

TBS190AD SDI & Composite synchronizer

Broadcast quality synchronizer and time base stabilizer with analog and embedded audio

The **TBS190AD** is a multi-standard broadcast quality synchronizer, noise reducer and time base stabilizer with SDI, composite and YC interfaces. Embedded audio is processed as well as providing analog audio interfaces. Featuring 12-bit sampling, 10-bit processing and rugged inputs, the TBS190AD is equally suited to digitizing broadcast grade sources as with unstable, noisy sources.



Features

- SDI, Composite & YC Synchronization
- Time base stabilization
- Adaptive recursive Noise Reduction with automatic noise level detection
- 12-bit decoding with 5-line comb filter
- 12-bit encoding
- Inputs PAL, NTSC, NTSC-J, NTSC4.4, PAL-N, PAL-M, SECAM with automatic input detection
- Outputs PAL, NTSC, NTSC-J, PAL-N, PAL-M
- 4 channel (2 pair) embedded audio processing
- Seamless PCM audio tracking delay with manual offset – up to 2.5s
- Pass through for all HANC/VANC data
- Composite inputs tolerant to noise & errors

- Unique genlock 'Floating mode**'
- RollCall compatible via USB link

Applications

- Universal Analog / Digital interface
- Audio embedding & extraction
- Satellite down-link & radio links
- Ingest / PC capture pre-processing
- Duplication
- VHS dubbing
- Format conversion

Full Product List

Base Model

Kudos Plus TBS190AD
(3548602)

The TBS190AD is a multi-standard broadcast quality synchronizer, noise reducer and time base stabilizer with SDI, composite and YC interfaces, 12 bit sampling and 10 bit processing featuring embedded and analog audio

Base Model

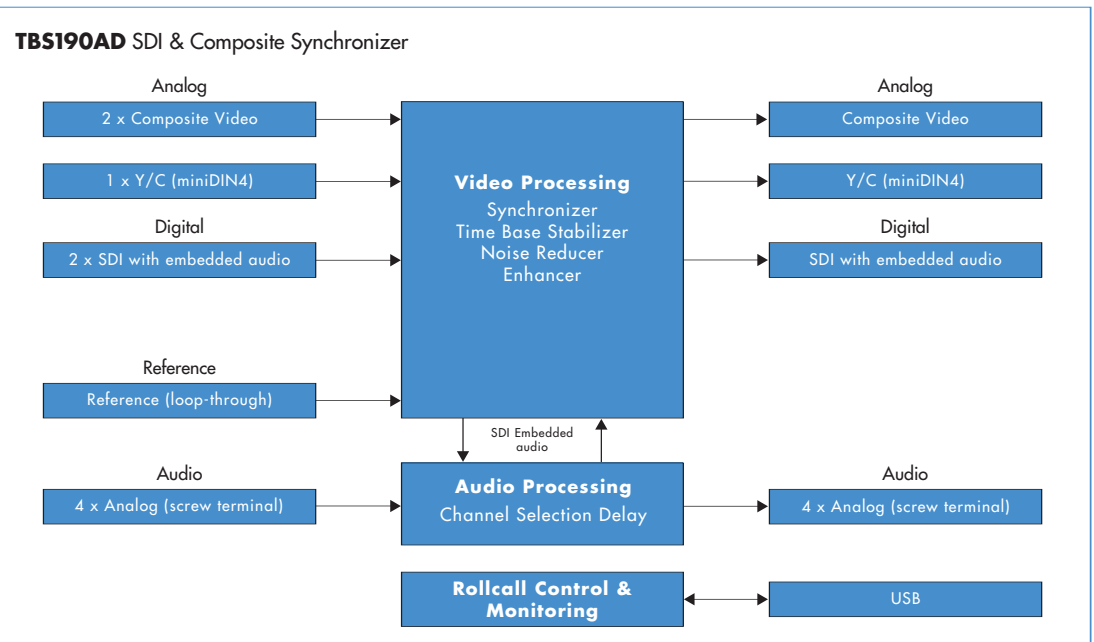
Kudos Plus TBS190AD
(3548602-RM)

As above, with rack mount kit

Option

Rack mount kit
(INSY-MNT-KIT)

Rack mount kit to mount one or two units in a 19" rack



Inputs and Outputs

Video Input

2 x SDI	525/625 line with automatic detection(BNC)
2 x Composite	27MHz, 12-bit sampling PAL, NTSC, NTSC-J, NTSC4.4, PAL-N, PAL-M, SECAM with automatic detection(BNC)
1 x YC	27MHz, 12-bit sampling PAL, NTSC, NTSC-J, NTSC4.4, PAL-N, PAL-M with automatic detection (Mini DIN4)
Reference	Composite or Y (BNC loop-through)

