

SONY®

PAL

Camera Control Unit **CCU-TX7P**



The Sony CCU-TX7P is a compact camera control unit designed for professional use as the core of the Sony triax camera control system for DXC-D30P/D30WSP and DXC-637P Video Cameras. The CCU-TX7P has numerous functions to assure operational convenience and system versatility, as well as the general benefits of the triax system which include control over long distances, particularly important in large systems, and high camera mobility when using lightweight triax cables.



To suit varying applications, the CCU-TX7P runs on AC or DC (12 volts) power without the need for an optional unit, and has a compact body (half 19-inch rack-mount size). The unit provides a variety of video output signals: SDI, composite, Y/C, component and R/G/B, and supports teleprompter systems and major intercom systems such as 2-wire, 4-wire, Clearcom and RTS. To meet different needs, the CCU-TX7P also has two inputs for return video and a teleprompter monitor input.

It is easy to set up a triax camera control system that suits varying applications by combining the CCU-TX7P with the Sony COU-TX7 Camera Operation Unit, RCP-TX7 Remote Control Panel and CA-TX7P Camera Adaptor. This provides benefits such as quick camera set-up and one-person camera operation of multiple cameras without requiring specialist skills.

Feature-rich and cost-effective, the CCU-TX7P broadens the range of video camera applications, and opens up a new world of opportunity to the video professional.



MAIN FEATURES

High Quality Triax Transmission

The CCU-TX7P also employs analogue component video transmission, with a 9MHz bandwidth for the luminance (Y) signal and 4.5MHz for the colour difference signals (R-Y/B-Y). This assures high quality and the provision of various video outputs from the CCU.

Long Distance Transmission

Cable length can be extended up to a maximum of 1500m via ø14.5mm triax cable (with return video) (Fujikura), 1125m via ø13.2mm cable (Belden) or 750m via ø8.5mm cable (Fujikura, Belden). Teleprompter video channel can also be transmitted over a limited length of cable.

High Speed High Quality Serial Data Transmission

Data at up to a resolution of 10-bits can be transmitted with high speed via serial data transmission using a triax cable. This provides the benefits of smooth, real-time control with instant tactile response from remote control devices.

AC/DC Operation

The CCU-TX7P is designed to operate on not only AC but also DC power with both an AC inlet and, for DC 12V (10.5V to 17V), a DC inlet. DC operation greatly expands system flexibility in outside broadcast applications.

Digital Signal Outputs

The CCU-TX7P provides two SDI outputs when the optional DXBK-701 SDI Output Board is installed. It can

transfer high quality digital signals with just one cable to SDI ready units. Using the SDI interface, a total digital DXC system becomes a reality.

Note* The CCU-TX7P (Serial No. less than 41000) needs some modification to accommodate the SDI outputs. Please contact your nearest Sony office.

Other Signal Outputs

The CCU-TX7P provides two composite outputs, and two component output selectable from Y/R-Y/B-Y, R/G/B and Y/C. The CCU-TX7 also has a 4-pin WF MODE (waveform monitor mode) connector for flickerless parade monitoring of signals, in addition to a WF output and a PIX (picture monitor) output.

Two Inputs for Return Video

The CCU-TX7P has two RETURN VIDEO inputs (BNC type) and therefore accept return video signals (VBS colour) from two different systems. Two channels of return video can be selected from the Sony CA-TX7P Camera Adaptor.

Colour Teleprompter Facility

The CCU-TX7P can be used with colour teleprompter facilities. Since reverse signal transmission (CA -> CCU) is supported using a teleprompter video channel in a triax cable, it is also possible to transmit video signals other than those for teleprompter from CA to CCU, if necessary.

* For detailed information, please contact your nearest Sony office.



Flexible Intercom System

The CCU-TX7P is equipped with a programme audio channel and a bi-directional intercom channel. Programme audio sound from an external audio system can be fed to the camera head. This can be mixed with intercom sound; major intercom systems (Four-wire/Two-wire/RTS/Clearcom) can be interfaced via connectors on the rear panel of the CCU-TX7P. The camera control unit accepts two-channel input from the external intercom system, and communication can be initiated from the CCU-TX7P, or the camera adaptor (CA-TX7P) or the external intercom system (CH-1 or CH-2).

