SONY®

3CCD Colour Remote Head Video Camera
DXC-C33/P

Ideal for use in space-limited locations, the DXC-C33/P incorporates one of the smallest and lightest camera head units featuring a 1/3 type 3CCD.

In spite of its compact and lightweight camera head unit, this model inherits the superb picture quality of the DXC Series. Its horizontal resolution is 850 TV lines and the minimum sensitivity is 2000 lux at F8. Various features such as DynaLatitude™ and Partial Enhance functions are also included.

The DXC-C33/P is equipped with a DV output terminal, thanks to which, video signals can be recorded to i.LINK™ interface-equipped VTRs with no quality deterioration.

With excellent features and approval for medical applications, the DXC-C33/P is the right choice for medical fields and for other demanding applications such as research, broadcast, and industrial fields.

Features

- Small camera head
- High picture quality
- 10 bit DSP
- i.LINK interface (IEEE 1394)
- DynaLatitude
- Frame memory
- Partial Enhance
- RS-232C interface
- 2 Automatic Exposure areas reset
- External synchronisation (HD/VD, VBS)
- User-friendly control panel

What is IEEE 1394?

IEEE 1394 is a high-speed, non-proprietary, scaleable digital serial bus that transports data at current rates of 100, 200 and 400 Mb/s. Its definition, development, compliance and application promotion are supported by more than 180 companies, grouped in the 1394 Trade Association (www.1394ta.org).

This standard has been adopted both in the consumer and industrial world with various formats known as DV, DVCAM and D-CAM, because of its simplicity of use, its high speed and universal cable connection.

The Sony DXC-C33/P fully supports the DVCAM format.

Particularly, DVCAM provides superb picture quality from component digital recording. By using a wider track pitch, Sony ensures outstanding performance and higher reliability with DVCAM.

For more information about i.LINK interface and about DV, IIDC, and DVCAM protocols, please visit www.sonybiz.net.

For more information about other DVCAM compliant Sony products, please visit www.sonybiz.net/professionalvideo.

• i.LINK Interface (IEEE 1394)
The i.LINK interface allows image recording into i.LINK interface-equipped VTRs with no quality deterioration. Sony guarantees the connection to any DVCAM compliant peripheral. Although possible, the connection to DV compliant peripherals might not be supported in certain software configurations* of the host computer.

i.LINK stands for the IEEE 1394-1995 compliant interface used in consumer areas with a DV stream.

* Please contact your local Sony sales office for the latest information about software compatibility.

i.LINK: DSR-70A/P and DXC-C33/P

• Small Camera Head
The DXC-C33/P can be installed in space-limited locations. The size of the camera head (CHU) is one of the smallest of all 1/3 type 3CCD cameras. It measures just 32 (W) x 38 (H) x 40 (D) mm and weighs only 48 g.
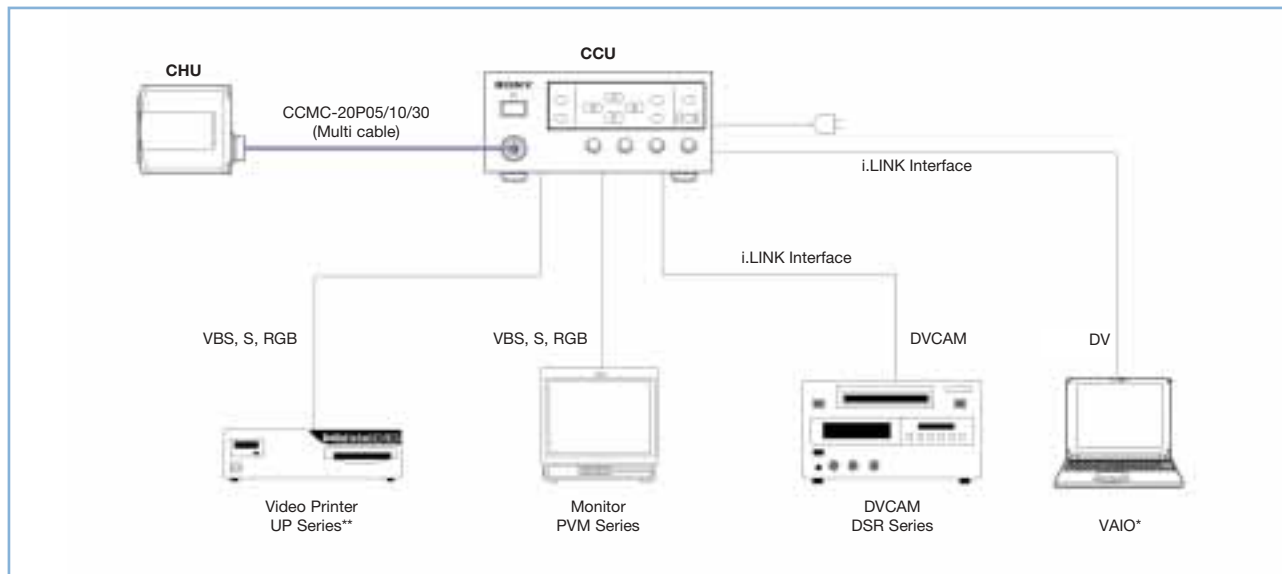
• High Picture Quality
The DXC-C33/P can clearly capture detailed images of objects. The 1/3 type 3CCD allows the camera to realize 2000 lux at F8, S/N ratio of 62dB (NTSC) or 61dB (PAL) and achieve a horizontal resolution of 850 TV lines.

