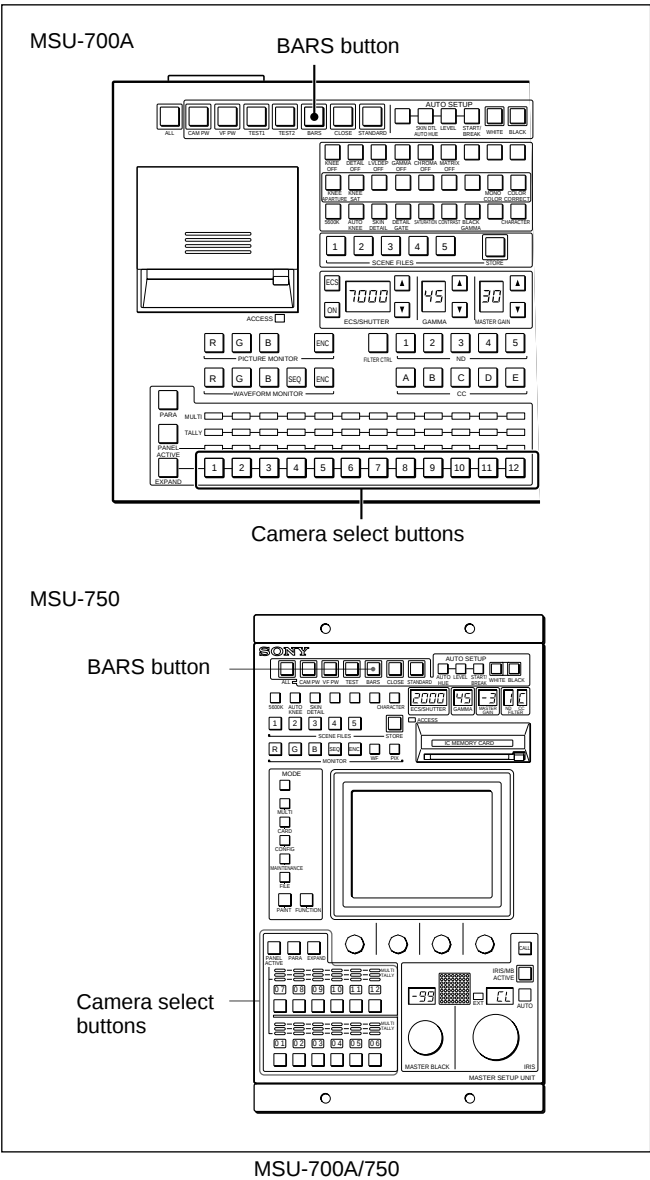
When an MSU-700A/750, CNU-700/500 and VCS-700 are used in a system, you can monitor the video output signal on a waveform monitor connected to the WF A OUTPUT or WF B OUTPUT connector on the VCS-700. Connect the WF 2 connector on the CCU-700A/700AP or the WF connector on the CCU-550A/550AP to one of the WF 1 through 6 connectors on the VCS-700, and the PIX 2 connector on the CCU-700A/700AP or the PIX connector on the CCU-550A/550AP to one of the PIX 1 through 6 connectors, and check and adjust the signal using a color-bar signal.

Note

When two CNU-700s are used in a system, up to four MSU-700A/750 can be connected in the system. In this case, the signal corresponding to the camera select button on the MSU-700A/750 pressed last is output to the waveform monitor.

Selecting a signal for a waveform monitor

Proceed as follows.



- 1 Press one of the camera select buttons on the MSU-700A/750 to select a CCU-700A/700AP/550A/550AP whose output signal is to be displayed on a monitor screen.
- 2 Press and light the BARS button on the MSU-700A/750.

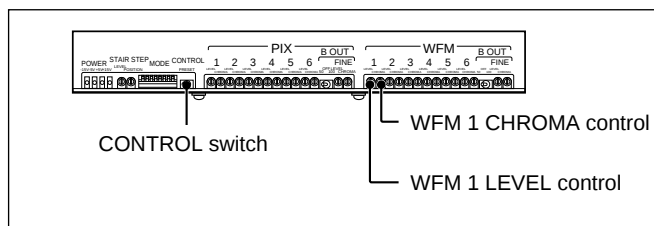
A color-bar signal is represented on the waveform monitor screen.

Adjusting the level of the signal on a waveform monitor

Adjust the output signal level of a standard CCU-700A/700AP/550A/550AP referring to the signal displayed on the screen of the waveform monitor connected to the WF A OUTPUT connector. Then adjust the signal level of all the other CCUs. The adjustment is done with the controls on the VSW board of the VCS-700, or from the Maintenance Menu of the MSU-700A/750.

Adjusting with the controls of the VCS-700

Proceed as follows.



VSW board of the VCS-700

Adjusting the level of the standard CCU-700A/700AP/550A/550AP

- 1 Set the CONTROL switch on the VSW board to RESET.

The center value of the adjustable range is retrieved.

- 2 Select the CCU-700A/700AP/550A/550AP connected to the WF 1 connector on the VCS-700 with the camera select buttons on the MSU-700A/750.
- 3 Check that the signal input to the WF 1 connector of the VCS-700 satisfies the standards.
- 4 If the standards are not satisfied, adjust the signal with the WFM 1 CHROMA and LEVEL controls on the VSW board.

Adjusting the level of all the CCU-700A/700AP/550A/550APs

- 1 Select the CCU-700A/700AP/550A/550AP connected to one of the WF 2 through 6 connectors on the VCS-700 with the camera select buttons on the MSU-700A/750.

- 2 Check that the signal level of the selected CCU matches that of the standard CCU.

- 3 If the level does not match, adjust the signal with the WFM 2 through 6 CHROMA and LEVEL controls on the VSW board.

Note

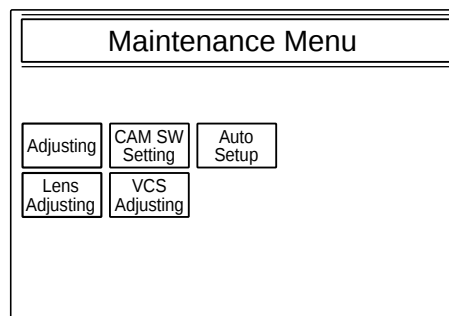
If the level of the CCU-700A/700AP/550A/550AP is far from the standard value, check the output signal level of the CCU-700A/700AP/550A/550AP.

Adjusting with the MSU-700A/750

Basic procedures are the same as those with the controls on the VSW board of the VCS-700. Instead of the controls of the VCS-700, use the control knobs of the MSU-700A/750. Proceed as follows.

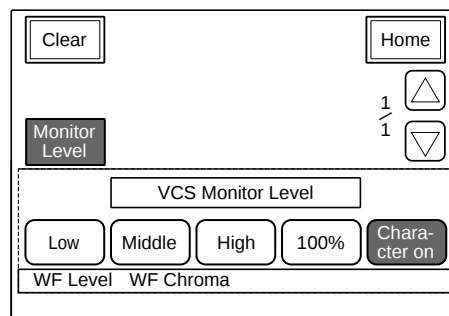
- 1 Press the MAINTENANCE button in the MODE block of the MSU-700A/750.

The Maintenance Menu appears on the display.



- 2 Press **VCS Adjusting**.

The VCS Monitor Level display appears.



(Continued)

3-3 Checking and Adjusting the Signal of the System

3 Adjust the following levels with the corresponding control knobs.

WF Level: The level of the signal

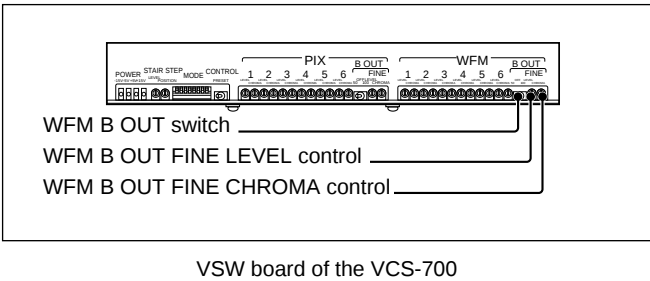
WF Chroma: The chroma level of the signal

To terminate the adjustment

Press the MAINTENANCE button to make it go dark.

Adjusting the cable compensation of a cable connecting a waveform monitor and signal level

When a waveform monitor is connected to the WF B OUTPUT connector on the VCS-700, adjust the cable compensation and signal level according to the length of the cable used for connecting the waveform monitor to the WF B OUTPUT connector. Proceed as follows.

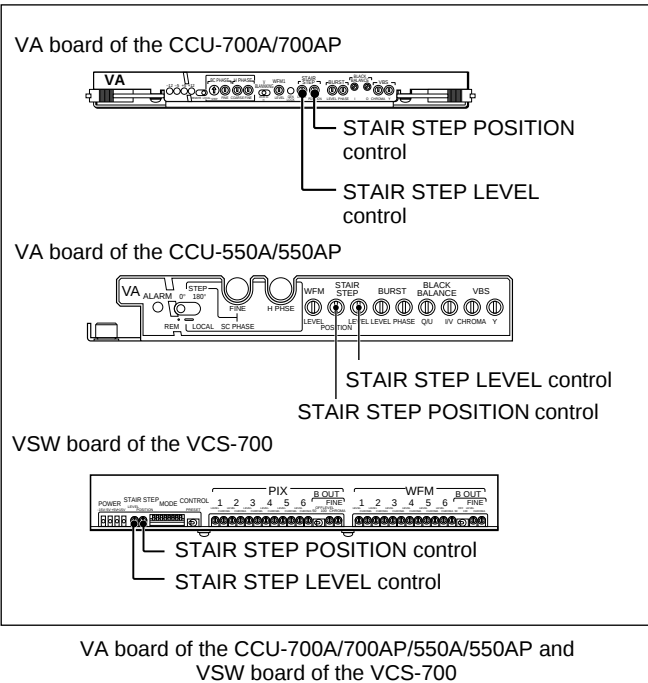


- 1** Select a CCU-700A/700AP/550A/550AP with the camera select buttons on the MSU-700A/750.
- 2** Set the WFM B OUT switch according to the length of the cable used for connecting the waveform monitor.
- 3** Adjust the signal level with the WFM B OUT FINE LEVEL and FINE CHROMA controls so that the level matches the specified level by monitoring the signal on the waveform monitor screen.

Adjusting the staircase signal

Adjust the staircase signal for displaying the signal on the waveform monitor screen in sequential mode. This adjustment is necessary only when the signal in sequential mode does not appear on the monitor screen correctly.

When the waveform monitor is connected to the CCU-700A/700AP/550A/550AP, use the controls on the VA board of the CCU-700A/700AP/550A/550AP, and when the monitor is connected to the VCS-700, use the controls on the VSW board of the VCS-700. Proceed as follows.



- 1** Set the waveform monitor to sequential mode. On the MSU-700A, press the SEQ button of the WAVEFORM MONITOR button. On the MSU-750, press the MONITOR WF button, then the SEQ button.
- 2** Adjust the interval of the signals displayed on the monitor screen with the STAIR STEP LEVEL control.
- 3** Adjust the position for displaying the signal with the STAIR STEP POSITION control.

- The waveform-monitor control signal is output from the VCS-700 synchronizing with the output signal of the WF 2 connector on the CCU-700A/700AP or the WF connector on the CCU-550A/550AP when the SEQ button of the WAVEFORM MONITOR buttons of the MSU-700A is pressed or when the SEQ button of the MSU-750 is pressed after the MONITOR WF button being pressed.
- The waveform-monitor control signal is output from the CCU-700A/700AP/550A/550AP synchronizing with the output signal of the WF 1 connector on the CCU-700A/700AP or the WF connector on the CCU-550A/550AP when the SEQ button of the WAVEFORM MONITOR buttons of the RCP-700-series unit is pressed.

Note

Control of sequential mode depends on the waveform monitor. If necessary, you can reverse the direction of the control signal with a switch on an internal board as follows:

VA board of the CCU-700A/700AP: S1102

VA board of the CCU-550A/550AP: S901

VSW board of the VCS-700: S8

If the adjustment is impossible with the direction reversed, adjust on the waveform monitor.

For further details, refer to the Maintenance Manual supplied with the VCS-700 and the Operation Manuals supplied with the VCS-700 and waveform monitor.

3-3-7 Selecting and Adjusting the Signal on a Picture Monitor

When an MSU-700A/750, CNU-700/500 and VCS-700 are used in a system, you can monitor the video output signal on a monitor connected to the PIX A OUTPUT or PIX B OUTPUT connector on the VCS-700. Connect the PIX 2 connector of the CCU-700A/700AP or the PIX connector on the CCU-550A/550AP to one of the PIX 1 through 6 connectors on the VCS-700, and check and adjust the signal using a color-bar signal.

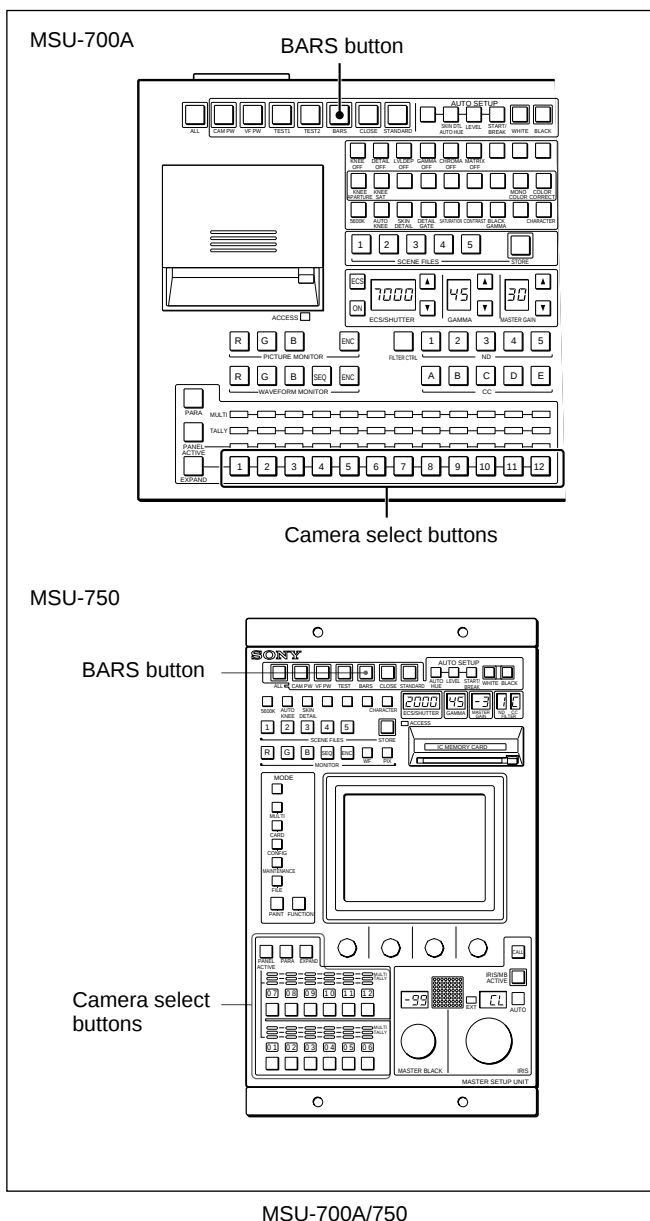
Note

When two CNU-700s are used in a system, up to four MSU-700A/750 can be connected in the system. In this case, the signal of the camera corresponding to the camera select button on the MSU-700A/750 pressed last is output to the picture monitor.

3-3 Checking and Adjusting the Signal of the System

Selecting a signal for a picture monitor

Proceed as follows.

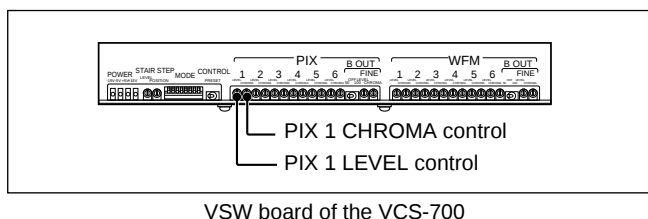


- 1 Press one of the camera select buttons on the MSU-700A/750 to select a CCU-700A/700AP/550A/550AP whose output signal is to be displayed on a monitor screen.
- 2 Press and light the BARS button on the MSU-700A/750.

A color-bar signal appears on the picture monitor screen.

Adjusting the level of the signal on a picture monitor

Adjust the output signal level of a standard CCU-700A/700AP/550A/550AP referring to the signal displayed on the screen of the picture monitor connected to the PIX A OUTPUT connector. Then adjust the signal level of all the other CCU-700A/700AP/550A/550APs. Use the controls on the VSW board of the VCS-700, and proceed as follows.



Adjusting the level of the standard CCU-700A/700AP/550A/550AP

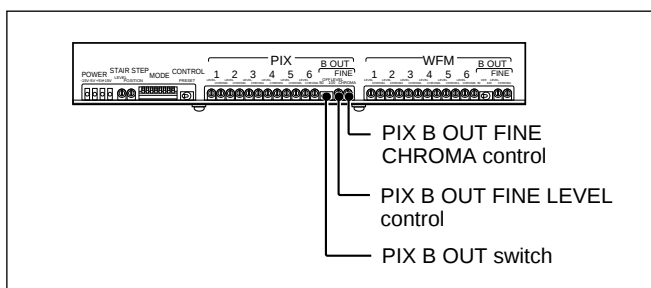
- 1 Select the CCU-700A/700AP/550A/550AP connected to the PIX 1 connector on the VCS-700 with the camera select buttons on the MSU-700A/750.
- 2 Check that the signal input to the PIX 1 connector of the VCS-700 satisfies the standards.
- 3 If the standards are not satisfied, adjust the signal with the PIX 1 CHROMA and LEVEL controls on the VSW board.

Adjusting the level of all the CCU-700A/700AP/550A/550APs

- 1 Select the CCU-700A/700AP/550A/550AP connected to one of the PIX 2 through 6 connectors on the VCS-700 with the camera select buttons on the MSU-700A/750.
- 2 Check that the signal level of the selected CCU matches that of the standard CCU.
- 3 If the level does not match, adjust the signal with the PIX 2 through 6 CHROMA and LEVEL controls on the VSW board.

Adjusting the cable compensation of a cable connecting a picture monitor and signal level

When a picture monitor is connected to the PIX B OUTPUT connector on the VCS-700, adjust the cable compensation and signal level according to the length of the cable used for connecting the picture monitor to the PIX B OUTPUT connector. Proceed as follows.



VSW board of the VCS-700

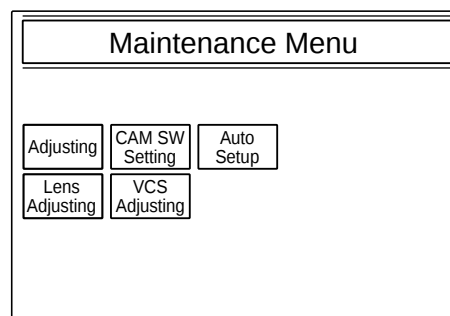
- 1 Select a CCU-700A/700AP/550A/550AP with the camera select buttons on the MSU-700A/750.
- 2 Set the PIX B OUT switch according to the length of the cable used for connecting the picture monitor.
- 3 Adjust the signal level with the PIX B OUT FINE LEVEL and FINE CHROMA controls so that the level matches the specified level by monitoring the signal on the picture monitor screen.

3-3-8 Setting the Mix Ratio of the Character Signal and the Video Signal

The video signal sent from the CCU-700A/700AP/550A/550AP can be mixed with the character signal output from the CHARACTER connector on the VCS-700. The mix ratio is adjusted with the VCS Monitor Level display of the MSU-700A/750. Proceed as follows.

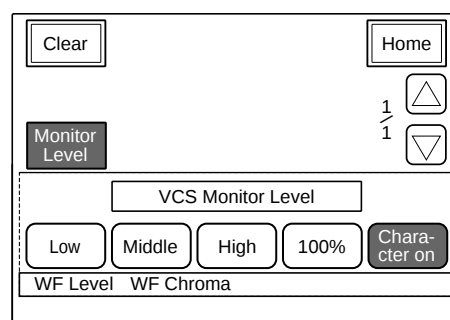
- 1 Press the MAINTENANCE button in the MODE block of the MSU-700A/750.

The Maintenance Menu appears on the display.



- 2 Press **VCS Adjusting**.

The VCS Monitor Level display appears.



- 3 Select the mix ratio by pressing one of **Low**, **Middle**, **High** or **100%**.

When you press **Low**, the ratio of character signal is lowest, and when you press **100%**, only the character signal is output.

To terminate the adjustment

Press the MAINTENANCE button to make it go dark.

3-3 Checking and Adjusting the Signal of the System

Turning ON and OFF the character display

When you press **Character on** on the VCS Monitor Level display to set it in invert video, characters or figures are displayed on the monitor connected to the CHARACTER connector. Pressing **Character on** again will extinguish the display. This key has the same function as the CHARACTER button on the MSU-700A/750.

3-3-9 When Adjustments Are Finished

When adjustments mentioned in “3-3-1” through “3-3-8” are finished, set the switches as follows:

REMOTE/LOCAL switch on the VA board of the

CCU-700A/700AP/550A/550AP: REMOTE

CCU PAINT switch on the AT board of the

CCU-700A/700AP/550A/550AP: Opposite position of CLEAR

CONTROL switch on the VSW board of the

VCS-700: Opposite position of PRESET

3-4 Initial Settings for the Control System

For a system using the MSU-700A/750, you will need to set parameters for control of your system from the MSU-700A/750 as well as the operating conditions of the MSU-700A/750.

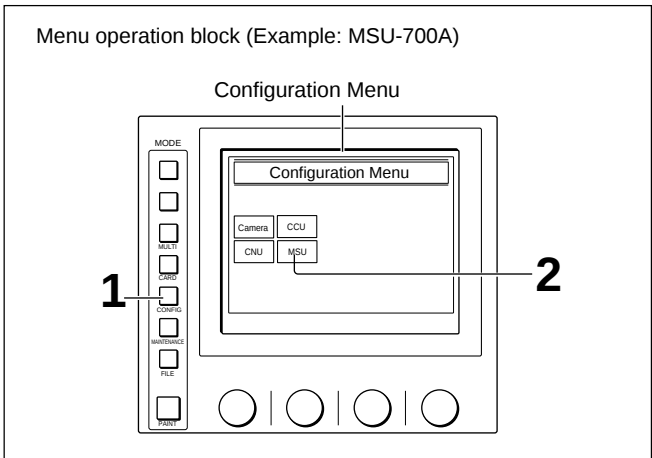
The MSU-700A/750 has Engineer mode, which allows you to assign cameras to be controlled from the MSU-700A/750 and limit the operations on the MSU-700A/750.

To authorize specific persons to use this Engineer mode, specify a security code in advance. Once the security code is set, the MSU-700A/750 will enter Engineer mode when this security code is input.

3-4-1 Specifying the Security Code

You can set, change or delete the security code for entering Engineer mode as follows:

To set a new security code



Note

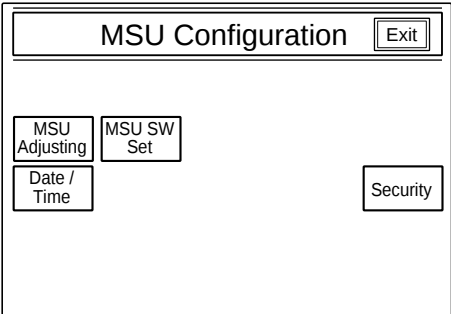
At the factory, the unit is set in a mode in which no security code is used. To use a security code, it is necessary to enable the use of a security code. See “To enable/cancel the security code” (page 3-89).

1 Press to light the CONFIG button.

The Configuration Menu appears on the display.

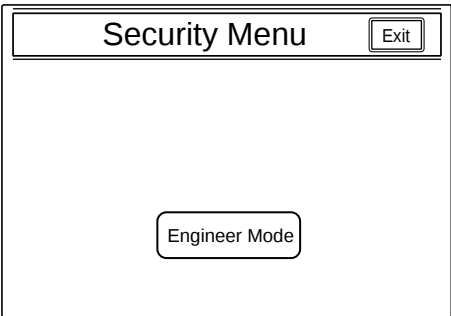
2 Press **MSU**.

The MSU Configuration Menu appears.



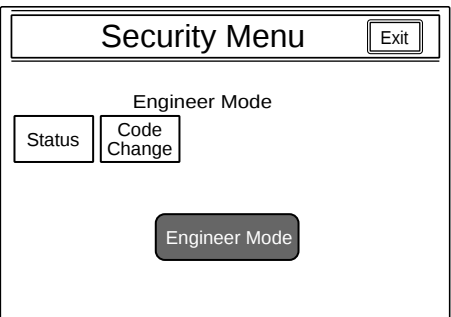
3 Press **Security**.

The Security Menu display appears.



4 Press **Engineer Mode** to set it to inverse video.

The Security Menu items now appear.

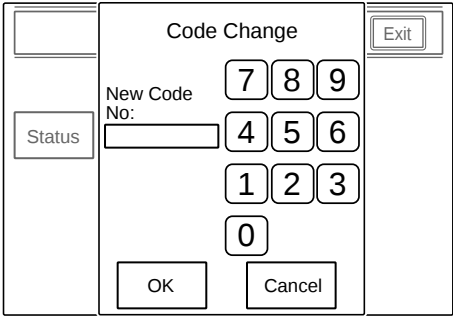


(Continued)

3-4 Initial Settings for the Control System

5 Press **Code Change**.

The numeric keys and field for entering a new code No. are displayed.



6 Enter the desired code (1 to 8 digits) using the numeric keys, then press **OK**.

Note
Each digit you input will be displayed as an asterisk.

The message “Retype New Code No.” is displayed.

7 Enter the same code you entered in step 5 once again, then press **OK**.

The Security Menu display is restored.

8 Press **Exit**.

The specified security code is now registered. When you next press **Engineer Mode** on the Security Menu, the numeric keys appear, the code input is requested, and the MSU-700A/750 will enter Engineer mode if you enter the code properly and press **OK**.

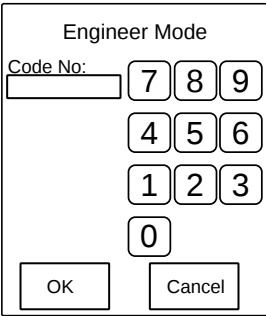
To change the security code

When the registered code must be changed, proceed as follows.

1 Display the Security Menu items by following steps 1 through 3 of the above procedure for setting a new code.

2 Press **Engineer Mode** to set it to inverse video.

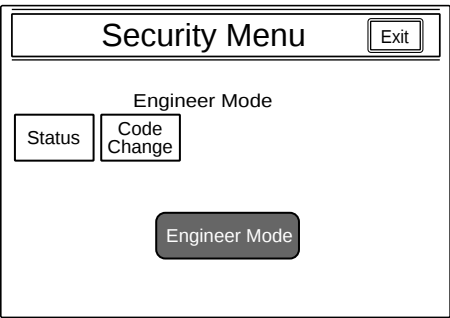
The numeric keys and field for entering the code No. are displayed.



3 Enter the old security code using the numeric keys, then press **OK**.

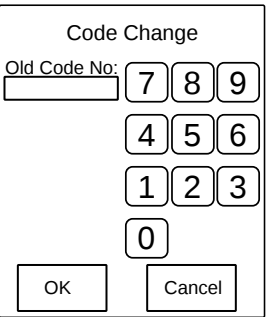
Note
Each digit you input will be displayed as an asterisk.

The Security Menu items now appear.



4 Press **Code Change**.

The numeric keys and field for entering the old code No. are displayed.



- 5** Enter the old code, then press **[OK]**.

The field for entering a new code No. now appears.

Code Change

Old Code No: [7] [8] [9]

New Code No: [4] [5] [6]

[1] [2] [3]

[0]

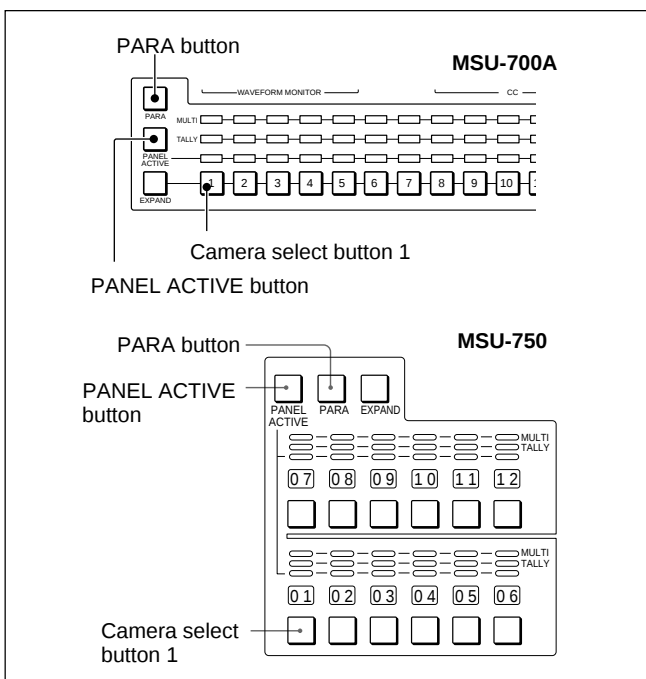
[OK] [Cancel]

- 6** Specify a new code by following steps **6** through **8** of the previous procedure for setting a new code.

To enable cancel the security code

To use a security code in Engineer mode, it is necessary to set the unit a mode to use the security code. If the operator forgets the security code, or if an adjustment in Engineer mode becomes necessary in an emergency when the unauthorized operator is absent, the security code can be canceled by the following procedure:

- 1** Turn on the power to the MSU-700A/750 while holding PARA, PANEL ACTIVE and camera select button 1 pressed.



The numeric keys appear on the display.

- 2** Press **[0] [3] [5] [9]** of the numeric keys to enter “0359” in the field for the security code, then press **[OK]**.

The Engineer Protection display now appears.

Engineer Protection [Exit]

Protection

[Code Enable]

[Code Delete]

- 3** To enable the security code, press **[Code Enable]** to set it to inverse video.

To temporarily disable the security code, press **[Code Enable]** to change it from inverse video to unhighlighted display. (Once you press it again to return it to inverse video, the security code is enabled.)

To delete the security code, press **[Code Delete]**.

- 4** As the message “Code Delete OK?” is displayed if you press **[Code Delete]** in step **3**, press **[OK]** to return to the Engineer Protection display.

- 5** Press **[Exit]**.

Note

At the factory, the unit is set in a mode in which no security code is used.

3-4 Initial Settings for the Control System

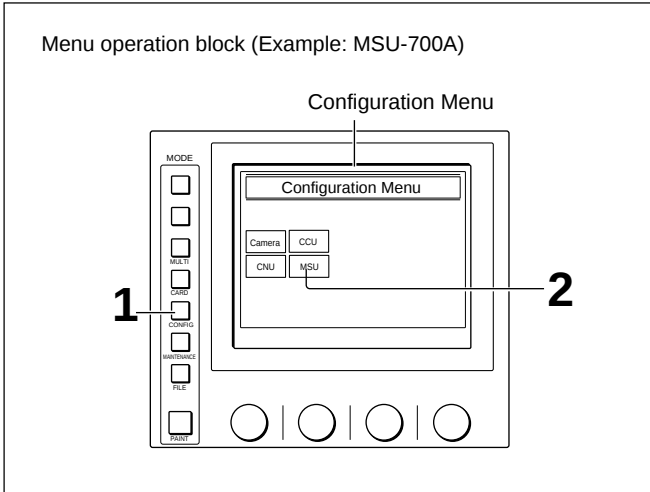
3-4-2 Setting the Security Status

You can limit the control functions of the MSU-700A/750 when required.

This status setting is enabled in Engineer mode.

Operation

Proceed as follows:

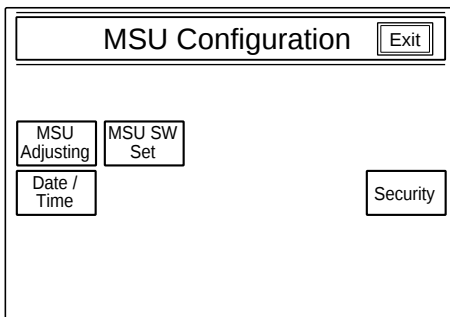


- 1 Press to light the CONFIG button.

The Configuration Menu appears on the display.

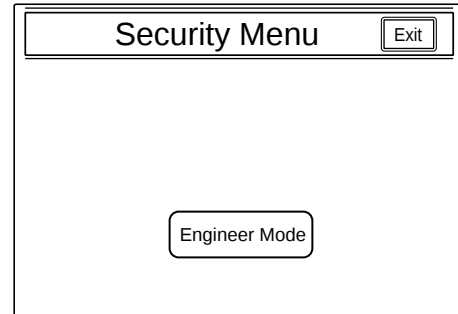
- 2 Press **[MSU]**.

The MSU Configuration Menu appears.



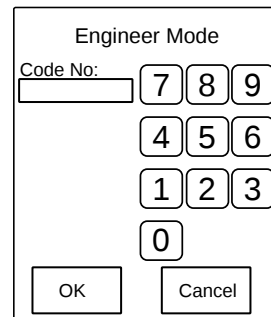
- 3 Press **[Security]**.

The Security Menu display appears.



- 4 Press **[Engineer Mode]** to set it to inverse video.

The numeric keys and field for entering the code No. are displayed.

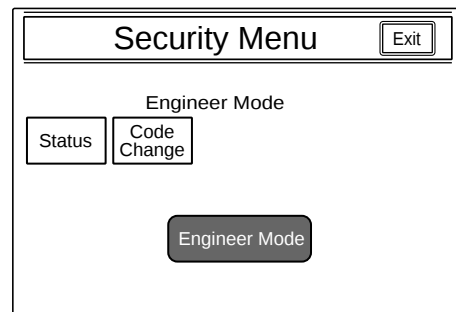


- 5 Enter the security code using the numeric keys, then press **[OK]**.

Note

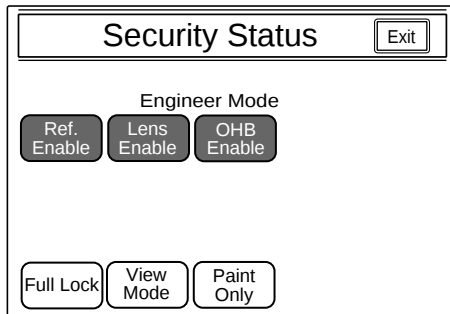
Each digit you input will be displayed as an asterisk.

The Security Menu items now appear.



6 Press **[Status]**.

The display changes to the Security Status setting display.



7 Set the statuses for control from the MSU-700A/750.

[Ref. Enable]: Set it to inverse video to enable the setting in the reference file (Factory setting: ON).

[Lens Enable]: Set it to inverse video to enable the setting in the lens files (Factory setting: ON).

[OHB Enable]: Set it to inverse video to enable the setting in the OHB files (Factory setting: ON).

[Full Lock]: Set it to inverse video to fully disable the MSU-700A/750 (Factory setting: OFF).

[View Mode]: Set it to inverse video to disable all operations from the MSU-700A/750 other than data reference (Factory setting: OFF). (Only the display and indicators will be active. Any settings and adjustments will be disabled.)

[Paint Only]: Set it to inverse video to enable paint control only (Factory setting: OFF).

8 When the status settings are completed, press **[Exit]**.

The Security Menu display in step 5 is restored.

9 Press **[Engineer Mode]** to exit Engineer mode.

The statuses specified in step 7 become valid.

Note

All operations are enabled in Engineer mode regardless of the above status settings.

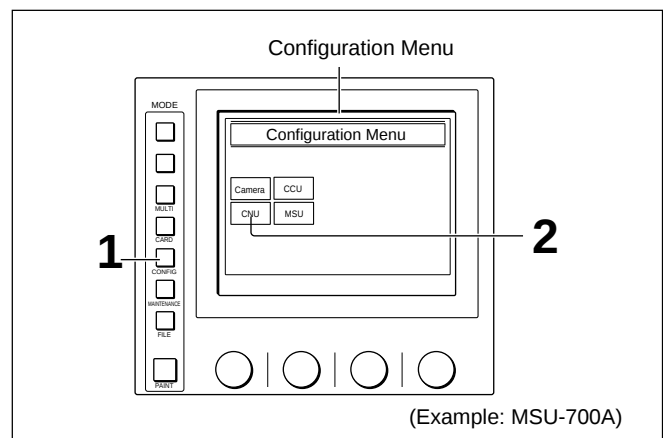
3-4-3 MSU Assignment

You can assign specific units among the cameras in the same system to be selected/controlled from the MSU-700A/750.

This MSU assignment is to be made, for example, to assign cameras to each MSU-700A/750 when multiple MSU-700A/750 units are used in the same system. The assignment operation is enabled only in Engineer mode.

Operation

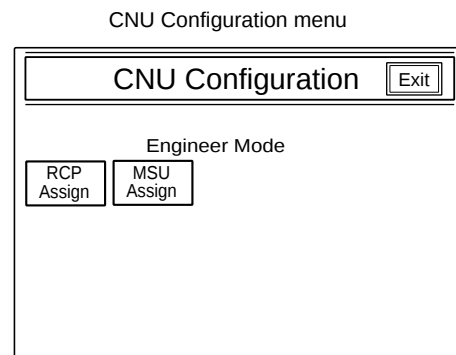
Proceed as follows:



1 Press to light the CONFIG button of the menu control block to call the Configuration Menu on the display.

2 Press **[CNU]**.

The CNU Configuration Menu appears.



Note

The item **[MSU Assign]** is displayed only in Engineer mode is active.

(Continued)

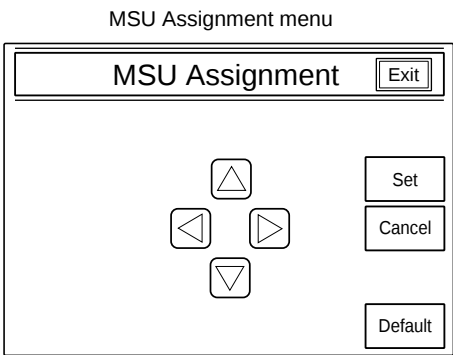
3-4 Initial Settings for the Control System

3 Press **MSU Assign**.

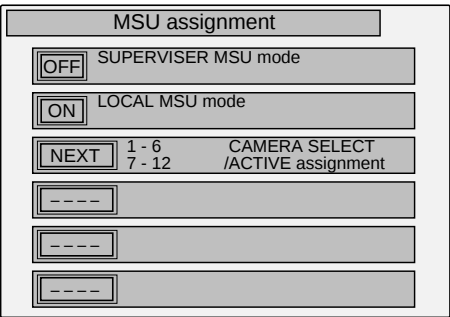
The MSU Assignment menu now appears.

Simultaneously, the character display of the CNU-700 changes to MSU Assignment mode.

Using the four arrow buttons on the MSU Assignment menu (MSU-700A/750), move the cursor on the character display of the CNU-700 to the point where you wish to change the assignment.



Character display of the CNU-700 (in MSU Assignment mode)



4 Select the control mode.

SUPERVISER MSU mode: To control the cameras connected to the entire CNU (Camera Network Unit) in the same system

LOCAL MSU mode: To control the cameras connected to only the CNU connected to the MSU-700A/750 being operated.

Move the cursor to the mode in OFF status and press **Set** on the MSU Assignment menu to switch between modes.

When SUPERVISER mode is active, you can select the setting display for each camera group in the same system from the lower rows on the character display of the CNU-700.

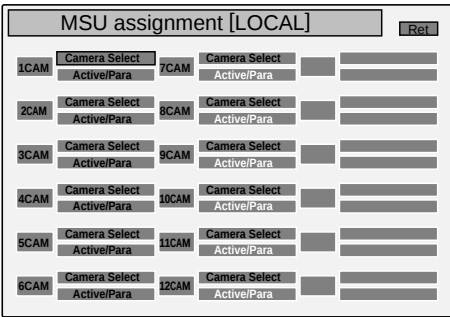
Note

In a system with three CNUs, always set the MSU connected to the CNU between the other two CNUs to LOCAL MSU mode.

5 Select the camera group to be set.

In LOCAL MSU mode, only the group of cameras 1 through 12 (standard) can be selected. Pressing **Set** on the MSU Assignment menu with the cursor on **NEXT** calls the setting display for the selected camera group.

Example: Setting display in LOCAL MSU mode



6 Select the control functions for each camera.

Camera Select: Selection by the corresponding camera select button on the MSU-700A/750

Active/Para: Control from the MSU-700A/750 in Panel Active/Parallel mode.

Each item is on (selection/control enabled) when the characters are shown in black, and off (selection/control disabled) when the characters are shown in white.

Each press **Set** on the MSU Assignment menu with the cursor on the item turns it on or off.

Caution

Be sure to enable camera selection for at least one camera.

If selection/control is disabled for all the connected cameras, the MSU-700A/750 becomes inoperative, and MSU Assignment mode cannot be selected anymore. If this occurs, change the MSU assignment as described in “To restore operations of the MSU-700A/750” on the next page.

To resume the initial assignment

Press **Default** on the MSU Assignment menu.

- 7** When your settings are completed, press **[Set]** on the MSU Assignment menu with the cursor on **[Ret]** in the upper right of the CNU character display. (To cancel the settings, press **[Cancel]**.)

The character display of the CNU-700 returns to its previous status.

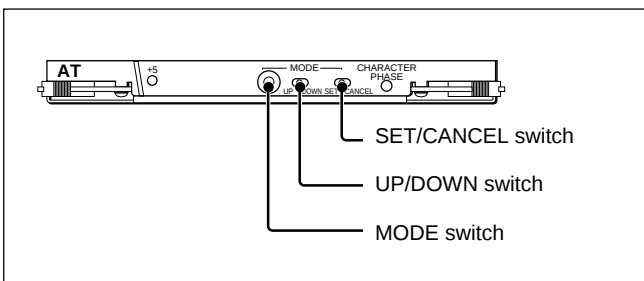
In SUPERVISER MSU mode, perform the settings for the cameras of other groups in the same manner.

When MSU assignment is completed

Press **[Exit]** on the MSU Assignment menu.

To restore operations of the MSU-700A/750

If the MSU-700A/750 has become inoperative by disabling selection/control for all the connected cameras, change the MSU assignment using the internal switches of the CNU-700 as follows:



- 1** Set the MODE switch to 3.

The message “MSU Assignment” appears on the screen.

- 2** Push the SET/CANCEL switch (S6) towards SET.

The same MSU Assignment display as that in step **3** on the previous page appears.

Each press of the UP/DOWN switch (S5) towards DOWN moves the cursor on the display to the right, or down when it reaches the right edge of the frame. Each press of the switch towards UP moves the cursor to the left, or up when it reaches the left edge of the frame.

- 3** Move the cursor to the desired position, then push the SET/CANCEL switch (S6) towards SET.

- 4** Repeatedly push the UP/DOWN switch (S5) toward UP until the cursor reaches the SAVE position outside the frame.

- 5** Push the SET/CANCEL switch (S6) towards SET.

The assignment set in steps **3** and **4** is written to nonvolatile memory.

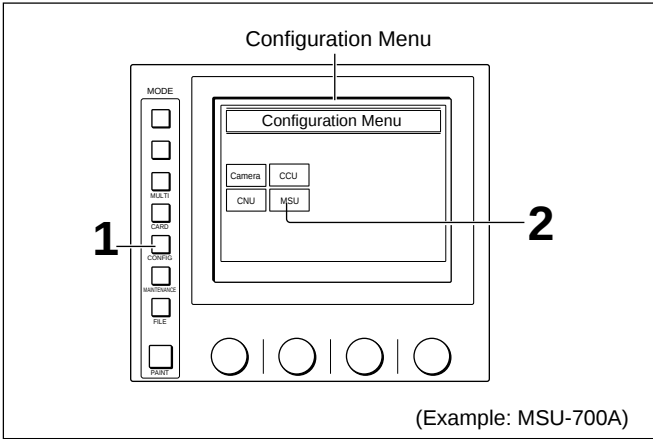
- 6** Return the MODE switch to 0.

3-4 Initial Settings for the Control System

3-4-4 Setting the Operating Conditions of the MSU

By using the MSU Configuration menu, you can also set the built-in clock of the MSU-700A/750 and adjust various conditions of the MSU-700A/750, such as the sound volume of the warning buzzer and the brightness of the lamp and EL display.

To display the MSU Configuration menu

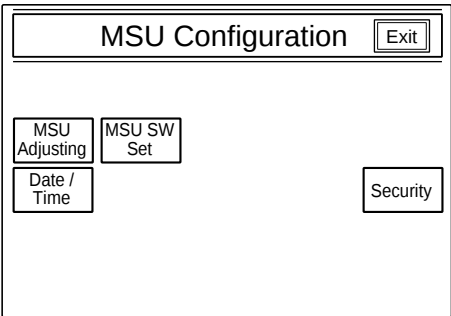


- 1 Press to light the CONFIG button.

The Configuration Menu appears on the display.

- 2 Press [MSU].

The MSU Configuration menu appears.



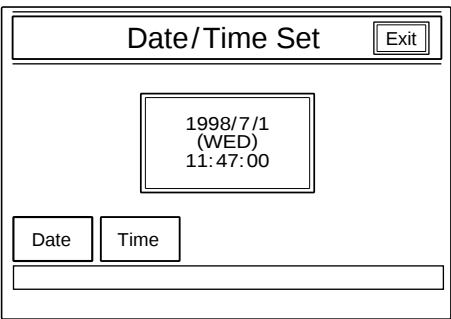
To set the built-in clock

The MSU-700A/750 has a built-in clock to record the date and time when reference and scene files are saved to IC memory cards.

To set the clock, proceed as follows.

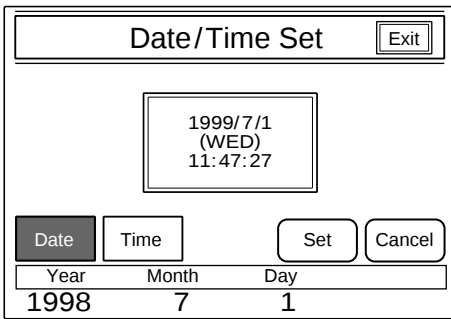
- 1 Press [Date/Time] on the MSU Configuration menu.

The current setting is displayed on the Data/Time Set menu.



- 2 To set the date:

- 1) Press [Date] to set it to inverse video.



- 2) Set the Year, Month and Day with the left three controls.
- 3) Press [Set].

The set date becomes valid.
To restore the previous setting, press [Cancel] instead of [Set].

3 To set the time:

- 1) Press **[Time]**.

The screen displays 'Date/Time Set' at the top with an 'Exit' button. Below is a box showing the date and time: '1998/7/1 (WED) 11:47:51'. At the bottom, there are buttons for 'Date', 'Time' (highlighted), 'Set', and 'Cancel'. Below these buttons are three input fields for 'Hour', 'Minute', and 'Second', with values '11', '47', and '51' respectively.

- 2) Set the Hour, Minute and Second with the left three controls.
 3) Press **[Set]** in synchronization with a time signal.

The set time becomes valid.

To resume the previous setting, press **[Cancel]** in place of **[Set]**.

When the clock setting is completed

Press **[Exit]** to leave this menu.

To adjust the buzzer sound

A buzzer sounds on the MSU-700A/750 when it receives call signal or a panel control is operated. When required, you may turn on/off the buzzer or adjust the sound volume.

To adjust the buzzer, proceed as follows:

- 1 Press **[MSU Adjusting]** on the MSU Configuration menu.

The MSU adjustment menu appears.

The screen displays 'MSU adjustment' at the top with 'Clear' and 'Exit' buttons. Below are four buttons: 'Buzzer', 'LED Bright', 'EL Bright', and 'LED Disp Bright'. To the right of these buttons are two vertical arrows with '1/1' between them. Below the buttons is a large empty rectangular area.

Note

[LED Disp Bright] is displayed with the MSU-750 only.

- 2 Press **[Buzzer]** to set it to inverse video.

The lower half of the display becomes the Buzzer Volume Level adjustment display.

The screen displays 'Buzzer Volume Level' at the top with 'Clear' and 'Home' buttons. Below are four buttons: 'Buzzer', 'LED Bright', 'EL Bright', and 'LED Disp Bright'. To the right of these buttons are two vertical arrows with '1/1' between them. Below the buttons is a section titled 'Buzzer Volume Level' containing four buttons: 'Call Buzzer', 'Touch Click', 'Switch Click', and 'All Off'. Below these buttons are four input fields for 'Call', 'Touch', 'Switch', and 'Master', with values '30', '85', '68', and '66' respectively.

- 3 Adjust the levels with the three control knobs.

Call: Sound volume of the buzzer when a call signal is received

Touch: Sound volume of the buzzer when a button displayed on the menu display is operated

Switch: Sound volume of the buzzer when a button on the panel is operated

The master volume can be adjusted with the right-most control knob.

To turn on/off the buzzers independently

Press the corresponding button. When it is in inverse video, the buzzer is on.

[Call Buzzer]: For the buzzer sound when a call signal is received

[Touch Click]: For the buzzer sound when a button displayed on the menu display is operated

[Switch Click]: For the buzzer sound when a button on the panel is operated

To turn off all the buzzers

Press **[All Off]**.

When the adjustment is completed

Press **[Home]** to return to the MSU adjustment menu, and press **[Exit]** to release the menu operation.

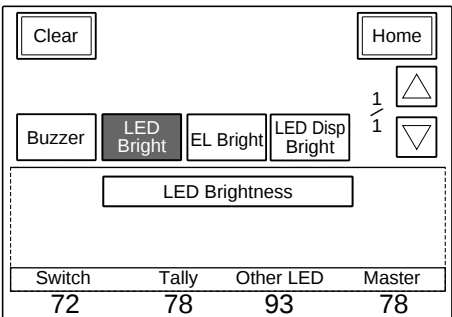
3-4 Initial Settings for the Control System

To adjust the brightness of the LEDs

You can adjust the brightness of the LEDs of the panel buttons and camera number/tally indication window. To adjust the brightness, proceed as follows.

- 1 Press **MSU Adjusting** on the MSU Configuration menu to display the MSU adjustment menu.
- 2 Press **LED Bright** to set it to inverse video.

The lower half of the display becomes the LED Brightness adjustment display.



- 3 Adjust the brightness with the three control knobs.
Switch: Brightness of the built-in LEDs of the control buttons
Tally: Brightness of the built-in LEDs of the camera number/tally indication window
Other LED: Brightness of the other LED indicator, such as those of the camera select block and the ACCESS indicator

The master brightness can be adjusted with the rightmost control knob.

When the adjustment is completed

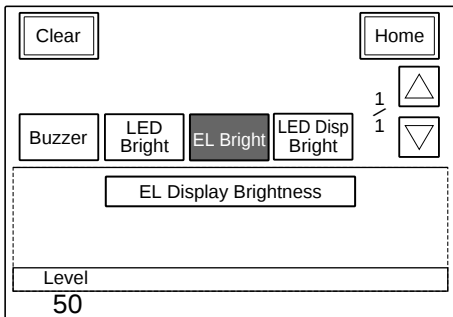
Press **Home** to return to the MSU adjustment menu, and press **Exit** to release the menu operation.

To adjust the brightness of the EL display

You can adjust the brightness of the display of the menu control block. To adjust the brightness, proceed as follows.

- 1 Press **MSU Adjusting** on the MSU Configuration menu to display the MSU Adjustment menu.
- 2 Press **EL Bright** to set it to inverse video.

The lower half of the display becomes the EL Display adjustment display.



- 3 Adjust the brightness with the leftmost control knob.

When the adjustment is completed

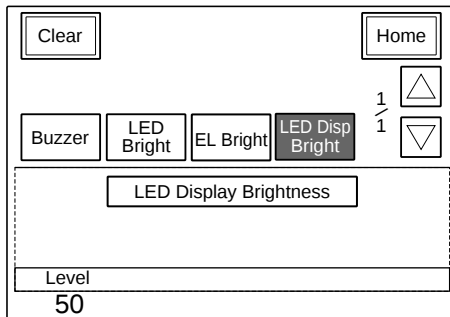
Press **Home** to return to the MSU adjustment menu, and press **Exit** to leave this menu.

To adjust the brightness of the LED displays (MSU-750 only)

You can adjust the brightness of the LED displays (camera number indicators) on the control panel. To adjust the brightness, proceed as follows.

- 1 Press **[MSU Adjusting]** on the MSU Configuration menu to display the MSU Adjustment menu.
- 2 Press **[LED Disp Bright]** to set it to inverse video.

The lower half of the display becomes the LED Display Brightness adjustment display.



- 3 Adjust the brightness with the leftmost control knob.

When the adjustment is completed

Press **[Home]** to return to the MSU adjustment menu, and press **[Exit]** to leave this menu.

To set the screen saver

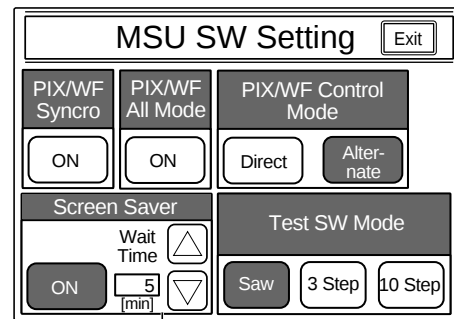
The screen saver can be activated to protect the menu display when the MSU-700A/750 is not operated for a certain time.

The screen saver can be turned on and off as required, and the time to activate it can be adjusted.

To set the screen saver, proceed as follows.

- 1 Press **[MSU SW Set]** on the MSU Configuration menu.

The MSU SW Setting display appears.



Screen saver setting area

Note

The Test SW Mode Setting area is displayed with the MSU-750 only.

- 2 Press **[ON]** to set it to inverse video to activate the screen saver.
- 3 When the screen saver is turned on, set the wait time (in units of minutes) until it activates by pressing Δ or ∇ .

When the adjustment is completed

Press **[Exit]** to leave this menu.

3-4 Initial Settings for the Control System

To select the switch operation modes

You can specify whether to switch the outputs from the PIX2 OUTPUT and WF2 OUTPUT connectors in synchronization with RGB switching on the adjustment display (PIX/WF Synchro setting), turn on/off All mode (PIX/WF All Mode setting) and select the operation mode of the monitor output select buttons (PIX/WF Control Mode setting). With the MSU-750, you can select the signal to be output when the TEST button is pressed (Test SW Mode setting).

Note

These settings are enabled only in Engineer mode.

Display the MSU SW Setting display for these settings in the same manner as for the screen saver.

The MSU SW Setting menu is displayed with the following options:

- PIX/WF Synchro**: ON
- PIX/WF All Mode**: ON
- PIX/WF Control Mode**: Direct, Alternate
- Screen Saver**: ON, Wait Time (5 min)
- Test SW Mode**: Saw, 3 Step, 10 Step

PIX/WF Synchro setting

Specify whether to switch the outputs from the PIX2 OUTPUT and WF2 OUTPUT connectors in synchronization with RGB switching on the adjustment display in white or black shading adjustment.

Press the **[ON]** button to turn on or off the synchronization.

On ([ON] in inverse video): The outputs from the PIX2 OUTPUT and WF2 OUTPUT connectors are switched in synchronization with RGB switching on the adjustment display in white or black shading adjustment.

Off: The PIX2 OUTPUT and WF2 OUTPUT connectors output the signal selected with the monitor output select buttons on the control panel regardless of RGB switching on the adjustment display.

PIX/WF All Mode setting

Turn on or off PIX/WF All mode.

Press the **[ON]** button to turn on or off the mode.

On ([ON] in inverse video): The MONITOR (monitor output select) buttons have effect on all the connected cameras of the same group.

Off: The MONITOR (monitor output select) buttons have effect only on a camera selected with the camera select button.

PIX/WF Control Mode setting

Select the operation mode of the MONITOR (monitor output select) buttons.

Press to set either button to inverse video.

[Direct]: Direct mode.

When you press and light any of the R, G, and B buttons, the previously pressed and lit button goes dark, and the signal corresponding to the newly pressed and lit button is output.

Therefore, to output R and G signals, for example, press the G button while holding down the R button.

[Alternate]: Alternate mode.

When you press and light any of the R, G, and B buttons, the signal corresponding to the newly pressed and lit button is output in combination with that corresponding to the previously pressed and lit button.

In this case, to output R and G signals, for example, press to light the R button first, then press to light the G button. If the B button is lit, press it so that it goes dark.

Test SW Mode setting

Assign a test signal to the TEST button of the MSU-750.

[Saw]: Ramp waveform (gamma signal)

[3 Step]: Tri-level waveform

[10 Step]: Ten-level waveform

When the settings are completed

Press **[Exit]** to leave this menu.

4-1 Control Functions

4-1-1 Function Table

This system permits the following ON/OFF operations or adjustments to be performed on the MSU-700A/750 Master Setup Unit or the RCP-700- series Remote Control Panels.

The operable functions are shown in the following table by the names of the switches or buttons on the controller panel to be used for the operations.

For the descriptions or operating procedures, see the respective pages shown in “Ref.” column of the table.

For most of the functions that can be controlled on the panel of the MSU-700A/750, menu control possibilities are provided. For the functions that are controlled by the menu are marked with “m” in the “MSU-700A” and “MSU-750” columns.

- For the menu items, see “4-1-2 MSU-700A/750 Menu Items.”
- For the functions that can be controlled when the camera is used as a stand-alone unit, see Section 7 “Stand-Alone Usage of the Camera, etc.”
- Also refer to the Operation Manuals of the MSU-700A/750 and RCP-700-series panels.

Function Table

Item		MSU-700A	MSU-750	RCP-740/741	RCP-730/731	RCP-720/721	Ref.
Multi Functions							
All mode selection		ALL	ALL	—	—	—	4-20
Parallel mode selection		PARA	PARA	PARA	PARA	PARA	4-21
Master/slave designation		m	m	MASTER/SLAVE	MASTER/SLAVE	MASTER/SLAVE	4-26
Automatic Adjustment Functions							
Auto white balance ^{a)}		AUTO SETUP/WHITE/m	AUTO SETUP/WHITE/m	AUTO SETUP/WHITE	AUTO SETUP/WHITE	AUTO SETUP/WHITE	4-98
Auto black balance ^{a)}		AUTO SETUP/BLACK/m	AUTO SETUP/BLACK/m	AUTO SETUP/BLACK	AUTO SETUP/BLACK	AUTO SETUP/BLACK	4-97
Auto level		AUTO SETUP/LEVEL/m	AUTO SETUP/LEVEL/m	AUTO SETUP/LEVEL	AUTO SETUP/LEVEL	AUTO SETUP/LEVEL	4-99
Skin detail auto hue	1	SKIN DTL AUTO HUE/m	AUTO HUE/m	SKIN DTL AUTO HUE	SKN DTL AUTO HUE	SKN DTL AUTO HUE	4-99
	2,3	m	m	—	—	—	4-101
Auto knee		AUTO KNEE/m	AUTO KNEE/m	AUTO KNEE	AUTO KNEE	AUTO KNEE	4-70
Auto iris ^{a)}		AUTO/m	AUTO/m	AUTO	AUTO	AUTO	4-43
Auto iris hue		m	m	—	—	—	4-101
Auto black shading		m	m	—	—	—	4-100
Auto white shading		m	m	—	—	—	4-100
File Functions							
Reference file storage		m	m	—	—	—	5-4
Reference file transfer		m	m	—	—	—	5-27
Scene file storage/retrieval		SCENE FILES	SCENE FILES	SCENE FILES	SCENE	SCENE FILES	5-22
Scene file transfer		m	m	—	—	—	5-32
Lens file selection		m	m	—	—	—	5-12
OHB file storage		m	m	—	—	—	5-8
Analog Adjustment Functions							
Black set adjustment		m	m	—	—	—	4-36
White balance adjustment ^{a)}		m	m	WHITE (R/G/B)	WHITE (R/G/B)	WHITE (R/G/B)	4-49
Master black adjustment ^{a)}		MASTER BLACK/m	MASTER BLACK/m	MASTER BLACK	MASTER BLACK	MASTER BLACK	4-39
Black balance adjustment ^{a)}		m	m	BLACK (R/G/B)	BLACK (R/G/B)	BLACK (R/G/B)	4-37
Black shading adjustment		m	m	—	—	—	4-34

a) Also adjustable on the RCP-700/701.

(R/G only in white and black balance adjustment)

(Continued)

4-1 Control Functions

Function Table (Continued)

Item	MSU-700A	MSU-750	RCP-740/741	RCP-730/731	RCP-720/721	Ref.
Gamma balance adjustment	<i>m</i>	<i>m</i>	R/B GAMMA	GAMMA (R/B)	R/B GAMMA	4-56
Master gamma adjustment	<i>m</i>	<i>m</i>	M GAMMA	GAMMA M	M GAMMA	4-56
Black gamma (R/G/B) adjustment	<i>m</i>	<i>m</i>	–	–	–	4-59
Master black gamma adjustment	<i>m</i>	<i>m</i>	BLK GAMMA	BLK GAMMA	BLK GAMMA	4-60
Flare balance adjustment	<i>m</i>	<i>m</i>	R/G/B FLARE	FLARE	FLARE	4-62
V modulation adjustment	<i>m</i>	<i>m</i>	–	–	–	4-51
White shading adjustment	<i>m</i>	<i>m</i>	–	–	–	4-73
Detail level adjustment	<i>m</i>	<i>m</i>	DTL LEVEL	DETAIL	DETAIL	4-73
– limiter adjustment	<i>m</i>	<i>m</i>	DTL LIMITER	DTL LIMITER	–	4-73
– crispening adjustment	<i>m</i>	<i>m</i>	DTL CRISP	–	–	4-73
– level dependence adjustment	<i>m</i>	<i>m</i>	–	–	–	4-73
– H/V ratio adjustment	<i>m</i>	<i>m</i>	–	–	–	4-73
– boost frequency adjustment	<i>m</i>	<i>m</i>	–	–	–	4-73
– mix ratio adjustment	<i>m</i>	<i>m</i>	–	–	–	4-73
– comb adjustment	<i>m</i>	<i>m</i>	–	–	–	4-73
– white limiter adjustment	<i>m</i>	<i>m</i>	–	–	–	4-73
– black limiter adjustment	<i>m</i>	<i>m</i>	BLK LIMITER	–	–	4-73
– Fine detail adjustment	<i>m</i>	<i>m</i>	–	–	–	4-73
Knee aperture adjustment	<i>m</i>	<i>m</i>	–	–	–	4-74
Skin detail level adjustment ^{b)}	<i>m</i>	<i>m</i>	SKIN DETAIL	SKIN DTL-1	SKIN DETAIL	4-77
– phase adjustment ^{b)}	<i>m</i>	<i>m</i>	SKIN PHASE	SKIN DTL-2	–	4-77
– width adjustment ^{b)}	<i>m</i>	<i>m</i>	SKIN WIDTH	SKIN DTL-2	–	4-77
– saturation adjustment ^{b)}	<i>m</i>	<i>m</i>	SKIN SAT	SKIN DTL-2	–	4-77
Knee point (RGB) adjustment	<i>m</i>	<i>m</i>	–	KNEE POINT	–	4-64
Master knee point adjustment	<i>m</i>	<i>m</i>	KNEE POINT	KNEE (Point)	–	4-64
Knee slope (RGB) adjustment	<i>m</i>	<i>m</i>	–	KNEE SLOPE	–	4-64
Master knee slop adjustment	<i>m</i>	<i>m</i>	KNEE SLOPE	KNEE (Slope)	KNEE SLOPE	4-64
Knee saturation adjustment	<i>m</i>	<i>m</i>	–	–	KNEE SAT	4-71
Point limit adjustment	<i>m</i>	<i>m</i>	–	–	–	4-68
Auto slope adjustment	<i>m</i>	<i>m</i>	–	–	–	4-68
White clip adjustment	<i>m</i>	<i>m</i>	–	WHT CLIP	–	4-54
Saturation adjustment	<i>m</i>	<i>m</i>	SATURATION	SATURATION	SATURATION	4-86
Contrast adjustment ^{c)}	<i>m</i>	<i>m</i>	CONTRAST	–	–	4-86
Mono color adjustment ^{d)}	<i>m</i>	<i>m</i>	–	MONO COLOR	–	4-89
EDTV (Y3/S1) adjustment ^{d)}	<i>m</i>	<i>m</i>	–	–	–	4-94
Comb filter adjustment ^{d)}	<i>m</i>	<i>m</i>	–	–	–	4-95
Notch filter adjustment ^{e)}	<i>m</i>	<i>m</i>	–	–	–	4-96
Matrix adjustment	<i>m</i>	<i>m</i>	–	–	–	4-80
OHB matrix adjustment	<i>m</i>	<i>m</i>	–	–	–	5-9
Manual iris adjustment ^{a)}	IRIS	IRIS	IRIS	IRIS	IRIS	4-41
Shutter speed selection	$\Delta/\nabla/m$	<i>m</i>	Δ/∇	Δ/∇	–	4-84
ECS frequency selection	$\Delta/\nabla/m$	<i>m</i>	Δ/∇	Δ/∇	–	4-84
S-EVS adjustment	<i>m</i>	<i>m</i>	–	–	–	4-83

a) Also adjustable on the RCP-700/701

b) Independent adjustments for channel 1 to 3 are possible on the MSU-700A/750.

c) Only when the CCU-700A/700AP is used

d) Only for NTSC models with an appropriate optional board installed in the CCU-700A

e) PAL model only

Function Table (Continued)

Item	MSU-700A	MSU-750	RCP-740/741	RCP-730/731	RCP-720/721	Ref.
Color corrector adjustment ^{d)}	<i>m</i>	<i>m</i>	–	COLOR CORRECTOR	–	4-91
Auto iris gain adjustment	<i>m</i>	<i>m</i>	–	–	–	4-44
– level adjustment	<i>m</i>	<i>m</i>	–	–	–	4-44
– APL ratio adjustment	<i>m</i>	<i>m</i>	–	–	–	4-44
Skin tone auto iris adjustment	<i>m</i>	<i>m</i>	–	–	–	4-45
Switch Controls						
Panel active ON/OFF ^{a)}	PANEL ACTIVE	PANEL ACTIVE	PANEL ACTIVE	PANEL ACTIVE	PANEL ACTIVE	4-20
Iris/master black active ON/OFF ^{a)}	IRIS/MB ACTIVE	IRIS/MB ACTIVE	IRIS/MB ACTIVE	IRIS/MB ACTIVE	IRIS/MB ACTIVE	4-20
Panel lock	–	–	LOCK	LOCK	LOCK	4-21
Paint lock	–	–	PAINT LOCK	–	PAINT LOCK	4-32
Camera power ON/OFF	CAM PW	CAM PW	CAM PW	CAM PW	CAM PW	4-19
Viewfinder power ON/OFF	VF PW	VF PW	VF PW	–	–	4-19
Test signal output	TEST1/TEST2	TEST	TEST1/TEST2	TEST	TEST	4-27
Color bar output	BARS	BARS	BARS	BARS	BARS	4-27
Iris close	CLOSE	CLOSE	CLOSE	CLOSE	CLOSE	4-42
Master gain selection	MASTER GAIN	<i>m</i>	MASTER GAIN	MASTER GAIN	MASTER GAIN	4-48
ND/CC filter selection	FILTER CTL ND/CC	<i>m</i>	FILTER CTL/ ND/CC	ND/CC	ND/CC	4-46
5600K ON/OFF	5600K	5600K	5600K	5600K	5600K	4-46
ECS/Shutter mode switching	ECS	<i>m</i>	ECS	ECS	–	4-84
Shutter/ECS ON/OFF	ON	<i>m</i>	ON	ON	–	4-84
S-EVS ON/OFF	<i>m</i>	<i>m</i>	–	–	–	4-83
Detail ON/OFF	DETAIL OFF/ <i>m</i>	<i>m</i>	–	DTL OFF	–	4-74
Level dependence ON/OFF	LVL DEP OFF/ <i>m</i>	<i>m</i>	–	–	–	4-76
Knee aperture ON/OFF	KNEE APERTURE/ <i>m</i>	<i>m</i>	–	–	–	4-74
Fine detail ON/OFF	<i>m</i>	<i>m</i>	–	–	–	4-76
Knee ON/OFF	KNEE OFF/ <i>m</i>	<i>m</i>	–	KNEE OFF	–	4-64
Knee saturation ON/OFF	KNEE SAT/ <i>m</i>	<i>m</i>	–	KNEE SAT	–	4-71
Adaptive auto knee ON/OFF	<i>m</i>	<i>m</i>	–	–	–	4-69
Matrix ON/OFF	MATRIX OFF/ <i>m</i>	<i>m</i>	–	–	–	4-80
Matrix ON/OFF (independent)	<i>m</i>	<i>m</i>	–	–	–	4-81
Skin detail ON/OFF ^{b)}	SKIN DETAIL/ <i>m</i>	SKIN DETAIL/ <i>m</i>	SKIN DETAIL	SKIN DETAIL	SKIN DETAIL	4-77
Skin detail gate ON/OFF ^{b)}	DETAIL GATE/ <i>m</i>	<i>m</i>	DETAIL GATE	DETAIL GATE	DETAIL GATE	4-77
Chroma ON/OFF	CHROMA OFF/ <i>m</i>	<i>m</i>	–	–	–	4-86
Contrast ON/OFF ^{c)}	CONTRAST/ <i>m</i>	<i>m</i>	CONTRAST	–	–	4-86
Saturation ON/OFF	SATURATION/ <i>m</i>	<i>m</i>	SATURATION	SAT	SATURATION	4-86
Flare ON/OFF	<i>m</i>	<i>m</i>	–	–	–	4-62
Black gamma ON/OFF	BLACK GAMMA/ <i>m</i>	<i>m</i>	BLACK GAMMA	BLACK GAMMA	BLACK GAMMA	4-59
V modulation ON/OFF	<i>m</i>	<i>m</i>	–	–	–	4-51
Knee max. ON/OFF	<i>m</i>	<i>m</i>	–	–	–	4-65
White clip ON/OFF	<i>m</i>	<i>m</i>	–	–	–	4-54

a) Also adjustable on the RCP-700/701

b) Independent adjustments for channel 1 to 3 are possible on the MSU-700A/750.

c) Only when the CCU-700A/700AP is used

d) Only for NTSC models with an appropriate optional board installed in the CCU-700A

(Continued)

4-1 Control Functions

Function Table (Continued)

Item	MSU-700A	MSU-750	RCP-740/741	RCP-730/731	RCP-720/721	Ref.
Step gamma setting	GAMMA/ <i>m</i>	<i>m</i>	GAMMA	—	—	4-56
Gamma ON/OFF	GAMMA OFF/ <i>m</i>	<i>m</i>	—	GAMMA OFF	—	4-56
Auto iris pattern selection	<i>m</i>	<i>m</i>	—	—	—	4-43
Skin tone auto iris mode selection	<i>m</i>	<i>m</i>	—	—	—	4-45
Mono color ON/OFF ^{c)}	MONO COLOR/ <i>m</i>	<i>m</i>	—	MONO COLOR	—	4-89
EDTV (Y3/S1) ON/OFF ^{d)}	<i>m</i>	<i>m</i>	—	—	—	4-94
Comb filter ON/OFF ^{d)}	<i>m</i>	<i>m</i>	—	—	—	4-95
Notch filter ON/OFF ^{e)}	<i>m</i>	<i>m</i>	—	—	—	4-96
Color corrector ON/OFF ^{d)}	COLOR CORRECT/ <i>m</i>	<i>m</i>	—	COLOR CORRECTOR	—	4-91
Character (CCU) output ^{h)}	—	—	CHARACTER	CHARACTER	CHARACTER	6-9
Character (CNU) output	CHARACTER/ <i>m</i>	CHARACTER/ <i>m</i>	—	—	—	6-18
Standardizing	STANDARD	STANDARD	STANDARD	STANDARD	—	4-104
Paint clear	<i>m</i>	<i>m</i>	CLEAR	CLEAR	CLEAR	4-104
Monitor signal selection ^{c)} (PIX1 OUTPUT)	—	—	MONITOR SELECT	—	—	4-28
Monitor signal selection ^{c)} (WF1 OUTPUT)	—	—	MONITOR SELECT	MONITOR SELECT	—	4-28
Monitor signal selection ^{c)} (PIX2 OUTPUT)	PICTURE MONITOR	PIX/MONITOR	—	—	—	4-28
Monitor signal selection ^{c)} (WF2 OUTPUT)	WAVEFORM MONITOR	WF/MONITOR	—	—	—	4-28
Monitor signal selection ⁱ⁾ (PIX OUTPUT)	PICTURE MONITOR	PIX/MONITOR	MONITOR SELECT ^{j)}	—	—	4-28
Monitor signal selection ⁱ⁾ (WF OUTPUT)	WAVEFORM MONITOR	WF/MONITOR	MONITOR SELECT ^{j)}	MONITOR SELECT ^{j)}	—	4-28
Master black relative mode selection	—	—	RELATIVE	RELATIVE	RELATIVE	4-39
White/black absolute mode selection	—	—	ABSOLUTE	—	ABSOLUTE	4-39 4-50
Iris relative mode selection	—	—	RELATIVE	RELATIVE ^{f)}	RELATIVE	4-42
Call signal output ^{a)}	CALL	CALL	CALL	CALL	CALL	
Others						
IC card initialization	<i>m</i>	<i>m</i>	—	—	—	5-26
Preview signal output ^{g)}	—	—	PREVIEW	PREVIEW	RPREVIEW	—

a) Also available with the RCP-700/701

c) Only when the the CCU-700A/700AP is used

d) Only for NTSC models with an appropriate optional board installed in the CCU-700A

e) PAL model only

f) RCP-731 only.

g) Also adjustable on the RCP-700/701.

On the RCP-700/720/730/740, the IRIS lever is used for this function.

When the PREVIEW switch is to be synchronized with the camera select buttons of the MSU-700A/750 and the input selection of the VCS-700, consult the Sony service representative.

h) With the CCU-550A/550AP, the signal is output from the PIX OUTPUT connector with video signal mixed.

i) Only when the CCU-550A/550AP is used.

j) Valid only when the S104-4 switch on the AT board of the CCU-550A/550AP is set to OFF.

4-1-2 MSU-700A/750 Menu Items

Using the menu operation block of the MSU-700A/750 Master Setup Unit, modes for menu operations can be selected by pressing the MODE buttons. In each mode, various items shown in the respective tables can be operated.

The “Control items” marked with • are those assigned to the control knobs. The other items are operated on the menu display.

For the descriptions or operating procedures, see the respective pages shown in “Ref.” column of the table.

Multi-Control menu (selected by pressing the MULTI button)

Menu	Control item	Function	Ref.
Master/Slave	Master	Specifies the master unit.	4-26
	Slave	Specifies the slave units.	4-26
	All Slave	Specifies all the cameras for the slave units.	4-26
	All Off	Cancels the entire slave unit specification.	4-26
Character	Character on	Turns the CNU character output ON/OFF.	6-26
	Default	Selects the CNU default display.	6-27
	System <#-#>	Displays the setting status of the control systems.	6-28
	Auto <#-#>	Displays the auto setup statuses.	6-29
	Diag <#-#>/One Cam	Displays the results of the self diagnostics.	6-30
	Data <#-#>/One Cam	Displays the setting status of the cameras.	6-31

IC memory card menu (selected by pressing the CARD button)

Menu	Function	Ref.
Card Initialize	Initializes an IC card.	5-26

4-1 Control Functions

Configuration menu (selected by pressing the CONFIG button)

Menu	2ndary menu	Submenu	Control item	Function	Ref.
Camera	CAM Mode Setting 1/3		Test 2 Mode	Switches the waveform in Test 2 mode.	3-62
			White Setup Mode	Sets the white balance adjustment mode.	3-62
			Auto White Shading Mode	Switches the auto setup mode for white shading.	3-62
			OHB Matrix Correct Mode	Turns on/off the OHB file compensation mode.	3-62
			White/Gamma RGB	Sets the auto setup mode for white balance/gamma.	3-62
	CAM Mode Setting 2/3		V Detail Creation Mode	Sets the V detail creation mode.	3-62
			V Detail Control Mode	Sets the V detail control mode.	3-62
	CAM Mode Setting 3/3		—	No function assigned for BVP-900-series cameras	—
CCU	CCU Mode Setting		Bars Character	Turns on/off the mode to display characters on CCU color bars.	6-24
	Bars Char set			Superimposes characters to the CCU color bar signal.	6-24
CNU	RCP Assign ^{b)}			Performs RCP assignment.	4-22
	MSU Assign ^{a)}			Performs MSU assignment.	3-91
MSU	MSU Adjusting	Buzzer	• Call/Touch/Switch/Master	Adjusts the sound volume of the buzzer of MSU.	3-95
			Call Buzzer/Touch Click Switch Click/All Off	Turns the buzzer of MSU ON/OFF	3-95
		LED Bright	• Switch/Tally/Other LED/Master	Adjusts the brightness of the LEDs of MSU.	3-96
		EL Bright	• Level	Adjusts the brightness of the EL display of MSU.	3-96
		LED Disp Bright ^{c)}	• Level	Adjusts the brightness of the LED displays of MSU.	3-97
	MSU SW Setting 1/2		PIX/WF Syncro ^{a)}	Specifies whether to synchronize PIX and WF with menu operation in shading adjustments.	3-98
			PIX/WF All Mode ^{a)}	Specifies whether to switch PIX/WF on all the cameras simultaneously.	3-98
			PIX/WF Control Mode ^{a)}	Specifies whether to give priority to the newly pressed WF button.	3-98
			Screen Saver	Sets the screen saver of the EL display of MSU.	3-97
			Test SW mode ^{c)}	Sets the TEST button function (Saw/3 step/10 step)	3-98
	MSU SW Setting 2/2		Extended Call Mode	Extends the LED display when a call signal is input.	—
	Date/Time	Date	• Year/Month/Day	Adjusts the date for the built-in clock of MSU.	3-94
		Time	• Hour/Minute/Second	Adjusts the time for the built-in clock of MSU.	3-94
	Security ^{a)}	Code Change		Sets the security code.	3-87
		Status		Sets the security status.	3-89

a) Valid only in Engineer mode.

b) Invalid when using the CNU-500.

c) MSU-750 only.

Maintenance menu (selected by pressing the MAINTENANCE button)

Menu	2ndary menu	Submenu	Control item	Function	Ref.
Adjusting	Black Shading	R/G/B	• H Saw/H Para/V Saw/V Para	Adjusts the black shading.	4-34
			Auto B. Shading	Executes the auto black shading.	4-35
	White Shading	R/G/B	• H Saw/H Para/V Saw/V Para	Adjusts the white shading.	4-53
			Auto W. Shading	Executes the auto white shading.	4-53
		White	R/G/B	Adjusts the white balance.	4-52
	Black Set	Black Set	• R/G/B	Adjusts the black set.	4-36
			Gain Bounce	Turns the gain bounce mode ON/OFF.	4-36
		Black	• R/G/B/Master	Adjusts the black balance.	4-37
			ABB	Executes the black balance auto setup.	4-38
	OHB Matrix	1	• R-G/G-B/B-R	Sets the matrix coefficients.	5-9
		2	• R-B/G-R/B-G	Sets the matrix coefficients.	5-9
		Multi	• Vector/Phase/Saturation	Adjusts the multi matrix.	5-9
	Phase	SC	• SC	Adjusts the SC phase.	3-67
			• BF	Adjusts the burst signal phase.	3-67
		H	• Coarse/Fine	Adjusts the H phase.	3-67
	VBS Level	VBS Level 1	• Y/Sync/I Black/Q Black	Adjusts the VBS levels 1.	3-71
		VBS Level 2	• Chroma/SC Quad/Q Level	Adjusts the VBS levels 2.	3-71
		Y/C Level ^{a)}	• Y/R-Y/B-Y	Adjusts the Y/C level of the YC ^{a)} or AD ^{b)} board.	3-71
		Y/C Black ^{a)}	• Y/R-Y/B-Y	Adjusts the Y/C black level of the YC ^{a)} or AD ^{b)} board.	3-72
	Camera Output	Level	• Y/R-Y/B-Y	Adjusts the camera signal levels.	3-74
		Black	• Y/R-Y/B-Y	Adjusts the black levels.	3-75
	SDI Output	Level	• Y/R-Y/B-Y	Adjusts the signal levels for SDI output of the AD board.	3-77
		Black	• Y/R-Y/B-Y	Adjusts the black levels for SDI output of the AD board.	3-77
CAM SW Setting		Camera Fan Mode		No function assigned for BVP-900-series cameras.	—
Auto Setup		Auto White		Executes the white balance auto setup.	4-101
		Auto Black		Executes the black balance auto setup.	4-101
		Auto Level		Executes the level auto setup.	4-101
		Auto Hue	1 to 3	Executes the skin detail auto hue setup.	4-102
			Auto Skin Iris	Executes the skin tone auto iris setup.	4-102
		Auto W. Shading		Executes the auto white shading.	4-101
		Auto B. Shading		Executes the auto white shading.	4-101
Lens Adjusting	Flare		• R/G/B	Adjusts the flare balance	5-15
	V Mod Saw	• R/G/B		Adjusts the V modulation.	5-16
		D Shad Comp		Turns the dynamic shading ON/OFF.	5-16
		V Mod Saw OFF		Turns the V modulation ON/OFF.	5-16
		Auto Iris	(patterns)		Selects the auto iris patterns.
	• Level		Adjusts the auto iris level.	4-44	
	• APL Ratio		Adjusts the auto iris APL ratio.	4-44	
	• Iris Gain		Adjusts the auto iris gain.	4-44	
VCS Adjusting	Monitor Level		• WF Level/WF Chroma	Adjusts the signal levels for a waveform monitor.	3-81
			• Low/Middle/High/100%	Adjusts the ratio of character signal to video signal.	3-85
			Character on	Turns the VCS character display ON/OFF.	3-86

a) Invalid when using the CCU-550A/550AP.

4-1 Control Functions

File control menu (selected by pressing the FILE button)

Menu	Submenu	Control item	Function	Ref.
Reference	Ref. Store		Stores the reference file	5-4
	Ref. Transfer	CAM ->CARD	Transfers the reference file (from a camera to an IC card).	5-29
		CARD ->CAM	Transfers the reference file (from an IC card to a camera).	5-29
		CARD ->CAMs	Transfers the reference file (from an IC card to multiple cameras).	5-30
		CAM ->CAMs	Transfers the reference file (from a camera to multiple cameras).	5-31
	Adjusting	(Paint menu items)	Adjusts the items to be stored.	5-4
Scene File	Scene Transfer	CAM ->CARD	Transfers a scene file (from a camera to an IC card).	5-34
		CARD ->CAM	Transfers a scene file (from an IC card to a camera).	5-35
		CARD ->CAMs	Transfers a scene file (from an IC card to multiple cameras).	5-36
		CAM ->CAMs	Transfers a scene file (from a camera to multiple cameras).	5-37
		Delete	Deletes a scene file.	5-38
	Adjusting	(Paint menu items)	Adjusts the items to be stored.	5-33
Lens File	Lens Store		Stores a lens file.	5-16
	Auto White		Executes white balance auto setup.	5-15
	Lens Select	Select File	Selects a lens file (effective only on the BVP-950/950P).	5-13
		Change Name	Changes the lens file name.	5-20
	Adjusting	(Paint menu items)	Adjusts the items to be stored.	5-15
OHB File	OHB Store		Stores an OHB file	5-8
	Color Ref. Store		Creates color reference data	5-8
	Color Setup		Executes color setup.	5-8
	Auto W. Shading		Executes auto white shading setup.	5-8
	Auto B. Shading		Executes auto black shading setup.	5-8
	Auto White		Executes auto white balance setup.	5-9
	Auto Black		Executes auto black balance setup.	5-9
	Adjusting	Black Shading	Adjusts the black shading.	5-8
		White Shading	Adjusts the white shading.	5-8
		Black Set	Adjusts the black shading.	5-9
		Matirix	Adjusts the OHB matrix.	5-9

Paint menus (selected by pressing the PAINT button)

There are three Paint menus 1 through 3 associated with a spread menu to be selected on the menu display.

