



GDR416

**4K , 3Gb/s, HD and SD four input distribution amplifier
with 4 reclocked outputs per channel**

A Synapse® product

Synapse

4K
ULTRAHD
3840 x 2160

3 TRIPLE RATE
GB/s, HD, SD

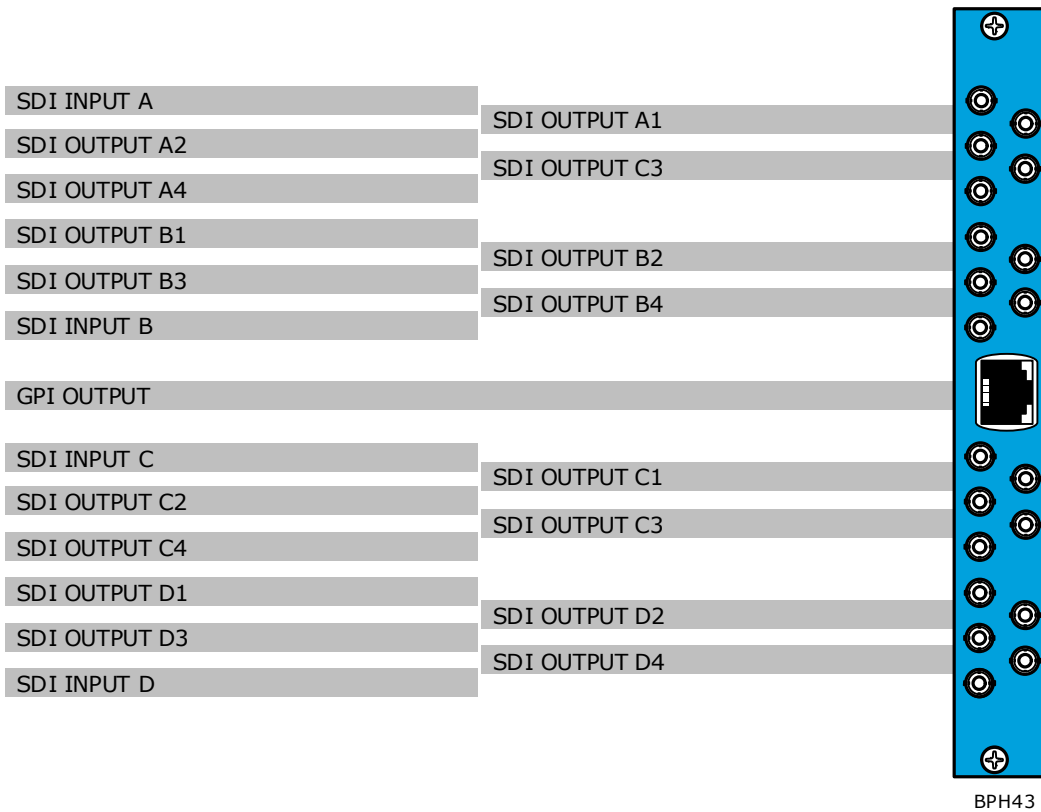
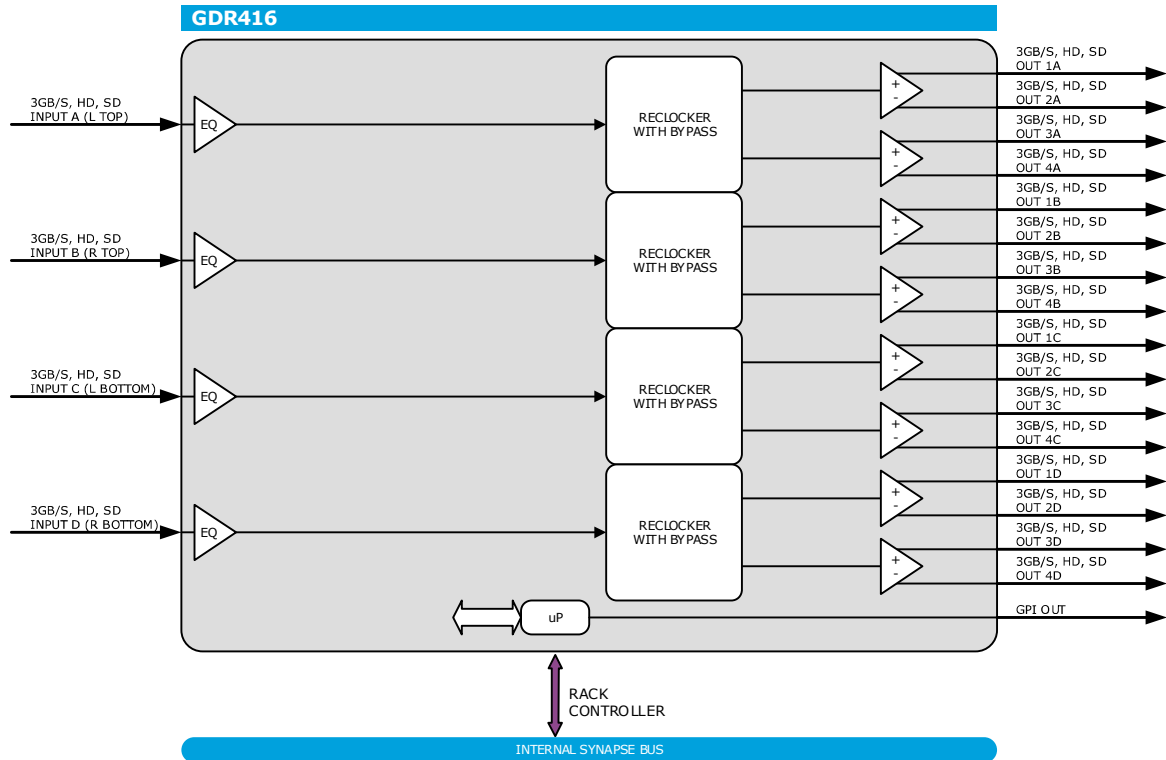
DESIGNED FOR
ASI/DVB

