SONY

BRC Series System Guide
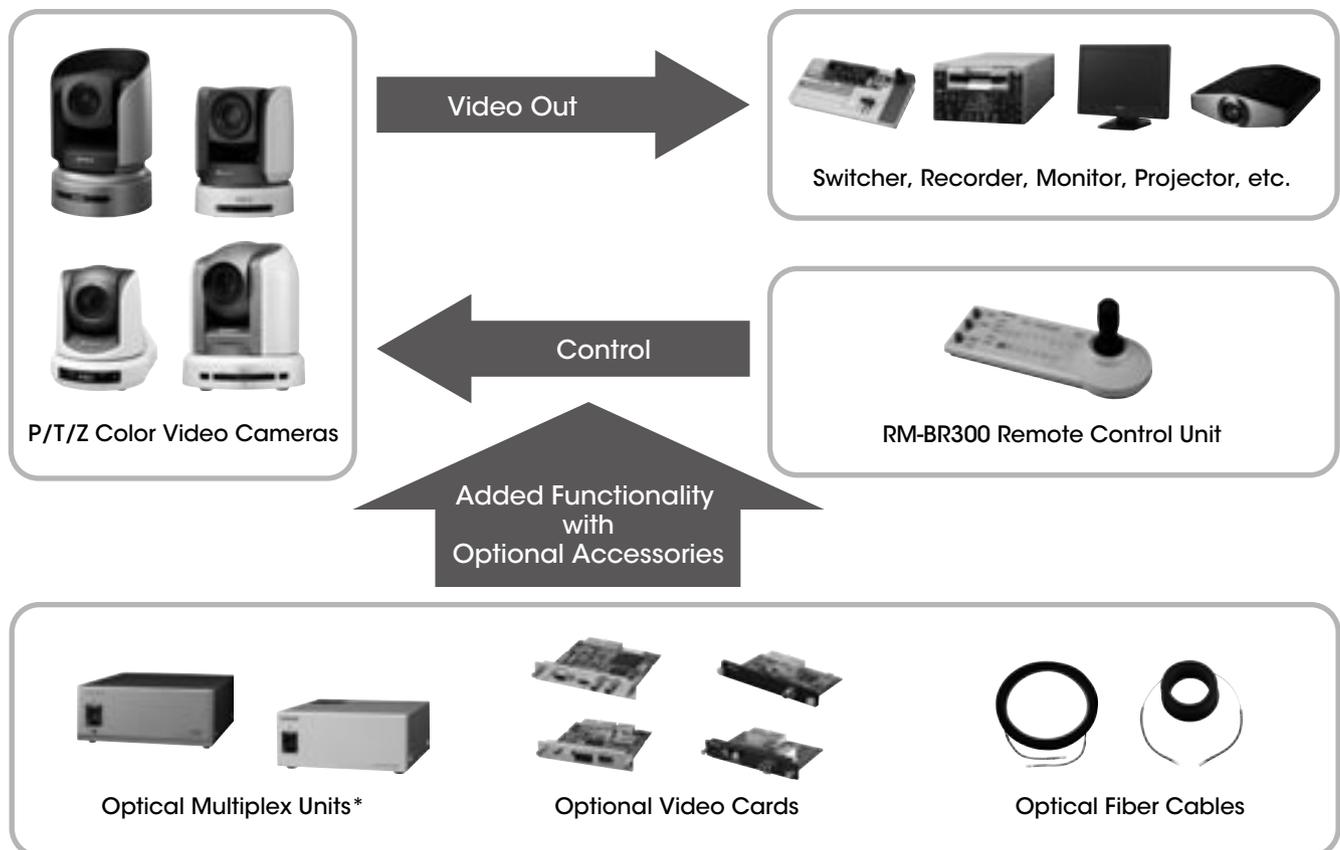
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1 What is the BRC Series?

The BRC Series consists of four Pan/Tilt/Zoom (P/T/Z) cameras-the BRC-H700, BRC-Z700, BRC-Z330, and BRC-300/300P. They offer wide and smooth pan/tilt/zoom capabilities together with exceptional picture quality from SD to full HD images. You can remotely control these cameras using the RM-BR300 Remote Control Unit or the BRS-200 Remote Camera Operating Switcher. With these peripheral devices, you can control up to seven cameras and change the presets and other parameters of each camera. In addition, long-distance control of the BRC Series can be achieved using an optical fiber connection.

With a number of useful features and excellent picture quality, the BRC Series is ideal for a variety of remote video shooting applications, in locations such as houses of worship, auditoriums, teaching hospitals, corporate boardrooms, and at sporting event, trade shows, and concerts. Furthermore, these cameras are cost-effective choices for broadcast applications, such as television program recording and as weather cameras. As the four BRC Series cameras each have specific benefits, users can choose the most appropriate solution for their particular application needs.

Video Out

Switcher, Recorder, Monitor, Projector, etc.

Control

P/T/Z Color Video Cameras

RM-BR300 Remote Control Unit

Added Functionality
with
Optional Accessories

Optical Multiplex Units*

Optional Video Cards

Optical Fiber Cables

*Optical Multiplex Units can be used with the BRC-H700/BRC-Z700/BRC-300/300P.

Applications

Corporate/Boardroom

The BRC Series cameras are excellent for various business communication applications, such as videoconferencing, corporate training, and transmission of managers' regular speeches. Since four cameras in the series each have a particular benefit, there is scope to select the right camera for every different application. To quickly re-use a camera after someone else has been using it, simply touch a button on the supplied controller to recall pre-specified positions for capturing speech and switching scenes.

Auditorium/Concert Hall

With pan/tilt movement, the wide shooting range of a single camera can capture an entire live performance, including audience shots. This ability of the BRC Series means that fewer cameras and camera operators are required, resulting in huge cost savings. These cameras can easily get close shots of performers from locations that are typically difficult for a photographer to reach. Additionally, each camera's compact size and quiet movement avoid distracting audiences from the performance.

City Council

Remotely controlled by the RM-BR300 or BRS-200, BRC Series cameras quickly move to capture the required action at council meetings or in trials. Single-operator switching and broadcasting are supported by the BRS-200 switcher, while operation is simplified and streamlined by multiple presets which pre-define P/T/Z positions and other parameters.

Sports Events

With high-speed and extremely smooth pan/tilt movement, BRC Series cameras can follow the swift, spontaneous flow of sports action. By pre-installing cameras in high positions, they can deliver extensive views of each sporting event, and capture shots at unique angles, typically very difficult to achieve with conventional shooting. Also, optical fiber connection (max. 1,000m) achieves long-distance data transfer*1 and enables single-operator broadcasting.

*1 Long-distance control using an optical fiber connection is available for the BRC-H700, BRC-Z700, and BRC-300/300P.

Studio

The BRC Series is also ideal for use in the broadcast industry. The BRC-H700, BRC-Z700 and BRC-Z330*2 can output HD-SDI signals – a necessity for highly demanding broadcasters who seek uncompromising picture quality. With flexible installation, these cameras can be painlessly integrated into the currently operating studio with tripods or ceiling brackets. For the wide angles required in studio shooting, wide conversion lenses are available*3. And there are numerous other camera benefits, including quiet and smooth P/T/Z movement, a tally indicator, cost-efficiency, and more.

*2 HD-SDI outputs are available using optional video cards.
*3 Wide conversion lenses are available for the BRC-Z700 and BRC-300/300P.

Education

By deploying BRC Series cameras, tutors can offer students new educational opportunities anytime and anywhere. With the real-time distribution of lectures and educational content, academic institutions can deliver e-learning classes, and professors can usefully share professional opinions and collaborate via networked communication.

House of Worship

By using a large screen in combination with highly sensitive BRC Series cameras, an organizer can deliver clear video images with accurate color reproduction. Attendees can be more involved in the service and follow ongoing events better than ever before. With a variety of peripheral components, a range of user-friendly systems can be designed to suit the size and budget of every institution.

Bridal

Pre-installed BRC Series cameras are conducive to a perfectly peaceful and tranquil atmosphere, as their silent movement cannot disturb anyone. With high picture performance and zooming capabilities, these cameras can capture natural facial expressions and graceful movements. Also, due to their compact and sleek design, these cameras blend easily into the surrounding environment.

6 | What is the BRC Series?

2 Product Lineup

BRC-H700

Equipped with three 1/3-type HD CCDs, the BRC-H700 offers excellent picture quality with high sensitivity and a high resolution of 1,070,000 effective pixels. This camera has the best sensitivity of the BRC Series; it therefore delivers superior performance in dimly lit environments, such as concert or wedding halls. Moreover, the camera offers the widest viewing angle of the BRC Series, delivering wider images of each scene and providing a complete picture of ongoing events.

BRC-Z700

The BRC-Z700 offers a resolution of 1,040,000 effective pixels by deploying three 1/4-type ClearVid™ CMOS image sensors in combination with Sony-developed DSP technology. This camera includes a 20x optical auto-focus zoom lens with an optical image stabilizer. The perfect choice for long-distance-shooting applications, such as sporting coverage, this camera provides dual SD/HD outputs, enabling users to smoothly shift towards adopting a total HD system.

BRC-Z330

Equipped with single 1/3-type 2-megapixel CMOS image sensor, the BRC-Z330 delivers stunning HD images and SD images. This camera enables 1080i and 720p to be integrated in various HD systems. It also outputs SD signals simultaneously for further system flexibility; this is particularly useful when instigating a system upgrade. Added to this, the camera's quiet movement, compact size, light weight, and stylish design broaden the options when developing ideal applications.

BRC-300/300P

The standard-definition BRC-300 comes equipped with three 1/4.7-type Advanced HAD™ CCD sensors. This camera delivers dependable picture quality and is the best for costefficient SD applications. It can capture images in 4:3 and 16:9 aspect ratios, the latter providing a wider viewing angle.

3 Key Features

All-in-one P/T/Z Design

Stylish design suitable for most environments

The sleek design can complement almost any environment, including the interior décor of houses of worship, wedding halls, public spaces, and more.

Unobtrusive design ideal for reality shows and live events

The unobtrusive design of the BRC Series allows speakers and audiences to concentrate on discussions and lectures without being distracted. These inconspicuous cameras help to capture natural expressions and behavior.

Cost Efficiency

While each camera in the BRC Series incorporates CCD or CMOS image sensor, 12x to 20x zoom lenses, and P/T/Z movements, they are also reasonably priced, and are ideal for remote video shooting applications.

With outstanding functionality and a large number of peripheral components to choose from, you can design a variety of user-friendly systems.

Long-distance Operation Using an Optical Fiber Cable (BRC-H700, BRC-Z700, BRC-300/300P)

Uncompressed digital data – including video, external sync, and camera control signals – can be transmitted over a long distance using an optical multiplex unit, an optical multiplex card, and an optical fiber cable. The maximum distance between the optical multiplex unit and the camera is 1000 m for the BRC-H700 and BRC-Z700, and 500 m for the BRC-300/300P.

Optical multiplex card

Optical fiber cable

Optical Multiplex Unit
(BRU-H700, BRU-300/300P)

Video out

Max. 1km
(BRC-H700/BRC-Z700)

Max. 500 m
(BRC-300/300P)

The BRC-H700
The BRC-Z700
The BRC-300/300P

RM-BR300 Remote Control Unit
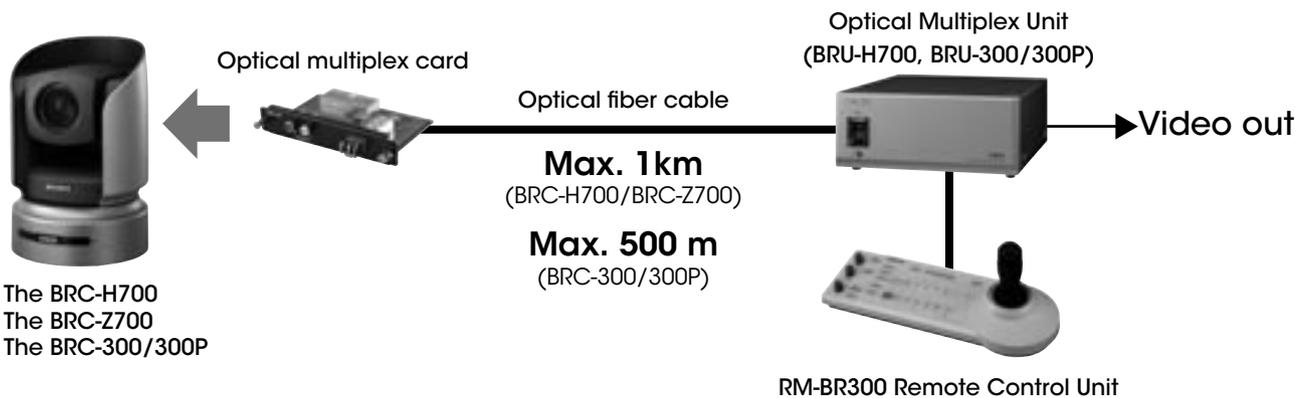
Note When using an optical fiber connection, optional video cards are used with the optical multiplex unit to provide a variety of video signals. In this configuration, camera video outputs are also available from the camera unit itself. When you use an optional multiplex card inserted into the camera, you cannot control the camera directly by the RM-BR300. You can control the camera only from the RM-BR300 through the BRU-H700 or BRU-300/300P.

Versatile Video Outputs

By using optional video cards with the BRC Series, a variety of video signals can be output, enabling a wide range of system configurations.

HD Component (Y/Pb/Pr), RGB

HD-SDI, i.LINK (HDV), WXGA, XGA, VGA, Down Converted SD

BRU-H700

HFBK Series

The BRC-H700

HD Component (Y/Pb/Pr), RGB, Composite, Y/C

HD-SDI, i. LINK (HDV), WXGA, XGA, VGA, Down Converted SD

BRU-H700

HFBK Series

HD/SD-SDI

The BRC-Z700

BRBK-HSD1

HD Component (Y/Pb/Pr), RGB, Composite, Y/C

HD-SDI

BRBK-HD2

BRC-Z330

Composite, Y/C

RGB, SD Component (Y/Cb/Cr), SD-SDI, i. LINK (DV)

BRU-300/300P

BRBK Series

The BRC-300/300P

Simultaneous Control of Seven Cameras

The BRS-200 Remote Camera Operating Switcher and the RM-BR300 Remote Control Unit can be used to operate up to seven cameras.

BRS-200
Remote Camera
Operating Switcher

RM-BR300
Remote Control Unit

Other Features

Flexible installation

The BRC Series can be placed on a desktop, mounted on the ceiling, used with a tripod, or installed in an outdoor housing kit, depending on your applications.

Flat surface	Ceiling Mount	Placed on a tripod	Outdoor Housing Kit

Note BRC Series cameras can be ceiling-mounted with a supplied ceiling bracket and screws. For use with a tripod, the camera has a standard ¼-20 UNC receptor. For the tripod and the outdoor housing kit, please contact to the regional headquarters.

$^{1}/_{4}$ -20UNC

ℓ
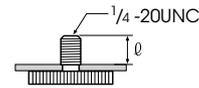
ℓ = 4.5 – 7 mm
ℓ = 0.18 – 0.27 inches

Multiple presets

The BRC-H700, BRC-Z700, and, the BRC-Z330 each have sixteen presets and the BRC-300/300P has six presets to which pre-defined pan/tilt/zoom positions and other parameters can be allocated. These presets can be recalled at the touch of a button of the BRS-200, the RM-BR300, or the IR remote commander unit to easily capture video from pre-specified areas.

4 System Configuration

You can configure a variety of systems to meet your application needs by choosing HD and/or SD components. Users can choose either HD or SD system components.

BRC Simple System			
BRC-H700	**BRC-Z700**	**BRC-Z330**	**BRC-300/300P**
Wide Conversion Lens			
—	VCL-HG0862*	—	VCL-0737W
Optical Video Card (inserted to the BRC Series)			
HFBK-HD1 HD-SDI, HD Component (Y/Pb/Pr), RGB	**BRBK-HSD1** HD-SDI, SD-SDI	**BRBK-HD2** HD-SDI	**BRBK-301** Composite, Y/C, SD Component (Y/Cb/Cr), RGB
HFBK-SD1 SD-SDI, Composite, Y/C, SD Component (Y/Cb/Cr), RGB			**BRBK-302** SD-SDI
HFBK-TS1 i.LINK (HDV)			
HFBK-XG1 WXGA, XGA, VGA			**BRBK-304** i.LINK (DV)
Remote Control unit	RM-BR300		

* The lens hood supplied with the VCL-HG0862K cannot be used.

4.1 Small Scale System

Projector
Optional Video cards
Video Signal
Monitor
Recorder
BRC Series
IR Remote Commander Unit
Monitor

4.2 Medium-Sized System

Optional Video cards
Video Signal
Monitor
Projector
RS-232C / RS-422
Recorder
BRC Series
RM-BR300 Remote Control Unit
Optional Video cards
Switcher
Video Signal
Monitor
Monitor
BRC Series
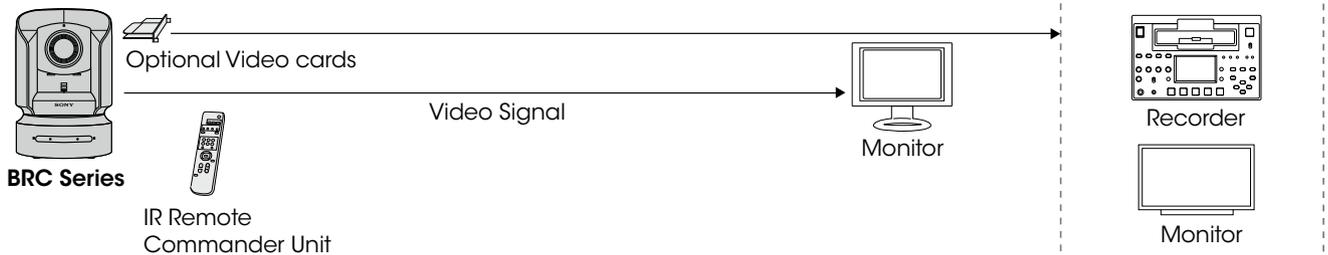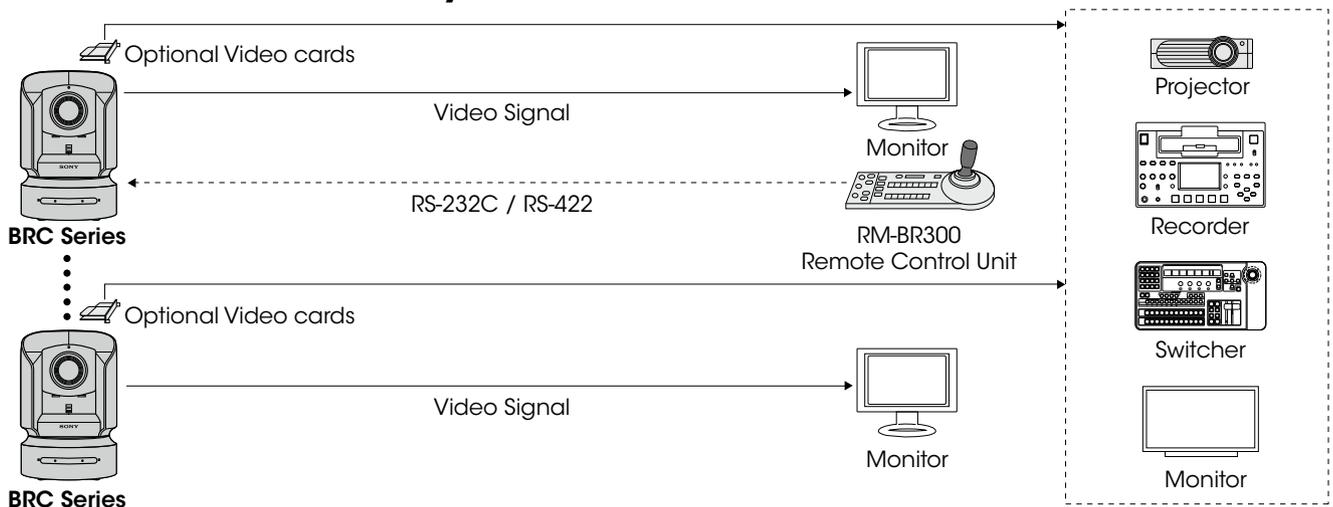
* Up to 7 cameras can be daisy-chained.

BRC and BRU System		
BRC-H700	**BRC-Z700**	**BRC-300/300P**

	BRC-H700	BRC-Z700	BRC-300/300P
Wide Conversion Lens	—	VCL-HG0862 *	VCL-0737W
Optical Multiplex Card (inserted to the BRC Series)	BRBK-H700	BRBK-MF1	BRBK-303
Optical Fiber Cable	CCFC-M100HG		CCFC–M100
Optical Multiplex Unit	BRU-H700		BRU-300/300P
Optical Video Card (inserted to the BRC Series)	HFBK-HD1 HD-SDI, HD Component (Y/Pb/Pr), RGB HFBK-SD1 SD-SDI, Composite, Y/C, SD Component (Y/Cb/Cr), RGB HFBK-TS1 i.LINK (HDV) HFBK-XG1 WXGA, XGA, VGA		BRBK-301 Composite, Y/C, SD Component (Y/Cb/Cr), RGB BRBK-302 SD-SDI BRBK-304 i.LINK (DV)
Remote Control unit	RM-BR300		

* The lens hood supplied with the VCL-HG0862K cannot be used.

4.3 Daisy-chain System

BRC-H700 — Video Signal → Monitor — BRBK-H700 → BRU-H700 HD Optical Multiplex Unit

BRC-Z700 — Video Signal → Monitor — BRBK-MF1 → BRU-H700 HD Optical Multiplex Unit

BRC-300/300P — Video Signal → Monitor — BRBK-303 → BRU-300/300P SD Optical Multiplex Unit

Projector / Recorder / Monitor / Switcher

RS-232C/RS-422

RM-BR300 Remote Control Unit
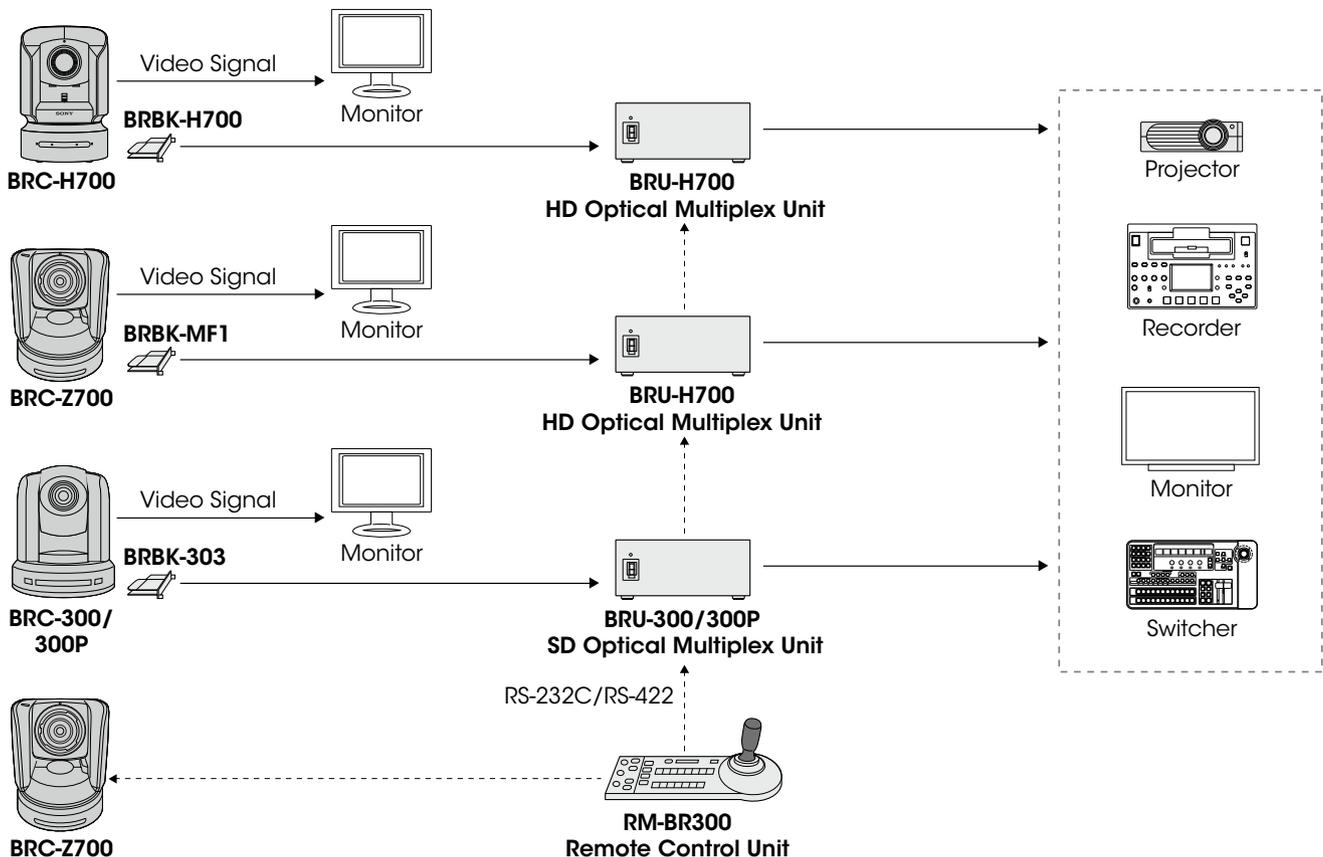
BRC-Z700

5 Location and Function of Parts

5.1 BRC Series of Cameras

The following is a summary of the location and function of BRC-H700, BRC-Z700, BRC-Z330, and BRC-300/300P parts.