Paint menu 1

Menu	Submenu	Control item	Function	Ref.
Black		• R/G/B/Master	Adjusts the black balance.	4-37
		ABB	Executes the black balance auto setup.	4-38
White		• R/G/B	Adjusts the white balance.	4-49
		AWB	Executes the white balance auto setup.	4-50
Flare		• R/G/B	Adjusts the flare balance.	4-62
		Flare Off	Turn the flare ON/OFF.	4-62
Gamma/Knee		• Gamma	Adjusts the master gamma.	4-58
		• Blk Gamma	Adjusts the master black gamma.	4-61
		• Knee Point	Adjusts the master knee point.	4-66
		• Knee Slope	Adjusts the master knee slope.	4-66
		Gamma Off	Turns the gamma ON/OFF.	4-58
		Black Gamma	Turns the black gamma ON/OFF.	4-61
		Knee Off	Turns the knee ON/OFF.	4-66
		Auto Knee	Turns the auto knee ON/OFF.	4-66
V Mod Saw		• R/G/B /Master	Adjusts the V modulation.	4-51
		V Mod Saw Off	Turns the V modulation ON/OFF.	4-51
Detail	Detail 1	• Level	Adjusts the detail level.	4-75
		• Limiter	Adjusts the detail limiter.	4-75
		• Crispening	Adjusts the detail crispening.	4-75
		• Level Dep	Adjusts the level dependence.	4-75
		Level Dep Off	Turns the level dependence ON/OFF.	4-76
		Detail Off	Turns the detail ON/OFF.	4-76
	Detail 2	• H/V Ratio	Adjusts the detail H/V ratio.	4-75
		• Frequency	Adjusts the detail boost frequency.	4-75
		• Mix Ratio	Adjusts the detail mix ratio.	4-75
		• Detail Comb	Adjusts the detail comb.	4-75
		Detail Off	Turns the detail ON/OFF	4-76
	Detail 3	• W.Limiter	Adjusts the white limiter.	4-75
		• B.Limiter	Adjusts the black limiter.	4-75
		• Fine	Adjusts the fine detail level.	4-75
		• Knee Apert	Adjusts the knee aperture.	4-75
		Fine Detail	Turns the fine detail ON/OFF.	4-76
		Knee Aperture	Turns the knee aperture ON/OFF.	4-76
		Detail Off	Turns the detail ON/OFF.	4-76

(Continued)

4-1 Control Functions

Paint menu 1 (continued)

Menu	Control item	Function	Ref.
Skin Detail 1/2/3 (common)	• Level	Adjusts the skin detail level.	4-78
	• Phase	Adjusts the skin detail phase.	4-78
	• Width	Adjusts the the skin detail width.	4-78
	• Saturation	Adjusts the skin detail saturation.	4-78
	Auto Hue #	Executes the skin detail hue auto setup (each channel).	4-79
	Gate #	Turns the skin detail gate ON/OFF (each channel).	4-78
	Skin Dtl #	Turns the skin detail ON/OFF (each channel).	4-78
	Skin Detail	Turns the skin detail ON/OFF (all channels).	4-78
SAT/Contrast	• Saturation	Adjusts the saturation.	4-87
	• Contrast	Adjusts the contrast.	4-87
	Saturation	Turns the saturation ON/OFF.	4-87
	Contrast	Turns the contrast ON/OFF.	4-87

Paint menu 2

Menu	Control item	Function	Ref.
Gamma	• R/G/B/Master	Adjusts the gamma.	4-57
	Gamma 0.40/ 0.45/ 0.50	Sets the step gamma.	4-57
	Gamma Off	Turns the gamma ON/OFF.	4-57
Black Gamma	• R/G/B/Master	Adjusts the black gamma.	4-60
	Black Gamma	Turns the black gamma ON/OFF.	4-60
Auto Knee	• Point Limit	Adjusts the point limit for auto knee.	4-70
	• Auto Slope	Adjusts the knee slope for auto knee.	4-70
	Adaptive	Turns the adaptive highlight control for auto knee ON/OFF.	4-70
	Knee Off	Turns the knee ON/OFF.	4-70
	Auto Knee	Turns the auto knee ON/OFF.	4-70
Knee Point	• R/G/B/Master	Adjusts the knee point.	4-65
	Knee Max	Turns the knee max ON/OFF.	4-65
	Knee Off	Turns the knee ON/OFF.	4-65
	Auto Knee	Turns the auto knee ON/OFF.	4-65
Knee Slope	• R/G/B/Master	Adjusts the knee slope.	4-66
	Auto Knee	Turns the auto knee ON/OFF.	4-66
	Knee Off	Turns the knee ON/OFF.	4-66
Knee Sat	• Level	Adjusts the knee saturation,	4-71
	• Knee Point	Adjusts the master knee point.	4-71
	• Knee Slope	Adjusts the master knee slope.	4-71
	Auto Knee	Turns the auto knee ON/OFF.	4-71
	Knee Off	Turns the knee ON/OFF.	4-71
	Knee Sat	Turns the knee saturation ON/OFF.	4-71
White Clip	• R/G/B/Master	Adjusts the white clip.	4-54
	White Clip Off	Turns the white clip ON/OFF.	4-54

Paint menu 3

Menu	Submenu	Control item	Function	Ref.
Matrix	Matrix 1	• R-G/G-B/B-R	Adjusts the matrix coefficients.	4-82
	Matrix 2	• R-B/G-R/B-G	Adjusts the matrix coefficients.	4-82
	Multi	• (Patterns)	Selects a range.	4-82
		• Phase	Adjusts the multi matrix phase.	4-82
		• Saturation	Adjusts the multi matrix saturation.	4-82
	(common to all submenus)	Mlt Matrix	Turns the multi matrix ON/OFF.	4-81
		User Matrix	Turns the user matrix ON/OFF.	4-81
		Preset Matrix	Turns the preset matrix ON/OFF.	4-81
		Matrix Off	Turns all the matrixes ON/OFF.	4-81
Color Correct	A/B/C/D/E/F (the same items)	• Phase/Width • Hue/Saturation	Adjusts the color corrector.	4-91 4-91
		Correct #	Turns the independent color corrector ON/OFF.	4-91
		Color Corrector	Turns the color corrector ON/OFF	4-91
		Gate	Turns the color corrector gate ON/OFF.	4-92
		EDTV ^{a)}		• Y3/S1
		Y3/S1	Turns the EDTV Y3/S1 ON/OFF.	4-94
Comb ^{a)}		• Level	Adjusts the comb filter.	4-95
		Comb	Turns the comb filter ON/OFF.	4-95
Notch ^{b)}		• Level	Adjusts the rejection level of the notch filter.	4-96
		• Frequency	Adjusts the target frequency of the notch filter.	4-96
		Notch	Turns the notch filter ON/OFF.	4-96
Mono Color		• Saturation/Hue	Adjusts the mono color.	4-89
		Mono	Turns the mono color ON/OFF.	4-89
Auto Iris		• Pattern	Selects the pattern for auto iris.	4-43
		• Phase	Adjusts the skin tone auto iris phase.	4-45
		• Width	Adjusts the skin tone auto iris width.	4-45
		Auto Iris	Turns the auto iris ON/OFF.	4-43
		Normal Mode	Selects Normal mode for auto iris.	4-45
		Skin Mode	Selects Skin mode for auto iris.	4-45
		Auto Hue	Executes the auto hue.	4-45
		A. Iris Gate	Turns the skin tone auto iris gate ON/OFF.	4-45
ECS/S-EVS		• Shutter	Adjusts the shutter speed.	4-84
		• ECS	Adjusts the ECS frequency.	4-84
		• S-EVS	Adjusts the Super EVS.	4-83
		Shutter	Turns the shutter mode ON/OFF.	4-85
		ECS	Turns the ECS mode ON/OFF.	4-85
		S-EVS	Turns the Super EVS mode ON/OFF.	4-83

a) NTSC model only

b) PAL model only

Spread menu

Pressing the Spread button on each adjustment display of Paint menus 1 to 3 displays additional items.

Submenu	Control item	Function	Ref.
Filter	Ctrl	Selects the filter remote or local mode.	4-47
	ND	Selects ND filters in filter local mode.	4-47
	CC	Selects CC filters in filter local mode.	4-47
Gain	0 dB	Sets to 0 dB.	4-48
	Gain	Selects the master gain.	4-48
Gamma	Gamma	Selects the step gamma.	4-56

4-1 Control Functions

Function menu (selected by pressing the FUNCTION button) – MSU-750 only

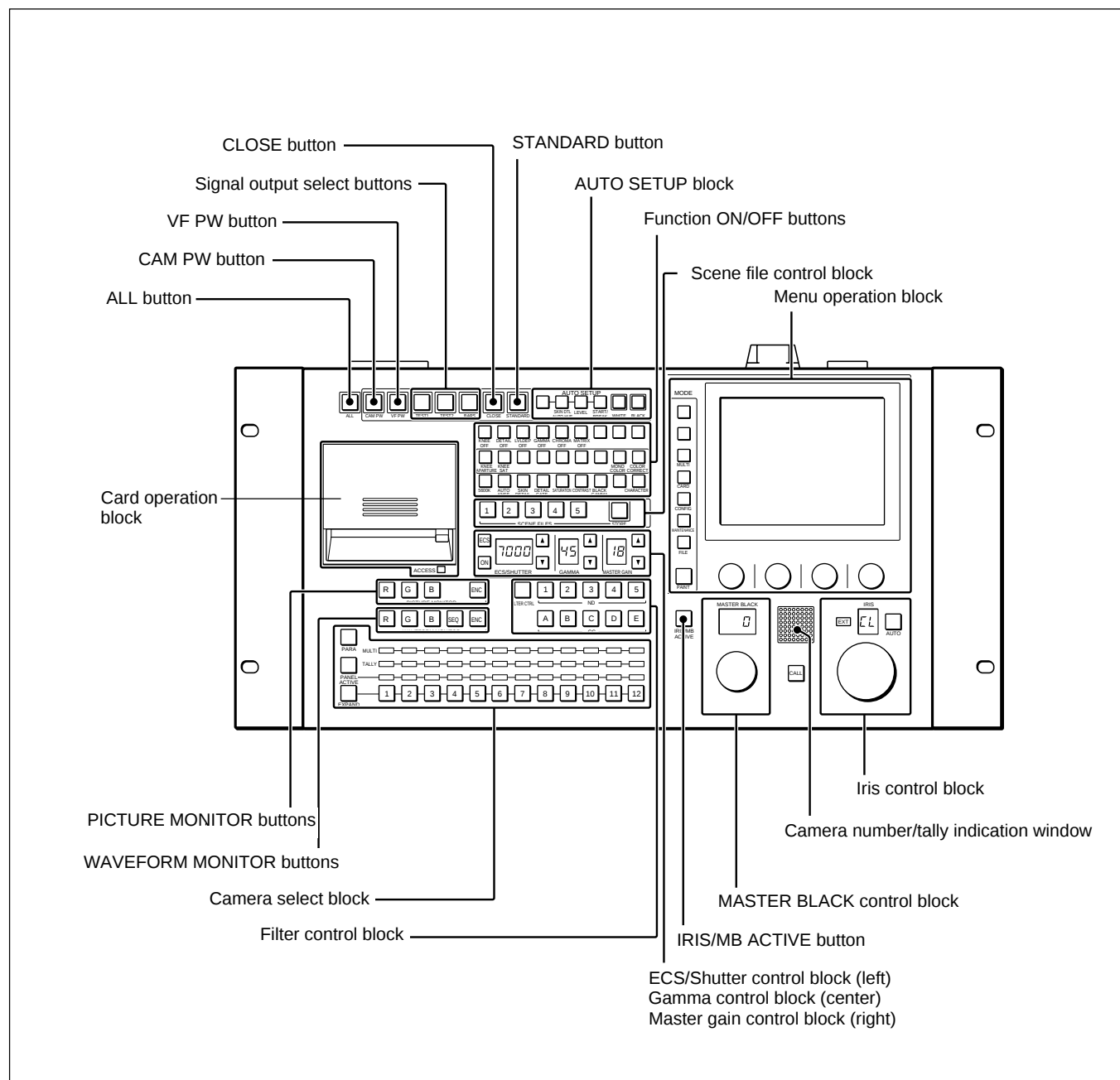
Menu	Control item		Function	Ref.
Operation	Ctrl		Selects the filter remote or local mode.	4-47
	ND (1/2/3/4/5)		Selects ND filters.	4-46
	CC (A/B/C/D/E)		Selects CC filters.	4-46
	Shutter		Turns the shutter mode ON/OFF.	4-84
	ECS		Turns the ECS mode ON/OFF.	4-84
	• Shutter		Selects the shutter speed.	4-84
	• ECS		Selects the ECS frequency.	4-84
	• Gamma		Selects the step gamma (selection with ▼/▲ is also possible).	4-56
	• Master Gain		Selects the master gain (selection with ▼/▲ is also possible).	4-48
SW	page 1	5600K	Turns 5600K electric color temperature conversion function ON/OFF.	4-46
		Auto Knee	Turns the auto knee function ON/OFF. When this button is in inverse video (ON), the knee point is automatically adjusted according to the light content of the picture.	4-68
		Skin Detail	Turns the skin detail function ON/OFF.	4-77
		Detail Gate	Skin tone detail gate function. When this button is in inverse video (ON), the adjustment range of the skin tone detail is displayed in white on the monitor screen.	4-77
		Black Gamma	Turns the black gamma function ON/OFF.	4-59
		Knee Aperture	Turns the knee aperture function ON/OFF.	4-74
		Knee Sat	Turns the knee saturation function ON/OFF.	4-71
		Saturation	Turns the saturation function ON/OFF.	4-86
		Contrast	Turns the contrast function ON/OFF.	4-86
		Mono Color	Turns the mono color function ON/OFF. This function mixes the chroma signals of a single hue to the luminance signal. The chroma level is modulated according to the luminance signal.	4-89
		Color Correct	Turns the color correction function for a certain hue range ON/OFF.	4-91
	page 2	Knee Off	Turns the knee compensation function ON/OFF (OFF in inverse video).	4-64
		Gamma Off	Turns the gamma function ON/OFF (OFF in inverse video).	4-56
		Detail Off	Turns the detail compensation function ON/OFF (OFF in inverse video).	4-74
		Matrix Off	Turns the linear matrix function to enhance color fidelity ON/OFF (OFF in inverse video).	4-80
		Level Dep Off	Turns the level dependence which controls the details in the dark part of a picture ON/OFF (OFF in inverse video).	4-74
		Chroma Off	Turns the chroma function ON/OFF (OFF in inverse video).	4-86

4-1-3 Controller Layouts

The operations for “Chapter 4 Adjustments” and “Chapter 5 File Operations” are made on the operation panel of the MSU-700A/750 or the RCP-

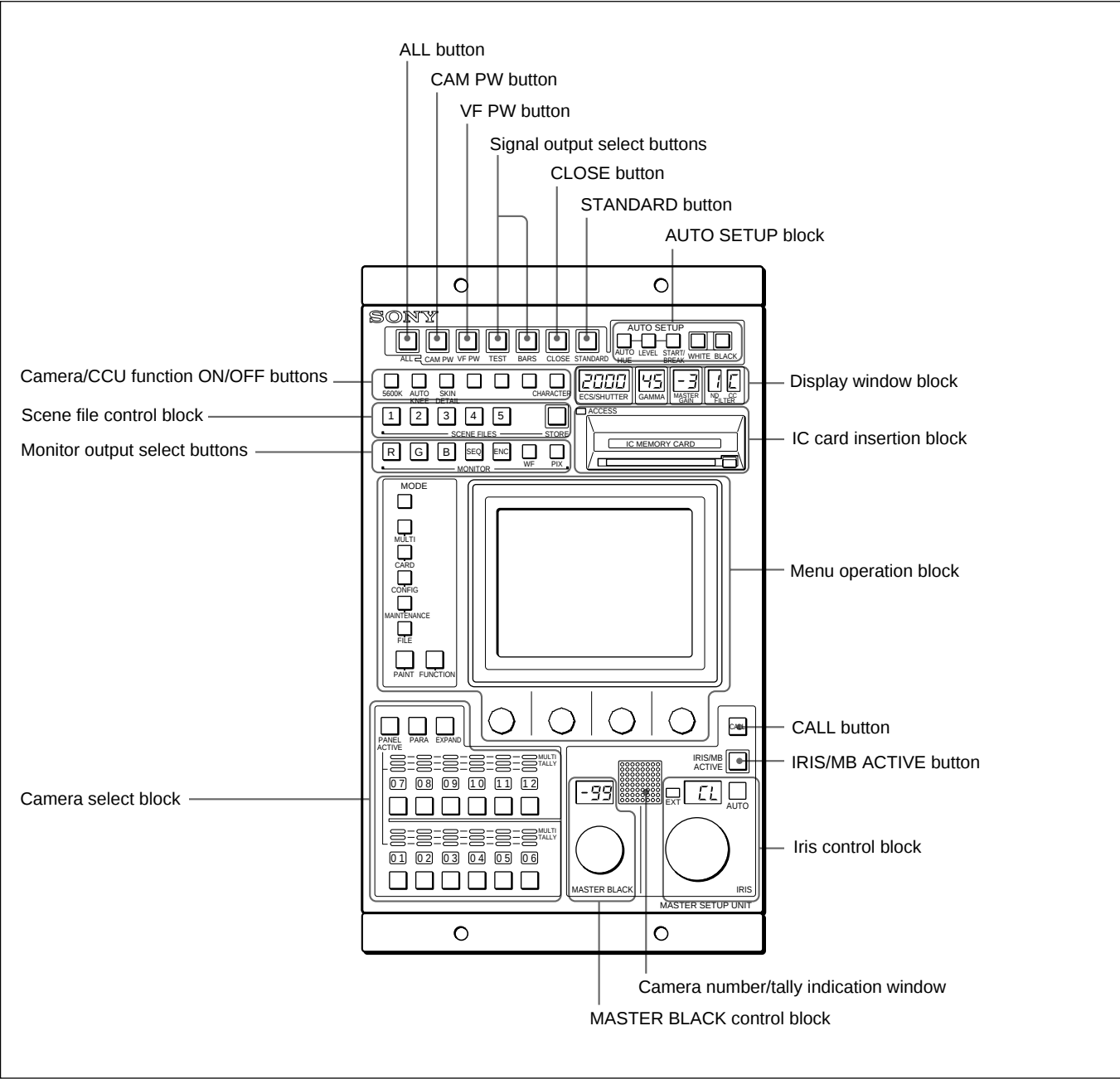
700-series models. The layouts of the operation panels of the MSU-700A/750 and RCP-700-series models are shown below.

MSU-700A Master Setup Unit

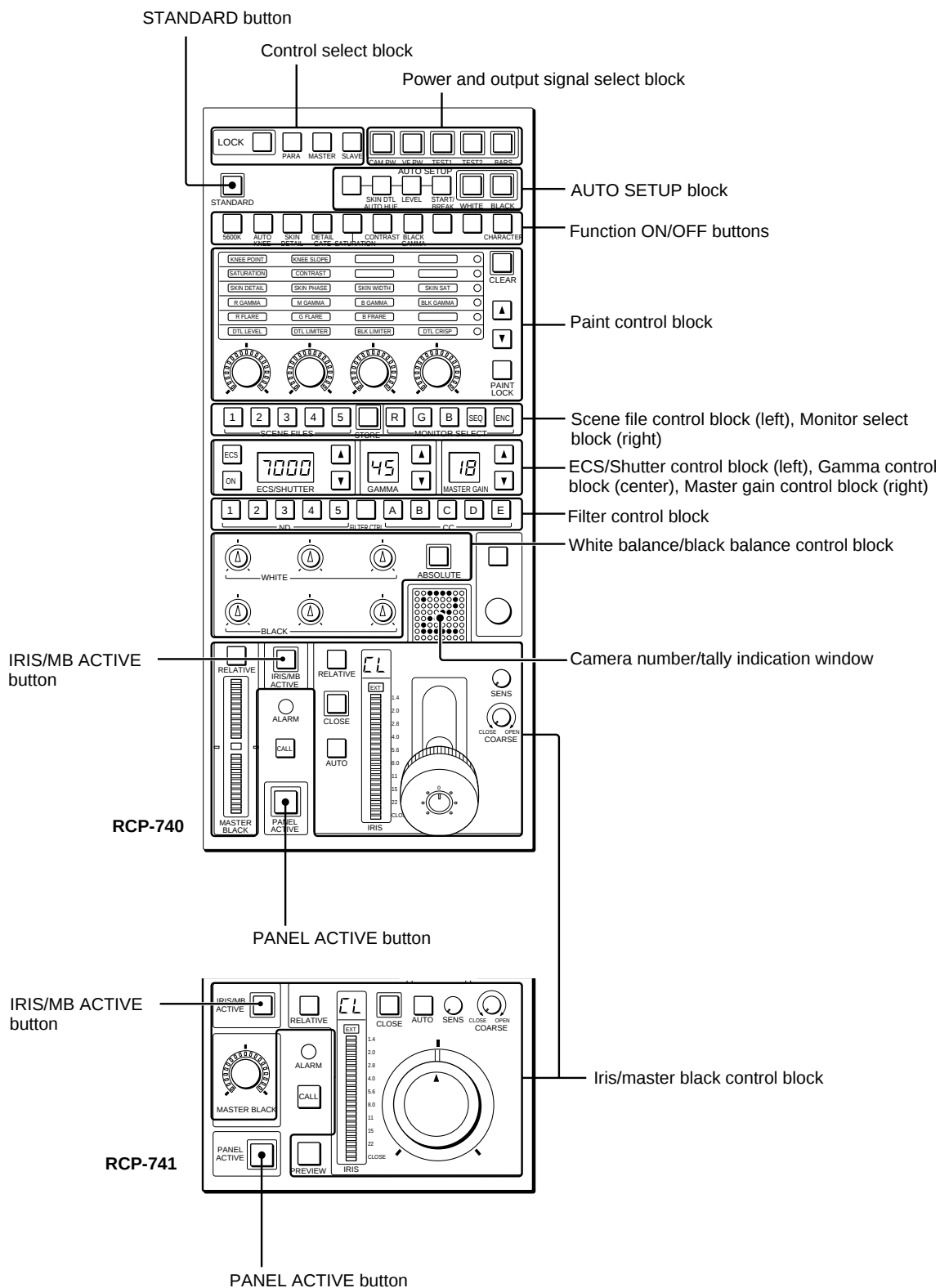


4-1 Control Functions

MSU-750 Master Setup Unit

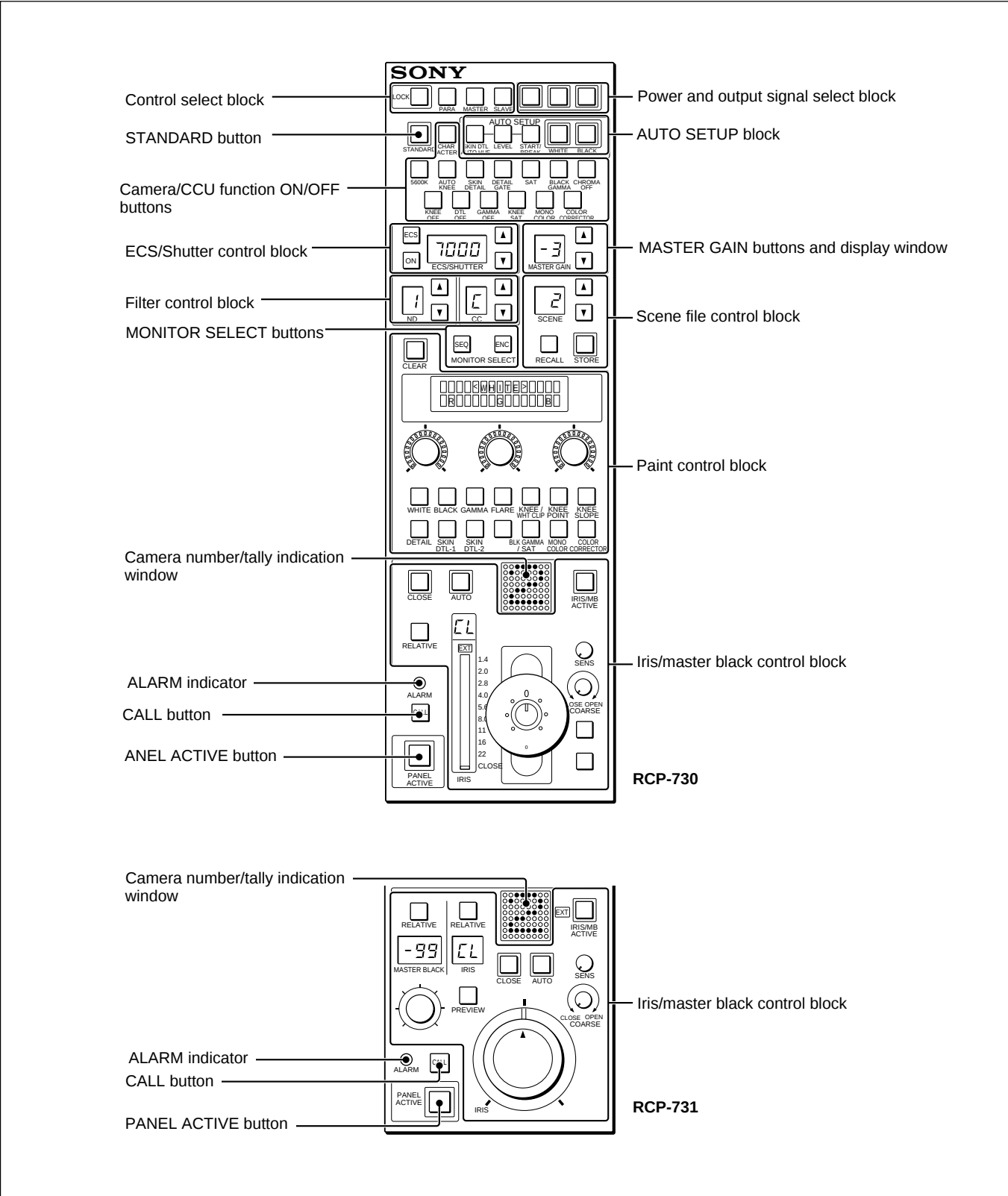


RCP-740/741 Remote Control Panel

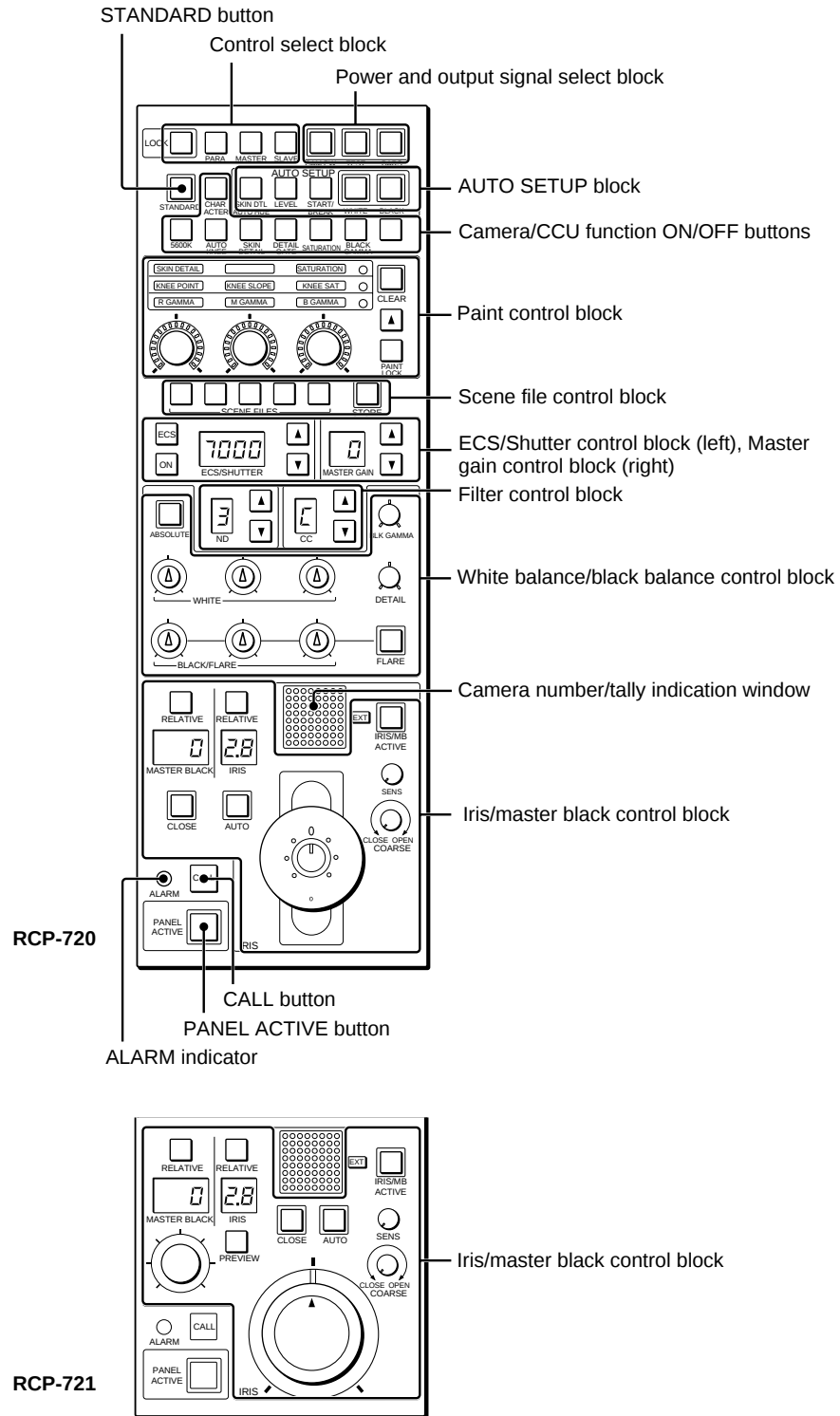


4-1 Control Functions

RCP-730/731 Remote Control Panel

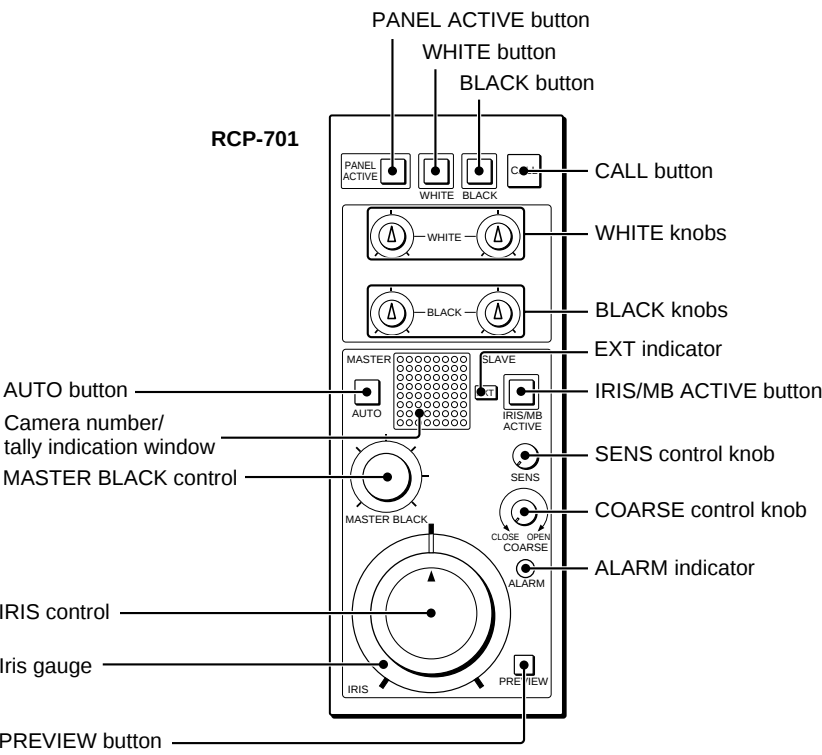
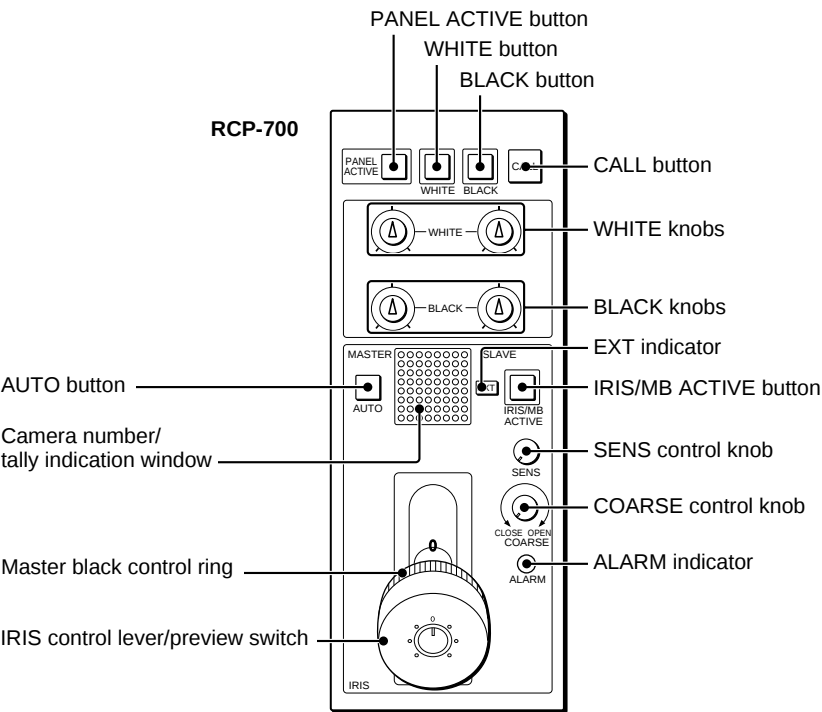


RCP-720/721 Remote Control Panel



4-1 Control Functions

RCP-700/701 Remote Control Panel



4-2 Preparations for Adjustments

4-2-1 Power Supply

Turn on the system equipment to be used for adjustments.

Refer to the Operation Manuals of the equipment.

To turn on the RCP-700-series panels

The power to the RCP-700-series Remote Control Panel is supplied via the CCU-700A/700AP/550A/550AP Camera Control Unit or the CNU-700/500 Camera Command Network Unit connected to the CCU/CNU REMOTE (or REMOTE) connector. When you turn on the CCU-700A/700AP or CNU-700, the power is supplied to the RCP-series panel.

To turn on the camera

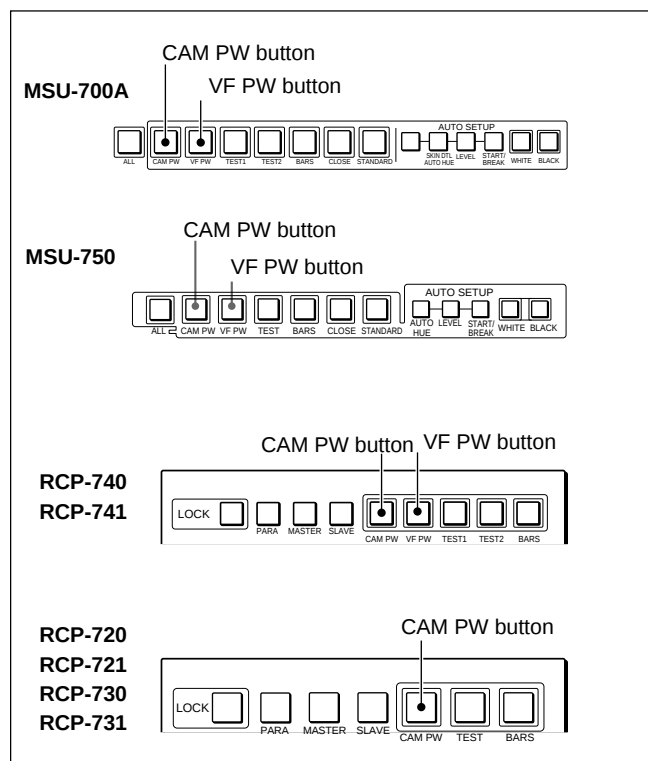
With the CAMERA POWER switch of the CCU-700A/700AP set in its power-on position (CAMERA POWER indicator lights), the power is supplied to the camera and its viewfinder when you turn on the CCU-700A/700AP.

Once the power is turned on with the CCU-700A/700AP, you can turn off and on the camera and its viewfinder from the MSU-700A/750 or the RCP-720/721/730/731/740/741, whichever is in the panel active status.

From the MSU-700A/750 or the RCP-740/741, you can also turn off and on the viewfinder of the BVP-900/900P.

For the panel active status, see “4-2-2 Setting the Control Priority.”

To turn on the camera and viewfinder from the MSU-700A/750 or RCP-series panels



When you press the lit CAM PW button, it starts flashing and the power to the camera is turned off. When you press the button again, the power to the camera is turned on. The button promptly flashes and then steadily lights when the camera becomes ready for adjustments.

To turn off the viewfinder

Press the lit VF PW button. It goes dark and the power supply to the viewfinder of the BVP-900/900P is turned off.

When you press this button again, it lights and the power comes on.

When the viewfinder on the BVP-900/900P is off, pressing any of the RET1, RET2 or video signal select buttons of the BVP-900/900P also turns on the viewfinder.

4-2 Preparations for Adjustments

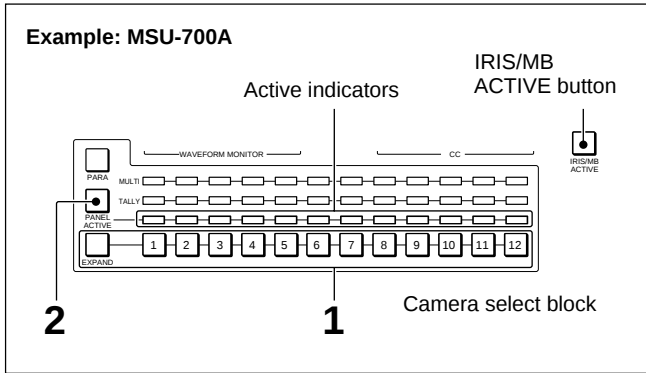
4-2-2 Setting the Control Priority

When the camera system is configured using the CNU-500/700, each of the video cameras can be connected to both the RCP-700-series Remote Control Panel and the MSU-700A/750 Master Setup Unit in parallel, and can be controlled from whichever unit has the control priority.

The control priority will be generated when the PANEL ACTIVE button is pressed and lit.

To control the camera from the MSU-700A/750

Proceed as follows.



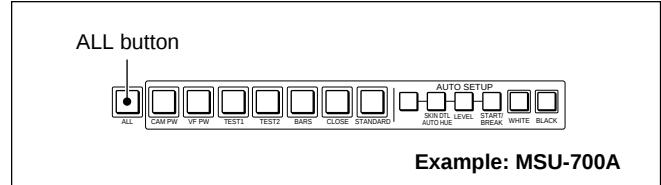
- 1 Specify the camera to be controlled with the camera select buttons.
When the EXPAND button is dark, the camera select buttons correspond to cameras 1 through 12. To select cameras 13 through 24, press and light the EXPAND button.
If you want to operate 25 or more cameras, consult your Sony dealer.

- 2 Press and light the PANEL ACTIVE button.

The active indicator for the camera selected in step 1 lights in green (**Panel active status**).
The IRIS/MB ACTIVE button also lights (**Iris/master black active status**) and all the control functions of the MSU-700A/750, including the iris/master black controls, are enabled.

ALL mode

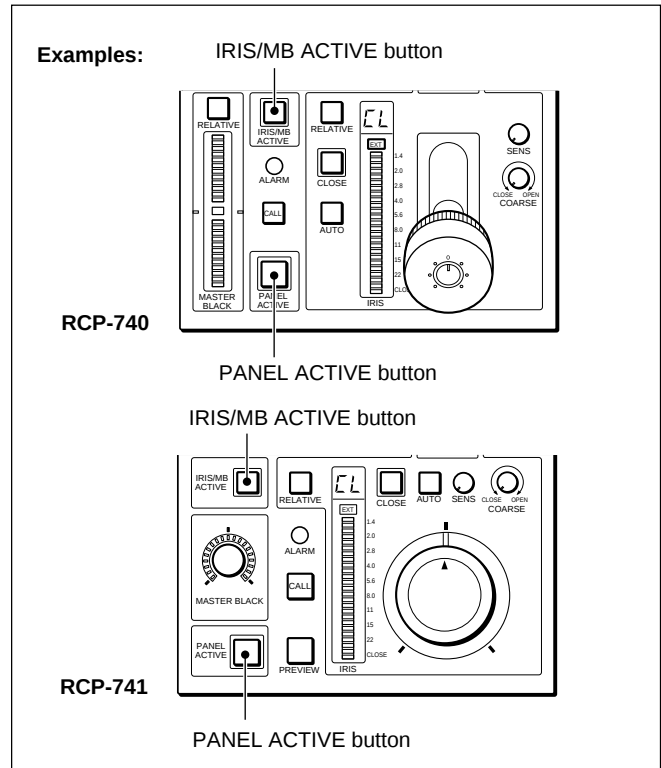
When you press the ALL button, it flashes and the operations of the buttons to the right (except the left-most button of the AUTO SETUP block of the MSU-700A) will be active on all the cameras of the selected group (cameras 1 through 12 when the EXPAND button is not lit, or cameras 13 through 24 when the EXPAND button is lit.)



To control the camera from the RCP-700-series panel

Press and light the PANEL ACTIVE button which is assigned to the camera to be controlled (**Panel active status**).

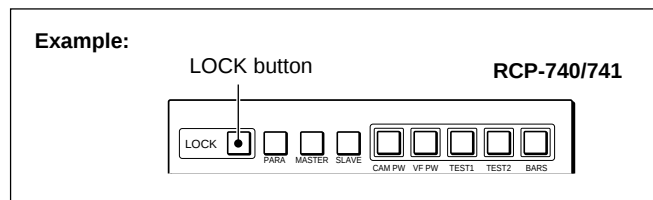
The IRIS/MB ACTIVE button also lights (**Iris/master black active status**) and all the control functions of the RCP-700-series panel, including the iris/master black controls, are enabled.



Panel lock mode

When the LOCK button is pressed on the RCP-720/721/730/731/740/741, all the control functions other than the iris/master black adjustments become inoperative.

To activate all the functions, press the LOCK button again so that it goes dark.



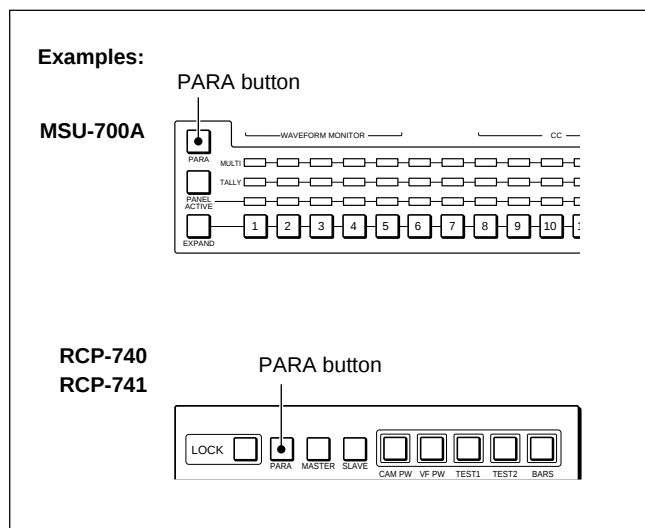
To set the priority only for the iris/master black controls

When you press and light the IRIS/MB ACTIVE button on the panel on which the PANEL ACTIVE button is not lit, the priority only for the iris/master black adjustments will be obtained.

When the MSU-700A/750 is in the panel active status, you can set only the iris and master black controls inoperative on the MSU-700A/750 by pressing the lit IRIS/MB ACTIVE button so that it goes dark.

To control the camera from both the MSU and RCP-series panel (Parallel mode)

The MSU-700A/750 and RCP-720/721/730/731/740/741 panels have the PARA button to select Parallel mode. When you press and light the PARA button of the unit that does not have the control priority (the PANEL ACTIVE button is not lit), Parallel mode is activated and all the control functions other than the iris/master black controls become operative from both units.



- Adjustments in Parallel mode are performed in Relative mode.
- When you activate Parallel mode on the MSU-700A/750, first select the camera to be controlled at the camera select block then press the PARA button.

To cancel Parallel mode

You can cancel Parallel mode by pressing the PARA button of the MSU-700A/750 or RCP-700-series panel.

4-2 Preparations for Adjustments

4-2-3 RCP Assignment

The RCP assignment function permits you to change the camera control units (CCU) to be controlled with the remote control units (RCP) connected to the CNU-700 without changing the cable connections.

The initial setting assigns the RCP connected to the RCP1 connector to control the CCU (or camera) connected to the CCU1 connector, the RCP connected to the RCP2 connector to control the CCU (or camera) connected to the CCU2 connector, and so on.

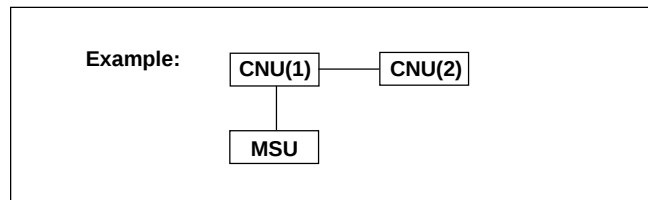
Using the RCP assignment function, you can change this initial assignment as desired. You can also assign a maximum of three RCP units to control the same single CCU (or camera).

The RCP assignment is executed using the menu operation block of the MSU-700A/750 menu or the internal switches of the CNU-700 while observing the character display of the CNU-700.

For the character display of the CNU-700, see “6-4 Character Display of the CNU-700.”

In a system in which a CNU-700 unit is connected to another CNU-700 unit

The RCP assignment can be performed from the MSU-700A/750 connected to each CNU-700.



The MSU-700A/750 connected as shown in the above figure can execute the assignment of the RCP units connected to CNU(1). To assign the RCP units connected to CNU(2), first change the connection of the MSU-700A/750 to CNU(2) and then execute assignment.

Note that the camera connected to CNU (1) cannot be controlled from the RCP unit connected to CNU (2). The control range of the RCP unit is limited to the single CNU.

Notes

- It is recommended to assign three RCP units at maximum to a single camera. If you connect four or more RCP units to a single camera, some of the RCP units may be disabled.
- A single RCP cannot control multiple cameras.
- When the RCP assignment operation is completed, the PANEL ACTIVE, IRIS/MB ACTIVE and PARA buttons on all the RCP units go dark. To use the RCP units, press and light the buttons as required.
- When using the CNU-500, the RCP assignment cannot be changed.

To operate from the MSU-700A/750

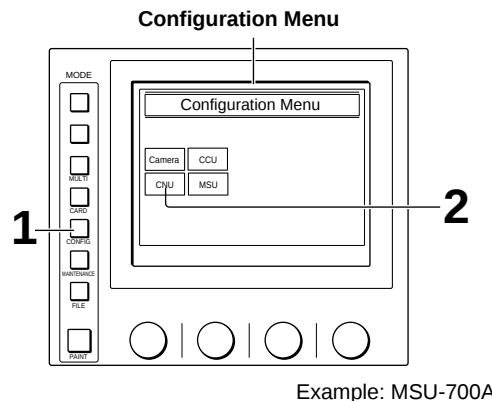
Proceed as follows.

- 1 Press and light the CONFIG button of the menu operation block.

The Configuration Menu appears on the display.

- 2 Press **CNU**.

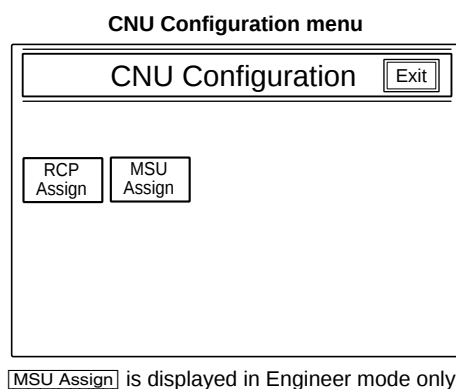
The CNU Configuration menu appears.



- 3 Press **RCP Assign**.

The RCP Assignment menu appears.

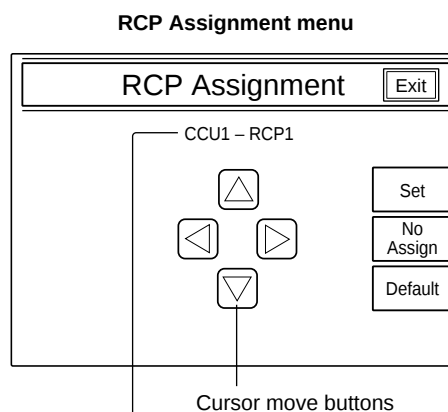
Simultaneously, the character display of the CNU-700 (see next page) changes to RCP Assignment mode.



- 4 Using the four cursor move buttons on the RCP Assignment menu (MSU-700A/750), move the cursor on the character display of the CNU-700 to the point to change the assignment.

Example

To change the assignment so that RCP5 controls CCU1, set the cursor to the point where the CCU1 line crosses the RCP5 line.



The cursor position on the character display of the CNU-700 is indicated.

(Continued)

4-2 Preparations for Adjustments

5 When the cursor is set, press **[Set]** of the RCP Assignment Menu.

A white circle on the character display of the CNU-700 moves to the cursor position.

Repeat steps **4** and **5** for other connections to be changed.

To disconnect an RCP

Move the cursor on the character display of the CNU-700 to the white circle of the RCP to be disconnected and press **[No Assign]** on the RCP Assignment menu. The white circle disappears and the connection to CCU is canceled.

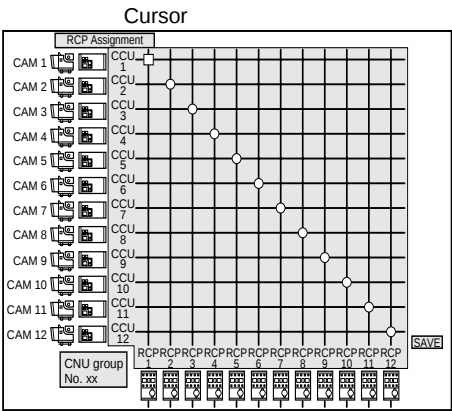
To resume the initial assignment

Press **[Default]** on the RCP Assignment menu. In the initial assignment, the CCU numbers match the RCP numbers.

6 When assignment is completed, press **[Exit]**.

The character display of the CNU-700 returns to its previous status.
The set condition is stored, and the RCP connections are changed.
The camera number/tally indication window shows the number of the newly assigned CCU (camera).

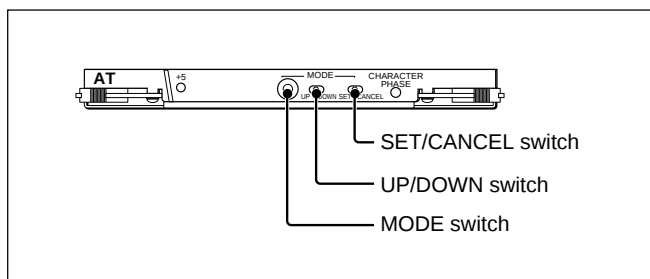
Character display of the CNU-700
(in RCP Assignment mode)



To operate on the CNU-700

For a CCU (or camera) to which no MSU-700A/750 is connected, the RCP assignment can be performed using the internal switches of the CNU-700.

Operating procedure



1 Set the MODE switch to 2.

The message “RCP Assignment” appears on the monitor screen.

2 Press the SET/CANCEL switch (S6) towards SET.

The setting status of the control system is displayed on the monitor screen.

3 Move the cursor on the screen to the desired position using the UP/DOWN switch (S5).

Each time you press the switch towards DOWN, the cursor moves to the right or goes down when it reaches the right edge of the frame.

Each time you press the switch towards UP, the cursor moves to the left or goes up when it reaches the left edge of the frame.

4 Press the SET/CANCEL switch (S6) towards SET.

Repeat steps 3 and 4 for other connections to be changed.

To disconnect an RCP

Press the SET/CANCEL switch (S6) towards CANCEL in step 4.

When the assignment is completed

5 Repeatedly press the UP/DOWN switch (S5) towards UP until the cursor reaches the SAVE position outside the frame.

6 Press the SET/CANCEL switch (S6) towards SET.

The assignment set in steps 3 and 4 is written to nonvolatile memory.

7 Return the MODE switch to 0.

To resume the initial assignment

In the initial assignment, the CCU numbers match the RCP numbers.

1 Set the MODE switch to 4.

The message “Default Panel Assignment” appears.

2 Press the SET/CANCEL switch towards SET.

3 Press the SET/CANCEL switch towards SET again.

The “ON” indication in inverse video returns to its original status.

4 Set the MODE switch to 2. The message “RCP Assignment” appears.

5 Press the SET/CANCEL switch (S6) toward SET.

The setting status of the control system is displayed.

6 Repeatedly press the UP/DOWN switch (S5) towards UP until the cursor reaches the SAVE position outside the frame.

7 Press the SET/CANCEL switch (S6) towards SET.

The RCP assignment returns to its initial setting.

8 Return the MODE switch to 0.

4-2 Preparations for Adjustments

4-2-4 Setting the Master/Slave Units

Specify the master/slave units before executing “4-6-3 Adjusting the White Balance,” and you can

set the white balance of multiple slave-designated cameras from the master-designated camera.

To make the settings from the MSU-700A/750

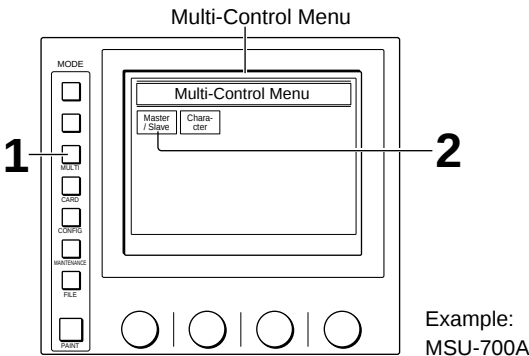
Proceed as follows.

- 1 Press the MULTI button of the menu operation block.

The Multi-Control Menu appears on the display.

- 2 Press **Master/Slave**.

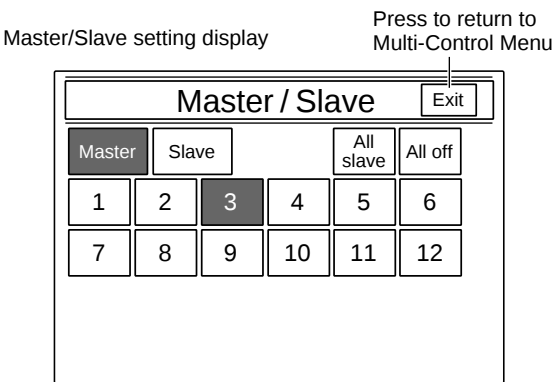
The Master/Slave setting display now appears.



- 3 Designate the master unit.

- 1) Press **Master** to set it to inverse video.
- 2) Press the number of the camera to be the master unit (for which you will adjust the white balance) to set it to inverse video.

Cameras 1 through 12 can be selected when the EXPAND button of the camera select block is dark. To select cameras 13 through 24, press and light the button.



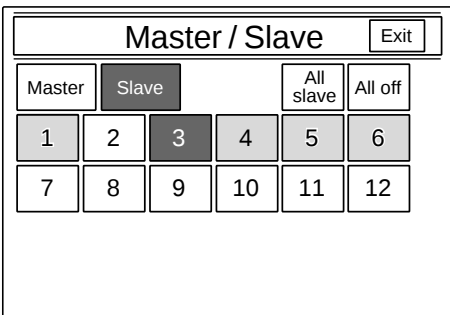
- 4 Designate the slave units.

- 1) Press **Slave** to set it to inverse video.
- 2) Press the number of the cameras to be the slave units (for which the white balance is to be adjusted in reference to the adjustment for the master unit) to set them in a dotted background.

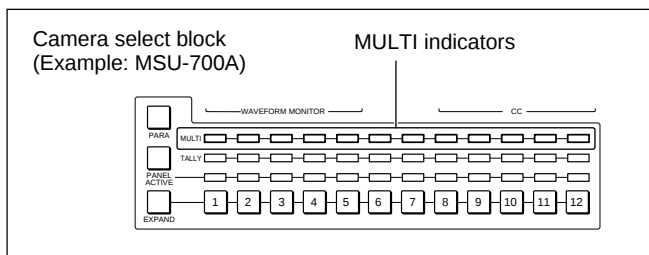
Cameras 1 through 12 can be selected when the EXPAND button of the camera select block is dark. To select cameras 13 through 24, press and light the button.

To specify all the camera for slave units, press **All slave**.

To cancel all the camera's master/slave unit designation, press **All off**.



In the camera select block, the MULTI indicator for the master-designated camera lights in green and those for the slave-designated cameras light in orange.



When the setting is completed

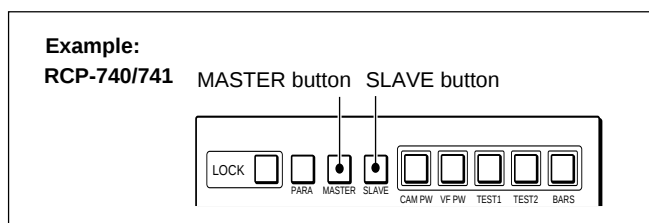
Press the MULTI button so that it goes dark.

To cancel the master/slave designation

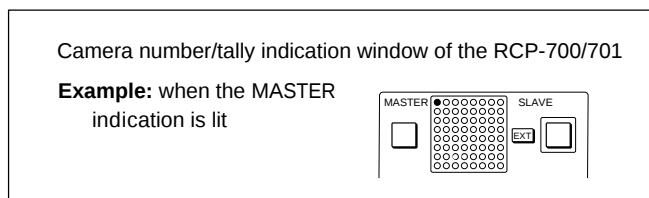
Press **Master** or **Slave** on the Master/Slave setting display to set it to inverse video, then press the number of the camera whose designation is to be canceled to return it to its original state.

To make the settings from the RCP-720/721/730/731/740/741

Press and light the MASTER button of the RCP-720/721/730/731/740/741 for the camera to be designated as the master unit. Press and light the SLAVE button of the RCP-720/721/730/731/740/741 for the cameras to be designated as the slave units.



When using the RCP-700/701, either the MASTER or SLAVE indication lights in the camera number/tally indication window of the RCP-700/701 depending on the setting on the MSU-700A/750 or other RCP-series panel. You can not specify the master/slave unit from the RCP-700/701.



4-2-5 Selecting the Test Signal

You can select the test signal to be output from the VBS1/VBS2/VBS3, WF1/WF2 OUTPUT, PIX1/PIX2 OUTPUT, and Y/R-Y/B-Y connectors of the CCU-700A/700AP and the VBS1/VBS2/VBS3, WF OUTPUT, PIX OUTPUT, Y/G, R-Y/R, B-Y/B connectors of the CCU-550/550AP.

Press and light the desired signal output select button on the MSU-700A/750 or RCP-720/721/730/731/740/741. The signal generator of the camera is activated and the selected signal is output.

Example: MSU-700A

Signal output select buttons



TEST: Signal selected on the MSU SW Setting display (MSU-750 only)

For the MSU SW Setting display, see “3-4-4 Setting the Operating Conditions of the MSU.”

TEST1: Ramp waveform (gamma signal)

TEST2: Tri-level waveform or ten-step waveform (RCP-740/741 and MSU-700A only. Select the signal on the CAM Mode Setting display.)

For the CAM Mode Setting display, see “3-2-9 Initial Settings of the Camera.”

BARS: Color bar signal

Note

For the outputs from the CCU-700A/700AP/550A/550AP, the BARS button takes priority over the other two buttons. If the BARS button is lit, press the button to turn it dark before pressing the TEST, TEST1 or TEST2 button. (TEST, TEST1 and TEST2 have effect on the viewfinder regardless of the BARS button setting.)

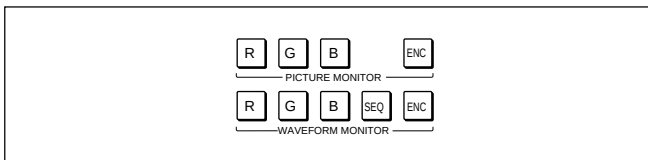
4-2 Preparations for Adjustments

4-2-6 Selecting Monitor Signals

Select the output signal from the PIX1/PIX2 OUTPUT connectors and WF1/WF2 OUTPUT connectors of the CCU-700A/700AP and the PIX OUTPUT and WF OUTPUT connectors of the CCU-550/550A using the buttons shown in the illustrations.

To select from the MSU-700A

The output signal from the PIX2 OUTPUT and WF2 OUTPUT connectors of the CCU-700A/700AP and the PIX OUTPUT and WF OUTPUT connectors of the CCU-550/550A can be selected from the MSU-700A.



Signal from PIX2 OUTPUT (CCU-700A/700AP) and PIX OUTPUT (CCU-550A/550AP)

Select by pressing the PICTURE MONITOR buttons. The signal corresponding to the lit button is output.

R/G/B: Select the R signal, G signal, or B signal. The signals can be selected either independently or in combination. When any of these buttons is pressed, the ENC circuit is turned off.

ENC (encode): When you press this button, the R/G/B circuits are turned off and the ENC signal is output.

Signal from WF2 OUTPUT (CCU-700A/700AP) and WF OUTPUT (CCU-550A/550AP)

Select by pressing the WAVEFORM MONITOR buttons.

The signal corresponding to the lit button is output.

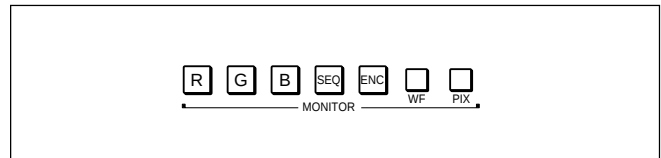
R/G/B: Select the R signal, G signal, or B signal. The signals can be selected either independently or in combination. When any of these buttons is pressed, the SEQ and ENC circuits are turned off.

SEQ (sequence): When you press this button, the R/G/B circuits are turned off and the SEQ signal is output. You can monitor the waveforms of the R, G, and B signals in sequence on a waveform monitor. The waveform monitor control signal is supplied from the VCS.

ENC (encode): When you press this button, the R/G/B and SEQ circuits are turned off and the ENC signal is output.

To select from the MSU-750

The output signal from the PIX2 OUTPUT and WF2 OUTPUT connectors of the CCU-700A/700AP and the PIX OUTPUT and WF OUTPUT connectors of the CCU-550/550A can be selected from the MSU-750.



After selecting the output connector of CCU by pressing either the WF or PIX button, press to light the button for the signal to be output. The signal corresponding to the lit button is output.

WF: Press to light the button when switching the output signal from the WF2 OUTPUT or WF OUTPUT connector with the output signal select buttons.

PIX: Press and light the button when switching the output signal from the PIX2 OUTPUT or PIX OUTPUT connector with the output signal select buttons.

R/G/B: Select the R signal, G signal, or B signal. The signals can be selected either independently or in combination. When any of these buttons is pressed, the SEQ (for WF only) and ENC circuits are turned off.

SEQ (sequence): Effective only for the WF2 OUTPUT connector of the CCU-700A/700AP and the WF OUTPUT connector of the CCU-550A/550AP. When this button is pressed, the R/G/B circuits are turned off, and the SEQ signal is output. You can monitor the waveforms of the three R, G, and B signals in sequence on a waveform monitor.

ENC (encode): When this button is pressed, the R/G/B and SEQ circuits are turned off, and the ENC signal is output.

When one of these buttons is lit, pressing the output signal select buttons has effect only on the connector that corresponds to the lit button. The output signal from the other connector does not change. By lighting both the buttons, you can simultaneously select the output signal for two connectors.

Note

If you light both the WF and PIX buttons when different signals are selected for the WF2 OUTPUT and PIX2 OUTPUT connectors or WF OUTPUT and PIX OUTPUT connectors, the output select buttons corresponding to the signals selected for either of the connectors flash.

Press the button for the signal to be output to select it again.

For example, when you light both the WF and PIX buttons with R + B selected for PIX2 OUTPUT and B + G selected for WF2 OUTPUT, the R and G buttons will start flashing, while the B button will remain lit. To output R and G, press the R and G buttons. Each pressed button stops flashing and lights.

To select from the RCP-740/741

The output signal from the PIX1 OUTPUT connectors and WF1 OUTPUT connectors of the CCU-700A/700AP can be selected by pressing the MONITOR SELECT buttons of the RCP-740/741.

Selection of signals from the PIX OUTPUT and WF OUTPUT connectors of the CCU-550A/550AP is enabled with the internal switch on the AT board.

For switch settings on the AT board, see “3-1-7 Internal Boards of the CCU-550A/550AP.”



The signal corresponding to the lit button is output.

R/G/B: Select the R signal, G signal, or B signal. The signals can be selected either independently or in combination. The same signal(s) is/are output from the PIX1 (or PIX) and WF1 (or WF) OUTPUT connectors. When you press any of these buttons, the SEQ and ENC circuits are turned off.

SEQ (sequential): When you press this button, the R/G/B circuits for the WF1 (or WF) OUTPUT are turned off and the SEQ signal is output from the WF1 (or WF) OUTPUT connector. You can monitor the waveforms of the R, G, and B signals in sequence on a monitor connected to the WF1 (or WF) OUTPUT connector. The PIX1 (or PIX) OUTPUT connector continues outputting the same signal as before this button was pressed. The waveform monitor control signal is supplied from the CCU.

ENC (encode): When you press this button, the R/G/B and SEQ circuits both for the WF1 (or WF) and PIX1 (or PIX) OUTPUTs are turned off and the ENC signal is output from both the WF1 (or WF) and PIX1 (or PIX) OUTPUT connectors.

To select from the RCP-730/731

The MONITOR SELECT buttons of the RCP-730/731 have effect only on the WF1 OUTPUT connector of the CCU-700A/700AP.

Selection of signals from the WF OUTPUT connector of the CCU-550A/550AP is enabled with the internal switch on the AT board.

For switch settings on the AT board, see “3-1-7 Internal Boards of the CCU-550A/550AP.”



The signal corresponding to the lit button is output.

SEQ (sequential): When you press this button, the R/G/B circuits for the WF1 (or WF) OUTPUT are turned off and the SEQ signal is output from the WF1 (or WF) OUTPUT connector. You can monitor the waveforms of the R, G, and B signals in sequence on a monitor connected to the WF1 (or WF) OUTPUT connector.

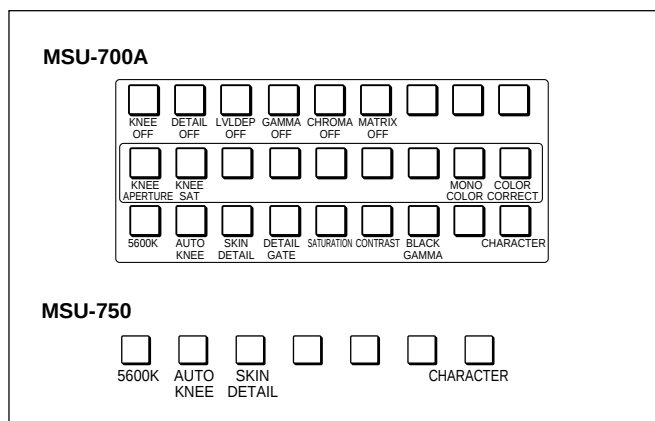
ENC (encode): When you press this button, the R/G/B and SEQ circuits for the WF1 (or WF) OUTPUT are turned off and the ENC signal is output from the WF1 (or WF) OUTPUT connector.

4-3 Basic Adjustment Operations

This section explains the basic operations using the function ON/OFF buttons and menu operation block of the MSU-700A/750, and the function ON/OFF buttons and paint control block of the RCP-700 series.

4-3-1 MSU-700A/750 Basic Operations

Function ON/OFF buttons



By pressing the function ON/OFF buttons, you can turn on and off the corresponding functions.

- The buttons having indications with OFF such as KNEE OFF are lit for OFF and dark for ON.
- The other buttons are lit for ON and dark for OFF.

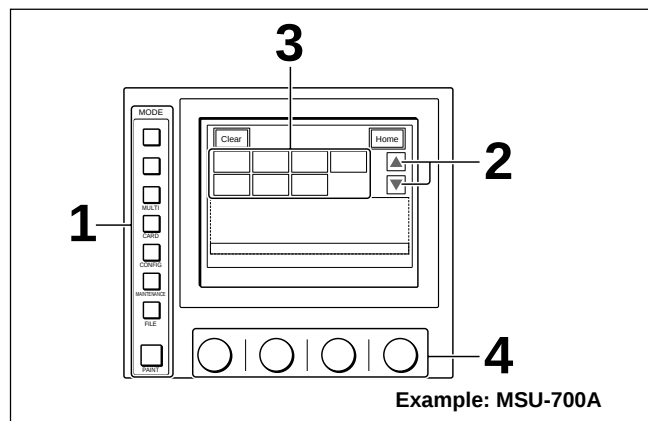
The related adjustments can be done through paint-menu or maintenance-menu operations on the menu operation block.

The same functions as those assigned to the function ON/OFF buttons can be turned on and off on the EL display/touch panel during menu operations. The ON/OFF operations on the display and the buttons are synchronized with each other.

With the MSU-750, the Function menu is also available to turn on and off the functions.

For the Function menu of the MSU-750, see the next page.

Menu operation block



Example: MSU-700A

Operating procedure

- 1 Press and light one of the MODE buttons.

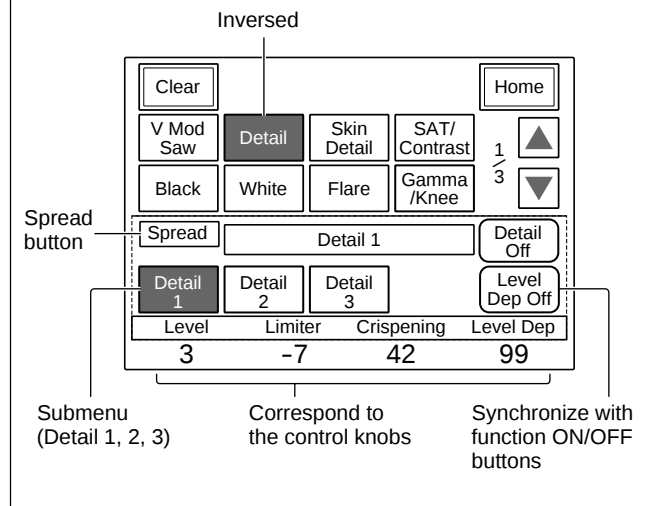
The menu operation mode is initiated and the menu for the pressed button appears on the display.

- 2 When the selected menu is composed of multiple pages, press ▲ or ▼ to flip the pages. Press [Home] to return to the first page.

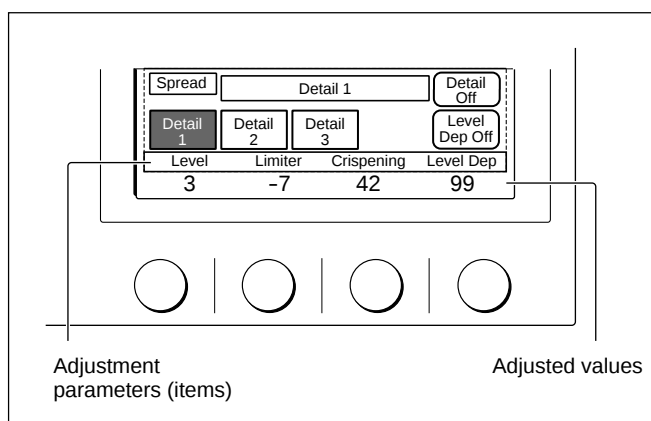
- 3 Press the name of the item (item group) to be adjusted on the menu to set it to inverse video.

The lower half of the panel becomes the adjustment display for the selected item (item group).

Example: Paint menu 1/3 and Detail adjustment display

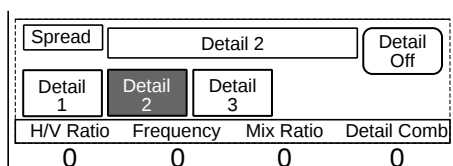


- 4** Turn the control knobs to adjust the corresponding parameters (items).

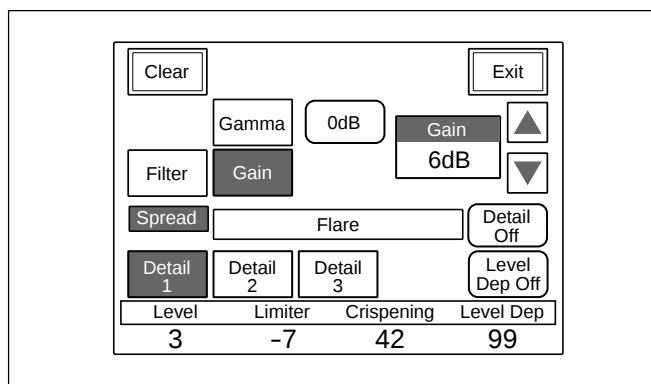


When a submenu is shown, press the desired submenu item to change the display.

Example: When Detail 2 is selected



- 5** To adjust the items on the spread menu, press **Spread** to set it to inverse video. You can now select the filters and adjust the master gain and gamma on the display.



When the adjustment is finished

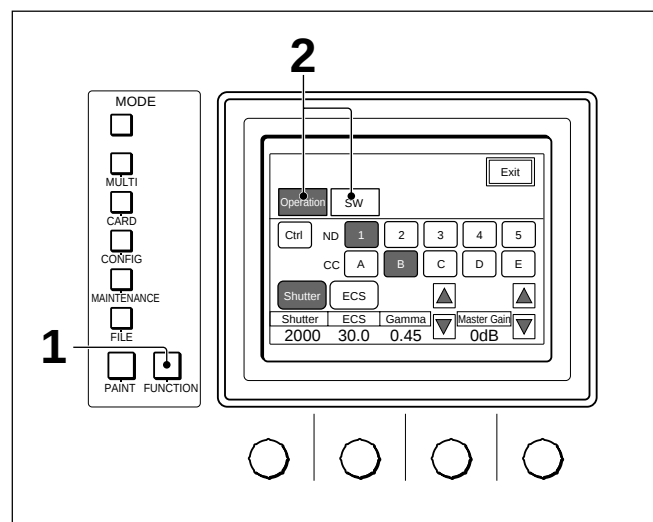
- To adjust another item (item group) of the same menu, press the names of that item (item group).
- To adjust items of another menu, press the corresponding MODE button.
- To release the menu operation mode, press the lit MODE button.

Function menu operations on the MSU-750

The Function menu of the MSU-750 permits you to turn on and off various camera/CCU functions and perform various adjustments.

You may select Function menu without exiting the currently selected menu. When you exit Function menu by any of the following methods, the previous menu is restored.

- Press the **Exit** button on the menu display.
- Press the lit FUNCTION button so that it goes dark.
- Press the lit MODE button for the previous menu.



- 1** Press and light the FUNCTION button.

The Function menu appears on the display.

- 2** Select the menu item.

For filter selection, shutter/ECS mode ON/OFF and adjustment, step gamma selection, and master gamma selection

Press **Operation** to set it to inverse video (see the illustration above).

For subsequent operations, see the corresponding sections.

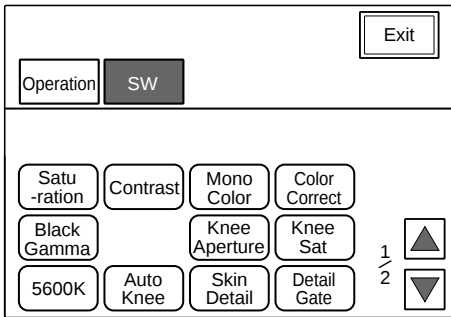
(Continued)

4-3 Basic Adjustment Operations

To turn on and off the camera/CCU functions
Press [SW] to set it to inverse video.

The lower half of the display becomes the function ON/OFF display.

The function ON/OFF display is composed of multiple pages. Press ▲ or ▼ to flip the pages.



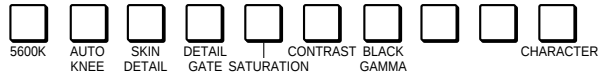
By pressing the buttons on the display, you can turn on and off the corresponding functions.

- The buttons having indications with OFF such as KNEE OFF are in inverse video for OFF and in normal video for ON.
- The other buttons are in inverse video for ON and in normal video for OFF.

4-3-2 RCP-Series Basic Operations

Function ON/OFF buttons

Example: RCP-740/741

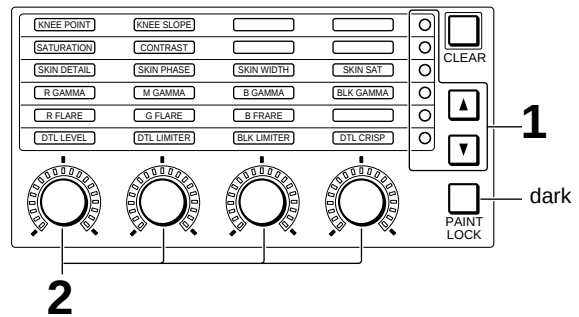


By pressing the function ON/OFF buttons, you can turn on and off the corresponding functions. The buttons are lit for ON and dark for OFF.

Paint control block

RCP-740/741/720/721

Example: RCP-740/741



Operating procedure

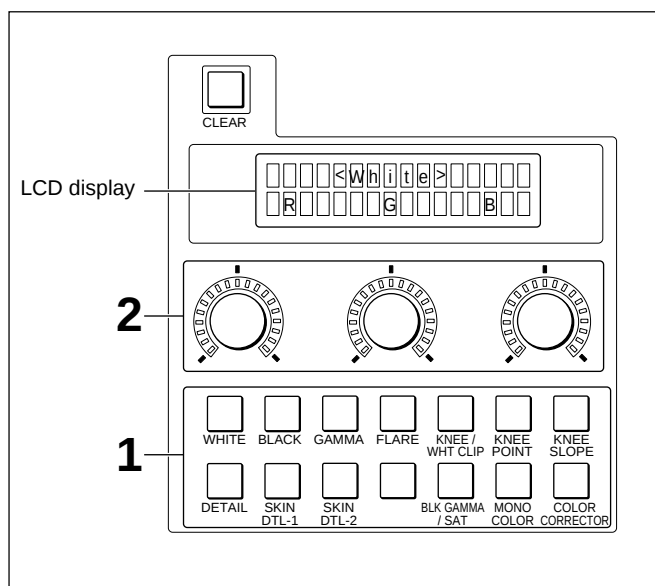
- 1** Press either ▲ or ▼ button (only ▼ on the RCP-720/721) to light the indicators that correspond to the items to be adjusted.
- 2** Adjust the selected items with the corresponding controls (rotary encoders).

The LED level markers around the controls light to indicate the adjusted volume of the items.

Note

When the PAINT LOCK button is lit, the paint adjustments cannot be done on the RCP-720/721/740/741. Press the button so that it goes dark.

RCP-730/731



Operating procedure

- 1** Press the paint button that corresponds to the items to be adjusted so that the items are displayed on the LCD display.
- 2** Adjust the selected items with the corresponding controls (rotary encoders).

The LED level markers around the controls light to indicate the adjusted volume of the items.

4-4 Black Adjustments

4-4-1 Adjusting the Black Shading

Adjust the black shading independently for R, G, and B.

Use the menu operation block of the MSU-700A/750 for the adjustment and proceed as follows.

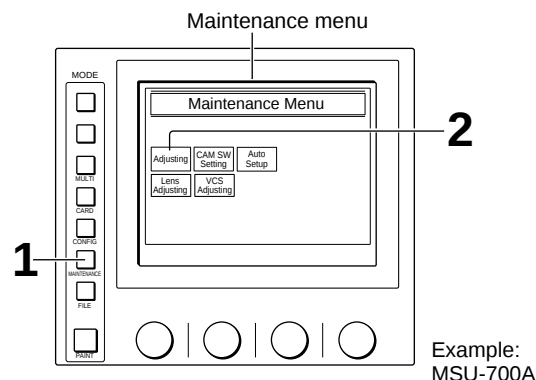
- 1 Press and light the MAINTENANCE button.

The Maintenance menu appears on the display.

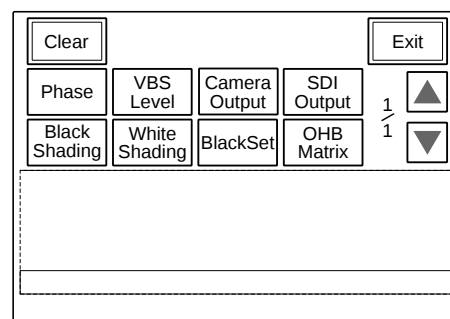
- 2 Press **Adjusting**.

The Maintenance adjusting item menu now appears.

To return to the Maintenance menu, press **Exit**.



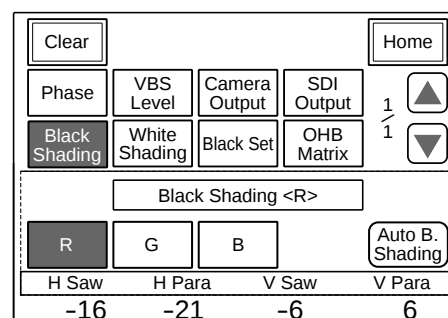
Maintenance adjustment item menu



- 3 Press **Black Shading** of the Maintenance adjusting item menu to set it to inverse video.

The lower half of the display becomes the Black Shading adjustment display.

There are three Black Shading adjustment displays for R, G, and B, which can be selected on the submenu.



- 4** Press **[R]**, **[G]**, or **[B]** of the submenu to switch the display and adjust the following items with the corresponding control knobs.
- H Saw:** Horizontal sawtooth shading
 - H Para:** Horizontal parabola shading
 - V Saw:** Vertical sawtooth shading
 - V Para:** Vertical parabola shading

Black Shading<G>			
R	G	B	Auto B. Shading
H Saw	H Para	V Saw	V Para
-6	-11	-83	25

Automatic adjustment of the black shading

When you press **[Auto B. Shading]** of the adjustment display, the black shading is automatically adjusted (Black shading auto setup).

You can also execute the Black shading auto setup using the Auto Setup menu of the MSU-700A/750.

When you perform the Level Auto Setup using the AUTO SETUP block of the MSU-700A/750 or RCP-700-series panels or the Auto Setup menu, the black shading is automatically adjusted along with the master black and some other items.

For details, see “4-19 Auto Setup.”

4-4 Black Adjustments

4-4-2 Adjusting the Black Set

Adjust the black set so that the R, G, and B channels have the same reference black level.

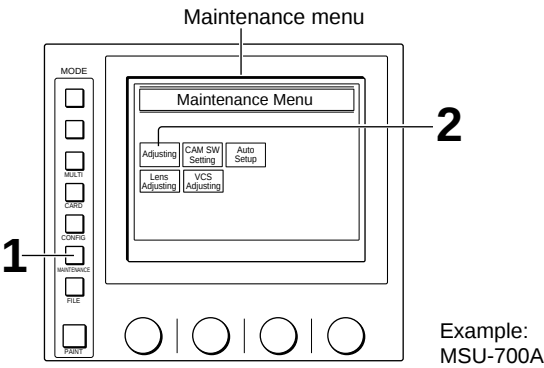
Use the menu operation block of the MSU-700A/750 for the adjustment and proceed as follows.

1 Press and light the MAINTENANCE button.

The Maintenance menu appears on the display.

2 Press **Adjusting**.

The Maintenance adjusting item menu now appears (see the previous section).



3 Press **Black Set** of the Maintenance adjusting item menu to set it to inverse video.

The lower half of the display becomes the Black Set adjustment display.

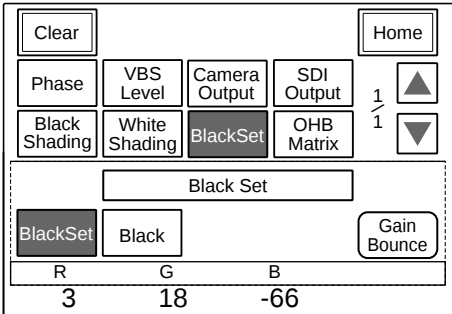
4 Set **Black Set** of the submenu in inverse video and adjust the levels for, R, G, and B with the three left control knobs.

When you press **Black** of the submenu to set it to inverse video, the display switches to the Black adjustment display to permit you to adjust the black balance. (See “4-4-3 Adjusting the Black Balance.”)

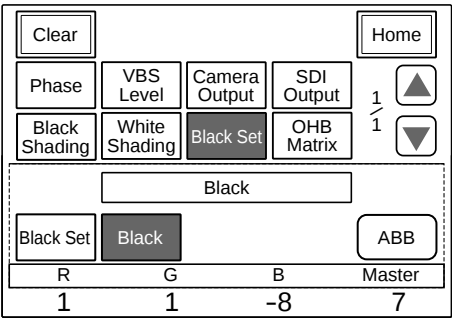
To turn on/off Gain Bounce mode

Press **Gain Bounce** to set it to inverse video to turn on/off Gain bounce mode for adjustments with a certain interval at 0 dB or 9 dB.
Be sure to turn off the mode when you finish the Black Set adjustment.

Maintenance adjustment item menu and Black Set adjustment display



Black adjustment display



Automatic adjustment of the black set

When you press **ABB** of the adjustment display, the black set is automatically adjusted simultaneously with the black balance (Black auto setup).
You can also execute the Black auto setup using the

Auto Setup menu of the MSU-700A/750 or the AUTO SETUP block of the MSU-700A/750 or the RCP-700-series panels.

For details, see “4-19 Auto Setup.”

4-4-3 Adjusting the Black Balance

Adjust the black level for R, G, and B independently to determine the black balance.

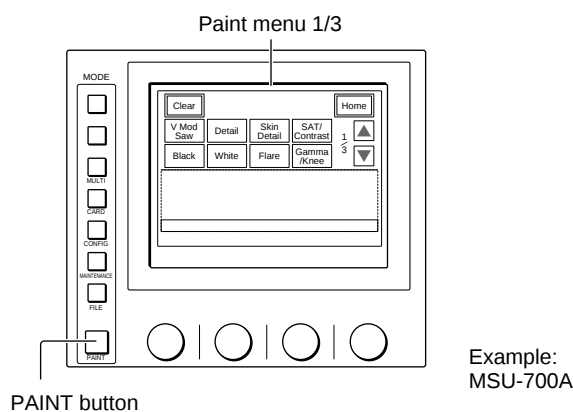
Use the menu operation block of the MSU-700A/750

or the white balance/black balance control block of the RCP-700-series panels for the adjustment and proceed as follows.

To adjust from the MSU-700A/750

- 1 Press and light the PAINT button.

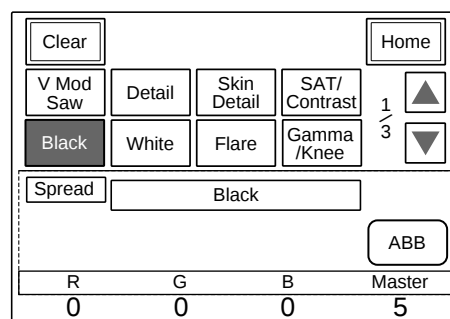
Paint menu 1/3 appears on the display.



- 2 Press **Black** to set it to inverse video.

The lower half of the display becomes the Black adjustment display.

- 3 Adjust the black level with the control knobs.
To independently adjust R, G, and B: Use the left three control knobs.
To adjust R, G, and B in combination: Use the right-most (Master) control knob.
For master black, see “4-4-4 Adjusting the Master Black.”

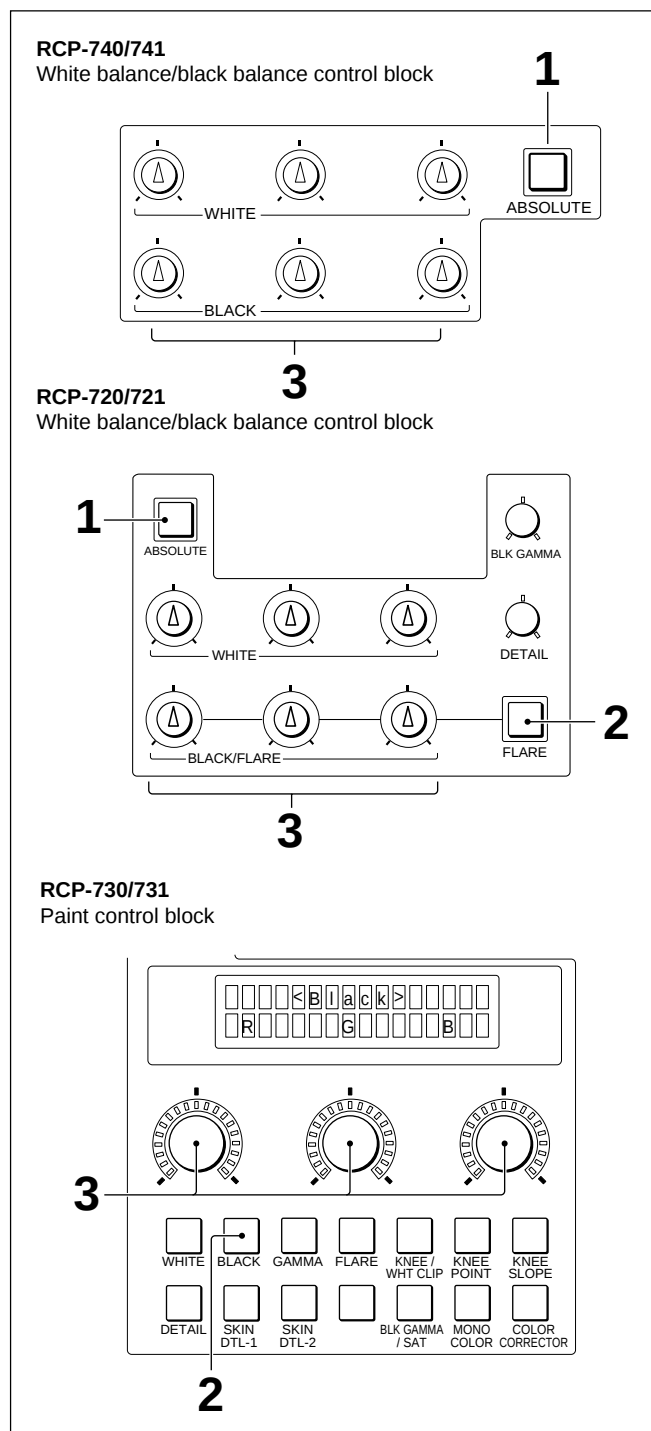


Note

Adjustment on the MSU-700A/750 is always performed in Relative mode.

