Panacea™ Lite

12x1 Economical Utility Router

Panacea™ Lite offers mixed-format, broadcast-quality 12x1 utility routing — all within an affordable, compact 1RU frame.

Wide Range of Signal Formats

Featuring the widest format range in the industry in a 1RU frame, Panacea Lite is available as a dual-format analog video and audio, SDI video and AES, HD-SDI video and AES router for coverage of the countless utility applications. Panacea Lite is also offered in the following standalone formats: analog video, analog audio, SDI or HD-SDI video.

Single/Dual-Format Within a 1RU Frame

Panacea Lite is one of the most compact 12x1 routers for utility routing applications available today. With a frame depth of only 5.25 inches (13 cm), Panacea Lite allows for either front- or rear-rack mounting. In addition, both video and audio are housed in the compact 1RU frame for maximum space efficiency.

Control is Tailored to Your Requirements

Panacea Lite allows you to select local and/or remote control panels with standard breakaway operation. If rear rack mounting is desired, Panacea Lite lets you tailor your remote control applications by offering XY remote control as standard. This allows you the freedom of remote panel distances up to 2000 ft (615 m). Multiple routers can be linked together for multi-level switching, and because a common Harris control system is incorporated, Panacea Lite can be easily integrated into existing facilities. In addition, serial control is available with GPI.

Panacea Lite Fits Any Facility

Panacea Lite fits into any television production facility, cable facility, production or post production facility, outside broadcast vans/trucks, DBS satellite operation, webcaster or telco facility with ease.

FEATURES

- Competitive pricing
- Shallow 1RU frame with adjustable mounting ears — mount in the rear of an equipment rack
- Comprehensive support of signal formats
- Built-in AC supply
- Available as a dual-format router (analog video and audio, SDI video and AES, HD-SDI video and AES router) or in standalone formats (analog video, analog audio, SDI and HD-SDI video)
- Control via XY, serial RS-232/422, local control panel, optional remote control panel or GPI

KEY BENEFITS

- High-quality, low-cost 12x1 utility routing
- Widest range of formats in the industry
- Single or dual formats available
- Local and/or remote control panels available
- Small-frame footprint

SPECIFICATIONS

Specifications are subject to change without notice.

Frame

Electrical

Input	Internal AC power supply module
Power Supply	Universal input 47 to 440 Hz, 45 W 85 to 265 VAC
Total Power, Maximum	45 W
Performance Temperature	41° to 104° F (5° to 40° C)
Operating Temperature	32° to 122° F (0° to 50° C)

Mechanical

Dimensions	19 x 5.25 x 1.75 in. (48.3 x 13.3 x 44 cm)
Weight (fully loaded)	5 lbs (2.3 kg)
Indicators	Power LED
Cooling	Convection

Input/Output Signal

RS-232/422 Serial Communication	DB-9 pin connector
XY (coaxial communication)	75 ohms, BNC, looping
Sync (coaxial reference)	75 ohms, BNC, looping

Analog Audio (P-12X1A2)

Input

Number of Inputs	12 stereo channels
Signal Type	Balanced, analog audio
Connector	DB-62 (terminal strip adapters available)
Impedance	High Z (20 k ohms)
CMRR	>60 dB rejection @ 60 Hz
Maximum Level	+26 dBu

Output

Number of Outputs	2 stereo channels (identical signals)
Signal Type	Balanced, analog audio
Connector	DB-62 (terminal strip adapters available)
Impedance	66 ohms
Maximum Level	+26 dBu
DC Offset	<±50 mV

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Analog Audio Performance

Gain . . . . . Unity, ±0.1 dB
THD+N . . . . . <0.01%, 20 Hz to 20 kHz, +24 dBu
IMD (SMPTE 4:1) . . . . . <0.01%, +24 dBu
Crosstalk . . . . . >90 dB isolation, 20 Hz to 20 kHz, all hostile
Frequency Response . . . . . <±0.1 dB, 20 Hz to 20 kHz
-3 dB point: >200 kHz
Signal to Noise Ratio . . . . . >110 dB ref. to +24 dBu, 20 Hz to 20 kHz

