

KUDOS+PLUS

Kudos Plus **HD TBS700**

HD & SD SDI Synchronizer with Up, Down and Cross Conversion

The **HD TBS700** is a HD/SD format converter with TBS/Synchronization capabilities. It provides multi-rate HD/SD inputs and outputs, and is capable of providing linear upconversion, downconversion, and crossconversion within the same frame rate.

TBS700 is AFD ready, enabling integration of SMPTE 2016 (AFD) into your workflow.

In addition the product handles embedded, AES (balanced or unbalanced) and Analog audio, with a range of additional features such as Aspect Ratio Conversion (ARC) and color space conversion.

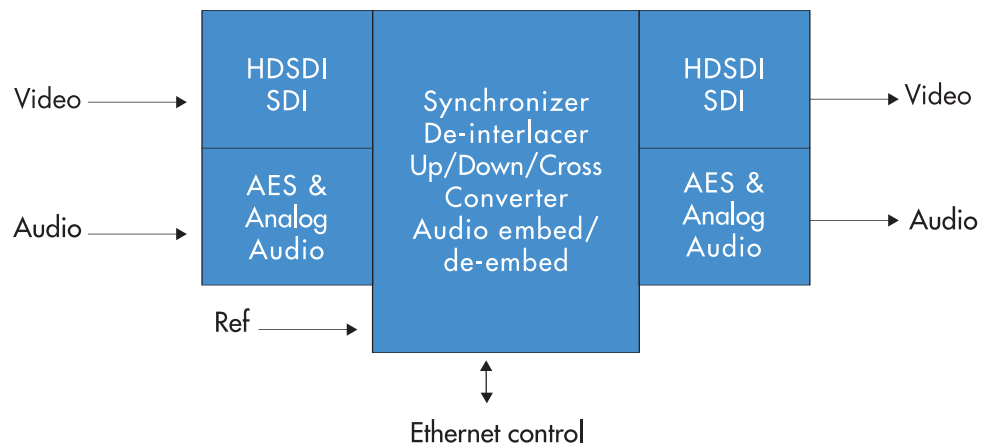
The HD TBS700 has a DC input for redundant PSU capability and is provided in a compact half rack width housing with remote control capability via Ethernet.

**Features**

- HD & SD Synchronizer
- Up, Down & Cross Conversion
- Automatic Aspect Ratio Conversion (AFD, VI, L23)
- Proc Amp
- Multi-rate HD/SD SDI inputs and outputs
- Two SDI inputs, switchable
- Two SDI outputs
- AES, Analog & Embedded Audio
- Audio processing and routing
- Reference loop through (Bi/Tri Sync)
- Front panel control
- Ethernet remote control
- Compact half rack width with optional rack mount kit
- Optional external PSU for redundancy

Applications

- Satellite down-link & radio links
- News & events
- Dubbing and duplication
- Audio embedding & extraction
- Audio delay and routing

I/O Diagram

Full Product List

Base Model

Kudos Plus HD TBS700UD (5078010) HD & SD Synchronizer and format converter with embedded, analog and unbalanced AES audio.

Kudos Plus HD TBS700BD (5078020) HD & SD Synchronizer and format converter with embedded, analog and balanced AES audio.

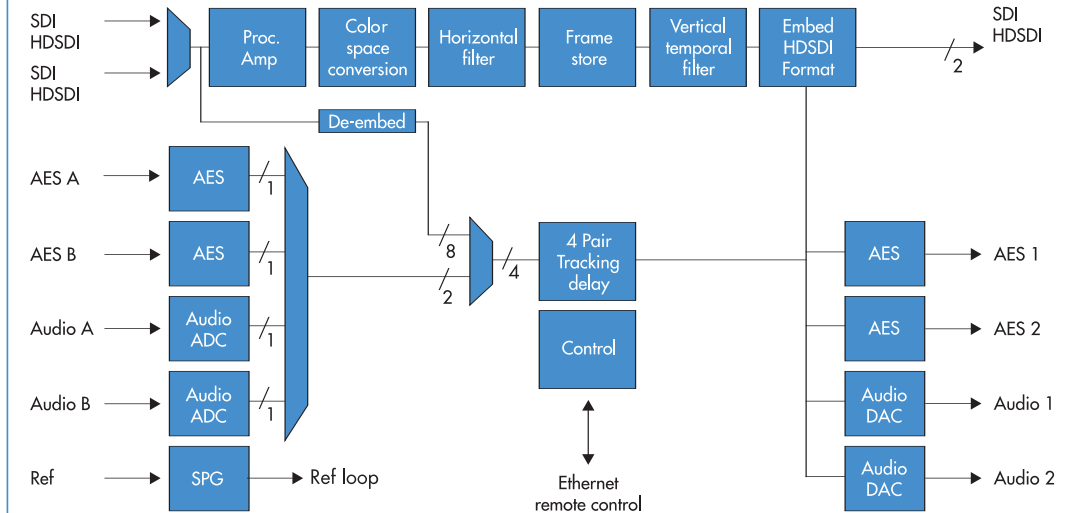
Option

Rack mount kit (INSY-MNT-KIT)
Rack mount kit to mount one or two units in a 19" rack