Programme Microphone System

The CCU-TX7P and CA-TX7P are equipped with a two-channel microphone system. Two XLR connectors on the CA-TX7P provide balanced audio CH-1 and CH-2 inputs with microphone phantom power available for an external microphone. The MIC input gain of each channel can be controlled within a range of $\pm 12\text{dB}$ in 16 steps by control volumes on the internal board of the CCU-TX7P.

RS-232C Port

The CCU-TX7P is equipped with an RS-232C port to link several CCU-TX7P units for a multiple camera control system, or to connect an external personal computer.

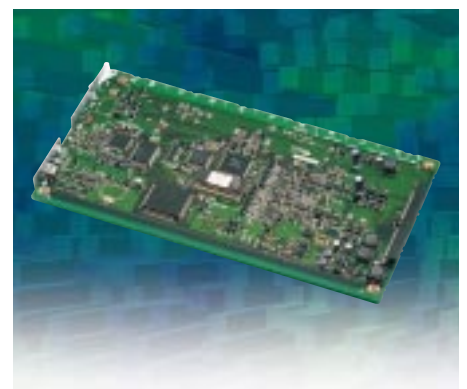
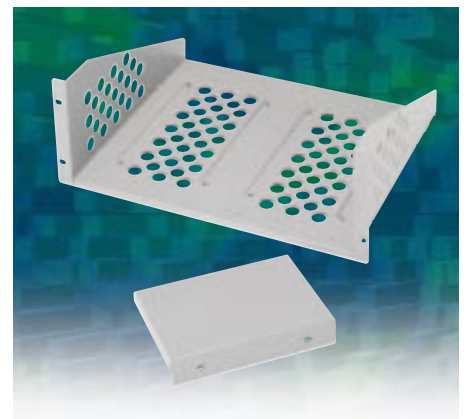
Coaxial Control Capability

The CCU-TX7P is equipped with a coaxial input. This enables each camera to operate over conventional coaxial cable instead of a triax cable, with power supplied locally to the camera.

* For detailed information, please contact your nearest Sony office.

Compact Size

The CCU-TX7P is half a 19-inch rack size wide and 4 units (4U) high. With the Sony RMM-TXC7 Rack Mount Kit, two CCU-TX7P units or one unit with a waveform monitor can be mounted into a standard 19-inch rack.



DXBK-701 SDI Output Board

PERIPHERALS

CA-TX7P



Rotary Triax Connector

The Sony CA-TX7P Triax Camera Adaptor is equipped with a rotary (70°) triax connector for easy cabling.

76-pin/50-pin Interface

The CA-TX7P is equipped with both Pro 76-pin and Pro 50-pin interfaces, which facilitate connections to DXC-D30P/ D30WSP and DXC-637P Video Cameras.



Pro 50-pin



Pro 76-pin Digital

Viewfinder Box Cursor Indication

The CA-TX7P can indicate a box cursor on the screen of any DXC-D30P/ D30WSP viewfinder such as the DXF-701WSCE and DXF-51. Cursor position (H, V) and size (width, height) can all be adjusted using control volumes on the rear panel of the CA-TX7P. Two kinds of cursors can be stored and retrieved.

* This function is not available with the DXC-637P.



RCP-TX7

As Remote Control Panel

● Full Camera Control

The Sony RCP-TX7 provides full control functions as a remote camera control panel for the CCU-TX7P. It covers the complete range of control functions, from basic camera control to more sophisticated operation. It provides camera set-up control using convenient scene files, as well as basic control and paint operation control. For engineering and service personnel, the RCP-TX7 also provides comprehensive camera set-up functions. The RCP-TX7 is a quarter the width of a 19-inch rack so that four RCP-TX7 units can be installed into a standard 19-inch rack using the Sony RMM-TXR7 Rack Mount Kit.

● Scene File System

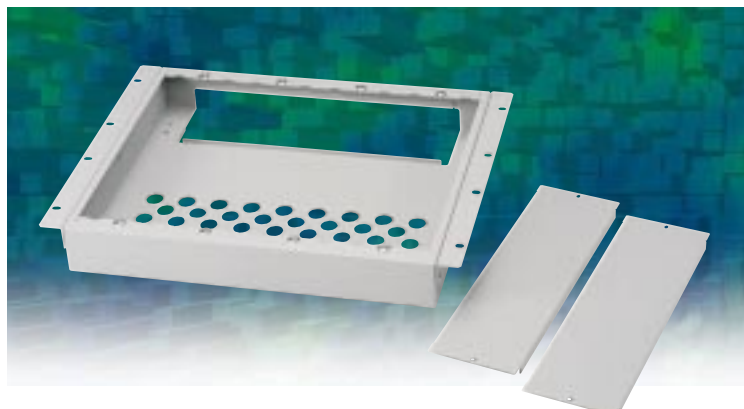
The RCP-TX7 can store up to 16 scene files. All parameters, both for camera operation and set-up, can be adjusted and stored in each scene file. The stored scene file most suitable for each shooting situation can be instantly recalled.

