

4K/HD Camera Control Unit

Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference.

HXCU-FB80

Table of Contents

Overview	3
System Configuration Examples	4
Locations and Functions of Parts	7
Front Panel	7
Rear Panel	10
Setup	12
Area Settings	12
Settings when Connecting with Only Single-Mode	
Optical Fiber Cable	12
Signal Format Setting	13
Output Signal Setting	13
HD HDR Mode Setting	14
Status Display	16
Displaying the Status Screen	16
Status Display Screen	16
Setup Menu	19
Changing Menu Item Settings	19
Menu Tree	21
Menu List	23
Appendix	34
Notes on Use	34
About Transmission Distance	34
Error Messages	35
Specifications	35
Pin Assignment	36

Overview

The HXCU-FB80 4K/HD Camera Control Unit (CCU) connects to an HXC-FB80/HXC-FB75/E75 HD Color Camera or to a CA-FB70 HD Camera Adaptor that is attached to a PXW-Z450/X500/X400/X320 Solid-State Memory Camcorder or PDW-850 Professional Disc Camcorder. It performs signal processing, provides an interface for external equipment, and supplies power to the camera.

Long distance connection is also supported using single-mode fiber cables.

The CCU can be combined with an RCP-1000-series Remote Control Panel (optional) to form a camera control system.

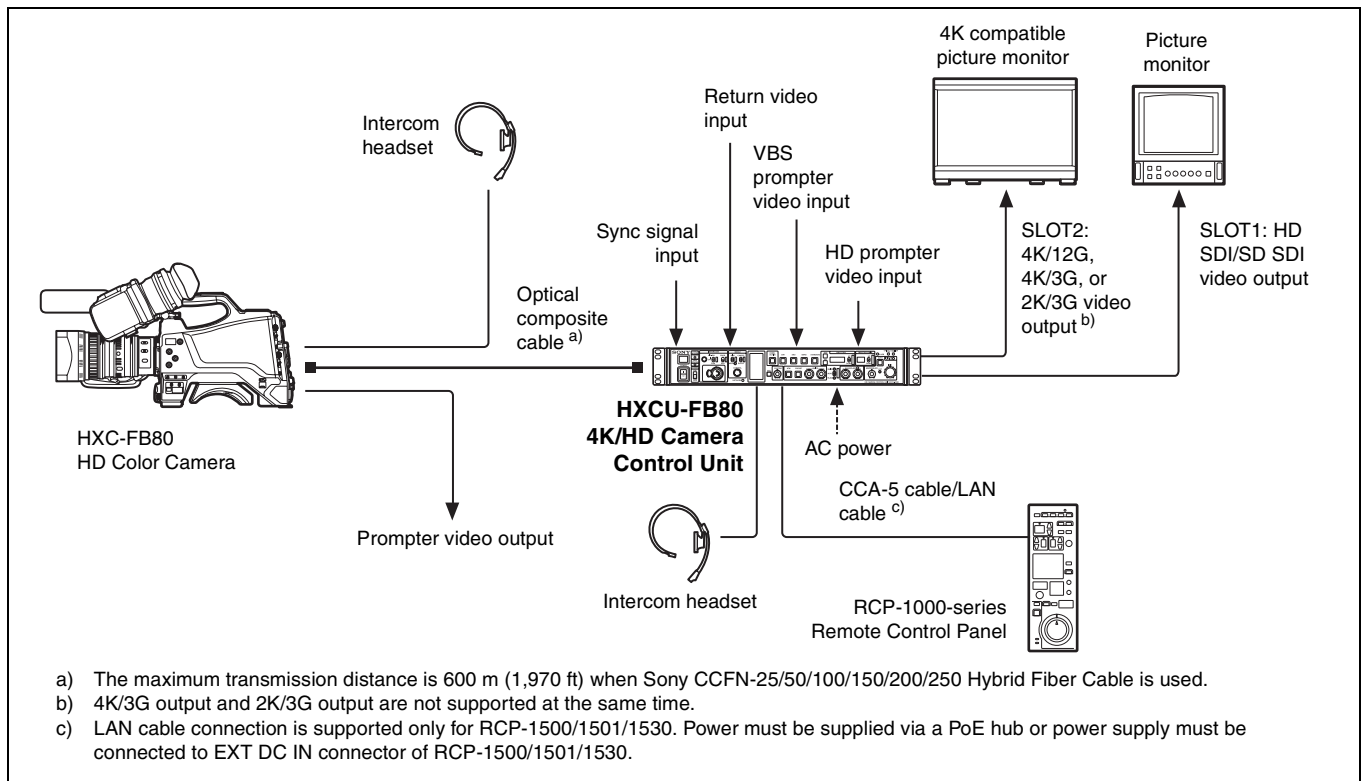
When combined with an HXC-FB80, it supports up-scaled output at 4K (3840×2160) or HD-HDR signal (HLG) output.

Note

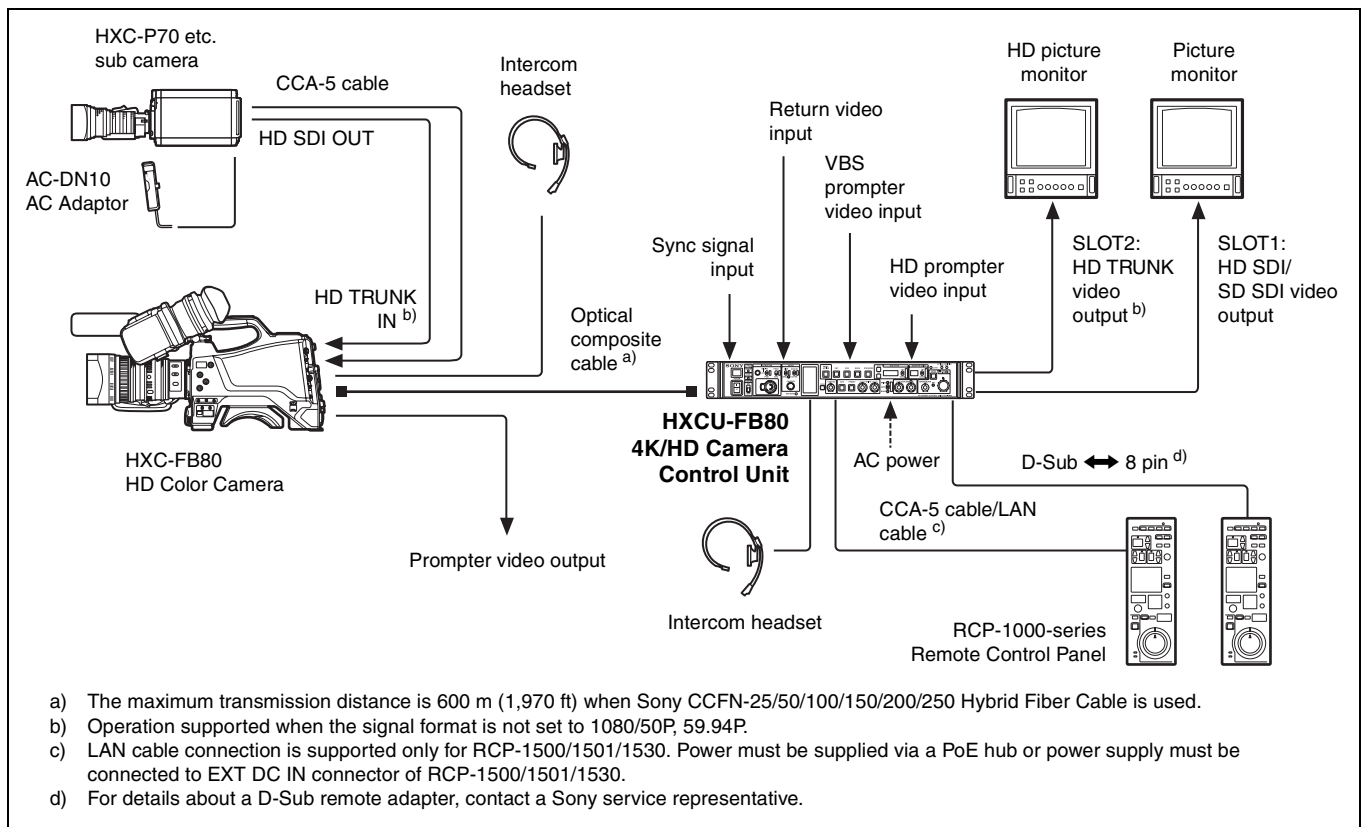
The version of the unit and the HXC-FB80 to connect to the unit must both be upgraded to version 1.10 or later for HD-HDR signal support. For details, contact a Sony sales or service representative.

System Configuration Examples

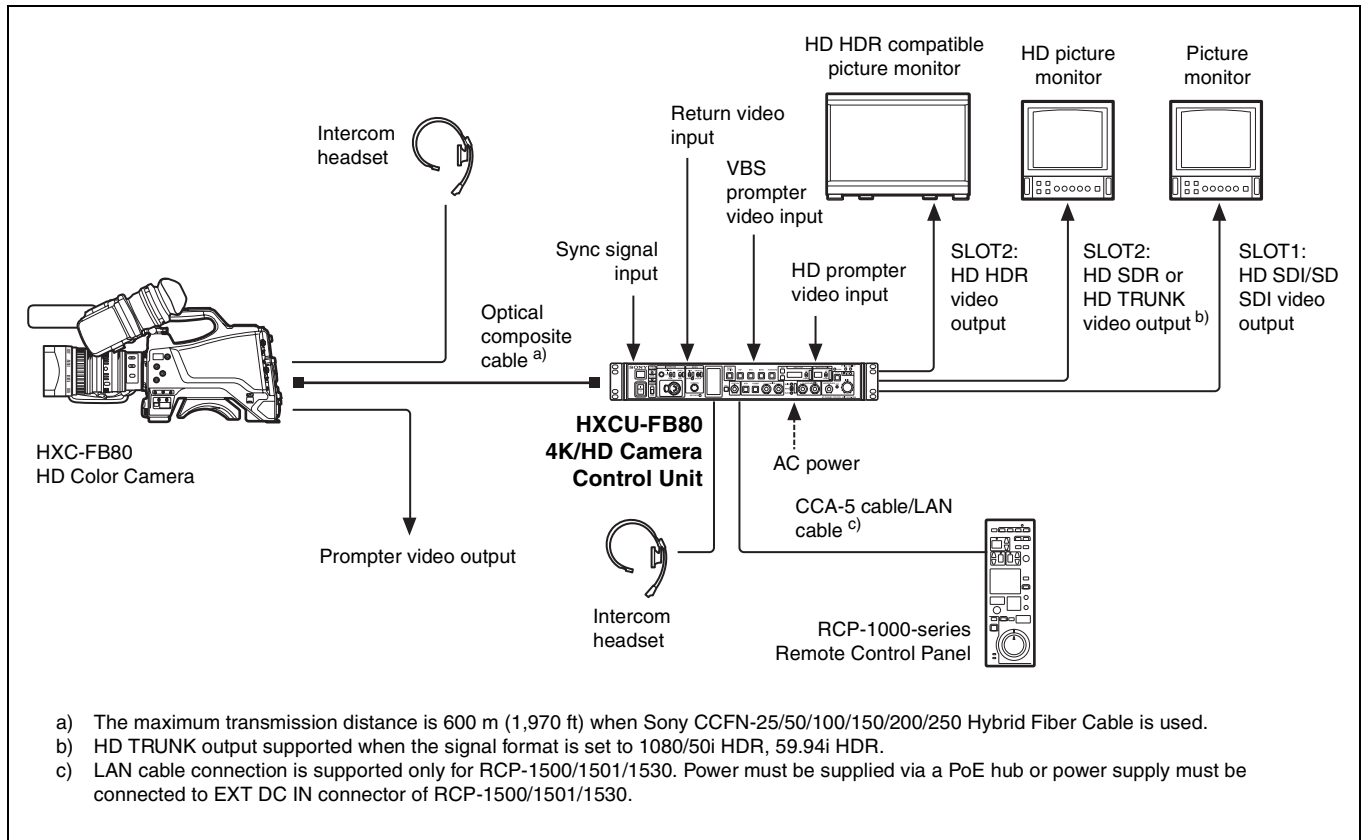
4K SDR and HD SDR signal operation (HXC-FB80 connection)



When sub camera is connected (HXC-FB80 connection)

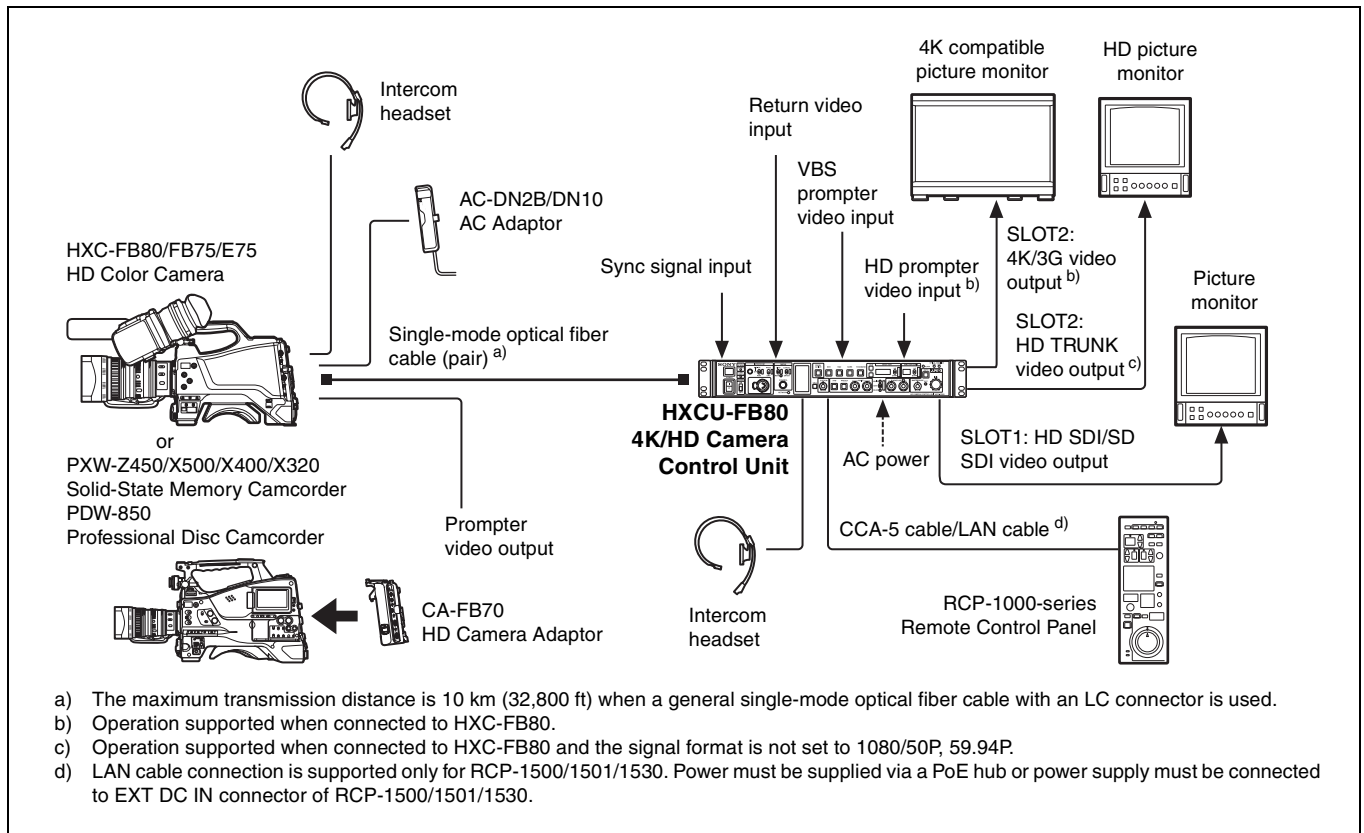


HD HDR and HD SDR signal operation (HXC-FB80 connection)