Analog Video (P-12X1V)

Input

Number of Inputs 12
Signal Type . . . . . Composite (or component when used in a multiframe system) analog video, or any video or RF signal within the voltage and frequency limits
Connector . . . . . 75 ohms, BNC per IEC 169-8
Impedance . . . . . 75 ohms
Signal Coupling . . . . . DC
Return Loss . . . . . >40 dB at 5 MHz
Normal Input Level . . . . . 1 V pk-pk
Maximum Level . . . . . 2 V pk-pk centered at 0 V

Output

Number of Outputs . . . . . 2 (identical signals)
Connector . . . . . 75 ohms BNC per IEC 169-8
Impedance . . . . . 75 ohms
Return Loss . . . . . >40 dB at 5 MHz
Normal Level . . . . . 1 V pk-pk
Maximum Level . . . . . 2 V pk-pk centered at 0 V

Performance

Gain . . . . . Unity ±0.1 dB
Differential Gain . . . . . <0.15% at 3.58 and 4.43 MHz
Differential Phase . . . . . <0.15 at 3.58 and 4.43 MHz
Frequency Response . . . . . ±0.05 dB from DC to 10 MHz
±0.25 dB from 10 to 35 MHz
+2 dB to –3 dB from 35 to 50 MHz
Tilt . . . . . <0.1%
Crosstalk . . . . . >62 dB isolation from DC to 5 MHz
Phase Scatter . . . . . <±1.5°
Gain Scatter . . . . . <±0.1 dB
DC Offset . . . . . <±50 mV
Signal to Noise Ratio . . . . . >65 dB, 5 MHz bandwidth

Analog Video/Stereo Analog Audio (P-12X1VA2)

Input

	Analog Video	Stereo Analog Audio
Number of Inputs	12	12 stereo channels
Signal Type	Composite or (or component when used in a multiframe system) analog video, or any video or RF signal within the voltage and frequency limits	Balanced, analog audio
Connector	75 ohms, BNC per IEC 169-8	DB-62 (terminal strip adapters available)
Impedance	75 ohms	High Z (20 k ohms)
Signal Coupling	DC	—
Return Loss	>40 dB at 5 MHz	—
Normal Input Level	1 V pk-pk	—
Maximum Level	2 V pk-pk centered at 0 V	+26 dBu
CMRR	—	>65 dB rejection @ 60 Hz

Output

	Analog Video	Stereo Analog Audio
Number of Outputs	2 (identical signals)	2 stereo channels (identical signals)
Signal Type	Composite or (or component when used in a multiframe system) analog video, or any video or RF signal within the voltage and frequency limits	Balanced, analog audio
Connector	75 ohms, BNC per IEC 169-8	DB-62 (terminal strip adapters available)
Impedance	75 ohms	66 ohms
Return Loss	>40 dB at 5 MHz	—
Normal Level	1 V pk-pk	—
Maximum Level	2 V pk-pk centered at 0 V	+26 dBu

Performance

	Analog Video	Stereo Analog Audio
Gain	Unity ±0.1 dB	Unity, ±0.1 dB
Differential Gain	<0.15% at 3.58 MHz and 4.43 MHz	—
Differential Phase	<0.15 at 3.58 and 4.43 MHz	—
THD+N	—	<0.01%, 20 Hz to 20 kHz, +24 dBu
IMD (SMPTE 4:1)	—	<0.01%, +24 dBu
Tilt	<0.1%	—
Crosstalk	62 dB isolation from DC to 5 MHz	>90 dB isolation, 20 Hz to 20 kHz, all hostile
Frequency Response	±0.05 dB from DC to 10 MHz ±0.25 dB from 10 to 35 MHz +2 dB to -3 dB from 35 to 50 MHz	<±0.1 dB, 20 Hz to 20 kHz -3 dB point: >200 kHz
Phase Scatter	<±1.5	—
Gain Scatter	<±0.1 dB	—
DC Offset	<±50 mV	<±50 mV
Signal to Noise Ratio	>65 dB, 5 MHz bandwidth	>110 dB ref. to +24 dBu, 20 Hz to 20 kHz