Redundant PSU

(INSY-PSU-EXT)
External PSU, provides redundant PSU operation

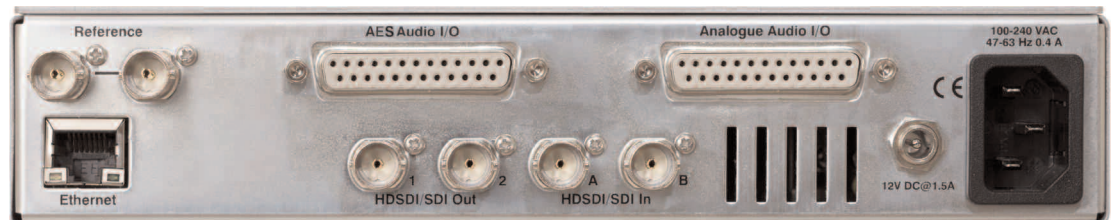
Block Diagram



HD TBS700UD (5078010) Unbalanced AES & Analog Audio



HD TBS700BD (5078020) Balanced AES & Analog Audio



Inputs and Outputs

Signal Inputs

Serial Digital	2 x 75 Ohm SD/HD Serial Digital with embedded audio Input Standards: 1.5 Gbit/s HD-SDI SMPTE292M/SMPTE299M 270M Mbit/s HD-SDI SMPTE259M
Reference	1 x loop-through HDTV Trisync/SD Bi-sync (Black & Burst) SMPTE 240M/274M, with auto selection dependant on output standard
Audio AES	2 x AES inputs Balanced Option – via 25 way D Type Un-balanced Option – via 2 x BNC
Audio Analog	2 x Stereo Analog inputs via 25 way D Type

Signal Outputs

Serial Digital	2 x 75 Ohm SD/HD Serial Digital with embedded audio Output Standards: 1.5 Gbit/s HD-SDI SMPTE292M/SMPTE299M 270M Mbit/s HD-SDI SMPTE259M
Audio AES	2 x AES outputs Balanced Option – via 25 way D Type Un-balanced Option – via 2 x BNC
Audio Analog	2 x Stereo Analog outputs via 25 way D Type

Control

Remote control	10/100 BaseT Ethernet
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Control Functions

Input Select	Input A, Input B
Input Standard	525, 625 720P 50, 59.94 1080i 50, 59.94

Conversion Functions

Modes	Up Conversion Down Conversion Cross Conversion Using multi-tap linear aperture
Manual or automatic ARC	AFD (SMPTE 2016) VI (RP186) WSS (L23)
SD Input Format	Normal 4:3 Anamorphic 16:9 Letterbox 14:9 Letterbox 16:9
SD Output Format	Normal 4:3 Anamorphic 16:9 Letterbox 14:9 Letterbox 16:9
Auto Zoom	On/Off
Manual Zoom	Zoom +/- 20%
SD>HD Scaling	Fit to Height/Fit to Width
Safe Area Marker	Off, 16:9, 4:3

Audio Functions

Processing	2 Groups, (4 Stereo pairs, 8 channels) Internal Channel A,B,C,D
Audio Source Selection	De-embed channel [1:16] Analog A Left, Analog A Right Analog B Left, Analog B Right AES A Left, AES A Right AES B Left, AES B Right Tone, Mute
Audio Source Routing	Pair or Channel Selectable Pair A, Pair B, Pair C, Pair D A Left, A Right, B Left, B Right C Left, C Right, D Left, D Right
Pair	A & B
Channel	A & B
Analog Output	Group1, Group2, Group3, Group4, Off
AES Output	Group1, Group2, Group3, Group4, Off
Embedded Group A&B	+12 to +24dbu (+18dbu) in 0.5dB steps
Embedded Group C&D	+18 to -18dB (0dB) in 0.1dB steps
Analog Headroom	+12 to +24dbu (+18dbu) in 0.5dB steps
Audio Gain (A,B,C,D)	100Hz to 10kHz in 100Hz steps
Analog level	
Tone Frequency	

System

Pattern	Off, Black Ramp, Bars
Proc Amp	Black Level +100 to -100mV (0) in 0.8mV steps
	Contrast -6dB to +6dB (0) in 0.2dB steps
	Saturation -6dB to +6dB (0) in 0.2dB steps
	Y Gamma 0.4 to 1.7 (1) in 0.1 steps
Freeze	On/Off
Genlock	Reference lock, Input lock (same format), Follow input (same frame rate), Free run
Control Source	Front panel or remote control
Status	Input Standard Output Standard Input Source Audio Present
About	Version Current IP address MAC address

Communications

Remote Control	Ethernet control interface for web based applet. Integration into RollCall network (IP) using RollTop PC application
DHCP	On/Off
IP Net Mask	255.255.255.255
Default IP Address	255.255.255.255
Default Gateway	255.255.255.255
IP Multicast	255.255.255.255
ID Multicast	0 to 126

Power

Input Voltage Range (Primary)	100 – 240 VAC, 47 – 63Hz 0.4A via three pin IEC power socket.
Input Voltage Range (Secondary)	12V DC @ 1.5A via 2.1mm ring lock jack

Mechanical

Temperature Range	0 to 45° C operating
Cooling	Internal Fan, side venting
Weight	Approximately 1.6kg
Case Type	1/2RU Rack Mounting
Dimensions	44mm x 220mm x 255mm (h, w, d)

Snell & Wilcox Inc.
3519 Pacific Ave.
Burbank, CA 91505
Tel: +1 818 556 2616
Fax: +1 818 556 2626
info@snellamerica.com

Snell & Wilcox Ltd.
Southleigh Park House,
Eastleigh Road, Havant,
Hampshire PO9 2PE, UK
Tel: +44 (0) 23 9248 9000
Fax: +44 (0) 23 9245 1411
info@snellwilcox.com

Snell & Wilcox (Hong Kong) Ltd.
Room 603, Tai Tung Building,
No.8 Fleming Road,
Wanchai, Hong Kong
Tel: +852 2356 1660
swhk@snellwilcox.com.hk

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