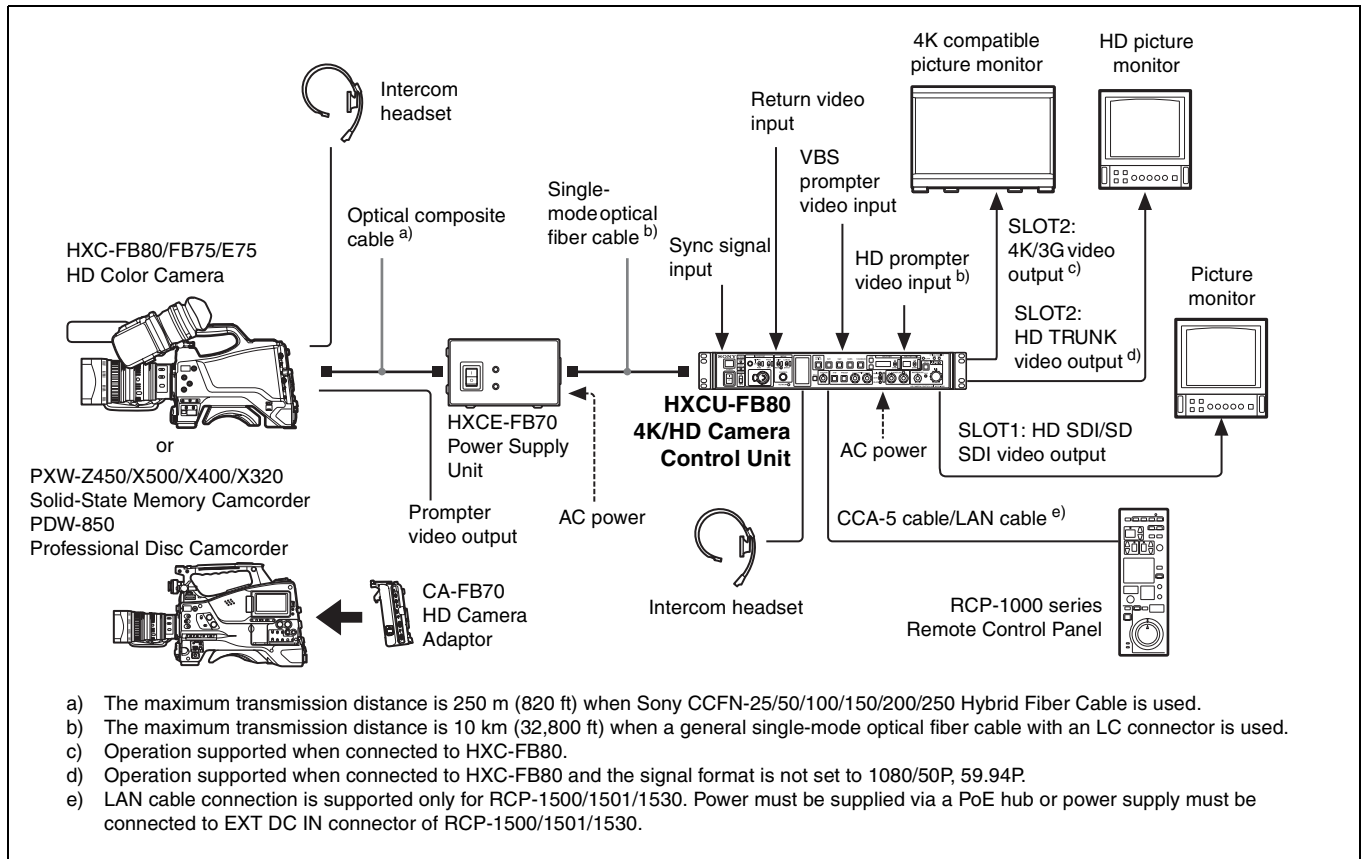


Connection using single-mode optical fiber cable only

For information on the menu setting, see "Settings when Connecting with Only Single-Mode Optical Fiber Cable" (page 12).

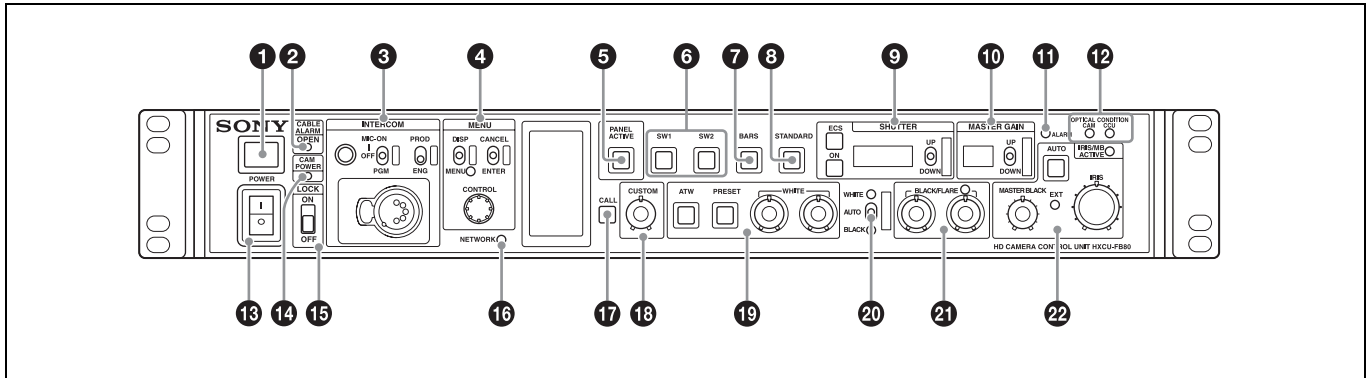


Connection using the HXCE-FB70 Power Supply Unit



Locations and Functions of Parts

Front Panel

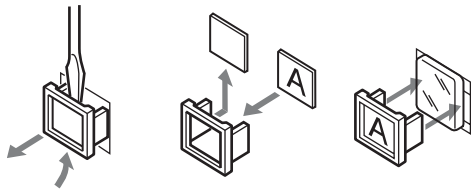


1 Tally light

Turns on red to indicate a red tally signal is being received (such as when the picture from the camera connected to the CCU is being used). When the CALL button on the camera or the RCP-1000 series Remote Control Panel is pressed, the light turns off if lit or turns on if not lit.

Turns on green to indicate a green tally signal is being received.

A number plate supplied with the CCU can be attached here (see the following figure).



2 CABLE ALARM indicators

OPEN: Turns on when a camera is not connected (open circuit) to the CAMERA connector on the rear panel via a fiber cable.

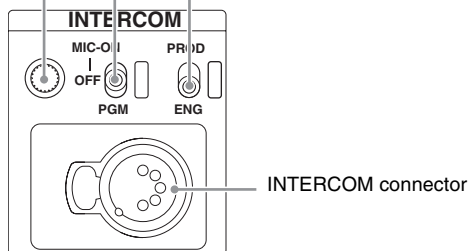
It flashes when there is a problem with the transmission between the camera and the CCU.

3 INTERCOM audio input/output and control block

INTERCOM (intercom adjustment) knob

MIC/PGM (microphone/program) switch

INTERCOM (intercom select) switch



• INTERCOM (intercom adjustment) knob

Adjusts the receiver audio level of the intercom.

• MIC/PGM (microphone/program) switch

ON: Turns the headset microphone on.

OFF: Turns the headset microphone off.

PGM: Selects program audio output. In this mode, the INTERCOM knob adjusts the headset program audio level.

• INTERCOM (intercom select) switch

Selects the intercom signal input/output connection source for the INTERCOM connector on the front panel.

PROD: Connects the producer line.

ENG: Connects the engineer line.

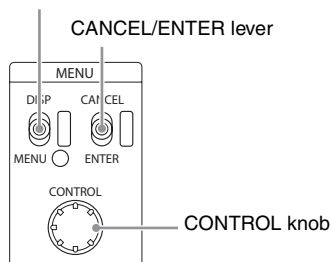
• INTERCOM connector (XLR 5-pin)

Connects the intercom headset.

For information about pin assignment, see "INTERCOM connector" (page 36) in "Pin Assignment".

4 MENU control block

DISP/MENU (display/menu) lever and indicator



• DISP/MENU (display/menu) lever and indicator

Selects the status display or setup menu display. In setup menu mode, the indicator turns on.

• CANCEL/ENTER lever

In setup menu mode, used to cancel and enter settings.

• CONTROL knob (rotary encoder)

In status screen mode, used to change the displayed page. In setup menu mode, used to move the cursor on a page and to change menu settings.

Pressing the CONTROL knob performs the same function as setting the CANCEL/ENTER lever to the ENTER position.

5 PANEL ACTIVE button

Activates the control panel to control the camera connected to the CCU (panel active state). When the button is lit, the IRIS/MB ACTIVE indicator also turns on simultaneously. When the button is not lit, the panel is deactivated (panel lock state) to prevent inadvertent operation.

6 SW1, SW2 (assignable switch 1, 2) buttons

Controls the function assigned to each button on the <FRONT PANEL 1> page in the CCU CONFIGURATION menu. The button light turns on/off as the assigned function is switched on/off.

For details, see “ASSIGNABLE/CUSTOM” (page 31) on <FRONT PANEL 1>.

7 BARS (color bars) button

Switches on the color bar signal output to the monitor connected to the CCU (button light turns on). Pressing the button again restores the previous signal output.

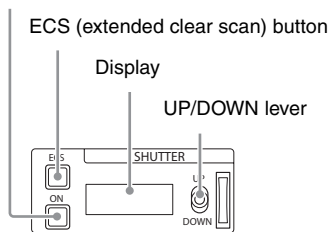
8 STANDARD button

Stores the current camera settings as the reference file data values in the camera (button light turns on for a few seconds). While the button is lit, pressing the button again cancels the operation and restores the previous data values.

9 SHUTTER control block

Controls the shutter settings.

ON button



• ON button

Switches the normal shutter function, extended clear scan function, or slow shutter function on/off (button light turns on/off).

• ECS (extended clear scan) button

Switches the extended clear scan mode on/off (button light turns on/off).

• Display

When the ECS button is lit: Displays the clear scan frequency. When the ECS button is not lit: Displays the shutter speed. The indicator is not displayed when auto shutter is on.

• UP/DOWN lever

When the ECS button is lit: Adjusts the clear scan frequency. UP increases the frequency, and DOWN decreases the frequency.

When the ECS button is not lit: Adjusts the shutter speed. UP increases the shutter speed, and DOWN decreases the shutter speed.

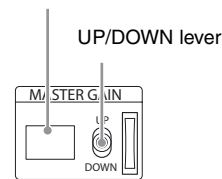
The number of frames at slow shutter speed increases when the lever is in the UP position, and decreases in the DOWN position.

Holding the lever UP or DOWN advances the setting in that direction.

10 MASTER GAIN control block

Controls the video output signal gain in response to the lighting of the subject.

Display



• Display

Displays the video output signal gain setting (dB units). The indicator is not displayed when auto gain (AGC) is on.

• UP/DOWN lever

Adjusts the video output signal gain setting (dB units). UP increases the gain, and DOWN decreases the gain. Holding the lever UP or DOWN advances the setting in that direction.

11 ALARM indicator

Lights up red to indicate an error in the CCU or camera system.

12 OPTICAL CONDITION CAM/CCU (optical reception) indicator

The CAM indicator shows the reception status of the connected camera adaptor, and the CCU indicator shows the reception status of the unit.

Green: The reception level is good.

Orange: The reception level is low.

Red: The reception level is extremely low.

Off: A transmission error has occurred.

13 POWER switch

Switches the power for the entire system on and off, including the CCU, camera, and the RCP-1000-series Remote Control Panel connected to the REMOTE connector on the rear panel. Pressing the “I” side turns the camera system on, and pressing the “O” side turns it off.

14 CAM POWER indicator

Turns on when power is supplied to the camera.

15 LOCK switch

Locks the buttons on the front panel. Select the desired buttons to be locked on the <FRONT PANEL 3> page in the CCU CONFIGURATION menu.

For details, see “<FRONT PANEL 3>” (page 32).

16 NETWORK indicator

Displays the network system connection status.

On: Indicates that external control equipment (RCP-1000-series Remote Control Panel or other device) is connected.

Flashing: Indicates a connection problem with the external control equipment (RCP-1000-series Remote Control Panel or other device).

Off: Indicates that a LAN cable is not connected or that the network system connection parameters have not been set.

For details, see “Network diagnostics” (page 18) and “NETWORK SETTINGS menu” (page 33).

17 CALL button

Sends a call signal to the camera connected to the CCU and any external controller (such as the RCP-1000-series Remote Control Panel).

