Synapse

Modular signal processing

January 2026

Introduction

Synapse is the industry's most powerful and comprehensive audio and video processing system. Its modular architecture is designed to support mission critical broadcast applications. Synapse modules make it possible to process, distribute, convert or analyse any type of uncompressed video and audio signals. Some examples: frame synchronization, video up & down conversion, audio (de) embedding, integrity checking, logo insertion, etc.

Synapse's key benefits

Synapse has various unique features that ensure a good return on investment and many years of trouble free operation with the inherent versatility to adapt to changes in this constantly moving industry.

- **Flexibility**
  Using the right combination of cards makes it possible to create any kind of transmission chain you could possibly want. This flexibility makes any type of processing job possible.

- **Massive processing power**
  Not limited by a single function but integrating a wide variety of functions combined on a single processing board, resulting in lower footprint in power consumption and space.

- **Easy deployment, low wiring**
  The frame has an internal add-on bus which can transport audio from one card to the other internally without any external wiring. Less wiring means easy deployment due to less wiring.

- **Easy to use and intuitive interfaces**
  Configuration and control of Synapse is done via Cerebrum (FOC) in an intuitive and easy to use graphical user interface.

- **Lower cost of ownership**
  Synapse is based on a single form factor. This will protect your investment and makes swapping cards between frames possible when systems change, or the infrastructure is dynamic like in OB-vans.

The system explained

Although Synapse is unequalled in its flexibility and processing power, you could position the system in what the industry calls 'glue', 'infrastructure equipment', 'terminal gear' or just 'modular equipment'.

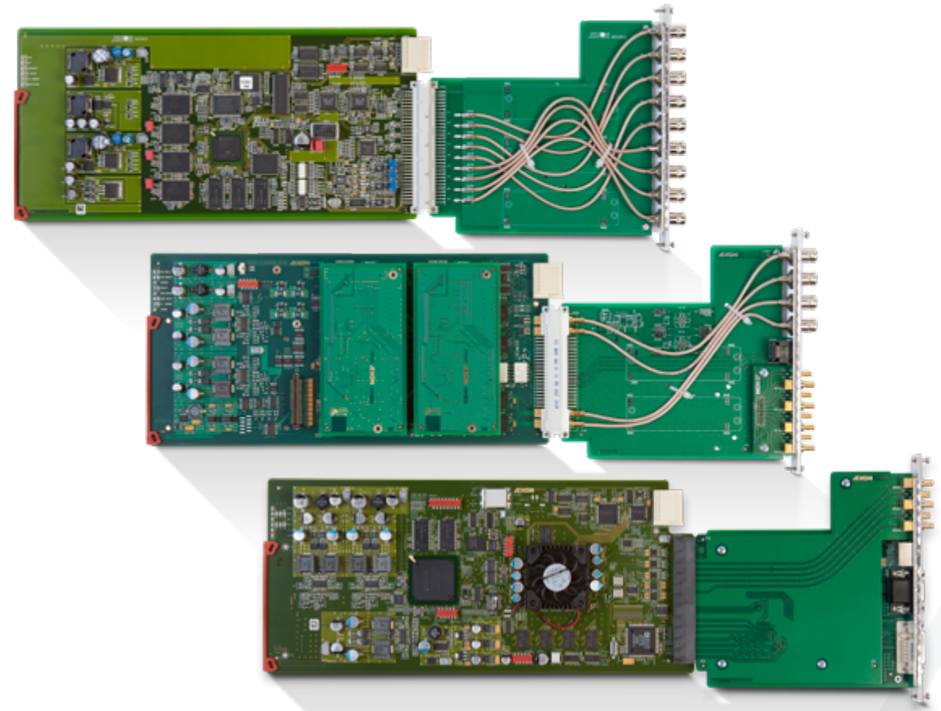
Thanks to the single form-factor of both the connector panel as well as the processing module, each card fits in each Synapse frame whether they are new or old. This unique form factor also ensures flexible I/O through interchangeable rear connector panels and use of SFP connectors.

The system is packed with innovative technologies. We also offer flexible upgrade paths all the way to UHD, helping you to protect your investment and lowering cost of ownership

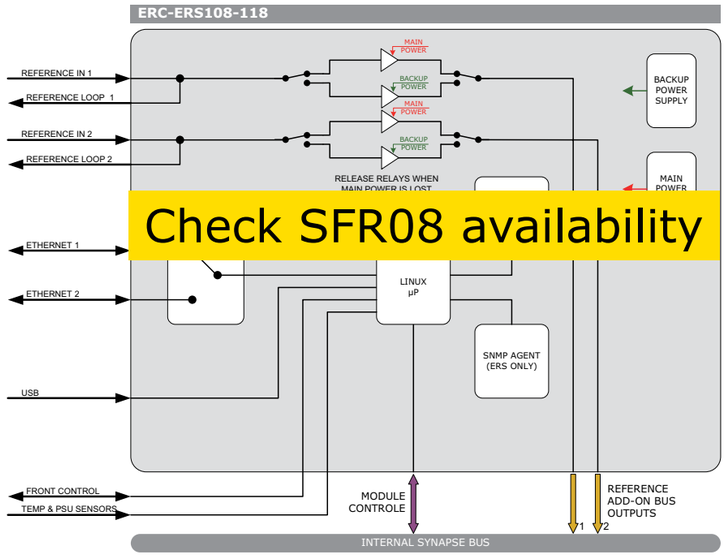
The modules connect directly into the frame via a high-density connector that powers the cards by a hot swappable (dual redundant) power supply. The size of the Synapse card and the connector panel is the result of several design criteria that were defined in the original design.

The frames offer more than just a housing for the modules. They are unique intelligent systems that form the foundation of extremely flexible building blocks. These building blocks range from simple functions like a distribution amplifier to cards that perform a massive array of functions in a single slot.

It is the beating heart in any broadcast environment.

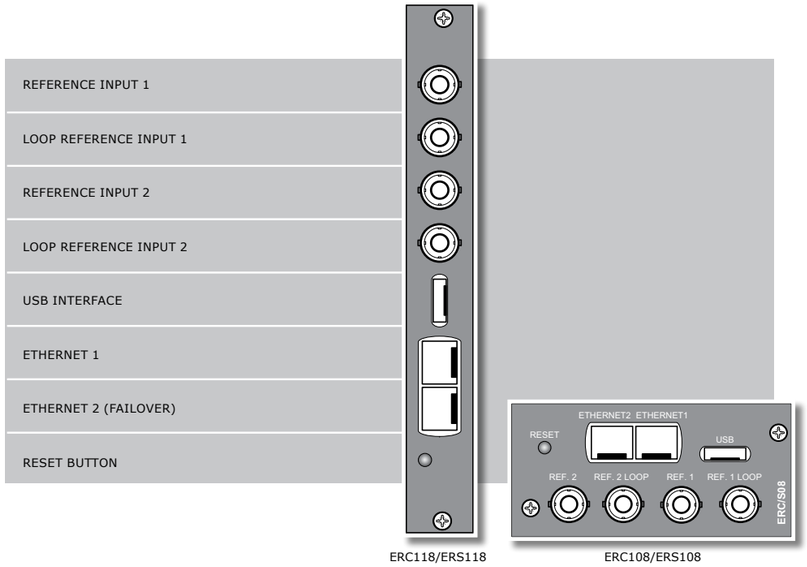


Index of modules



Check SFR08 availability

Powered by LINUX



ERC118/ERS118 ERC108/ERS108

Enhanced rack controller for SFR18 and SFR08 with optional SNMP agent

The EVS ERC108 and ERC118 are the central controllers of respectively the Synapse SFR08 and SFR18 system frames. The ERS108 and ERS118 include an SNMP agent. They are used to configure, control and monitor Synapse systems and to provide network connectivity. The ERS/ERC108-118 also provides an input for two independent references with loop-through.

- TCP/IP and UDP support
- Support for up to 2 NTP servers
- PSU status announcements
- Temperature measurement of frame
- Dual redundant gigabit Ethernet
- USB interface for for isntance a USB relay box
- Dual reference inputs with loop
- Supports reference distribution of Bi-Level sync, Tri-level sync and Word Clock
- Reset button

Ordering information

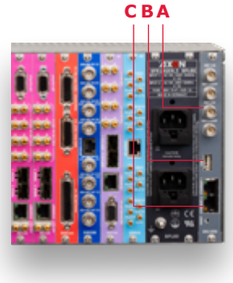
Module:

- **ERC118:** Central rack controller for the SFR18 frame
- **ERS118:** Central rack controller for the SFR18 frame with SNMP agent
- **ERC108:** Central rack controller for the SFR08 frame
- **ERS108:** Central rack controller for the SFR08 frame with SNMP agent

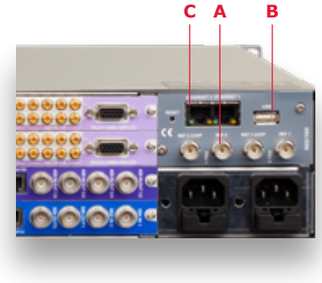
Specifications

- **Reference input standard:** PAL (ITU624-4), NTSC (SMPTE 170M), Bi-Level sync (SDIF-2 (TTL compatible), Tri-Level sync (
- **Ref input signal level:** Tri-level 600 mVp-p nominal, Bi-level 300mVp-p nominal, 75 Ohm terminated
- **Ref input impendance:** high impendance with loop for termination
- **Ref input return loss:** >25dB to 10MHz
- **Ethernet:** Shielded Twisted Pair (STP) 10base-T, 100base-TX, 1000base-T full duplex

ERC118 - ERS118
ERC108 - ERS108



Central genlock (A)
(Bi- and Tri-level sync and Word Clock) The Synapse range has a built-in dual reference distribution system



USB interface (B)
USB connector reserved for GPI dongle

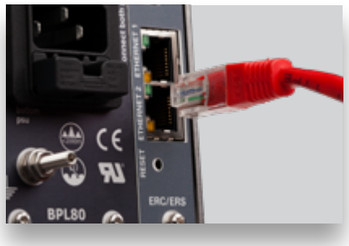
Ethernet (C)
Built-in dual Ethernet based networking with auto failover

19" rack frames: 8 and 18 slots

The SFR08 and SFR18 are the generic module holders for the Synapse system.

The SFR08 is a 2 RU frame with 8 slots and the SFR18 is our most dense frame with 18 slots in 4 RU. These frames incorporate several unique functions that stand out from the conventional frames found in most other card based infrastructure products.

- 2x Central genlock input for all cards that require a reference
- Ethernet connection for remote control, setup and maintenance (dual Ethernet with auto failover)
- GPI outputs for alarm and power supply failure via USB dongle
- Redundant auto input range power supply
- Full control of all card and frame parameters through intuitive interface on inside front panel
- Internal Synapse ADD-ON daisy chain bus for audio, GPI and multiview applications



Built-in Ethernet

1 or 2 power supplies

Independent AC inlets

Rack controllers

The frame comes with a built-in rack controller like the ERC18 or ERS18 (for the SFR18).

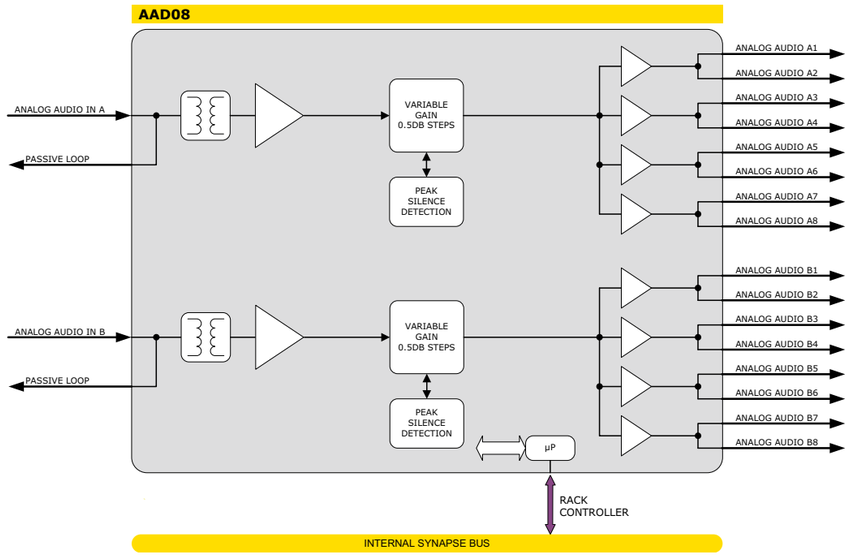
Ordering information

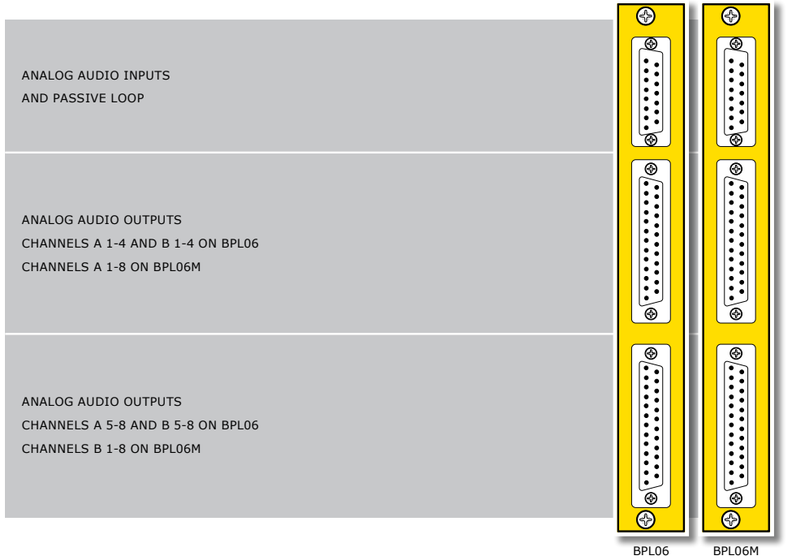
- **SFR08-2RU:** 19"-2RU housing with 8 slots, including rack controller (ERC108) and 1 power supply unit
- **SFR08S-2RU:** 19"-2RU housing with 8 slots, including rack controller (ERS108) and 1 power supply unit, SNMP compatible
- **SMP-75:** Extra power supply unit for SFR08
- **SFR18-4RU:** 19"-4RU housing with 18 slots, including rack controller (ERC118) and 1 power supply unit
- **SFR18S-4RU:** 19"-4RU housing with 18 slots, including rack controller (ERS118) and 1 power supply unit, SNMP compatible
- **SMP-175:** Extra power supply unit for SFR18

Specifications

- **Dimensions SFR08 (HxWxD):** 87mm x 483mm x 492 mm (537 mm including front lid)
- **Dimensions SFR18 (HxWxD):** 176mm x 483mm x 510 mm (528 mm including front lid)
- **Weight SFR08:** 11.5 kg (25.3 lbs)
- **Weight SFR18:** 11 kg (24.2 lbs) - less weight than the SFR08
- **Power SFR08:** input 82-264 VAC max output 150 Watt
- **Power SFR18:** input 95-264 VAC max output 330 Watt

SFR08
SFR18





Dual channel 1 to 8 analog audio distribution amplifier

The AAD08 Analog Audio Distribution Amplifier provides dual channel 8 way distribution. It utilizes high quality components to provide high reliability and excellent audio performance. The AAD08 features Real Transformers on its inputs, Variable Gain, Peak Detection and Silence Detection.