• 10 Bit DSP
The DXC-C33/P captures superior pictures by adopting full 10 bit Digital Signal Processing (DSP).

Typical System

CHU

CCU

CCMC-20P05/10/30
(Multi cable)

i.LINK Interface

i.LINK Interface

VBS, S, RGB

VBS, S, RGB

DVCAM

DV

Video Printer
UP Series**

Monitor
PVM Series

DVCAM
DSR Series

VAIO*

* See above paragraph on i.LINK interface.
** Supported depending on the computer software configuration.

DynaLatitude OFF

DynaLatitude ON
(Simulated picture)

Frame memory
Gain: 18 dB

Frame memory
Long Exposure: 32 frames

• DynaLatitude

Automatically adjusts contrast corresponding to the brightness signal level of the entire image. Clear images can be captured even if both bright and dark areas exist within an image.

• Partial Enhance

Allows a particular colour to be selected, and its hue, saturation and detail altered. In addition, the detail produced by the high resolution of the camera can be softened or emphasised in certain parts of the image by the Partial Enhance function.

• RS-232C Interface

Easy control and operation of all the camera functions by an external computer is possible.

• Remote Head Feature

Using the especially designed CCMC-20P05/10/30 (5, 10 and 30 metre) cables, the camera head can be remoted up to 30 metres away from the camera control unit. With the automatic cable compensator built in the camera control unit, the picture remains unchanged. This feature is especially useful for surgical and broadcast applications.

• External Synchronisation (HD/VD, VBS)

Allows for multiple camera operation, as well as external triggering for industrial applications.

• Frame Memory

Built-in frame memory can provide a freeze image and a remarkably enhanced image in sensitivity by long-time exposure function.

• User-Friendly Control Panel

The front panel is easy to use with smartly arranged controls and good-sized switches.

• 2 AE Areas Preset

The AE (Automatic Exposure) function is very useful for determining the best area for incoming light metering. Users can select and set up two of the six different AE modes and can easily switch them on the front panel.


Multi | Mid | Slit
Large | Spot | Manual
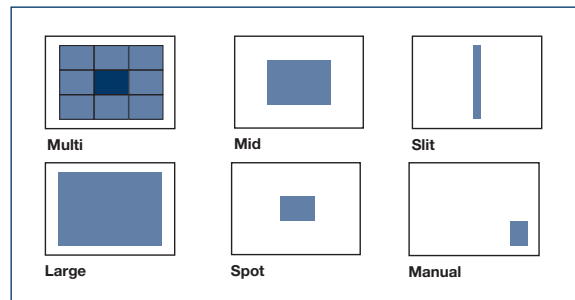
Pin assignment

9-pin D-sub connector

MENU	D-sub VIDEO: VBS D-sub SYNC: C.SYNC	D-sub VIDEO: VBS D-sub SYNC: WEN	D-sub VIDEO: Y/C D-sub SYNC: C.SYNC	D-sub VIDEO: Y/C D-sub SYNC: WEN
1	VBS OUT (G)	VBS OUT (G)	Y/C OUT (G)	Y/C OUT (G)
2	RGB OUT (G)	RGB OUT (G)	RGB OUT (G)	RGB OUT (G)
3	R OUT (X)	R OUT (X)	R OUT (X)	R OUT (X)
4	G OUT (X)	G OUT (X)	G OUT (X)	G OUT (X)
5	B OUT (X)	B OUT (X)	B OUT (X)	B OUT (X)
6	VBS OUT (X)	VBS OUT (X)	Y OUT (X)	Y OUT (X)
7	C.SYNC OUT (X)	WEN OUT (X)	C.SYNC OUT (X)	WEN OUT (X)
8	C.SYNC OUT (G)	WEN OUT (G)	C.SYNC OUT (G)	WEN OUT (G)
9	(X)	(X)	C OUT (X)	C OUT (X)

MINI DIN 8-pin connector

1	INTER CONNECT
2	INTER CONNECT
3	DATA OUT
4	DC OUT (G)
5	DATA IN
6	NC
7	DC OUT (+)
8	NC
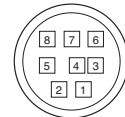
Rear view

DXC-C33/P CHU
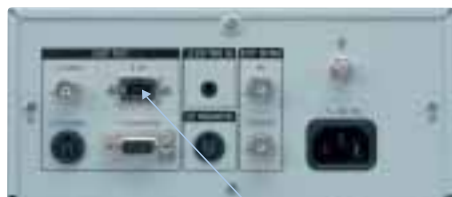
DXC-C33/P CCU   i.LINK connector

