SONY

4-734-401-**12** (1)

HD Color Camera

Operating Instructions

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

HXC-FB80

Exmor
FULL HD 3CMOS

Table of Contents

Overview

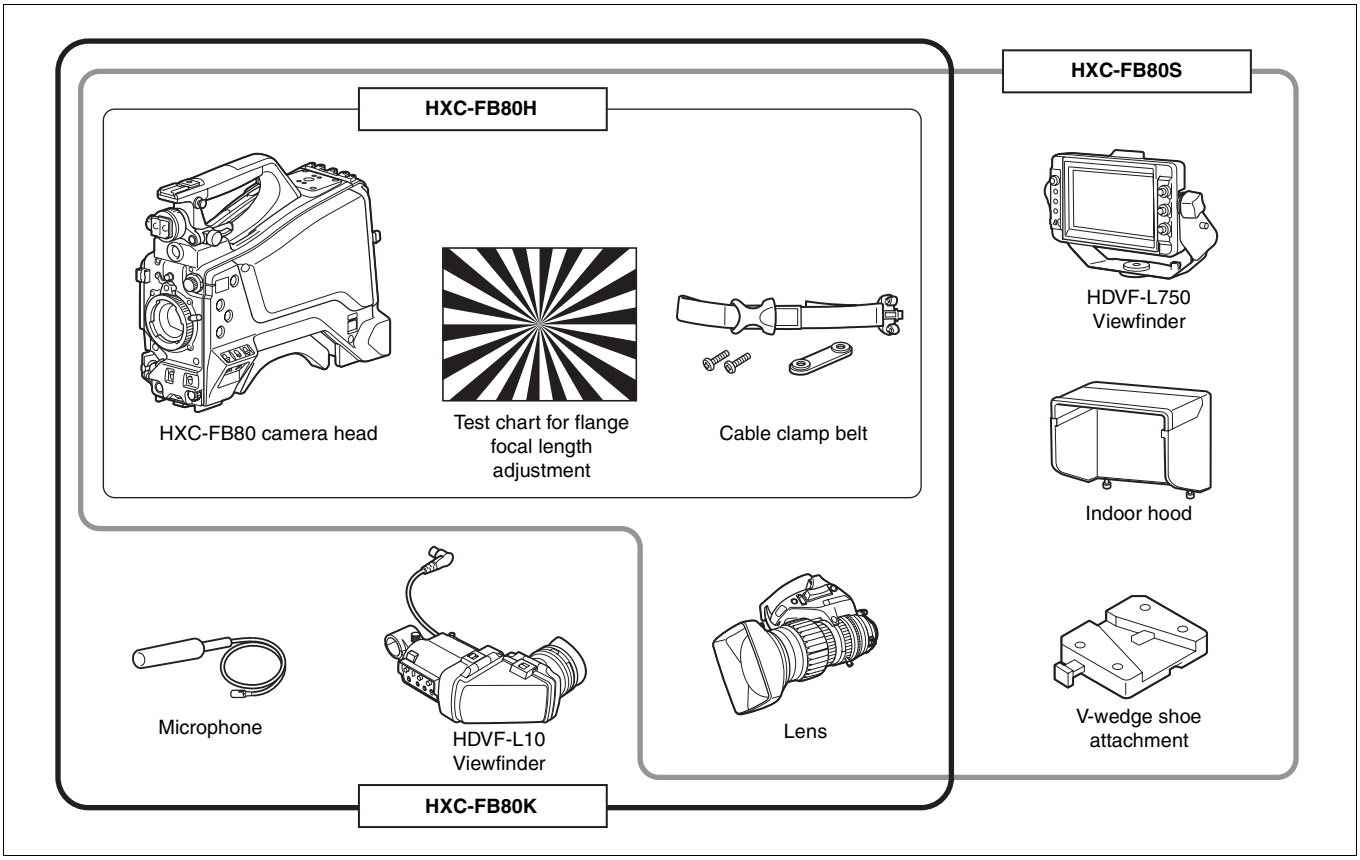
The HXC-FB80 HD Color Camera employs a 2/3-inch type “Exmor” CMOS image sensor that achieves a high sensitivity of F12 (1080/59.94i)/F13 (1080/50i) and high S/N ratio of 60 dB. Full HD progressive is also supported at 59.94/50P frame rates.
You can use this unit as a studio camera by connecting it to an HXCU-FB80 or HXCU-FB70 Camera Control Unit (CCU) using a fiber cable. 4K (3840×2160) upscaled signal output or HD-HDR signal (HLG) output from the HXCU-FB80 is supported when used in conjunction with the HXCU-FB80.

Note

The version of the unit and the HXCU-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.

Camera System Components

The HXC-FB80 camera system comprises the components shown in the figure below.
The operation of the camera head is the same for all models.



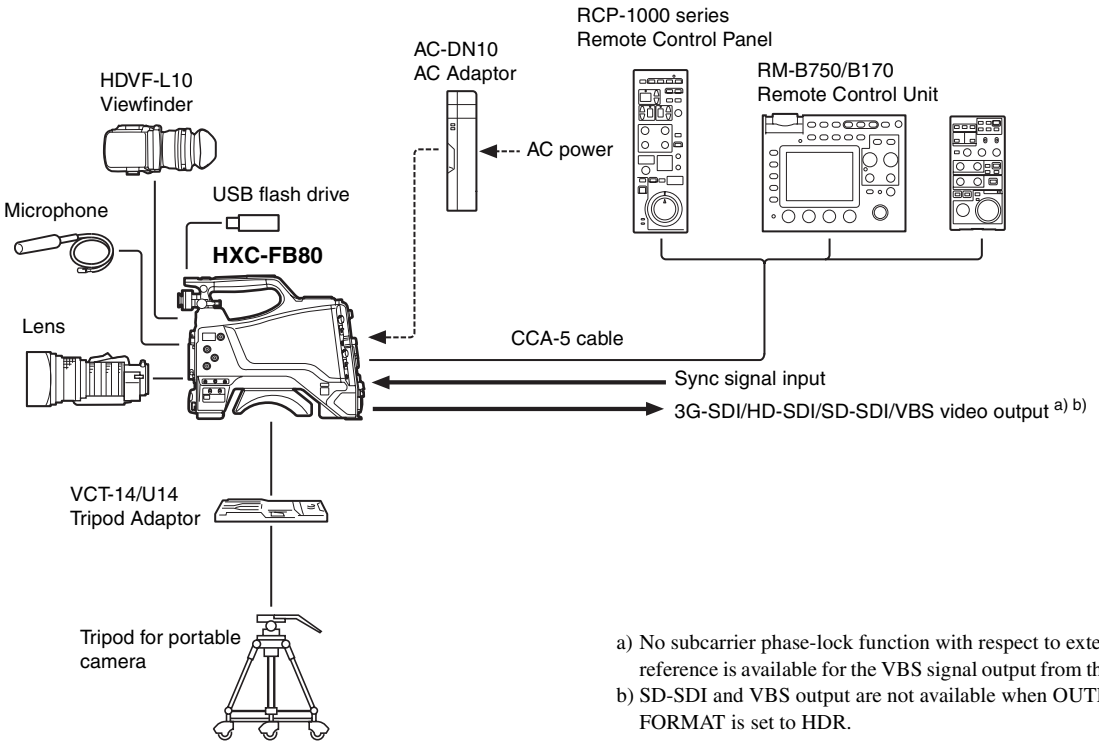
System Configuration

Peripherals and related devices for the camera are shown in the figures.

Note

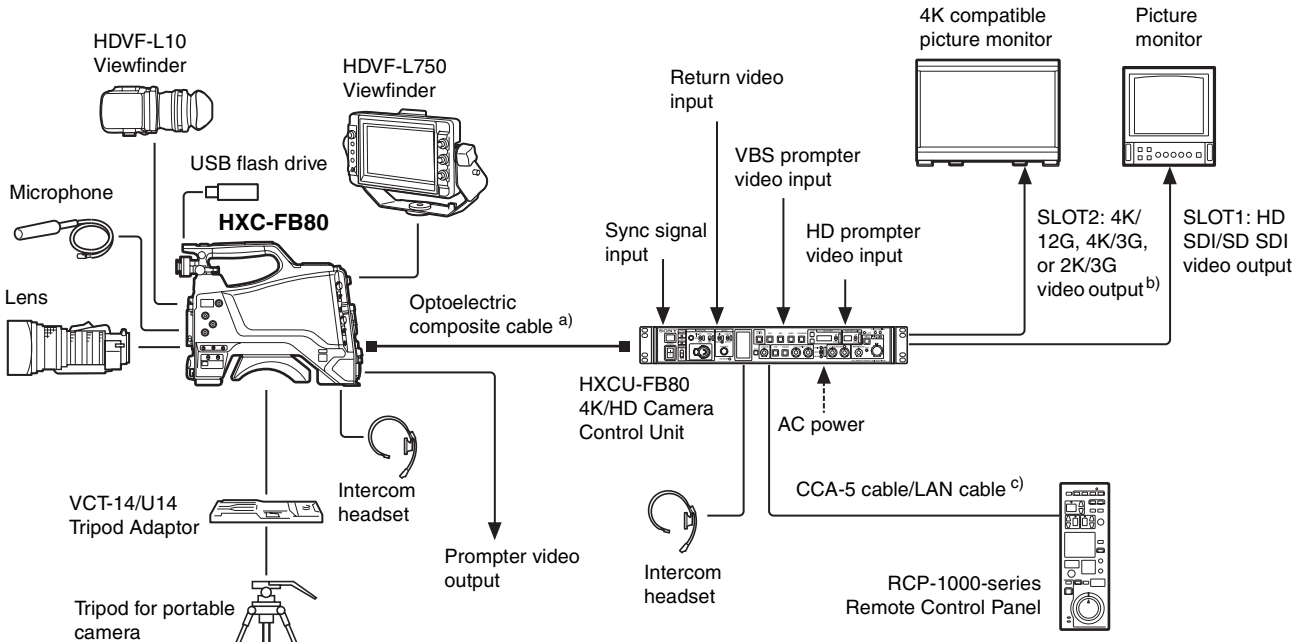
Production of some of the peripherals and related devices shown in the figures may have been discontinued. For advice on choosing devices, please contact your Sony dealer or a Sony service representative.

Standalone operation example



a) No subcarrier phase-lock function with respect to external reference is available for the VBS signal output from the camera.
b) SD-SDI and VBS output are not available when OUTPUT FORMAT is set to HDR.

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

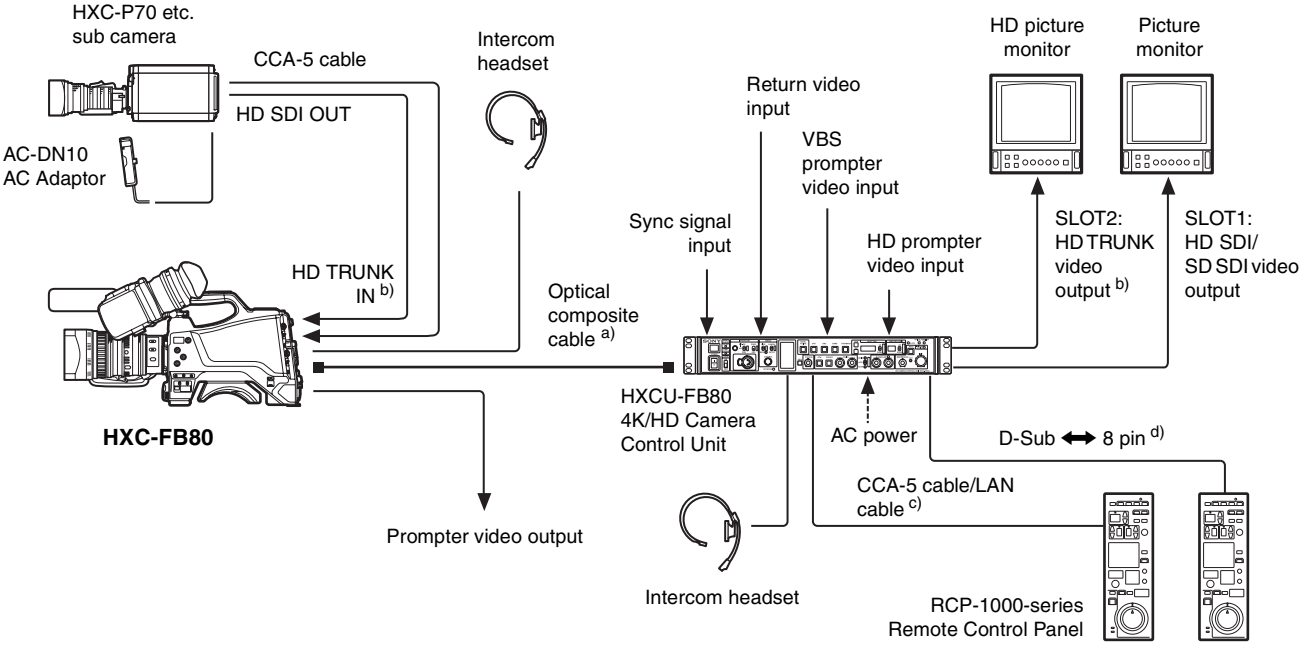


a) The maximum transmission distance is approximately 600 m (1,150 ft) when using Sony CCFN-25/50/100/150/200/250 Hybrid Fiber Cable (with camera head + portable lens + HDVF-L750).

b) 4K/3G output and 2K/3G output are not supported at the same time.

c) A LAN cable can be used only to connect the RCP-1500/1501/1530. To connect it, power needs to be supplied via a PoE hub or power needs to be supplied to the EXT DC IN connector of the RCP-1500/1501/1530.

When sub camera is connected (connection with HXCU-FB80)



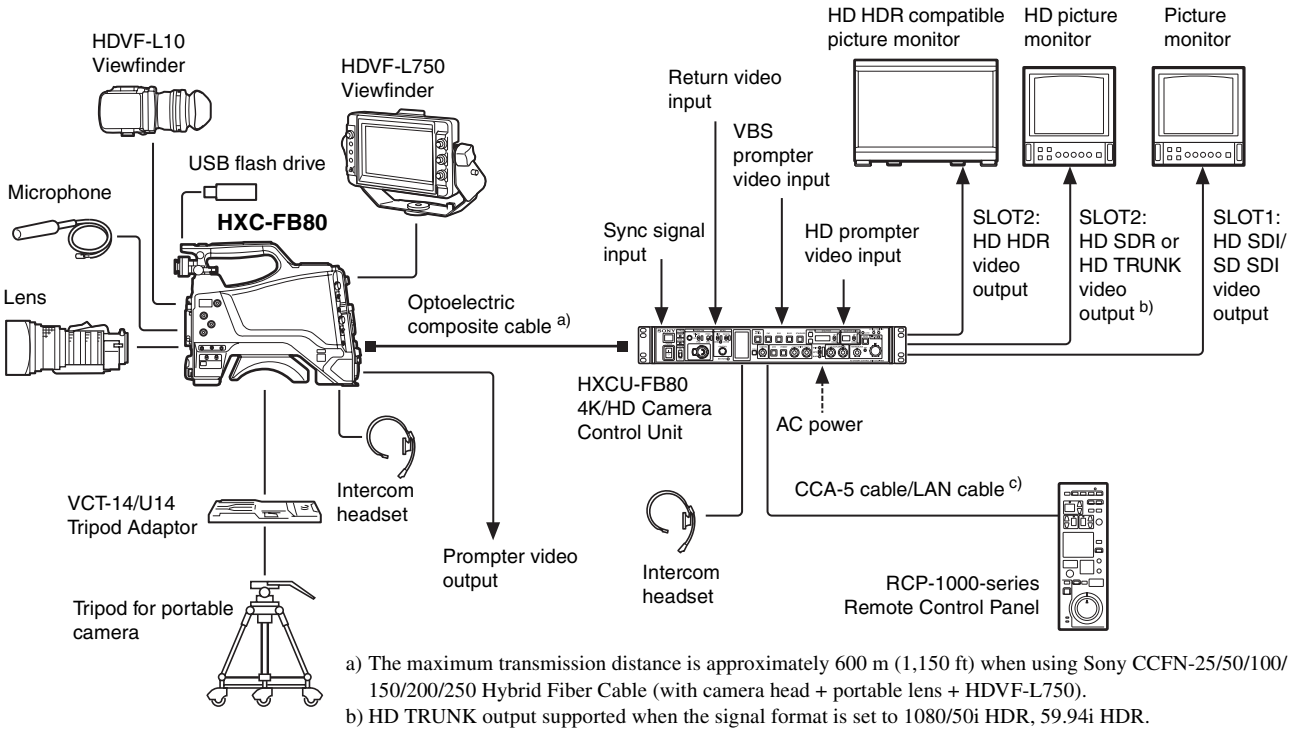
a) The maximum transmission distance is 600 m (1,970 ft) when Sony CCFN-25/50/100/150/200/250 Hybrid Fiber Cable is used.

b) Operation supported when the signal format is not set to 1080/50P, 59.94P.

c) LAN cable connection is supported only for RCP-1500/1501/1530. Power must be supplied via a PoE hub or power supply must be connected to EXT DC IN connector of RCP-1500/1501/1530.

d) For details about a D-Sub remote adapter, contact a Sony service representative.

HD HDR and HD SDR signal operation (connection with HXCU-FB80)

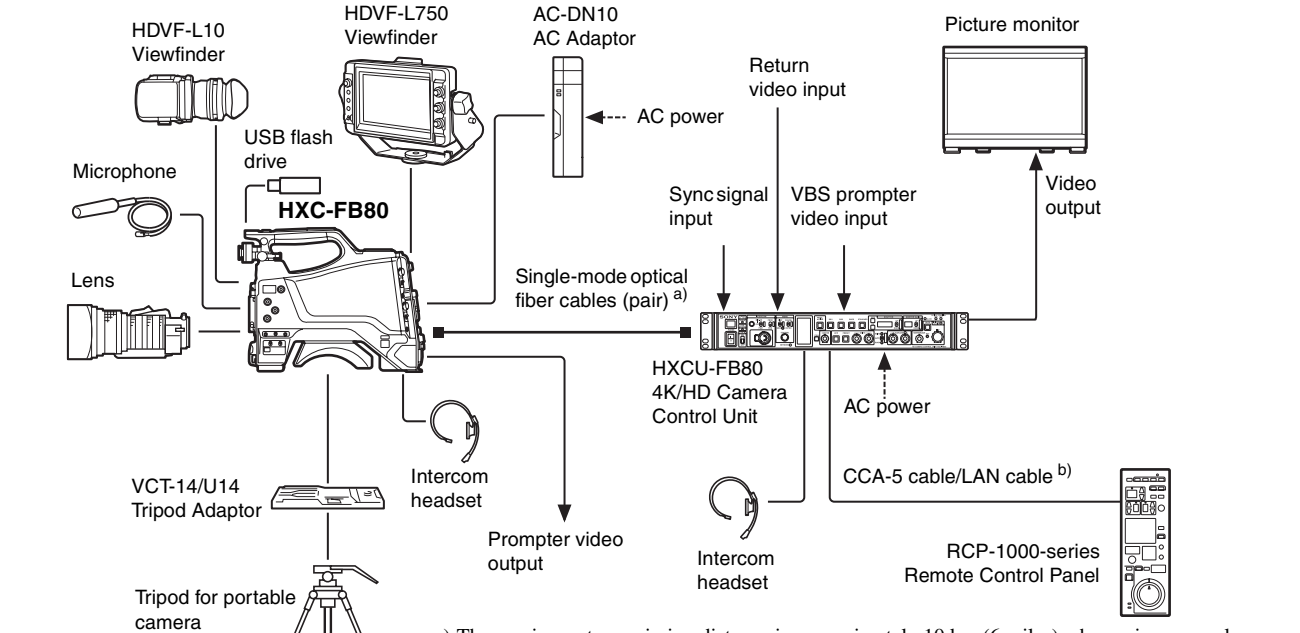


a) The maximum transmission distance is approximately 600 m (1,150 ft) when using Sony CCFN-25/50/100/150/200/250 Hybrid Fiber Cable (with camera head + portable lens + HDVF-L750).

b) HD TRUNK output supported when the signal format is set to 1080/50i HDR, 59.94i HDR.

c) A LAN cable can be used only to connect the RCP-1500/1501/1530. To connect it, power needs to be supplied via a PoE hub or power needs to be supplied to the EXT DC IN connector of the RCP-1500/1501/1530.

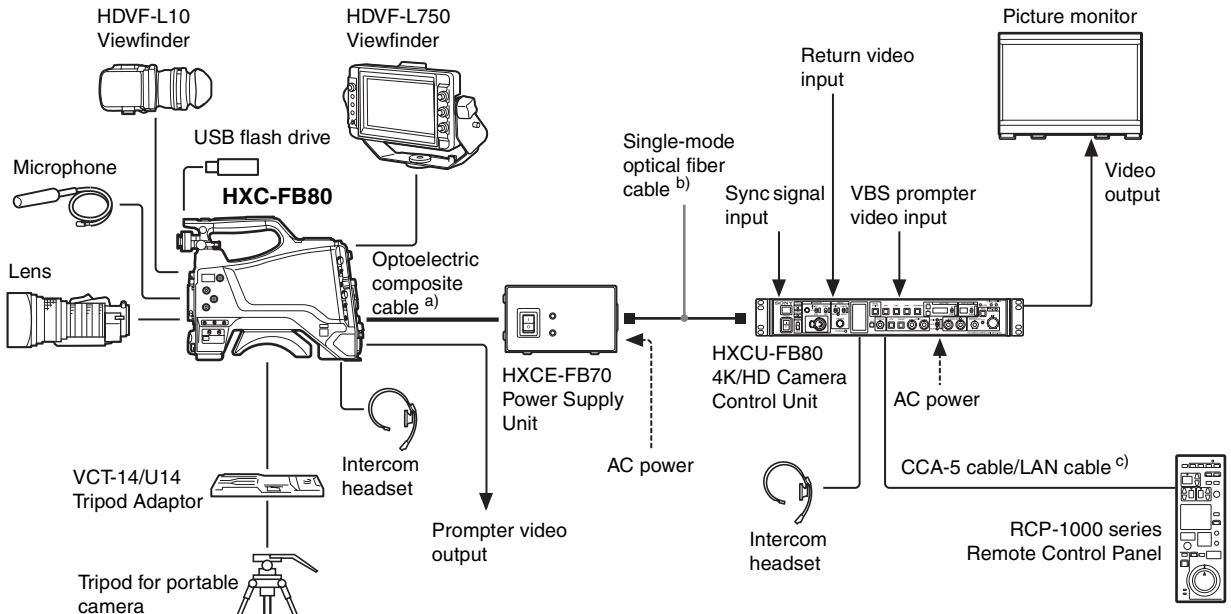
System operation example: When connected using single-mode optical fiber cables



a) The maximum transmission distance is approximately 10 km (6 miles) when using general-purpose single-mode fiber cables with LC connectors.

b) A LAN cable can be used only to connect the RCP-1500/1501/1530. To connect it, power needs to be supplied via a PoE hub or power needs to be supplied to the EXT DC IN connector of the RCP-1500/1501/1530.

System operation example: When connected with HXCE-FB70 Power Supply Unit

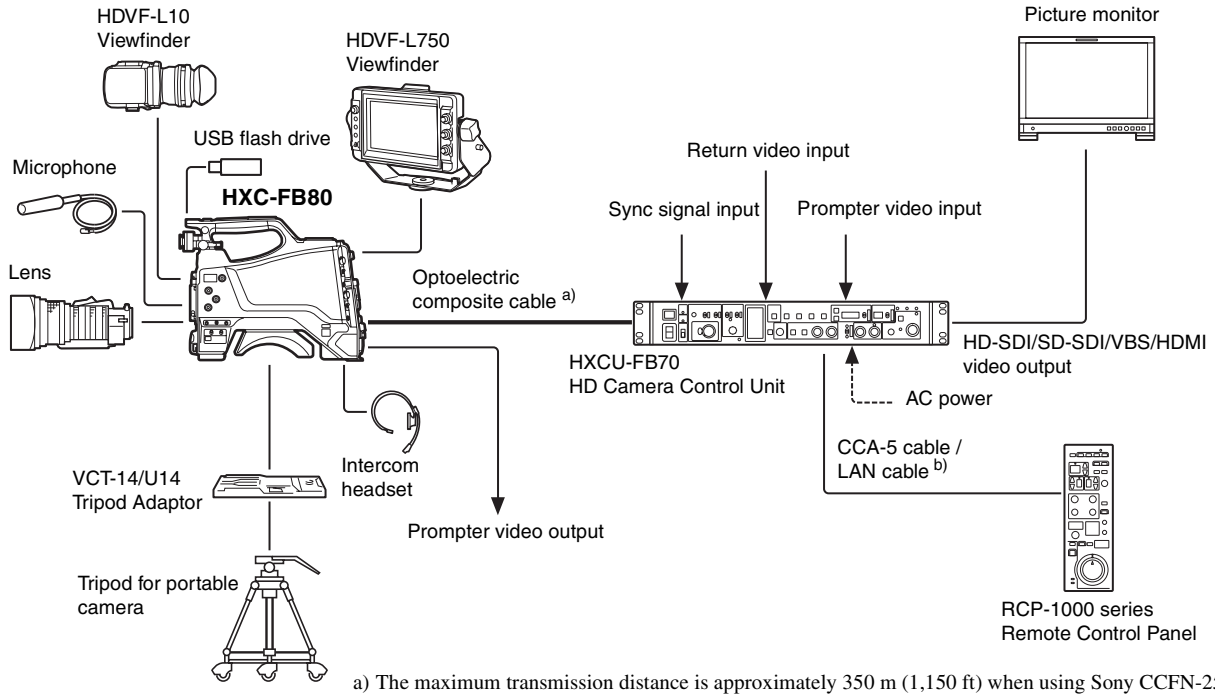


a) The maximum transmission distance is approximately 350 m (1,150 ft) when using Sony CCFN-25/50/100/150/200/250 Hybrid Fiber Cable (with camera head + portable lens).

b) The maximum transmission distance is approximately 10 km (6 miles) when using general-purpose single-mode fiber cables with LC connectors.

c) A LAN cable can be used only to connect the RCP-1500/1501/1530. To connect it, power needs to be supplied via a PoE hub or power needs to be supplied to the EXT DC IN connector of the RCP-1500/1501/1530.

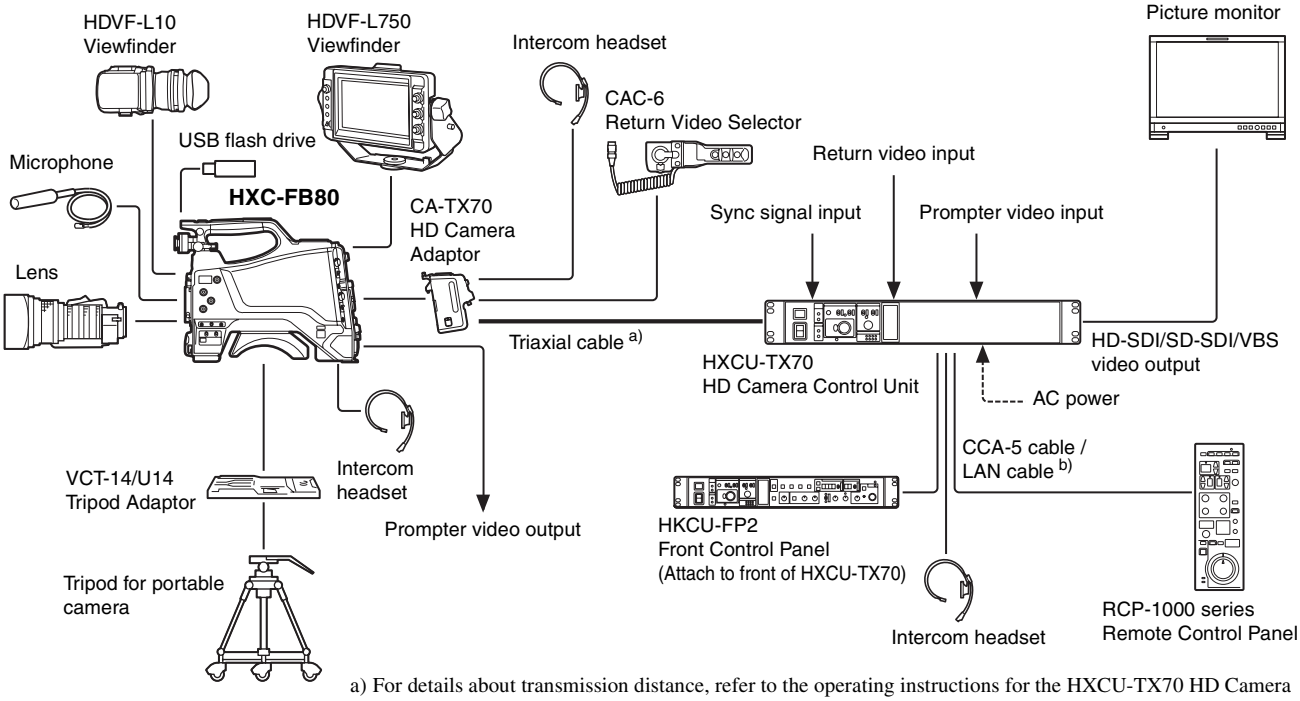
System operation example: When connected using an optoelectric composite cable (connection with HXCU-FB70)



a) The maximum transmission distance is approximately 350 m (1,150 ft) when using Sony CCFN-25/50/100/150/200/250 Hybrid Fiber Cable (with camera head + portable lens + HDVF-L750).

b) A LAN cable can be used only to connect the RCP-1500/1501/1530. To connect it, power needs to be supplied via a PoE hub or power needs to be supplied to the EXT DC IN connector of the RCP-1500/1501/1530.