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SD Video (P-12X1S)

Input

Number of Inputs 12
Signal Type . . . . . SMPTE 259M, SMPTE 344M and DVB-ASI
Connector . . . . . 75 ohms BNC per IEC 169-8
Impedance . . . . . 75 ohms
Normal Input Level . . . . . 800 mV pk-pk 10%
Maximum Input Level . . . . . 1200 mV pk-pk
Return Loss . . . . . >18 dB 5 to 540 MHz
Equalization . . . . . Automatic, up to 984 ft (300 m) Belden 1694A

Output

Number of Outputs . . . . . 2 (identical signals)[1]
Signal Type . . . . . SMPTE 259M, SMPTE 344M
DVB-ASI (output 1 only)*
Connector . . . . . 75 ohms BNC per IEC 169-8
Impedance . . . . . 75 ohms
Return Loss . . . . . >18 dB 5 to 540 MHz
Output Amplitude . . . . . 800 mV pk-pk 10%

Performance

DC Offset . . . . . 0 ±0.5 V
Rise/Fall Time . . . . . 400 to1500 ps
Overshoot . . . . . <10% of amplitude
Jitter . . . . . <0.2UI @ frequency tested

SD Video/Balanced AES Audio (P-12X1SAEB)

Input

	SD Video	Balanced AES
Number of Inputs	12	12, dual channels
Signal Type	SMPTE 259M, SMPTE 344M and DVB-ASI	Balanced, transformer coupled (AES-3)
Connector	75 ohms, BNC per IEC 169-8	DB-62 (terminal strip adapters available)
Impedance	75 ohms	110 ohms
Normal Input Level	800 mV pk-pk ±10%	5 V pk-pk
Maximum Input Level	1200 mV pk-pk	7 V pk-pk
Return Loss	>18 dB 5 to 540 MHz	—
Signal Amplitude	—	0.2 to 7 V pk-pk
Equalization	Automatic, up to 984 ft (300 m) Belden 1694A	—

Output

	SD Video	Balanced AES
Number of Outputs	2 (identical signals)[1]	2 (dual channels, identical signals)
Signal Type	SMPTE 259M, SMPTE 344M DVB-ASI (output 1 only)*	Balanced, transformer coupled (AES-3)
Connector	75 ohms, BNC per IEC 169-8	DB-62 (terminal strip adapters available)
Impedance	75 ohms	110 ohms
Return Loss	>18 dB 5 to 540 MHz	N/A
Output Amplitude	800 mV pk-pk ±10%	5 V pk-pk ±1V into 110 ohms load
Rise/Fall Time	400 to 1500 ps	5 to 30 ns
Overshoot	<10% of amplitude	—
Jitter	<0.2UI @ frequency tested	<5 ns

Performance

	SD Video	Balanced AES
DC Offset	0 V ±0.5 V	<±50 mV
Propagation Delay	—	<100 ns
Intrinsic Jitter	—	<5 ns
Switching Type	—	Asynchronous
AES Frame Rates	—	30 to 192 kHz
Data Rates	—	Up to 30 Mb/s, 50% duty cycle

SD Video/Coaxial AES Audio (P-12X1SAEC)

