



Pyxis

Compact, Flexible, Multiformat Routing

The Pyxis family of routers provides a highly flexible solution for all your small- and medium-sized routing applications, with all the features you would expect from a Grass Valley router — excellent build quality, high reliability, and excellent value for money.

Pyxis from Grass Valley features a wide range of signal cards in a choice of a 1 RU or 3 RU frame. 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 3 Gb/s, HD-SDI, SDI/ASI, analog audio, AES audio and RS-422. The SDI cards are also suitable for routing a wide range of telco signals (STM-1, STM-4, T4, E4).

Video

Specifically designed for full 3 Gb/s compliance, the Pyxis 3G/HD/SD range offers exceptional quality signal routing. Each router size is available as 3G/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 program 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 multilevel systems to be configured in just 3 RU.

MADI

The AES and analog audio cards are fitted with MADI inputs 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.

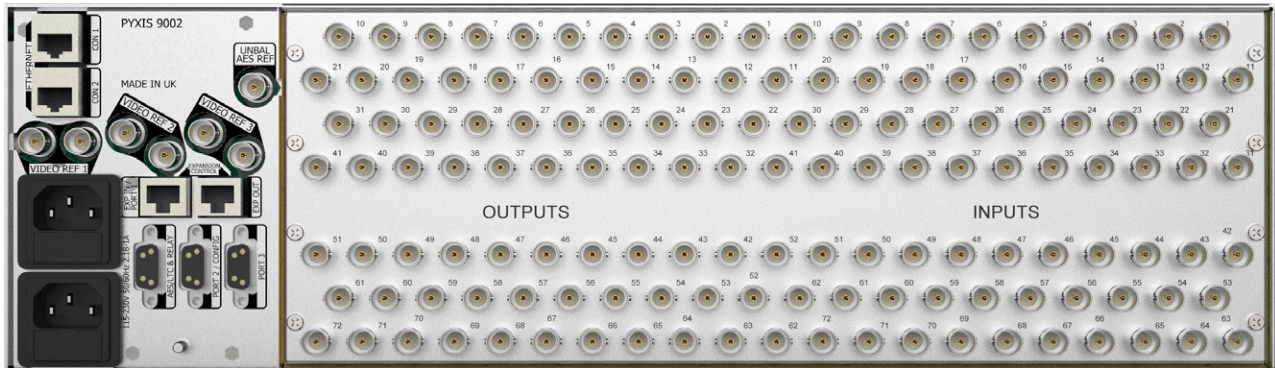
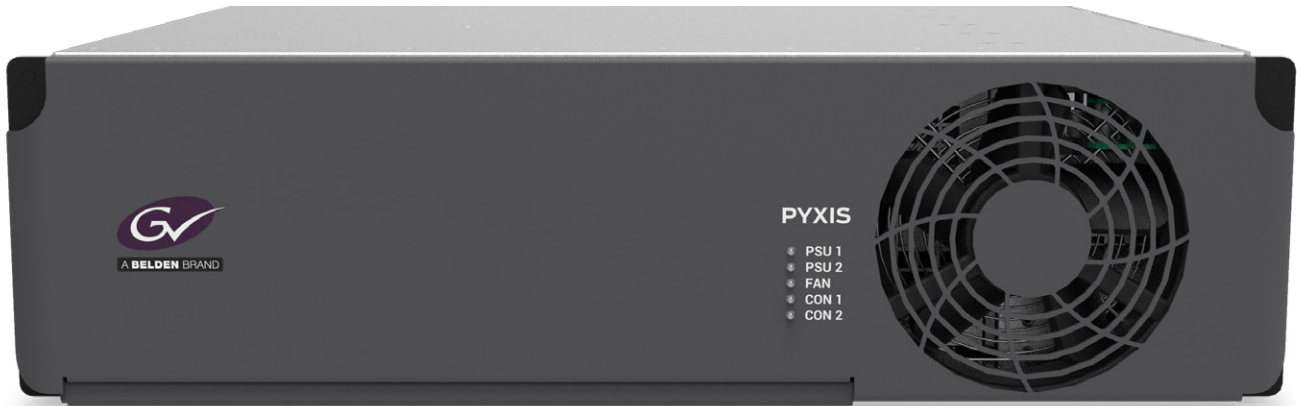
Control

Pyxis offers a range of control options. The editable database on the internal controller (which can be dual redundant in the 3 RU 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 Grass Valley's control panels, which include simple BPX control up to XY panels with multilevel control and dial-up sequences. Control from existing Grass Valley systems is also simple, as Pyxis supports the industry standard Grass Valley general switcher protocol, allowing you to link to external Grass Valley controllers and many third-party control systems. Ethernet and serial control, supporting several OEM protocols round off a wide range control options.

Interoperation with Grass Valley'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.