4-4 Black Adjustments

To adjust from the RCP-700-series panel



- 1** When using the RCP-720/721/740/741, select the adjustment mode with the ABSOLUTE button. (RCP-700/701/730/731 provides Relative mode only.)
Absolute mode (ABSOLUTE button lit): The positions of the BLACK controls absolutely correspond to the adjustment values. The center position always represents the median value for the adjustment.

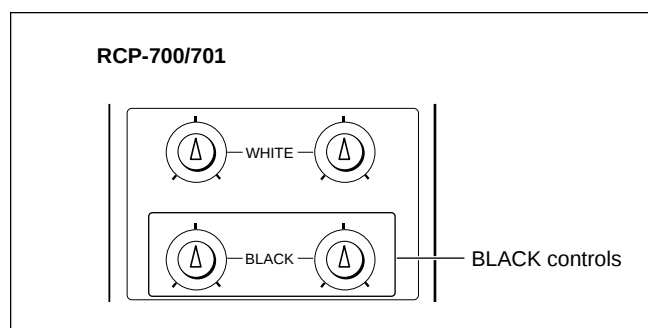
Relative mode (ABSOLUTE button not lit):

There is no absolute correspondence between the positions of the controls and the adjustment values. The positions of the controls when Relative mode is selected will be the reference positions for the subsequent adjustment. The center position does not always represent the median value for the adjustment.

Notes (RCP-720/721/740/741)

- In the following cases, Relative mode is automatically selected.
 - When an auto setup operation is completed
 - When a scene file is retrieved
 - When the PANEL ACTIVE button goes dark
- When the camera control is set to Parallel mode (PARA button is lit), you cannot select Absolute mode.

- 2** When using the RCP-720/721, press the FLARE button, if lit, to turn it dark. When using the RCP-730/731, press the BLACK button of the paint control block.
- 3** Adjust R, G, and B with the three BLACK controls on the RCP-720/721/740/741 or three paint controls on the RCP-730/731. (From the left, the controls are for R, G, and B.) When using the RCP-700/701, adjust R and B with the two BLACK controls. (The left control is for R and the right control is for B.)



Automatic adjustment of the black balance

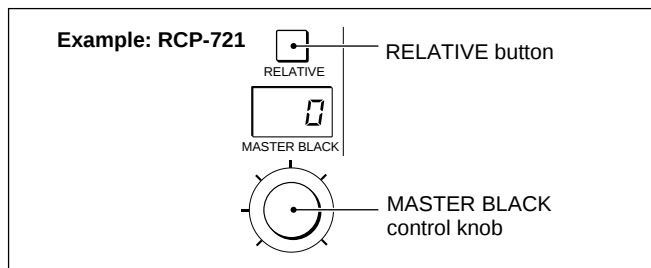
When you press **[ABB]** of the Black adjustment display on the MSU-700A/750, the black balance is automatically adjusted (Black auto setup). You can also execute the Black auto setup using the Auto Setup menu of the MSU-700A/750 or the button of the AUTO SETUP block of the MSU-700A/750 or the RCP-700-series panels.

For details, see “4-19 Auto Setup.”

4-4-4 Adjusting the Master Black

Adjust the master black level.

When using the RCP-720/721/730/731/740, you can select the adjustment mode with the RELATIVE button.



Relative mode (RELATIVE button lit): There is no absolute correspondence between the position of the ring (or knob) and the adjustment value. The position of the ring when Relative mode is selected will be the reference position for the subsequent adjustment. The center position does not always represent the median value for the adjustment. In the following cases, Relative mode is automatically selected.

- When an auto setup operation is completed
- When a scene file is retrieved
- When the IRIS/MB ACTIVE button goes dark

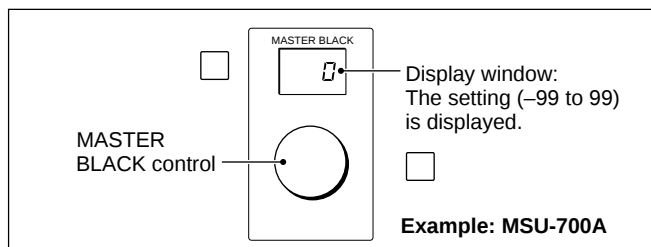
Absolute mode (RELATIVE button not lit): The position of the ring (or knob) absolutely corresponds to the adjustment value and the center position always represents the median value of the adjustment.

Note

Adjusting on the MSU-700A/750 and RCP-700/701/741 is always performed in Relative mode.

To adjust from the MSU-700A/750

Use the MASTER BLACK control.



The MSU-700A/750 also permits you to adjust the master black on the black adjustment display of Paint menu.

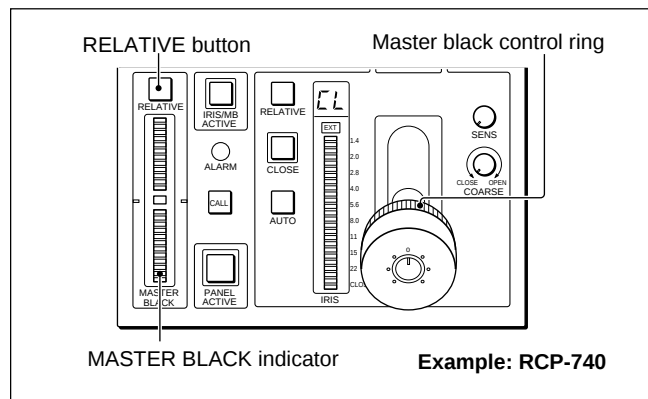
See “4-4-3 Adjusting the Black Balance.”

To adjust from the RCP-700/720/730/740

Use the MASTER BLACK control ring.

On the RCP-740, the corresponding LED of the MASTER BLACK indicator lights according to the master black setting.

On the RCP-720, the set value (-99 to 99) appears in the display window.

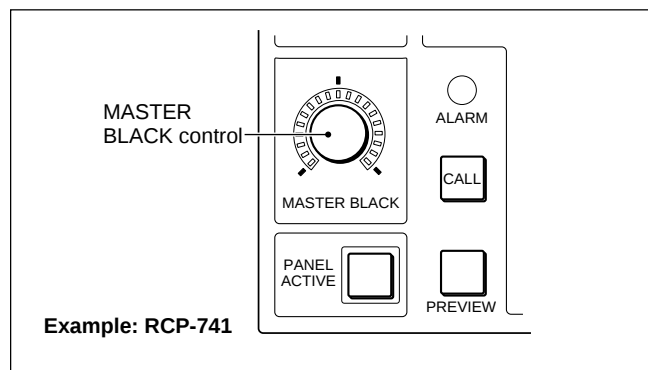


To adjust from the RCP-701/721/731/741

Use the MASTER BLACK control.

On the RCP-741, the corresponding LED of the indicator around the control lights according to the master black setting.

On the RCP-721/731, the set value (-99 to 99) appears in the display window.



Automatic adjustment of the master black

On the MSU-700A/750 or the RCP-720/721/730/731/740/741, the master black can also be automatically adjusted along with other items with an auto setup operation.

For details, see “4-19 Auto Setup.”

4-5 Iris Adjustments

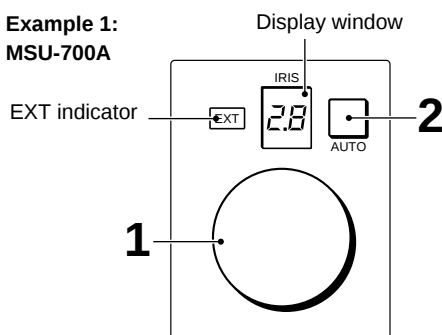
The iris can be adjusted either automatically or manually on the iris/master black control block.

When required, the various requirements for the automatic adjustment can be adjusted.

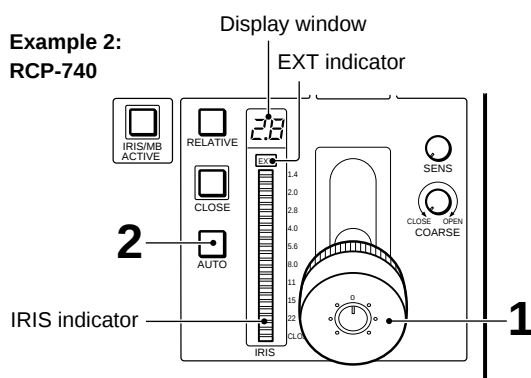
See “4-5-4 Auto Iris Setup.”

4-5-1 Automatic Adjustment

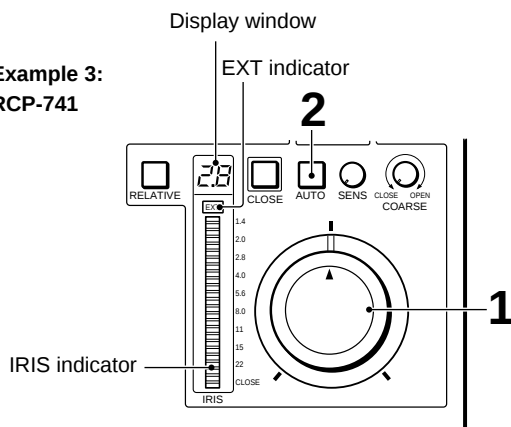
**Example 1:
MSU-700A**



**Example 2:
RCP-740**



**Example 3:
RCP-741**



Although the structure of the control block is not the same, the operating procedure is the same. When a lens extender is used on the camera, the EXT indicator lights.

Note

If the CLOSE button (see “4-5-3 Closing Function”) of the MSU-700A/750 or the RCP-700-series panel is lit, press the button so that it goes dark.

Operating procedure

- 1** Set the IRIS lever or the IRIS control to its center position.
- 2** Press and light the AUTO button.

As long as the AUTO button is lit, the iris will be automatically adjusted to the optimum setting according to the amount of the input light.

On the MSU-700A/750 and RCP-720/721/730/731/740/741, the iris setting is displayed in f number in the display window.

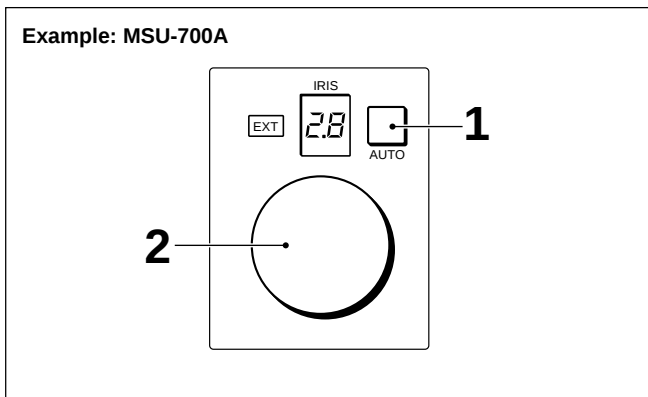
On the RCP-730/740/741, the LED of the IRIS indicator also lights according to the setting.

Adjusting the reference value for automatic adjustment

When the AUTO button is lit, you can adjust the reference value for automatic adjustment in a range of ± 2 iris settings by moving the IRIS lever or IRIS control.

4-5-2 Manual Adjustment

To adjust from the MSU-700A/750

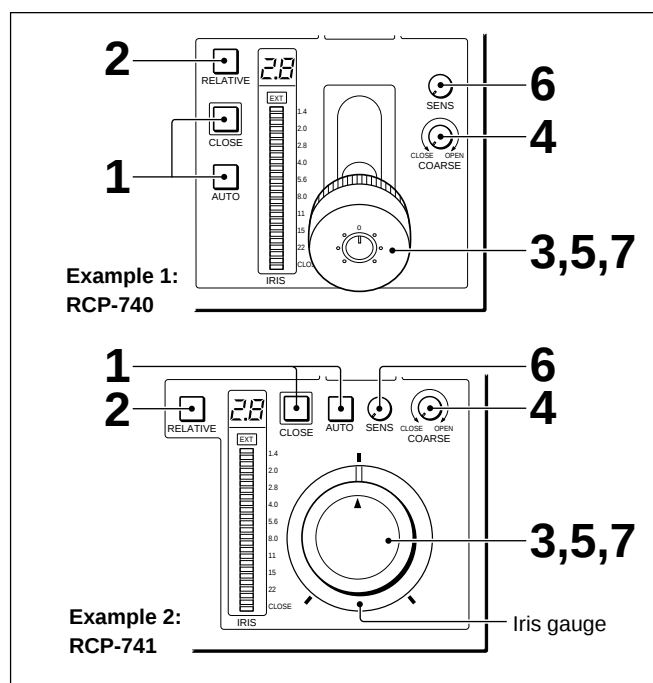


- 1** If the AUTO button and the CLOSE button (*page 4-42*) are lit, press and turn them dark.
- 2** Turn the IRIS control to adjust the iris to obtain the optimum picture.

The iris setting is displayed in f number in the display window.

To adjust from the RCP-700-series panel

To make the adjustments in Absolute mode



- 1** If the AUTO and CLOSE buttons are lit, press and turn them dark.
- 2** If the RELATIVE button is lit on the RCP-720/721/730/731/740/741, press it so that it goes dark.

Note

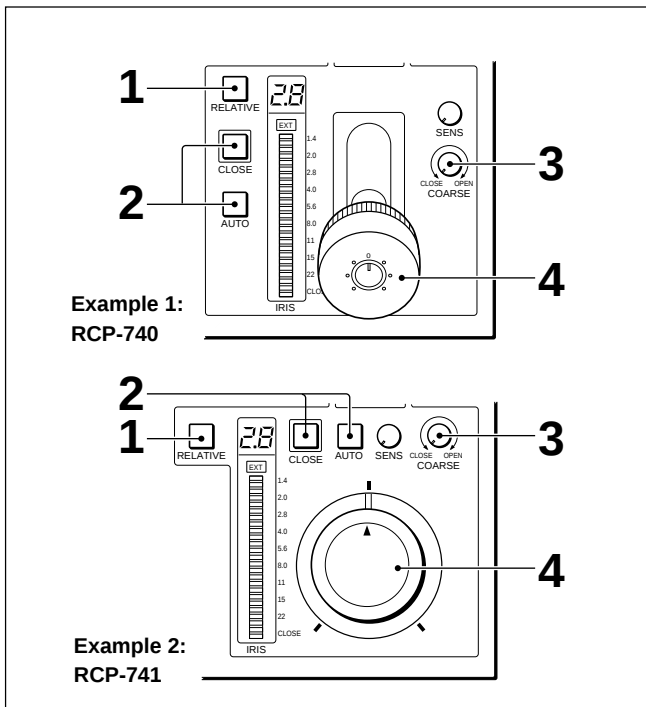
Adjustment from the RCP-700/701 is always performed in Absolute mode.

- 3** Set the IRIS lever (RCP-700/720/730/740) or the IRIS control (RCP-701/721/731/741) to the CLOSE-side end position.
- 4** Adjust the lower limit for CLOSE with the COARSE control.
- 5** Set the IRIS lever or the IRIS control to the OPEN-side end position.
- 6** Adjust the upper limit for OPEN with the SENS control. Turning to the right enlarges the adjustment range.
- 7** Move the IRIS lever or control to adjust the iris to obtain the optimum picture.

- On the RCP-720/721/730/731/740/741, the iris setting is displayed in f number on the display window. On the RCP-730/740/741, the LED of the IRIS indicator also lights according to the setting.
- When adjusting from the RCP-701/721/731/741, you can use the iris gauge as a click reference position for adjustment.
- On the RCP-730/740/741, the upper and lower limits of the adjustments are displayed with the LED of the indicator at a low luminous level.

4-5 Iris Adjustments

To make the adjustments in Relative mode (RCP-720/721/730/731/740/741)



- 1 Press and light the RELATIVE button.
- 2 If the AUTO and CLOSE buttons are lit, press and turn them dark.
- 3 Roughly adjust the iris by turning the COARSE control.
- 4 Move the IRIS lever or control to adjust the iris for the optimum picture.

The iris setting is displayed in f number in the display window, and the LED of the IRIS indicator also lights according to the setting.

Note

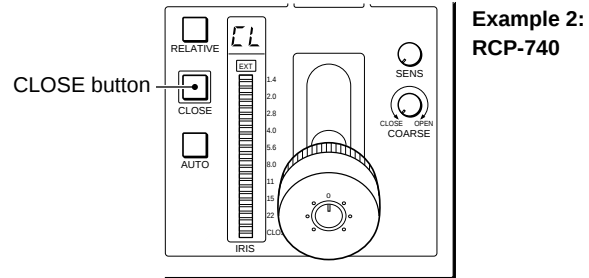
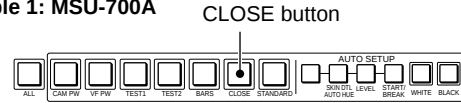
If the RELATIVE button is not lit (Absolute mode) when the AUTO button is turned off to switch from automatic to manual adjustment, the iris is instantly adjusted to the value corresponding to the current position of the IRIS lever (RCP-720/730/740) or control knob (RCP-721/731/741).

To prevent this occurrence, light the RELATIVE button in advance. Thus the automatically adjusted iris value that was in effect immediately before the automatic-to-manual switching is retained regardless of the position of the IRIS lever or control knob.

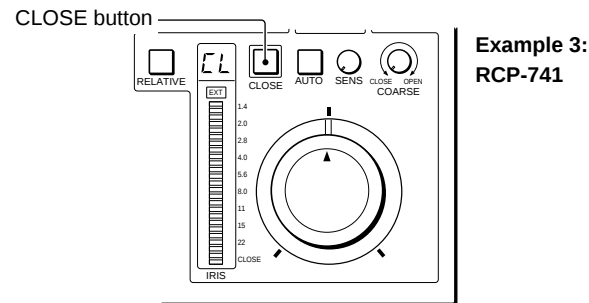
4-5-3 Closing Function

To close the iris, press and light the CLOSE button of the MSU-700A/750 or RCP-720/721/730/731/740/741.

Example 1: MSU-700A



Example 2: RCP-740



Example 3: RCP-741

4-5-4 Auto Iris Setup

The requirements for the Auto Iris Adjustment can be adjusted as required.

Use the menu operation block of the MSU-700A/750. The Maintenance Menu permits you to adjust the convergence target of the automatic iris adjustment, APL mix ratio, and loop gain.

With the Paint Menu, you can select a mode to use a subject of the specified color phase and width as the reference of the automatic iris adjustment. The Auto Iris sensitivity patterns can be selected from both menus.

To adjust on the Maintenance Menu

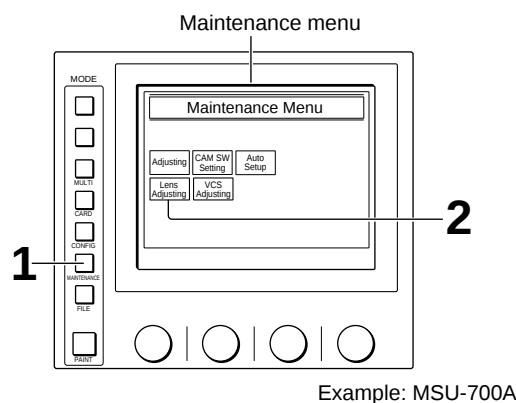
Proceed as follows:

- 1 Press and light the MAINTENANCE button.

The Maintenance Menu appears on the display.

- 2 Press **Lens Adjusting**.

The Lens adjustment item menu appears.



- 3 Press **Auto Iris** to set it to inverse video.

The lower half of the display becomes the Auto Iris Setting display.

- 4 Adjust the necessary items.

Auto Iris sensitivity patterns

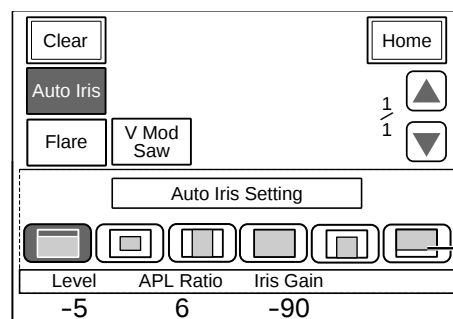
Select the sensitivity patterns for the picture in the Auto Iris adjustment.

Press the desired pattern select button to set it to inverse video.

From the left, the buttons are for the following patterns.

- Pattern to suppress the sensitivity in the upper area of the picture.
- Pattern to suppress the sensitivity in the surrounding area except the center of the picture.
- Pattern to suppress the sensitivity at the left and right edges of the picture.
- Pattern for the sensitivity uniform to the entire picture.

Lens adjustment item menu and Auto Iris Setting display



Auto Iris sensitivity patterns

(Continued)

4-5 Iris Adjustments

- Pattern to suppress the sensitivity in the upper area and the left and right edges of the picture.
- Pattern to suppress the sensitivity in the lower area of the picture.

Level

Turn the leftmost control to determine the convergence target of the automatic iris adjustment. The higher you set the value, the higher the level.

APL (Average Picture Level) Ratio

Turn the second control from the left to determine if the feedback is to be applied according to the peak luminance of the object or the average luminance. The higher you set the value, the more the feedback depends on the average luminance.

Set value	−99	0	+99
Peak-to-Average	1:0	1:1	0:1

Iris Gain

Turn the second control from the right to set the loop gain for the auto iris adjustment. Adjust it so that no hunting is generated.

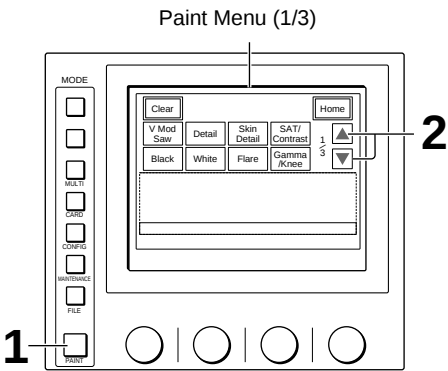
To adjust on the Paint Menu

Proceed as follows:

- 1 Press and light the PAINT button.

The Paint Menu (1/3) appears on the display.

- 2 Press ▲ twice or ▼ once to flip the display to Paint menu 3/3.



Example: MSU-700A

- 3 Press [Auto Iris] to set it to inverse video.

The lower half of the display becomes the Auto Iris adjustment display.

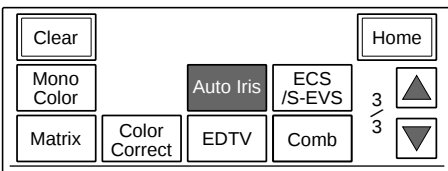
To turn on/off the auto iris on the adjustment display

Press [Auto Iris], which operates in synchronization with the MATRIX OFF button.

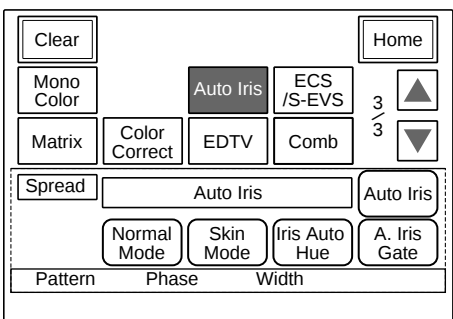
Override function

By turning the IRIS control in Auto Iris mode, you can adjust the reference value for automatic adjustment in a range of ± 2 iris settings. This value compensation returns to 0 once Auto Iris is released.

Paint menu 3/3 (NTSC)



Paint menu 3/3 (PAL) and Auto Iris adjustment display



4 Select the Auto Iris mode.

To select Normal mode

Press **[Normal Mode]** to set it to inverse video.

To select Skin mode

Press **[Skin Mode]** to set it to inverse video. Auto Iris will activate using a subject of the color set on this display.

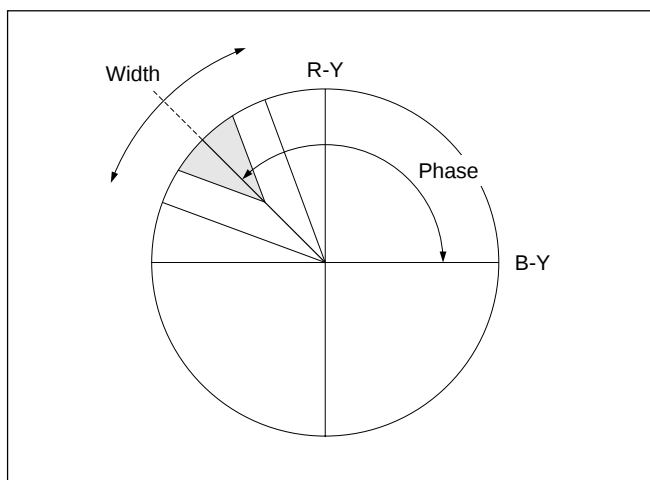
5 When Normal mode is selected, select the sensitivity patterns for the picture in the Auto Iris adjustment with the leftmost control.

Turn the knob so that the desired pattern is displayed. The selectable patterns are the same as those displayed by the Maintenance Menu (page 4-43).

When Skin mode is selected, adjust the reference values for Auto Iris.

Phase: Set the color phase for which Auto Iris is to be activated.

Width: Set the color width for which Auto Iris is to be activated.



Skin auto iris gate function

When Skin mode is selected, you can also turn on the skin auto iris gate function by pressing **[A.Iris Gate]** to set it to inverse video. This function displays the effective area of the skin auto iris on the picture monitors connected via the PIX1/PIX2 OUTPUT connectors of the CCU-700A/700AP or the PIX OUTPUT connector of the CCU-550A/550AP. This function has no effect on the line output, thus you can operate it even in on-the-air status.

Automatic adjustment of the auto iris skin tone

When you press **[Iris Auto Hue]** of the Auto Iris adjustment display on the MSU-700A/750, the Auto Hue adjustment display appears to permit an Auto Setup of the hue for which Auto Iris is to be activated for automatic adjustment.

You can also obtain the Auto Hue adjustment display from the Auto Setup menu of the MSU-700A/750.

For details, see “4-19 Auto Setup.”

Skin tone auto iris

If the subject being used as the reference for Auto Iris is lost during operation, the skin tone auto iris stops functioning, and the iris value at that time is maintained. The AUTO buttons of the RCP-series and MSU-700A/750 then flash. In this condition, not only is the iris not automatically adjusted but also it cannot be changed manually. When you wish to change the iris, turn Auto Iris off.

If Auto Iris is kept ON, the skin tone auto iris will start functioning when the subject for reference is resumed.

4-6 White Adjustments

4-6-1 Selecting the Filters

To obtain the optimum depth of field according to the color temperature or brightness of lighting equipment, the BVP-900-series video camera is equipped with five each of the ND filters and CC (Color temperature Conversion) filters.

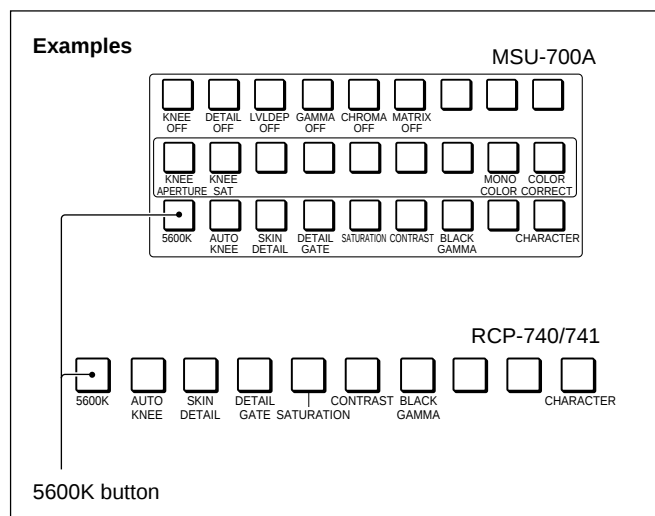
The filters can be selected by specifying the corresponding numerics or alphabets on either the video camera, MSU-700A/750, or RCP-720/721/740/741.

Numeric	ND filter	Alphabet	CC filter
1	Clear	A	Cross filter
2	1/4 ND	B	3200K
3	1/8 ND	C	4300K
4	1/16 ND	D	6300K
5	1/64 ND	E	8000K

Selecting 5600K

If you use a CC filter at a place where the color temperature is high, such as in a shadow around sunset, the iris may open too much. In such a case you can set the reference color temperature of the camera to 5600K.

To set to 5600K, press the 5600K button of the MSU-700A/750 or RCP-720/721/730/731/740/741.

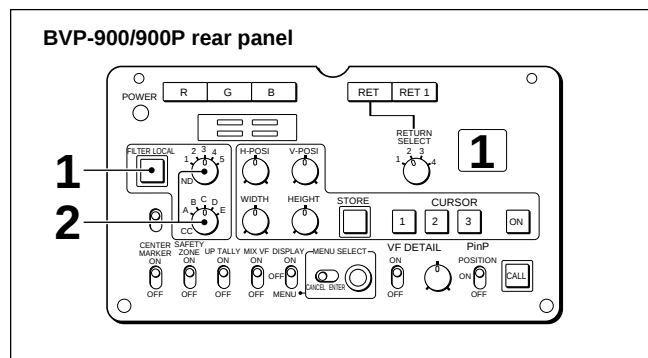


With the MSU-750, you can turn it on and off by pressing **5600K** on page 1 by selecting **[SW]** on the Function menu.

For the Function menu of the MSU-750, see page 4-31.

To select the filters on the BVP-900/900P

Proceed as follows.



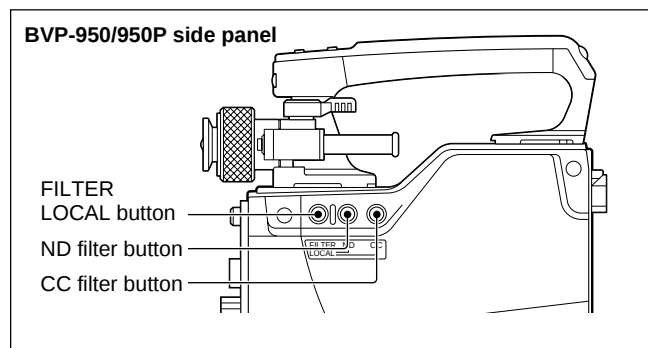
1 Press and light the FILTER LOCAL button.

2 Set the ND filter selector (left) and CC filter selector (right) to the desired filter positions.

The ND and CC buttons for the selected filter on the MSU-700A and RCP-740/741 light.

On the MSU-750 and RCP-720/721/730/731, the number or alphabet for the selected filter appears on the FILTER display.

To select the filters on the BVP-950/950P



While holding the FILTER LOCAL button depressed, select the desired filter combination by pressing the ND or CC button.

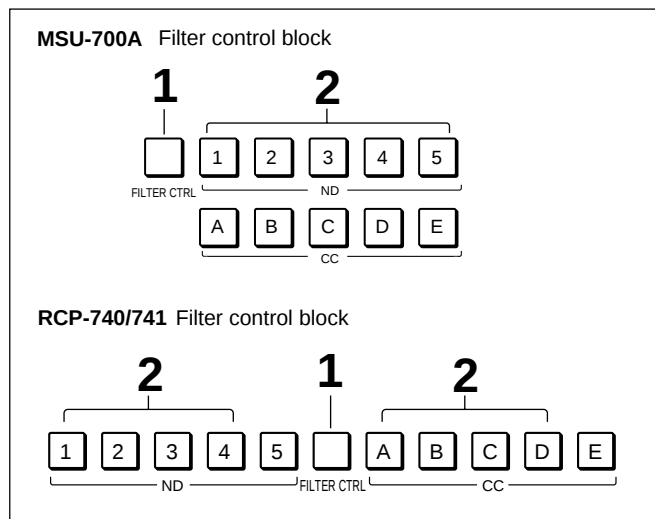
When the camera is installed in the CA-905, you can select the filters on the rear control panel of the CA-905 in the manner as with the BVP-900/900P.

The ND and CC buttons for the selected filter on the MSU-700A and RCP-740/741 light.

On the MSU-750 and RCP-720/721/730/731, the number or alphabet for the selected filter appears on the FILTER display.

To select the filters from the MSU-700A or RCP-740/741

Proceed as follows.



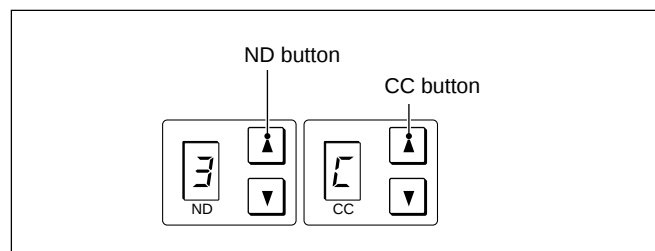
- 1 Press and light the FILTER CTRL button.

On the camera, the FILTER LOCAL button goes dark if lit.

- 2 Press the ND button and CC button for the desired filters.

To select the filters from the RCP-720/721/730/731

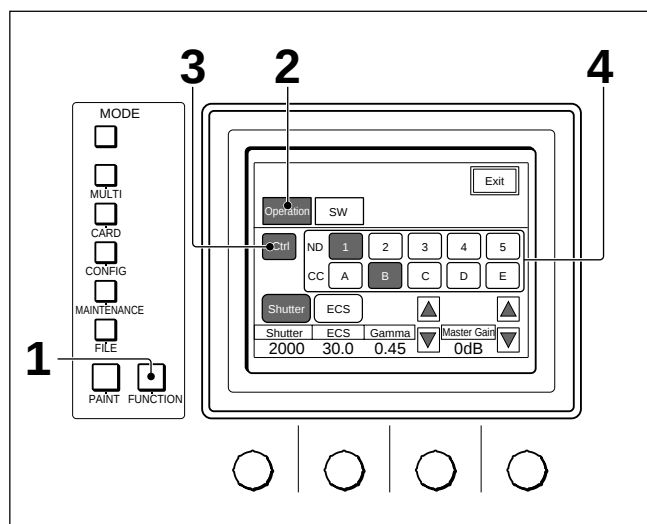
Proceed as follows.



- 1 Press the ND button or CC button once to turn on the buttons.
- 2 Press the lit buttons until the number or alphabet for the desired filter appears in the window.

To select the filters from the MSU-750

Proceed as follows.



- 1 Press the FUNCTION button to display the Functino menu.
- 2 Press **Operation** to set it to inverse video.
- 3 Press **Ctrl** to set it to inverse video.
- 4 Press the ND button and CC button to set them to inverse video for the desired filters.

The number or alphabet for the selected filter appears on the FILTER display.

To select the filters on the spread menu

When using the MSU-700A/750, you can also select the filters on the spread menu of the Paint menu.

- 1 Press the PAINT menu to display the Paint menu.
- 2 Press **Spread** to set it to inverse video.

The spread menu appears on the upper half of the display.

- 3 Press **Filter** to set it to inverse video.
- 4 Press **Ctrl** to set it to inverse video.
- 5 Press the buttons to set them to inverse video for the desired filters.

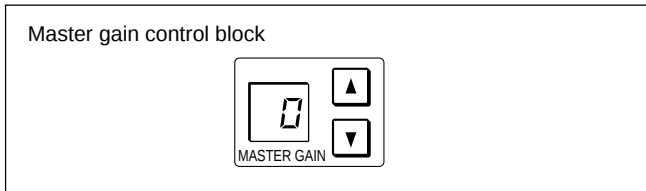
4-6 White Adjustments

4-6-2 Selecting the Master Gain

Select the master gain of the video output signal in accordance with the illumination of the subject. You can select the master gain from among seven values (−3, 0, +3, +6, +9, +12, +18 dB).

To select from the MSU-700A or RCP-720/721/730/731

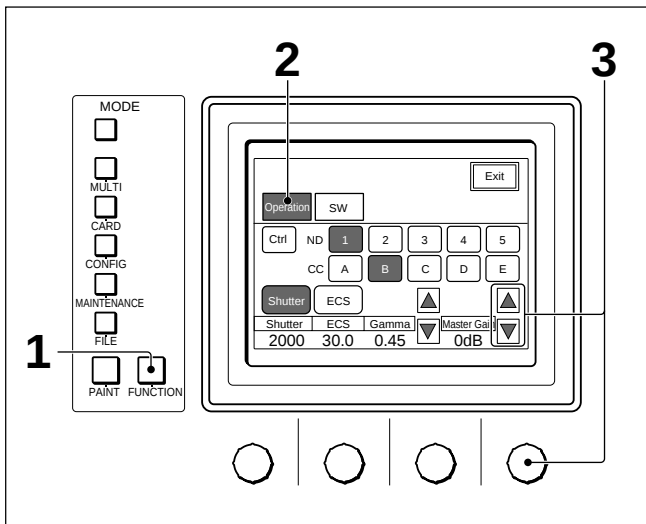
Use the master gain control block. The operation is the same for the MSU-700A/750 and RCP-720/721/730/731/740/741.



Press either the MASTER GAIN ▲ or ▼ button until the desired master gain value appears on the display. The gain value increases when the ▲ button is pressed and decreases when the ▼ button is pressed. It continuously changes when either button is kept pressed.

To select from the MSU-750

Use the Function menu and proceed as follows.



- 1 Press the FUNCTION button to display the Function menu.

- 2 Press **[Operation]** to set it to inverse video.
- 3 Turn the right-most control knob or press ▲ or ▼ to select the desired master gain value.

The selected master gain value appears on the MASTER GAIN display.

To select on the spread menu

When using the MSU-700A/750, you can also select the master gain on the spread menu of the Paint menu.

- 1 Press the PAINT menu to display the Paint menu.
- 2 Press **[Spread]** to set it to inverse video.

The spread menu appears on the upper half of the display.

- 3 Press **[Gain]** to set it to inverse video.
- 4 Press either ▲ or ▼ to select the desired master gain value.
To set the gain to 0 dB, press **[0 dB]** to set it to inverse video.

4-6-3 Adjusting the White Balance

Adjust the white level for R, G, and B independently to determine the white balance.

Use the menu operation block of the MSU-700A/750 or the white balance/black balance control block of the RCP-700-series panels for the adjustment and proceed as follows.

When you have designate the Master unit and Slave units with Master/Slave function, the white balance of the cameras designated as the slave units will be adjusted in synchronization when you adjust the white balance of the camera designated as the master unit.

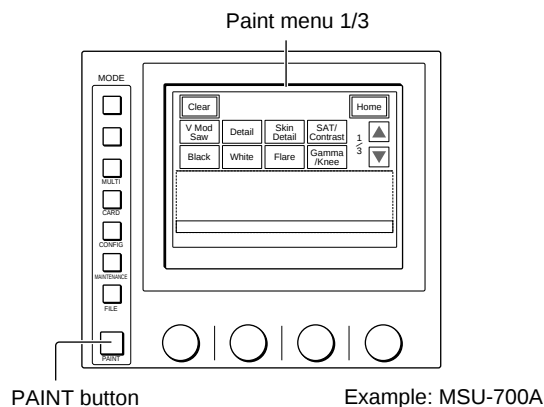
For the master/slave function, see “4-2-4 Setting the Master/Slave Units.”

To adjust from the MSU-700A/750

Proceed as follows.

1 Press and light the PAINT button.

Paint menu 1/3 appears on the display.



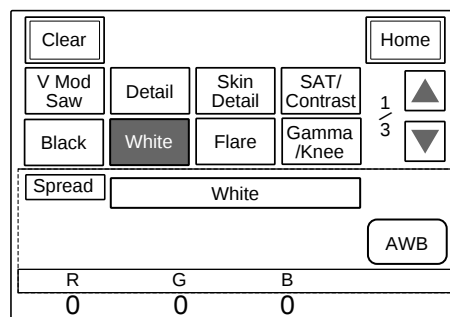
2 Press **White** to set to in inverse video.

The lower half of the display becomes the White adjustment display.

3 Adjust the levels for R, G, and B with the left three control knobs.

Note

Adjustment on the MSU-700A/750 is always performed in Relative mode.

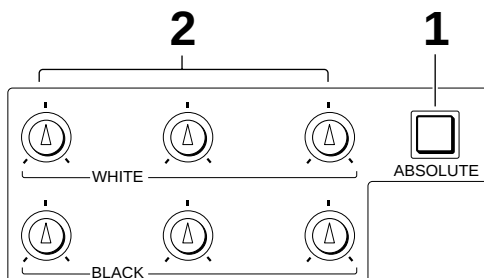


4-6 White Adjustments

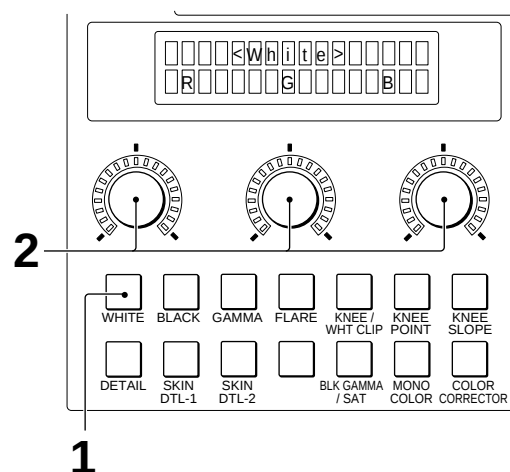
To adjust from the RCP-700-series panel

Examples

RCP-740/741 white balance/black balance control block



RCP-730/731 paint control block



- 1 When using the RCP-720/721/740/741, select the adjusting mode with the ABSOLUTE button. (Adjustment on the RCP-700/701/730/731 is always in Relative mode.)

Absolute mode (ABSOLUTE button lit): The positions of the WHITE controls absolutely correspond to the adjustment values. The center position always represents the median value for the adjustment.

Relative mode (ABSOLUTE button not lit): There is no absolute correspondence between the positions of the controls and the adjustment values. The positions of the controls when Relative mode is selected will be the reference positions for the subsequent adjustment. The center position does not always represent the median value for the adjustment.

When using the RCP-730/731, press the WHITE button of the paint control block.

- 2 Adjust R, G, and B with the three WHITE controls on the RCP-720/721/740/741 or the three paint controls on the RCP-730/731. (From the left, the controls are for R, G, and B.)
When using the RCP-700/701, adjust R and B with the two WHITE controls. (The left control is for R and the right control is for B.)

Notes (RCP-720/721/740/741)

- In the following cases, Relative mode is automatically selected.
 - When an auto setup operation is completed
 - When a scene file is retrieved
 - When the PANEL ACTIVE button goes dark
- When the camera control is set to Parallel mode (PARA button is lit), you cannot select Absolute mode.

Automatic adjustment of the white balance

When you press **[AWB]** of the White adjustment display on the MSU-700A/750, the white balance is automatically adjusted (White balance auto setup). You can also execute the White auto setup using the Auto Setup menu of the MSU-700A/750 or the button of the AUTO SETUP block of the MSU-700A/750 or the RCP-700-series panels.

For details, see “4-19 Auto Setup.”

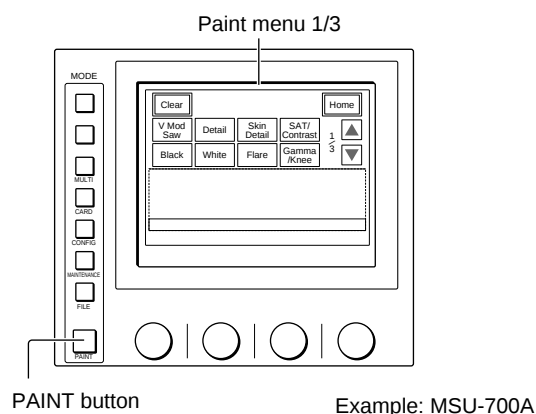
4-6-4 Adjusting the V Modulation Compensation

Adjust the V modulation shading.

Use the menu operation block of the MSU-700A/750 for the adjustment and proceed as follows.

1 Press and light the PAINT button.

Paint menu 1/3 appears on the display.



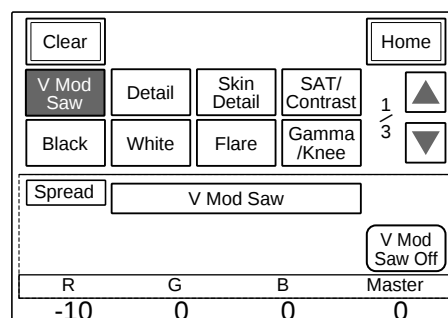
2 Press **V Mod Saw** to set it to inverse video.

The lower half of the display becomes the V Mod Saw adjustment display.

3 Adjust the V modulation shading with the control knobs.

To independently adjust R, G, and B: Use the left three control knobs.

To adjust R, G, and B in combination: Use the right-most (Master) control knob.



To turn off the V modulation shading

Press **V Mod Saw Off** to set it to inverse video.

The V modulation shading is turned off to permit a comparison with the V modulation shading ON status.

4-6 White Adjustments

4-6-5 Adjusting the White Shading

Adjust the white shading independently for R, G, and B.

Use the menu operation block of the MSU-700A/750 for the adjustment and proceed as follows.

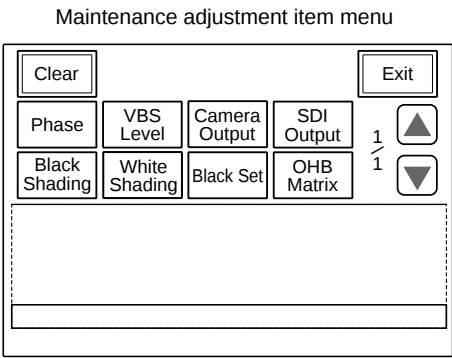
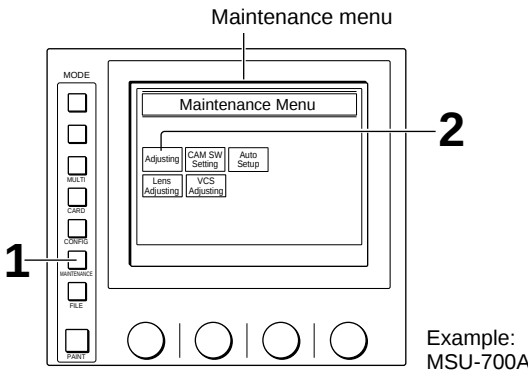
- 1 Press and light the MAINTENANCE button.

The Maintenance menu appears on the display.

- 2 Press **Adjusting**.

The Maintenance adjusting item menu now appears.

To return to the Maintenance menu, press **Exit**.

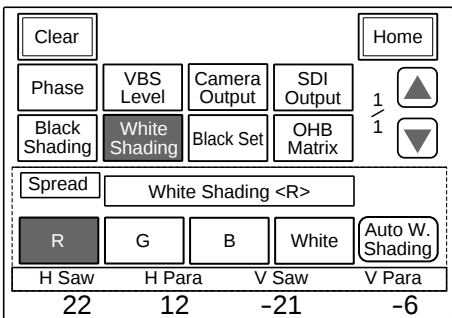


- 3 Press **White Shading** to set it to inverse video.

The lower half of the display becomes the White Shading adjustment display.

There are three White Shading adjustment displays for R, G, and B, which can be selected on the submenu.

When the R, G, B selection is changed, the OUTPUT from the PIX/WF OUTPUT connector changes in synchronisation.



- 4** Press **[R]**, **[G]**, or **[B]** of the submenu to switch the display and adjust the following items with the corresponding control knobs.

H Saw: Horizontal sawtooth shading

H Para: Horizontal parabola shading

V Saw: Vertical sawtooth shading

V Para: Vertical parabola shading

When you press **[White]** of the submenu, the display switches to the White R/G/B Adjustment display to permit you to adjust the white balance.

(See “4-6-3 Adjusting the White Balance.”)

Spread	White Shading<G>			
R	G	B	White	Auto W. Shading
H Saw	H Para	V Saw	V Para	
-21	-19	-10	0	

White balance adjustment display

Clear	Home			
Phase	VBS Level	Camera Output	SDI Output	1/1
Black Shading	White Shading	BlackSet		
Spread	White			
R	G	B	White	AWB
R	G	B		
0	45	0		

Automatic adjustment of the white shading

When you press **[Auto W. Shading]** of the adjustment display, the white shading is automatically adjusted (White shading auto setup).

You can also execute the White shading auto setup using the Auto Setup menu of the MSU-700A/750. The 3D shading can also be simultaneously activated.

For details, see “4-19 Auto Setup.”

4-6 White Adjustments

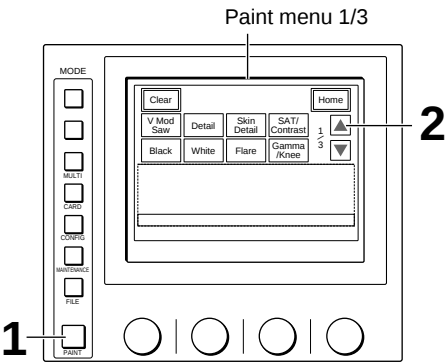
4-6-6 Adjusting the White Clip

Adjust the white clip level.
Use the menu operation block of the MSU-700A/750 for the R, G, B, and master adjustments or the RCP-730/731 for master adjustment.

To adjust from the MSU-700A/750

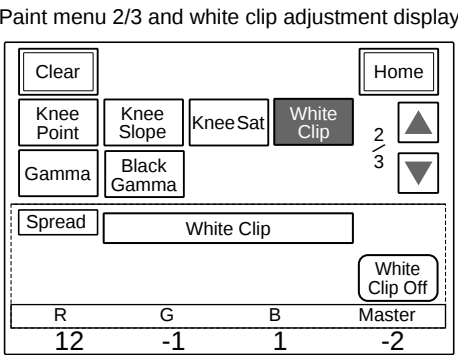
Proceed as follows.

- 1 Press and light the PAINT button.
Paint menu 1/3 appears on the display.
- 2 Press ▲ to flip the display to Paint menu 2/3.



Example: MSU-700A

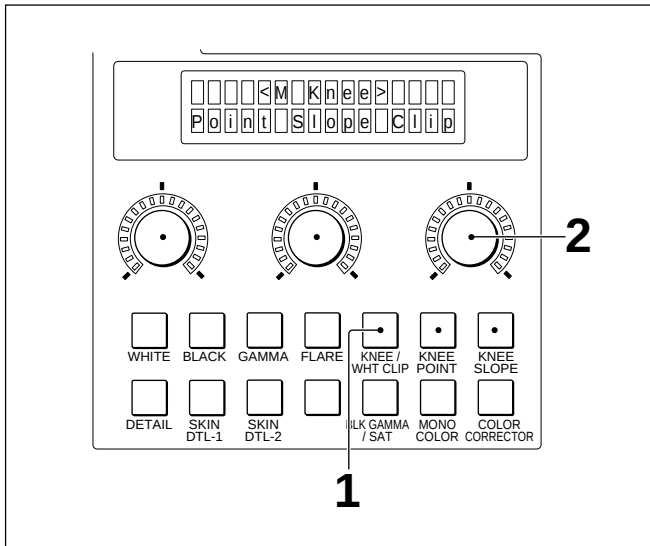
- 3 Press **White Clip** to set it in inverse video.
The lower half of the display becomes the White Clip adjustment display.
- 4 Adjust the white clip level with the control knob.
To independently adjust R, G, and B: Use the left three control knobs.
To adjust R, G, and B in combination: Use the right-most (Master) control knob.



To turn off the white clip function

Press **White Clip Off** to set it in inverse video. The white clip function is turned off to permit a comparison with the white clip ON status.
Note that, however, even if the white clip function is turned off, this system will not output a signal which exceeds 109%.

To adjust from the RCP-730/731



- 1** Press the KNEE/WHT CLIP button of the paint control block.

The master adjustment items appear on the LCD display.

- 2** Adjust the white clip with the right control.

The LED level markers around the control light to indicate the adjusted volume.

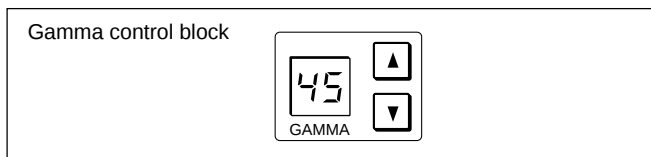
4-7 Gamma Adjustments

4-7-1 Selecting the Step Gamma

You can select the gamma among from 0.35 to 0.9 at steps of 0.05.

To select from MSU-700A or RCP-740/741

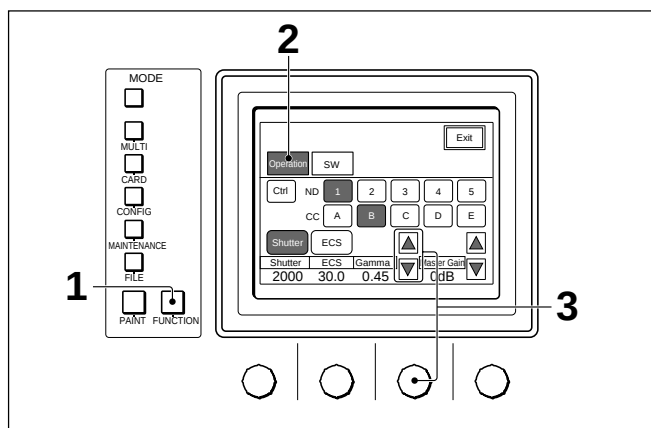
Use the gamma control block. The operation is the same for the MSU-700A and RCP-740/741.



Press either GAMMA ▲ or ▼ button until the desired gamma value appears on the display. The gamma value decreases when the ▲ button is pressed and increases when the ▼ button is pressed. It continuously changes when either button is kept pressed. The lower the value, the higher the gamma effect.

To select from the MSU-750

Use the Function menu and proceed as follows.



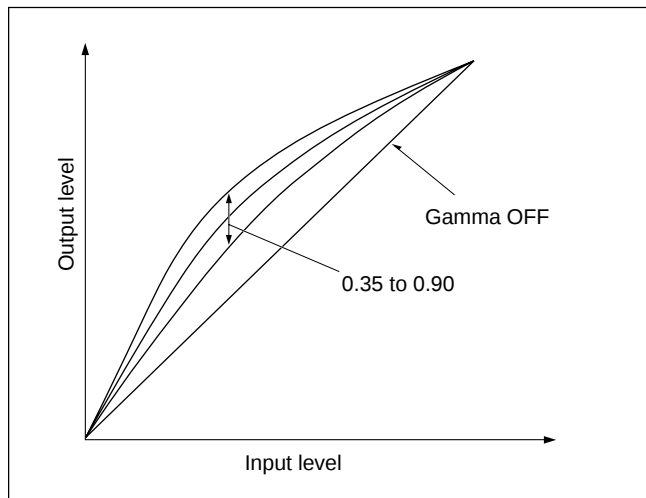
- 1 Press the FUNCTION button to display the Function menu.
- 2 Press the **Operation** button to set it to inverse video.
- 3 Turn the second right control knob or press the ▲ or ▼ buttons to select the desired gamma value.

The selected gamma value appears on the GAMMA display.

When using the MSU-700A/750, you can also select the gamma in three steps (0.40, 0.45, 0.50) on the Gamma adjustment display or the spread menu of the Paint menu.

4-7-2 Adjusting the Gamma Level

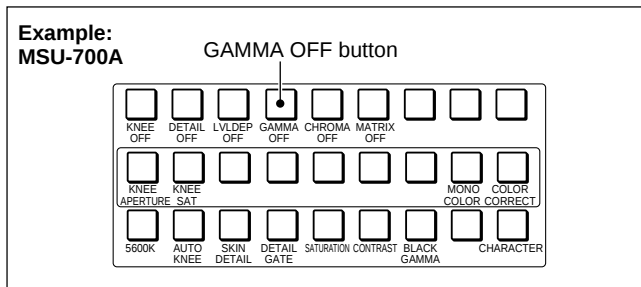
Adjust the gamma curve in a range of 0.35 to 0.90 times.



Independent R, G, B and Master adjustments can be made on the menu operation block of the MSU-700A/750 and R, B and Master adjustments can be made on the paint control block of the RCP-720/721/730/731/740/741.

To turn off the gamma

When using the MSU-700A or RCP-730/731, you can turn off the gamma with the GAMMA OFF button. Press and light the GAMMA OFF button to turn off the gamma regardless of the gamma value setting. When you use the gamma, check that the GAMMA OFF button is dark.



You can also turn it off the adjustment display of the Paint menu of the MSU-700A/750.

With the MSU-750, you can also turn it on and off by pressing the **Gamma Off** on page 2 by selecting **SW** on the Function menu.

For the Function menu of the MSU-750, see page 4-31.

Note

When you turn off the gamma, the black gamma is also turned off.

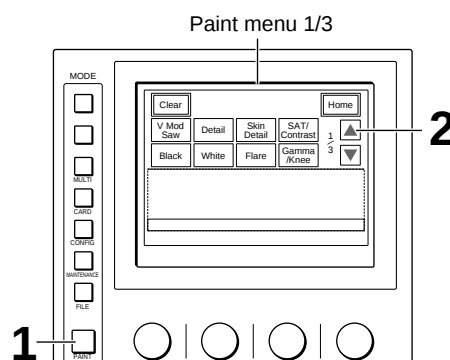
To adjust from the MSU-700A/750

Proceed as follows.

- 1 Press and light the PAINT button.

Paint menu 1/3 appears on the display.

- 2 Press ▲ to flip the display to Paint menu 2/3.



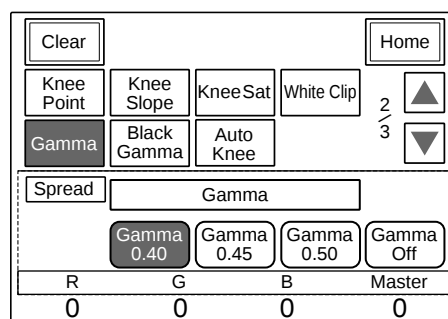
Example: MSU-700A

- 3 Press **Gamma** to set it to inverse video.

The lower half of the display becomes the Gamma adjustment display.

- 4 Adjust the gamma level with the control knobs.
To independently adjust R, G, and B: Use the left three control knobs.
To adjust R, G, and B in combination: Use the right-most (Master) control knob (master gamma adjustment).

Paint menu 2/3 and Gamma adjustment display



To turn off the gamma on the display

Press **Gamma Off** to set it to inverse video.

With the MSU-700A, the GAMMA OFF button also lights.

To select the step gamma on the display

Press either **Gamma 0.40**, **Gamma 0.45** or **Gamma 0.50**.

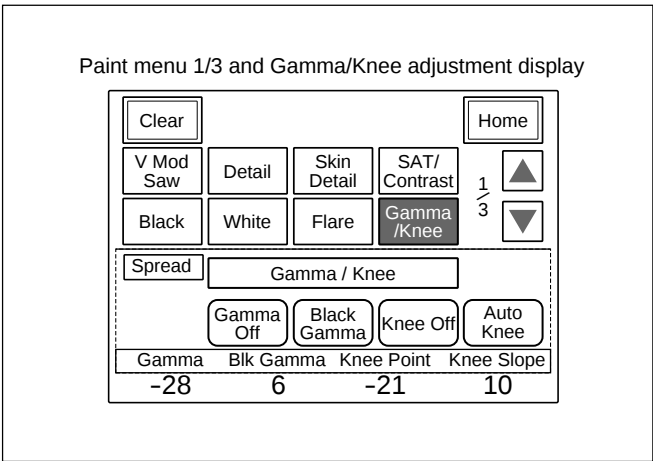
The selected gamma value is displayed on the window of the gamma control block.

4-7 Gamma Adjustments

Gamma adjustment on the Gamma/Knee adjustment display

The master gamma adjustment and gamma on/off operation can also be made on the Gamma/Knee adjustment display.

The Gamma/Knee adjustment display appears when you press **[Gamma/Knee]** of Paint menu 1/3.

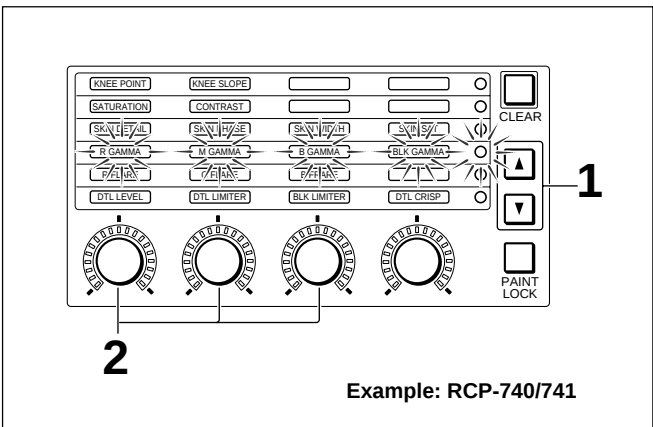


Adjust the master gamma with the left-most control knob.

Turn on/off the gamma by pressing **[Gamma Off]**.

To adjust from the RCP-720/721/740/741

Proceed as follows.



- 1 On the RCP-740/741, press either ▲ or ▼ button to light the indicators of the fourth line.
On the RCP-720/721, press ▲ button to light the indicators of the lower-most line.

- 2 Adjust the gamma level with the corresponding three controls.

R GAMMA: for the R channel

M GAMMA: Master gamma

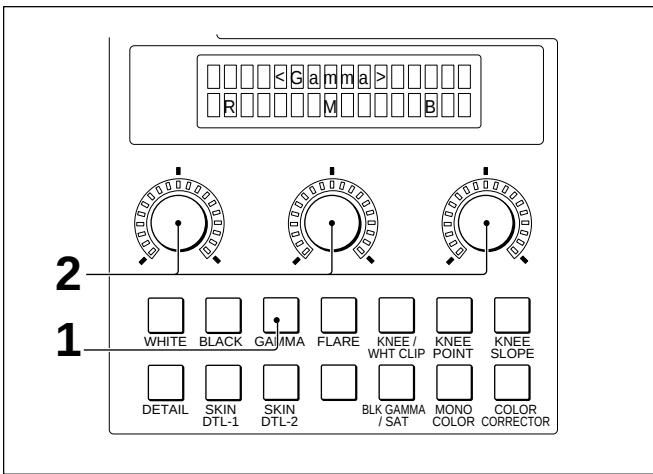
B GAMMA: for the B channel

The LED level markers around the controls light to indicate the adjusted volume.

Note

When the gamma is turned off on the MSU-700A/750, the picture does not change even when you change the gamma setting. It will become effective when you turn on the gamma function.

To adjust from the RCP-730/731



- 1 Press the GAMMA button of the paint control block.

- 2 Adjust the gamma level with the corresponding three controls.

R GAMMA: for the R channel

M GAMMA: Master gamma

B GAMMA: for the B channel

The LED level markers around the controls light to indicate the adjusted volume.

Automatic adjustment of the gamma

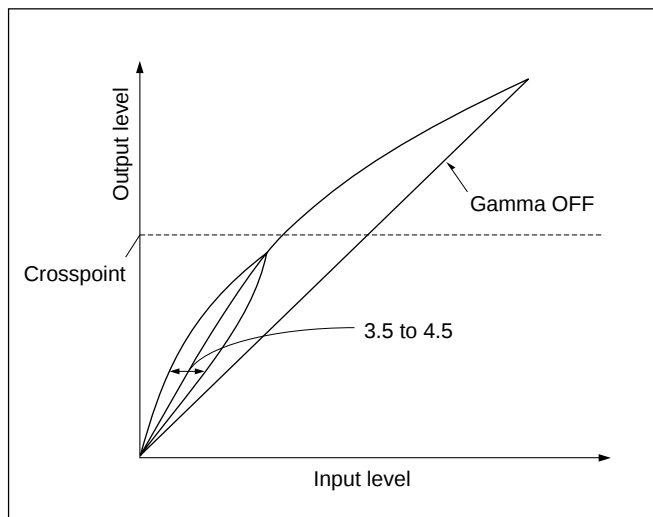
Using the AUTO SETUP block of the MSU-700A/750, RCP-720/721/730/731/740/741, the gamma level can also be automatically adjusted along with black, knee slope, and knee point.

You can also execute this Level auto setup using the Auto Setup menu of the MSU-700A/750.

For details, see “4-19 Auto Setup.”

4-7-3 Adjusting the Black Gamma

Adjust the rising block of the gamma curve beneath the crosspoints in a range of 3.5 to 4.5 times.



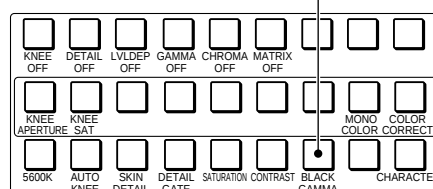
Independent R, G, B and master adjustments can be done on the menu operation block of the MSU-700A/750. Master adjustments can be done on the paint control block of the RCP-720/721/730/731/740/741.

To turn on the black gamma

Press and light the BLACK GAMMA button of the MSU-700A or RCP-720/721/730/731/740/741.

Example 1: MSU-700A

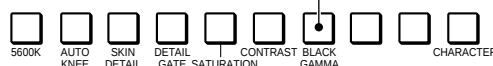
BLACK GAMMA button



Example 2:

RCP-740/RCP-741

BLACK GAMMA button



When using the MSU-700A/750, you can turn on and off the black gamma on the adjustment display of the PAINT menu.

With the MSU-750, you can also turn it on and off by pressing **Black Gamma** on page 1 by selecting **SW** on the Function menu.

For the Function menu of the MSU-750, see page 4-31.

Note

When you turn off the gamma (GAMMA OFF button lit), the black gamma is also turned off.

4-7 Gamma Adjustments

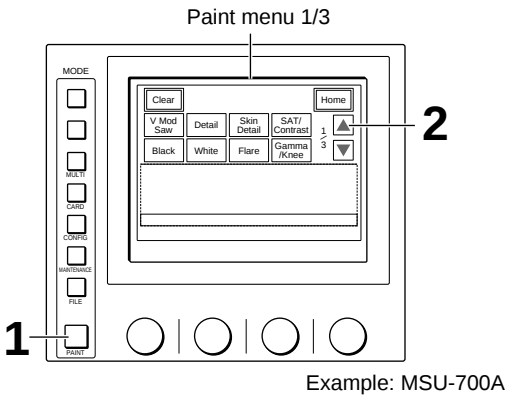
To adjust from the MSU-700A/750

Proceed as follows.

- 1 Press and light the PAINT button.

Paint menu 1/3 appears on the display.

- 2 Press ▲ to flip the display to Paint menu 2/3.



- 3 Press **Black Gamma** to set it in inverse video.

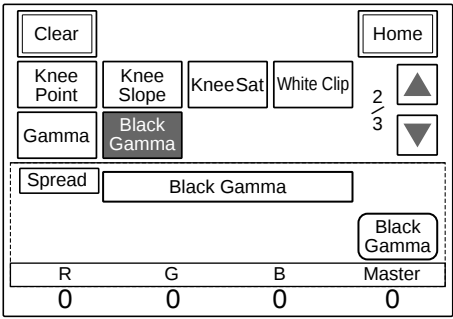
The lower half of the display becomes the Black Gamma adjustment display.

- 4 Adjust the black gamma level with the control knob.

To independently adjust R, G, and B: Use the left three control knobs.

To adjust R, G, and B in combination: Use the right-most (Master) control knob (master black gamma adjustment).

Paint menu 2/3 and Black Gamma adjustment display



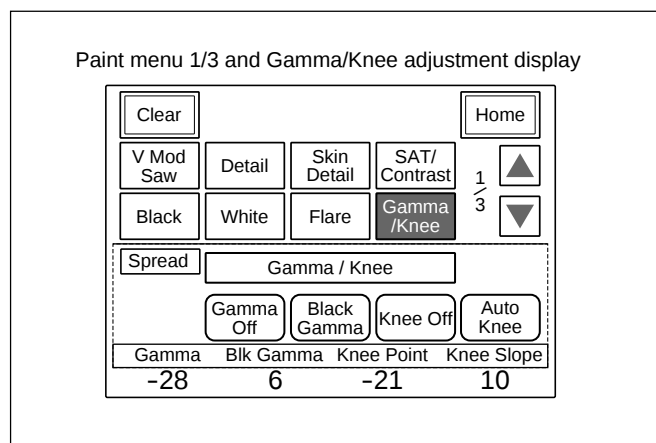
To turn on/off the black gamma on the display

Press **Black Gamma**, which operates in synchronization with the BLACK GAMMA button.

Black Gamma adjustment on the Gamma/Knee adjustment display

The master black gamma adjustment and black gamma on/off operation can also be made on the Gamma/Knee adjustment display.

The Gamma/Knee adjustment display appears when you press **Gamma/Knee** of Paint menu 1/3.



Adjust the master black gamma with the second control knob from the left.

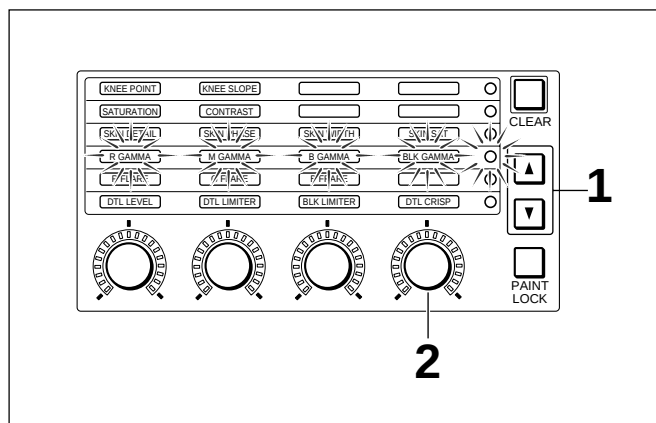
Turn on/off the black gamma by pressing **Black Gamma**.

To adjust from the RCP-700-series

Note

When the black gamma function is turned off from the MSU-700A/750, the picture does not change even when you change the black gamma setting. It will become effective when you turn on the black gamma function.

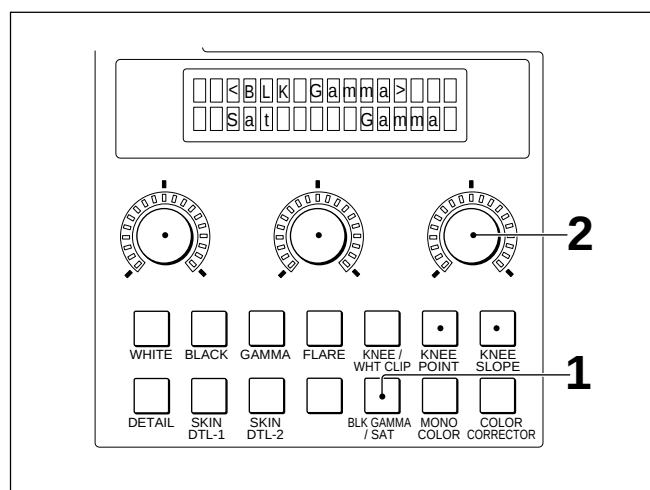
To adjust from the RCP-740/741



- 1 Press either ▲ or ▼ button to light the indicators of the fourth line.
- 2 Adjust the black gamma level with the right-most control (BLK GAMMA).

The LED level marker around the control lights to indicate the adjusted volume.

To adjust from the RCP-730/731

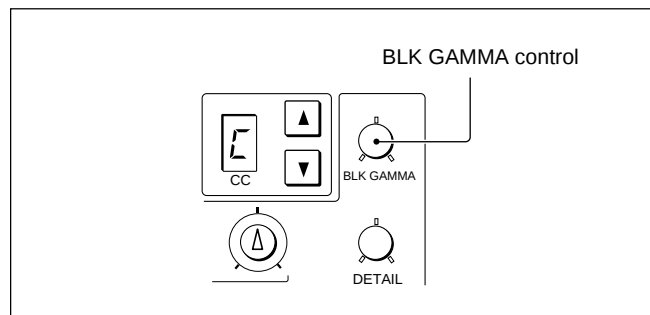


- 1 Press the BLK GAMMA/SAT button of the paint control block.
- 2 Adjust the black gamma level with the right control.

The LED level marker around the control lights to indicate the adjusted volume.

To adjust from the RCP-720/721

Turn the BLK GAMMA control.



4-8 Flare Adjustment

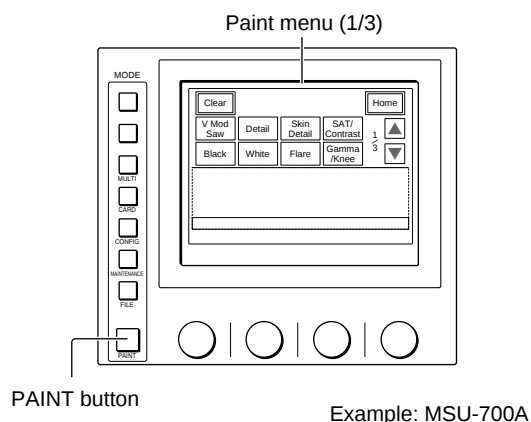
Adjust the flare balance.
Use the menu operation block of the MSU-700A/750,
the paint control block of the RCP-730/731/740/741,

or the white/black balance control block of the RCP-720/721 and proceed as follows.

To adjust from the MSU-700A/750

- 1 Press and light the PAINT button.

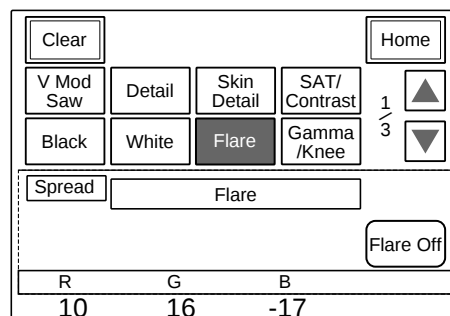
Paint menu 1/3 appears on the display.



- 2 Press **Flare** to set it in inverse video.

The lower half of the display becomes the Flare adjustment display.

- 3 Adjust the flare balance with the left three control knobs (R, G, and B).



To turn off the flare function

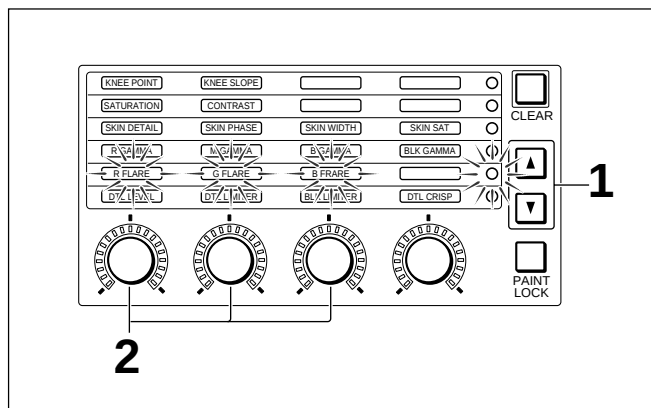
Press **Flare Off** to set it in inverse video. The flare function is turned off to permit a comparison with the flare function ON status.

To adjust from the RCP-700-series

Notes

- When the flare function is turned off from the MSU-700A/750, the picture does not change even when you change the flare setting. It will become effective when you turn on the flare function.
- The flare compensation has no effect on the test signals.

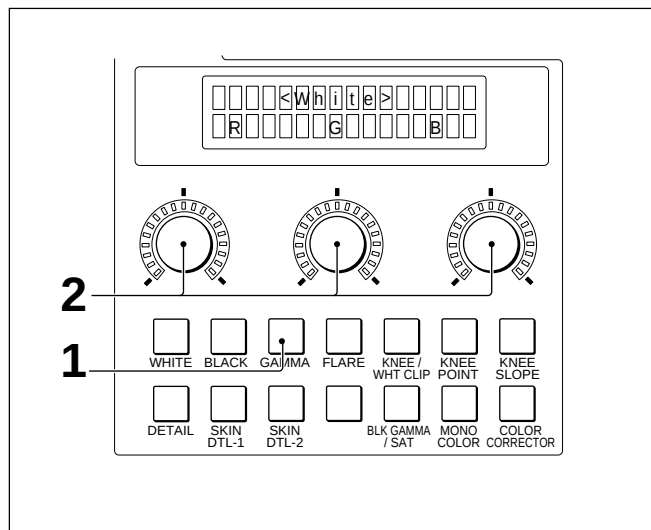
To adjust from the RCP-740/741



- Press either ▲ or ▼ button to light the indicators of the second lowest line.
- Adjust the flare balance with the left three control knobs (R, G, and B).

The LED level markers around the controls light to indicate the adjusted volume.

To adjust from the RCP-730/731



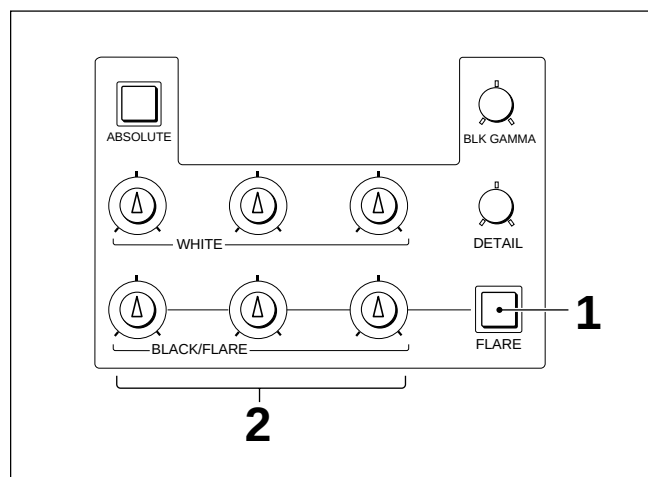
- Press the FLARE button of the paint control block.

The LCD display serves flare adjustments.

- Adjust the R, G, and B with the three controls.

The LED level markers around the controls light to indicate the adjusted volume.

To adjust from the RCP-720/721

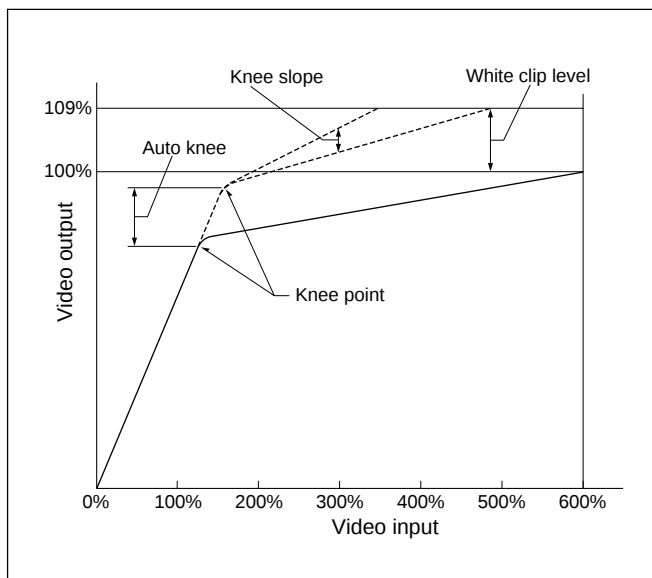


- Press and light the FLARE button.
- Adjust the R, G, and B with the BLACK/FLARE controls.
(From the left, the controls are for R, G, and B.)

4-9 Knee Adjustments

4-9-1 Adjusting the Knee

When the input signal exceeds a certain level, the knee function compresses it in the standard video signal range.



Knee point

Set the point on which the knee function starts to have effect.

Knee slope

Set the volume of the effect of the knee function.

Independent R, G, B, and Master adjustments can be made on the menu operation block of the MSU-700A/750 or the paint control block of the RCP-730/731. Master adjustments can be made on the paint control block of the RCP-720/721/740/741.

To turn off the knee function

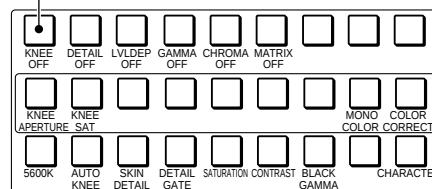
When using the MSU-700A or RCP-730/731, you can turn off the knee with the KNEE OFF button.

Press and light the KNEE OFF button to turn off the knee.

When you use the knee, check that the KNEE OFF button is dark.

Example: MSU-700A

KNEE OFF button



When using the MSU-700A/750, you can turn off the knee function on the adjustment display of the PAINT menu.

With the MSU-750, you can also turn it on and off by pressing **Knee Off** on page 2 by selecting **SW** on the Function menu.

For the Function menu of the MSU-750, see page 4-31.

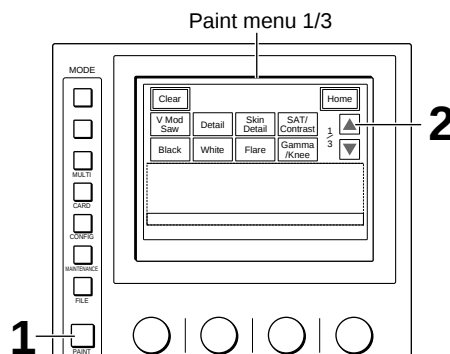
To adjust from the MSU-700A/750

Proceed as follows.

- 1 Press and light the PAINT button.

Paint menu 1/3 appears on the display.

- 2 Press ▲ to flip the display to Paint menu 2/3.



Example: MSU-700A

- 3 Press **Knee Point** to set it to inverse video.

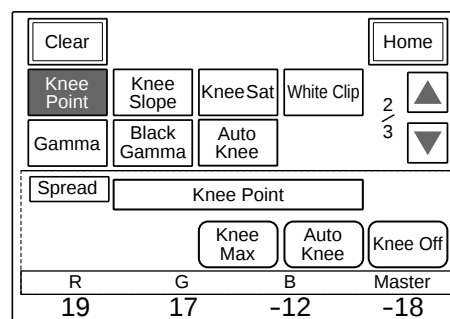
The lower half of the display becomes the Knee Point adjustment display.

- 4 Adjust the knee point.

To independently adjust R, G, and B: Use the left three control knobs.

To adjust R, G, and B in combination: Use the right-most (Master) control knob (master knee point adjustment).

Paint menu 2/3 and Knee Point adjustment display



Knee Max function

Press **Knee Max** to activate the knee max function, which sets the knee slope to a completely flat condition while you adjust the knee point. It is especially convenient for the tracking adjustment of the knee point. Be sure to deactivate this function for normal use.

To turn on/off the knee on the display

Press **Knee Off**, which operates in synchronization with the KNEE OFF button on the MSU-700A.

You can also turn on/off the auto knee on this display, as required, by pressing the **Auto Knee**.

For the auto knee, see the next paragraph.

(Continued)

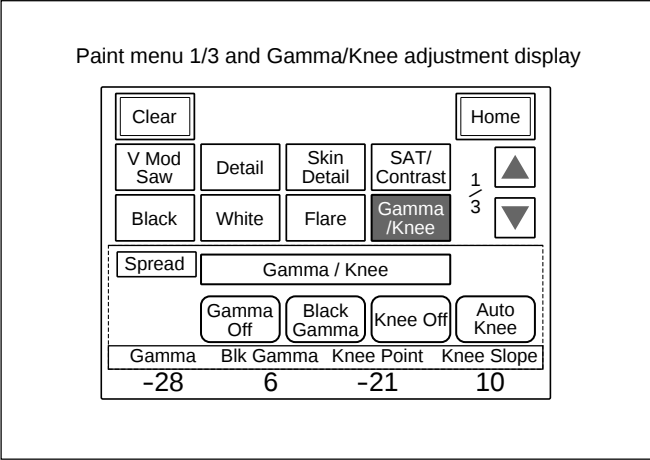
4-9 Knee Adjustments

5 Press **Knee Slope** of Paint menu 2/3 to set it to inverse video.

The lower half of the display becomes the Knee Slope adjustment display.

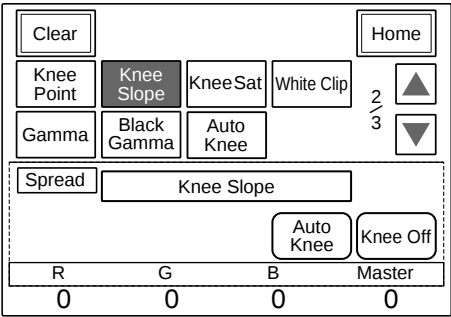
6 Adjust the knee slope.
To independently adjust R, G, and B: Use the left three control knobs.
To adjust R, G, and B in combination: Use the right-most (Master) control knob (master knee point adjustment).

Knee adjustments on the Gamma/Knee adjustment display
The master knee point/knee slope adjustments and knee/auto knee on/off operations can also be made on the Gamma/Knee adjustment display.
The Gamma/Knee adjustment display appears when you press **Gamma/Knee** of Paint menu 1/3 to set it to inverse video.



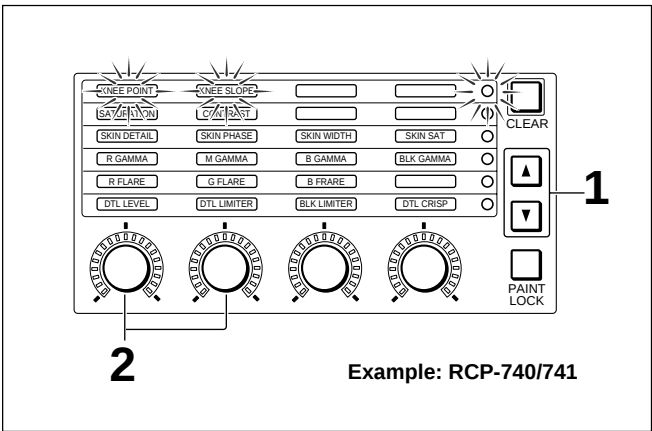
Adjust the master knee point and master knee slope with the right two control knobs.
Turn on/off the knee/auto knee by pressing **Knee Off** or **Auto Knee**, respectively.

Paint menu 2/3 and Knee Slope adjustment display



To adjust from the RCP-720/721/740/741

Proceed as follows.

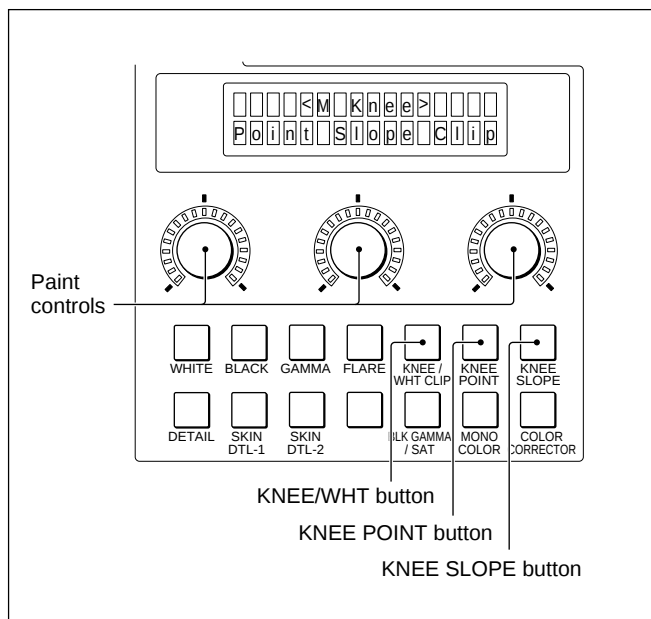


- 1 When using the RCP-740/741, press **▲** or **▼** to light the indicators of the uppermost line.
When using the RCP-720/721, press **▲** to light the indicators of the middle line.
- 2 Adjust the knee with the left two controls.
KNEE POINT: Master knee point
KNEE SLOPE: Master knee slope

The LED level markers around the controls light to indicate the adjusted volume.

