SONY

DXC-C33 / DXC-C33P

DXC-C33
DXC-C33P

3-CCD Colour Remote Head Video Camera

Ideal for use in space-limited locations, the DXC-C33/C33P incorporates one of the smallest/lightest camera head unit featuring three 1/3 type CCDs.

DXC-C33 (NTSC)
DXC-C33P (PAL)

In spite of its compact (32 (W) x 38 (H) x 40 (D) mm, (1 5/16 x 1 1/2 x 1 5/8 inches) and lightweight (48 g, 1.7 oz) camera head unit, this model inherits superb picture quality of the DXC Series.

Features

- Small camera head
- High picture quality
- DV out
- 10-bit DSP
- DynaLatitude
- Frame memory
- Partial Enhance
- User-friendly control panel
- Two AE areas preset
- RS-232C interface
- External synchronization (HD/VD, VBS)

Its horizontal resolution is 850 TV lines and the minimum illumination is 2000 lux at F8. Also, various features such as DynaLatitude™ Function, Partial Enhance are provided to this model.

First for the DXC Series and also first for 3-CDD small head cameras, the DXC-C33/C33P is equipped with a DV output terminal. Thanks to the DV output terminal, video signals can be recorded to i.LINK™ interface-equipped VTR with no quality deterioration.

With the excellent features and medical approval, the DXC-C33/C33P is the right choice for medical fields, and also for demanding applications such as research and industrial fields.

Small camera head
The DXC-C33/C33P can be installed in space-limited locations. The size of the camera head unit (CHU) is one of the smallest of all the 1/3 type 3-CCD cameras.

High picture quality
The DXC-C33/C33P can clearly capture detailed images of objects. Adoption of three 1/3 type CCDs allows the camera to realize 2000 lux at F8, S/N ratio of 62 dB (NTSC) or 61 dB (PAL) and achieve a horizontal resolution of 850 TV lines.

800 TV lines picture

850 TV lines picture

(Simulated picture)

i DV out
DV output terminal allows image recording into i.LINK interface-equipped VTR with no quality deterioration. This feature is first introduced to small head 3CCD cameras.

DSR-70A/70AP and DXC-C33/C33P

* i.LINK stands for IEEE-1394-1995 standards and their revisions.
i is the logo for products that implement i.LINK.
Note: Sony VAIO computers are checked with Sony DV products, but not with DVCAM, concerning the i.LINK interconnection. Some VAIO application software may not work with DVCAM.

10-bit DSP
The DXC-C33/C33P can capture superior pictures by adopting full Digital Signal Processing (DSP) of 10 bits.

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

OFF

ON

(Simulated picture)

Frame memory
Built-in frame memory can provide a freeze image and a remarkably enhanced image in sensitivity by long-time exposure function. Images captured by long-time exposure function can be output continuously.

Gain: 18 dB

Long Exp: 32 frames

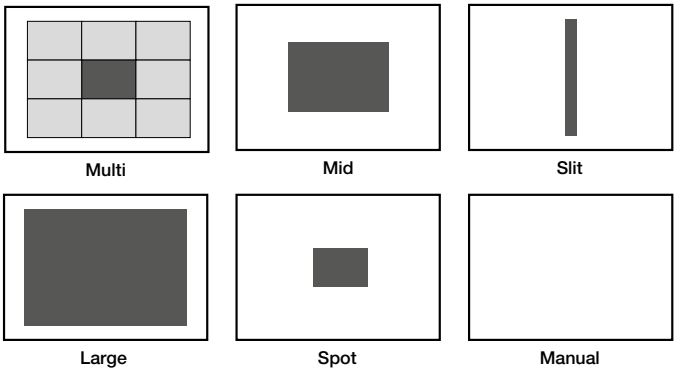
Partial Enhance
This function allows a particular color to be selected, and its hue, saturation and detail altered. In addition, the detail produced by the high resolution of the camera can be softened or emphasized in certain parts of the image by the Partial Enhance function.

OFF

ON

User-friendly control panel
The front panel is easy to use with smartly arranged knob switches and good-sized switches.

Two AE areas preset
AE (Automatic Exposure) function is very useful to determine 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 at front panel.



RS-232C interface
Easy control and operation of the camera by an external computer is possible.

External synchronization (HD/VD, VBS)
External, synchronization allows for multiple camera operation.