● Links in Control of Iris and Master Black

In a multi-camera system, the control of Iris and Master Black can be linked over multiple RCP-TX7 panels. Simply press the "IRIS/M.BLACK LINK" button on each required RCP-TX7. When controlling Iris and Master Black, the values of all the linked RCP-TX7 units can be overridden by one RCP-TX7. Any one of the units can be set up as the master device.

● Colour Matching Capability

The RCP-TX7 has a useful colour matching function. When using multiple cameras and RCP-TX7 units, once one RCP-TX7 has been set up, the master data can be copied to the other RCP-TX7 units. To do this, the user must first set one RCP-TX7 as the master and the others as subsidiary units.



COU-TX7

● Convenient Liquid Crystal Display

The RCP-TX7 has an LCD (Liquid Crystal Display) on the control panel. This LCD shows menu status information on the current adjustment. Function status such as Detail Level, Gamma, Knee, White Balance and Black (Flare) Balance can also be displayed on the LCD by using an INDICATION button. The LCD also displays troubleshooting hints when an operational difficulty arises from use of the RCP-TX7 controls.

As Standalone Camera Controller

Directly connected to the Sony DXC-D30P/ D30WSP Video Camera through a 10-pin remote connector, the RCP-TX7 can be used as a standalone remote control unit offering the same functionality as the RM-M7G.

(This is only possible with the DXC-D30P/ D30WSP.)

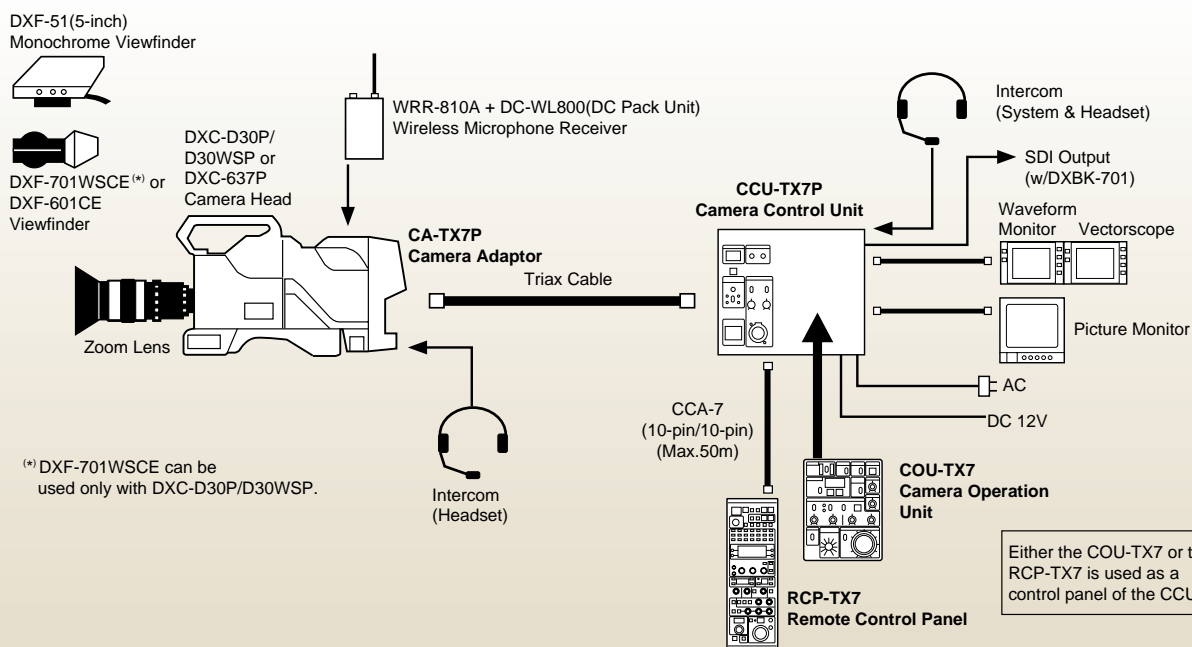


Basic Camera Control with COU-TX7

The Sony COU-TX7 Camera Operation Unit can be attached to form a part of the front panel of the CCU-TX7P to provide basic control of camera operation and painting. This is useful when using the CCU-TX7P in limited space, such as in field production vehicles.