- 8 balanced outputs per channel
- Transformer coupled input
- Low impedance output with transformer properties
- Level control (0.5dB increments)
- Peak detection 0 dBu to 24 dBu
- Silence detection
- 24dBu maximum input level
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Applications

- Generic analog audio distribution
- Analog audio silence and clipping detection/probing
- Analog audio galvanic isolation / hum suppression

Ordering information

Module:

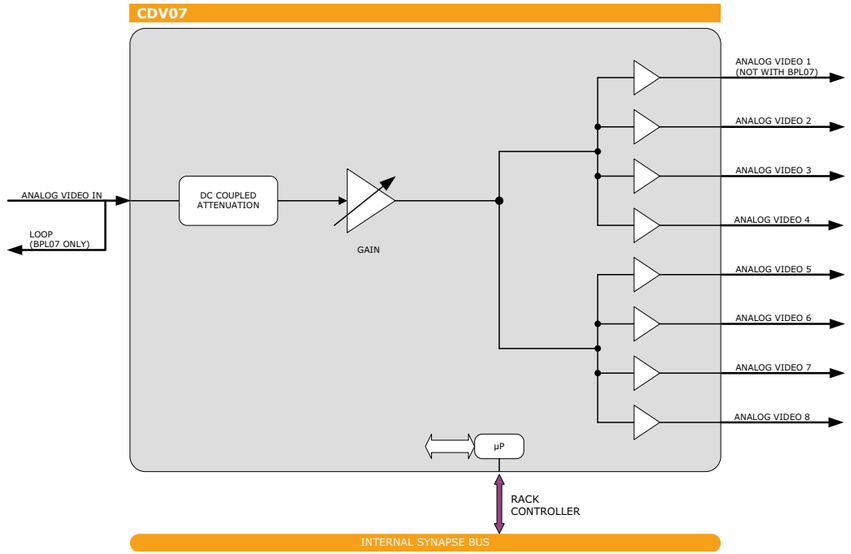
- **AAD08-I/O:** Dual channel 1 to 8 analog audio distribution amplifier

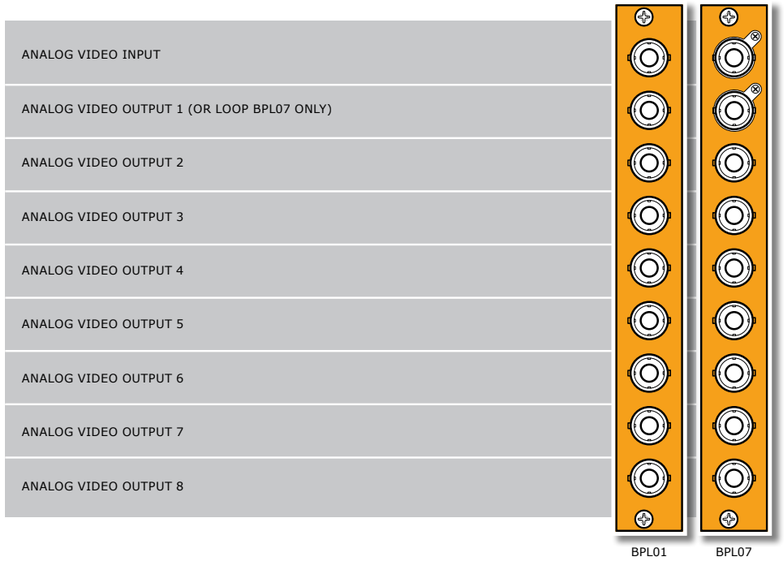
Standard I/O:

- **BPL06-PANEL:** I/O panel for AAD08 with 4 stereo outputs on sub-D
- **BPL06M-PANEL:** I/O panel for AAD08 with 8 mono outputs on sub-D

Specifications

visit www.evs.com





Analog video (black and burst / Tri-level) distribution amplifier (Word Clock DA for high impedance circuits)

The CDV07 is a basic analog distribution amplifier providing a low loss electronically balanced input with loop through (when used with the BPL07) or terminated (when used with the BPL01). If necessary the input can be used fully floating by unscrewing the tabs on the BPL07.

The CDV07 is designed for applications where cost effective analog video or black and burst distribution is needed. The straightforward design enables easy installation and reliable operation.

- Adjustable input gain
- DC coupled
- Compatible with Tri-level sync
- Compatible with Word Clock for high impedance circuits
- Floating inputs and loop through with BPL07
- +/- 6dB gain adjustment
- Input status detection
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Applications

- Word Clock distribution into high impedance circuits
- Tri-level sync distribution

ordering information

Module:

- **CDV07-I/O:** Analog video distribution amplifier

Standard I/O:

- **BPL01-PANEL:** I/O panel for CDV07
- **BPL07-PANEL:** I/O panel for CDV07 with loop through

Specifications

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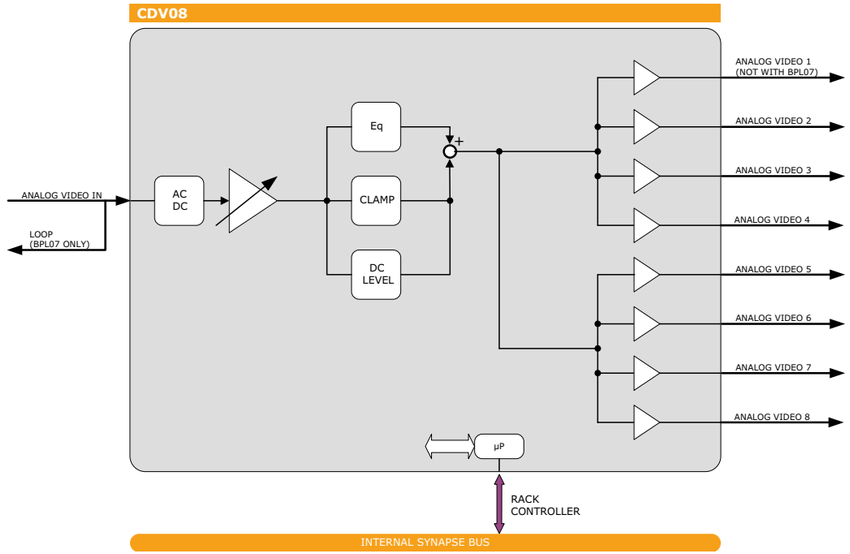
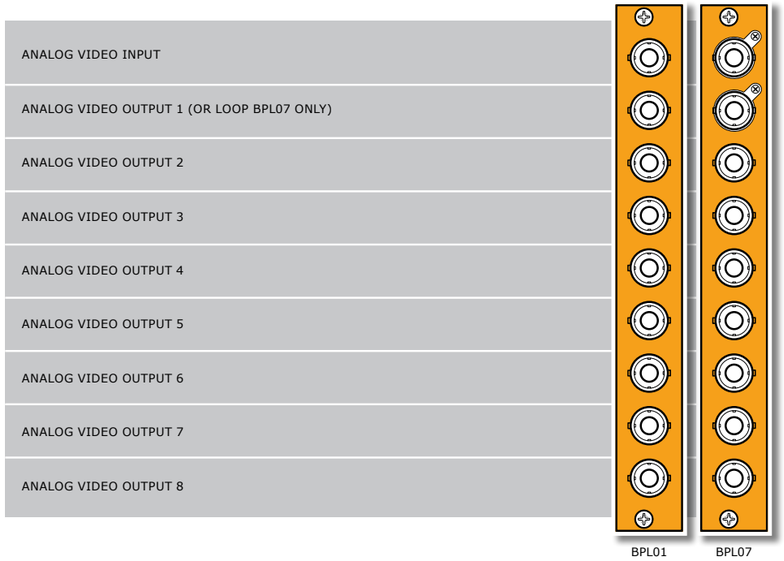
CDV07





Analog video distribution amplifier with cable equalizer

The CDV08 is an enhanced analog distribution amplifier providing a low loss electronically balanced input with loop through when used with the BPL07 or terminated when used with the BPL01.

If necessary the input can be used fully floating by unscrewing the tabs on the BPL07.

- Adjustable input gain
- AC or DC coupled
- Equalizer for up to 300 meter of RG59 or equivalent cable
- Equalizer level of up to 230%
- Floating inputs and loop through with BPL07
- +/- 3 dB gain adjustment
- Input status detection
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Applications

The CDV08 is designed for applications where a long cable length is used and analog video or black and burst signals need equalization. The straightforward design enables easy installation and reliable operation.

Ordering information

Module:

- **CDV08-I/O:** Analog video distribution amplifier with cable equalizer

Standard I/O:

- **BPL01-PANEL:** I/O panel for CDV08
- **BPL07-PANEL:** I/O panel for CDV08 with loop through

Specifications

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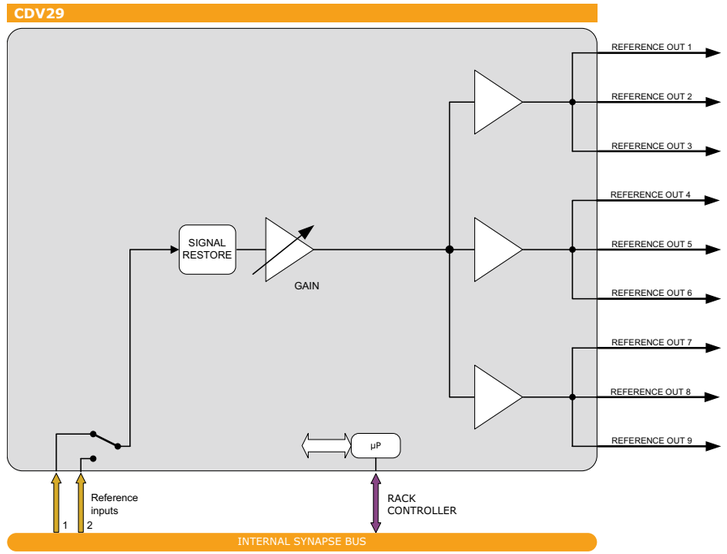
CDV08



BPL01

Reference (black and burst / Tri-level) distribution amplifier with 9 outputs and Synapse BUS reference inputs

The CDV29 is a basic analog distribution amplifier providing 9 buffered outputs via the use of the internal Synapse Reference distribution system.

- 9 outputs
- Adjustable input gain
- DC restored
- Compatible with Tri-level sync
- +/- 6dB gain adjustment
- Input status detection
- Back-up functionality. In case of reference loss, the card can automatically switch to other reference input.
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Applications

The CDV29 is designed for applications where a cost effective analog Tri-level or Bi-level (black and burst) distribution is needed. The straightforward design enables easy installation and reliable operation.

Ordering information

Module:

- **CDV29-I/O:** Analog video distribution amplifier with 9 outputs and Synapse reference inputs

Standard I/O:

- **BPL01-PANEL:** I/O panel for CDV29

Specifications

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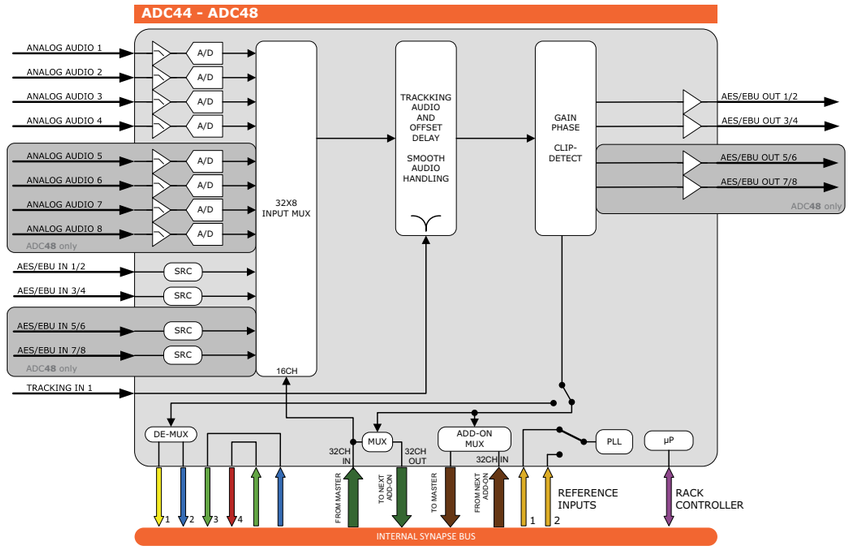
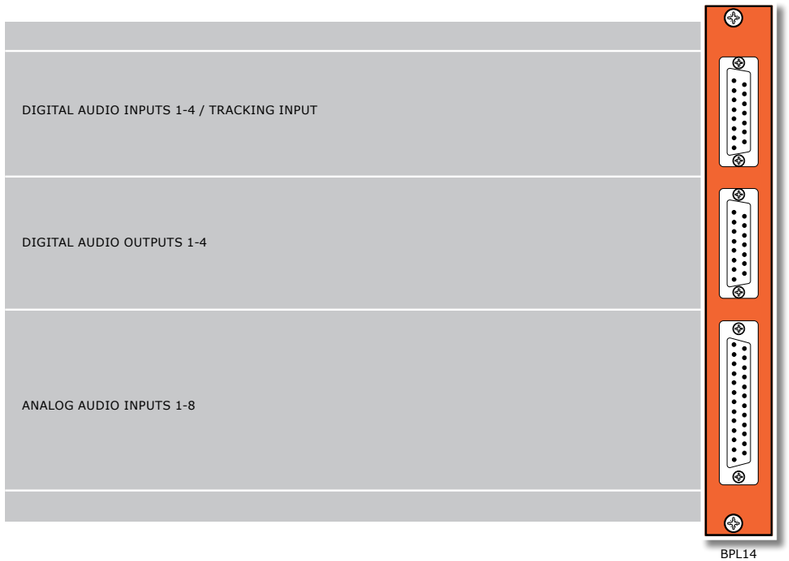
CDV29



Quad speed ADD-ON

ADD-ON Card



BPL14

4 or 8 channel 24-bit audio A/D converter with analog and AES/EBU inputs

The ADC44 and ADC48 are multi-functional products. Their basic function is the conversion of analog audio to AES/EBU digital audio. In addition to the analog inputs it has AES/EBU inputs with a sample rate converter (SRC). The ADC44/48 has a tracking audio delay and a delay offset of up to 650ms at 96kHz or 1300ms at 48kHz.

