

SONY®

NTSC

Camera Control Unit **CCU-TX7**



The Sony CCU-TX7 is a compact camera control unit designed to be the core unit of the Sony triax camera control system for the DXC-D30/D30WS and the DXC-637 video cameras. The CCU-TX7 system has several functions designed for operational convenience and system versatility, in addition to the inherent benefits of the triax system itself such as, camera control over great distances and small lightweight cables.

The CCU-TX7 can run on either AC or DC (12 volts) at the discretion of the operator.

This compact unit (half of a 19-inch rack mount), provides a variety of video output signals: SDI, composite, Y/C, component, and R/G/B. The CCU-TX7 also supports a teleprompter system and major intercom systems such as 2-wire, 4-wire, Clearcom and RTS. To meet the demands of various situations, the CCU-TX7 also has two inputs for return video and a teleprompter input.



Supporting the CCU-TX7 are the COU-TX7 Camera Operation Unit, the RCP-TX7 Remote Control Panel, and the CA-TX7 Camera Adaptor. By combining these peripheral products, the best triax camera control system can be easily set up for each application. Also, this control system allows quick camera set-up and one-person camera operation for managing multiple cameras.

With all these features and efficiencies, the CCU-TX7 is sure to broaden the range of applications of these two cameras, and create new opportunities for video professionals.



MAIN FEATURES

High Quality Triax Transmission

The CCU-TX7 system uses analog component video transmission, which has a 9MHz bandwidth for the luminance (Y) signal and 4.5MHz for the color difference signals (R-Y/B-Y).

Long Distance Transmission

The maximum cable length is 1500m via ø14.5mm triax cable (with return video) (Fujikura), up to 1125m via ø13.2mm cable (Mohawk, Belden) and up to 750m via ø8.5mm cable (Fujikura, Mohawk, Belden). A teleprompter video channel can also be transmitted through the same cable.

High Speed High Quality Serial Data Transmission

A maximum of 10-bit quantized data can be transmitted at high speed via serial data transmission using a triax cable. This achieves the benefits of smooth and real-time control and instant tactile response from remote control devices.

AC/DC Operation

The CCU-TX7 is designed to operate not only on AC power but also DC power. The CCU-TX7 has a DC inlet for DC 12V (10.5V to 17V) as well as an AC inlet. DC operation greatly expands the system flexibility in field production truck applications.

Digital Signal Outputs

The CCU-TX7 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 SDI interface, a total digital DXC system becomes a reality.

Note* The CCU-TX7 (Serial No. less than 11000) needs some modification to accommodate the SDI outputs. Please contact your nearest Sony office.

Other Signal Outputs

The CCU-TX7 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-TX7 has two RETURN VIDEO inputs (BNC type), thus accepting return video signals (VBS color) from two different systems. At the CA-TX7/TX7P end, two channels of return video can be selected.

Color Teleprompter Compatible

The CCU-TX7 system can be used with color teleprompter systems. 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-TX7 has a program audio channel and a bi-directional intercom channel. Program audio sound from an external audio system can be fed to the camera head, being mixed with the intercom. Major intercom systems (Four-wire/Two-wire/RTS/Clearcom) can be interfaced via respective connectors on the rear panel of the CCU-TX7. The CCU-TX7 system can accept two-channel input from an external intercom system. Communication can be easily routed to the selected counterpart from either the CA-TX7 end, CCU-TX7 end, or the external intercom system (CH-1 or CH-2).

Program Microphone System

The CCU-TX7 and the CA-TX7 are equipped with a two-channel microphone system. Two XLR connectors on the CA-TX7 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 rotary switches on the internal board of the CCU-TX7.

RS-232C port

The CCU-TX7 is equipped with an RS-232C port to link multiple CCU-TX7 units for a multiple camera control operation, or to connect an external personal computer.

Coaxial Control Capability

The CCU-TX7 is equipped with a coaxial input. This enables the camera to be controlled via 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-TX7 is half a 19-inch rack size wide and 4 units high. With the RMM-TXC7 Rack Mount Kit, 2 units of the CCU-TX7 or one unit with a waveform monitor can be mounted into the standard 19-inch rack.



DXBK-701 SDI Output Board

PERIPHERALS

CA-TX7



Rotary Triax Connector

The CA-TX7 Triax Camera Adaptor is equipped with a rotary (70°) triax connector for easy cabling.

76-pin/50-pin Interface

The CA-TX7 is equipped with both Pro 76-pin Digital and Pro 50-pin interfaces, which makes it docked with the DXC-D30/D30WS and the DXC-637.



Pro 50-pin



Pro 76-pin Digital

Viewfinder Box Cursor Indication

The CA-TX7 is capable of indicating a box cursor on the screen of any viewfinder of the DXC-D30/D30WS such as the DXF-701WS, and DXF-51. Cursor position (H, V) and size (width, height) can be respectively controlled with control volumes on the rear panel of the CA-TX7. Two kinds of cursors can be stored and retrieved.

