



SAM64

SDI to AES+MADI interface.



Overview

The SAM64 is a cost-effective solution to the problem of connecting audio equipment to the SDI-based infrastructure found in many broadcast facilities today. Occupying only 1U of rack space, the SAM64 provides the interface between SDI video bitstreams and digital audio.

SAM64 extracts 16 audio channels from each of the unit's four SDI inputs to provide a total of 64 audio channels in both MADI (AES10id-2008) and AES3 (AES3-1992) formats. All SDI inputs independently auto-sense between 3G, HD and SD standards and are provided with loop-through connectivity for downstream equipment.

With a comprehensive range of synchronising options and switchable sample rate convertors, the SAM64 is designed to reliably and seamlessly integrate into any broadcast environment where SDI-embedded audio channels require format conversion.

Broadcast-standard reliability is achieved with redundant power supplies, careful choice of components and extensive test and QC procedures.

Main Feature Set

- 4 SDI inputs, auto-detection of SD/HD/3G standards
- Active loop-through of each input with full Dolby® E/Dolby® Digital transparency
- Extracted audio available as 32 x AES3-id and 1 x 64ch MADI (optical and coax)
- Comprehensive sync options (wordclock, AES, Black and Burst, SDI1 - 4)
- Wordclock and AES sync outputs
- On-board sample rate convertors (SRCs), enabled locally or remotely via GPI
- SRC tally outputs
- Dual power supplies, with separate IEC mains connectors (with cable clamps)
- 1U, 19" rack-mounting enclosure
- Optional 19" AES Signal Breakout panel (ASBO), providing AES3-id outputs on 32 x BNC connectors (75 Ω)





Technical Specifications

VIDEO INPUTS	
Connector/input impedance	4 x BNC sockets, 75 Ω
Compatible formats	SDI, SD/HD/3G, compliant with SMPTE 259M, 296M, 274M, 292M, 424M or 425M
VIDEO OUTPUTS	
Connector/output impedance	4 x BNC sockets, 75 Ω
Format	Active, re-clocked loop-through of SDI inputs
AUDIO INPUTS	
Format	Extracted from SDI video inputs
AES3 AUDIO OUTPUTS	
Connector/output impedance	37-way female Dsub, 32 x 75 Ω unbalanced
Format	Compliant to AES3-1992
Sampling frequency	48 kHz nominal
MADI AUDIO OUTPUT	
Connector/output impedance (coaxial)	BNC socket, 75 Ω
Connector (optical)	ST Multimode
Format	64-channel, compliant with AES10id-2008
Data rate	125 Mbps \pm 25ppm
SYNCHRONISATION	
Sample Rate Conversion	SRC available on all inputs, switchable in banks of 16
Sources	(External): SDI1 to 4, AES3, Video black-and-burst, Wordclock
Video sync input	PAL/NTSC 50/60 Hz (SD)
Wordclock input	48 kHz \pm 50ppm, DC coupled, positive going pulses
AES3 input	AES3 input at $f_s=48$ kHz
Wordclock output	48 kHz nominal
AES3 output	Digital audio signal compliant with AES3-1992
GPIO PORT	
GPIO port – connector	9-pin female Dsub
Input functions	4 x SRC select (short-to-ground)
Output functions	4 x SRC status (open-collector)
OTHER CONTROL	
RS-422	9-pin female Dsub – for possible future use
Ethernet	For possible future use
POWER SUPPLY	
Type	2 x independent switch-mode regulated, auto-ranging
Inputs	2 x 90 to 264 V AC, 50/60 Hz
Power consumption	16 W
Connectors	2 x IEC with retaining clips
Fuse data	Internal fixed resettable (non-user-accessible). Use a 1 A HRC externally-fused supply
PHYSICAL	
Dimensions (w x d x h)	483 x 200 x 44.5 mm (1U) 19 x 7.87 x 1.75 inches (1U)
Weight	4 kg / 8.8 lbs
Operating temperature range	0°C to +40°C
Relative humidity range	70% max, (non-condensing)