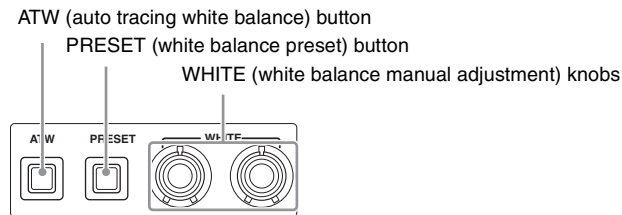
The CALL button is commonly used to raise the camera operator or external control equipment operators on the intercom.

18 CUSTOM (custom volume) knob

Controls the function assigned to the knob on the <FRONT PANEL 1> page in the CCU CONFIGURATION menu. Turning the knob adjusts the assigned function.

For details, see “VOLUME” (page 31) on <FRONT PANEL 1> and “CUSTOM” (page 32) on <FRONT PANEL 2>.

19 White balance adjustment control block



• ATW (auto tracing white balance) button

The white balance is automatically adjusted in response to the lighting conditions while this button is turned on and lit.

• PRESET (white balance preset) button

The white balance is automatically adjusted with a 3200K color temperature preset value while this button is turned on and lit.

• WHITE (white balance manual adjustment) knobs

Adjusts the white balance manually. The left knob adjusts the R coefficient, and the right knob adjusts the B coefficient. The adjustment can be set to relative or absolute value mode on the <FRONT PANEL 1> page in the CCU CONFIGURATION menu. The default value is relative value mode.

For details, see “R/B WHITE” (page 31) on <FRONT PANEL 1> and “R/B WHITE” (page 32) on <FRONT PANEL 2>.

Note

When the ATW button is lit, the WHITE knobs are deactivated.

20 AUTO WHITE/BLACK (white balance/black balance auto adjustment) lever

Initiates the white balance or black balance auto adjustment function.

WHITE automatically adjusts the white balance, and BLACK automatically adjusts the black balance.

21 BLACK/FLARE (black balance/flare balance manual adjustment) knobs and indicator

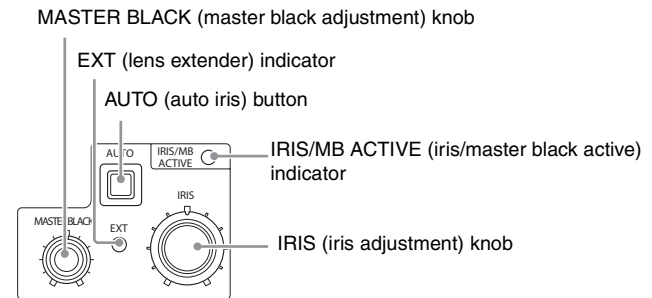
Adjusts the black balance and flare balance manually. When the indicator is not lit, the knobs adjust the black balance. When the indicator is lit, the knobs adjust the flare balance. The left knob adjusts the R coefficient, and the right knob adjusts the B coefficient.

The indicator operating mode (on/off function) can be set on the <FRONT PANEL 1> page in the CCU CONFIGURATION menu.

The adjustment can be set to black balance or flare balance adjustment in relative or absolute value mode on the <FRONT PANEL 1> page in the CCU CONFIGURATION menu. The default value is black balance adjustment in relative value mode.

For details, see “R/B BLACK” (page 31) on <FRONT PANEL 1> and “R/B BLACK” (page 32) on <FRONT PANEL 2>.

22 IRIS/MASTER BLACK adjustment control block



• MASTER BLACK (master black adjustment) knob

Adjusts the master black manually.

The adjustment can be set to relative or absolute value mode on the <FRONT PANEL 1> page in the CCU CONFIGURATION menu. The default value is relative value mode.

For details, see “M BLACK” (page 31) on <FRONT PANEL 1> and “M BLACK” (page 32) on <FRONT PANEL 2>.

• EXT (lens extender) indicator

Turns on to indicate that the lens extender is in-use on the camera.

• AUTO (auto iris) button

Switches the lens auto iris adjustment function on/off (button light turns on/off). The iris is automatically adjusted in response to the input light level.

When the button is not lit, the iris is adjusted manually.

• IRIS/MB ACTIVE (iris/master black active) indicator

Indicates, when lit, that the iris and master black controls are active (in panel active state set by the PANEL ACTIVE button). When the indicator is lit, the iris and master black can be adjusted from the CCU.

Note

The indicator is not lit when the iris and master black controls in the RCP-1000-series Remote Control Panel are active.

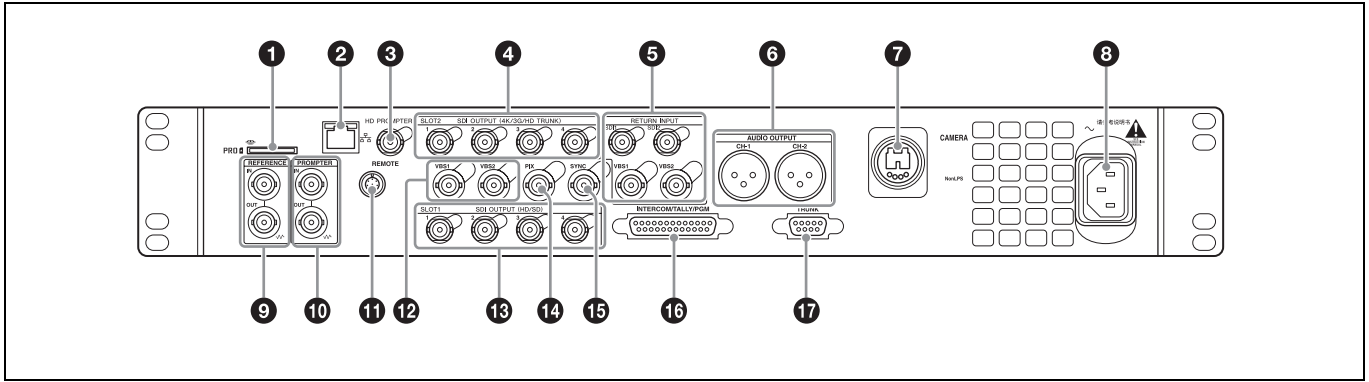
• IRIS (iris adjustment) knob

When the AUTO button is not lit: Adjusts the lens iris manually. When the AUTO button is lit: Finely adjusts the auto adjusted iris value.

The adjustment can be set to relative or absolute value mode on the <FRONT PANEL 1> page in the CCU CONFIGURATION menu. The default value is absolute value mode.

For details, see “IRIS” (page 31) on <FRONT PANEL 1> and “IRIS” (page 32) on <FRONT PANEL 2>.

Rear Panel



1 “Memory Stick” slot

For service use only.

2 LAN jack (RJ-45, 8-pin)

Connects to a LAN hub (10BASE-T/100BASE-TX), when using a network connection, via a LAN cable (shielded type, category 5 or higher).

CAUTION

For safety, do not connect the connector for peripheral device wiring that might have excessive voltage to this port. Follow the instructions for this port.

3 HD PROMPTER (HD teleprompter connectors) (BNC type)

When a camera that supports an HD teleprompter function is connected to the CAMERA connector, the HD-SDI signal input on this connector is output from the SDI I/O connector of the camera.

Note

Input an HD-SDI signal having frequency synchronization with the camera control unit.

4 SLOT2, SDI OUTPUT 1 to 4 (4K/3G/HD TRUNK output) connectors (BNC type)

Outputs the camera signal as 12G SDI signal, 3G SDI signal, or 1.5G signal (HD TRUNK only).

5 RETURN INPUT SDI1, SDI2, VBS1, VBS2 (VBS/SDI return video) connectors (BNC type)

Inputs the VBS return video signals (2-system), HD SDI or SD SDI return video signals (2-system).

6 AUDIO OUTPUT CH-1, CH-2 connectors (XLR 3-pin)

Outputs audio signals from the camera AUDIO 1 IN and AUDIO 2 IN connectors.

7 CAMERA connector (optical fiber connector)

Connect to the target camera or CA-FB70 HD Camera Adaptor.

When you use an optical composite cable for connection, power supply, all camera signals, such as control signal, video signal and audio signals can be transmitted.

When you use only single-mode optical fiber cables for connection, all signals (except power supply) can be transmitted by a pair of single-mode optical fiber cables.

For details about pin assignment, see “CAMERA connector” (page 37).

Note

If the terminations of the single-mode optical fiber cable or optical composite cable are contaminated with dust, etc., transmission errors may occur. Be sure to replace the cap that came with the cable over the termination when a cable is not in use.

8 AC supply input connector

Connects to the AC supply via the specified power cord (optional). A plug holder (optional) can be used to secure the power cord to the CCU.

9 REFERENCE (reference input) connectors (BNC type)

IN: Inputs an HD tri-level reference sync signal or SD reference sync signal (black burst signal) for external sync.
OUT: The input signal is output from the other connector as-is (loop-through output). If the loop-through output is not used, it is automatically connected to a 75 Ω terminator.

10 PROMPTER (teleprompter input) connectors (BNC type)

IN: Inputs the VBS signal for the teleprompter.
OUT: The input signal is output from the other connector as-is (loop-through output). If the loop-through output is not used, it is automatically connected to a 75 Ω terminator.

11 REMOTE connector (8-pin)

Transmits and receives control signals from the RCP-1000-series Remote Control Panel via a CCA-5 cable (optional). It also supplies power when connected to an RCP-1000-series Remote Control Panel.

12 VBS 1, 2 (composite video signal 1, 2) connectors (BNC type)

Outputs (2-system) the camera signals in composite signal format.

13 SLOT1, SDI OUTPUT 1 to 4 connectors (BNC type)

Outputs the camera signals in HD SDI or SD SDI signal format.
 The SDI OUTPUT 3 and SDI OUTPUT 4 connectors can also output signals with superimposed character or marker display.

14 PIX (picture monitor output) connector (BNC type)

Outputs a video signal for a picture monitor. It can also output a signal with superimposed character display.

15 SYNC (sync signal output) connector

Outputs a sync signal for connection to the sync signal input connector of a waveform monitor or picture monitor.

16 INTERCOM/TALLY/PGM (intercom/tally/program audio) connector (D-sub 25-pin)

Transmits and receives the various intercom, tally, and program audio signals. It connects to the intercom/tally/program audio connector of the intercom system.

For information about pin assignment, see “INTERCOM/TALLY/PGM connector” (page 36) in “Pin Assignment”.

Note

Depending on the PGM MIX LEVEL settings of the camera, PGM signal may leak into the INTERCOM output. Turn the PGM MIX LEVEL settings down to reduce the signal interference.

17 TRUNK connector (D-sub 9-pin, RS-232C/RS-422A standard)

Connects to an external device to provide a communication path via the CCU between that device and another external device connected to the TRUNK connector on the camera. You can switch between RS-232C and RS-422A settings in the menu.

For information about pin assignment, see “TRUNK connector” (page 37) in “Pin Assignment”.

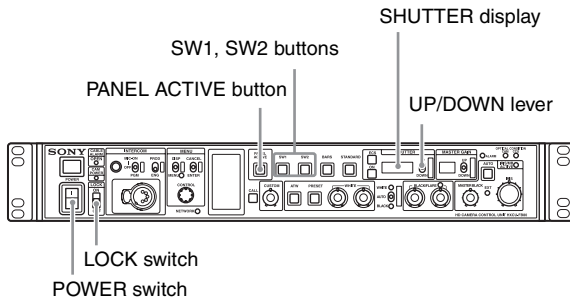
Setup

Area Settings

Before using the unit

When you use this unit for the first time, area setting is required.

Setting the area



- 1 Turn the power on.**
- 2 Set the LOCK switch to OFF and make sure that the PANEL ACTIVE button is not illuminated.**
If the PANEL ACTIVE button lights up, press the button to turn the light off.
- 3 Press and hold down the SW1 and SW2 buttons at the same time for more than two seconds.**
The unit switches to setting mode and selectable setting values appear in the SHUTTER display.
- 4 Release the buttons after the unit switches to setting mode.**
- 5 Select the desired area, using the UP/DOWN lever, within five seconds after the unit switches to setting mode.**

Setting	Area
60,5	NTSC (except Japan) ^{a)}
60,	NTSC (Japan) ^{b)}
50,	PAL ^{c)}

a) NTSC composite video signal output with black setup (7.5 IRE).

System frequency: 59.94i

b) NTSC composite video signal output with no black setup. System frequency: 59.94i

c) PAL composite video signal output. System frequency: 50i

Note

Setting mode is deactivated unless setup starts within five seconds after the unit switches to setting mode. Follow step 3 again to activate setting mode.

“- - -” appears in the SHUTTER display five seconds after setting. Area settings are stored and the unit switches to normal mode.

Settings when Connecting with Only Single-Mode Optical Fiber Cable

LASER DIODE (optical output) setting

When you use only single-mode optical fiber cable to connect the HD camera adaptor to this unit, configure the optical output setting in the unit.

Setting LASER DIODE

- 1 Connect the unit and the HD camera adaptor by a single-mode optical fiber cable.**
- 2 Set the POWER switch of this unit to ON.**
- 3 Display the menu.**
For information about setting menu items, see “Setup Menu” (page 19).
- 4 Set the optical output to ON.**
Display the <OUTPUT SELECT> S01 page of the SYSTEM OPERATION menu, then set LASER DIODE to ON.

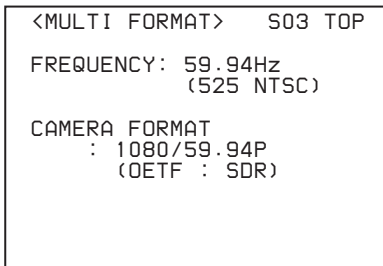
Notes

- This setting is unnecessary when you use optical composite cables.
- In the factory default setting, LASER DIODE is set to OFF when this unit starts up. If you want to retain the LASER DIODE setting you have previously set, from the CCU CONFIGURATION menu, select <OTHERS> C14 page, LASER DIODE ON BACKUP, then set to ENABLE.
- Use general, single-mode optical fiber cables with an LC connector for connection. For details, contact a Sony sales representative.

Signal Format Setting

You can set the signal format to use in the menu.
 For details about menu operations, see “To display the CCU MENU page” (page 19).
 The CAMERA FORMAT settings available for selection vary depending on the HD HDR mode setting.
 For details about HD HDR mode, see “HD HDR Mode Setting” (page 14).
 HD HDR mode is set to OFF by default.

- 1 Display the CCU MENU page.
- 2 Display the MULTI FORMAT page of the SYSTEM OPERATION menu.



- 3 Refer to the following table and set FREQUENCY and CAMERA FORMAT.