Input

	SD Video	Coaxial AES
Number of Inputs	12	12, dual channels
Signal Type	SMPTE 259M, SMPTE 344M, and DVB-ASI	Unbalanced, AC coupled (AES-3id, SMPTE 276M)
Connector	75 ohms, BNC per IEC 169-8	75 ohms BNC per IEC 169-8
Impedance	75 ohms	75 ohms
Normal Input Level	800 mV pk-pk ±10%	1 V pk-pk
Maximum Input Level	1200 mV pk-pk	2 V pk-pk
Return Loss	>18 dB 5 to 540 MHz	>30 dB, 0.1 to 6 MHz >25 dB, 6 to 12 MHz
Signal Amplitude	—	0.1 to 2 V pk-pk
Equalization	Automatic, up to 984 ft (300 m) Belden 1694A	—

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Output

	SD Video	Coaxial AES
Number of Outputs	2 (identical signals)[1]	2 dual channels (identical signals)
Signal Type	SMPTE 259M, SMPTE 344M DVB-ASI (output 1 only)*	Unbalanced (AES-3id, SMPTE 276M)
Connector	75 ohms, BNC per IEC 169-8	75 ohms, BNC per IEC 169-8
Impedance	75 ohms	75 ohms
Return Loss	>18 dB 5 to 540 MHz	>40 dB, 0.1 to 6 MHz >30 dB, 6 to 12 MHz
Output Amplitude	800 mV pk-pk ±10%	1.0 V pk-pk ±10% into 75 ohms load
Rise/Fall Time	400 to 1500 ps	30 to 44 ns
Overshoot	<10% of amplitude	—
Jitter	<0.2UI @ frequency tested	<5 ns

Performance

	SD Video	Coaxial AES
DC Offset	0 V ±0.5 V	<±50 mV
Propagation Delay	—	<100 ns
Intrinsic Jitter	—	<5 ns
Switching Type	—	Asynchronous
AES Frame Rates	—	30 to 192 kHz
Data Rates	—	Up to 30 Mb/s, 50% duty cycle

HD/SD Video (P-12X1HS)

Input

Number of Inputs 12
Signal Type . . . . . SMPTE 292M
SMPTE 259M
SMPTE 344M
DVB-ASI
Connector . . . . . 75 ohms, BNC per IEC 169-8
Impedance . . . . . 75 ohms
Normal Input Level . . . . . 800 mV pk-pk ±10%
Maximum Input Level . . . . . 1200 mV pk-pk
Return Loss . . . . . Better than -18 dB, 5 MHz to 1.485 GHz
Equalization . . . . . Automatic, up to 984 ft (300 m) Belden 1694A

Output

Number of Outputs. . . . . 2 (identical signals)*
Signal Type . . . . . SMPTE 292M
SMPTE 259M
SMPTE 344M
DVB-ASI (output 1 only)*
Connector . . . . . 75 ohms, BNC per IEC 169-8
Impedance . . . . . 75 ohms
Return Loss . . . . . Better than -18 dB, 5 MHz to 1.485 GHz
Output Amplitude . . . . . 800 mV pk-pk 10%

Performance

DC Offset . . . . . 0 ±0.5 V
Rise/Fall Time . . . . . <270 ps
Overshoot . . . . . <10% of amplitude
Jitter . . . . . <0.2UI @ frequency tested

HD/SD Video/Balanced AES Audio (P-12X1HSAEB)

Input

	SD Video	Balanced AES
Number of Inputs	12	12, dual channels
Signal Type	SMPTE 292M SMPTE 259M SMPTE 344M DVB-ASI	Balanced, transformer coupled (AES-3)
Connector	75 ohms, BNC per IEC 169-8	DB-62 (terminal strip adapters available)
Impedance	75 ohms	110 ohms
Normal Input Level	800 mV pk-pk ±10%	5 V pk-pk
Maximum Input Level	1200 mV pk-pk	7 V pk-pk
Return Loss	Better than -18 dB 5 MHz to 1.485 GHz	—
Signal Amplitude	—	0.2 to 7 V pk-pk
Equalization	Automatic, up to 984 ft (300 m) Belden 1694A	—

