

SONY®

EIA/NTSC

Single Chip CCD Color Video Camera

DXC-107A



• Lens is optional

The introduction of the Sony DXC-107 set a new standard for color video cameras in the industrial market—its compact, cost-effective design and excellent operational design ensuring its enthusiastic acceptance for a broad spectrum of applications.

Sony has now introduced the DXC-107A, which not only inherits the many advanced features of the DXC-107 but has even higher standards of picture quality and operational features.

The adoption of an improved Hyper HAD™ CCD image sensor provides higher sensitivity for clear and finely detailed pictures in low light conditions, while the redesigned CCD-IRIS function now features selectable Backlight/Standard/Spotlight modes to optimise automatic exposure control under difficult lighting situations.

Successfully packaging its new and enhanced features in a compact body, the DXC-107A meets the increasingly critical demands of industrial video users.

Features

Superior Picture Quality

The DXC-107A adopts a new 1/2-inch IT (Interline Transfer) Hyper HAD (Hole Accumulated Diode) CCD sensor with 380,000 effective picture elements. This densely packed CCD image sensor provides superior picture quality with a high horizontal resolution of 470 TV lines. Sensitivity has been increased to achieve a minimum illumination of only 4.5 lx (F1.2), permitting high quality picture acquisition in very low light situations. Moreover, thanks to its HAD sensor technology, dark current noise is reduced to provide a superior signal-to-noise ratio of 48dB.

White Balance Control

Four alternative white balance control modes can be selected to meet a wide range of operational conditions. Two automatic control modes: AWB (Auto White Balance) or ATW (Auto Tracing White), or two preset modes: INDOOR (3200K) or OUTDOOR (5600K) can easily be selected by switch on the side panel. Furthermore, thanks to the adoption of a new microprocessor, the ATW operation has been improved to obtain a smooth and stable tracing operation.

CCD IRIS Control

The DXC-107A is equipped with the improved CCD IRIS function selectable from three modes—BACKLIGHT and SPOTLIGHT as well as the conventional STANDARD mode. The CCD IRIS function enables automatic control of exposure by electrically adjusting the shutter speed, to obtain clear picture in various lighting situations. In a backlighting situation, where the subject is in shade, the BACKLIGHT mode automatically raises the picture level to optimise the exposure of the shaded area. Conversely, when the subject is lit against a dark background, selecting the SPOTLIGHT mode effectively lowers the picture level to prevent halation effects.

A newly developed digital CCD IRIS IC is a contributor to the improved stability and accuracy of the CCD IRIS and electronic shutter functions.

Triple Multiplexing System

The connection between the camera and the optional CMA-D7/YS-W230 Camera Adaptor is very simple. Only a single co-axial cable is required to transmit the video and sync signals, and DC power. Up to 300m of transmission is available by using an RG-6A/U (5C-2V) co-axial cable. For the connection with CMA-D7, a CCMC-12P multi-core cable can be alternately used.

Side View



Lens is optional.

Rear View



S-video (Y/C) Output Selection

A Y/C or composite video signal output is selectable through the CMA-D2 Camera Adaptor by setting the internal switch in the camera. This newly incorporated feature greatly enhances the camera's system versatility.

Variable Speed Electronic Shutter

The variable speed electronic shutter enables the DXC-107A to capture clear images of moving objects, giving a remarkable improvement in dynamic resolution. Blur-free pictures for extremely clear still or slow-motion playback can be obtained. The shutter speed is easily selected from seven modes by a switch on the side panel.

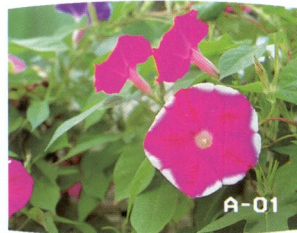
Shutter speeds:

OFF, 1/100*, 1/250, 1/1000, 1/2000, 1/4000, 1/10000 (seconds)

* Flickerless mode

Camera ID

A four digit ID number can be generated by the DXC-107A and superimposed on the picture. Each digit can be selected by four rotary switches on the side panel. This function is very useful in documentation and multiple camera operations.