System operation example: When connected using a triaxial cable



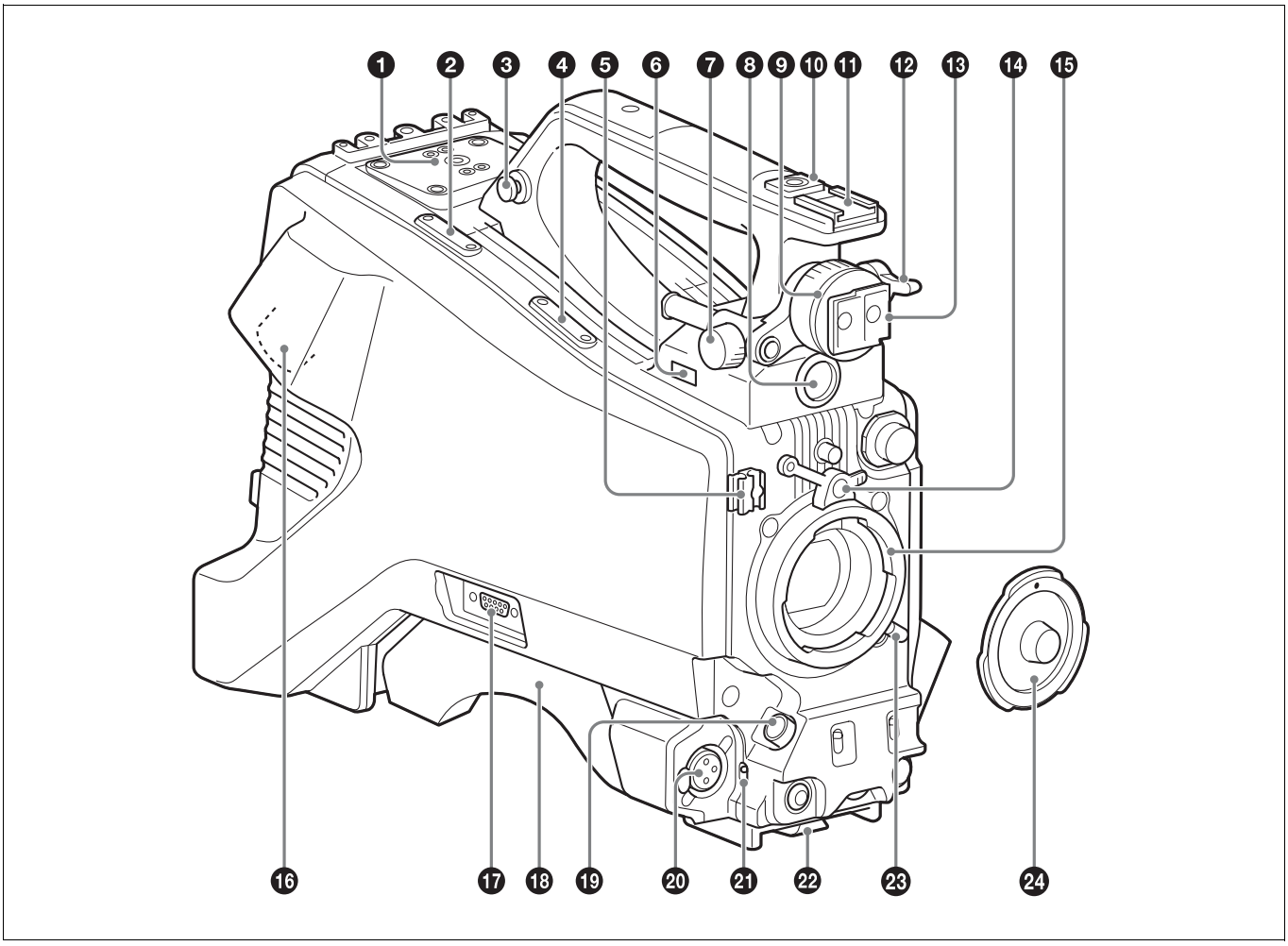
a) For details about transmission distance, refer to the operating instructions for the HXCU-TX70 HD Camera Control Unit.

b) A LAN cable can be used only to connect the RCP-1500/1501/1530. To connect it, power needs to be supplied via a PoE hub or power needs to be supplied to the EXT DC IN connector of the RCP-1500/1501/1530.

Name and Function of Parts

Front and Left Side

For the pin assignment of each connector, see “Pin Assignment” (page 68).



1 V-wedge shoe attachment
Attach to a HDVF-L750/HDVF-L770/HDVF-EL75 viewfinder. To attach a viewfinder, attach the V-wedge shoe here.

For details about V-wedge shoe attachment, see “Attaching the V-Wedge Shoe Attachment” (page 21).

2 Cable clamp attachment

For details about attaching, see “Attaching the cable clamp belt” (page 16).

3 Shoulder strap fitting

For details about attaching, see “Attaching the Shoulder Strap” (page 26).

4 Microphone holder attachment

For details about attaching, see “Attaching the microphone holder” (page 25).

5 Cable clamp
Clamp the lens cable and microphone cable.

6 (USB) connector

For details about how to use a USB flash drive and compatible USB flash drives, see “Supported USB Flash Drives” (page 66).

7 Viewfinder front-to-back positioning lock knob
Loosen this knob to adjust the front-to-back position of the viewfinder.

8 VF (viewfinder) connector (20-pin, round)
Connect the viewfinder cable.

9 Viewfinder left-to-right positioning ring
Adjusts the left-to-right position of the viewfinder attached to the viewfinder shoe. Loosen the ring to adjust the viewfinder position, then return the ring to the original position to secure the viewfinder.

⑩ 1/4-inch screw-type accessory shoe

⑪ Slide-type accessory shoe

⑫ Viewfinder front-to-back positioning lever
Adjusts the front-to-back position of the viewfinder attached to the viewfinder shoe. Loosen the lever to adjust the viewfinder position, then return the lever to the original position to secure the viewfinder.

⑬ Viewfinder shoe
Attach the HDVF-L10 viewfinder supplied with the HXC-FB80K.

For details about attaching, see "Attaching and Adjusting the Viewfinder" (page 18).

⑭ Lens mount securing rubber
After locking the lens in position using the lens locking lever, fit this rubber over the lower of the two projections. This secures the lens mount, preventing it from coming loose.

⑮ Lens mount (special bayonet mount)
Attach a lens.
Consult your Sony dealer or a Sony service representative for information about available lenses.

For details about attaching, see "Attaching and Adjusting the Lens" (page 23).

⑯ CCU (Camera Control Unit) connector (optoelectric composite connector)
Connect to the HXCU-FB80 4K/HD Camera Control Unit.
When connected with an optoelectric composite cable, all the signals of the camera, comprising the power supply, control signals, video signals, and audio signals, can be transmitted/received with the one optoelectric composite cable.
When connected with a pair of single-mode fiber cables, all the signals except the power supply can be transmitted/received with the pair of single-mode fiber cables.

⑰ TRUNK connector (D-sub 9-pin)
Use as the trunk signal (RS-232C) input/output connector when connected with the HXCU-FB80.
It features an assignable pin that can be used, when connected using a dedicated cable, for a function assigned on the <EXT I/O> page in the MAINTENANCE menu.

⑱ Shoulder pad
Raise the shoulder pad fixing lever to adjust the position in the front-to-rear direction. Adjust the position for maximum convenience when operating the camera on your shoulder.

For details about adjusting the position, see "Adjusting the Shoulder Pad Position" (page 27).

⑲ LENS connector (12-pin)
Connect the lens cable.

Note

When connecting/disconnecting the lens cable, power off the camera first.

⑳ AUDIO 1 IN (audio input 1) connector (XLR type, 3-pin, female)
Connect to audio equipment or a microphone.
When the camera is connected to an HXCU-FB80, the input signal will be output from the AUDIO OUTPUT CH-1 connector. You can configure the camera so that the audio is embedded in the output from the SDI output (MIC1) on the <SDI OUT> page in the MAINTENANCE menu.

For details about connecting the microphone supplied with the HXC-FB80K, see "Connecting a microphone to the AUDIO 1 IN connector" (page 24).

㉑ Audio input 1 selector switch
Select the audio level input to the AUDIO 1 IN connector.
+48V: To supply +48 V phantom power to condenser microphones
MIC: When a microphone-level input is connected
LINE: When a line-level (0 dBu) signal source is connected
Select +48V when using the microphone supplied with the HXC-FB80K.

㉒ Tripod mount

For details about attaching, see "Mounting on a Tripod" (page 25).

㉓ Lens locking lever
After inserting the lens in the lens mount, rotate the lens mount ring with this lever to lock the lens in position.
After locking the lens, be sure to use the lens mount securing rubber to prevent the lens from becoming detached.

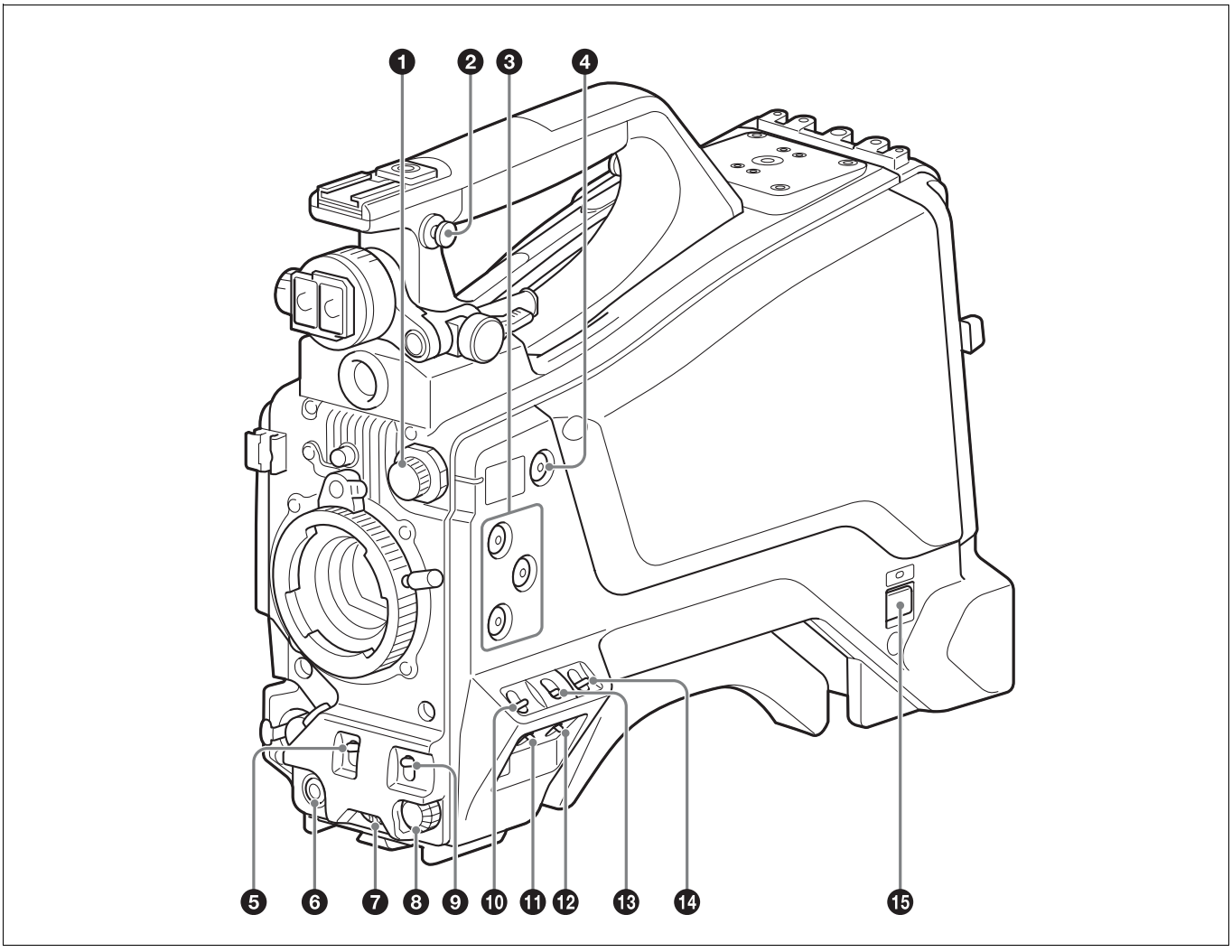
㉔ Lens mount cap
Remove by raising the lens locking lever. When no lens is mounted, keep this cap fitted for protection from dust.

Front and Right Side

Note

When connected to a camera control unit or external remote control device (for example, RCP or RM), the following switch functions are controlled from the connected device. The switches on the camera do not function.

- SHUTTER switch
- WHT/BLK switch
- OUTPUT/AUTO KNEE switch
- WHITE BAL switch
- GAIN switch



❶ FILTER (filter select) knob

Switch between four built-in ND filters. When this switch is adjusted, the filter setting appears in the viewfinder for about three seconds.

FILTER knob setting	ND filter
1	Clear
2	1/4 ND (attenuates light to approximately 1/4)
3	1/16 ND (attenuates light to approximately 1/16)
4	1/64 ND (attenuates light to approximately 1/64)

❷ Shoulder strap fitting

For details about attaching, see "Attaching the Shoulder Strap" (page 26).

❸ ASSIGN (assignable) 1/2/3 buttons

You can assign functions to these buttons using ASSIGNABLE 1/2/3 on the <SWITCH ASSIGN1> page in the OPERATION menu. No function is assigned by factory default.

❹ COLOR TEMP. (color temperature) button

Press the button, turning it on, to change the color temperature for shooting (factory default: 5600K).
You can assign a function to this button using ASSIGN CTEMP on the <SWITCH ASSIGN1> page in the OPERATION menu.

❺ SHUTTER switch

Set to the ON position to use the electronic shutter. Set to the SEL position to switch the shutter speed or shutter mode display. When this switch is operated, the shutter settings appear in the viewfinder for about three seconds.

❻ RET (return video) button

Displays the return video signal in the viewfinder while this button is pressed.

You can assign a function to this button using FRONT RET on the <SWITCH ASSIGN2> page in the OPERATION menu.

Note

The display image may be distorted when the video signal is switched.

❼ INTERCOM LEVEL knob

When connected with the HXCU-FB80, use this knob to adjust the intercom/earphone volume level. The intercom volume level can also be adjusted using the INTERCOM knob on the rear of the camera.

When the camera is used in standalone operation mode, use this knob to set the gain for microphones connected to the AUDIO 1 IN and AUDIO 2 IN connectors. You can assign a function to this knob using FRONT VR on the <VR ASSIGN> page in the OPERATION menu.

❽ Menu control knob (rotary encoder)

Rotate to select settings from menus displayed in the viewfinder and press to confirm settings.

❾ WHT/BLK (automatic white/black balance adjustment) switch

Automatically adjusts the white balance and black balance.

WHT: Adjust the white balance automatically. If the WHITE BAL switch is set to A or B, the white balance setting is stored in the corresponding memory (A or B). If the WHITE BAL switch is set to PRST, the adjustment function does not operate.

BLK: Adjust the black set and black balance automatically.

You can use the WHT/BLK switch even when the ATW (Auto Tracing White Balance) function is operating.

If you push the switch to the WHT position once more during automatic white balance adjustment, the adjustment is canceled and the white balance setting returns to the original setting.

If you push the switch to the BLK position once more during the automatic black balance adjustment, the adjustment is canceled and the black balance setting returns to the original setting.

❿ GAIN switch

Switch the gain of the video amplifier to match the lighting conditions during shooting. When this switch is adjusted, the new setting appears in the viewfinder for about three seconds.

The gain values corresponding to the L, M, and H settings are specified using GAIN on the <SWITCH ASSIGN1> page in the OPERATION menu (factory default: L=0 dB, M=6 dB, and H=12 dB).

⓫ STATUS/CANCEL switch

STATUS: Displays camera status information when no menu is displayed and the DISPLAY/MENU switch is set to DISPLAY.

CANCEL: Cancel changed settings or return the display to the previous menu when a menu is displayed.

⓬ DISPLAY/MENU switch

Select the display in the viewfinder.

DISPLAY: Displays various textual information and markers, such as messages showing the camera settings and operating status, the center marker, and the safety zone marker, in addition to the camera image.

OFF: Displays the camera image only.

MENU: Display the menu, in addition to the camera image.

⓭ OUTPUT (output signal select)/AUTO KNEE switch

Select the signal that is output from the camera.

BARS: Output the color bar signal.

CAM: Output the video signal being shot. When this is selected, you can switch the AUTO KNEE function [1] ON/OFF.

1) AUTO KNEE function:

Against a very bright background with the iris opening adjusted for the subject, objects in the background will be lost in the glare. The AUTO KNEE function suppresses areas of high brightness automatically to reproduce the background more clearly.

This is particularly effective in the following cases.

- Shooting people in the shade on a sunny day
- Shooting a subject indoors, against a background through a window
- Any high contrast scene

⓮ WHITE BAL (white balance memory select) switch

Set the white balance adjustment method. When this switch is adjusted, the new setting appears in the viewfinder for about three seconds.

PRST: Adjust the color temperature to the preset value (factory default: 3200K). Use this setting when you have no time to adjust the white balance.

A or B: Recall the white balance adjustment value already stored in memory A or B. Push the WHT/BLK switch to the WHT position to automatically adjust the white balance and save the adjustment value in memory A or memory B.

⓯ CAMERA POWER switch and indicator

Set to one of the following, according to the power supply method.

CCU: When supplying power from the camera control unit

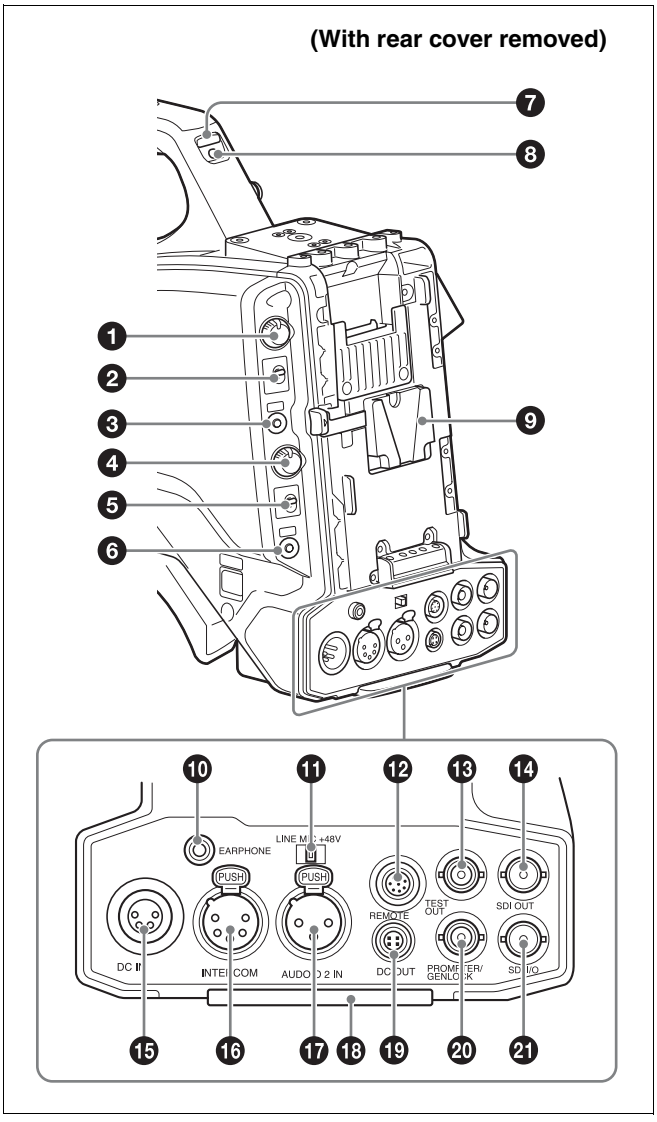
EXT: When supplying power on the DC IN connector or camera adaptor power connector

The indicator lights up in green during operation.

Rear

For the pin assignment of each connector, see “Pin Assignment” (page 68).

For details about removing the rear cover, see “Removing the rear cover” (page 17).



❶ PGM LEVEL (program level) knob/assignable button
Adjust the intercom PGM audio level.
When connected with the HXCU-FB80, this adjusts the PGM audio level input from the camera control unit.
In standalone operation mode, this adjusts signal level input on the SDI I/O connector.
No function is assigned to the assignable button by factory default.
You can have a conversation on the intercom line while the button is pressed by assigning the function that turns the intercom microphone ON using REAR ENC SW on the <SWITCH ASSIGN2> page in the OPERATION menu.

❷ RET2 (return video 2) selector switch
Select the return video signal (2, 3, 4) displayed when the button assigned with the return video 2 function is pressed.

❸ RET1 (return video 1) button
Displays the return video 1 signal in the viewfinder while this button is pressed.

❹ INTERCOM (intercom volume) knob
Adjust the intercom volume level.
When connected with the HXCU-FB80, the intercom volume level can also be adjusted using the INTERCOM LEVEL knob on the rear of the camera.
In standalone operation mode, you can assign a function to this knob using REAR VR on the <VR ASSIGN> page in the OPERATION menu.

❺ INTERCOM MIC (intercom microphone) switch
The switch function varies depending on the PANEL TYPE setting on the <INTERCOM> page in the OPERATION menu (factory default: CE).

When the PANEL TYPE setting is CE
Functions as the intercom microphone line selector switch.
PROD: Output the microphone on the PROD line.
OFF: Turn the microphone OFF.
ENG: Output the microphone on the ENG line.

When the PANEL TYPE setting is UCJ
Functions as the intercom line and microphone ON/OFF selector switch.
PROD: Select the PROD line and turn the microphone OFF.
OFF: Select the ENG line and turn the microphone OFF.
ENG: Select the ENG line and turn the microphone ON (output on ENG line).
You can have a conversation on the selected line while the assignable button on the rear is pressed by assigning the function that turns the intercom microphone ON to the button.

Note

The intercom and microphone of the camera can be used when connected to a CA-TX70.
The intercom is connected to the line selected using the INTERCOM switch of the CA-TX70. ENG/PROD cannot be selected on the camera.

❻ CALL button
When you press this button, the red tally indicators on the connected camera control unit and external control device (for example, RCP or RM) will light up.

❼ TALLY indicators (red/green)
When the TALLY switch is set to ON, the tally indicator lights up when a tally signal is input to the connected camera control unit or a call signal is generated by pressing the CALL button.

❽ TALLY switch
Set to ON to activate the TALLY indicator function.

❾ Camera adaptor attachment
Attach an optional CA-TX70 HD Camera Adaptor and AC-DN10 AC Adaptor.

❿ EARPHONE jack (stereo, minijack)
Monitor the audio output from the intercom or audio signals input to the AUDIO 1 IN and AUDIO 2 IN connectors.
Set the earphone output on the <EARPHONE> page in the OPERATION menu.
The earphone volume level can be adjusted using the INTERCOM LEVEL knob.

⓫ Audio input 2 selector switch
Select the audio level input to the AUDIO 2 IN connector.

+48V: To supply +48 V phantom power to condenser microphones
MIC: When a microphone-level input is connected
LINE: When a line-level (0 dBu) signal source is connected

⓬ REMOTE (remote control) connector (8-pin)
Connect a remote control unit for remote control the camera.
When used in conjunction with the HXCU-FB80, connect with the REMOTE connector (8-pin) of the sub camera in order to send the Sub command.

Note

Before connecting/disconnecting a remote control unit, power off the camera first.

⓭ TEST OUT connector (BNC type)
Outputs an analog signal.
You can select the VBS signal, Y signal of the VF connector, HD-SYNC, or SD-SYNC for output in the MAINTENANCE menu.

Note

VBS signal output is not available when HDR is set.

⓮ SDI OUT connector (BNC type)
Outputs a 3G-SDI signal, HD-SDI, or SD-SDI signal.
You can select the output signal in the MAINTENANCE menu.

⓯ DC IN (DC power supply input) connector (XLR 4-pin, female)
To operate the camera from an external DC power supply, connect an optional DC power cord to this connector and then connect the cord to an AC-DN10 AC Adaptor or other source.

⓰ INTERCOM connector (XLR 5-pin)
Connect an XLR 5-pin headset for input and output of intercom audio signals.

⓱ AUDIO 2 IN (audio input 2) connector (XLR type, 3-pin, female)
Connect to audio equipment or a microphone.
When the camera is connected to an HXCU-FB80, the input signal will be output from the AUDIO OUTPUT CH-2 connector. You can configure the camera so that the audio is embedded in the output from the SDI output (MIC2) on the <SDI OUT> page in the MAINTENANCE menu.

⓲ Tail guard
Protects the cables connected to the connectors on the rear panel.

⓳ DC OUT (DC power supply output) connector (4-pin, female)
Supplies power to a script light or other device (maximum 1.5 A).

⓴ PROMPTER/GENLOCK (prompter signal output/external sync signal input) connector (BNC type)
When connected with a CCU, this connector outputs a VBS prompter signal.
In standalone operation mode, connect an external sync signal (BB or tri-level sync) for synchronizing the camera. If a VBS signal is input, you can check the input image in the viewfinder by pressing the RET button on the camera.

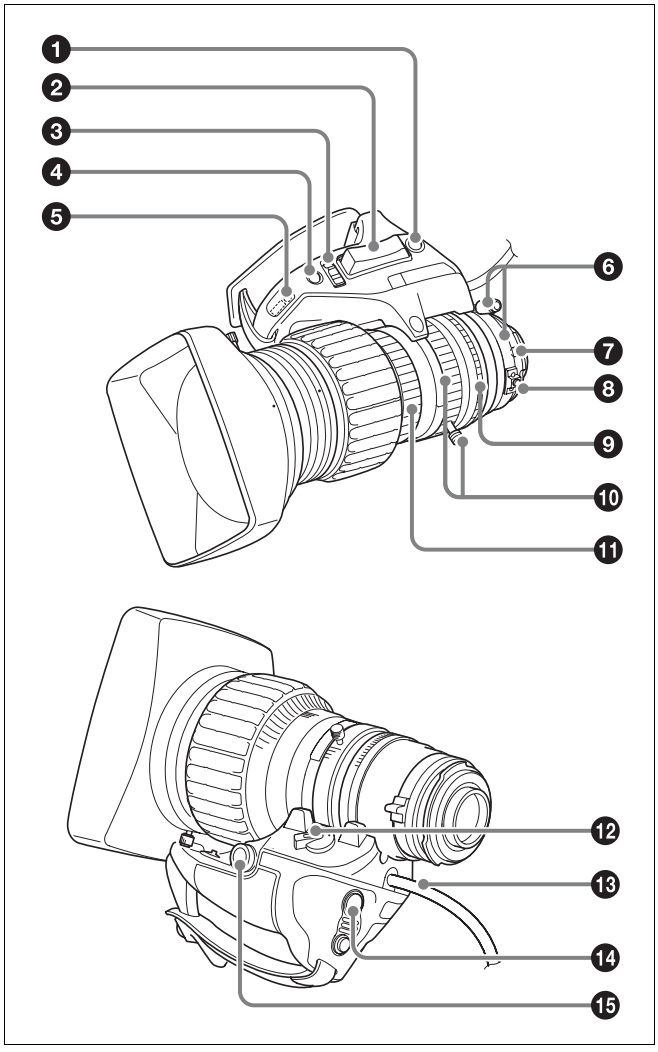
㉑ SDI I/O connector (BNC type)
The input (IN) and output (OUT) mode can be changed using the menu.
In standalone operation mode, this displays the HD-SDI signal input on the SDI I/O connector in the viewfinder when the RET button is pressed.
You can select the input signal to be displayed in the viewfinder on the <EXT RETURN> page in the MAINTENANCE menu.
When connected to a CCU, the connector can be used as an HD PROMPTER output signal connector when set as an output (OUT). It can be used as an HD TRUNK input signal connector when set as an input (IN).

Note

Only HD-SDI signals in the same format specified on the <OUTPUT FORMAT> page in the MAINTENANCE menu can be input on the SDI I/O connector.

Lens (supplied with the HXC-FB80K/ HXC-FB80S)

For details about attaching a lens, see "Attaching and Adjusting the Lens" (page 23).



❶ RET (return video) button
Displays the return video signal in the viewfinder while this button is pressed.

❷ Zoom see-saw switch
This is enabled when the zoom servo/manual selector knob is in the SERVO position. The zoom speed increases when you push the switch deeper, and decreases when you push less deeply.

W (Wide): Wide angle.
T (Telephoto): Telephoto.

❸ Iris operation mode selector switch
A (Auto): The iris is adjusted automatically.
M (Manual): Adjust the iris with the iris ring.

❹ Iris one-push auto switch
When the iris operation mode selector switch is in the M position for manual adjustment, press this switch for instantaneous auto iris adjustment. The iris is automatically adjusted while the switch is pressed.

❺ Iris gain adjustment trimmer
Adjust the iris gain when the iris operation mode selector switch is in the A (Auto) position.
Flip off the rubber cap, and turn the iris gain adjustment trimmer using a screwdriver or similar object. Rotate clockwise to increase the gain, and rotate counterclockwise to decrease the gain.

❻ F.B. lock screw/F.B. adjustment ring
Use to adjust the flange back (flange focal length).

❼ Positioning pin
When attaching a lens, align this pin with the slot in the top center of the lens mount on the camera.

❽ Macro button/macro ring
Press and hold the macro button and rotate the macro ring to focus (close-up: 10 mm minimum).

❾ Iris ring
For manual iris adjustment, set the iris operation mode selector switch to the M (manual) position, then rotate this ring.

Note

Always set the iris operation mode selector switch to the M (manual) position before rotating the ring.

❿ Zoom lever/zoom ring
For manual zoom adjustment, set the zoom servo/manual selector switch to the MANU (manual) position, then operate this lever/ring.

⓫ Focus ring
Rotate this ring to adjust the focus.

⓬ Zoom servo/manual selector knob
SERVO: Power (servo) zoom. Control the zoom using the zoom see-saw switch.
MANU (Manual): Manual zoom. Control the zoom using the zoom lever/zoom ring.

⓭ Lens cable
Connect to the LENS connector on the camera.

⓮ VTR button
You can assign a function to this button using LENS VTR S/S on the <SWITCH ASSIGN2> page in the OPERATION menu.

