

# CVR600BD SDI & Composite Standards Converter

Broadcast quality standards converter and synchronizer with AES and embedded audio



The **CVR600BD** is a multi-standard broadcast quality 12-bit sampling, 10-bit processing standards converter, synchronizer, aspect ratio converter, noise reducer and time base stabilizer with SDI, composite and YC interfaces. Standards conversion between 525 and 625 line standards (NTSC/PAL) employs a powerful 20 point, 4-field, 5-line interpolation aperture to give smooth motion and maximum vertical resolution. Embedded audio is processed as well as providing balanced AES audio interfaces

## Full Product List

### Base Model

Kudos Plus CVR600BD  
(3598403)

The CVR600BD 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 balanced AES audio.

### Base Model

Kudos Plus CVR600BD  
(3598403-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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## Features

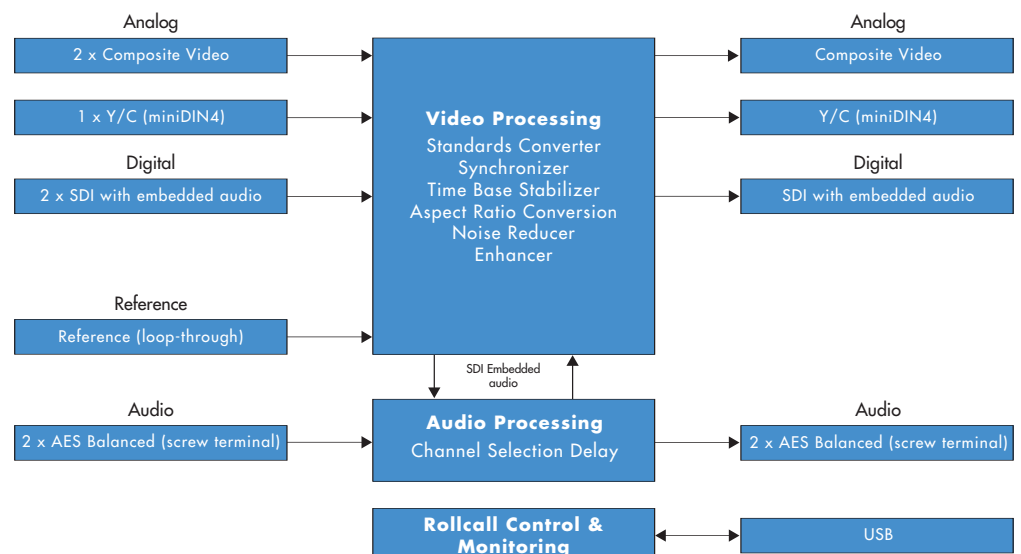
- Standards Converter & Aspect ratio converter
- Synchronization & time base stabilization
- ARC with presets and size controls
- Adaptive recursive Noise Reduction with automatic noise level detection
- 20 point vertical-temporal aperture
- 12-bit decoding with 5-line comb filter
- 12-bit encoding
- 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 in synchronize mode

- Options for balanced / unbalanced AES and balanced analog interfaces
- Unique genlock 'Floating mode\*\*'
- Composite inputs tolerant to noise & errors
- Video gain, black level, chroma gain, NTSC hue
- RollCall compatible via USB link
- Compact ½ rack width with optional rack mount kit. Low power (*no fan*)

## Applications

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

## CVR600BD SDI & Composite Standards Converter



**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 Options**

2 x AES input	Balanced (2-part screw terminal) 32-96kHz PCM audio
2 x AES output	Balanced (2 part screw terminal) 48kHz PCM audio

**Remote control**

RollCall via USB link to a PC

**Control Features**

Input Select	SDI A,B; Composite A, B; YC 525; 625
Output Standard	SDI pair 1-8; External 1-2
Audio Source (1)	SDI pair 1-8; External 1-2
Audio Source (2)	SDI group 1-4
Audio Destination	0ms to +2.5s
Add Audio Delay	+12 to +24dBu (in / out)
Analog Audio Level	Y;C (Off; 1; 2; 3; Max)
Noise Reduction	Off/On (view noise reduction)
Split Screen	Off; 1; 2; 3 (max)
Vertical Enhance	-2; -1; 0; 1; 2; 3 (max)
Horizontal Enhance	Off/On
ARC Enable	50% to 200% (0.5% steps)
ARC H Size	50% to 200% (0.5% steps)
ARC V Size	+360 to -360 input pixels
ARC H Pan	+150 to -150 input field lines
ARC V Tilt	Normal; 8 fixed presets
ARC Presets	NTSC, NTSC-J
Input Standard NTSC	PAL, NTSC, NTSC-J, PAL-N, PALM
Composite Output	Freezes next frame (sync mode)
Freeze	Freezes next field
Field Freeze	Preset; ± 6dB
Luminance Gain	Preset; ± 6dB
Chrominance Gain	Preset; ± 100mV
Black Level	Preset; ± 30 degrees
NTSC Hue	Preset; approx. ±1 line
Genlock Phase	

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**

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
Conversion Aperture	4 field / 5 line
SDI Input Switch	Tolerant to SMPTE RP168 vertical interval switch.
SDI HANC Data	All data passed when input & output are the same standard, except data group being embedded
Vertical Interval	All luminance data passed when input & output are the same standard
Reference Lock Range	Greater than ±80ppm
Analog 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.

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