Compact and Light Weight

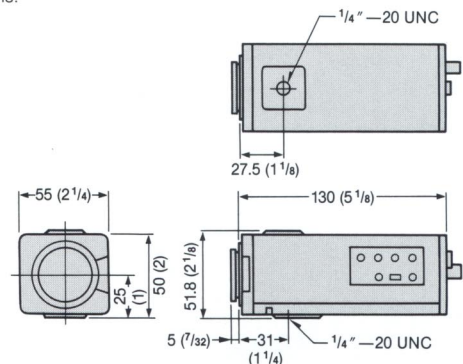
The camera body is remarkably small and lightweight, only 130mm (5 1/8 inches) in length and 360 g (12.7 oz) in weight. The DXC-107A can be installed almost anywhere.

Specification

DXC-107A

Image device:	1/2-inch Hyper HAD Interline Transfer CCD (× 1)
Picture elements:	768(H) × 494(V)
Sensing area:	6.4mm × 4.8mm (1/2-inch)
Signal system:	EIA standard, NTSC color system
Scanning system:	525 lines, 2 : 1 interlace
Sync system:	Internal/external with VS
Horizontal resolution:	470 TV lines
Lens mount:	C mount
Sensitivity:	2000 lx with F5.6
Minimum illumination:	4.5 lx with F1.2
Gain control:	AGC (ON/OFF selectable)
Signal-to-noise ratio:	48dB
White balance:	AUTO: ATW or AWB PRESET: 3200K or 5600K
Electronic shutter:	OFF (1/60s), 1/100 (FL), 1/250, 1/1000, 1/2000, 1/4000, 1/10000 (s)
Phase control:	H phase control
CCD IRIS control:	BACKLIGHT/STANDARD/SPOTLIGHT selectable
Camera number ID:	Four-digit Characters: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, -, (SPACE)
Video out:	VBS: 1.0Vp-p, 75Ω, sync negative Y/C: Y: 1.0Vp-p, 75Ω, sync negative C: 0.286Vp-p, 75Ω, without sync
Operating temperature:	0°C to 40°C (32°F to 104°F)
Storage temperature:	-30°C to 60°C (-22°F to 140°F)
Power requirements:	DC 10.5 to 16V using CCMC-12P multi-core cable (supplied from CMA-D2/D7) DC 25 to 30V using co-axial cable (supplied from CMA-D7/Y5-W230)
Power consumption:	3.3W using CCMC-12P multi-core cable 6.3W using co-axial cable
Maximum cable length:	300m using 5C-2V co-axial cable and CMA-D7/Y5-W230 100m using CCDC-100A cable and CMA-D2 25m using CCMC-12P25 multi-core cable and CMA-D2/D7
Weight:	Approx. 360 g (12.7 oz)
Connectors:	DC IN/VIDEO OUT (BNC), DC IN (12-pin) LENS (4-pin)
Supplied accessories:	Lens connector Lens mount cap Operational instruction manual

Dimensions:

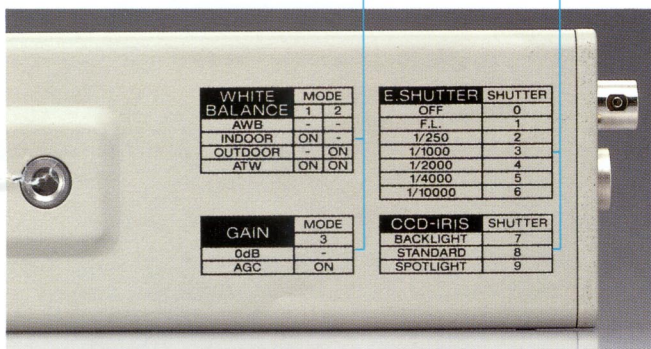


Unit: mm (inch)

