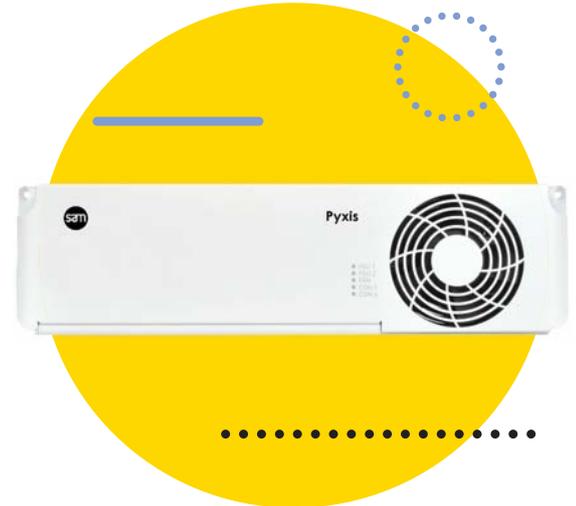


Pyxis — Compact, Flexible, Multi-Format Routing



Data Sheet

The Pyxis family of routers provides a highly flexible solution for all your small and medium size routing applications. Taking on board SAM's 30 years of experience producing top class products, Pyxis has all the features you would expect from a SAM router – excellent build quality, high reliability, and excellent value for money.



Pyxis features a wide range of signal cards in a choice of a 1RU or 3RU frames. All cards are removable from the front allowing ease of maintenance and removing the need for the router to be de-cabled should servicing be required. Both frames can be configured with dual redundant power supplies, and signal cards are available for all common broadcast formats, 1080p 3Gbit/s, HD-SDI, SDI/ASI, Analog Audio, AES Audio and RS422. The SDI cards are also suitable for routing a wide range of Telco signals (STM-1, STM-4, T4, E4).

Features

- Flexible multi-format, multi level router range
- High packing density with 17² HD-SDI in 1RU up to 72² HD-SDI in 3RU
- Up to 144² Stereo AES and Analog Audio in 3RU or 36² in 1RU
- 3Gbit/s capability on all HD-SDI routers
- Mix and match all common broadcast signal types: 3Gbit/s, HD-SDI, SD/ASI in 72², 34², 17² sizes. AES, Stereo Analog Audio in 144², 108², 72², 36² sizes. Mixed analog, AES and MADI I/O up to 272²
- Dual redundant PSUs
- All active parts removable from the front for ease of maintenance
- Integral control system with dual redundant control option in 3RU frame
- Integrated Audio converters allowing mix and match of AES and Analog Audio in the same frame
- 34² HD-SDI and 4 levels of 36² Audio in a single 3RU frame
- Audio modify functions (L >R swaps, L< >Both, Mono mix etc)
- Clean switching of discrete AES/EBU digital audio
- Interface with SAM's full range of control panels and soft panels
- AES Sample Rate Converter/ Synchronizer on all inputs (bypass for Dolby E)
- RS422: 128, 64 and 32 port
- Timecode: 128, 64 and 32 port balanced
- Control using Nebula or Nucleus router control systems

High packing density with 17² HD-SDI in 1RU up to 72² HD-SDI in 3RU

Video

Specifically designed for full 3GBit/s compliance, the Pyxis 3GBit/HD/SD range offers exceptional quality signal routing.

Each router size is available as 3GBit/HD/SD capable, or alternatively in a more cost effective SD/ASI variant. Non-reclocking and reclocking options are available in 3G/HD/SD capable cards.

All video router cards are dedicated sizes, providing optimum signal integrity and a highly cost effective solution.

Audio

The audio router cards offer field expandability and mix & match between analog, AES and Madi I/O. Analog conversion uses programme quality converters on inputs and outputs.

Synchronous AES signals can be cleanly switched with no disturbance to the AES data stream between AES and analog cards. Expansion between cards is via dedicated interconnections within the frame, allowing additional cards to be added in the field.

Input sample rate converters allow for operation in a mixed sample rate environment, or with nonsynchronous external signals.

All signal types can be mixed in any combination in the same frame, allowing smaller multi level systems to be configured in just 3RU.

MADI

The AES and Analog Audio cards are fitted with MADI input and outputs. These can be used in two ways: As additional inputs and outputs to the router, the MADI I/O can be used in conjunction with the discrete AES and analog I/O to build a router with up to 272 stereo inputs and outputs.

This configuration is ideal for applications incorporating audio mixing consoles with MADI interfaces. With a simple configuration change, each card can be used as a 56/64 channel MADI encoder and 56/64 channel decoder on a single card.

The encoder has dual outputs, and the decoder has dual redundant inputs with changeover. This offers a very compact and cost effective interface to MADI routing and mixing systems.

Control

Pyxis offers a range of control options. The editable database on the internal controller (which can be dual redundant in the 3RU frame), allows multi-level routing systems to be built from several Pyxis cards which can be fitted into one or more frames.