SYSTEM CONFIGURATION

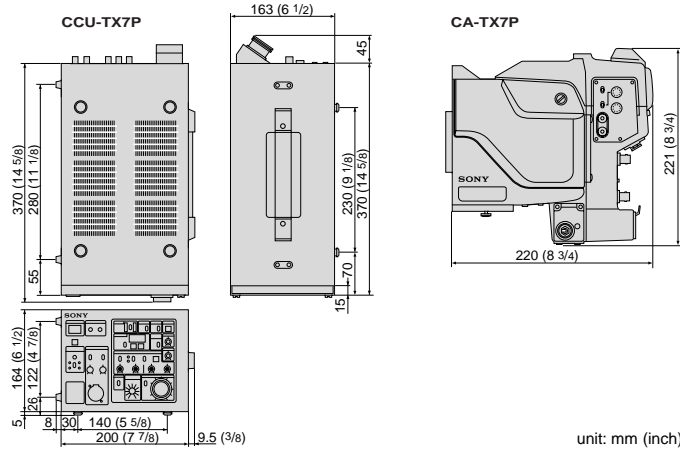


SPECIFICATIONS

1. CCU-TX7P

Input connectors	GEN LOCK:	BNC type, loophrough, VBS/BS, 1.0Vp-p, 75ohms
	RETURN (1,2):	BNC type, loophrough, VBS, 1.0 Vp-p, 75ohms
	PROMPT (prompter):	BNC type, loophrough, VBS, 1.0 Vp-p, 75ohms
	PGM IN:	XLR 3-pin x 1
	Output connectors	VBS (1,2):
(*1)Y/R-Y/B-Y (1,2):		BNC type, Y: 1.0Vp-p, 75ohms R-Y/B-Y: 525mVp-p, 75ohms
(*1)R/G/B (1,2):		BNC type, 700mVp-p, 75ohms
(*1)Y/C (1,2):		BNC type, Y: 1.0Vp-p, 75ohms C: 300mVp-p, 75ohms
(*2)SDI (1,2):		Conform to serial digital interface (270Mbps), 0.8 Vp-p, 75Ω
SYNC:		BNC type, VBS, 0.3 Vp-p, 75ohms, negative
PIX (picture monitor):		BNC type, 1.0 Vp-p, 75ohms
WF (waveform monitor):		BNC type, 700 mVp-p, 75ohms (Encoded output: 1.0 Vp-p, 75ohms)
WF MODE:		4-pin x 1
MIC OUT (CH-1/2):		XLR 3-pin x 2, 0dBu/-20dBu balanced, 2 channels
Camera control input/output connectors	CAMERA:	Triax (Fischer type) x 1
	COAX:	BNC type x 1
	REMOTE:	10-pin
	INTERCOM/TALLY:	D-sub 25-pin x 1 4W/2W TALLY: 24V DC, TTL level or contact selectable
	INTERCOM (Front):	XLR 5-pin x 1
	RTS:	XLR 3-pin x 1
RS232C:	D-sub 25-pin x 2	
Power requirements	AC 220 to 240V or DC 10.5 to 17.0V	
Power consumption	95W max.	
Cable length	1500m max. (ø14.5mm)	
Operating temperature	5°C to 40°C (41°F to 104°F)	
Storage temperature	-20°C to 55°C (-4°F to 131°F)	
Weight	Approx. 8.45 kg (18 lb 10oz)	
Dimensions (W x H x D)	218 x 169 x 415mm (8 5/8 x 6 3/4 x 16 3/8 inches)	
Supplied accessories	AC power cord x 1 Plug holder for AC power cord x 1 Number plate (1 set) Operation manual x 1	

(*Note: 1) These CCU output signals can be selected to be R/G/B or Y/R-Y/B-Y or Y/C.
2) Using optional DXBK-701 (SDI output board)