To adjust from the RCP-730/731

Proceed as follows.



Master adjustment

- 1 Press the KNEE/WHT CLIP button of the paint control block.

The master adjustment items (as shown in the above figure) appear on the LCD display.

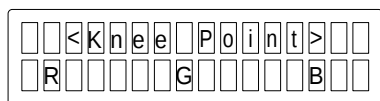
- 2 Adjust the master knee point with the left control and the master knee slope with the center control.

The LED level markers around the controls light to indicate the adjusted volume.

RGB adjustment

- 1 Press the KNEE POINT button of the paint control block.

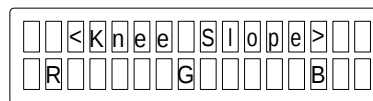
The LCD display serves the RGB knee point adjustment.



- 2 Adjust R, G, and B using the three controls.

- 3 Press the KNEE SLOPE button of the paint control block.

The LCD display now serves the RGB knee slope adjustment.



- 4 Adjust R, G, and B using the three controls.

The LED level markers around the controls light to indicate the adjusted volume.

Automatic adjustment of the knee

Using the AUTO SETUP block of the MSU-700A/750, RCP-720/721/730/731/740/741, the knee slope and point can also be automatically adjusted along with black and gamma.

You can also execute this Level auto setup using the Auto Setup menu of the MSU-700A/750.

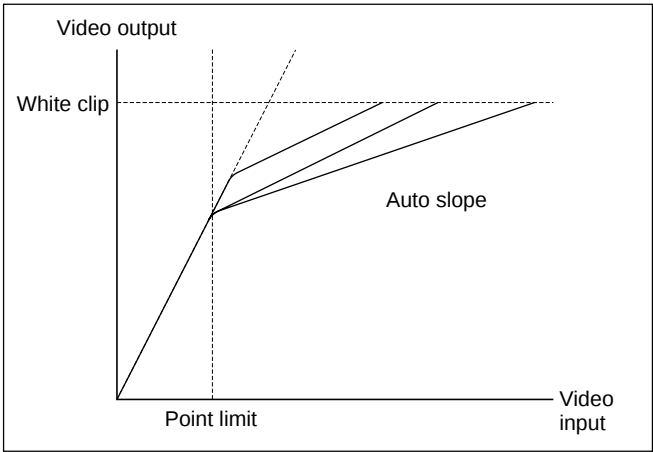
For details, see “4-19 Auto Setup.”

4-9 Knee Adjustments

4-9-2 Adjusting the Auto Knee

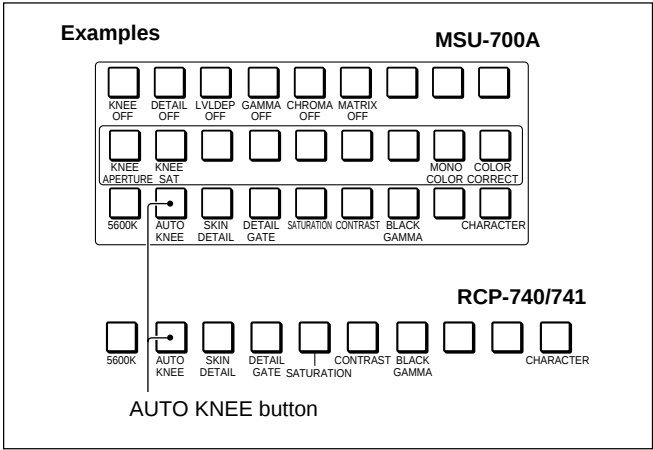
Auto Knee function

When the Auto Knee function is active, the knee point is automatically adjusted so that the video peak level becomes lower than the specified white clip level. The knee slope is determined according to the **Auto Slope** setting on the Auto Knee adjustment display of the menu operation block of the MSU-700A/750. The lower limit of the knee point (**Point Limit**) can also be specified on the same display of the MSU-700A/750 to prevent the knee point from extraordinarily lowering when shooting a very bright picture. For a very bright subject that may cause the knee point to approach this lower limit, the knee slope will be automatically adjusted so that the peak of the video signal becomes lower than the white clip level.



To turn on Auto Knee

Press to light the AUTO KNEE button on the MSU-700A/750 or RCP-720/721/730/731/740/741.

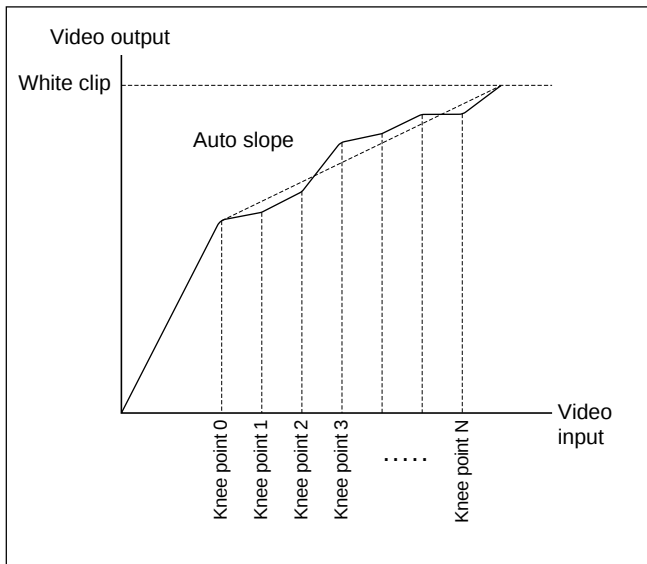


With the MSU-700A/750, you can turn on and off the auto knee on the adjustment display of the PAINT menu. With the MSU-750, you can also turn it on and off by pressing **Auto Knee** on page 1 by selecting **SW** on the Function menu.

For the Function menu of the MSU-750, see page 4-31.

Adaptive Highlight Control

By setting Auto Knee in Adaptive Highlight Control mode, a more natural picture can be obtained. While a single straight line is used in Normal mode, a crooked line corresponding to image distribution in the picture is used in Adaptive Highlight Control mode. The first knee point and the reference knee slope are determined in the same manner as in Normal mode. Then, by dividing the kneed portion in the direction of the input level, the subsequent knee slope is automatically adjusted so that the compression rate becomes low at a portion containing many images and becomes high at a portion with fewer images. The auto slope and point limit are also valid in Adaptive Highlight Control mode



To set Auto Knee in Adaptive Highlight Control mode

With Auto Knee ON, you can switch the auto knee between Normal and Adaptive Highlight Control modes on the Auto Knee adjustment display of the MSU-700A/750.

Note

The **Adaptive** button on the adjustment display only switches the mode of the auto knee between Normal and Adaptive Highlight Control.

By merely setting **Adaptive** to inverse video, Adaptive Highlight Control is not activated.

Be sure to turn on Auto Knee in advance.

When Adaptive Highlight Control is activated on the MSU-700A/750, the AUTO KNEE button on the RCP-700-series functions as a switch between Normal and Adaptive Highlight Control modes of Auto Knee.

4-9 Knee Adjustments

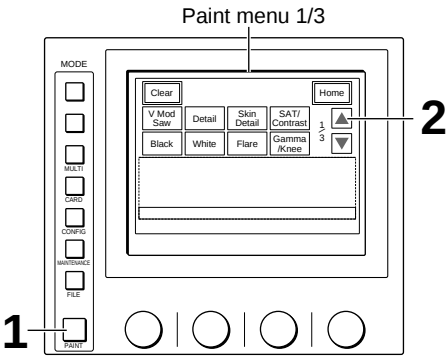
Adjustment procedure

Proceed as follows:

1 Press to light the PAINT button.

Paint menu 1/3 appears on the display.

2 Press ▲ to flip the display to Paint menu 2/3.



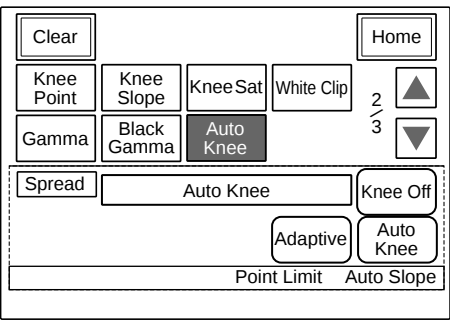
Example: MSU-700A

3 Press **Auto Knee** to set it to inverse video.

The lower half of the display becomes the Auto Knee adjustment display.

4 Adjust the point limit with the second control knob from the right and the auto slope with the rightmost control knob.

Paint menu 2/3 and Auto Knee adjustment display



Adaptive Hightilght Control

Press **Adaptive** to set it to inverse video to set Auto Knee to Adaptive Highlight Control mode, which adjusts the knee slope as a line graph according to the histogram of the picture.

To turn on/off Auto Knee on the display

Press **Auto Knee**, which operates in synchronization with the AUTO KNEE button.

You can also turn on/off the knee on this display, as required, by pressing **Knee Off**.

4-9-3 Adjusting the Knee Saturation

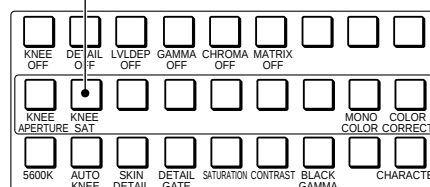
If the skin tone seems yellowish or some colors are lost with normal knee control, such problems may be eliminated using the knee saturation function. This function compresses (applies knee to) the luminance (Y) and saturation while maintaining the hue when the luminance exceeds the knee point. The controls assigned for knee saturation level allow you to adjust the compression for the saturation.

To turn on the knee saturation function

Press and light the KNEE SAT button of the MSU-700A or the RCP-730/731.

You can also turn on/off the knee saturation function on the adjustment display of the menu operation block.

Example:
MSU-700A KNEE SAT button



With the MSU-700A/750, you can turn on and off the knee saturation on the adjustment display of the PAINT menu. With the MSU-750, you can also turn it on and off by pressing **[Knee Sat]** on page 1 by selecting **[SW]** on the Function menu.

For the Function menu of the MSU-750, see page 4-31.

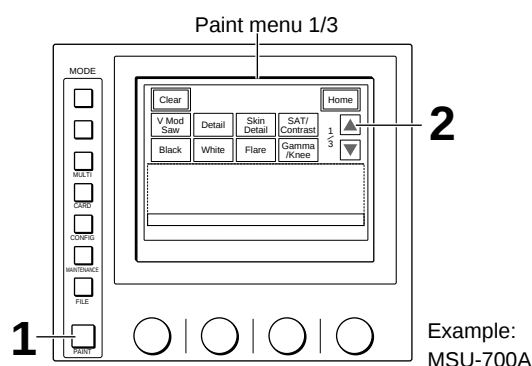
To adjust from the MSU-700A/750

Proceed as follows:

- 1 Press to light the PAINT button.

Paint menu 1/3 appears on the display.

- 2 Press **▲** to flip the display to Paint menu 2/3.



- 3 Press **[Knee Sat]** to set it to inverse video.

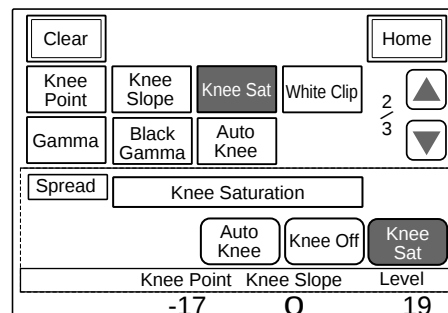
The lower half of the display becomes the Knee Saturation adjustment display.

- 4 Adjust the knee saturation level with the right-most control knob.

To turn on/off the knee saturation function on the display

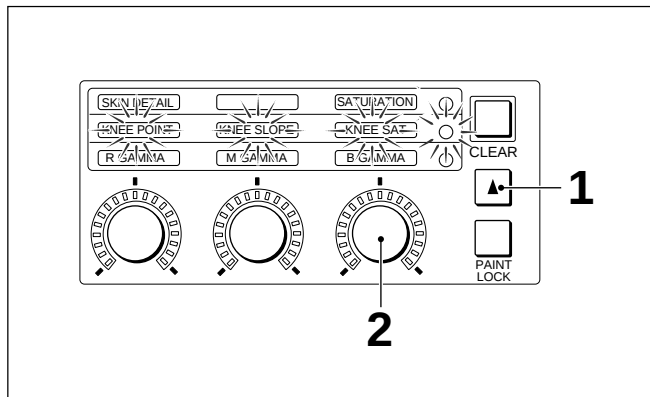
Press **[Knee Sat]**, which operates in synchronization with the KNEE SAT button of the MSU-700A.

Paint menu 2/3 and Knee Saturation adjustment display



4-9 Knee Adjustments

To adjust from the RCP-720/721



- 1** Press ▲ to light the indicators of the middle line.
- 2** Adjust the knee saturation level with the right control.

The LED level markers around the control light to indicate the adjusted volume.

Note

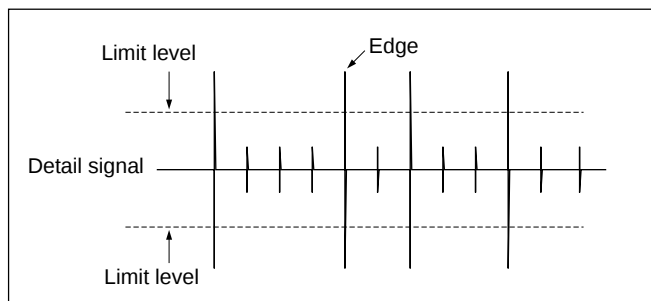
When the knee saturation function is turned off from the MSU-700A/750 or the RCP-730/731, the picture does not change even when you change the knee saturation setting. It will become effective when you turn on the knee saturation function.

4-10 Detail Adjustments

Detail compensation to emphasize the contours of images can be arranged in various ways. The volume of the detail compensation is set with the detail level adjustment.

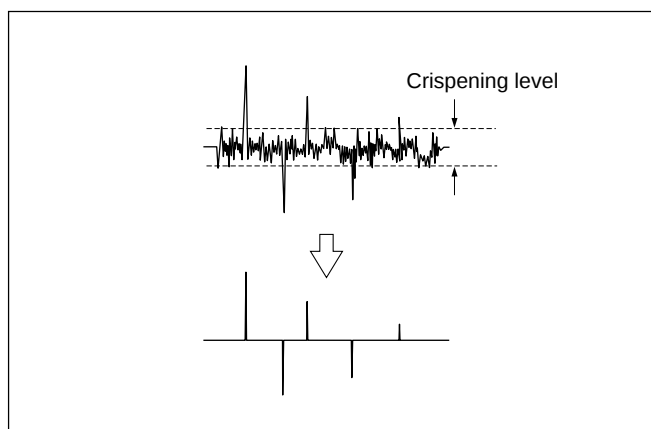
Detail limiter

Set the level at which the limiter activates to eliminate an extreme detail effect on pictures having high contrast.



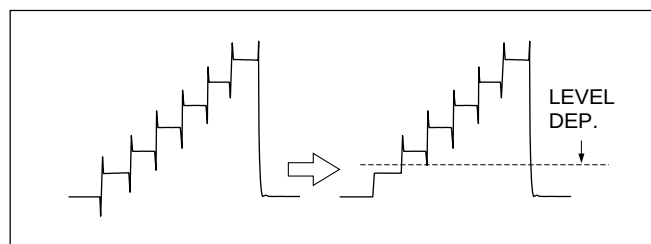
Detail crispening

Set the appropriate detail level to eliminate the detail compensation in areas with noise.



Level dependence

Set the level to start to restrict the detail signal.



Detail H/V ratio

Set the ratio of the horizontal detail to vertical detail. The higher the value you set, the larger the vertical detail.

You can select either control mode to change both the H detail and V detail volumes or that to change the V detail volume only on the CAM Mode Setting display of the MSU-700A/750.

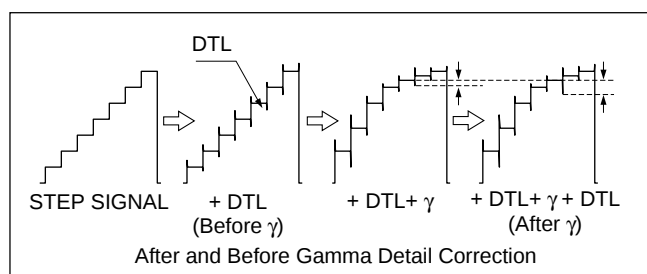
For the CAM Mode Setting display, see “3-2-9 Initial Settings of the Camera.”

Detail boost frequency

Set the detail boost frequency (4 to 7 MHz: Circuit unit characteristics).

Detail mix ratio

Set the mixing ratio of the detail before gamma correction to that after gamma correction. The higher the value you set, the larger the detail after gamma correction. The higher the ratio before gamma correction, the more detail effect is obtained at the black side. The higher the ratio after gamma correction, the more detail the detail effect is obtained at the white side.

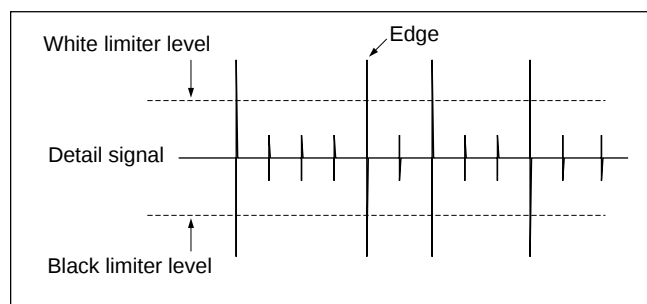


Detail comb

Set the effect volume of the V-direction comb filter of H detail. This filter adjustment yields clear pictures, but note that it may cause cross colors in some pictures.

Detail white limiter/Detail black limiter

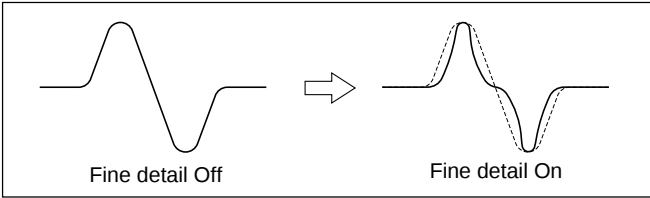
Set the limit of the detail level at the white or black side.



4-10 Detail Adjustments

Fine detail

The fine detail function provides finer detail compensation without changing the peak. This is valid only for H detail.



All these items can be adjusted on the menu operation block of the MSU-700A/750.

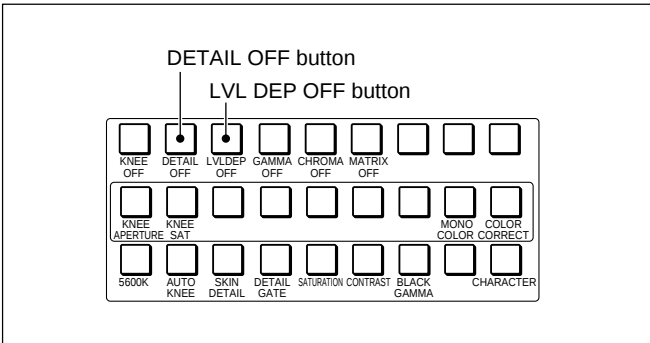
On the RCP-740/741 detail level, detail limiter, black limiter, and detail crispening can be adjusted. On the RCP-730/731, the detail level, detail limiter, and level dependence can be adjusted. When using the RCP-720/721, only the detail level with the DETAIL control.

To turn off the detail function

When using the MSU-700A, you can turn off the detail function and level dependence function, if required, with a button or menu operation.

Press and light the DETAIL OFF button to turn off the detail function.

When you use the detail function, check that the DETAIL OFF button is dark.



When the DETAIL OFF button is not lit (Detail ON), you can turn off only the level dependence function by pressing and lighting the LVL DEP OFF button.

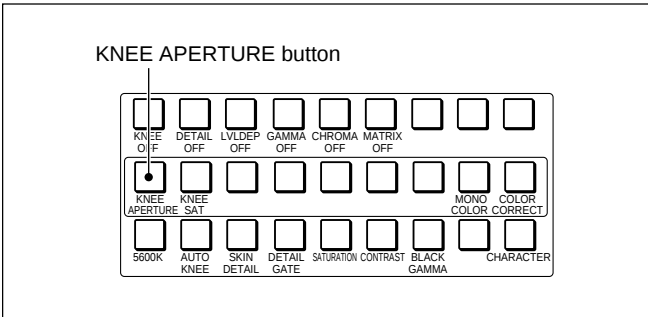
You can also turn on and off the detail function and level dependence function on the adjustment display of the paint menu of the MSU-700A/750 or using the Function menu of the MSU-750.

The detail function can also be turned off by pressing and lighting the DTL OFF button of the RCP-730/731.

For the Function menu of the MSU-750, see page 4-31.

Knee aperture function

When using the MSU-700A, you can turn on/off the knee aperture function, which increases the detail level in the horizontal direction for signals which exceeds the knee point to emphasize the detail of the highlight. To turn on this function, press and light the KNEE APERTURE button.



With the MSU-700A/750, you can turn on and off the knee aperture on the adjustment display of the PAINT menu.

With the MSU-750, you can also turn it on and off by pressing **Knee Aperture** on page 1 by selecting **SW** on the Function menu.

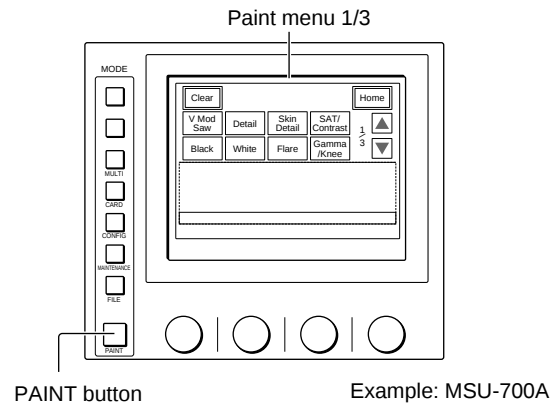
For the Function menu of the MSU-750, see page 4-31.

To adjust from the MSU-700A/750

Proceed as follows.

1 Press and light the PAINT button.

Paint menu 1/3 appears on the display.



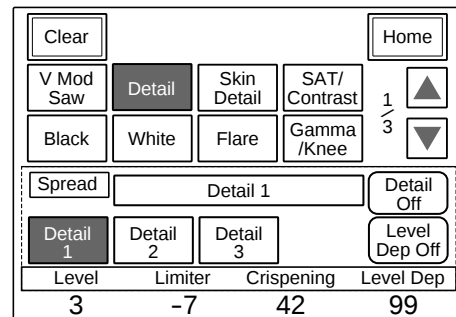
2 Press **Detail** to set it to inverse video.

The lower half of the display becomes the Detail adjustment display.

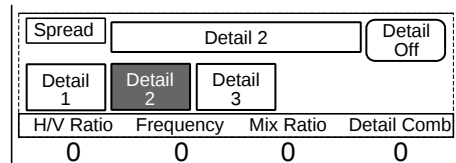
There are three Detail adjustment displays, Detail 1, Detail 2 and Detail 3, which can be selected on the submenu.

3 Press **Detail 1**, **Detail 2** or **Detail 3** of the submenu to switch the display and adjust the respective items with the corresponding control knobs.

Paint menu 1/3 and Detail 1 adjustment display



Detail 2 adjustment display



Detail 3 adjustment display



Detail 1 items

Level: Detail level

Limiter: Detail limiter

Crispening: Detail crispening

Level Dep: Level of the level dependence function

Detail 2 items

H/V Ratio: Detail H/V ratio

Frequency: Detail boost frequency

Mix Ratio: Detail mix ratio

Detail Comb: Detail comb filter

Detail 3 items

W.Limiter: Detail white limiter

B.Limiter: Detail black limiter

Fine: Fine detail level

Knee Apert: Level of the knee aperture function

4-10 Detail Adjustments

To turn on/off the detail, level dependence and knee aperture functions on the display

Press **Detail Off**, **Level Dep Off** or **Knee Aperture**, which operates in synchronization with the **DETAIL OFF**, **LVL DEP OFF** or **KNEE APERTURE** button on the MSU-700A, respectively.

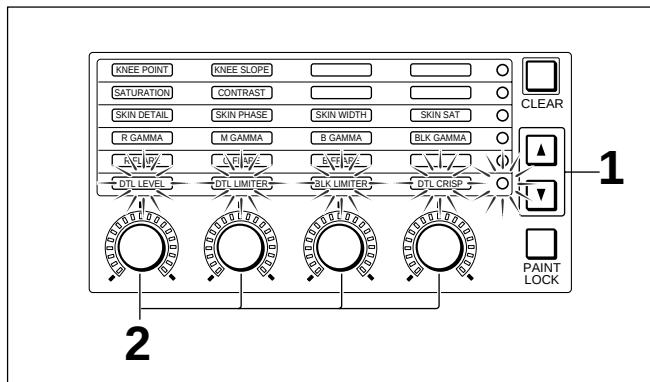
To adjust from the RCP-700-series

Proceed as follows.

Note

When the detail function is turned off from the MSU-700A/750 or the RCP-730/731, the picture does not change even when you change the detail setting. It will become effective when you turn on the detail function.

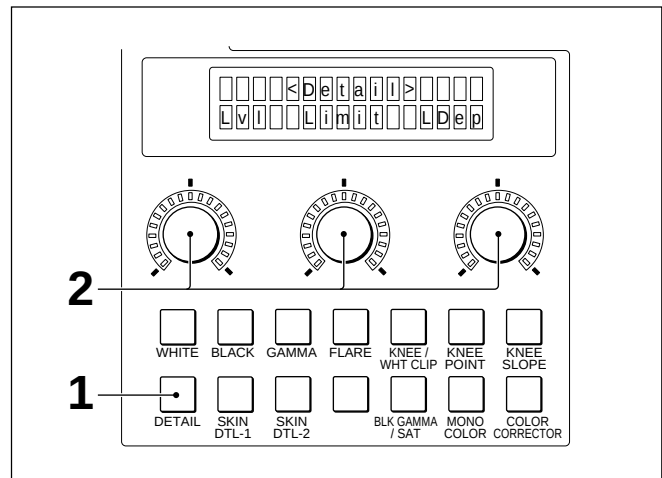
To adjust from the RCP-740/741



- 1 Press **▲** or **▼** to light the indicators of the lower-most line.
- 2 Adjust the respective levels with the four controls.
 - DTL LEVEL:** Detail level
 - DTL LIMITER:** Detail limiter
 - BLK LIMITER:** Detail black limiter
 - DTL CRISP:** Detail crispening

The LED level markers around the controls light to indicate the adjusted volume.

To adjust from the RCP-730/731



- 1 Press the **DETAIL** button of the paint control block.

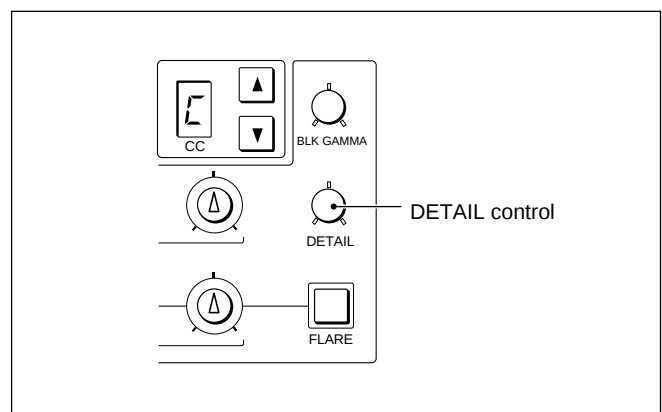
The adjustment items for the detail function appear on the LCD display.

- 2 Adjust the levels using the three controls.
 - Lvl:** Detail compensation level
 - Limit:** Detail limiter
 - LDep:** Level dependence

The LED level markers around the controls light to indicate the adjusted volume.

To adjust from the RCP-720/721

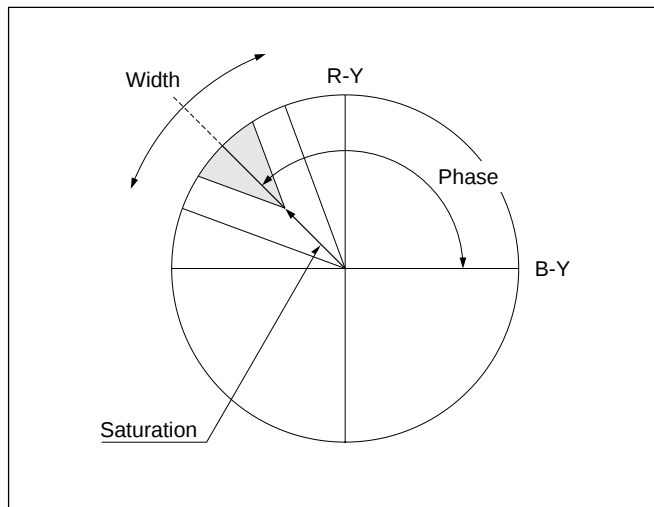
Turn the **DETAIL** control.



4-11 Skin Detail Adjustments

Skin detail function

The skin detail function controls the detail level of objects which have specific color tones.



Phase

Set the color phase for which the skin detail function is to be activated.

Width

Set the color width for which the skin detail function is to be activated.

Saturation

Set the saturation for which the skin detail function is to be activated.

These adjustments can be done either on the menu operation block of the MSU-700A/750 or the paint control block of the RCP-730/731/740/741. The skin detail level can also be adjusted on the RCP-720/721.

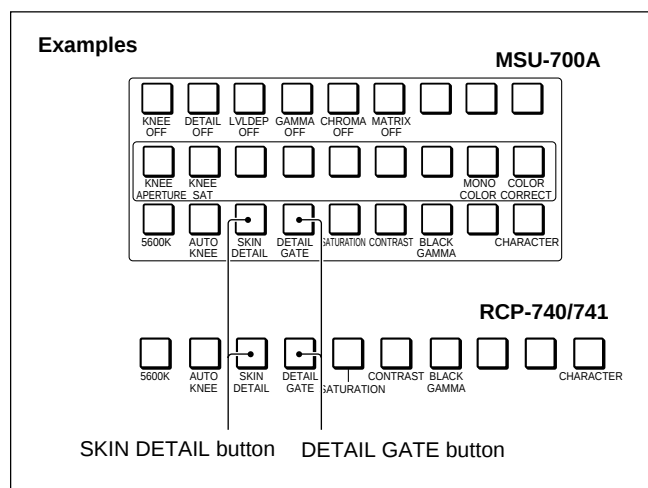
There are three channels 1 to 3 for skin tone adjustment, which can be adjusted independently by using the MSU-700A/750. The RCP-700-series panels control channel 1 only.

Skin detail gate function

When the detail function and skin detail function are active, you can also turn on the skin detail gate function, which displays the effective area of the skin detail on the picture monitors connected to the PIX1/PIX2 OUTPUT connectors of the CCU-700A/700AP or the PIX OUTPUT connector of the CCU-550A/550AP. This function has no effect on the line output, thus you can operate it even in on-the-air status.

To turn on the skin detail and skin detail gate functions

Press and light the SKIN DETAIL and DETAIL GATE buttons of the MSU-700A/750 or RCP-720/721/730/731/740/741.



With the MSU-700A/750, you can turn on and off these functions on the adjustment display of the PAINT menu.

With the MSU-750, you can also turn them on and off by pressing **[Skin Detail]** or **[Detail Gate]** on page 1 by selecting **[SW]** on the Function menu.

For the Function menu of the MSU-750, see page 4-31.

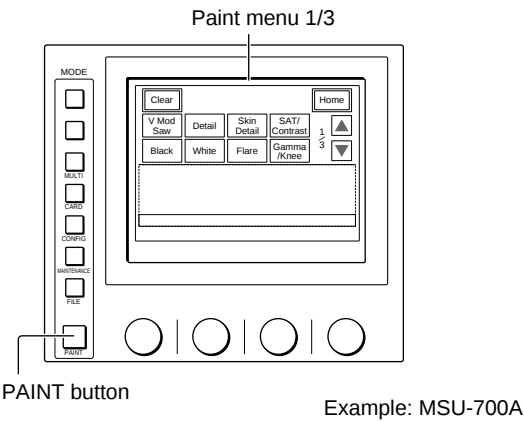
4-11 Skin Detail Adjustments

To adjust from the MSU-700A/750

Proceed as follows.

- 1 Press and light the PAINT button.

Paint menu 1/3 appears on the display.

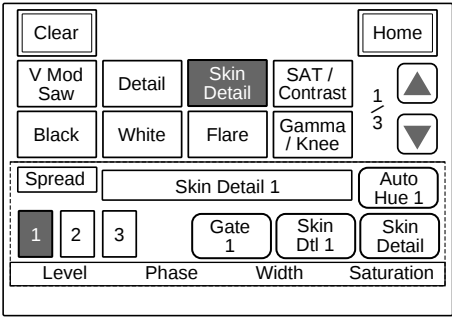


- 2 Press **[Skin Detail]** to set it to inverse video.

The lower half of the display becomes the Skin Detail adjustment display.

- 3 Press **[1]**, **[2]** or **[3]** to select the channel to be adjusted.
- 4 Adjust the Level, Phase, Width and Saturation with the four control knobs, respectively.

Paint menu 1/3 and Skin Detail adjustment display



To turn on/off the skin detail function on the display

Press **[Skin Detail]**, which operates in synchronization with the SKIN DETAIL button on the MSU-700A.

To turn on/off the skin detail function for channel 2 or 3

Press **[2]** or **[3]** to select the channel, then press **[Skin Dtl2]** or **[Skin Dtl3]**.

You cannot turn off the skin detail function for channel 1.

To turn on/off the skin detail gate function on the display

Press **[Gate 1]** (**[Gate 2]**, **[Gate 3]**). The skin detail gate function can be turned on and off independently for each channel. By turning this function on for any channel on the display, the DETAIL GATE button of the MSU-700A, if unlit, lights in synchronization.

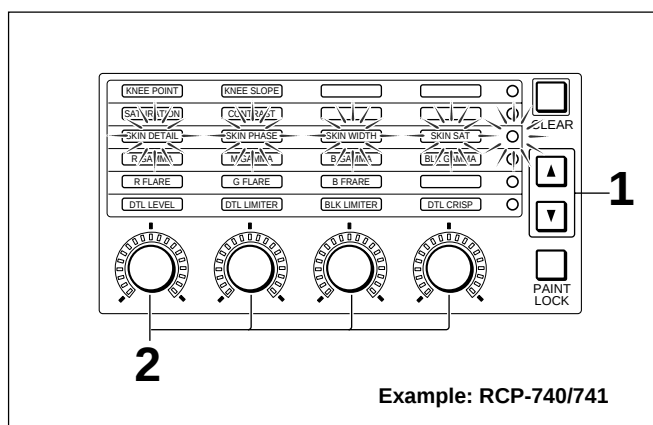
To adjust from the RCP-700-series panels

You can adjust channel 1 only from the RCP-700-series panels.

Note

When the skin detail function is turned off (the SKIN DETAIL button is dark), the picture does not change even when you change the skin detail setting. It will become effective when you turn on the skin detail function.

To adjust from the RCP-720/721/740/741



- 1 When using the RCP-740/741, press ▲ or ▼ to light the indicators of the third line. When using the RCP-720/721, press ▲ to light the indicators of the upper line.

- 2 Adjust the control knob(s).

SKIN DETAIL: Skin detail level

SKIN PHASE: Range of the skin detail phase

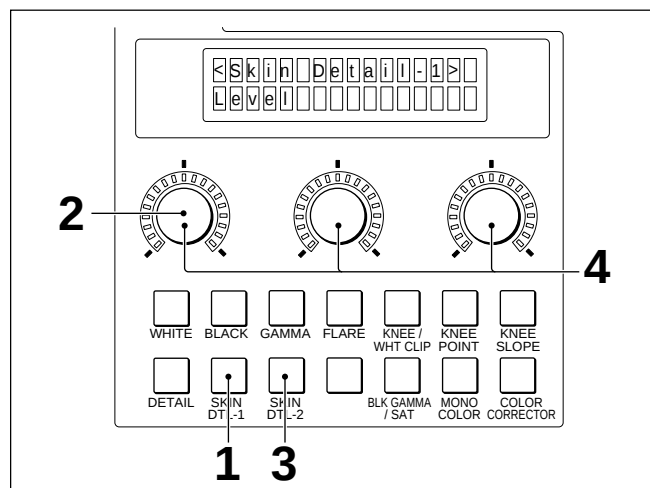
SKIN WIDTH: Range of the skin detail width

SKIN SAT: Range of the skin detail saturation

When using the RCP-720/721, only the level can be adjusted.

The LED level markers around the controls light to indicate the adjusted volume.

To adjust from the RCP-730/731

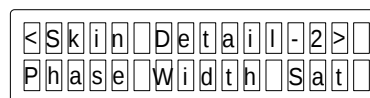


- 1 Press the SKIN DTL-1 button of the paint control block.

The adjustment item (as shown the figure above) for the skin detail function is displayed on the LCD display.

- 2 Adjust the skin detail level with the left control.
- 3 Press the SKIN DTL-2 button.

The display shows the other adjustment items for the skin detail function.



- 4 Adjust the phase, width and saturation, respectively with the three controls.

The LED level markers around the controls light to indicate the adjusted volume.

Automatic adjustment of the skin detail hue

When you press **Auto Hue 1**, **Auto Hue 2**, or **Auto Hue 3** of the Skin Detail adjustment display on the MSU-700A/750, the Auto Hue adjustment display appears to permit an auto setup of the hue for which the skin detail function is to be activated is automatically adjusted (Skin detail hue auto setup). You can also execute the Skin detail hue auto setup using the Auto Setup menu of the MSU-700A/750 or the button of the AUTO SETUP block of the MSU-700A/750 or the RCP-720/721/740/741.

For details, see “4-19 Auto Setup.”

4-12 Matrix Adjustments

This system can use a linear matrix circuit that compensates the R, G, and B outputs.

In addition to **preset matrix compensation** with fixed coefficients, **user matrix compensation** and **multi matrix compensation** are available for use.

The former permits you to specify coefficients for R-G, G-B, B-R, R-B, G-R, and B-G independently as desired, and the latter permits you to divide the entire color tone into sixteen ranges and adjust color reproduction closely for each range.

The six constants of the user matrix and the values for the multi matrix are set on the menu operation block of the MSU-700A/750.

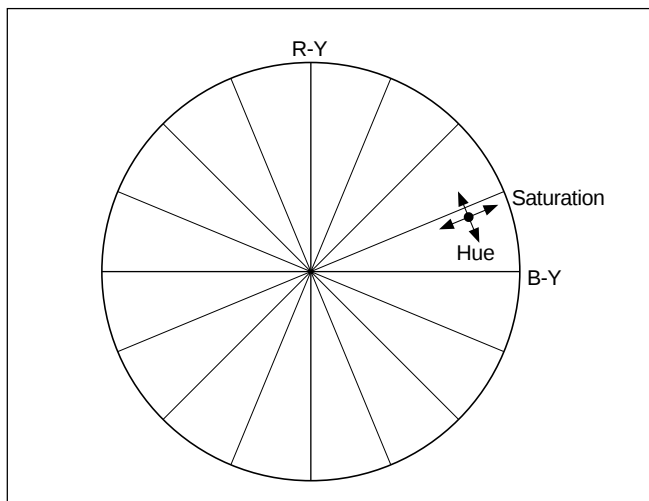
When the preset matrix, user matrix, and multi matrix are all turned ON, the value of their sum is sent to the matrix circuit.

What is multi-matrix compensation?

This function enables easy color matching between cameras or color reproduction to personal preference by varying the matrix coefficients according to the color phases. Using this function, you can change the saturation and hue of a specific color.

This function operates by providing 16 axes in the direction of color phase on a color plane like a vector, assigning matrix coefficients to each axis, and linearly compensating between these axes.

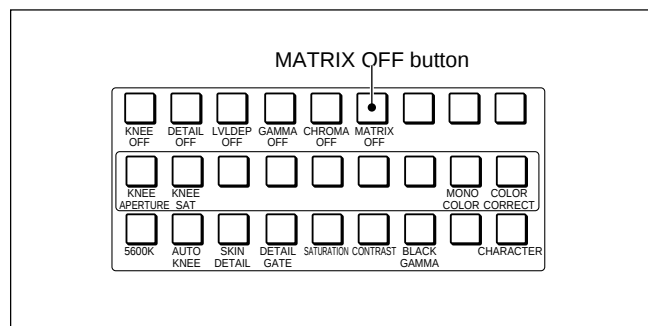
Normally, six matrix coefficients may be required for each of the 16 axes as with the normal linear matrix. The multi-matrix compensation of this system can be easily achieved by operating only the two coefficients, hue and saturation. Note, however, that as the multi-matrix compensation is a kind of linear matrix compensation, the directions of settings for some colors may seem to be deflected when measuring them on a vertoscope.



To turn off matrix compensation

Press to light the MATRIX OFF button of the MSU-700A. When the MATRIX OFF button is lit, all of the preset matrix, user matrix and multi matrix are turned off.

When you use matrix compensation, check that the MATRIX OFF button is dark.



When the button is dark, you can independently turn on/off the preset matrix, user matrix, and multi matrix on the adjustment display of the menu operation block. You cannot turn the preset matrix, user matrix and multi matrix on the adjustment display all off when the button is dark. Press and light the MATRIX OFF button to turn them all off.

When using the MSU-750, you can turn off all of the preset matrix, user matrix and multi matrix by using **Matrix Off** on page 2 by selecting **[SW]** on the Function menu.

For the Function menu of the MSU-750, see page 4-31.

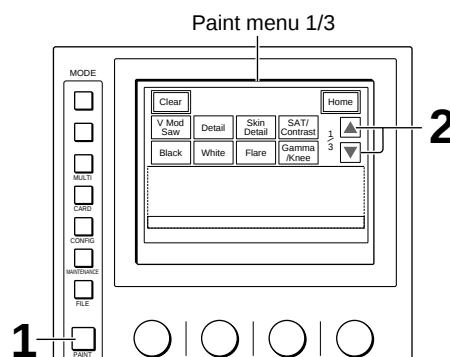
Adjustment procedure

Proceed as follows:

- 1 Press to light the PAINT button.

Paint menu 1/3 appears on the display.

- 2 Press ▲ twice or ▼ once to flip the display to Paint menu 3/3.



Example: MSU-700A

- 3 Press **[Matrix]** to set it to inverse video.

The lower half of the display becomes the Matrix adjustment display.

There are three Matrix adjustment displays: Matrix 1, Matrix 2 and Multi Matrix, which can be selected on the submenu.

To turn on/off the matrix on the display

Press **[Matrix Off]**, which operates in synchronization with the MATRIX OFF button on the MSU-700A.

Any of **[Preset Matrix]**, **[User Matrix]** and **[Multi Matrix]** that has been lit will be turned on/off in synchronization. Any of those that has been unlit stays OFF.

To turn on/off the preset matrix independently

Press **[Preset Matrix]**.

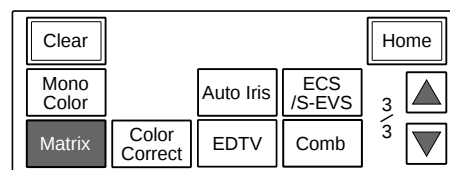
To turn on/off the user matrix independently

Press **[User Matrix]**.

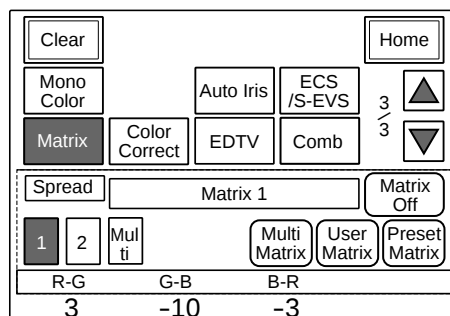
To turn on/off the multi matrix independently

Press **[Multi Matrix]**.

Paint menu 3/3 (NTSC)



Paint menu 3/3 (PAL) and Matrix 1 adjustment display



(Continued)

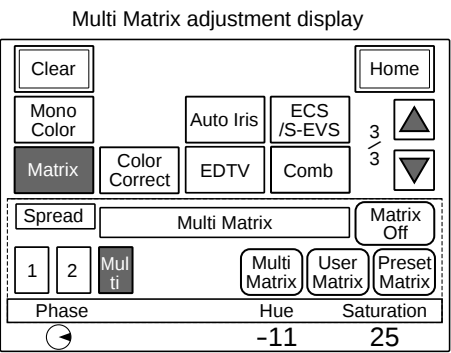
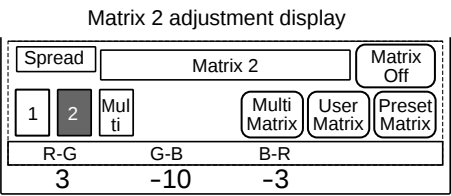
4-12 Matrix Adjustments

4 When the user matrix is active, press [1] or [2] of the submenu to switch the display and adjust the coefficients of the user matrix with the left three control knobs.

Adjust R–G, G–B and B–R on the Matrix 1 display, and adjust R–B, G–R, and B–G on the Matrix 2 display.

When the multi matrix is active, press [Multi] of the submenu to switch the display and adjust the coefficients of the multi matrix.

- 1) Select the Phase (any of 16 ranges dividing a color plane that contains the color to be adjusted) with the leftmost control knob. (The ranges indicated here correspond to those displayed on a vectorscope.)
- 2) Adjust the Hue and Saturation with the right two control knobs.



4-13 Super-EVS Adjustment

The S-EVS (Super Enhanced Vertical Definition System) permits the vertical resolution to be adjusted to any desired value between 350 to 450 lines. Use the menu control block of the MSU-700A/750 for the adjustment and proceed as follows:

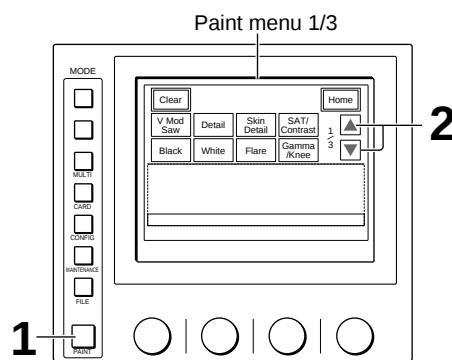
Note

This adjustment is invalid when using the OHB-730-series CCD unit.

- 1 Press to light the PAINT button.

Paint menu 1/3 appears on the display.

- 2 Press $\blacktriangle$ twice or $\blacktriangledown$ once to flip the display to Paint menu 3/3.



Example: MSU-700A

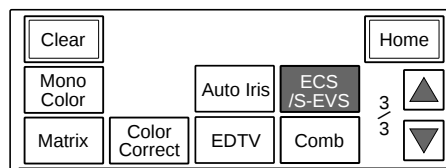
- 3 Press **[ECS/S-EVS]** to set it to inverse video.

The lower half of the display becomes the ECS/S-EVS adjustment display.

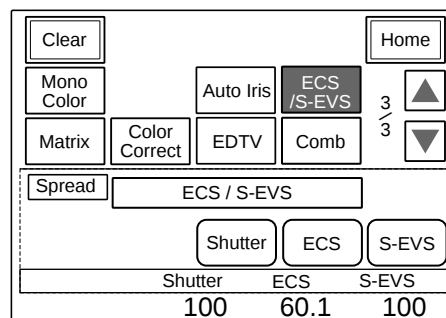
To turn on/off S-EVS

Press **[S-EVS]**.

Paint menu 3/3 (NTSC)



Paint menu 3/3 (PAL) and S-EVS/ECS adjustment display

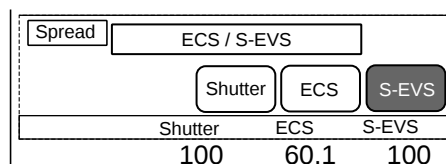


- 4 Set **[S-EVS]** to inverse video to turn on S-EVS and set the desired resolution with the right-most control knob.

The resolution setting is displayed in % (0 to 100).

- If you set 100, the vertical resolution is set to 450 lines in the same manner as when the conventional EVS function is activated.
- Setting of 0 provides the same status as when S-EVS is not active.

For Shutter and ECS modes, see “4-14 Shutter Speed Selection.”



4-14 Shutter Speed Selection

The shutter control block of the MSU-700A or the RCP-720/721/730/731/740/741 and the Function menu of the MSU-750 permit you to select the shutter speed either in ECS (extended clear scan) or in Shutter mode. When using the MSU-700A/750, you can also select the shutter speed using the Paint menu.

Shutter mode

Six shutter speeds can be selected by step: $1/60$ (PAL models only), $1/100$ (NTSC models only), $1/125$, $1/500$, $1/250$, $1/1000$, and $1/2000$.

ECS mode

By changing the ECS frequency, various shutter speeds become available.

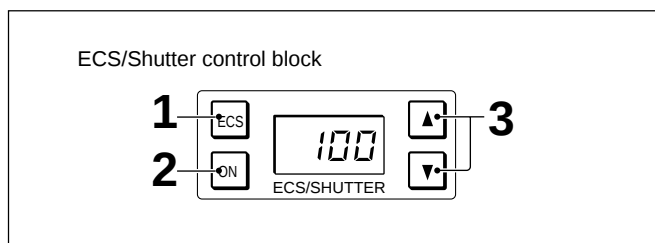
Note

The range of selectable speeds depends on the CCD unit (OHB) to be used.

To select on the ECS/Shutter control block

The procedure is the same for the MSU-700A and RCP-720/721/730/731/740/741.

Proceed as follows.

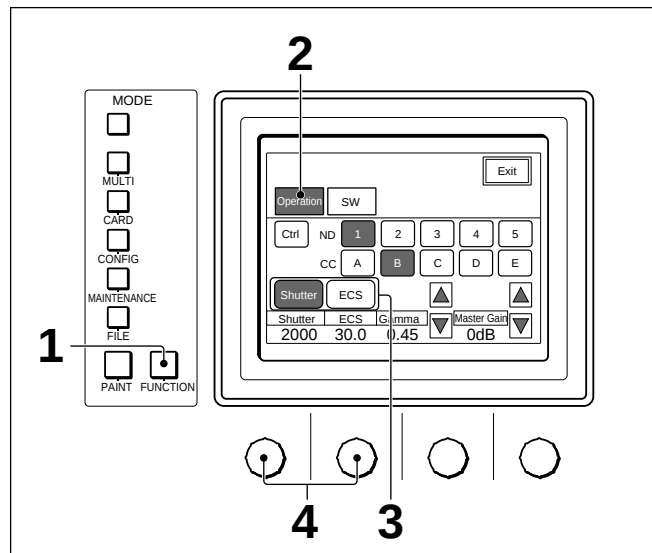


- 1** Select the mode with the ECS button.
When the button is lit: ECS mode
When the button is dark: Shutter mode
- 2** Press and light the ON button.
- 3** Press ▲ or ▼ until the desired shutter speed (denominator) is displayed in the display window.

The shutter speed increases when the ▲ button is pressed and decreases when the ▼ button is pressed. It continuously changes when either button is kept pressed.

To select using the Function menu of the MSU-750

Proceed as follows.



- 1** Press the FUNCTION button to display the Function menu.
- 2** Press **Operation** to set it to inverse video.
- 3** Select the mode.

Pressing **ECS** to set it to inverse video selects ECS mode, and pressing **Shutter** to set it to inverse video selects Shutter mode

- 4** Turn the corresponding control knobs to select the desired speed.

The selected speed appears on the ECS/SHUTTER display.

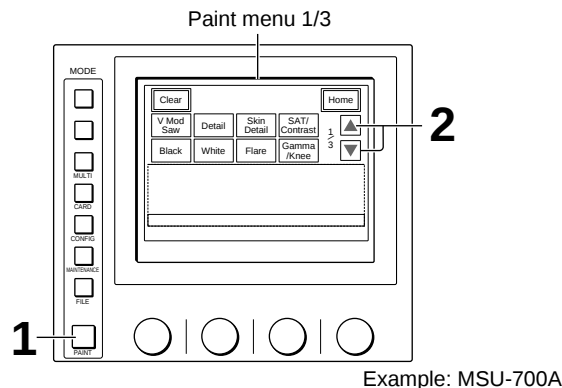
To select using the Paint menu of the MSU-700A/750

Proceed as follows.

- 1 Press and light the PAINT button.

Paint menu 1/3 appears on the display.

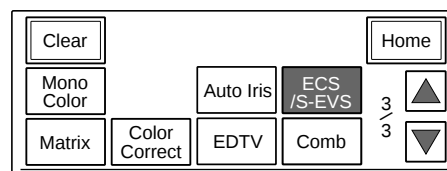
- 2 Press ▲ twice or ▼ once to flip the display to Paint menu 3/3.



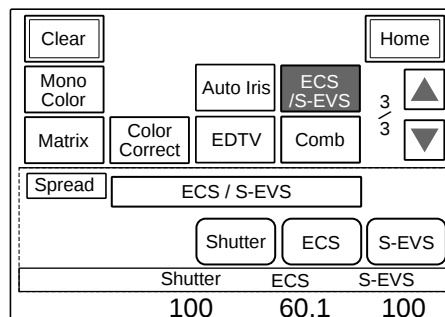
- 3 Press **ECS/S-EVS** to set it to inverse video.

The lower half of the display becomes the ECS/S-EVS adjustment display.

Paint menu 3/3 (NTSC)



Paint menu 3/3 (PAL) and S-EVS/ECS adjustment display



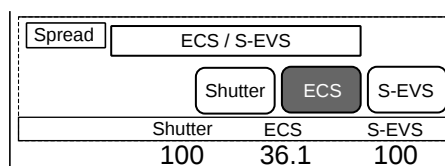
- 4 Select the mode.

Press **ECS** to select the ECS mode or **Shutter** to select the Shutter mode.

- 5 Adjust the shutter speed with the second control knob from the right.

The selected shutter speed is displayed in the display window of the ECS/shutter control block.

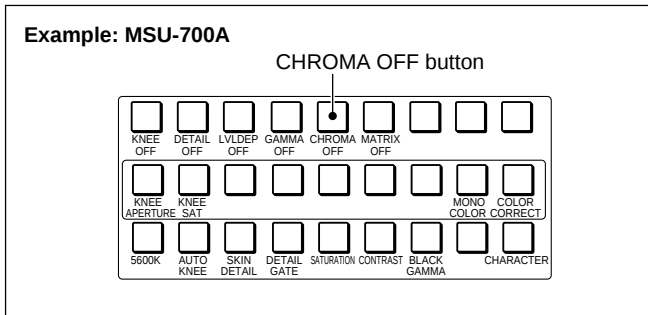
Example: When the ECS mode is selected



4-15 Chroma Off and Saturation / Contrast Adjustments

4-15-1 Chroma Off Function

When you press and light the CHROMA OFF button of the MSU-700A or the RCP-730/731, the chroma of VBS signals and R-Y/B-Y of component signals is turned off. (Burst signal is not turned off.)



When using the MSU-750, you can turn the chroma off by pressing **Chroma Off** on page 2 by selecting **[SW]** on the Function menu.

4-15-2 Adjusting the Saturation and Contrast

You can adjust the chroma level of the signals being supplied from the CCU-700A/700AP/550A/550AP and the linearity of the Y component of the signals being supplied from the CCU-700A/700AP.

Saturation adjustment function

When this function is active, you can adjust the chroma level of output signals from the VBS, R-Y, and B-Y OUTPUT connectors of the CCU-700A/700AP/550A/550AP in a range of +5 dB to -20 dB.

Contrast adjustment function

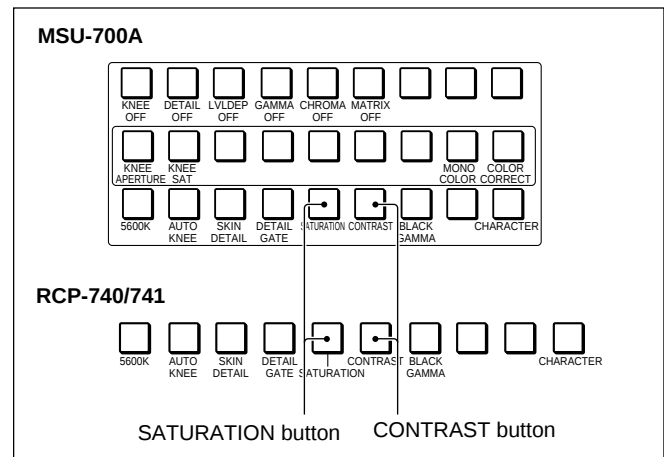
When this function is active, you can adjust the linearity of the Y component of output signals from the VBS and Y OUTPUT connectors of the CCU-700A/700AP.

For these adjustments, use either the menu operation block of the MSU-700A/750 or the paint control block of the RCP-740/741 and follow the procedure shown on the next page.

The saturation can also be adjusted on the RCP-720/721/730/731.

To turn on the saturation and contrast adjustment functions

Press and light the SATURATION or CONTRAST button of the MSU-700A/750 or RCP-740/741. The saturation can also be turned on/off on the RCP-720/721/730/731.



When using the MSU-700A/750, you can also turn on/off the functions on the adjustment display of the Paint menu.

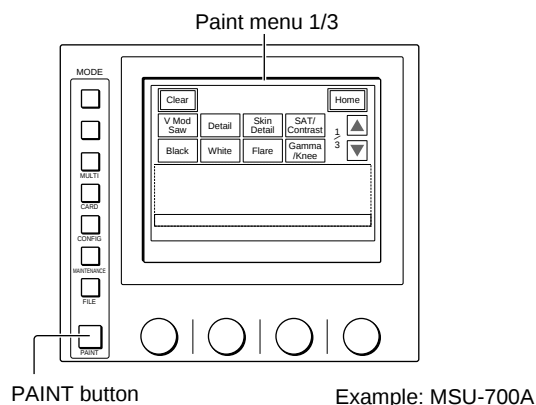
With the MSU-750, you can also turn these functions on and off by pressing **Saturation** or **Contrast** on page 1 by selecting **[SW]** on the Function menu.

To adjust from the MSU-700A/750

Proceed as follows.

- 1 Press and light the PAINT button.

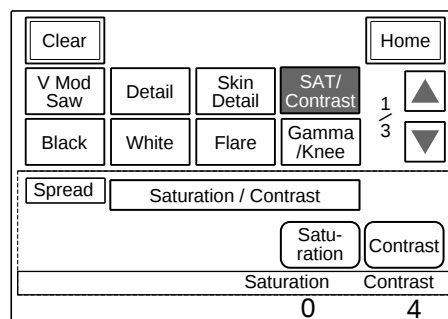
Paint menu 1/3 appears on the display.



- 2 Press **SAT/Contrast** to set it to inverse video.

The lower half of the display becomes the Saturation/Contrast adjustment display.

- 3 Adjust the saturation and contrast with the right two control knobs, respectively.



To turn on/off the saturation/contrast adjustment functions on the display

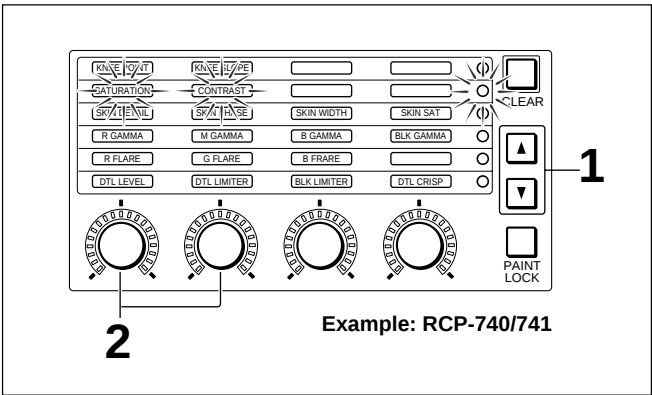
Press **Saturation** or **Contrast**, which operates in synchronization with the SATURATION or CONTRAST button on the MSU-700A, respectively.

4-15 Chroma Off and Saturation / Contrast Adjustments

To adjust from the RCP-700-series panels

Be sure that the SATURATION button and CONTRAST button (RCP-740/741 only) are lit. If not, the saturation and contrast cannot be adjusted.

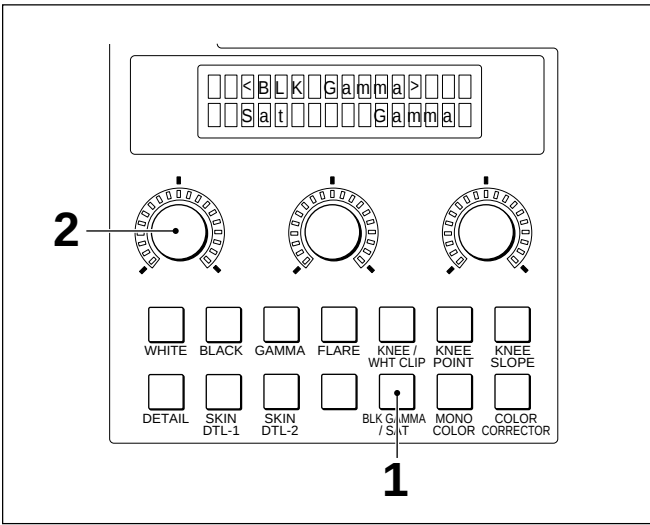
To adjust from the RCP-720/721/740/741



- 1** When using the RCP-740/741, press ▲ or ▼ to light the indicators of the second line. When using the RCP-720/721, press ▲ to light the indicators of the upper line.
- 2** Adjust the saturation and contrast (RCP-740/741 only) with the respective control(s).

The LED level markers around the control(s) light to indicate the adjusted volume.

To adjust from the RCP-730/731



- 1** Press the BLK GAMMA/SAT button of the paint control block.

The adjustment items are displayed on the LCD display.

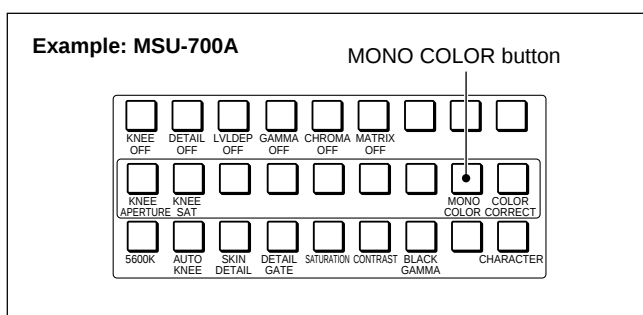
- 2** Adjust the saturation with the left control.

The LED level markers around the control lights to indicate the adjusted volume.

4-16 Mono Color Adjustment

When you press and light the MONO COLOR button of the MSU-700A or the RCP-730/731, the mono color function is activated, which mixes the chroma signal having a certain hue and saturation to the luminance signal of the output signal from the VBS, R-Y, and B-Y OUTPUT connectors of the CCU-700A/700AP. You can also turn on and off the mono color function on the adjustment display of the MSU-700A/750 or the paint control block of the RCP-730/731.

Adjust the saturation and hue on the adjustment display of the Paint menu of the MSU-700A/750 or the paint control block of the RCP-730/731.



With the MSU-700A/750, you can turn on and off the mono color function on the adjustment display of the Paint menu.

With the MSU-750, you can also turn it on and off by selecting **[SW]** on the Function menu and pressing **[Mono Color]** on page 1.

For the Function menu of the MSU-750, see page 4-31.

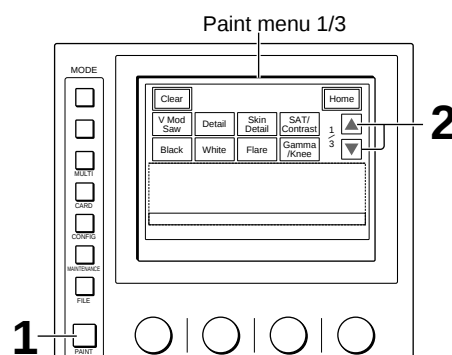
To adjust from the MSU-700A/750

Proceed as follows.

- 1 Press and light the PAINT button.

Paint menu 1/3 appears on the display.

- 2 Press **▲** twice or **▼** once to flip the display to Paint menu 3/3.



Example: MSU-700A

- 3 Press **[Mono Color]** to set it to inverse video.

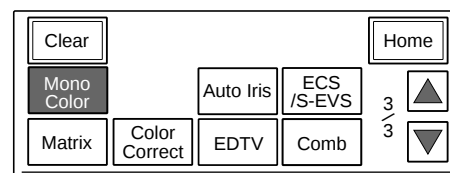
The lower half of the display becomes the Mono Color adjustment display.

- 4 Adjust the saturation and hue with the right two control knobs, respectively.

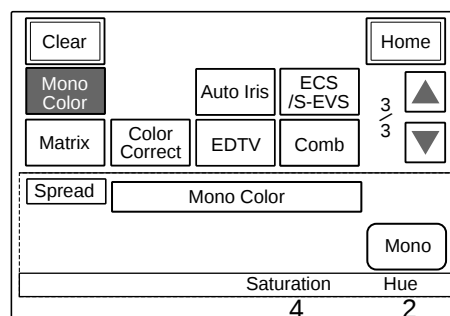
To turn on/off the function on the display

Press **[Mono]** in the Mono Color adjustment display area.

Paint menu 3/3 (NTSC)

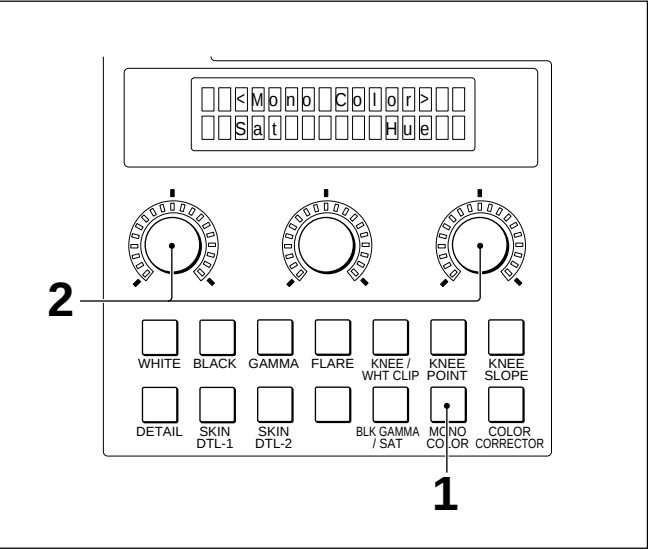


Paint menu 3/3 (PAL) and Mono color adjustment display



4-16 Mono Color Adjustment

To adjust from the RCP-730/731



- 1** Press the MONO COLOR button of the paint control block.

The adjustment items for the mono color function are displayed on the LCD display.

- 2** Adjust the saturation with the left control and the hue with the right control.

The LED level markers around the controls light to indicate the adjusted volume.

4-17 Y/C (Sub-Encoder Board) Adjustments (NTSC)

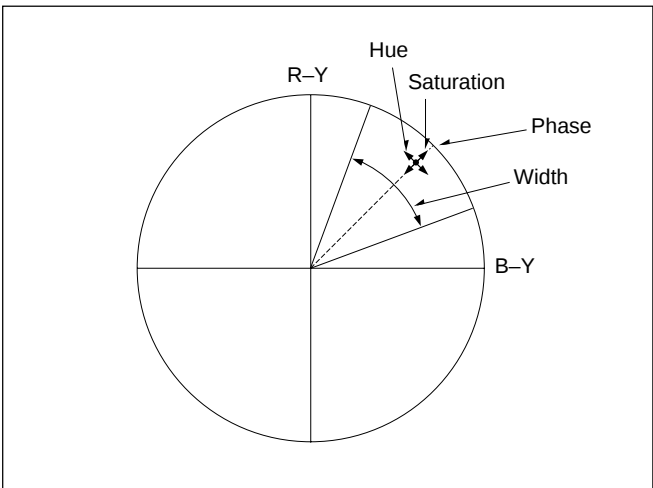
When the optional BKP-7931 Sub-Encoder Board is installed in the CCU-700A Camera Control Unit, the color corrector, EDTV adjustment and comb filter functions can be activated for the NTSC models.

Use the MSU-700A/750 to activate and control these functions.

The color corrector function is also available with the BKP-7311 SDI Output Board and can also be controlled from the RCP-730/731.

4-17-1 Adjusting the Color Correctors

When the BKP-7931 (or BKP-7311) is installed in the CCU-700A, the color correctors for the NTSC models can be activated to compensate for the specific colors of the output signals from the VBS, R-Y, and B-Y OUTPUT connectors of the CCU-700A.



Phase

Adjust the center phase of the range in which the color corrector function activates. The center phase can be adjusted in a range of 0 to 359°.

Width

Adjust the width of the range in which the color corrector function activates. The width can be adjusted in a range of 0 to 90° centered on the specified center phase.

Hue

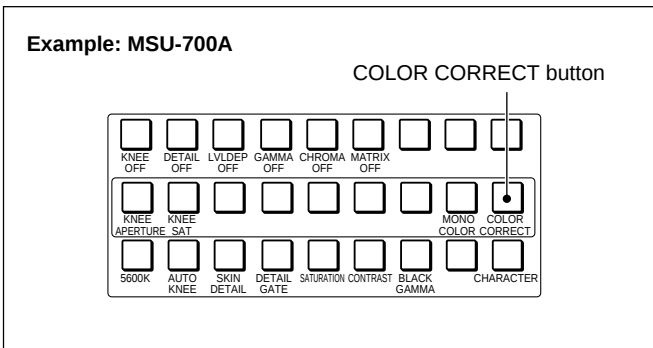
Adjust the phase compensation volume of the color corrector function. The hue can be adjusted in a range of -99 to +99%.

Saturation

Adjust the chroma compensation volume of the color corrector function. The saturation can be adjusted in a range of -99 to +99%.

To turn on the color corrector function

Press and light the COLOR CORRECT button of the MSU-700A or the COLOR CORRECTOR button of the RCP-730/731 to activate the function.



With the MSU-700A/750, you can turn on and off the color corrector function on the adjustment display of the Paint menu.

With the MSU-750, you can also turn it on and off by selecting **[SW]** on the Function menu and pressing **[Color Correct]** on page 1.

For the Function menu of the MSU-750, see page 4-31.

You can use six different color correctors (A, B, C, D, E, and F). As they can be independently adjusted and turned on/off, you can use them either independently or in combination.

To independently turn on/off the color correctors, use the Paint menu of the MSU-700A/750.

4-17 Y/C (Sub-Encoder Board) Adjustments (NTSC)

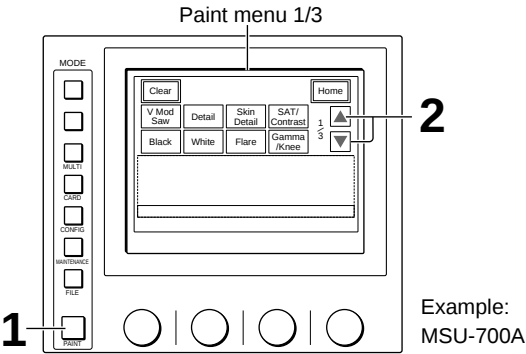
To adjust from the MSU-700A/750

Proceed as follows.

1 Press and light the PAINT button.

Paint menu 1/3 appears on the display.

2 Press ▲ twice or ▼ once to flip the display to Paint menu 3/3.

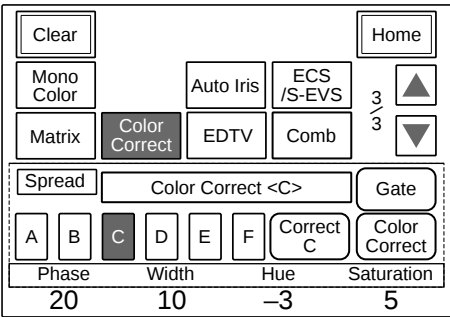


3 Press **Color Correct** of Paint menu 3/3 to set it to inverse video.

The lower half of the display becomes the Color Correct adjustment display. There are six Color Correct adjustment displays for A, B, C, D, E, and F, which can be selected on the submenu.

To turn on/off the function on the display
Press **Color Correct** of the Color Correct adjustment display.

Paint menu 3/3 and Color Correct adjustment display (C)



4 Adjust Color Corrector A.

- 1) Press **A** of the submenu to set it to inverse video.
- 2) Press **Correct A** to set it to inverse video.
- 3) Adjust the phase, width, hue, and saturation with the corresponding control knobs.

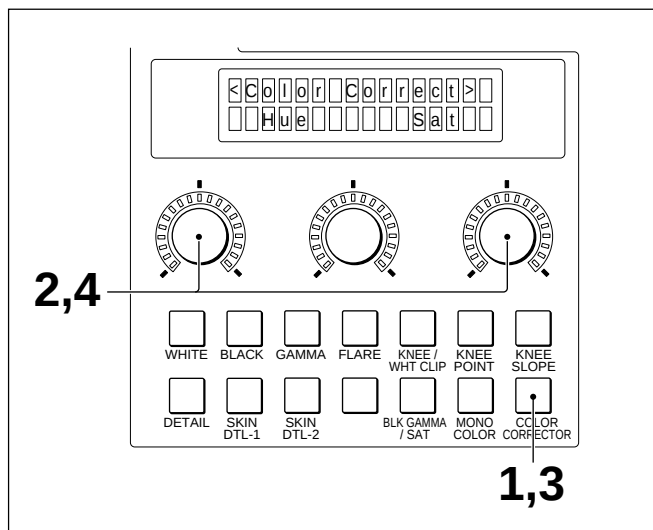
5 Adjust Color Correctors B through F in the same manner.

Color Corrector Gate function

When the color corrector function is on, press **Gate** to set it to inverse video, and the area where the color corrector function is effective will be displayed on the picture monitor connected to the PIX1/PIX2 OUTPUT connectors of the CCU-700A. As this gate signal is not sent to the line output, this function can be used even when the picture is on the air.

To adjust from the RCP-730/731

When using the RCP-730/731, you can adjust Color Corrector A.



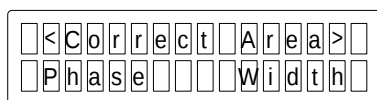
- 1** Press the COLOR CORRECTOR button of the paint control block.

The adjustment items (as shown the figure above) for the color corrector function are displayed on the LCD display.

- 2** Adjust the hue with the left control and the saturation with the right control.

- 3** Press the COLOR CORRECTOR button again.

The display shows the other adjustment items for the color corrector function.



- 4** Adjust the phase with the left control and the width with the right control.

The LED level markers around the controls light to indicate the adjusted volume.

4-17 Y/C (Sub-Encoder Board) Adjustments (NTSC)

4-17-2 Adjusting the EDTV Function

When the BKP-7931 is installed in the CCU-700A, the EDTV function for the NTSC models can be activated for the VBS, Y3, and S1 OUTPUT connectors of the CCU-700A.

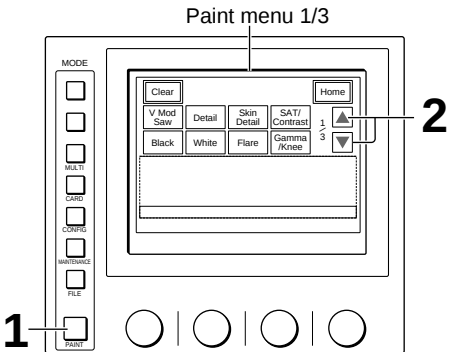
Turn on the function and adjust the compensation volume using the menu operation block of the MSU-700A/750.

Note

When the EDTV switch on the BKP-7931 is set to OFF, the EDTV function can neither be turned on/off nor adjusted from the MSU-700A/750.

Proceed as follows.

- Press and light the PAINT button.
- Press **▲** twice or **▼** once to flip the display to Paint menu 3/3.



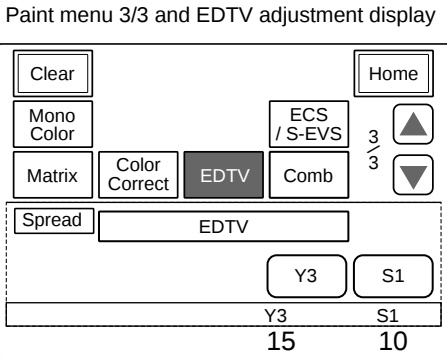
Example: MSU-700A

- Press **[EDTV]** to set it to inverse video.
- The lower half of the display becomes the EDTV adjustment display.

To turn on the function

Press **[Y3]** and **[S1]** to set them in inverse video.

- Adjust the compensation volume for Y3 and S1 with the right two control knobs.
- Y3:** To compensate to enforce the contours on the borders between colors.
- S1:** To compensate to enforce the contours in the dark part of the luminance signal.



4-17-3 Adjusting the Comb Filter

When the BKP-7931 is installed in the CCU-700A, the comb filter for the NTSC models can be activated to suppress the cross colors in the outputs at the Y, R–Y, and B–Y OUTPUT connectors of the CCU-700A.

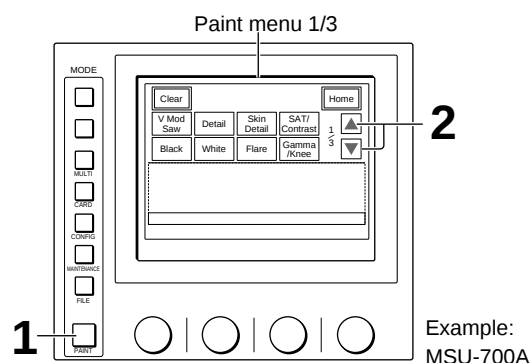
Using the menu operation block of the MSU-700A/750, turn on the comb filter and adjust the cross colors at the details of the VBS and Y signals.

Proceed as follows.

- 1 Press and light the PAINT button.

Paint menu 1/3 appears on the display.

- 2 Press ▲ twice or ▼ once to flip the display to Paint menu 3/3.



- 3 Press [Comb] of Paint menu 3/3 to set it to inverse video.

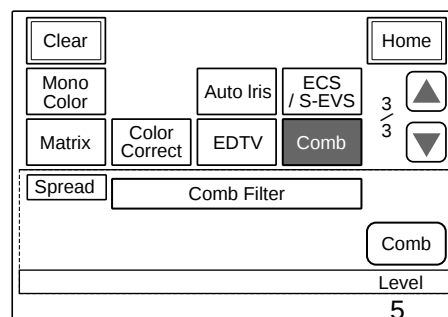
The lower half of the display becomes the Comb Filter adjustment display.

To turn on the comb filter

Press [Comb] of the Comb Filter adjustment display to set it in inverse video.

- 4 Adjust the Level (cross colors at the details of VBS and Y signals) with the right most control knob.

Paint menu 3/3 and Comb Filter adjustment display



4-18 Notch Adjustment (PAL)

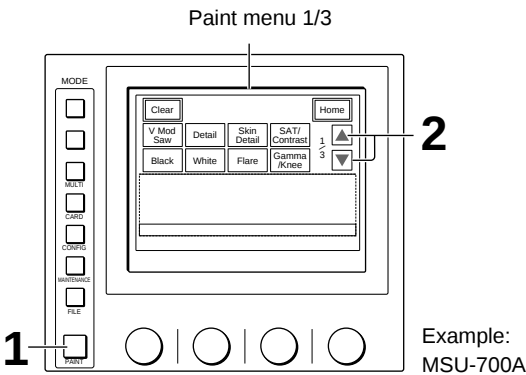
For the PAL models, the notch (SC trap) filter rejects the cross color in the encoder output signal. The rejection level and the target frequency can be set with the MSU menu operation. You can also turn on and off the notch filter on the adjustment display.

Proceed as follows.

- 1 Press and light the PAINT button.

Paint menu 1/3 appears on the display.

- 2 Press ▲ twice or ▼ once to flip the display to Paint menu 3/3.



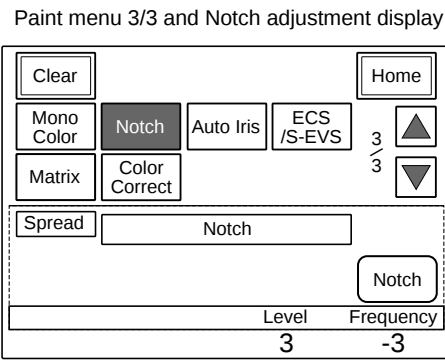
- 3 Press [Notch] of Paint menu 3/3 to set it to inverse video.

The lower half of the display becomes the Notch adjustment display.

- 4 Adjust the level and frequency with the right two control knobs, respectively.

To turn on/off the function

Press [Notch] of the Notch adjustment display.



4-19 Auto Setup

The following six types of Auto Setup are possible:

- Black (black balance and black set)
- White balance
- Level (master black, RGB black level, RGB gain, black shading, white shading, black set, etc.)
- Hue (skin detail hue channels 1 to 3, and skin tone iris)
- White shading
- Black shading

Button operations in the AUTO SETUP block of the MSU-700A/750 and the RCP-720/721/730/731/740/741 enable four types of Auto Setup, Black (black balance and black set), White balance, Level, and Skin detail hue.

The operating procedure is the same for the MSU-700A/750 and the RCP-720/721/730/731/740/741.

Button operations in the AUTO SETUP block of the RCP-700/701 enable two types of Auto Setup, Black (black balance and black set) and White balance. The operating procedure is the same as the MSU-700A/750 and the RCP-720/721/730/731/740/741.

Menu operations on the MSU-700A/750 enable all the six types of Auto Setup.

Auto Setup uses the settings specified in the reference-file data stored in the video camera. If there is no reference file stored in the camera, the factory-set standard values are used.

For the reference file, see “Chapter 5 File Operations.”

Auto Setup indication by the MULTI indicators

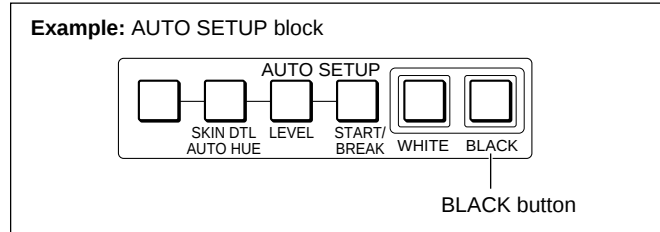
The MULTI indicators of the MSU-700A/750 normally light in green or orange to indicate the master/slave designation status of the respective cameras. They light in red when the auto setup is executed for the respective cameras.

They flash in red if Auto Setup is interrupted or any error occurs during Auto Setup.

4-19-1 Black Auto Setup

The black balance and black set are automatically adjusted.

To execute from the button on the MSU-700A/750 or RCP-700-series panels



To start Black Auto Setup

Press and light the BLACK button.

To cancel Black Auto Setup

Press the lit BLACK button.

Black Auto Setup is canceled, the button flashes, and the original status is retrieved. When you press the button again, it goes dark.

On the MSU-700A/750, RCP-720/721/730/731/740/741, you can cancel Black Auto Setup by pressing the START/BREAK button.

When the black auto setup is completed

The BLACK button goes dark.

On the RCP-720/721/740/741, the adjustment mode of the white balance/black balance control block is automatically set to Relative mode.

To execute from the menu operation block of the MSU-700A/750

Press **[ABB]** of the Black adjustment display (page 4-38).

You can also execute Black Auto Setup using the Auto Setup menu.

For the Auto Setup menu, see “4-19-7 Auto Setup With the Auto Setup Menu.”

4-19 Auto Setup

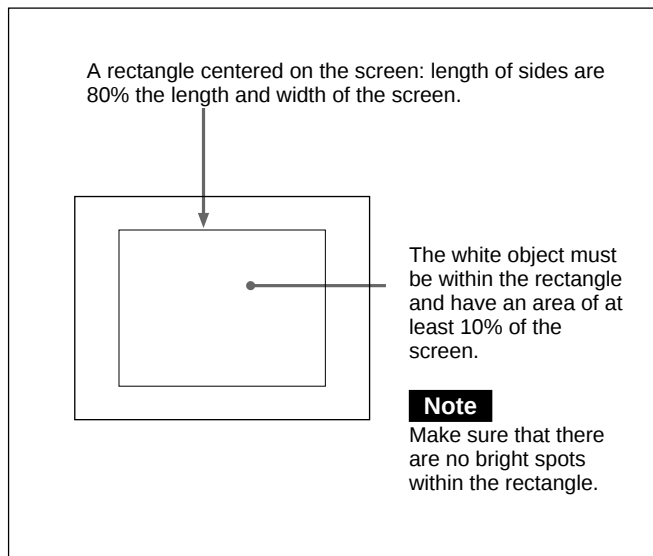
4-19-2 White Auto Setup

The white balance is automatically adjusted.

To execute from the button on the MSU-700A/750 or RCP-700-series panel

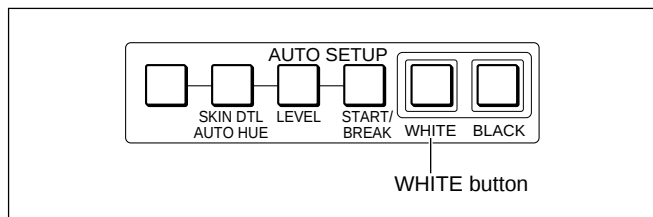
Operating procedure

- 1 Shoot a white pattern (which can be substituted with white paper or wall).



- 2 Press and light the WHITE button.

White Auto Setup starts.



To cancel White Auto Setup

Press the lit WHITE button.

White Auto Setup is canceled, the button flashes, and the original status is retrieved. When you press the button again, it goes dark.

On the MSU-700A/750, RCP-720/721/730/731/740/741, you can cancel White Auto Setup by pressing the START/BREAK button.

When White Auto Setup is completed

The WHITE button goes dark.

On the RCP-720/721/740/741, the adjustment mode of the white balance/black balance control block is automatically set to Relative mode.

To execute from the menu operation block of the MSU-700A/750

Press **[AWB]** of the Black adjustment display (page 4-50).

You can also execute White Auto Setup using the Auto Setup menu.

For the Auto Setup menu, see “4-19-7 Auto Setup With the Auto Setup Menu.”

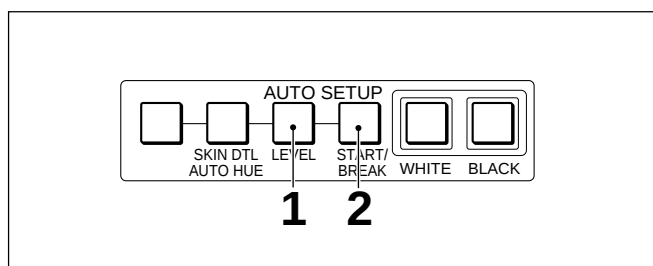
4-19-3 Level Auto Setup

From the MSU-700A/750 or RCP-700-series panels, you can automatically adjust the master black level along with the black level, RGB gain, black shading, white shading, black set, etc..

This Level Auto Setup also retrieves the switch settings stored in the reference file.

To execute from the buttons on the MSU-700A/750 or RCP-720/721/730/731/740/741

Operating procedure



- 1** Press and light the LEVEL button.

The START/BREAK button flashes.

- 2** Press and light the START/BREAK button.

