

Full Digital Triax System

Triax Adaptor

CX-SD1

Triax Base Station

TU-SD1

Triax Adaptor CX-SD1

Triax Base Station TU-SD1



SK-900 with CX-SD1

***Hitachi's Full Digital Triax System
achieves pristine picture quality,
ultra-stable operation
and a future HDTV upgrade solution.***

Hitachi's new Digital Triax system for standard definition represents the pinnacle of technology and our commitment for implementations of advanced, innovative developments in our world-renowned Broadcast and Professional color Television cameras.

The TU/CX-SD1 Digital Triax system can be used with currently manufactured Hitachi SK and Z-series cameras. The system is composed of the camera head adapter model CX-SD1 and corresponding camera control unit (CCU) model TU-SD1. With the use of standard 75-ohm triaxial cable, this new system offers high performance and signal clarity rivaling that of fiber-optic cable. Deployment ease is maintained by allowing existing permanent triaxial cable installations or O/B trucks to be converted to high-performance digital signal transmission. With Belden 9232 type cable or similar, an effective triax cable distance of 700 meters can be used. The optional compact digital triax repeater unit more than doubles that distance to 1500 meters. Our digital triax achieves transparency by employing time-division multiplexing of non-compressed video, audio and control data between camera and CCU.

This new Hitachi triax system provides a future upgrade path to digital High-Definition triax transmission.

Features

- Video signals are digitally transmitted to eliminate deterioration caused by analog RF modulation, thereby providing high picture quality.
- Program audio from microphones, cameraman intercom and control data are all digitally transmitted and bi-directional thus, providing extreme quality and reliability.
- A Belden 9232 13.2-mm-diameter triax cable can be used up to a distance of 700 meters, and an optional compact repeater can be used to extend the usable distance up to 1500 meters.
- A fully digital intercom is provided with 2 independent channels (PD & ENG) with PGM audio mix. Intercom interfaces allow full Clear-Com or RTS, 2 or 4-wire compatibility.
- Video signal outputs include 3 encoder outputs, 1 RGB or Y Pb Pr output, and 1 each video monitor and waveform monitor outputs.
- Video signal inputs include 2 return video inputs and 1 prompter video input. The return video signal can be selected from the camera head via menu system.
- Standard provisions of digital video interfaces include (4) D1 serial digital outputs and (2) D1 serial digital inputs for return video.
- The compact triax base station is of half-rack width and (3) rack units (RU) in height. A standard 19-inch EIA rack-mount is optionally available.
- A future-proof, compact, modular design allows Hitachi's upcoming implementation of HDTV digital triax transmission.

Specifications

Maximum cable length

	Diameter	Manufacturer	Maximum cable length with PROMPT
Triaxial Cable			
9.6/2.2 EFTXF	14.5 mm	FUJIKURA	900 m
9267	9.1 mm	BELDEN	450 m
9232	13.2 mm	BELDEN	700 m
1.0S/4.5S	8.5 mm	NK NETWORKS	450 m
1.4S/6.6S	11.0 mm	NK NETWORKS	600 m
Coaxial Cable (With power provided at the camera head)			
5C-2V	7.5 mm	—	300 m
7C-2V	10.2 mm	—	350 m

General Specifications for TU-SD1 and CX-SD1

Power supply voltage	AC 117 V 60Hz or AC 230 V 50Hz
Power consumption	AC operation mode: Approx. 230 W (GM-51, AUX POWER OUT 100W)
Ambient temperature	TU-SD1: 0 to +40 °C CX-SD1: -10 to +45 °C
Dimensions	TU-SD1: 212 (W) x 124 (H) x 381 (D) mm CX-SD1: 135 (W) x 196 (H) x 215 (D) mm
Mass	TU-SD1: Approx. 9 kg CX-SD1: Approx. 3 kg