Optional accessories

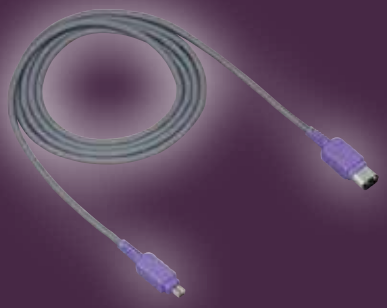
NF-Mount Lens
VCL-08WM
VCL-16WM
VCL-25WM

DVCAM™ Series
DSR-20MD
DSR-20MDP

Remote Control Unit
RM-C950

20-pin Multi Cable (5/10/30 m)
CCMC-20P05
CCMC-20P10
CCMC-20P30

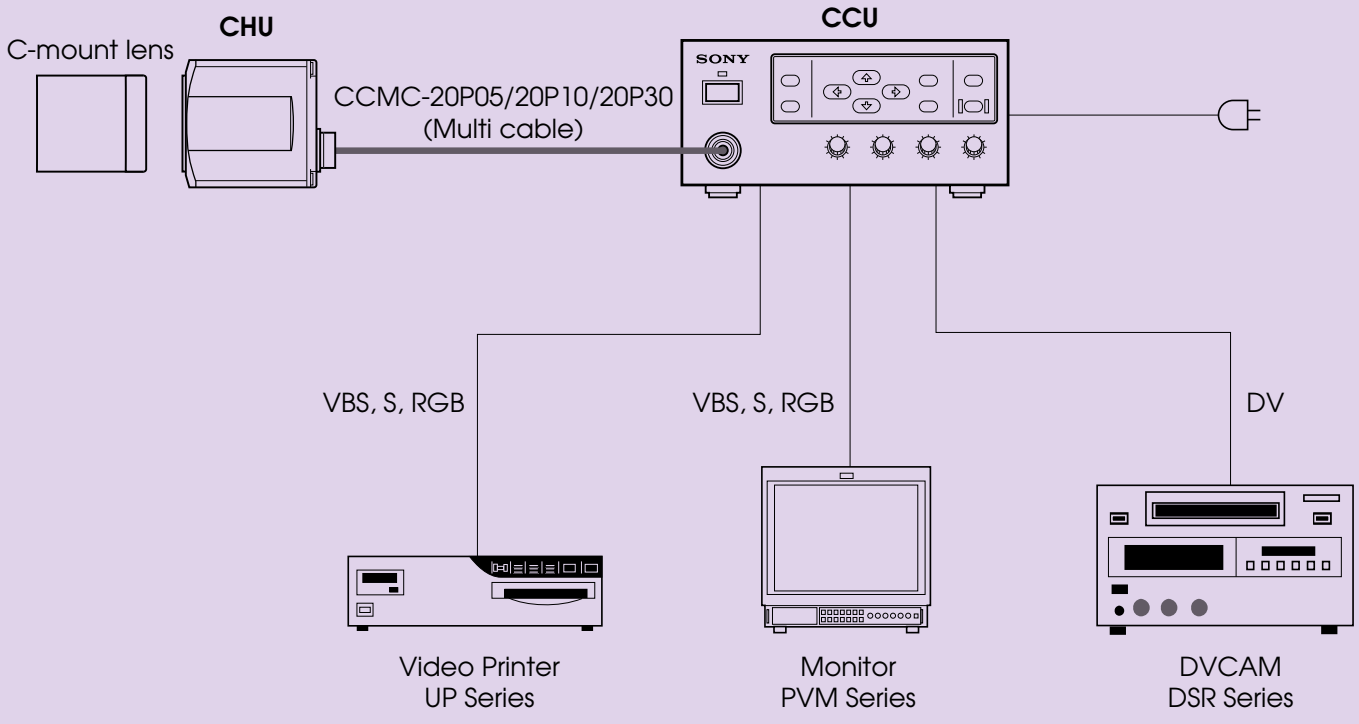
i.LINK Cable (1.5/3.5 m)
VMC-IL4615
VMC-IL4635



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

9-pin D-sub Cable
CCMC-9DS

Typical System



DXC-C33/C33P Specifications

Pick-up device	1/3 type IT (Interline Transfer) CCD (x3)
Effective picture elements	NTSC: 768 (H) x 494 (V) PAL: 752 (H) x 582 (V)
Sensing area	4.8 (H) x 3.6 (V) mm
Scanning system	NTSC: 2:1 interlaced, 525 lines PAL: 2:1 interlaced, 625 lines
Horizontal frequency	NTSC: 15.734 kHz PAL: 15.625 kHz
Vertical frequency	NTSC: 59.94 Hz PAL: 50 Hz
Sync system	Internal or external with VBS or HD/VD
Phase control	H/SC phase control
Horizontal resolution	850 TV lines
Lens mount	C mount
Flange back	17.526 mm in air
Sensitivity	F8.0 at 2000 lux (3200 K)
Minimum illumination	4 lux (F2, GAIN: HYPER)
S/N ratio	NTSC: 62 dB (Typical) PAL: 61 dB (Typical)
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
Electronic shutter	8.0 to 1/100,000 s
Lens	Manual Iris
AE area	Multi/Large/Medium/Spot/Slit/ Manual selectable
AE level	Variable