It can also perform the Synapse ADD-ON function. In ADD-ON mode the card acts as an analog or digital audio input board that feeds a master card positioned one slot left of the ADD-ON card. Both the normal and Quad Speed Audio bus are supported. The card acts as a analog audio embedder. The audio data that enters the Synapse bus to a master card is identical to the data present in the local AES/EBU outputs. The AES/EBU 110 Ohms and analog audio signals are available on sub-D connectors.

- 24-bit audio conversion
- 8 channel internal processing selectable from 8 analog or 8 digital channels
- 24-bit audio conversion
- 8 channel internal processing selectable from 8 analog or 8 digital channels in ADC48
- 4 channel internal processing selectable from 4 analog or 4 digital channels in ADC44
- Any input to any output selection (This can be a mix of analog and digital signals)
- AES/EBU inputs with selectable SRC (32 to 96kHz sampling)
- 96kHz and 48kHz sample clock locked to: B&B ref or word clock ref. (In ADD-ON, only 48kHz)
- 96kHz and 48kHz sample clock in free running mode (In ADD-ON, only 48kHz)
- In- and outputs analog reference levels adjustable for 12, 15, 18 and 24dBu
- Adjustable audio gain (in 0.25dB) and phase (0-180 deg)
- Can be used as a Synapse ADD-ON card
- Adjustable audio delay offset up to 1300ms in 1ms increments (@48kHz)
- Tracking audio delay on dedicated BNC input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Complementary products:

- All embedding master cards with a normal or a Quad Speed Audio bus.

Applications

- Stand alone high quality Audio A/D conversion
- Generic analog and digital audio ADD-ON card for dedicated Synapse MASTER cards which have an embedding function
- AES/EBU ProcAmp

Ordering information

Module:

- **ADC44-I/O:** 4 channel 24 bit A/D converter with AES/EBU bypass inputs
- **ADC48-I/O:** 8 channel 24-bit A/D converter with AES/EBU bypass inputs

Standard I/O:

- **BPL14-PANEL:** I/O panel for ADCxx with balanced analog audio in, balanced AES/EBU in and balanced AES/EBU out

Specifications

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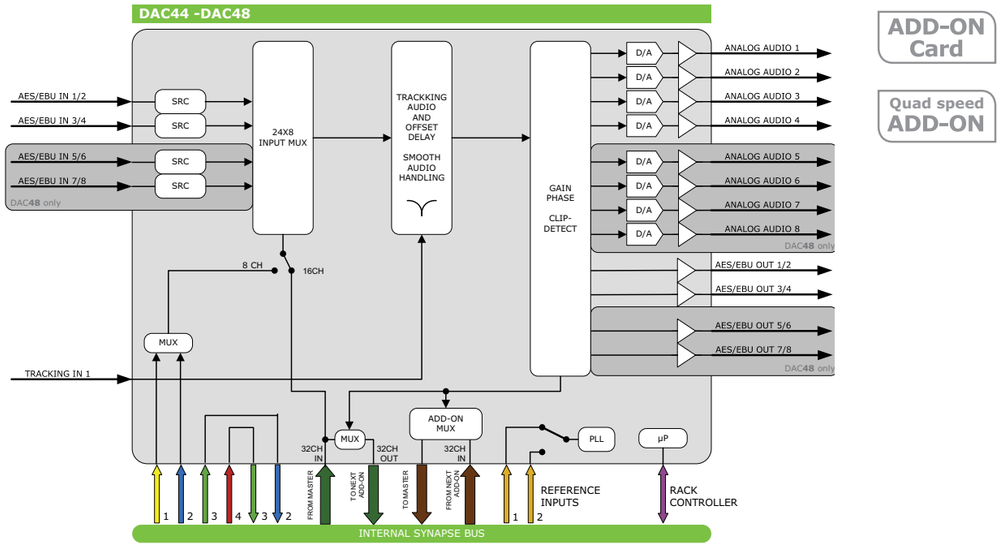
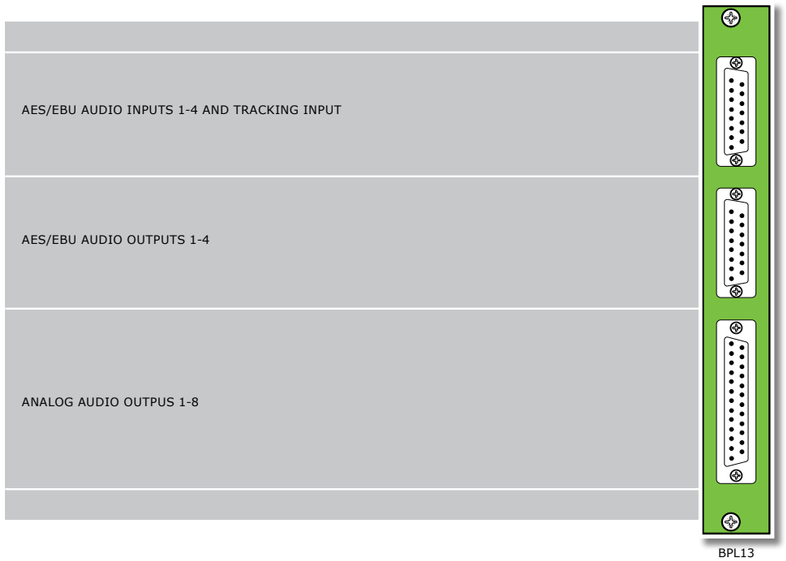


ADD-ON Card

Quad speed ADD-ON



BPL13

4 or 8 channel 24-bit audio D/A converter with analog and AES/EBU outputs

The DAC44 and DAC48 are multi-functional products. Their basic function is the conversion of AES/EBU digital audio to analog audio. In addition to the analog outputs they have AES/EBU outputs and offer the Synapse ADD-ON function. In ADD-ON mode the card acts as an input board which is fed by a master card positioned one slot left of the ADD-ON card. Both normal and Quad Speed Audio bus are supported. The DAC48 for example acts as an analog and digital audio de-embedder. The AES/EBU in- and outputs are available on 110 Ohm sub-D connectors. You can control channel selection/swapping, and gain and phase control of all audio channels.

The DAC44 is a 4 channel Digital to Analog converter with 2 AES inputs, 2 AES outputs and 4 analog outputs. The DAC48 is an 8 channel converter with 4 AES inputs, 4 AES outputs and 8 analog audio outputs.

- 24-bit audio conversion
- 8 analog and 4 AES/EBU outputs (a copy of the analog outputs) in DAC48
- 4 analog and 2 AES/EBU outputs (copy of analog channels) in DAC44
- 96kHz and 48kHz sample clock locked to black and burst ref or Word Clock ref. (in ADD-ON mode, only 48kHz)
- 96kHz and 48kHz sample clock in free running mode (In ADD-ON mode, only 48kHz is possible)
- Output analog reference levels adjustable for 12, 15, 18 and 24dBu
- Adjustable audio gain (in 0.25dB) and phase (0-180 deg)
- Can be used as a Synapse ADD-ON card in both normal as well as Quad Speed Bus modes
- Individual selection of each mono channel out of the AES/EBU domain
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Complementary card to:
All de-embedding master cards normal and Quad Speed bus

Applications

- Generic audio D/A converter, with AES/EBU processed outputs
- ADD-ON D/A converter next to Synapse de-embedding products

Ordering information

Module:

- **DAC44-I/O:** 4 channel 24 bit audio D/A conveter with AES/EBU outputs
- **DAC48-I/O:** 8 channel 24 bit audio D/A converter with AES/EBU outputs

Standard I/O:

- **BPL13-PANEL:** I/O panel for DAC48 with balanced analog audio outputs, balanced AES/EBU outputs and balanced AES/EBU inputs

Specifications

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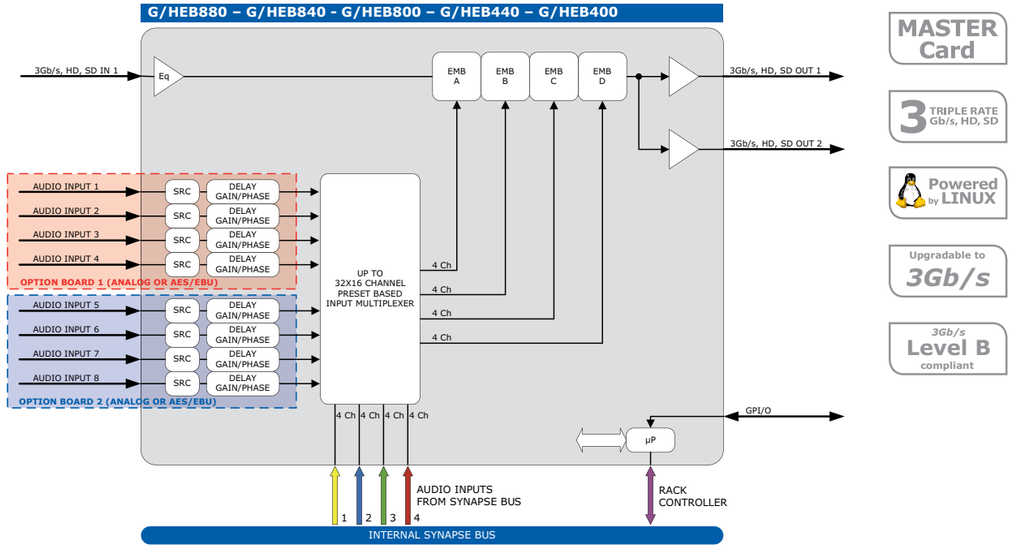

MASTER Card

3 TRIPLE RATE Gb/s, HD, SD

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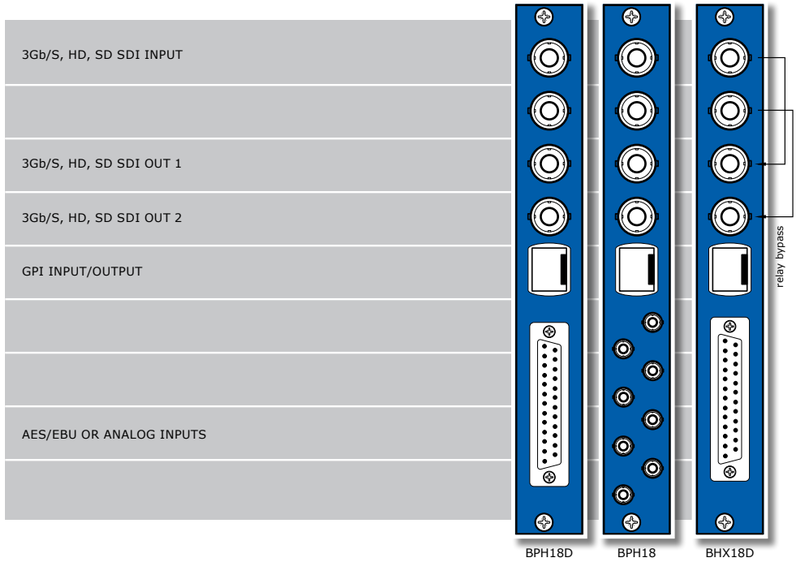
Upgradable to 3Gb/s

3Gb/s Level B compliant



3Gb/s, HD, SD basic analog and/or digital audio embedder

The GEB880-840-800-440-400 is a 3GB/s, HD SDI and SD SDI audio embedder. It is capable of inserting or appending up free-running AES/EBU digital audio channels or analog audio channels. The card has 2 option input boards: 4 mono analog audio inputs (4ch total) per board, or 4 stereo AES/EBU inputs (8ch total) per board.

In addition, four ADD-ON cards can be connected to create a routing matrix. The architecture of Emb_A to Emb_D blocks is identical. The local AES inputs can be controlled to adjust Phase, Gain and delay (on the fly).

Future upgrades are possible, like for instance the GEB400 can be future upgraded GEB800 or GEB840, etc. This allows for staged implementation of HD infrastructures and spread the cost over multiple budget years.