Level Auto Setup starts.

To cancel Level Auto Setup

Press the START/BREAK button.

Level Auto Setup is canceled, the lit buttons go dark and the original status is retrieved.

When the level auto setup is completed

The LEVEL and START/BREAK buttons go dark.

On the RCP-720/721/730/740, the adjustment mode of the master black on the iris/master black control block is automatically set to Relative mode.

To execute from the menu operation block of the MSU-700A/750

Use the Auto Setup menu.

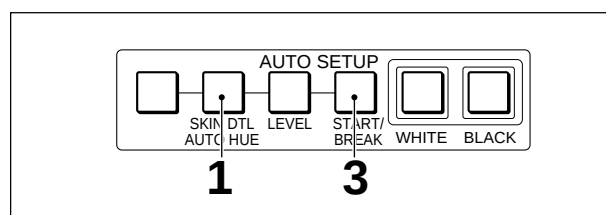
For the Auto Setup menu, see “4-19-7 Auto Setup With the Auto Setup Menu.”

4-19-4 Skin Detail Hue Auto Setup

From the MSU-700A/750 or RCP-720/721/730/731/740/741, you can automatically adjust the hue for which the skin detail function is to be activated.

To execute from the buttons on the MSU-700A/750 or RCP-700-series (channel 1 only)

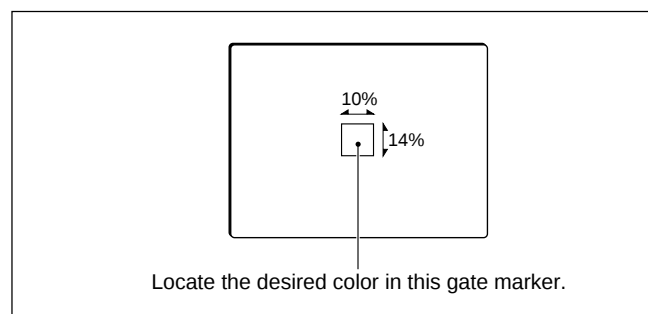
Operating procedure



- 1** Press and light the SKIN DTL AUTO HUE button.

The START/BREAK button flashes and the gate marker appears on the viewfinder of the camera. (A cursor displayed when using the BVP-700/700P upgraded with the BKP-7090/7090P.)

- 2** Operate the camera to locate the color for which the skin detail function is to be activated within the gate marker.



- 3** Press and light the START/BREAK button.

Skin Detail Auto Setup starts.

To cancel Skin Detail Auto Setup

Press the START/BREAK button. Auto Setup is canceled, the lit buttons go dark and the original status is retrieved.

When Skin Detail Auto Setup is completed

The SKIN DTL AUTO HUE and START/BREAK buttons go dark.

To execute from the menu operation block of the MSU-700A/750

Press **[Auto Hue]** of the Skin Detail adjustment display (page 4-79).
You can also execute Skin Detail Auto Setup using the Auto Setup menu.
For the Auto Setup menu, see “4-19-7 Auto Setup With the Auto Setup Menu.”

4-19-5 Black Shading Auto Setup

Auto Setup for black shading can be performed using the menu operation block of the MSU-700A/750. Press **[Auto B. Shading]** of the Black Shading adjustment display (page 4-34) or the Auto Setup menu (page 4-101).

4-19-6 White Shading Auto Setup

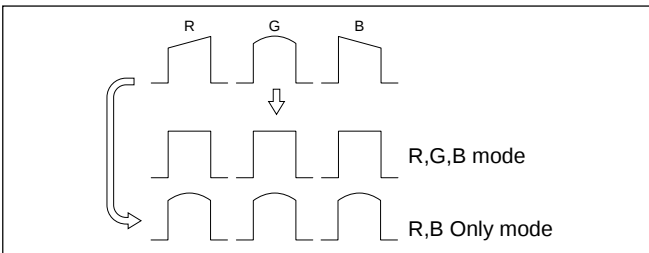
Auto Setup for white shading can be performed using the menu operation block of the MSU-700A/750. The 3D white shading compensation will automatically activate when it is turned ON on the OHB File Setup menu of the camera (page 5-10, 5-11).
For Auto Setup for white shading, a white subject is required, and you can use two modes according to the type of subject.

R, G, B mode

Use this mode when using a white subject that can produce completely uniform illumination, such as a porta-pattern box. In this mode, all R, G, and B are automatically adjusted so that video signals obtained from the object become flat. Note, however, that if the white subject being used is not even, this mode may cause irregularity in colors.

R, B Only mode

Select this mode if there is shading over the subject, such as when using a paper sheet under ambient light. In this mode, R and B are adjusted in reference to G.



Operating procedure

- 1 Shoot a white subject so that it occupies the entire picture.
- 2 Select the mode according to the type of subject. For the mode selection, use Auto White Shading Mode on the CAM Mode Setting display. For the CAM Mode Setting display, see “3-3-9 Initial Settings of the Camera.”
- 3 Adjust the IRIS lever or control and WHITE controls so that the R, G and B video levels at the center of the picture become 70 to 100%.
- 4 Press **[Auto W. Shading]** of the White Shading adjustment display (page 4-52) or the Auto Setup menu (page 4-101).

What is the 3D white shading compensation?

This 3D white shading compensation is a function to compensate for shading by dividing the screen into a grid and executing white shading compensation independently for each grid block. This enables compensation for shading in a diagonal direction or shading in a certain block.
When 3D Shading is set to ON on the OHB File Setup menu of the camera, 3D shading compensation is simultaneously activated when White Shading Auto Setup is executed. As this compensation becomes more accurate if you repeat White Shading Auto Setup, it is recommended to execute it three times or more when it is done for the first time.
The compensation data will be lost when the camera is turned off immediately after the compensation is made. When you want to maintain the compensation data, be sure to store them in an OHB file. The data in an OHB file are maintained in the OHB unit even if the power is turned off. As with the normal White Shading Auto Setup, both R, G, B mode and R, B Only mode are supported. If a sufficiently even white subject is not available, use R, B Only mode. If an uneven subject is used in R, G, B mode, this may lead to incorrect compensation.
Depending on the IRIS setting, the lens being used may affect the compensation. Do not perform the compensation with the iris almost fully open (under f4.0) or almost fully closed.
Flicker will cause poor results. If there is flicker, set the camera to Shutter mode and perform the compensation in a condition without flicker.

4-19-7 Auto Setup With the Auto Setup Menu

You can perform all the six kinds of auto setup using the Auto Setup menu of the MSU-700A/750.

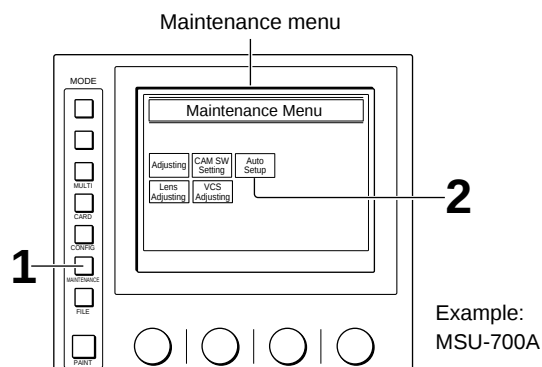
Proceed as follows.

- 1 Press and light the MAINTENANCE button.

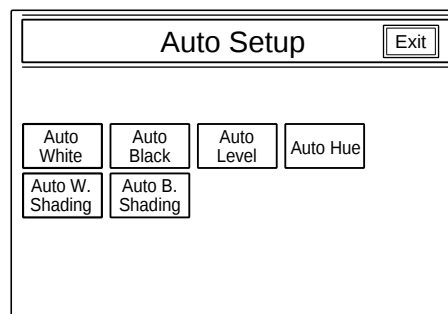
The Maintenance menu appears on the display.

- 2 Press **Auto Setup**.

The Auto Setup adjusting item menu now appears. To return to the Maintenance menu, press **Exit**.



Auto Setup adjusting item menu



- 3 Select the auto setup item by pressing it to set it to inverse video.

Auto White: White balance

Auto Black: Black balance, black set

Auto Level: Master black, RGB black level, RGB gain, black shading, black set)

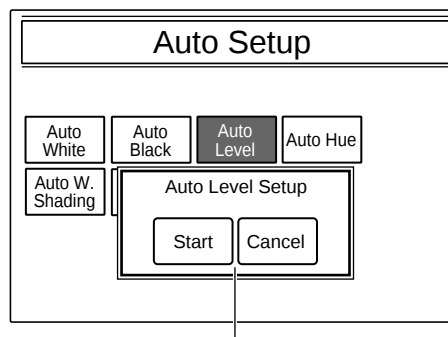
Auto Hue: Hue (skin detail hue channels 1 to 3, and skin tone iris)

Auto W. Shading: White shading

Auto B. Shading: Black shading

The Auto Setup operation area for the selected item appears.

Example: When Auto Level is selected



Auto Setup operation area

(Continued)

4-19 Auto Setup

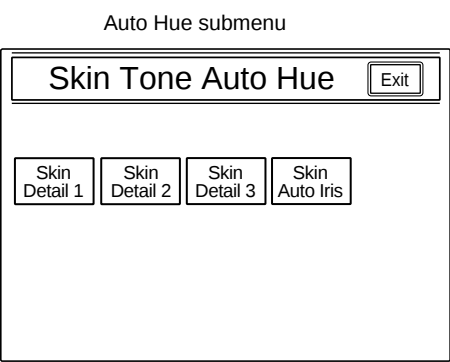
When you press **Auto Hue**, the sub-menus are displayed.

Press and set the desired item to inverse video.

The Auto Setup operation area for the selected item now appears and a gate marker appears in the viewfinder of the camera.

Skin Detail 1 to 3: Skin tone detail (channel 1 to 3)

Skin Auto Iris: Skin tone auto iris



4 Shoot a white pattern for the White balance auto setup (page 4-98) or locate the desired color in the gate marker for the Skin detail auto setup (page 4-99).

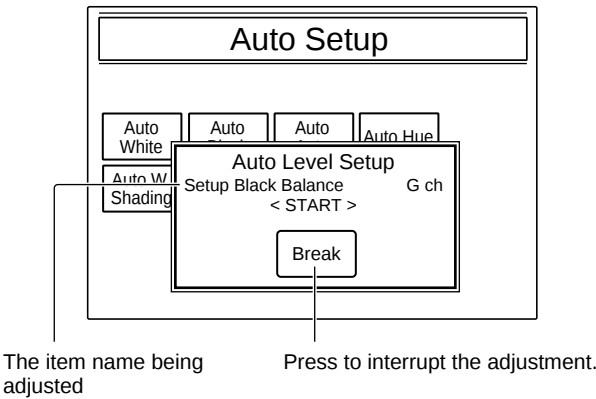
5 Press **Start**.

The auto setup adjustment starts. (When you press **Cancel**, the display in step 2 is retrieved.)

During the adjustment, the name of each item currently being adjusted is displayed in sequence.

When adjustment is finished

A message “Completed” appears and the display in step 2 is retrieved.



6 Press the MAINTENANCE button to release the menu operation mode.

Note

If adjustment is interrupted by pressing **Break** or due to an error, a message and **Exit** appear. Press **Exit** to return to the display in step 2.

4-19-8 Error Messages

If an error occurs during automatic adjustments, an error message appears on a viewfinder screen. Take following measures according to the displayed message.

When the automatic adjustment finishes normally, “Completed” appears on a viewfinder screen.

OVER FLOW

The adjusted value overflowed the adjustable range. Check whether the settings on the camera are correct or not. If they are correct, adjustments of the internal boards are necessary.

For details on the adjustments of the internal boards, consult your Sony service representative.

LOW LEVEL

The video signal level was too low for white balance adjustment, and the white balance could not be adjusted.

Raise the signal level with one of the following methods:

- Use brighter illumination.
- Open the lens iris.
- Raise the gain of the video signal.

OVER LEVEL

The video signal level was too high for white balance adjustment, and the white balance could not be adjusted.

Decrease the signal level with one of the following methods:

- Use darker illumination.
- Close the lens iris.
- Decrease the gain of the video signal.

TIME LIMIT

Automatic adjustment did not finish within a specified period.

Check whether the settings on the camera are correct or not. If they are correct, adjustments of the internal boards are necessary.

For details on the adjustments of the internal boards, consult your Sony service representative.

NOT CLOSE

The lens did not close for black balance adjustment. Check the lens iris.

BREAK

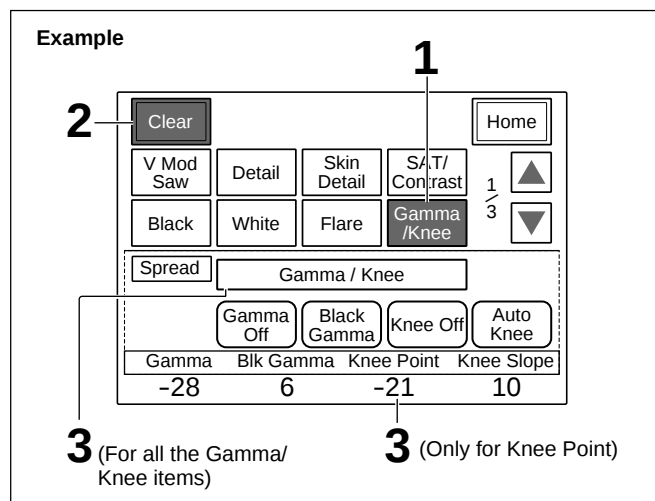
The automatic adjustment was interrupted with the BREAK command. This is not an error.

4-20 Retrieval of the Standard Settings

The adjusted items can be instantly returned to their standard settings.

To retrieve the standard settings for the menu operation block of the MSU-700A/750

Proceed as follows.

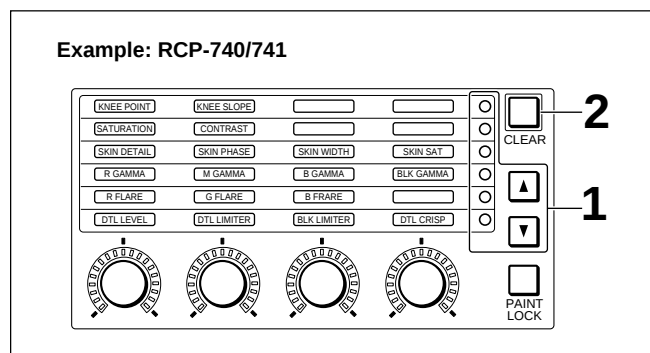


- 1 Select the item (item group) on the menu.
- 2 Press **Clear** to set it to inverse video.
- 3 To retrieve the standard settings for all the parameters (items) of the selected item (item group): Press the name of the item (item group).
 To retrieve standard setting for a certain parameter (item): Press the figure of the set value.

The specified item(s) return(s) to the same setting(s) as that (those) when an auto setup operation is completed or that (those) specified for the reference file.

To retrieve the standard settings for the paint control block of the RCP-720/721/740/741

Proceed as follows.

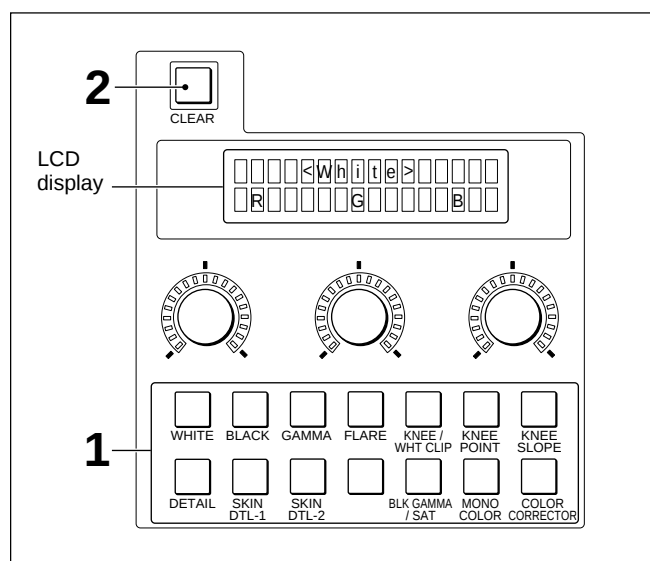


- 1 Press **▲** or **▼** (only **▲** on the RCP-720/721) to light the indicators of the items to be cleared.
- 2 Press and hold the **CLEAR** button for more than 1 second.

The specified items return to the same settings as those when an auto setup operation is completed.

To retrieve the standard settings for the paint control block of the RCP-730/731

Proceed as follows.



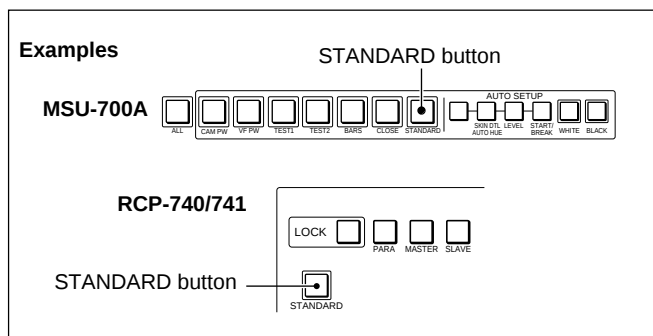
(Continued)

- 1 Press the button for the items to be cleared so that they are displayed on the LCD display.
- 2 Press and hold the CLEAR button for more than 1 second.

The specified items return to the same settings as those when an auto setup operation is completed.

To retrieve with the STANDARD button

When you press the STANDARD button of the MSU-700A/750 or the RCP-720/721/730/731/740/741, the control items return to the same status as when an auto setup operation is completed.



Note that the items for which no setting is stored in the reference file do not change even if you press the STANDARD button.

The following functions are, however, automatically set as follows:

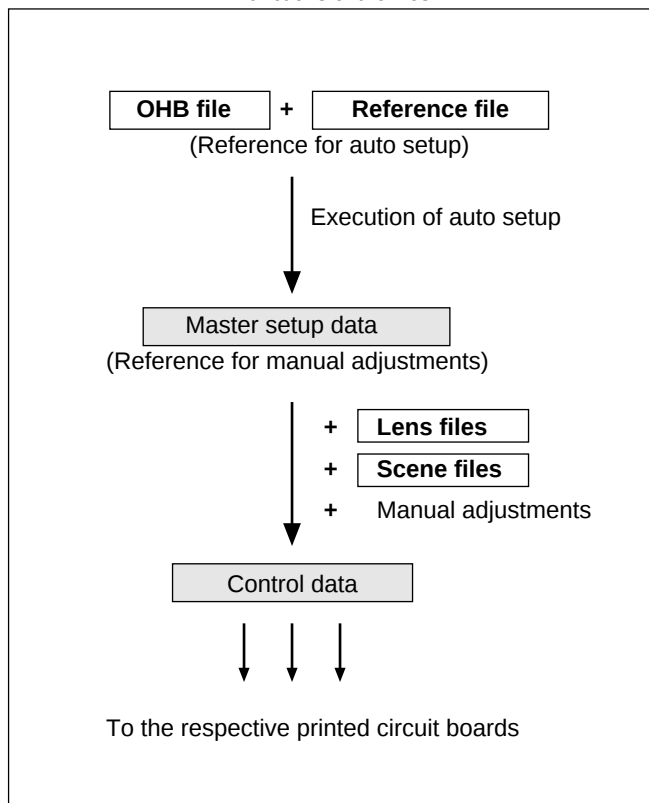
- V modulation, flare, detail, white clip, gamma→ON
- Knee Max→OFF

5-1 File Configuration

This system permits various adjustment data to be stored in the video camera or the CCD unit as files. The following four kinds of files are designed for the system:

- Reference file (stored in the camera)
- OHB file (stored in the CCD unit)
- Lens files (stored in the camera)
- Scene files (stored in the camera)

Functions of the files



Reference file

This file stores the reference values used for automatic setup adjustments and the standard settings of control functions.

When you execute an auto-setup operation on the MSU-700A/750 Master Setup Unit or on the RCP-700-series Remote Control Panel, the corresponding items are adjusted in reference to the settings stored in the reference file.

When you press the STANDARD button or CLEAR button on the MSU-700A/750 or the RCP-700-series panel, any manually adjusted items return to the settings stored in the reference file.

If there is no reference file stored in the camera, the factory-set standard values are used as the reference data.

Items stored

The items which are stored in the reference file are marked with “yes” or “G” in the “R” column of table on the next page.

While a standard setting is defined at the factory for each of these items, you can manually set the desired setting as a standard and store it in the reference file. The reference file data are maintained until new data are set and stored.

Note

For the item marked with “G” in the “R” column of the table, only the value for G is stored in the reference file. R and B are adjusted in reference to the stored G value when you execute the auto setup or retrieve the standard settings.

Scene files

Up to five sets of paint data adjusted for specific scenes can be stored as the scene files.

For example, if you store data prepared in rehearsal for a particular scene in a scene file, the data can be retrieved to reproduce the same camera settings for the actual take.

The scene-file data are maintained until new data are set and stored.

Items stored

The items which are stored in the scene files are marked with “yes” in the “S” column of the table on the next page.

5-1 File Configuration

List of items stored in the reference file or scene files

Item		R	S
Switch settings			
Knee ON/OFF		yes	yes
Detail ON/OFF		always ON	yes
Gamma ON/OFF		always ON	yes
Matrix ON/OFF		yes	yes
Knee aperture ON/OFF		yes	yes
Knee saturation ON/OFF		yes	yes
5600K ON/OFF		no	yes
Auto knee ON/OFF		yes	yes
Skin detail ON/OFF		yes	yes
Saturation ON/OFF		yes	yes
Contrast ON/OFF		yes	yes
Black gamma ON/OFF		yes	yes
Mater Gain setting		yes	yes
ND/CC filter selection		no	yes
Menu settings			
V Mod Saw	V modulation adjustment (master)	no	yes
	V modulation adjustment (R/G/B)	no	yes
Detail	Detail level adjustment	yes	yes
	– limiter adjustment	yes	yes
	– crispening adjustment	yes	yes
	– level dependence adjustment	yes	yes
	– H/V ratio adjustment	yes	yes
	– boost frequency adjustment	yes	yes
	– mix ratio adjustment	yes	yes
	– white limiter adjustment	yes	yes
	– black limiter adjustment	yes	yes
	– fine detail adjustment	yes	yes
	Knee aperture adjustment	yes	yes
	Detail ON/OFF	always ON	yes
	Level dependence ON/OFF	yes	yes
	Fine detail ON/OFF	yes	yes
	Knee aperture ON/OFF	yes	yes
Skin Detail	Skin detail 1 level adjustment	yes	yes
	– 1 Hue adjustment	yes	yes
	– 1 Phase adjustment	yes	yes
	– 1 ON/OFF	always ON	always ON
	Skin detail 2 level adjustment	yes	yes
	– 2 Hue adjustment	yes	yes
	– 2 Phase adjustment	yes	yes
	– 2 ON/OFF	yes	yes
	Skin detail 3 level adjustment	yes	yes
	– 3 Hue adjustment	yes	yes
	– 3 Phase adjustment	yes	yes
	– 3 ON/OFF	yes	yes
SAT/Contrast	Saturation adjustment	yes	yes
	Contrast adjustment	yes	yes
	Saturation ON/OFF	yes	yes
	Contrast ON/OFF	yes	yes

Item		R	S
Black	Master black adjustment	yes	yes
	Black balance adjustment	G	yes
Black Set	Black set adjustment	yes	no
White	White balance adjustment	G(yes) ^{a)}	yes
Flare	Flare balance adjustment	yes	yes
	Flare ON/OFF	always ON	yes
Gamma/Knee	Master gamma adjustment	yes	yes
	Master black gamma adjustment	yes	yes
	Master knee point adjustment	yes	yes
	Mater knee slope adjustment	yes	yes
	Gamma ON/OFF	always ON	yes
	Black gamma ON/OFF	yes	yes
	Knee max ON/OFF	yes	yes
	Knee ON/OFF	yes	yes
Knee Point	Master knee point adjustment	yes	yes
	Knee point (R/G/B) adjustment	yes	yes
	Auto knee ON/OFF	yes	yes
	Knee ON/OFF	yes	yes
Knee Slope	Master knee slope adjustment	yes	yes
	Knee slope (R/G/B) adjustment	G	yes
	Auto knee ON/OFF	yes	yes
	Knee ON/OFF	yes	yes
Knee Sat	Knee saturation adjustment	yes	yes
	Knee saturation ON/OFF	yes	yes
White Clip	White clip adjustment (Master)	yes	yes
	White clip djustment (R/G/B)	yes	yes
	White clip ON/OFF	yes	yes
Gamma	Master gamma adjustment	yes	yes
	Gamma balance adjustment	yes	yes
	Gamma ON/OFF	always ON	yes
	Step gamma setting	yes	yes
Black Gamma	Mater black gamma adjustment	yes	yes
	Black gamma (R/G/B) adjustment	yes	yes
	Black gamma ON/OFF	yes	yes
Auto Knee	Point limit adjustment	yes	yes
	Auto knee slope adjustment	yes	yes
	Adaptive auto knee control ON/OFF	yes	yes
	Auto knee ON/OFF	yes	yes
	Knee ON/OFF	yes	yes
Auto Iris (1)	Auto iris pattern selection	yes	yes
	– hue adjustment	yes	yes
	– width adjustment	yes	yes
	Skin tone auto iris adjustment	yes	yes
	Normal mode selection	yes	yes
Auto Iris (2)	Skin mode selection	yes	yes
	Auto iris level adjustment	yes	yes
	– APL ratio adjustment	yes	yes
	– gain adjustment	yes	yes
	– pattern selection	yes	yes

a) Depends on the Configuration mene setting on the MSU-700A/750.

Item		R	S
ECS/S-EVS	Shutter speed setting	yes	yes
	ECS frequency setting	yes	yes
	S-EVS value setting	yes	yes
	Shutter mode ON/OFF	no	yes
	ECS ON/OFF	no	yes
	S-EVS ON/OFF	yes	yes
Matrix	User matrix adjustment	yes	yes
	User matrix ON/OFF	yes	yes
	Preset matrix ON/OFF	yes	yes
	Multi matrix ON/OFF	yes	yes
Mono Color	Mono Color adjustment	no	yes
	Mono Color ON/OFF	no	yes
Color Correcter	Color corrector adjustment	yes	yes
	Color corrector ON/OFF	yes	yes
Test 2	Test mode setting	yes	no
OHB Matrix	OHB Matrix ON/OFF	yes	no
V Detail Creation Mode	V detail creation mode setting	yes	yes
V Detail Control Mode	V detail control mode setting	yes	no

OHB file

The OHB file stores the offset values of items specific to the CCD unit. Once stored, any repeated storing operation is not necessary, even when you remove and reattach the CCD unit.

In the OHB-700 series CCD units, the standard values are stored at the factory.

Items stored

- White balance offset for the ND filters
- White shading (RGB), black shading (RGB)
- OHB matrix
- APR data
- Black set (RGB)

Lens files

Names of 50 different lenses, their minimum f-stops and standard values are stored at the factory for each unit of the BVP-900-series cameras. The data for 16 of these lenses are registered as the lens files (with file number 0 through 15), and compensation for the lenses is automatically performed.

When using the BVP-950/950P, a file appropriate for the lens to be used must be specified in advance.

When using the BVP-900/900P, a lens file appropriate for the mounted lens is automatically selected.

When required, you can change the compensation data stored in the lens files. The lenses registered in the files can also be changed.

Items stored

- Lens name
- Minimum f-stop
- White (RGB offset for using a lens extender)
- V modulation shading (RGB offset)
- Flare
- Dynamic shading ON/OFF
- Auto iris setting (gain only)

5-2 Storing the Reference File

The reference file is stored in each video camera with a menu operation on the MSU-700A/750.

The reference file can also be stored by using the menu displayed on the viewfinder of the camera.

To operate from the MSU-700A/750

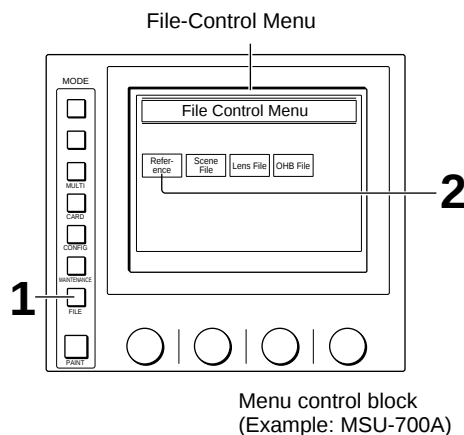
Proceed as follows.

- 1 Press the FILE button of the menu operation block.

The File Control Menu appears on the display.

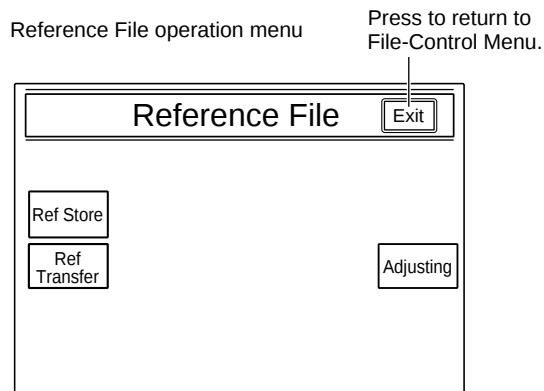
- 2 Press **Reference** of the File Control Menu.

The Reference File operation menu appears.



- 3 Press **Adjusting**.

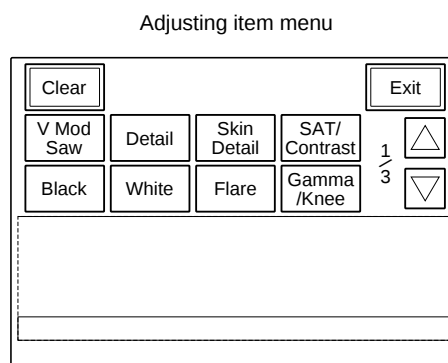
The adjusting item menu appears.



- 4 Referring to “Chapter 4 Adjustments,” perform the necessary adjustments to determine the standard settings.

- 5 When the adjustments are completed, press **Exit** on the upper right of the adjusting item menu.

The display returns to the File-Control Menu.

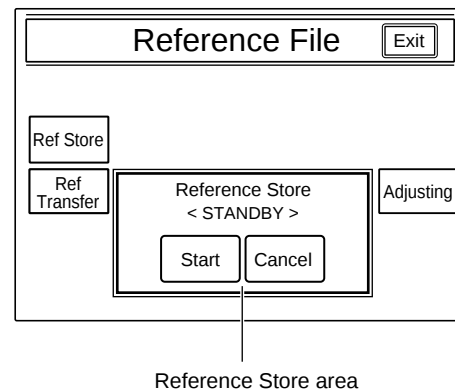


- 6** Press **[Ref Store]** on the Reference File operation menu.

The Reference Store area appears.

- 7** Press **[Start]**.

Reading the current camera settings starts.
When you press **[Cancel]** in place of **[Start]**, the display in step **3** is retrieved.

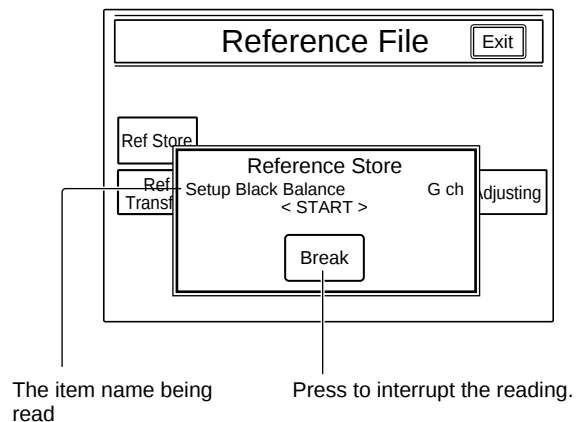


During the reading operation, the name of each item currently being read is displayed in sequence.

When reading is finished

The read data are stored in the camera as the reference file.

When the file storage is completed, a message "Completed" appears and the display in step **3** is retrieved.



- 8** Press the **FILE** button to release the menu operation mode.

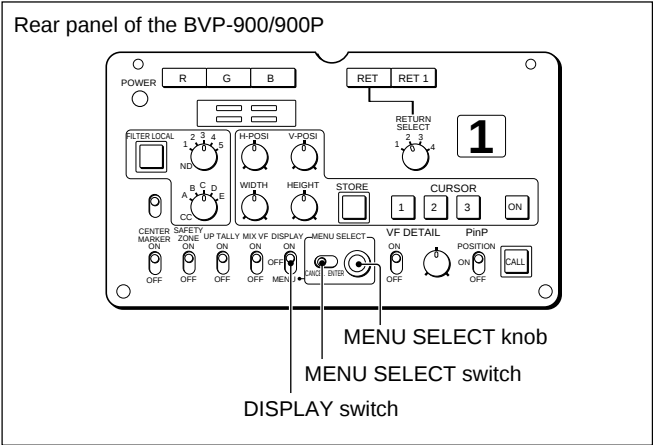
Note

If data reading is interrupted by pressing **[Break]** or owing to an error, a message and **[Exit]** appear. Press **[Exit]** to return to the display in step **3**.

5-2 Storing the Reference File

To operate on the BVP-900/900P

Use the DISPLAY switch, MENU SELECT knob and MENU SELECT switch.



Proceed as follows.

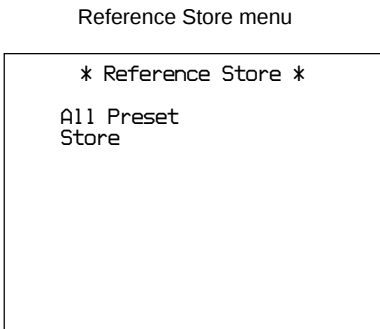
- 1 Adjust the camera using the MSU-700A/750 or the RCP-series units.
- 2 While holding the MENU SELECT switch of the camera towards ENTER, set the DISPLAY switch to MENU.

The Maintenance menu appears in the viewfinder.



- 3 Set the cursor to the “Reference Store” line by turning the MENU SELECT knob, and press the MENU SELECT switch toward ENTER.

The Reference Store menu now appears.



- 4 Set the cursor to the “Store” line by turning the MENU SELECT knob, and press the MENU SELECT switch toward ENTER.

Reading of the current camera settings starts.

To cancel storage

Press the MENU SELECT switch toward CANCEL.

The reading is interrupted and the status before you started the operation is retrieved.

When the reading is completed

The read data are stored in the camera as the reference file.

When the file storage is completed, a message “Completed” appears.

- 5 Press the MENU SELECT switch toward CANCEL to return to the Maintenance menu.

To release the Maintenance menu

Return the DISPLAY switch to OFF.

To operate on the BVP-700/700P upgraded with the BKP-7090/7090P

The camera can use the same menus as those of the BVP-900/900P while the panel configuration differs.

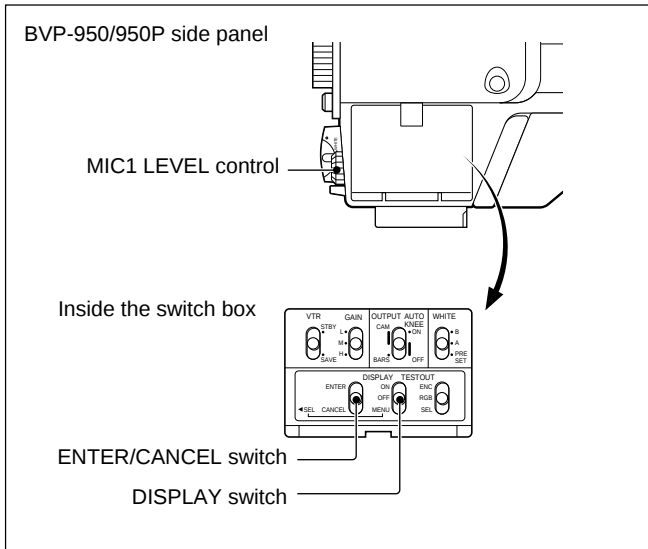
For the operation on the BVP-700/700P, see “7-2-8 Adjustments of the BVP-700/700P Upgraded With the BKP-7090/7090P.”

To operate on the BVP-950/950P

Use the DISPLAY switch, ENTER/CANCEL switch and MIC1 LEVEL control.

Note

When the camera is installed in the CA-905F/905K, use the rear control panel of the CA-905F/905K and operate in the same manner as described for the BVP-900/900P in the previous paragraph.



Proceed as follows.

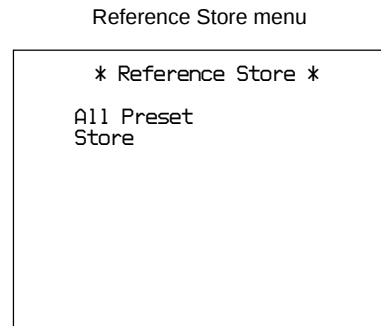
- 1 Adjust the camera using the MSU-700A/750 or the RCP-series units.
- 2 While holding the ENTER/CANCEL switch upward to ENTER, set the DISPLAY switch to MENU.

The Maintenance menu appears in the viewfinder.



- 3 Set the cursor to the “Reference Store” line with the MIC1 LEVEL control, and depress the control once.

The Reference Store menu appears.



- 4 Set the cursor to the “Store” line by turning the MIC1 LEVEL control, and depress the control.

Reading of the current camera settings starts.

To cancel storage

Press the MIC1 LEVEL control again.

The reading is interrupted and the status before you started the operation is retrieved.

When the reading is completed

The read data are stored in the camera as the reference file.

When the file storage is completed, a message “Completed” appears.

- 5 Push the ENTER/CANCEL switch downward to CANCEL to return to the Maintenance menu.

To release the Maintenance menu

Return the DISPLAY switch to OFF.

5-3 Storing the OHB File

The OHB file is created using the MSU-700A/750 menu operation and stored in the OHB unit. It also can be made on each camera using the menu displayed on the viewfinder.

Note

Before creating the OHB file, store the reference file and execute Auto Level Setup or press the STANDARD button to set the camera to standard settings.

Note that, however, the auto level setup is to be performed after “All Preset” (see “3-3-1 Resetting the Control Signals”) is executed on the camera’s menu.

To create the OHB file using the MSU-700A/750

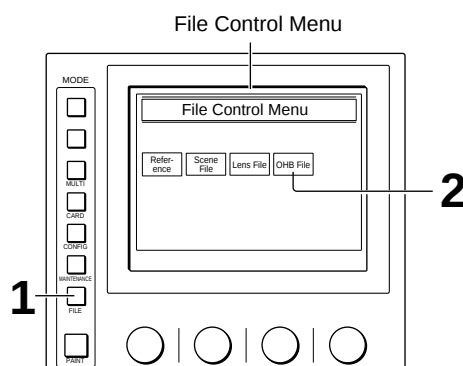
Operating procedure

1 Press the FILE button.

The File Control Menu appears on the display.

2 Press **[OHB File]** on the File Control Menu.

The OHB File menu now appears.



Example: MSU-700A

3 Adjust the items to be stored in the OHB file.

For manual adjustments, press **[Adjusting]** to display the OHB manual adjusting menu.

Adjustment items

• White shading

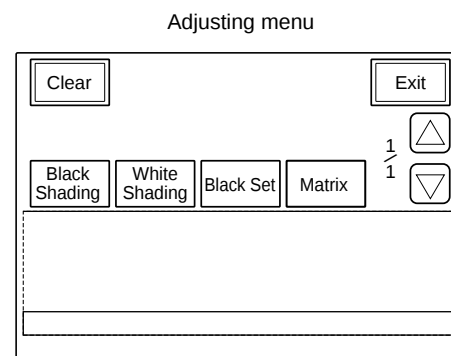
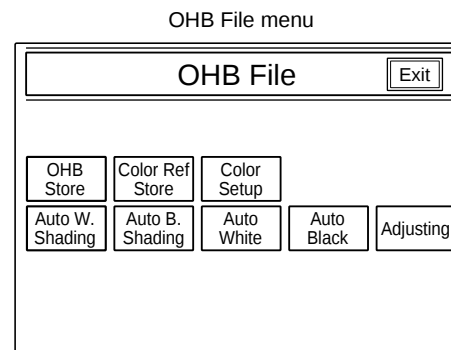
Press **[Auto W. Shading]** on the OHB File menu to execute the automatic white-shading adjustment. To manually adjust white shading, press **[Adjusting]** to display the OHB manual adjusting menu, then press **[White Shading]** on the menu.

• Black shading

Press **[Auto B. Shading]** on the OHB File menu to execute automatic black-shading adjustment. To manually adjust black shading, press **[Adjusting]** to display the OHB manual adjusting menu, then press **[Black Shading]** on the menu.

• Black set

Press **[Auto Black]** of the OHB File menu to execute automatic black-balance adjustment. To manually adjust black set, press **[Adjusting]** to display the OHB manual adjusting menu and press **[Black Set]** on the menu.



• ND filter compensation

Perform white-balance compensation when switching ND filters by proceeding as follows.

- 1) Shoot a white object and set Auto Iris to ON.
- 2) Set the ND filter to 1 and execute the automatic white-balance adjustment by pressing **Auto White** on the OHB File menu.
- 3) When the adjustment is successfully completed, change the ND filter to 2 and perform the automatic white-balance adjustment in the same manner.
- 4) Perform the automatic white-balance adjustment for ND filter 3, 4 and 5 in the same manner.

• OHB matrix

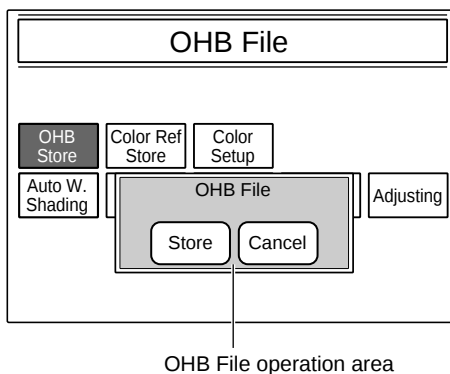
Press **Matrix** of the Adjusting menu to obtain the Matrix adjustment display. The adjustment method is the same as that for the user matrix (page 4-80). If the matrix compensation between cameras is not to be made, manually set R–G, G–B, B–R, R–B, G–R, and B–G of the matrix to 0.

- 4 When the adjustments of all items are completed, press **OHB Store** on the OHB File menu.

The OHB File store operation area appears.

- 5 Press **Store**. (To quit the store operation, press **Cancel**.)

When you press **Store**, the OHB file store operation begins.

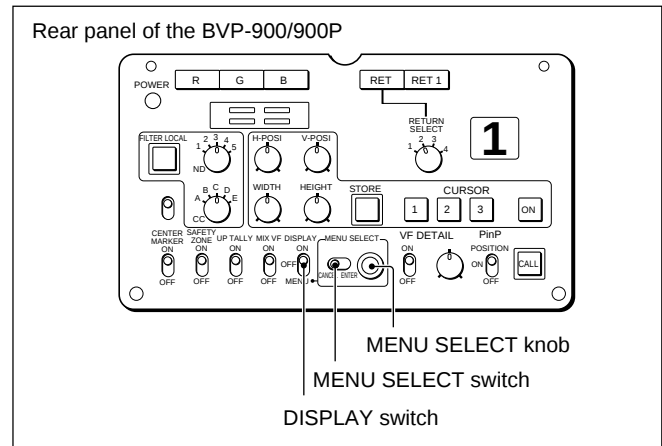


When the store operation is completed

The message “OHB File Stored” is displayed, and the OHB File store operation area disappears.

To create the OHB file using the BVP-900/900P

For the operations, use the DISPLAY switch, MENU SELECT knob and switch.



Note

Before creating the OHB file, perform Auto Level Setup with the reference file or press the STANDARD button on the MSU-700A/750 or the RCP-series panels to set the camera to the standard settings. Note that, however, the auto level setup is to be performed after “All Preset” (see “3-3-1 Resetting the Control Signals”) is executed on the camera’s menu.

Operating procedure

- 1 While holding the MENU SELECT switch toward ENTER, set the DISPLAY switch to MENU.

The Maintenance menu appears in the viewfinder.



(Continued)

5-3 Storing the OHB File

- 2** Move the cursor to “OHB File Store” by turning the MENU SELECT knob, then press the MENU SELECT switch toward ENTER.

The OHB File Setup menu now appears.



- 3** Adjust the items to be stored in the OHB file.
- 1)** Move the cursor to one of the items (Auto Black Shading, Auto White Shading or Auto Black Balance) using the MENU SELECT knob.
- 2)** Press the MENU SELECT switch toward ENTER.
- Auto Setup for that item begins.

To activate the 3D shading compensation for Auto White Shading, set the cursor to “3D Shading” and press the MENU SELECT switch toward ENTER to set it to “ON.”

When Auto setup is completed, the message “Completed” appears.

To cancel the auto setup

Press the MENU SELECT switch toward ENTER again. The message “Break” appears, then the status before starting Auto setup is resumed.

- 4** Turn the MENU SELECT knob and move the arrow to the “Store” line, then press the MENU SELECT switch toward ENTER.

Reading of the current settings begins.

When reading is completed

The read data are stored in the OHB unit as the OHB file.

When file storage is completed, the message “Completed” appears.

- 5** Slide the MENU SELECT switch toward CANCEL return to the Maintenance menu.

To clear the OHB file data

Move the cursor to “Reset OHB File” on the OHB File Setup menu, then press the MENU SELECT switch toward ENTER.

To release the Maintenance menu

Return the DISPLAY switch to OFF.

To operate on the BVP-700/700P upgraded with the BKP-7090/7090P

The camera can use the same menus as those of the BVP-900/900P while the panel configuration differs.

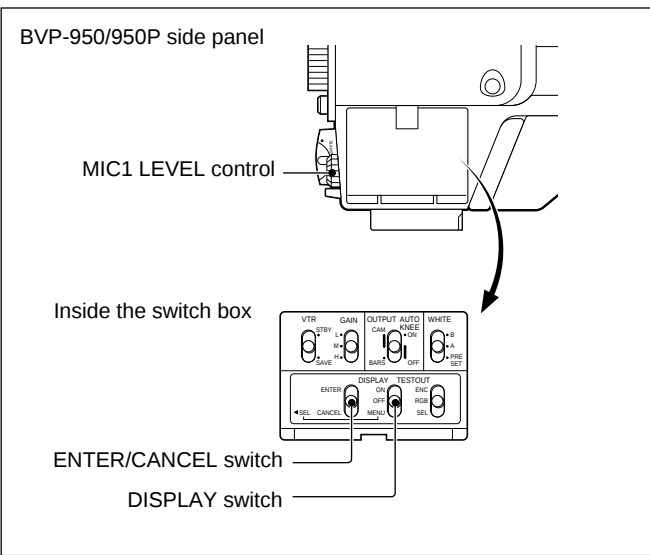
For the operation on the BVP-700/700P, see “7-2-8 Adjustments of the BVP-700/700P Upgraded With the BKP-7090/7090P.”

To create the OHB file using the BVP-950/950P

For the operations, use the ENTER/CANCEL switch, DISPLAY switch and MIC1 LEVEL control.

Note

When the camera is installed in the CA-905F/905K, use the rear control panel of the CA-905F/905K and operate in the same manner as described for the BVP-900/900P in the previous paragraph.



Note

Before creating the OHB file, perform Auto Level Setup with the reference file or press the STANDARD button on the MSU-700A/750 or the RCP-series panels to set the camera to the standard settings.

Note that, however, the auto level setup is to be performed after “All Preset” (see “3-3-1 Resetting the Control Signals”) is executed on the camera’s menu.

Operating procedure

- 1 While holding the ENTER/CANCEL switch upward to ENTER, set the DISPLAY switch to MENU.

The Maintenance menu appears in the viewfinder.

Maintenance menu

```

* Maintenance Menu *

System Setup
Reference Store
Lens File Store
OHB File Store
Auto Iris Setup
RPN Correct

29F040-BVP-900 X.XX X

menu sel --> enter
          
```

- 2 Move the cursor to “OHB File Store” by turning the MIC1 LEVEL control, then press the control.

The OHB File Setup menu now appears.

OHB File Setup menu

```

* OHB File Setup *

Reset OHB File
Auto Black Shading
Auto White Shading
Auto Black Balance
3D Shading : ON
Store
          
```

- 3 Adjust the items to be stored in the OHB file.
 - 1) Move the cursor to one of the items (Auto Black Shading, Auto White Shading or Auto Black Balance) using the MIC1 LEVEL control.
 - 2) Press the control.
Auto Setup for that item begins.

To activate the 3D shading compensation for Auto White Shading, set the cursor to “3D Shading” and press the MIC1 LEVEL control to set it to “ON.”

When Auto setup is completed, the message “Completed” appears.

To cancel the auto setup

Press the MIC1 LEVEL control again. The message “Break” appears, then the status before starting Auto setup is resumed.

- 4 Move the cursor to the “Store” line by turning the MIC1 LEVEL control, then press the control.

Reading of the current settings begins.

When reading is completed

The read data are stored in the OHB unit as the OHB file.

When file storage is completed, the message “Completed” appears.

- 5 Press the ENTER/CANCEL switch downward to CANCEL to return to the Maintenance menu.

To clear the OHB file data

Move the cursor to “Reset OHB File” on the OHB File Setup menu, then press the MIC1 LEVEL control.

To release the Maintenance menu

Return the DISPLAY switch to OFF.

5-4 Selecting and Modifying the Lens Files

The data (name, f-stop at the open end and reference value) for 50 lenses are preset and stored in the camera at the factory. Sixteen of them are stored as lens files, and the required compensation specific for the mounted lens is automatically performed.

With the BVP-950/950P, select an appropriate lens file for the mounted lens in advance.

With the BVP-900/900P and BVP-950/950P installed in the CA-905F/905K, the lens file appropriate for the mounted lens is automatically selected.

The values in the lens files can be changed and newly stored when required. Perform the Change and Newly store operations from the MSU-700A/750 or on the camera using the viewfinder displays.

When using the MSU-700A/750, you can change the data of the files for the mounted standard lens.

By operating on the camera, you can also change the files to use lenses other than the 16 standard lenses as well as the data of the files for the mounted standard lens.

5-4-1 Selecting the Lens File (BVP-950/950P)

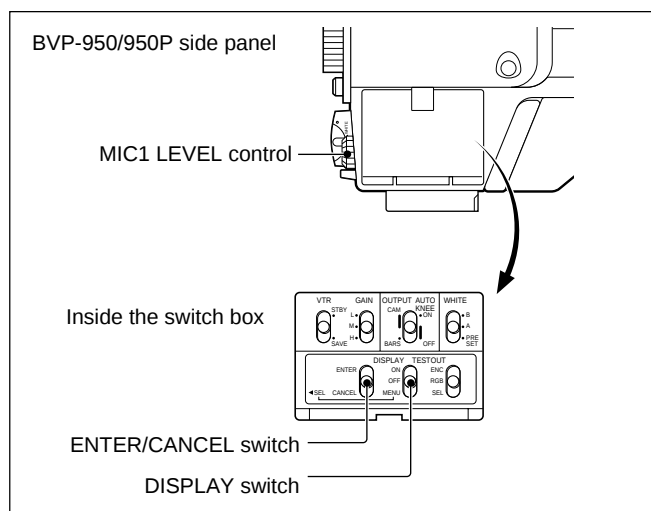
When using the BVP-950/950P, first select the lens file appropriate for the mounted lens.

Notes

- This operation is not necessary with the BVP-900/900P, because it automatically selects the lens file appropriate for the lens mounted on the camera.
- When the BVP-950/950P is installed in the CA-905F/905K, use the rear control panel of the CA-905F/905K for menu operation.
- The lens-file selection is effective until you next change it. As long as you use the same lens, repeating lens-file selection is not necessary.
- The data of the selected file can also be changed when required.

To select on the camera

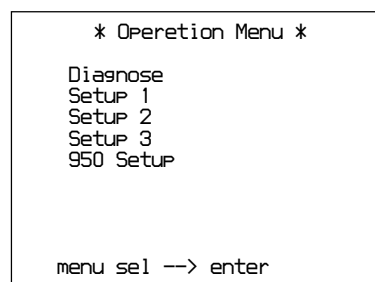
Operating procedure



1 Set the DISPLAY switch to MENU.

The Operation menu appears in the viewfinder.

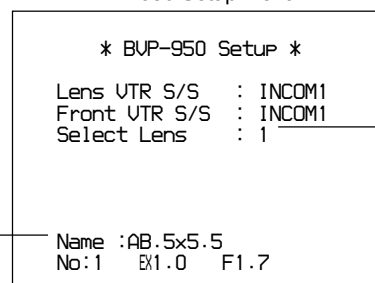
Operation menu



2 Turn the MIC1 LEVEL control to move the cursor to the “950 Setup” line, then press the control.

The BVP-950 Setup menu now appears.

BVP-950 Setup menu



The data in the file are displayed.

Name: Name of the lens

No: Lens file number

EX: Lens extender vaslue

F: Minimum f-stop

- 3** Turn the MIC1 LEVEL control to move the cursor to the “Select Lens” line, then press the control.
- 4** Turn the MIC 1 LEVEL control to select the file corresponding to the lens to be used.
- 5** When the desired file number is displayed, press the MIC 1 LEVEL control.

- 6** Press the ENTER/CANCEL switch downward to CANCEL to return to the Operation menu.

To release the Operation menu

Return the DISPLAY switch to OFF.

To operate from the MSU-700A/750

Preparation

Specify the number of the camera to be adjusted, with the camera select button.

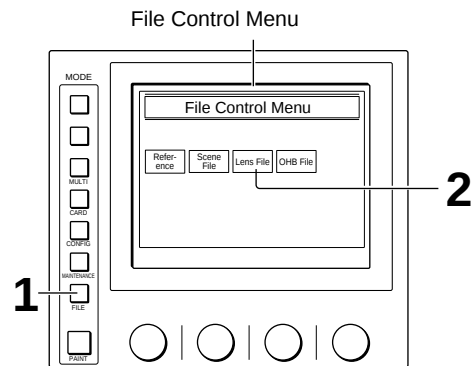
Operating procedure

- 1** Press the FILE button of the menu operation block.

The File Control Menu appears on the display.

- 2** Press **Lens File** of the File Control Menu.

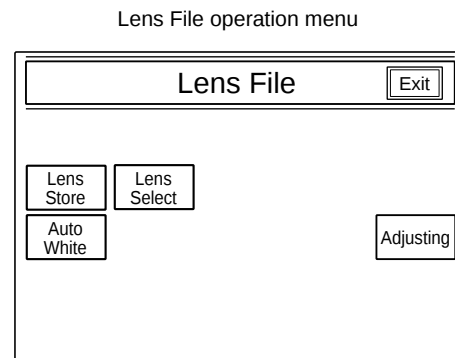
The Lens File operation menu appears.



Example: MSU-700A

- 3** Press **Lens Select**.

The Lens File Selection display now appears.

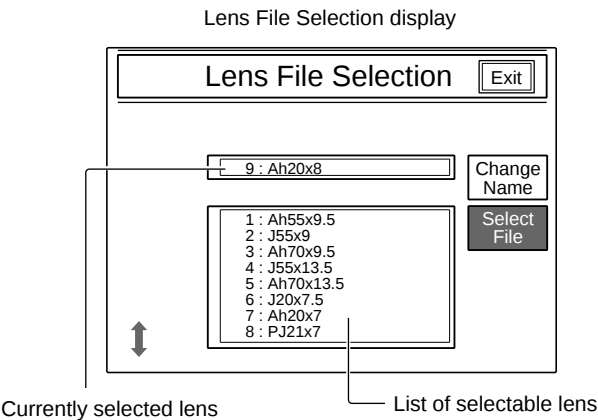


(Continued)

5-4 Selecting and Modifying the Lens Files

- 4** Set the cursor in the lens list to the lens to be used by turning the left-most control, then press **Select File**.

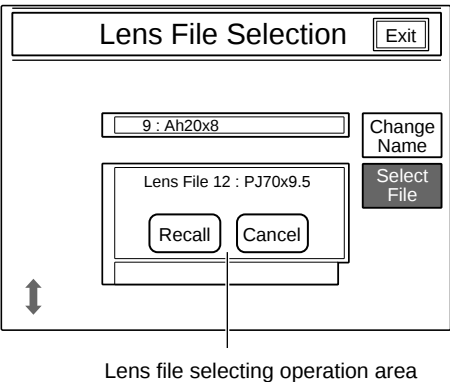
The lens file selecting operation area appears.



- 5** Press **Recall**.

The lens file is replaced and the Lens File Selection display is resumed.

- 6** Press **Exit**.



5-4-2 Adjusting the Lens File Data

You can change the compensation data of the lens file for the mounted lens.

Note

Before changing the file data, press the STANDARD button on the MSU-700A/750 or the RCP-series panels to set the camera to the standard settings.

To operate from the MSU-700A/750

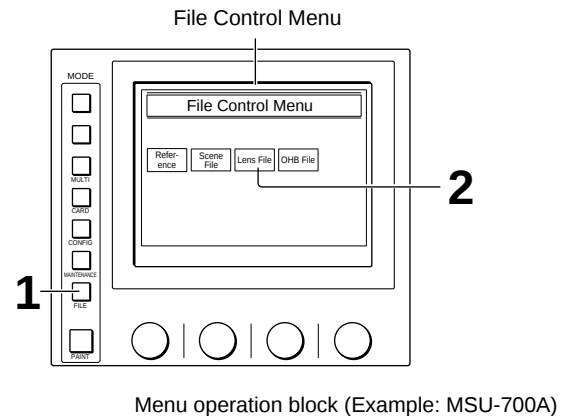
Operating Procedure

- 1 Press the FILE button.

The File Control Menu appears on the display.

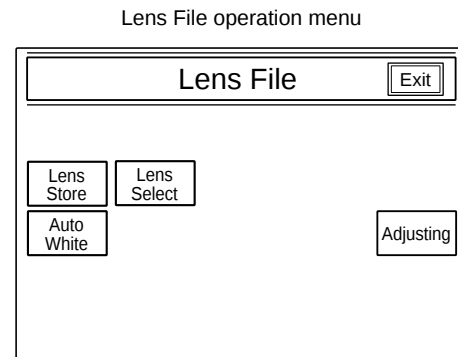
- 2 Press **Lens File** on the File Control Menu.

The Lens File operation menu appears.



- 3 Turn the lens extender off.

- 4 Perform White Auto Setup (page 4-98) by pressing **White** to determine the reference values for the selected lens extender position.

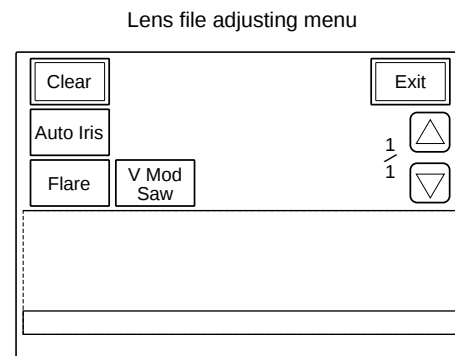


- 5 Press **Adjusting**.
(To return to the File Control Menu, press **Exit**.)

The Lens file adjusting menu now appears.

Pressing **Auto Iris** selects the Auto Iris adjustment display (page 4-43), pressing **Flare** selects the Flare adjustment display (page 4-62). Perform the adjustments as required.

(Continued)



5-4 Selecting and Modifying the Lens Files

To adjust the V modulation shading

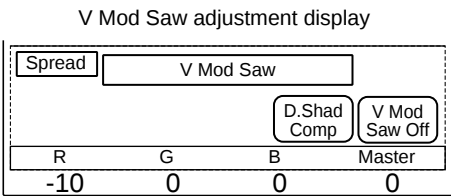
- 1) Press **[V Mod Saw]**.
The lower half of the display becomes the V Mod Saw adjustment display.
- 2) Adjust the V modulation shading with the control knobs.

To independently adjust R, G, and B:

Use the left three control knobs.

To adjust R, G, and B in combination:

Use the right-most (Master) control knob.



To turn off the V modulation shading

Press **[V Mod Saw Off]** to set it to inverse video. The V modulation shading is turned off to permit a comparison with the V modulation shading ON status.

To turn on the Dynamic V shading compensation

When using a lens which has the dynamic V shading compensation function, you can turn it on by pressing **[D.Shad Comp]** to set it to inverse video to permit the V shading to be adjusted to the optimum setting value according to the lens status.

- 6 When the adjustments are completed, press **[Exit]** to return to the Lens File operation menu.

- 7 Press **[Lens Store]** of the Lens File operation menu.

The Lens File store operation area appears.

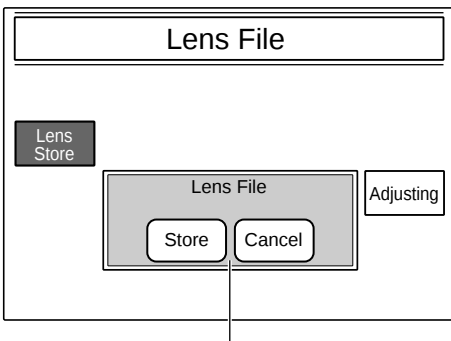
- 8 Press **[Store]**. (To cancel the operation, press **[Cancel]**.)

When you press **[Store]**, reading of the set values begins.

When reading is completed

The file data are replaced with the read data, and the file is newly stored in the camera.

When the store operation is completed, the message “Lens File Stored” appears, and the Lens File store operation area disappears.



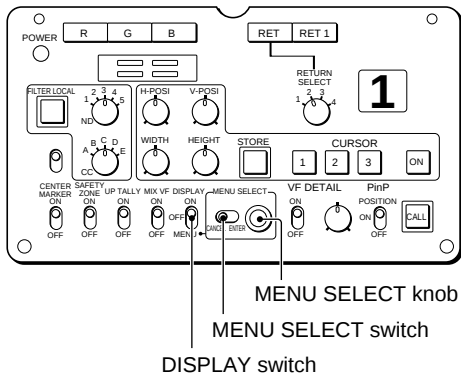
Lens File store operation area

- 9 Press the FILE button to release the menu operation mode.

To operate on the BVP-900/900P

Use the DISPLAY switch, MENU SELECT knob and switch.

Rear panel of the BVP-900/900P

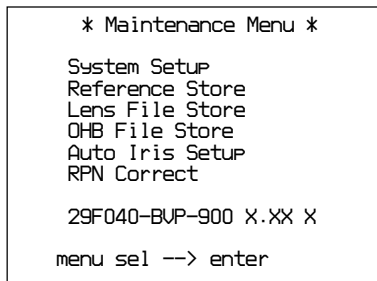


Operating procedure

- 1 While holding the MENU SELECT switch toward ENTER, set the DISPLAY switch to MENU.

The Maintenance menu appears.

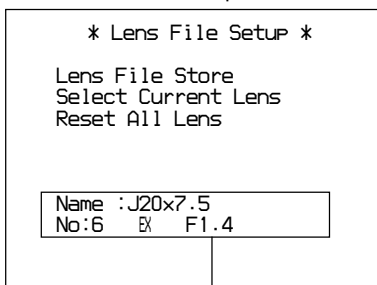
Maintenance menu



- 2 Turn the MENU SELECT knob to set the cursor to “Lens File Store,” then press the MENU SELECT switch toward ENTER.

The Lens File Setup menu appears.

Lens File Setup menu



The data in the current file are displayed.

Name: Name of the lens

No: Lens file number

EX: Lens extender value

F: Minimum f-stop

- 3 Operate the lens to turn off the lens extender.
- 4 Referring to Chapter 4, adjust the V modulation shading, flare and white for R and B.
- 5 Check that the cursor is set at “Lens File Store” (if not, turn the MENU SELECT knob to move the cursor), then press the MENU SELECT switch toward ENTER.
- 6 Return the lens extender to the ON status and adjust the V modulation shading flare and white for R and B.
- 7 Check that the cursor is set at “Lens File Store,” then press MENU SELECT switch toward ENTER.

The file is changed according to the values adjusted in step 4 and 6, and the message “Completed” is displayed.

To return the lens file to the factory settings

Turn the MENU SELECT knob to set the cursor to “Reset All Lens,” then press MENU SELECT switch toward ENTER.

The factory settings are restored in all the lens files.

- 8 When the Change operation is completed, press the MENU SELECT switch toward CANCEL to return to the Maintenance menu.

To release the Maintenance menu

Return the DISPLAY switch to OFF.

To operate on the BVP-700/700P upgraded with the BKP-7090/7090P

The camera can use the same menus as those of the BVP-900/900P while the panel configuration differs.

For the operation on the BVP-700/700P, see “7-2-8 Adjustments of the BVP-700/700P Upgraded With the BKP-7090/7090P.”

5-4 Selecting and Modifying the Lens Files

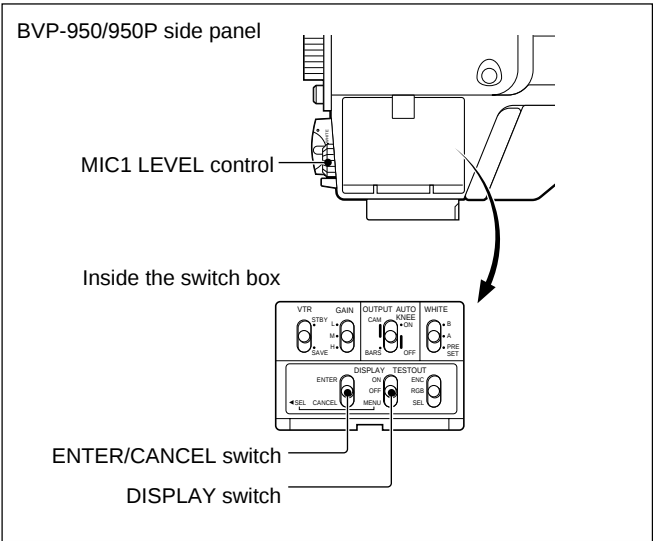
To operate on the BVP-950/950P

When using the BVP-950/950P, select in advance the file corresponding to the mounted lens.
For file selection, see “5-4-1 Selecting the Lens File (BVP-950/950P).”

Use the ENTER/CANCEL switch, DISPLAY switch and MIC1 LEVEL control.

Note

When the camera is installed in the CA-905F/905K, use the rear control panel of the CA-905F/905K and operate in the same manner as described for the BVP-900/900P in the previous paragraph.



Operating procedure

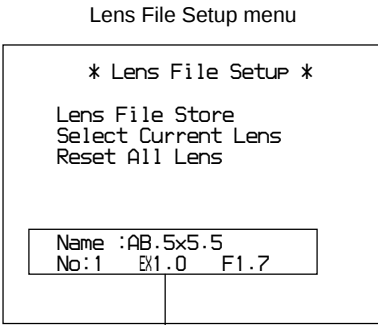
- 1 While holding the ENTER/CANCEL switch upwards to ENTER, set the DISPLAY switch to MENU.

The Maintenance menu appears.



- 2 Move the cursor to “Lens File Store” by turning the MIC1 LEVEL control, then press the control.

The Lens File Setup menu appears.



The data in the current file are displayed.

Name: Name of the lens
No: Lens file number
EX: Lens extender value
F: Minimum f-stop

- 3 Operate the lens to turn off the lens extender.
- 4 Referring to Chapter 4, adjust the V modulation shading, flare and white for R and B.
- 5 Check that the cursor is set at “Lens File Store” (if not, move the cursor using the SET switch), then depress the MIC1 LEVEL control.
- 6 Return the lens extender to the ON status and adjust the V modulation shading flare and white for R and B.
- 7 Check that the cursor is set at “Lens File Store,” then press the MIC1 LEVEL control.

The file is changed according to the values adjusted in steps 4 and 6, and the message “Completed” is displayed.

To return the lens file to the factory settings

Move the cursor to “Reset All Lens,” then depress the MIC1 LEVEL control.

The factory settings are restored in all the lens files.

- 8 When the change operation is completed, press the ENTER/CANCEL switch downward to CANCEL to return to the Maintenance menu.

To release the Maintenance menu

Return the DISPLAY switch to OFF.

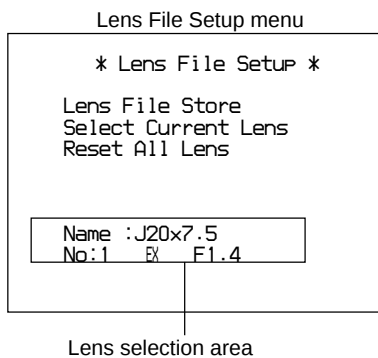
5-4-3 Changing the Registered Lens

When using a lens other than the registered in lens files, change the lens name of a file.

To change a file of the BVP-900/900P

- 1 While holding the MENU SELECT switch toward ENTER, set the DISPLAY switch to MENU to display the Maintenance menu (page 5-17).
- 2 Turn the MENU SELECT knob to set the cursor to “Lens File Store,” then press the MENU SELECT switch toward ENTER.

The Lens File Setup menu appears.



- 3 Turn the MENU SELECT knob to set the cursor to “Select Current Lens,” then press the MENU SELECT switch toward ENTER.
- The cursor appears in the lens selection area.
- 4 Turn the MENU SELECT knob to scan the lens names specified for No. 0 through 49.
 - 5 When the name of the mounted lens appears, press the MENU SELECT switch toward ENTER.
 - 6 Press the MENU SELECT switch to CANCEL to return to the Maintenance menu.

To operate on the BVP-700/700P upgraded with the BKP-7090/7090P

The camera can use the same menus as those of the BVP-900/900P while the panel configuration differs.

For the operation on the BVP-700/700P, see “7-2-8 Adjustments of the BVP-700/700P Upgraded With the BKP-7090/7090P.”

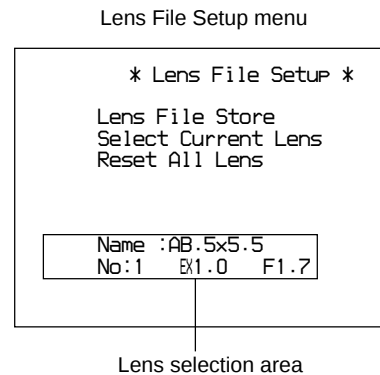
To change a file of the BVP-950/950P

Note

When the camera is installed in the CA-905F/905K, use the rear control panel of the CA-905F/905K and operate in the same manner as described for the BVP-900/900P in the previous paragraph.

- 1 While holding the ENTER/CANCEL switch upward to ENTER, set the DISPLAY switch to MENU to display the Maintenance menu (page 5-18).
- 2 Set the cursor to “Lens File Store” by turning the MIC1 LEVEL control, then press the control.

The Lens File Setup menu appears.



- 3 Set the cursor to “Select Current Lens” by turning the MIC1 LEVEL control, then press the control.
- The cursor appears in the lens selection area.
- 4 Turn the MIC1 LEVEL control to scan the lens names specified for No. 0 through 49.
 - 5 When the name of the mounted lens appears, press the MIC1 LEVEL control.
 - 6 Press the ENTER/CANCEL switch downward to CANCEL to return to the Maintenance menu.

5-4 Selecting and Modifying the Lens Files

To operate from the MSU-700A/750

Preparation

Specify the number of the camera to be adjusted, with the camera select button.

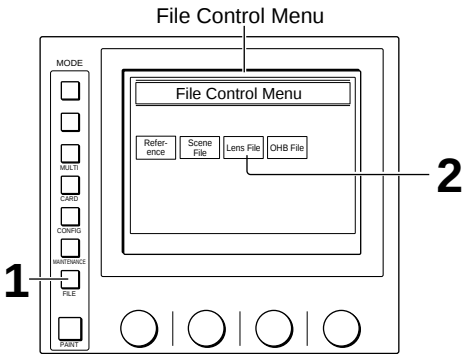
Operating procedure

- 1 Press the FILE button of the menu operation block.

The File Control Menu appears on the display.

- 2 Press **Lens File** of the File Control Menu.

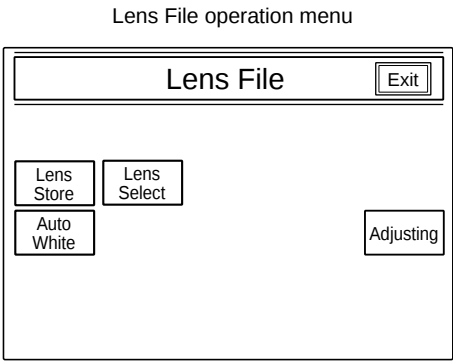
The Lens File operation menu appears.



Example: MSU-700A

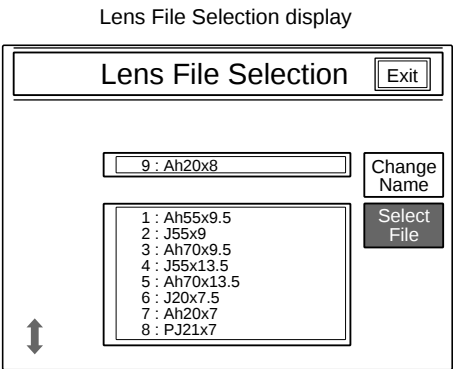
- 3 Press **Lens Select**.

The Lens File Selection display now appears.



- 4 Press **Change Name**.

The character input display now appears.



- 5** Move the cursor in the file name field with the left-most control and the cursor in the character selection area with the second left control to select a character.

To overwrite the character in the cursor position in the file name field

Press **[Ovw]** to set it to inverse video.

To insert a character before the cursor position

Press **[Ins]** to set it to inverse video.

To delete the character in the cursor position

Press **[Del]**.

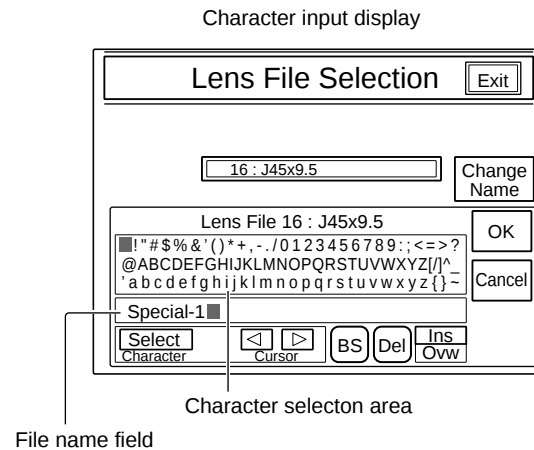
To delete the character before the cursor position

Press **[BS]**.

- 6** Press **[Select]**.

- 7** Repeat steps **5** and **6** for the desired file name.

- 8** When the desired name is set, press **[OK]**.



5-5 Storing and Retrieving the Scene Files

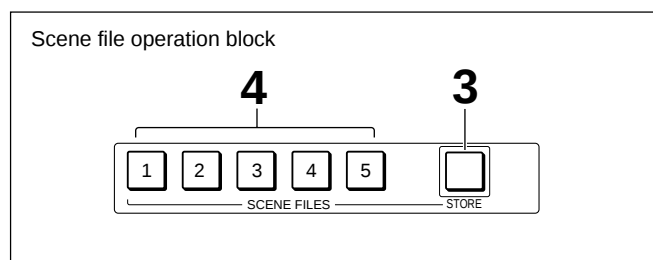
The scene files can be stored and retrieved through button operations either on the MSU-700A/750 or on the RCP-720/721/730/731/740/741.

5-5-1 Storing a Scene File

Proceed as follows.

When you specify the number of the file in which data have already been stored, the previous data will be erased and replaced with the new data.

To store using the MSU-700A/750 or RCP-720/721/740/741

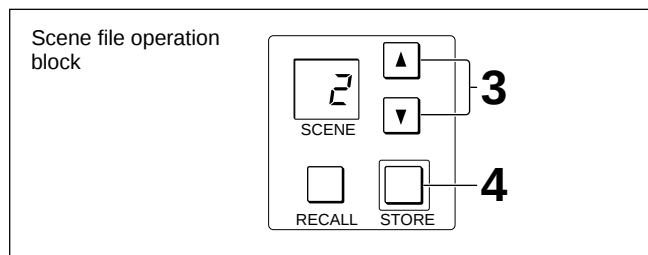


- 1 Referring to “4-19 Auto Setup,” perform the auto setup operations.
- 2 Referring to “Chapter 4 Adjustments,” adjust the necessary items according to the scene.
- 3 Press the STORE button of the scene file control block so that it flashes.
- 4 Press the SCENE FILES button of the desired file number.

The button lights up and the current settings are stored in the scene file of the specified number.

When the storage is completed, the STORE button goes dark.

To store using the RCP-730/731



- 1 Referring to “4-19 Auto Setup,” perform the auto setup operations.
- 2 Referring to “Chapter 4 Adjustments,” adjust the necessary items according to the scene.
- 3 Press the ▲ or ▼ button in the scene file operation block until the desired file number appears.
- 4 Press the STORE button.

The current settings are stored in the scene file of the specified number.

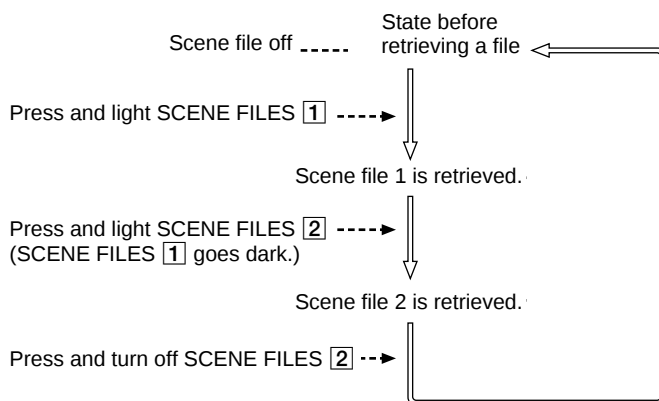
5-5-2 Retrieving a Scene File

To retrieve using the MSU-700A/750 or RCP-720/721/740/741

Press the SCENE FILES button of the desired number. The pressed button lights and the data stored in the specified file are retrieved.

- When another SCENE FILE button is subsequently pressed, the lit button goes dark, the newly pressed button lights and the data of the newly specified file are retrieved.
- When you press the lit SCENE FILES button, the pre-retrieval state is retrieved.

Example



Note

When you retrieve a scene file on the RCP-720/721/740/741, the manual adjustment mode of the white balance and black balance is set to Relative mode. To use the center positions of the WHITE and BLACK controls as the reference position after the file retrieval, set all the WHITE and BLACK controls to their center position before retrieving a file.

To retrieve using the RCP-730/731

- 1 Press the ▲ or ▼ button in the scene file operation block until the desired file number appears.
- 2 Press the RECALL button.

The RECALL button lights when the specified file is retrieved.

5-6 File Transfer

The MSU-700A/750 permits you to store the reference file and scene files you have made in IC memory card and use them when required.

Reference files can be stored one by one, and the scene files are stored in groups of five files (scene-file group).

5-6-1 About IC Memory Cards

Applicable IC Memory Cards

Standards: PCMCIA standards (Release 1.0 or higher)

Card type: SRAM cards

Recommended IC Memory Cards

Use of SRAM cards with attribute memory is recommended.

Number of files

Store only one reference file per card regardless of the cards' memory size.

Scene files can be stored, loaded and deleted by group units.

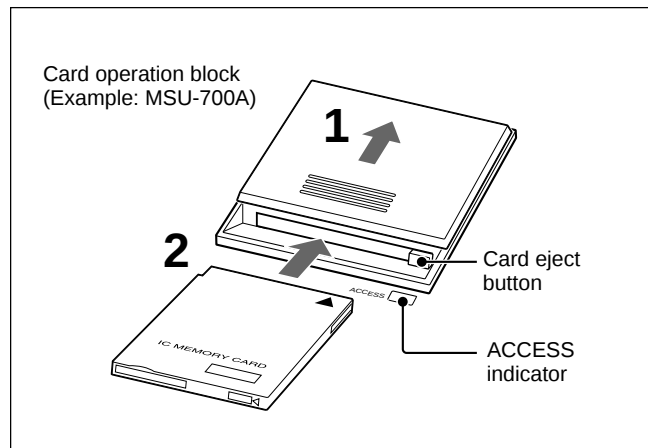
The numbers of files to be stored in a card depends on the size as shown below.

Size (bytes)	Number of scene file
60K	10 groups (50 scene files)
128K	20 groups (100 scene files)
256K	40 groups (200 scene files)
512K	80 groups (400 scene files)
1M	More than 160 groups (More than 800 scene files)
2M	More than 320 groups (More than 1600 scene files)

The numbers shown above are rough estimates for the BVP-900-series cameras.

5-6-2 Inserting/Ejecting an IC Card

To insert a card



1 When using the MSU-700A, slide the cover to open the card operation block.
(There is no cover for the card slot of the MSU-750.)

2 Insert the card into the slot.

When the card is correctly set, the ACCESS indicator lights in green.

Note

The data in the memory card is maintained by the battery built into the card. If the battery is exhausted, the data in the card will be lost. You can check the battery condition by the ACCESS indicator (see next page). If the battery becomes weak, replace the battery with a new one as soon as possible.

For replacement of the battery, refer to the instructions supplied with the IC memory card.

To eject a card

Press the card eject button.

Note

Do not eject a card when the ACCESS indicator is lit in red (it means that the data is being read from or written to the card). This may erase data stored in the card.

ACCESS indication

The ACCESS indicator on the MSU-700A/750 shows the status of the IC memory card.

Indication	Meaning or Measures
Off	No card is inserted
Lit in green	There is a card in the slot. (The battery condition is good.)
Lit in orange	The battery of the card in the slot begins losing its charge. Although the data are still maintained, replace the battery at the earliest opportunity.
Flashes in orange	The battery of the card in the slot is almost exhausted. While the card stays in the MSU-700A/750, the MSU-700A/750 supplies the power to the card. However when the card is ejected, the data cannot be maintained. Replace the battery before using.
Lit in red	Data are being read/written. If you eject the disc in this condition, the data is not guaranteed. All the data may be lost.

5-6-3 Initializing the IC Card

It is necessary to initialize the IC card before using it for the first time.
If you insert a card which has not been initialized in the MSU-700A/750, the message “Memory Card No Initialize” appears. Initialize the card using the IC Memory Card Menu.

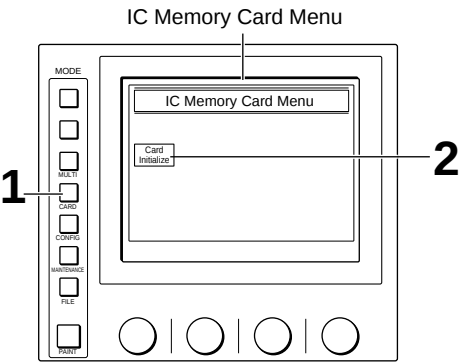
Proceed as follows.

- 1 Press the CARD button of the menu operation block of the MSU-700A/750.

The IC Memory Card Menu appears.

- 2 Press Card Initialize.

The initialize operation area now appears.



Example: MSU-700A

- 3 Insert the card to be initialized into the card slot and press OK. (To cancel the operation, press Cancel.)

Once you press OK, initializing begins.

Note

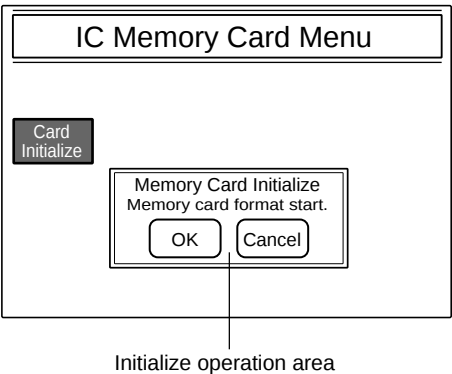
If the Write-protect switch of the card is set to ON, the message “Now write protection. Set write enable” will be displayed, and the initialization cannot be made. Set the switch to OFF, then retry the initialization.

During the initialization

The message “Now memory card initializing” is displayed.

When the initialization is completed

The message “Completed” and Exit appear. Press Exit to release the menu.



5-6-4 Transferring the Reference File

The MSU-700A/750 permits you to store the reference file in an IC card and load it to a camera from the card. It is also possible to send the reference file from one camera to other cameras.

One reference file can be stored in each card.

Use the Ref. Transfer Menu for transfer operations. The following four kinds of transfer operations are possible.

- To save the reference file of a camera to a memory card
- To load the reference file from a memory card to a camera
- To load the reference file from a memory card to multiple cameras
- To send the reference file from one camera to other multiple cameras

Notes

- When the Write-protect switch on the card is set to ON, storing cannot be performed. Before a store operation, be sure to set the switch to OFF.
- Sending the file to multiple cameras is possible only among the cameras connected to the same CNU to which the camera currently selected is connected.

<Examples>

When Camera 2 is selected in a system which is not extended with the IF board of CNU: File transfer is possible among Cameras 1 through 6.

When Camera 5 is selected in a system which is extended with the IF board of CNU: File transfer is possible among Cameras 1 through 12.

When Camera 17 is selected in a system which is extended with the IF board of CNU: File transfer is possible among Cameras 13 through 24.

- The file operating functions are not the same as those of the cameras of other series (such as BVP-700-series), and file transfer to/from cameras of other series is not possible.
- The reference file loaded from a memory card or transferred from another camera is not effective until the Level Auto Setup is performed on the camera.

5-6 File Transfer

To display the Ref. Transfer menu

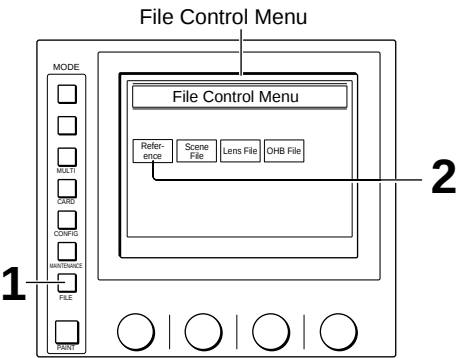
Proceed as follows.

- 1 Press the FILE button.

The File Control Menu appears on the display.

- 2 Press **Reference** of the File Control Menu.

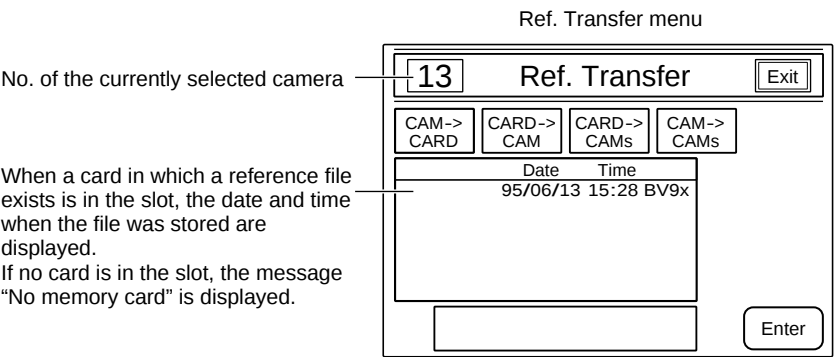
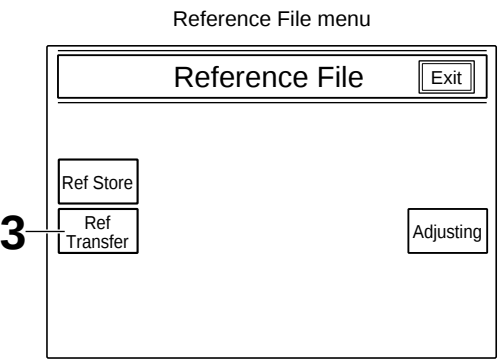
The Reference File menu appears.