INPUT/OUTPUT SIGNAL for TU-SD1

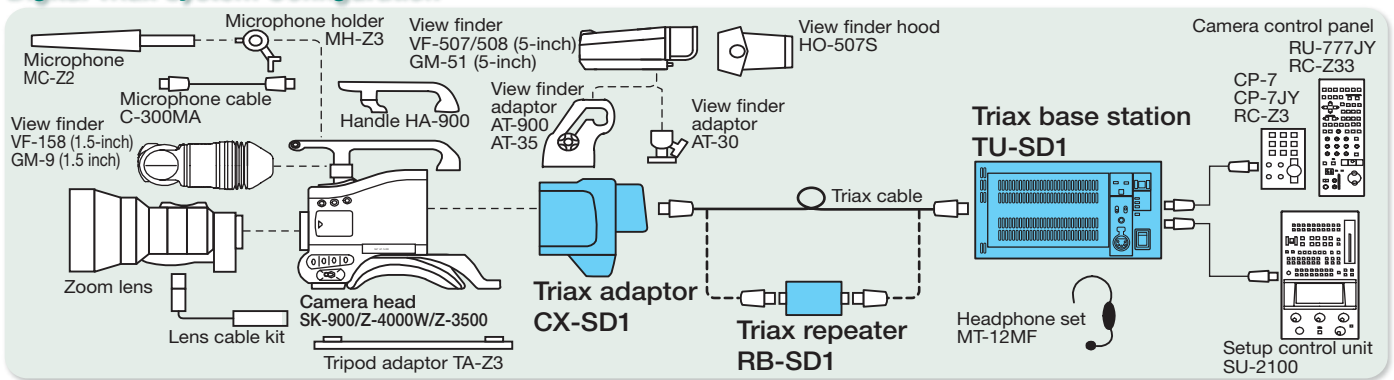
INPUT SIGNAL		
GEN LOCK	B-BST	BNC
RET 1	VS or VBS	BNC
RET 2	VS or VBS	BNC
PROMPT	VS or VBS	BNC
DIGITAL RET 1	D1	BNC
DIGITAL RET 2	D1	BNC
INTERCOM (HEAD SET)	-70 dBm	XLR-5 pin

COMMUNICATION INTERCOM	4 Wire: 0 dBm 600Ω 2 Wire: 0 dBu or -15 dBu 200Ω	D-sub 25 pin
PGM	0 dBm/600Ω	
R/G TALLY	Power supply or contact supply	
REMOTE 1	1.5 Vp-p asynchronous or RS-232C (switchable)	4 pin D-sub 9 pin
REMOTE 2	1.5 Vp-p asynchronous	4 pin
OUTPUT SIGNAL		
ENCR	VBS	BNC (3 channels)
Pr or R	NTSC / VS (switchable)	BNC
Y or G	VS / VBS (switchable)	BNC
Pb or B	NTSC / VS (switchable)	BNC
DIGITAL OUT	D1	BNC (4 channels)
PIX (R, G, B, ENCR)	VS or VBS	BNC
WF OUT (R, G, B, ENCR)	VS or VBS	BNC
MIC OUT 1	0 dBm / 600Ω	XLR-3 pin
MIC OUT 2	0 dBm / 600Ω	XLR-3 pin
INTERCOM (HEAD SET)	Standard: 0 dBu Max.: +15 dB or more	XLR-5 pin (female)
COMMUNICATION INTERCOM	4 Wire: 0 dBm 600Ω 2 Wire: 0 dBu or -15 dBu 200Ω	D-sub 25 pin
TALLY OUT		
R/G TALLY	Contact supply	D-sub 9 pin
W/N CONTROL	Contact supply	
REMOTE 1	1.5 Vp-p asynchronous or RS-232C (switchable)	4 pin D-sub 9 pin
REMOTE 2	1.5 Vp-p asynchronous	4 pin