- Compatible with the following input formats (auto selecting):
  - 1080p59.94
  - 1080p50
  - 1080i59.94
  - 1080i50
  - 1080p29.97
  - 1080p25
  - 1080p(sf)23.98
  - 720p59.94
  - 720p50
  - SD525
  - SD625
- Dual offset audio delay adjustable between 0 and 500ms
- Up to 8 AES/EBU inputs with sample rate converter (available with 110 Ohm and 75 Ohm inputs)
- Up to 8 analog audio inputs (available with balanced or unbalanced connectors)
- 8 extra AES/EBU inputs through the Synapse bus
- 2 SDI + embedded audio outputs
- 7 presets that configure all 16 input channels at once. controlled by GPI or ACP (Cortex)
- Audio level and phase control
- Audio offset delay up to 5000ms
- AES/EBU inputs accept synchronous streams like Dolby E and asynchronous up to 96kHz sampling via the built in Sample Rate Converters.
- 16 extra audio channels (4 groups) with ADD-ON card for input multiplexing
- Peak detection 0 dBFS
- Silence detection with threshold (-100 to -20dBFS) and time control (1 to 255 sec)
- Transparent for ATC time code RP188, RP196, RP215
- Locks to SDI input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)
- Optional relay bypass (BHX18D)

Complementary cards:

- ADC20, ADC24, DIO24, DIO48

Applications

- 3Gb/s, HD and SD audio embedding
- Up to 16 channel preset based audio embedding

Ordering information

Module:

- **GEB880-I/O:** 3Gb/s, HD, SD 16 ch digital audio embedder
- **GEB840-I/O:** 3Gb/s, HD, SD digital and analog audio embedder
- **GEB800-I/O:** 3Gb/s, HD, SD 8 ch digital audio embedder
- **GEB440-I/O:** 3Gb/s, HD, SD 8 ch analog audio embedder
- **GEB400-I/O:** 3Gb/s, HD, SD 4 ch analog audio embedder

Standard I/O:

- **BPH18-PANEL:** I/O panel for GEBxxx with unbalanced AES/EBU or analog audio inputs
- **BPH18D-PANEL:** I/O panel for GEBxxx with balanced AES/EBU or analog audio inputs

Relay bypass I/O:

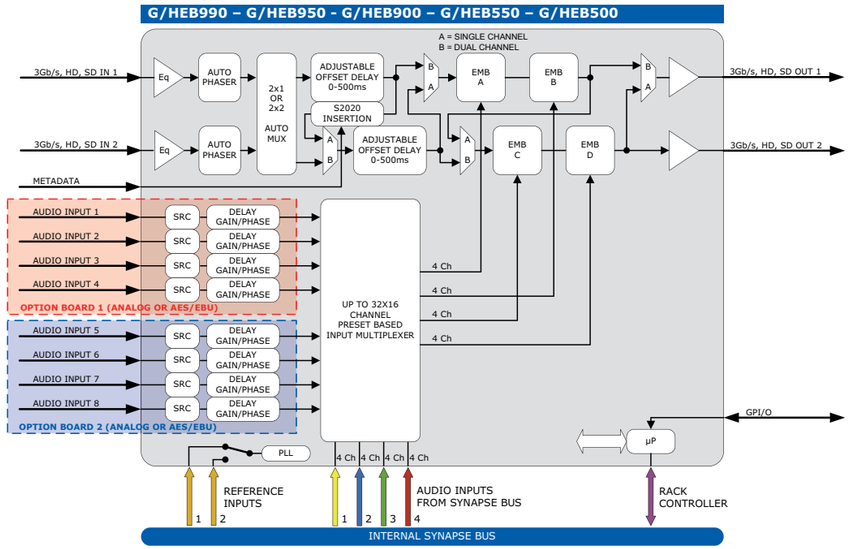
- **BHX18D-PANEL:** I/O panel for GEBxxx with balanced AES/EBU or analog audio inputs with relay bypass

Specifications visit www.evs.com

Input/output options

Card model	Option board 1	Option board 2
GEB880	4 AES/EBU inputs (8 channels)	4 AES/EBU inputs (8 channels)
GEB840	4 AES/EBU inputs (8 channels)	4 analog inputs (4 channels)
GEB800	4 AES/EBU inputs (8 channels)	None
GEB440	4 analog inputs (4 channels)	4 analog inputs (4 channels)
GEB400	4 analog inputs (4 channels)	None

GEB400-440-800-840-880



TWINS

MASTER Card

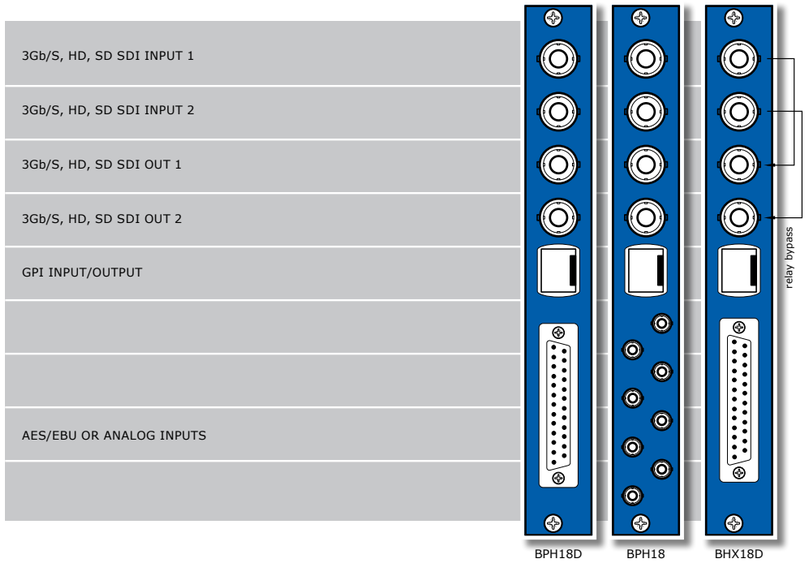
3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Upgradable to 3Gb/s

Embedded Metadata S2020

3Gb/s Level B compliant



3Gb/s, HD, SD enhanced digital and/or analog audio embedder with 'TWINS' dual channel function

The GEB990-950-900-550-500 is a 3Gb/s SDI, HD SDI and SD SDI audio embedder. It is capable of inserting or appending free-running AES/EBU digital or analog audio channels. The card has 2 option input boards: 4 mono analog audio inputs (4ch total) or 4 stereo AES/EBU inputs (8ch total) per board.

The core of these modules consists of four embedder blocks and 2 delay blocks. These blocks can be used for a single SDI 4 group embedder (with up to 1 sec of video offset delay), or in parallel for 2 individual channels with 2 group embedders each (with individual 500ms offset delay) in a TWINS function. Each block is capable of embedding 4 audio channels into one group, which gives a total of 16 audio channels into four (or 2x2) groups. The TWINS mode is a single command operation and controls 4 individual selection switches as can be seen in the block diagram.

In addition, four ADD-ON cards can be connected to create a routing matrix. The architecture of Emb_A to Emb_D blocks is identical. The local AES inputs can be controlled to adjust Phase, Gain and delay (on the fly).

Future upgrades are possible, like for instance the GEB900 can be future upgraded to GEB990.

- 2 SDI inputs (with auto switch on carrier loss)
- Dual offset audio delay adjustable between 0 and 500ms
- Dual (TWINS*) or single SDI mode
- Auto SRC-off for bitstream sources like Dolby E
- Up to 8 AES/EBU inputs with sample rate converter
- Up to 8 analog audio inputs (balanced or unbalanced)
- Compatible with the following input formats (auto selecting) (1080p only for GEB):
  - 1080p59.94
  - 1080p50
  - 1080i59.94
  - 1080i50
  - 1080p29.97
  - 1080p25
  - 1080p(sf)23.98
  - 720p59.94
  - 720p50
  - SD525
  - SD625
- AES/EBU inputs accept synchronous streams like Dolby E and asynchronous up to 96kHz sampling via the built in Sample Rate Converters.
- 8 extra AES/EBU inputs through the Synapse bus
- 2 (2x1) SDI + embedded audio outputs
- 7 presets to configure all 16 input channels (GPI and ACP)
- Append and overwrite modes
- Audio level, phase and offset delay (up to 5000 ms)
- 16 extra audio channels (4 groups) with ADD-ON card
- Peak detection 0dBFS
- Silence detection with threshold and time control
- Transparent for ATC time code RP188, RP196, RP215
- Locks to Tri-level, Bi-level syncs or SDI input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)
- Optional relay bypass (BHX18D)

Complementary cards:

- ADC20, ADC24, DIO24, DIO48

* *In dual mode, or 2-SDI shuffle mode, the input signals need to be of the same SDI format*

Applications

- 3Gb/s, HD and SD (preset based) audio embedding
- Copied audio embedding into two individual SDI video streams

Ordering information

Module:

- **GEB990-I/O:** 3Gb/s, HD, SD enhanced 16 ch digital audio embedder
- **GEB950-I/O:** 3Gb/s, HD, SD enhanced digital and analog audio embedder
- **GEB900-I/O:** 3Gb/s, HD, SD enhanced 8 ch digital audio embedder
- **GEB550-I/O:** 3Gb/s, HD, SD enhanced 8 ch analog audio embedder
- **GEB500-I/O:** 3Gb/s, HD, SD enhanced 4 ch analog audio embedder

Standard I/O:

- **BPH18-PANEL:** I/O panel for GEBxxx with unbalanced AES/EBU or analog audio inputs
- **BPH18D-PANEL:** I/O panel for GEBxxx with balanced AES/EBU or analog audio inputs

Relay bypass I/O:

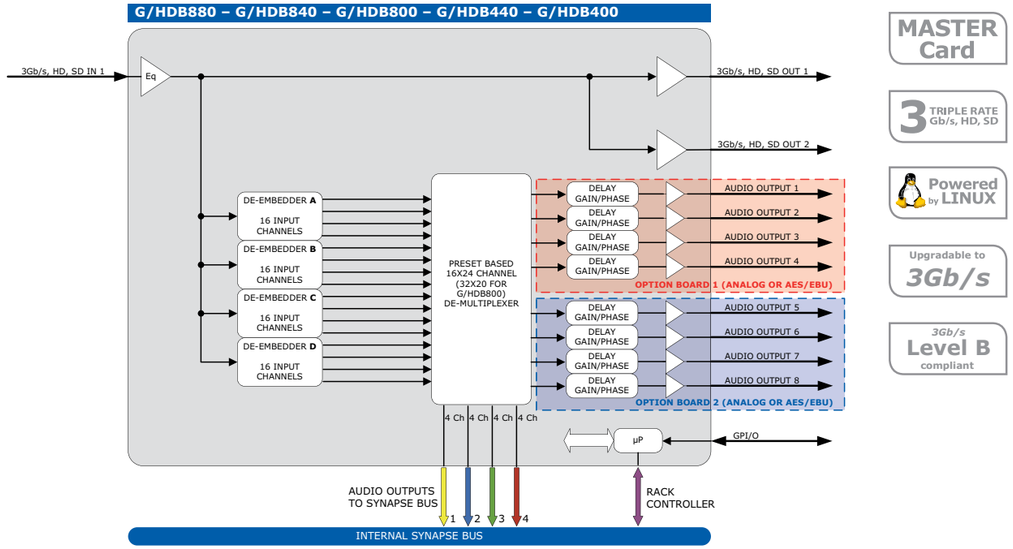
- **BHX18D-PANEL:** I/O panel for GEBxxx with balanced AES/EBU or analog audio inputs with relay bypass

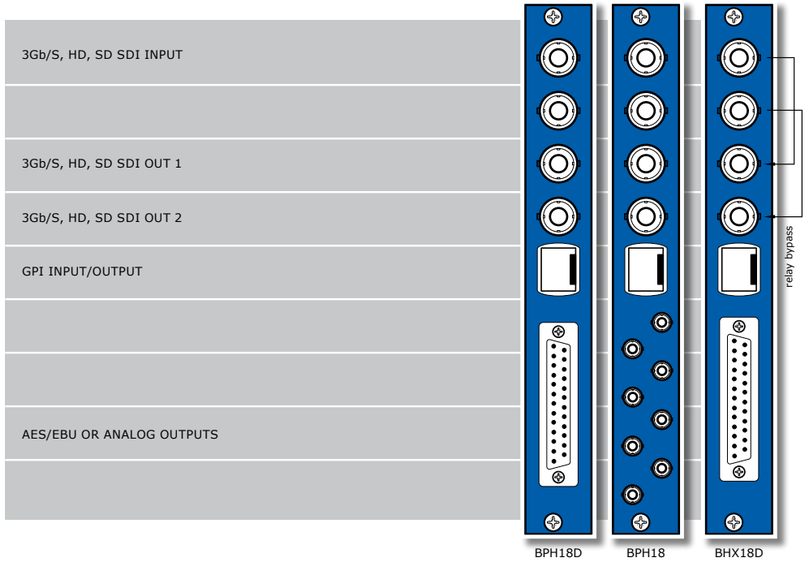
Specifications

visit www.evs.com

Input/output options

Card model	Option board 1	Option board 2
GEB990	4 AES/EBU inputs (8 channels)	4 AES/EBU inputs (8 channels)
GEB950	4 AES/EBU inputs (8 channels)	4 analog inputs (4 channels)
GEB900	4 AES/EBU inputs (8 channels)	None
GEB550	4 analog inputs (4 channels)	4 analog inputs (4 channels)
GEB500	4 analog inputs (4 channels)	None





3Gb/s, HD, SD basic analog and/or digital audio de-embedder

The GDB880-840-800-440-400 is a 3Gb/s,HD SDI and SD SDI audio de-embedder. It is capable of extracting AES/EBU digital audio channels or analog audio channels. The card has 2 option output boards: 4 mono analog audio outputs (4ch total) per board, or 4 stereo AES/EBU outputs (8ch total) per board.

In addition, four ADD-ON cards can be connected to create a routing matrix. The architecture of DeEmb_A to DeEmb_D blocks is identical. The local AES/EBU or analog outputs can be controlled to adjust Phase, Gain and delay (on the fly).

Future upgrades are possible, like for instance the GDB400 can be future upgraded to GDB800, GDB880, etc. This allows for staged implementation of HD infrastructures and spread the cost over multiple budget years.