FREQUENCY	CAMERA FORMAT	Remarks
59.94Hz (525 NTSC)	1080/59.94I	NTSC/NTSC (Japan) format
	1080/29.97PsF	
	1080/59.94P	HXC-FB80 connection only
	1080/23.98PsF	HXC-FB80 connection only
	720/59.94P	
50Hz (625 PAL)	1080/50I	PAL format
	1080/25PsF	
	1080/50P	HXC-FB80 connection only
	720/50P	

Note

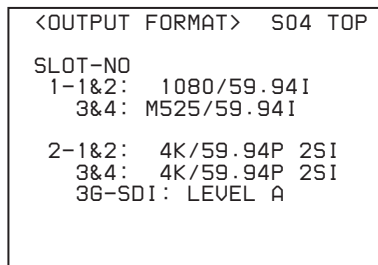
If the area setting is changed after configuring these items, the signal format automatically switches to 1080/59.94I or 1080/50I according to the FREQUENCY setting corresponding to the area setting.

Output Signal Setting

You can set the SDI signal output of SLOT1 and SLOT2 connectors in the menu.
 For details about menu operations, see “To display the CCU MENU page” (page 19).
 The method varies depending on the selected HD HDR mode.
 For details about HD HDR mode, see “HD HDR Mode Setting” (page 14).

When HD HDR mode is OFF

- 1 Display the CCU MENU page.
- 2 Display the OUTPUT FORMAT page of the SYSTEM OPERATION menu.



- 3 Refer to the following table and set the output signal for each slot under SLOT-NO.

SLOT1 connector

Values in bold are valid when connected with HXC-FB80 only.

CAMERA FORMAT setting	1-1&2 (SDI-1, 2) setting	1-3&4 (SDI-3, 4) setting
1080/59.94P (OETF: SDR)	1080/59.94I	M1080/59.94I
	525/59.94I	M525/59.94I
1080/29.97PsF (OETF: SDR)	1080/29.97PsF	M1080/29.97PsF
	525/29.97PsF	M525/29.97PsF
1080/23.98PsF (OETF: SDR)	1080/23.98PsF	M1080/23.98PsF
		M525/59.94I
	1080/59.94I	M1080/59.94I
		M525/59.94I
	525/59.94I	M1080/23.98PsF
		M1080/59.94I
1080/50P (OETF: SDR)	1080/50i	M1080/50I
	625/50i	M625/50I
1080/25PsF (OETF: SDR)	1080/25PsF	M1080/25PsF
	625/25PsF	M625/25PsF
1080/59.94I (OETF: SDR)	1080/59.94I	M1080/59.94I
	525/59.94I	M525/59.94I
1080/50I (OETF: SDR)	1080/50I	M1080/50I
	625/50I	M625/50I
720/59.94P (OETF: SDR)	720/59.94P	M720/59.94P
	525/59.94I	M525/59.94I

CAMERA FORMAT setting	1-1&2 (SDI-1, 2) setting	1-3&4 (SDI-3, 4) setting
720/50P (OETF: SDR)	720/50P	M720/50P
	625/50I	M625/50I

SLOT2 connector

Valid when connected with HXC-FB80 only.

CAMERA FORMAT setting	2-1&2 (SDI-1, 2) setting	2-3&4 (SDI-3, 4) setting
1080/59.94P (OETF: SDR)	1080/59.94P ^{a)}	1080/59.94P ^{a)}
	4K/59.94P SQD ^{a) b)}	4K/59.94P SQD ^{a) b)}
	4K/59.94P 2SI ^{a) b)}	4K/59.94P 2SI ^{a) b)}
	4K/59.94P 12G ^{b)}	1080/59.94P ^{a)}
1080/29.97PsF (OETF: SDR)	–	1080/29.97PsF ^{c)}
1080/23.98PsF (OETF: SDR)	–	1080/23.98PsF ^{c)}
1080/50P (OETF: SDR)	1080/50P ^{a)}	1080/50P ^{a)}
	4K/50P SQD ^{a) b)}	4K/50P SQD ^{a) b)}
	4K/50P 2SI ^{a) b)}	4K/50P 2SI ^{a) b)}
	4K/50P 12G ^{b)}	1080/50P ^{a)}
1080/25PsF (OETF: SDR)	–	1080/25PsF ^{c)}
1080/59.94I (OETF: SDR)	–	1080/59.94I ^{c)}
1080/50I (OETF: SDR)	–	1080/50I ^{c)}
720/59.94P (OETF: SDR)	–	720/59.94P ^{c)}
720/50P (OETF: SDR)	–	720/50P ^{c)}

a) Output as 3G-SDI. Select SMPTE 425 Level-A or SMPTE 425 Level-B.

b) Select BT.709 or BT.2020 for the color space.

c) HD-TRUNK is output.

When HD HDR mode is LIVE HDR

Valid when connected with HXC-FB80 only.

- 1 Display the CCU MENU page.
- 2 Display the OUTPUT FORMAT page of the SYSTEM OPERATION menu.

<OUTPUT FORMAT> S04 TOP
SLOT-NO
1-1&2: 1080/59.94I
3&4: M1080/59.94P
2-1&2: 1080/59.94P
(OETF : HLG_LIVE)
3&4: 1080/59.94P
(OETF : SDR)
3G-SDI: Level11 A

- 3 Refer to the following table and set the output signal for each slot under SLOT-NO.

SLOT1 connector

All output signals are SDR signals.

CAMERA FORMAT setting	1-1&2 (SDI-1, 2) setting	1-3&4 (SDI-3, 4) setting
1080/59.94P (OETF:HLG_LIVE)	1080/59.94I	M1080/59.94I
	525/59.94I	M525/59.94I
1080/50P (OETF:HLG_LIVE)	1080/50I	M1080/50I
	625/50I	M625/50I
1080/59.94I (OETF:HLG_LIVE)	1080/59.94I	M1080/59.94I
	525/59.94I	M525/59.94I
1080/50I (OETF:HLG_LIVE)	1080/50I	M1080/50I
	625/50I	M625/50I

SLOT2 connector

CAMERA FORMAT setting	1-1&2 (SDI-1, 2) setting	1-3&4 (SDI-3, 4) setting
1080/59.94P (OETF:HLG_LIVE)	1080/59.94P ^{a) b)}	1080/59.94P ^{a) c)}
1080/50P (OETF:HLG_LIVE)	1080/50P ^{a) b)}	1080/50P ^{a) c)}
1080/59.94I (OETF:HLG_LIVE)	1080/59.94I ^{b)}	1080/59.94I ^{c) d)}
1080/50I (OETF:HLG_LIVE)	1080/50I ^{b)}	1080/50I ^{c) d)}

a) Output as 3G-SDI. Select SMPTE 425 Level-A or SMPTE 425 Level-B.

b) HDR signal is output.

c) SDR signal is output.

d) HD-TRUNK is output when HD TRUNK is set to ON.

HD HDR Mode Setting

HD HDR mode must be enabled on the unit for HD HDR operation when the HXC-FB80 is connected to the unit.

Note

The HXC-FB80 software must be upgraded to V1.10 or later for operation in this mode.

- 1 Connect the HXC-FB80 to the unit.
- 2 Set the POWER switch of this unit to ON.
- 3 Display the CCU MENU page.

4 Change the <HD HDR> (S07) setting in the SYSTEM OPERATION menu to LIVE HDR.

```
<HD HDR>          S07 TOP
HDR MODE          : →OFF
SDR GAIN           : -----
HDR BLACK OFFSET  : -----
```

5 Move the cursor to YES under MODE CHANGE OK?, and press the CONTROL button.

```
<HD HDR>          S07 TOP
MODE CHANGE OK?  →YES NO
HDR MODE          :?OFF
                  →LIVE_HDR
SDR GAIN           : -----
HDR BLACK OFFSET  : -----
```

The unit restarts.

LIVE HDR operation is enabled after restarting.

Notes

- 4K signal output is disabled when the HD HDR mode is set to LIVE HDR.
For details, see “Output Signal Setting” (page 13).
- The signal format of the connected camera and output signal format change automatically when the HD HDR mode is changed.
 - When the mode is switched from OFF to LIVE HDR, the format changes to 1080P HDR from 1080P format, or to 1080I HDR from formats other than 1080P.
 - When the mode is switched from LIVE HDR to OFF, the format changes to 1080P from 1080P HDR format, or to 1080I from formats other than 1080P HDR.

Status Display

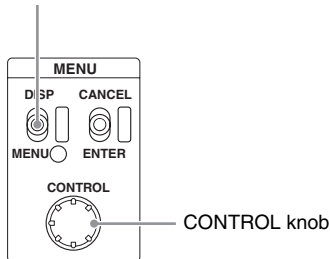
The CCU system status can be monitored using a picture monitor connected to the PIX output.

For details about checking and changing settings, see “Setup Menu” (page 19).

Displaying the Status Screen

The status screen is controlled using the knob and levers in the MENU control block on the front panel.

DISP/MENU lever and indicator



To display the status screen

Set the DISP/MENU lever to the DISP position. The most recently viewed status screen page is displayed (when first powered on, the camera settings page is displayed). Turning the CONTROL knob changes the displayed page.

To exit the status screen display

In status screen display mode, set the DISP/MENU lever to the DISP position.

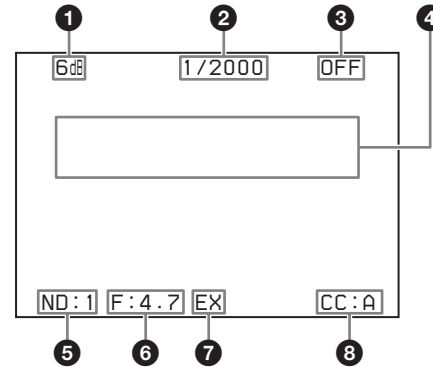
Status Display Screen

The following information is displayed on the status display screen.

- Camera settings
- System status
- CCU hardware diagnostics
- Camera system diagnostics
- Network diagnostics
- CCU AT board diagnostics
- CCU DPR board diagnostics
- Front panel diagnostics
- Camera hardware diagnostics
- ROM version information for major components

Camera settings

Page 1



1 Gain value indicator

Displays the video output signal gain (dB units). Becomes the AGC indicator when AGC is on.

2 Shutter speed/Clear scan frequency indicator

Displays the shutter speed. When ECS is on, the clear scan frequency is displayed. At slow shutter speeds, the number of frames is displayed. In auto shutter mode, AE (Auto Exposure) is displayed.

3 Shutter/ECS/Slow shutter on/off indicator

Displays the shutter/ECS/slow shutter on/off state.

4 Camera auto control information area

Top: Displays the Auto Setup category and execution status.
Bottom: Displays the execution item.

5 ND filter indicator

Displays the current ND filter selection.

6 F-stop value indicator

Displays the lens F-stop value (iris value).

7 EX (lens extender) indicator

Displayed when the lens extender is in use.

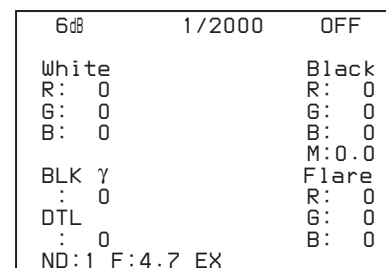
Notes

- Items that are turned off using the <DISPLAY> page settings of the CCU CONFIGURATION menu are not displayed.
- A “-” mark is displayed for each item when a camera is not connected.

8 CC filter indicator

Displays the current CC filter selection.

Page 2



White: White balance R/G/B value

Black: Black balance R/G/B/Master value

BLK γ: Black gamma value

Flare: Flare balance R/G/B value

DTL: Detail level

Note

The items are the same as those on "Page 1" (page 16) in the "Camera settings" section.

System status

```
*System Status 1/2*
HXC-FB80 1080/59.94P
(OETF : HLG_LIVE)
Reference:Free Lock
SLOT1-1&2:1080/59.94I
SLOT1-3&4:1080/59.94I
SLOT2-1&2:4K/59.95P 2SI
(OETF : HLG_LIVE)
SLOT2-3&4:4K/59.95P 2SI
(OETF : SDR)
```

```
*System Status 2/2*
HXC-FB80 1080/59.94I
(OETF : HLG_LIVE)

Return-1 :SDI-1(HD)
Return-2 :SDI-2(SD)
Return-3 :VBS-1
Return-4 :FBS-2
```

The camera model name, format, and camera OETF (HLG_LIVE or SDR) are displayed at the top of the page when a camera is connected to the unit. A "---" mark is displayed when a camera is not connected.

Reference: Reference signal format and lock status

SLOT1-1&2: SLOT1 SDI OUTPUT 1/2 connector output format selection

SLOT1-3&4: SLOT1 SDI OUTPUT 3/4 connector output format selection

SLOT2-1&2: SLOT2 SDI OUTPUT 1/2 connector output format selection and connected camera OETF (HLG_LIVE or SDR) indicator

SLOT2-3&4: SLOT2 SDI OUTPUT 3/4 connector output format selection and connected camera OETF (HLG_LIVE or SDR) indicator

Return-1: Return channel setting of Return 1

Return-2: Return channel setting of Return 2

Return-3: Return channel setting of Return 3

Return-4: Return channel setting of Return 4

CCU hardware diagnostics

```
*Diagnosis* 3/14

DPR :OK
AT :OK
Front Panel : OK
```

The camera Auto Setup category, and the corresponding setup item and status are displayed at the top of the page.

DPR: DPR board status

AT: AT board status

Front Panel: Front panel status

Camera system diagnostics

Page 1

```
*System Diag 1/3* 4/14
Optical Condition
CAMERA OK
CCU OK

Fan Power OK
Timer 0H
CCU Power OK

SerialNo 00000000
```

CAMERA: Camera light sensor status

CCU: CCU light sensor status

Fan Power: CCU power supply fan status

Timer: Elapsed time since power-on

CCU Power: CCU power supply status

SerialNo: CCU serial number

Page 2

```
*System Diag 2/3* 5/14
CAMERA Cable Connect
Data OK
Power OK
REMOTE Cable Connect
Data OK
Power OK

CAM:■■■■■■■◀ Green
CCU:■■■■■■■◀ Green
```

CAMERA Cable: Camera cable connection status

CAMERA Data: Camera data transmission status

CAMERA Power: Camera power supply status

REMOTE Cable: Remote device cable connection status

REMOTE Data: Remote device data transmission status

REMOTE Power: Remote device power supply status

CAM/CCU (light sensor level indicator): CAM displays camera light sensor level, and CCU displays CCU light sensor level.

