

KUDOS+PLUS

The **TBS190UDV** is a multi-standard broadcast quality synchronizer, aspect ratio converter, noise reducer and time base stabilizer with SDI, DV, composite and YC interfaces. Embedded audio is processed as well as providing unbalanced AES audio interfaces. Featuring 12-bit sampling, 10-bit processing and rugged inputs, the TBS190UDV is equally suited to digitizing broadcast grade sources as with unstable, noisy sources.

Full Product List

Base Model

Kudos Plus TBS190UDV
(3548607)

The TBS190UDV is a multi-standard broadcast quality synchronizer, noise reducer and time base stabilizer with SDI, DV, composite and YC interfaces, 12 bit sampling and 10 bit processing featuring embedded and unbalanced AES audio

Base Model

Kudos Plus TBS190UDV
(3548607-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

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TBS190UDV SDI, DV & Composite synchronizer

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



Features

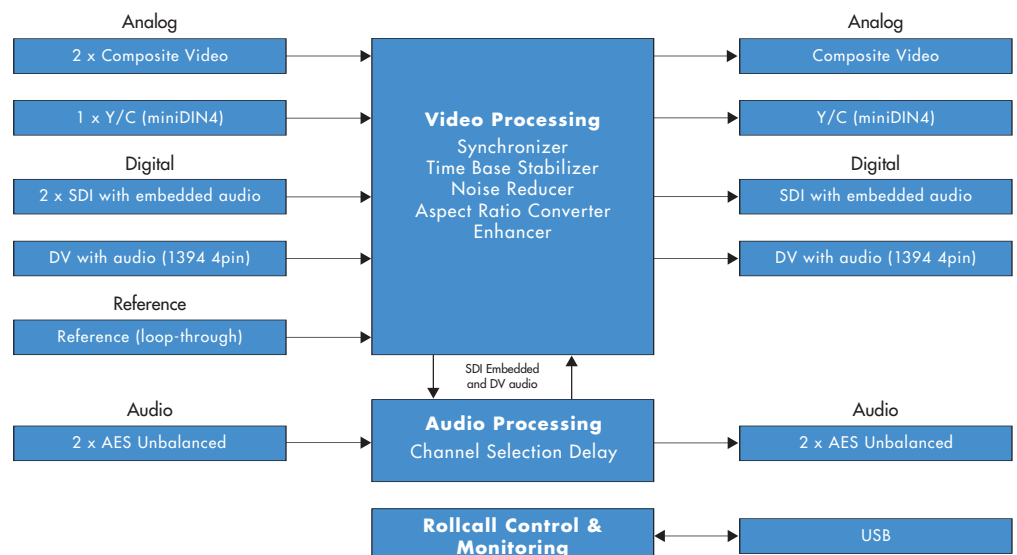
- SDI, DV, Composite & YC Synchronization
- Time base stabilization
- Aspect Ratio Converter (ARC) with presets and size controls
- Adaptive recursive Noise Reduction with automatic noise level detection
- 12-bit decoding with 5-line comb filter
- 12-bit encoding
- Inputs PAL, NTSC, NTSC-J, NTSC4.4, 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

TBS190UDV SDI, DV & Composite Synchronizer



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) |

Video Input/Output

| | |
|--------|---|
| 1 x DV | 4 pin DV connector. (will not simultaneously decode and encode) with 32, 44.1 or 48kHz audio – one pair |
|--------|---|

Audio Inputs & Outputs

| | |
|----------------|-------------------------------------|
| 2 x AES input | Unbalanced (BNC) 32-96kHz PCM audio |
| 2 x AES output | Unbalanced (BNC) 48kHz PCM audio |

Remote control

RollCall via USB link to a PC

Control Features

| | |
|--------------------|---------------------------------|
| Input Select | SDI A,B; DV; Composite A, B; YC |
| Audio Source (1) | SDI pair 1-8; DV; External 1-2 |
| Audio Source (2) | SDI pair 1-8; DV; External 1-2 |
| Audio Destination | SDI group 1-4 |
| DV Audio Encode | From processed pair 1-2 |
| Add Audio Delay | 0ms to +2.5s |
| 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) |
| ARC Enable Off/On | |
| ARC H Size | 50% to 200% (0.5% steps) |
| ARC V Size | 50% to 200% (0.5% steps) |
| ARC H Pan | +360 to -360 input pixels |
| ARC V Tilt | +150 to -150 input field lines |
| ARC Presets | Normal; 8 fixed presets |

| | |
|-------------------|--|
| 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 |
| DV features | Audio sample rate; AVC (play/record/stop/forward/rewind) |

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 |

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

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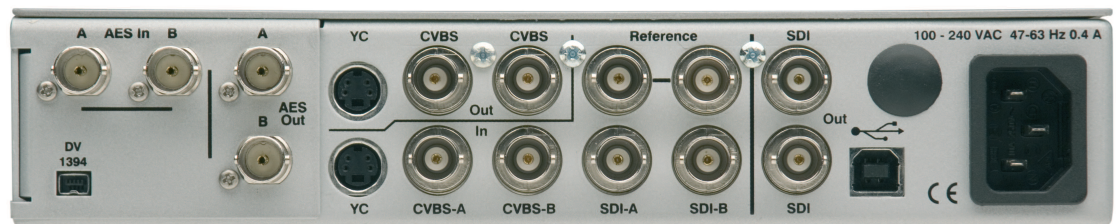
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KP06 01/08 V2