- Up to 8 AES/EBU outputs (available with 110 Ohm and 75 Ohm connectors)
- Up to 8 analog audio outputs (available with balanced or unbalanced connectors)
- 2 SDI + embedded audio outputs
- 8 extra AES/EBU inputs through the Synapse bus
- Pre and post delay de-embedding
- 7 presets that configure all 16 output channels at once, controlled by GPI or ACP (Cortex)
- Audio level and phase control
- Audio offset delay up to 5000 ms
- 16 extra audio channels (4 groups) with ADD-ON card for additional audio outputs
- Peak detection 0dBFS
- Silence detection with threshold (-100 to -20dBFS) and time control (1 to 255 sec)
- Transparent for ATC time code RP188, RP196, RP215
- Locks to SDI input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)
- Optional relay bypass (BHX18D)

Complementary cards

- DAC20, DAC24, ADL24, DAS24, DIO48

Applications

- 3Gb/s, HD and SD audio de-embedding
- Up to 16 channel preset based audio de-embedding

Ordering information

Module:

- **GDB880-I/O:** 3Gb/s, HD, SD 16 ch digital audio de-embedder
- **GDB840-I/O:** 3Gb/s, HD, SD digital and analog audio de-embedder
- **GDB800-I/O:** 3Gb/s, HD, SD 8 ch digital audio de-embedder
- **GDB440-I/O:** 3Gb/s, HD, SD 8 ch analog audio de-embedder
- **GDB400-I/O:** 3Gb/s, HD, SD 4 ch analog audio de-embedder

Standard I/O:

- **BPH18-PANEL:** I/O panel for GDBxxx with unbalanced AES/EBU or analog audio outputs
- **BPH18D-PANEL:** I/O panel for GDBxxx with balanced AES/EBU or analog audio outputs

Relay bypass I/O:

- **BHX18D-PANEL:** I/O panel for GDBxxx with balanced AES/EBU or analog audio outputs with relay bypass

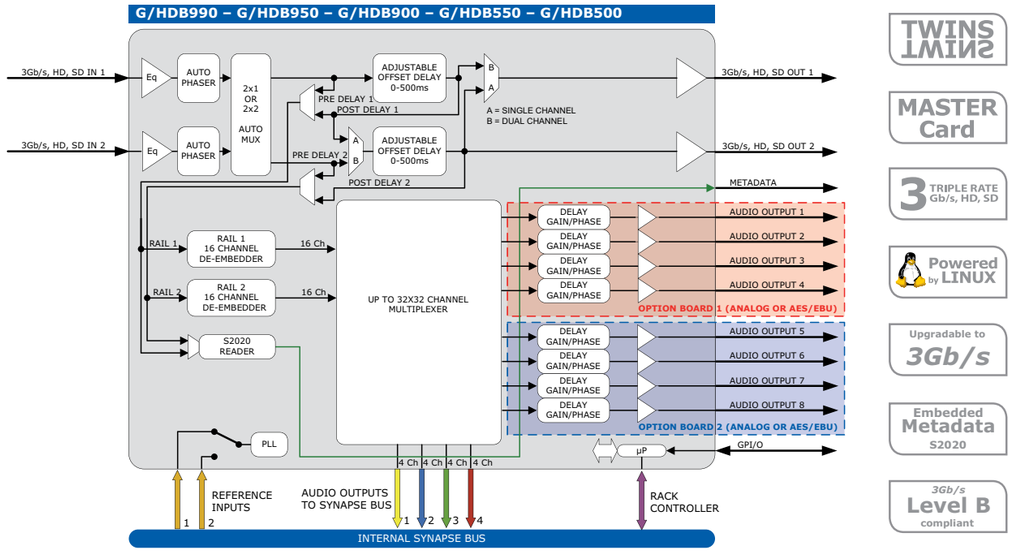
Specifications

visit www.evs.com

Input/output options

Card model	Option board 1	Option board 2
GDB880	4 AES/EBU outputs (8 channels)	4 AES/EBU outputs (8 channels)
GDB840	4 AES/EBU outputs (8 channels)	4 analog outputs (4 channels)
GDB800	4 AES/EBU outputs (8 channels)	None
GDB440	4 analog outputs (4 channels)	4 analog outputs (4 channels)
GDB400	4 analog outputs (4 channels)	None

GDB400-440-800-840-880



TWINS

MASTER Card

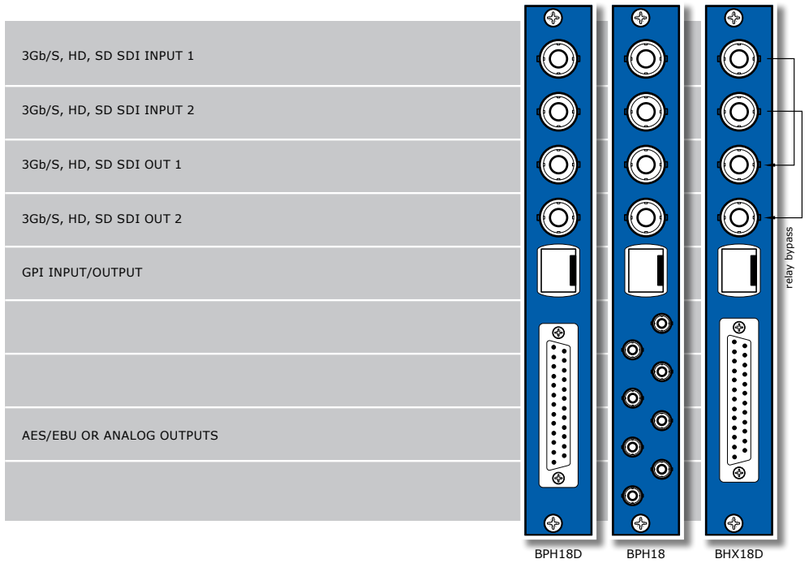
3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Upgradable to 3Gb/s

Embedded Metadata S2020

3Gb/s Level B compliant



3Gb/s, HD, SD enhanced digital and/or analog audio de-embedder with 'TWINS' dual channel function

The GDB990-950-900-550-500 is a 3Gb/s,HD SDI and SD SDI audio de-embedder. It is capable of extracting AES/EBU digital audio channels or analog audio channels. The card has 2 option output boards: 4 mono analog audio outputs (4ch total) or 4 stereo AES/EBU outputs (8ch total) per board.

The core consists of four de-embedder blocks. In front of these de-embedders are SDI channel selection muxes which allow for individual de-embedding out of the two SDI inputs. The delay blocks can be used in series for a single SDI 4 group de-embedder (with up to 1 sec of video offset delay), or in parallel for 2 individual channels with each 2 group de-embedders (with individual 500ms offset delay) in a TWINS function. Each block is capable of de-embedding 4 audio selectable out of 16 channels from each input. The TWINS mode controls 2 individual selection switches.

In addition, four ADD-ON cards can be connected to create a routing matrix. The architecture of DeEmb_A to DeEmb_D blocks is identical. The local AES/EBU or analog outputs can be controlled to adjust Phase, Gain and delay (on the fly).

Future upgrades are possible, like for instance the HDB900 can be future upgraded to HDB990, GDB900 or GDB990.

- Dual (TWINS*) or single channel SDI mode
- Up to 8 AES/EBU outputs
- Up to 8 analog audio outputs (available with balanced or unbalanced connectors)
- 2 SDI inputs (with auto switch on carrier loss and switch back function)
- 8 extra AES/EBU inputs through the Synapse bus
- 2 SDI + embedded audio outputs
- Pre and post delay de-embedding
- 7 presets that configure all 16 output channels at once, controlled by GPI or ACP (Cortex)
- Audio level and phase control
- Audio offset delay up to 5000 ms
- Video offset delay up to one second (or 2x 500ms)
- 16 extra audio channels (4 groups) with ADD-ON card for additional audio outputs
- Peak detection 0 dBFS
- Silence detection with threshold (-100 to -20dBFS) and time control (1 to 255 sec)
- Transparent for ATC time code RP188, RP196, RP215
- Locks to Tri-level, Bi-level syncs and SDI input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)
- Optional relay bypass (BHX18D)

Complementary cards

- DAC20, DAC24, ADL24, DAS24, DIO48

* *In dual mode, or 2-SDI shuffle mode, the input signals need to be of the same SDI format*

Applications

- 3Gb/s, HD and SD audio de-embedding
- Audio routing from two individual SDI streams

Ordering information

Module:

- **GDB990-I/O:** 3Gb/s, HD, SD enhanced 16 ch digital audio de-embedder
- **GDB950-I/O:** 3Gb/s, HD, SD enhanced digital and analog audio de-embedder
- **GDB900-I/O:** 3Gb/s, HD, SD enhanced 8 ch digital audio de-embedder
- **GDB550-I/O:** 3Gb/s, HD, SD enhanced 8 ch analog audio de-embedder
- **GDB500-I/O:** 3Gb/s, HD, SD enhanced 4 channel analog audio de-embedder

Standard I/O:

- **BPH18-PANEL:** I/O panel for GDBxxx with unbalanced AES/EBU or analog audio outputs
- **BPH18D-PANEL:** I/O panel for GDBxxx with balanced AES/EBU or analog audio outputs

Relay bypass I/O:

- **BHX18D-PANEL:** I/O panel for GDBxxx with balanced AES/EBU or analog audio inputs with relay bypass

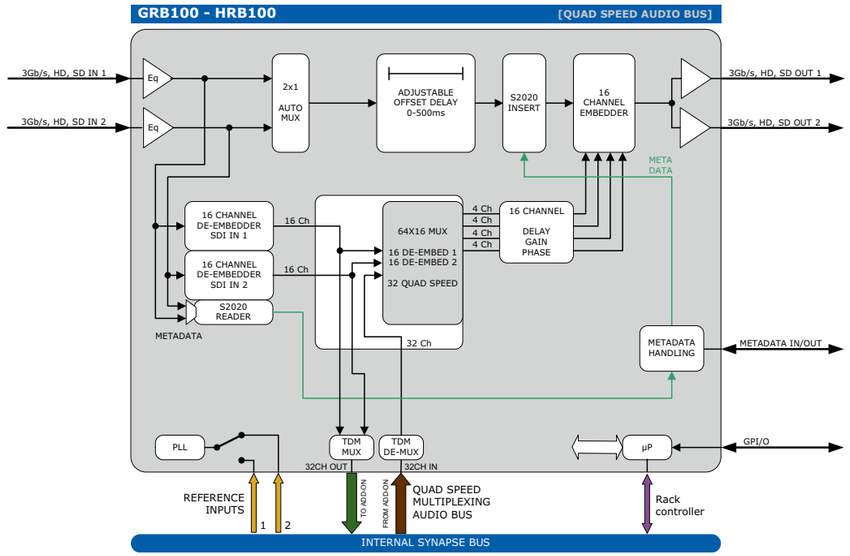
Specifications

visit www.evs.com

Input/output options

Card model	Option board 1	Option board 2
GDB990	4 AES/EBU outputs (8 channels)	4 AES/EBU outputs (8 channels)
GDB950	4 AES/EBU outputs (8 channels)	4 analog outputs (4 channels)
GDB900	4 AES/EBU outputs (8 channels)	None
GDB550	4 analog outputs (4 channels)	4 analog outputs (4 channels)
GDB500	4 analog outputs (4 channels)	None

GDB500-550-900-950-990



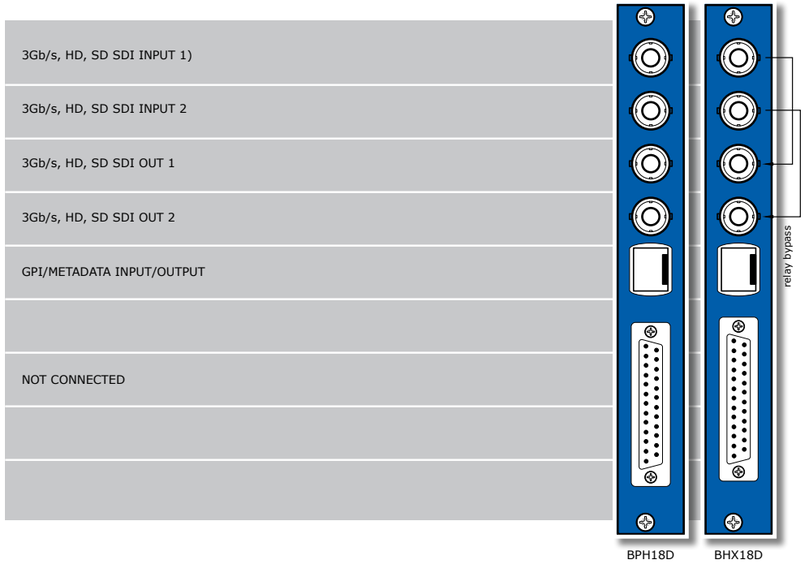
Quad speed MASTER

3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Upgradable to 3Gb/s

Embedded Metadata S2020



3Gb/s, HD, SD dual SDI embedded domain shuffler and re-embedder with S2020 insertion

The GRB100 is a 64x16 channel shuffler - re-embedder. The source audio channels used for embedding into the output SDI can be derived from 2 individual 3Gb/s HD or SD inputs and from the 32 channels that are available in the Quad Speed multiplexing audio ADD-ON bus.

One of the nice features of this card is that the output embeds 16 channels and that the source for these audio can be derived from both SDI input 1 (that normally also carries the video) and from SDI input 2. Input two can be connected to a second SDI source that is just used for carrying audio (the two SDI streams need to be clock locked).

- 2 SDI inputs (with auto switch on carrier loss, and switch back function)
- 2 SDI outputs
- Compatible with the following input formats (auto selecting):
  - 1080p59.94
  - 1080p29.97
  - 720p50
  - 1080p50
  - 1080p25
  - SD525
  - 1080i59.94
  - 1080p(sf)23.98
  - SD625
  - 1080i50
  - 720p59.94
- Single video delay adjustable between 0 and 500ms
- Two SDI inputs can source the audio embedder when sources are clock locked (not phase locked*)
- De-embedding of all 32 channels from SDI 1 and SDI 2 to the Synapse bus
- 32 extra inputs through the Synapse bus
- 7 presets that configure all embedding channels, controlled by GPI or ACP (Cortex)
- S2020 metadata reading and insertion from an external source
- Metadata-shuffler (can also be used as metadata-generator)
- Append and overwrite modes
- Audio level and phase control
- Audio offset delay up to 5000 ms
- Transparent for ATC time code RP188, RP196, RP215
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)
- Optional relay bypass (BHX18D)

* *In 2-SDI shuffle mode the sources need to be running on the same clock, the phase is not critical*

Complementary cards:

- DIO88, DLA44, DLA43, DLA42, DLA41, DBD18

Applications

- Embedded domain shuffling and swapping (from second SDI input)
- MASTER card for high end audio processing such as performed in the DLAxx

Ordering information

Module:

- **GRB100-I/O:** 3Gb/s, HD, SD re-embedder/ shuffler

Standard I/O:

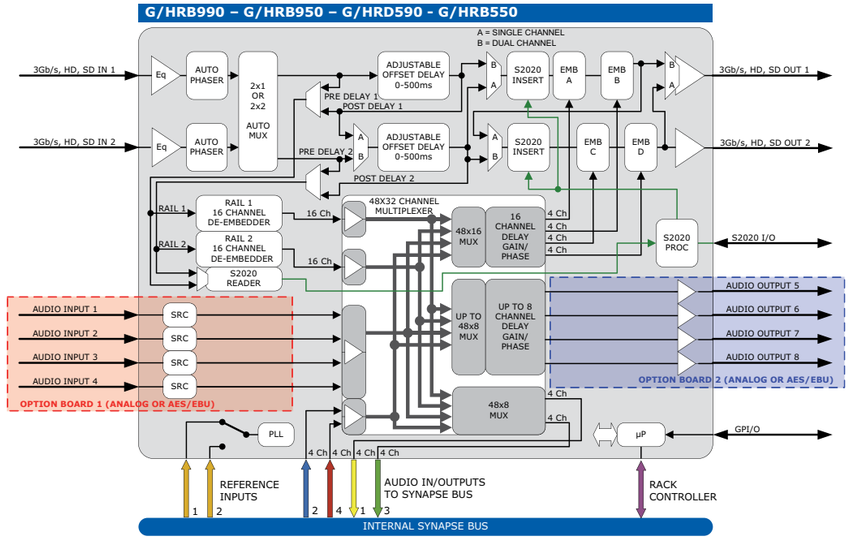
- **BPH18D-PANEL:** I/O panel for GRB100