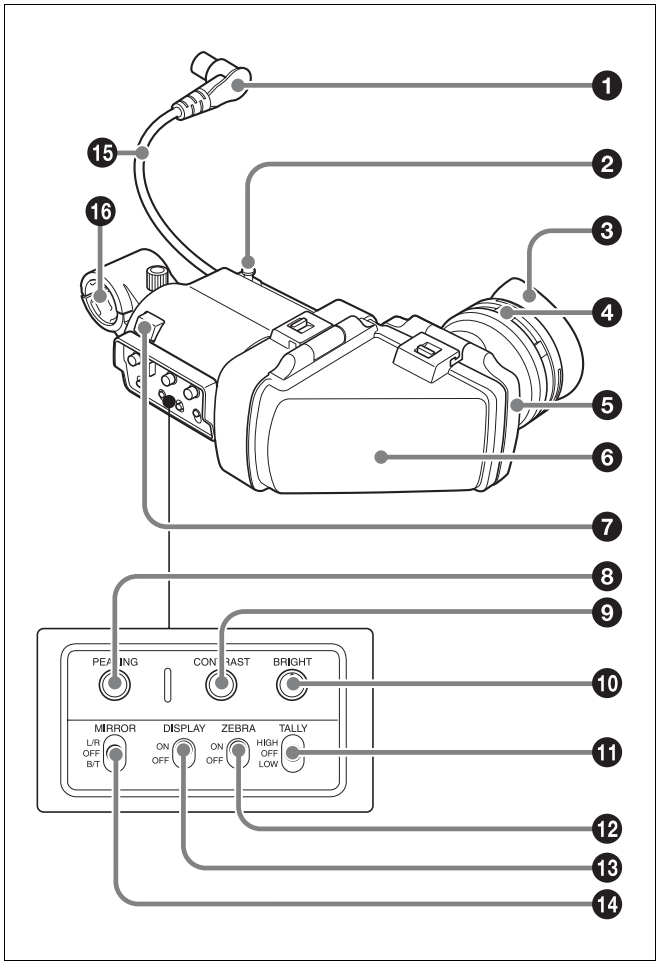
⓯ Zoom remote control connector
Connecting an optional zoom servo controller allows remote control of zooming.

Viewfinder

This section describes the HDVF-L10 viewfinder supplied with the HXC-FB80K.

For details about attaching the HDVF-L10 viewfinder, see "Attaching and Adjusting the Viewfinder" (page 18).

For details about the viewfinder supplied with the HXC-FB80S, refer to the operation manual for the HDVF-L750.



❶ Connector
Connect to the VF connector on the camera.

❷ Slide stopper
Prevents the viewfinder from coming off the camera when it is slid from side to side.

❸ Eyecup

❹ Diopter adjustment ring
Rotate the ring to adjust the image for clear focus.

❺ Eyepiece
You can raise the eyepiece or remove it when required by the usage situation.

❻ Viewfinder barrel
You can raise the viewfinder barrel or remove it when required by the usage situation.

❼ Tally indicator
The indicator lights up when a red tally signal is input to the camera. When an abnormality occurs, the tally indicator flashes to indicate a warning.

❽ PEAKING knob
Rotate clockwise to adjust the picture sharpness to make lens focusing easier. This has no effect on the output signal of the camera.

❾ CONTRAST knob
Adjust the contrast of the screen. This has no effect on the output signal of the camera.

❿ BRIGHT knob
Adjust the brightness of the screen. This has no effect on the output signal of the camera.

⓫ TALLY switch
Used to control the tally indicator on the viewfinder.
HIGH: The tally indicator brightness is set to high.
OFF: The tally indicator is disabled.
LOW: The tally indicator brightness is set to low.

⓬ ZEBRA (zebra pattern) switch
Use to control the zebra pattern display.
ON: Display the zebra pattern.
OFF: Do not display the zebra pattern.

⓭ DISPLAY switch
Use to control the display of text information.
ON: Display text information.
OFF: Do not display text information.
Also used when switching to full-screen display mode or reduced display mode.

Note

There may be a mismatch between the DISPLAY switch ON/OFF state and the actual ON/OFF operation, depending on the camera settings.

⓮ MIRROR switch
Used to reverse the image display on the monitor screen horizontally or vertically when the viewfinder barrel is raised up or rotated.
L/R (left/right): Reverse the image horizontally.
OFF: Do not reverse the image.
B/T (bottom/top): Reverse the image vertically.

⓯ Viewfinder cable

⓰ Microphone holder

Connection and Setup

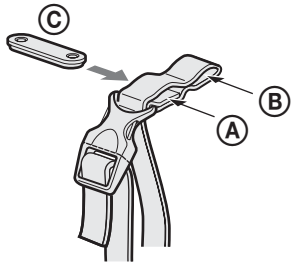
Connecting to a Camera Control Unit

When operating the camera in a system with a camera control unit (CCU), connect the CCU connector of the camera and the CAMERA connector of the CCU using an optoelectric composite cable.
When required, secure the cable, using the supplied cable clamp belt.

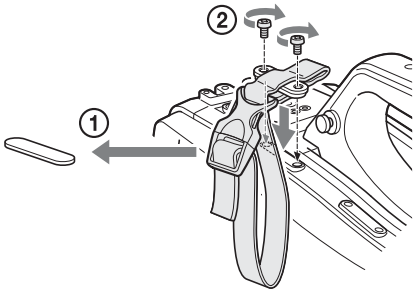
If connecting an HXCU-TX70 HD Camera Control Unit, refer to the operating instructions for the HXCU-TX70.

Attaching the cable clamp belt

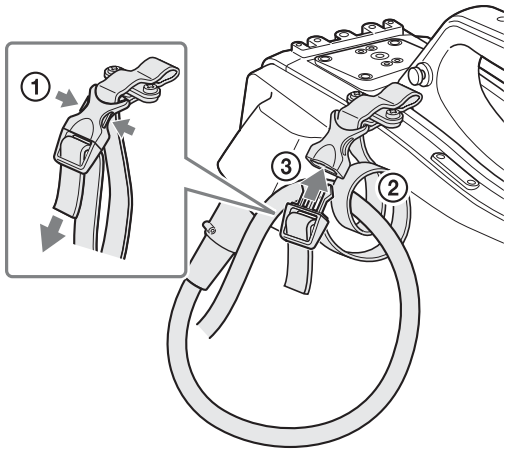
1 **Insert the belt bracket Ⓒ into hole Ⓐ or Ⓑ of the cable clamp belt.**



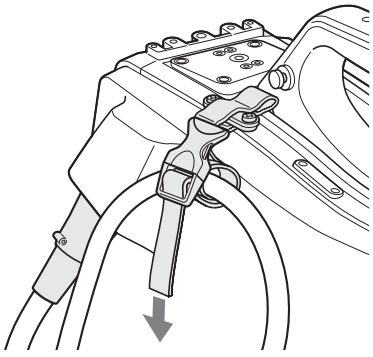
2 **① Remove the screw-hole cover on the top rear of the camera and ② secure the cable clamp belt to the camera using the two supplied screws (+B3×10).**



3 **① Release the buckle, ② bundle the cable with the belt, ③ then close the buckle again.**



4 **Adjust the length by pulling down on the end of the belt.**



AC Power Supply (Standalone Operation)

Prepare an AC power supply when using the camera in standalone operation mode (without a CCU).
For safety, use only the Sony AC adaptor listed below.

- AC adaptor: AC-DN10

If using the DC IN connector

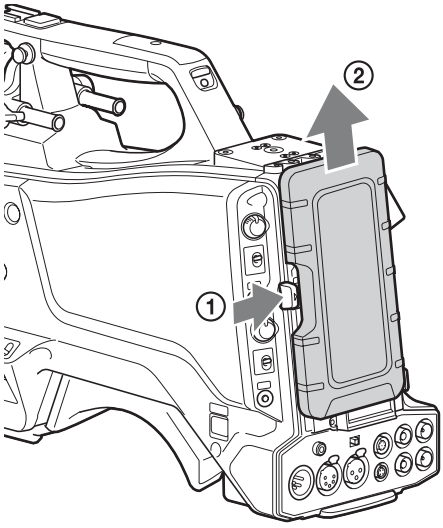
Connect the AC-DN10 AC adaptor to the DC IN output connector on the camera using an optional DC power cord.

If attaching the AC adaptor

Remove the rear cover and attach the AC adaptor to the camera.

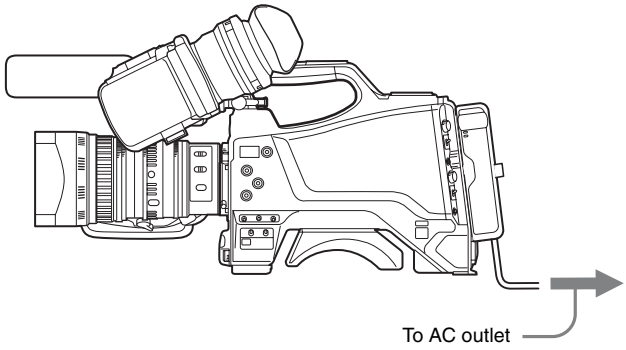
Removing the rear cover

① Hold the release button on the camera in, and ② pull the rear cover up.



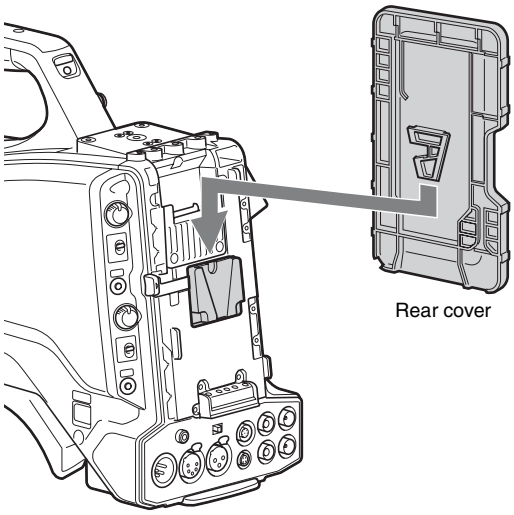
Attaching the AC adaptor

Attach an optional AC-DN10 AC adaptor to the camera, then connect to the AC power supply.
The AC-DN10 can supply up to 100 W of power.



To attach the rear cover

Align the guide on the inner side of the rear cover with the camera adaptor mount, and insert the cover.



Attaching and Adjusting the Viewfinder

Warning

When the viewfinder is attached, do not leave the camera with the eyepiece facing the sun.
Direct sunlight can enter through the eyepiece, be focused in the camera and cause a fire.

This section describes how to attach and adjust the HDVF-L10 viewfinder supplied with the HXC-FB80K. For details about attaching and adjusting the viewfinder supplied with the HXC-FB80S, refer to the operation manual for the HDVF-L750.

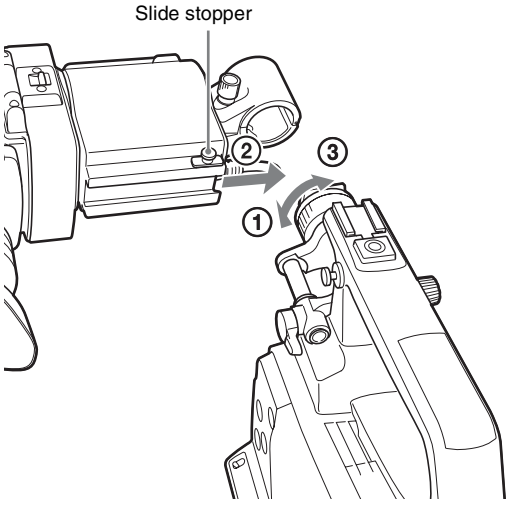
Attaching the viewfinder

Attach the HDVF-L10 viewfinder supplied with the HXC-FB80K.

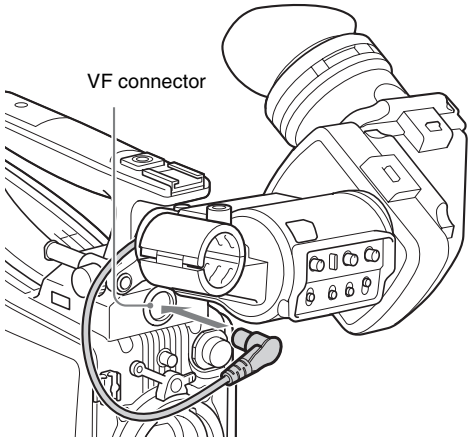
Notes

- Be sure to power off the camera before plugging the viewfinder connector into the VF connector of the camera. If the connector is plugged in while the power is on, the viewfinder may not operate correctly.
- Plug the viewfinder connector all the way into the VF connector of the camera. If the connector is not firmly connected, the image may become distorted or the tally indicator may not operate properly.

1 **① Loosen the viewfinder left-to-right positioning ring, ② attach the viewfinder to the viewfinder shoe, and ③ tighten the viewfinder left-to-right positioning ring.**



2 **Connect the viewfinder connector to the VF connector.**

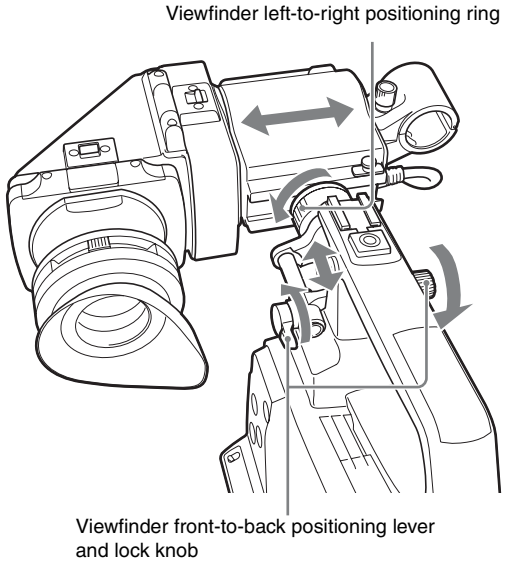


To detach the viewfinder

Detach in the reverse procedure of attaching. When detaching the viewfinder from the shoe, lift up the slide stopper on the viewfinder.

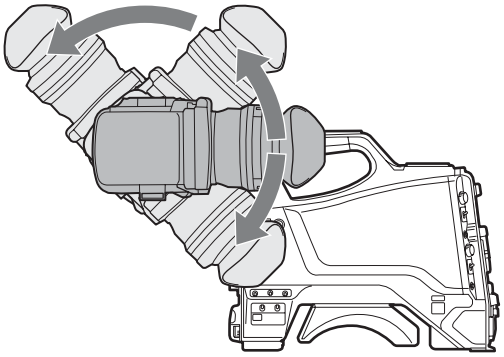
Adjusting the position

To adjust the viewfinder left-to-right position, loosen the left-to-right positioning ring. To adjust the front-to-back position, loosen the front-to-back positioning lever and lock knob.



Adjusting the angle

You can adjust the angle of the viewfinder.



To reverse the display (image/text indication) vertically

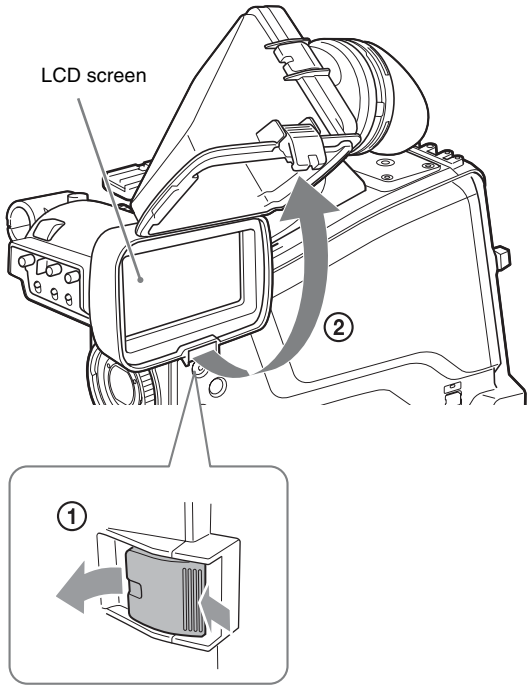
The viewfinder can be rotated as much as 180 degrees so that it is facing the subject.
In this case, the image and other information displayed appear upside down on the screen.
To restore the normal display, set the MIRROR switch on the viewfinder to the B/T position to flip the display vertically.

Raising the viewfinder barrel or eyepiece

You can view the LCD screen inside the viewfinder or its mirrored image by raising the viewfinder barrel or eyepiece.
This section describes how to raise and detach the viewfinder barrel. The eyepiece can also be raised and detached in the same way.

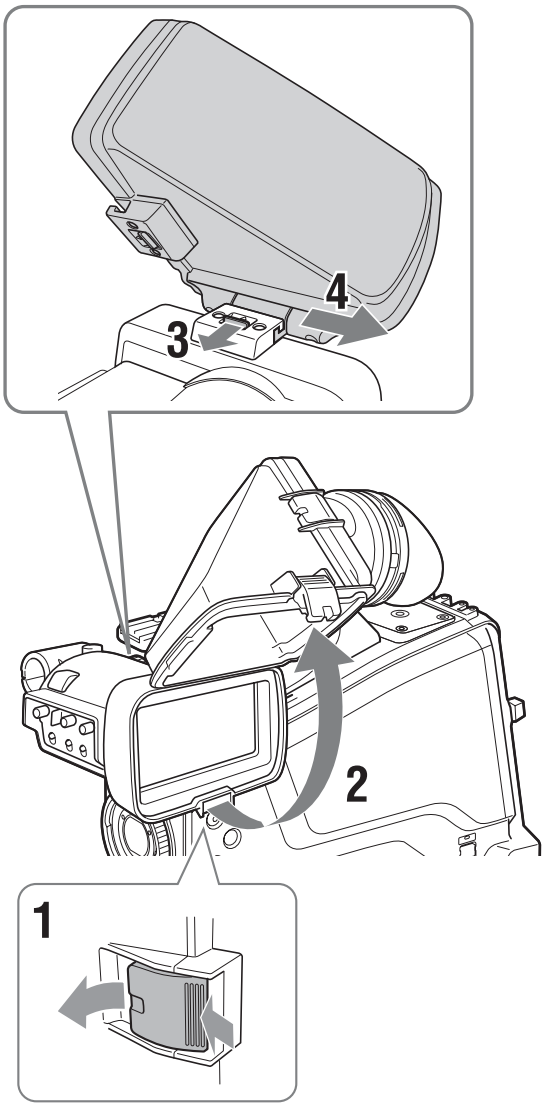
To raise the viewfinder barrel

① Push the clip on the bottom to release it, and ② flip up the viewfinder barrel.
It locks at the 120-degree position.



Keep in the lock position for normal use.
You can also open it farther from the lock position. To set to the 120-degree position again, return it to the closed position and then open it again.

To detach the viewfinder barrel



1 **Push the clip on the bottom to release it.**

2 **Flip up the viewfinder barrel.**

3 **Slide the button on the top in the direction opposite to the viewfinder barrel to unlock the barrel.**

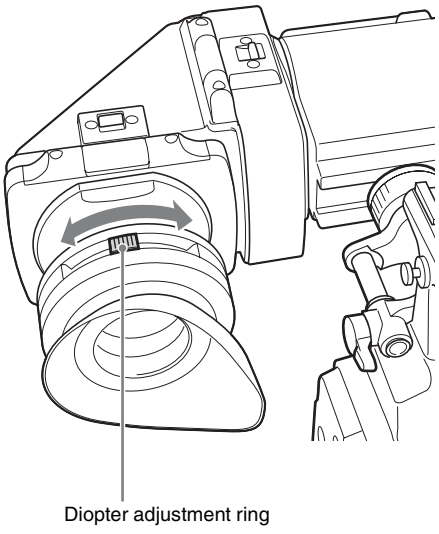
4 **Detach the viewfinder barrel by sliding it horizontally.**

To reverse the display (image/text indication) horizontally

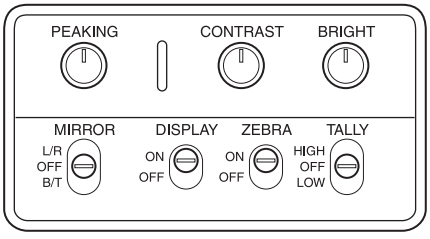
Set the MIRROR switch on the viewfinder to the L/R position to reverse the picture and other information displayed in the viewfinder horizontally.

Adjusting the diopter

Rotate the diopter adjustment ring until the viewfinder image is sharpest.



Adjusting the screen



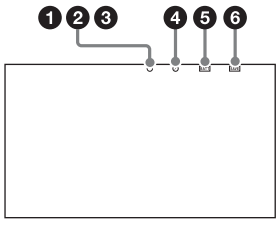
You can adjust the following items.
Peaking: Adjust using the PEAKING knob.
Contrast: Adjust using the CONTRAST knob.
Brightness: Adjust using the BRIGHT knob.

Screen display mode and indicator

The viewfinder screen can be set to full-screen display mode or reduced display mode.
To switch the display mode, switch the DISPLAY switch "ON → OFF → ON → OFF" or "OFF → ON → OFF → ON" in quick succession.

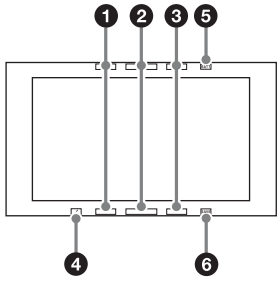
Full-screen display mode

Displays the image so that it fills the full-screen display area.
Tally and other indicators are superimposed on the camera image.
Use this mode when the resolution of the displayed image is more important.



Reduced display mode

Displays the camera image at a reduced size, with the tally and other indicators displayed in the spaces above and below the camera image.
Use this mode when the clear visibility of the tally and other indicators is more important.



Indicators are located at the top and bottom of the screen to indicate the status of the camera and viewfinder.

❶ G TALLY (green tally) indicator (green)
Lights up when a green tally signal is input.

❷ R TALLY (red tally) indicator (red)
Lights up when a red tally signal is input.

❸ Y TALLY (yellow tally) indicator (yellow)
Not supported by the camera.

Note

In full-screen display mode, the display position of the tally indicators is fixed in one location. Accordingly, only one R/G/Y tally indicator can be lit at any one time, regardless of the signal that is input. The display priority of the tally indicator is red, green, and yellow, in that order.

❹ [!] indicator (amber)
Using the '!' IND function, the '!' indicator appears when non-standard settings are in effect.

❺ BATT (battery) indicator (red)
Lights up or flashes to indicate the status of the power supply to the camera.
Lit: Significant voltage decrease
Flashing: Voltage decrease

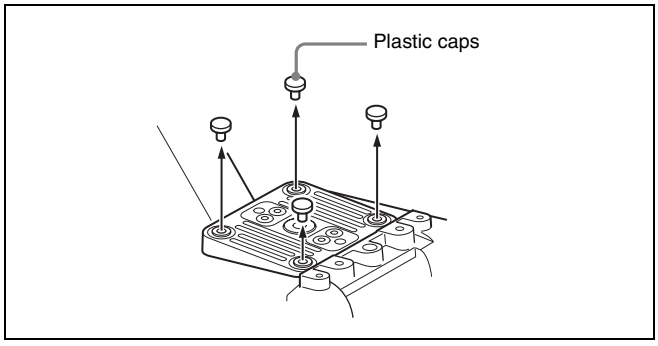
❻ SAVE indicator (amber)
Not supported by the camera.

Attaching the V-Wedge Shoe Attachment

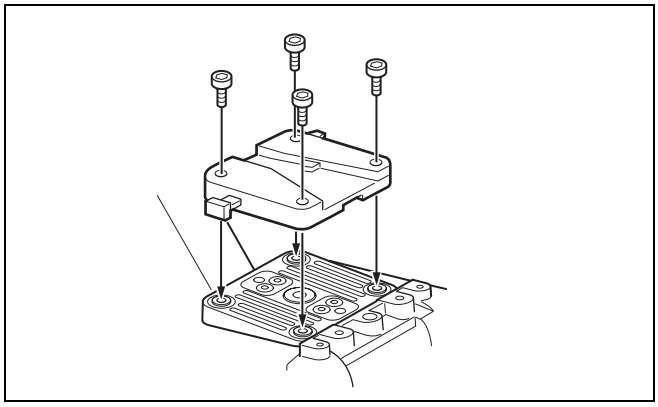
To attach the HDVF-L750 Viewfinder supplied with the HXC-FB80S or an optional HDVF-L770/HDVF-EL75, connect the V-wedge shoe attachment supplied with the camera or viewfinder to the camera and then attach the viewfinder to the attachment.
The procedure for attaching the attachment is given below.

For details about attaching a viewfinder, refer to the operation manual for the viewfinder.

1 Remove the four plastic caps from the camera.



2 Attach the V-wedge show attachment (supplied) to the camera using the hex wrench (supplied) and four hex socket bolts (4×12, supplied).



3 Insert the viewfinder firmly into the V-wedge shoe attachment.
A click sound occurs when properly attached.

Front-to-back position adjustment (when HDVF-L770 or HDVF-EL75 is attached)

To attach an HDVF-L770 LCD Color Viewfinder or HDVF-EL75 HD Electronic Viewfinder, move the mount wedge on the bottom of the viewfinder 15 mm toward the camera operator from the default position.

For details about attaching, refer to the operation manual for the viewfinder.

Using the Camera for the First Time

The camera is shipped with the area of use setting in an unset state. To use the camera, you need to first set the area of use.

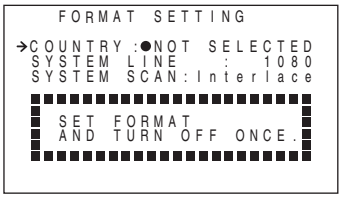
Once the area setting is complete, set the current date and time.

Note

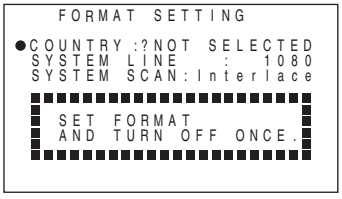
The camera cannot be used if the area of use is not set.

Setting the area of use

1 **Turn on the camera.**
The screen for setting the area of use appears in the viewfinder.



2 **Press the menu control knob.**
The area of use becomes selectable.



3 **Rotate the menu control knob to select the area of use.**

Setting	Area of use	Output composite signal	System frequency
NTSC(J) AREA	NTSC area (Japan)	NTSC signal without setup	59.94i
NTSC AREA	NTSC area (for areas other than Japan)	NTSC signal with setup (7.5IRE)	59.94i
PAL AREA	PAL area	PAL signal	50i

4 **Change the SYSTEM LINE (video resolution) and SYSTEM SCAN (video scanning mode) settings according to the video format you are using.**

SYSTEM LINE

Setting	Resolution (Horizontal × Vertical)
1080	1080 lines (1920×1080)
720	720 lines (1280×720)

SYSTEM SCAN

Setting	Video scanning mode
Interlace	Interlaced
Progressive	Progressive
PsF	Progressive

Supported formats: 1080/59.94i, 1080/59.94P, 1080/50i, 1080/50P, 1080/29.97PsF, 1080/25PsF, 1080/23.98PsF, 720/59.94P, 720/50P

5 **Turn the camera off and then back on.**
The camera is now ready for use.

To change the area of use

Change the setting using COUNTRY on the <OUTPUT FORMAT> page in the MAINTENANCE menu.

Note

The setting is switched to the CCU setting when a CCU is connected.

Setting the date/time

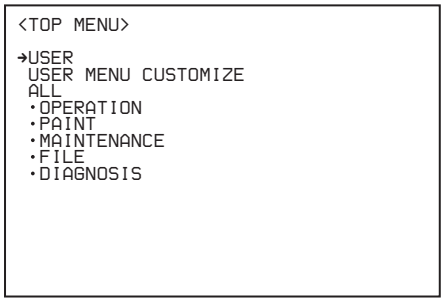
Set the built-in clock to the current local time on the <DATE> page in the MAINTENANCE menu.

For details about menu operations, see "Menu Operation" (page 34).

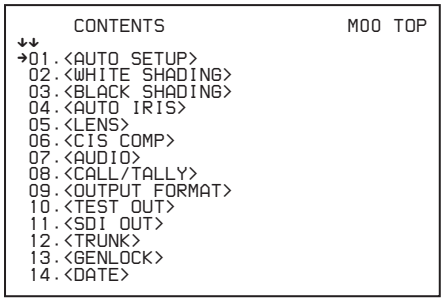
1 **Turn on the camera.**

2 **Press and hold the menu control knob and set the DISPLAY/MENU switch to MENU.**
The camera enters menu mode, and "TOP" is displayed at the upper-right corner of the screen.

3 **Rotate the menu control knob to align the ➡ pointer with TOP and press the menu control knob.**
The TOP MENU screen is displayed.



4 **Rotate the menu control knob to align the ➡ pointer with MAINTENANCE and press the menu control knob.**
The CONTENTS page of the MAINTENANCE menu appears.



5 **Rotate the menu control knob to scroll the page and align the ➡ pointer with <DATE> and press the menu control knob.**
The <DATE> page appears.
Press the menu control knob to confirm the page selection.

<DATE> M14 TOP
DATE/TIME
↓
2016/04/30 08:32
FILE TIMESTAMP FORMAT
: 5 M/D/Y

6 **Set the date and time items.**
Rotate the menu control knob to select an item, and press the menu control knob.
Rotate the menu control knob to change the setting of the selected item, and press the menu control knob to confirm the setting.

7 **When finished, set the DISPLAY/MENU switch to OFF to exit menu mode.**

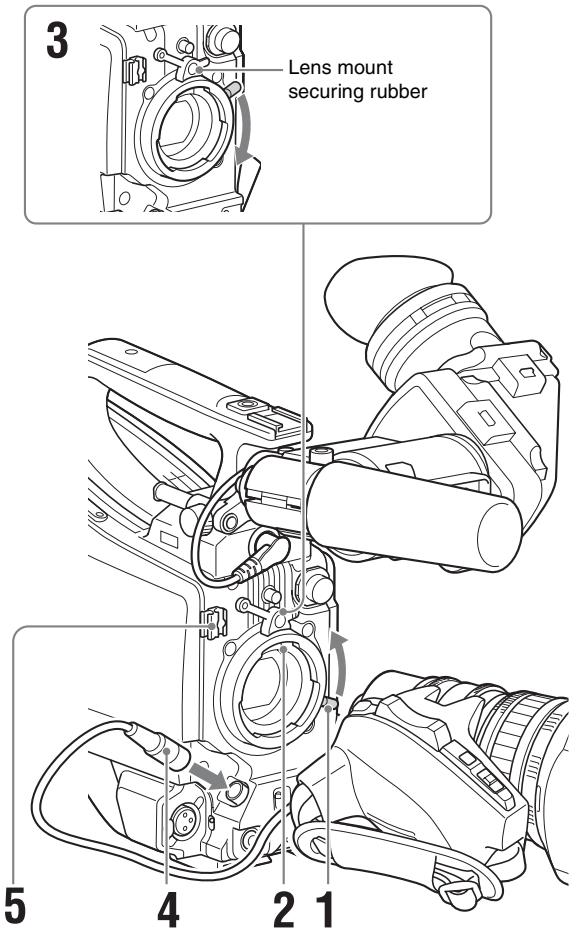
Attaching and Adjusting the Lens

For information on handling lenses, refer to the operation manual for the particular lens.