Example: MSU-700A

- 3 Press **Ref Transfer**.

The Ref. Transfer menu now appears.



To save the reference file to a card

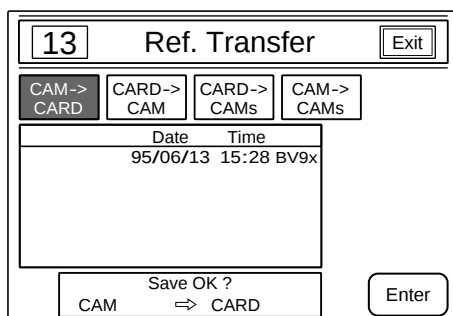
To save the reference file in a camera to a memory card, proceed as follows.

For the storing operation of the reference file, see “5-2 Storing the Reference File.”

- 1 Using the camera select buttons, select the camera in which the reference file to be saved has been stored.

The selected camera number is displayed on the upper left of the menu.

- 2 Press **CAM->CARD** to set it in inverse video.



The message “Save OK?” appears to confirm the operation.

- 3 Press **Enter** (To cancel, press **CAM->CARD** [now in inverse video]).

When you press **Enter**, transfer of the reference file from the specified camera to the card begins. During transfer, the message “Now saving” is displayed.

When the saving is completed

The message “Completed” is displayed, and the previous display is resumed.
If the saving fails, an error message is displayed.

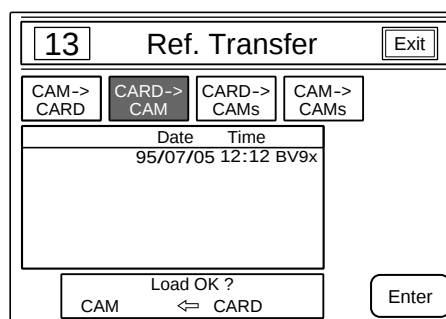
To load the reference file from a card

To load the reference file from a memory card to a camera, proceed as follows.

- 1 Using the camera select buttons, select the camera in which the reference file is to be loaded.

The selected camera number is displayed on the upper left of the menu.

- 2 Press **CARD->CAM** to set it in inverse video.



The message “Load OK?” appears to confirm the operation.

- 3 Press **Enter** (To cancel, press **CARD->CAM** now in inverse video).

When you press **Enter**, transfer of the reference file from the card to the specified camera begins. During transfer, the message “Now loading” is displayed.

When the loading is completed

The message “Completed” is displayed, and the previous display is resumed.
If the loading fails, an error message is displayed.

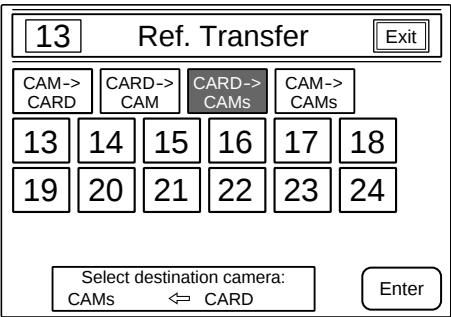
- 4 Execute the auto level setup on the camera.

To load the reference file from a card to multiple cameras

To load the reference file from a memory card to multiple cameras, proceed as follows.

1 Press **CARD->CAMs** to set it in inverse video.

The camera select buttons and the message “Select destination camera” appear on the display.



2 Use the camera select buttons to select the destination cameras (to which the reference file is to be loaded) to set them in a shaded background (for example, as with 13, 14 and 16 in the figure).

3 When selection of the destination cameras is completed, press **Enter**.

The message “Load OK?” appears to confirm the operation.

4 Press **Enter** again.
(To cancel, press **CARD->CAMs** [now in inverse video].)

When you press **Enter**, transfer of the reference file from the card to the specified cameras begins. During transfer, the message “Now loading” is displayed.

When loading is completed

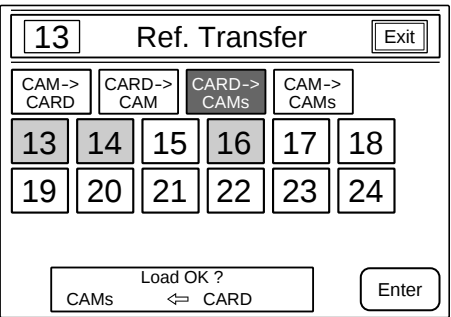
The message “Completed” is displayed, and the previous display is resumed.

If loading fails

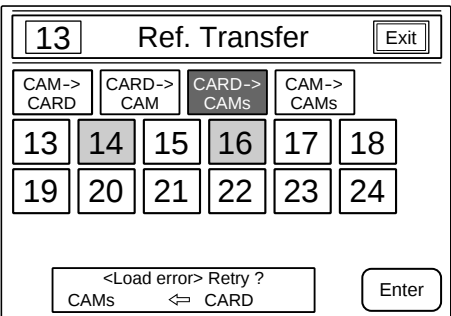
The error message “<Load error> Retry?” is displayed, and the camera select buttons of the cameras for which the loading failed remains displayed with a shaded background.

To retry loading, press **Enter**. To cancel the operation, press **CARD->CAMs** (now in inverse video).

Example: To load to Cameras 13, 14 and 16



Example: The file is correctly loaded to Camera 13, but not loaded to Cameras 14 and 16.



5 Execute the auto level setup on each camera.

Sending the reference file from one camera to other multiple cameras

To send the reference file from one camera to other multiple cameras, proceed as follows.

No IC card is necessary for this operation.

- 1 Press **[CAM->CAMs]** to set it in inverse video.

The camera select buttons and the message “Select source camera” appear.

- 2 Use the camera select buttons to select the source cameras to set it in inverse video (for example, as with 13 in the figure).

- 3 Press **[Enter]**.

The message “Select destination camera” appears.

Example: To send from Camera 13

- 4 Press the camera select buttons to select the destination cameras to set them in a shaded background (for example, as with 14, 15, 17 and 18 in the figure).

- 5 When selection of the destination cameras is completed, press **[Enter]**.

The message “Load OK?” appears to confirm the operation.

- 6 Press **[Enter]** again.
(To cancel, press **[CAM->CAMs]** [now in inverse video].)

When you press **[Enter]**, transfer of the reference file from the source camera to the destination cameras begins.
During transfer, the message “Now loading” is displayed.

Example: To send to Cameras 14, 15, 17 and 18

(Continued)

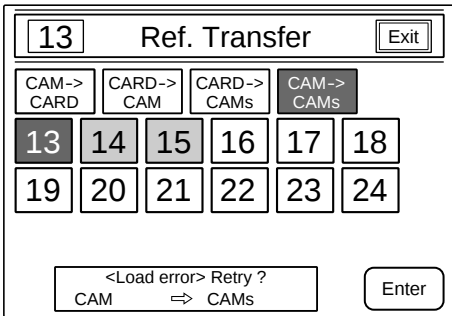
When loading is completed

The message “Completed” is displayed, and the previous display is resumed.

If loading fails

The error message “<Load error> Retry?” is displayed, and the camera select buttons of the cameras for which the loading failed remain displayed with a shaded background. To retry the loading, press **Enter**. To cancel the operation, press **CAM->CAMs** (now in inverse video).

Example: The file is correctly loaded to Camera 13, but not loaded to Cameras 14 and 15.



5-6-5 Transferring the Scene Files

The MSU-700A/750 permits you to store the scene files in an IC card and load them to a camera from the card. It is also possible to send the scene files from one camera to other cameras.

Use the Scene Transfer Menu for the transfer operations.

The following five kinds of transfer operations are possible for a group unit (five files per group).

- To save the scene files of a camera to a memory card
- To load the scene files from a memory card to a camera
- To load the scene files from a memory card to multiple cameras
- To send the scene files from one camera to other multiple cameras
- To delete the scene files stored in a card

Notes

- When the Write-protect switch on the card is set to ON, storing cannot be performed. Before a store operation, be sure to set the switch to OFF.
- Sending the file to multiple cameras is possible only among the cameras connected to the same CNU to which the camera currently selected is connected.

<Examples>

When Camera 2 is selected in a system which is not extended with the IF board of CNU: File transfer is possible among Cameras 1 through 6.

When Camera 5 is selected in a system which is extended with the IF board of CNU: File transfer is possible among Cameras 1 through 12.

When Camera 17 is selected in a system which is extended with the IF board of CNU: File transfer is possible among Cameras 13 through 24.

- The file operating functions are not the same as those of the cameras of other series (such as BVP-700-series), and file transfer to/from cameras of other series is not possible.
- The scene files loaded from a memory card or transferred from another camera are not effective until the Recall Scene File is performed on the camera to recall those scene files.

To display the Scene Transfer menu

Proceed as follows.

1 Press the FILE button.

The File Control Menu appears on the display.

2 Press **[Scene File]** of the File Control Menu.

The Scene File menu appears.

By pressing **[Adjusting]**, you can adjust the control items to be stored in scene files.

3 Press **[Scene Transfer]**.

The Scene Transfer menu now appears.

When a card in which scene files already exist is in the slot, the file list is displayed in the file group display area.

No.: Registration number (from 1 to 9999 assigned to the files when saving them to the card)

Cam: Camera number (The number of the camera from which the files are loaded)

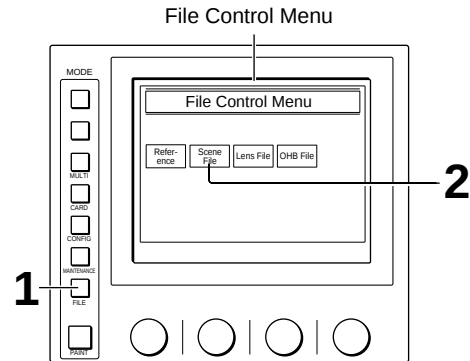
Date/Time: Date and time when the files are stored in the card

If no card is in the slot, the message “No memory card” is displayed.

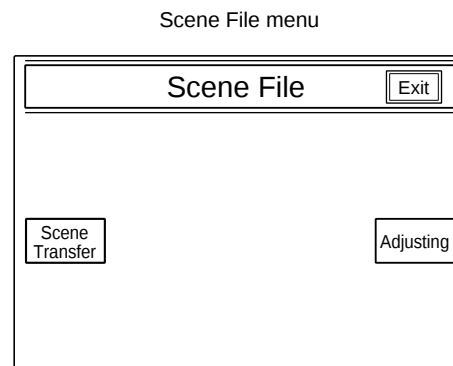
To scroll the list

A maximum of eight scene file groups are displayed at a time. Turn the leftmost control to scroll the display.

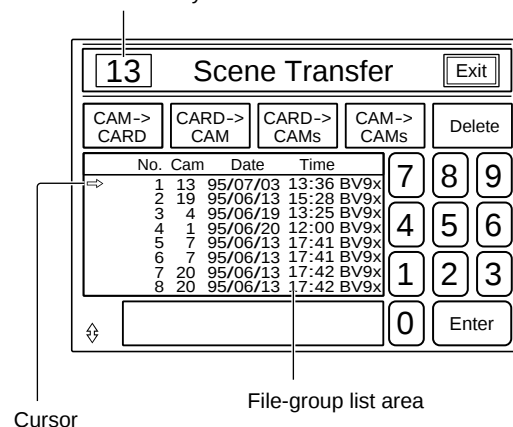
When you turn the control to the right, the cursor moves downward, and when you turn it to the left, the cursor moves upwards, scrolling the display. This scrolling operation is effective also when selecting a scene-file group to be saved, loaded or deleted.



Example: MSU-700A



Scene Transfer menu
No. of the currently selected camera



To save the scene files to a card

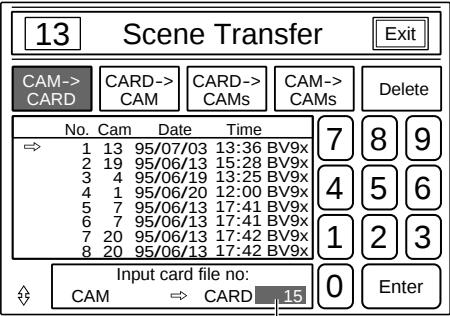
To save the scene files being in a camera to a memory card, proceed as follows.

For the storing operation for scene files, see “5-5 Storing and Retrieving the Scene Files.”

- 1 Using the camera select buttons, select the camera in which the scene files to be saved have been stored.

The selected camera number is displayed on the upper left of the menu.

- 2 Press **CAM->CARD** to set it in inverse video.



Registration number

The message “Input card file no;” appears. The lowest unused number is selected as the registration number.

To change the registration number

Enter the desired number using the numeric keys on the display.

To overwrite an existing file group

Turn the leftmost control and move the cursor to the desired file number.

- 3 Press **Enter**.

The message “Save OK?” appears to confirm the operation.

- 4 Press **Enter** again.
(To cancel, press **CAM->CARD** [now in inverse video].)

When you press **Enter**, transfer of the scene files from the specified camera to the card begins. During transfer, the message “Now saving” is displayed.

When saving is completed

The message “Completed” is displayed, and the previous display is resumed.
If saving fails, an error message is displayed.

To load the scene files from a card

To load a scene-file group from a memory card to a camera, proceed as follows.

Note

If no scene-file group exists in the card, this operation is not possible.

- 1 Using the camera select buttons, select the destination camera.

The selected camera number is displayed on the upper left of the menu.

- 2 Press **CARD->CAM** to set it in inverse video.

No.	Cam	Date	Time	
1	13	95/07/03	13:36	BV9x
2	19	95/06/13	15:28	BV9x
3	4	95/06/19	13:25	BV9x
4	1	95/06/20	12:00	BV9x
5	7	95/06/13	17:41	BV9x
6	7	95/06/13	17:41	BV9x
7	20	95/06/13	17:42	BV9x
8	20	95/06/13	17:42	BV9x

Input card file no:

The message “Input card file no;” appears.

- 3 Select the file group to be loaded.
(Enter the registration number using the numeric keys on the display, or move the cursor to the desired file number by turning the leftmost control.)

- 4 Press **Enter**.

The message “Load OK?” appears to confirm the operation.

- 5 Press **Enter** again.
(To cancel, press **CARD->CAM** [now in inverse video].)

When you press **Enter**, transfer of the scene files from the card to the specified camera begins. During transfer, the message “Now loading” is displayed.

When loading is completed

The message “Completed” is displayed, and the previous display is resumed.

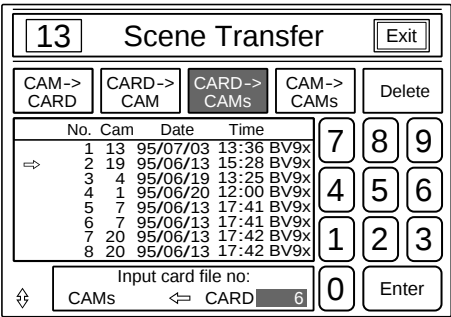
To load the scene files from a card to multiple cameras

To load the scene files from a memory card to multiple cameras, proceed as follows.

Note

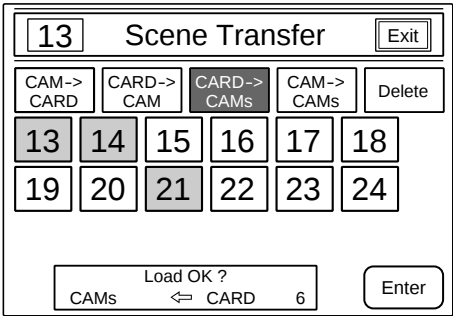
If no scene-file group exists in the card, this operation is not possible.

- 1 Press **CARD->CAMs** to set it in inverse video.
The message “Input card file no;” appears.
- 2 Select the file group to be loaded. (Enter the registration number using the numeric keys on the display or move the cursor to the desired file number by turning the leftmost control.)
- 3 Press **Enter**.
The camera select buttons and the message “Select destination camera” appear on the display.



- 4 Use the camera select buttons to select the destination cameras to set them in a shaded background (for example, as with 13, 14 and 21 in the figure).
- 5 When selection of the destination cameras is completed, press **Enter**.

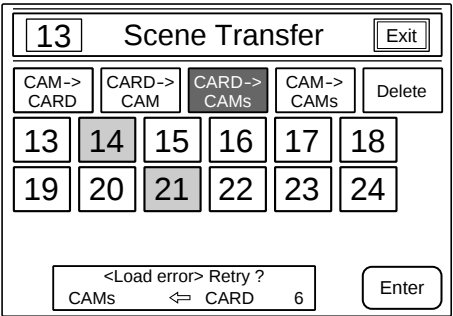
Example: To load to Cameras 13, 14 and 21



The message “Load OK?” appears to confirm the operation.

- 6 Press **Enter** again.
(To cancel, press **CARD->CAMs** [now in inverse video].)

Example: The files were not loaded to Cameras 14 and 21.



When you press **Enter**, transfer of the scene files from the card to the specified cameras begins.

When loading is completed

The message “Completed” is displayed, and the previous display is resumed.

If loading fails

The error message “<Load error> Retry?” is displayed, and the camera select buttons of the cameras for which the loading failed remain displayed with a shaded background. To retry loading, press **Enter**. To cancel the operation, press **CARD->CAMs** (now in inverse video).

Sending the scene files from one camera to other multiple cameras

To send the scene files from one camera to other multiple cameras, proceed as follows.
No IC memory card is necessary for this operation.

- 1 Press **[CAM->CAMs]** to set it in inverse video.

The camera select buttons and the message “Select source camera” appear.

The screenshot shows the 'Scene Transfer' menu with the title '13 Scene Transfer' and an 'Exit' button. Below the title are four selection buttons: 'CAM->CARD', 'CARD->CAM', 'CARD->CAMs', and 'CAM->CAMs' (which is highlighted with a dark background). To the right of these is a 'Delete' button. Below the buttons is a 2x6 grid of camera numbers: 13, 14, 15, 16, 17, 18 in the first row, and 19, 20, 21, 22, 23, 24 in the second row. At the bottom, there is a text box that says 'Select source camera:' with 'CAM' and 'CAMs' separated by a double arrow, and an 'Enter' button to its right.

- 2 Use the camera select buttons to select the source cameras to set it in inverse video (for example, as with 13 in the figure).

- 3 Press **[Enter]**.

The message “Select destination camera” appears.

Example: To send from Camera 13

This screenshot is similar to the previous one, but camera 13 in the grid is now highlighted with a dark background. The text box at the bottom now says 'Select destination camera:' with 'CAM' and 'CAMs' separated by a double arrow, and an 'Enter' button to its right.

- 4 Press the camera select buttons to select the destination cameras to set them in a shaded background (for example, as with 15, 16, 18 and 19 in the figure).

- 5 When selection of the destination cameras is completed, press **[Enter]**.

The message “Load OK?” appears to confirm the operation.

- 6 Press **[Enter]** again.
(To cancel, press **[CAM->CAMs]** [now in inverse video].)

When you press **[Enter]**, transfer of the scene files from the source camera to the destination cameras begins.
During transfer, the message “Now loading” is displayed.

Example: To send to Cameras 15, 16, 18 and 19

This screenshot shows the 'Scene Transfer' menu with camera 13 still highlighted as the source. In the grid, cameras 15, 16, 18, and 19 are also highlighted with a dark background. The text box at the bottom now says 'Load OK ?' with 'CAM' and 'CAMs' separated by a double arrow, and an 'Enter' button to its right.

(Continued)

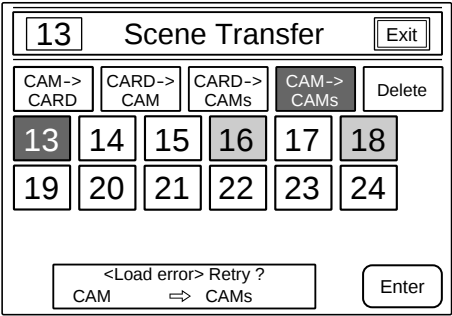
When loading is completed

The message “Completed” is displayed, and the previous display is resumed.

If loading fails

The error message “<Load error> Retry?” is displayed, and the camera select buttons of the cameras for which the loading failed remain displayed in a shaded background. To retry the loading, press **Enter**. To cancel the operation, press **CAM->CAMS** (now in inverse video).

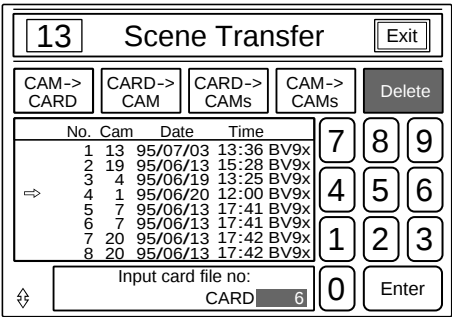
Example: The files were not loaded to Cameras 16 and 18



To delete the scene files from a card

To delete a scene file group from a memory card in a camera, proceed as follows.

- 1 Press **Delete** to set it in inverse video.



The message “Input card file no;” appears.

- 2 Select the file group to be deleted.
(Enter the registration number using the numeric keys on the display, or move the cursor to the desired file number by turning the leftmost control.)
- 3 Press **Enter**.

The message “Delete OK?” appears to confirm the operation.
- 4 Press **Enter** again.
(To cancel, press **CARD->CAM** [now in inverse video].)

When you press **Enter**, deletion of the scene files begins.

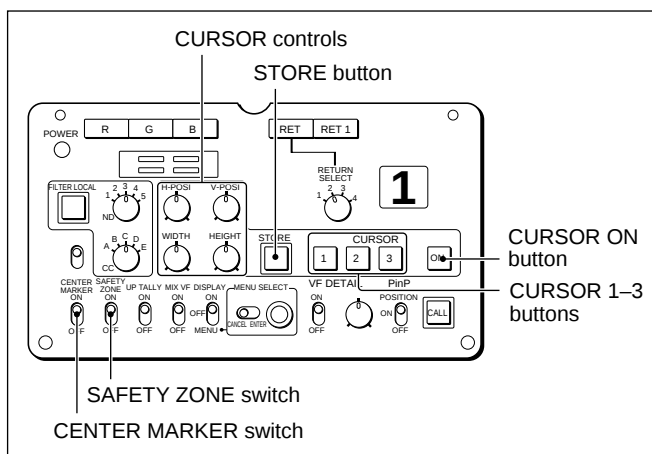
When deleting is completed

The message “Completed” is displayed, and the previous display is resumed.

6-1 Display on the Viewfinder Screen of the BVP-900/900P

6-1-1 Mark Display

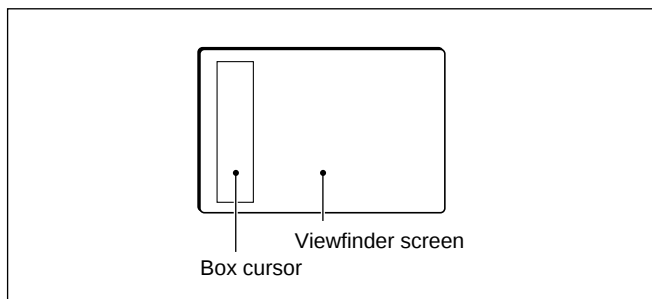
On a viewfinder screen, several marks, such as a box cursor or center marker, can be displayed. The switches and buttons on the rear of the BVP-900/900P are to select whether the marks are to be displayed or to adjust the size of the mark.



Rear of the BVP-900/900P

Box cursor

If you press and light the CURSOR ON button, a box cursor appears on the viewfinder screen. Press the button again and the cursor disappears. You can adjust the size and displayed position of the cursor.



Adjusting the size of the box cursor

Adjust the width of the cursor with the WIDTH control, and the height with the HEIGHT control.

Adjusting the position of the box cursor

Adjust the vertical position of the cursor on the viewfinder with the V-POS control, and the horizontal position with the H-POS control.

To store the adjusted size and position of the box cursor

You can store the size and position of the box cursor adjusted with the H-POS, V-POS, WIDTH, and HEIGHT controls. Three kinds of settings can be stored, which can be retrieved at any time with the press of a button.

1 Press the CURSOR ON button.

The box cursor appears on the viewfinder screen.

2 Adjust the size and position of the cursor with the H-POS, V-POS, WIDTH, and HEIGHT controls.

3 Press the STORE button.

4 Press one of the CURSOR 1 through 3 buttons.

The size and position adjusted in step 2 are then stored in the memory corresponding to the pressed button.

To retrieve the stored box cursor

Press one of the CURSOR 1 through 3 buttons. The pressed button lights, and the cursor stored in the memory corresponding to the pressed button appears.

Note

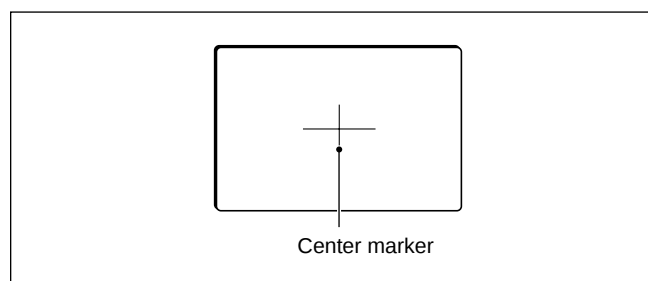
When one of the CURSOR 1 through 3 buttons is lit, you cannot adjust the size and position of the cursor. To make the adjustments, press the lit button to make it go dark.

Center marker

Set the CENTER MARKER switch to ON. White cross hairs, which indicate the center of the viewfinder, appear on the viewfinder screen.

You can adjust the displayed position of the center marker on the VF Setup 2 display. The adjusted position can be stored in the lens file.

For details, see “6-1-3 Operation Menu.”

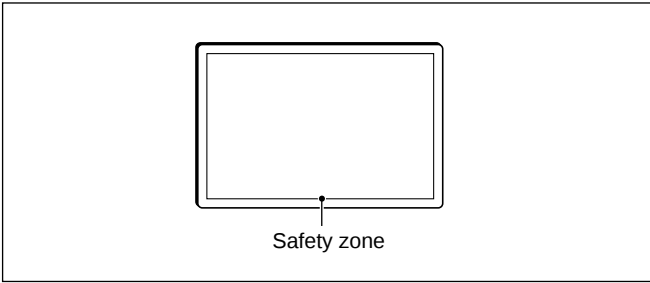


6-1 Display on the Viewfinder Screen of the BVP-900/900P

Safety zone

Set the SAFETY ZONE switch to ON. A frame (safety zone) to indicate 90% of the picture being shot with the camera appears on the viewfinder screen.¹⁾ You can change the frame size to 80% on the VF Setup 2 display.

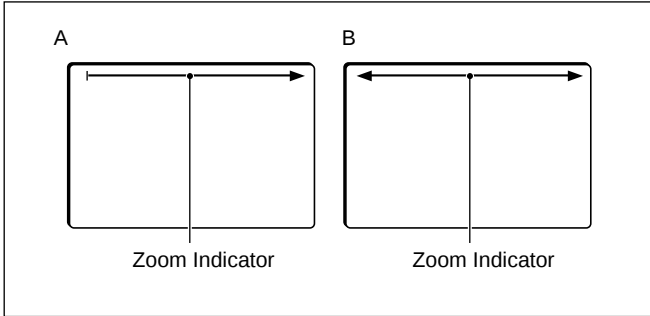
For details, see “6-1-3 Operation Menu.”



Zoom indicator

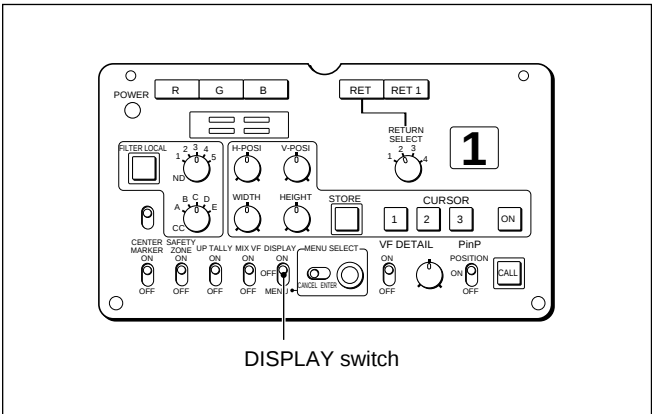
A zoom indicator to show the zoom position appears on the viewfinder screen. Two types of indicator are available, and you can select the type on the VF Setup 2 display.¹⁾

For details, see “6-1-3 Operation Menu.”



6-1-2 Character Display

The BVP-900-series video camera system shows the operating conditions, adjustment items, adjusted values, etc. on the viewfinder screen with characters.

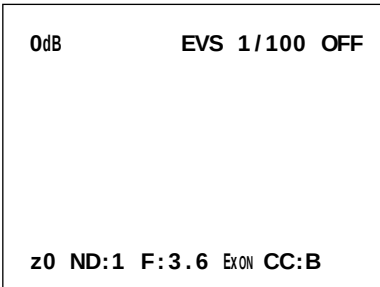


Rear of the BVP-900/900P

Displaying the character data on the viewfinder screen

Set the DISPLAY switch on the rear of the BVP-900/900P to ON.

Automatic adjustment items and adjusted values, and the items that are set to ON on the VF Setup 1 display appear.



Turning the character display OFF

Set the DISPLAY switch on the rear of the BVP-900/900P to OFF.

1) On the BVP-700/700P that is upgraded with the BKP-7090/7090P, use the switch on the front panel of the MS-37 board.

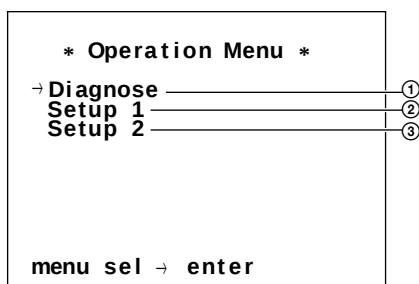
6-1-3 Operation Menu

The displays to show the self-diagnosis results or to set the items or marks displayed on the viewfinder screen ON or OFF are selected on the Operation Menu. To display the Operation Menu, set the DISPLAY switch to MENU.

On the BVP-700/700P upgraded with the BKP-7090/7090P displays the same menu as that of the BVP-900/900P. However the different switches are used for operation. For details, see “7-2-8 Adjusting the BVP-700/700P Upgraded with the BKP-7090/BKP-7090P.”

Items displayed on the Operation Menu depend on whether the camera is used in a system or used as a stand-alone camera. This section describes the items when the camera is used in a system.

The Operation Menu when the camera is used as a stand-alone camera is described in Chapter 7 “Stand-Alone Operations of the Cameras, etc.”



- ① Self-Diagnosis display
- ② VF Setup 1 display
- ③ VF Setup 2 display

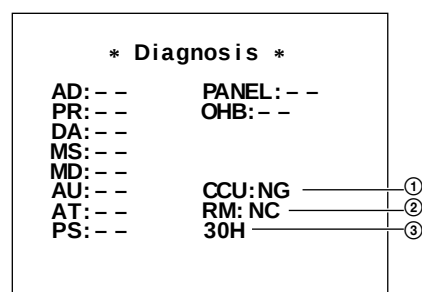
Selecting the screen to be displayed

- 1** Turn the MENU SELECT knob to move the arrow to the display you wish to see.
- 2** Flip the MENU SELECT switch to ENTER.

The display selected in step **1** appears.

Self-diagnosis display

The results of self-diagnosis, the connection conditions with the CCU-700A/700AP/550A/550AP and control equipment, and the elapsed time appear.

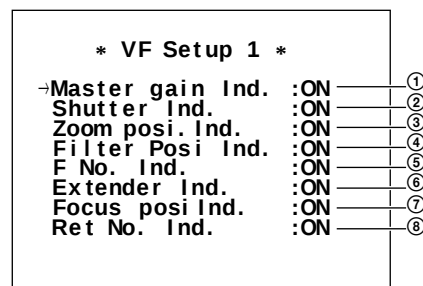


- ① Connection with the CCU-700A/700AP.
- ② Connection with control equipment
- ③ Elapsed time

For details on the self-diagnosis, refer to the Maintenance Manual.

VF Setup 1 display

This menu is for selecting the items to be displayed when the DISPLAY switch is set to ON.



- ① Master-gain setting
- ② Shutter-speed setting
- ③ Zoom-position indication
- ④ Filter selection
- ⑤ Aperture setting
- ⑥ Use of an extender
- ⑦ Focus position
- ⑧ Return video number

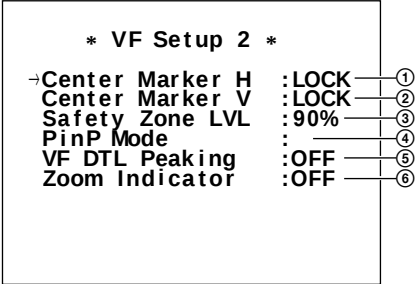
Setting the items

- 1** Turn the MENU SELECT knob to move the arrow to the desired item.
- 2** Flip the MENU SELECT switch to ENTER to change the setting, ON/LMT/OFF.
 - ON:** To display
 - LMT:** To display for about three seconds when the conditions are changed
 - OFF:** To not display

6-1 Display on the Viewfinder Screen of the BVP-900/900P

VF Setup 2 display

A menu for setting the marks displayed on the viewfinder screen ON or OFF is displayed.



- ① Adjusting the horizontal position of the center marker
- ② Adjusting the vertical position of the center marker
- ③ Selecting the size of the safety zone
- ④ Selecting the picture-in-picture mode
- ⑤ Compensating the peaking of a picture on the viewfinder screen ON or OFF
- ⑥ Displaying the zoom indicator

Setting the items

- 1 Turn the MENU SELECT knob to move the arrow to the desired item.
- 2 Flip the MENU SELECT switch to ENTER to change the setting.

Adjusting the horizontal/vertical position of the center marker

Every time you push the MENU SELECT switch to the ENTER position, LOCK or ADJ is displayed alternately.

The adjusted value is stored in a lens file.

LOCK: The center marker position is locked, and the position cannot be changed.

ADJ: The horizontal and vertical positions of the center marker are adjusted with the MENU SELECT knob.

Selecting a picture-in-picture mode

You can change the picture-in-picture mode: Mode 1, Mode 2, and Mode 3.

Mode 1: The viewfinder screen is always in picture-in-picture mode. On the main screen, a camera picture appears, and on the sub-screen, a return video signal appears. When the RET1 or RET button is pressed, a return video picture appears on the main screen, and a camera picture on the sub-screen.

Mode 2: When the RET1 or RET button is pressed, the picture-in-picture mode is obtained, and a return video picture appears on the main screen, and a camera picture on the sub-screen.

Mode 3: When the RET1 or RET button is pressed, the picture-in-picture mode is obtained, and a camera picture appears on the main screen, and a return video picture on the sub-screen.

Setting the peaking of the detail compensation on the viewfinder screen ON/OFF

ON: The peaking of the detail compensation does not link with the VF DETAIL switch setting.

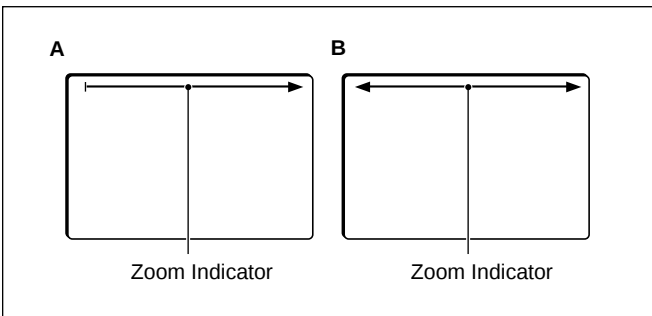
OFF: The peaking is turned OFF on the detail compensation.

Displaying the zoom indicator

OFF: A zoom indicator is not displayed.

A: While zooming up, the white line appears from left to right at the top on the viewfinder screen.

B: While zooming up, the white line appears from the center to the left and right at the top on the viewfinder screen.

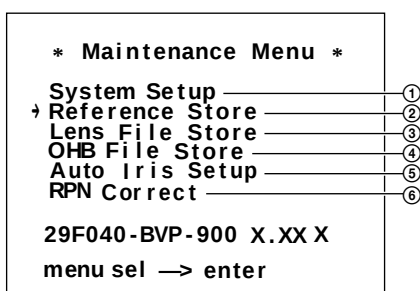


Turning the Operation Menu OFF

Set the DISPLAY switch on the rear of the BVP-900/900P to OFF.

6-1-4 Maintenance Menu

A Maintenance Menu appears in addition to the above-mentioned five data pages. The Maintenance Menu is for a system not including the MSU-700A/750. To display the Maintenance Menu, set the DISPLAY switch on the BVP-900/900P to MENU while pushing the MENU SELECT switch to ENTER. The following six submenus are available from the Maintenance Menu.



- ① System Setup
- ② Reference Store
- ③ Lens File Store
- ④ OHB File Store
- ⑤ Auto Iris Setup
- ⑥ RPN Correct

For details on the Maintenance Menu operation, see “Chapter 5 File Operations.”

For operating the BVP-700/700P upgraded with the BKP-7090/7090P, see “7-2-8 Adjusting the BVP-700/700P upgraded with the BKP-7090/7090P.”

6-2 Display on the Viewfinder Screen of the BVP-950/950P

6-2-1 Mark Display

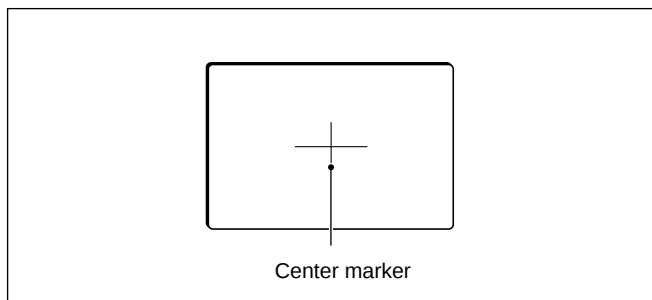
On a viewfinder screen, several marks, such as a center marker or safety zone, can be displayed. You can select whether to display the marks or not on the VF Setup 2 display.

For details, see “6-2-3 Operation Menu.”

Center marker

White cross hairs, which indicate the center of the viewfinder, appears on the viewfinder screen. Turning the display ON or OFF and adjusting the position of the center marker are set on the VF Setup 2 display. The adjusted position is stored in the lens file.

For details, see “6-2-3 Operation Menu.”

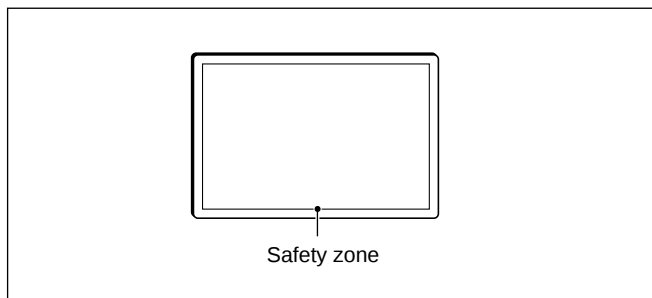


Safety zone

A frame (safety zone) to indicate 90% of the picture being shot with the camera appears on the viewfinder screen.

You can change the frame size to 80% or turn off the frame on the VF Setup 2 display.

For details, see “6-2-3 Operation Menu.”



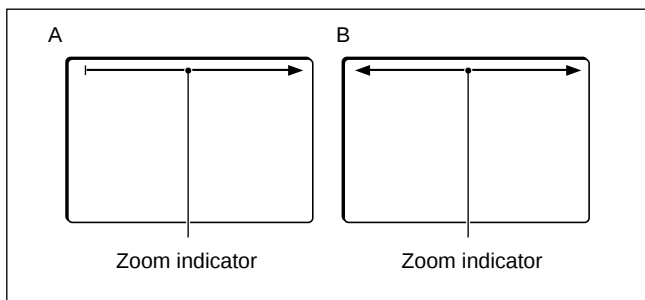
Zoom Indicator

A zoom indicator to show the zoom position appears on the viewfinder screen. Two types of indicator are available, and you can select the type on the VF Setup 2 display.

Note

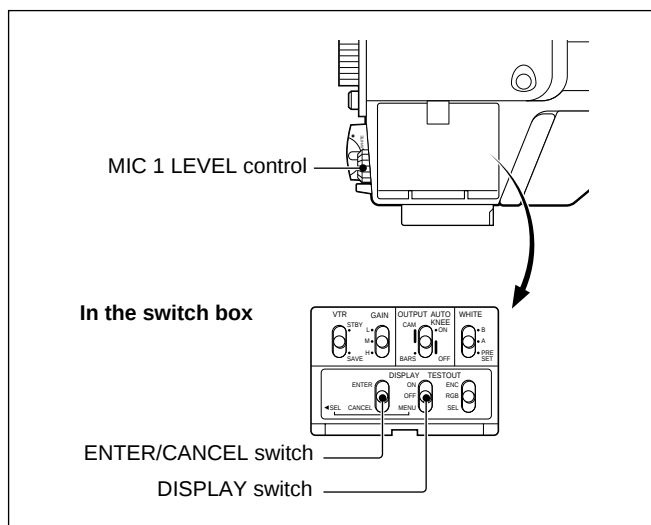
If the BVF-10W/10WCE is used, a zoom indicator does not appear.

For details, see “6-2-3 Operation Menu.”



6-2-2 Character Display

The BVP-950/950P video camera system shows the operating conditions, adjustment items, adjusted values, etc. on the viewfinder screen with characters.



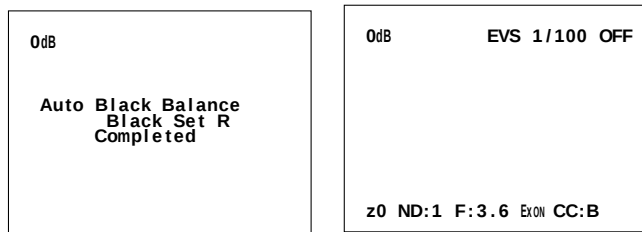
Side panel of the BVP-950/950P

Displaying the character data on the viewfinder screen

Set the DISPLAY switch in the switch box the BVP-950/950P to ON.

Automatic adjustment items and adjusted values, and the items that are set to ON on the VF Setup 1 display appear.

When the automatic adjustments finishes normally, "Completed" appears. If an error message appears, see "4-18-8 Error Messages," and take appropriate actions.



Turning the character display OFF

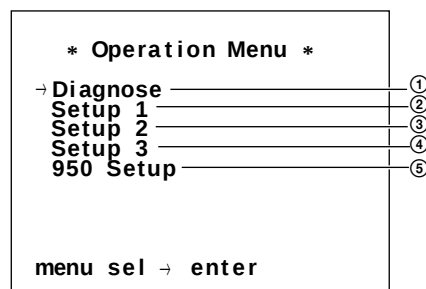
Set the DISPLAY switch in the switch box to OFF.

6-2-3 Operation Menu

The displays to show the self-diagnosis results or to set the items or mark displayed on the viewfinder screen ON or OFF are selected on the Operation Menu. To display the Operation Menu, set the DISPLAY switch in the switch box of the BVP-950/950P to MENU.

Items displayed on the Operation Menu depend on whether the camera is used in a system or used as a stand-alone camera. This section describes the items when the camera is used in a system.

The Operation menu when the camera is used as a stand-alone camera is described in Chapter 7 "Stand-Alone Operations of the Cameras, etc."



- ① Diagnosis display
- ② VF Setup 1 display
- ③ VF Setup 2 display
- ④ VF Setup 3 display
- ⑤ BVP-950/950P Setup display

Selecting the screen to be displayed

- 1** Turn the MIC 1 LEVEL control to move the arrow to the display you wish to see.
- 2** Push the MIC 1 LEVEL control.

The display selected in step **1** appears.

6-2 Display on the Viewfinder Screen of the BVP-950/950P

Self-diagnosis display

The results of self-diagnosis, the connection conditions with the CCU-700A/700AP/550A/550AP and control equipment, and the elapsed time appear.

* Diagnosis *		
AD: --	OHB: --	
PR: --	RC: --	
DA: --		
EN: --		
[CA]		
TR: --	CCU: --	①
MD: --	RM: NC	②
AU: --	30H	③

- ① Connection with the CCU-700A/700AP/550A/550AP.
- ② Connection with the control unit
- ③ Elapsed time

For details on the self-diagnosis, refer to the Maintenance Manual.

VF Setup 1 display

This menu is for selecting the items to be displayed when the DISPLAY switch is set to ON.

* VF Setup 1 *		
→Master gain Ind.	:ON	①
Shutter Ind.	:ON	②
Zoom posi. Ind.	:ON	③
Filter Posi Ind.	:ON	④
F No. Ind.	:ON	⑤
Extender Ind.	:ON	⑥
Ret No. Ind.	:ON	⑦

- ① Master-gain setting
- ② Shutter-speed setting
- ③ Zoom-position indication
- ④ Filter selection
- ⑤ Aperture setting
- ⑥ Use of an extender
- ⑦ Return video number

Setting the items

- 1 Turn the MIC 1 LEVEL control to move the arrow to the desired item.
- 2 Push the MIC 1 LEVEL control to change the setting, ON/LMT/OFF.

ON: To display

LMT: To display for about three seconds when the conditions are changed

OFF: To not display

VF Setup 2 display

A menu for setting the marks displayed on the viewfinder screen ON or OFF is displayed.

* VF Setup 2 *		
→Center Marker	:OFF	①
Center Marker H	:LOCK	②
Center Marker V	:LOCK	③
Safety Zone LVL	:90%	④
Zoom Indicator	:OFF	⑤
Zebra	:OFF	⑥
Zebra	:1	⑦
Zebra 1 Level	:75%	⑧
Zebra 1 Width	:100%	⑨
Zebra 2 Level	:100%	⑩

- ① Turning the center marker ON/OFF
- ② Adjusting the horizontal position of the center marker
- ③ Adjusting the vertical position of the center marker
- ④ Selecting the size of the safety zone
- ⑤ Displaying the zoom indicator
- ⑥ Displaying the zebra pattern
- ⑦ Selecting the zebra pattern mode
- ⑧ Adjusting the bottom level of zebra pattern 1
- ⑨ Adjusting the width of zebra pattern 1
- ⑩ Adjusting the bottom level of zebra pattern 2

Setting the items

- 1 Turn the MIC 1 LEVEL control to move the arrow to the desired item.
- 2 Push the MIC 1 LEVEL control

Adjusting the horizontal/vertical position of the center marker

Every time you flip the ENTER/CANCEL switch to ENTER, LOCK or ADJ is displayed alternately. The adjusted value is stored in a lens file.

LOCK: The center marker position is locked, and the position cannot be changed.

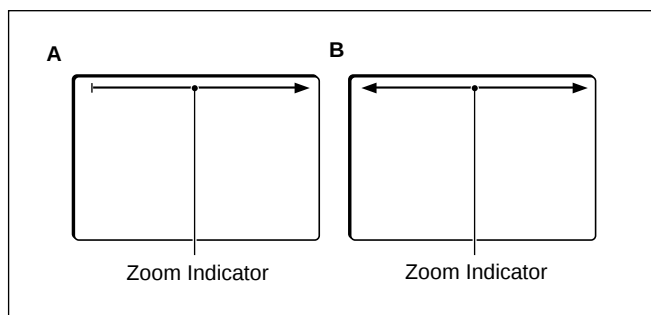
ADJ: The horizontal and vertical positions of the center marker are adjusted with the MIC 1 LEVEL control.

Displaying the zoom indicator

OFF: A zoom indicator is not displayed.

A: While zooming up, the white line appears from left to right at the top on the viewfinder screen.

B: While zooming up, the white line appears from the center to the left and right at the top on the viewfinder screen.



Zebra pattern mode

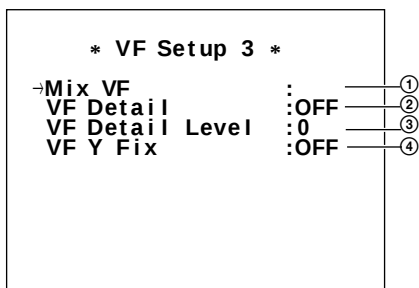
1: Displaying zebra pattern 1

2: Displaying zebra pattern 2

1&2: Displaying zebra patterns 1 and 2

VF Setup 3 display

A menu for setting the marks displayed on the viewfinder screen ON or OFF is displayed.



- ① Mixing the return video signal or not
- ② Setting the VF detail compensation on the viewfinder ON or OFF
- ③ Adjusting the VF detail level on the viewfinder
- ④ Setting the Y fixing on the viewfinder ON or OFF

Setting the items

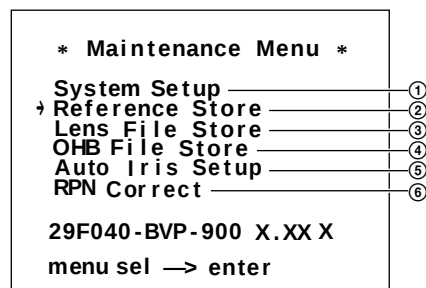
Set the items with the same method as for the VF Setup 2 display.

Turning the Operation Menu OFF

Set the DISPLAY switch in the switch box to OFF.

6-2-4 Maintenance Menu

A Maintenance Menu appears in addition to the above-mentioned pages. The Maintenance Menu is for the system not including the MSU-700A/750. To display the Maintenance Menu, push the DISPLAY switch on the BVP-950/950P to MENU while pressing the ENTER/CANCEL switch to ENTER. The following six submenus are available from the Maintenance Menu.



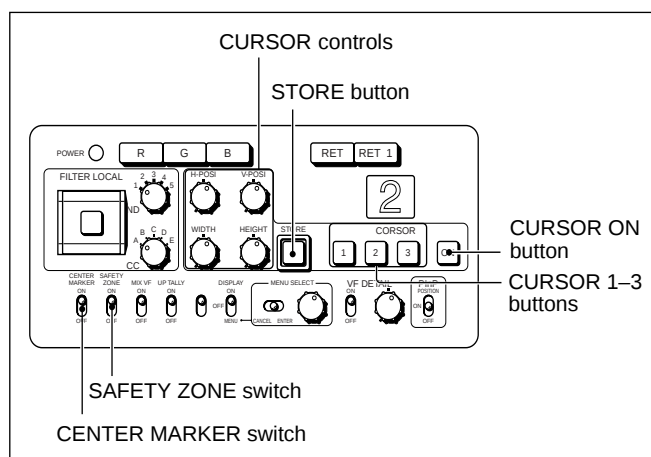
- ① System Setup
- ② Reference Store
- ③ Lens File Store
- ④ OHB File Store
- ⑤ Auto Iris Setup
- ⑥ RPN Correct

For details on the Maintenance Menu operation, see "Chapter 5 File Operations."

6-3 Display on the Viewfinder Screen of the BVP-950/950P Mounted on the CA-905F/905K

6-3-1 Mark Display

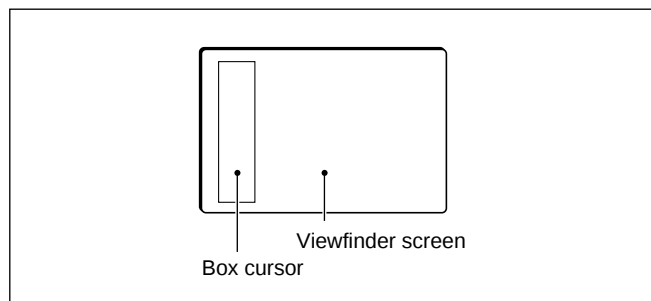
On a viewfinder screen, several marks, such as a box cursor or center marker, can be displayed. The switches and buttons on the rear of the CA-905F/905K are to select whether the marks are to be displayed or to adjust the size of the mark.



Rear of the CA-905F/905K

Box cursor

If you press and light the CURSOR ON button, a box cursor appears on the viewfinder screen. Press the button again and the cursor disappears. You can adjust the size and displayed position of the cursor.



Adjusting the size of the box cursor

Adjust the width of the cursor with the WIDTH control, and the height with the HEIGHT control.

Adjusting the position of the box cursor

Adjust the vertical position of the cursor on the viewfinder with the V-POSI control, and the horizontal position with the H-POSI control.

To store the adjusted size and position of the box cursor

You can store the size and position of the box cursor adjusted with the H-POSI, V-POSI, WIDTH, and HEIGHT controls. Three kinds of settings can be stored, which can be retrieved at any time with the press of a button.

1 Press the CURSOR ON button.

The box cursor appears on the viewfinder screen.

2 Check that the CURSOR 1 to 3 buttons are not lit, and adjust the size and position of the cursor with the H-POSI, V-POSI, WIDTH, and HEIGHT controls.

3 Press the STORE button.

4 Press one of the CURSOR 1 through 3 buttons.

The size and position adjusted in step 2 are then stored in the memory corresponding to the pressed button.

To recall the stored box cursor

Press one of the CURSOR 1 through 3 buttons. The pressed button lights, and the cursor stored in the memory corresponding to the pressed button appears.

Note

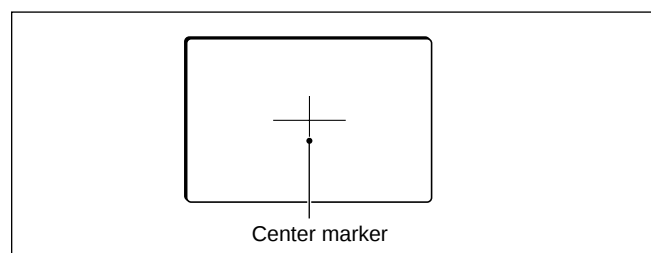
While one of the CURSOR 1 through 3 buttons is lit, you cannot adjust the size and position of the cursor. To make the adjustments, press the lit button to make it go dark.

Center marker

Set the CENTER MARKER switch to ON. White cross hairs, which indicate the center of the viewfinder, appear on the viewfinder screen.

You can adjust the displayed position of the center marker on the VF Setup 2 display. The adjusted position can be stored in the lens file.

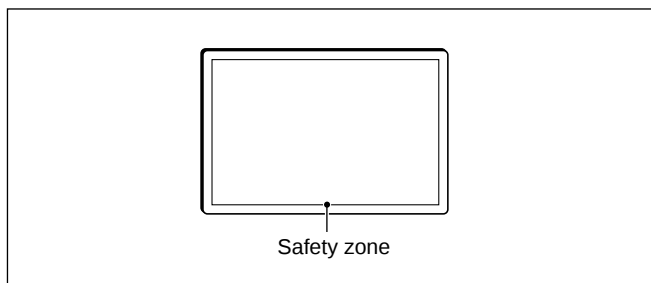
For details, see “6-3-3 Operation Menu.”



Safety zone

Set the SAFETY ZONE switch to ON. A frame (safety zone) to indicate 90% of the picture being shot with the camera appears on the viewfinder screen. You can change the frame size to 80% on the VF Setup 2 display.

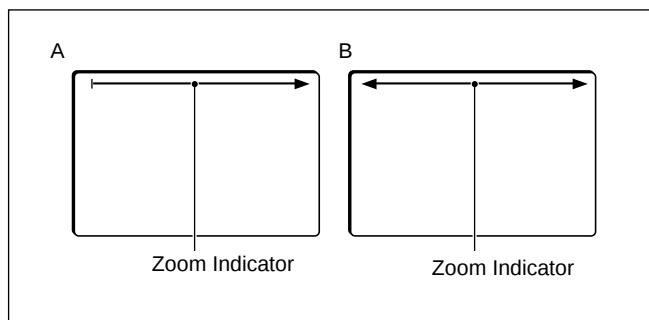
For details, see “6-3-3 Operation Menu.”



Zoom indicator

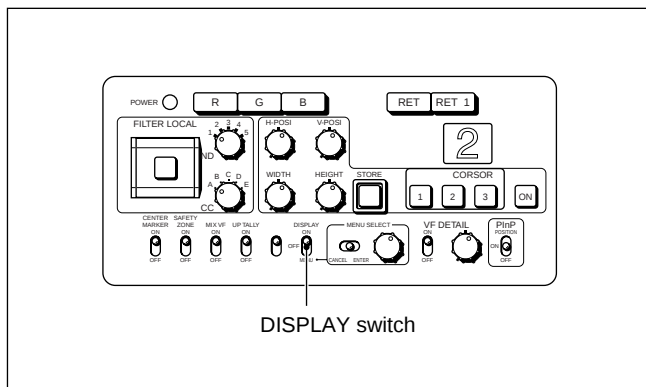
The zoom indicator to show the zoom position appears on the viewfinder screen. Two types of indicator are available, and you can select the type on the VF Setup 2 display.

For details, see “6-3-3 Operation Menu.”



6-3-2 Character Display

The BVP-950/950P video camera system shows the operating conditions, adjustment items, adjusted values, etc. on the viewfinder screen with characters.

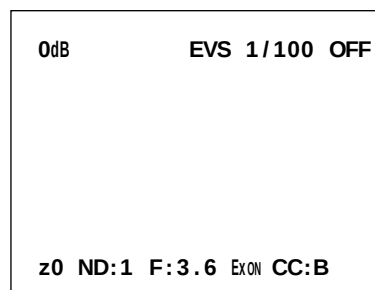


Rear of the CA-905F/905K

Displaying the character data on the viewfinder screen

Set the DISPLAY switch on the rear of the CA-905F/905K to ON.

Automatic adjustment items and adjusted value, and the items that are set to ON on the VF Setup 1 display appear.

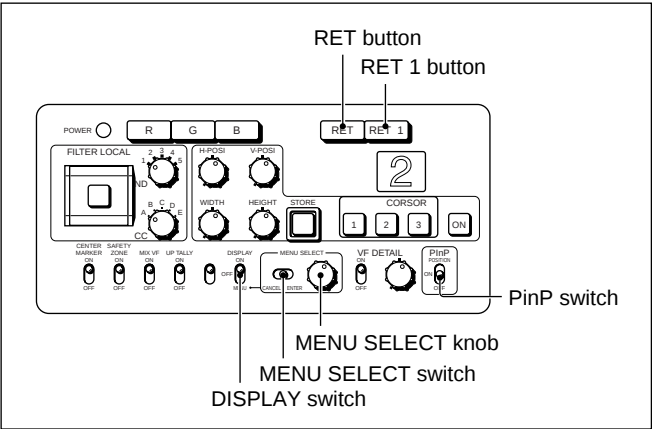


Turning the character display OFF

Set the DISPLAY switch on the rear of the CA-905F/905K to OFF.

6-3-3 Operation Menu

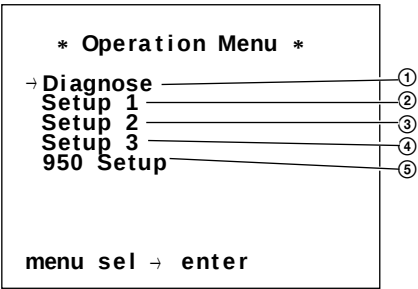
The displays to show the self-diagnosis results or to set the items or marks displayed on the viewfinder screen ON or OFF are selected on the Operation Menu. To display the Operation Menu, set the DISPLAY switch to MENU.



Rear of the CA-905F/905K

Items displayed on the Operation Menu depend on whether the camera is used in a system or used as a stand-alone camera. This section describes the items when the camera is used in a system.

The Operation Menu when the camera is used as a stand-alone camera is described in Chapter 7 “Stand-Alone Operations of the Cameras, etc.”



- ① Self-Diagnosis display
- ② VF Setup 1 display
- ③ VF Setup 2 display
- ④ VF Setup 3 display
- ⑤ BVP-950/950P Setup display

Selecting the screen to be displayed

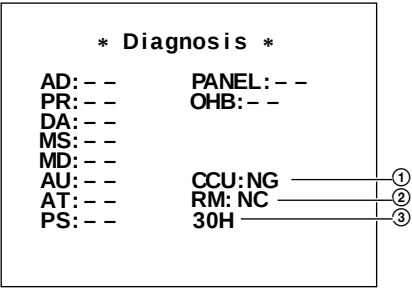
- 1 Turn the MENU SELECT knob to move the arrow to the display you wish to see.

- 2 Flip the MENU SELECT switch to ENTER.

The display selected in step 1 appears.

Self-diagnosis display

The results of self-diagnosis, the connection conditions with the CCU-700A/700AP/550A/550AP and control equipment, and the elapsed time appear.

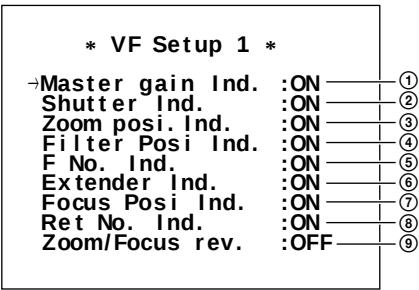


- ① Connection with the CCU-700A/700AP/550A/550AP
- ② Connection with control equipment
- ③ Elapsed time

For details on the self-diagnosis, refer to the Maintenance Manual.

VF Setup 1 display

This menu is for selecting the items to be displayed when the DISPLAY switch is set to ON.



- ① Master-gain setting
- ② Shutter-speed setting
- ③ Zoom-position indication
- ④ Filter selection
- ⑤ Aperture setting
- ⑥ Use of an extender
- ⑦ Focus position
- ⑧ Return video number
- ⑨ Reversing the zoom- and focus-indication position

Setting the items

- 1** Turn the MENU SELECT knob to move the arrow to the desired item.
- 2** Flip the MENU SELECT switch to ENTER to change the setting, ON/LMT/OFF.
 - ON:** To display
 - LMT:** To display for about three seconds when the conditions are changed
 - OFF:** To not display

VF Setup 2 display

A menu for setting the marks displayed on the viewfinder screen ON or OFF is displayed.

* VF Setup 2 *		
→Center Marker H	: LOCK	①
Center Marker V	: LOCK	②
Safety Zone LVL	: 90%	③
Zoom Indicator	: OFF	④
Zebra	: OFF	⑤
Zebra	: 1	⑥
Zebra 1 Level	: 75%	⑦
Zebra 1 Width	: 100%	⑧
Zebra 2 Level	: 100%	⑨
VF DTL Peaking	: OFF	⑩

- ① Adjusting the horizontal position of the center marker
- ② Adjusting the vertical position of the center marker
- ③ Selecting the size of the safety zone
- ④ Displaying the zoom indicator
- ⑤ Displaying the zebra pattern
- ⑥ Selecting the zebra pattern mode
- ⑦ Adjusting the bottom level of zebra pattern 1
- ⑧ Adjusting the width of zebra pattern 1
- ⑨ Adjusting the bottom level of zebra pattern 2
- ⑩ Compensation of the peaking of a picture on the viewfinder screen ON or OFF

Setting the items

- 1** Turn the MENU SELECT knob to move the arrow to the desired item.
- 2** Flip the MENU SELECT switch to ENTER to change the setting.

Adjusting the horizontal/vertical position of the center marker

Every time you flip the MENU SELECT switch to the ENTER position, LOCK or ADJ is displayed alternately.

The adjusted value is stored in a lens file.

LOCK: The center marker position is locked, and the position cannot be changed.

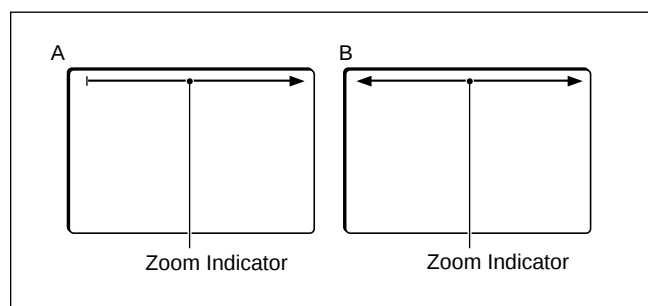
ADJ: The horizontal and vertical positions of the center marker are adjusted with the MENU SELECT knob.

Displaying the zoom indicator

OFF: A zoom indicator is not displayed.

A: While zooming up, the white line appears from left to right at the top on the viewfinder screen.

B: While zooming up, the white line appears from the center to the left and right at the top on the viewfinder screen.



Zebra pattern mode

1: Displaying zebra pattern 1

2: Displaying zebra pattern 2

1&2: Displaying zebra patterns 1 and 2

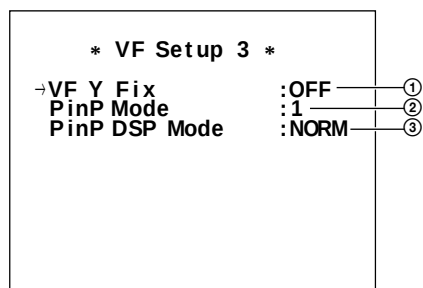
Setting the peaking of the detail compensation on the viewfinder screen ON/OFF

ON: The peaking of detail compensation is not linked with the VF DETAIL switch setting.

OFF: Peaking is turned OFF for the detail compensation.

VF Setup 3 display

A menu for setting the marks displayed on the viewfinder screen ON or OFF is displayed.



- ① Setting the Y fixing on the viewfinder ON or OFF
- ② Selecting the picture-in-picture mode
- ③ Selecting the priority of the picture-in-picture mode and the marker display

Setting the items

Set the items with the same method as for the VF Setup 2 display.

Setting the Y fixing on the viewfinder ON or OFF

When the BVF-55/55CE is used: Set to OFF.

The video signal select buttons on the rear of the CA-905F/905K switch the picture on the viewfinder. If no button is pressed, the Y signal is output. If one of the R, G, and B buttons is pressed, the signal corresponding to the pressed button is output. If two or three of the R, G, and B buttons are pressed, the signal corresponding to the leftmost button of the pressed buttons is output.

When the BVF-77/77CE/7700/7700P is used (use of the BKP-9057): Set to ON.

The video signal select buttons on the rear of the CA-905F/905K switch the picture on the viewfinder. If no button is pressed, the Y signal (for the BVF-77/77CE) or the color signal (for the BVF-7700/7700P) is output. If one of the R, G, and B buttons is pressed, the signal corresponding to the pressed button is output. If two of the R, G, and B buttons are pressed, the mixed signal of the pressed buttons is output. If the R, G, and B buttons are all pressed, the Y signal is output.

Selecting a picture-in-picture mode

You can change the picture-in-picture mode: Mode 1, Mode 2, or Mode 3.

Mode 1: The viewfinder screen is always in picture-in-picture mode. On the main screen, a picture from a camera appears, and on the subscreen, a return video signal appears. If the RET1 or RET button is pressed, a return video picture appears on the main screen and a picture from a camera on the subscreen.

Mode 2: If the RET1 or RET button is pressed, the picture-in-picture mode is obtained, and a return video picture appears on the main screen and a picture from a camera on the subscreen.

Mode 3: If the RET1 or RET button is pressed, the picture-in-picture mode is obtained, and a picture from a camera appears on the main screen and a return video picture on the subscreen.

Note

If the BKP-9057 is not attached, the picture-in-picture function does not work.

Selecting the priority of the picture-in-picture mode and the marker display

NORM: The marker and character display and the picture-in-picture mode are obtained simultaneously. If the return video signal is not synchronized with the video signal, the picture on the subscreen may be unstable.

PinP: Picture-in-picture mode has priority.

If the PinP switch is set to ON, markers and characters disappear even if the CENTER MARKER, SAFETY ZONE, CURSOR 1 to 3, CURSOR ON, or DISPLAY switch is set to ON. When the PinP switch is set to OFF, markers and characters are displayed according to the settings of the switches.

DSP: Display mode has priority.

If the CENTER MARKER, SAFETY ZONE, CURSOR 1 to 3, CURSOR ON, or DISPLAY switch is set to ON, picture-in-picture mode is canceled, and the selected marker or character is displayed even if the PinP switch is set to ON. If all of the CENTER MARKER, SAFETY ZONE, CURSOR 1 to 3, CURSOR ON, and DISPLAY switches are set to OFF, the picture-in-picture mode is obtained, and a sub-screen appears.

Note

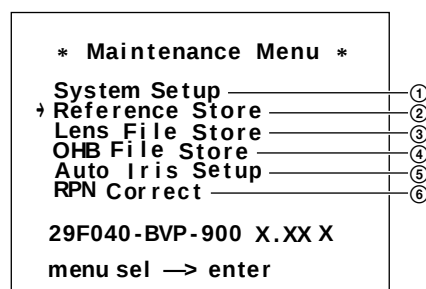
If the BKP-9057 is not attached, the picture-in-picture function does not work.

Turning the Operation Menu OFF

Set the DISPLAY switch on the rear of the CA-905F/905K to OFF.

6-3-4 Maintenance Menu

A Maintenance Menu appears in addition to the above-mentioned five data pages. The Maintenance Menu is for a system not including the MSU-700A/750. To display the Maintenance Menu, set the DISPLAY switch to MENU while pushing the MENU SELECT switch to ENTER. The following six submenus are available from the Maintenance Menu.



- ① System Setup
- ② Reference Store
- ③ Lens File Store
- ④ OHB File Store
- ⑤ Auto Iris Setup
- ⑥ RPN Correct

For details on the Maintenance Menu operation, see “Chapter 5 File Operations.”

6-4 Character Display of the CCU-700A/700AP/550A/550AP

The CCU-700A/700AP/550A/550AP has a character-generation function, and it shows the status of the CCU-700A/700AP/550A/550AP and some of the setting conditions of the camera on the monitor screen in characters. Character data is output from the CHARACTER OUTPUT connector as a video signal, and it can also be mixed with the video signal output from the PIX 1 connector on the CCU-700A/700AP or the PIX connector on the CCU-550A/550AP. You can change the displayed page with the CHARACTER button on the RCP-700-series unit.

Note

The RCP-700/701 has not a CHARACTER button.

6-4-1 Display of the CCU-700A/700AP

Display when the CHARACTER button on the RCP-700-series unit is not lit

When the CHARACTER button is not lit, the status of auto setup of the camera is displayed on the monitor screen. When you press and light the CHARACTER button, the status of the camera and the CCU-700A/700AP appears, and each time you press the button, the displayed page changes. If you keep the button pressed, the page continuously changes until the last page is reached and then returns to the page to show the auto setup status.

```

**Auto Black Balance**
      Knee Point R
      Completed

*Diagnosis*
DM      OK
AT      OK
VA      OK
YC      OK
Power   OK
Camera  OK

```

The contents of auto setup of the camera appear on the monitor screen when switch 5 of the S1002 switch on the AT board is set to OFF and the CHARACTER button on the RCP-700-series unit is not lit.

When auto setup completes, “Completed” appears for several seconds. If an error occurs during auto setup, the contents of the error are displayed.

If a trouble occurs on a board in the CCU-700A/700AP or camera, the board name is indicated, such as “DM NG (meaning there is some trouble on the DM board).” Press the CHARACTER button on the RCP-700-series unit, and the contents of the board are displayed.

If no trouble occurs, nothing appears.

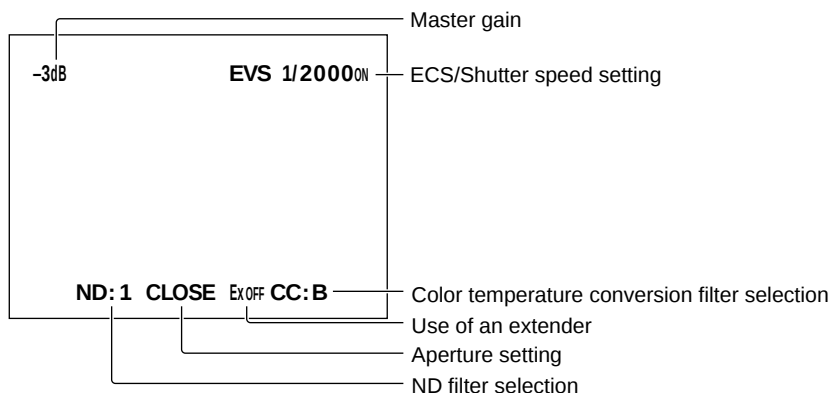
Note

If switch 5 of the S1002 switch on the AT board is set to ON, the above display does not appear.

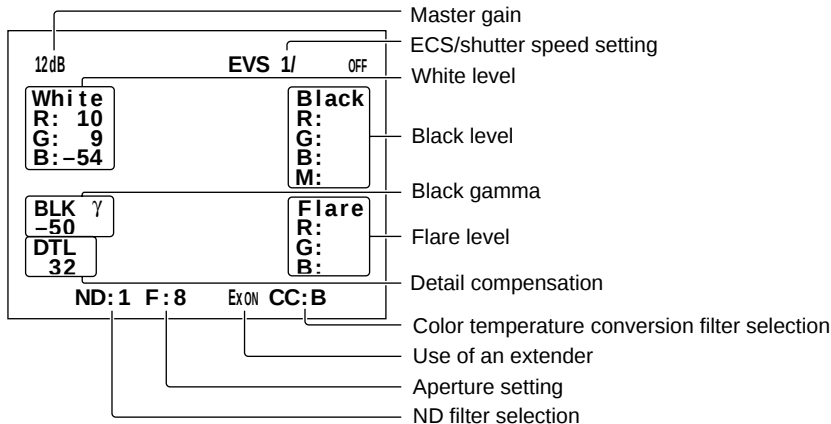
Displaying the setting status of the camera

The setting status of the camera is composed of two pages. Press the CHARACTER button on the RCP-700-series unit and page 1 appears. Press the button again and page 2 appears.

Page 1 of the camera setting status



Page 2 of the camera setting status



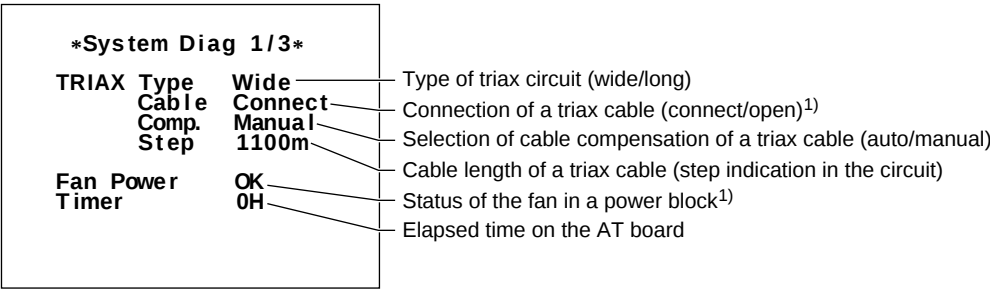
6-4 Character Display of the CCU-700A/700AP/550A/550AP

Self-diagnostics of the camera system

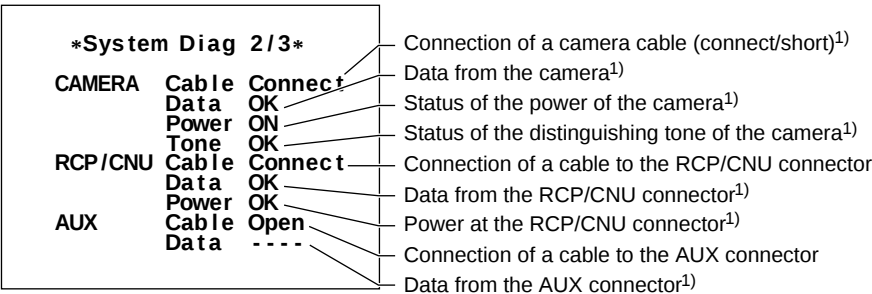
The results of the self-diagnosis of the camera system are displayed in three pages. When page 2 of the camera setting status is displayed and you press the

CHARACTER button, page 1 of the self-diagnostics appears. Press the CHARACTER button again and the page changes.

Page 1 of the self-diagnosis

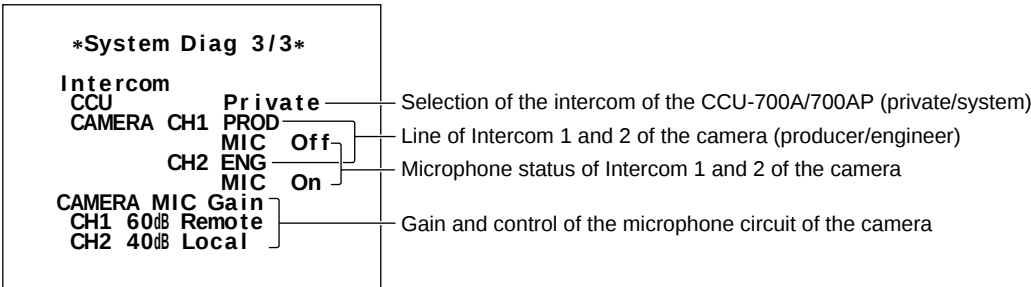


Page 2 of the self-diagnosis



Page 3 of the self-diagnosis

The results of the self-diagnosis for each function are displayed.



1) For these items, when an error occurs, the board name is displayed, such as “DM NG.” Press the CHARACTER

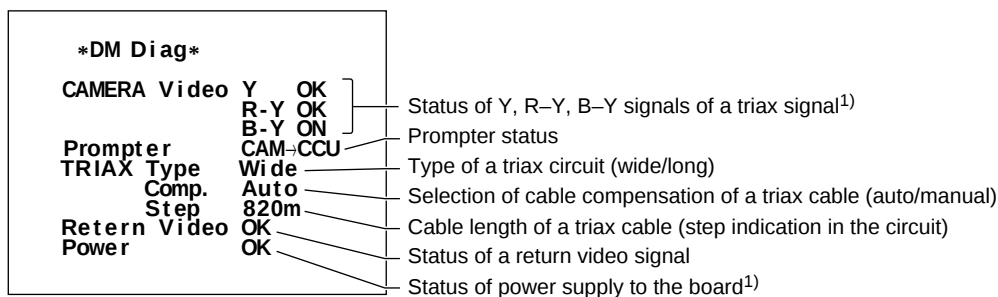
button on the RCP-700-series unit and the status of the board on which the error has occurred appears.

Results of self-diagnostics of the CCU-700A/700AP

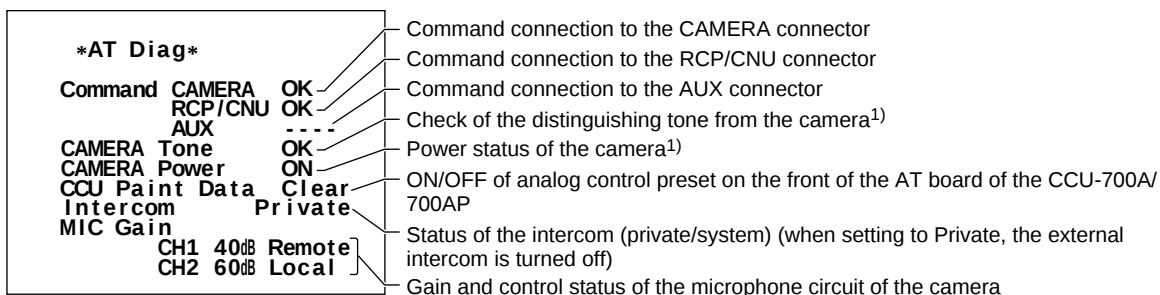
The results of the self-diagnostics of the CCU-700A/700AP are displayed in three pages. When page 3 of the camera self-diagnostics display is displayed and you press the CHARACTER button, the self-diagnostics results of the DM board of the CCU-700A/700AP appear.

Press the CHARACTER button again, and the page changes. If some trouble is detected on a board during self-diagnosis, the display for the board on which trouble occurs appears when the CHARACTER button is pressed.

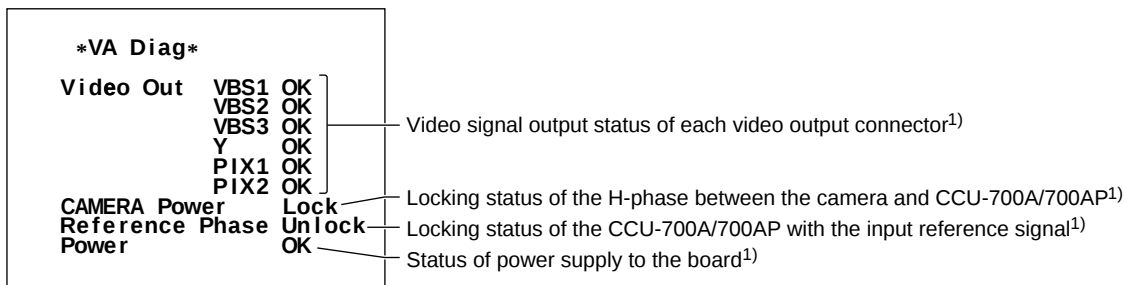
DM board



AT board



VA board



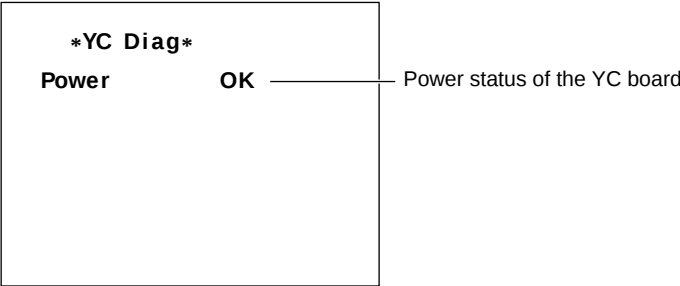
1) For these items, when an error occurs, the board name is displayed, such as "DM NG." Press the CHARACTER

button on the RCP-700-series unit and the status of the board on which the error has occurred appears.

6-4 Character Display of the CCU-700A/700AP/550A/550AP

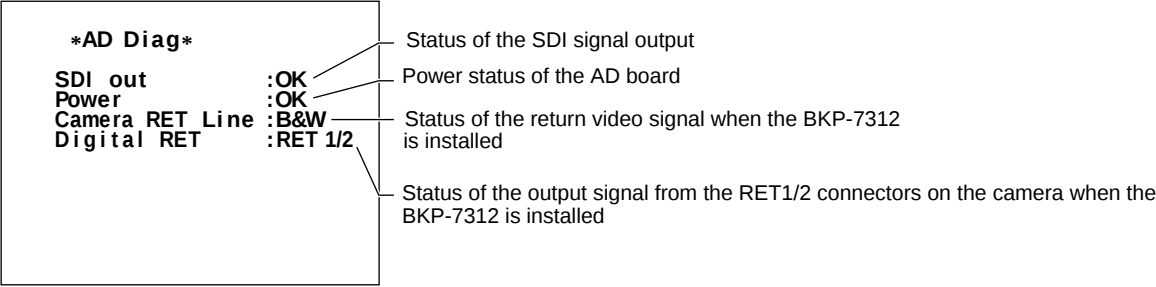
YC board

This page appears when an optional BKP-7311 SDI output board is installed.

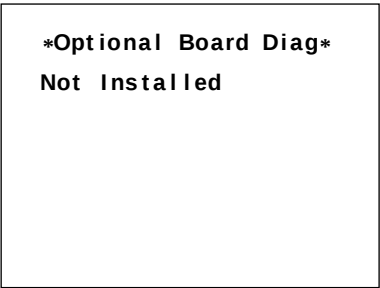


AD board

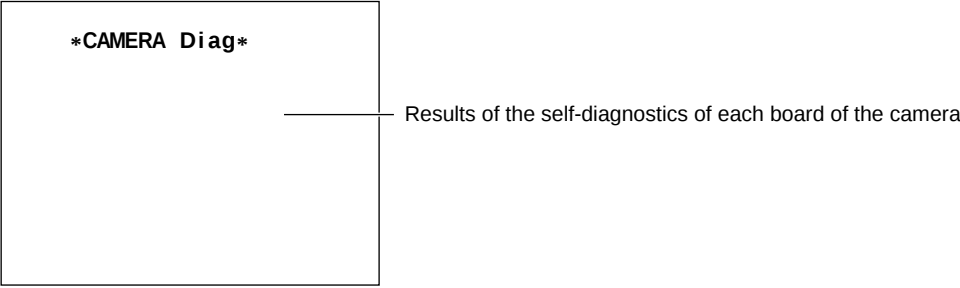
This page appears when an optional BKP-7311 SDI output board is installed.



If an optional board is not installed, the following diaplay appears.

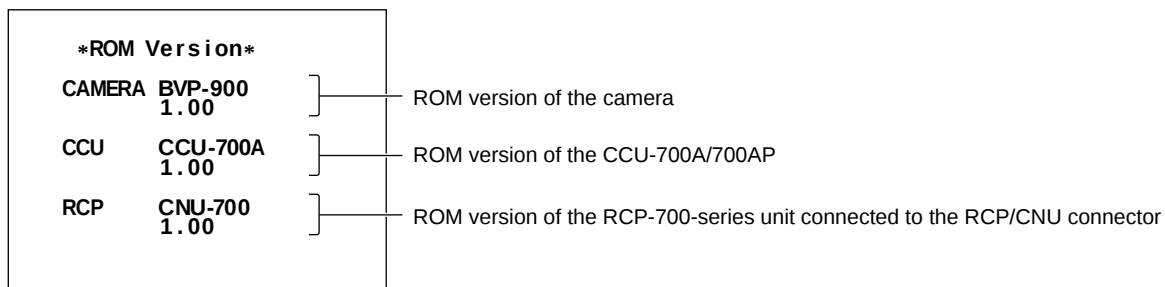


Camera



ROM version

Press the CHARACTER button on the RCP-700-series unit while the results of self-diagnostics of the camera are displayed, and the version of the ROM installed in each piece of equipment appears.

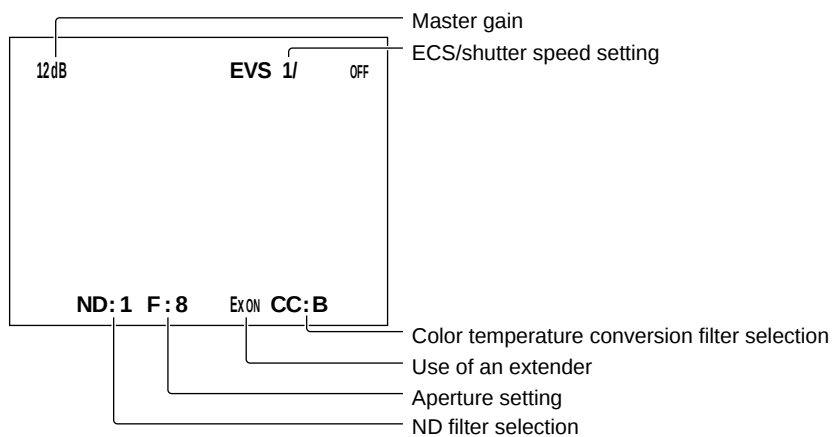


6-4-2 Display of the CCU-550A/550AP

When the CHARACTER button on the RCP-700-series unit is off, nothing appears.

Displaying the setting status of the camera

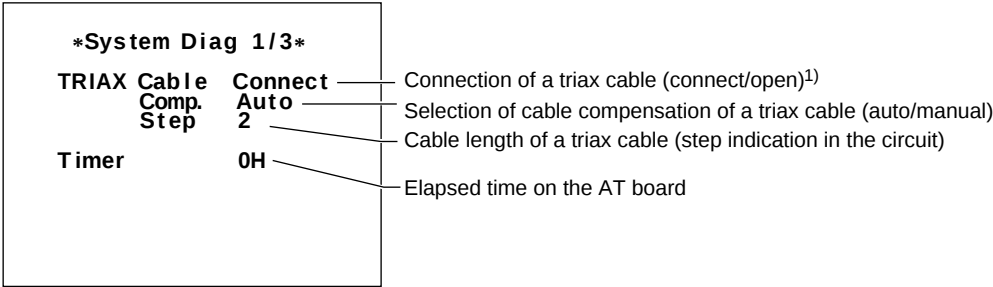
Press the CHARACTER button on the RCP-700-series unit and the setting status of the camera appears.