CAMERA ID NUMBER SELECT SWITCH

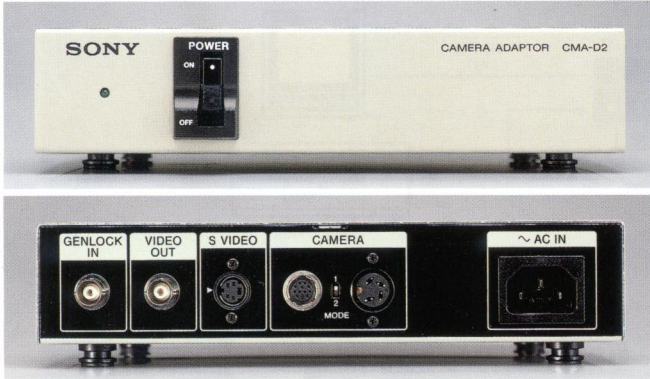


AUTO WHITE BALANCE BUTTON



Optional Accessories

Camera Adaptor CMA-D2

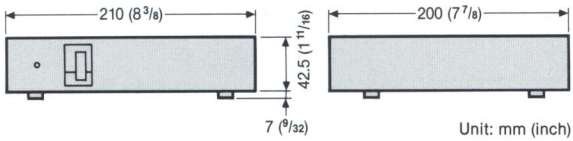


- Supplies DC power with a CCDC cable to cameras
- Transmits DC power and video/sync signals between the camera and the adaptor with a CCMC 12-pin cable
- Maximum cable length: 100m with CCDC-100A cable
25m with CCMC-12P25 cable
- 19-inch EIA standard rack mountable

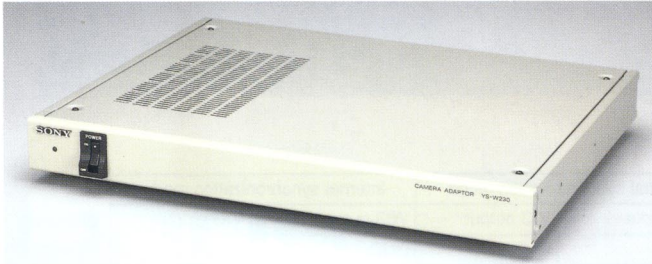
Specifications

Connectors:	CAMERA (12-pin MULTI) CAMERA (4-pin DIN) VIDEO OUT (BNC) S VIDEO OUT (Mini DIN 4-pin) GENLOCK IN (BNC)
DC out:	13V, 1.3A
Operating temperature:	-5°C to 45°C (23°F to 113°F)
Power requirements:	AC 120V, 50/60Hz
Power consumption:	23W
Weight:	1.1 kg (2 lb 7 oz)

Dimensions:

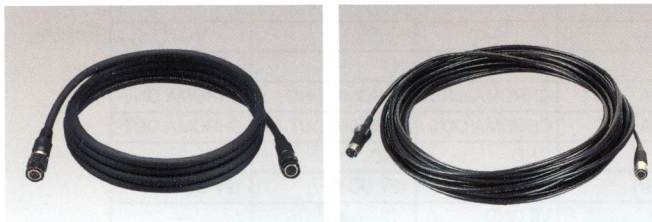


Camera Adaptor YS-W230

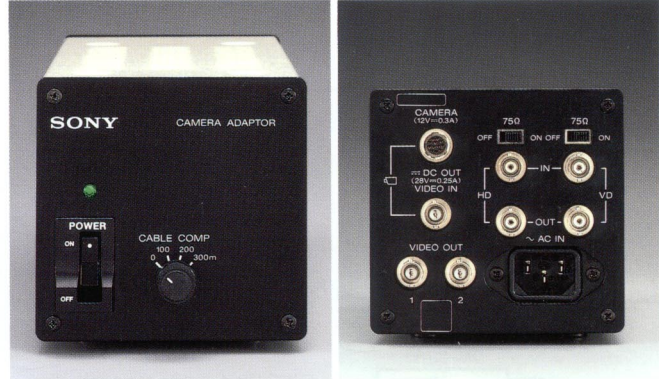


12-pin Multi-core Cable
CCMC-P02/05/10/25
(2/5/10/25m)