Video Output

2 x SDI	525/625 line(BNC)
2 x Composite	27MHz, 12-bit D to A. Output Formats PAL, NTSC, NTSC-J, PAL-N, PAL-M(BNC)
1 x YC	27MHz, 12-bit D to A. Output Formats PAL, NTSC, NTSC-J, PAL-N, PAL-M (Mini DIN4)

Audio Inputs & Outputs

4 x Analogue input	Balanced (2-part s crew terminal) +24 to +12dBu for 0dB FS
4 x Analogue output	Balanced (2-part s crew terminal) +24 to +12dBu from 0dB FS

Remote control

RollCall via USB link to a PC

Control Features

Input Select	SDI A,B; Composite A, B; YC
Audio Source (1)	SDI pair 1-8; External 1-2
Audio Source (2)	SDI pair 1-8; External 1-2
Audio Destination	SDI group 1-4
Add Audio Delay	0ms to +2.5s
Analogue Audio Level	+12 to +24dBu (in / out)
Noise Reduction	Y,C (Off; 1; 2; 3; Max)
Split Screen	Off/On (view noise reduction)
Vertical Enhance	Off; 1; 2; 3 (max)
Horizontal Enhance	-2; -1; 0; 1; 2; 3 (max)
Input Standard	NTSC, NTSC-J
Composite Output	PAL, NTSC, NTSC-J, PAL-N, PALM
Freeze	Freezes next frame (sync mode)
Field Freeze	Freezes next field
Luminance Gain	Preset; ± 6dB
Chrominance Gain	Preset; ± 6dB
Black Level	Preset; ± 100mV
NTSC Hue	Preset; ± 30 degrees
Genlock Phase	Preset; approx. ±1 line
Genlock Mode	Lock to reference; Lock to input; Float (stabilized) - if same line standard; Free-run
Output Pattern	Black; Color Bars
Default Output	When input is lost; go to black; go to color bars
Decoder / Encoder	AGC, ACC, comb, DNR, CTI

Indication / Monitoring (also Logging / RollTrack)

Input Standard	Present; Standard
Reference	Present; Error (Error indicated if the reference is not the same line standard as the input)
Power	Standby

Rollcall

All Control features available from rollcall via PC USBshare application. Indication/monitoring parameters are available for Logging and Rolltrack

System Parameters

Processing	≥10 bit
SDI Input Switch	Tolerant to SMPTE RP168 vertical interval switch.
SDI Data	All HANC & VANC data passed
Vertical Interval	All luminance data passed when input & output are the same standard
Reference Lock Range	Greater than ±80ppm
Analogue Audio ADC	24 bit; THD better than <0.004%

Mechanical

Dimensions	½ 1RU rack (44x220x250mm)
Temperature	0°C to 35 °C operating -20 °C to +70 °C storage

Floating Mode - Without a reference the output will either free-run or lock to a stabilized input sync if operating in synchronize mode. In this stabilized or 'floating mode' the output will always follow shortly after the input, so preventing lip-sync errors and frame drop / repeat. The inputs are highly tolerant to unstable and noisy sources, while the synchronizer always creates correctly aligned images, even during sync disturbances and asynchronous input switches

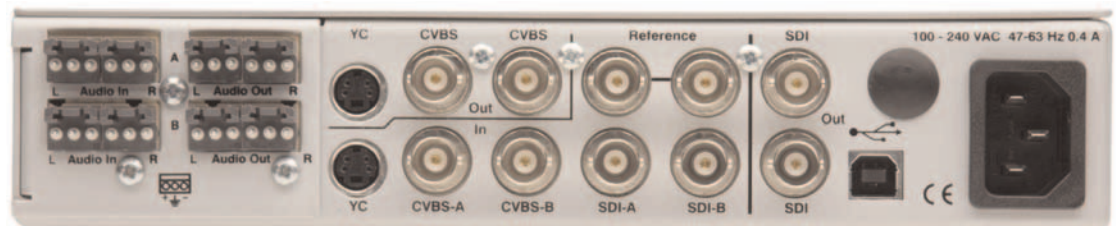
Snell & Wilcox Inc.
3519 Pacific Ave.
Burbank, CA 91505
Tel: +1 818 556 2616
Fax: +1 818 556 2626
info@snellamerica.com

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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KP01 02/06 V1