Output

	SD Video	Balanced AES
Number of Outputs	2 (identical signals)[1]	2, dual channels (identical signals)
Signal Type	SMPTE 292M SMPTE 259M SMPTE 344M DVB-ASI (Output 1 only)*	Balanced, transformer coupled (AES-3)
Connector	75 ohms, BNC per IEC 169-8	DB-62 (terminal strip adapters available)
Impedance	75 ohms	110 ohms
Return Loss	Better than -18 dB 5 MHz to 1.485 GHz	N/A
Output Amplitude	800 mV pk-pk ±10%	5 V pk-pk ±1V into 110 ohms load
Rise/Fall Time	<270 ps	5 to 30 ns
Overshoot	<10% of amplitude	—
Jitter	<0.2UI @ frequency tested	<5 ns

Performance

	SD Video	Balanced AES
DC Offset	0 V ±0.5 V	<±50 mV
Propagation Delay	—	<100 ns
Intrinsic Jitter	—	<5 ns
Switching Type	—	Asynchronous
AES Frame Rates	—	30 to 192 kHz
Data Rates	—	Up to 30 Mb/s, 50% duty cycle

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HD/SD Video/Coaxial AES Audio (P-12X1HSAEC)

Input

	SD Video	Coaxial AES
Number of Inputs	12	12, dual channels
Signal Type	SMPTE 292M SMPTE 259M SMPTE 344M DVB-ASI	Unbalanced, AC coupled (AES-3id, SMPTE 276M)
Connector	75 ohms, BNC per IEC 169-8	75 ohms, BNC per IEC 169-8
Impedance	75 ohms	75 ohms
Normal Input Level	800 mV pk-pk ±10%	—
Maximum Input Level	1200 mV pk-pk	—
Return Loss	Better than -18 dB, 5 MHz to 1.485 GHz	>30 dB, 0.1 to 6 MHz >25 dB, 6 to 12 MHz
Signal Amplitude	—	0.1 to 2 V pk-pk
Equalization	Automatic, up to 984 ft (300 m) Belden 1694A	—

Output

	SD Video	Coaxial AES
Number of Outputs	2 (identical signals)[1]	2 dual channels (identical signals)
Signal Type	SMPTE 292M SMPTE 259M SMPTE 344M DVB-ASI (output 1 only)*	Unbalanced (AES-3id, SMPTE 276M)
Connector	75 ohms, BNC per IEC 169-8	75 ohms, BNC per IEC 169-8
Impedance	75 ohms	75 ohms
Return Loss	Better than -18 dB 5 MHz to 1.485 GHz	>40 dB, 0.1 to 6 MHz >30 dB, 6 to 12 MHz
Output Amplitude	800 mV pk-pk ±10%	1 V pk-pk ±10% into 75 ohms load
Rise/Fall Time	<270 ps	30 to 44 ns
Overshoot	<10% of amplitude	—
Jitter	<0.2UI @ frequency tested	—

Performance

	SD Video	Coaxial AES
DC Offset	0 V ±0.5 V	<±50 mV
Propagation Delay	—	<100 ns
Intrinsic Jitter	—	<5 ns
Switching Type	—	Asynchronous
AES Frame Rates	—	30 to192 kHz
Data Rates	—	Up to 30 Mb/s, 50% duty cycle

[1]Output 2 is inverted, so it is not compliant with DVB-ASI signals.

ORDERING INFORMATION

Signal Formats

S. . . . . SDI, non-reclocking
HS . . . . . HD-SDI (wideband digital multi-rate), non-reclocking
AEB. . . . . AES/EBU balanced, digital audio
AEC . . . . . AES/EBU coaxial digital audio
A2 . . . . . Analog stereo audio
V. . . . . Analog video

HARRIS assuredcommunications®

NA +1 800 231 9673 • CALA +1 786 437 1960 • EA +44 118 964 8200 • MESA +971 4 433 8250 • APAC +852 2776 0628

www.broadcast.harris.com

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