DC Cable
CCDC-5/10/25/50/100
(5/10/25/50/100m)



Camera Adaptor CMA-D7

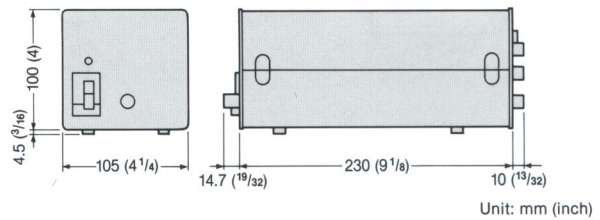


- Transmits DC power and video/sync signals between the camera and the adaptor with a single co-axial cable or a CCMC 12-pin cable
- Maximum cable length:
300m with RG-6A/U (5C-2V) co-axial cable
(with cable compensation)
25m with CCMC-12P25 cable

Specifications

Connectors:	CAMERA (12-pin) DC OUT/VIDEO IN (BNC) VIDEO OUT (BNC × 2) HD IN/OUT (BNC, loop-through, 75Ω ON/OFF) VD (GENLOCK) IN/OUT (BNC, loop-through, 75Ω ON/OFF) AC IN
DC out:	28V, Max. 0.25A (BNC) / 12V, 0.3A (12-pin)
Operating temperature:	0°C to 40°C (32°F to 104°F)
Power requirements:	AC 120V, 50/60Hz
Power consumption:	30W
Weight:	2.7 kg (5 lb 15 oz)

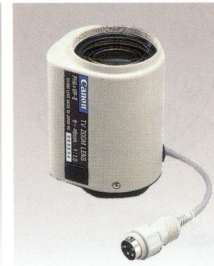
Dimensions:



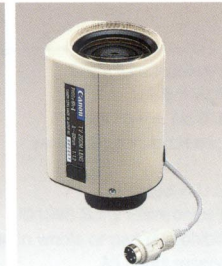
Manual Iris Lens
VCL-06XK
(6mm, F1.2)



Remote Zoom Lens
VCL-806XR
(8~48mm, F1.0)



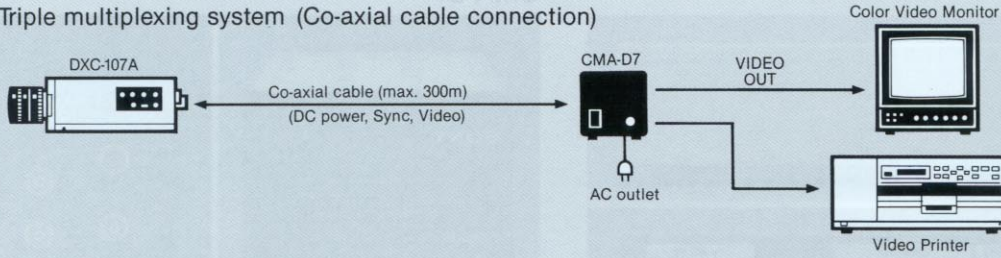
Remote Zoom Lens
VCL-810XR
(8~80mm, F1.2)