* This function is not available for the DXC-637.



RCP-TX7

As A Remote Control Panel

● Full Camera Control

The RCP-TX7 offers full control functions as a remote camera control panel for the CCU-TX7, covering basic camera control up to more sophisticated operations. It controls camera set-up using convenient scene files, as well as basic control and paint operation controls. For engineering and service purposes, the RCP-TX7 also has a more comprehensive camera set-up function. The RCP-TX7 is one forth the width of a 19-inch rack. A total of 4 units of the RCP-TX7 can be installed into the standard 19-inch rack with the RMM-TXR7 Rack Mount Kit.

● Scene File System

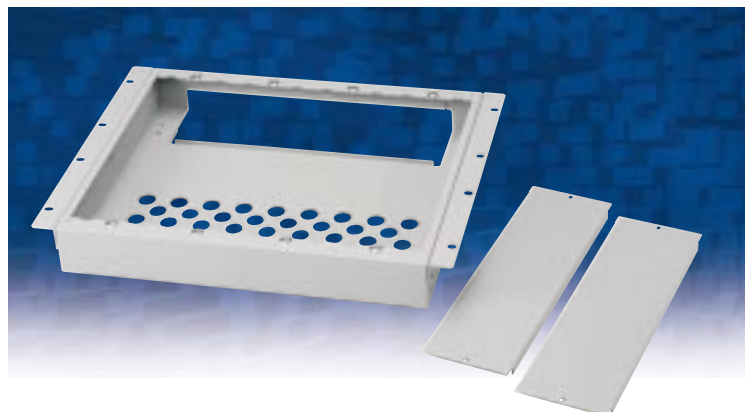
The RCP-TX7 can store up to 16 scene files. All parameters both for camera operation and set-up can be adjusted and stored in each scene file. The stored scene file most suitable for a particular shooting situation can be instantly recalled.

● Links in Control of Iris and Master Black

In a multi-camera system, linkage control of Iris and Master Black can be set for multiple RCP-TX7 panels. To set the linkage, press the "IRIS/M.BLACK LINK" button of each RCP-TX7 that you want to link. In controlling Iris and Master Black, the same value can be overridden to all the linked RCP-TX7 units from one RCP-TX7, and either one of them can be the initiator at anytime.

● Color Matching Capability

The RCP-TX7 has a convenient color matching function. When using multiple cameras and RCP-TX7 units, once you finish setting up one RCP-TX7, you can copy the master data to the other RCP-TX7 units. Before starting, it is necessary to set one RCP-TX7 as a 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. The LCD shows menu status information on the item being adjusted. 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

When directly connected to the DXC-D30/D30WS through a 10-pin remote connector, the RCP-TX7 can be used as a standalone remote control unit just like the RM-M7G. (This function is available only for the DXC-D30/D30WS.)