Page 3

```
*System Diag 3/3* 6/14
Intercom
CCU FRONT ENG
PGM ON
CAMERA ENG
MIC ON
CAM MIC Gain
CH1(FRONT) 60dB
CH2(REAR) 60dB
SUB CMD -----
```

Intercom CCU FRONT: CCU intercom selection

Intercom CAMERA: Camera intercom channel selection and microphone status

CAM MIC Gain CH1 (FRONT): Amplifier gain for a microphone connected to the camera AUDIO 1 IN connector.

CAM MIC Gain CH2 (REAR): Amplifier gain for a microphone connected to the camera AUDIO 2 IN connector.

Network diagnostics

Page 1

```
*Network Diag 1/3* 7/14
MacAddress:000000-000000
Auto Negotiation: ON
Connection Speed:100M
Duplex Mode :HALF
Link Status :OK
```

MacAddress: MAC address stored in CCU EEPROM

Auto Negotiation: Auto negotiation setting

Connection Speed: Connection speed setting

Duplex Mode: Communication method setting

Link Status: Network connection status

Page 2

```
*Network Diag 2/3* 8/14
CNS Mode :BRIGDE
CCU No. :1
```

CNS Mode: REMOTE and LAN connectors mode setting

CCU No.: CCU number setting

Page 3

```
*Network Diag 3/3* 9/14
IP Address
0. 0. 0. 0
Subnet Mask
0. 0. 0. 0
Default Gateway
0. 0. 0. 0
```

IP Address: CCU IP address setting

Subnet Mask: CCU subnet mask setting

Default Gateway: CCU default gateway setting

CCU AT board diagnostics

```
*AT Diag* 10/14
SLOT2-1&2:4K/59.94P 2SI
SLOT2-3&4:4K/59.94P 2SI
SDI OUT:1 2 3 4
STATUS1 OK OK OK OK
STATUS2 OK OK OK OK
PLD Status :OK
AT :1.00
AT POWER :OK
```

SLOT2-1&2: SLOT2 SDI OUTPUT 1/2 connector output format selection

SLOT2-3&4: SLOT2 SDI OUTPUT 3/4 connector output format selection

SDI OUT STATUS: SLOT2 SDI OUTPUT1/2/3/4 status

PLD Status: PLD status

PLD AT: AT-PLD version

AT POWER: AT board power supply status

CCU DPR board diagnostics

```
*DPR Diag* 11/14
Reference :HD
4K/HD CB
:BAR 16:9(100%)
SD CB :SMPTE
PLD Status:OK
SY :1.00
POST :1.00
IIC :OK
DPR POWER:OK
```

Reference: Reference signal setting

HD CB: HD color bar setting

SD CB: SD color bar setting

PLD Status: PLD status

PLD SY: SY-PLD version

PLD POST: POST-PLD version

IIC: IIC bus control status

DPR POWER: DPR board power supply status

Front panel diagnostics

```
*Front Panel Diag* 12/14
Assignable/Custom
SW1 :CAM POWER
SW2 :5600K
VOLUME :SD DTL Level
SW Bright:Normal
IIC :OK
```

Assignable/Custom SW1: Function assigned to the SW1 button

Assignable/Custom SW2: Function assigned to the SW2 button

Assignable/Custom VOLUME: Function assigned to the CUSTOM knob

SW Bright: Button lights LED brightness setting

IIC: IIC bus control status

Camera hardware diagnostics

```
*CAMERA Diag*      13/14
ALL BOARD OK
```

Displays the camera hardware status.

ROM version information

```
*ROM Version*      14/14
CAMERA HXC-FB80
          1.00      XX.XX.XX
CCU     HXCU-FB80
          1.00      XX.XX.XX
```

CAMERA: Camera model name and ROM version

CCU: CCU model name and ROM version

Setup Menu

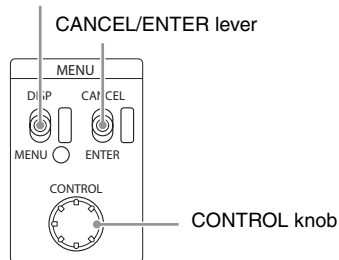
The CCU system and peripheral settings can be checked and modified using a picture monitor connected to the PIX output.

Changing Menu Item Settings

The menu screen is controlled using the knob and levers in the MENU control block on the front panel.

Setting the CANCEL/ENTER lever to the ENTER position and pressing the CONTROL knob perform the same function.

DISP/MENU (display/menu) lever and indicator



To display a menu page

Set the DISP/MENU lever to the MENU position.

When first powered on, the CCU MENU page is displayed.

To display the CCU MENU page

In menu display mode, turn the CONTROL knob to move the pointer (➡) to TOP in the upper right corner of the menu page, then press the CONTROL knob.

The CCU MENU showing the menu configuration is displayed.

```
** CCU MENU **
➔SYSTEM OPERATION
  CCU CONFIGURATION
  NETWORK SETTINGS
```

Menu name	Description
SYSTEM OPERATION	Input/output signal format and system-related settings
CCU CONFIGURATION	CCU configuration settings
NETWORK SETTINGS	Network-related settings

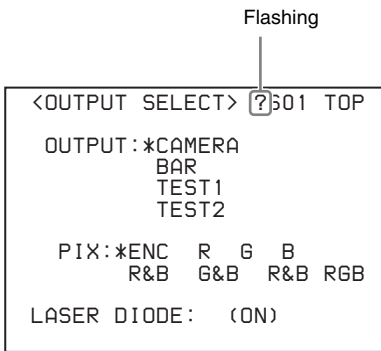
To select an item in the CCU MENU

Turn the CONTROL knob to move the pointer (➡) up/down to the desired menu item, then press the CONTROL knob.

The most recently viewed page in the selected menu is displayed.

To change the displayed page

- 1 Turn the **CONTROL knob** to move the pointer (➡) to the page number, then press the **CONTROL knob**.
The pointer (➡) changes to a flashing question mark (?).



- 2 Turn the **CONTROL knob** to change the displayed page to the desired page, then press the **CONTROL knob**.
The question mark (?) changes back to the pointer (➡). Items on the page can now be selected and changed.

To change a menu item setting

If a question mark (?) is displayed beside the page number, press the **CONTROL knob** to restore the pointer (➡). Items on the page can now be selected and changed.

- 1 Turn the **CONTROL knob** to move the pointer (➡) to the desired item, then press the **CONTROL knob**.
The pointer (➡) changes to a flashing question mark (?).

- 2 Turn the **CONTROL knob** to change the setting.

To cancel a changed setting

Set the **CANCEL/ENTER** lever to the **CANCEL** position before pressing the **CONTROL knob**. The item is restored to its current setting.

To suspend menu changes

Set the **DISP/MENU** lever to the **MENU** position to exit the menu screen.

The **DISP/MENU** lever can be set to the **MENU** position again to restart the operation.

- 3 Press the **CONTROL knob**.
The question mark (?) changes back to the pointer (➡), and the item setting is registered.

- 4 Repeat steps 1 to 3 to change other settings on the same page.

To enter a character string

Some menu items require a character string input. Moving the pointer (➡) to an item with a character string input and pressing the **CONTROL knob** displays a rectangular cursor and a list of selectable characters.

Turning the **CONTROL knob** moves the cursor between characters.

The following menu item has character strings:

- **CCU CONFIGURATION** menu → <BAR CHARACTER>
page → BAR CHARACTER

- 1 Move the text cursor to the input position, then press the **CONTROL knob**.

A second cursor is displayed in the character list.

- 2 Turn the **CONTROL knob** to move the cursor to the desired character, then press the **CONTROL knob**.

Repeat steps 1 and 2 to enter other characters.

- Select **INS** to insert a space character at the cursor position.
- Select **DEL** to delete the character at the cursor position.
- Select **RET** to return to step 1 without changing the string.
- Entering the maximum number of characters (up to the right edge) moves the cursor to **ESC** on the lower right of the character list.

- 3 Turn the **CONTROL knob** to move the cursor to **END**, then press the **CONTROL knob**.

The new input string is registered.

To cancel the character string setting

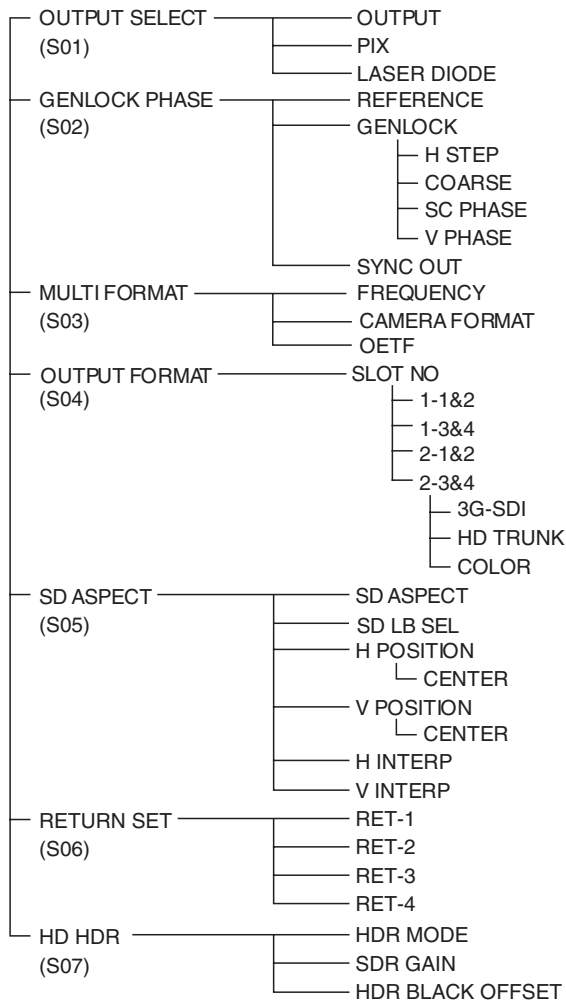
Turn the **CONTROL knob** to move the cursor to **ESC**, then press the **CONTROL knob**.

To exit the menu display

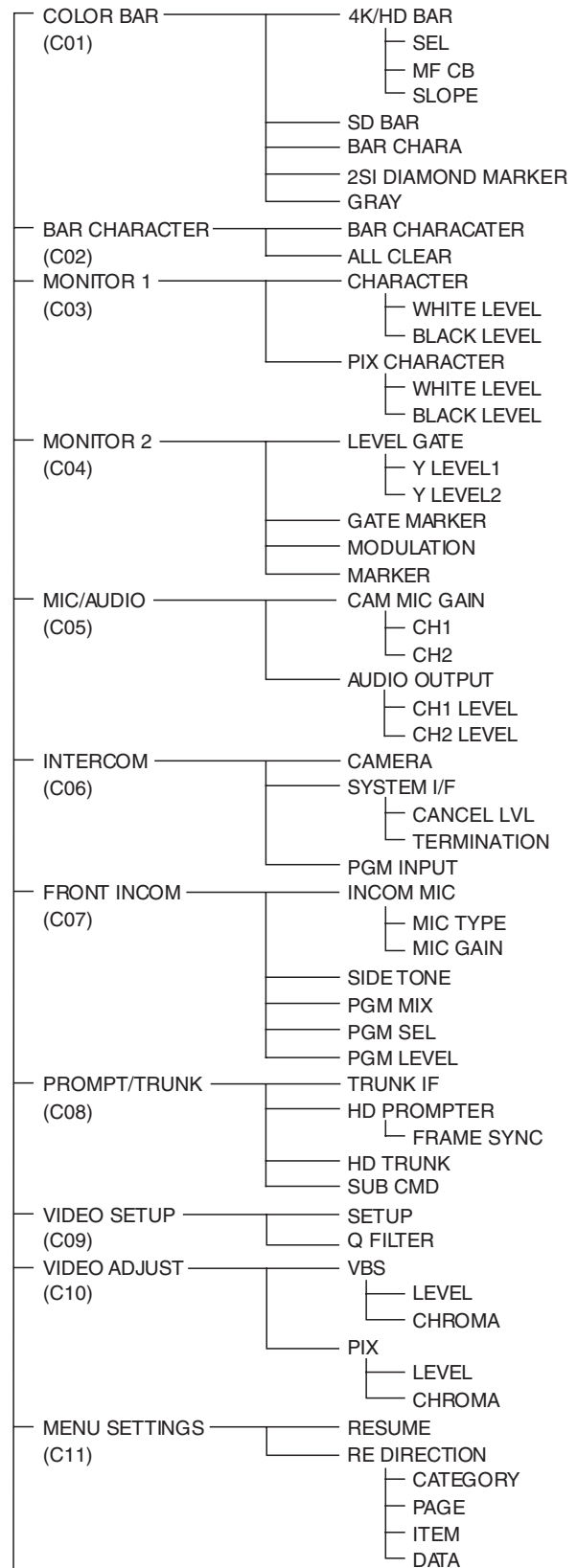
In menu display mode, set the **DISP/MENU** lever to the **MENU** position.

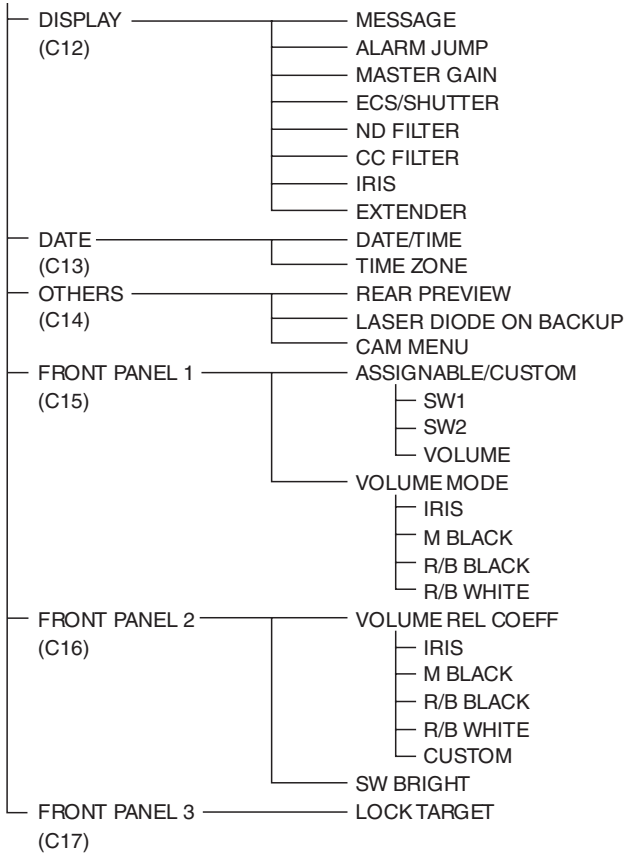
Menu Tree

SYSTEM OPERATION menu

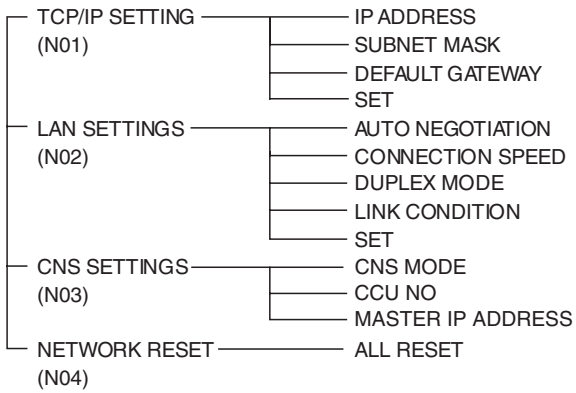


CCU CONFIGURATION menu





NETWORK SETTINGS menu



Menu List

Conventions

The following conventions are used in the menu list table.