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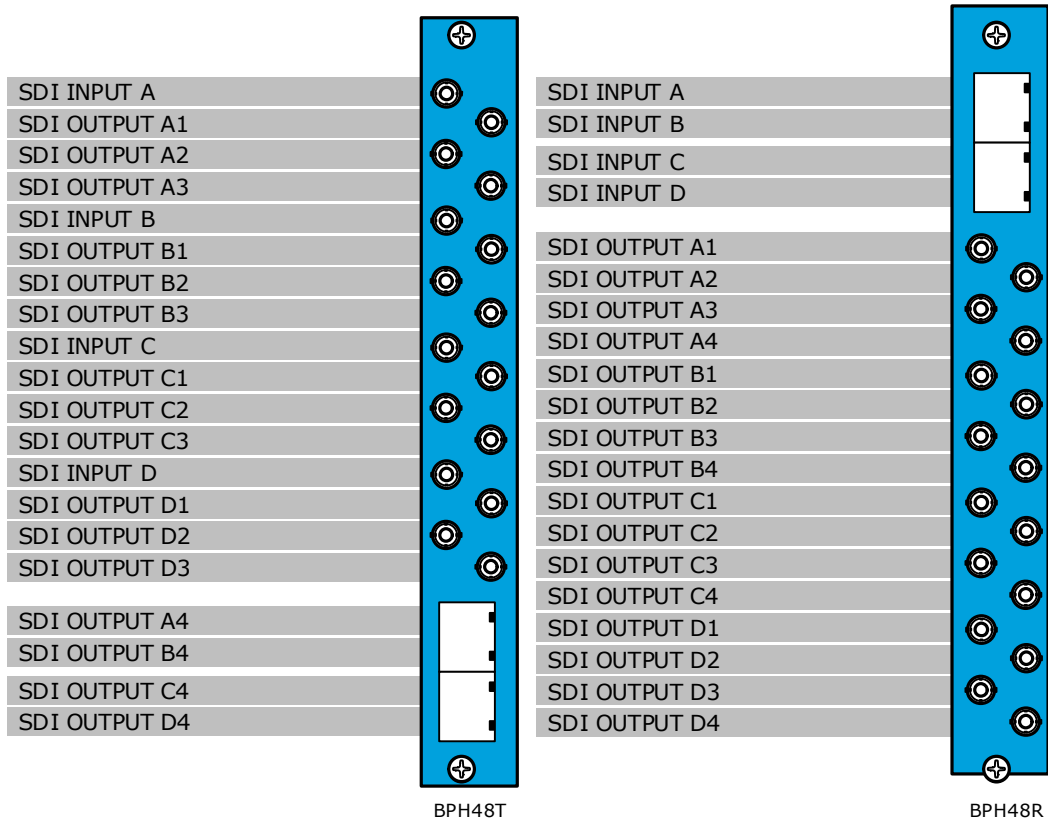
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Block Schematic & I/O panel