Relay bypass I/O:

- **BHX18D-PANEL:** relay I/O panel for GRB100

Specifications

visit www.evs.com



TWINS

MASTER Card

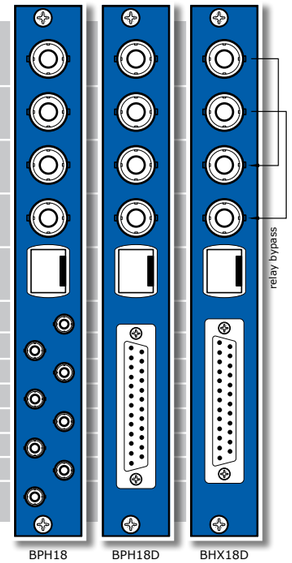
3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Upgradable to 3Gb/s

Embedded Metadata S2020

3Gb/s, HD, SD SDI INPUT 1
3Gb/s, HD, SD SDI INPUT 2
3Gb/s, HD, SD SDI OUT 1
3Gb/s, HD, SD SDI OUT 2
GPI and METADATA (S2020) INPUT/OUTPUT
AES/EBU OR ANALOG INPUT 1
AES/EBU OR ANALOG INPUT 2
AES/EBU OR ANALOG INPUT 3
AES/EBU OR ANALOG INPUT 4
AES/EBU OR ANALOG OUTPUT 1
AES/EBU OR ANALOG OUTPUT 2
AES/EBU OR ANALOG OUTPUT 3
AES/EBU OR ANALOG OUTPUT 4



3Gb/s, HD, SD digital or analog audio de-embedder, re-embedder, embedded domain shuffler with S2020 metadata insertion

The GRB550-590-950-990 is a 48x32 channel re-embedder, with a 16 channel embedder (2x 8 channels in 2 individual SDI streams), 4 AES/EBU or analog outputs, and 4 AES channels to the Synapse ADD-ON bus. The source audio channels can be derived from 2 x 16 channel embedded domain streams, 4 AES/EBU or analog physical audio inputs and 8 channels from the Synapse bus.

- 2 SDI inputs (with auto switch on carrier loss, and switch back function)
- 2 SDI outputs (2x1 or 2x2 function)
- Compatible with the following input formats (auto selecting):
  - 1080p59.94
  - 1080p50
  - 1080i59.94
  - 1080i50
  - 1080p29.97
  - 1080p25
  - 1080p(sf)23.98
  - 720p59.94
  - 720p50
  - SD525
  - SD625
- Dual offset audio delay adjustable between 0 and 500ms
- Dual (TWINS*) or single channel SDI mode
- 4 AES/EBU inputs with sample rate converter (available with 110 Ohm and 75 Ohm inputs), or 4 analog inputs (available with balanced or unbalanced connectors).
- 4 AES/EBU outputs or 4 analog outputs
- Auto SRC-off for bitstream sources like Dolby E
- 4 extra AES/EBU inputs through the Synapse bus
- 7 presets that configure all I/O channels controlled by GPI or ACP (Cortex)
- S2020 metadata insertion from an external source
- Append and overwrite modes
- Audio level and phase control
- Audio offset delay up to 5000 ms
- Peak detection 0dBFS
- Silence detection with threshold (-100 to -20dBFS) and time control (1 to 255 sec)
- Locks to Tri-level, Bi-level syncs or SDI input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)
- Optional relay bypass (BHX18D)

* *In dual mode, or 2-SDI shuffle mode, the input signals need to be of the same SDI format*

Complementary cards:

- DAC20, DAC24, DAS24, DIO48, ADC20, ADC24, DIO24

Applications

- Embedded domain shuffling with external (manipulated from internal) domain analog audio channels
- 3rd party audio processing from an embedded domain source

Ordering information

Module:

- **GRB990-I/O:** 3Gb/s, HD, SD digital audio re-embedder and shuffler
- **GRB950-I/O:** 3Gb/s, HD, SD digital audio re-embedder /shuffler with analog outs
- **GRB590-I/O:** 3Gb/s, HD, SD analog audio re-embedder /shuffler with digital outs
- **GRB550-I/O:** 3Gb/s, HD, SD analog audio re-embedder /shuffler

Standard I/O:

- **BPH18-PANEL:** I/O panel for GRBxxx with unbalanced AES/EBU or analog audio in or outputs
- **BPH18D-PANEL:** I/O panel for GRBxxx with balanced AES/EBU or analog audio in or outputs

Relay bypass I/O:

- **BHX18D-PANEL:** I/O panel for GRBxxx with balanced AES/EBU or analog audio in or outputs with relay bypass

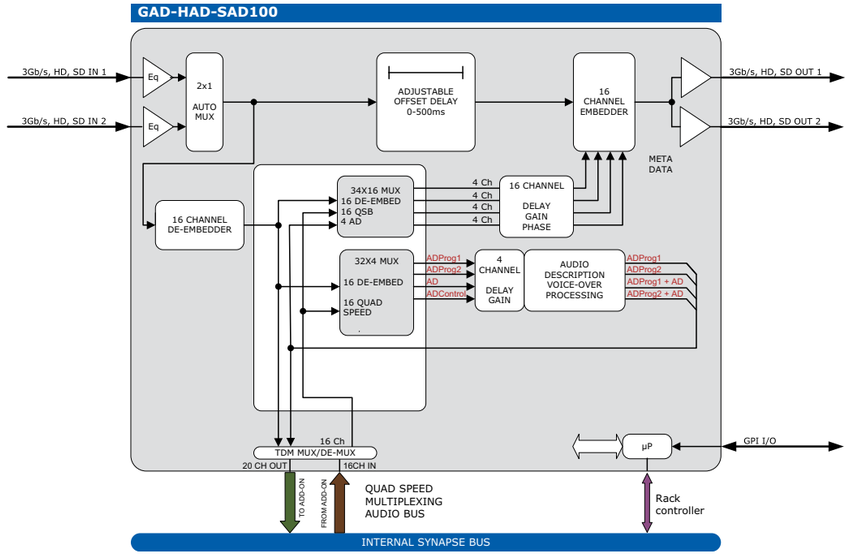
Specifications

visit www.evs.com

Input/output options

Card model	Option board 1	Option board 2
GRB990	4 AES/EBU inputs (8 channels)	4 AES/EBU outputs (8 channels)
GRB950	4 AES/EBU inputs (8 channels)	4 analog outputs (4 channels)
GRB590	4 analog inputs (4 channels)	4 AES/EBU outputs (8 channels)
GRB550	4 analog inputs (4 channels)	4 analog outputs (4 channels)

GRB550-590-950-990

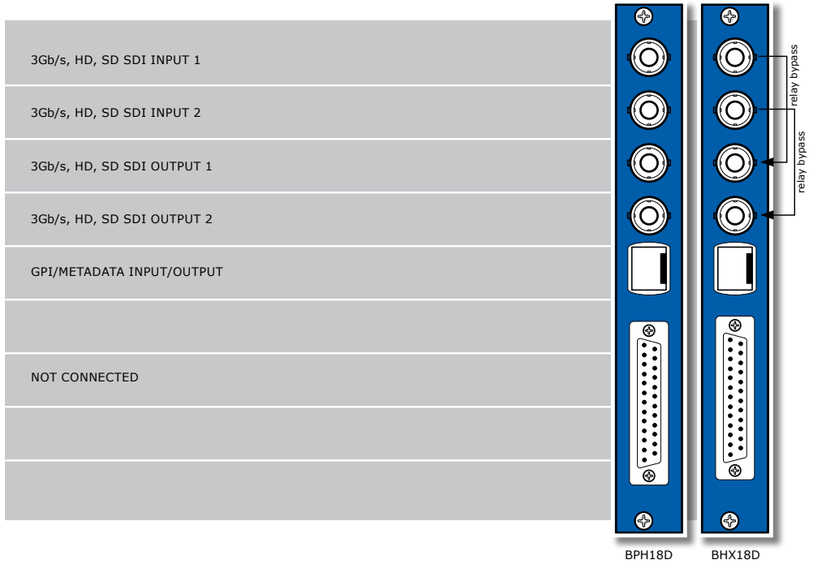


Quad speed MASTER

3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Upgradable to 3Gb/s



3Gb/s, HD, SD embedded domain audio description and voice-over processor

The GAD100 is an embedded domain Audio Description processors with a Voice-Over mode. This processor uses a stereo track as main program (input 1-2 of the AD processor) and mixes the AD track triggered by the mix enable track (input 3-4 of the AD processor).
The output of the AD processor can be routed to PCM channels of the 16 channel embedder or Quad Speed Bus.

The Quad Speed audio bus allows for implementation of 'in between' audio processing. This means that we can stream the de-embedded audio channels or audio described (mixed) channels to a Quad Speed Audio ADD-ON card. The ADD-ON card processes this audio and sends it back to the GAD100 for further VO or AD processing. The ADD-ON card does not need a connector panel and all audio routing is performed inside the Synapse frame by just placing these cards in adjacent slots.

- Audio Description processor with free routable I/O
- 2 SDI inputs (with auto switch on carrier loss, and switch back function)
- 2 SDI + embedded audio outputs
- 7 presets that configure all 16 output channels at once, controlled by GPI or ACP (Cerebrum)
- Compatible with the following input formats (auto selecting):
  - 1080p59.94
  - 1080p50
  - 1080i59.94
  - 1080i50
  - 1080p29.97
  - 1080p25
  - 1080p(sf)23.98
  - 720p59.94
  - 720p50
  - SD525
  - SD625
- Offset video delay adjustable between 0 and 1000ms
- Quad Speed Audio ADD-ON bus for bidirectional audio processing
- Append and overwrite modes
- Audio level and phase control
- Audio offset delay up to 5000 ms
- Peak detection 0dBFS
- Silence detection with threshold (-100 to -20dBFS) and time control (1 to 255 sec)
- Transparent for ATC time code RP188, RP196, RP215
- Built-in linesync (autophaser)
- Locks to Tri-level, Bi-level syncs or input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)
- Optional relay bypass (BHX18D)

Complementary cards:

- DLA44, DLA43. DLA42, DLA41 and DIO88 (plus all future Quad Speed audio ADD-ON cards)

Applications

- 3Gb/s, HD and SD embedded Audio Description Processing
- 3Gb/s, HD and SD embedded Voice-Over Processing
- Preset based 16 channel audio (AD) shuffling

Ordering information

Module:

- **GAD100-I/O:** 3Gb/s, HD, SD embedded domain Audio Description/ Voice-Over processor

Standard I/O:

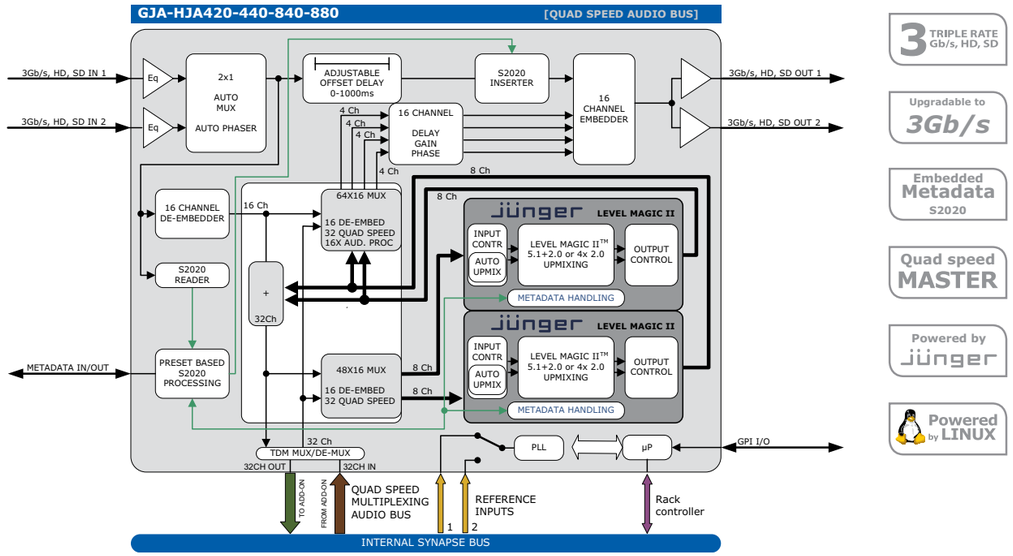
- **BPH18D-PANEL:** I/O panel for GAD100

Relay bypass I/O:

- **BHX18D-PANEL:** I/O panel for GAD100 with relay bypass

Specifications

visit www.evs.com



3 TRIPLE RATE Gb/s, HD, SD

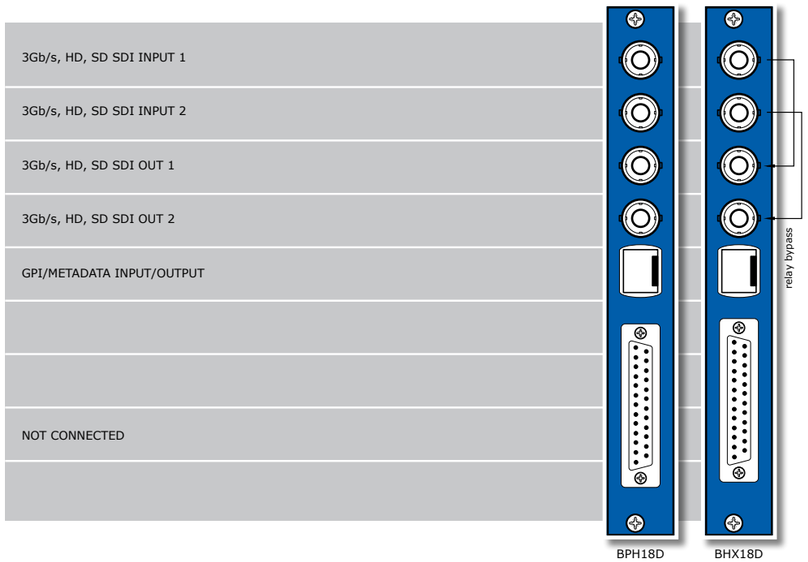
Upgradable to 3Gb/s

Embedded Metadata S2020

Quad speed MASTER

Powered by jünger

Powered by LINUX



3Gb/s, HD, SD embedded domain Loudness controller based on Jünger Audio algorithms

The GJA420/440/840/880 are embedded domain dual audio stream hardware processors, designed for broadcasters who need automatic loudness control and optional upmixing.