Underlined values (e.g. ON, OFF, 0): Default settings

Execute by ENTER: Press the CONTROL knob or move the CANCEL/ENTER lever to the ENTER position to execute.

SYSTEM OPERATION menu

SYSTEM OPERATION			
Page name Page No.	Item	Settings	Description
<OUTPUT SELECT> S01	OUTPUT	<u>CAMERA</u> , BAR, TEST1, TEST2	Output signal selection TEST1 and TEST2 are not selectable if there is no communication with the camera.
	PIX	<u>ENC</u> , R, G, B, R&G, G&B, R&B, RGB	PIX connector output signal selection
	LASER DIODE	ON, <u>OFF</u> , (ON)	Turns optical output from CCU on/off (ON): When using cable that supplies power
<GENLOCK PHASE> S02	REFERENCE	(NONE), (EXT IN)	Reference signal input status (display only)
	GENLOCK	(HD), (<u>SD</u>)	CCU GENLOCK mode lock status and signal format (HD): HD (SD): SD
		(OK), (NG)	External reference signal lock status (OK): Locked (NG): Unlocked
		External reference signal format	Displayed only when a reference signal is present.
			Reference signal lock phase adjustments
	H STEP	When GENLOCK mode is HD: -3.01 to 3.45 μ s <u>0.00</u> When GENLOCK mode is SD: -8.29 to 9.48 μ s <u>0.00</u>	Horizontal phase (STEP)
	COARSE	-99.9 to 99.9 <u>0.0</u>	Horizontal phase
	SC PHASE	<u>0</u> to 359	Subcarrier phase
	V PHASE	<u>0</u> to 7	Vertical phase (line)
	SYNC OUT	HD SYNC, <u>SD SYNC</u>	SYNC connector output signal selection
<MULTI FORMAT> S03	FREQUENCY	<u>59.94Hz</u> , 50Hz (525 NTSC) , (625 PAL)	Operating frequency selection
	CAMERA FORMAT	Settings when <HD HDR> (S07) is OFF: When FREQUENCY is set to 59.94Hz: <u>1080/59.94i</u> , 1080/29.97PsF, 1080/59.94P, 1080/23.98PsF, 720/59.94P When FREQUENCY is set to 50Hz: 1080/50i, 1080/25PsF, 1080/50P, 720/50P Settings when <HD HDR> (S07) is LIVE HDR: When FREQUENCY is set to 59.94Hz: 1080/59.94i, 1080/59.94P When FREQUENCY is set to 50Hz: 1080/50i, 1080/50P	Transmission format selection <i>For details about format settings, see "Signal Format Setting" (page 13).</i>
	OETF	HLG_LIVE, SDR	Camera OETF (display only)

Note

FREQUENCY or CAMERA FORMAT mode setting changes take effect only after the CCU power supply is turned off and then on again.

SYSTEM OPERATION			
Page name Page No.	Item	Settings	Description
<OUTPUT FORMAT> S04	SLOT NO		
	1-1&2	Output format	SDI OUTPUT 1/2 connector output format selection 1st selection is HD, 2nd selection is SD <i>For details about output format settings, see "Output Signal Setting" (page 13).</i>
	1-3&4	Output format	SDI OUTPUT 3/4 connector output format selection 1st selection is HD, 2nd selection is SD <i>For details about output format settings, see "Output Signal Setting" (page 13).</i>
	2-1&2	Output format	SDI OUTPUT 1/2 connector output format selection Output format OETF (HLG_LIVE or SDR) displayed on the line below the output format. <i>For details about output format settings, see "Output Signal Setting" (page 13).</i>
	2-3&4	Output format	SDI OUTPUT 3/4 connector output format display Output format OETF (HLG_LIVE or SDR) displayed on the line below the output format. <i>For details about output format settings, see "Output Signal Setting" (page 13).</i>
	3G-SDI	Level A , Level B	Sets 3G-SDI output to SMPTE 425 Level A or Level B. Displayed only for 3G transmission or 4K format when <HD HDR> (S07) is LIVE HDR
	HD TRUNK	OFF , ON	Displayed when <HD HDR> (S07) is OFF HD TRUNK output from SDI OUTPUT 3/4 connectors when set to ON, and MAIN (HD SDR) output when set to OFF
	COLOR	BT.709 , BT.2020	4K video output color space selection Displayed only 4K format
<SD ASPECT> S05	SD ASPECT	SQUEEZE, EDGE CROP , LETTER BOX	SD output aspect selection
	SD LB SEL	16:9 , 15:9, 14:9, 13:9	LETTER BOX aspect ratio selection
	H POSITION	-99 to 99, (-99) to (99) 0	Horizontal position setting Settings in (): Displayed when SQUEEZE or LETTER BOX 16:9 is selected in SD ASPECT (display only)
	CENTER	ON , OFF, (ON), (OFF)	Horizontal centering selection Settings in (): Displayed when SQUEEZE or LETTER BOX 16:9 is selected in SD ASPECT (display only)
	V POSITION	-99 to 99, (-99) to (99) (0)	Vertical position setting Settings in (): Displayed when SQUEEZE or EDGE CROP is selected in SD ASPECT (display only)
	CENTER	ON, OFF, (ON) , (OFF)	Vertical centering selection Settings in (): Displayed when SQUEEZE or EDGE CROP is selected in SD ASPECT (display only)
	H INTERP	A , B, C, D, E	Down converter horizontal filter selection
	V INTERP	A , B, C, D, E	Down converter vertical filter selection

SYSTEM OPERATION			
Page name Page No.	Item	Settings	Description
<RETURN SET> S06	RET-1	SDI-1(HD) , SDI-1(SD), SDI-2(HD), SDI-2(SD), VBS-1, VBS-2 SQUEEZE , EDGE CROP, LETTER BOX Not displayed when HD SDI signal is selected 16:9 , 15:9, 14:9, 13:9 Not displayed when HD SDI signal is selected	Input settings of RETURN1 channel
	RET-2	SDI-1(HD), SDI-1(SD), SDI-2(HD), SDI-2(SD) , VBS-1, VBS-2 SQUEEZE , EDGE CROP, LETTER BOX Not displayed when HD SDI signal is selected 16:9 , 15:9, 14:9, 13:9 Not displayed when HD SDI signal is selected	Input settings of RETURN2 channel
	RET-3	SDI-1(HD), SDI-1(SD), SDI-2(HD), SDI-2(SD), VBS-1 , VBS-2 SQUEEZE , EDGE CROP, LETTER BOX Not displayed when HD SDI signal is selected 16:9 , 15:9, 14:9, 13:9 Not displayed when HD SDI signal is selected	Input settings of RETURN3 channel
	RET-4	SDI-1(HD), SDI-1(SD), SDI-2(HD), SDI-2(SD), VBS-1, VBS-2 SQUEEZE , EDGE CROP, LETTER BOX Not displayed when HD SDI signal is selected 16:9 , 15:9, 14:9, 13:9 Not displayed when HD SDI signal is selected	Input settings of RETURN4 channel
<HD HDR> S07 Valid when HDC-FB80 camera is connected Note HDR mode setting changes take effect only after the CCU power supply is turned off and then on again.	HDR MODE	LIVE HDR, OFF	HD HDR mode selection LIVE HDR : HD HDR operation OFF : Normal operation
	SDR GAIN	-7.5dB, -6.0dB, -4.5dB	SDR gain setting
	HDR BLACK OFFSET	-99.9 to 99.9	HDR BLACK OFFSET setting

CCU CONFIGURATION menu

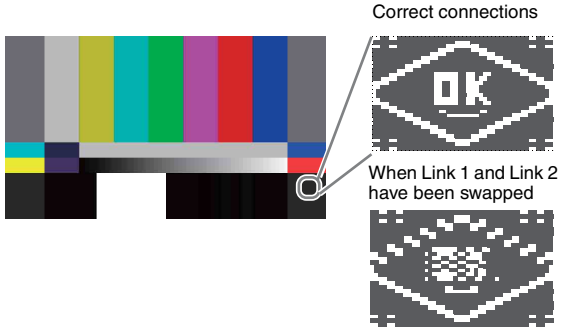
CCU CONFIGURATION			
Page name Page No.	Item	Settings	Description

<COLOR BAR>	4K/HD BAR		
C01	SEL	BAR 16:9 (100%) , BAR 16:9 (75%), SMPTE 16:9 (BLACK), SMPTE 16:9 (-I/Q), BAR 4:3 (100%), BAR 4:3 (75%), SMPTE 4:3 (BLACK), SMPTE 4:3 (-I/Q), MF-ARIB (75%), MF-ARIB (100%), MF-ARIB (+I), MF-SMPTE (-I,Q), MF-SMPTE (75%,Q), MF-SMPTE (100%,Q), MF-SMPTE (+I,Q), HD-CUSTOM, SDI CHECK FIELD, Y-RAMP, Y/C-RAMP, HD-CUSTOM2	The color bar signal output on SLOT 2 may differ from the 4K/HD BAR >SEL setting depending on the HDR MODE setting, 4K/HD setting, and color space setting. Refer to the following table.

		SLOT2						
Setting	HDR MODE	OFF			LIVE_HDR			
	4K/HD	HD	4K		HD			
	COLOR	BT.709	BT.709	BT.2020	BT.709	BT.2020		
	OETF	SDR	SDR		SDR	HLG_LIVE		
4K/HD BAR >SEL	BAR 16:9 (100%)	BAR 16:9 (100%)	BAR 16:9 (100%)	BAR 16:9 (100%)	BAR 16:9 (100%)	BAR 16:9 (100%)		
	BAR 4:3 (100%)	BAR 4:3 (100%)	BAR 4:3 (100%)		BAR 4:3 (100%)	BAR 4:3 (100%)		
	BAR 16:9 (75%)	BAR 16:9 (75%)	BAR 16:9 (75%)	BAR 16:9 (75%)	BAR 16:9 (75%)	BAR 16:9 (75%)		
	BAR 4:3 (75%)	BAR 4:3 (75%)	BAR 4:3 (75%)		BAR 4:3 (75%)	BAR 4:3 (75%)		
	SMPTE 16:9 (BLACK)	SMPTE 16:9 (BLACK)	SMPTE 16:9 (BLACK)	BAR 16:9 (75%)	SMPTE 16:9 (BLACK)	BAR 16:9 (75%)		
	SMPTE 16:9 (-I/Q)	SMPTE 16:9 (-I/Q)	SMPTE 16:9 (-I/Q)		SMPTE 16:9 (-I/Q)			
	SMPTE 4:3 (BLACK)	SMPTE 4:3 (BLACK)	SMPTE 4:3 (BLACK)		SMPTE 4:3 (BLACK)			
	SMPTE 4:3 (-I/Q)	SMPTE 4:3 (-I/Q)	SMPTE 4:3 (-I/Q)		SMPTE 4:3 (-I/Q)			
	MF-ARIB (75%)	MF-ARIB (75%)	MF-ARIB (75%)		MF-ARIB (75%)			
	MF-ARIB (100%)	MF-ARIB (100%)	MF-ARIB (100%)		MF-ARIB (100%)			
	MF-ARIB (+I)	MF-ARIB (+I)	MF-ARIB (+I)		MF-ARIB (+I)			
	MF-SMPTE (-I,Q)	MF-SMPTE (-I,Q)	MF-SMPTE (-I,Q)		MF-SMPTE (-I,Q)			
	MF-SMPTE (75%,Q)	MF-SMPTE(75%,Q)	MF-SMPTE (75%,Q)		MF-SMPTE (75%,Q)			
	MF-SMPTE (100%,Q)	MF-SMPTE (100%,Q)	MF-SMPTE (100%,Q)		MF-SMPTE (100%,Q)			
	MF-SMPTE (+I,Q)	MF-SMPTE (+I,Q)	MF-SMPTE (+I,Q)		MF-SMPTE (+I,Q)			
	HD-CUSTOM	HD-CUSTOM	HD-CUSTOM		HD-CUSTOM			
	HD-CUSTOM2	HD-CUSTOM2	HD-CUSTOM2		HD-CUSTOM2			
	SDI CHECK FIELD	SDI CHECK FIELD	SDI CHECK FIELD		SDI CHECK FIELD		SDI CHECK FIELD	SDI CHECK FIELD
	Y-RAMP	Y-RAMP	Y-RAMP		Y-RAMP		Y-RAMP	Y-RAMP
Y/C-RAMP	Y/C-RAMP	Y/C-RAMP	Y/C-RAMP		Y/C-RAMP		Y/C-RAMP	

MF CB	MODIFY , EVEN	Multi-format color bar settings
SLOPE	WIDE , NARROW	Chroma band settings for color bars
SD BAR	NTSC: SMPTE , EIA, FULL, 95%, NTSC100%, Y/C-RAMP, Y-RAMP PAL: SMPTE , EIA, EBU, 95%, PAL100%, Y/C-RAMP, Y-RAMP	SD output color bar setting
BAR CHARA	ON, OFF	Character superimposed on color bar signal

CCU CONFIGURATION

Page name Page No.	Item	Settings	Description
	2SI DIAMOND MARKER	<u>OFF</u> , ON	<p>Sets diamond mark superposition on the color bar for 4K 2 sample interleave output.</p> <p>4K 2SI diamond marks</p> <p>This function is for displaying a test pattern like the following in the area at the bottom right of the 4K color bar when 4K 2 sample interleave output. OK is displayed if the connections for Links 1 to 4 are correct, and OK is not displayed if they are incorrect. This function can be used to check the connections.</p>
			