The controller interfaces to SAM's full range of control panels which include simple BPX control up to XY panels with multi-level control and dial up sequences. Control from existing SAM systems is also simple, as Pyxis supports the industry standard SAM General Switcher protocol, allowing you to link to external SAM controllers and many third party control systems. Ethernet and serial control, supporting several OEM protocols round off a wide range control options.

Interoperation with SAM's Workbench and RollCall suite of software applications makes control from PC based soft-panels simple. The internal control architecture allows for much more comprehensive status and alarm reporting than has previously been possible.



Reverse of Pyxis frame.

Technical Specification

1RU Frame	
Size	1RU 19" rack mounting x 395mm deep
Module slots	1
Power supplies	External block type PSUs
Power	60W maximum
Control	
Control	Single internal control card, 2 x RS485, panel/remote control ports, Ethernet for SAM General Switcher, SNMP or other OEM protocols.
Configuration	1 x RS232 (switchable)
Connections	
Power	3 way IEC
Control	9 way D type socket
Expansion	RJ45
Video reference	BNC
3RU Frame	
Number	3RU 19" rack mounting x 395mm deep
Module slots	4
Power supplies	Dual, autosensing 110/230Vac. 50/60Hz
Power	250W maximum
Control	
Control	2 x RS485, panel/remote control ports, Ethernet for SAM General Switcher, SNMP or other OEM protocols.
Configuration	1 x RS232 (option)
Control	RJ45
Connections	
Power	Dual IEC
Control	9 way D type socket + RJ45
Video reference	BNC - Looping HI - Z, Dual B + B, Single HD, Tri-level
SD Video	
Inputs	
Standard	SMPTE 259M
Impedance	75 Ω
Data rate	3-360Mbps
Return loss	>20dB 10MHz to 360MHz typical
Amplitude	800mV p-p nominal
DC offset	<5V
Cable equalization	Up to 200m cable (Belden 8281)
Outputs	
Standard	SMPTE 259M-ABCD
Impedance	75 Ω
Data rate	3-360Mbps
Return loss	>20dB 10MHz to 360MHz typical
Amplitude	800mV p-p ± 10%
DC offset	0V ± 0.5V
3G/HD Video	
Inputs	
Standard	1080p 3Gbps
Standard	HD/SDI to SMPTE 292M and SDI to SMPTE 259M
Data rate	3MBit/s-3GBit/s
Return loss	>15dB to 1.485GBit/s typical
Cable equalization	Up to 100m typical Belden 1694A @ 1.485GBit/s. Up to 60m typical Belden 1694A @ 3GBit/s
Outputs	
Return loss	>15dB to 1.485GBit/s typical
Amplitude	800mV p-p ± 10%
DC offset	0V ± 0.5V

Technical Specification

AES Digital Audio Inputs	
Type	AES3-1992
Impedance	110Ω/75Ω
Connector	62 way high density D-type/BNC
AES Digital Audio Outputs	
Type	AES3-1992
Impedance	110Ω/optional 75Ω
Connector	62 way high density D-type/BNC
Performance	
Digital input – Digital output	
Sample Rate	24 to 96kHz (non re-clocking, non re-framing) 32 to 48kHz (re-clocking and re-framing)
Wordlength	16 to 24 bit
Non Reclocking	Transparent to all bi-phase
Perf	Mark data
Re-frame	SRC's all inputs, outputs AES-11
Performance	Compliant. Channel status data re-written in this mode
Analog Inputs	
Type	Electronically balanced
Impedance	10kΩ
Max signal level	+24dBu
Connector	62 way high density D-type
Analog Outputs	
Type	Electronically balanced
Output impedance	<40Ω
Max output level	+24dBu into 10k
Connector	62 way high density D-type
Analog input – Analog output	
Gain stability	±0.2dB/24 hours
Frequency	±0.1dB 40Hz to 15kHz
Response	±0.5dB 20Hz to 20kHz
THD + N	<0.1% at 1kHz, +18dBu <0.03% at 1kHz, 0dBu
Dynamic range	>105dB (AES 17-1991)
Signal to noise ratio	>105dB
Crosstalk	<-90dB all hostile at 16kHz
Mixed Analog/Digital	
Digital input – Analog output	
Input wordlength	16 to 24 bit
Converter	20 bit, Delta Sigma
Gain Stability	±0.2dB/24 hours
Frequency response	±0.03dB 20Hz to 22kHz
THD	<0.1% at 1kHz, +18dBu <0.03% at 1kHz, 0dBu
Signal to noise ratio	>106dB @ +24dBu = 0dBFS
Crosstalk	<-90dB all hostile at 16kHz
Analog input – Digital output	
Sample rate	32-48kHz (free running or locked to reference)
Output wordlength	20 bit
Converter	20 bit, delta Sigma
Performance	Outputs AES-11 timing compliant
THD	0.05% @ +18dBu
Signal to noise ratio	106dB @ 24dBu = 0dBFS

Ordering Information

Please contact SAM sales or your local SAM agent for order codes.