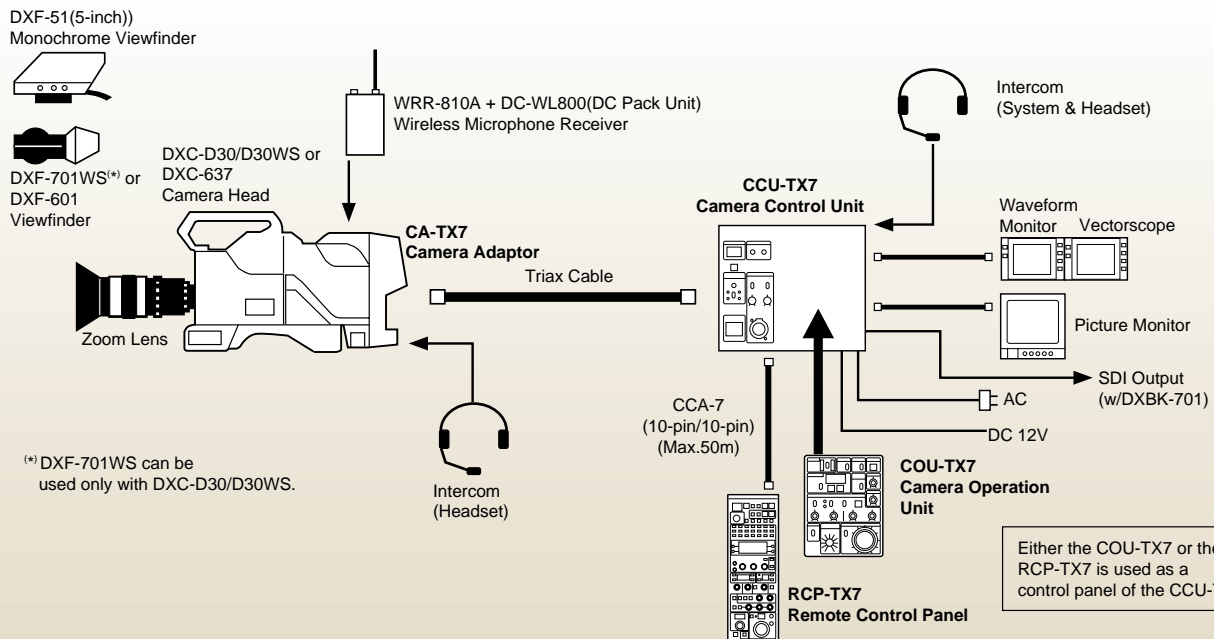


Basic Camera Control with COU-TX7

The COU-TX7 can be attached as a part of the front panel of the CCU-TX7. Basic control of camera operations can be done with the COU-TX7. This is useful when using the CCU-TX7 in limited space, such as in field production vehicles.



SYSTEM CONFIGURATION

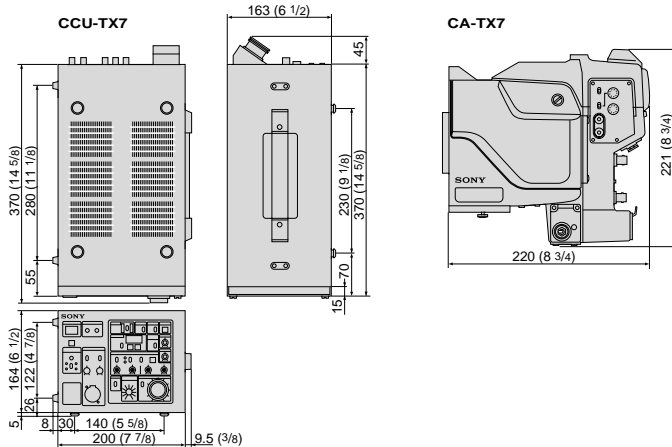


SPECIFICATIONS

1. CCU-TX7

Input connectors	GEN LOCK:	BNC type, loopthrough, VBS/BS, 1.0Vp-p, 75ohms	
	RETURN VIDEO (1,2):	BNC type, loopthrough, VBS, 1.0 Vp-p, 75ohms	
	PROMPT VIDEO (prompter):	BNC type, loopthrough, VBS, 1.0 Vp-p, 75ohms	
Output connectors	VBS (1,2) (BNC):	BNC type, VBS, 1.0 Vp-p, 75ohms	
	(*1)Y/R-Y/B-Y (1,2):	BNC type, Y: 1.0Vp-p, 75ohms R-Y/B-Y: 700mVp-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: NTSC:286mVp-p, 75ohms PAL: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, 714mVp-p, 75ohms (Encoded output: 1.0 Vp-p, 75ohms)	
	MIC OUT (CH-1/2):	XLR 3-pin, 0dBu/-20dBu balanced, 2 channels	
	Camera control input/output connectors	Camera:	Triax (Kings 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 signals switchable	
INTERCOM (Front)		XLR 5-pin x 1	
PGM IN		XLR 3-pin x 1	
RTS		XLR 3-pin x 1	
RS232C		D-sub 25-pin x 2	
Power requirements		AC 120V 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)

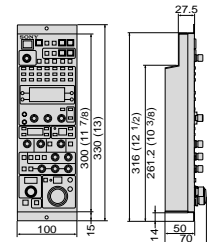


2. CA-TX7

Input/output connectors	CCU:	Triax (Kings 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/PROGRAM:	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 (analog) 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)	DC 12V (Supplied from DC IN connector)	
		CA-TX7 internal only	CA-TX7 internal only		
CA-TX7 only		10.5W	10.5W	7.5W	7.5W
w/DXC-D30, DXF-701/CE		11.2W	26W	7.5W	22.3W
w/DXC-D30, DXF-51		12.3W	35W	7.5W	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				

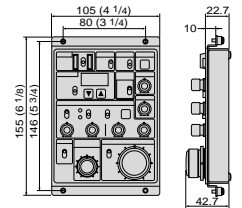
3. RCP-TX7

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 x2 Operation manual x 1



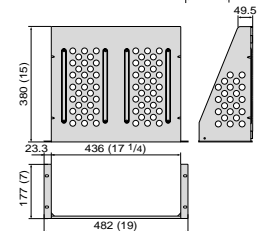
4. COU-TX7

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



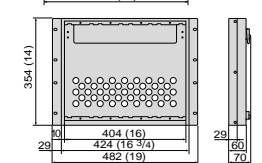
5. RMM-TXC7

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 accessory	Installation manual 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 accessory	Installation manual x 1



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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