	GRAY	<u>ON</u> , OFF	<p>ON: Gray screen output when camera power supply is off</p> <p>OFF: Color bar signal output when camera power supply is off</p>
<BAR CHARACTER> C02	BAR CHARACTER		Settings for strings 1 to 12 that are superimposed on the color bar signal
	<ALL CLEAR>		Execute to clear all character strings (Execute by ENTER)
<MONITOR 1> C03	CHARACTER		Bar character settings
	WHITE LEVEL	0.0 to 107.0% <u>71.5</u>	White level settings for bar character strings
	BLACK LEVEL	<u>0.0</u> to 107.0%	Black (font border color) level settings for bar character strings
	PIX CHARACTER		PIX output character settings
	WHITE LEVEL	<u>75.0</u> to 107.0%	White level settings for PIX output character strings
	BLACK LEVEL	<u>0.0</u> to 25.0%	Black (font border color) level settings for PIX output character strings

CCU CONFIGURATION			
Page name Page No.	Item	Settings	Description
<MONITOR 2> C04	LEVEL GATE	---, 1&2, 1, 2, OFF	1&2: Displays level gate 1 and 2 1: Displays level gate 1 2: Displays level gate 2 ---: Displayed when camera not connected, video output not set to CAMERA, or video output is set to CAMERA and GATE MARKER is ON (display only)
	Y LEVEL1	0 to 108% 49 61	Level gate 1 minimum and maximum detection levels settings
		-99 to 99 -25	Zebra level added to detection area
	Y LEVEL2	0 to 108% 74 108	Level gate 2 minimum and maximum detection levels settings
		-99 to 99 -25	Zebra level added to detection area
	GATE MARKER	---, ON, OFF	Gate signal display on/off settings ---: Displayed when camera not connected (display only)
		-99 to 99 0	Gate signal level settings
	MODULATION	---, ON, OFF	4:3 aspect ratio mask function on/off settings when EDGE CROP is ON ---: Displayed when camera not connected (display only)
		-99 to 99 0	Mask video level settings
	MARKER	ON, OFF	Marker signal on/off settings
4:3 , 13:9, 14:9, EU VISTA, VISTA, CINEMA, FOLLOW DC		Superimposed marker signal selection	
<MIC/AUDIO> C05	CAM MIC GAIN		Microphone gain settings
	CH1	---, 20, 30, 40, 50, 60 dB	Settings vary depending on microphones
	CH2	---, 20, 30, 40, 50, 60 dB	---: Displayed when camera not connected (display only)
	AUDIO OUTPUT		Audio output level settings
	CH1 LEVEL	-20, 0 , +4 dBu	CH1 output level settings
	CH2 LEVEL	-20, 0 , +4 dBu	CH2 output level settings
<INTERCOM> C06	CAMERA	(ENG/MIC ON), (PROD/MIC ON), (---/MIC OFF)	
	SYSTEM I/F	4WIRE , RTS, CLEAR COM	Intercom interface (D-sub 25-pin) settings
	CANCEL LVL	-99 to 99 0	Side tone cancellation level setting
	TERMINATION	(OFF) , ON, OFF	Connects to a 200 Ω terminator, if ON is selected while 2-wire intercom interface (RTS or CLEAR COM) is used (OFF): Displayed when 4WIRE is selected in SYSTEM I/F (display only)
	PGM INPUT	-20, 0 , +4 dBu	PGM input level settings

CCU CONFIGURATION			
Page name Page No.	Item	Settings	Description
<FRONT INCOM> C07		(MIC ON), (MIC OFF), (PGM ON)	CCU front panel MIC/PGM switch position (display only)
		(PROD), (ENG)	CCU front panel INTERCOM switch position (display only)
	INCOM MIC	CARBON, ECM, DYNAMIC	Headset microphone type connected to INTERCOM on the front panel CARBON: Carbon microphone (power supply, 20 dB gain) ECM: Electret condenser microphone (power supply, 40 dB gain) DYNAMIC: Dynamic microphone (no power supply, 60 dB gain)
	MIC TYPE	BALANCE, UNBALANCE	Headset microphone type connected to INTERCOM on the front panel BALANCE: Balanced microphone UNBALANCE: Unbalanced microphone
	MIC GAIN	-6dB, 0dB , +6dB	Input gain setting
	SIDE TONE	0 to 99 50	Side tone level settings
	PGM MIX	OFF , INCOM+PGM, L-INCOM/R-PGM	OFF: Signals are not mixed. INCOM+PGM: INCOM and PGM signals are mixed. L-INCOM/R-PGM: Outputs INCOM signal through the left channel and a PGM signal through the right
	PGM SEL	OFF, PGM , MIC1, MIC2, MIC1+MIC2	PGM output settings
	PGM LEVEL	0 to 99 50	PGM level settings
	<PROMPT/TRUNK> C08	TRUNK IF	232C , 422A, ----
HD PROMPTER		ENABLE, DISABLE	Displays HD teleprompter enable/disable
FRAME SYNC		ON, OFF	Frame synchronizer function on/off setting
HD TRUNK		(ENABLE), (DISABLE)	Displays HD trunk enable/disable
SUB CMD		OFF, TRUNK IF , -----	-----: Displayed when SUB CMD is disabled (not configurable)
<VIDEO SETUP> C09	SETUP	ON, OFF , --	ON: With VBS setup OFF: Without setup --: Displayed when format is PAL (display only)
	Q FILTER	NARROW , WIDE, --	Q FILTER bandwidth setting --: Displayed when format is PAL (display only)
<VIDEO ADJUST> C10	VBS		VBS output settings
	LEVEL	-99 to 99 0	VBS output level settings
	CHROMA	-99 to 99 0	Chroma settings for VBS output
	PIX		PIX output settings
	LEVEL	-99 to 99 0	PIX output level settings
	CHROMA	-99 to 99 0	Chroma settings for PIX output

CCU CONFIGURATION			
Page name Page No.	Item	Settings	Description
<MENU SETTINGS> C11	RESUME	ON , OFF	In menu mode, resume display of previously displayed page function
	RE DIRECTION		CONTROL knob operating mode settings
	CATEGORY	STD , RVS	STD : CONTROL knob clockwise rotation moves the CCU MENU pointer (➡) down RVS : CONTROL knob counterclockwise rotation moves the CCU MENU pointer (➡) down
	PAGE	STD , RVS	STD : CONTROL knob clockwise rotation displays the next page in the menu RVS : CONTROL knob counterclockwise rotation displays the next page in the menu
	ITEM	STD , RVS	STD : CONTROL knob clockwise rotation moves the pointer (➡) down to the next item on the page RVS : CONTROL knob counterclockwise rotation moves the pointer (➡) down to the next item on the page
	DATA	STD , RVS	STD : CONTROL knob clockwise rotation selects the next data option RVS : CONTROL knob counterclockwise rotation selects the next data option
<DISPLAY> C12 Camera messages and switch settings display on/off. Displayed on the camera settings screen.	MESSAGE	ALL , WARNING, OFF	ALL : Displays all messages. WARNING : Displays system warning messages and menu control messages OFF : Displays only menu control messages
	ALARM JUMP	ON, OFF	In menu mode, jump to display page if an error occurs function
	MASTER GAIN	ON , OFF	Displays or hides the master gain indication
	ECS/SHUTTER	ON , OFF	Displays or hides the ECS/shutter indication
	ND FILTER	ON , OFF	Displays or hides the ND filter indication
	CC FILTER	ON , OFF	Displays or hides the CC filter indication
	IRIS	ON , OFF	Displays or hides the IRIS indication
	EXTENDER	ON , OFF	Displays or hides the EXTENDER indication
<DATE> C13	DATE/TIME	20YY/MM/DD hh:mm	Date and time settings (24-hour format)
	TIME ZONE	hh:mm -11h 59m to +11h 59m	Time zone setting
<OTHERS> C14	REAR PREVIEW	MOMENTARY , TOGGLE	REMOTE device preview operation switching MOMENTARY : Display preview while PREVIEW button on REMOTE device is pressed TOGGLE : Toggle preview on/off when the PREVIEW button on REMOTE device is pressed
	LASER DIODE ON BACKUP	ENABLE, OFF	ENABLE : Retains the state of LASER DIODE on the <OUTPUT SELECT> S01 page even if the CCU is turned off OFF : The CCU starts up with LASER DIODE on the <OUTPUT SELECT> page set to OFF
	CAM MENU	ON , OFF	

CCU CONFIGURATION

Page name Page No.	Item	Settings	Description
<FRONT PANEL 1> C15	ASSIGNABLE/CUSTOM		
	SW1	NOT ASSIGN , GAMMA OFF, DTL OFF, SD DTL OFF, BLK GAMMA, KNEE OFF, AUTO KNEE, 5600K, CAM POWER, LASER ON, TLCS, ND, CC, D.EX, SLS, SDR GAIN	Front Panel SW1 button assignment
	SW2	NOT ASSIGN , GAMMA OFF, DTL OFF, SD DTL OFF, BLK GAMMA, KNEE OFF, AUTO KNEE, 5600K, CAM POWER, LASER ON, TLCS, ND, CC, D.EX, SLS, SDR GAIN	Front Panel SW2 button assignment
	VOLUME	NOT ASSIGN , HD GAMMA, SD GAMMA, DTL LEVEL, HD DTL LEVEL, 4K DTL LEVEL, SD DTL LEVEL, BLK GAMMA, HDR BLK OFFSET	Front Panel CUSTOM knob assignment
	VOLUME MODE		
	IRIS	REL, ABS	IRIS knob operating mode REL : Relative value mode ABS : Absolute value mode
	M BLACK	REL , ABS	MASTER BLACK knob operating mode REL : Relative value mode ABS : Absolute value mode
	R/B BLACK	REL/BLACK , ABS/BLACK, REL/FLARE, ABS/FLARE	BLACK/FLARE knob function and operating mode REL/BLACK : BLACK (relative value mode) ABS/BLACK : BLACK (absolute value mode) REL/FLARE : FLARE (relative value mode) ABS/FLARE : FLARE (absolute value mode)
	R/B WHITE	REL , ABS	WHITE knob operating mode REL : Relative value mode ABS : Absolute value mode

CCU CONFIGURATION

Page name Page No.	Item	Settings	Description
<FRONT PANEL 2> C16	VOLUME REL COEFF		
	IRIS	1/1, <u>1/2</u> , 1/4	Relative coefficient when the IRIS knob is set to relative value mode 1/1: Variable range roughly 100% of total variation 1/2: Variable range roughly 50% of total variation 1/4: Variable range roughly 25% of total variation
	M BLACK	1/1, 1/2, <u>1/4</u>	Relative coefficient when the MASTER BLACK knob is set to relative value mode 1/1: Variable range roughly 100% of total variation 1/2: Variable range roughly 50% of total variation 1/4: Variable range roughly 25% of total variation
	R/B BLACK	1/1, <u>1/2</u> , 1/4, (FLARE)	Relative coefficient when the BLACK/FLARE knob is set to relative value mode 1/1: Variable range roughly 100% of total variation 1/2: Variable range roughly 50% of total variation 1/4: Variable range roughly 25% of total variation (FLARE): Displayed when the BLACK/FLARE knob is assigned to the FLARE function (display only)
	R/B WHITE	1/1, 1/2, <u>1/4</u>	Relative coefficient selection when the WHITE knob is set to relative value mode 1/1: Variable range roughly 100% of total variation 1/2: Variable range roughly 50% of total variation 1/4: Variable range roughly 25% of total variation
	CUSTOM	1/1, <u>1/2</u> , 1/4	Relative coefficient when the CUSTOM knob is set to relative value mode 1/1: Variable range roughly 100% of total variation 1/2: Variable range roughly 50% of total variation 1/4: Variable range roughly 25% of total variation
	SW BRIGHT	NORMAL , LOW	Front panel button lights LED brightness
<FRONT PANEL 3> C17	(LOCK TARGET)	AWB: ON , OFF ABB: ON , OFF ATW: ON , OFF BARS: ON , OFF CALL: ON, OFF PANEL: ON, OFF A-SW1: ON , OFF A-SW2: ON , OFF INCOM: ON , OFF STANDARD: ON , OFF IRIS AT: ON , OFF SHUT-ECS: ON , OFF SHUT: ON , OFF GAIN-U/D: ON , OFF SHUT-U/D: ON , OFF PRST WHT: ON , OFF VOLUME: ON , OFF MENU: ON , OFF	Allows you to specify buttons on the front panel to be locked.

NETWORK SETTINGS menu

NETWORK SETTINGS			
Page name Page No.	Item	Settings	Description
<TCP/IP SETTING> N01	IP ADDRESS	<u>0.0.0.0</u> to 255.255.255.255	Displays IP address
	SUBNET MASK	<u>0.0.0.0</u> to 255.255.255.254	Displays subnet mask
	DEFAULT GATEWAY	<u>0.0.0.0</u> to 255.255.255.255	Displays default gateway
	SET		A "SET OK?" message is displayed. Press ENTER again to confirm the change. (Execute by ENTER)
<LAN SETTINGS> N02	AUTO NEGOTIATION	<u>ON</u> , OFF	Select whether to automatically set the connection speed and communication system according to the device connected.
	CONNECTION SPEED	10M, <u>100M</u>	Connection speed selection 10M: 10BASE-TX 100M: 100BASE-TX Available only when OFF is selected in AUTO NEGOTIATION
	DUPLEX MODE	HALF, <u>FULL</u>	Communication system selection HALF: Half-duplex communication FULL: Full-duplex communication Available only when OFF is selected in AUTO NEGOTIATION
	LINK CONDITION	(DOWN), (UP)	Displays connection status (display only) (DOWN): Connection failure (UP): Connection successful
	SET		A "SET OK?" message is displayed. Press ENTER again to confirm the change. (Execute by ENTER)
<CNS SETTINGS> N03	CNS MODE	<u>LEGACY</u> , BRIDGE, PC CONTROL, MCS	Network connection mode selection LEGACY: External controller connected using CCA-5 cable only BRIDGE: External controller connected using point-to-point LAN cable PC CONTROL: HZC-RCP5 connected using LAN cable MCS: Mode for control via LAN cable from a camera network master device, such as a master setup unit (for example, MSU-1000)
	CCU NO	<u>0</u> to 96, A to Z	CCU number settings 0 to 24 when CNS MODE is set to MCS
	MASTER IP ADDRESS	<u>0.0.0.0</u> to 255.255.255.255	Displays the PC IP address in PC CONTROL mode
<NETWORK RESET> N04	ALL RESET		A "NET SETTINGS RESET OK?" message is displayed. Press ENTER again to reset NETWORK SETTINGS menu items to factory default values. (Execute by ENTER)

Appendix

Notes on Use

Use and storage locations

Avoid using or storing the unit in the following places:

- Where it is subject to extremes of temperature (operating temperature: 5 °C to 40 °C (41 °F to 104 °F)).
- Note that in summer the temperature in a car with the windows closed can reach 50 °C (122 °F).
- Very damp or dusty places.
- Where rain is likely to reach the unit.
- Places subject to severe vibration.
- Near strong magnetic fields.
- Near transmitting stations generating strong radio waves.