Attaching the lens

Note

Before attaching the lens, power off the camera first.



1 **Push the lens locking lever up and remove the lens mount cap from the lens mount.**

2 **Align the center pin on the lens with the center slot in the lens mount, and insert the lens into the mount.**

3 **Holding the lens in place, push the lens locking lever down to lock the lens.**

Caution

If the lens is not firmly locked, it may come off while the camera is being used. This could cause a serious accident. Make sure the lens is firmly locked. It is recommended that the lens mount securing rubber be put on the lens locking lever as illustrated above.

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

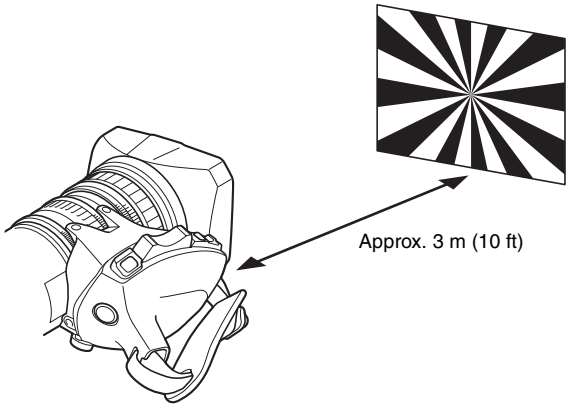
5 **Secure the lens cable with the cable clamps.**

When attaching an aberration correction lens

The aberration correction function is activated automatically. Starting the camera with an aberration correction lens may require more time than normal because of data loading at start-up.
The lens supplied with the HXC-FB80K/HXC-FB80S is an aberration correction lens. Contact your Sony dealer or a Sony service representative for information about other aberration correction lenses.

Adjusting the flange back (flange focal length)

If the lens does not stay in focus properly as you zoom from telephoto to wide angle, adjust the flange focal length (the distance from the plane of the lens mounting flange to the imaging plane). This adjustment is required once only after attaching or changing the lens.
When carrying out the adjustment, use the supplied flange focal length adjustment chart as the subject.



Notes

- If you use a subject with insufficient contrast, or move the camera or subject during adjustment, this will cause an adjustment error.
- Place the subject (the flange focal length adjustment chart) so that it appears at the center of the screen at the telephoto end. Arrange so that no nearby object (no object closer to the camera than the chart) enters the screen at the wide-angle end.

1 **Set the iris to manual, and open the iris.**

2 **Position the supplied flange focal length adjustment chart approximately 3 m (10 ft) away from the camera, and arrange the lighting to obtain a satisfactory video output.**

3 **Loosen the F.B. (flange back) lock ring.**

4 **Use manual or servo zoom to set the lens to telephoto.**

5 **Point the camera at the flange focal length adjustment chart and rotate the focus ring to focus the image.**

6 **Set the zoom ring to wide angle.**

7 **Rotate the F.B. adjustment ring to focus on the chart.**
Take care not to move the focus ring.

8 **Repeat steps 4 to 7 until the chart stays in focus all the way from wide angle to telephoto.**

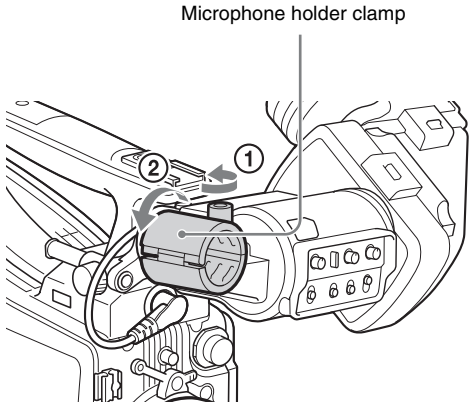
9 **Tighten the F.B. lock screw.**

Preparing the Audio Input

Connecting a microphone to the AUDIO 1 IN connector

Attach the microphone supplied with the HXC-FB80K to the microphone holder on the viewfinder.

1 **① Loosen the screw and ② open the microphone holder clamp.**

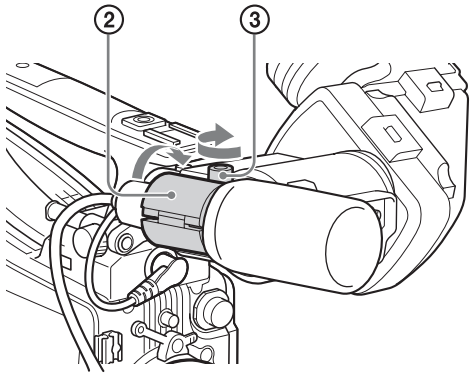


2 **Place the microphone in the microphone holder.**

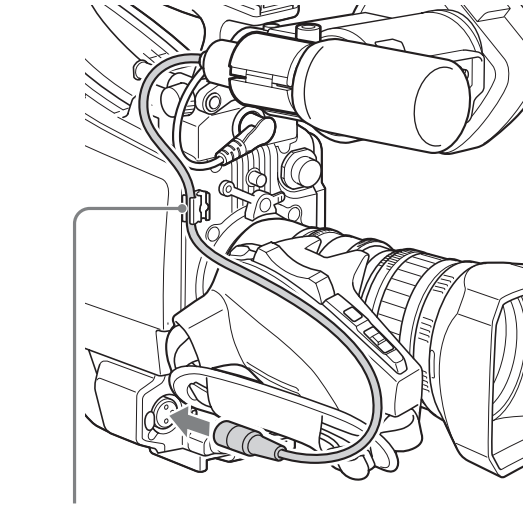
① Place the microphone in the holder so that “UP” is at the top.

② Close the microphone holder.

③ Tighten the screw.



3 **Connect the microphone cable to the AUDIO 1 IN connector, and secure with the cable clamp.**



4 **Set the audio input 1 selector switch to match the type of microphone used.**

Microphone not requiring a phantom power supply from the camera:
Set to MIC.

Microphone requiring a phantom power supply from the camera:
Set to +48V. Select +48V when using the microphone supplied with the HXC-FB80K.

Note

The AUDIO 1 IN and AUDIO 2 IN connectors on the camera are female XLR connectors (3-pin) used to provide a phantom 48 V power supply. If the microphone cable has a female connector, use an adaptor.

5 **Switch the input level to match the sensitivity of the microphone used.**
The input level in standalone operation mode can be adjusted using the <AUDIO> page setting (factory default: 60 dB) in the MAINTENANCE menu or by assigning the function on the <VR ASSIGN> page in the OPERATION menu.

Note

If the input level on the camera is not at an appropriate setting for the microphone sensitivity, loud sounds may be distorted, and the signal-to-noise ratio may be affected.

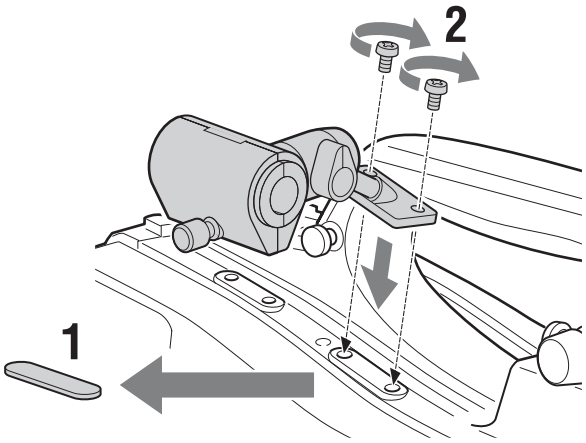
Connecting a microphone to the AUDIO 2 IN connector

You can connect a monaural microphone to the AUDIO 2 IN connector, using an optional CAC-12 microphone holder.

For details about attaching the microphone, refer to the operation manual for the microphone.

*For details about setting the audio input 2 selector switch and input level of the AUDIO 2 IN connector, see steps **4** and **5** in "Connecting a microphone to the AUDIO 1 IN connector" (page 24).*

Attaching the microphone holder



1 **Remove the screw hole cover from the microphone holder attachment.**

2 **Attach the CAC-12 microphone holder and secure to the camera using the two supplied screws (+B4×8).**

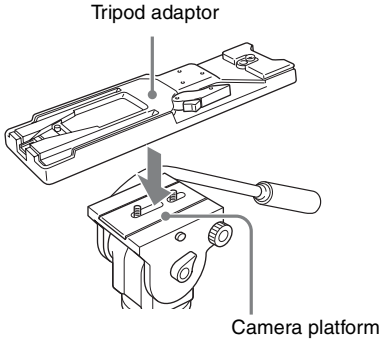
Mounting on a Tripod

Mount the camera on a tripod, using the optional VCT-U14 or VCT-14 Tripod Adaptor.

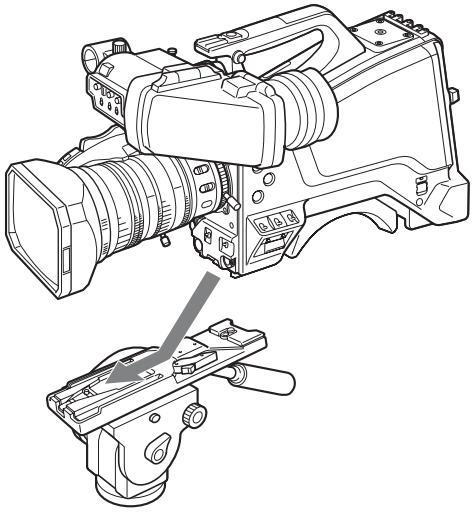
Notes

- If camera instability still affects shooting when using a tripod with the VCT-U14 Tripod Adaptor, use the VCT-14 Tripod Adaptor for professional use.
- Select an appropriate hole from among those at the bottom of the tripod adaptor, considering the balance of the weight of the camera and the tripod adaptor. If an inappropriate hole is selected, the center of gravity may cause the camera to fall over, resulting in injury.
- Check that the size of the selected hole matches that of the screw of the tripod. If they do not match, the tripod adaptor cannot be attached to the tripod securely.

1 **Attach the VCT-14/U14 Tripod Adaptor to the camera platform.**



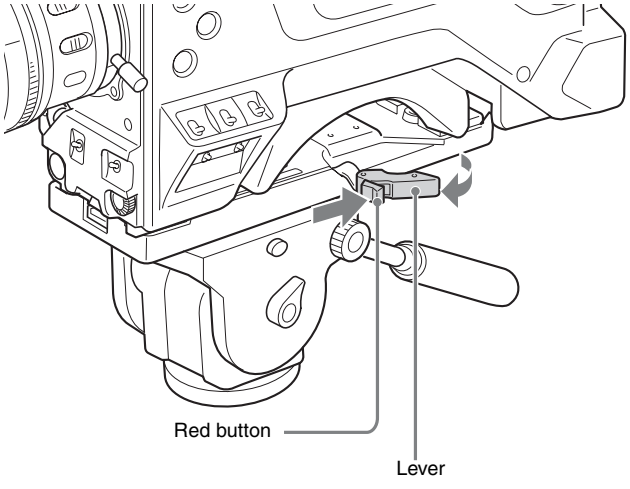
2 **Place the camera on the tripod adaptor and slide it forward along the groove of the platform until it clicks into place.**



3 **Move the camera back and forth, and check that it is securely fixed.**

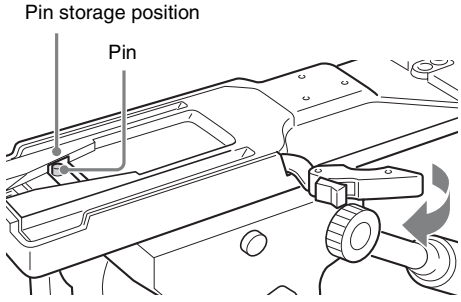
To remove the camera from the tripod adaptor

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



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

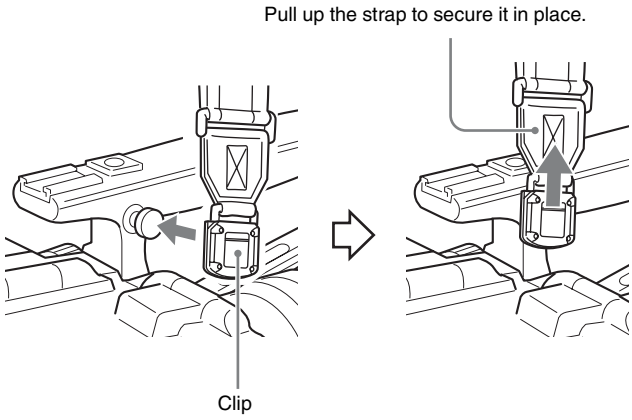
After removing the camera, if the pin of the tripod adapter does not return to its original position (storage position), hold down the red button and move the lever in the direction of the arrow to return the pin to its original position. It is not possible to mount a camera if the pin remains in the center.



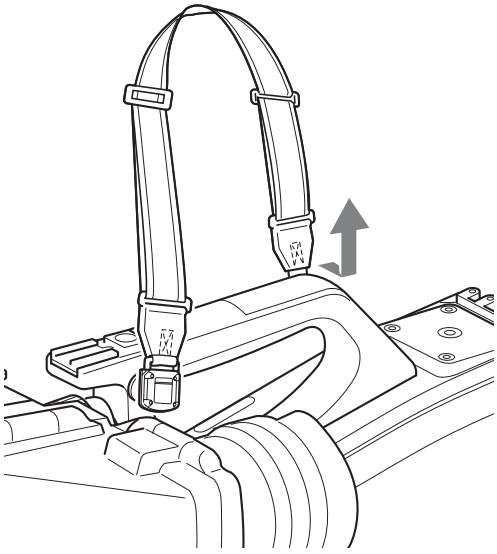
Attaching the Shoulder Strap

Attach an optional shoulder strap (part number: A-6772-374-C) to the camera.

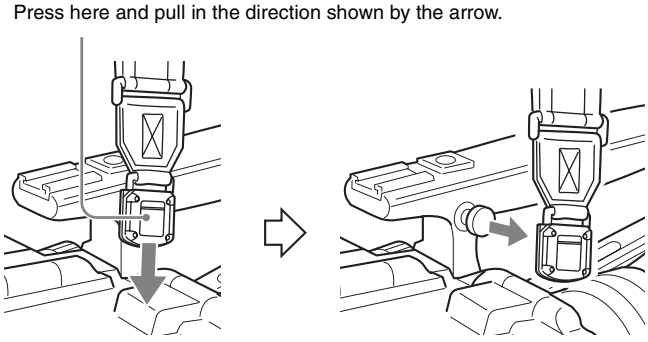
1 **Fit one of the clips to the shoulder strap fitting.**



2 **Fit the other clip to the shoulder strap fitting on the other side of the grip.**

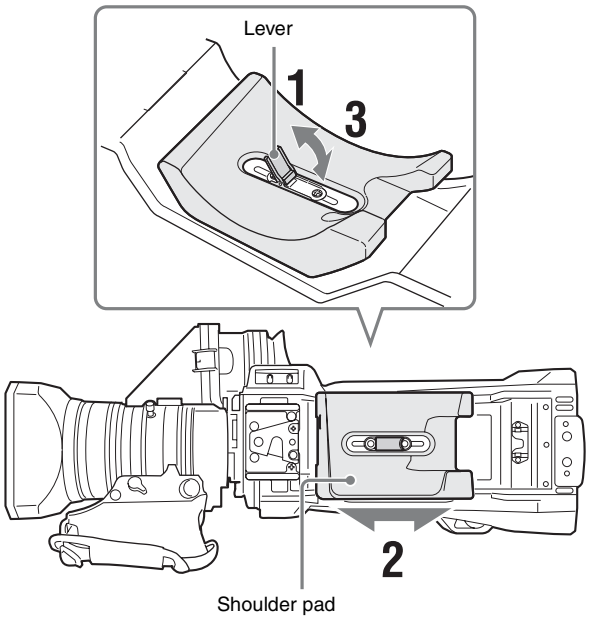


To remove the shoulder strap



Adjusting the Shoulder Pad Position

You can slide the shoulder pad forward and backward within a 40 mm (1 $^{5}/_{8}$ inch) range. This adjustment helps you get the best balance for shooting with the camera on your shoulder.



1 **Raise the lever in the center of the shoulder pad to unlock the shoulder pad.**

2 **Slide the shoulder pad backward or forward until it is in the most convenient position.**

3 **Lower the lever to lock the shoulder pad.**

Shooting

Basic Procedure for Shooting

1 **Turn the camera on.**

2 **Set the FILTER knob and COLOR TEMP. button appropriately for the lighting conditions.**

Filter settings

FILTER knob	Lighting conditions
1 (Clear)	Indoor shooting
2 (1/4 ND)	Outdoor (cloudy or rainy) or indoor shooting when you wish to reduce the depth of field [a].
3 (1/16 ND)	Outdoor shooting in daytime
4 (1/64 ND)	Outdoor shooting when you wish to reduce the depth of field, or especially under bright outdoor ambient light

a) Depth of field: This is the range over which the subject is sharply in focus. If the range is narrow, the depth of field is called “shallow focus.” If the range is wide, the depth of field is called “deep focus.”

From the viewpoint of the characteristics of lenses, shooting with an F-stop value in the range of F4 to F8 is generally recommended for good quality pictures. Set the FILTER knob to bring the iris setting into that range. However, this may not apply when special composition is desired.

5600K setting

The 5600K ON/OFF function is assigned to the COLOR TEMP. button by factory default.

5600K	Lighting conditions
OFF	Indoor shooting under lighting with lower color temperature, such as a halogen or tungsten lamp
ON	Outdoor shooting in daytime, or indoor shooting under lighting with higher color temperature

3 **Check the settings of the camera.**

- Settings of switches/knobs
- Settings in the OPERATION menu *(see page 46)* and the PAINT menu *(see page 53)*
- Electronic shutter setting *(see page 30)*
- Settings for the output signals from the camera *(see page 32)*
- Flange focal length adjustment *(see page 24)*

4 **Adjust the viewfinder diopter, as well as the contrast and brightness of the viewfinder image *(see page 18)*.**

For details about the operation of optional viewfinders, refer to the operation manual for the viewfinder.

5 **If required, switch on the center marker, safety zone, and zebra pattern display in the viewfinder.**
Configure in the following menu items.
- <VF MARKER> page *(see page 47)* in the OPERATION menu
- <ZEBRA> page *(see page 48)* in the OPERATION menu

6 **Check the microphone connection and the audio input selector switch settings *(see page 24)*.**

7 **Adjust the white balance and black balance *(see page 28)*.**

8 **Rotate the focus ring on the lens to adjust the focus.**

Adjustments and Settings

For details about menu operations, see "Menu Operation" (page 34).

Changing the Video Format

1 **Select the <OUTPUT FORMAT> page in the MAINTENANCE menu.**

2 **Select the desired format in CURRENT.**

Adjusting the Black Balance and White Balance

To ensure excellent image quality when using this camera, conditions may require that both the black balance and the white balance be adjusted.
Black balance and white balance adjustment values that are automatically set by the camera and other various settings are stored in the camera memory and retained when the power is turned off.

Note

When connected to a camera control unit or external control device (for example, RCP or RM), the black balance and white balance adjustment functions are controlled from the connected device. They are not controlled using the camera.

For details about operations on the external control device, refer to the operating instructions or operation manual for the device.

Black balance adjustment

The black balance will require adjustment in the following cases.
- When using the camera for the first time
- When the camera has not been used for a long time
- When the camera is used under conditions in which the surrounding temperature has changed greatly
- When the gain values configured for the GAIN switch (L/M/H) have been changed using GAIN on the <SWITCH ASSIGN1> page in the OPERATION menu.

It is not usually necessary to adjust the black balance when using the camera after it has been turned off.

White balance adjustment

Always readjust the white balance when the lighting conditions change.

Adjusting the black balance

In automatic black balance mode, adjustments are performed in the following order: black set and black balance. Manual black balance adjustment can be selected in the menu.

For details about manual black balance adjustment, contact a Sony service representative.

1 **Set the OUTPUT/AUTO KNEE switch to CAM.**

2 **Push the WHT/BLK switch to the BLK position and release the switch.**

The message “ABB: EXECUTING” appears during execution, and changes to “ABB: OK” when the adjustment finishes. Adjustment values are saved in memory automatically.

Notes

- During the black balance adjustment, the iris is automatically shielded.
- During the black balance adjustment, the gain selection circuit is automatically activated so you may see flicker in the viewfinder, but this is not a fault.

If automatic black balance adjustment cannot be made

If the black balance adjustment cannot be completed normally, an error message will appear for about three seconds in the viewfinder. If an error message is displayed, retry the black balance adjustment. If the error message occurs again, consult your Sony dealer or a Sony service representative.

Note

If the lens cable is not firmly connected to the LENS connector, it may not be possible to adjust the lens iris. If this happens, the black balance will be incorrect.

Adjusting the white balance

1 **Set the switches as shown below.**

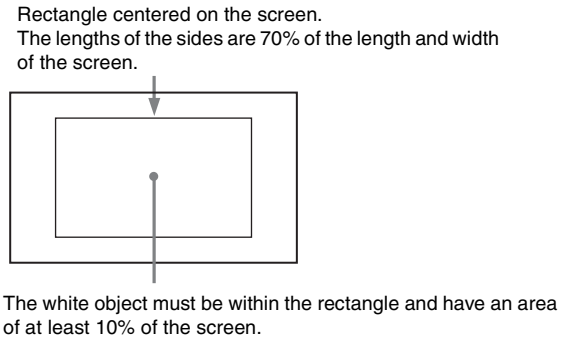
- GAIN switch: L (set to a gain value that is as small as possible)
- OUTPUT/AUTO KNEE switch: CAM
- WHITE BAL switch: A or B

2 **Set the FILTER knob to suit the lighting conditions.**

3 **Place a white test card under the same lighting conditions as for the subject to be shot and zoom up to it.**

Alternatively, any white object such as a cloth or a wall can be used.

The minimum required white area is as follows.



Note

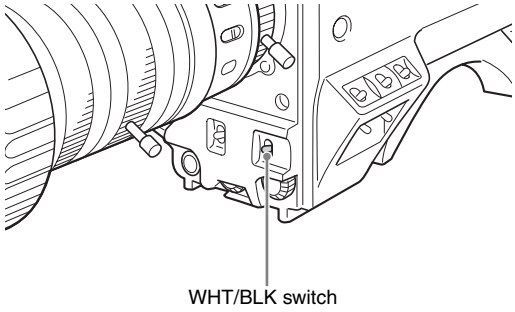
Make sure there are no bright spots in the rectangle.

4 **Adjust the lens iris.**

Manually adjustable lens: Set the iris to an appropriate setting.

Lens with automatic iris: Set the iris automatic/manual switch on the lens to automatic.

5 **Push the WHT/BLK switch to the WHT position and release the switch.**



The message “AWB: EXECUTING” appears during execution, and changes to “AWB: OK” when the adjustment finishes. The adjustment values are saved automatically in the memory selected in step **1** (A or B).

Note

If the camera has a zoom lens with an automatic iris, the iris may hunt [1] during the adjustment. To prevent this, adjust the iris gain knob (labeled IG, IS, or S) on the lens.

1) Hunting: Repeated brightening and darkening of the image, resulting from repeated response to automatic iris control.

For details, refer to the operation manual supplied with the lens.

If the automatic white balance adjustment cannot be made

If the white balance adjustment cannot be completed normally, an error message will appear for about three seconds in the viewfinder. If an error message is displayed, retry the white balance adjustment. If the error message occurs again, consult your Sony dealer or a Sony service representative.

If you have no time to adjust the white balance

Set the WHITE BAL switch to PRST.

The white balance can be set to 5600K automatically by pressing the COLOR TEMP. button.

You can set the color temperature to 3200K, 4300K, 5600K, or 6300K by assigning the electrical CC filter function to the COLOR TEMP. button.

To switch the electrical CC filter

You can assign the electrical CC filter switching function to the ASSIGN 1/2/3 buttons or the COLOR TEMP. button. This allows you to switch between color temperatures (3200K/4300K/5600K/6300K) configured for the four positions (A to D) selected with each press of the button.

1 **Select the <WHITE FILTER> page in the MAINTENANCE menu.**

2 **Select the position to which to assign a CC filter (ELECTRICAL CC <A> to <D>).**

3 **Set the color temperature (3200K, 4300K, 5600K, or 6300K).**

To set no color temperature

You can disable ELECTRICAL CC <C> and <D> by setting the value to “-----.”

For example, if one position is disabled, then that position is not displayed and the button switches between the remaining three positions.

4 **Repeat steps 2 and 3 as required.**

5 **Assign the CC filter switching function (ELECTRICAL CC) to a button on the <SWITCH ASSIGN1> page in the OPERATION menu.**
For the ASSIGN 1/2/3 buttons, select ASSIGNABLE 1/2/3 and set to ELECTRICAL CC. For the COLOR TEMP. button, select ASSIGN CTEMP and set to ELECTRICAL CC.

White balance memory

There are two white balance memories: A and B. When you execute automatic white balance adjustment, the adjusted white balance value is stored in the memory (A or B) selected with the WHITE BAL switch.
The white balance values stored in memory are retained until the white balance is adjusted again, including when power is turned off. When power is turned on again, the white balance in memory corresponding to the current WHITE BAL switch setting is loaded.

Setting the Electronic Shutter

Note

When connected to a camera control unit or external control device (for example, RCP or RM), the electronic shutter settings are controlled from the connected device. They are not controlled using the camera.

For details about operations on the external control device, refer to the operating instructions or operation manual for the device.

Shutter modes

The shutter modes that can be used with the electronic shutter and the shutter speeds that can be selected are listed below.

Standard mode

Select this mode for shooting fast-moving subjects with little blurring.

System frequency	Shutter speed (sec.)
• 59.94i • 59.94P	1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000
• 50i • 50P	1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000
• 29.97PsF	1/40, 1/60, 1/100, 1/120, 1/125, 1/250, 1/500, 1/1000, 1/2000
• 25PsF	1/33, 1/50, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000
• 23.98PsF	1/32, 1/48, 1/96, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000

ECS (Extended Clear Scan) mode

Select this mode for obtaining images with no horizontal bands of noise when shooting subjects such as monitor screens.

SYSTEM LINE	System frequency	Shutter speed (Hz)
1080	59.94i	60.00 to 4300
	59.94P	59.96 to 4600
	50i	50.00 to 4700
	50P	50.03 to 4600
	29.97PsF	30.00 to 2700
	25PsF	25.00 to 2300
	23.98PsF	24.00 to 2200
720	59.94P	59.96 to 4600
	50P	50.03 to 4600

SLS (Slow Shutter) mode

Select this mode to shoot dimly lit subjects.
You can set the number of accumulated frames to 2, 3, 4, 5, 6, 7, or 8 frames.

Note

In SLS mode, the following limitations apply to automatic functions.

Y: Available, N: Not available

Function	Operation in SLS mode	
	2F	3F/4F/5F/6F/7F/8F
AUTO WHITE	Y	Y
AUTO BLACK	Y	2F setting
AUTO WHITE SHADING	N	N
AUTO BLACK SHADING	N	N
AUTO LEVEL	N	N
AUTO HUE	N	N
AUTO IRIS	Y	Y
ATW	Y	Y
AUTO KNEE	Y	Y
FLARE	Y	Y
D.EXT	Y	Y
TLCS (AUTO SHUTTER)	Last enabled function takes precedence	

Setting the shutter mode and shutter speed

Notes

- When automatic iris is used, the iris opens wider as the shutter speed increases, reducing the depth of field.
- The selectable shutter speeds vary depending on the current system frequency.

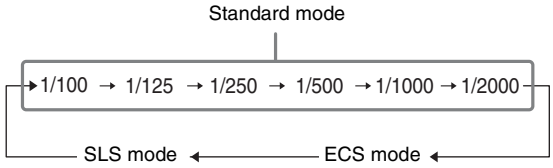
Setting the shutter mode and standard mode shutter speed

Once the shutter speed is selected, it is retained even when the camera power is turned off.

1 **Push the SHUTTER switch from ON to SEL.**
The current shutter setting indication appears in the viewfinder for about three seconds.
Example: SHUTTER: 1/250

2 **Before the shutter setting indication disappears, push the SHUTTER switch to SEL again.**

Repeat this operation until the desired speed is displayed.
To set ECS mode, select “ECS.” To set SLS mode, select “SLS.”
All modes and speeds are displayed in the following order.
Example: System frequency of 59.94i



To set the shutter speed in ECS mode

1 **Set the shutter mode to ECS.**

2 **Rotate the menu control knob and set the desired frequency.**

To set the shutter speed in SLS mode

1 **Set the shutter mode to SLS.**

2 **Rotate the menu control knob and set the desired number of frames.**

Setting Automatic Iris

The automatic iris setting may need to be changed, according to the subject lighting conditions, to aid the shooting of clear pictures of back-lit subjects or to prevent blown-out highlights of subjects illuminated with spotlights.
The reference value for the lens iris can be set within the range –99 (equivalent to closing the iris by 2 stops) to 99 (equivalent to opening the iris by 2 stops) with respect to the standard value.
You can monitor the current reference value using the F-stop value indicator displayed in the viewfinder.
Also, you can set the auto iris target range.

Changing the reference value

The changed reference value is retained until the power of the camera is turned off. Even if the reference value is changed, it reverts to the original value every time the power is turned on.

1 **Select the <AUTO IRIS> page in the MAINTENANCE menu.**

2 **Select AUTO IRIS and set to ON.**

3 **Select OVERRIDE and set the reference value.**

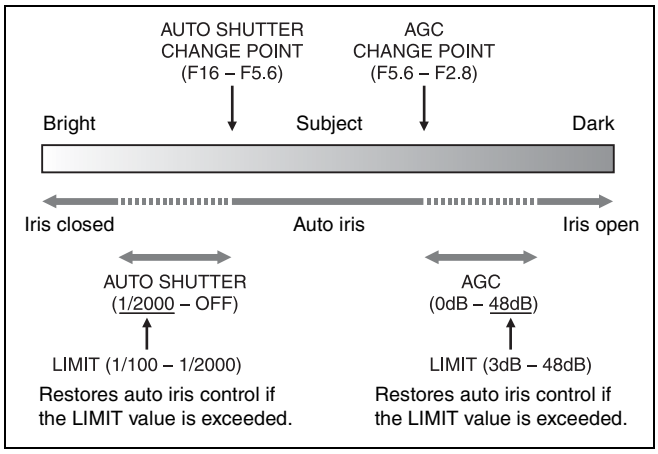
Note

Check that the current shutter mode is not ECS before proceeding.