5.1.1 BRC-H700

Rear

With the cable cover attached

1 **VISCA RS-422 connector**

2 **75 Ω termination switch**
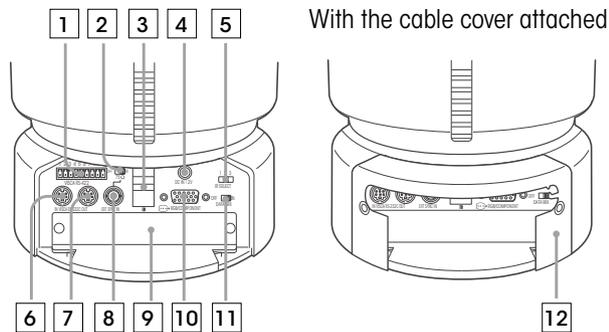This switch is used when an external sync signal is utilized. Set it to OFF when the camera is in the middle of a daisy-chain connection of multiple cameras. Set it to ON when the camera is at the end of a daisy-chain connection.

3 **Remote sensor**
This is the sensor for the supplied IR Remote Commander Unit.

4 **DC IN 12V connector**

5 **IR SELECT switch**
Selects the camera number when you operate multiple cameras with the same IR Remote Commander Unit.

6 **VISCA RS-232C IN connector**
Connects to the RM-BR300 Remote Control Unit. When you join multiple cameras, connect it to the VISCA RS-232C OUT connector of the previous camera in the daisy chain.

7 **VISCA RS-232C OUT connector**
When you join multiple cameras, connect it to the VISCA RS-232C IN connector of the next camera in the daisy chain.

8 **EXT SYNC IN connector**

9 **Card slot**

10 **RGB/COMPONENT connector**

Pin No.	Signal	Pin No.	Signal
1	Pr/R	9	NC
2	Y/G	10	GND
3	Pb/B	11	GND
4	GND	12	NC
5	GND	13	HD-OUT
6	GND	14	Tri-level Sync/Bi-level VD
7	GND	15	NC
8	GND		

11 **DATA MIX switch**
Set the switch to ON to overlap the menu with the video signal output from the installed interface board. Set it to OFF not to overlap the menu.

12 **Cable cover**

Bottom
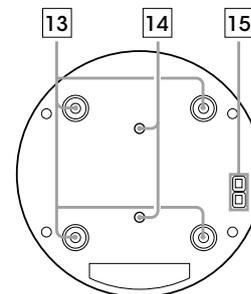
13 **Ceiling bracket mounting screw holes**

14 **Tripod screw holes (1/4-20UNC)**

15 **BOTTOM switches**

Setting of the BOTTOM switches
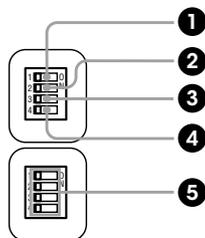
① Switch 1 (59.94i/50i signal format selector)
Set to ON for output of 50i signal format, or OFF for output of 59.94i signal format.

② Switch 2 (RS-232C/RS-422 selector)
Set to ON for RS-422, or OFF for RS-232C.

③ Switch 3 (Communication baud rate selector)
Set to ON for 38400 bps, or OFF for 9600 bps.

④ Switch 4 (Infrared signal output switch)
Set to ON to enable an infrared signal output, or OFF to disable the output.

⑤ Camera address selectors
Set the address of the camera. Normally set to 0. With this setting, addresses are assigned to the cameras automatically in the connected order by pressing the POWER button while holding down the RESET button on the RM-BR300 Remote Control Unit. You can assign the camera address, 1 to 7, manually by setting these selectors as follows:

Camera address	0	1	2	3	4	5	6	7
Switch 1	OFF	ON	OFF	ON	OFF	ON	OFF	ON
Switch 2	OFF	OFF	ON	ON	OFF	OFF	ON	ON
Switch 3	OFF	OFF	OFF	OFF	ON	ON	ON	ON

Switch 4 is not used.

Note Please note that the same camera address cannot be assigned to two or more different cameras. Furthermore, you must set the switches before you turn on camera power.

5.1.2 BRC-Z700

Rear
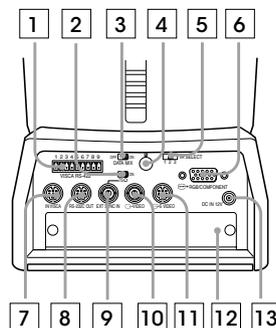
1 VISCA RS-422 connector

2 75 Ω termination switch
This switch is used when an external sync signal is utilized. Set it to OFF when this camera is in the middle of a daisy-chain connection of multiple cameras. Set it to ON when the camera is at the end of a daisy-chain connection or when nothing is connected to the EXT SYNC IN connector on the camera.

3 DATA MIX switch
Set the switch to ON to overlap the menu with the video signal output from the installed interface board. Set it to OFF not to overlap the menu.

4 Remote sensor
This is the sensor for the supplied IR Remote Commander Unit. This remote sensor does not function when IMGFLIP is set to ON in the SYSTEM menu.

5 IR SELECT switch
Selects the camera number when you operate multiple cameras with the same IR Remote Commander Unit.

6 RGB/COMPONENT connector

Pin No.	Signal	Pin No.	Signal
1	Pr/R	9	NC
2	Y/G	10	GND
3	Pb/B	11	GND
4	GND	12	NC
5	GND	13	HD-OUT
6	GND	14	Tri-level Sync/Bi-level VD
7	GND	15	NC
8	GND		

7 VISCA RS-232C IN connector
Connects to the RM-BR300 Remote Control Unit. When you join multiple cameras, connect it to the VISCA RS-232C OUT connector of the previous camera in the daisy chain.

8 **VISCA RS-232C OUT connector**

When you join multiple cameras, connect it to the VISCA RS-232C IN connector of the next camera in the daisy chain.
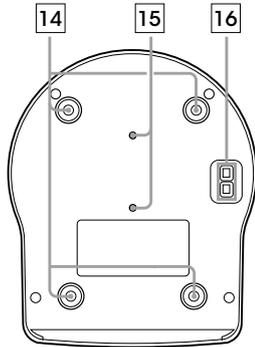
9 **EXT SYNC IN connector**

10 **VIDEO connector** (Composite out)

11 **S-VIDEO connector**

12 **Card slot**
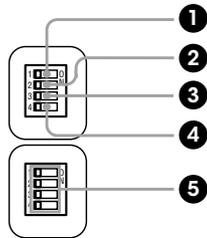
13 **DC IN 12V connector**

Bottom

14 **Ceiling bracket mounting screw holes**

15 **Tripod screw holes** (1/4-20UNC)

16 **BOTTOM switches**

Setting of the BOTTOM switches

❶ **Switch 1** (59.94i/50i signal format selector)

Set to ON for output of 50i signal format, or OFF for output of 59.94i signal format.

❷ **Switch 2** (RS-232C/RS-422 selector)

Set to ON for RS-422, or OFF for RS-232C.

❸ **Switch 3** (Communication baud rate selector)

Set to ON for 38400 bps, or OFF for 9600 bps.

❹ **Switch 4** (Infrared signal output switch)

Set to ON to enable an infrared signal output, or OFF to disable the output.

❺ **Camera address selectors**

Set the address of the camera. Normally set to 0. With this setting, addresses are assigned to the cameras automatically in the connected order by pressing the POWER button while holding down the RESET button on the RM-BR300 Remote Control Unit. You can assign the camera address, 1 to 7, manually by setting these selectors as follows:

Camera address	0	1	2	3	4	5	6	7
Switch 1	OFF	ON	OFF	ON	OFF	ON	OFF	ON
Switch 2	OFF	OFF	ON	ON	OFF	OFF	ON	ON
Switch 3	OFF	OFF	OFF	OFF	ON	ON	ON	ON

Switch 4 is not used.

Note Please note that the same camera address cannot be assigned to two or more different cameras. Furthermore, you must set the switches before you turn on camera power.

5.1.3 BRC-Z330

Rear

Pin No.	Signal	Pin No.	Signal
1	Pr/R	9	NC
2	Y/G	10	GND
3	Pb/B	11	GND
4	GND	12	NC
5	GND	13	HD-OUT
6	GND	14	Tri-level Sync/Bi-level VD
7	GND	15	NC
8	GND		

1 DC IN 12V connector

2 VISCA RS-422 connector

3 IR SELECT switch
Select the camera number when you operate multiple cameras with the same Remote Commander Unit.

4 Remote sensor
This is the sensor for the supplied Remote Commander Unit.

5 DATA MIX switch
Set the switch to ON to overlap the menu with the video signal output from the installed interface board. Set it to OFF not to overlap the menu.

6 75-ohm termination switch
This switch is used when an external sync signal is used. Set it to OFF when this camera is in the middle of a daisy chain connection of multiple cameras. Set it to ON when the camera is at the end of a daisy chain connection or when nothing is connected to the EXT SYNC IN connector on the camera.

7 EXT SYNC IN connector

8 VISCA RS-232C IN connector
Connect to the RM-BR300 Remote Control Unit. When you connect multiple cameras, connect it to the VISCA RS-232C OUT connector of the previous camera in the daisy chain connection.

9 VISCA RS-232C OUT connector
When you connect multiple cameras, connect it to the VISCA RS-232C IN connector of the next camera in the daisy chain connection.

10 S VIDEO connector

11 T VIDEO connector

12 Card slot

13 RGB/COMPONENT connector

Bottom

14 Ceiling bracket mounting screw holes
* The BRC-Z330 has one Tripod screw hole unlike other BRC cameras.

15 Tripod screw hole (1/4-20UNC)

16 BOTTOM switches

Setting of the BOTTOM switches
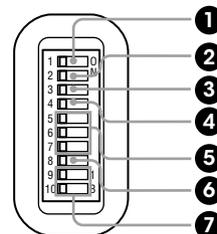
❶ Switch 1 (59.94/50 signal format selector)
Set to ON for output in 1080/50i (720/50P) signal format, OFF for output in 1080/59.94i (720/ 59.94P) signal format.

❷ Switch 2 (1080i/720p signal format selector)
Set to ON for output in 720p signal format, OFF for output in 1080i signal format.

❸ Switch 3 (RS-232C/RS-422 selector)
Set to ON for RS-422, or OFF for RS-232C.

❹ Switch 4 (Communication baud rate selector)
Set to ON for 38400 bps, or OFF for 9600 bps.

❺ Switches 5-7 (Camera address selector)

Set the address of the camera. Normally set to "0". With this setting, addresses are assigned to the cameras automatically in the connected order by pressing the POWER button while holding down the RESET button on the RM-BR300 Remote Control Unit. You can assign the camera address "1" to "7" manually by setting these selectors as follows:
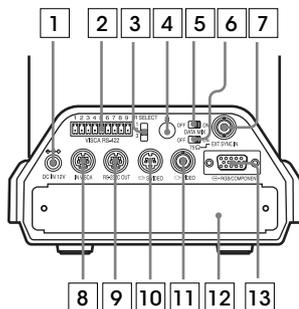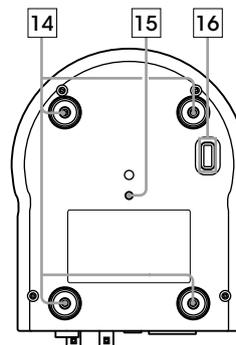
Camera address	0	1	2	3	4	5	6	7
Switch 5	OFF	ON	OFF	ON	OFF	ON	OFF	ON
Switch 6	OFF	OFF	ON	ON	OFF	OFF	ON	ON
Switch 7	OFF	OFF	OFF	OFF	ON	ON	ON	ON

Switch 4 is not used.

❻ Switch 8 (Infrared signal output switch)

Set to ON to enable an infrared signal output, or OFF to disable the output.

❼ Switches 9, 10

These switches are not used.

Note Please note that the same camera address cannot be assigned to two or more different cameras. Furthermore, you must set the switches before you turn on camera power.

5.1.4 BRC-300/300P

Rear
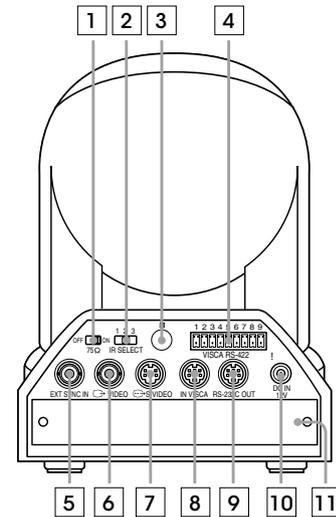
1 75 Ω termination switch

This switch is used when an external sync signal is utilized. Set it to OFF when this camera is in the middle of a daisy-chain connection of multiple cameras. Set it to ON when the camera is at the end of a daisy-chain connection.

2 IR SELECT switch

Selects the camera number when you operate multiple cameras with the same IR Remote Commander Unit.

3 Remote sensor

This is the sensor for the supplied IR Remote Commander Unit.

4 VISCA RS-422 connector

5 EXT SYNC IN connector

6 VIDEO connector (Composite out)

7 S-VIDEO connector

8 VISCA RS-232C IN connector

Connects to the RM-BR300 Remote Control Unit. When you join multiple cameras, connect it to the VISCA RS-232C OUT connector of the previous camera in the daisy chain.

9 VISCA RS-232C OUT connector

When you join multiple cameras, connect it to the VISCA RS-232C IN connector of the next camera in the daisy chain.

10 DC IN 12V connector

11 Card slot

Bottom
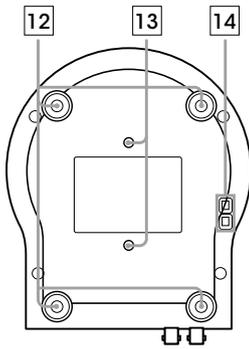
12 **Ceiling bracket mounting screw holes**

13 **Tripod screw holes** (1/4-20UNC)

14 **BOTTOM switches**

Setting of the BOTTOM switches

❶ **Switch 1** (No connection)
Always keep it OFF.

❷ **Switch 2** (RS-232C/RS-422 selector)
Set to ON for RS-422, or OFF for RS-232C.

❸ **Switch 3** (Communication baud rate selector)
Set to ON for 38400 bps, or OFF for 9600 bps.

❹ **Switch 4** (Infrared signal output switch)
Set to ON to enable an infrared signal output, or OFF to disable the output.

❺ **Camera address selectors**
Set the address of the camera. Normally set to 0. With this setting, addresses are assigned to the cameras automatically in the connected order by pressing the POWER button while holding down the RESET button on the RM-BR300 Remote Control Unit. You can assign the camera address, 1 to 7, manually by setting these selectors as follows:

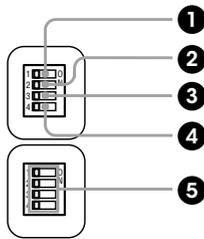| Camera address	0	1	2	3	4	5	6	7
Switch 1	OFF	ON	OFF	ON	OFF	ON	OFF	ON
Switch 2	OFF	OFF	ON	ON	OFF	OFF	ON	ON
Switch 3	OFF	OFF	OFF	OFF	ON	ON	ON	ON

Switch 4 is not used.

Note Please note that the same camera address cannot be assigned to two or more different cameras. Furthermore, you must set the switches before you turn on camera power.

5.2 Optical Multiplex Units

The following provides information on the location and function of BRU-H700 and BRU-300/300P parts. With these optical multiplex units, you can transmit uncompressed digital data including video, external sync, and camera control signals.

5.2.1 BRU-H700 HD Optical Multiplex Unit for use with the BRC-H700 and BRC-Z700

Rear
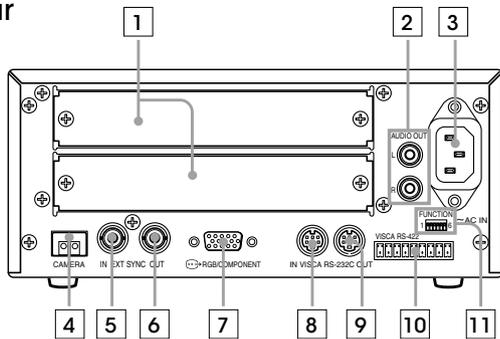
1 **Card slot**

2 **AUDIO OUT L/R jacks**
Loop through output of the audio line signal input from the AUDIO IN jacks on the BRBK-H700 HD Optical Multiplex Card or BRBK-MF1 HD Optical Multiplex Card inserted into the camera via an optical fiber cable.

3 **~AC IN connector**

4 **CAMERA connector**

5 **EXT SYNC IN connector**

6 **EXT SYNC OUT connector**

7 **RGB/COMPONENT connector**

Pin No.	Signal	Pin No.	Signal
1	Pr/R	9	NC
2	Y/G	10	GND
3	Pb/B	11	GND
4	GND	12	NC
5	GND	13	HD-OUT
6	GND	14	Tri-level Sync/Bi-level VD
7	GND	15	NC
8	GND		

⑧ VISCA RS-232C IN connector

Connect to the RM-BR300 Remote Control Unit. When you join multiple cameras, connect it to the VISCA RS-232C OUT connector of the previous camera in the daisy chain.

⑨ VISCA RS-232C OUT connector

When you join multiple cameras, connect it to the VISCA RS-232C IN connector of the next camera in the daisy chain.

⑩ VISCA RS-422 connector

⑪ VISCA FUNCTION switches

Switch 1 (RS-232C/RS-422 selector)
Set to ON for RS-422, or OFF for RS-232C.

Switch 2 (Communication baud rate selector)
Set to ON for 38400 bps, or OFF for 9600 bps.

Switches 3 to 5 (Camera address selectors)
Set the address of the camera. Normally set to 0. With this setting, addresses are assigned to the cameras automatically in the connected order by pressing the POWER button while holding down the RESET button on the RM-BR300 Remote Control Unit. You can assign the camera address, 1 to 7, manually by setting these selectors as follows:

Camera address	0	1	2	3	4	5	6	7
Switch 3	OFF	ON	OFF	ON	OFF	ON	OFF	ON
Switch 4	OFF	OFF	ON	ON	OFF	OFF	ON	ON
Switch 5	OFF	OFF	OFF	OFF	ON	ON	ON	ON

**Note** Please note that the same camera address cannot be assigned to two or more different cameras.

Switch 6 (59.94i/50i signal format selector)
Set to ON for output of 50i signal format, or OFF for output of 59.94i signal format.

Note Please further note that you must set the switches before you turn on power to the multiplex unit.

5.2.2 BRU-300/300P SD Optical Multiplex Unit for use with the BRC-300/300P

Rear
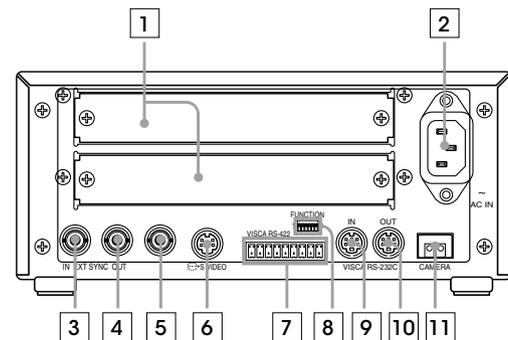
① Card slot

② AC IN connector

③ EXT SYNC IN connector

④ EXT SYNC OUT connector

⑤ Composite video output connector

⑥ S-VIDEO connector

⑦ VISCA RS-422 connector

⑧ VISCA FUNCTION switches

Switch 1 (RS-232C/RS-422 selector)
Set to ON for RS-422, or OFF for RS-232C.

Switch 2 (Communication baud rate selector)
Set to ON for 38400 bps, or OFF for 9600 bps.

Switches 3 to 5 (Camera address selectors)
Set the address of the camera. Normally set to 0. With this setting, addresses are assigned to the cameras automatically in the connected order by pressing the POWER button while holding down the RESET button on the RM-BR300 Remote Control Unit. You can assign the camera address, 1 to 7, manually by setting these selectors as follows:

Camera address	0	1	2	3	4	5	6	7
Switch 3	OFF	ON	OFF	ON	OFF	ON	OFF	ON
Switch 4	OFF	OFF	ON	ON	OFF	OFF	ON	ON
Switch 5	OFF	OFF	OFF	OFF	ON	ON	ON	ON

Switch 6 is not used.

Note Please note that the same camera address cannot be assigned to two or more different cameras.

⑨ VISCA RS-232C IN connector

Connect to the RM-BR300 Remote Control Unit. When you join multiple cameras, connect it to the VISCA RS-232C OUT connector of the previous camera in the daisy chain.

10 **VISCA RS-232C OUT connector**
When you join multiple cameras, connect it to the VISCA RS-232C IN connector of the next camera in the daisy chain.

11 **CAMERA connector**

5.3 Optical Multiplex Cards and Optional Video Cards

The following provides information on the location and function of optical multiplex card parts and optional video cards and optional video cards. The BRC Series allows you to choose from a wide range of optional video cards. This versatility enables you to create flexible analog and digital system configurations.

## 5.3.1 BRBK-H700 HD Optical Multiplex Card
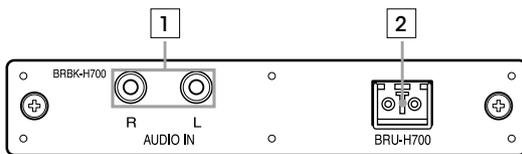
1 **AUDIO IN L/R jacks (phono-type)**
Input an audio signal (stereo) that is output from the AUDIO OUT jacks on the BRBK-H700 HD Optical Multiplex Card via an optical fiber cable. The audio input on this board accepts audio line signals only. When you input audio signals from a microphone or similar device, it should be connected with a microphone amplifier so that audio signals with an appropriate audio level can be input.

2 **Optical connector**

5.3.2 HFBK-HD1 HD Interface Board
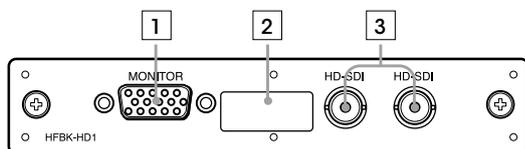
1 **MONITOR connector** (D-sub 15-pin)

Pin No.	Signal	Pin No.	Signal
1	R/Pr (X)	9	NC
2	G/ Y (X)	10	GND
3	B/Pb (X)	11	NC
4	NC	12	NC
5	GND	13	HD
6	R/Pr (G)	14	VD/SYNC
7	G/Y (G)	15	NC
8	B/Pb (G)		

2 **DIP switches** (inside the cap)
When this interface board is inserted into the camera or the BRU-H700 HD Optical Multiplex Unit, the DIP switches cannot be used.
The parameters can be set from the menu of the camera.

3 **HD-SDI connector** (BNC-type)
Supplies HD-SDI signals that conform to the SMPTE292M serial digital interface standard. The two connectors output the same signal.

5.3.3 HFBK-SD1 SD Interface Board

1 **MONITOR connector** (D-sub 9-pin)

Pin No.	Signal	Pin No.	Signal
1	GND	6	Composite/Y
2	GND	7	SYNC
3	R/Cr	8	GND
4	G/ Y	9	–/C
5	B/Cb		

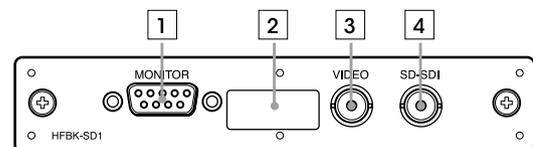2 **DIP switches** (inside the cap)
When this interface board is inserted into the camera or the BRU-H700 HD Optical Multiplex Unit, the DIP switches cannot be used.
The parameters can be set from the menu of the camera.

3 **VIDEO connector** (BNC-type)
Supplies analog composite signals. The aspect ratio can be selected in the camera's DOWN CONVERTER menu.

4 **SD-SDI connector** (BNC-type)
Supplies down-converted SD-SDI signals that conform to SMPTE259M (for 59.94i signal format) and ITU-R BT.656 (for 50i signal format) serial digital interface standards. The aspect ratio can be selected with the camera's DOWN CONVERTER menu.

5.3.4 HFBK-XG1 XGA Interface Board
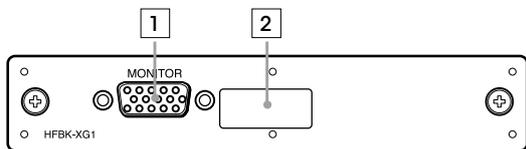
1 MONITOR connector (D-sub 15-pin)

Pin No.	Signal	Pin No.	Signal
1	R (X)	9	NC
2	G (X)	10	GND
3	B (X)	11	NC
4	NC	12	NC
5	GND	13	HD
6	R (G)	14	VD
7	G (G)	15	NC
8	B (G)		

2 DIP switches (inside the cap)

When this interface board is inserted into the camera or the BRU-H700 HD Optical Multiplex Unit, the DIP switches cannot be used.
The parameters can be set from the menu of the camera.

5.3.5 HFBK-TS1 HDV Interface Board

1 AUDIO L/R jacks (phono-type)

Input audio signals (stereo). The input audio signals are converted into signals that comply with HDV standards. The time difference between image and audio can be adjusted by up to 240 minutes in 10 increments.

2 DIP switches (inside the cap)

When this interface board is inserted into the camera or the BRU-H700 HD Optical Multiplex Unit, the DIP switches cannot be used.
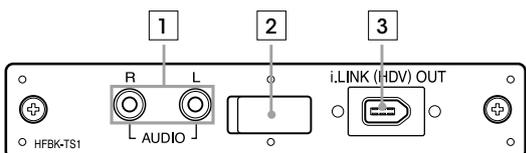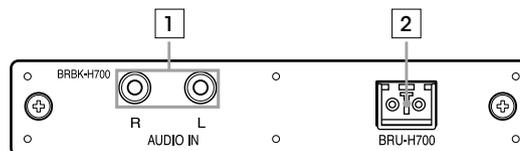The parameters can be set from the menu of the camera.