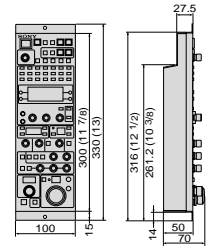


2. CA-TX7P

Input/output connectors	CCU:	Triax (Fischer type) x 1 Pro 76P Digital or Pro 50P switchable	
	CAMERA INTERFACE:	XLR 3-pin x 2, 600ohms, balanced MIC IN (CH-1/2) Input level : Mic in: -60dB : Line in: -20dB	
	DC IN:	XLR 4-pin x 1, 10.5V to 17V	
	DC OUT:	4-pin x 1, 10.5V to 17V, Max 12W	
	PROMPTER OUT:	BNC type x 1, 1.0Vp-p, 75ohms	
	RETURN OUT:	BNC type x 1, 1.0Vp-p, 75ohms	
	INTERCOM/PROGRAMME:	XLR 5-pin x 1 (for Headset) Input level: -60dBs (dynamic) Output level: ∞ to 12dBs	
	DATA OUT:	10-pin x 1 DC 0 to 5V (analogue) x 4 DC 0 or 5V (digital) x 2	
	Power requirements	DC 120V (from Triax connector) or DC 12V (10.5 to 17.0V) (from DC IN connector)	
	Power consumption	DC 120V (Supplied from triax connector)	
CA-TX7P internal only		Total	DC 12V (Supplied from DC IN connector)
CA-TX7P only		10.5W	7.5W
w/DXC-D30P DXF-701CE		11.2W	22.3W
w/DXC-D30P DXF-51		12.3W	30.2W
Operating temperature	-10°C to 45°C (14°F to 113°F)		
Storage temperature	-20°C to 55°C (-4°F to 131°F)		
Operating humidity	20% to 90%		
Weight	Approx. 2.7 kg (5 lb 15oz)		
Dimensions (W x H x D)	226 x 221 x 131mm (9 x 8 3/4 x 5 1/4 inches)		
Supplied accessory	Operation manual x 1		

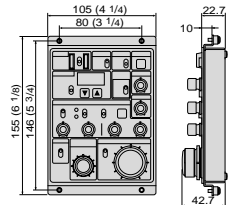
3. RCP-TX7

Power requirements	10 to 17V (supplied from camera or CCU)	
Power consumption	4.0W	
Operating temperature	-10°C to 45°C (14°F to 113°F)	
Storage temperature	-20°C to 55°C (-4°F to 131°F)	
Weight	Approx. 1.5kg (3 lb 5 oz)	
Dimensions (W x H x D)	100 x 330 x 70mm (4 x 13 x 2 7/8 inches)	
Cable length	50m max. (with CCA-7 cable)	
Supplied accessory	CCA-7-5 Connecting Cable (5m) Number plate (1set) Screws and washers x 2 Operation manual x 1	



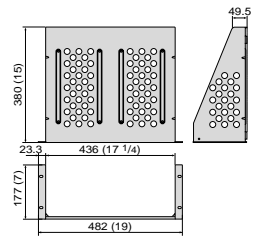
4. COU-TX7

Weight	Approx. 330g (12.6 oz)	
Dimensions (W x H x D)	105 x 155 x 43mm (4 1/4 x 6 1/8 x 1 3/4 inches)	
Supplied accessory	Operation manual x 1	



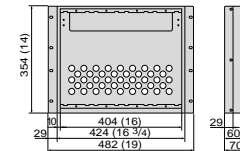
5. RMM-TXC7

Weight	Approx. 3.7 kg (8 lb 3 oz)	
Dimensions (W x H x D)	482 x 177 x 380mm (19 1/8 x 7 x 15 inches)	
Supplied accessories	Installation manual x 1 Blank panel x 1	



6. RMM-TXR7

Weight	Approx. 2.7 kg (5 lb 12 oz)	
Dimensions (W x H x D)	482 x 75 x 354mm (19 x 3 x 14 inches)	
Supplied accessories	Installation manual x 1 Blank panel x 2	



7. DXBK-701

Power Consumption	4.5 W	
Weight	330 g (11.6 oz)	
Dimensions (W x H x D)	17 x 148 x 277 mm (11/16 x 5 7/8 x 11 inches)	

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The Quality Management systems in design of the CCU-TX7P, CA-TX7P, RCP-TX7, COU-TX7, RMM-TXC7 and RMM-TXR7 have been assessed and registered as meeting the requirements of ISO 9001.

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