Setting the TLCS Function

You can maintain the proper exposure by using the TLCS (Total Level Control System) function. This function controls not only the iris, but also the shutter (AUTO SHUTTER) and gain (AGC: Auto Gain Control) automatically.

The TLCS function can be assigned to one of the ASSIGN 1/2/3 buttons, and turned on/off by pressing the button.
The effective auto control range is set as shown in the following diagram on the <TLCS> in the OPERATION menu.



Notes

- Both AUTO SHUTTER and AGC switch on/off in response to the button assigned with the TLCS function. You can turn them on/off individually on the <TLCS> page in the OPERATION menu.
- SLS mode and AUTO SHUTTER cannot be used at the same time. The last enabled function takes precedence.

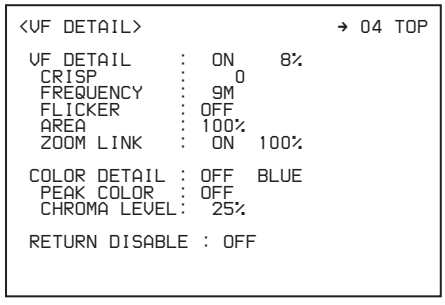
Setting the Focus Assist Function

The assist functions for easier focus adjustment can be displayed in the viewfinder.

Adding the viewfinder detail signal

Adding a detail signal to sharp edges in the image in the viewfinder makes it easier to check the focus condition by observing changes in the detail signal or in the color converted from the detail signal (color detail).
The focus setting where the detail signal becomes strongest is the best focus setting.

1 **Select the <VF DETAIL> page in the OPERATION menu.**



2 **To use the VF detail signal, select VF DETAIL and set to ON.**

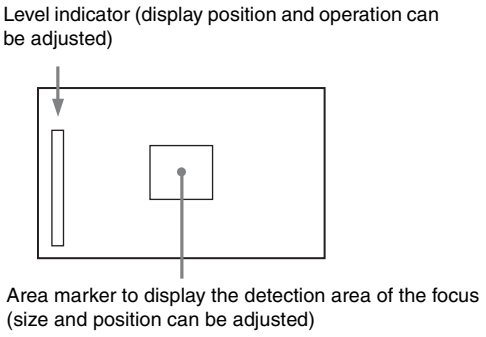
Set VF DETAIL to ON to activate the VF detail function to add the detail signal to sharp edges in the image. You can adjust the level in the range of 0% to 100% (factory default: 8%).
You can adjust the characteristics of the added detail signal with the menu items below.
CRISP: Eliminate fine portions of the detail signal.
FREQUENCY: Change the detection band of sharp edges.

FLICKER: Set the function for flickering the detail signal to ON/OFF. (Setting the function to ON makes it easier to check the detail signal on the viewfinder screen.)
AREA: Limit the area where to display the detail signal.
ZOOM LINK: Set the VF detail level at the full WIDE position. (The VF detail level changes according to the zoom position. The default setting is no change at the 100% WIDE position, and half at 50%.)

3 To use color detail, select COLOR DETAIL and set to ON.
Setting COLOR DETAIL to ON converts the VF detail signal to a color. The display color can be selected in the column next to ON.
You can adjust how color is added with the menu items below.
PEAK COLOR: Turn the function to change the color where the detail signal is strongest on/off.
CHROMA LEVEL: Reduce the chroma components of the video signal.

Displaying the focus assist indicators

The focus assist indicator function extracts the irregularities of a subject and converts the integrated values to a level indicator for display in the viewfinder.



The focus setting where the indicator shows the maximum level is the best focus setting. (The width of the indicator substantially changes depending on the picture content and shooting environment. Adjust using GAIN and OFFSET, as required.)

1 Select the <FOCUS ASSIST> page in the OPERATION menu.

<FOCUS ASSIST> → 05 TOP

INDICATOR : OFF
MODE : BOX BTM
LEVEL : 40% QUICK
GAIN : 50
OFFSET : 50

AREA MARKER: OFF
SIZE : MIDDLE
POSITION : CENTER
POSITION H: 50
POSITION V: 50

2 To use a level indicator, select INDICATOR and set to ON.
Setting INDICATOR to ON displays the level indicator for focusing on the monitor.
You can set the display method with the menu items below.
MODE: Set the type and display position of the indicator.
LEVEL: Set the density and the response speed of the indicator.
GAIN: Set the sensitivity of the indicator. [1)]
OFFSET: Set the offset of the focus detection value. [2)]

1) Normally, the value is automatically set to the optimum value in conjunction with the AREA MARKER SIZE set value. Use this setting when an optimum sensitivity value cannot be obtained, depending on the shooting environment.

2) Normally, the optimum offset is automatically set in conjunction with the AREA MARKER SIZE and MASTER GAIN set values. Use this setting when the optimum offset cannot be obtained, depending on the shooting environment.

3 To use an area marker, select AREA MARKER and set to ON.
Setting AREA MARKER to ON displays an area marker indicating the focus detection area on the monitor.
You can set the size and position of the detection area with the menu items below.
SIZE: Change the size of the detection area. (If the detection area size is too large, both the subject and the background are included in the area, making the indicator display deviate from the subject.)
POSITION: Roughly set the position of the detection area.
POSITION H: Fine adjustment of the position of the detection area in the horizontal direction.
POSITION V: Fine adjustment of the position of the detection area in the vertical direction.

Notes

- The level indicator and effect area marker cannot be displayed at the same time. The one that was set to ON last takes precedence.
- The area marker and aspect safety marker cannot be displayed at the same time. The one that was set to ON last takes precedence.
- When displaying the focus assist indicators, check that the flange focal length (flange back) has been precisely adjusted *(see page 24)*.

Setting the Camera Outputs

You can specify video signals directly output from the camera using the menu.

Note

The MAIN (camera picture), RET (return video), or VF (the same picture as that displayed in the viewfinder) settings are common to SD-SDI and VBS. Different signals cannot be output.

The menu pages used for the output settings are registered in the USER menu by factory default.
- <SDI OUT> (U17)
- <TEST OUT> (U16)

For details about the USER menu, see "Editing the USER Menu" (page 37).

Set the items on each page as follows.

Outputting the signal being shot (camera picture)

The same textual information as that displayed in the viewfinder can be added to the output signal by setting CHARACTER to ON on the <SDI OUT> or <TEST OUT> page.

To output as HD-SDI

Menu page	Page No.	Item	Setting
<SDI OUT>	M11	SDI OUT	MAIN

To output as SD-SDI

Menu page	Page No.	Item	Setting
<SDI OUT>	M11	SDI OUT	SD-SDI
		DOWN CONVERTER SELECT	MAIN

Note

SD-SDI output is not available when HDR is set.

To output as VBS

Menu page	Page No.	Item	Setting
<TEST OUT>	M10	OUTPUT	VBS
		DOWN CONVERTER SELECT	MAIN

Note

VBS signal output is not available when HDR is set.

Constantly outputting a return video

- When a CCU is connected, one of the signals being supplied to the CCU can be output from the camera.
- The last selected return signal is output.

To output as HD-SDI

Menu page	Page No.	Item	Setting
<SDI OUT>	M11	SDI OUT	RET

Outputting the same image as that in the viewfinder

With HD-SDI, you can obtain a signal that includes the same information as that being displayed in the viewfinder according to the settings for VF MARKER, CHARACTER, VF DETAIL, ZEBRA, etc. The individual ON/OFF and other settings for adding information are common to those for the viewfinder. The output is synchronized with the switching of Y, R, G, B, or return signal in the viewfinder.

To output as HD-SDI

Menu page	Page No.	Item	Setting
<SDI OUT>	M11	SDI OUT	VF

To output as TEST OUT

Menu page	Page No.	Item	Setting
<TEST OUT>	M10	OUTPUT	VF

Outputting a prompter signal

The VBS signal supplied to the PROMPTER connector of the CCU is output from the PROMPTER/GENLOCK connector of the camera.

Adjusting the Audio Level

When the HXCU-FB80 is connected

The input levels from audio sources connected to the AUDIO 1 IN and AUDIO 2 IN connectors can be adjusted using a remote control panel connected to the CCU or the CONFIGURATION menu on the CCU.
When the audio input selector switch is set to MIC, the level can be adjusted between 20 dB and 60 dB in steps of 10 dB.
When the audio input selector switch is set to LINE, the level cannot be adjusted.

In standalone operation mode

The input level from audio sources connected to the AUDIO 1 IN and AUDIO 2 IN connectors can be adjusted using the INTERCOM LEVEL knob on the front of the camera.
When the audio input selector switch is set to MIC, the level can be adjusted between 20 dB and 60 dB in steps of 10 dB.
When the audio input selector switch is set to LINE, the level cannot be adjusted.
Set the gain to avoid clipping the audio signal by monitoring the audio level meters and waveforms.
You can assign a function to the INTERCOM LEVEL knob on the <VR ASSIGN> page in the OPERATION menu.

Setting the Digital Extender Function

The central area of the screen can be magnified by a factor of 2 or 4 by enabling the digital extender function.
To use the digital extender function, assign the function to one of the ASSIGN 1/2/3 buttons. Press the button to magnify the central area of the screen by a factor of 2 or 4, and press again to return to the original image.

1 Select D.EXT ENABLE on the <OTHERS> page in the MAINTENANCE menu, and set to ENABLE.

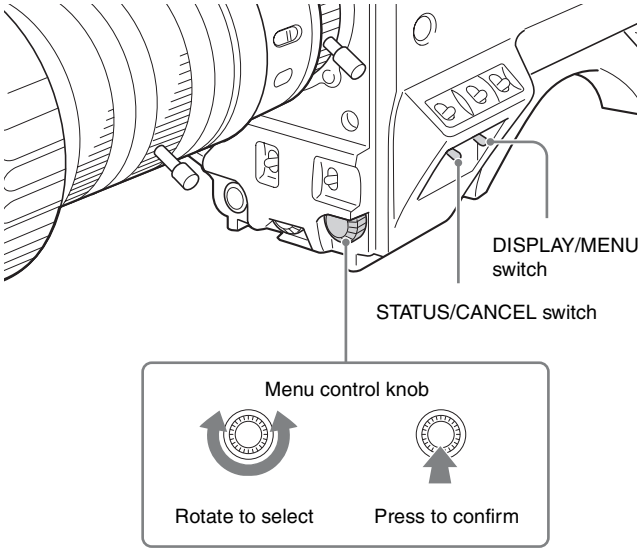
2 Assign the digital extender function (D.EXTENDER ×2 or ×4) to a button on the <SWITCH ASSIGN1> page in the OPERATION menu.
Select one of ASSIGNABLE 1/2/3, and set to D.EXTENDER ×2 (2×) or D.EXTENDER ×4 (4×).

Note

When D.EXT ENABLE is set to ENABLE on the <OTHERS> page in the MAINTENANCE menu, video output from the camera is delayed by 1 field.

Menu Operation

The menus displayed in the viewfinder enable various settings of the camera.
The following switches are used to operate the menus.
Rotate the menu control knob to select menu items or values, and press it to register (enter) the selection.

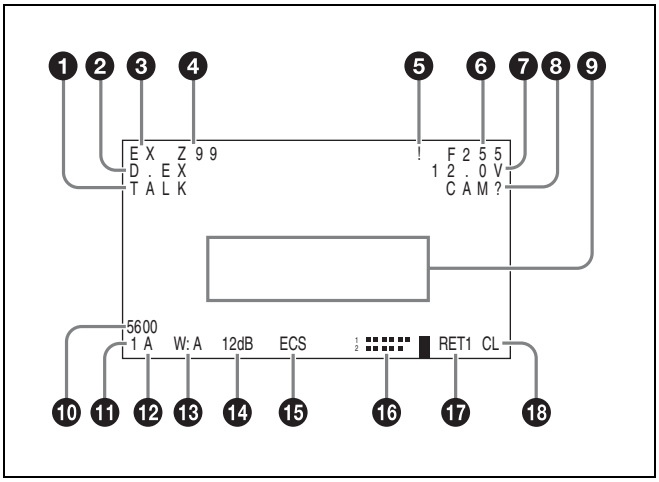


Viewfinder Display Screen

Besides the video image, the viewfinder can display text and messages showing the camera settings and operation status, as well as items such as a center marker or safety-zone marker.

When the DISPLAY/MENU switch is set to DISPLAY

Items set to ON using the menu or related switches will be displayed.



❶ TALK indicator
Displayed when the intercom microphone is ON.

❷ D.EX indicator
Displayed when the digital extender function is ON.

❸ EX (lens extender) indicator
Displayed when using a lens extender.

❹ Zoom position indicator
Indicates the approximate position of the zoom lens variator between wide angle (0) and telephoto (99).

❺ ! indicator
Displayed when non-standard settings are configured, using the '!' IND function.

❻ Focus position indicator
Displays the focus position of a zoom lens as a numeric value (0 to 255 (∞)).

❼ Voltage indicator
Displays the voltage supplied to the camera.

❽ DIAG indicator
Displays self-diagnostic information.

❾ Message area
Displays various types of messages.

❿ 5600K mode indicator
Displayed when the 5600K setting is ON.

⓫ Filter indicator
Displays the type of ND filter (A to D).

⓬ ECC indicator
Displays the type of built-in electrical CC filter (A to D).

⓭ White balance memory indicator
Displays the white balance automatic adjustment memory. This is not displayed when a CCU is connected.
W:A: The WHITE BAL switch is set to A.
W:B: The WHITE BAL switch is set to B.
W:P: The WHITE BAL switch is set to PRST.

⓮ Gain value indicator
Displays the video gain value (dB) set with the GAIN switch.

⓯ Shutter/ECS indicator
Displays the shutter/ECS setting. Not displayed if the shutter is OFF.

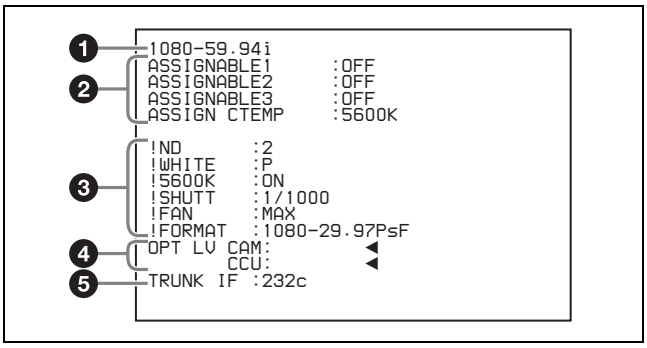
⓰ Audio level meters
Displays the audio levels input to the AUDIO 1 IN and AUDIO 2 IN connectors.

⓱ Return video indicator
Displayed while the RET button is pressed.

⓲ F-stop value indicator
Displays the lens F-stop (iris opening) value.

When the STATUS/CANCEL switch is set to STATUS

The status display appears when you set the STATUS/CANCEL switch to STATUS with the DISPLAY/MENU switch set to DISPLAY.
The status screen displays the video format and non-standard settings of the camera.



❶ Format indicator
Displays the current video format.

❷ Assignable button function indicators
Displays the functions assigned to the ASSIGN 1/2/3 buttons and COLOR TEMP. button.

For details, see "<SWITCH ASSIGN1>" (page 50) in the OPERATION menu.

❸ '!' indicator area
This area is used to display non-standard status, using the '!' IND function. Display options can be set using the menu.

For details, see "<'!' IND>" (page 47) in the OPERATION menu.

❹ Optical level indicators
Displays the optical levels using multi-segment indicators.
CAM: Optical level on the CCU connector of the camera
CCU: Optical level on the CAMERA connector of the CCU

❺ TRUNK IF
Displays the TRUNK IF setting status.

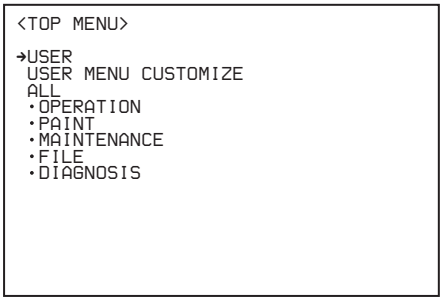
Operating the Menu

To display a menu page

Set the DISPLAY/MENU switch to MENU.
The menu page last accessed will be displayed. If it is the first time, the CONTENTS page of the USER menu will be displayed.

To display the TOP MENU screen

If you set the DISPLAY/MENU switch to MENU while holding the menu control knob pressed, "TOP" is displayed at the upper right corner of the screen.
Rotate the menu control knob to move the ➡ pointer on the display to "TOP" and press the menu control knob to display the TOP MENU screen, listing the available menus.



Menu	Function
USER	This menu is user defined and can include often-used menu pages selected from among the OPERATION, PAINT, MAINTENANCE, FILE, and DIAGNOSIS menus. The factory default configuration can be changed using the USER MENU CUSTOMIZE menu.
USER MENU CUSTOMIZE	This menu allows you to edit the USER menu. *For details, see "Editing the USER Menu" (page 37).*
ALL	This menu permits you to control all items of the OPERATION menu, PAINT menu, MAINTENANCE menu, FILE menu, and DIAGNOSIS menu as a single menu.
OPERATION *(page 46)*	This menu contains items for camera operators to operate the camera. It mainly permits viewfinder, intercom, and switch settings.
PAINT *(page 53)*	This menu contains items for making detailed image adjustments while using a waveform monitor to monitor the waveforms output from the camera. Support of a video engineer is usually required to use this menu. Although you can also use an external control device to set the items in this menu, the menu is effective when using the camera outdoors in standalone operation mode.
MAINTENANCE *(page 57)*	This menu contains items for performing camera maintenance operations and for setting infrequently used "paint" items.
FILE *(page 62)*	This menu is for performing file operations, such as writing or clearing the reference file.
DIAGNOSIS *(page 63)*	This menu displays self-diagnostic information.

To disable the "TOP" indication

Turn the power off then on again, or set the DISPLAY/MENU switch from OFF to MENU while holding the STATUS/CANCEL switch in the CANCEL position. This disables the TOP selection.

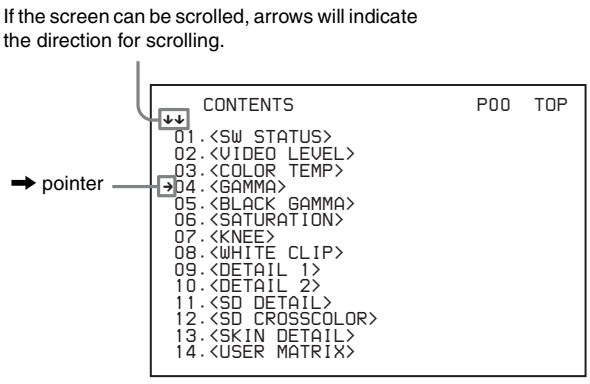
To select a menu on the TOP MENU screen

Rotate the menu control knob to align the ➡ pointer with the desired menu and press the menu control knob.
The CONTENTS page (page No. 00) or the last accessed page of the selected menu is displayed.

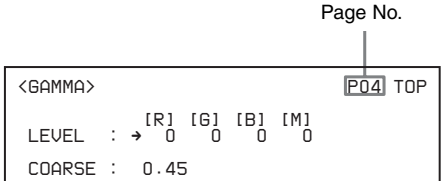
Selecting a Page

To select a page from the CONTENTS page

Rotate the menu control knob to align the ➡ pointer with the desired page and press the menu control knob.

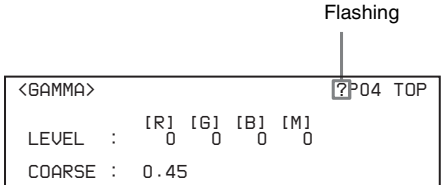


The selected page is displayed.
Press the menu control knob to confirm the page selection.



To change the displayed page

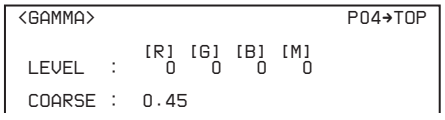
1 **Check that the ➡ pointer is located on the left of the page number and press the menu control knob.**
The ➡ pointer changes to a flashing question ? mark.



2 **Rotate the menu control knob to flip through the pages, and press the menu control knob when the desired page is displayed.**
The ? mark will change back to the ➡ pointer, and operations on the selected page are enabled.

To return to the TOP MENU screen

Align the ➡ pointer with "TOP" at the top right of the menu page and press the menu control knob.



Setting Menu Items

If a ? mark is flashing on the left of the page number, press the menu control knob to change it to the ➡ pointer. Operation on the displayed page is enabled.

1 **Align the ➡ pointer with the desired item and press the menu control knob.**
The ➡ pointer changes to a flashing question ? mark.

2 **Rotate the menu control knob to change the setting value.**
When the knob is rotated quickly, the values will change quickly; when rotated slowly, the values will change slowly.

To reset a changed value

If you set the STATUS/CANCEL switch to CANCEL before pressing the menu control knob, the setting will be returned to its previous value.

To interrupt settings

Set the DISPLAY/MENU switch to OFF to turn off the menu screen display.
The setting operation can be restarted by setting the DISPLAY/MENU switch back to MENU.

3 **Press the menu control knob.**
The ? mark will change back to the ➡ pointer, and the setting will be registered.

4 **To change other setting items on the same menu page, repeat steps 1 to 2.**

To specify a character string

When you press the menu control knob with the ➡ pointer aligned with an item for which a character string, such as a file ID, is to be specified, a rectangular cursor and a list of selectable characters are displayed.
The cursor can be moved by rotating the menu control knob.

1 **Set the cursor to the position where you wish enter a character, then press the menu control knob.**
A cursor appears in the character list.

2 **Set the cursor to the character to be entered and press the menu control knob.**
Repeat steps **1** and **2**.

- By selecting INS on the line below the character list, you can enter a space at the cursor position.
- Selecting DEL deletes the character at the cursor position.
- You can return to step **1** without changing the character by selecting RET.
- If you enter the permitted maximum number of characters (up to the stop mark at the right end of the line), the cursor moves to ESC below the character list.

3 **Select END and press the menu control knob.**
The new string you have set is registered.

To restore the previous string

Select ESC and press the menu control knob.

To return a menu item to the standard value

When an item is selected and the ➡ pointer is displayed, pressing and holding the menu control knob for 3 seconds restores the setting value to the state in the reference file.
If 10 SEC CLEAR is set to ON on the <FILE CLEAR> page in the FILE menu, pressing the control knob for another 10 seconds restores the reference file value of the selected item to the default state.

To exit menu operations

Set the DISPLAY/MENU switch to OFF.

Editing the USER Menu

You can select desired pages and items from the OPERATION, PAINT, MAINTENANCE, FILE, and DIAGNOSIS menus and register them in the USER menu.
If you specify pages or items frequently used for the USER menu, you can easily call and use them.
The following pages are included in the USER menu by factory default.

Menu page	USER menu No.	Source menu / Page No.	
<VF OUT>	U01	OPERATION	08
<VF DETAIL>	U02	OPERATION	04
<FOCUS ASSIST>	U03	OPERATION	05
<VF DISPLAY>	U04	OPERATION	01
<'!' IND>	U05	OPERATION	02
<VF MARKER>	U06	OPERATION	03
<CURSOR>	U07	OPERATION	07
<ZEBRA>	U08	OPERATION	06
<SWITCH ASSIGN1>	U09	OPERATION	09
<SWITCH ASSIGN2>	U10	OPERATION	10
<LENS FILE>	U11	FILE	F04
<HEADSET MIC>	U12	OPERATION	12
<INTERCOM>	U13	OPERATION	13
<AUDIO>	U14	MAINTENANCE	M07
<OUTPUT FORMAT>	U15	MAINTENANCE	M09
<TEST OUT>	U16	MAINTENANCE	M10
<SDI OUT>	U17	MAINTENANCE	M11
<TRUNK>	U18	MAINTENANCE	M12
<ROM VERSION>	U19	DIAGNOSIS	D03

For the items on each page, see "OPERATION Menu" (page 46), "MAINTENANCE Menu" (page 57), "FILE Menu" (page 62), or "DIAGNOSIS Menu" (page 63).

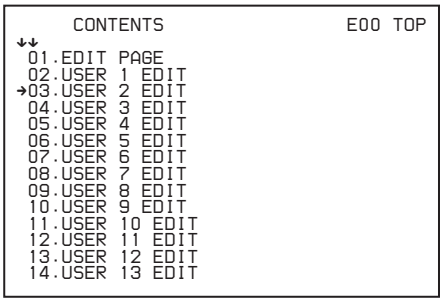
The USER MENU CUSTOMIZE menu allows you to configure the USER menu as follows.
- Creating a new menu page and selecting and adding (registering) items that you use very frequently from multiple menu pages.
- Deleting (unregistering) added items.
- Changing the order of added items.
- Adding (registering) a menu page (new page you create or existing menu page) to the USER menu
- Deleting (unregistering) a page from the USER menu
- Changing the order of pages of the USER menu.

Editing by items

The USER MENU CUSTOMIZE menu allows you to create a new page for the USER menu and add any item.
While the EDIT page contains factory-preset items, the USER 1 EDIT to USER 19 EDIT pages are all blank in their initial state. Up to 10 items can be selected and registered to these pages from different menu pages.

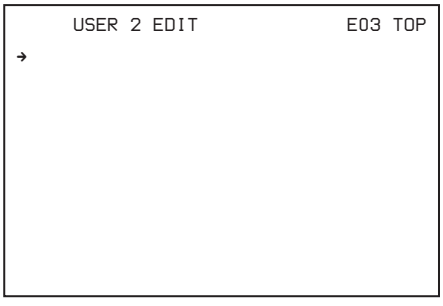
To add items to a page

1 Select USER MENU CUSTOMIZE on the TOP MENU screen *(see page 35)*.
If this is the first time the USER MENU CUSTOMIZE menu has been displayed, the CONTENTS page appears.

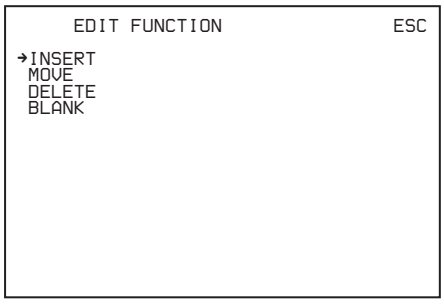


If the menu has been used before, the page last accessed appears.

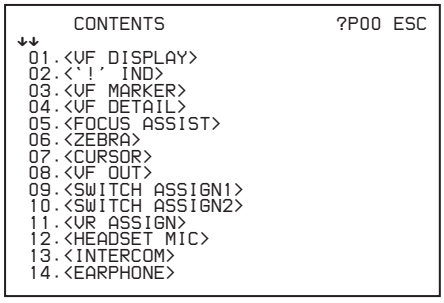
2 If the CONTENTS page is displayed, rotate the menu control knob to move the ➡ pointer to any of USER 1 EDIT to USER 19 EDIT and press the menu control knob to display the page.
If a different page is displayed, rotate the menu control knob until the desired page appears, then press the menu control knob to select the page.
Example: If the USER 2 EDIT page is selected



3 **Move the ➡ pointer to the item to be added (this operation is unnecessary if no item exists on the page, as shown in the figure for the previous step), then press the menu control knob.**
The EDIT FUNCTION screen appears.



4 **Move the ➡ pointer to INSERT and press the menu control knob.**
The CONTENTS page appears.



5 **Add the items.**

① Rotate the menu control knob until the page that has the desired items appears, and press the menu control knob.

② Rotate the menu control knob to move the ➡ pointer to the desired item, and press the menu control knob.

The USER 2 EDIT page appears again, displaying the newly added item.

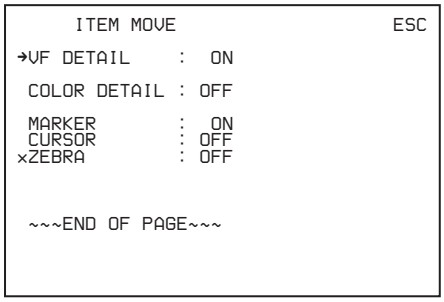
6 **Add the remaining items by repeating steps 3 to 5.**
You can add up to 10 items on one page.

To change the order of items on a page

1 **Move the ➡ pointer to the item to be moved and press the menu control knob.**
The EDIT FUNCTION screen appears.

2 **Select MOVE and press the menu control knob.**
The previously displayed page appears again.

3 **Move the ➡ pointer to the position where you wish to move the page and press the menu control knob.**



The item selected in step **1** moves to the position selected in step **3**.
In the above example, ZEBRA is moved to the top, and the other items are moved down one line.

To delete items from a page

1 **Move the ➡ pointer to the item to be deleted and press the menu control knob.**
The EDIT FUNCTION screen appears.

2 **Select DELETE and press the menu control knob.**
The previously displayed page appears again, and the message "DELETE OK? YES➡NO" appears.

3 **To delete, rotate the menu control knob to move the ➡ pointer to YES and press the menu control knob.**

To insert a blank line

1 **Move the ➡ pointer to the position where you wish to insert a blank line.**
The EDIT FUNCTION screen appears.

2 **Select BLANK and press the menu control knob.**
The previously displayed page appears again, and a blank line is inserted above the position selected in step **1**.

Note

You cannot insert a blank line on a page where 10 items have already been registered.

Editing by pages

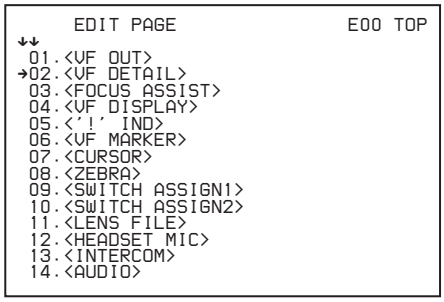
EDIT PAGE in the USER MENU CUSTOMIZE menu allows you add, delete, and sort new pages and existing pages.

To add a page

1 **Select USER MENU CUSTOMIZE on the TOP MENU screen.**
If this is the first time the USER MENU CUSTOMIZE menu has been displayed, the CONTENTS page appears.
If the menu has been used before, the page last accessed appears.