KEY FEATURES

- Flexible multiformat, multilevel router range
- High packing density with 17² HD-SDI in 1 RU up to 72² HD-SDI in 3 RU
- Up to 144² stereo AES and analog audio in 3 RU or 36² in 1 RU
- 3 Gb/s capability on all HD-SDI routers
- Mix and match all common broadcast signal types: 3 Gb/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 3 RU frame
- Integrated audio converters allowing mix and match of AES and analog audio in the same frame
- 34² HD-SDI and four levels of 36² audio in a single 3 RU frame
- Audio modify functions (L > R swaps, L < > both, mono mix, etc.)
- Clean switching of discrete AES/EBU digital audio
- Interface with Grass Valley's control panels and soft panels
- AES sample rate converter/synchronizer on all inputs (bypass for Dolby E)
- RS-422: 128, 64 and 32 port
- Timecode: 128, 64 and 32 port balanced
- Control using Nebula or Nucleus router control system



SPECIFICATIONS**1 RU Frame****Size:** 1 RU 19 in. rack mounting x 395 mm deep**Module slots:** 1**Power supplies:** External block type PSUs**Power:** 60W maximum**Control:**

Single internal control card, 2x RS-485, panel/remote control ports, Ethernet for Grass Valley general switcher, SNMP or other OEM protocols

Configuration: 1x RS-232 (switchable)

Connections:

Power: 3-way IEC

Control: 9-way D-type socket

Expansion: RJ45

Video reference: BNC

3 RU Frame**Size:** 3 RU 19 in. rack mounting x 395 mm deep**Module slots:** 4**Power supplies:** Dual, autosensing 110/230 VAC 50/60 Hz**Power:** 250W maximum**Control:**

2x RS-485, panel/remote control ports, Ethernet for Grass Valley general switcher, SNMP or other OEM protocols

Configuration: 1x RS-232 (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 ST 259

Impedance: 75Ω

Data rate: 3-360 Mb/s

Return loss: >20 dB 10 MHz to 360 MHz typical

Amplitude: 800 mVp-p nominal

DC offset: <5V

Cable equalization: Up to 200m cable (Belden 8281)

Outputs

Standard: SMPTE ST 259-ABCD

Impedance: 75Ω

Data rate: 3-360 Mb/s

Return loss: >20 dB 10 MHz to 360 MHz typical

Amplitude: 800 mVp-p ±10%

DC offset: 0V ±0.5V

3G/HD Video**Inputs: 1080p 3 Gb/s**

Standard: HD/SDI to SMPTE ST 292 and SDI to SMPTE ST 259

Data rate: 3 Mb/s – 3 Gb/s

Return loss: >15 dB to 1.485 Gb/s typical

Cable equalization:

Up to 100m typical Belden 1694A @ 1.485 Gb/s

Up to 60m typical Belden 1694A @ 3 Gb/s

Outputs

Return loss: >15 dB to 1.485 Gb/s typical

Amplitude: 800 mVp-p ±10%

DC offset: 0V ±0.5V

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 96 kHz (non reclocking, non reframing)

32 to 48 kHz (reclocking and reframing)

Wordlength: 16- to 24-bit

Non reclocking: Transparent to all bi-phase

Perf: Mark data

Reframe: SRC's all inputs, outputs AES-11

Performance: Compliant (Channel status data rewritten in this mode)

Analog Inputs

Type: Electronically balanced

Impedance: 10 kΩ

Max. signal level: +24 dBu

Connector: 62-way high-density D-type

Analog Outputs

Type: Electronically balanced

Output impedance: <40Ω

Max. output level: +24 dBu into 10k

Connector: 62-way high-density D-type

Analog Input – Analog Output

Gain stability: ±0.2 dB/24 hours

Frequency: ±0.1 dB 40 Hz to 15 kHz

Response: ±0.5 dB 20 Hz to 20 kHz

THD + N:

<0.1% at 1 kHz, +18 dBu

<0.03% at 1 kHz, 0 dBu

Dynamic range: >105 dB (AES 17-1991)

Signal to noise ratio: >105 dB

Crosstalk: <-90 dB all hostile at 16 kHz

Mixed Analog/Digital**Digital Input – Analog Output**

Input wordlength: 16- to 24-bit

Converter: 20-bit, Delta Sigma

Gain Stability: ±0.2 dB/24 hours

Frequency response: ±0.03 dB 20 Hz to 22 kHz

THD:

<0.1% at 1 kHz, +18 dBu

<0.03% at 1 kHz, 0 dBu

Signal to noise ratio: >106 dB @ +24 dBu = 0 dBFS

Crosstalk: <-90 dB all hostile at 16 kHz

Analog Input – Digital Output

Sample rate: 32-48 kHz (free running or locked to reference)

Output wordlength: 20-bit

Converter: 20-bit, delta Sigma

Performance: Outputs AES-11 timing compliant

THD: 0.05% @ +18 dBu

Signal to noise ratio: 106 dB @ 24 dBu = 0 dBFS

ORDERING

Please contact your authorized Grass Valley representative.

GVB-2-0739A-EN-DS

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