3 i.LINK (HDV) OUT connector (i.LINK 6-pin)

5.3.6 BRBK-MF1 HD Optical Multiplex Card

1 AUDIO IN L/R jacks (phono-type)

Input an audio signal (stereo), which is output from the AUDIO OUT jacks on the BRU-H700 HD Optical Multiplex Unit via an optical fiber cable. The time difference between video and audio can be adjusted by up to 240 ms by 10 ncrements.

> **Note** The audio input on this board accepts audio line signals only. When you input audio signals from a microphone or similar device, it should be connected with a microphone amplifier so that audio signals with an appropriate audio level can be input.

2 Optical connector

5.3.7 BRBK-HSD1 HD/SD-SDI Output Card
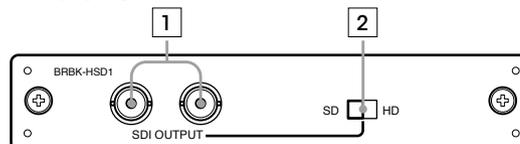
1 SDI OUTPUT connectors (BNC-type)

Supplies down-converted SD-SDI signals that conform to SMPTE259M (for 59.94i signal format) and ITU-R BT.656 (50i signal format) serial digital interface standards, and HD-SDI signals that conform to the SMPTE292M serial digital interface standard. Select HD-SDI or SD-SDI signals with the HD/SD select switch.

2 HD/SD select switch

Set the switch to SD to supply SD-SDI signals and HD to supply HD-SDI signals.

> **Note** • SD-SDI and HD-SDI signals cannot be supplied simultaneously.
> • Set the SD/HD select switch before turning on the camera.

5.3.8 BRBK-HD2 HD-SDI Output Card
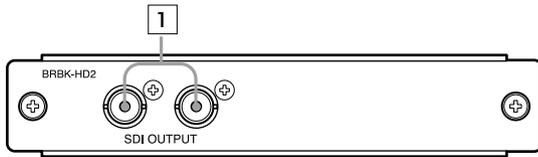
1 **SDI OUTPUT connectors** (BNC-type)
The Card allows output of an HD-SDI signal conforming to SMPTE292M serial digital interface standards. No audio signal is output from the card.

5.3.9 BRBK-303 Optical Multiplex Card

1 **Optical connector**

5.3.10 BRBK-301 Analog RGB Component Card
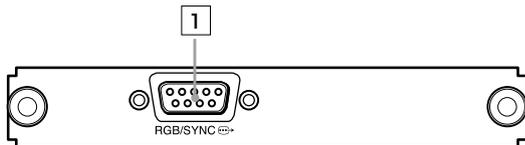
1 **RGB/SYNC connector**

Pin No.	Signal	Pin No.	Signal
1	GND	6	Composite/Y
2	GND	7	SYNC
3	R/Cr	8	GND
4	G/ Y	9	–/C
5	B/Cb		

5.3.11 BRBK-302 SDI Card
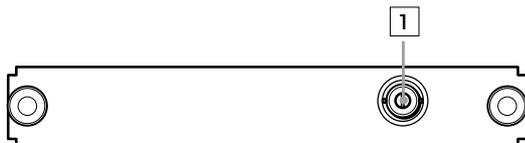
1 **SDI connector**
Supplies a signal conforming to the SMPTE259M serial digital interface standard.

5.3.12 BRBK-304 DV Card

1 **i.LINK (DV) OUT connector** (i.LINK 6-pin)

6 Basic Set-up and Operation

6.1 Connections

These are the basic connections of the cameras and monitor prior to a demonstration.

Connections of BRC-H700/BRC-Z700 and monitor

BRC-H700 rear panel with the optional BRBK-H700

Monitor with HD-SDI input

Optical Fiber Cable
CCFC-M100HG

BNC

RS-232C (Supplied)

BRU-H700 rear panel
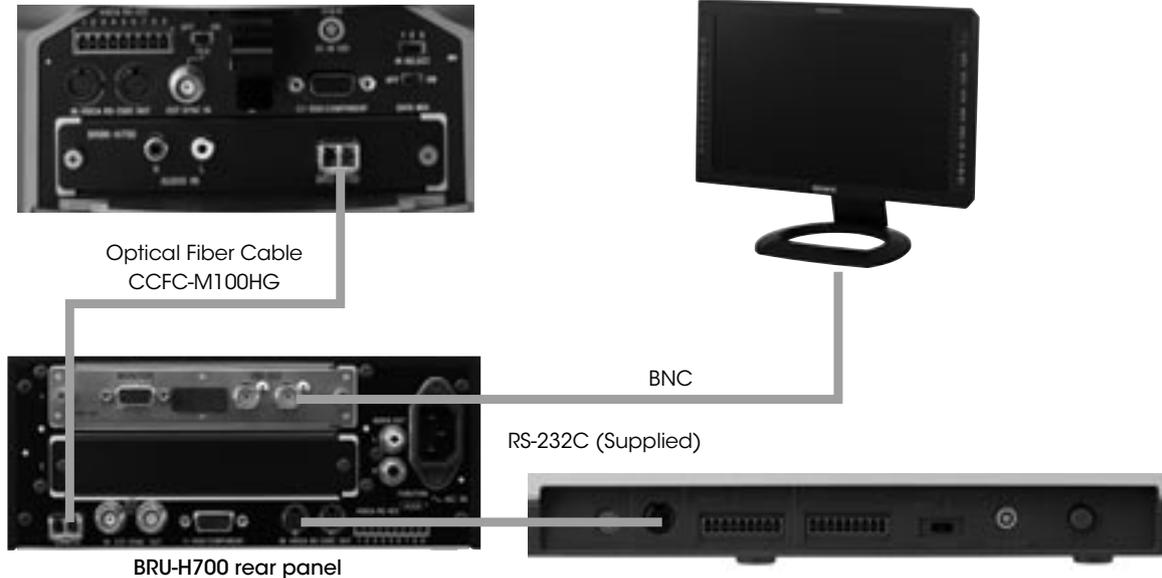
Connections of BRC-300/300P and monitor

BRC-300/300P with the optional BRBK-303

Monitor

Optical fiber cable
CCFC-M100

BNC or S cable

BRU-300/300P rear panel

RS-232C cable (supplied)

RM-BR300 rear panel
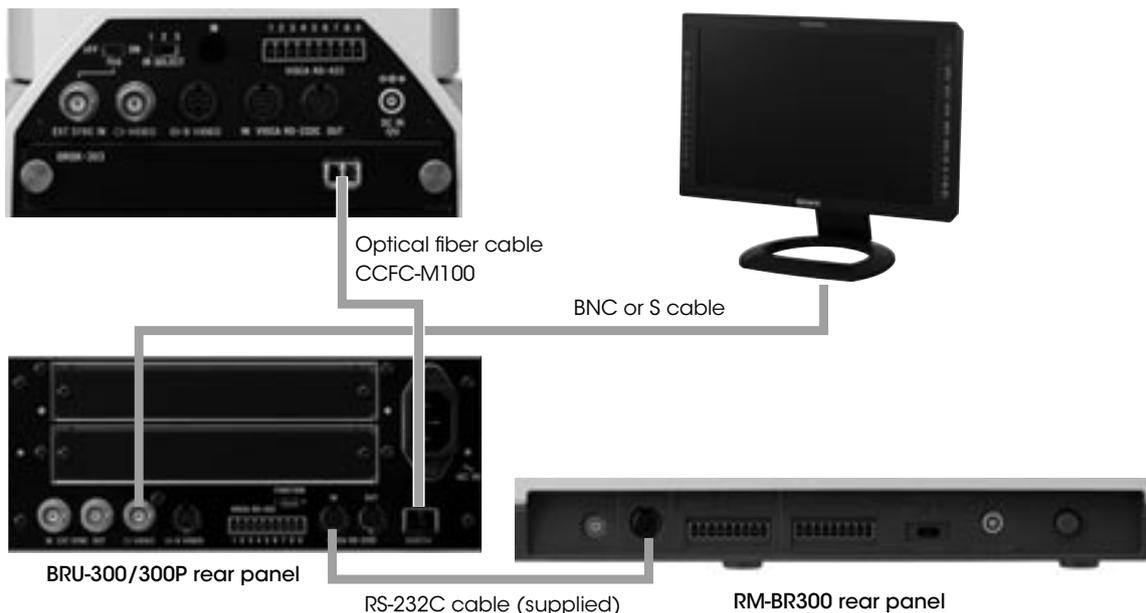
6.2 Monitor Set-up

The BRC-H700, the BRC-Z700, and the BRC-Z330 come equipped with a Color Bar Output mode, allowing you to precisely adjust the monitor. For the BRC-300/300P, it is suggested that you use the Auto Set-up function of the monitor.

7 Remote Operation

7.1 IR Remote Commander Unit

The following provides information on the function and location of the parts.
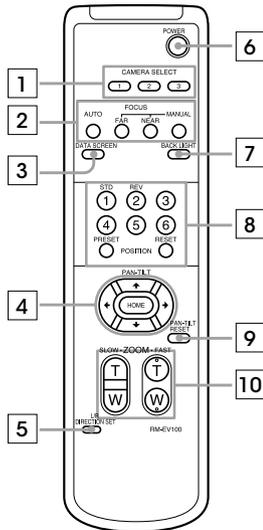
1 CAMERA SELECT buttons

Press the button corresponding to the camera you want to operate with the IR Remote Commander Unit. The camera number can be set using the IR SELECT switch on the rear of the camera.

Note If two or more cameras are adjacent and have the same camera number, they are operated simultaneously with the same IR Remote Commander Unit. If you are installing cameras close to each other, make sure you allocate a different camera number to each one.

2 FOCUS buttons

Used for focus adjustment. Press the AUTO button to adjust the focus automatically. To adjust the focus manually, press the MANUAL button, and adjust it with the FAR and NEAR buttons.

3 DATA SCREEN button

Press this button to display the Main menu. Press it again to turn off the menu. If you press the button when a lower-level menu is selected, the display goes back to a higher-level menu.

Note Pan/tilt and zoom operations are disabled when the menu is displayed.

4 PAN/TILT buttons

Press the arrow buttons to perform panning and tilting. Press the HOME button to face the camera back to the front. When the menu is displayed, use V or v to select the menu items and B or b to change the set values.

5 L/R DIRECTION SET button

Hold down this button and press the REV button to change camera movement to the opposite direction indicated by the arrow of the B/b buttons. To reset the camera movement direction, press the STD button while holding down this button.

6 POWER switch

Press this button to turn on/off the camera when the camera is connected to an AC outlet.

7 BACK LIGHT button

Press this button to enable the Backlight Compensation function. Press it again to disable Backlight Compensation.

8 POSITION buttons

Hold down the PRESET button and press a number button from 1 to 6 to store the current Camera Direction, Zoom, Focus Adjustment, and Backlight Compensation setting in the memory of the pressed number button. To erase this memory, hold down the RESET button and press the same number button. For the BRC-H700 and BRC-Z700, preset positions from 7 to 16 are not available.

9 PAN/TILT RESET button

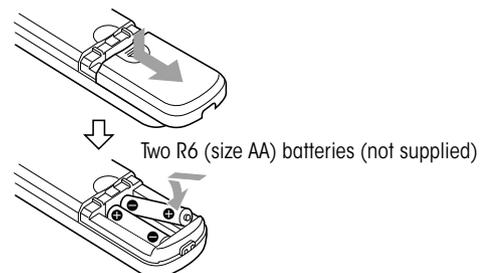Press this button to reset the pan/tilt position.

10 ZOOM buttons

Use the SLOW button to zoom slowly, and the FAST button to zoom quickly. Press the T (telephoto) side of the button to zoom in, and the W (wide angle) side to zoom out.

Installing batteries

Two R6 (size AA) batteries (not supplied)

Caution To avoid risk of explosion, use R6 (size AA) manganese or alkaline batteries.

7.2 RM-BR300 Remote Control Unit

7.2.1 Features

Effective control of up to seven cameras

The RM-BR300 Remote Control Unit achieves remote operation of up to seven cameras in a daisy-chain configuration, allowing only one operator to manage multiple camera systems.

Various Camera Presets

Various camera settings can be adjusted within the menu. The BRC-H700/BRC-Z700/BRC-Z330 have sixteen presets each and the BRC-300/300P has six presets to which pre-defined P/T/Z positions and other various camera settings can be allocated.

RS-232C/RS-422 Interface

RS-422 cables as well as a supplied RS-232C cable are available to connect the camera to an optical multiplex unit for long-distance operation.

TALLY/CONTACT selector

If you select TALLY on the TALLY/CONTACT selector, you can control the camera selected by the switcher. If you select CONTACT on the TALLY/CONTACT selector, you can operate the camera selected by the RM-BR300 Remote Control Unit. By selecting CONTACT (TALLY) on the TALLY/CONTACT selector, you can control the camera selected by the switcher and also light the camera tally.

In addition to the features mentioned in 7.2.1, the following features are now available.

Improved functionality with the RM-BR300/4

Model Name	Destination	Serial No.
RM-BR300/4 Remote Control Unit	UC7	110001-
RM-BR300/4 Remote Control Unit	J1	310001-
RM-BR300/4 Remote Control Unit	CE3	410001-

The following features can be achieved with the RM-BR300/4 and after.

Improvement of joystick operation
(BRC-H700/BRC-Z700/BRC-Z330/BRC-300/300P)

The pan/tilt speed can be adjusted in seven levels by inclining the joystick to its maximum angle, and pan/tilt operation can be controlled easily at low speed. Only the maximum pan/tilt speed can be set with the previous version.
To select a speed level, hold down the SHIFT button and PAN/TILT RESET button at the same time for a few seconds, and the CAMERA switch lamp on the RM-BR300 starts to flash. Select between 1 and 7: 1 for the lowest speed and 7 is for the highest speed.

Addition of Bright Volume Control mode
(BRC-H700/BRC-Z700/BRC-Z330)

Iris can be controlled independently in Bright Volume Control mode, selected with a DIP Switch(3) on the bottom of the RM-BR300/4. Iris and Gain can be adjusted in combination with the previous version of the RM-BR300.

Improved Pan/Tilt joystick operation
(BRC-Z700/BRC-Z330)

- Shortens the time lag of the Pan/Tilt joystick.
- Enables fine direction control by the Pan/Tilt joystick.

Improved AF operation
(BRC-Z700/BRC-Z330)

While one object is in focus, you can get the next object (Far/Near) into focus by adjusting the Focus Volume (Far/Near), when AF and AF Assist are set to ON.

Improved Color Shift operation
(BRC-Z700/BRC-Z330)

R and B can be adjusted separately with R/B Gain Volume when in AWB mode.

Improved Focus Volume operation
(BRC-Z700/BRC-Z330)

You can adjust to focus another subject in a forward or backward location with the FOCUS control when AF MODE is AUTO and AF ASSIST is on.

Improved functionality with the RM-BR300/5

Model Name	Destination	Serial No.
RM-BR300/5 Remote Control Unit	UC7	120001-
RM-BR300/5 Remote Control Unit	J1	320001-
RM-BR300/5 Remote Control Unit	CE3	420001-

The following feature can be achieved with the RM-BR300/5 and after.

ON-Air Tally Mode

On-Air Tally Mode is newly incorporated to the RM-BR300/5. You can set the On-Air Tally Mode by taking the following steps:

1. Press the On/Off switch to turn off the RM-BR300/5

2. Set the Tally/Contact switch to Tally

3. Press the On/Off switch to turn on the unit, while simultaneously holding down the Mode button, Camera button 4, and Position button 4

When On-Air Tally Mode is selected, the tally lamp of the camera lights up depending on the selected port of the Tally/Contact connector on the RM-BR300/5, regardless of the camera selection on the RM-BR300/5. For example, if you press camera 1 on the switcher, camera 4 on the RM-BR300/5 remains unchanged. This is because the switcher and the RM-BR300/5 operate independently in this mode.
The tally lamp of camera 1 will light up, and camera 4 will remain controllable.

Switcher
Camera 1: Tally on

RM-BR300/5
Camera 1: Controllable

Camera 1
Tally lamp is on
Camera is controllable

Camera 2

Camera 3

Camera 4
Tally lamp is off
Camera is controllable
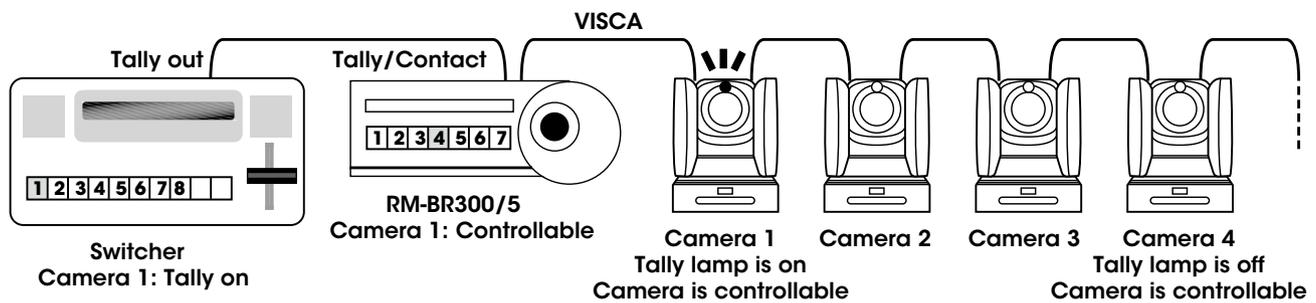
7.2.2 Operation

The following information enables easy camera system operation with the benefit of functions such as pan/tilt/zoom operation, preset memory, and more.

Note Before operating, check that the camera, the RM-BR300 Remote Control Unit, and peripheral devices are properly installed and connected.

Turning on the power
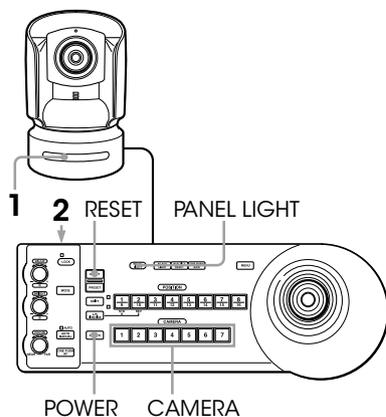
1 Connect the camera to an AC outlet using the supplied AC power adaptor and power cord. When the power is turned on, the POWER lamp lights. The camera will automatically pan and tilt, and be reset to the position stored in POSITION 1 (Pan/Tilt Reset action).

2 Press the ON/OFF switch on the RM-BR300 Remote Control Unit to turn it on.

3 Turn on the peripheral devices.

Note Be sure to turn on the power of the camera before the power of the RM-BR300 Remote Control Unit. Otherwise, the RM-BR300 cannot recognize the connected camera.

Camera address	0	1	2	3	4	5	6	7
Switch 1	OFF	ON	OFF	ON	OFF	ON	OFF	ON
Switch 2	OFF	OFF	ON	ON	OFF	OFF	ON	ON
Switch 3	OFF	OFF	OFF	OFF	ON	ON	ON	ON

Switch 4 is not used.

To turn on/off the camera using the RM-BR300 Remote Control Unit

While holding down the POWER button, press the CAMERA button corresponding to the required camera. When you turn the power off using the RM-BR300 Remote Control Unit, the POWER lamp turns off and the STANDBY lamp lights on the camera.

STANDBY lights.

To illuminate the panel of the RM-BR300 Remote Control Unit

Press the PANEL LIGHT button.

Operating multiple cameras

To assign camera addresses automatically:

1 Make sure that the camera address selector on the bottom of each camera is set to 0.

2 Turn on the power of all the connected cameras and the RM-BR300 Remote Control Unit.

3 Hold down the RESET button and press the POWER button on the RM-BR300. The RM-BR300 recognizes the connected cameras and assigns them camera addresses, 1 to 7, automatically in the connected order.

4 To confirm, press the POWER button on the RM-BR300 and check that the CAMERA buttons light.

To assign camera addresses manually

Set one of the camera addresses, 1 to 7, using the camera address selectors on the bottom of each camera.

Camera address selectors

Set the address of the camera. This is normally set to 0. With this setting, addresses are assigned to the cameras automatically in the connected order by pressing the POWER button while holding down the RESET button on the RM-BR300 Remote Control Unit. You can assign the camera address, 1 to 7, manually by setting these selectors as follows:

Pan/tilt/zoom operation

L/R DIRECTION   REV
1 STD   PAN-TILT RESET

POWER   **2**   **3**
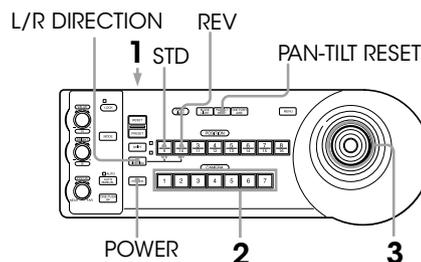
1 Press the CAMERA button corresponding to the camera you want to operate.

2 Operate the joystick to pan or tilt the camera. While checking the picture on the screen, incline the joystick in the desired direction. The panning/tilting speed changes according to the angle at which you incline the joystick. Release the joystick to stop panning/tilting.

To return the camera to facing forwards

Press the button on top of the joystick for one or two seconds.

Press for 1 or 2 seconds.

If you accidentally move the camera with your hand

Press the PAN/TILT RESET button to perform the Pan/Tilt Reset action.

If the camera moves in a different direction from that you intended

The camera is preset to face towards the right whenever the joystick is inclined to the right. You might wish to face the camera towards a direction that is opposite to the direction you inclined the joystick. For example, you may want to change the direction of the camera while checking the picture on the screen. In this case, press the POSITION 2 (REV) button while holding down the L/R DIRECTION button. To reset the setting, press the POSITION 1 (STD) button while holding down the L/R DIRECTION button.

Joystick	Movement of the camera	Setting
Incline to the right.		While holding down L/R DIRECTION 1 9 STD Press.
Incline to the right.		While holding down L/R DIRECTION 2 10 REV Press.
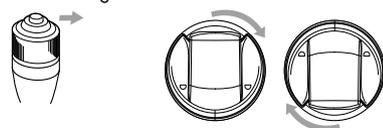
Note The setting above only changes the signal emitted from the RM-BR300 Remote Control Unit, and does not change any camera settings.

If the STANDBY lamp of the camera flashes

When the camera is moved or turned by hand or by external shock, the microcomputer inside the camera my not be able to memorize the pan/tilt position properly. To reset the pan/tilt position, press the PAN/TILT RESET button.
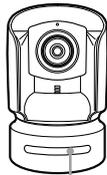
STANDBY flashes.

Zooming

Turn the dial on the upper part of the joystick.

Subject appears farther away. (Wide angle)
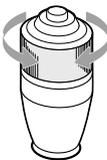
Subject appears closer. (Telephoto)

Note When you perform a pan/tilt operation with a camera in Telephoto mode, the screen image may move at an uneven speed.

Adjusting the camera

MODE
SHIFT
VALUE/R   BACK LIGHT   ONE PUSH AWB

FOCUS   AUTO/MANUAL
BRIGHT/B   ONE PUSH AF
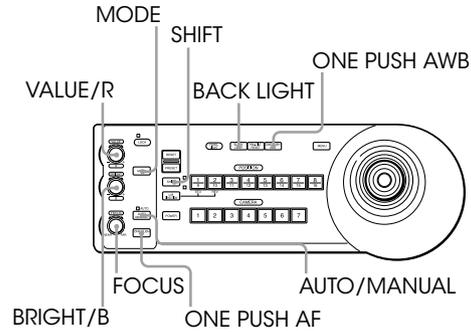
Focusing on a subject

To focus the camera on a subjec automatically

Press the AUTO/MANUAL button so that the AUTO Indicator lights.

Note The camera focuses on the subject in the center of the screen automatically.

AUTO
AUTO
MANUAL

To focus the camera on a subject manually

Press the AUTO/MANUAL button so that the MANUAL Indicator lights. Then turn the FOCUS control clockwise or counterclockwise to make the camera focus on the subject.

Focusing on a near subject

FOCUS

Focusing on a far subject

NEAR   FAR
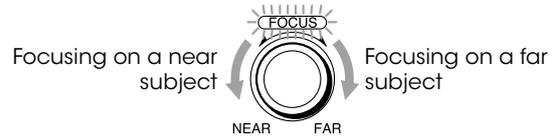
One-push auto focusing during manual focus adjustment

Press the ONE PUSH AF button. The camera focuses on the subject in the center of the screen automatically.

ONE PUSH
AF

Backlight Compensation function

When you shoot a subject with a light source behind it, press the BACK LIGHT button. To cancel this function, press the BACK LIGHT button again.

BACK
LIGHT

Note The Backlight Compensation function is not effective if the mode is set to MANUAL in the camera's EXPOSURE menu.

Spotlight Compensation function

Hold down the SHIFT button and press the BACK LIGHT button. To cancel this function, hold down the SHIFT button and press the BACK LIGHT button again.

Note The Backlight and Spotlight Compensation functions cannot be used simultaneously.

Adjusting the white balance

Note Before adjusting the white balance, shoot a white object under the same lighting conditions as the subject you want to shoot, and zoom it in on the screen. (You can use a white wall, etc., instead of the object.)

To adjust the white balance automatically

1 Set White Balance to ONE PUSH in the camera's COLOR menu.

2 Press the ONE PUSH AWB button. The white balance is adjusted automatically.

> ONE PUSH
> AWB

To adjust the white balance manually

1 Set White Balance to MANUAL in the camera's COLOR menu.

2 Press the MODE button so that the R and B indicators on the VALUE/R and BRIGHT/B controls light (White Balance Adjustment mode).