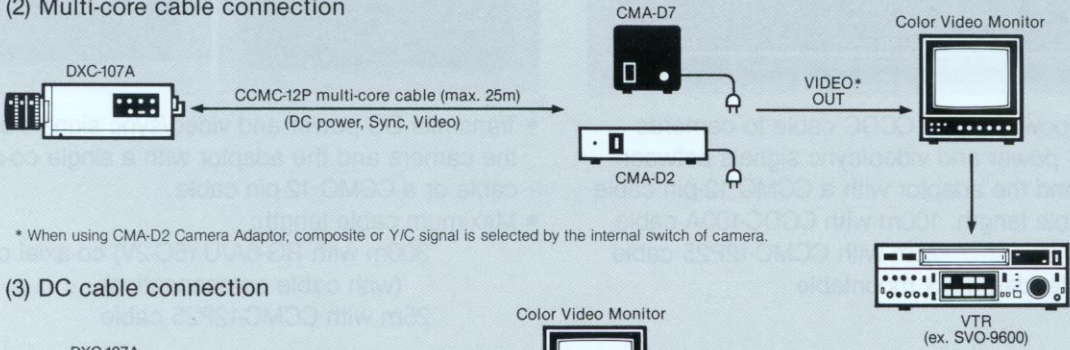
Typical Connections

1. Single camera operation

(1) Triple multiplexing system (Co-axial cable connection)

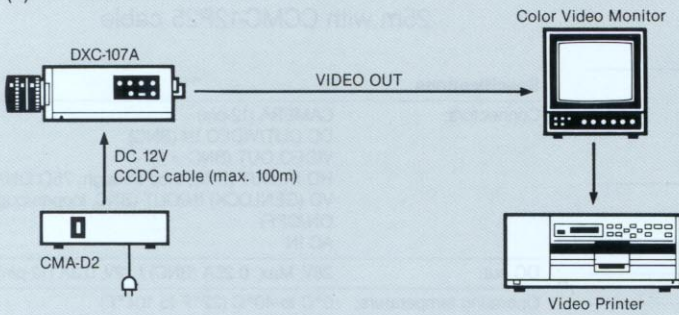


(2) Multi-core cable connection

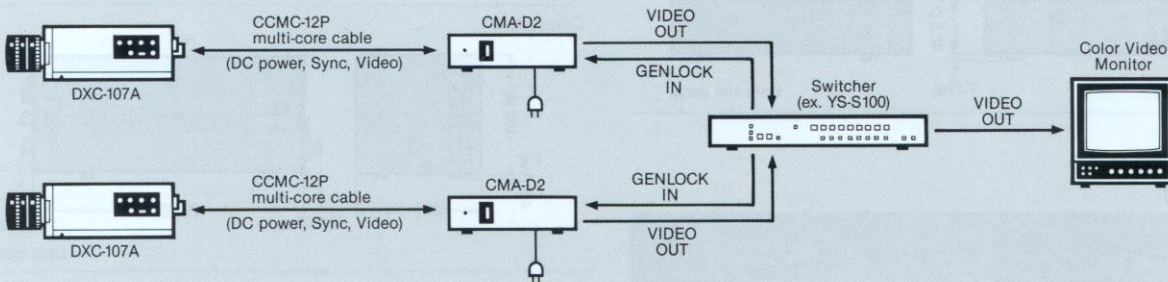


* When using CMA-D2 Camera Adaptor, composite or Y/C signal is selected by the internal switch of camera.

(3) DC cable connection



2. Multiple camera operation



Connector Pin Assignment

12-pin Multi-Connector



	External synchronization mode		Internal synchronization mode	
	VBS output	Y/C output	VBS output	Y/C output
1	GND	GND	GND	GND
2	12V DC IN	12V DC IN	12V DC IN	12V DC IN
3	COMPOSITE GND	Y GND	COMPOSITE GND	Y GND
4	COMPOSITE OUT	Y OUT	COMPOSITE OUT	Y OUT
5	—	—	—	—
6	—	—	—	—
7	VS IN	VS IN	—	—
8	CHROMA GND	CHROMA GND	CHROMA GND	CHROMA GND
9	CHROMA OUT	CHROMA OUT	CHROMA OUT	CHROMA OUT
10	GND	GND	GND	GND
11	12V DC IN	12V DC IN	12V DC IN	12V DC IN
12	VS GND	VS GND	—	—