INPUT/OUTPUT SIGNAL for CX-SD1

INPUT SIGNAL		
CAMERA HEAD		
VIDEO SIGNAL (Y,Pb,Pr)	Each 10 bit digital signal	
Control signal	1.5 Vp-p asynchronous	
MIC-1 input	-60 dBm	
DC-IN	DC 12 V (DC +10.5 V to +17 V)	XLR-4 pin (male)
MIC-2 input	-60 dBm	XLR-3 pin (female)
INTERCOM-1 (HEAD SET)	-70 dBm	XLR-5 pin (female)
INTERCOM-2 (HEAD SET)	-70 dBm	XLR-5 pin (female)
VF AUX		6 pin
TRACKER	INTERCOM Receive: 0dBu RS-232C	20 pin
OUTPUT SIGNAL		
CAMERA HEAD		
AUX VIDEO	VS or VBS	
GEN LOCK	B-BST	
Control signal	1.5 Vp-p asynchronous	
RET VIDEO	VS or VBS	BNC
PROMPT VIDEO	VS or VBS	BNC
INTERCOM-1 (HEAD SET)	Standard: 0dBu Max.: +15 dB or more	XLR-5 pin (female)
INTERCOM-2 (HEAD SET)	Standard: 0dBu Max.: +15 dB or more	XLR-5 pin (female)
SCRIPT	DC 12 V / 0.3 A	
AC 230V	AC 230 V (100 VA)	5 pin
TRACKER	INTERCOM Talk: 0dBu PGM: -20 dBu R/G TALLY RS-232C	20 pin
DIGITAL OUT	D1	BNC

Digital Triax System Configuration



CAUTION: To ensure safe operation, please read the instruction manual before using this product.

These Specifications are subject to change without notice.

Hitachi Kokusai Electric Inc.

Head Office : 14-1, Sotokanda 4-chome, Chiyoda-ku, Tokyo 101-8980, Japan
Phone : +81(0) 3-6734-9432, Fax : +81(0) 3-5209-5942
URL : <http://www.h-kokusai.com>

Beijing Office
Beijing Fortune Building 5, Dong San Huan Bei-lu, Chao Yang District, Beijing, 100029 China
Phone : +86(0) 10-6590-8755/8756, Fax : +86(0) 10-6590-8757

Hitachi Kokusai Electric America, Ltd. URL : <http://hitachikokusai.us>

Headquarters and Northeast Office : 150 Crossways Park Drive, Woodbury, New York 11797, U. S. A.
Phone : (+1) 516-921-7200, Fax : (+1) 516-496-3718
West Office : 371 Van Ness Way, Suite 120 Torrance, CA, 90501, U. S. A.
Phone : (+1) 310-328-6116, Fax : (+1) 310-328-6252
Midwest Sales : Phone : (+1) 330-334-4115, Fax : (+1) 516-496-3718
Service (+1) 989-345-5379

South Sales : Service (+1) 256-774-3777
Parts Center : Phone : (+1) 516-682-4435, Fax : (+1) 516-921-0993
Latin Sales : Phone : (+1) 516-682-4420, Fax : (+1) 516-496-3718

Hitachi Kokusai Electric Canada, Ltd. URL : www.hitachikokusai.ca

Head Office : 1 Select Avenue Unit#11 Scarborough, Ontario M1V 5J3, Canada
Phone : (+1) 416-299-5900, Fax : (+1) 416-299-0450
Eastern Office : 5795 Chemin St. Francois St. Laurent, Quebec H4S 1B6, Canada
Phone : (+1) 514-332-6687, Fax : (+1) 514-335-1664

Hitachi Kokusai Electric Europe GmbH

Head Office : Weiskircher Straße 88, Jügesheim D-63110 Rodgau, Germany
Phone : +49(0) 6106-69920, Fax : +49(0) 6106-16906
URL : www.hitachi-ke-eu.com
General email address : info@hitachi-ke-eu.com

Hitachi Kokusai Electric U.K. Ltd.

Head Office : Windsor House, Britannia Road, Waltham Cross, Hertfordshire EN8 7NX, United Kingdom
Phone : +44(0) 845-121-2177, Fax : +44(0) 845-121-2180



CERTIFICATE No.
JMI-0062
ISO 9001/BS 5750Pt1
EN 29001/JIS Z9901