Control panel

DXC-C33/P CCU

Specifications

Pick-up device	1/3 type IT (Interline Transfer) CCD	Detail level	ALL/ TARGET/ OFF (Variable at ALL or TARGET)
Effective picture elements	NTSC: 768 (H) x 494 (V) PAL: 752 (H) x 582 (V)	Detail Frequency	HIGH/MID/LOW selectable
Sensing area	4.8 (H) x 3.6 (V) mm	Linear matrix	ALL/TARGET/OFF
Scanning system	NTSC: 2:1 interlaced, 525 lines PAL: 2:1 interlaced, 625 lines	Linear matrix MODE	STANDARD/R Enhance/G Enhance/ B Enhance/Manual selectable
Horizontal frequency	NTSC: 15.734 kHz PAL: 15.625 kHz	Partial Enhance	ALL/IN/OUT selectable
		CCD integration mode	FIELD/ FRAME selectable
Vertical frequency	NTSC: 59.94 Hz PAL: 50 Hz	Shading Compensation	OFF/ON (Manual control)
Sync system	Internal or External with VBS or HD/VD	Trigger Polarity	Positive edge trigger/Negative edge trigger selectable
Phase control	H/SC phase control	Baud rate	19200/9600/4800/2400/1200 selectable
Horizontal resolution	850 TV lines	Sync	RGB/G/OFF selectable
Lens mount	C mount	Strobe	Slave
Flange back	17.526 mm in air	User File	A/B switchable (Two pattern memories)
Sensitivity	F8.0 at 2000 lux (3200 K)		
Minimum illumination	4 lux (F2, GAIN: HYPER)	Scene File	STANDARD/MICROSCOPE/ FULL AUTO/STROBE/FILE A or B
S/N ratio	NTSC: 62 dB (Typical) PAL: 61 dB (Typical)	Output signal	i.LINK: IEEE 1394 Based VBS: 1.0 Vp-p, 75 Ω, sync negative
Gain	STEP/AGC/HYPER selectable STEP: 0 to 24 dB by 1 dB step AGC: 0 to 24 dB (Limit value: 6 dB, 12 dB, 18 dB, 24 dB selectable), HYPER: 30 dB		RGB: 0.7 Vp-p, 75 Ω, sync switchable SYNC: 2 Vp-p, 75 Ω Y: 1.0 Vp-p, 75 Ω C: NTSC 0.286 VP-P, 75 Ω, without sync PAL 0.3 Vp-p, 75 Ω, without sync
Electronic shutter	8.0 to 1/100,000 s	Operating temperature	-5 to 45°C (23 to 113°F)
Lens	Manual Iris		
AE area	Multi/Large/Medium/Spot/Slit/ Manual selectable	Storage temperature	-20 to 60°C (-4 to 140°F)
AE level	Variable	Power supply	100 to 240 V AC, 50/60 Hz
AE speed	Fast/Mid/Slow selectable	Power consumption	Max. 18 W
AE detect	Average/Peak selectable	Dimensions	CHU: 32 (W) x 38 (H) x 40 (D) mm (1 5⁄16 x 1 1⁄2 x 1 5⁄8 inches) CCU: 200 (W) x 88 (H) x 242 (D) mm (7 7⁄8 x 3 1⁄2 x 9 5⁄8 inches)
Contrast Effect	Manual/DynaLatitude/DCC+ selectable		
Knee Point	High/Normal/Low selectable (Contrast Effect: Manual)	Weight	CHU: 48 g (1.7 oz) CCU: 2.5kg (5 lbs 8 oz)
Black stretch	Variable (Contrast Effect: Manual)	Connectors	DV OUT (6 pin jack)
Gamma	ON/OFF (Variable at ON)		RGB/SYNC (9 pin D-sub)
Pedestal	Master and R/B Manual adjustable		VIDEO OUT (BNC)
Black balance	ABB		S-VIDEO (4 pin mini DIN)
White balance	AWB/ATW NORMAL/ATW WIDE/MANUAL/3200 K/5600 K selectable AWB or ATW R/B Paint, MANUAL R/B Gain		FS/ TRIG IN (Stereo Mini jack) REMOTE (8 pin mini DIN) AC Inlet Camera (20 pin)
ATW area	NORMAL/ MANUAL selectable		
ATW speed	FAST/ NORMAL/ SLOW selectable		

Optional accessories

VCL-08WM
VCL-16WM
VCL-25WM
Optional lenses

DSR-70A/P
Portable Editing Recorder

DVCAM Series
DSR-20MD/P

RM-C950
Remote Control Unit

VMC-IL6645 6-6 pin IEEE 1394 cable

VMC-IL4615/IL4635 i.LINK Cable (1.5/3.5 m)
4 to 6 pin cable for Sony VAIO laptop computer connection

CCMC-20P05/20P10/20P30
20-pin Multi Cable (5/10/30 m). This cable is for use between the camera head and the control unit.

CCMC-9DS 9-pin D-sub Cable

CCXC-9DB/9DD 9-pin D-sub Cable