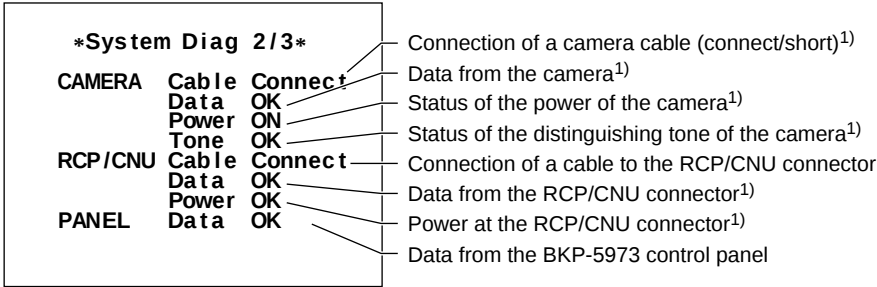
Self-diagnostics of the camera system

The results of the self-diagnosis of the camera system are displayed in three pages. When the camera setting status is displayed and you press the CHARACTER button, page 1 of the self-diagnostics appears. Press the CHARACTER button again and the page changes.

Page 1 of the self-diagnosis

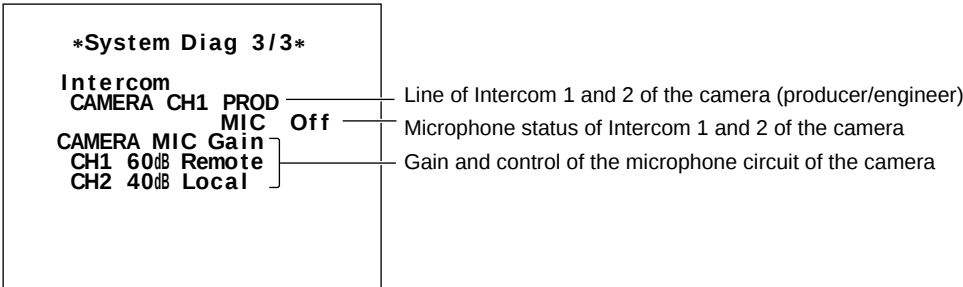


Page 2 of the self-diagnosis



Page 3 of the self-diagnosis

The results of the self-diagnosis for each function are displayed.



1) For these items, when an error occurs, the board name is displayed, such as “DM NG.” Press the CHARACTER

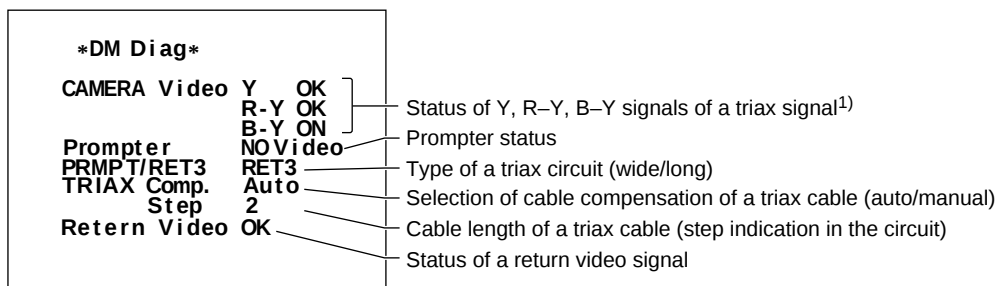
button on the RCP-700-series unit and the status of the board on which the error has occurred appears.

Results of self-diagnostics of the CCU-550A/550AP

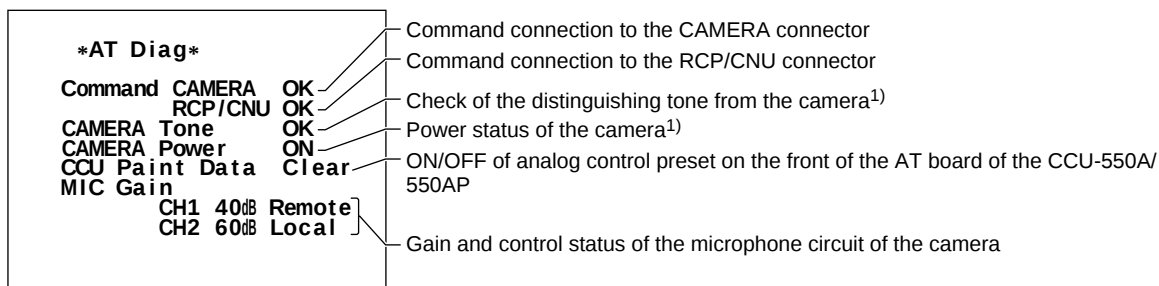
The results of the self-diagnostics of the CCU-550A/550AP are displayed in three pages. When page 3 of the camera self-diagnostics display is displayed and you press the CHARACTER button, the results of the self-diagnostics appears.

Press the CHARACTER button again, and the page changes. If some trouble is detected on a board during self-diagnosis, the display for the board on which trouble occurs appears when the CHARACTER button is pressed.

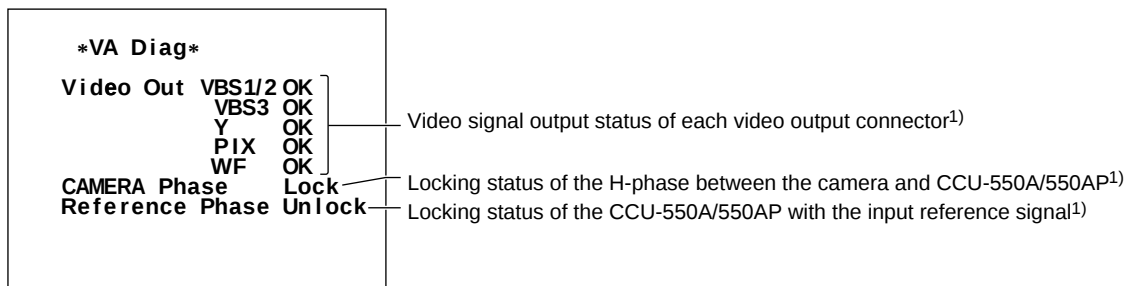
DM board



AT board



VA board

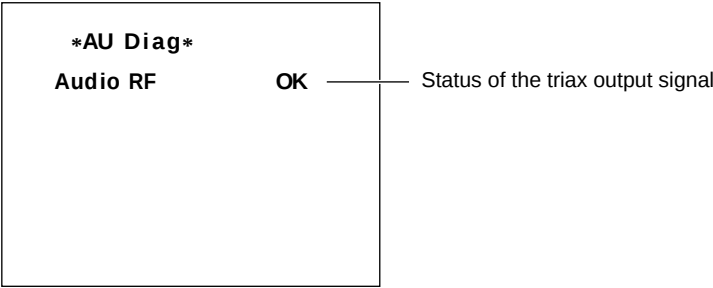


1) For these items, when an error occurs, the board name is displayed, such as "DM NG." Press the CHARACTER

button on the RCP-700-series unit and the status of the board on which the error has occurred appears.

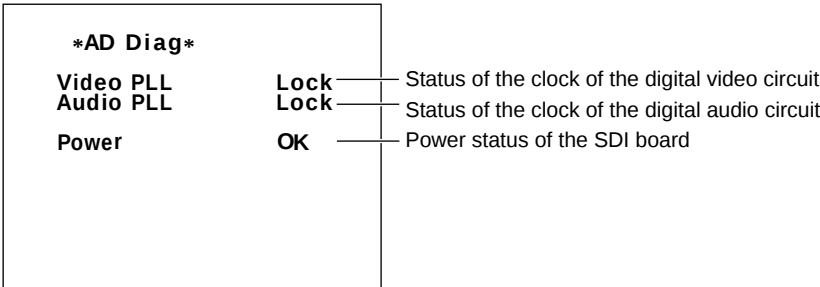
6-4 Character Display of the CCU-700A/700AP/550A/550AP

AU board



AD board

This page appears when an optional BKP-5972 SDI output board is installed.



6-4-3 Superimposing Characters in the Color Bar Signals

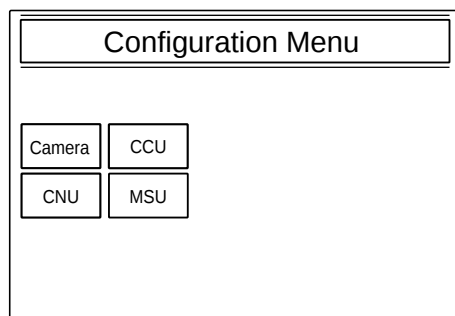
Any characters can be superimposed to the color bar signals generated by the CCU-700A/700AP, 22 characters by 12 lines, using the MSU-700A/750.

Superimposing characters

Proceed as follows:

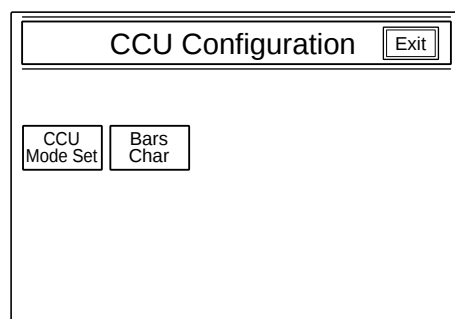
- 1 Press the CONFIG button in the Menu block of the MSU-700A/750 to make it lit.

The Configuration Menu appears on the display.



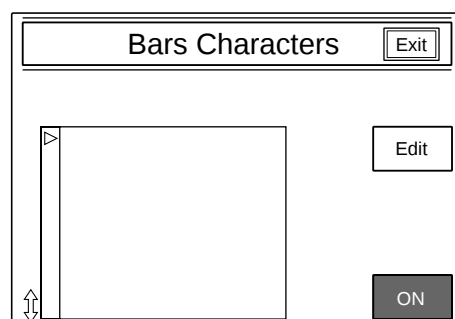
- 2 Press [CCU].

The CCU Configuration menu appears.

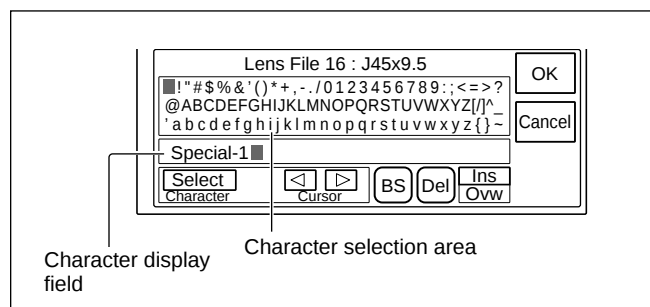


- 3 Press [BarsChar].

The Bars Characters display appears.



- 4 Select a line to insert characters with the left-most control.
- 5 Move the cursor in the character selection area with the second left control to select a character.



To overwrite the character in the cursor position in the character display field

Press [Ovw] to set it in inverse video.

To insert a character before the cursor position

Press [Ins] to set it in inverse video.

To delete the character in the cursor position

Press [Del].

To delete the character before the cursor position

Press [BS].

- 6 Press [Select].
- 7 Repeat step 5 and 6 to set desired characters.
- 8 When all characters are selected, press [OK].

Note

If switch 7 of the S1002 switch on the TA board in the CCU-700A/700AP is set to OFF, character input display does not appear.

6-5 Character Display of the CNU-700/500

The CNU-700/500 has character-generation functions, and displays the status and setting conditions of the CCU-700A/700AP/550A/550AP and BVP-900/900P/950/950P connected to the CNU-700/500 on the monitor screen in text and figures. Character data are output from the CHARACTER connector of the CNU-700/500 as a video signal, and can also be mixed with the video signal output from the PIX OUTPUT connector on the VCS-700 Video Selector. The character display is composed of 11 pages for the CNU-700 or 7 pages for the CNU-500, and the displayed page is changed using the Multi-Control Menu of the MSU-700A/750.

Note

The displayed page, camera number and other items are retained in memory even if the power is turned off. However if power is not supplied for more than one day, the default settings may be retrieved.

Displayed items

The character display of the CNU-700 is composed of 11 pages and that of the CNU-500 is composed of 7 pages, which shows the following items.

Default (page 1)

Shows a warning if some trouble is detected by the self-diagnostics of the camera.

Setting status of the control system (pages 2 through 4)

Shows how the BVP-900/900P/950/950P camera, CCU-700A/700AP/550A/550AP, RCP-700-series units, MSU-700A/750 and VCS-700 are connected to the CNU-700/500. (only page 2 for the CNU-500)

Contents of auto setup (pages 5 and 6)

Shows the contents of auto setup of the camera. (only page 5 for the CNU-500)

Results of self-diagnosis (pages 7 through 9)

Shows the results of self-diagnosis of the camera system. (pages 7 and 9 for the CNU-500)

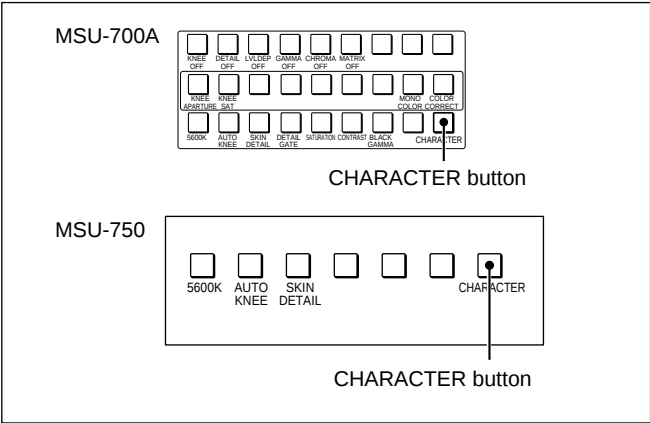
Setting status of the camera (pages 10 and 11)

Shows the setting status of the camera for each item or each camera.

Displaying characters on a monitor

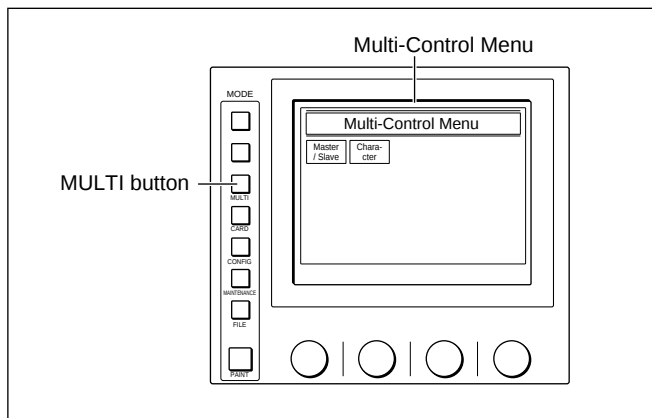
To display text or figures on the monitor connected to the CHARACTER connector on the CNU-700/500 using the Multi-Control Menu of the MSU-700A/750, proceed as follows.

- 1 Press and light the CHARACTER button on the MSU-700A/750.



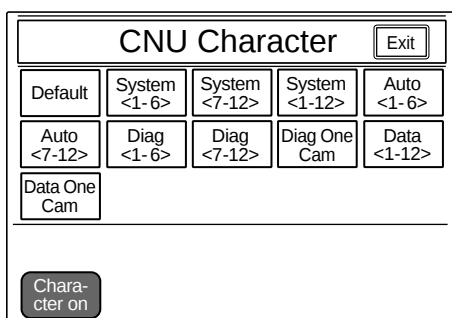
- 2** Press and light the MULTI button in the MODE block of the MSU-700A/750.

The Multi-Control Menu appears.



- 3** Press **Character**.

The CNU Character display appears. The page to be displayed on the monitor screen is changed using this menu.

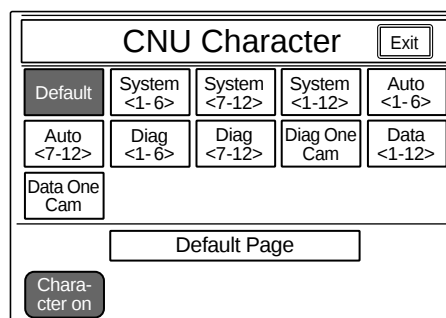


Note

When the CNU-500 is connected, **System <7-12>**, **System <1-12>**, **Auto <7-12>** and **Diag <7-12>** do not work even if it is pressed.

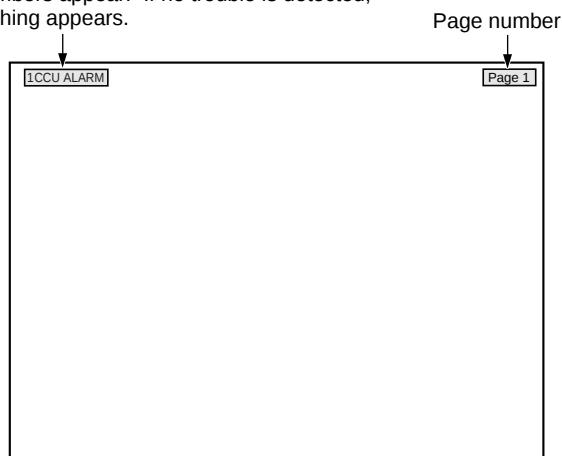
Default

On page 1, a warning appears if some trouble is detected by the self-diagnostics of the camera. To display page 1, press **Default** on the CNU Character display to set it in inverse video. Page 1 appears.



Page 1

The number of the CCU to which a camera having some trouble detected during self-diagnosis is connected, appears. If trouble is detected with two or more cameras, all such numbers appear. If no trouble is detected, nothing appears.



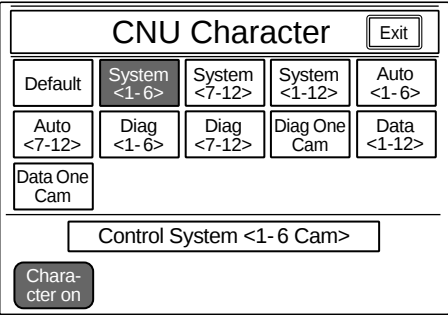
6-4 Character Display of the CNU-700/500

Setting status of the control system

On pages 2 through 4, how the BVP-900/900P/950/950P camera, CCU-700A/700AP/550A/550AP, RCP-700-series unit, MSU-700A/750 and VCS-700 are connected to the CNU-700/500 is displayed.

To display pages 2 through 4, press **System<1-6>** (page 2), **System<7-12>** (page 3) or **System<1-12>** (page 4) on the CNU Character display to set it in inverse video.

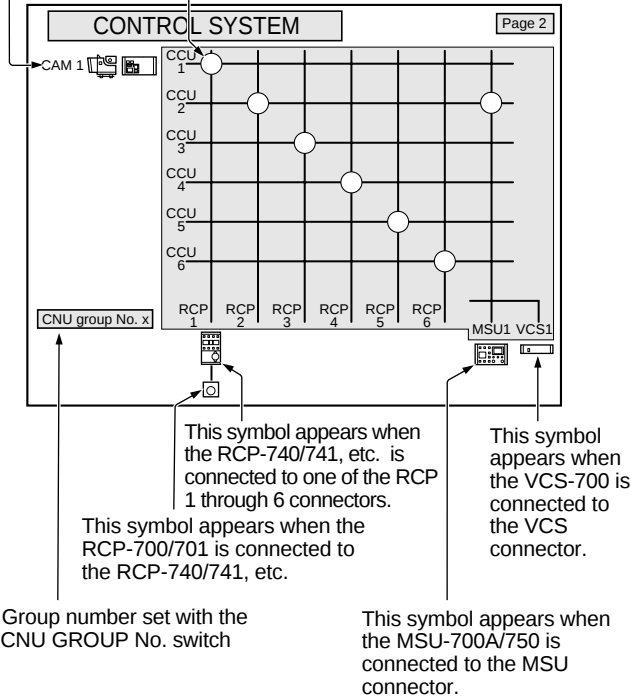
The page corresponding to the pressed item appears.



Page 2 (System<1-6>)

This symbol appears where a camera is connected to one of the CCU 1 through 6 connectors. If some trouble is detected during self-diagnosis, the camera number blinks.

- The camera is selected with the camera select buttons on the MSU-700A/750, and can be controlled with the MSU-700A/750 and RCP-700-series unit. However, PANEL ACTIVE is OFF.
- The camera is selected with the camera select buttons on the MSU-700A/750, and can be controlled with the MSU-700A/750 and RCP-700-series units, and PANEL ACTIVE is ON.
- The camera is not selected with the camera select buttons on the MSU-700A/750. However, PANEL ACTIVE is ON.
- The camera cannot be controlled with the MSU-700A/750 or RCP-700-series unit.



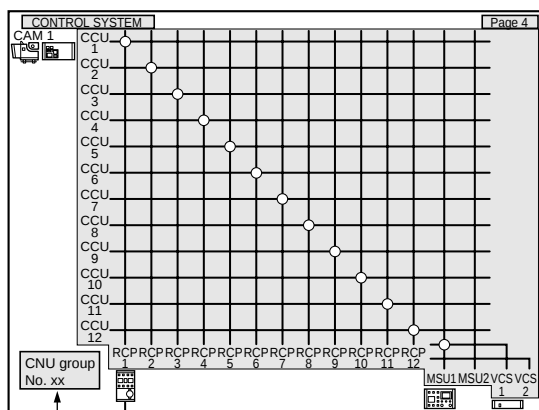
Page 3 (System<7-12>)

The connection status of the units connected to the BKP-7930 installed in the CNU-700, in the same manner as with page 2.

This page appears only when the CNU-700 is used.

Page 4 (System <1-12>)

The connection status of all units connected to the CNU-700 with the BKP-7930 installed is displayed. This page appears only when the CNU-700 is used.



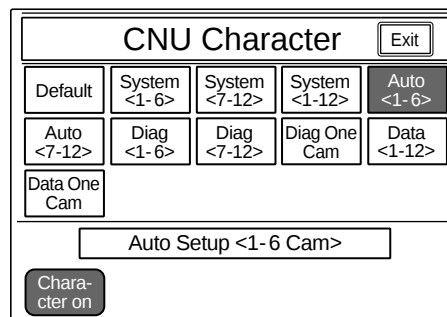
Group number set with the CNU GROUP No. switches on the CNU-700 and BKP-7930.

Contents of auto setup

On pages 5 and 6, the contents of auto setup of the camera appear.

To display pages 5 or 6, press either **Auto<1-6>** (page 5) or **Auto<7-12>** (page 6) on the CNU Character display to set it in inverse video.

The page corresponding to the pressed item appears.



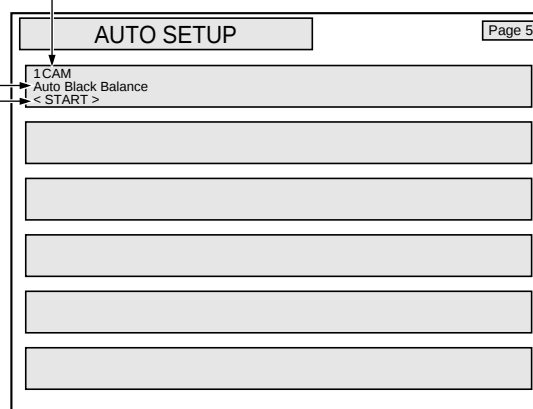
Page 5 (Auto <1-6>)

The contents of auto setup of the cameras numbered 1 through 6 appear. Each row from top to bottom corresponds to cameras 1 through 6.

Execution status of auto setup

Item of auto setup

When a camera is connected to the CNU-700/500, the number of the CCU 1 through 6 connectors to which the camera is connected is displayed. If some trouble is detected during self-diagnosis, this blinks.



Page 6 (Auto <7-12>)

The contents of auto setup of the cameras numbered 7 through 12 appear, in the same manner as with page 5. This page appears only when the CNU-700 is used.

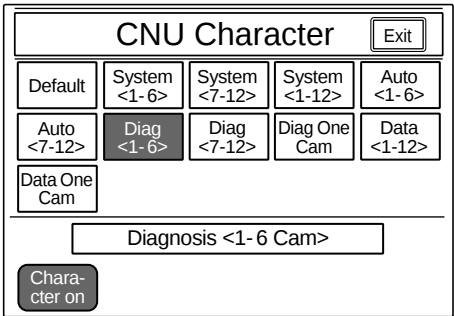
6-4 Character Display of the CNU-700/500

Results of self-diagnosis

On pages 7 through 9, the results of self-diagnosis of the camera system appear.

To display pages 7 through 9, press **Diag<1-6>** (page 7), **Diag<7-12>** (page 8) or **Diag One Cam** (page 9) on the CNU Character display to set it in inverse video.

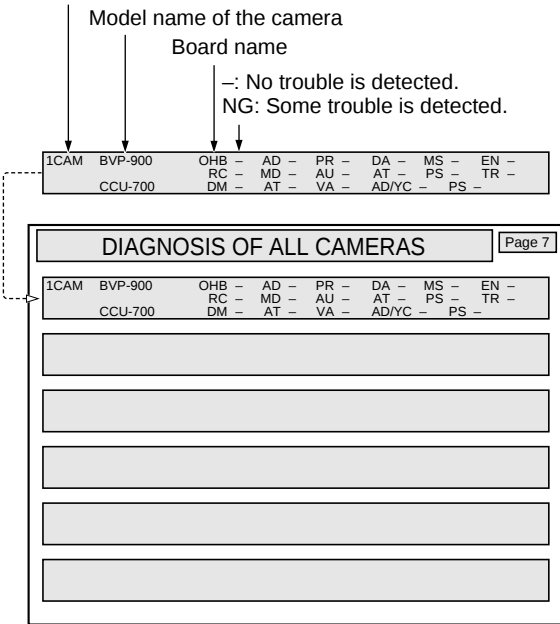
The page corresponding to the pressed item appears.



Page 7 (Diag <1-6>)

The results of self-diagnosis of the cameras numbered 1 through 6 appear. Each row from top to bottom corresponds to cameras 1 through 6.

When a camera is connected to the CNU-700/500, the number corresponding to the CCU 1 through 6 connector to which the camera is connected appears. If no camera is connected, nothing appears.



Page 8 (Diag <7-12>)

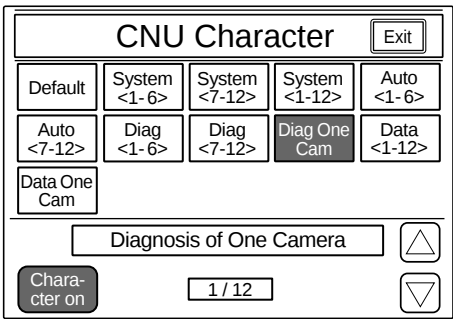
The results for the cameras numbered 7 through 12 appear. The items displayed are the same as those with page 7.

This page appears only when the CNU-700 is used.

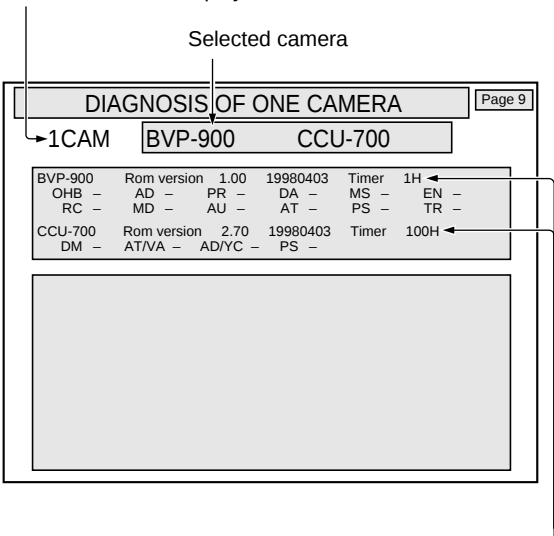
Page 9 (Diag One Cam)

The results for the cameras numbered 1 through 12 appear for each camera. Select the camera by pressing Δ or ∇ .

When the CNU-500 is used, the displayed camera number is 1 through 6.



Camera number of the camera whose results are displayed



The ROM version of the camera and CCU, and the registered date are displayed. This display is fixed about one minute after the power is turned ON.

Setting status of the camera

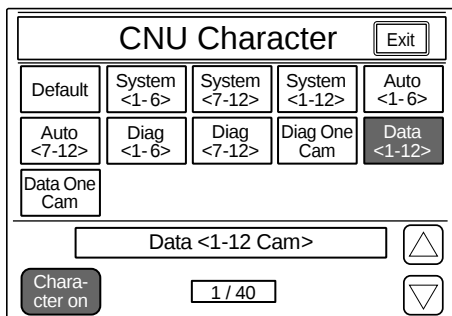
On pages 10 and 11, the setting status of the camera is displayed for each item or each camera.

To display pages 10 or 11, press either

Data<1-12> (page 10) or **Data One Cam** (page 11)

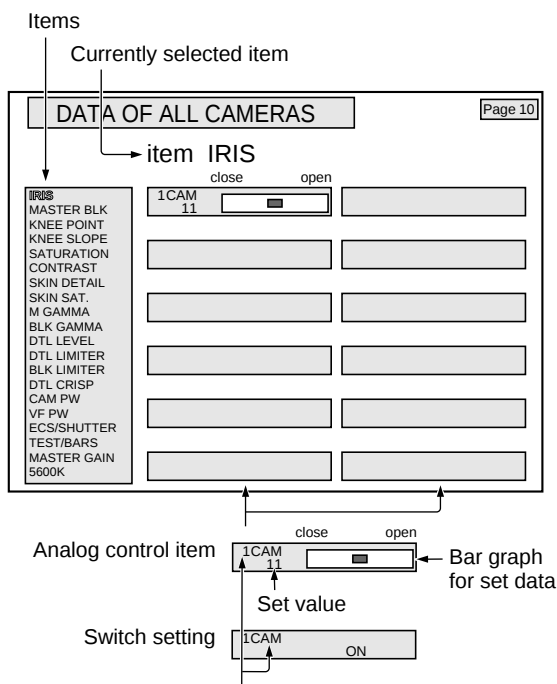
on the CNU Character display to set it in inverse video.

The page corresponding to the pressed item appears.



Page 10 (Data <1-12>)

The setting status of the cameras numbered 1 through 12 is displayed for each item. Each row on the left corresponds to Camera 1 through 6 from top to bottom, and that on the right corresponds to Camera 7 through 12 from top to bottom. Select the item by pressing Δ or ∇ .

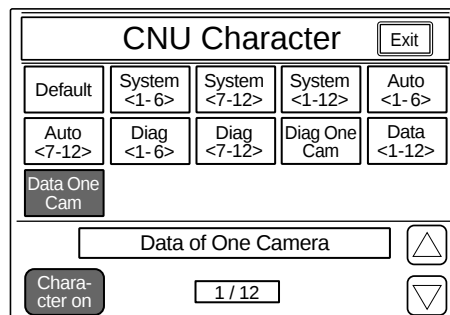


When a camera is connected to the CNU-700/500, one of the numbers of the CCU 1 through 6 connectors to which the camera is connected appears. If some trouble occurs with the camera, this blinks.

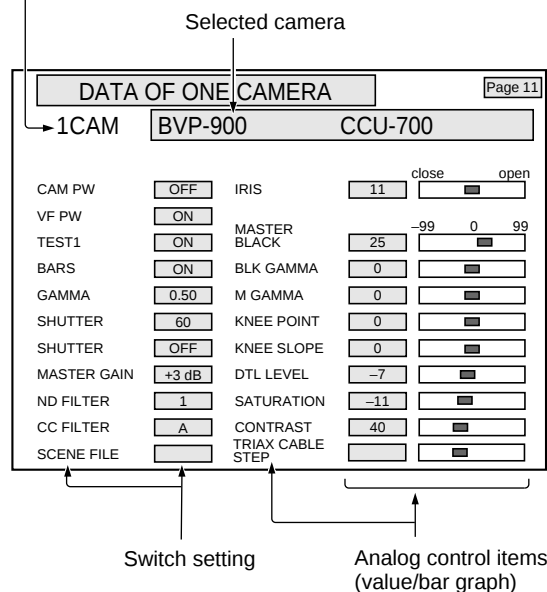
Page 11 (Data One Cam)

The setting status of the cameras numbered 1 through 12 is displayed for each camera. Select the camera by pressing Δ or ∇ .

When the CNU-500 is used, displayed camera number is 1 to 6.



Camera number whose setting status is currently displayed.



Selecting a camera whose data is to be displayed

The camera displayed on pages 9 and 11 is selected with Δ or ∇ on the display. You can link the camera selection with the camera select button setting on the MSU-700A/750 by setting the internal switch setting.

For details, see “3-2 Settings and Adjustment on Setup.”

7-1 Camera Controls for Stand-Alone Usage

When using a camera as a standalone unit, you can adjust the camera with a controller, such as the MSU-700A/750 and the RCP-700-series, to the REMOTE connector. You can also adjust it using switches on it or the menu displays on its viewfinder without connecting a controller.

Using the RM-B150 remote control unit, you can control the camera at hand.

- For the operating procedures, see the respective pages shown in “Ref” column of the table.
- Also refer to the Operation Manuals of the camera and RM-B150.

Control Functions

Item	BVP-900/900P			BVP-950/950P			RM-B150
	Switch	Menu	Ref.	Switch ^{f)}	Menu	Ref.	
VTR start/stop	CALL	–	–	VTR START	–	7-9	START/STOP
Standardizing	–	Standard	7-7	–	Standard	7-16	STANDARD
ND/CC filter ^{a)} selection	FILTER CTL ND/CC	–	4-46	FILTER CTL/ND/CC	–	4-46	FILTER ND/CC
Auto iris setup ^{a)}	–	Auto Iris Setup	7-8	–	Auto Iris Setup	7-17	AUTO
Gain selection	–	–	–	GAIN	–	7-9	GAIN
Auto black balance setup ^{a)}	–	Auto Black Balance	5-10	AUTO W/B BAL	–	7-10	ABB
				–	Auto Black Balance	5-11	
Auto level setup	–	Auto Setup	7-7	–	Auto Setup	7-16	–
Master black adjustment	–	Black	7-5	–	Black	7-14	MASTER BLACK
Auto white balance setup ^{a)}	–	–	–	AUTO W/B BAL	–	7-10	AWW
White balance memory	–	–	–	WHITE (A/B/PRESET)	–	7-10	A/B/PRE
Auto black shading ^{a)}	–	Auto Black Shading	5-10	–	Auto Black Shading	5-11	–
Auto white shading ^{a)}	–	Auto White Shading	5-10	–	Auto White Shading	5-11	–
Detail level adjustment	–	Detail	7-5	–	Detail	7-14	DETAIL
Skin detail ON/OFF	–	Skin Detail	7-5	–	Skin Detail	7-14	Menu ^{d)}
– level adjustment	–	Level	7-4	–	Level	7-13	Menu ^{e)}
– phase adjustment	–	Phase	7-4	–	Phase	7-13	–
– width adjustment	–	Width	7-5	–	Width	7-14	–
– saturation adjustment	–	Saturation	7-4	–	Saturation	7-13	–
Skin detail gate ON/OFF	–	Detail Gate	7-5	–	Detail Gate	7-14	–
Skin detail auto hue	–	Auto Hue	7-4	–	Auto Hue	7-13	–
Gamma adjustment	–	Gamma	7-6	–	Gamma	7-15	M GAMMA
Auto knee ON/OFF	–	–	–	AUTO KNEE	–	7-9	AUTO KNEE
Knee adjustment	–	Knee	7-6	–	Knee	7-15	KNEE
ECS/Shutter mode switching	–	–	–	SHUTTER	–	7-10	SHUTTER/ECS
Shutter speed selection	–	–	–	SHUTTER/SEL	–	7-10	Control
ECS frequency selection	–	ECS Freq.	7-7	–	ECS Freq.	7-16	Control
S-EVS ON/OFF	–	Super EVS	7-7	–	Super EVS	7-16	S-EVS
Output signal selection	–	–	–	OUTPUT	–	7-9	OUTPUT
Reference file storage	–	Reference Store	5-6	–	Reference Store	5-7	–
OHB file storage	–	OHB File Store	5-9	–	OHB File Store	5-10	–
Scene file retrieval	–	Scene	7-6	–	Scene	7-15	–

a) Also operable on the camera which is connected to the CCU.

b) Only the menu operable when connected to the CCU. (The switch on the BVP-950/950P invalid)

c) Channel 1 only.

d) Can be assigned using SW Setup of the RM Configuration menu.

e) Can be assigned using VR Setup of the RM Configuration menu.

f) Switch operations are disabled when the camera is installed in the CA-905F/905K.

7-2 Adjustments on the BVP-900/900P

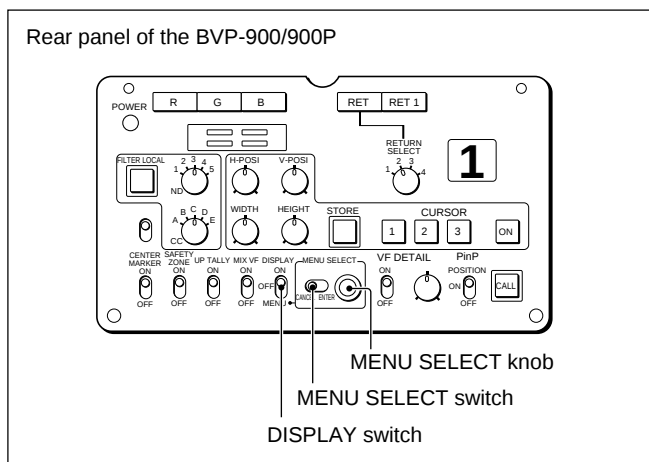
Notes

- To use the BVP-900/900P as a standalone unit, the optional BKP-7910/7910P is required.
- The BVP-700/700P upgraded with the BKP-7090/7090P can use the same menus as those of the BVP-900/900P while the panel configuration differs.

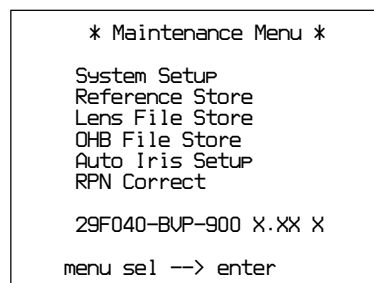
For the operation on the BVP-700/700P, see “7-2-8 Adjustments of the BVP-700/700P Upgraded With the BKP-7090/7090P.”

7-2-1 Menu Selection

Select adjustment menus from the Maintenance or Operation menu.
For menu operations, use the DISPLAY switch, MENU SELECT knob and MENU SELECT switch.



Maintenance menu



For Reference Store, Lens File Store, and OHB File Store, see Chapter 5 “File Operations.”

To select a menu

Turn the MENU SELECT knob to set the cursor to the line of the desired menu, then press the MENU SELECT switch toward ENTER.

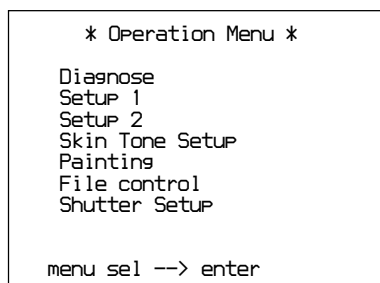
To release the Maintenance menu

Return the DISPLAY switch to OFF.

To display the Operation menu

Set the DISPLAY switch to MENU.
The Operation menu appears in the viewfinder.

Operation menu



Setup 2, Skin Tone Setup, Painting, File Control and Shutter Setup provide menus for stand-alone operation. The latter three menus are available only when the

7-2-2 Adjustment With the VF Setup 2 Menu

By pressing the MENU SELECT switch toward ENTER with the cursor set at “Setup 2” on the Operation menu (page 7-2), the VF Setup 2 menu appears.

VF Setup 2 menu

* VF Setup 2 *	
Center Marker H	: LOCK
Center Marker V	: LOCK
Safety Zone LVL	: 90%
PinP Mode 1	: 1
VF DTL Peaking	: OFF
Zoom indicator	: OFF
Test Out Select	: REM
Monitor Select	: Y

“Test Out Select” is for stand-alone operation, and appears only when the RM-B150, RCP-700-series panel or MSU-700A/750 is connected to the REMOTE connector of the camera with the CCU-700A/700AP not connected.

“Monitor Select” appears when “Test Out Select” is set to REM,

Using these menu items, you can select control mode and signal for monitor output from the TEST OUT connector of the camera.

To set control mode for the TEST OUT signal

Adjustment procedure

- 1 Set the cursor to “Test Out Select” by turning the MENU SELECT knob.

The REM or LOC indication starts blinking.

- 2 Press the MENU SELECT switch toward ENTER.

Each time you press the switch, “REM” and “LOC” are cyclically selected.

When the item is set to “LOC (local),” the TEST OUT signal can be selected using the signal select buttons on the rear panel of the camera.

When the item is set to “REM (remote),” the signal select buttons of the camera are disabled. The TEST OUT signal currently selected is

displayed for “Monitor Select.”

The signal can be selected using the MONITOR SELECT button on the connected MSU-700A/750 or the RCP-700-series panel or on the Monitor Select menu.

To select the TEST OUT signal with the Monitor select menu

- 1 Set the cursor to “Monitor Select” by turning the MENU SELECT knob.

The signal indication starts blinking.

- 2 Press the MENU SELECT switch toward ENTER.

Each time you press the switch, “Y,” “R,” “G,” and “B” are cyclically selected.

When the selection is completed

Press the MENU SELECT switch toward CANCEL to return to the Operation menu.

7-2-3 Adjustments With the Skin Tone Detail Menu

By pressing the MENU SELECT switch toward ENTER with the cursor set at “Skin Tone Setup” on the Operation menu (page 7-2), the Skin Tone Detail menu appears.

Skin Tone Detail menu

* Skin Tone Detail *	
Auto Hue	: 0
Level	: 0
Saturation	: 0
Phase	: 0
Width	: 0
Skin Detail	: OFF
Detail Gate	: OFF

The following operations can be performed with the Skin Tone Detail menu.

- Auto Setup of the skin tone detail hue
- Adjustment of the skin detail level
- Adjustment of the skin detail saturation
- Adjustment of the skin detail phase
- Adjustment of the skin detail width
- On/Off of the skin tone detail function
- On/Off of the skin tone detail gate function

To automatically set up the skin tone detail hue

Operating procedure

- 1 Set the cursor to “Auto Hue” by turning the MENU SELECT knob.

The gate marker appears on the center of the viewfinder screen.

- 2 Operate the camera so that the gate marker overlaps the color for which the skin tone detail function is to be activated.
- 3 Press the MENU SELECT switch.

Auto setup of the skin tone detail hue begins.

When auto setup is completed, the message “completed” appears.

To interrupt auto setup

Press the MENU SELECT switch again. The message “Break” is displayed and the adjustment is canceled.

To adjust the skin detail level

Adjustment procedure

- 1 Set the cursor to “Level” by turning the MENU SELECT knob.
- 2 Press the MENU SELECT switch toward ENTER.

The figure starts blinking.

- 3 Adjust the level with the MENU SELECT knob.
- 4 Press the MENU SELECT switch toward ENTER.

The figure stops blinking and the adjustment is completed.

To adjust the skin detail saturation

Adjustment procedure

- 1 Set the cursor to “Saturation” by turning the MENU SELECT knob.
- 2 Press the MENU SELECT switch toward ENTER.

The figure starts blinking.

- 3 Adjust the saturation with the MENU SELECT knob.
- 4 Press the MENU SELECT switch toward ENTER.

The figure stops blinking and the adjustment is completed.

To adjust the skin detail phase

Adjustment procedure

- 1 Set the cursor to “Phase” by turning the MENU SELECT knob.
- 2 Press the MENU SELECT switch toward ENTER.

The figure starts blinking.

- 3 Adjust the phase with the MENU SELECT knob.
- 4 Press the MENU SELECT switch toward ENTER.

The figure stops blinking and the adjustment is completed.

To adjust the skin detail width

Adjustment procedure

- 1** Set the cursor to “Width” by turning the MENU SELECT knob.
The figure starts blinking.
- 2** Press the MENU SELECT switch toward ENTER.
The figure starts blinking.
- 3** Adjust the width with the MENU SELECT knob.
- 4** Press the MENU SELECT switch toward ENTER.
The figure stops blinking and the adjustment is completed.

To turn on/off the skin tone detail function

Operating procedure

- 1** Set the cursor to “Skin Detail” by turning the MENU SELECT knob.
The current status (ON or OFF) starts blinking.
- 2** Press the MENU SELECT switch toward ENTER for the desired status.
Each press on the switch selects ON or OFF in turn.

To turn on/off the skin tone detail gate function

Operating procedure

- 1** Set the cursor to “Skin Detail Gate” by turning the MENU SELECT knob.
The current status (ON or OFF) starts blinking.
- 2** Press the MENU SELECT switch toward ENTER for the desired status.
Each press on the switch selects ON or OFF in turn.

When the adjustments are completed

Press the MENU SELECT switch toward CANCEL to return to the Operation menu.

7-2-4 Adjustments With the Painting Menu

By pressing the MENU SELECT switch toward ENTER with the cursor set at “Painting” on the Operation menu (*page 7-2*), the Painting menu appears.

Painting menu

* Painting *	
Black	: 0
Detail	: 0
Gamma	: 0
Knee	: 0

The following operations can be performed with the Painting menu.

- Adjustment of the black
- Adjustment of the detail level
- Adjustment of the gamma
- Adjustment of the knee

To adjust the black

Adjustment procedure

- 1** Set the cursor to “Black” by turning the MENU SELECT knob.
- 2** Press the MENU SELECT switch toward ENTER.
The figure starts blinking.
- 3** Adjust the level with the MENU SELECT knob.
- 4** Press the MENU SELECT switch toward ENTER.
The figure stops blinking and the adjustment is completed.

To adjust the detail level

Adjustment procedure

- 1** Set the cursor to “Detail” by turning the MENU SELECT knob.
- 2** Press the MENU SELECT switch toward ENTER.
The figure starts blinking.

(Continued)

7-2 Adjustments on the BVP-900/900P

- 3 Adjust the level with the MENU SELECT knob.
- 4 Press the MENU SELECT switch toward ENTER.

The figure stops blinking and the adjustment is completed.

To adjust the gamma

Adjustment procedure

- 1 Set the cursor to “Gamma” by turning the MENU SELECT knob.
 - 2 Press the MENU SELECT switch toward ENTER.
- The figure starts blinking.
- 3 Adjust the level with the MENU SELECT knob.
 - 4 Press the MENU SELECT switch toward ENTER.

The figure stops blinking and the adjustment is completed.

To adjust the knee

Adjustment procedure

- 1 Set the cursor to “Knee” by turning the MENU SELECT knob.
 - 2 Press the MENU SELECT switch toward ENTER.
- The figure starts blinking.
- 3 Adjust the width with the MENU SELECT knob.
 - 4 Press the MENU SELECT switch toward ENTER.

The figure stops blinking and the adjustment is completed.

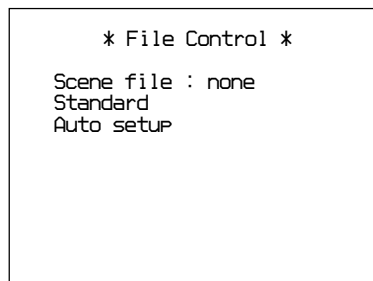
When the adjustments are completed

Press the MENU SELECT switch toward CANCEL to return to the Operation menu.

7-2-5 Adjustments With the File Control Menu

By pressing the MENU SELECT switch toward ENTER with the cursor set at “File control” on the Operation menu (*page 7-2*), the File Control menu appears.

File Control menu



The following operations can be performed with the File Control menu.

- Retrieving and canceling scene files
- Retrieving the standard settings
- Auto Level Setup

To retrieve scene files

Operating procedure

- 1 Set the cursor to “Scene” file by turning the MENU SELECT knob.
 - 2 Press the MENU SELECT switch toward ENTER.
- The number or “none” starts blinking.
- 3 Select the desired scene file number with the MENU SELECT knob.
 - 4 Press the MENU SELECT switch toward ENTER.

The number stops blinking and the corresponding scene file is retrieved.

To cancel the scene file

Select “none” in Step 3 above.

When you press the MENU SELECT switch, the scene file is canceled.

To retrieve the standard settings

Operating procedure

- 1 Set the cursor to “Standard” by turning the MENU SELECT knob.
- 2 Press the MENU SELECT switch toward ENTER.

The control items returns to the same settings as those of the reference file, and the message “Completed” appears.

To execute the Level auto setup

Operating procedure

- 1 Set the cursor to “Auto setup” by turning the MENU SELECT knob.
- 2 Press the MENU SELECT switch toward ENTER.

Auto setup begins.

When auto setup is completed, the message “Completed” appears.

To interrupt auto setup

Press the MENU SELECT switch again. The message “Break” is displayed and the adjustment is canceled.

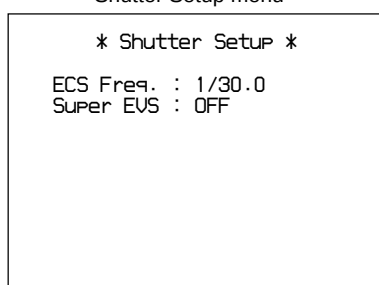
When the adjustments are completed

Press the MENU SELECT switch toward CANCEL to return to the Operation menu.

7-2-6 Adjustments With the Shutter Setup Menu

By pressing the MENU SELECT switch toward ENTER with the cursor set at “Shutter Setup” on the Operation menu (*page 7-2*), the Shutter Setup menu appears.

Shutter Setup menu



The following operations can be performed with the Shutter Setup menu.

- Adjustment of the shutter speed (ECS frequency) in ECS mode
- On/Off of the Super EVS mode

To adjust the shutter speed (ECS frequency) in ECS mode

Adjustment procedure

- 1 Set the cursor to “ECS Freq.” by turning the MENU SELECT knob.
- 2 Press the MENU SELECT switch toward ENTER.
The figure starts blinking.
- 3 Adjust the speed with the MENU SELECT knob.
- 4 Press the MENU SELECT switch toward ENTER.
The figure stops blinking and the adjustment is completed.

To turn on/off the Super EVS mode

Operating procedure

- 1 Set the cursor to “Super EVS” by turning the MENU SELECT knob.
The current status (ON or OFF) starts blinking.
- 2 Press the MENU SELECT switch toward ENTER for the desired status.
Each press on the button selects ON or OFF in turn.

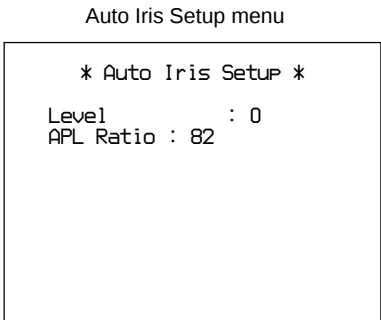
When the adjustments are completed

Press the MENU SELECT switch toward CANCEL to return to the Operation menu.

7-2 Adjustments on the BVP-900/900P

7-2-7 Adjustments With the Auto Iris Setup Menu

By pressing the MENU SELECT switch toward ENTER with the cursor set at “Auto Iris Setup” on the Maintenance menu (page 7-2), the Auto Iris Setup menu appears.



The convergence target and APL ratio for the automatic iris adjustment can be adjusted using this menu.

To adjust the Auto Iris values

Adjustment procedure

- 1 While holding the MENU SELECT switch down, Set the cursor to the item to be adjusted by turning the MENU SELECT knob, and press the MENU SELECT switch toward ENTER.

Level

Turn the left-most control to determine the convergence target of the automatic iris adjustment. The higher you set the value, so is the level.

APL (Average Picture Level) Ratio

Turn the second control from the left to determine if the feedback is to be applied according to the peak luminance of the object or the average luminance.

The higher you set the value, the feedback depends more on the average luminance.

Set value	-99	0	+99
Peak-to-Average	1:0	1:1	0:1

- 2 Adjust the item selected in step 1 by turning the MENU SELECT knob.

- 3 Repeat steps 1 and 2 as required.
- 4 When the adjustments are completed, press the MENU SELECT switch toward CANCEL to return to the Maintenance menu.

7-2-8 Adjustments of the BVP-700/700P Upgraded With the BKP-7090/7090P

The BVP-700/700P upgraded with the BKP-7090/7090P uses the same menus as those of the BVP-900/900P.

Note that, however, Skin Tone Detail Gate ON/OFF (page 7-5) is not operable.

The controls for menu operations are different from those on the BVP-900/900P as follows.

To display the Operation menu

Push the DISPLAY switch from ON to PAGE.

To display the Maintenance menu

Push the DISPLAY switch from ON to PAGE while holding the CURSOR ON button pressed.

To move the cursor

Turn the VF DETAIL control.

To fix the setting

Press the CURSOR ON button.

The operation corresponds to that performed by pressing the MENU SELECT switch toward ENTER on the BVP-900/900P.

To cancel the setting

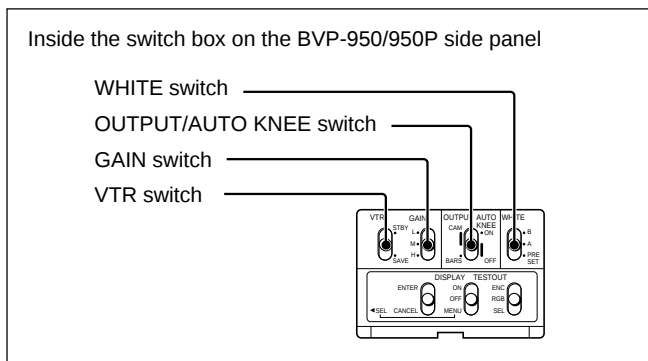
Press one of the CURSOR 1 to 3 buttons.

The operation corresponds to that performed by pressing the MENU SELECT switch toward CANCEL on the BVP-900/900P.

7-3 Adjustments on the BVP-950/950P

7-3-1 Switch Operations

When you use the BVP-950/950P as a stand-alone unit, the following four switches in the side switch box are operative. These switches do not work when the camera is installed in the CA-905F/905K or when the CCU-700A/700AP/550A/550AP is connected or the RM-B150, RCP-700-series panel or MSU-700A/750 is connected to the REMOTE connector of the camera.



WHITE (white balance memory select) switch

Select the white balance adjustment method and memory to store the adjusted value.

PRESET: White balance is automatically adjusted to the preset value for the color temperature of 3200K.

A or B: Memory A or B is selected.

For the white balance adjustment, see “7-3-2 Auto Setup of the Black Balance/White Balance.”

OUTPUT/AUTO KNEE (output signal select/auto knee) switch

Select an output signal supplied to a VTR, viewfinder and video monitor (color bar signals or camera picture). When a camera picture is selected, the auto knee function can be activated.

BARS/OFF: Color-bar signals are output, and the auto-knee circuit does not function.

CAM/OFF: A camera picture is output, but the auto-knee circuit does not function.

CAM/ON: A camera picture is output, and the auto-knee circuit functions.

GAIN switch

Select the appropriate video gain according to the illumination of the subject to be shot. The values for positions L, M, and H are set with the setup menu.

For setting the values for positions L, M, and H, see “7-3-10 Adjustment With the System Setup Menu.”

VTR switch

Select the control signal for the VTR when the VTR is connected to the BVP-950/950P using the optional CA-553/553P Camera Adaptor. According to the setting of this switch, the VTR starts recording as follows:

SAVE: Power-save position for recording. Recording starts a few second after the VTR START button is pressed. A newly recorded picture may not smoothly be connected to the previously recorded part.

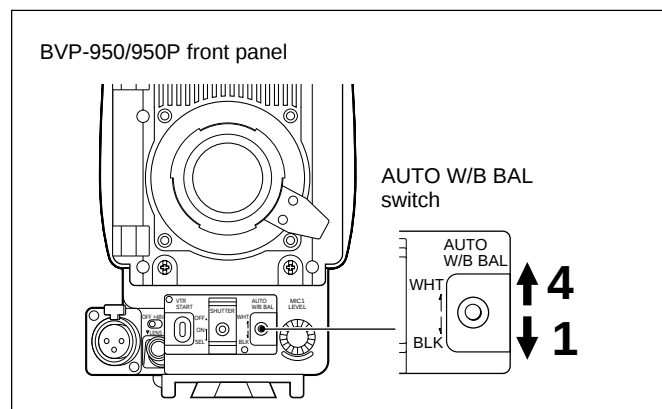
STBY: Recording starts immediately upon pressing the VTR START button.

7-3-2 Auto Setup of the Black Balance/White Balance

When using the BVP-950/950P as a stand-alone unit, you can execute auto setup of the black balance (with the black set) and the white balance on the camera. The white balance value and the ND/CC filter settings can be stored in memory A or B.

Note that the memory store operation is disabled when the camera is installed in the CA-905F/905K.

Operating procedure

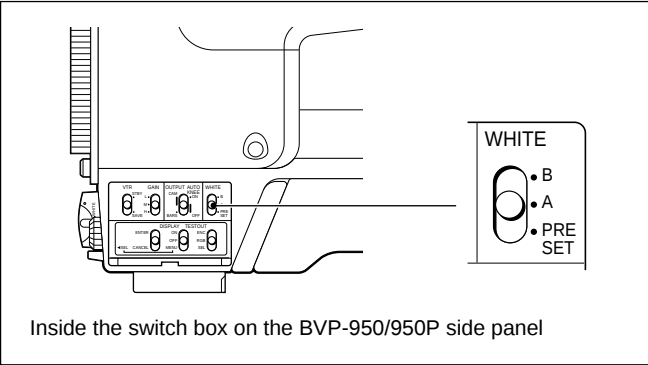


7-3 Adjustments on the BVP-950/950P

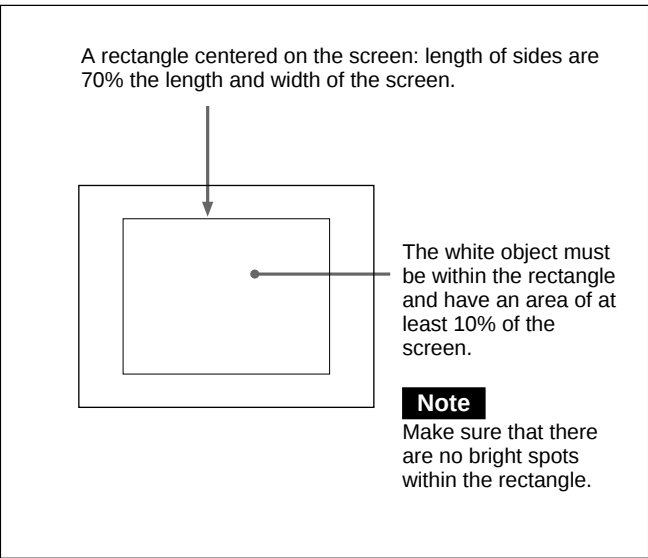
- 1 Press the AUTO W/B BAL switch downward to BLK.

The black balance and the black set are automatically adjusted.

- 2 When you want to store the adjusted white balance value in memory, set the WHITE switch either to A or B.



- 3 Shoot a white pattern (which can be substituted with white paper or wall).

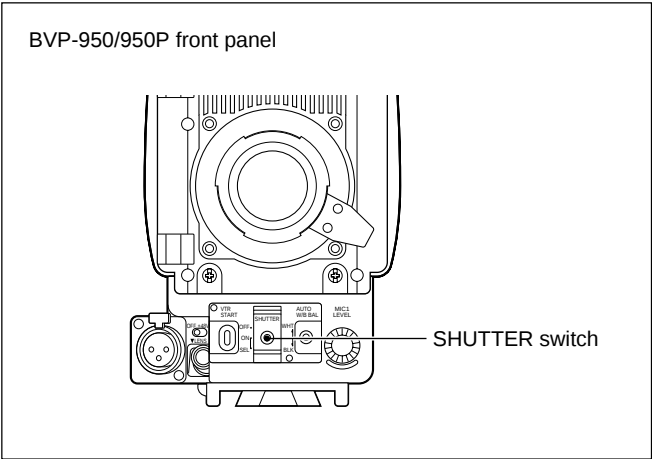


- 4 Press the AUTO W/B BAL switch upward to WHT.

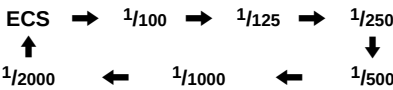
The white balance is automatically adjusted, and the adjusted value and the ND/CC filter settings are stored in memory selected in step 2.

7-3-3 Selecting the Shutter Speed

The SHUTTER switch on the front panel enables the shutter On/Off operation and shutter speed selection. (This operation is disabled when the camera is installed in the CA-905F/905K.)



OFF: The electronic shutter is deactivated.
ON: Set to this position to use the electronic shutter.
SEL: Each time you press the switch downwards from ON to SEL, the shutter speed setting changes as follows.



For the speeds in ECS mode, see “7-3-9 Adjustments With the Shutter Setup Menu.”

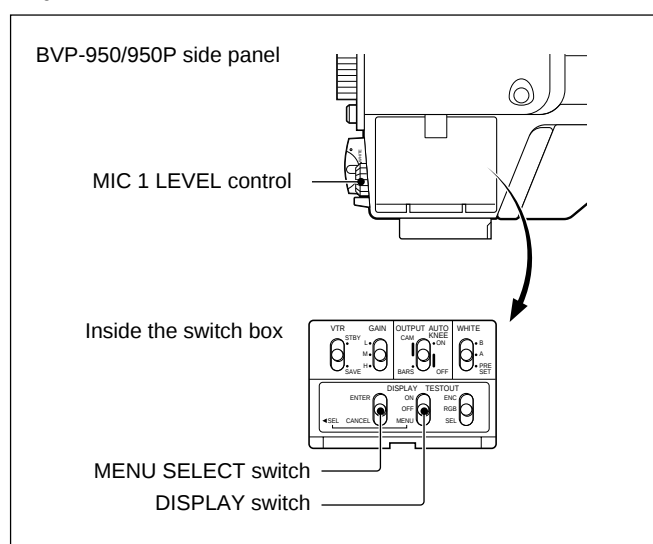
7-3-4 Menu Selection

Select adjustment menus from the Maintenance or Operation menu.

For menu operations, use the DISPLAY switch, MIC 1 LEVEL control and ENTER/CANCEL switch.

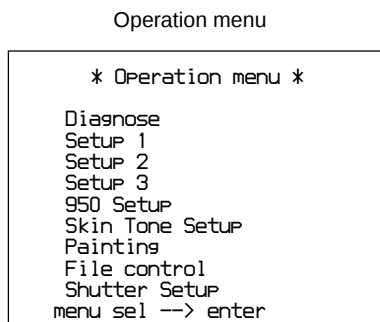
Note

When the camera is installed in the CA-905F/905K, use the rear control panel of the CA-905F/905K and operate in the same manner as described in “7-2 Adjustments on the BVP-900/900P.”



To display the Operation menu

Set the DISPLAY switch to MENU.
The Operation menu appears in the viewfinder.



Setup 3, Skin Tone Setup, Painting, File Control Shutter Setup provide menus for stand-alone operation. The latter three menus are not available when the CCU-700A/700AP/550A/550AP is connected, or the RM-B150, RCP-700-series panel or MSU-700A/750 is connected to the REMOTE connector of the camera.

To select a menu

Turn the MIC 1 LEVEL control to set the cursor to the line of the desired menu, then press the ENTER/CANCEL switch upward to ENTER.

To release the Operation menu

Return the DISPLAY switch to OFF.

To display the Maintenance menu

While holding the ENTER/CANCEL switch upward to ENTER, set the DISPLAY switch to MENU.
The Maintenance menu appears in the viewfinder.



For Reference Store, Lens File Store, and OHB File Store, see Chapter 5 “File Operations.”

To select a menu

Turn the MIC 1 LEVEL control to set the cursor to the line of the desired menu, then press the control.

To release the Maintenance menu

Return the DISPLAY switch to OFF.

7-3 Adjustments on the BVP-950/950P

7-3-5 Adjustment With the VF Setup 3 Menu

By pressing the MENU SELECT switch toward ENTER with the cursor set at “Setup 3” on the Operation menu (page 7-11), the VF Setup 3 menu appears.

VF Setup 3 menu

* VF Setup 3 *	
Mix VF	: OFF
VF Detail	: OFF
VF Detail Level	: OFF
VF Y Fix	: 0
Test Out Select	: REM
Monitor Select	: Y

“Test Out Select” is for for stand-alone operation, and appears only when the RM-B150, RCP-700-series panel or MSU-700A/750 is connected to the REMOTE connector of the camera with the CCU-700A/700AP/550A/550AP not connected.

“Monitor Select” appears when “Test Out Select” is set to REM,

Using these menu items, you can select control mode and signal for monitor output from the TEST OUT connector of the camera.

The TEST OUT signal currently selected is displayed for “Monitor Select.”

The signal can be selected using the MONITOR SELECT button on the connected MSU-700A/750 or the RCP-700-series panel or on the Monitor Select menu.

To select the TEST OUT signal with the Monitor select menu

- 1 Set the cursor to “Monitor Select” by turning the MIC 1 LEVEL control.

The signal indication starts blinking.

- 2 Press the MIC 1 LEVEL control.

Each time you press the control, “Y,” “R,” “G,” and “B” are cyclically selected.

When the selection is completed

Press the ENTER/CANCEL switch toward CANCEL to return to the Operation menu.

To set control mode for the TEST OUT signal

Adjustment procedure

- 1 Set the cursor to “Test Out Select” by turning the MIC 1 LEVEL control.

The REM or LOC indication starts blinking.

- 2 Press the MIC 1 LEVEL control.

Each time you press the control, “REM” and “LOC” are cyclically selected.

When the item is set to “LOC (local),” the TEST OUT signal can be selected using the TEST OUT selector in the side switch box of the camera.

When the item is set to “REM (remote),” the signal select buttons of the camera are disabled.

7-3-6 Adjustments With the Skin Tone Detail Menu

By pressing the MIC 1 LEVEL control with the cursor set at “Skin Tone Setup” on the Operation menu (page 7-11), the Skin Tone Detail menu appears.

Skin Tone Detail menu

* Skin Tone Detail *	
Auto Hue	: 0
Level	: 0
Saturation	: 0
Phase	: 0
Width	: 0
Skin Detail	: OFF
Detail Gate	: OFF

The following operations can be performed with the Skin Tone Detail menu.

- Auto Setup of the skin tone detail hue
- Adjustment of the skin detail level
- Adjustment of the skin detail saturation
- Adjustment of the skin detail phase
- Adjustment of the skin detail width
- On/Off of the skin tone detail function
- On/Off of the skin tone detail gate function

To automatically set up the skin tone detail hue

Operating procedure

- 1** Set the cursor to “Auto Hue” by turning the MIC 1 LEVEL control, then press the control.

The gate marker appears on the center of the viewfinder screen.

- 2** Operate the camera so that the gate marker overlaps the color for which the skin tone detail function is to be activated.
- 3** Press the MIC 1 LEVEL control.

Auto setup of the skin tone detail hue begins.

When auto setup is completed, the message “completed” appears.

To interrupt auto setup

Press the ENTER/CANCEL switch downward to CANCEL. The message “Break” is displayed and the adjustment is canceled.

To adjust the skin detail level

Adjustment procedure

- 1** Set the cursor to “Level” by turning the MIC 1 LEVEL control, then press the control.

The figure starts blinking.

- 2** Adjust the level by turning the MIC 1 LEVEL control.

- 3** Press the MIC 1 LEVEL control.

The figure stops blinking and the adjustment is completed.

To adjust the skin detail saturation

Adjustment procedure

- 1** Set the cursor to “Saturation” by turning the MIC 1 LEVEL control, then press the control.

The figure starts blinking.

- 2** Adjust the saturation by turning the MIC 1 LEVEL control.

- 3** Press the MIC 1 LEVEL control.

The figure stops blinking and the adjustment is completed.

To adjust the skin detail phase

Adjustment procedure

- 1** Set the cursor to “Phase” by turning the MIC 1 LEVEL control, then press the control.

The figure starts blinking.

- 2** Adjust the phase by turning the MIC 1 LEVEL control.

- 3** Press the MIC 1 LEVEL control.

The figure stops blinking and the adjustment is completed.

7-3 Adjustments on the BVP-950/950P

To adjust the skin detail width

Adjustment procedure

- 1 Set the cursor to “Width” by turning the MIC 1 LEVEL control, then press the control.

The figure starts blinking.

- 2 Adjust the width by turning the MIC 1 LEVEL control.

- 3 Press the MIC 1 LEVEL control.

The figure stops blinking and the adjustment is completed.

To turn on/off the skin tone detail function

Operating procedure

- 1 Set the cursor to “Skin Detail” by turning the MIC 1 LEVEL control.

The current status (ON or OFF) starts blinking.

- 2 Press the MIC 1 LEVEL control.

Each press on the control selects ON or OFF in turn.

To turn on/off the skin tone detail gate function

Operating procedure

- 1 Set the cursor to “Skin Detail Gate” by turning the MIC 1 LEVEL control.

The current status (ON or OFF) starts blinking.

- 2 Press the MIC 1 LEVEL control.

Each press on the control selects ON or OFF in turn.

When the adjustments are completed

Press the ENTER/CANCEL switch downward to CANCEL to return to the Operation menu.

7-3-7 Adjustments With the Painting Menu

By pressing the MIC 1 LEVEL control with the cursor set at “Painting” on the Operation menu (page 7-11), the Painting menu appears.

Painting menu

* Painting *	
Black	: 0
Detail	: 0
Gamma	: 0
Knee	: 0

The following operations can be performed with the Painting menu.

- Adjustment of the black
- Adjustment of the detail level
- Adjustment of the gamma
- Adjustment of the knee

To adjust the black

Adjustment procedure

- 1 Set the cursor to “Black” by turning the MIC 1 LEVEL control, then press the control.

The figure starts blinking.

- 2 Adjust the level by turning the MIC 1 LEVEL control.

- 3 Press the MIC 1 LEVEL control.

The figure stops blinking and the adjustment is completed.

To adjust the detail level

Adjustment procedure

- 1 Set the cursor to “Detail” by turning the MIC 1 LEVEL control, then press the control.

The figure starts blinking.

- 2 Adjust the level by turning the MIC 1 LEVEL control.

3 Press the MIC 1 LEVEL control.

The figure stops blinking and the adjustment is completed.

To adjust the gamma

Adjustment procedure

1 Set the cursor to “Gamma” by turning the MIC 1 LEVEL control, then press the control.

The figure starts blinking.

2 Adjust the level by turning the MIC 1 LEVEL control.

3 Press the MIC 1 LEVEL control.

The figure stops blinking and the adjustment is completed.

To adjust the knee

Adjustment procedure

1 Set the cursor to “Knee” by turning the MIC 1 LEVEL control, then press the control.

The figure starts blinking.

2 Adjust the level by turning the MIC 1 LEVEL control.

3 Press the MIC 1 LEVEL control.

The figure stops blinking and the adjustment is completed.

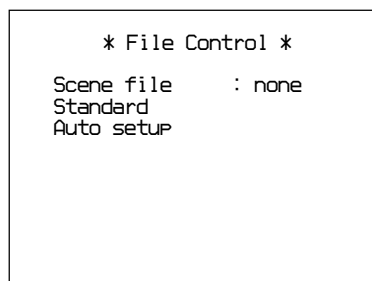
When the adjustments are completed

Press the ENTER/CANCEL switch downward to CANCEL to return to the Operation menu.

7-3-8 Adjustments With the File Control Menu

By pressing the MIC 1 LEVEL control with the cursor set at “File control” on the Operation menu (*page 7-11*), the File Control menu appears.

File Control menu



The following operations can be performed with the File Control menu.

- Retrieving and canceling scene files
- Retrieving the standard settings
- Auto Level Setup

To retrieve scene files

Operating procedure

1 Set the cursor to “Scene file” by turning the MIC 1 LEVEL control, then press the control.

The number or “none” starts blinking.

2 Select the desired scene file number by turning the MIC 1 LEVEL control.

3 Press the MIC 1 LEVEL control.

The number stops blinking and the corresponding scene file is retrieved.

To cancel the scene file

Select “none” in Step 2 above.

When you press the MIC 1 LEVEL control, the scene file is canceled.

7-3 Adjustments on the BVP-950/950P

To retrieve the standard settings

Operating procedure

- 1 Set the cursor to “Standard” by turning the MIC 1 LEVEL control.
- 2 Press the MIC 1 LEVEL control.

The control items returns to the same settings as those of the reference file, and the message “Completed” appears.

To execute the Level auto setup

Operating procedure

- 1 Set the cursor to “Auto setup” by turning the MIC 1 LEVEL control.
- 2 Press the MIC 1 LEVEL control.

Auto setup begins.
When auto setup is completed, the message “Completed” appears.

To interrupt auto setup

Press the ENTER/CANCEL switch downward to CANCEL. The message “Break” is displayed and the adjustment is canceled.

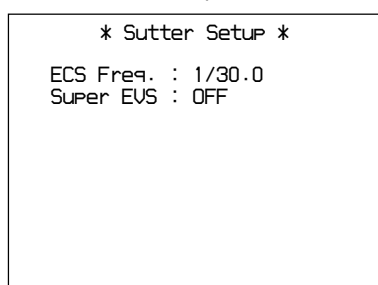
When the adjustments are completed

Press the ENTER/CANCEL switch downward to CANCEL to return to the Operation menu.

7-3-9 Adjustments With the Shutter Setup Menu

By pressing the MIC 1 LEVEL control with the cursor set at “Shutter Setup” on the Operation menu (page 7-11), the Shutter Setup menu appears.

Sutter Setup menu



The following operations can be performed with the Shutter Setup menu.

- Adjustment of the shutter speed (ECS frequency) in ECS mode
- On/Off of the Super EVS mode

To adjust the shutter speed (ECS frequency) in ECS mode

Adjustment procedure

- 1 Set the cursor to “ECS Freq.” by turning the MIC 1 LEVEL control, then press the control.

The figure starts blinking.

- 2 Adjust the speed by turning the MIC 1 LEVEL control.
- 3 Press the MIC 1 LEVEL control.

The figure stops blinking and the adjustment is completed.

To turn on/off the Super EVS mode

Operating procedure

- 1 Set the cursor to “Super EVS” by turning the MIC 1 LEVEL control.

The current status (ON or OFF) starts blinking.

- 2 Press the MIC 1 LEVEL control.

Each press on the control selects ON or OFF in turn.

Note

When the camera is in the ECS/Shutter mode, the Super EVS mode cannot be activated. The ECS/Shutter mode has the priority.

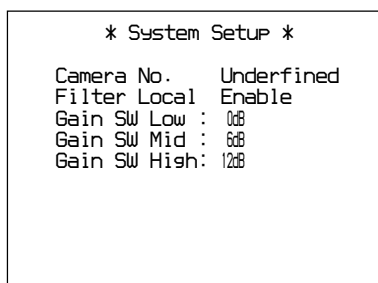
When the adjustments are completed

Press the ENTER/CANCEL switch downward to CANCEL to return to the Operation menu.

7-3-10 Adjustment With the System Setup Menu

By pressing the MIC 1 LEVEL control with the cursor set at “System Setup” on the Maintenance menu (page 7-11), the System Setup menu appears.

System Setup menu



The values obtained in the L, M and H settings of the gain switch can be selected on the System Setup menu in advance.

To select the Gain Switch Values

Operating procedure

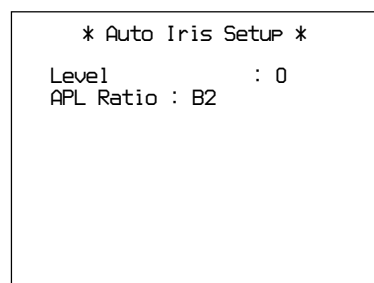
- 1 Set the cursor to the item to be adjusted by turning the MIC 1 LEVEL control, then press the control.

Gain SW Low: Gain value for the L setting of the GAIN Switch
Gain SW Mid: Gain value for the M setting of the GAIN Switch
Gain SW High: Gain value for the H setting of the GAIN Switch
- 2 By turning the MIC 1 LEVEL control, select a gain value for the position selected in step 1.
- 3 When the adjustment is completed, press the ENTER/CANCEL switch downward to CANCEL to return to the Maintenance menu.

7-3-11 Adjustment With the Auto Iris Setup Menu

By pressing the MIC 1 LEVEL control with the cursor set at “Auto Iris Setup” on the Maintenance menu (page 7-11), the Auto Iris Setup menu appears.

Auto Iris Setup menu



The the convergence target and APL ratio for the automatic iris adjustment can be adjusted using the Auto Iris Setup menu.

To adjust the Auto Iris values

Operating procedure

- 1 Set the cursor to the item to be adjusted by turning the MIC 1 LEVEL control, then press the control

Level
 Turn the left-most control to determine the convergence target of the automatic iris adjustment. The higher you set the value, so is the level.

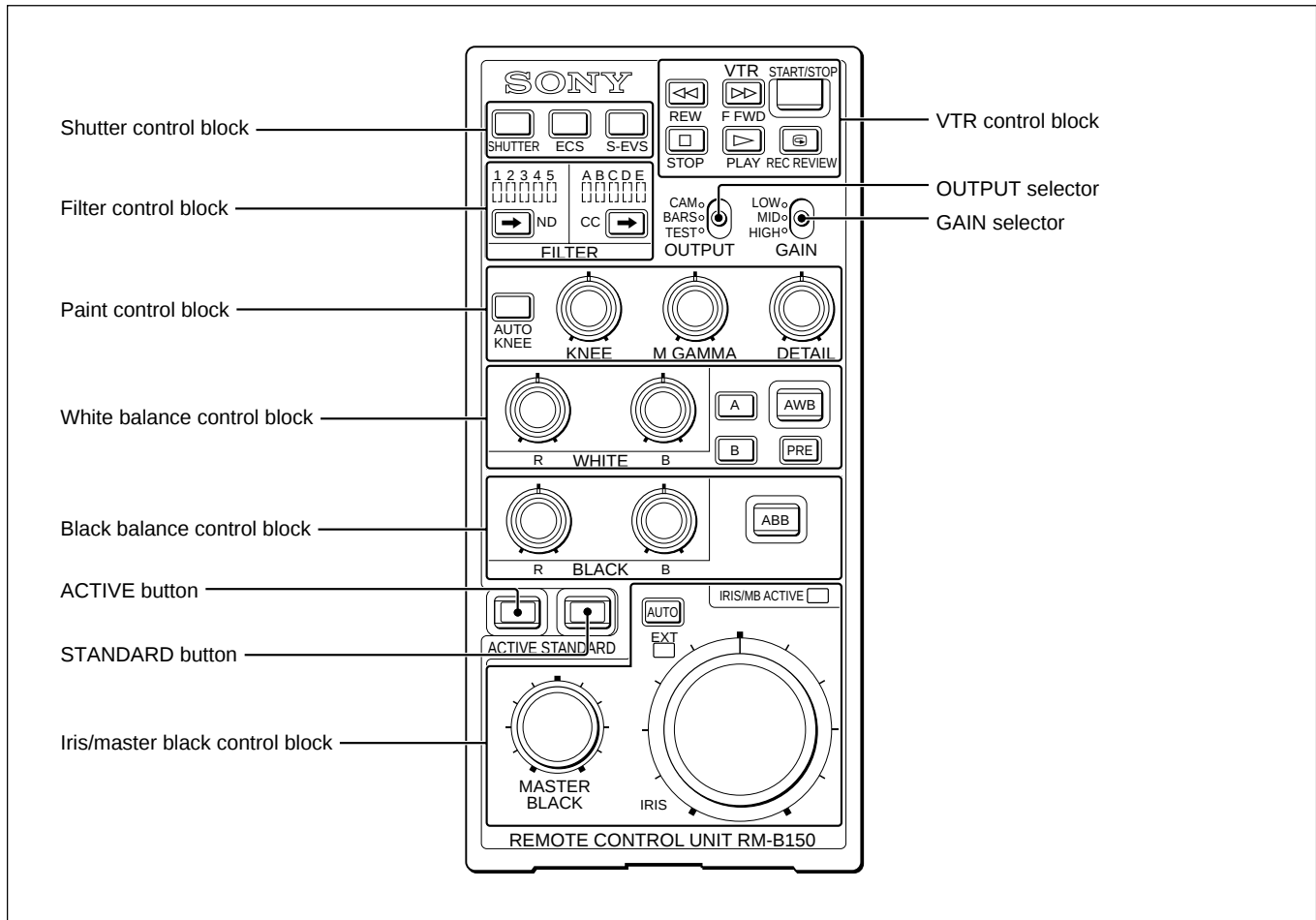
APL (Average Picture Level) Ratio
 Turn the second control from the left to determine if the feedback is to be applied according to the peak luminance of the object or the average luminance.
 The higher you set the value, the feedback depends more on the average luminance.

Set value	-99	0	+99
Peak-to-Average	1:0	1:1	0:1

- 2 Adjust the item selected in step 1 by turning the MIC 1 LEVEL control.
- 3 Repeat steps 1 and 2 as required.
- 4 When the adjustments are completed, press the ENTER/CANCEL switch downward to ENTER to return to the Maintenance menu.

7-4 Operation From the RM-B150

By connecting the RM-B150 Remote Control Unit, switch operations of the camera can be performed at hand.



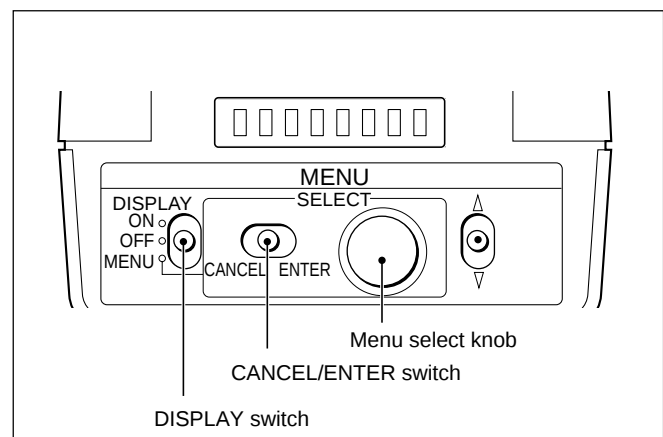
To operate the camera menu

The menus of the camera can be operated by from the RM-B150.

For operation, use the DISPLAY switch, CANCEL/ENTER switch, and menu select knob.

The operating method is the same as that using the DISPLAY switch, MENU SELECT switch (corresponding to the CANCEL/ENTER switch), and MENU SELECT knob of the BVP-900/900P.

For the operations of the switches and controls on the panel and operation of the RM-B150 menus, refer to the Operating Instructions of the RM-B150.



7-5 Stand-Alone Use of the VCS-700

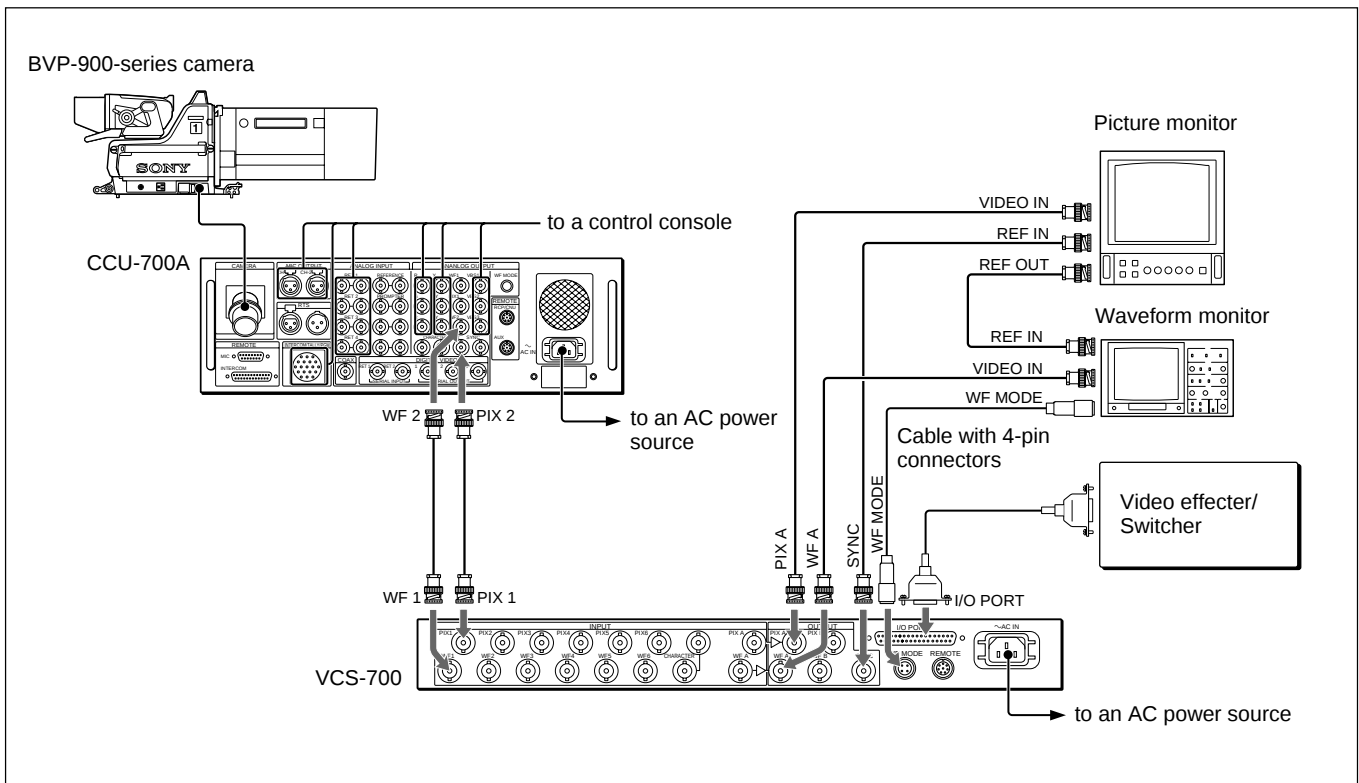
The VSC-700 is usually connected to the CNU-700 in the BVP-900-series camera system to select the camera signals in accordance with control from the MSU-700A/750. In addition, it can be used as a stand-alone video signal switcher. In this case, signal switching is performed by the control from an external device connected to the I/O PORT connector. A single VSC-700 can switch a maximum of 6 channels of signals for the picture and waveform monitors. The functions and required signal adjustments are the same as when the VCS-700 is used as a system component.

Note

In this case, control from the MSU-700A/750 is not possible.

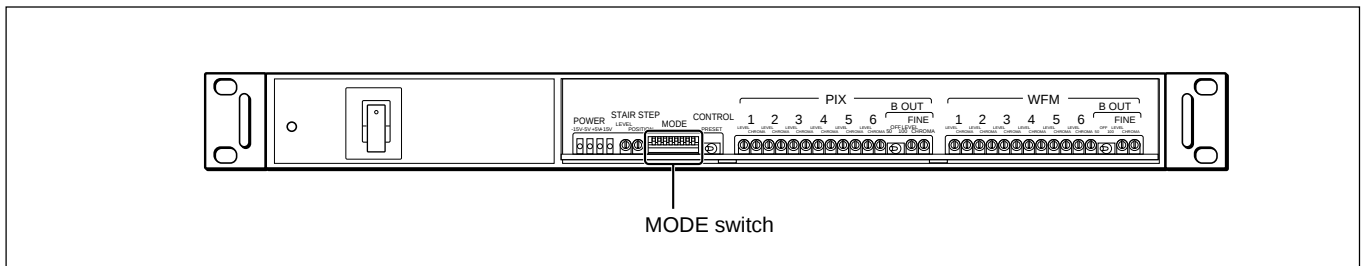
For details, see Chapter 3, “Initial Settings.”