Based on the popular and well respected LEVEL MAGIC II™ processing these cards can perform a high quality loudness adjustment completely conform the CALM and R128 standards.

Users can adjust all the Jünger based settings of the processing and embedded handling directly from the GUI in Cerebrum, with control offered over a variety of different parameters. Output level controls and delay adjustments are also offered for each of the channels in the final 5.1 mix (440 and 880 models only).

The Quad Speed audio bus allows for implementation of additional audio processing. This means that an additional processing card can further process the audio without any additional wiring. The ADD-ON card often does not need a connector panel and all audio routing is performed inside the frame by just placing these cards in the adjacent slots.

- GJA420 = 4x 2.0 loudness control for SDI embedded I/O
- GJA440 = 5.1 + 2.0 loudness control and auto upmix for SDI embedded I/O
- GJA840 = 8x 2.0 loudness control for SDI embedded I/O
- GJA880 = 2x 5.1 + 2.0 loudness control and auto upmix for SDI embedded I/O

- LEVEL MAGIC II™ loudness management according to: EBU R128, ITU.1770, ATSC A/85 and ARIB TR-B32
- Dynamics with compressor and expander
- Surround up mix functionality (440 and 880 models only)
- Dolby® metadata generator
- Output gain and delay adjustments
- Cross fading between upmixed and discrete 5.1 (5.1/2.0 input auto-sensing)
- 16 channels of audio gain and delay (up to 5000ms) prior to the embedding stage
- 2 SDI inputs with auto switch on carrier loss, and switch back
- 2 SDI + embedded audio outputs
- Compatible with the following input formats (auto selecting)
  - 1080p59.94
  - 1080p29.97
  - 720p50
  - 1080p50
  - 1080p25
  - SD525
  - 1080i59.94
  - 1080p(sf)23,98
  - SD625
  - 1080i50
  - 720p59.94
- Video offset delay between 0 and 1000ms
- Quad Speed Audio bus for bidirectional audio processing
- 7 presets that configure all 16 input channels at once
- Append and overwrite modes
- Silence detection and peak detection (0dBFS)
- Transparent for ATC time code RP188, RP196, RP215
- Locks to Tri-level, Bi-level syncs or input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Complementary cards:

- DBD28, DDP24, DDP84 (plus all Quad Speed audio cards)

Applications

- 3Gb/s, HD and SD embedded domain loudness control for Transmission and Ingest
- Preset based 16 channel audio shuffling/processing

Ordering information

Modules:

- **GJA420-I/O:** 3Gb/s, HD, SD embedded domain 4x 2.0 loudness control
- **GJA440-I/O:** 3Gb/s, HD, SD embedded domain 5.1 + 2.0 loudness control and auto upmix
- **GJA840-I/O:** 3Gb/s, HD, SD, embedded domain 8x 2.0 loudness control
- **GJA880-I/O:** 3Gb/s, HD, SD embedded domain 2x 5.1 + 2.0 loudness control and auto upmix

Standard I/O:

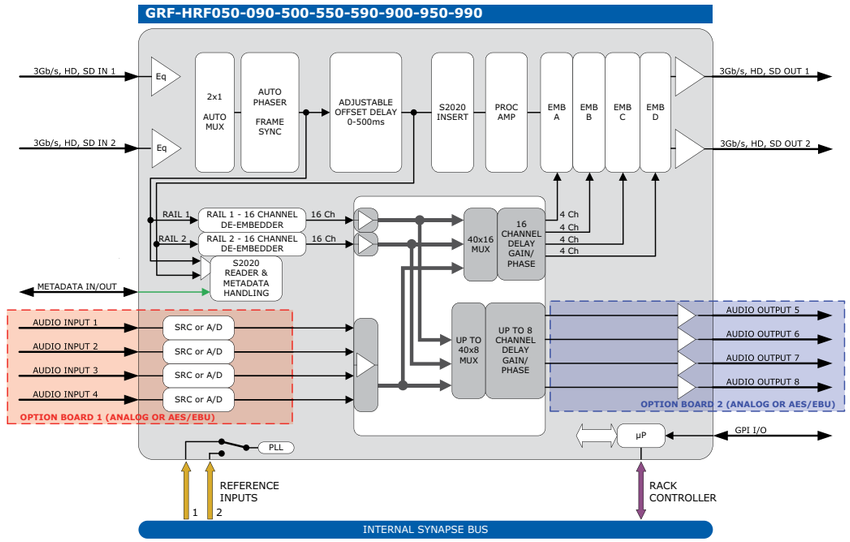
- **BPH18D-PANEL**: standard I/O panel for GJAxxx

Relay bypass I/O:

- **BHX18D-PANEL:** I/O panel for GJAxxx with relay bypass

Specifications

visit www.evs.com

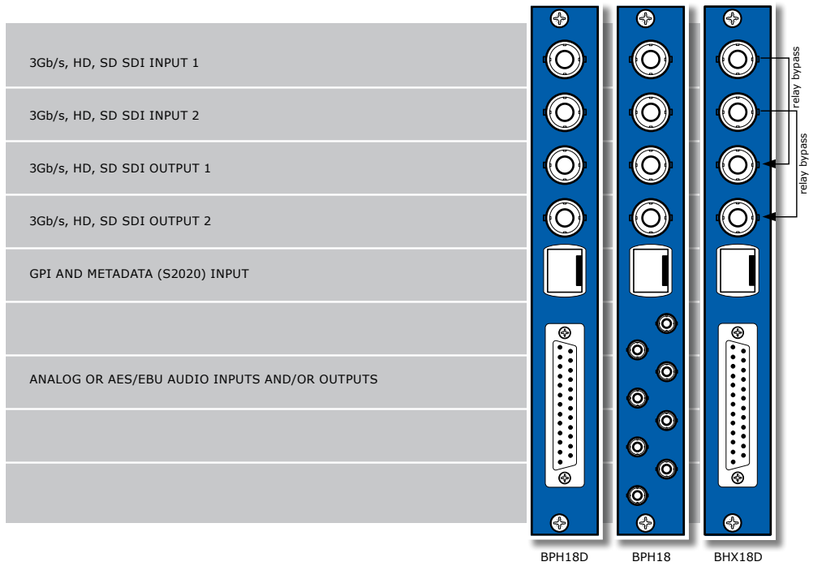


3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Upgradable to 3Gb/s

Embedded Metadata S2020



3Gb/s, HD, SD analog or AES/EBU audio re-embedder with audio shuffler and framesync

The GRFxxx are re-embedders with analog or digital audio inputs and/or outputs and a built-in framesync. Re-embedding of available embedded sources is also included (shuffling).

- 2 SDI inputs (with auto switch on carrier loss, and switch back function)
- 2 SDI outputs
- Compatible with the following input formats (auto selecting):
  - 1080p59.94
  - 1080p50
  - 1080i59.94
  - 1080i50
  - 1080p29.97
  - 1080p25
  - 1080p(sf)23.98
  - 720p59.94
  - 720p50
  - SD525
  - SD625
- Offset video delay adjustable between 0 and 500ms
- Optional 4 analog audio outputs that can be used with balanced and unbalanced outputs via the BPH18D and BPH18 respectively (unbalanced outputs have a -6dB gain mismatch)
- Optional 4 AES/EBU outputs with sample rate converter (available with 110 Ohm and 75 Ohm outputs)
- 7 presets that configure all I/O channels, controlled by GPI or ACP (Cortex)
- S2020 metadata insertion from an external source
- Append and overwrite modes
- Audio level and phase control
- Audio offset delay up to 5000 ms
- Peak detection 0 dBFS
- Silence detection with threshold (-100 to -20dBFS) and time control (1 to 255 sec)
- Video Proc-Amp with Y, Cr, Cb controls for level and black
- Transparent for ATC time code RP188, RP196, RP215
- Locks to Tri-level, Bi-level syncs or SDI input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)
- Optional relay bypass (BHX18D)

Applications

- Ingest re-embedding of analog or digital audio with shuffle function from asynchronous video sources

Ordering information

Module:

- **GRFxxx-I/O:** 3Gb/s, HD, SD audio re-embedder/ shuffler/framesync (for type numbers, refer to table below)

Standard I/O:

- **BPH18-PANEL:** I/O panel with unbalanced audio inputs
- **BPH18D-PANEL:** I/O panel with balanced audio inputs

Relay bypass I/O:

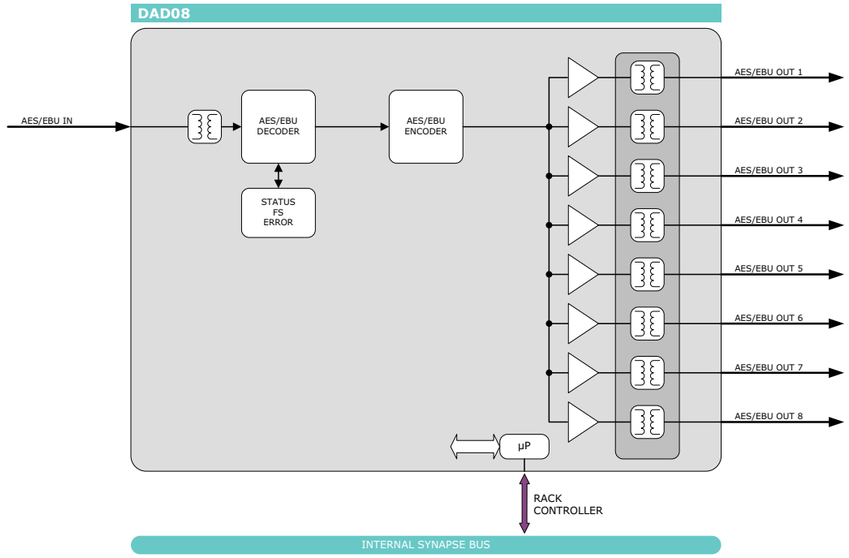
- **BHX18D-PANEL:** I/O panel with balanced audio inputs and relay bypass

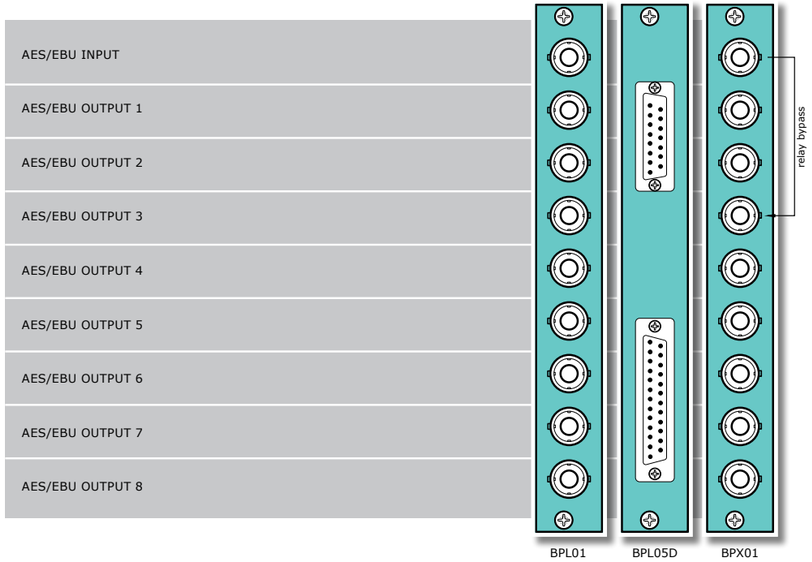
Specifications

visit www.evs.com

Input/output options

Card model	Option board 1	Option board 2
GRF050	None	4 analog outputs (4 channels)
GRF090	None	4 AES/EBU outputs (8 channels)
GRF500	4 analog inputs (4 channels)	None
GRF550	4 analog inputs (4 channels)	4 analog outputs (4 channels)
GRF590	4 analog inputs (4 channels)	4 AES/EBU outputs (8 channels)
GRF900	4 AES/EBU inputs (8 channels)	None
GRF950	4 AES/EBU inputs (8 channels)	4 analog outputs (4 channels)
GRF990	4 AES/EBU inputs (8 channels)	4 AES/EBU outputs (8 channels)





Digital (AES/EBU) audio distribution amplifier with transformer coupled outputs

The DAD08 is a digital audio distribution amplifier that distributes a single input to eight outputs. The DAD08 accepts AES/EBU or SPDIF (Consumer Interface Format) digital audio input which is then reclocked, buffered and distributed to the eight outputs.

The DAD08 has transformer coupled balanced input and outputs. Multiple regenerated independent low jitter outputs make the DAD08 ideal for the most demanding digital audio signal distribution requirements in both large and small audio and video facilities. Balanced or unbalanced use is automatically selected by use of the appropriate connector panel.