On condensation

If the unit is suddenly taken from a cold to a warm location, or if ambient temperature suddenly rises, moisture may form on the outer surface of the unit and/or inside of the unit. This is known as condensation. If condensation occurs, turn off the unit and wait until the condensation clears before operating the unit. Operating the unit while condensation is present may damage the unit.

Parts with limited life span

- The fan and battery are consumable parts that will need periodic replacement.
When operating at room temperature, a normal replacement cycle will be about 5 years. However, this replacement cycle represents only a general guideline and does not imply that the life expectancy of these parts is guaranteed. For details on parts replacement, contact your dealer.
- The life expectancy of the electrolytic capacitor is about 5 years under normal operating temperatures and normal usage (8 hours per day; 25 days per month).
If usage exceeds the above normal usage frequency, the life expectancy may be reduced correspondingly.

About network security

- SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND RESULTING FROM A FAILURE TO IMPLEMENT PROPER SECURITY MEASURES ON TRANSMISSION DEVICES, UNAVOIDABLE DATA LEAKS RESULTING FROM TRANSMISSION SPECIFICATIONS, OR SECURITY PROBLEMS OF ANY KIND.
- Depending on the operating environment, unauthorized third parties on the network may be able to access the unit.
When connecting the unit to the network, be sure to confirm that the network is protected securely.

Avoid violent impacts

Dropping the unit, or otherwise imparting a violent shock to it, is likely to cause it to malfunction.

Do not cover with cloth

While the unit is in operation, do not cover it with a cloth or other material. This can cause the temperature to rise, leading to a malfunction.

After use

Set the POWER switch on the unit to the OFF position.

Care

If the body or panels of the unit become dirty, wipe them with a dry cloth. For severe dirt, use a soft cloth steeped in a small amount of neutral detergent, then wipe dry. Do not use volatile solvents such as alcohol or thinners, as these may damage the finish.

To prevent electromagnetic interference from portable communications devices

The use of portable telephones and other communications devices near this unit can result in malfunctions and interference with audio and video signals.

It is recommended that the portable communications devices near this unit be powered off.

About Transmission Distance

Unit and HD color camera

The HXC-FB80/FB75/E75/P70 can be supplied with power via an optical composite cable¹⁾.

The transmission distance varies depending on the total power consumption of the connected peripherals.

The maximum transmission distance for the HXC-FB80/FB75/E75 with portable lens and HDVF-L750 attached is 600 m (1,970 ft).

The maximum transmission distance for the HXC-P70 with portable lens attached is 1,000 m (3,280 ft).

Unit and HD camera adaptor

The unit and the CA-FB70 HD Camera Adaptor can be supplied with power via an optical composite cable¹⁾.

The maximum transmission distance is 250 m (820 ft), but varies depending on the total power consumption of the connected peripherals (camera/camcorder, camera adaptor, and viewfinder).

When you use a single-mode optical fiber cable, transmission distance can be extended up to 10 km (32,800 ft). The maximum extension distance depends on the characteristics of the cable and the number of connected cables.

1) Sony CCFN-25/50/100/150/200/250 Hybrid Fiber Cable and Sony CCFN-JC1 Joint Adaptor used.

Error Messages

When an error is detected in the unit or the camera, the ALARM indicator turns on and an error message is displayed on the unit.

Error message	Description
CCU: GEN LOCK NG	External reference sync error
CCU: DPR NG	Front DPR board power supply, PLD error
CCU: PS FAN NG	Power supply block fan error
CCU: PS CABLE OPEN	CAMERA connector camera open circuit error
CCU: PS RCP PWR SUPPLY NG	Remote control panel (connected to REMOTE connector) power supply error
CCU: AT NG	Front AT board power supply, PLD error
CCU: RX WARNING	Reception level of optical signal is low
CCU: CAM NEEDS VER.UP.	When HDR MODE is set to LIVE HDR on the unit, this indicates an HXC-FB80 running software version 1.00.
CCU: SET HDR MODE OFF	When HDR MODE is set to LIVE HDR on the unit, this indicates a camera or camcorder that does not support HDR.

Specifications

General	
Power requirements	100 to 240 V AC, 50/60 Hz
Current consumption	2.2 A (max)
Operating temperature	5 °C to 40 °C (41 °F to 104 °F)
Storage temperature	-20 °C to +60 °C (-4 °F to +140 °F)
Mass	Approx. 6.2 kg (13 lb 11 oz)
Input/output connectors	
CAMERA	Optical composite connector (1)
INTERCOM	XLR 5-pin (1)
INTERCOM/TALLY/PGM	D-sub 25-pin, female (1) INTERCOM (PROD, ENG), 4W/RTS/CC, 0 dBu PGM 1 system, -20 dBu/0 dBu/+4 dBu TALLY (R, G) PREVIEW
REMOTE	8-pin multiconnector (1)
TRUNK	D-sub 9-pin, female (1), RS-232C/RS-422A 1 system
LAN	8-pin (1)

REFERENCE IN/OUT	BNC type (2), loop-through output HD: SMPTE 274M, tri-level sync, 0.6 Vp-p, 75 Ω SD: Black burst (NTSC: 0.286 Vp-p, 75 Ω PAL: 0.3 Vp-p, 75 Ω)
------------------	---

PROMPTER IN/OUT	BNC type (2), loop-through output, VBS signal, 1.0 Vp-p, 75 Ω, 1 system
-----------------	---

Input connectors

AC IN	(1), 100 to 240 V AC
-------	----------------------

RETURN INPUT VBS1, VBS2	BNC type (2), 1.0 Vp-p, 75 Ω, 2 systems
-------------------------	---

RETURN INPUT SDI1, SDI2	BNC type (2) HD SDI: SMPTE ST292-1, 1.485 Gbps/1.4835 Gbps SD SDI: SMPTE 259M, 270 Mbps
-------------------------	---

HD PROMPTER	BNC type (2) HD SDI: SMPTE ST292-1, 1.485 Gbps/1.4835 Gbps
-------------	---

Output connectors

SLOT1	BNC type (4) SDI OUTPUT (HD/SD) 1 to 4 HD SDI: SMPTE ST292-1, 0.8 Vp-p, 75 Ω SD SDI: SMPTE 259M, 0.8 Vp-p, 75 Ω HD SDI/SD SDI selectable
-------	--

SLOT2	BNC type (4) SDI OUTPUT (4K/3G/HD TRUNK) OUTPUT 1 to 4 4K/3G SDI 1 to 4: SMPTE ST425-5, Level-A/B, 0.8 Vp-p, 75 Ω, 2160/59.94p, 2160/50p, 1080/59.94p, 1080/50p 4K/12G SDI 1, 2: SMPTE ST2082-1, 0.8 Vp-p, 75 Ω, 2160/59.94p, 2160/50p HD 3G SDI: SMPTE ST425-1, 0.8 Vp-p, 75 Ω, 1080/59.94p, 1080/50p HD SDI 3, 4: SMPTE ST292-1 HD TRUNK: 1080/59.94i, 1080/50i, 0.8 Vp-p, 75 Ω 4K/3G/HD TRUNK selectable
-------	--

VBS1, 2	BNC type (2), VBS 1.0 Vp-p, 75 Ω
---------	----------------------------------

PIX	BNC type (1), VBS/R/G/B (VBS 1.0 Vp-p, 75 Ω)
-----	--

SYNC	BNC type (1) HD: BTA-S001A, tri-level sync, 0.6 Vp-p, 75 Ω SD: Composite sync, 0.3 Vp-p, 75 Ω HD SYNC/SD SYNC selectable
------	---

AUDIO OUTPUT CH-1, CH-2	XLR 3-pin, male (2), 0 dBu/-20 dBu
-------------------------	------------------------------------

Supplied accessories

Number plates (1 set)

Operating Instructions (CD-ROM)

Before Using This Unit (1 set)

Warranty booklet (1)

Optional accessories

United States and Canada: Plug holder B (2-990-242-01)

Other areas: Plug holder C (3-613-640-01)

United States and Canada: Power cord set (1-551-812-XX)

Other areas: Power cord set (1-782-929-XX)

CCA-5-3 (3 m), CCA-5-10 (10 m) connection cables

CCFN-25/50/100/150/200/250 Hybrid Fiber Cable

CCFN-JC1 Joint Adaptor

Service manual

Related equipment

HXC-FB80 HD Color Camera

HXC-FB75/E75 HD Color Camera

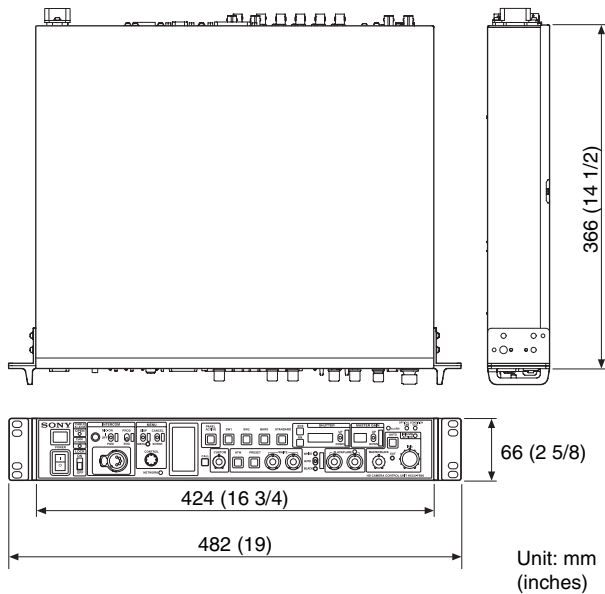
HXC-P70 HD Color Camera

CA-FB70 HD Camera Adaptor

HXCE-FB70 Power Supply Unit

RCP-1000-series Remote Control Panel

Dimensions



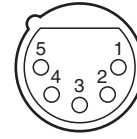
Design and specifications are subject to change without notice.

Note

Always verify that the unit is operating properly before use. SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION OR REIMBURSEMENT ON ACCOUNT OF THE LOSS OF PRESENT OR PROSPECTIVE PROFITS DUE TO FAILURE OF THIS UNIT, EITHER DURING THE WARRANTY PERIOD OR AFTER EXPIRATION OF THE WARRANTY, OR FOR ANY OTHER REASON WHATSOEVER.

Pin Assignment

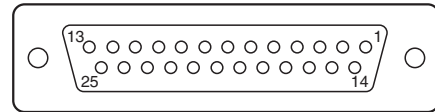
INTERCOM connector



No.	Signal	Specifications
1	INTERCOM MIC IN (Y)/(GND) ^{a)}	-20 dBu (CARBON) -40 dBu (ECM)
2	INTERCOM MIC IN (X)	-60 dBu (DYNAMIC, BALANCE/ UNBALANCE)
3	GND	GND
4	INTERCOM L OUT	
5	INTERCOM R OUT	

a) When the signal is unbalanced, connect the GND signal of the microphone to pin 1.

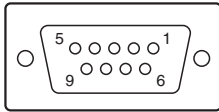
INTERCOM/TALLY/PGM connector



No.	Signal	Specifications
1	ENG (R) (X) OUT	ENG SYSTEM RECEIVE 0 dBu BALANCED
2	ENG (R) (Y) OUT	
3	ENG (G)	GND for ENG
4	ENG (T) (X) IN	ENG SYSTEM TALK 0 dBu BALANCED
5	ENG (T) (Y) IN	
6	PGM1 (X) IN	-20 dBu/0 dBu/+4 dBu (Selectable in the menu)
7	PGM1 (Y) IN	
8	PGM1 (G) IN	
9	GND	GND for TALLY OUT
10	PREVIEW OUT	OPEN COLLECTOR (Max. 30 mA)
11	R TALLY (X) IN	ON: SHORT
12	R TALLY (G) IN	OFF: OPEN
13	GND	CHASSIS GND
14	PROD (R) (X) OUT	PROD SYSTEM RECEIVE 0 dBu BALANCED
15	PROD (R) (Y) OUT	
16	PROD (G)	GND for PROD
17	PROD (T) (X) IN	PROD SYSTEM TALK 0 dBu BALANCED
18	PROD (T) (Y) IN	
19	NC	
20	NC	
21	GND	CHASSIS GND
22	R-TALLY OUT	OPEN COLLECTOR (Max. 30 mA)
23	G-TALLY OUT	

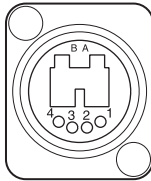
No.	Signal	Specifications
24	G TALLY (X) IN	ON: SHORT OFF: OPEN
25	G TALLY (G) IN	

TRUNK connector



No.	Signal	Specifications
1	NC	
2	<ul style="list-style-type: none"> RX IN (RS-232C) RX1(-) IN (RS-422A) 	<ul style="list-style-type: none"> TRUNK RX (RS-232C) TRUNK RX(-) (RS-422A)
3	<ul style="list-style-type: none"> TX OUT (RS-232C) TX1(-) OUT (RS-422A) 	<ul style="list-style-type: none"> TRUNK TX (RS-232C) TRUNK TX(-) (RS-422A)
4	NC	
5	GND	
6	NC	
7	TX1(+) OUT (RS-422A)	TRUNK TX(+) (RS-422A)
8	RX1(+) IN (RS-422A)	TRUNK RX(+) (RS-422A)
9	NC	

CAMERA connector



No.	Signal
A	Optical INPUT
B	Optical OUTPUT
1	DC OUT (-)
2	NC
3	NC
4	DC OUT (+)
Shell	Chassis GND

<http://www.sony.net/>

Sony Corporation