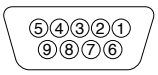
AE speed	Fast/Mid/Slow selectable
AE detect	Average/Peak selectable
Contrast effect	Manual/DynaLatitude/DCC+ select-able
Knee point	High/Normal/Low selectable (Contrast Effect: Manual)
Black stretch	Variable (Contrast Effect: Manual)
Gamma	ON/OFF (Variable at ON)
Pedestal	Master and R/B Manual adjustable
Black balance	ABB
White balance	AWB/ATW NORMAL/ATW WIDE/ MANUAL/3200 K/5600 K selectable AWB or ATW R/B Paint, MANUAL R/B Gain
ATW area	NORMAL/MANU selectable
ATW speed	FAST/NORMAL/SLOW selectable
Detail level	ALL/TARGET/OFF (Variable at ALL or TARGET)
Detail frequency	HIGH/MID/LOW selectable
Linear matrix	ALL/TARGET/OFF
Linear matrix	STANDARD/R Enhance/G Enhance/
mode	B Enhance/Manual selectable
Partial enhance	ALL/IN/OUT selectable
CCD integration mode	FIELD/FRAME selectable
Shading compensation	OFF/ON (Manual control)
Trigger polarity	Positive edge trigger/Negative edge trigger selectable
Baud rate	19200/9600/4800/2400/1200 selectable
Sync	RGB/G/OFF selectable

Strobe	Slave
User file	A/B switchable (Two pattern memories)
Scene file	STANDARD/MICROSCOPE/ FULL AUTO/STROBE/FILE A or B
Output signal	i.LINK (DV): IEEE1394 Based VBS: 1.0 Vp-p, 75 Ω, sync negative 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
Operating temperature	-5 to 45°C (23 to 113°F)
Storage temperature	-20 to 60°C (-4 to 140°F)
Power supply	100 to 240 V AC, 50/60 Hz
Power consumption	Max. 18 W
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)
Mass	CHU: 48 g (1.7 oz) CCU: 2.5 kg (5 lb 8 oz)
Connectors	DV OUT (6-pin jack) RGB/SYNC (9-pin D-sub) VIDEO OUT (BNC) S-VIDEO (4-pin mini DIN) FS/TRIG IN (Stereo Mini jack) REMOTE (8-pin mini DIN) AC Inlet Camera (20-pin)
Supplied	Tripod adaptor
Accessories	AC power cable Lens cap Panel sheet for RM-C950 Operation instruction manual

Pin Assignment

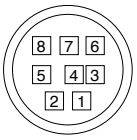
9-pin D-sub connector

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)



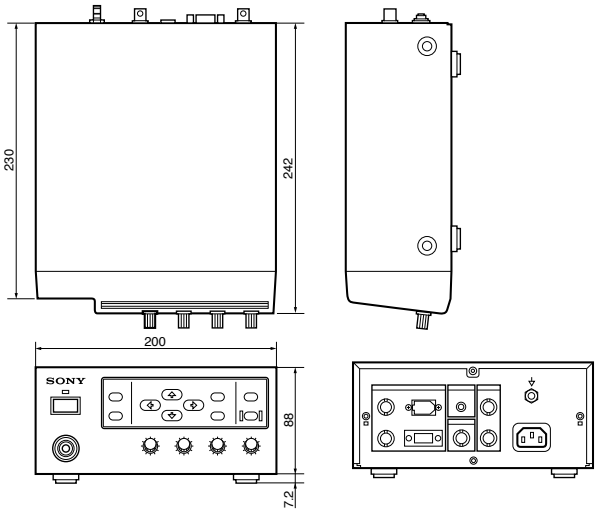
MINI DIN 8-pin connector

1	INTER CONNECT
2	INTER CONNECT
3	DATA OUT
4	DC OUT (G)
5	DATA IN
6	NC
7	DC OUT (+)
8	NC
9	TD
10	SD

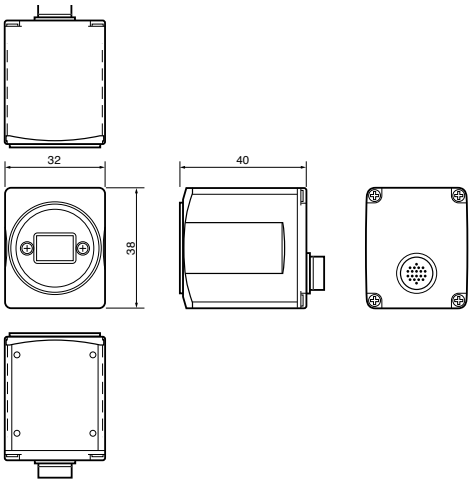


Dimensions

DXC-C33/C33P CCU



DXC-C33/C33P CHU



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