3 Adjust the red gain with the R control and the blue gain with the B control.
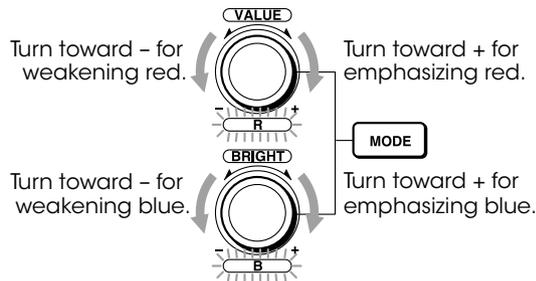

Turn toward – for weakening red.   Turn toward + for emphasizing red.

Turn toward – for weakening blue.   Turn toward + for emphasizing blue.

Functions of the R and B controls

When White Balance Adjustment mode is selected with the MODE button on the RM-BR300 Remote Control Unit, the functions of the R control and B control change according to the White Balance setting in the camera's COLOR menu.

BRC-H700

WHITE BALANCE setting	R control	B control
MANUAL	Red gain control	Blue gain control
AUTO, ONE PUSH	WB SHIFT control	WB SHIFT control

BRC-Z700

WHITE BALANCE setting	R control	B control
MANUAL	Red gain control	Blue gain control
AUTO 1/2, ONE PUSH	WB R. SHIFT control	WB B. SHIFT control

BRC-Z330

WHITE BALANCE setting	R control	B control
MANUAL	Red gain control	Blue gain control
AUTO 1/2, ONE PUSH	WB R. SHIFT control	WB B. SHIFT control

Adjusting the brightness

1 Set the mode to SHUTTER Pri, IRIS Pri, GAIN Pri, or MANUAL in the camera's EXPOSURE menu.

2 Press the MODE button so that the VALUE and BRIGHT indicators on the VALUE/R and BRIGHT/B controls light (Brightness Adjustment mode).

3 Adjust the brightness with the VALUE/R or BRIGHT/B control.

Turn toward – for darkening the picture by changing shutter speed, gain level or F-number.   Turn toward + for brightening the picture by changing shutte speed, gain level or F- number.

Turn toward – for darkening the picture by changing exposure compensation level, F-number or gain level.   Turn toward + for brightening the picture by changing exposure compensation level, F- number or gain level.

Functions of the VALUE and BRIGHT controls

The functions of the VALUE control and the BRIGHT control change according to the mode setting in the EXPOSURE menu, as follows:

BRC-H700

MODE setting	Function of VALUE control	Function of BRIGHT control
FULL AUTO	Not used	Exposure compensation level control*
SHUTTER Priority	Shutter speed control	Exposure compensation level control*
IRIS Priority	F-number control	Exposure compensation level control*
GAIN Priority	Gain control	Not used
MANUAL	Shutter speed control	F-number and gain control

* When EX-COMP is ON in the EXPOSURE menu.

BRC-Z700

MODE setting	Function of VALUE control	Function of BRIGHT control
FULL AUTO	Not used	Exposure compensation level control*
SHUTTER Priority	Shutter speed control	Exposure compensation level control*
IRIS Priority	F-number control	Exposure compensation level control*
GAIN Priority	Gain control	Exposure compensation level control*
MANUAL	Shutter speed control	•F-number and gain controls (when the DIP switch 3 at the bottom of the Remote Control Unit is set to ON) •F-number control (when the DIP switch 3 at the bottom of the Remote Control Unit is set to OFF)

* When EX-COMP is ON in the EXPOSURE menu.

BRC-Z330

MODE setting	Function of VALUE control	Function of BRIGHT control
FULL AUTO	Not used	Exposure compensation level control*
SHUTTER Priority	Shutter speed control	Exposure compensation level control*
IRIS Priority	F-number control	Exposure compensation level control*
GAIN Priority	Gain control	Exposure compensation level control*
MANUAL	Shutter speed control	•F-number and gain controls (when the DIP switch 3 at the bottom of the Remote Control Unit is set to ON) •F-number control (when the DIP switch 3 at the bottom of the Remote Control Unit is set to OFF)

* When EX-COMP is ON in the EXPOSURE menu.

BRC-300/300P

| MODE setting	Function of VALUE control	Function of BRIGHT control
FULL AUTO	Not used	Exposure compensation level control*
SHUTTER Priority	Shutter speed control	Exposure compensation level control*
IRIS Priority	Iris control	Exposure compensation level control*
BRIGHT	Not used	Brightness level control
MANUAL	Shutter speed control	Iris control

* When EX-COMP is ON in the EXPOSURE menu.

Storing the Camera Setting in Memory

Storing camera settings: Memory Preset feature

To store the camera settings

Lights for positions 1 to 8.
Lights for positions 9 to 16.
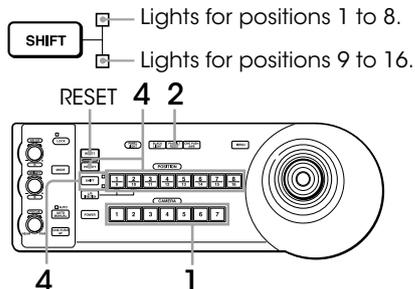
1 Press the CAMERA button to select the required camera.

2 Press the PAN/TILT RESET button to reset the pan/tilt position.

3 Adjust the position, zooming, focusing, and backlighting of the selected camera.

4 While holding down the PRESET button (for positions 1 to 8) or the SHIFT and PRESET buttons (for positions 9 to 16), press any of the POSITION buttons in which you want to store settings.
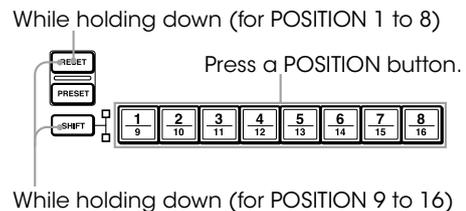

While holding down (for POSITION 1 to 8)
Press a POSITION button.
While holding down (for POSITION 9 to 16)
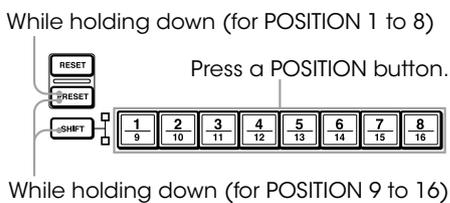
Settings are stored in the memory of the camera. The pressed button flashes during storing. Flashing stops when storing is completed.

To recall the stored settings
Press any of the POSITION buttons in which you have stored the settings. For positions 9 to 16, hold down the SHIFT button and press any of the POSITION buttons.

To cancel the preset memory
While holding down the RESET button (for positions 1 to 8) or the SHIFT and RESET buttons (for positions 9 to 16), press the POSITION button from which you want to cancel the settings.

While holding down (for POSITION 1 to 8)
Press a POSITION button.
While holding down (for POSITION 9 to 16)

The pressed button flashes while settings are being cancelled. Flashing stops when the settings have been canceled.

Note Important note:
- When the power is turned on, the camera starts with the settings stored in POSITION 1.
- If you want to retain the previous pan and tilt position when the power is turned off and turned on again, store those positions in POSITION 1.
- When you are storing or canceling the settings in one position, you cannot call up, store or cancel the settings in another position.

Setting the speed of the camera moving to a preset position

You can select the panning/tilting speed when the camera moves to a preset position.

1 Press the CAMERA button to select the required camera.

2 Press the POSITION button for which you want to set the speed for more than one second. All of the CAMERA buttons, 1 to 7, flash.

3 Press one of the CAMERA buttons to select the speed.

CAMERA button	Panning/tilting speed
1	1 degree/sec.
2	2.2 degree/sec.
3	4.8 degree/sec.
4	11 degree/sec.
5	23.3 degree/sec.
6	43 degree/sec.
7	60 degrees/sec. (default)

Now the camera will move to the position preset to the pressed POSITION button with the selected speed.

To set the speed of the camera moving to a preset position between 9 and 16
Hold down the SHIFT button and press the corresponding POSITION button for more than one second. The POSITION 1 to 8 buttons can be used for positions 9 to 16.

Preset memory

Preset Memory 1: All of the configurations can be stored.
Preset Memory 2 to 16: Frequently-changed configurations can be stored.
Infrequently-changed configurations cannot be stored.

Note Before you turn off the camera, you might want to save various camera settings in Preset Memory 1. Otherwise, the camera start operating with the factory settings.

Category Mode/ Position		Preset Memory 1			
		BRC-H700	BRC-Z700	BRC-Z330	BRC-300 BRC-300P
Pan/Tilt	Pan/Tilt position	Yes	Yes	Yes	Yes
	Pan limit position	Yes	Yes	Yes	Yes
	Tilt limit position	Yes	Yes	Yes	Yes
	Ramp Curve	Yes	Yes	Yes	—
Zoom	Zoom position	Yes	Yes	Yes	Yes
	Digital zoom limit	Yes	Yes	Yes	Yes
Focus	auto/manual	Yes	Yes	Yes	Yes
	normal/interval/ zoom trig	—	—	—	Yes
	near limit	—	Yes	Yes	—
	af assist	—	Yes	Yes	—
WB	WB mode	Yes	Yes	Yes	Yes
	Auto WB Sense	Yes	Yes	Yes	—
	Auto WB Shift	Yes	Yes	Yes	—
	One Push WB Shift	Yes	Yes	Yes	—
	Manual WB R Gain	Yes	Yes	Yes	Yes
	Manual WB B Gain	Yes	Yes	Yes	Yes
Color	Gain	Yes	Yes	Yes	—
	Hue	Yes	—	Yes	—
	Color matrix	—	Yes	Yes	—
	R.enhance	—	Yes	Yes	—
	G.enhance	—	Yes	Yes	—
	B.enhance	—	Yes	Yes	—
	YL.enhance	—	Yes	Yes	—
	CY.enhance	—	Yes	Yes	—
	MG.enhance	—	Yes	Yes	—
EXPOSURE	Mode	Yes	Yes	Yes	Yes
	AE Speed (Full Auto)	Yes	Yes	Yes	—
	AGC limit (Full Auto)	Yes	Yes	Yes	—
	Iris limit (Full Auto)	Yes	Yes	Yes	—
	Gain (Manual)	Yes	Yes	Yes	Yes
	Gain (Gain Pri)	Yes	Yes	Yes	—
	Shutter (Manual)	Yes	Yes	Yes	Yes
	Shutter (Shutter Pri)	Yes	Yes	Yes	Yes
	Iris (Manual)	Yes	Yes	Yes	Yes
	Iris (Iris Pri)	Yes	Yes	Yes	Yes
	Bright level	—	—	—	Yes
	Back light	Yes	Yes	Yes	Yes
	Spot light	Yes	Yes	Yes	—
	Ex-comp mode	Yes	Yes	Yes	Yes
	Ex-comp level	Yes	Yes	Yes	Yes
	Spot AE	—	—	—	Yes
	Color AE	—	—	Yes	—
	ND Filter	—	—	Yes	—

Category Mode/ Position		Preset Memory 1			
		BRC-H700	BRC-Z700	BRC-Z330	BRC-300 BRC-300P
Picture	Effect Mode	—	—	—	Yes
	Wide	—	—	—	Yes
	Aperture (Detail)	Yes	Yes	Yes	Yes
	B&W	Yes	Yes	Yes	—
	Skintone detail	Yes	—	—	—
	Gamma	Yes	Yes	Yes	—
	Flicker cancel	Yes	Yes	Yes	—
	Steady shot	Yes	Yes	—	—
	Color bar	No	No	No	—
	Color detail mode	—	Yes*2	Yes*2	—
	Color detail phase	—	Yes	Yes	—
System	Data mix	—	—	—	Yes
	Ir receive	Yes	Yes	Yes	Yes
	Img flip	Yes	Yes	Yes	Yes
	Pan reverse	Yes	Yes	Yes	Yes
	Tilt reverse	Yes	Yes	Yes	Yes
	Display info	Yes	Yes	Yes	Yes
	Analog out	Yes	Yes	Yes	—
	Add sync	Yes	Yes	Yes	—
	Sync type	Yes	Yes	Yes	—
	Sync master	Yes	Yes	Yes	—
	H phase	—	Yes	Yes	—
ANALOG OUT*3	Output 1	—	—	—	Yes
	Sync (Output 1)	—	—	—	Yes
	Output 2	—	—	—	Yes
DOWN CON-VERTER*4	D-Sub out 1	Yes	Yes	—	—
	Add sync (D-sub out1)	Yes	Yes	—	—
	D-Sub out 2	Yes	Yes	—	—
	Img-size	Yes	Yes	—	—
HD-SDI*5	Analog out	Yes	Yes	—	—
	Sync/vd	Yes	Yes	—	—
	Add sync	Yes	Yes	—	—
PC-OUTPUT*6	Img size	Yes	Yes	—	—
	Sync	Yes	Yes	—	—
	Vd	Yes	Yes	—	—
HDV*7	Audio delay	Yes	Yes	—	—
SD-SDI*8	IMG-SIZE	—	Yes	—	—

Category	Mode/Position	BRC-H700	BRC-Z700	BRC-Z330	BRC-300 BRC-300P*1
Pan/Tilt	Pan/Tilt position	Yes	Yes	Yes	Yes
	Pan limit position	No	No	No	No
	Tilt limit position	No	No	No	No
	Ramp Curve	No	No	No	—
Zoom	Zoom position	Yes	Yes	Yes	Yes
	Digital zoom limit	Yes	Yes	Yes	Yes
Focus	auto/manual	Yes	Yes	Yes	Yes
	normal/interval/zoom trig	—	—	—	—
	near limit	—	Yes	Yes	—
	af assist	—	Yes	Yes	—
WB	WB mode	Yes	Yes	Yes	Yes
	Auto WB Sense	Yes	Yes	Yes	—
	Auto WB Shift	Yes	Yes	Yes	—
	One Push WB Shift	Yes	Yes	Yes	—
	Manual WB R Gain	Yes	Yes	Yes	Yes
	Manual WB B Gain	Yes	Yes	Yes	Yes
Color	Gain	Yes	Yes	Yes	—
	Hue	Yes	—	Yes	—
	Color matrix	—	Yes	Yes	—
	R.enhance	—	Yes	Yes	—
	G.enhance	—	Yes	Yes	—
	B.enhance	—	Yes	Yes	—
	YL.enhance	—	Yes	Yes	—
	CY.enhance	—	Yes	Yes	—
	MG.enhance	—	Yes	Yes	—
EXPOSURE	Mode	Yes	Yes	Yes	Yes
	AE Speed (Full Auto)	Yes	Yes	Yes	—
	AGC limit (Full Auto)	Yes	Yes	Yes	—
	Iris limit (Full Auto)	Yes	Yes	Yes	—
	Gain (Manual)	Yes	Yes	Yes	Yes
	Gain (Gain Priority)	Yes	Yes	Yes	—
	Shutter (Manual)	Yes	Yes	Yes	Yes
	Shutter (Shutter Priority)	Yes	Yes	Yes	Yes
	Iris (Manual)	Yes	Yes	Yes	Yes
	Iris (Iris Priority)	Yes	Yes	Yes	Yes
	Bright level	—	—	—	Yes
	Back light	Yes	Yes	Yes	Yes
	Spot light	Yes	Yes	Yes	—
	Ex-comp mode	Yes	Yes	Yes	Yes
	Ex-comp level	Yes	Yes	Yes	Yes
	Spot AE	—	—	—	No
	Color AE	—	—	Yes	—
	ND Filter	—	—	Yes	—

Category	Mode/Position	BRC-H700	BRC-Z700	BRC-Z330	BRC-300 BRC-300P*1
Picture	Effect Mode	—	—	—	No
	Wide	—	—	—	No
	Aperture (Detail)	Yes	Yes	Yes	Yes
	B&W	Yes	Yes	Yes	—
	Skintone detail	Yes	—	—	—
	Gamma	Yes	Yes	Yes	—
	Flicker cancel	Yes	Yes	Yes	—
	Steady shot	Yes	Yes	—	—
	Color bar	No	No	No	—
	Color detail mode	—	Yes*2	Yes*2	—
	Color detail phase	—	Yes	Yes	—
System	Data mix	—	—	—	No
	Ir receive	No	No	No	No
	Img flip	No	No	No	No
	Pan reverse	No	No	No	No
	Tilt reverse	No	No	No	No
	Display info	No	No	No	No
	Analog out	No	No	No	—
	Add sync	No	No	No	—
	Sync type	No	No	No	—
	Sync master	No	No	No	—
	H phase	—	No	No	—
ANALOG OUT*3	Output 1	—	—	—	No
	Sync (Output 1)	—	—	—	No
	Output 2	—	—	—	No
DOWN CONVERTER*4	D-Sub out 1	No	No	—	—
	Add sync (D-sub out1)	No	No	—	—
	D-Sub out 2	No	No	—	—
	Img-size	No	No	—	—
HD-SDI*5	Analog out	No	No	—	—
	Sync/vd	No	No	—	—
	Add sync	No	No	—	—
PC-OUTPUT*6	Img size	No	No	—	—
	Sync	No	No	—	—
	Vd	No	No	—	—
HDV*7	Audio delay	No	No	—	—
SD-SDI*8	IMG-SIZE	—	No	—	—

Note

*1: For the BRC-300, the preset memories from 7 to 16 are not available.

*2: You cannot save 'CHECK' in color detail mode.

*3: This function is available when BRBK-301 is inserted to the BRC-300/300P.

*4: This function is available when HGBK-SD1 is inserted to the BRC-H700 or the BRC-H700.

*5: This function is available when HFBK-HD1 is inserted to the BRC-H700 or the BRU-H700.

*6: This function is available when HFBK-XG1 is inserted to the BRC-H700 or the BRU-H700.

*7: This function is available when HFBK-TS1 is insereted to the BRC-H700 or the BRU-H700.

*8: This function is available when using the BRBK-HSD1 and the optional video card's HD/SD switch is set to SD side.
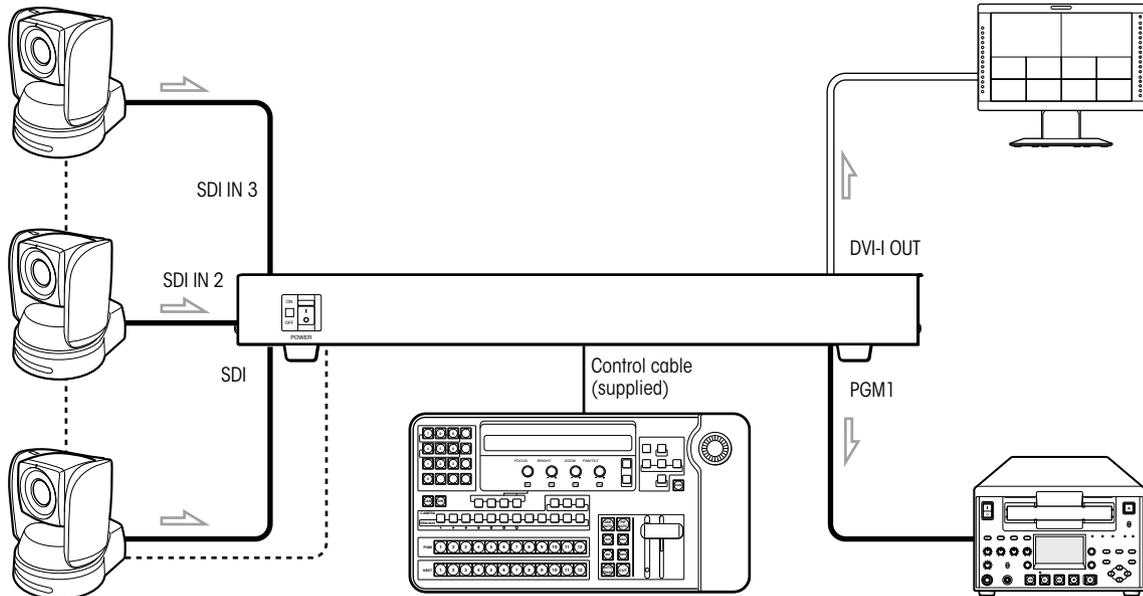
8 Operation with the BRS-200 Remote Camera Operating Switcher

The BRC Series can be remotely controlled by the BRS-200 Remote Camera Operating Switcher.

8.1 System Configuration

BRC-series cameras with the HD-SDI output card attached

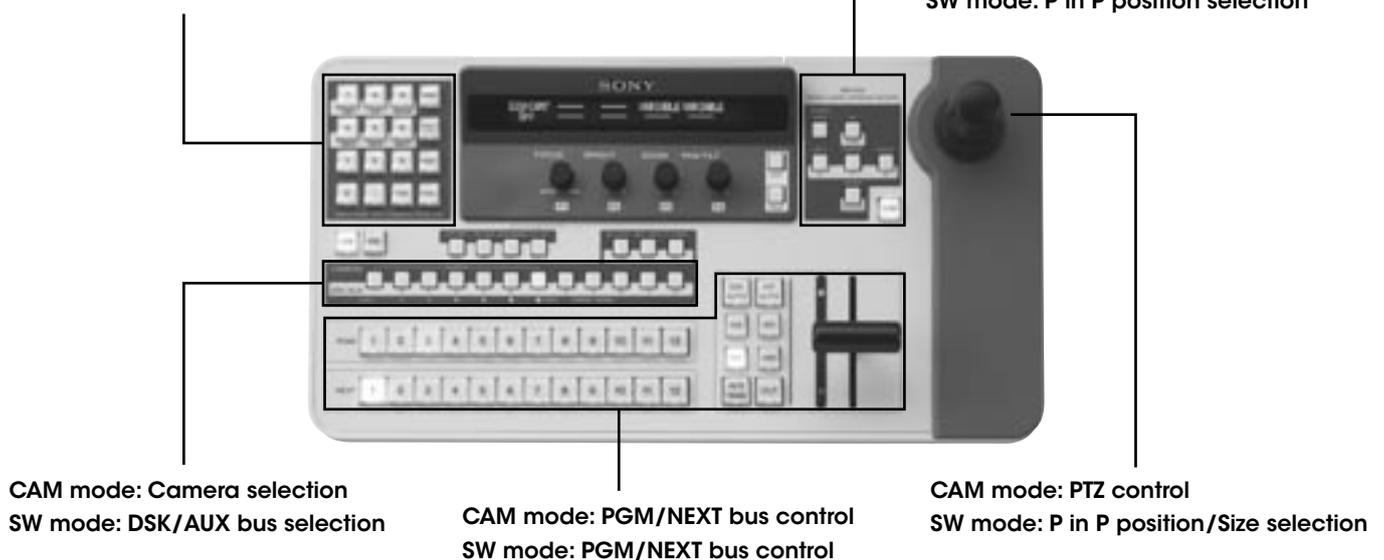**Monitor for the multi-viewer display (LMD-series monitor, etc.)**

SDI IN 3

SDI IN 2

DVI-I OUT

SDI

Control cable (supplied)

PGM1

Recorder (HVR-1500A, etc.)

——————— HD-SDI cable

═══════════ DVI cable

------------ RS-232C/RS422 VISCA cable

8.2 CAM mode/Switcher mode

CAM mode: Position presets, Recall
SW mode: Snapshot presets, Recall

CAM mode: Camera menu selection
SW mode: P in P position selection

SONY

CAM mode: Camera selection
SW mode: DSK/AUX bus selection

CAM mode: PGM/NEXT bus control
SW mode: PGM/NEXT bus control

CAM mode: PTZ control
SW mode: P in P position/Size selection

8.3 Connecting the BRC Series with the BRS-200 (RS-422)

Up to seven cameras of the BRC Series can be connected to the BRS-200. This connection is one example using the RS-422 connection.

BRSA-20HSD1 HD/SD-SDI input board (not supplied)

to SDI IN 1 to 4

VISCA RS-422 connector plug (supplied)

VISCA RS-422 connecting cable

First camera

to VISCA RS-422

to AC power adaptor

HD/SD-SDI output card

to VISCA RS-422

to SDI OUTPUT

VISCA RS-422 connecting cable

to VISCA RS-422

Second camera

to AC power adaptor

to VISCA RS-422

to SDI OUTPUT

VISCA RS-422 connecting cable

to VISCA RS-422

Third camera

to SDI OUTPUT

to AC power adaptor

9 Operation with the AWS-G500 Series Anycast Station

The BRC Series can be remotely controlled by the AWS-G500 Series Anycast Station.

9.1 Controlling cameras with the AWS-G500 Series Anycast Station

You can set and select a maximum of six camera presets, such as the Pan, Tilt, Zoom, and Focus settings, and more. For the BRC-H700, the BRC-Z700, and the BRC-Z330, preset positions from 7 to 16 are not available.

Move the positioner for pan (which moves the camera shooting direction horizontally) control and tilt (which moves the camera shooting direction vertically) control.

Hold down the SHIFT button and turn the jog dial to adjust the iris (aperture). Turning clockwise opens the iris, and turning counterclockwise stops down the iris (when setting manually).

Turn the jog dial to adjust the focus. Turning clockwise focuses further away and turning counterclockwise focuses closer (when setting manually).

Note The camera number selected by the AWS-G500 Series Anycast Station does not correspond to the camera number assigned manually by DIP switches.