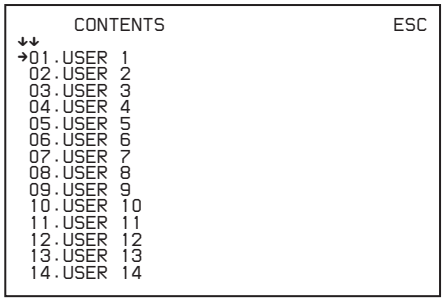
2 **If the CONTENTS page is displayed, rotate the menu control knob to move the ➡ pointer to EDIT PAGE and press the menu control knob to display the EDIT PAGE screen.**
If a different page is displayed, rotate the menu control

knob until the EDIT PAGE screen appears, then press the menu control knob to select the page.



3 **Move the ➡ pointer to the position where you wish to add the page and press the menu control knob.**
The EDIT FUNCTION screen appears.

4 **Select INSERT and press the menu control knob.**
The page selection screen appears.



5 **Move the ➡ pointer to the desired page and press the menu control knob.**
This adds the page above the item selected in step **3**.

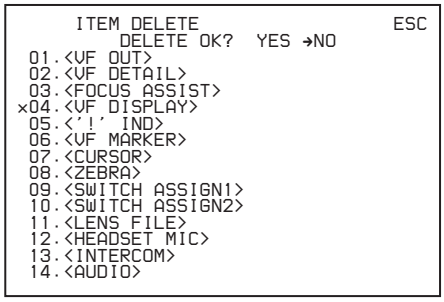
To cancel addition of a page

Before pressing the menu control knob in step **5**, rotate the menu control knob to move the ➡ pointer to ESC at the top right of the screen and press the menu control knob.
The EDIT PAGE screen appears again.

To delete a page

1 **On the EDIT PAGE screen of the USER MENU CUSTOMIZE menu, move the ➡ pointer to the page to be deleted and press the menu control knob.**
The EDIT FUNCTION screen appears.

2 **Select DELETE and press the menu control knob.**
The previously displayed page appears again, and the message "DELETE OK? YES➡NO" appears.



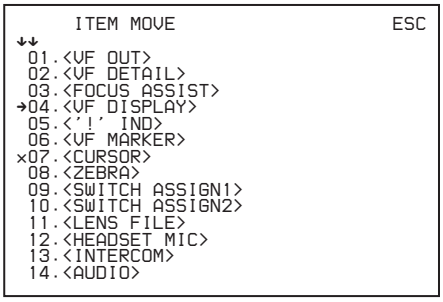
3 **To delete, rotate the menu control knob to move the ➡ pointer to YES and press the menu control knob.**

To change the order of pages

1 **On the EDIT PAGE screen of the USER MENU CUSTOMIZE menu, move the ➡ pointer to the page to be moved and press the menu control knob.**
The EDIT FUNCTION screen appears.

2 **Select MOVE and press the menu control knob.**
The previously displayed page appears again.

3 **Move the ➡ pointer to the position where you wish to move the page and press the menu control knob.**



The page selected in step **1** is moved to the position above the page selected in step **3**.
In the above example, <CURSOR> moves to 04, and <VF DISPLAY> and the following pages move down one line.

Hiding the TOP MENU Screen

1 **Select MAINTENANCE on the TOP MENU screen.**

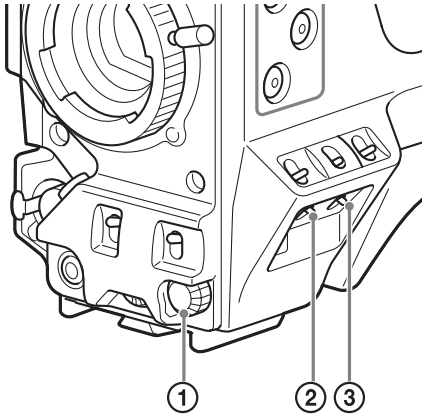
2 **Change TOP MENU LOCK on the <OTHERS> page from OFF to LOCK.**

3 **Turn the unit off and then back on.**

To show the TOP MENU screen again

1 **Set the DISPLAY/MENU switch to OFF.**

2 **Press and hold the menu control knob ① and set the STATUS CANCEL switch ② to the STATUS position (up) and the DISPLAY/MENU switch ③ to the MENU position.**



TOP appears at the top right of the USER MENU screen.

3 **Select TOP to display the <TOP MENU> page.**

4 **Select MAINTENANCE on the TOP MENU screen.**

5 **Change TOP MENU LOCK on the <OTHERS> page from LOCK to OFF.**

Menu List

This section shows the menus to be displayed on the viewfinder screen in tables.

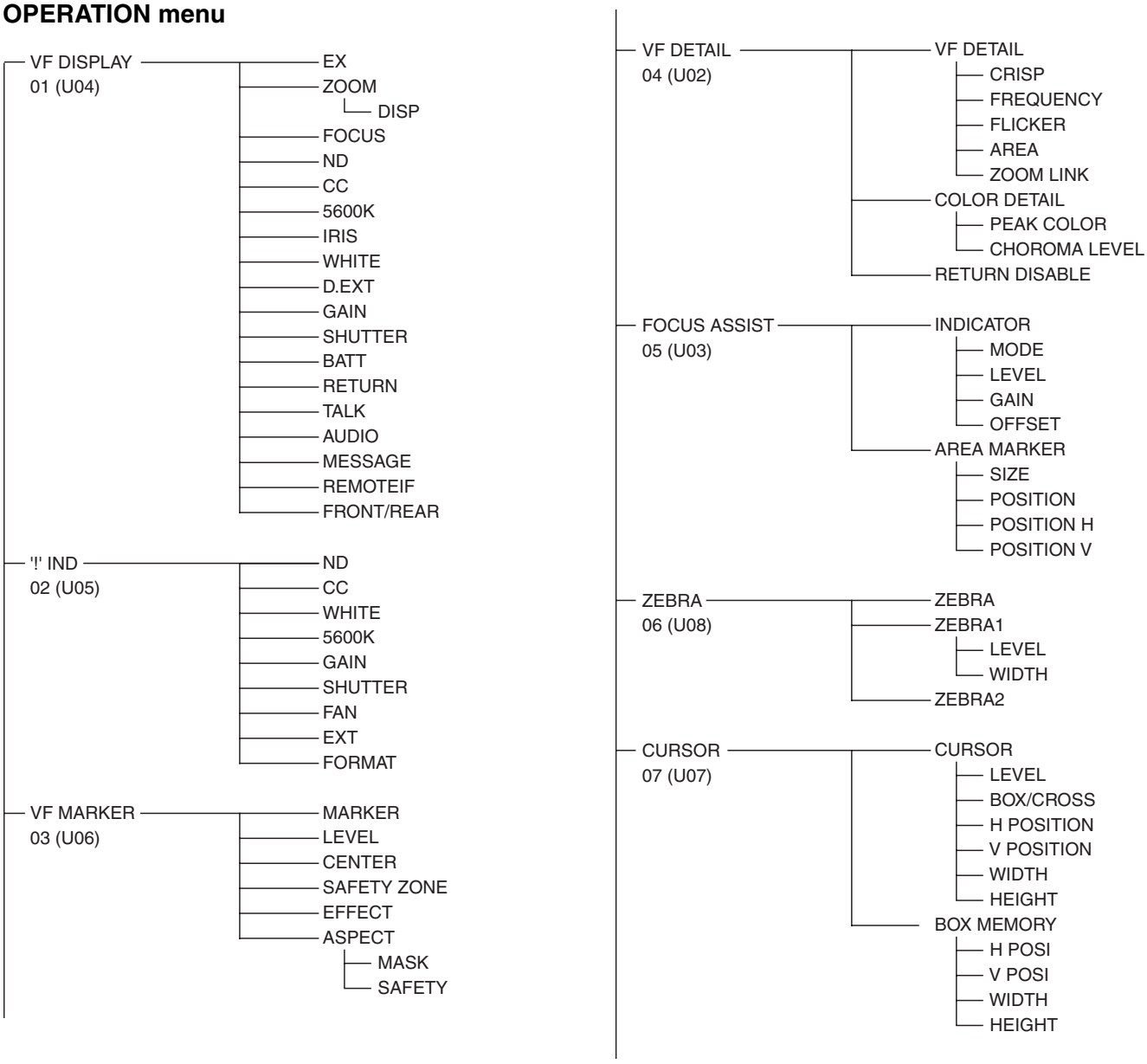
- For the pages that have been registered in the USER menu at the factory, the USER menu page numbers are indicated in parenthesis in the Page No. column of the tables.
- A CONTENTS page (numbered 00) is also provided for each menu.

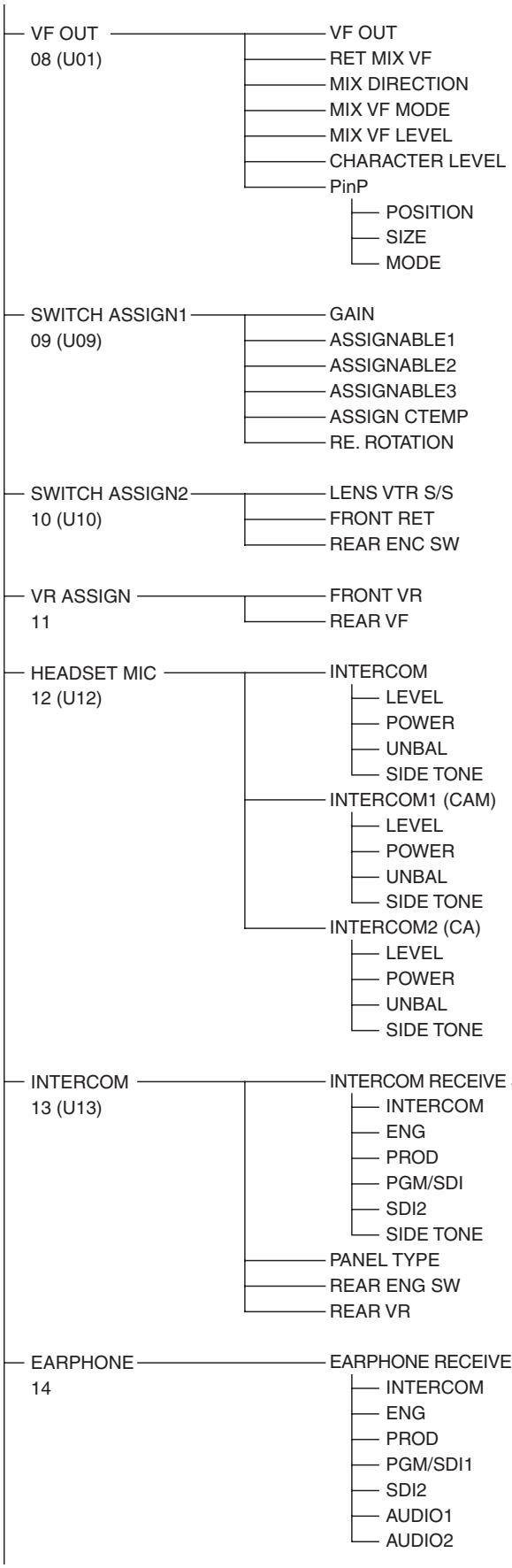
Conventions

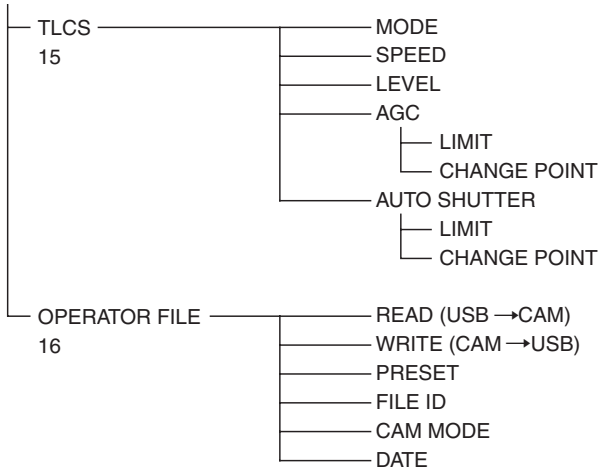
CCU: HXCU-FB80 4K/HD Camera Control Unit or other unit
Underlined values (e.g. ON, OFF, 0): Default settings
Execute using ENTER: Execute by pressing the menu control knob.

Menu Tree

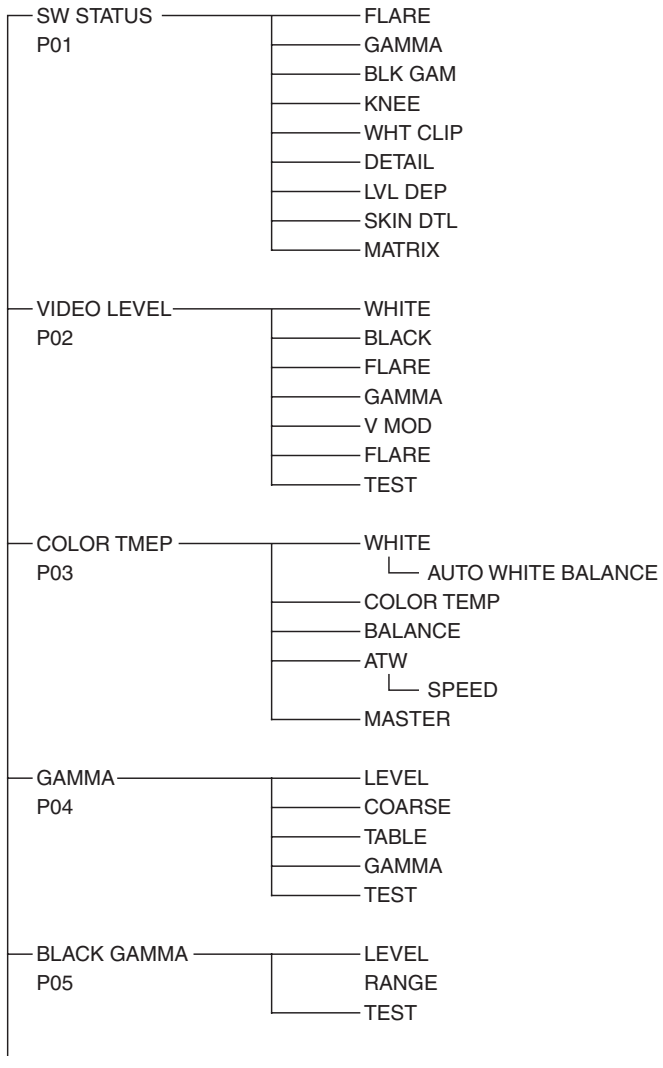
OPERATION menu

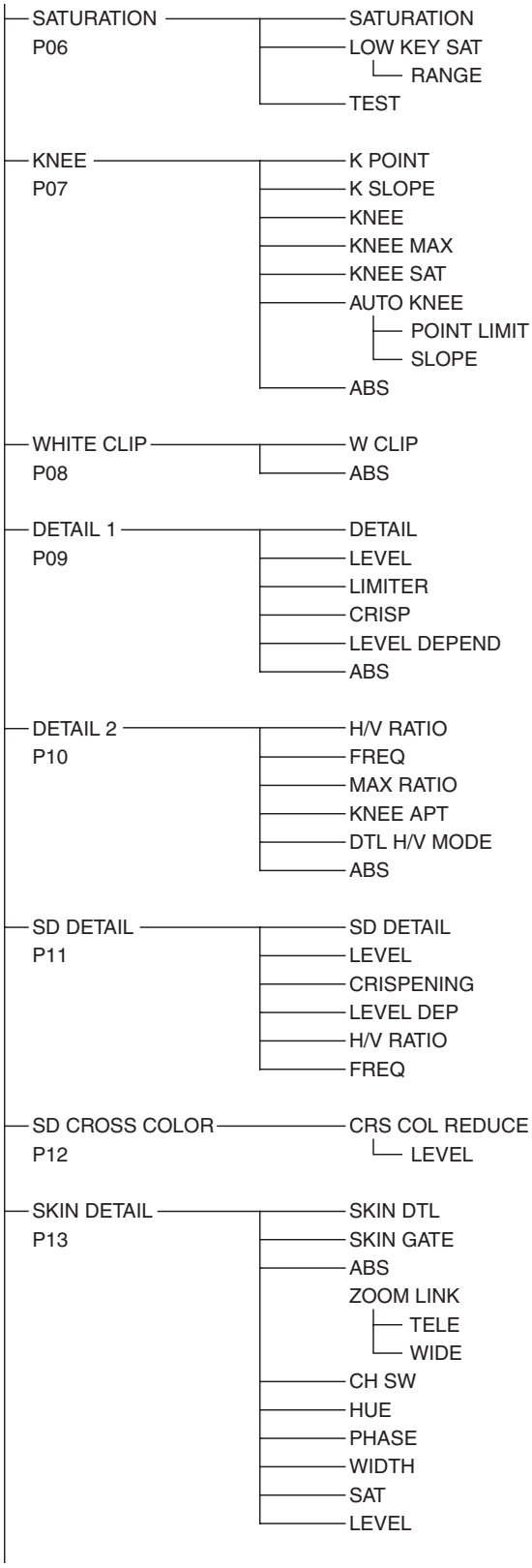


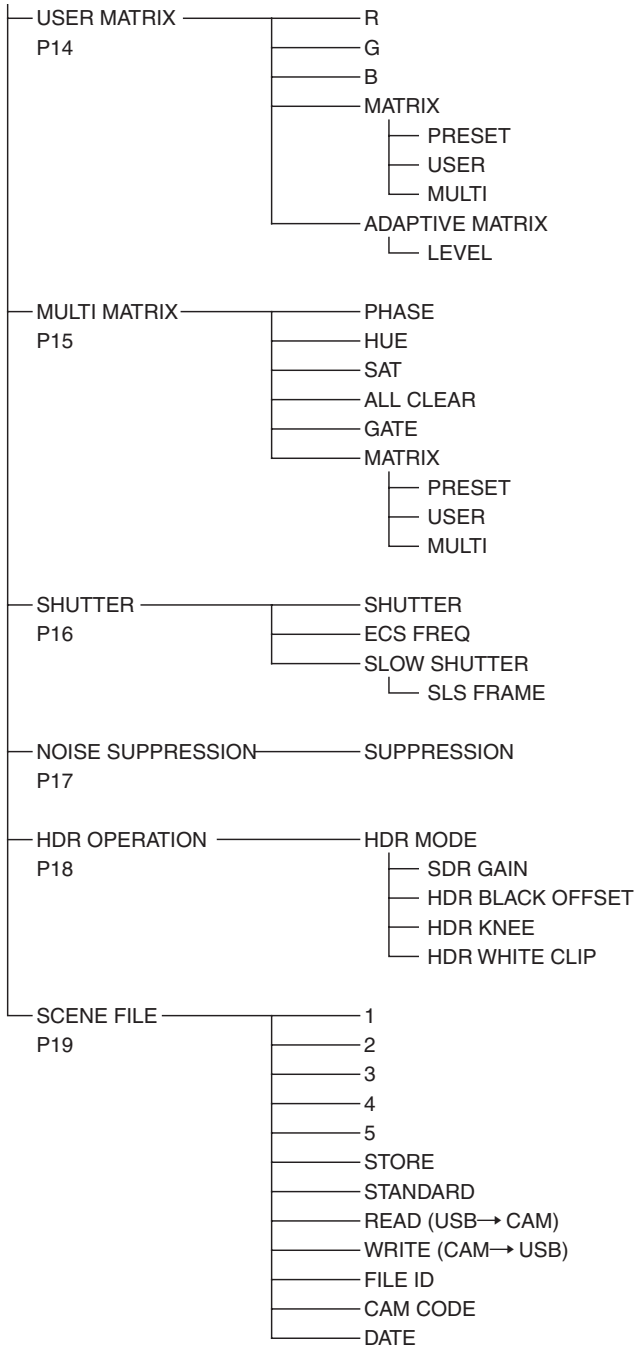

VF OUT
08 (U01)
VF OUT
RET MIX VF
MIX DIRECTION
MIX VF MODE
MIX VF LEVEL
CHARACTER LEVEL
PinP
POSITION
SIZE
MODE
SWITCH ASSIGN1
09 (U09)
GAIN
ASSIGNABLE1
ASSIGNABLE2
ASSIGNABLE3
ASSIGN CTEMP
RE. ROTATION
SWITCH ASSIGN2
10 (U10)
LENS VTR S/S
FRONT RET
REAR ENC SW
VR ASSIGN
11
FRONT VR
REAR VF
HEADSET MIC
12 (U12)
INTERCOM
LEVEL
POWER
UNBAL
SIDE TONE
INTERCOM1 (CAM)
LEVEL
POWER
UNBAL
SIDE TONE
INTERCOM2 (CA)
LEVEL
POWER
UNBAL
SIDE TONE
INTERCOM
13 (U13)
INTERCOM RECEIVE SELECT
INTERCOM
ENG
PROD
PGM/SDI
SDI2
SIDE TONE
PANEL TYPE
REAR ENG SW
REAR VR
EARPHONE
14
EARPHONE RECEIVE SELECT
INTERCOM
ENG
PROD
PGM/SDI1
SDI2
AUDIO1
AUDIO2


TLCS
15
MODE
SPEED
LEVEL
AGC
LIMIT
CHANGE POINT
AUTO SHUTTER
LIMIT
CHANGE POINT
OPERATOR FILE
16
READ (USB →CAM)
WRITE (CAM →USB)
PRESET
FILE ID
CAM MODE
DATE

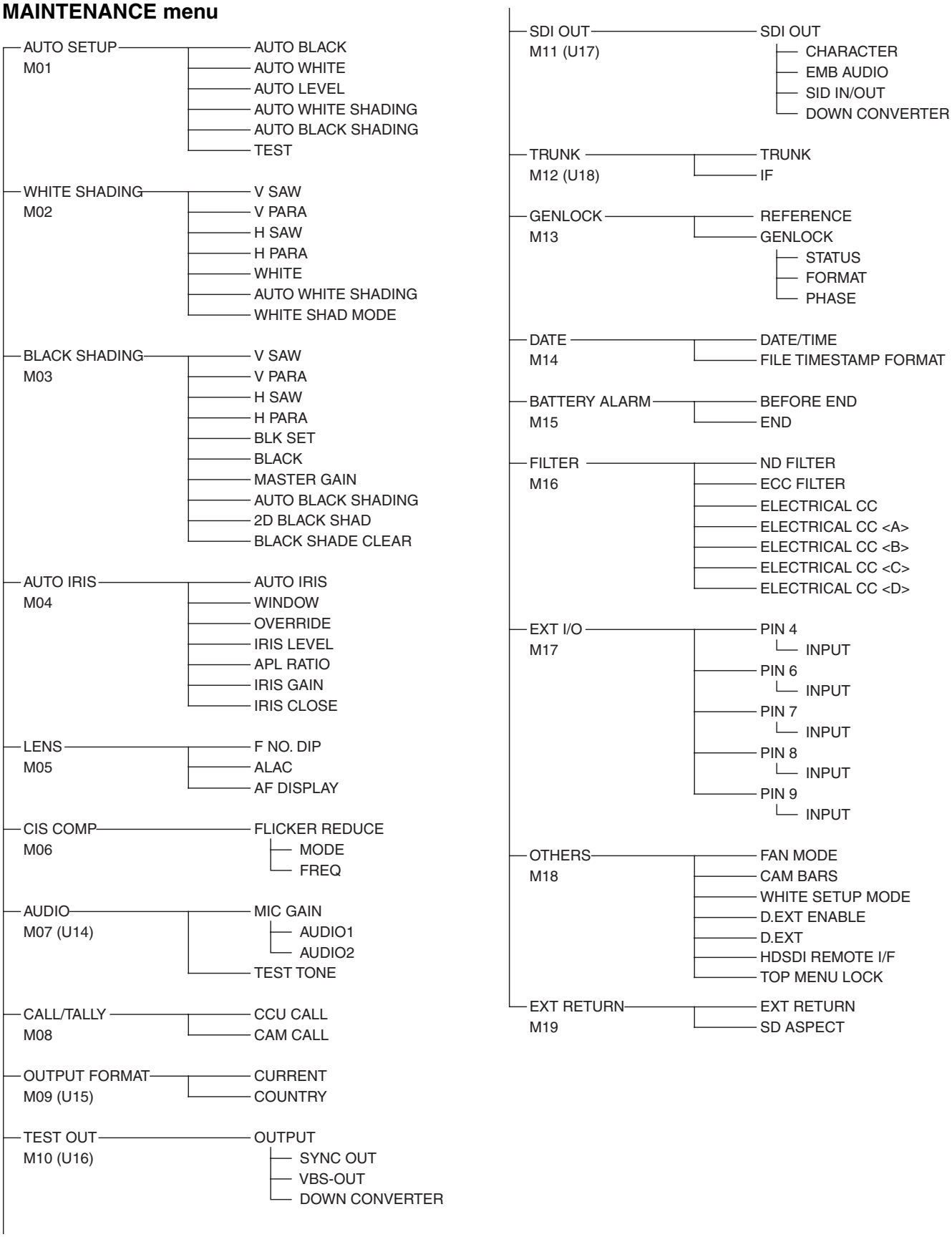
PAINT menu


SW STATUS
P01
FLARE
GAMMA
BLK GAM
KNEE
WHT CLIP
DETAIL
LVL DEP
SKIN DTL
MATRIX
VIDEO LEVEL
P02
WHITE
BLACK
FLARE
GAMMA
V MOD
FLARE
TEST
COLOR TMEP
P03
WHITE
AUTO WHITE BALANCE
COLOR TEMP
BALANCE
ATW
SPEED
MASTER
GAMMA
P04
LEVEL
COARSE
TABLE
GAMMA
TEST
BLACK GAMMA
P05
LEVEL
RANGE
TEST

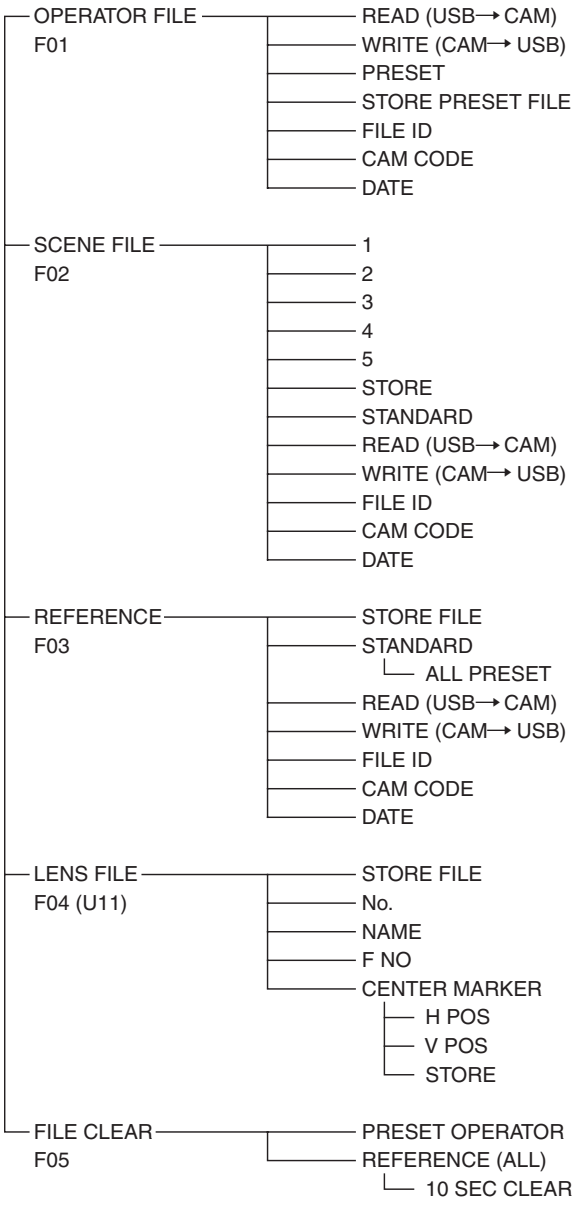

SATURATION
P06
SATURATION
LOW KEY SAT
RANGE
TEST
KNEE
P07
K POINT
K SLOPE
KNEE
KNEE MAX
KNEE SAT
AUTO KNEE
POINT LIMIT
SLOPE
ABS
WHITE CLIP
P08
W CLIP
ABS
DETAIL 1
P09
DETAIL
LEVEL
LIMITER
CRISP
LEVEL DEPEND
ABS
DETAIL 2
P10
H/V RATIO
FREQ
MAX RATIO
KNEE APT
DTL H/V MODE
ABS
SD DETAIL
P11
SD DETAIL
LEVEL
CRISPENING
LEVEL DEP
H/V RATIO
FREQ
SD CROSS COLOR
P12
CRS COL REDUCE
LEVEL
SKIN DETAIL
P13
SKIN DTL
SKIN GATE
ABS
ZOOM LINK
TELE
WIDE
CH SW
HUE
PHASE
WIDTH
SAT
LEVEL


USER MATRIX
P14
R
G
B
MATRIX
PRESET
USER
MULTI
ADAPTIVE MATRIX
LEVEL
MULTI MATRIX
P15
PHASE
HUE
SAT
ALL CLEAR
GATE
MATRIX
PRESET
USER
MULTI
SHUTTER
P16
SHUTTER
ECS FREQ
SLOW SHUTTER
SLS FRAME
NOISE SUPPRESSION
P17
SUPPRESSION
HDR OPERATION
P18
HDR MODE
SDR GAIN
HDR BLACK OFFSET
HDR KNEE
HDR WHITE CLIP
SCENE FILE
P19
1
2
3
4
5
STORE
STANDARD
READ (USB→ CAM)
WRITE (CAM→ USB)
FILE ID
CAM CODE
DATE