7-5-1 Connection Example



7-5 Stand-Alone Use of the VCS-700

7-5-2 Settings for Stand-Alone Use



To enable the control via the I/O PORT connector

Set the MODE switch S4-5 on the internal board to ON. This enables signal switching from the device connected to the I/O PORT connector on the rear panel.

To display the signal on a waveform monitor in sequential mode

Set the MODE switch S4-6 to OFF. This enables three-wave display of channels 4 to 6 in sequential mode via pin 26 of the I/O PORT connector. You can select four-wave display by changing the switch setting on the component side of an internal board.

For four-wave display, consult Your Sony service representative.

Note

To display in sequential mode, be sure to connect the WF MODE connector on the rear to the WF MODE connector of the waveform monitor.

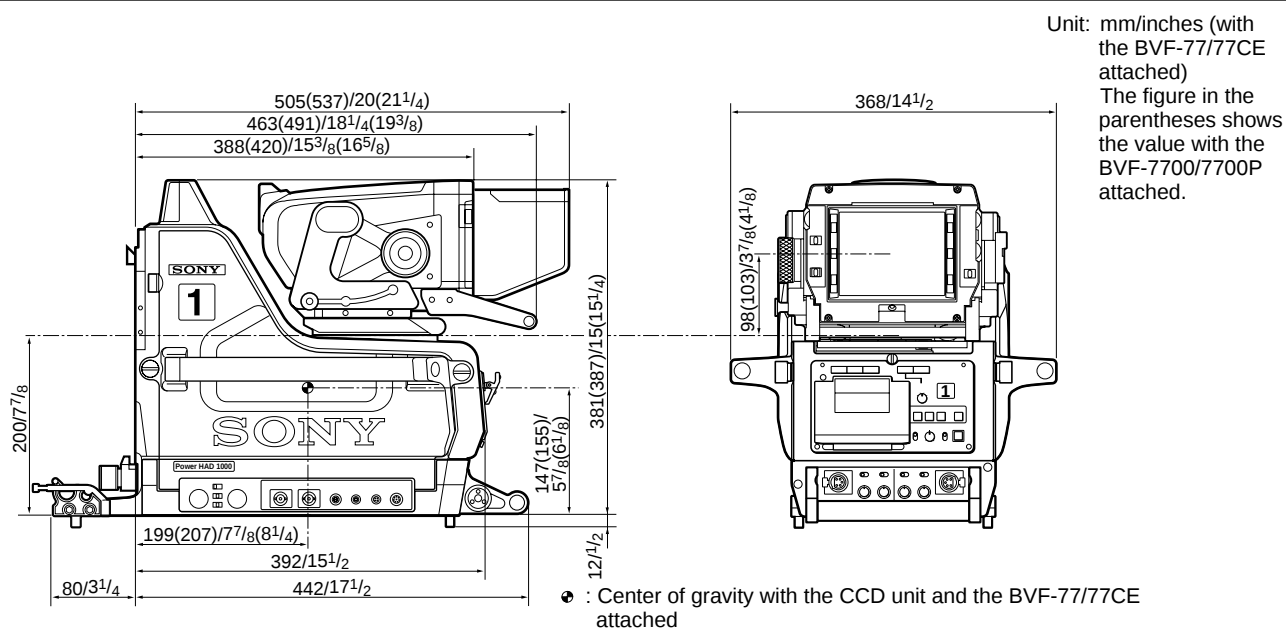
7-5-3 Notes on Stand-Alone Use

When using the VCS-700 as a stand-alone unit, note the following.

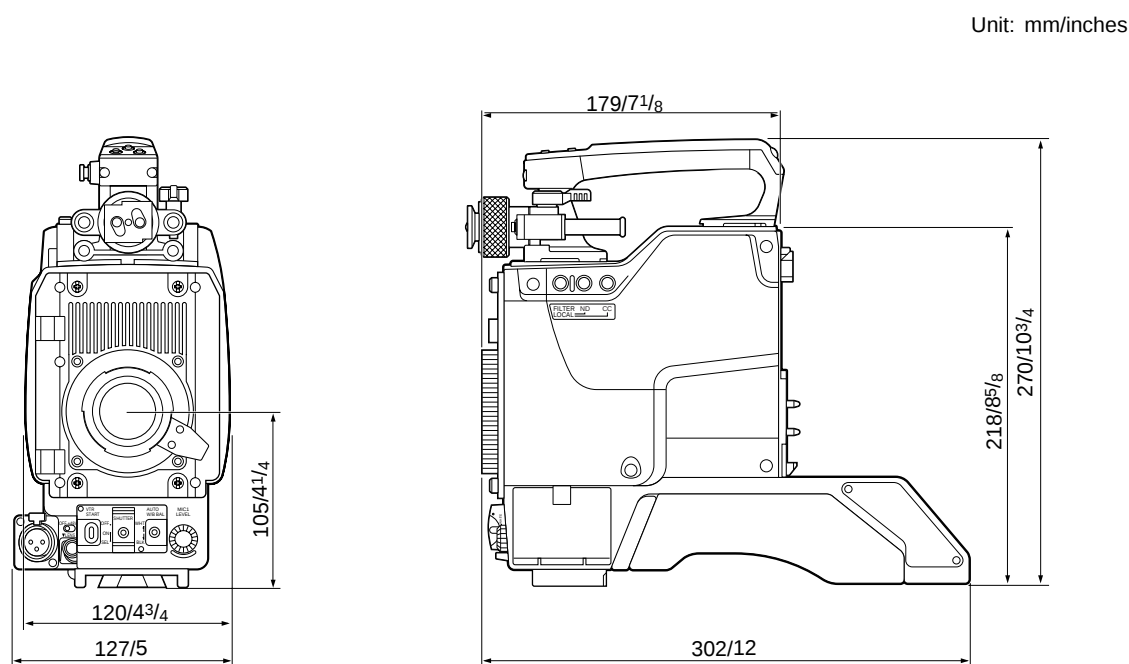
- Do not connect any equipment to the REMOTE connector on the rear.
- The VCS-700 detects and uses the sync signal of the output signal from the PIX A OUT connector for internal synchronization. Therefore, always supply a signal to one of the PIX 1 to 6 INPUT connectors. If a signal cannot be supplied to any of the PIX 1 to 6 INPUT connectors, supply a sync signal to the CHARACTER connector.
- When using the VCS-700 in a camera system after using it independently, connect pin 10 of the I/O PORT connector to GND and reset the control.
- When disconnecting a device connected to the I/O PORT connector immediately after using sequential mode, cancel sequential mode by connecting any of pins 1 to 6 of the I/O PORT connector to GND.

8-1 Dimensions

8-1-1 BVP-900/900P (with the BVF-77/77CE attached)

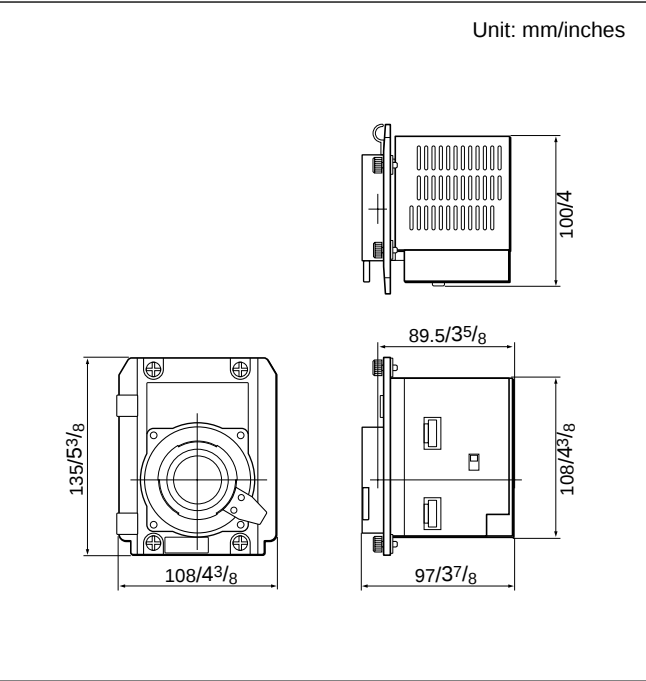


8-1-2 BVP-950/950P

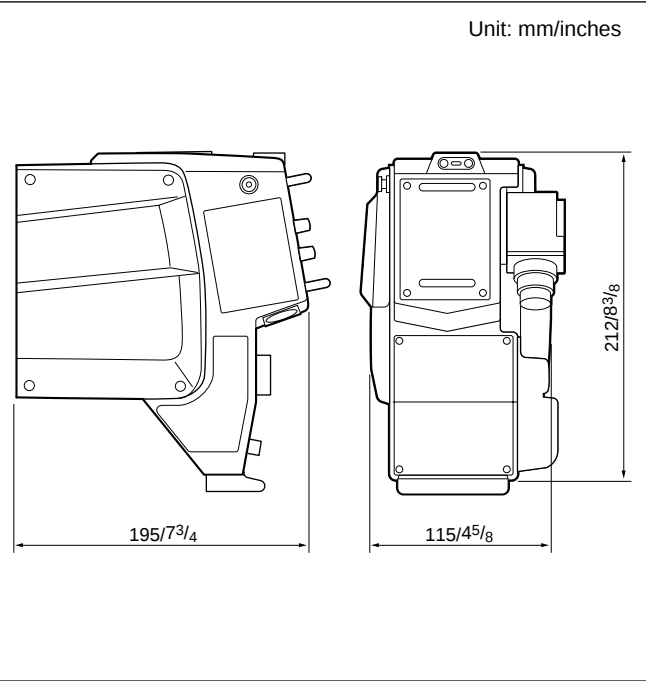


8-1 Dimensions

8-1-3 OHB-730/750A-series

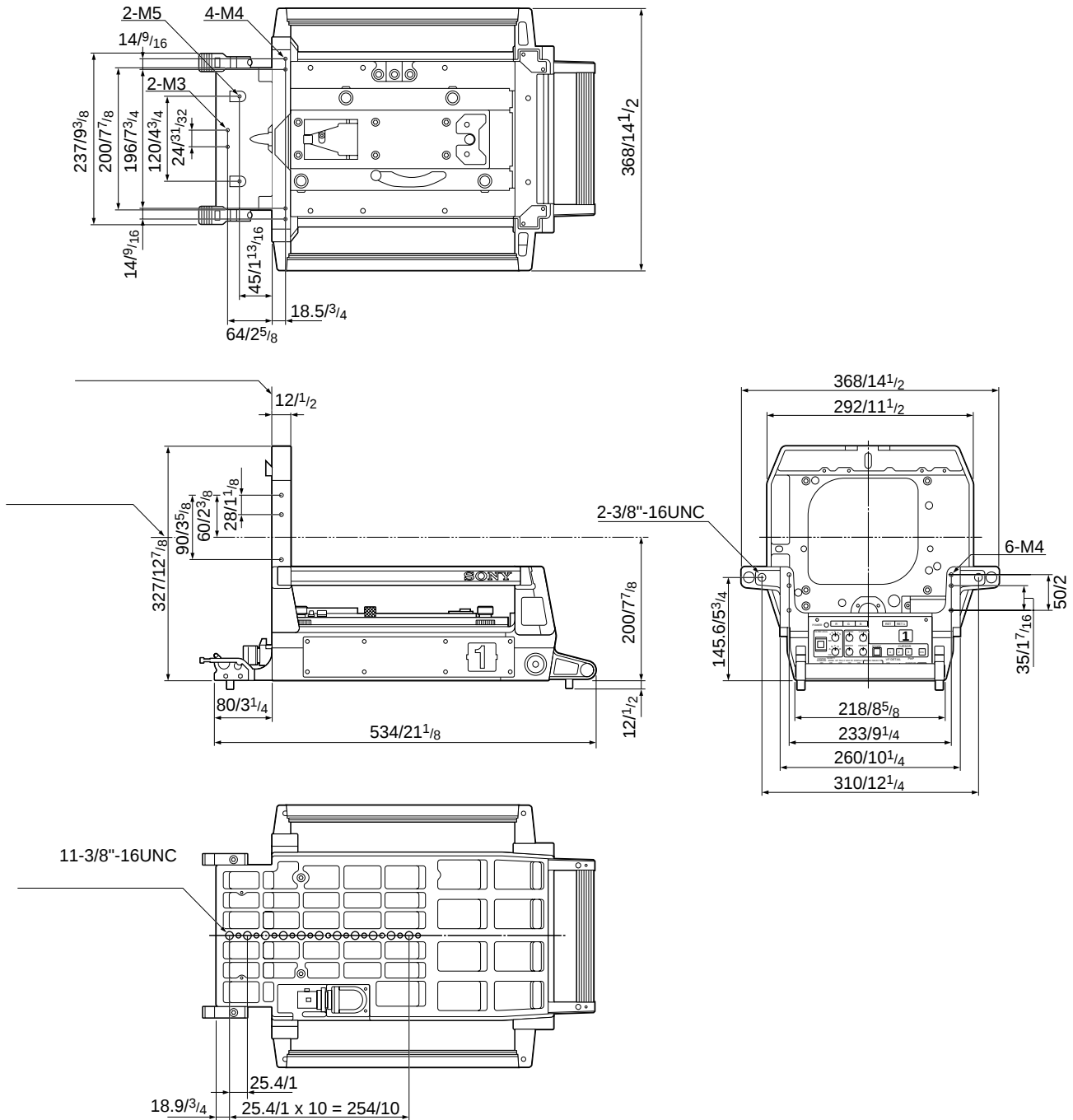


8-1-4 CA-530/550/550P/570/570P



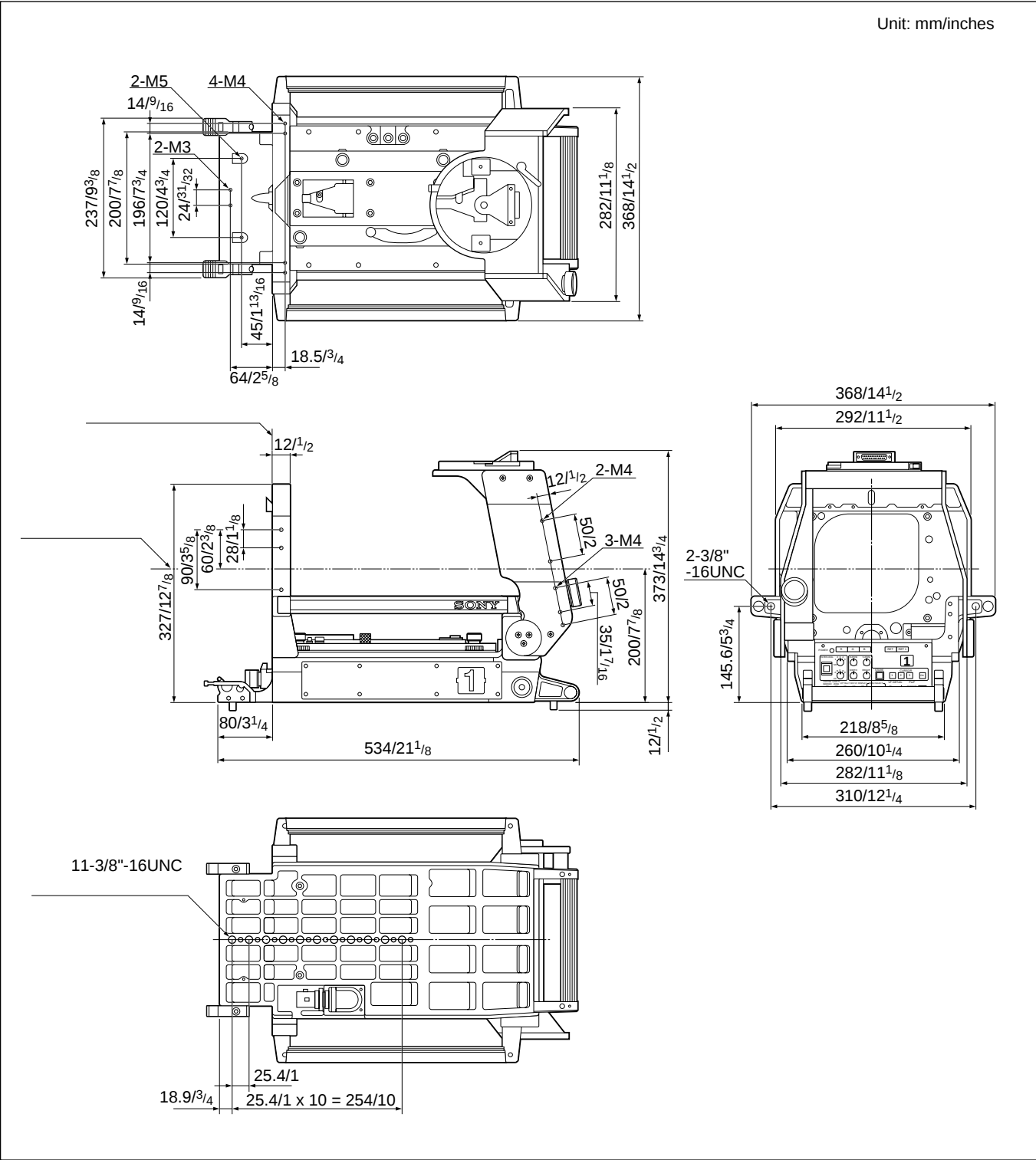
8-1-5 CA-905K/905F

Unit: mm/inches

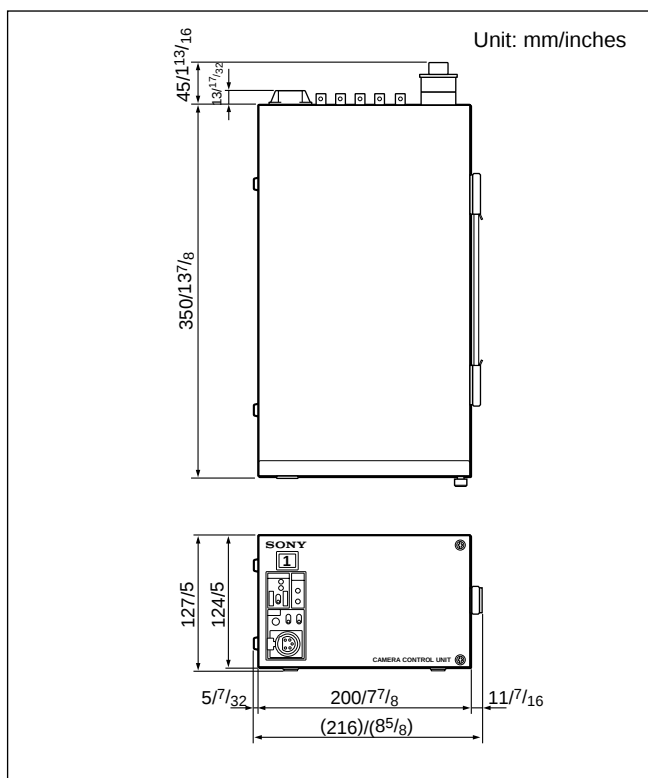


8-1 Dimensions

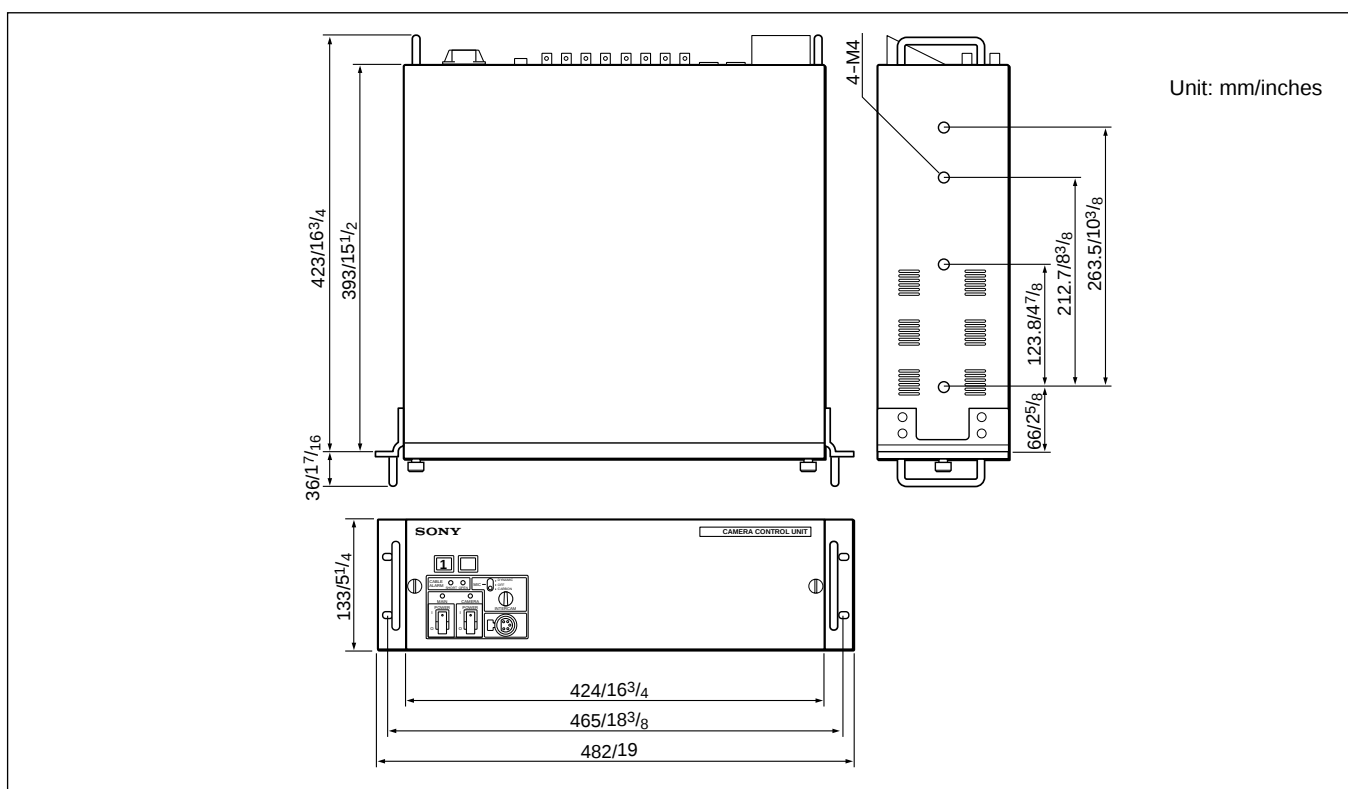
With the BKP-9057 attached



8-1-6 CCU-550A/550AP

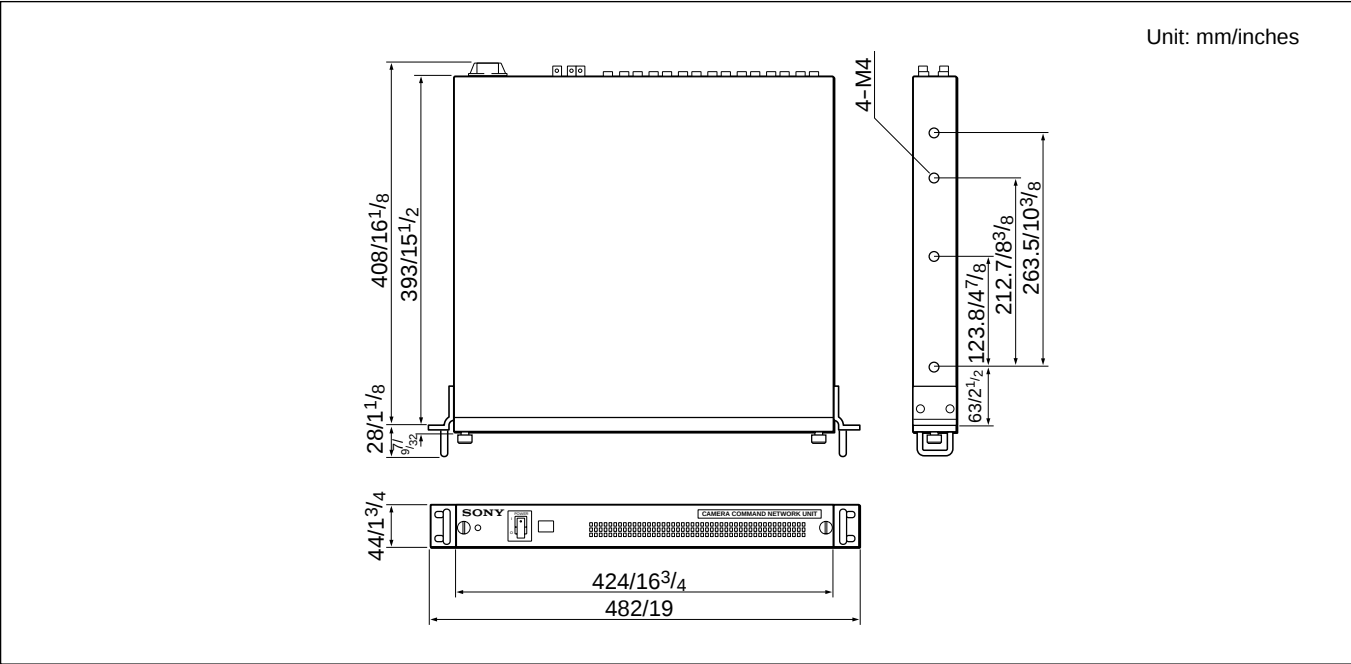


8-1-7 CCU-700A/700AP

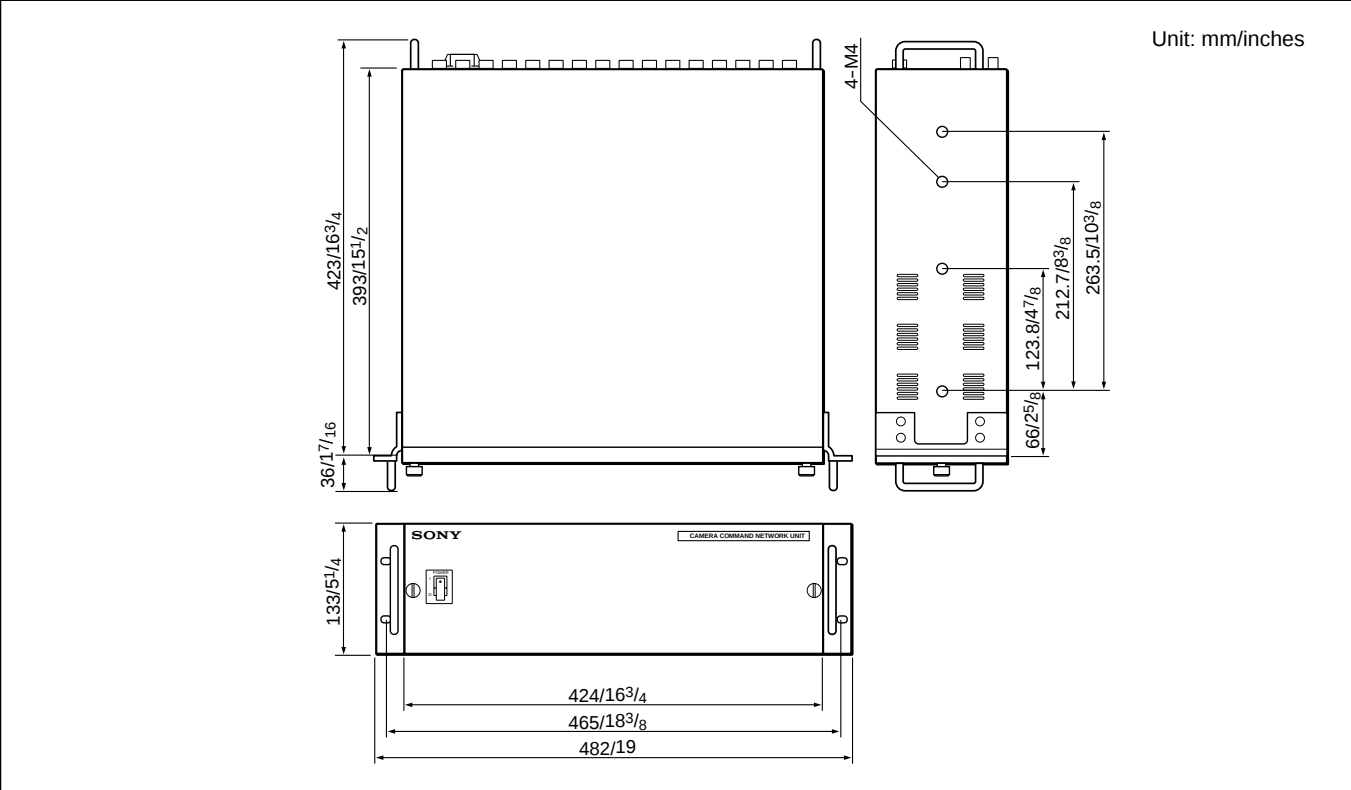


8-1 Dimensions

8-1-8 CNU-500

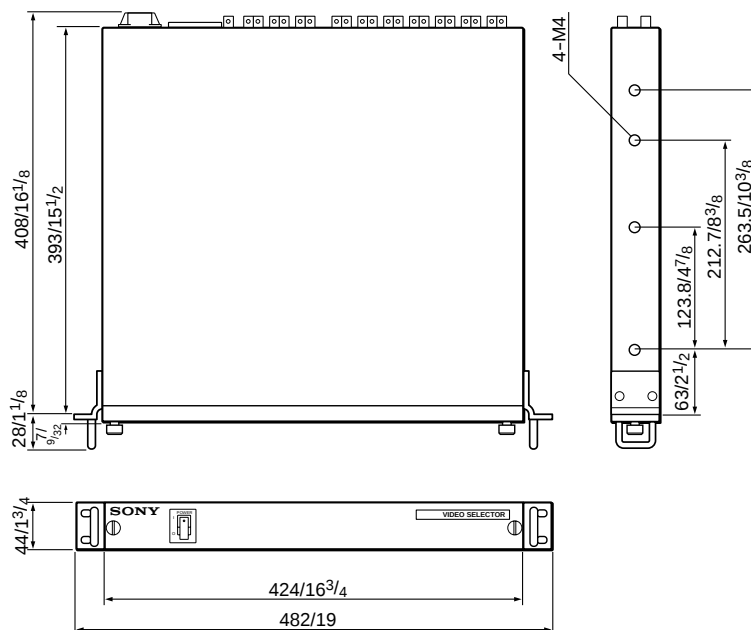


8-1-9 CNU-700



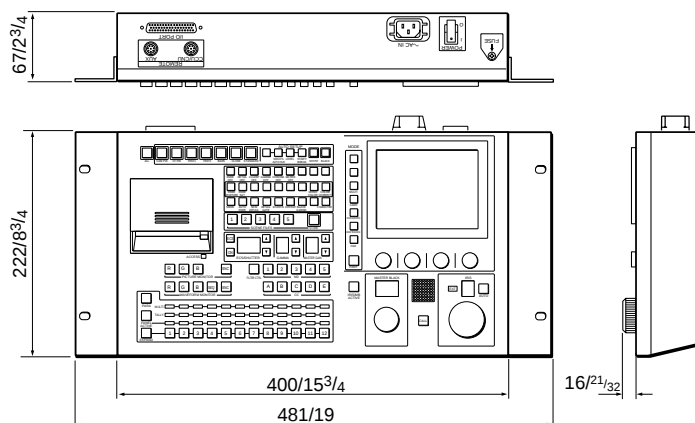
8-1-10 VCS-700

Unit: mm/inches



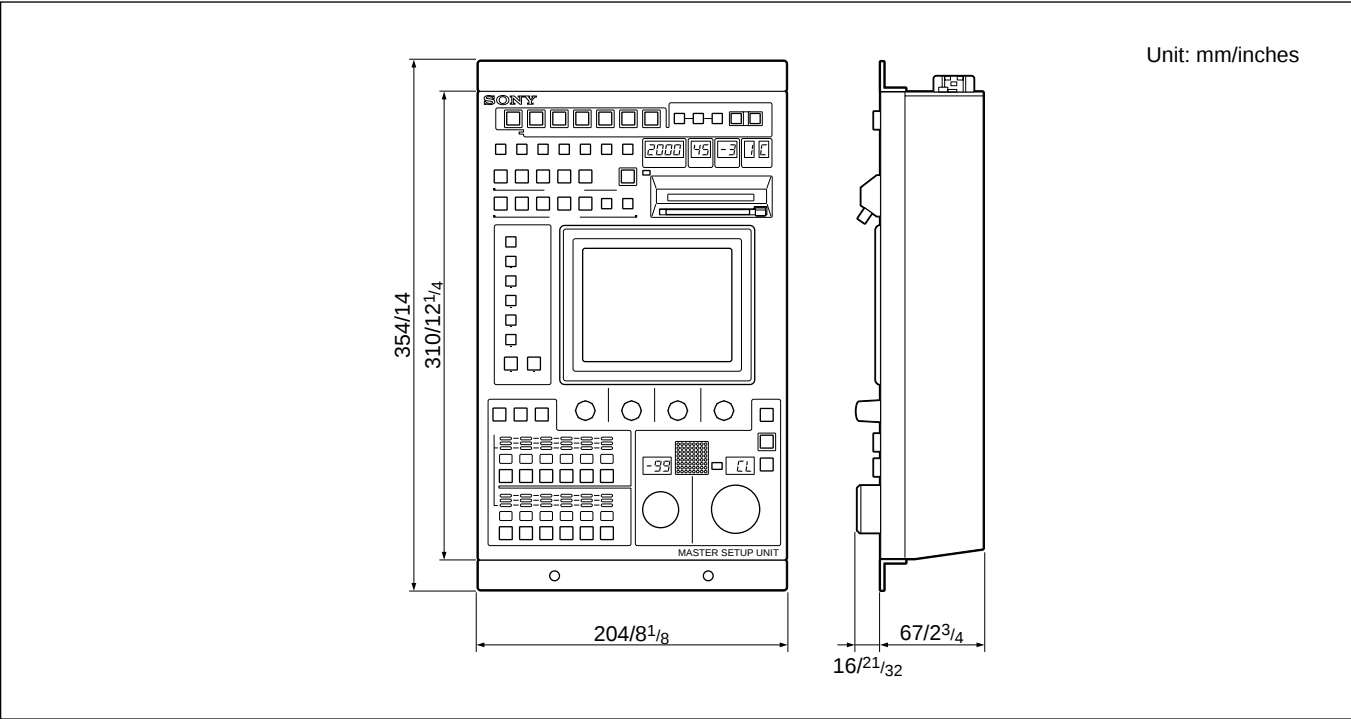
8-1-11 MSU-700

Unit: mm/inches

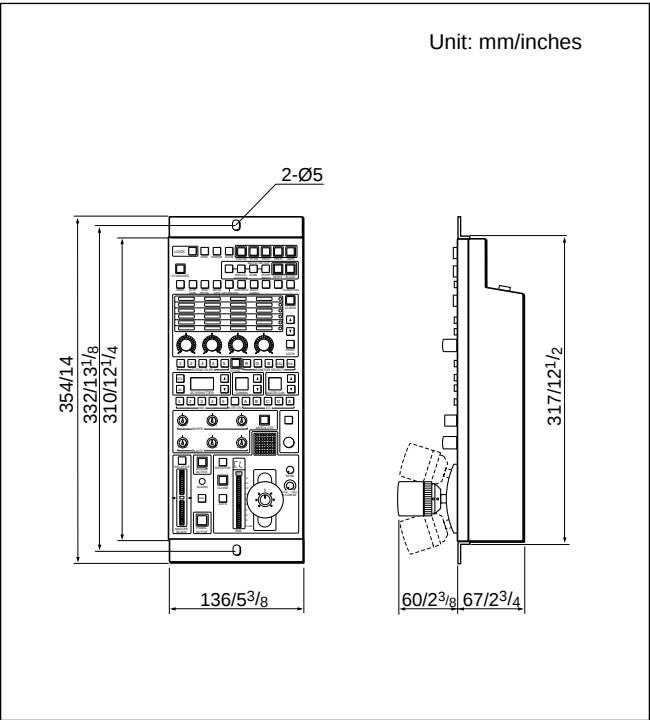


8-1 Dimensions

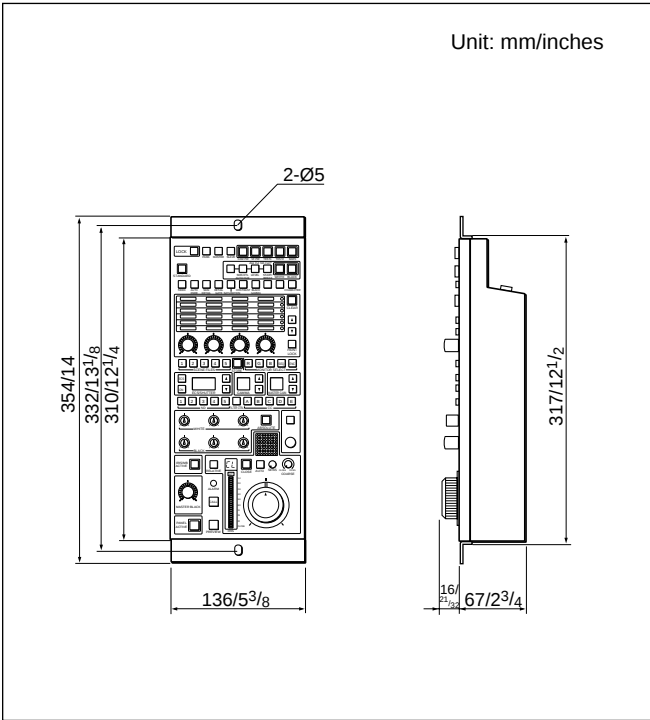
8-1-12 MSU-750



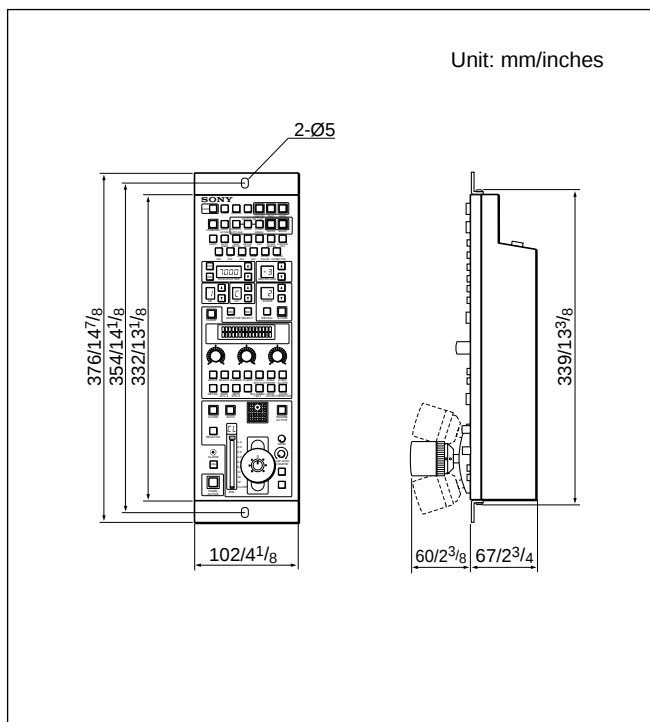
8-1-13 RCP-740



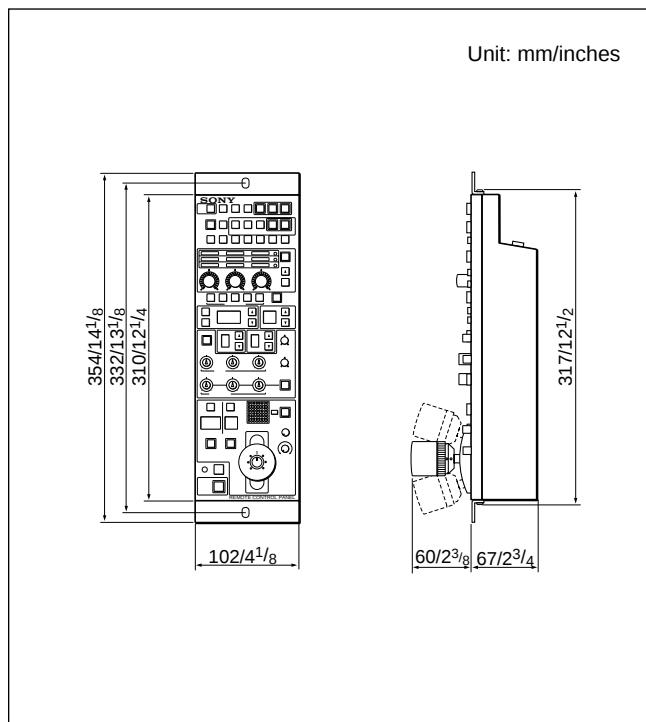
8-1-14 RCP-741



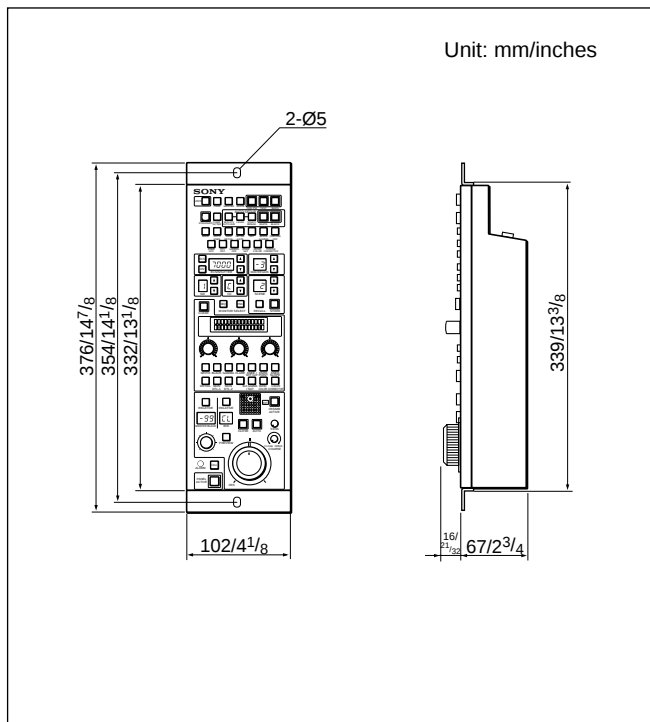
8-1-15 RCP-730



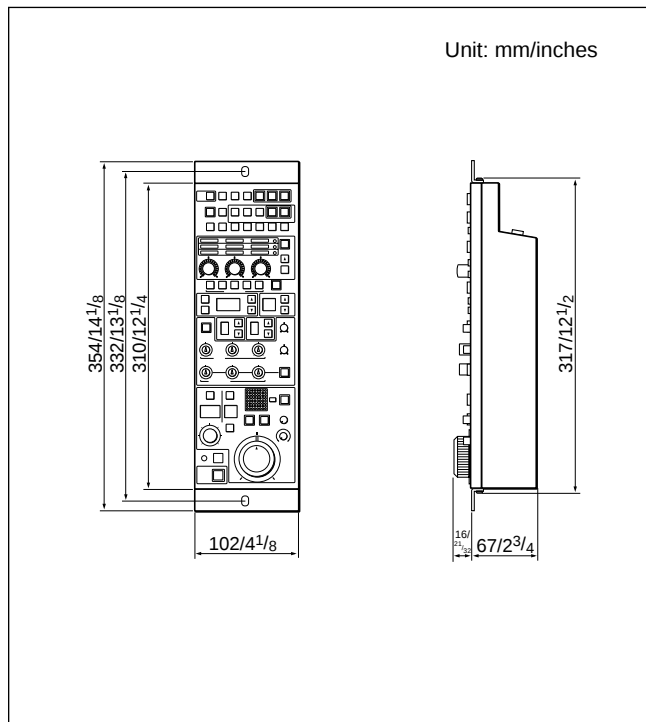
8-1-17 RCP-720



8-1-16 RCP-731

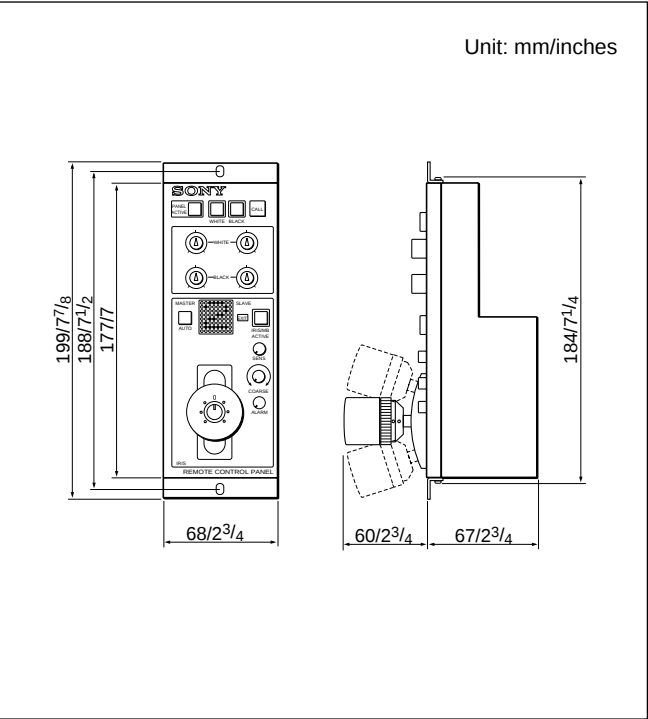


8-1-18 RCP-721

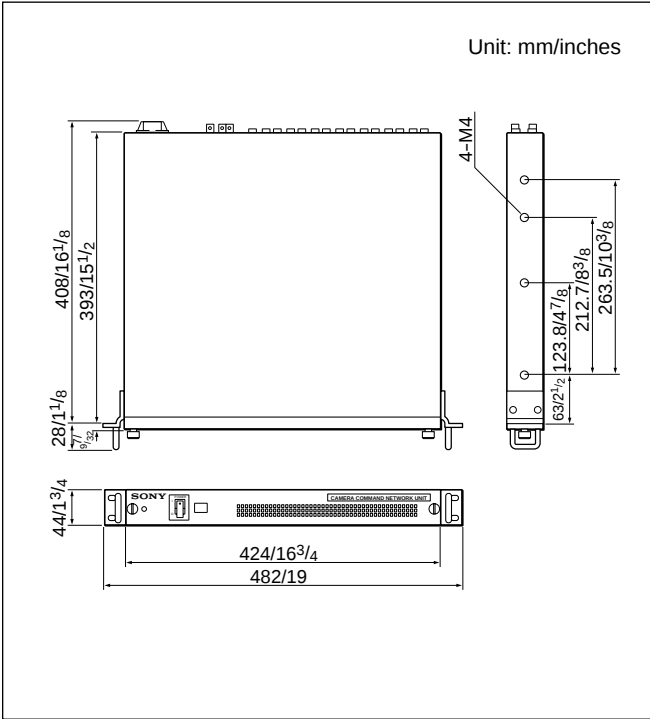


8-1 Dimensions

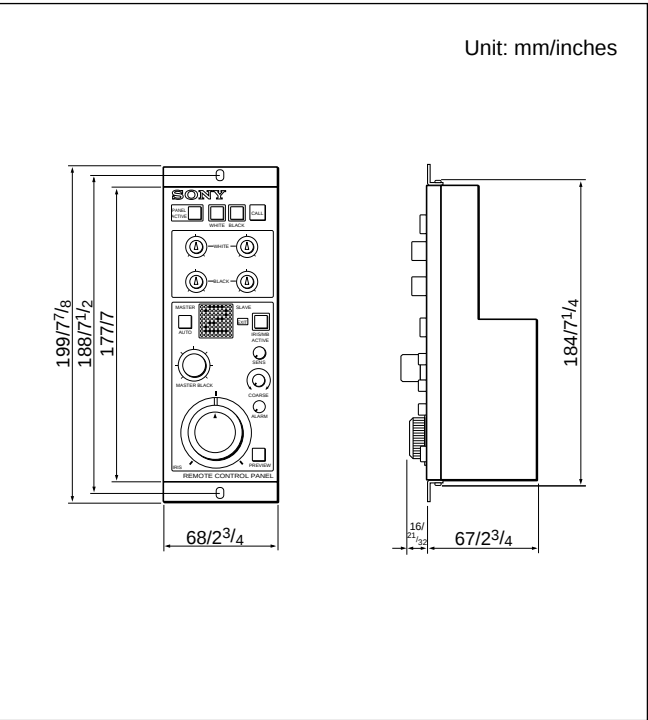
8-1-19 RCP-700



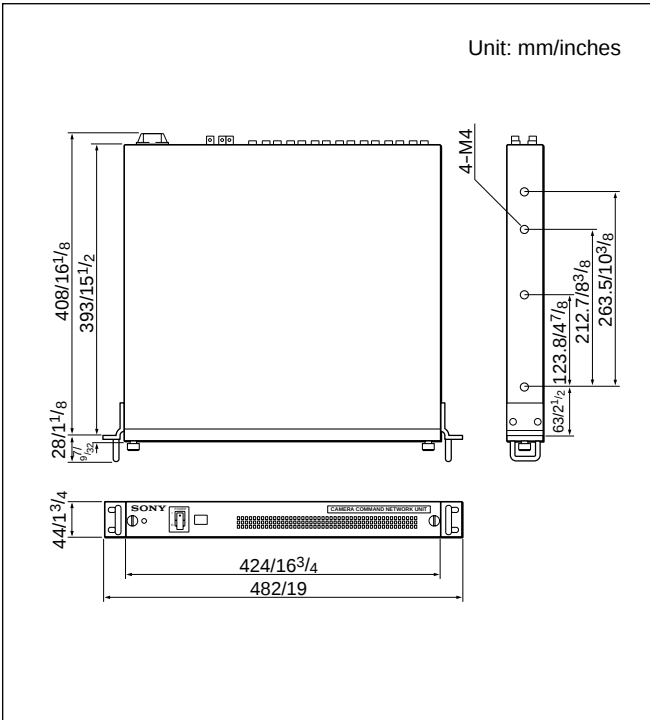
8-1-21 ARU-701/701P



8-1-20 RCP-701



8-1-22 ARU-702/702P



8-2 Specifications

8-2-1 BVP-900/900P

Pick-up device (when an OHB-750A/750AP is installed)

Pick-up device $\frac{2}{3}$ -inch, frame interline transfer CCD

Device configuration

RGB 3-CCD system

Picture elements BVP-900: 1038 (h) $\times$ 504 (v)
BVP-900P: 980 (h) $\times$ 582 (v)

Optical specifications (when an OHB-750A/750AP is installed)

Spectral system F 1.4 prism system

Built-in filters Color temperature conversion filters

A: Cross filter
B: 3200K (Clear)
C: 4300K
D: 6300K
E: 8000K

ND filters

1: Clear
2: $\frac{1}{4}$ ND
3: $\frac{1}{8}$ ND
4: $\frac{1}{16}$ ND
5: $\frac{1}{64}$ ND

General

Operating temperature

-20°C to $+45^{\circ}\text{C}$ (-4°F to $+113^{\circ}\text{F}$)

Storage temperature -20°C to $+50^{\circ}\text{C}$ (-4°F to $+122^{\circ}\text{F}$)

Mass Approx. 20 kg (44 lb 1 oz)
(main unit only)

Electrical characteristics (when an OHB-750A/750AP is installed)

Sensitivity 2,000 lux (F 8.0)
Reflection ratio of 89.9%

Minimum subject illumination
About 7.5 lux (F 1.4, +18 dB gain)

Video signal-to-noise ratio
BVP-900: 65 dB (typical)
BVP-900P: 63 dB (typical)

Resolution 900 TV lines (center of screen)

Registration 0.02% all zones (not including lens distortion)

Geometric distortion Not recognized (not including lens distortion)

Input connectors

REF IN ¹⁾ BNC type (1)
1.0 Vp-p, 75-ohm terminated
DC IN ¹⁾ 4-pin (1)
RET CONTROL 6-pin (1)
AUDIO IN CH-1, CH-2 XLR 3-pin, female (1 each)
When the AUDIO IN switch is set to MIC: -60 dBu (adjustable to -20 dBu with the CCU-700A/700AP), balanced
When the AUDIO IN switch is set to LINE: -20 dBu, balanced

Output connectors

TEST OUT BNC-type (1)
1.0 Vp-p, 75-ohm terminated
VIDEO OUT ¹⁾ BNC-type (1)
1.0 Vp-p, 75-ohm terminated
VF D-sub 25-pin (1)
SCRIPT 4-pin (1)
5 W, 12 V DC
INTERCOM 1, INTERCOM 2 XLR 5-pin (1 each)

Input/output connectors

PROMPTER BNC-type (1)
1.0 Vp-p, 75-ohm terminated
CCU BVP-900: King type (1)
BVP-900P: Fischer type (1)
Lens connector 36-pin (1)
VTR ¹⁾ 26-pin (1)
TRACKER 10-pin (1)
REMOTE 8-pin multiconnector (1)
OHB 29-pin (1)

Supplied accessories

Angle adjustment fittings (2)
Front cover (1)
Number plates: For an up tally (1)
For a side panel (2)
For a back tally (1)
Belt for the cable clamp (2)
Operation Manual (1)
Maintenance Manual (1)

Design and specifications are subject to change without notice.

1) With an optional Stand-Alone Kit installed.

8-2 Specifications

8-2-2 BVP-950/950P

Pick-up device (when an OHB-750A/750AP is installed)

Pick-up device	2/3-inch, frame interline transfer CCD
Device configuration	RGB 3-CCD system
Picture elements	BVP-950: 1038 (h) × 504 (v) BVP-950P: 980 (h) × 582 (v)

Optical specifications (when an OHB-750A/750AP is installed)

Spectral system	F 1.4 prism system
Built-in filters	Color temperature conversion filters
	A: Cross filter
	B: 3200K (Clear)
	C: 4300K
	D: 6300K
	E: 8000K
	ND filters
	1: Clear
	2: 1/4 ND
	3: 1/8 ND
	4: 1/16 ND
	5: 1/64 ND

General

Operating temperature	−20°C to +45°C (−4°F to +113°F)
Storage temperature	−20°C to +50°C (−4°F to +122°F)
Mass	Approx. 3.7 kg (8 lb 3 oz)

Electrical characteristics (when an OHB-750A/750AP is installed)

Sensitivity	2,000 lux (F 8.0) Reflection ratio of 89.9%
Minimum subject illumination	About 7.5 lux (F1.4, +18 dB gain)
Video signal-to-noise ratio	BVP-950: 65 dB (typical) BVP-950P: 63 dB (typical)
Resolution	900 TV lines (center of screen)
Registration	0.02% all zones (not including lens distortion)
Geometric distortion	Not recognized (not including lens distortion)

Input connectors

MIC 1	XLR 3-pin, female (1) −60 dBu (adjustable to −20 dBu with the CCU-700A/700AP), balanced
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Output connectors

TEST OUT	BNC-type (1) 1.0 Vp-p, 75-ohm terminated
VF	20-pin (1)

Input/output connectors

LENS	12-pin (1)
REMOTE	8-pin multiconnector (1)
OHB	29-pin (1)
CA	68-pin (2)

Supplied accessories

Front cover	(1)
Operation Manual	(1)
Maintenance Manual	(1)

Design and specifications are subject to change without notice.

8-2-3 CA-530

General

Power consumption	6 W
Operating temperature	–20°C +45°C (–4°F to +113°F)
Storage temperature	–20°C +50°C (–4°F to +122°F)
Dimensions (w/h/d)	115 × 212 × 195 mm (4 ⁵ / ₈ × 8 ³ / ₈ × 7 ³ / ₄ inches)
Mass	2.0 kg (4 lb 7 oz)

Audio system

Sampling frequency	48 kHz
Input A/D quantization	20 bits/sample
Headroom	20 dB
Emphasis	OFF
Digital audio superimposition on digital video	Complying to SMPTE-272M (excluding clause 5.3)

Input/output connectors

MIC IN	XLR type 3-pin, male, –60 dBu high-impedance, balanced
DC IN	XLR type, 4-pin, 10.5 to 17 V DC
DC OUT	4-pin, 10.5 to 17 V DC, Max. 200mA
GEN LOCK IN	BNC type, 1Vp-p, 75 ohms
MONITOR	BNC type, 1Vp-p, 75 ohms
EARPHONE	Mini-stereo jack, 8 ohms
CAMERA I/F	68-pin × 2
REMOTE	8-pin
SERIAL OUT	BNC type, 0.8 Vp-p, 75 ohms Serial component video signal (including two audio channels)

Supplied accessories

Cable holder (2)
Battery spacer (1)
M3 × 6 screws (4)
Operation Manual (1)
Maintenance Manual (1)

Design and specifications are subject to change without notice.

8-2-4 CA-550/550P

General

Power consumption	10 W
Operating temperature	–20°C +45°C (–4°F to +113°F)
Storage temperature	–20°C +50°C (–4°F to +122°F)
Dimensions (w/h/d)	115 × 212 × 195 mm (4 ⁵ / ₈ × 8 ³ / ₈ × 7 ³ / ₄ inches)
Mass	2.5 kg (5 lb 8 oz)

Input/output connectors

MIC IN	XLR type 3-pin, male, –6 dBu high-impedance, balanced
DC IN	XLR type, 4-pin, 10.5 to 17 V DC
DC OUT	4-pin, 10.5 to 17 V DC, Max. 200 mA
GEN LOCK IN	BNC type, 1Vp-p, 75 ohms
RET OUT	BNC type, 1Vp-p, 75 ohms
RET CONT	6-pin
EARPHONE	Minijack, 8 ohms
CAMERA I/F	68-pin
VTR	CCZ type, 26-pin
CCU	Triax
INCOM/PGM	XLR type, 5-pin
RCP	8-pin

Supplied accessories

Carrying belt (1)
Coaxial cable connector assembly (1)
Cable holder (2)
Battery spacer (1)
M3 × 6 screws (4)
Operation Manual (1)
Maintenance Manual (1)

Design and specifications are subject to change without notice.

8-2 Specifications

8-2-5 CA-570/570P

General

Power consumption	11 W
Operating temperature	−20°C +45°C (−4°F to +113°F)
Storage temperature	−20°C +50°C (−4°F to +122°F)
Dimensions (w/h/d)	115 × 212 × 195 mm (4 ⁵ / ₈ × 8 ³ / ₈ × 7 ³ / ₄ inches)
Mass	2.7 kg (5 lb 15 oz)

Input/output connectors

MIC IN	XLR type 3-pin, Female, −6 dBu, high-impedance, balanced
DC IN	XLR type, 4-pin, 10.5 to 17 V DC
DC OUT	4-pin, 10.5 to 17 V DC, Max. 500mA
GEN LOCK IN	BNC type, 1Vp-p, 75 ohms
TEST OUT	BNC type, 1Vp-p, 75 ohms
RET CONT	6-pin
EARPHONE	Minijack, 8 ohms
CAMERA I/F	68-pin
VTR	CCZ type, 26-pin
CCU	Triax
INCOM/PGM	XLR type, 5-pin, Female
RCP	8-pin
Tracker	10-pin

Supplied accessories

- Carrying belt (1)
- Cable holder (2)
- M3 × 6 screws (4)
- Operation Manual (1)
- Maintenance Manual (1)

Design and specifications are subject to change without notice.

8-2-6 CA-905K/905F

CA-905K/905F Large Lens Adaptor

General

Mass	12 kg (24 lb 4 oz)
Dimension (w/h/d)	368 × 327 × 534 mm (14 ¹ / ₂ × 12 ⁷ / ₈ × 21 ¹ / ₈ inches)
Operating temperature range	− 20°C to + 45°C (− 4°F to + 113°F)
Storage temperature	− 20°C to + 55°C (− 4°F to + 131°F)
Power consumption	90 W (Large lens and 7-inch color viewfinder with the BKP- 9057)

Input/output connectors

CCU connector	CA-905K: Kings triaxial connector CA-905F: Fischer triaxial connector
Lens connector (front)	36-pin
LENS connector (top)	12-pin
CA connector	CA-905K: Kings triaxial connector CA-905F: Fischer triaxial connector
REMOTE connector	8-pin

Supplied accessories

- Number plate (2) (side panel)
- Number plate (1) (rear panel)
- Cable cramp (2)
- Operation Manual including BKP-9057 (1)
- Maintenance Manual Part 1 (1)
- Angle-adjusting plates (2)

BKP-9057 Viewfinder Saddle

General

Mass	2.3 kg (4 lb 7 oz)
Dimension (w/h/d)	368 × 327 × 534 mm (14 ¹ / ₂ × 12 ⁷ / ₈ × 21 ¹ / ₈ inches) (with CA-905, not include VF)
Power consumption	90 W (Large lens and 7-inch color viewfinder with CA-905K/ 905F)

Input/output connectors

VF connector	25-pin
Camera connector	20-pin

Design and specifications are subject to change without notice.

8-2 Specifications

8-2-7 CCD Units

	OHB-750A/750AP	OHB-750WSA/ 750WSAP	OHB-730/730P	OHB-730WS/ 730WSP
CCD	3-chip 2/3-inch FIT CCD (4:3)	3-chip 2/3-inch FIT CCD (16:9/4:3 switchable)	3-chip 2/3-inch IT CCD (4:3)	3-chip 2/3-inch IT CCD (16:9/4:3 switchable)
Pixel	NTSC:1038(H) × 504(V) PAL:1038(H) × 594(V)	NTSC:1038(H) × 504(V) PAL:1038(H) × 594(V)	NTSC:1038(H) × 504(V) PAL:1038(H) × 594(V)	NTSC:1038(H) × 504(V) PAL:1038(H) × 594(V)
Sensitivity	F8.0, 2000 lx (3200 K, 89.9% of reflection)	F10.0, 2000 lx (3200 K, 89.9% of reflection)	F10.0, 2000 lx (3200 K, 9.9% of reflection)	F10.0, 2000 lx (3200 K, 89.9% of reflection)
Minimum illumination	About 7.5 lx (F1.4 lens, +18 dB)	About 7.5 lx (F1.4 lens, +18 dB)	About 7.5 lx (F1.4 lens, +18 dB)	About 7.5 lx (F1.4 lens, +18 dB)
S/N	NTSC: 65 dB (typical) PAL: 63 dB (typical)	NTSC: 65 dB (typical) PAL: 63 dB (typical)	NTSC: 65 dB (typical) PAL: 63 dB (typical)	NTSC: 65 dB (typical) PAL: 63 dB (typical)
Horizontal resolution	900 TV	700 TV	900 TV	700 TV
Vertical resolution	NTSC: 450 TV (EVS/super EVS) PAL: 530 TV (EVS/super EVS)	NTSC: 450 TV (EVS/super EVS) PAL: 530 TV (EVS/super EVS)	NTSC: 400 TV PAL: 480 TV	NTSC: 400 TV PAL: 480 TV
Geometric distortion	Less than a measured threshold value (except lens)	Less than a measured threshold value (except lens)	Less than a measured threshold value (except lens)	Less than a measured threshold value (except lens)
Shutter speed	1/60(PAL),1/100(NTSC), 1/125, 1/250, 1/500, 1/1000, 1/2000	1/60(PAL),1/100(NTSC), 1/125, 1/250, 1/500, 1/1000, 1/2000	1/60(PAL),1/100(NTSC), 1/125, 1/250, 1/500, 1/1000, 1/2000	1/60(PAL),1/100(NTSC), 1/125, 1/250, 1/500, 1/1000, 1/2000
Gain	−3dB,0dB,+3dB,+6dB, +9dB,+12dB,+18dB	−3dB,0dB,+3dB,+6dB, +9dB,+12dB,+18dB	−3dB,0dB,+3dB,+6dB, +9dB,+12dB,+18dB	−3dB,0dB,+3dB,+6dB, +9dB,+12dB,+18dB
CLS	NTSC: $\frac{1}{60.1}$ to $\frac{1}{7000}$ PAL: $\frac{1}{50.2}$ to $\frac{1}{9000}$	NTSC: $\frac{1}{60.1}$ to $\frac{1}{7000}$ PAL: $\frac{1}{50.2}$ to $\frac{1}{9000}$	NTSC: $\frac{1}{60.1}$ to $\frac{1}{7000}$ PAL: $\frac{1}{50.2}$ to $\frac{1}{9000}$	NTSC: $\frac{1}{60.1}$ to $\frac{1}{7000}$ PAL: $\frac{1}{50.2}$ to $\frac{1}{9000}$
ECS	NTSC: $\frac{1}{30.4}$ to $\frac{1}{58.3}$ PAL: $\frac{1}{25.4}$ to $\frac{1}{48.5}$	NTSC: $\frac{1}{30.4}$ to $\frac{1}{58.3}$ PAL: $\frac{1}{25.4}$ to $\frac{1}{48.5}$	—	—
Power draw (when attached to the VTR)	5 W	5 W	5 W	5 W
Operating temperature	−20 to +45°C	−20 to +45°C	−20 to +45°C	−20 to +45°C
Storing temperature	−20 to +50°C	−20 to +50°C	−20 to +50°C	−20 to +50°C
Accessories supplied	Filter position label (2) Installation manual (1) Maintenance manual (1)	Filter position label (2) RC board (switching 16:9/4:3) (1) WS label (1) Installation manual (1) Maintenance manual (1)	Filter position label (2) Installation manual (1) Maintenance manual (1)	Filter position label (2) RC board (switching 16:9/4:3) (1) WS label (1) Installation manual (1) Maintenance manual (1)

Design and specifications are subject to change without notice.

8-2-8 CCU-700A/700AP

General

Power requirements

CCU-700A	100 V AC, 50/60 Hz
CCU-700AP	110 to 120 V/220 to 240 V AC selectable, 50/60 Hz

Current consumption

CCU-700A	450 VA max. for entire system
CCU-700AP	4 A max. for entire system

Cable length	2,000 m (6,560 feet) max. ($\varnothing$ 14.5 mm ($^{19}/_{32}$ inches) wide-band triax)
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Operating temperature

5°C to 40°C (41°F to 104°F)

Dimensions (w/h/d)	Approx. 424 × 133 × 400 mm (16 $^{3}/_{4}$ × 5 $^{1}/_{4}$ × 15 $^{3}/_{4}$ inches)
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Mass	Approx. 18 kg (39 lb 11 oz)
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Input connectors

REFERENCE INPUT

BNC type (1, with loopthrough output)

VBS: 1.0 Vp-p, 75 ohms

RET 1, RET 2, RET 3, RET 4 INPUT

BNC type (1 each, with loopthrough output)
1.0 Vp-p, 75 ohms

PROMPTER INPUT

BNC type (1, with loopthrough output)

1.0 Vp-p, 75 ohms

~AC IN

3-pin (1)

DIGITAL RET 1, RET 2 INPUT

(with the BKP-7312 installed)
BNC type
D1-format serial digital signal
SMPTE 259M/ITU-R BT 656

Output connectors

VBS1, VBS2, VBS3 OUTPUT

BNC type (1 each)

VBS: 1.0 Vp-p, 75 ohms

R, G, B OUTPUT

BNC type (1 each)

0.7 Vp-p, 75 ohms

Y, R-Y, B-Y OUTPUT

BNC type (1 each)

CCU-700A Y: 1.0 Vp-p (video: 0.714, sync: 0.286), 75 ohms

R-Y: 0.7 Vp-p, 75 ohms
(75% CB)

B-Y: 0.7 Vp-p, 75 ohms
(75% CB)

CCU-700AP Y: 1.0 Vp-p (video: 0.7, sync: 0.3), 75 ohms

R-Y: 0.525 Vp-p, 75 ohms
(75% CB)

B-Y: 0.525 Vp-p, 75 ohms
(75% CB)

PIX OUTPUT

BNC type (2)

1.0 Vp-p, 75 ohms

WF OUTPUT

BNC type (2)

CCU-700A 0.714 Vp-p, 75 ohms

CCU-700AP: 0.7 Vp-p, 75 ohms

ENC: 1.0 Vp-p

SYNC OUTPUT

BNC type (1)

0.3 Vp-p, 75 ohms, negative

MIC OUTPUT 1, 2

XLR 3-pin, male (1 each)

0 dBu/-20 dBu selectable with the switch on the AT board

WF MODE

4-pin (1)

CHARACTER OUTPUT

BNC type (1)

video: 0.3 Vp-p

sync:

CCU-700A: 0.286 Vp-p

CCU-700AP: 0.3 Vp-p

DIGITAL OUTPUT 1, 2, 3

(with the BKP-7311 installed)

BNC type

D1-format serial digital signal

SMPTE 259 M/ITU-R BT 656

8-2 Specifications

Input and output connectors

CAMERA	Triax (1)
CCU-700A	King type
CCU-700AP	Fischer type
COAX	BNC type (1)
RCP/CNU	8-pin multiconnector (1)
AUX	8-pin multiconnector (1)
INTERCOM/TALLY/PGM	19-pin multiconnector (1)
	TALLY: 24 V DC, TTL level, or contact selectable
MIC REMOTE	D-sub 15-pin (1)
INTERCOM REMOTE	D-sub 25-pin (1)
INTERCOM (front panel)	XLR 5-pin

Supplied accessories

AC power cord (1)
Plug holder for the AC power cord (1)
4-pin connector (1)
19-pin connector (1)
Number plate (1 set)
Operation Manual (1)
Maintenance Manual (1)

Design and specifications are subject to change without notice.

8-2-9 CCU-550A/550AP

General

Power consumption	100 to 240 V AC, 50/60 Hz, maximum 1.8 A
Peak inrush current	(1) Power ON, current probe method: 20 A (240V) (2) Hot switching inrush current, measured in accordance with European standard EN55103-1: 2 A (230V)
Cable length	Maximum 1,400 m (ø 14.5 mm)
Operating temperature	−10°C to +40°C (14°F to 104°F)
Dimensions (w/h/d)	200 × 124 × 350 mm (7 ⁷ / ₈ × 5 × 13 ⁷ / ₈ in.) not including projecting parts
Mass	Approx. 7 kg (15 lb 7 oz) (when the BKP-5972 and the BKP-5073 are installed)

Input signals

REFERENCE	BNC type (loopthrough) VBS/BS, 1.0 Vp-p, 75 ohms
RET 1/2/3 ¹⁾	BNC type (1 each, loopthrough) VBS, 1.0 Vp-p, 75 ohms,
PROMPTER ¹⁾	BNC type (loopthrough) 1.0 Vp-p, 75 ohms

Output signals

SERIAL 1/2 ²⁾	BNC type (1 each) 4:2:2 component serial digital (270MB/s), 0.8 Vp-p, 75 ohms
VBS 1/2/3	BNC type (1 each) VBS, 1.0 Vp-p, 75 ohms
Y/R-Y/B-Y video ³⁾	BNC type (1 each) Y: 1.0 Vp-p, 75 ohms R-Y/B-Y: U.S.A. and Canada: 700 mVp-p, 75 ohms Europe: 525 mVp-p, 75 ohms
R/G/B video ³⁾	BNC type (1 each) 700 mVp-p, 75 ohms
PIX	BNC type (1) 1.0 Vp-p, 75 ohms

1) RET 3 and PROMPTER is switchable.

2) Available with the BKP-5972 is installed.

3) R/G/B/and Y/R-Y/B-Y is switchable.

WF	BNC type (1) NTSC: 714 mVp-p, 75 ohms PAL: 700 mVp-p, 75 ohms Encoded output: 1.0 Vp-p, 75 ohms
WF MODE	4-pin (1)
MIC OUTPUT	XLR, 3-pin 0 dBu/-20 dBu, balanced, 2 channels

Camera input/output signals

CAMERA	Triax (Kings type for the U.S.A. and Canada, Fischer type for Europe)
COAX	BNC type (1), 75 ohms
RCP/CNU REMOTE	8-pin, multiconnector
INTERCOM/TALLY/PGM	D-sub, 25-pin (1) 4W/RTS TALLY: 24 V DC, TTL level or contact selectable
MIC REMOTE	D-sub, 15-pin (1)
INCOM (on the front panel)	XLR, 5-pin (1)

Supplied accessories

Operation Manual (1)
Maintenance Manual Part 1 (1)
AC power cord (1)
AC power plug holder (1)
4-pin connector (1)
Number plate (1 set)

Design and specifications are subject to change
without notice.

8-2-10 CNU-500

General

Power requirements

Models available in the United States:
100 to 120 V AC, 50/60 Hz

Models available in other countries:
100 to 240 V AC, 50/60 Hz

Current consumption 0.4 A max.

Operating temperature

5°C to 40°C (41°F to 104°F)

Dimensions (w/h/d) 424 × 45 × 400 mm
(16³/₄ × 1¹³/₁₆ × 15³/₄ inches)

Mass 7 kg (15 lb 7 oz)

Input and output connectors

CCU 1 through 6	8-pin multiconnector (1 each)
RCP 1 through 6	8-pin multiconnector (1 each)
MSU	8-pin multiconnector (1)
VCS	8-pin multiconnector (1)
AUX 1 and 2	8-pin multiconnector (1 each)
CHARACTER	BNC type (2) video: 0.7 Vp-p, sync: 0.3 Vp-p
REFERENCE	BNC type (1) 0.3 Vp-p with loopthrough output
RS232C	D-sub 9-pin (3)
~AC IN	3-pin (1)

Supplied accessories

AC power cord (1)
Plug holder for the AC power cord (1)
Operation Manual (1)
Maintenance Manual (1)

Design and specifications are subject to change
without notice.

8-2 Specifications

8-2-11 CNU-700

General

Power requirements

Models available in the United States:
100 to 120 V AC, 50/60 Hz

Models available in other countries:
100 to 240 V AC, 50/60 Hz

Current consumption When connecting twelve RCP-
700-series units using a BKP-
7930: 4.0 A max.

Operating temperature
5°C to 40°C (41°F to 104°F)

Dimensions (w/h/d) 424 × 132 × 400 mm
(16³/₄ × 5¹/₄ × 15³/₄ inches)

Mass 9.5 kg (20 lb 15 oz)

Input and output connectors

CCU 1 through 6 8-pin multiconnector (1 each)

RCP 1 through 6 8-pin multiconnector (1 each)

MSU 8-pin multiconnector (1)

VCS 8-pin multiconnector (1)

AUX 1, 2 8-pin multiconnector (1 each)

CHARACTER BNC type (2)
video: 0.7 Vp-p,
sync: 0.3 Vp-p

REFERENCE BNC type (1)
0.3 Vp-p with loopthrough
output

RS232C D-sub 9-pin (3)

~AC IN 3-pin (1)

Supplied accessories

AC power cord (1)

Plug holder for the AC power cord (1)

Operation Manual (1)

Maintenance Manual (1)

Design and specifications are subject to change
without notice.

8-2-12 VCS-700

General

Power requirements

Models available in the United States:
100 to 120 V AC, 50/60 Hz

Models available in other countries:
100 to 240 V AC, 50/60 Hz

Current consumption 280 mA

Operating temperature
0°C to 45°C (32°F to 113°F)

Dimensions (w/h/d) 424 × 44 × 400 mm
(16³/₄ × 1³/₄ × 15³/₄ inches)

Mass 5.2 kg (11 lb 7 oz)

Input connectors

PIX 1 to PIX 6 INPUT

BNC type (6)
1.0 Vp-p (VBS), 75 ohms

WF 1 to WF 6 INPUT

BNC type (6)
1.0 Vp-p (VBS)/0.714 Vp-p (V),
75 ohms

PIX A INPUT BNC type (1)
1.0 Vp-p (VBS), 75 ohms

WF A INPUT BNC type (1)
1.0 Vp-p (VBS), 75 ohms

CHARACTER INPUT

BNC type (1, with loopthrough
output)

0.7 Vp-p (V), 75 ohms

~AC IN 3-pin (1)

Output connectors

PIX A and PIX B OUTPUT

BNC type (1 each)
1.0 Vp-p (VBS), 75 ohms

WF A and WF B OUTPUT

BNC type (1 each)
1.0 Vp-p (VBS)/0.714 Vp-p (V),
75 ohms

SYNC OUTPUT BNC type (1)
0.3 Vp-p (VBS), 75 ohms,
negative polarity

WF MODE Round 4-pin connector (1)

Remote connectors

REMOTE 8-pin multiconnector (1)

I/O PORT D-sub 37-pin (1)

Supplied accessories

- AC power cord (1)
- Plug holder for the AC power cord (1)
- 4-pin connector (1)
- Operation Manual (1)
- Maintenance Manual (1)

Design and specifications are subject to change without notice.

8-2-13 MSU-700

General

- Power requirements
 - Models available in the United States:
100 to 120 V AC, 50/60 Hz
 - Models available in other countries:
100 to 240 V AC, 50/60 Hz
- Current consumption 0.45 A
- Maximum cable length 200 m (656 feet)
- Operating temperature 0°C to 45°C (32°F to 113°F)
- Dimensions (w/h/d) 482 × 222 × 67 mm
(19 × 8³/₄ × 2³/₄ inches)
including projecting parts and controls
- Mass Approx. 4.5 kg (9 lb 15 oz)

Inputs/outputs

- REMOTE
 - CCU/CNU 8-pin multiconnector (1)
 - AUX 8-pin multiconnector (1)
- I/O PORT 50-pin (1)
- ~AC IN 3-pin (1)

Supplied accessories

- AC power cord (1)
- Plug holder for the AC power cord (1)
- Spare fuse (1)
- Operation Manual (1)
- Maintenance Manual (1)

Design and specifications are subject to change without notice.

8-2 Specifications

8-2-14 MSU-750

General

Power requirements 100 to 240 V AC, 50/60 Hz

Current consumption 0.4 A

Peak inrush current

- (1) Power ON, current probe method:
30 A (100 V), 60 A (240 V)
- (2) Hot switching inrush current measured in
accordance with European
standard EN55103-1:
14 A (230 V)

Operating temperature
0°C to 45°C (32°F to 113°F)

Maximum cable length
200 m (656 feet)

Dimensions (w/h/d) 204 × 354 × 67 mm
(8¹/₈ × 14 × 2³/₄ inches)
including projecting parts and
controls

Mass Approx. 3.5 kg (7 lb 11 oz)

Inputs/outputs

REMOTE	
CCU/CNU	8-pin multiconnector (1)
AUX	8-pin multiconnector (1)
AC IN	3-pin (1)

Supplied accessories

Operation Manual (1)
Maintenance Manual Part 1 (1)

Design and specifications are subject to change
without notice.

8-2-15 RCP-740/741

General

Power requirements 10 to 30 V DC

Power consumption 5 W max.

Maximum cable length
200 m (656 feet)

Operating temperature
0°C to 45°C (32°F to 113°F)

Dimensions (w/h/d) 136 × 310 × 67 mm
(5³/₈ × 12¹/₄ × 2³/₄ inches)
including projecting parts and
controls

Mass RCP-740: 2.3 kg (5 lb 1 oz)
RCP-741: 2.2 kg (4 lb 14 oz)

Inputs/outputs

REMOTE	
CCU/CNU	8-pin multiconnector (1)
AUX	8-pin multiconnector (1)
PREVIEW	6-pin (1)
I/O PORT	29-pin (1)

Supplied accessories

6-pin plug for the PREVIEW connector (1)
Operation Manual (1)
Maintenance Manual (1)

Design and specifications are subject to change
without notice.

8-2-16 RCP-730/731

General

Power requirements	10 to 30 V DC
Power consumption	4 W max.
Maximum cable length	200 m (656 feet)
Operating temperature	0°C to 45°C (32°F to 113°F)
Dimensions (w/h/d)	102 × 332 × 67 mm (4 ¹ / ₈ × 13 ¹ / ₈ × 2 ³ / ₄ inches) including projecting parts and controls
Mass	RCP-730: 1.8 kg (4 lb) RCP-731: 1.9 kg (4 lb 3 oz)

Inputs/outputs

REMOTE	
CCU/CNU	8-pin multiconnector (1)
AUX	8-pin multiconnector (1)
PREVIEW	6-pin (1)

Supplied accessories

6-pin plug for preview (1)
Operation Manual (1)
Maintenance Manual (1)

Design and specifications are subject to change without notice.

8-2-17 RCP-720/721

General

Power requirements	10 to 30 V DC
Power consumption	3.5 W max.
Maximum cable length	200 m (656 feet)
Operating temperature	0°C to 45°C (32°F to 113°F)
Dimensions (w/h/d)	102 × 310 × 67 mm (4 ¹ / ₈ × 12 ¹ / ₄ × 2 ³ / ₄ inches) including projecting parts and controls
Mass	1.8 kg (3 lb 15 oz)

Inputs/outputs

REMOTE	
CCU/CNU	8-pin multiconnector (1)
AUX	8-pin multiconnector (1)
PREVIEW	6-pin (1)

Supplied accessories

6-pin plug for the PREVIEW connector (1)
Operation Manual (1)
Maintenance Manual (1)

Design and specifications are subject to change without notice.

8-2 Specifications

8-2-18 RCP-700/701

General

Power requirements	10 to 30 V DC
Power consumption	2 W max.
Maximum cable length	200 m (656 feet)
Operating temperature	0°C to 45°C (32°F to 113°F)
Dimensions (w/h/d)	68 × 177 × 67 mm (2 ³ / ₄ × 7 × 2 ³ / ₄ inches) including projecting parts and controls
Mass	0.9 kg (2 lb)

Inputs/outputs

REMOTE	8-pin multiconnector (1)
PREVIEW	6-pin (1)

Supplied accessories

6-pin plug for the PREVIEW connector (1)
Operation Manual (1)
Maintenance Manual (1)

Design and specifications are subject to change without notice.

8-2-19 ARU-701/701P

General

Power requirements	ARU-701 100 to 120 V AC, 50/60Hz 0.7 A maximum (for USA and Canada)
	ARU-701P 110 to 120/220 to 240 V AC, 0.7 A maximum (for Europe)
Current consumption	0.7 A
Operating temperature	0°C to 45°C (32°F to 113°F)
Storage temperature	–20°C to +50°C (–4°F to +122°F)
Dimensions (w/h/d)	424 × 44 × 400 mm (16 ³ / ₄ × 1 ³ / ₄ × 15 ³ / ₄ inches) not including projecting parts
Mass	Approx. 6 kg (13 lb 4 oz)

Input connectors

ANALOG IN	
R/R–Y	BNC type (1, switchable between R and R–Y) 16:9 analog component signal R: 0.7 Vp-p, 75 ohms R–Y: 0.7 Vp-p, 75 ohms (ARU-701) 0.525 Vp-p, 75 ohms (ARU-701P)
G/Y	BNC type (1, switchable between G and Y) 16:9 analog component signal G: 0.7 Vp-p, 75 ohms Y: 0.714 Vp-p, 75 ohms (ARU-701) 0.7 Vp-p, 75 ohms (ARU-701P)
B/B–Y	BNC type (1, switchable between B and B–Y) 16:9 analog component signal B: 0.7 Vp-p, 75 ohms B–Y: 0.7 Vp-p, 75 ohms (ARU-701) 0.525 Vp-p, 75 ohms (ARU-701P)
REF	BNC type (1, with a loop-through output) Analog VBS or BB signal

Output connectors**SERIAL DIGITAL OUTPUT**

16:9	BNC type (2, aspect ratio unselectable) 10-bit 4:2:2 component serial digital video signal, 270 Mbps
16:9/4:3	BNC type (2, aspect ratio selectable 16:9 or 4:3) 10-bit 4:2:2 component serial digital video signal, 270 Mbps

**ANALOG OUT
MONITOR**

	BNC type (1, aspect ratio selectable 16:9 or 4:3) 1.0 Vp-p, 75 ohms
VBS	BNC type (1) Aspect ratio selectable 16:9 or 4:3 1.0 Vp-p, 75 ohms
R/R-Y/VBS	BNC type (1, switchable between R, R-Y and VBS) 16:9/4:3 analog component signal or analog composite signal R: 0.7 Vp-p, 75 ohms R-Y: 0.7 Vp-p, 75 ohms (ARU-701) 0.525 Vp-p, 75 ohms (ARU-701P)
G/Y/VBS	VBS: 1.0 Vp-p, 75 ohms BNC type (1, switchable between G, Y and VBS) 16:9/4:3 analog component signal or analog composite signal G: 0.7 Vp-p, 75 ohms Y: 0.714 Vp-p, 75 ohms (ARU-701) 0.7 Vp-p, 75 ohms (ARU-701P)
B/B-Y/VBS	VBS: 1.0 Vp-p, 75 ohms BNC type (1, switchable between B, B-Y and VBS) 16:9/4:3 analog component signal or analog composite signal B: 0.7 Vp-p, 75 ohms B-Y: 0.7 Vp-p, 75 ohms (ARU-701) 0.525 Vp-p, 75 ohms (ARU-701P) VBS: 1.0 Vp-p, 75 ohms

Remote control connector

REMOTE	D-sub 15-pin (1, can control horizontal cut-off position for aspect ratio conversion)
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Supplied accessories

AC power cord (1)
Spare fuse (1)
Camera number labels (1)
Plug retainer (1)
Operation Manual (1)

Design and specifications are subject to change without notice.

8-2 Specifications

8-2-20 ARU-702/702P

General

Power requirements

ARU-702:	100 to 120 V AC, 0.7 A maximum
ARU-702P:	110 to 120/220 to 240 V AC, 0.7 A maximum

Operating temperature

0°C to 45°C (32°F to 113°F)

Storage temperature

–20°C to +55°C
(–4°F to +122°F)

Dimensions (w/h/d)

424 × 44 × 400 mm
(16³/₄ × 1³/₄ × 15³/₄ inches)
not including projecting parts

Mass

Approx. 6 kg (13 lb 4 oz)

Input connectors

VIDEO A ANALOG IN

BNC type (1)
VBS: 1.0 Vp-p, 75 ohms
(4:3/16:9)

VIDEO A DIGITAL IN

BNC type (1)
10-bit 4:2:2 component serial
digital video signal
(4:3/16:9)

VIDEO B ANALOG IN

BNC type (1)
VBS: 1.0 Vp-p, 75 ohms
(4:3/16:9)

VIDEO B DIGITAL IN

BNC type (1)
10-bit 4:2:2 component serial
digital video signal
(4:3/16:9)

REFERENCE IN

BNC type (1)
Analog VBS or BB

Output connectors

VIDEO A OUT 1, 2

BNC type (1 each)
Analog VBS: 1.0 Vp-p, 75 ohms

VIDEO B OUT 1, 2

BNC type (1 each)
Analog VBS: 1.0 Vp-p, 75 ohms

REFERENCE OUT 1, 2

BNC type (1 each)
Analog BB

Remote control connector

REMOTE

D-sub 15-pin (1)
(Can control aspect ratio and
input signal selection)

Supplied accessories

AC power cord (1)
Spare fuse (1)
Camera number labels (1)
Plug retainer (1)
Operation Manual (1)
Maintenance Manual (1)

Design and specifications are subject to change
without notice.

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