Turn the shuttle dial to control the zoom. Turning clockwise zooms in (telephoto) and turning counterclockwise zooms out (wide angle)

Live Event Venue with Dual Screen
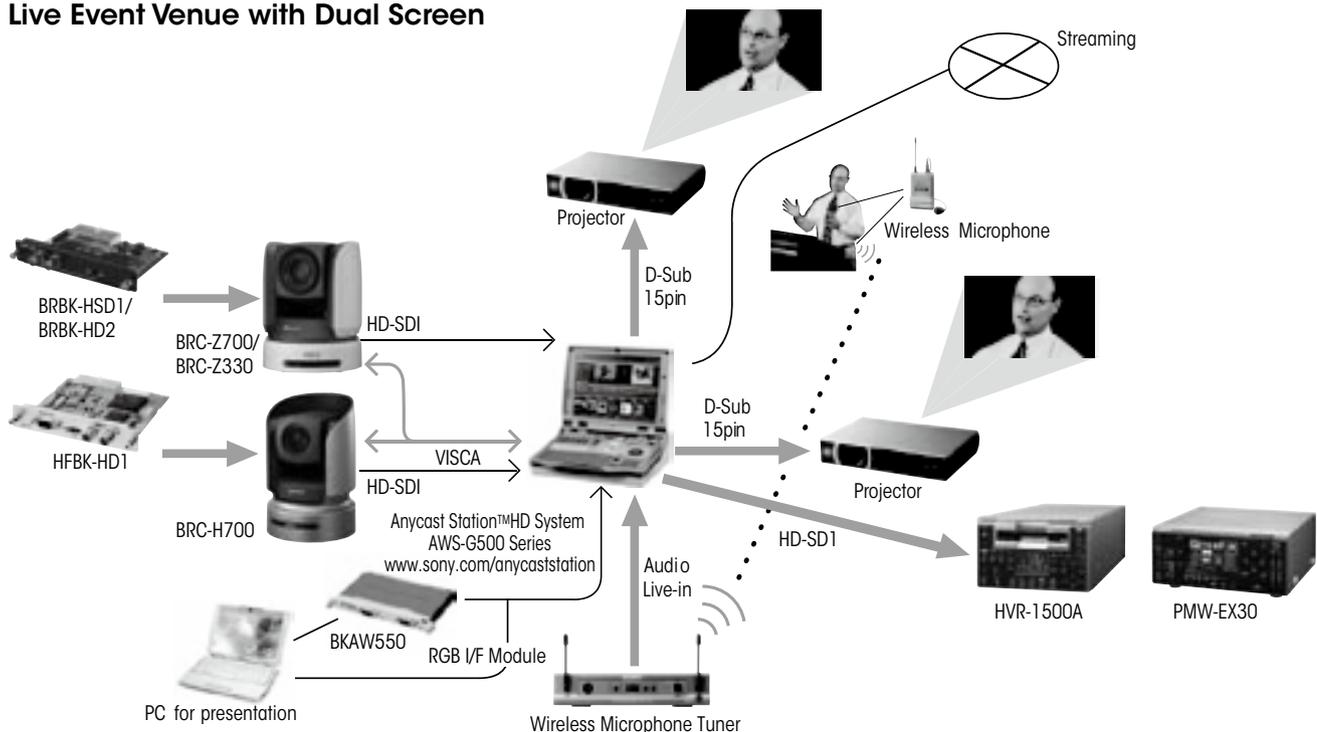
For more detailed information, please refer to the operation manual of the AWS-G500 Series

System Configuration

HD-SDI	**HVR-1500A**
HD-SDI	**PMW-EX30**
HD-SDI	**PMW-EX30**
HD-SDI	**HVR-1500A**

Remote Camera
(BRC Series)

HD-SDI

RS232C/RS422

RM-BR300
Remote Control Unit

*For the connection between QWS-G500HD and the RM-BR300. please refer to 9.3.
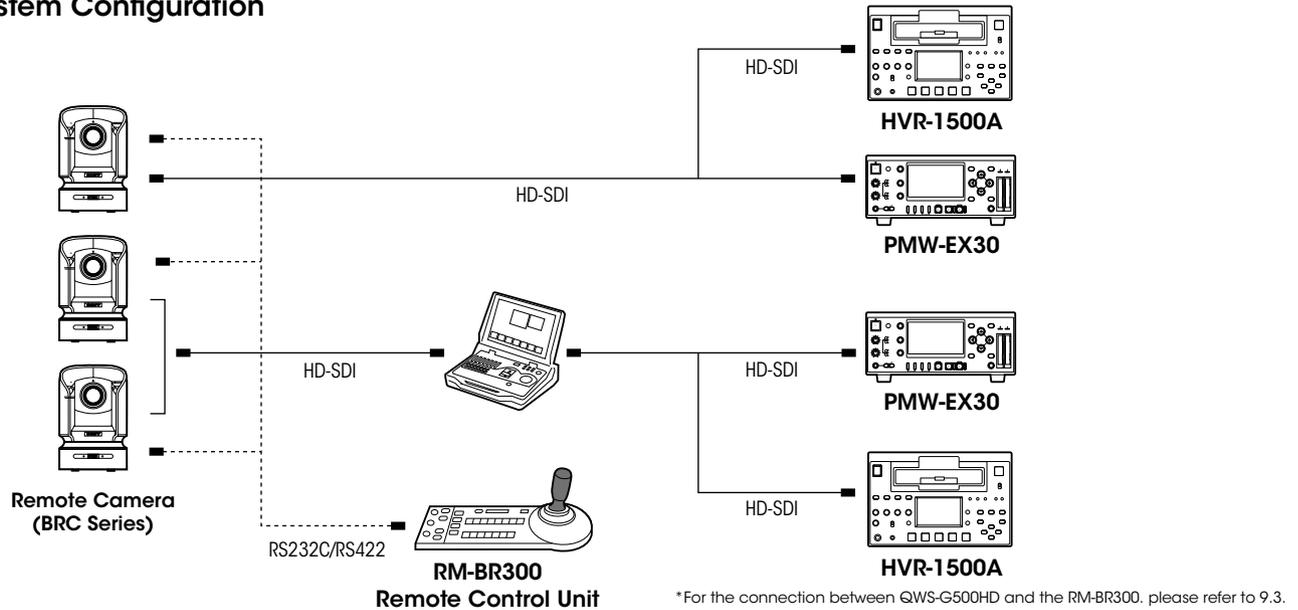
9.2 Controlling the camera with VISCA support

VISCA OUT

VISCA IN

VIDEO OUT

Color video camera
BRC-H700, BRC-Z700,
BRC-Z330, BRC-300

BNC
cable
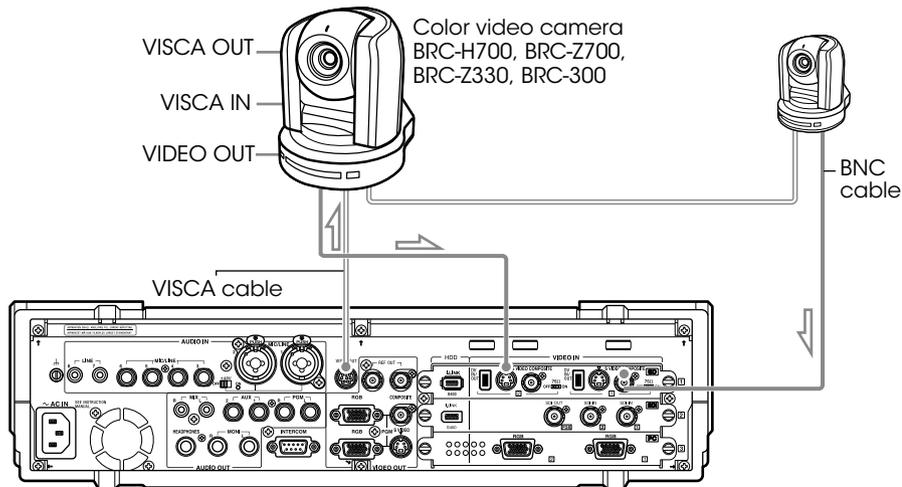
VISCA cable

Note When connecting a BRC-300/300P camera, connect to the DV, RGB, and SDI input connectors in accordance with the camera's option board.

When an HD Video Interface module is Connected (BRC-H700, BRC-Z700/BRC-Z330)

VISCA OUT

VISCA IN

VIDEO OUT

RGB
cable

VISCA cable

To HD analog
input
connector

To VISCA
connector

To HD analog
input connector
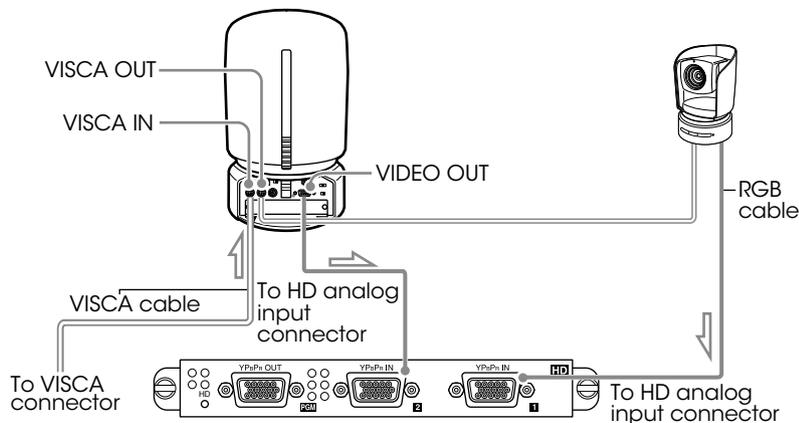
Note • VISCA cables up to 15 m (50 ft) are recommended to operate correctly.
• When connecting a BRC-H700/BRC-Z700/BRC-Z330 camera, connect to the RGB, SDI, and HD analog input connectors in accordance with the camera's option board.

9.3 Operating the PGM and NEXT Selection buttons from the RM-BR300

When you connect the RM-BR300 to the FACTORY USE connector on the AWS-G500, you can perform switching for the PGM and NEXT selection buttons from the RM-BR300.
Refer to the following diagram to prepare the cables.

Sample Circuit diagram
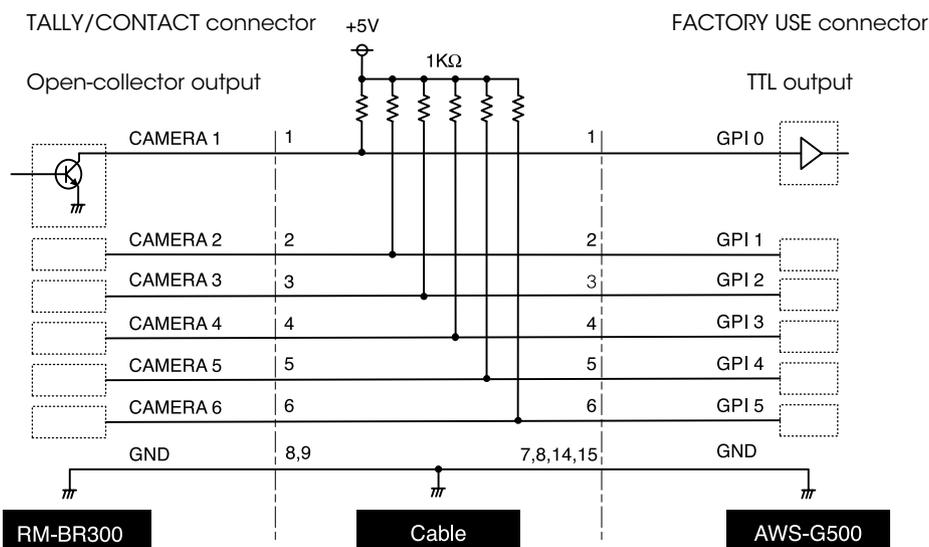
For details, consult your dealer or your Sony service representative.

Caution • Pull-up of all signal lines is necessary.
• Set TRIGGER to LOW LEVEL (this section is made in Remote Switching in the Video utility)
• On the RM-BR300, set the TALLY/CONTACT switch to CONTACT.

1 Connect the RM-BR300 to the FACTORY USE connector.

2 Press the MENU button.

3 In the top menu, select [Video Utility]

4 (1) select [Remote Switching], and confirm;
(2) select the buttons to be controlled by the RM-BR300, and confirm.
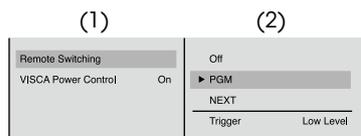
The functions of the setting items are as follows.

[Off]: Disables switching from the RM-BR300.

[PGM]: Enables switching operations for PGM selection buttons 1 to 6 from the RM-BR300.

[NEXT]: Enables switching operations for NEXT selection buttons 1 to 6 from the RM-BR300. Use this to perform VISCA camera control. When the KEY button is lit, you can make key source selections.

Caution Connect the RM-BR300 before configuring this setting.

Note When [Remote Switching] is enables, the following icon appears.
Example: When [PGM] is selected.
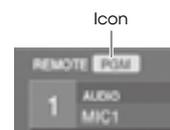
5 (1) Select [Trigger], and confirm;
(2) select an input level, and confirm.
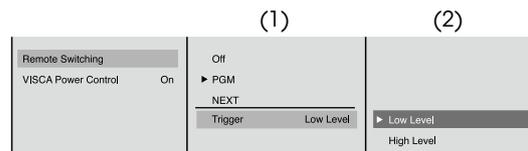
The functions of the setting items are as follows.

[Low Level]: Triggers remote switching when input levels become low.

[High Level]: Triggers remote switching when input levels become high.

6 Press the MENU button to close the menu.

10 Using the BRC-H700/BRC-Z700 as a Second Camera for the PCS-XG80 Video Conferencing System

Using the BRC-H700 and the BRC-Z700 as a Second Camera for the PCS-XG80 Video Conferencing System
You can connect the BRC-H700, or the BRC-Z700 through the PCS-XG80 Camera Unit.
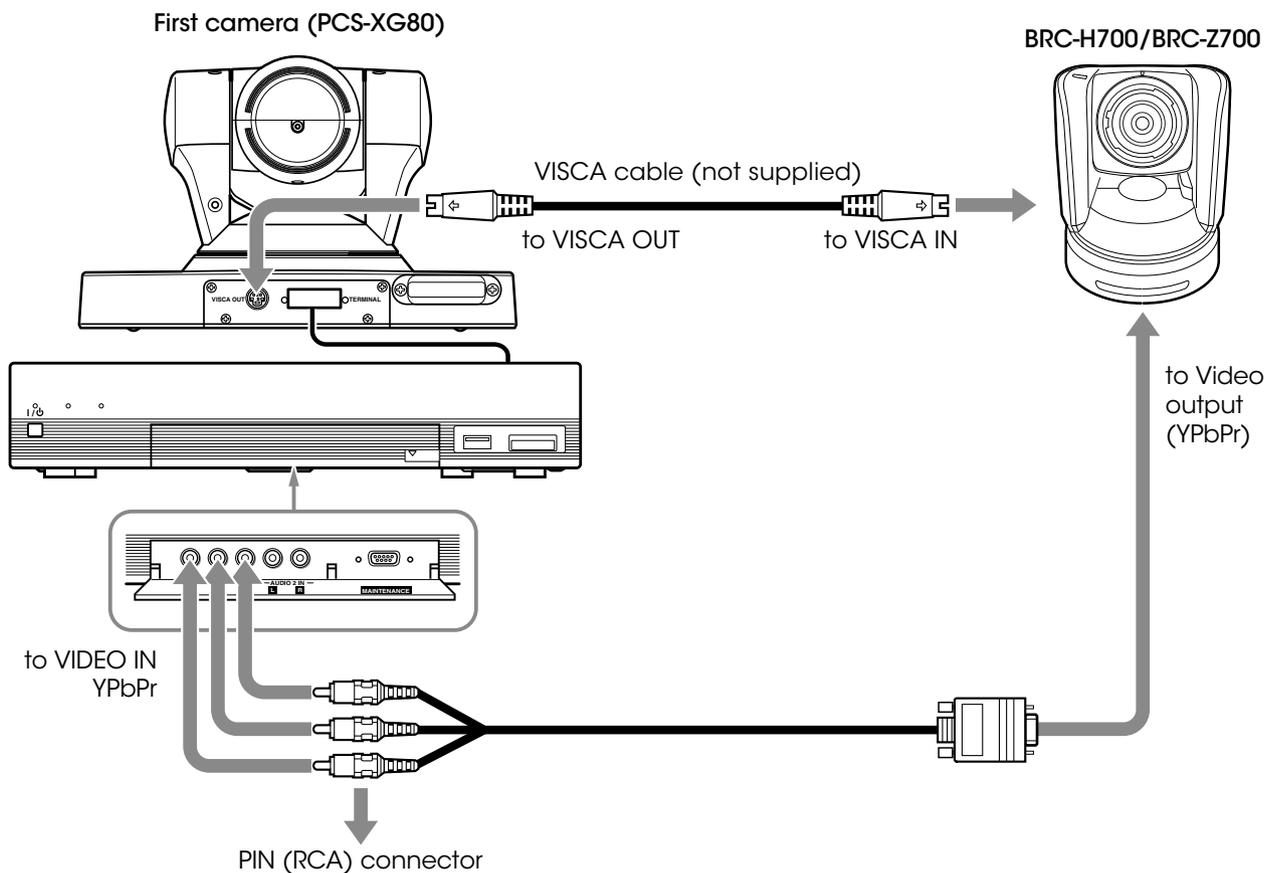
Connection example for a second camera
Connect the video output connector on the BRC-H700 and the BRC-Z700 to the VIDEOIN YPbPr jacks on the front of the Communication System.

Select "YPbPr" in "Second Camera Input" of the Camera setup menu.

To switch the picture shot by two cameras
When the camera input selection is available, the instruction "F2: Switches to the first camera." Or "F2: Switches to the second camera." is displayed at the bottom of the monitor screen. Each press of the F2 button on the Remote commander changes the picture shot by each camera.

First camera (PCS-XG80)

BRC-H700/BRC-Z700

VISCA cable (not supplied)

to VISCA OUT

to VISCA IN

to Video output (YPbPr)

to VIDEO IN YPbPr

PIN (RCA) connector

	BRC-H700	BRC-Z700	BRC-Z330	BRC-300	BRC-300P
Camera					
Signal systems	1080/59.94i or 1080/50i (switchable)	1080/59.94i, NTSC or 1080/50i, PAL (switchable)	60 Hz: 1080/59.94i, 720/59.94P, NTSC 50 Hz: 1080/50i, 720/50P, PAL	NTSC	PAL
Sync systems	Internal/External				
Image device	1/3-type IT CCD x 3	1/4-type CMOS x 3	1/3-type CMOS image sensor	1/4.7- type CCD x 3	
Effective picture elements	Approx. 1.07 Megapixels	Approx. 1.04 Megapixels	Approx. 2.16 Megapixels	Approx. 0.69 Megapixels	
Lens	12x optical zoom (48x with digital zoom), Carl Zeiss Vario-Sonnar T* lens	20x optical zoom (80x with digital zoom), Carl Zeiss Vario-Sonnar T* lens	18x optical zoom (72x with digital zoom)	12x optical zoom (48x with digital zoom)	
Focal length	f=4.5 to 54 mm (F1.6 to F2.8)	f=3.9 to 78 mm (F1.6 to F2.8)	f=4.6 to 82.8 mm (F1.6 to F2.2)	f=3.6 to 43.2 mm (F1.6 to F2.8)	
Lens filter diameter	72 mm	62 mm	—	37 mm	
Minimum object distance	500 mm (Wide), 800 mm (Tele)	10 mm (Wide, Limiter Off), 500 mm (Wide, Limiter On), 800 mm (Tele)	100 mm (Wide, Limiter Off), 500 mm (Wide, Limiter On), 1,500 mm (Tele)	300 mm (Wide), 800 mm (Tele)	
Horizontal viewing angle	5.5 to 60.3 degrees	1.8 to 55.2 degrees	3.3 to 55.1 degrees	4:3 mode: 3.3 to 37.8 degrees, 16:9 mode: 4.0 to 45.4 degrees	
Focusing system	Auto/Manual				
Pan/Tilt angle	-170 to +170 degrees (Pan), -30 to +90 degrees (Tilt)		-175 to +175 degrees (Pan), -30 to +90 degrees (Tilt)	-170 to +170 degrees (Pan), -30 to +90 degrees (Tilt)	
Pan/Tilt speed	0.25 to 60 degrees/s (Pan/Tilt)	0.22 to 60 degrees/s (Pan/Tilt)	0.25 to 60 degrees/s (Pan/Tilt)		
Minimum illumination	6 lx (50 IRE, F1.6, +18 dB)	6 lx (50 IRE, F1.6, +24 dB)		7 lx (25 IRE, F1.6, +18 dB)	
Video S/N ratio	50 dB				
Shutter speed	1/10,000 to 1/60 s or 1/10,000 to 1/50 s			1/10,000 to 1/4 s	1/10,000 to 1/3 s
Gain	Auto/Manual (0 to 18 dB and Hyper Gain)	Auto/Manual (0 to 24 dB and Hyper Gain)	Auto/Manual (-3 to 24 dB and Hyper Gain)	Auto/Manual (-3 to 18 dB)	
White balance	Auto/Indoor/Outdoor/One-push/Manual	Auto1/Auto2/Indoor/Outdoor/One-push/Manual		Auto/Indoor/Outdoor/One-push/Manual	
Image stabilizer	On/Off (Optical)		—		
Image flip	On/Off				
ND filter	Off/ND1/ND2	—	Off/1/4/1/16 switchable in menu	—	
Preset positions	16			6	
Interfaces					
HD video output	D-Sub 15 pin: Component (Y/Pb/Pr) or RGB, HD, VD or SYNC			—	
SD video output	—	BNC: Composite, Mini DIN 4 pin :Y/C	Composite, Y/C	BNC: Composite (NTSC), Mini DIN 4 pin :Y/C	BNC: Composite (PAL), Mini DIN 4 pin :Y/C
External Sync input	BNC				
Camera control	Mini DIN 8 pin: RS-232C (VISCA IN), Mini DIN 8 pin: RS-232C (VISCA OUT), Connector plug 9 pin: RS-422 (VISCA IN/OUT)				
General					
Operating temperature	0 to 40 °C (32 to 104 °F)				
Storage temperature	-20 to 60 °C (-4 to 140 °F)				
Power requirements	DC 10.8 to 13.2 V				
Power consumption	Max. 24 W (without optional cards)	Max 28.8 W (without optional cards)	Max 18 W (without optional cards)	Max. 21.6 W (without optional cards)	
Dimensions (W x H x D)	207 x 310.8 x 207 mm (8 1/4 x 12 1/4 x 8 1/4 inches)	198 x 247 x 238 mm (7 7/8 x 9 3/4 x 9 3/8 inches)	160.8 x 186 x 193.4 mm (6 3/8 x 7 3/8 x 7 5/8 inches)	180 x 210.1 x 205 mm (7 1/8 x 8 3/8 x 8 1/8 inches)	
Mass	4.5 kg (9 lb 15 oz)		1.9 kg (4 oz)	2.5 kg (5 lb 8 oz)	
Supplied accessories	IR Remote Commander Unit, AC power adaptor, AC power cord, RS-422 connector plug, Ceiling bracket x2, Wire rope, Screws, Operating instructions				

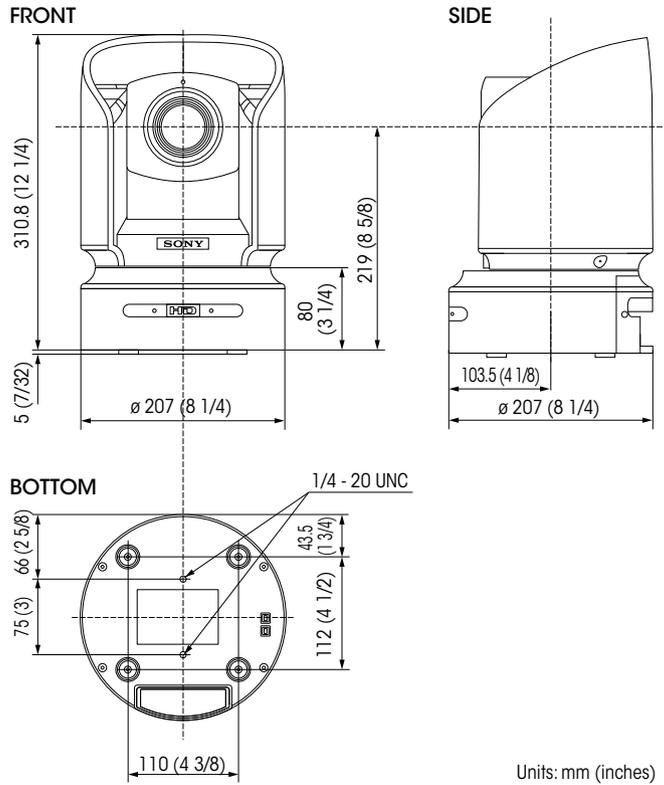|	BRU-H700	BRU-300	BRU-300P
Interfaces			
Optical fiber connector	LC Duplex Fiber Connector		
HD video output	D-Sub 15 pin: Component (Y/Pb/Pr) or RGB, HD, VD or SYNC	—	
SD video output	—	BNC: Composite (NTSC), Mini DIN 4 pin: Y/C	BNC: Composite (PAL), Mini DIN 4 pin: Y/C
External sync input	BNC		
External sync output	BNC		
Audio line output	Phono jack x2 (L/R)	—	
Camera control	Mini DIN 8 pin: RS-232C (VISCA IN), Mini DIN 8 pin: RS-232C (VISCA OUT), Connector plug 9 pin: RS-422 (VISCA IN/OUT)		
Optional card slots	2 slots	2 slots (When both slots are used simultaneously, the interface cards must be of two different types.)	
General			
Operating temperature	0 to 40 °C (32 to 104 °F)		
Storage temperature	-20 to 60 °C (-4 to 140 °F)		
Power requirements	AC 100 to 240 V (50/60 Hz)		
Power consumption	Max. 10 W (without optional cards)	Max. 9 W (without optional cards)	
Dimensions (W x H x D)	210 x 86 x 240 mm (8 3/8 x 3 1/2 x 9 1/2 inches)	212 x 88 x 210 mm (8 3/8 x 3 1/2 x 8 3/8 inches)	
Mass	2.4 kg (5 lb 5 oz)	2.1 kg (4 lb 10 oz)	
Supplied accessories	AC power cord, RS-422 connector plug, RS-232C cable (3 m, Mini DIN 8 pin), Operating instructions		