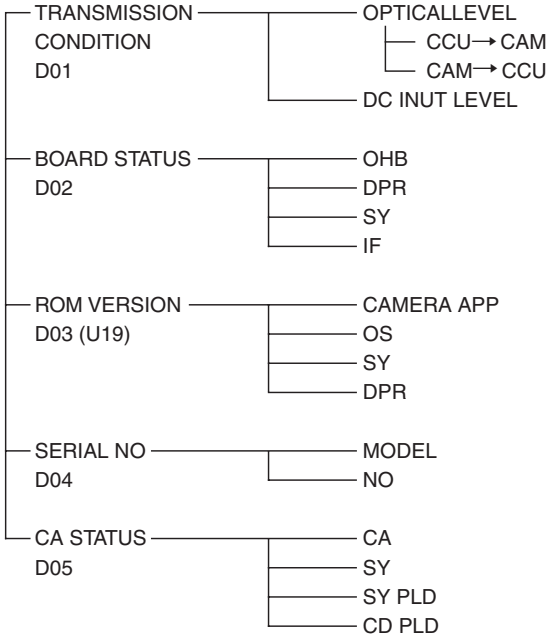
MAINTENANCE menu



FILE menu



DIAGNOSIS menu



OPERATION Menu

OPERATION			
Page name Page No.	**Item**	**Setting**	**Description / Remarks**
<VF DISPLAY> 01 (U04)	EX	**ON**, OFF	
	ZOOM	ON, **OFF**	
	DISP	**LEFT**, RIGT	
	FOCUS	ON, **OFF**	Valid only when a serial lens is used.
	ND	**ON**, OFF	
	CC	**ON**, OFF	
	5600K	**ON**, OFF	
	IRIS	**ON**, OFF	
	WHITE	ON, **OFF**	
	D.EXT	**ON**, OFF	
	GAIN	**ON**, OFF	
	SHUTTER	**ON**, OFF	
	BATT	ON, **OFF**	
	RETURN	**ON**, OFF	
	TALK	**ON**, OFF	
	AUDIO	**ON**, OFF	
	AF	ON, **OFF**	Displayed when AF DISPLAY in <LENS> in the MAINTENANCE menu is set to ON
	MESSAGE	**ALL**, AT, WRN, OFF	**ALL:** Displays all messages. **WRN:** Displays warning messages and higher. **AT:** Displays auto setup information and higher.
	REMOTEIF	ON, **OFF**	“REC” is displayed in conjunction with lens VTRS/S button operation when HDSI REMOTE I/F on the <OTHERS> (M18) page is set to CHARA and this item is set to ON.
	FRONT/REAR VR	**ON**, OFF	

OPERATION			
Page name Page No.	**Item**	**Setting**	**Description / Remarks**
<'!' IND> 02 (U05)	ND	IND: **ON**, OFF	[IND] Turns the '!' IND indicator function on/off. [NORMAL] Sets the condition for not displaying the '!' IND indicator when the indicator function is turned on (standard settings). **---:** Displayed when not in standalone operation mode (not configurable)
		NORMAL: **1**, 2, 3, 4 (combination allowed)	
	CC	IND: **ON**, OFF	
		NORMAL: **A**, B, C, D (combination allowed)	
	WHITE	IND: **ON**, OFF, ---	
		NORMAL: P, **A**, **B** (combination allowed)	
	5600K	IND: **ON**, OFF, ---	
		NORMAL: ON, **OFF**	
	GAIN	IND: **ON**, OFF, ---	
		NORMAL: H, M, **L** (combination allowed)	
	SHUTTER	IND: **ON**, OFF, ---	
		NORMAL: ON, **OFF**	
	FAN	IND: **ON**, OFF	
		NORMAL: **AUTO1**, AUTO2, MIN, MAX	
	EXT	IND: **ON**, OFF	
	FORMAT	IND: **ON**, OFF	
		NORMAL: 1080-59.94i, 1080-29.97PsF, 1080-50i, 1080-59.94P, 1080/50P, 1080-25PsF, 1080-23.98PsF, 720-59.94P, 720-50P	**1080-59.94P, 1080-50P:** Displayed in standalone operation mode or when HXCU-FB80 is connected Default setting varies with region of use.
<VF MARKER> 03 (U06)	MARKER	**ON**, OFF	
		WHITE, BLACK, DOT	
	LEVEL	0%, 10%, 20%, 30%, **40%**, 50%, 60%, 70%, 80%, 90%, 100%	
	CENTER	ON, **OFF**	
		1, 2, 3, 4	**1:** Full crosshairs **2:** Full crosshairs with hole **3:** Center **4:** Center with hole
	SAFETY ZONE	ON, **OFF**	
		80.0%, **90.0%**, 92.5%, 95.0%	
	EFFECT	ON, **OFF**, (FOCUS)	**(FOCUS):** Displayed when INDICATOR in <FOCUS ASSIST> is ON.
	ASPECT	ON, **OFF**	
		16:9, 15:9, 14:9, 13:9, **4:3**, (4:3)	**(4:3):** Displayed when VF SCAN is set to 4:3 (not configurable)
	MASK	ON, **OFF**, (ON)	**(ON):** Displayed when VF SCAN is set to 4:3 (not configurable)
		0 to 15 **12**	Set the level to darken outside the aspect area.
	SAFETY	ON, **OFF**, (AREA)	For the safety marker in aspect mode. **(AREA):** Displayed when AREA MARKER in <FOCUS ASSIST> is ON.
		80.0%, **90.0%**, 92.5%, 95.0%	

OPERATION			
Page name Page No.	**Item**	**Setting**	**Description / Remarks**
<VF DETAIL> 04 (U02)	VF DETAIL	**ON**, OFF	
		0 to 100% **8%**	
	CRISP	–99 to +99 **0**	
	FREQUENCY	**9M**, 14M, 18M	
	FLICKER	ON, **OFF**	
	AREA	**100%**, 70%, 60%, 50%, 40%	
	ZOOM LINK	**ON**, OFF	
		0%, 25%, 50%, 75%, **100%**	
	COLOR DETAIL	ON, **OFF**	
		BLUE, RED, YELLOW	
	PEAK COLOR	ON, **OFF**	
	CHROMA LEVEL	100%, 50%, **25%**, 0%	
	RETURN DISABLE	ON, **OFF**	Selects whether to set VF DETAIL to OFF for RETURN display.
<FOCUS ASSIST> 05 (U03)	INDICATOR	ON, **OFF**, (EFFECT)	**(EFFECT):** Displayed when EFFECT in <VF MARKER> is ON.
	MODE	**BOX**, B&W, COL	
		BTM, LEFT, TOP, RIGHT	
	LEVEL	0%, 10%, 20%, 30%, **40%**, 50%, 60%, 70%, 80%, 90%, 100%	
		QUICK, SMOOTH	
	GAIN	0 to 99 **50**	
	OFFSET	0 to 99 **50**	
	AREA MARKER	ON, **OFF**, (ASPECT)	**(ASPECT):** Displayed when ASPECT SAFETY of <VF MARKER> is ON.
	SIZE	SMALL, **MIDDLE**, LARGE	
	POSITION	LEFT, **CENTER**, RIGHT	
	POSITION H	0 to 99 **50**	
	POSITION V	0 to 99 **50**	
<ZEBRA> 06 (U08)	ZEBRA	ON, **OFF**	
		1, 2, 1&2	
	ZEBRA1		
	LEVEL	50% to 109%, **70%**	
	WIDTH	0% to 30%, **10%**	
	ZEBRA2	50% to 109%, **100%**	

OPERATION

Page name Page No.	Item	Setting	Description / Remarks
<CURSOR> 07 (U07)	CURSOR	ON, **OFF**	
		WHITE, BLACK, DOT	
	LEVEL	0%, 10%, 20%, 30%, **40%**, 50%, 60%, 70%, 80%, 90%, 100%	
	BOX/CROSS	**BOX**, CROSS	
	H POSITION	0 to 99 **50**	
	V POSITION	0 to 99 **50**	
	WIDTH	0 to 99 **50**	
	HEIGHT	0 to 99 **50**	
	BOX MEMORY	1/2/3: ON, **OFF**	
	H POSI	1/2/3: 0 to 99 **50**	
	V POSI	1/2/3: 0 to 99 **50**	
	WIDTH	1/2/3: 0 to 99 **50**	
	HEIGHT	1/2/3: 0 to 99 **50**	
<VF OUT> 08 (U01)	VF OUT	**COLOR**, Y, R, G, B,	
	RET MIX VF	ON, **OFF**	
	MIX DIRECTION	MAIN, **RET**	
	MIX VF MODE	**Y-MIX**, WIRE (W), WIRE (B)	
	MIX VF LEVEL	0% to **80%**	
	CHARACTER LEVEL	1 to 5 **4**	
	PinP	ON, **OFF**	Disabled for 1080/23.98PsF SD output
	POSITION	When PinP is set to OFF: --- When PinP is set to ON: 1, 2, 3, 4	Disabled for 1080/23.98PsF HD and SD output : Main picture, : Return picture
	SIZE	**1/3**, 1/4	
	MODE	PinP OFF: --- PinP RETURN: **1**, 2, 3, 4	

When PinP is set to OFF

Mode	RET SW OFF	RET SW ON
---		

When PinP is set to ON

Mode	RET SW OFF	RET SW ON
1		
2		
3		
4		

OPERATION			
Page name Page No.	**Item**	**Setting**	**Description / Remarks**
<SWITCH ASSIGN1> 09 (U09)	GAIN	L: –6dB, –3dB, **0dB**, 3dB, 6dB, 9dB, 12dB	
		M: –6dB, –3dB, 0dB, 3dB, **6dB**, 9dB, 12dB	
		H: –6dB, –3dB, 0dB, 3dB, 6dB, 9dB, **12dB**	
	ASSIGNABLE1 ASSIGNABLE2 ASSIGNABLE3	**OFF**, RETURN1 SW, RETURN2 SW, RETURN3 SW, RETURN4 SW, INCOM a), ENG b), PROD b), VF DETAIL, VF COLOR DETAIL, MARKER, CURSOR, ZEBRA, MIX VF, ND FILTER, ELETRICAL CC, 5600K, ATW, FAN MAX, D.EXTENDER×2, D.EXTENDER×4, D.EXTENDER, FOCUS ASSIST INDICATOR, TLCS, PinP, VF ASSIGN SW1, VF ASSIGN SW2, RET1 SW TOGGLE, RET2 SW TOGGLE, RET3 SW TOGGLE, RET4 SW TOGGLE, CURSOR ALL OFF	Assigns functions to the ASSIGN 1 button, ASSIGN 2 button, and ASSIGN 3 button, respectively. a) When PANEL TYPE is set to UCJ b) When PANEL TYPE is set to CE
	ASSIGN CTEMP	OFF, RETURN1 SW, RETURN2 SW, RETURN3 SW, RETURN4 SW, INCOM a), ENG b), PROD b), VF DETAIL, VF COLOR DETAIL, MARKER, CURSOR, ZEBRA, MIX VF, ND FILTER, ELETRICAL CC, **5600K**, ATW, FAN MAX, D.EXTENDER×2, D.EXTENDER×4, D.EXTENDER, FOCUS ASSIST INDICATOR, TLCS, PinP, VF ASSIGN SW1, VF ASSIGN SW2, RET1 SW TOGGLE, RET2 SW TOGGLE, RET3 SW TOGGLE, RET4 SW TOGGLE, CURSOR ALL OFF	Assigns a function to the COLOR TEMP. button. a) When PANEL TYPE is set to UCJ b) When PANEL TYPE is set to CE
	RE.ROTATION	**STD**, RVS	Operation mode of the menu control knob **STD:** Rotating clockwise moves the ➡ cursor down or increases value. **RVS:** Rotating counterclockwise moves the ➡ cursor down or increases value.
<SWITCH ASSIGN2> 10 (U10)	LENS VTR S/S	OFF, VTR S/S, RETURN1 SW, **RETURN2 SW**, RETURN3 SW, RETURN4 SW, INCOM a), ENG b), PROD b), VF ASSIGN SW1, VF ASSIGN SW2	Assigns a function to the VTR button on the lens. a) When PANEL TYPE is set to UCJ b) When PANEL TYPE is set to CE
	FRONT RET	OFF, VTR S/S, RETURN1 SW, **RETURN2 SW**, RETURN3 SW, RETURN4 SW, INCOM a), ENG b), PROD b), D.EXTENDER×2, D.EXTENDER×4, D.EXTENDER	Assigns a function to the RET button at the front. a) When PANEL TYPE is set to UCJ b) When PANEL TYPE is set to CE
	REAR ENC SW	**OFF**, INCOM a), ENG b), PROD b)	Assigns the function to turn the intercom microphone ON to the assignable button on the rear. **ENG:** Output on the ENG line. **PROD:** Output on the PROD line. **INCOM:** Output on the line selected using the INTERCOM MIC switch. a) When PANEL TYPE is set to UCJ b) When PANEL TYPE is set to CE

OPERATION			
Page name Page No.	**Item**	**Setting**	**Description / Remarks**
<VR ASSIGN> 11	FRONT VR	MIC GAIN1, MIC GAIN2, **MIC GAIN1+2**, INTERCOM, EARPHONE, OFF	Assigns a function to the INTERCOM LEVEL knob at the front. When connected to a CCU, INTERCOM is displayed (not configurable)
	REAR VR	MIC GAIN1, MIC GAIN2, MIC GAIN1+2, **INTERCOM**, EARPHONE, OFF	Assigns a function to the INTERCOM knob at the rear. When connected to a CCU, INTERCOM is displayed (not configurable)
<HEADSET MIC> 12 (U12)	INTERCOM	**DYNAMIC**, CARBON, MANUAL	Displayed when a camera adaptor is not connected.
	LEVEL	**–60dB**, –40dB, –20dB	( ) display: When set to DYNAMIC or CARBON (not configurable)
		–6dB, **0dB**, 6dB	
	POWER	ON, **OFF**	( ) display: When set to DYNAMIC or CARBON (not configurable)
	UNBAL	**ON**, OFF	( ) display: When set to CARBON (not configurable)
	SIDE TONE	MU, 1 to 99 **50**	
	INTERCOM1 (CAM)	**DYNAMIC**, CARBON, MANUAL	Displayed only when a camera adaptor is connected.
	LEVEL	**–60dB**, –40dB, –20dB	( ) display: When set to DYNAMIC or CARBON (not configurable)
		–6dB, **0dB**, 6dB	
	POWER	ON, **OFF**	( ) display: When set to DYNAMIC or CARBON (not configurable)
	UNBAL	**ON**, OFF	( ) display: When set to CARBON (not configurable)
	SIDE TONE	MU, 1 to 99 **50**	
	INTERCOM2 (CA)	**DYNAMIC**, CARBON, MANUAL	Displayed only when a camera adaptor is connected.
	LEVEL	**–60dB**, –40dB, –20dB	( ) display: When set to DYNAMIC or CARBON (not configurable)
		–6dB, **0dB**, 6dB	
	POWER	ON, **OFF**	( ) display: When set to DYNAMIC or CARBON (not configurable)
	UNBAL	**ON**, OFF	( ) display: When set to CARBON (not configurable)
	SIDE TONE	MU, 1 to 99 **50**	
<INTERCOM> 13 (U13)	INTERCOM RECEIVE SELECT	**SEPARATE**, MIX	
	INTERCOM	RIGHT, **LEFT**, BOTH, ---	When PANEL TYPE is set to UCJ
		0 to **99**	
	ENG	RIGHT, **LEFT**, BOTH, ---	When PANEL TYPE is set to CE
		0 to **99**	
	PROD	RIGHT, **LEFT**, BOTH, ---	When PANEL TYPE is set to CE
		0 to **99**	
	PGM/SDI1	**RIGHT**, LEFT, BOTH, ---	PGM when connected with a CCU, and SDI1 in standalone operation mode for input audio channel 1 on SDI I/O connector
		0 to **99**	
	SDI2	**RIGHT**, LEFT, BOTH, ---	Displayed in standalone operation mode
		0 to **99**	
	SIDE TONE	MU, 1 to 99 **50**	
	PANEL TYPE	UCJ, **CE**	Restart required after setting
	REAR ENC SW	**PGM1/2**, PGM2, ON/OFF	
	REAR VR	**INTERCOM**, INTERCOM+PGM	

OPERATION			
Page name **Page No.**	**Item**	**Setting**	**Description / Remarks**
<EARPHONE> 14	EARPHONE RECEIVE SELECT	**SEPARATE**, MIX	
	INTERCOM	RIGHT, **LEFT**, BOTH, ---	When PANEL TYPE is set to UCJ
		0 to **99**	
	ENG	RIGHT, **LEFT**, BOTH, ---	When PANEL TYPE is set to CE
		0 to **99**	
	PROD	RIGHT, **LEFT**, BOTH, ---	When PANEL TYPE is set to CE
		0 to **99**	
	PGM/SDI1	**RIGHT**, LEFT, BOTH, ---	PGM when connected with a CCU, and SDI1 in standalone operation mode for input audio channel 1 on SDI I/O connector
		0 to **99**	
	SDI2	**RIGHT**, LEFT, BOTH, ---	Displayed in standalone operation mode
		0 to **99**	
	AUDIO1	RIGHT, LEFT, BOTH, **---**	
		0 to **99**	
	AUDIO2	RIGHT, LEFT, BOTH, **---**	
		0 to **99**	
<TLCS> 15	MODE	BACKLIGHT, **STANDARD**, SPOTLIGHT	
	SPEED	–99 to 99 **0**	
	LEVEL	–99 to 99 **0**	
	AGC	ON, **OFF**	
	LIMIT	3dB to 48dB **12dB**	3dB increments
	CHANGE POINT	F5.6, F4, **F2.8**	
	AUTO SHUTTER	ON, **OFF**	
	LIMIT	1/100, 1/150, 1/200, **1/250**, 1/500, 1/1000, 1/2000	
	CHANGE POINT	F5.6, F8.0, F11, **F16**	
<OPERATOR FILE> 16 *See FILE menu F01.*	READ (USB→CAM)		Execute using ENTER.
	WRITE (CAM→USB)		Execute using ENTER.
	PRESET		Execute using ENTER.
	FILE ID		Max. 14 characters
	CAM CODE		Display only
	DATE		Display only

PAINT Menu

PAINT			
Page name **Page No.**	**Item**	**Setting**	**Description / Remarks**
<SW STATUS> P01	FLARE	**ON**, OFF	
	GAMMA	**ON**, OFF	
	BLK GAM	ON, **OFF**	
	KNEE	**ON**, OFF	
	WHT CLIP	**ON**, OFF	
	DETAIL	**ON**, OFF	
	LVL DEP	**ON**, OFF	
	SKIN DTL	ON, **OFF**	
	MATRIX	ON, **OFF**	
<VIDEO LEVEL> P02	WHITE	R/G/B: –99 to 99 **0**	R, G, B, and M (master) values can be independently set. (M cannot be set for WHITE.)
	BLACK	R/G/B/M: –99 to 99 **0**	
	FLARE	R/G/B/M: –99 to 99 **0**	
	GAMMA	R/G/B/M: –99 to 99 **0**	
	V MOD	R/G/B/M: –99 to 99 **0**	
	FLARE	**ON**, OFF	
	V MOD	**ON**, OFF	
	TEST	**OFF**, SAW, 10STEP	
<COLOR TEMP> P03	WHITE	R/G/B: –99 to 99 **0**	
	AUTO WHITE BALANCE		Execute using ENTER.
	COLOR TEMP	0K to 65535K **3200K**	
	BALANCE	–99 to 99 **0**	
	ATW	ON, **OFF**	
	SPEED	1 to 5 **4**	
	MASTER	–3.0dB to 12.0dB **0.0dB**	
<GAMMA> P04	LEVEL	R/G/B/M: –99 to 99 **0**	R, G, B, and M (master) values can be independently set.
	COARSE	0.35 to 0.90 **0.45**	0.05 increments
	TABLE	**STANDARD**, HYPER	When you change the TABLE setting, noise may be generated. This is not a malfunction.
		With STANDARD selected: 1, 2, 3, 4, 5, 6, 7	Default setting varies with region of use. **1:** Equivalent to a camcorder **2:** 4.5× gain **3:** 3.5× gain **4:** Equivalent to SMPTE-240M **5:** Equivalent to ITU-R709 **6:** 5.0× gain **7:** 5.0× gain – 709
		With HYPER selected: 1, 2, 3, **4**	**1:** 325% to 100% **2:** 460% to 100% **3:** 325% to 109% **4:** 460% to 109%
	GAMMA	**ON**, OFF	
	TEST	**OFF**, SAW, 10STEP, HIGH RANGE	

PAINT			
Page name Page No.	**Item**	**Setting**	**Description / Remarks**
<BLACK GAMMA> P05	LEVEL	R/G/B/M: –99 to 99 **0**	R, G, B, and M (master) values can be independently set.
	RANGE	LOW, L.MID, H.MID, **HIGH**	
		ON, **OFF**	
	TEST	**OFF**, SAW, 10STEP, HIGH RANGE	
<SATURATION> P06	SATURATION	–99 to 99 **0**	
		ON, **OFF**	
	LOW KEY SAT	–99 to 99 **0**	
	RANGE	LOW, L.MID, H.MID, **HIGH**	
		ON, **OFF**	
	TEST	**OFF**, SAW, 10STEP, HIGH RANGE	
<KNEE> P07	K POINT	R/G/B/M: –99 to 99 **0**	R, G, B, and M (master) values can be independently set.
	K SLOPE	R/G/B/M: –99 to 99 **0**	
	KNEE	**ON**, OFF	
	KNEE MAX	ON, **OFF**	
	KNEE SAT	–99 to 99 **0**	
		ON, **OFF**	
	AUTO KNEE	**OFF**, AUTO, (OFF)	**(OFF):** HDR mode
	POINT LIMIT	–99 to 99, - - **0**	**- -:** HDR mode
	SLOPE	–99 to 99, -- **0**	**- -:** HDR mode
	ABS		Highlighted: ABS (Absolute value) mode
<WHITE CLIP> P08	W CLIP	–99 to 99 **0**	
		ON, OFF	
	ABS		Highlighted: ABS (Absolute value) mode
<DETAIL 1> P09	DETAIL	**ON**, OFF	
	LEVEL	–99 to 99 **0**	Absolute value is displayed in ABS mode.
	LIMITER	M: –99 to 99 **0**	
		WHT: –99 to 99 **0**	Absolute value is displayed in ABS mode.
		BLK: –99 to 99 **0**	Absolute value is displayed in ABS mode.
	CRISP	–99 to 99 **0**	Absolute value is displayed in ABS mode.
	LEVEL DEPEND	–99 to 99 **0**	Absolute value is displayed in ABS mode.
		ON, OFF	
	ABS		Highlighted: ABS (Absolute value) mode
<DETAIL 2> P10	H/V RATIO	–99 to 99 **0**	Absolute value is displayed in ABS mode.
	FREQ	–99 to 99 **0**	Absolute value is displayed in ABS mode.
	MIX RATIO	–99 to 99 **0**	Absolute value is displayed in ABS mode.
	KNEE APT	–99 to 99 **0**	Absolute value is displayed in ABS mode.
		ON, **OFF**	
	DTL H/V MODE	**H/V**, V only	
	ABS		Highlighted: ABS (Absolute value) mode
<SD DETAIL> P11	SD DETAIL	**ON**, OFF	
	LEVEL	–99 to 99 **0**	
	CRISPENING	–99 to 99 **0**	
	LEVEL DEPEND	–99 to 99 **0**	
	H/V RATIO	–99 to 99 **0**	
	FREQ	–99 to 99 **0**	

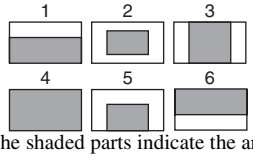
PAINT			
Page name Page No.	**Item**	**Setting**	**Description / Remarks**
<SD CROSS COLOR> P12	CRS COL REDUCE	ON, **OFF**	
	LEVEL	–99 to 99 **0**	
<SKIN DETAIL> P13	SKIN DTL	ON, **OFF**	
	SKIN GATE	1, 2, 3, **OFF**, (MAT)	**1, 2, 3:** The skin gate function can be turned on for the specified channel only. **(MAT):** Displayed when GATE of <MULTI MATRIX> is ON.
	ABS		Highlighted: ABS (Absolute value) mode
	ZOOM LINK	ON, **OFF**	
	TELE	0 to **99**	
	WIDE	**0** to 99	
	CH SW	1: (ON) 2/3: ON, **OFF**	Sets the skin tone detail function independently for each channel. (Channel 1 is always set to ON.) When ABS, LEVEL is displayed in an absolute value.
	HUE	1/2/3: Execute using ENTER.	
	PHASE	1/2/3: **0** to 359	
	WIDTH	1/2/3: 0 to 90 **29**	
	SAT	1/2/3: –99 to 99 **–89**	
	LEVEL	1/2/3: –99 to 99 **0**	
<USER MATRIX> P14	R	-G/-B: –99 to 99 **0**	
	G	-R/-B: –99 to 99 **0**	
	B	-R/-G: –99 to 99 **0**	
	MATRIX	ON, **OFF**	
	PRESET	**ON**, OFF, - -	**- -:** Displayed when MATRIX is OFF (not configurable)
		SMPTE-240M, **ITU-709**, SMPTE-WIDE, NTSC, EBU, ITU-601, - -	
	USER	ON, **OFF**, - -	
	MULTI	ON, **OFF**, - -	
	ADAPTIVE MATRIX	ON, **OFF**	
	LEVEL	0, 1, 2, **3**, 4, 5, 6, 7	
<MULTI MATRIX> P15	PHASE	**0**, 23, 45, 68, 90, 113, 135, 158, 180, 203, 225, 248, 270, 293, 315, 338	Selects an axis (angle) at PHASE for which the multimatrix adjustment is to be made, and set HUE and SAT (HUE and SAT can be set individually for each of 16 axes).
	HUE	–99 to 99 **0**	
	SAT	–99 to 99 **0**	
	ALL CLEAR	Execute using ENTER.	The HUE and SAT values for all PHASE settings are cleared to 0.
	GATE	ON, **OFF**, (1 to 3)	**(1 to 3):** Displayed when SKIN GATE in <SKIN DETAIL> is set to 1 to 3
	MATRIX	ON, **OFF**	
	PRESET	**ON**, OFF, - -	**- -:** Displayed when MATRIX is OFF (not configurable)
		SMPTE-240M, **ITU-709**, SMPTE-WIDE, NTSC, EBU, ITU-601, - -	
	USER	ON, **OFF**, - -	
	MULTI	ON, **OFF**, - -	

PAINT			
Page name Page No.	**Item**	**Setting**	**Description / Remarks**
<SHUTTER> P16	SHUTTER	ON, **OFF**	( ) display: In standalone operation mode, when an external control device (RCP or RM) is not connected
		59.94i/59.94P: **1/100**, 1/125, 1/250, 1/500, 1/1000, 1/2000 50i/50P: **1/60**, 1/125, 1/250, 1/500, 1/1000, 1/2000 29.97PsF: 1/40, 1/60, 1/100, 1/120, 1/125, 1/250, 1/500, 1/1000, 1/2000 25PsF: 1/33, 1/50, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 23.98PsF: 1/32, 1/48, 1/96, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000	
	ECS FREQ	59.94i: **60.00Hz** to 4300Hz 50i: **50.00Hz** to 4700Hz 59.94P: 59.96Hz to 4600Hz 50P: 50.03Hz to 4600Hz 29.97PsF: 30.00Hz to 2700Hz 25PsF: 25.00Hz to 2300Hz 23.98PsF: 24.00Hz to 2200Hz	
	SLOW SHUTTER	ON, **OFF**	
	SLS FRAME	**2F**, 3F, 4F, 5F, 6F, 7F, 8F	
<NOISE SUPPRESSION> P17	SUPPRESSION	ON, **OFF**	
<HDR OPERATION> P18	HDR MODE	OFF, HDR, LIVE HDR	Display only (not configurable)
	SDR GAIN	–4.5dB, **–6.0dB**, –7.5dB, --	**--:** SDR mode
	HDR BLACK OFFSET	–99 to 99, -- **0**	**--:** SDR mode
	HDR KNEE	ON, **OFF**, --	**--:** SDR mode
	POINT	–99 to 99 **0**	**--:** SDR mode
	SLOPE	–99 to 99 **0**	**--:** SDR mode
	HDR WHITE CLIP	ON, **OFF**, --	**--:** SDR mode
	LEVEL	–99 to 99 **0**	**--:** SDR mode

PAINT			
Page name Page No.	**Item**	**Setting**	**Description / Remarks**
<SCENE FILE> P19 *See FILE menu F02.*	1		Saving and loading a scene file (paint data): When storing a file in camera memory, specify the number after executing STORE. When reading, only specify the number.
	2		
	3		
	4		
	5		
	STORE		Execute using ENTER.
	STANDARD		Execute using ENTER. Read the standard paint data.
	READ (USB→CAM)		Execute using ENTER. Load five scene files from a USB flash drive to internal memory.
	WRITE (CAM→USB)		Execute using ENTER. Write five scene files in the camera's memory to a USB flash drive.
	FILE ID		Enter a comment of up to 12 characters in scene file to be written to a USB drive. *See "To specify a character string" (page 36).*
	CAM CODE		Display only
	DATE		Display only

MAINTENANCE Menu

MAINTENANCE			
Page name Page No.	**Item**	**Setting**	**Description / Remarks**
<AUTO SETUP> M01	AUTO BLACK		Execute using ENTER.
	AUTO WHITE		Execute using ENTER.
	AUTO LEVEL		Execute using ENTER.
	AUTO WHITE SHADING		Execute using ENTER.
	AUTO BLACK SHADING		Execute using ENTER.
	TEST	**OFF**, SAW, 10STEP	
<WHITE SHADING> M02	V SAW	R/G/B: –99 to 99 **0**	R, G, and B values can be independently set.
	V PARA	R/G/B: –99 to 99 **0**	
	H SAW	R/G/B: –99 to 99 **0**	
	H PARA	R/G/B: –99 to 99 **0**	
	WHITE	R/G/B: –99 to 99 **0**	
	AUTO WHITE SHADING		Execute using ENTER.
	WHITE SHAD MODE	RGB, **RB**	

MAINTENANCE			
Page name Page No.	**Item**	**Setting**	**Description / Remarks**
<BLACK SHADING> M03	V SAW	R/G/B: –99 to 99 **0**	R, G, and B values can be independently set. M (master) value can also be set for BLACK.
	V PARA	R/G/B: –99 to 99 **0**	
	H SAW	R/G/B: –99 to 99 **0**	
	H PARA	R/G/B: –99 to 99 **0**	
	BLK SET	R/G/B: –99 to 99 **0**	
	BLACK	R/G/B/M: –99 to 99 **0**	
	MASTER GAIN	–3dB, **0dB**, 3dB, 6dB, 9dB, 12dB	
	AUTO BLACK SHADING		Execute using ENTER.
	2D BLACK SHAD	**ON**, OFF	
	BLACK SHADE CLEAR		Execute using ENTER.
<AUTO IRIS> M04	AUTO IRIS	**OFF**, ON	**(ON):** Displayed when in standalone operation mode (not configurable)
	WINDOW	**1**, 2, 3, 4, 5, 6	Selects the auto iris detection window.  The shaded parts indicate the area where light detection occurs.
	OVERRIDE	–99 to 99, - - **0**	Sets the override to temporarily change the reference value for brightness of the automatic iris level in the range of ±2 stops. **–99:** Closed by two stops **99:** Opened by two stops **- -:** Displayed when AUTO IRIS is OFF The setting returns to 0 when the power is turned off.
	IRIS LEVEL	–99 to 99 **0**	±4 stops
	APL RATIO	–99 to 99 **65**	
	IRIS GAIN	–99 to 99 **0**	
	IRIS CLOSE	ON, **OFF**	
<LENS> M05	F NO. DISP	**CONTROL**, RETURN	Switches the iris indicator on the external control device (for example, RCP or RM) when AUTO IRIS is OFF **CONTROL:** Displays the value from the camera. **RETURN:** Displays the value returned from the lens. (When AUTO IRIS is ON, the value returned from the lens is always displayed.)
	ALAC	OFF, **AUTO(ACTIVE)**, AUTO(STOP)	With AUTO selected, the status is displayed at the right. **AUTO(ACTIVE):** Compensation in progress **AUTO(STOP):** Compensation is turned off for a non-applicable lens
	AF DISPLAY	ON, **OFF**	
<CIS COMP> M06	FLICKER REDUCE		
	MODE	**AUTO**, ON, OFF, (OFF)	**(OFF):** Displayed for the following settings • When OUTPUT FORMAT is set to 1080/23.98PsF • When OUTPUT FORMAT is set to 1080/59.94i, 1080/29.97PsF, 1080/59.94P, or 720/59.94P and FREQ is set to 60Hz • When OUTPUT FORMAT is set to 1080/50i, 1080/25PsF, 1080/50P, or 720/50P and FREQ is set to 50Hz
	FREQ	60Hz, 50Hz	Default setting varies with region of use.