Digital Video Distribution



Features

The GDR416 is a four channel 3Gb/s, HD, SD SDI reclocking distribution amplifier.

- Quad channel DA with 16 outputs
- Conversions between SMPTE standards
- GPI controlled input swapping and status monitoring (BPH38)
 - GPO-0 = Carrier detect A
 - GPO-1 = Carrier detect B
 - GPO-2 = Carrier detect C
 - GPO-3 = Carrier detect D
- Compatible with:
 - SD SDI 270 Mbit/s (SMPTE 259M)
 - HD SDI 1485 Mbit/s (SMPTE 292M)
 - 3Gb/s SDI 2970 Mbit/s (SMPTE 424M)
 - ASI/DVB only on positive outputs
- Bypass function of the reclocker for non-standard frequencies
- Flexible choice of IO standards through use of SFP modules
 - Flexible output choice with BPH48T. Options; 2x fiber, 2x CVBS, 2x SDI outputs or 1x HDMI output
 - Flexible input choice with BPH48R. Options; fiber, CVBS or SDI or HDMI input

Applications

- 4K generic wideband DA
- Quad channel generic wideband 3Gb/s DA
- E2O Electrical to Optical converter with BPH48T back panel
- O2E Optical to Electrical converter with BPH48R back panel

Ordering information

Module:

- **GDR416:** 3Gb/s, HD, SD-SDI quad reclocking distribution amplifiers

Standard I/O:

- **BPH43_GDR416:** I/O-panel for GDR416

SFP I/O:

- **BPH48T_GDR416:** I/O-panel for GDR416 with SFP module output options
- **BPH48R_GDR416:** I/O-panel for GDR416 with SFP module input options

Specifications

Video Input

Standard	3Gb/s ,HD and SD SDI: SMPTE425-5/6, SMPTE424, SMPTE259M, SMPTE 292M
Number of Inputs	4
Connector	DIN1.0/2.3, BNC, Fiber LC
Equalization	Typical maximum equalized length of Belden 1694A cable: 120m at 2.97Gb/s, 120m at 1.485Gb/s, and 150m at 270Mb/s
Return Loss	> 15dB up to 3GHz

Serial Video Output

Number of Outputs	16 (configurable)
Connector	DIN1.0/2.3 and Fiber LC
Signal Level	800mV nominal
DC Offset	0V \pm 0.5V
Rise/Fall Time	135ps nominal
Overshoot	< 10% of amplitude
Return Loss	> 15dB up to 1.5GHz (typ.) > 10dB up to 3GHz (typ.)
Wideband Jitter	< 0.2UI

GPI Output (BPH43)

Number of Outputs	4
Connector	RJ45
Type	>2.5 Volts High Level, <0.8V Low Level

Miscellaneous

Weight	Approx. 250g
Operating Temperature	0 °C to +50 °C
Dimensions	137 x 296 x 20 mm (HxWxD)

Electrical

Voltage	+24V to +30V
Power	<6 Watts