	HFBK-HD1	HFBK-SD1	HFBK-XG1	HFBK-TS1
Video output	D-Sub 15 pin: Component (Y/Pb/Pr) or RGB, HD, VD or SYNC BNC x2: HD -SDI	D-Sub 9 pin: Component (Y/Pb/Pr) or RGB, Composite or Y/C, SYNC BNC: Composite BNC: SD-SDI	D-Sub 15 pin: RGB, HD, VD (WXGA/XGA/VGA)	i.LINK 6 pin: HDV OUT (IEEE1394 S100)
Audio line input				Phono jack x2 (L/R)

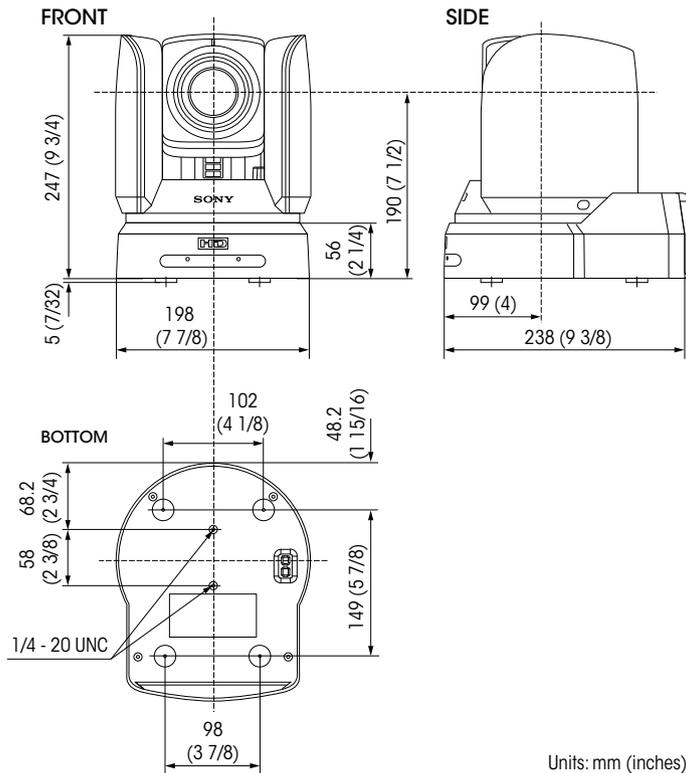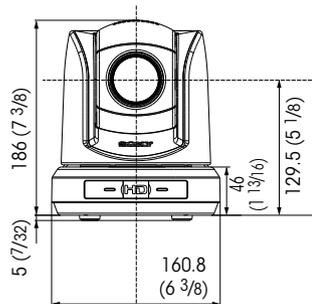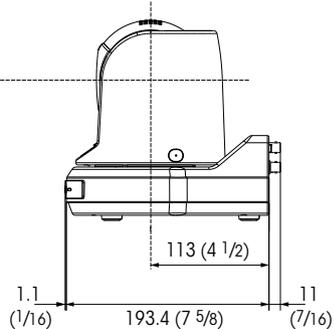|	BRBK-HSD1	BRBK-301	BRBK-302	BRBK-304	BRBK-HD2
Video output	BNC x2: HD-SDI or SD-SDI	D-Sub 9 pin: Component (Y/Pb/Pr) or RGB, Composite or Y/C, SYNC	BNC: SD-SDI	i.LINK 6 pin: DV OUT (IEEE1394 S100)	HD-SDI

12 Dimensions

BRC-H700

FRONT
SIDE

310.8 (12 1/4)
219 (8 5/8)
80 (3 1/4)
5 (7/32)
ø 207 (8 1/4)

103.5 (4 1/8)
ø 207 (8 1/4)

BOTTOM
1/4 - 20 UNC
66 (2 5/8)
75 (3)
43.5 (1 3/4)
112 (4 1/2)
110 (4 3/8)

Units: mm (inches)

BRC-Z700

FRONT
SIDE

247 (9 3/4)
190 (7 1/2)
56 (2 1/4)
5 (7/32)
198 (7 7/8)

99 (4)
238 (9 3/8)

102 (4 1/8)
48.2 (1 15/16)
BOTTOM
68.2 (2 3/4)
58 (2 3/8)
149 (5 7/8)
1/4 - 20 UNC
98 (3 7/8)

Units: mm (inches)

BRC-Z330

FRONT SIDE

186 (7 3/8)
129.5 (5 1/8)
46 (1 13/16)
5 (7/32)
160.8 (6 3/8)

113 (4 1/2)
1.1 (1/16)
193.4 (7 5/8)
11 (7/16)

BOTTOM

ø5 Depth 5
14 (9/16)
131 (5 1/4)
93 (3 3/4)
19 (3/4)
Tripod Screw 1/4-20 UNC
88 (3 1/2)
152.8 (6 1/8)
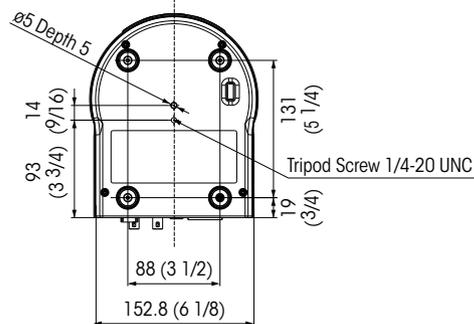
Units: mm (inches)

BRC-300/300P

FRONT SIDE

210.2 (8 3/8)
45 (1 13/16)
147 (5 7/8)
5.5 (7/32)
180 (7 1/8)

90 (3 5/8)
205 (8 1/8)
9.6 (13/32)

BOTTOM

68.8 (2 3/4)
40.8 (1 5/8)
75 (3)
143 (5 3/4)
1/4 - 20 UNC
106 (4 1/4)
147.6 (5 7/8)
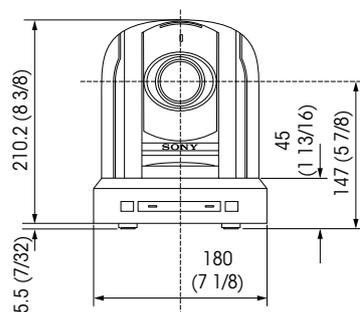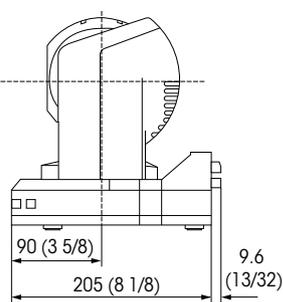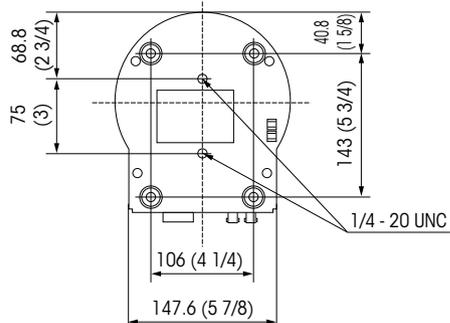
Units: mm (inches)

BRS-200

Control panel

70 (2 7/8) 8 (11/32)

222 (8 3/4)

160 (6 3/8)

424 (16 3/4)

Processor

6 (1/4)

32

44 (1 3/4)

15/16

6 (1/4)

10 (13/32)

60 (2 3/8) 310 (12 1/4) 60 (2 3/8)

462 (18 1/4)

480 (19)

49 (1 15/16) 320 (12 5/8) 61 (2 1/2)

Rear

RM-BR300

Top

137.2 (5 1/2) 145.9 (5 3/4)

391.3 (15 1/2)

Front

45.9 (1 13/16)

Side

30° 30°

185 (7 3/8)
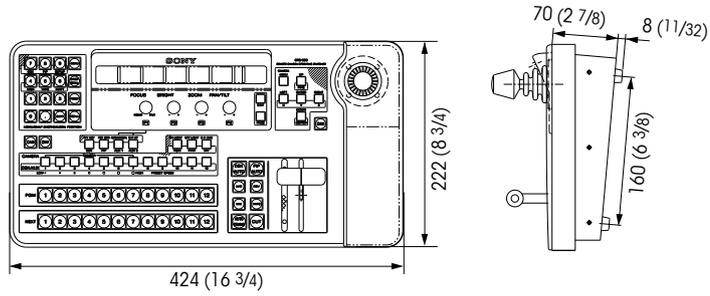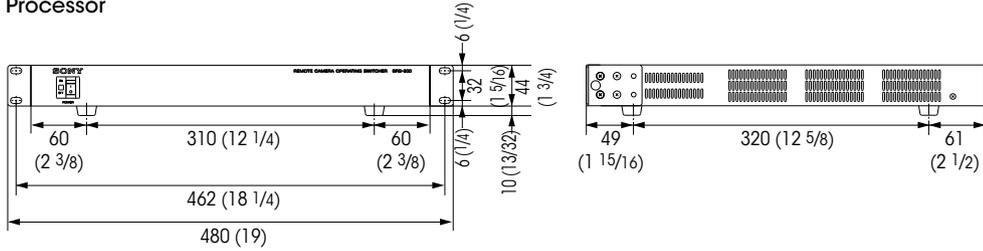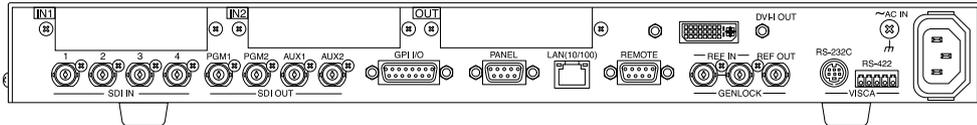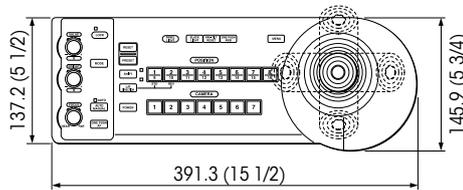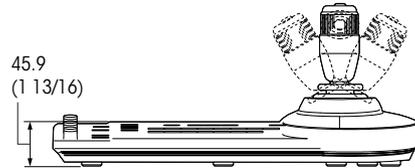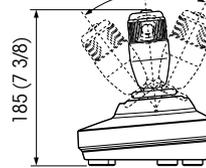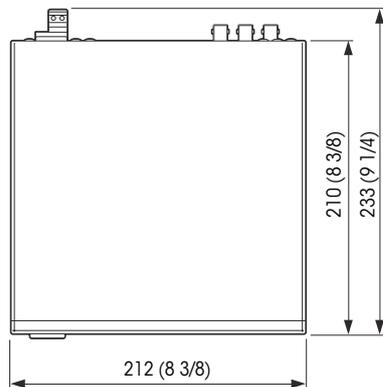
Bottom
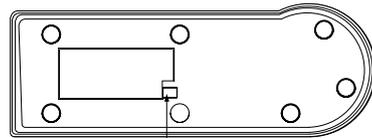
DIP switches

Units: mm (inches)

Rear

BRU-H700

Top

Side

240 (9 1/2)

210 (8 3/8)

86 (3 1/2)

Front

86 (3 1/2)

94 (3 3/4)
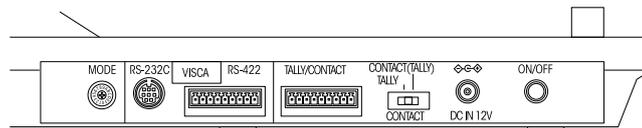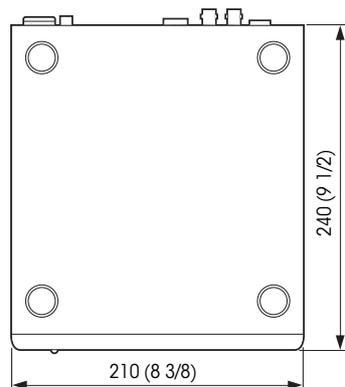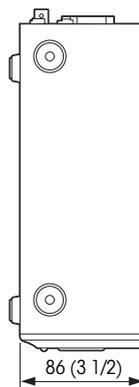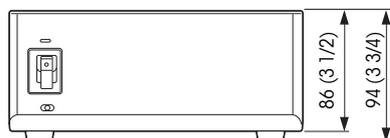
Units: mm (inches)

BRU-300/300P

Top

Side

210 (8 3/8)

233 (9 1/4)

212 (8 3/8)

Front

88 (3 1/2)

94.5 (3 3/4)

Units: mm (inches)

Ceiling Bracket (B) for BRC-H700

Ceiling Bracket (B) for BRC-Z700

Ceiling Bracket (B) for BRC-Z330

Ceiling Bracket (B) for BRC-300/300P
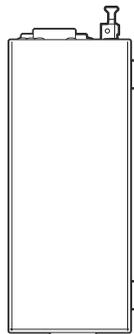
13 Techinical Appendix

13.1 Color Adjustment
(BRC-Z700, BRC-Z330)

The BRC-Z700 and BRC-Z330 can enhance or reduce a specific color region without changing the white balance. Both of these cameras adjust the saturation of six colors independently, and the BRC-H700 is able to modulate six colors simultaneously.
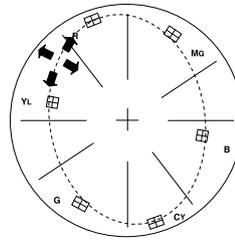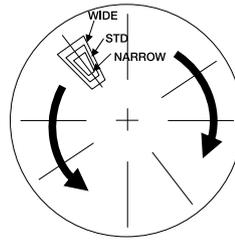
Color gain & hue
(BRC-H700)
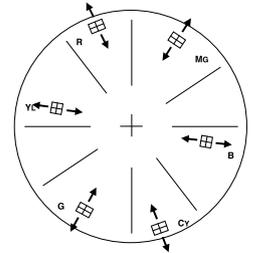
Color matrix
(BRC-Z700/BRC-Z330)

13.2 Color Detail
(BRC-Z700, BRC-Z330)

The BRC-Z700 and BRC-Z330 can adjust the image enhancer of a specific color, which is an enhancement over the conventional skin tone detail function. This allows you to adjust not only skin tone color but also all other colors.
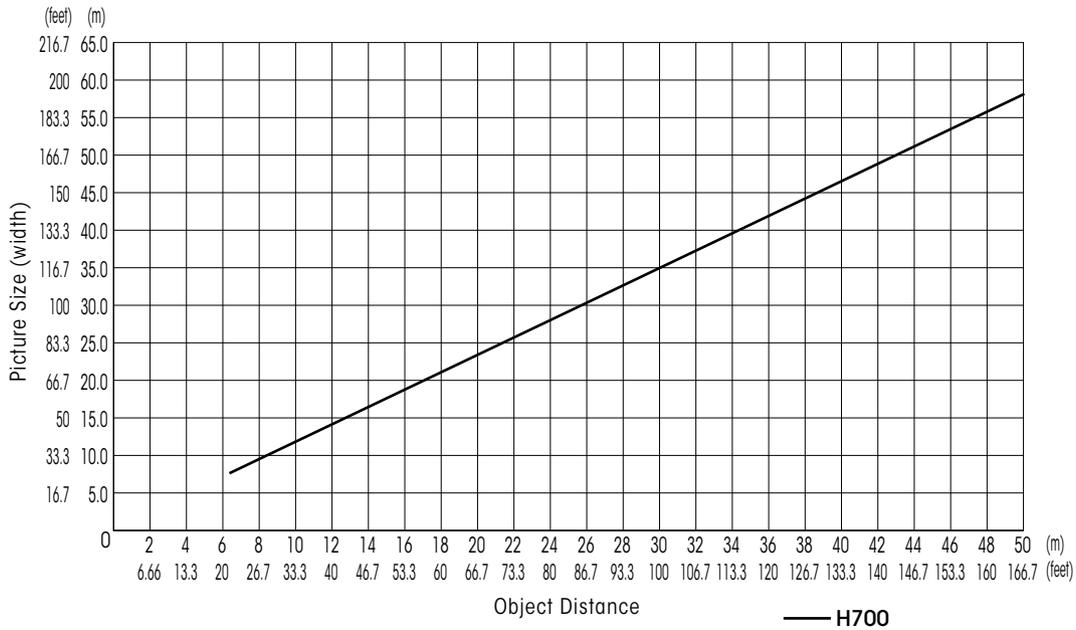
13.3 Color AE
(BRC-Z330)

The BRC-Z330 is equipped with a Color AE function. This camera detects a particular color and adjusts exposure specifically for this color. This feature is useful when shooting objects located in front of a single-colored background.
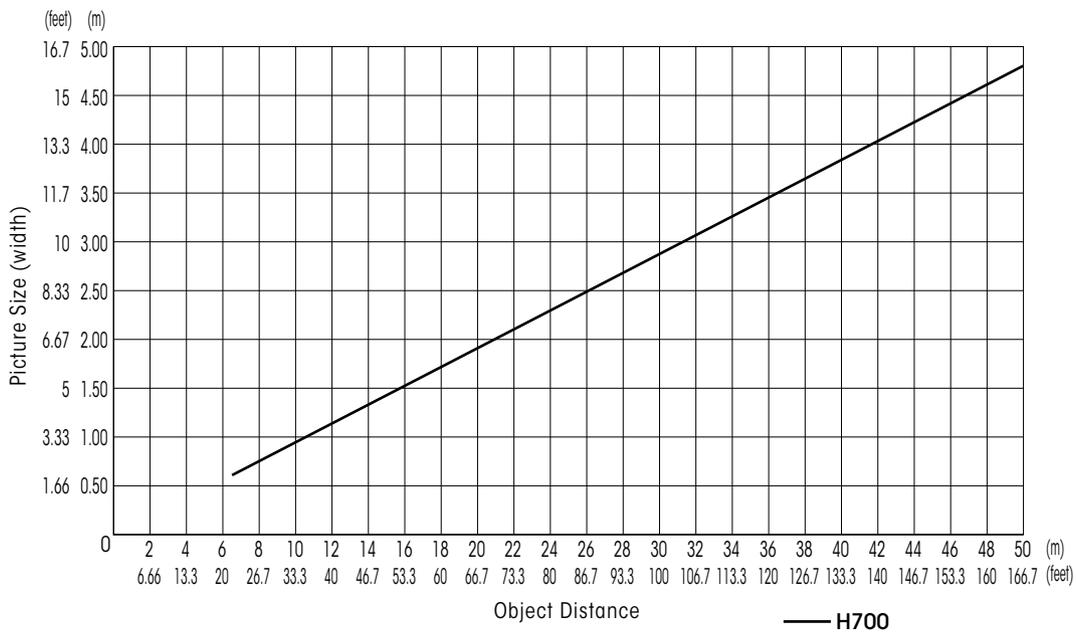
13.4 Estimated Viewing Angle of BRC Sereis

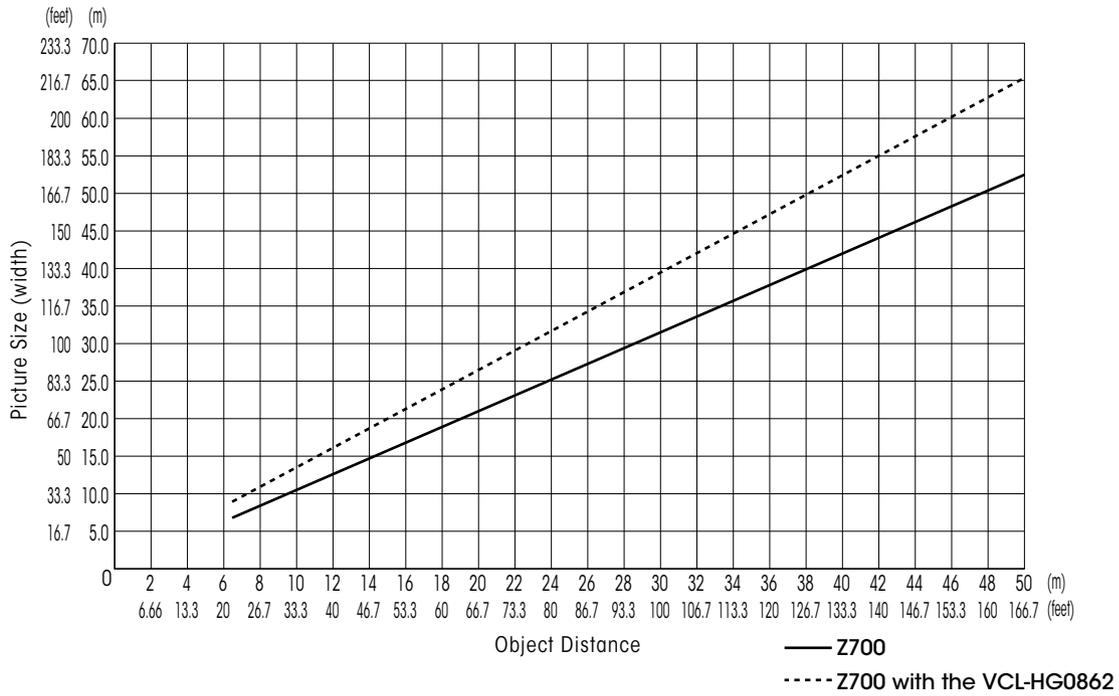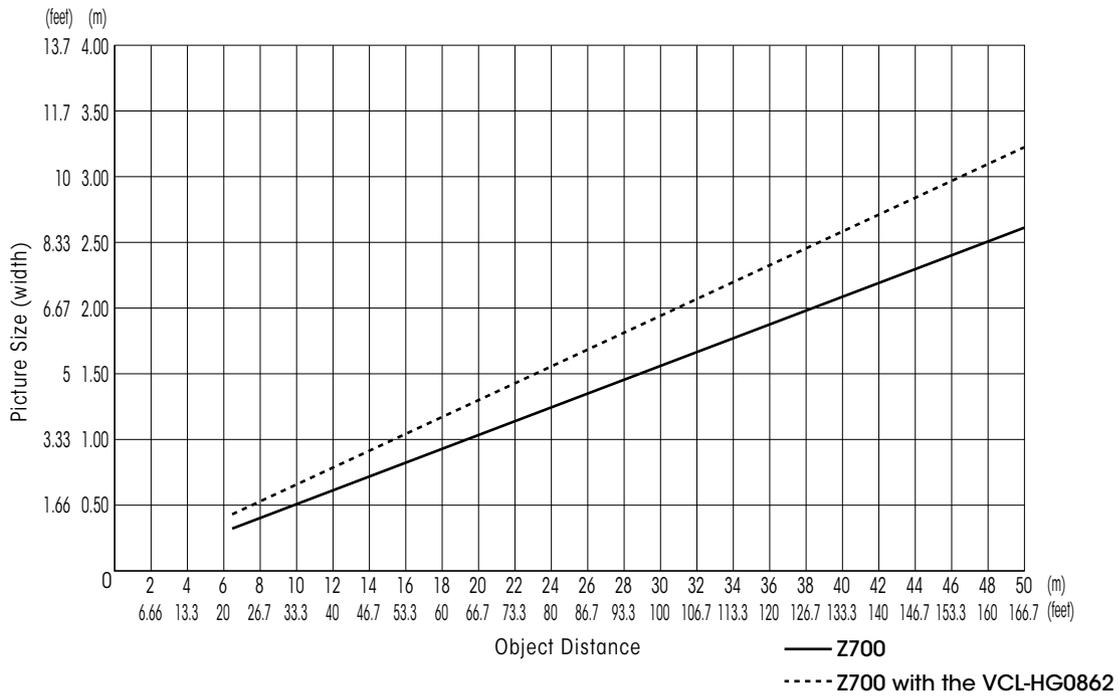## Estimated Viewing Angle (width)

BRC-H700 Wide-end

Object Distance

——— H700

BRC-H700 Tele-end

Object Distance

——— H700

Estimated Viewing Angle (width)

BRC-Z700 Wide-end

BRC-Z700 Tele-end
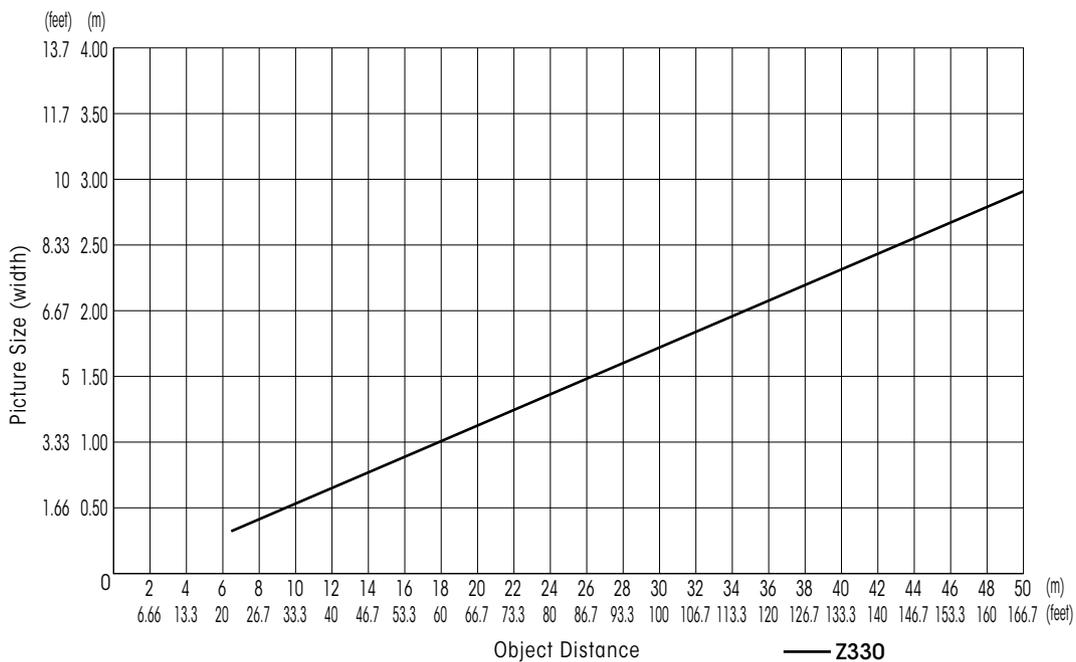
Estimated Viewing Angle (width)