MAINTENANCE			
Page name **Page No.**	**Item**	**Setting**	**Description / Remarks**
<AUDIO> M07 (U14)	AUDIO1	LINE(0dB), 20dB, 30dB, 40dB, 50dB, **60dB**	( ) display: Displayed when not in standalone operation mode, or in standalone operation mode when <VR ASSIGN> is set to MIC (MIC GAIN1, MIC GAIN2, MIC GAIN1+2) (not configurable)
	AUDIO2		
	TEST TONE	ON, **OFF**	
<CALL/TALLY> M08	CCU CALL	**ON**, OFF, ---	**---:** When a CCU is not connected
	CAM CALL	ON, **OFF**, ---	
<OUTPUT FORMAT> M09 (U15)	CURRENT		Displays the current format. In standalone operation mode, the format and region are configurable (restart required). NTSC AREA or NTSC(J) AREA: **1080:** 59.94i, 59.94P, 29.97PsF, 23.98PsF, 59.94i HDR, 59.94P HDR **720:** 59.94P PAL AREA: **1080:** 50i, 50P, 25PsF, 50i HDR, 50P HDR **720:** 50P
	COUNTRY	NTSC AREA, PAL AREA, NTSC(J) AREA	
<TEST OUT> M10 (U16)	OUTPUT	SD-SYNC, HD-SYNC, **VF**, VBS	VBS is not displayed in HDR mode
	SYNC-OUT		Displayed when OUTPUT is SD-SYNC or HD-SYNC
	V-PHASE	–999 to 999 **0**	
	H-PHASE	–999 to 999 **0**	
	VBS-OUT		Displayed when OUTPUT is VBS
	CHARACTER	ON, **OFF**	
	GAIN	–99 to 99 **0**	
	CHROMA	–99 to 99 **0**	
	SETUP	ON, OFF	Displayed when COUNTRY in <OUTPUT FORMAT> is set to NTSC AREA or NTSC(J) AREA
	DOWN CONVERTER		Displayed when OUTPUT is VBS
	SELECT	**MAIN**, RET, VF	
	ASPECT	**SQ**, EC	

MAINTENANCE			
Page name **Page No.**	**Item**	**Setting**	**Description / Remarks**
<SDI OUT> M11 (U17)	SDI OUT	VF, **MAIN**, RET, SD-SDI, OFF, HD PROMPTER	HD PROMPTER is displayed when an HXCU-FB80 is connected and OUTPUT FORMAT is not set to 1080/59.94P or 1080/50P SD-SDI is not displayed in HD HDR mode HD HDR signal when MAIN is selected, HD SDR signal in all other cases
		3G-LEVEL A, 3G-LEVEL B, HD-SDI	HD-SDI is displayed when an HXCU-FB80 is connected and OUTPUT FORMAT is set to 1080/59.94P or 1080/50P
	CHARACTER	ON, **OFF**	Displayed when SDI OUT is not set to VF.
	EMB AUDIO	MIC, PGM, **OFF**	When MIC is selected: (1-MIC1 2-MIC2) When PGM is selected: Depends on system configuration. In standalone operation mode: (1-SDI1 2-SDI2) (3- 4-) When the HXCU-FB80 is connected: (1-PGM 2-) (3-ENG 4-PROD) When the CA-TX70 is connected: (1-PGM 2-) (3-INCOM 4-)
	SDI IN/OUT	**HD TRUNK IN**, HD PROMPTER OUT, (HD PROMPTER OUT)	Displayed when an HXCU-FB80 is connected and OUTPUT FORMAT is not set to 1080/59.94P or 1080/50P **(HD PROMPTER OUT):** Displayed when OUTPUT FORMAT is set to 1080/59.94P or 50P (not configurable)
	FRAME SYNCRO	ON, **OFF**	
	DOWN CONVERTER		Displayed when SDI OUT is SD-SDI.
	SELECT	**MAIN**, RET, VF	
	ASPECT	**SQ**, EC	
<TRUNK> M12 (U18)	TRUNK	**ON**, OFF, (OFF)	**(OFF):** Displayed when in standalone operation mode (not configurable)
	IF	**232C**, 422A, SUB CMD	
<GENLOCK> M13	REFERENCE	CCU, INTERNAL, GENLOCK	Display only
	GENLOCK	**ENABLE**, DISABLE	Displayed in standalone operation mode
	STATUS		
	FORMAT		
	PHASE	V: –1024 to 1023 **0** H: –1700 to 1700 **0**	
<DATE> M14	DATE/TIME	31 to 00, 12 to 01, 2099 to 2000, 23 to 00, 59 to 00	
	FILE TIMESTAMP FORMAT	1 Y/Mn/D, 2 Mn/D, 3 D/M/Y, 4 D/M, **5 M/D/Y**, 6 M/D	**Y:** Year **Mn:** Month (numeric) **M:** Month (character string) **D:** Day
<BATTERY ALARM> M15	BEFORE END	**11.5V** to 17.0V	
	END	**11.0V** to 11.5V	

MAINTENANCE			
Page name **Page No.**	**Item**	**Setting**	**Description / Remarks**
<FILTER> M16	ND FILTER	**1**, 2, 3, 4	
	ECC FILTER	**A**, B, C, D, –	C and D are displayed only when they are enabled. **-:** Displayed when ELECTRICAL CC is set to DISABLE
	ELECTRICAL CC	DISABLE, **ENABLE**	
	ELECTRICAL CC <A>	**3200K**, 4300K, 5600K, 6300K	
	ELECTRICAL CC <B>	3200K, **4300K**, 5600K, 6300K	
	ELECTRICAL CC <C>	3200K, 4300K, **5600K**, 6300K, -----	
	ELECTRICAL CC <D>	3200K, 4300K, 5600K, **6300K**, -----	
<EXT I/O> M17	PIN 4 INPUT PIN 6 INPUT PIN 7 INPUT PIN 8 INPUT PIN 9 INPUT	**OFF**, R TALLY OUT, G TALLY OUT, TALLY OUT, INPUT When INPUT is selected INPUT: **OFF**, RETURN1 SW, RETURN2 SW, RETURN3 SW, RETURN4 SW, INCOM [a], ENG [b], PROD [b], VF DETAIL, VF COLOR DETAIL, 5600K, D.EXTENDER×2, D.EXTENDER×4, D.EXTENDER, FOCUS ASSIST INDICATOR, PinP, VF ASSIGN SW1, VF ASSIGN SW2, VTR S/S	a) When PANEL TYPE is set to UCJ b) When PANEL TYPE is set to CE
<OTHERS> M18	FAN MODE	OFF, **AUTO1**, AUTO2, MIN, MAX	**AUTO1:** Normal rotation **AUTO2:** Slow rotation
	CAM BARS	ON, **OFF**	
	WHITE SETUP MODE	AWB, **A.LVL**	
	D.EXT ENABLE	ENABLE, **DISABLE**	
	D.EXT	OFF, ×2, ×4, **(OFF)**	**(OFF):** Displayed when D.EXT ENABLE is set to DISABLE (not configurable)
	HDSDI REMOTE I/F	**OFF**, R-TLY, CHARA	Only OFF and CHARA are displayed when CCU is connected
	TOP MENU LOCK	**OFF**, LOCK	Hides the TOP MENU screen. For the procedure to show the screen again, *see page 39*.
<EXT RETURN> M19	EXT RETURN	**VBS**, SDI	
	SD ASPECT	EC, **SQ**	

FILE Menu

Four types of files can be used for easy adjustments of the camera; Operator, Reference, Scene, and Lens files.
You can store the items set with the OPERATION menu and customized USER menu in the Operator file.

FILE			
Page name **Page No.**	**Item**	**Setting**	**Description / Remarks**
<OPERATOR FILE> F01	READ (USB→CAM)		Execute using ENTER. Read the operator file from a USB flash drive.
	WRITE (CAM→USB)		Execute using ENTER. Write the current settings of the operator file to a USB flash drive.
	PRESET		Execute using ENTER. Read operator file preset data stored in internal memory.
	STORE PRESET FILE		Execute using ENTER. Write the current settings of the operator file as preset data to a USB flash drive.
	FILE ID		Enter a comment of up to 14 characters in operator file to be written to a USB drive. *See "To specify a character string" (page 36).*
	CAM CODE	Camera code	Display only
	DATE	Date	Display only
<SCENE FILE> F02	1		Saving and loading a scene file (paint data): When storing a file in camera memory, specify the number after executing STORE. When reading, only specify the number.
	2		
	3		
	4		
	5		
	STORE		Execute using ENTER.
	STANDARD		Read the standard paint data.
	READ (USB→CAM)		Load five scene files from a USB flash drive to internal memory.
	WRITE (CAM→USB)		Write five scene files in the camera's memory to a USB flash drive.
	FILE ID		Enter a comment of up to 14 characters in scene file to be written to a USB drive. *See "To specify a character string" (page 36).*
	CAM CODE	Camera code	Display only
	DATE	Date	Display only

FILE			
Page name Page No.	**Item**	**Setting**	**Description / Remarks**
<REFERENCE> F03	STORE FILE		Execute using ENTER. Write the current settings of the reference file to internal memory.
	STANDARD		Execute using ENTER. Read the reference file stored in internal memory.
	ALL PRESET		Execute using ENTER. Return the reference file stored in internal memory to the default values.
	READ (USB→CAM)		Execute using ENTER. Read a reference file from a USB flash drive.
	WRITE (CAM→USB)		Execute using ENTER. Write the current settings of the reference file to a USB flash drive.
	FILE ID		Enter a comment of up to 14 characters in reference file to be written to a USB drive. *See "To specify a character string" (page 36).*
	CAM CODE	Camera code	Display only
	DATE	Date	Display only
<LENS FILE> F04 (U11)	STORE FILE	Execute using ENTER.	Write the current settings of the lens file to internal memory.
	No.	**1** to 17	**1 to 16:** When using a non-serial lens **17:** When using a serial lens
	NAME	Lens file name	Configurable only when using a non-serial lens
	F NO	F1.0 to F3.4 **F1.7**	Configurable only when using a non-serial lens
	CENTER MARKER		Sets and stores the center marker position.
	H POS	–20 to 20 **0**	Increasing the value moves it to the right.
	V POS	–20 to 20 **0**	Increasing the value moves it downwards.
	STORE	Execute using ENTER.	Save the center maker position settings.
<FILE CLEAR> F05	PRESET OPERATOR		Execute using ENTER.
	REFERENCE (ALL)		Execute using ENTER.
	10 SEC CLEAR	ON, **OFF**	Turn the function for clearing an item selected in a menu on/off. *See "To return a menu item to the standard value" (page 37).*

DIAGNOSIS Menu

This menu is only for viewing and no setting is made using this menu.

DIAGNOSIS			
Page name Page No.	**Item**	**Setting**	**Description / Remarks**
<TRANSMISSION CONDITION> D01	OPTICAL LEVEL		
	CCU→CAM	GREEN, YELLOW, RED, NG, NO SIGNAL	Displayed only when a CCU is connected.
	CAM→CCU	GREEN, YELLOW, RED, NG, NO SIGNAL	
	DC INPUT LEVEL	GREEN, YELLOW, RED, NOT DETECT	
<BOARD STATUS> D02	OHB	OK, NG	
	DPR	OK, NG	
	SY	OK, NG	
	IF	OK, NG	

DIAGNOSIS			
Page name **Page No.**	**Item**	**Setting**	**Description / Remarks**
<ROM VERSION> D03 (U19)	CAMERA APP	ROM name, date, and comment are displayed.	
	OS	Vx.xx date	
	SY	Vx.xx	
	DPR	Vx.xx	
<SERIAL NO.> D04	MODEL	Model name	
	NO	Serial number	
<CA STATUS> D05			Displayed only when a camera adaptor is connected.
	CA	Camera adaptor model name	
	SY	Vx.xx date	
	SY PLD	Vx.xxx	
	CD PLD	Vx.xx	

Appendix

Usage Precautions

Note on laser beams

Laser beams may damage the CMOS image sensors. If you shoot a scene that includes a laser beam, be careful not to let a laser beam become directed into the CMOS image sensors.

Do not subject to severe shocks

Damage to the case or internal components may result.

After use

Set the power switch to OFF.

Operation and storage environment

Store in a level, ventilated place.
If the unit gets wet, make sure it is completely dry before storage.
Avoid use or storage in the following places:

- Extremely hot or cold places
- Places with high humidity
- Locations subject to violent vibration
- Near strong magnetic fields
- In places where it receives much direct sunlight, or near heating equipment

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.

Phenomena specific to CMOS image sensors

The following phenomena that may appear in images are specific to CMOS (Complementary Metal Oxide Semiconductor) image sensors. They do not indicate a malfunction.

White flecks

Although the CMOS image sensors are produced with high-precision technologies, fine white flecks may be generated on the screen in rare cases, caused by cosmic rays, etc. This is related to the principle of CMOS image sensors and is not a malfunction.
The white flecks especially tend to be seen in the following cases:

- When operating in high-temperature environment
- When the master gain (sensitivity) has been increased

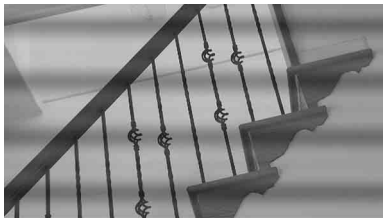
The problem may be alleviated by executing automatic black balance adjustment.

Aliasing

When fine patterns, stripes, or lines are shot, they may appear jagged or flicker.

Flicker

If recording is made under lighting produced by discharge tubes, such as fluorescent, sodium, or mercury-vapor lamps, the screen may flicker, colors may vary, or horizontal stripes may appear distorted.



In such cases, set the flicker-reduction function to AUTO *(see page 58)*.
If the frame rate selected for recording is close to the power-supply frequency, flicker may not be reduced sufficiently even if you activate the Flicker-Reduction function. In such cases, use the electronic shutter.

Focal plane

Owing to the characteristics of the pickup elements (CMOS image sensors) for reading video signals, subjects that quickly move across the screen may appear slightly skewed.

Flash bands

The luminance at the top and bottom of the screen may change when shooting a flashlight beam or a light source that quickly flashes.

To prevent electromagnetic interference from portable communications devices

The use of portable telephones and other communications devices near this camera can result in malfunctions and interference with audio and video signals.
It is recommended that the portable communications devices near this camera be powered off.

Cleaning the Viewfinder

Use a dust blower to clean any dust from the surface of the screen.

For details about cleaning the viewfinder supplied with the HXC-FB80S, refer to the operation manual for the HDVF-L750.

Note

Do not use organic solvents, such as thinners.

Error Messages

If a problem occurs during operation, a warning message is displayed.

Note

To display a message, set the DISPLAY/MENU switch to DISPLAY or MENU.

Message	Description
TEMP WARNING	The internal temperature is extraordinarily high.
FAN STOP	The built-in fan is not rotating properly.
SET SYSTEM CLOCK	The time/date of the internal clock have not been set.
OHB BLOCK NG!	A problem was detected in the optical block.
MSU RPN BUSY	RPN compensation was attempted using the camera menu while being operated from an external device. Consult Sony service personnel.
VF RPN BUSY	RPN compensation was attempted from an external device while being operated using the camera menu. Consult Sony service personnel.
FORMAT ERROR!	An access was attempted with an unformatted USB flash drive.
FILE ERROR	An error occurred while reading a file from a USB flash drive.
OTHER MODEL'S FILE	An attempt was made to read a file for another model that is incompatible.
FILE NOT FOUND	The file you attempted to read does not exist in the USB flash drive.

Supported USB Flash Drives

Connect a USB flash drive to the USB connector to enable saving and loading a configuration data file.

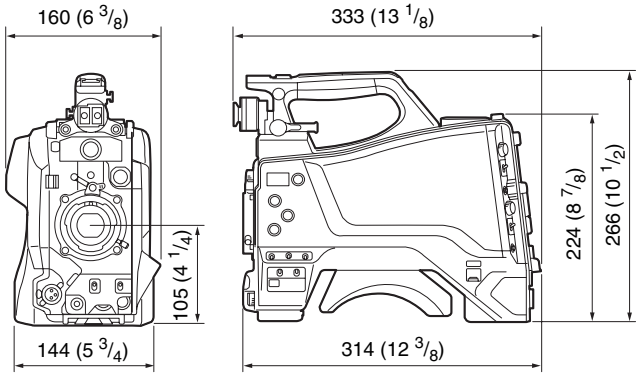
USM-LX series
USM1GLX, USM2GLX, USM4GLX, USM8GLX, USM16GLX, USM32GLX, USM64GLX
USM-L series
USM1GL, USM2GL, USM4GL, USM8GL, USM16GL, USM32GL
USM-N series
USM4GN, USM8GN, USM16GN, USM32GN
USM-M series
USM4GM, USM8GM, USM16GM, USM32GM
USM-P series
USM4GP, USM8GP, USM16GP, USM32GP, USM64GP
USM-R series
USM4GR, USM8GR, USM16GR, USM32GR
USM-Q series
USM8GQ, USM16GQ, USM32GQ, USM64GQ
USM-T series
USM8GT, USM16GT, USM32GT, USM64GT
USM-U series
USM4GU, USM8GU, USM16GU, USM32GU, USM64GU
USM-V series
USM4GV, USM8GV
USM-X series
USM8X, USM16X, USM32X, USM64X
USM-SA1 series
USM8SA1, USM16SA1, USM32SA1, USM64SA1
USM-QX series
USM8GQX, USM16GQX, USM32GQX, USM64GQX, USM128GQX

Notes

- Non-recommended USB flash drives may not be recognized when connected to the USB connector.
- USB flash drives must be formatted with the FAT16 or FAT32 file system. The recommended drives are pre-formatted, and can be immediately upon purchase.

Specifications

General	
Power requirements	10.5 V to 17.0 V DC, 5.4 A (max.) 48 V DC, 2.8 A (max.)
Power consumption	19 W (camera head only) 22 W (camera head + HDVF-L10 viewfinder + lens + microphone) 32 W (camera head + HDVF-L750 viewfinder + lens)
Operating temperature	–10 °C to +45 °C (14 °F to 113 °F)
Storage temperature	–20 °C to +60 °C (–4 °F to +140 °F)
Mass	Approx. 3.4 kg (7 lb 7.9 oz) (camera head only)
Dimensions	Unit: mm (inches)



Camera	
Imaging element	2/3-inch type CMOS image sensor Effective resolution: 1920 (H) × 1080 (V)
Method	3-chip, RGB
Optical system	F1.4 prism system
ND filters	1: Clear 2: 1/4 ND 3: 1/16 ND 4: 1/64 ND
Sensitivity	F12 (system frequency: 59.94i) F13 (system frequency: 50i) (2000 lx, 89.9% reflectance)
Image S/N	–60 dB (Noise Suppress ON)
Horizontal resolution	1000 TVL or higher
Gain	–3, 0, 3, 6, 9, 12 dB
Display (HDVF-L10 viewfinder (supplied with the HXC-FB80K))	
Screen size	8.8 cm diagonal (3.5-inch)
Aspect ratio	16:9
Number of pixels	960 (horizontal) × 540 (vertical) × 3 (RGB)
Display (HDVF-L750 viewfinder (supplied with the HXC-FB80S))	
Screen size	155.5 × 87.5 mm (7.0 inch)
Aspect ratio	16:9
Number of pixels	1920 (horizontal) × 1080 (vertical)

Inputs/outputs	
CCU	Optoelectric composite connector (1)
AUDIO 1 IN AUDIO 2 IN	XLR type, 3-pin, female (1 each) MIC: –60 dBu (Up to –20 dBu can be set by using menu or HXCU-FB80), balanced LINE: 0 dBu, balanced
INTERCOM	XLR type, 5-pin, female (1)
EARPHONE	Stereo minijack (1)
DC IN	XLR type, 4-pin (1) 10.5 V to 17.0 V DC
DC OUT	4-pin (1) 10.5 V to 17.0 V DC, maximum 1.5 A (May be limited, depending on load and input conditions.)
SDI I/O	BNC type (1)
SDI OUT	BNC type (1)
TEST OUT	BNC type (1)
PROMPTER/ GENLOCK	BNC type (1) 1 Vp-p, 75 Ω
LENS	12-pin (1) Lens power supply: 10.5 V to 17.0 V DC, maximum rated current 1.0 A
TRUNK	D-sub 9-pin, female (1) RS-232C
VF	Round type, 20-pin (1)
REMOTE	8-pin (1)
USB	USB 2.0 Type A, 4-pin (1) (for USB flash drive)
Lens (supplied with the HXC-FB80K/HXC-FB80S)	
Focal length	8.2 mm to 164 mm
Zoom	Servo/Manual selectable
Zoom ratio	20×
Maximum relative aperture	1:1.9
Iris	Auto/Manual selectable F1.9 to F16 and C (close)
Focus	Manual Range: 900 mm to ∞ (Macro mode OFF), 10 mm to ∞ (Macro mode ON, wide angle)
Filter diameter	M82 mm, pitch 0.75 mm
Macro mode	ON/OFF switchable

Supplied accessories

HXC-FB80H/K/S

Lens mount cap (1)
Flange focal length (flange back) adjustment chart (1)
Cable clamp belt (1)
Operating Instructions (CD-ROM) (1)
Before Using this Unit (1 set)
Warranty booklet (1)

HXC-FB80K

HDVF-L10 Viewfinder (1)
Microphone (1)
Windscreen (1)
Lens (1)

HXC-FB80S

HDVF-L750 Viewfinder (1)
Indoor hood (1)
Lens (1)
V-wedge shoe attachment (1)
Hex wrench (1)
Hex socket bolt (1)
Number plate (1)
Connection cable (20-pin) (1)
HDVF-L750 Operation Manual (CD-ROM) (1)
HDVF-L750 Operation Guide (1 set)

Note

The connection cable (26-pin), shoe conversion bracket, and spiral tube listed in the accessories in the operation manual for the HDVF-L750 are not supplied with the HXC-FB80S.

Related equipment

Camera control unit

HXCU-FB80 4K/HD Camera Control Unit
HXCU-FB70, HXCU-TX70 HD Camera Control Unit

Camera adaptor

CA-TX70 HD Camera Adaptor

Equipment for remote control

RM-B170/B750 Remote Control Unit
RCP-1000 series Remote Control Panel

Lens, viewfinder, and related equipment

Lens: 2/3-inch type bayonet mount lenses only
HDVF-L10, HDVF-L750, HDVF-L770, HDVF-EL75 Viewfinder

Power supply and related equipment

AC-DN10 AC Adaptor
HXCE-FB70 Power Supply Unit

Audio equipment

ECM-678/674/673/680S Microphone
CAC-12 Microphone Holder

Other peripheral devices

VCT-14/U14 Tripod Adaptor
Shoulder strap (Part No.: A-6772-374-C)

Design and specifications are subject to change without notice.

Notes

- 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.
- SONY WILL NOT BE LIABLE FOR CLAIMS OF ANY KIND MADE BY USERS OF THIS UNIT OR MADE BY THIRD PARTIES.
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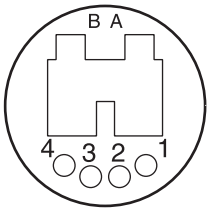
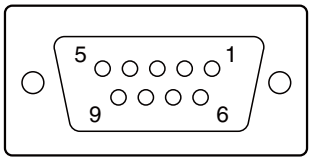
Pin Assignment

CCU connector



No.	Signal
A	Optical INPUT
B	Optical OUTPUT
1	DC IN (–)
2	NC
3	NC
4	DC IN (+)
Shell	CHASSIS GND

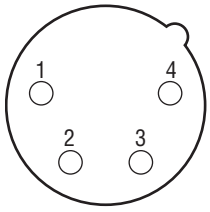
TRUNK connector



No.	Signal	Input/ output	Specifications
1	–	–	–
2	RX IN	IN	Trunk RX
3	TX OUT	OUT	Trunk TX
4	Assignable1	IN/OUT	Digital IO OUT: Open Collector (max. 10 mA) IN: Contact
5	GND	–	–

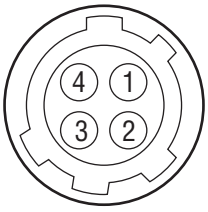
No.	Signal	Input/ output	Specifications
6	Assignable2	IN/OUT	Digital IO OUT: Open Collector (max. 10 mA) IN: Contact
7	Assignable3	IN/OUT	Digital IO OUT: Open Collector (max. 10 mA) IN: Contact
8	Assignable4	IN/OUT	Digital IO OUT: Open Collector (max. 10 mA) IN: Contact
9	Assignable5	IN/OUT	Digital IO OUT: Open Collector (max. 10 mA) IN: Contact

DC IN connector



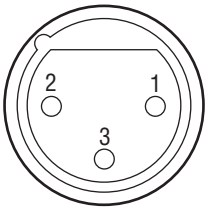
No.	Signal	Input/ output	Specifications
1	EXT DC (C)	–	GND for DC (+)
2	NC	–	No connection
3	NC	–	No connection
4	EXT DC (H)	IN	+10.5 V to +17 V DC

DC OUT connector



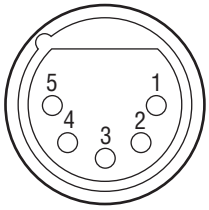
No.	Signal	Input/ output	Specifications
1	UNREG GND	–	GND for UNREG OUT
2	NC	–	No connection
3	NC	–	No connection
4	UNREG OUT	OUT	+10.5 to +17 V DC 1.5 A (max.)

AUDIO 1/2 IN connectors



No.	Signal	Input/ output	Specifications
1	AUDIO CH1/ CH2 (G)	–	–60 dBu, –50 dBu, –40 dBu, –30 dBu, –20 dBu, LINE (0 dBu) selectable, Balanced
2	AUDIO CH1/ CH2 (X)	IN	
3	AUDIO CH1/ CH2 (Y)	IN	

INTERCOM connector

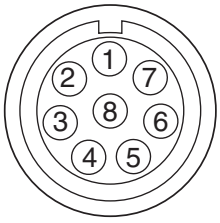


No.	Signal	Input/ output	Specifications
1	Intercom MIC (Y)/ (GND) [a]	IN	CARBON: –20 dBu, Unbalanced DYNAMIC: –60 dBu, Balanced/ Unbalanced MANUAL
2	Intercom MIC (X)	IN	
3	GND	–	GND
4	Intercom Left	OUT	8 dBu (VR max., 250 Ω load)
5	Intercom Right	OUT	8 dBu (VR max., 250 Ω load)

(0 dBu = 0.775 Vrms)

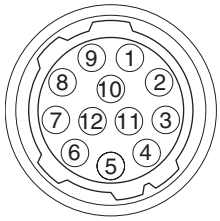
a) When unbalanced

REMOTE connector



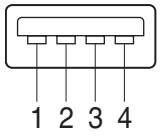
No.	Signal	Input/ output	Specifications
1	TX (+)	OUT	SERIAL DATA OUT
2	TX (–)	OUT	SERIAL DATA OUT
3	RX (+)	IN	SERIAL DATA IN
4	RX (–)	IN	SERIAL DATA IN
5	TX GND	–	GND for TX
6	POWER (+) OUT	OUT	RCP POWER
7	POWER (–) OUT	OUT	GND for POWER
8	VIDEO (X)	OUT	75 Ω, 1.0 V p-p
	CHASSIS GND	–	CHASSIS GND

LENS connector



No.	Signal	Input/ output	Specifications
1	RET VIDEO ENABLE	IN	ENABLE: 0 V DISABLE: +5 V or OPEN
2	VTR CTL	IN	ENABLE: 0 V DISABLE: +5 V or OPEN
3	GND	–	GND for UNREG
4	SERVO MA/AT	OUT	AUTO: +5 V MANU: 0 V or OPEN
5	IRIS POSITION	OUT	+3.4 V (F16) to +6.2 V (F2.8)
6	UNREG	OUT	+10.5 V to +17 V
7	IRIS POSITION	IN	+3.4 V (F16) to +6.2 V (F2.8)
8	IRIS AT/MA	OUT	AUTO IRIS: 0 V MANUAL IRIS: +5 V
9	EXTENDER ON/OFF	IN	EX 2 ON: GND EX 0.8 ON: 30 kΩ to GND OFF: OPEN
10	ZOOM POSITION	IN	WIDE: 2 V TELE: 7 V
11	FOCUS POSI (LENS RX)	IN	∞: 7 V min.: 2 V
12	FOCUS POSI (LENS TX)	OUT	–

USB connector



No.	Signal	Input/ output	Specifications
1	VBUS	OUT	USB Vcc (+5 V)
2	D+	IN/OUT	USB+
3	D–	IN/OUT	USB–
4	GND	–	GND

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