BRC-Z330 Wide-end

Picture Size (width)

(feet)	(m)
233.3	70.0
216.7	65.0
200	60.0
183.3	55.0
166.7	50.0
150	45.0
133.3	40.0
116.7	35.0
100	30.0
83.3	25.0
66.7	20.0
50	15.0
33.3	10.0
16.7	5.0
0	

Object Distance — Z330

(m) 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50
(feet) 6.66 13.3 20 26.7 33.3 40 46.7 53.3 60 66.7 73.3 80 86.7 93.3 100 106.7 113.3 120 126.7 133.3 140 146.7 153.3 160 166.7

BRC-Z330 Tele-end

Picture Size (width)

(feet)	(m)
13.7	4.00
11.7	3.50
10	3.00
8.33	2.50
6.67	2.00
5	1.50
3.33	1.00
1.66	0.50
0	

Object Distance — Z330

(m) 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50
(feet) 6.66 13.3 20 26.7 33.3 40 46.7 53.3 60 66.7 73.3 80 86.7 93.3 100 106.7 113.3 120 126.7 133.3 140 146.7 153.3 160 166.7

Estimated Viewing Angle (width)

BRC-300/300P Wide-end (16:9 mode)

Picture Size (width)

Object Distance

——— 300

- - - - 300 with the VCL-0737W

BRC-300/300P Tele-end (16:9 mode)

Picture Size (width)
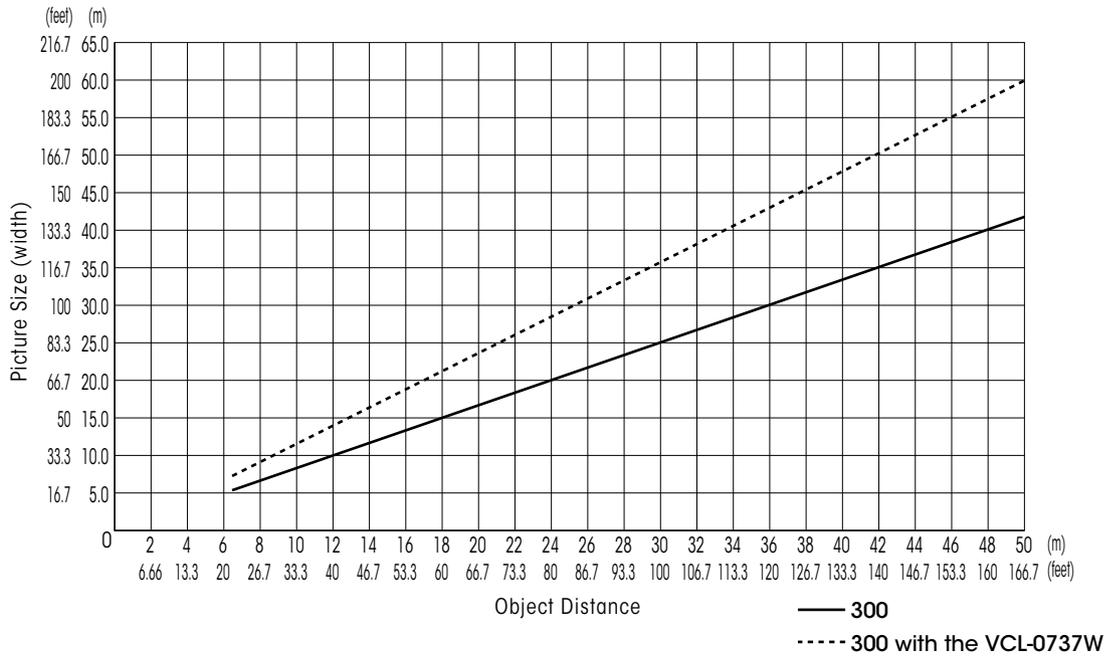
Object Distance

——— 300

- - - - 300 with the VCL-0737W
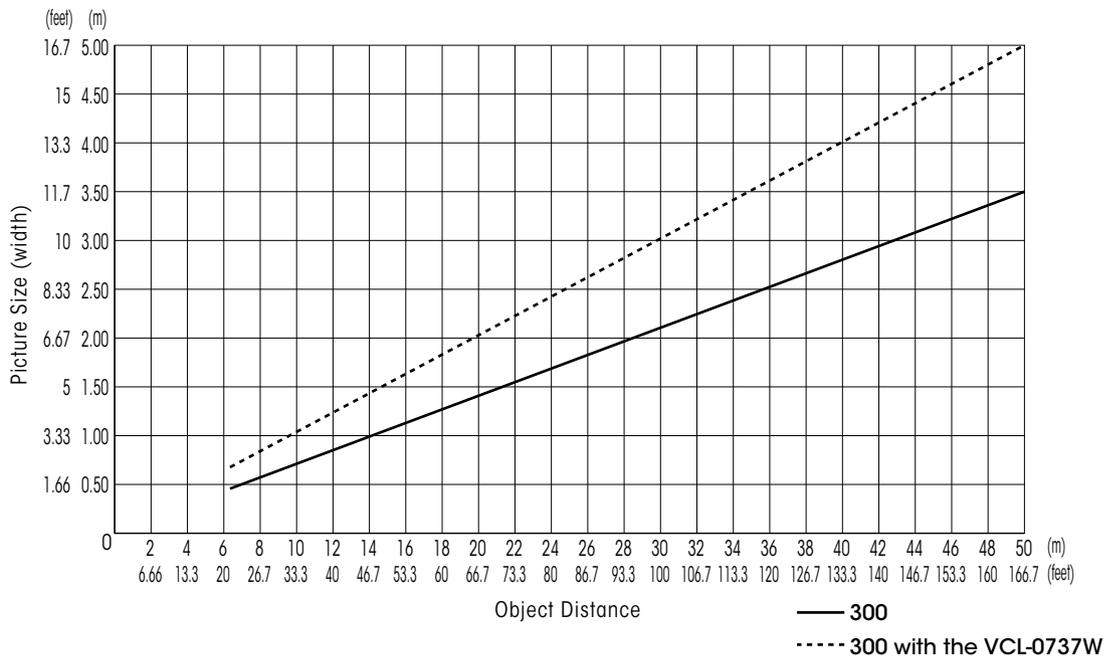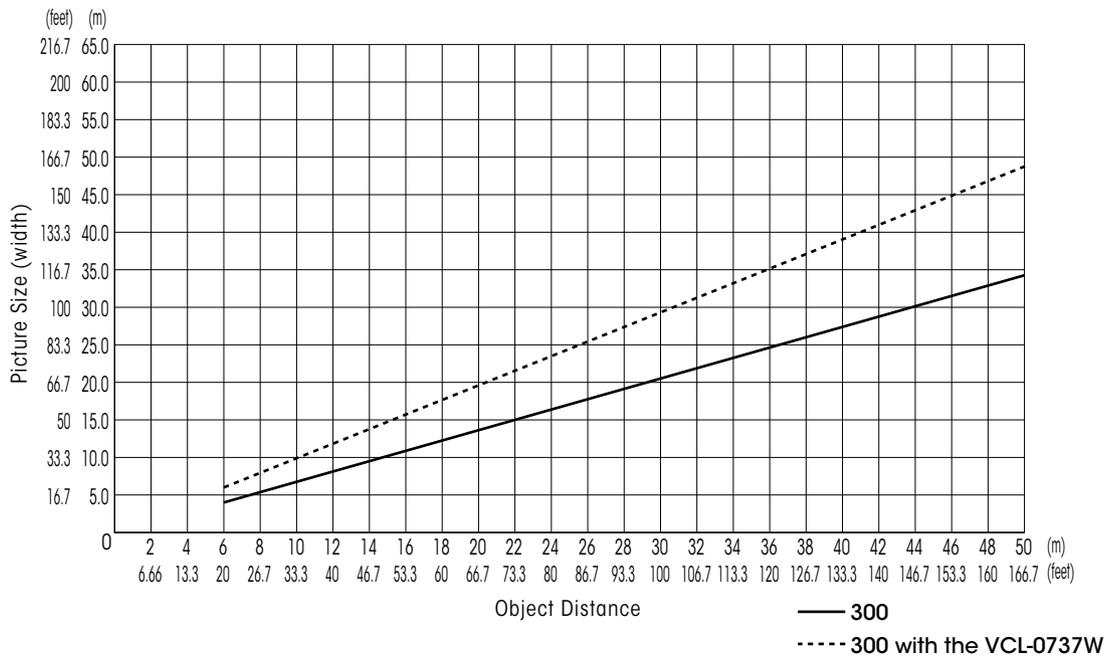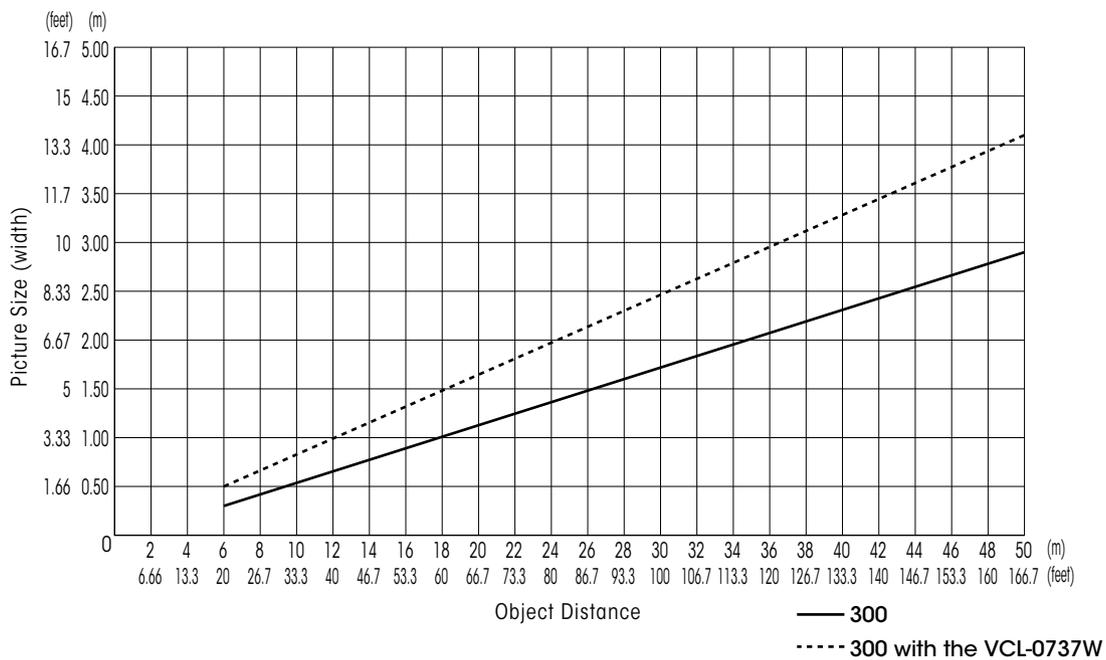
Estimated Viewing Angle (width)

BRC-300/300P Wide-end (4:3 mode)

BRC-300/300P Tele-end (4:3 mode)

13.5 Recommended Lighting Conditions

The BRC-H700: brighter than 400 lx
The BRC-Z700: brighter than 450 lx
The BRC-Z330: brighter than 450 lx
The BRC-300/300P: brighter than 600 lx

13.6 Sync Lock Setting

In order to match output signal timing to the input signal, the Sync Master setting is required on the Main menu. To achieve this, select Menu, System, and then Sync Master.

BRC-H700
Output signal to be matched with input signal
    When using HFBK-HD1   [HD1]
    When using HFBK-SD1   [SD1]
    Output from main unit BRC-H700 [STD]

BRC-Z700
    When HD output signal from BRC-Z700 main unit
                              [STD [HD]]
    When SD output signal from BRC-Z700 main unit
                              [STD [SD]]

When connecting with BRU-H700
    Output signal from BRU-H700   [STD [HD]]
    When using HFBK-HD1 with BRU-H700 [HD1]
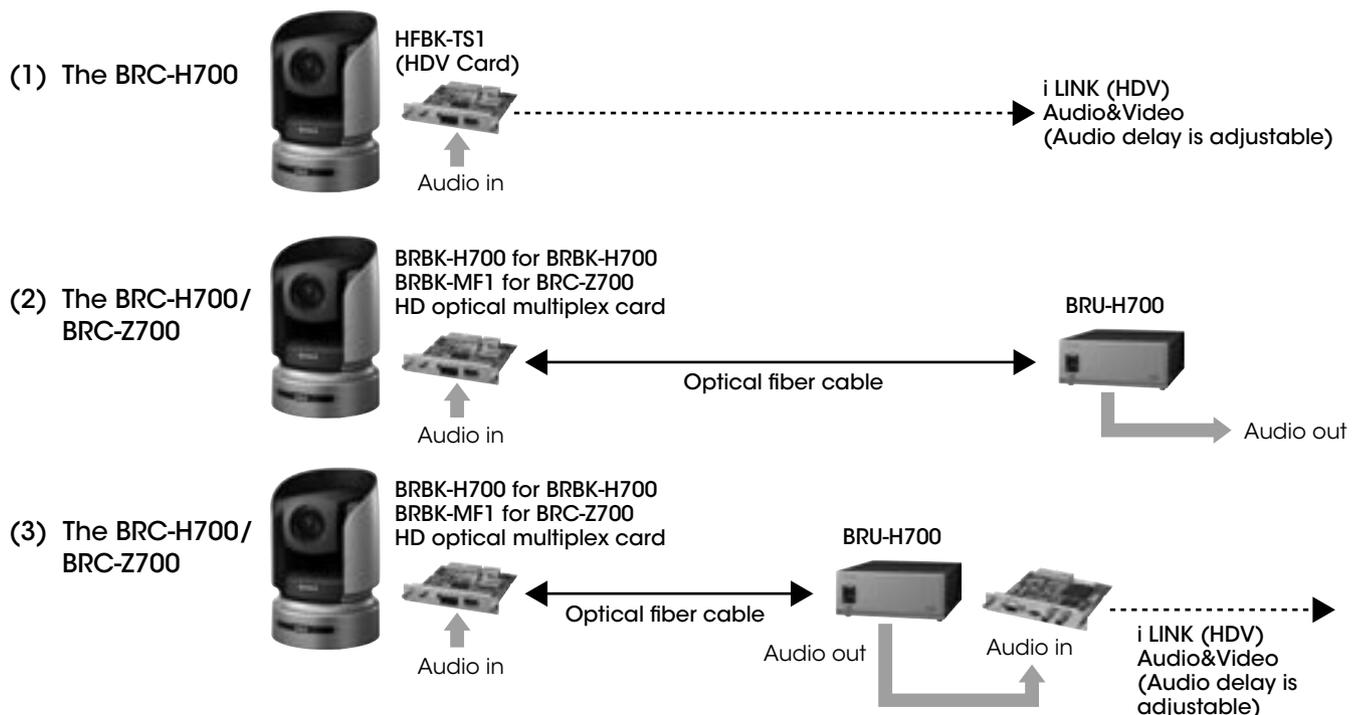   When using HFBK-SD1 with BRU-H700 [SD1]

BRC-Z330
    When HD output signal from BRC-Z330 main unit
                              [STD [HD]]
    When SD output signal from BRC-Z330 main unit
                              [STD [SD]]

13.7 Audio Configuration

The BRC-H700 and BRC-Z700 have three and two audio configurations, respectively. In the first configuration with the HFBK-TS1 (illustrated below), you can mix audio signals and video signals and output them as HDV. In the second configuration, you can input the audio signal to the BRBK-H700 or the BRBK-MF1 and transmit it via an optical fiber cable. The output signal from the BRU-H700 is an analog audio signal and a selected video signal generated from a compatible optional video card. The third configuration adds even more convenience, allowing you to input the output signal to the HFBK-TS1. As a result, you can output the final data as HDV.

(1) The BRC-H700 — HFBK-TS1 (HDV Card) — Audio in — i LINK (HDV) Audio&Video (Audio delay is adjustable)

(2) The BRC-H700/ BRC-Z700 — BRBK-H700 for BRBK-H700 / BRBK-MF1 for BRC-Z700 HD optical multiplex card — Audio in — Optical fiber cable — BRU-H700 — Audio out

(3) The BRC-H700/ BRC-Z700 — BRBK-H700 for BRBK-H700 / BRBK-MF1 for BRC-Z700 HD optical multiplex card — Audio in — Optical fiber cable — BRU-H700 — Audio out — Audio in — i LINK (HDV) Audio&Video (Audio delay is adjustable)

13.8 Function priority

This table shows which setting takes priority over the other in each function when the BRC-H700/BRC-Z700/BRC-300/300P is connected to the BRU-H700/BRU-300/300P.

	BRC cameras	BRU
RS-232C/RS-422 control	disable	enable
DATA MIX setting	disable	enable
VISCA ID setting	disable*	enable
VIDEO OUT	enable	enable

*The camera number setting at camera unit should be 0 (Auto).
 To assign VISCA ID to each camera, please set it on BRU side.

13.9 Data Mix

By setting the DATA MIX switch to ON, you can overlap the menu on top of the video signal output from the installed interface board. When the switch is set to OFF, the menu does not overlap the video. The switch setting of the BRU-H700 takes priority over that of the BRC cameras. For example, if the switch of the BRU-H700 is ON and the switch of the camera is OFF, the menu will be displayed on the video images.

DATA MIX switch on the BRC-H700 (rear)
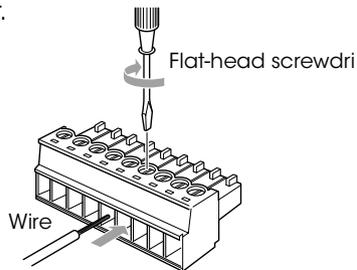

DATA MIX switch on the BRC-Z330 (rear)


DATA MIX switch on the BRC-Z700 (rear)

DATA MIX switch on the BRU-H700 (front)

13.10 Using the VISCA RS-422 Connector Plug

1 Insert a wire (AWG Nos. 28 to 18) into the desired wire opening on the VISCA RS-422 connector plug, and tighten the screw for that wire using a flathead screwdriver.
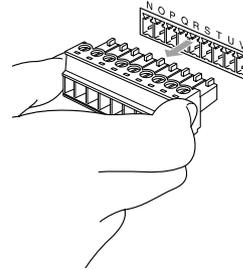

Flat-head screwdri

Wire

2 Insert the VISCA RS-422 connector plug into the VISCA RS-422 connector.
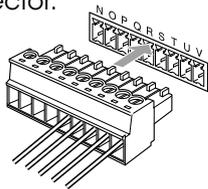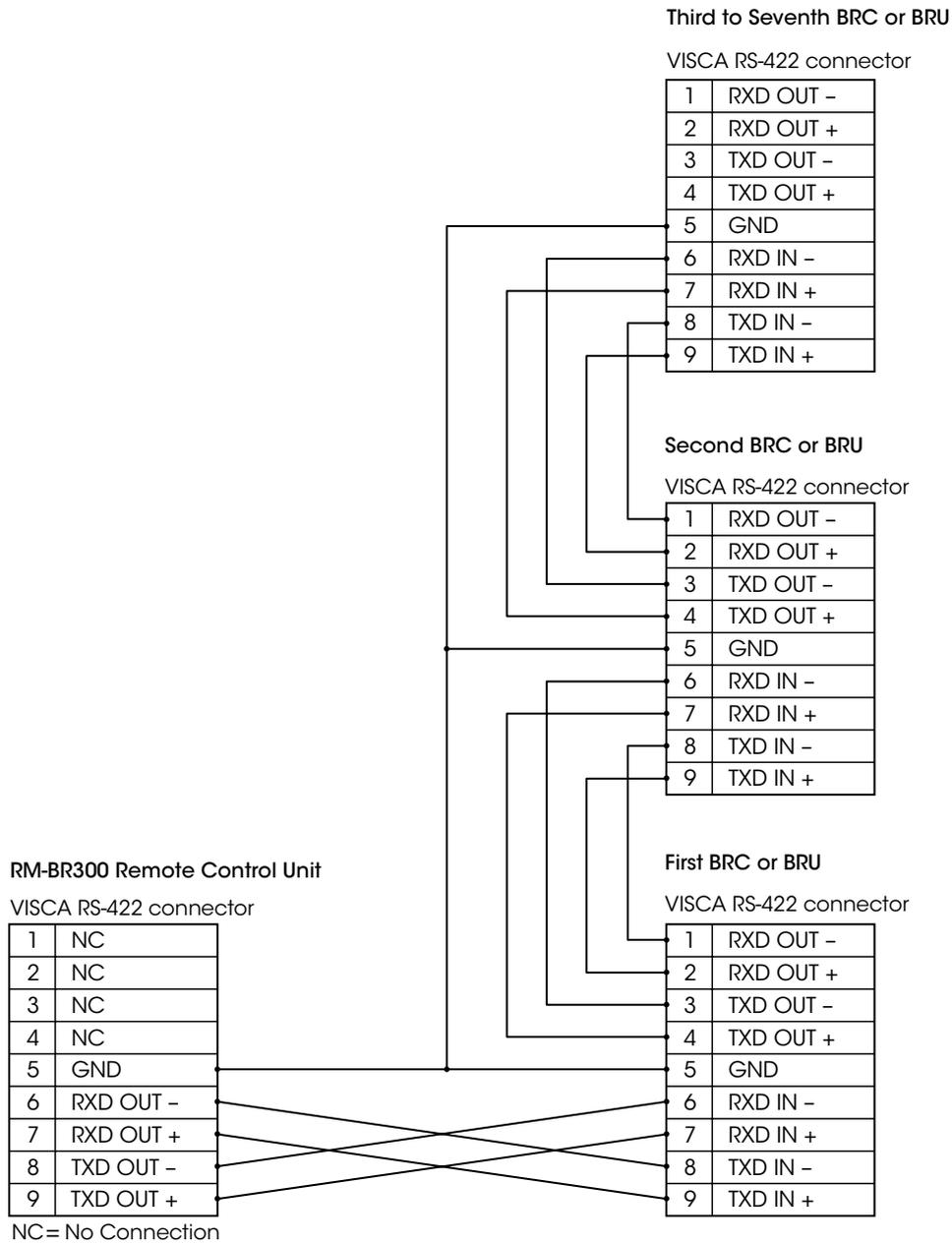

To remove the connector plug
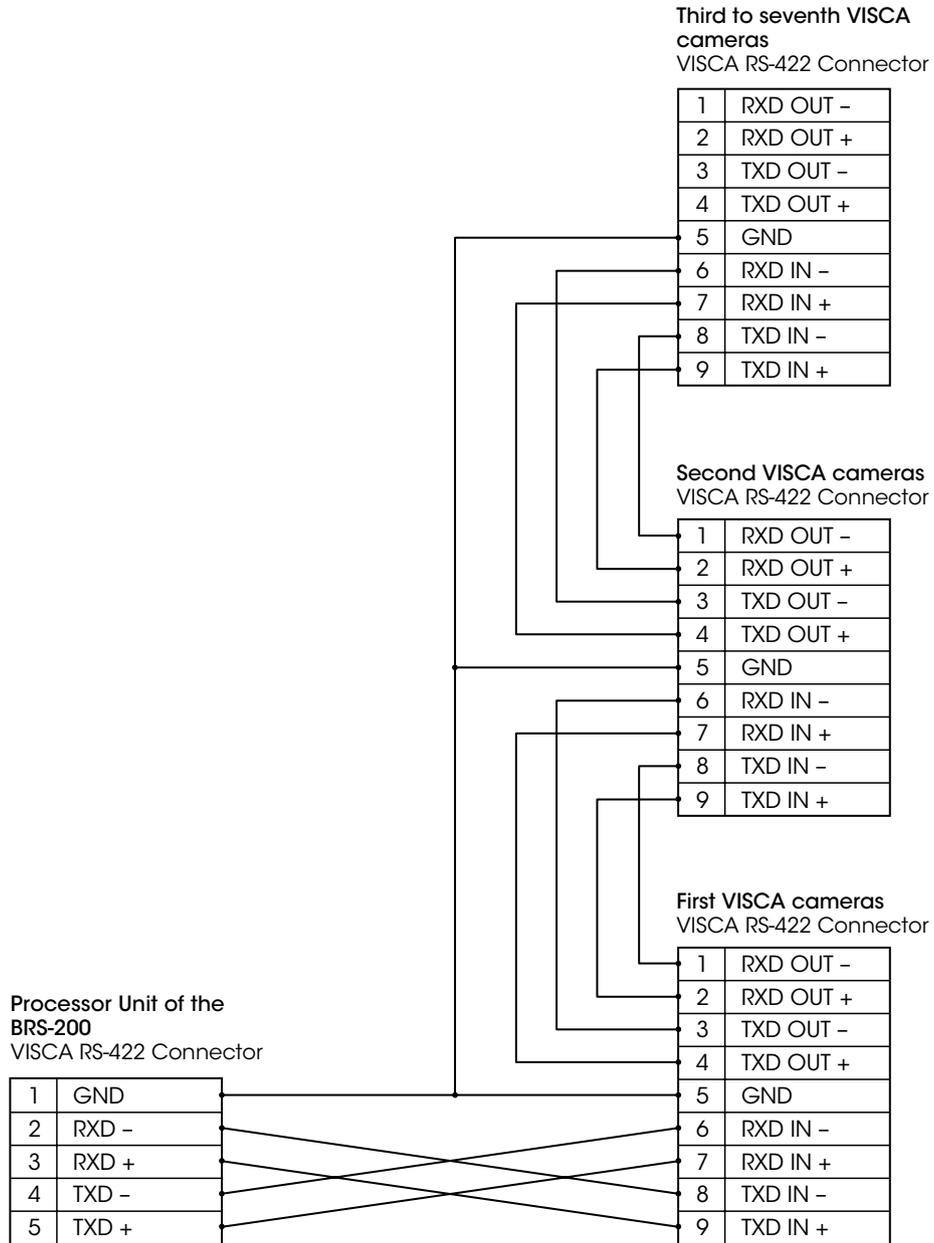Grasp both ends of the VISCA RS-422 connector plug and pull it out as shown in the illustration.

Note
- In order to stabilize the voltage level of the signal, connect both ends to GND.
- When you make connections using VISCA RS-422 connectors, the VISCA RS-232C connection is not available.
- The maximum connection distance with VISCA RS-422 connection is approximately 1,200 m (3,937 ft).

13.11 Wiring Diagram

13.11.1 Wiring Diagram of VISCA RS-422 Connection for the RM-BR300

Third to Seventh BRC or BRU

VISCA RS-422 connector

1	RXD OUT –
2	RXD OUT +
3	TXD OUT –
4	TXD OUT +
5	GND
6	RXD IN –
7	RXD IN +
8	TXD IN –
9	TXD IN +

Second BRC or BRU

VISCA RS-422 connector

1	RXD OUT –
2	RXD OUT +
3	TXD OUT –
4	TXD OUT +
5	GND
6	RXD IN –
7	RXD IN +
8	TXD IN –
9	TXD IN +

RM-BR300 Remote Control Unit

VISCA RS-422 connector

1	NC
2	NC
3	NC
4	NC
5	GND
6	RXD OUT –
7	RXD OUT +
8	TXD OUT –
9	TXD OUT +

NC= No Connection

First BRC or BRU

VISCA RS-422 connector

1	RXD OUT –
2	RXD OUT +
3	TXD OUT –
4	TXD OUT +
5	GND
6	RXD IN –
7	RXD IN +
8	TXD IN –
9	TXD IN +

13.11.2 Wiring Diagram of VISCA RS-422 Connection for the BRS-200

Third to seventh VISCA cameras
VISCA RS-422 Connector

1	RXD OUT –
2	RXD OUT +
3	TXD OUT –
4	TXD OUT +
5	GND
6	RXD IN –
7	RXD IN +
8	TXD IN –
9	TXD IN +

Second VISCA cameras
VISCA RS-422 Connector

1	RXD OUT –
2	RXD OUT +
3	TXD OUT –
4	TXD OUT +
5	GND
6	RXD IN –
7	RXD IN +
8	TXD IN –
9	TXD IN +

First VISCA cameras
VISCA RS-422 Connector

1	RXD OUT –
2	RXD OUT +
3	TXD OUT –
4	TXD OUT +
5	GND
6	RXD IN –
7	RXD IN +
8	TXD IN –
9	TXD IN +

Processor Unit of the BRS-200
VISCA RS-422 Connector

1	GND
2	RXD –
3	RXD +
4	TXD –
5	TXD +

13.12 CCFC Cable Information: CCFC-M100HG and CCFC-M100

The following provides summarized information on the CCFC cable used for the optical fiber connection between a BRC Series and its optical multiplex units.

CCFC-M100HG   CCFC-M100

Features

The CCFC-M100HG and CCFC-M100 are 2-core multi-mode optical fiber cables of 100 m in length to connect a camera and an optical multiplex unit. You can transmit uncompressed digital data on these cables, including video, external sync, and camera control signals. The maximum distance is 1,000 m between the BRC-H700 and BRU-H700, and also between the BRC-Z700 and BRU-H700, using CCFC-M100HG cables.
The maximum distance between is 500 m between the BRC-300/300P and BRU-300/300P, using CCFC-M100 cables.

Maximum Cable Length between a BRC Series Camera and its Optical Multiplex Unit

BRC Series Cables	The BRC-H700 with the BRU-H700	The BRC-Z700 with the BRU-H700	The BRC-300 with the BRU-300
CCFC-M100	No	No	500 m
CCFC-M100HG	1,000 m	1,000 m	600 m *

* The CCFC-M100HG can be used between the BRC-300/300P and BRU-300/300P. In this case, the maximum distance is 600 m.

Recommended Optical Fiber Cables and Connectors

The following information will help you to make your own cables.

Connector

Duplex LC Connector Plug
Insertion Loss: Max 0.3dB

BRC-H700/Z700 – BRU-H700

Grade Index-type (GI–type)
Flame-retardant Multi-Mode Optical Fiber Cable
Transmission Loss: Less than 3.0 dB at wave length λ =0.85µm
Transmission Band Width: More than 1,500 MHz•km at wave length λ =0.85µm by DMD Test Method

BRC-300/300P – BRU-300/300P

Grade Index-type (GI–type)
Flame-retardant Multi-Mode Optical Fiber Cable
Transmission Loss: Less than 3.0 dB at wave length λ =0.85µm
Transmission Band Width: More than 500 MHz•km at wave length λ =0.85µm by DMD Test Method

Note The protocol manual (interface manual) for each product are available. Please contact to the regional headquarters.

14 Installing the Camera in a High Position

Using the supplied ceiling brackets, wire rope and screws, and the attachment materials (not supplied), you can attach the camera to a ceiling or on a shelf, etc. in a high position. When you install the camera, always install it on a level ceiling or shelf, etc. If you have to install it on an incline, make sure that the inclination is within ± 15 degrees, so that the pan/tilt performance is guaranteed.

> **Caution**
> • When you attach the camera to a ceiling or shelf, etc. in a high position, entrust the installation to an experienced contractor or installer.
> • Attach the camera to the ceiling or shelf, etc. firmly, after making sure the ceiling, shelf, etc. and the attachment materials (not including the supplied accessories) are strong enough to bear a weight of 60 kg (132 lb 4 oz). If the ceiling or shelf, etc. is not strong enough, the camera may fall and cause serious injury.
> • Be sure to attach the supplied wire rope to prevent the camera from falling.
> • Check periodically, at least once a year, to ensure that the connection has not loosened. If conditions warrant, make this periodic check more frequently.

Before installation

After deciding the shooting direction, make the required holes for the ceiling bracket (B) and connecting cables on the ceiling or shelf, etc. For the dimensions of the ceiling bracket (B), see page 42.

> **Note**
> • The connecting cables cannot be passed through the ceiling bracket (A). A hole for the wiring is required in the ceiling or on a shelf, etc. behind where the camera is to be installed.
> • Do not attach any object other than the camera to the ceiling brackets.
> • The ceiling bracket cannot be attached to the junction box when installing the camera on a ceiling.

Installation on a ceiling (example)

1 Set IMG-FLIP to ON in the SYSTEM menu.

**2** Remove the four screws on the bottom of the camera to remove the four feet.
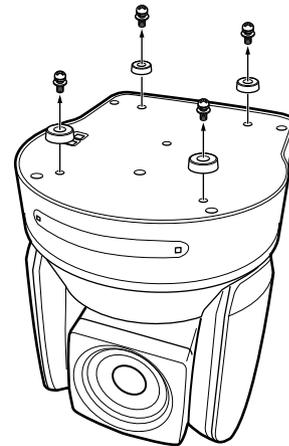
3 Attach the ceiling bracket (A) to the bottom of the camera using the supplied four screws (3M3 × 8). Position the a hole for screwing on the ceiling bracket (A) to the front of the camera as illustrated, align the screw holes on the ceiling bracket with those on the bottom of the camera, then attach the bracket to the camera.
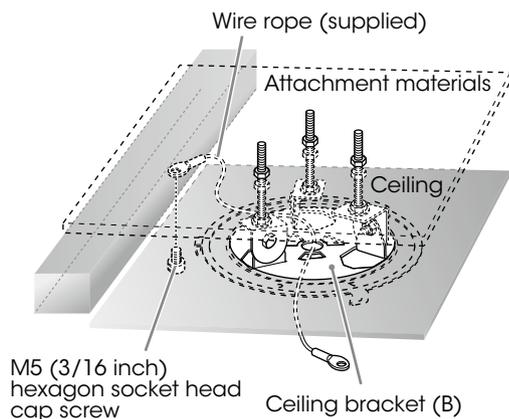

⊕M3 x 8 (supplied)

Ceiling bracket (A)

Front of camera
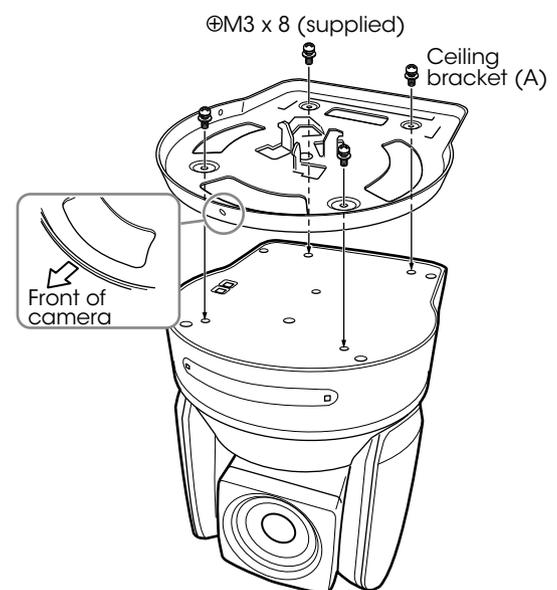
> **Note** For attaching the camera to the ceiling bracket, use only the supplied screws. Using other screws may damage the camera.

4 Attach the attachment materials (not supplied) to the ceiling bracket (B), and install the bracket on the ceiling. Align the hole on the ceiling bracket (B) in the direction where the front of the camera will be positioned later.

Attachment materials

Ceiling

△ hole
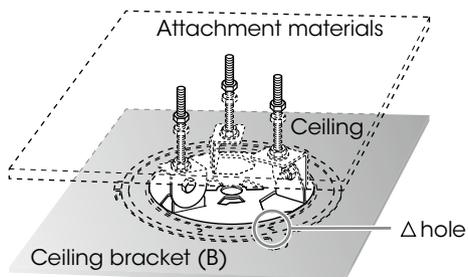
Ceiling bracket (B)

5 Attach the wire rope to the materials near the ceiling. Use an M5 (3/16 inch) hexagon socket head cap screw (not supplied). Attach the wire rope to an area independent of the area where the ceiling bracket is attached.

Wire rope (supplied)

Attachment materials

Ceiling

M5 (3/16 inch) hexagon socket head cap screw

Ceiling bracket (B)

6 Attach the wire rope to the ceiling bracket (A). Pass the wire rope through the fixing hole and attach its end to the attachment hole on the bracket using the supplied one screw (3M4 × 8).

Wire rope (supplied)

⊕M4 x 8 (supplied)
Fixing hole for wire rope
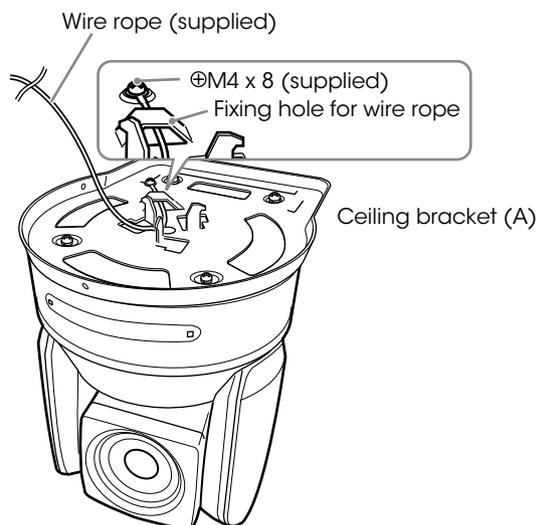
Ceiling bracket (A)

Caution For attaching the wire rope to the bracket, use only the supplied screw. Using another screw may disable the function of the wire rope.

7 Insert the protrusions on the ceiling bracket (A) into the spaces prepared in the ceiling bracket (B) with the hole in the front of the ceiling bracket (A) aligned with the hole on the ceiling bracket (B), and temporarily attach them by turning the ceiling bracket (A) with the camera clockwise.
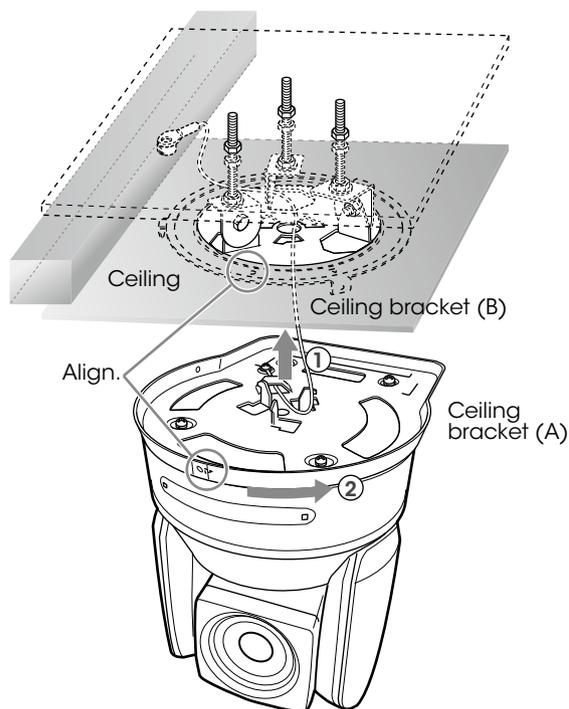
Ceiling

Ceiling bracket (B)

Align.

Ceiling bracket (A)

8 Secure the ceiling brackets (A) and (B) using the supplied three screws (3M3 × 8).

Ceiling

⊕M3 x 8 (supplied)
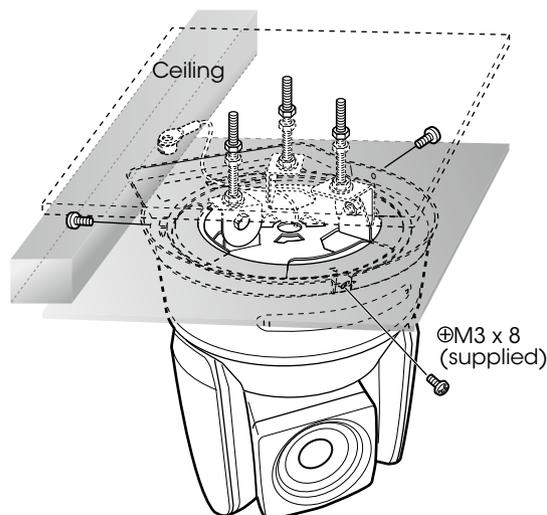
9 Connect the cables to the connectors on the rear of the camera.

Ceiling
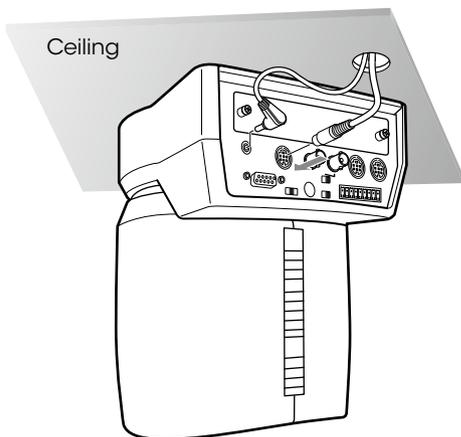
Note Take the proper steps to ensure that the load of the cables connected does not cause problems.

10 The SONY and/or HD nameplates can be turned upside down, if necessary.

To remove the camera

1 Remove the three screws used to attach the camera in step 8 of "Installation on a ceiling (example)."

2 Turn the camera with the bracket counterclockwise to remove.

Installation on a shelf, etc. in a high position (example)

1 Remove the four screws on the bottom of the camera to remove the four feet.
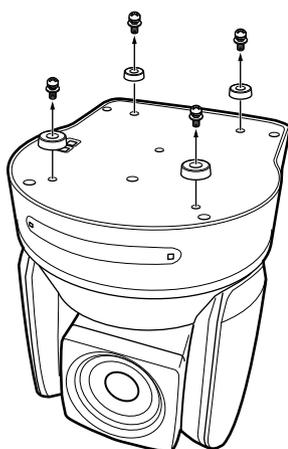
2 Attach the ceiling bracket (A) to the bottom of the camera using the supplied four screws (3M3 × 8). Position the hole for screwing on the ceiling bracket (A) to the front of the camera as illustrated, align the screw holes on the ceiling bracket with those on the bottom of the camera, then attach the bracket to the camera.


⊕M3 x 8 (supplied)

Ceiling bracket (A)

Front of camera
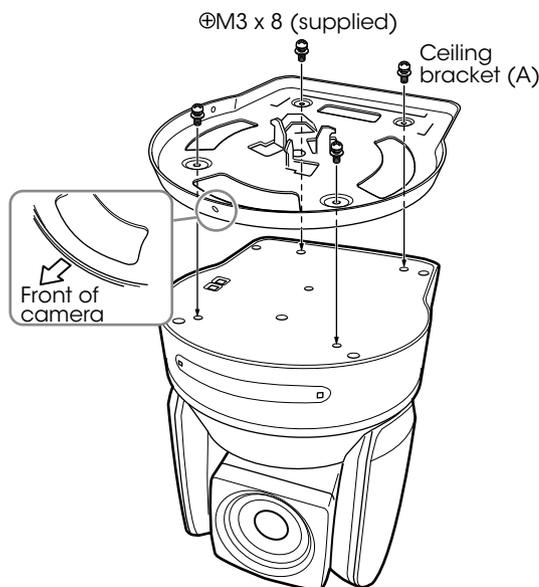
Note For attaching the camera to the ceiling bracket, use only the supplied screws. Using other screws may damage the camera.

3 Attach the supplied wire rope to the ceiling bracket (A). Pass the wire rope through the fixing hole and attach its end to the attachment hole on the bracket using the supplied one screw (3M4 × 8).

Wire rope (supplied)

⊕M4 x 8 (supplied)
Fixing hole for wire rope
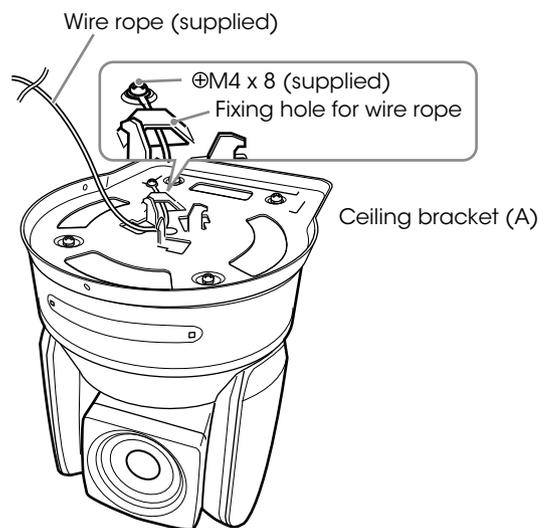
Ceiling bracket (A)

Caution For attaching the wire rope to the bracket, use only the supplied screw. Using another screw may disable the function of the wire rope.

4 Attach the ceiling bracket (B) to a shelf, etc. on which the camera is to be installed. Use four screws (not supplied) appropriate for the materials of the shelf, etc. Align the hole on the ceiling bracket (B) in the direction where the front of the camera will be positioned later.


Wall
Screws (4)
Ceiling bracket (B)
△ hole
Hole for connecting cables
Shelf, etc.
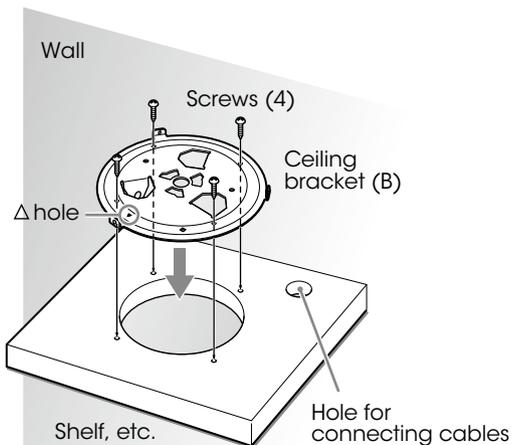
5 Attach the other end of the wire rope to the material near the shelf, etc. Use an M5 (3/16 inch) hexagon socket head cap screw (not supplied). Attach the wire rope to the material independent of the shelf, etc. where the ceiling bracket (B) is attached.


Wire rope (supplied)

M5 (3/16 inch) hexagon socket head cap screw

6 Insert the protrusions on the ceiling bracket (A) into the spaces prepared in the ceiling bracket (B) with the a hole in the front of the ceiling bracket (A) aligned with the hole on the ceiling bracket (B), and temporarily attach them by turning the ceiling bracket (A) with the camera counterclockwise.

Ceiling bracket (A)
Align.
Ceiling bracket (B)
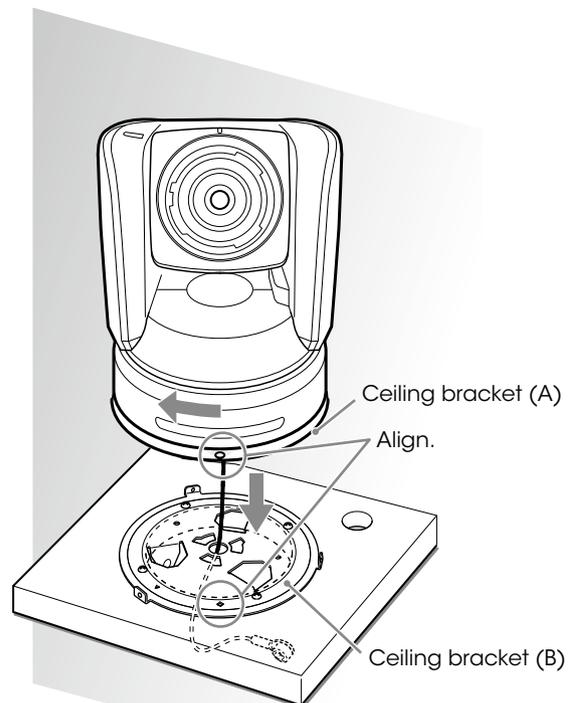
7 Secure the ceiling brackets (A) and (B) using the supplied three screws (3M3 × 8).

⊕M3 x 8 (supplied)
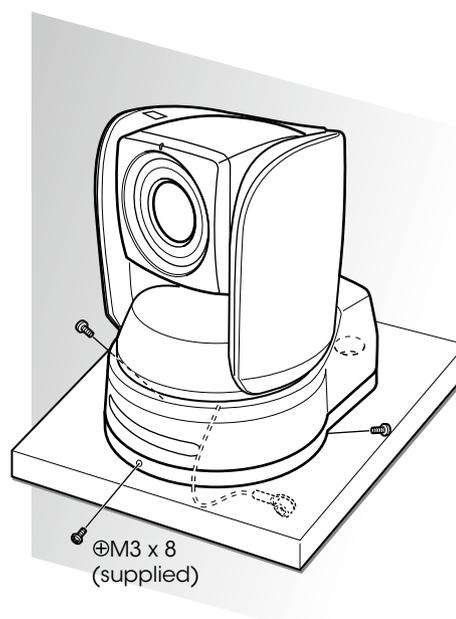
8 Connect the cables to the connectors on the
rear of the camera.
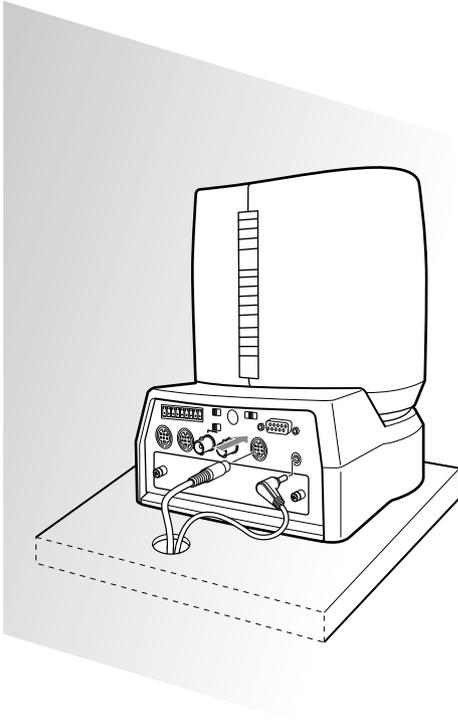
Note Take the proper steps to ensure that the load of the
cables connected does not cause problems.

To remove the camera

1 Remove the three screws used to attach the
camera in step 7 of "Installation on a shelf, etc. in
a high position (example)."

2 Turn the camera with the bracket clockwise to
remove.

SONY

MK10557V2IW09AUG

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