- 8 Outputs
- Transformer coupled input
- Transformer coupled outputs
- 32 to 96 kHz compatibility
- Signal present indication
- Sample frequency indication
- Compatible with 110 Ohm and 75 Ohm environments
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Applications

- Generic digital audio distribution

Ordering

Ordering information

Modules:

- **DAD08-I/O:** Digital (AES/EBU) audio distribution amplifier with transformed coupled outputs

Standard I/O:

- **BPL01-PANEL:** I/O panel for DAD08 with unbalanced AES/EBU in and unbalanced AES/EBU out
- **BPL05D-PANEL:** I/O panel for DAD08 with balanced AES/EBU in and balanced AES/EBU out on sub-D

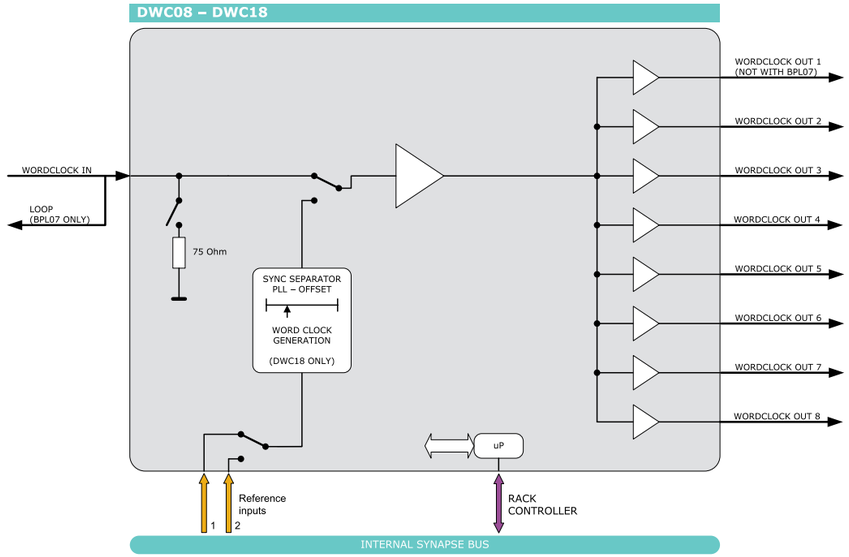
Relay bypass I/O:

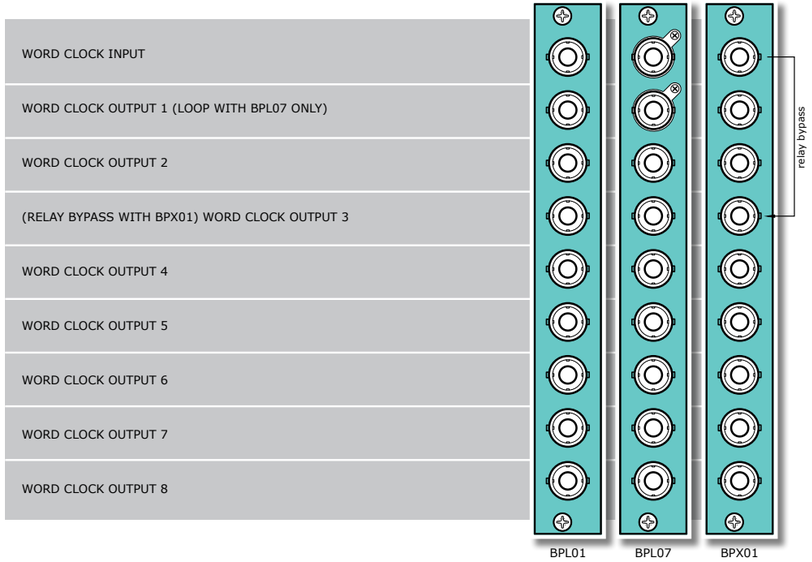
- **BPX01-PANEL:** I/O panel for DAD08 with relay bypass

Specifications

visit www.evs.com

DAD08





Word Clock distribution amplifier with optional video reference locked Word Clock generator

The DWC08/18 is a dedicated Word Clock distribution amplifier. It accepts a Word Clock input (with loop through if a BPL07 is used) and outputs 8 (7) individually buffered replicas of the input.

The DWC18 has a unique feature in the possibility to source the card with a black and burst or Tri-level reference through the internal Synapse frame distribution rail and use this source to generate a reference locked Word Clock. This feature makes the DWC18 a true broadcast enabled Word Clock generator.

- 8 outputs (7 with BPL07)
- High impedance or 75 Ohm terminated input
- 32 to 192 kHz compatibility
- Signal present indication
- Word Clock generation from video reference with phase timing delay offset (DWC18 only)
- Frequency indication
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Applications

- Generic Word Clock distribution or video reference locked generation

Ordering information

Modules:

- **DWC08-I/O:** Word Clock DA 1 in, 8 out
- **DWC18-I/O:** Word Clock DA 1 in, 8 out with video locked Word Clock generation

Standard I/O:

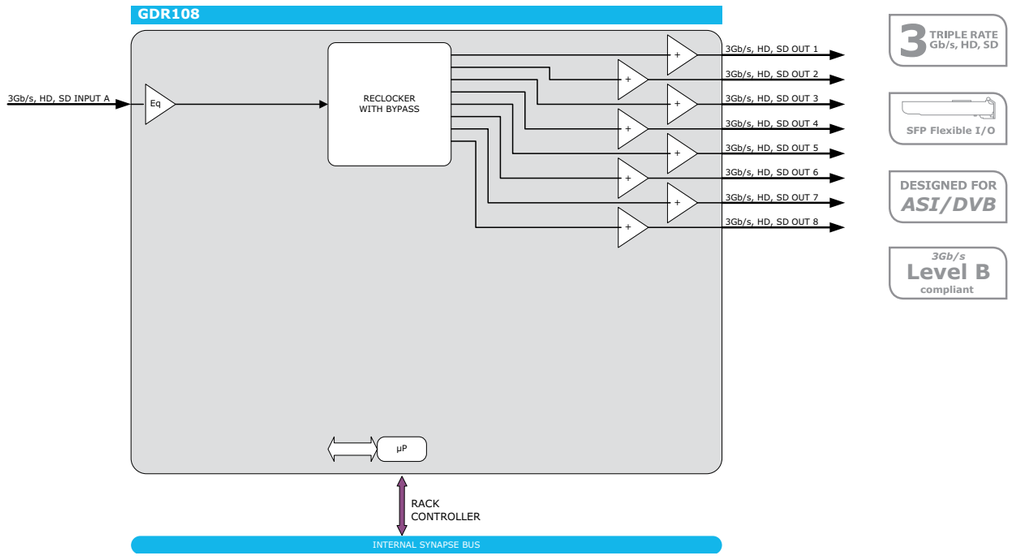
- **BPL01-PANEL:** I/O panel for DWC08-18
- **BPL07-PANEL:** I/O panel for DWC08-18 with loop through

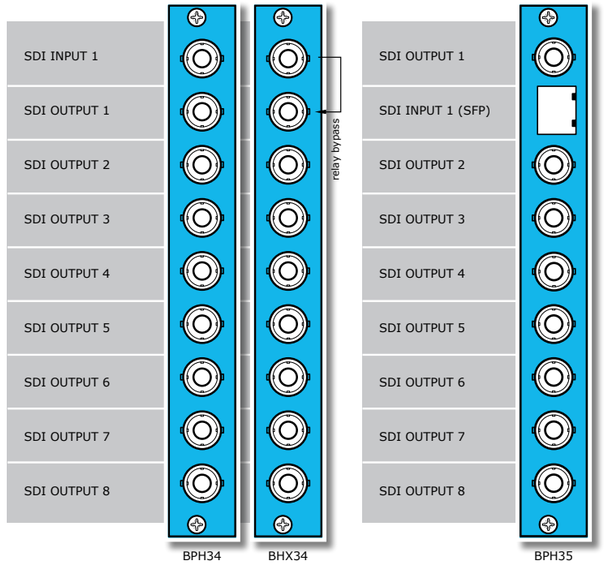
Relay bypass I/O:

- **BPX01-PANEL:** I/O panel for DWC08-18 with relay bypass

Specifications

visit www.evs.com





3Gb/s, HD, SD 1 to 8 distribution amplifier with reclocked outputs (ASI/DVB compatible)

The GDR108 is a single channel 3Gb/s, HD and SD SDI reclocking 1 input to 8 outputs distribution amplifier. This card is ASI/DVB compatible.

- Compatible with
  - SD SDI 270 Mbit/s (SMPTE 259M)
  - HD SDI 1485Mbit/s (SMPTE 292M)
  - 3Gb/s SDI 2970Mbit/s (SMPTE 424M)
  - ASI/DVB
- Bypass function of the reclocker for non-standard frequencies
- Optional SFP module on the input (only with BPH35) for fiber, CVBS, HDMI or SDI input

Applications

- Single channel generic wideband 3Gb/s distribution amplifier

Ordering information

Module:

- **GDR108-I/O:** 3Gb/s, HD, SD SDI reclocking ditribution amplifier

Standard I/O:

- **BPH34-PANEL:** I/O panel for GDR108

Relay bypass I/O:

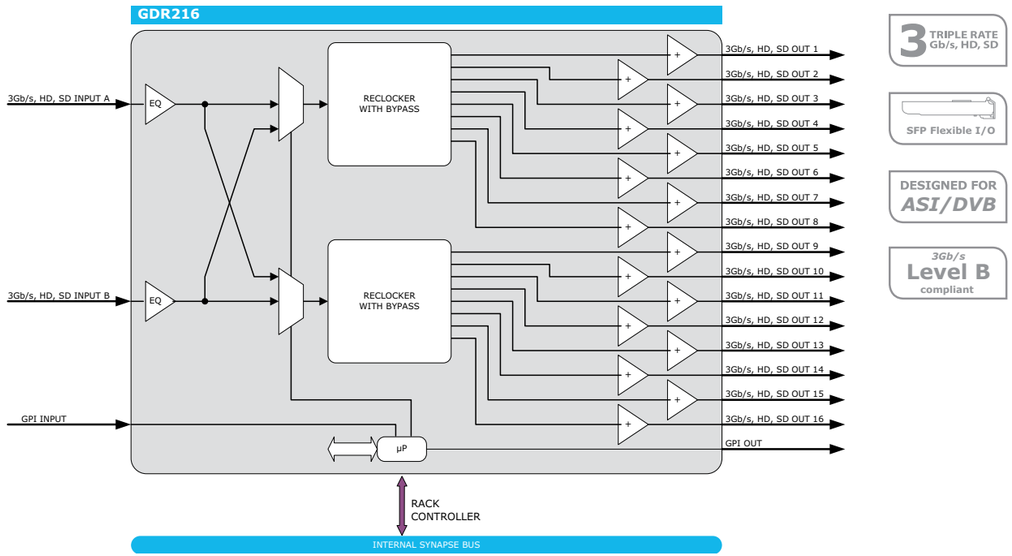
- **BHX34-PANEL:** I/O panel for GDR108 with relay bypass

SFP I/O:

- **BPH35R-PANEL:** I/O panel for GDR108 with SFP module option on input 1

Specifications

visit www.evs.com

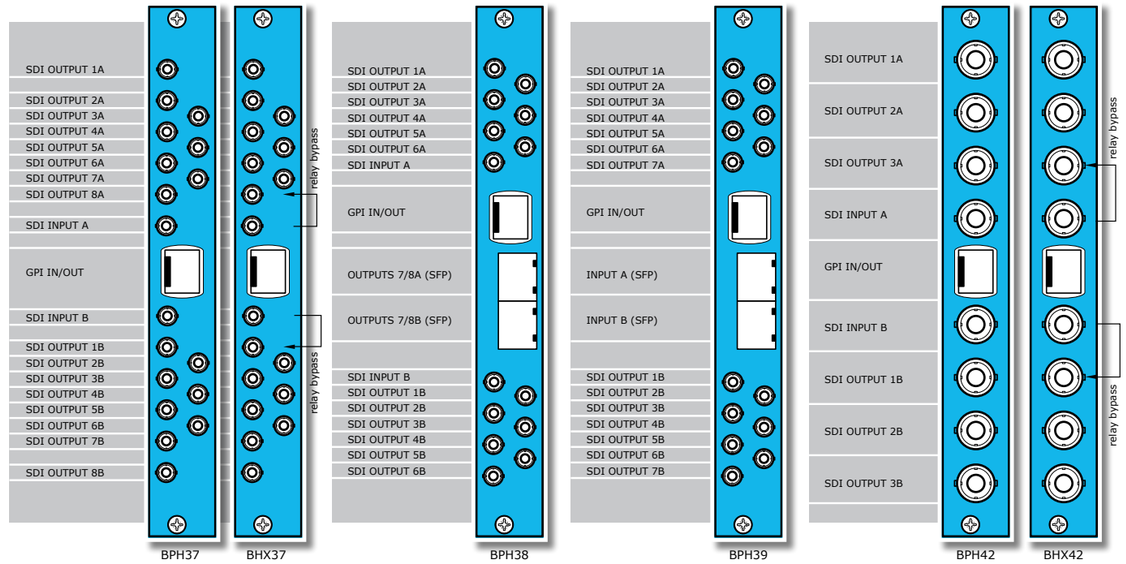


3 TRIPLE RATE Gb/s, HD, SD

SFP Flexible I/O

DESIGNED FOR *ASI/DVB*

3Gb/s Level B compliant



3Gb/s, HD, SD dual input distribution amplifier with 16 reclocked outputs (ASI/DVB compatible)

The GDR216 is a dual channel 3Gb/s, HD, SD SDI reclocking distribution amplifier with simple switching capabilities and selectable outputs. This card is ASI/DVB compatible.

- Single or dual channel with 16 configurable outputs
- Flexible selection of inputs to outputs
- Input switching as emergency bypass (not clean) on carrier detects
- GPI controlled input swapping and status monitoring
  - GPI input 1 = select input 1
  - GPI input 2 = select input 2
  - GPI output 0 = crossed mode or straight mode status
  - GPI output 1 = input 1 status
  - GPI output 2 = input 2 status
- 2x2 or 2x1 function
- 2x 1→8 or 1x 1→16 function
- 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
- Bypass function of the reclocker for non-standard frequencies
- Optional SFP modules on outputs 7A/B and 8A/B with BPH38 for 2x fiber, 2x CVBS, 2x SDI outputs or 1x HDMI output modules
- Optional SFP modules on the inputs with BPH39 (2 sfp modules with 1 input each) for 2x fiber, 2x CVBS, 2x SDI input or 2x HDMI input. This backpanel has 7 outputs per input instead of 8.

Applications

- Dual channel generic wideband 3Gb/s distribution amplifier
- 1 to 16 generic wideband 3Gb/s distribution amplifier

Ordering information

Module:

- **GDR216-I/O:** 3Gb/s, HD, SD SDI dual reclocking distribution amplifier

Standard I/O:

- **BPH37-PANEL:** I/O panel for GDR216
- **BPH42-PANEL:** I/O panel for GDR216 with BNC connectors instead of DIN1.0/2.3 (less outputs compared to BPH37, BPH38 or BPH39)

SFP I/O:

- **BPH38T-PANEL:** I/O panel for GDR216 with SFP module options on outputs 7A and B and outputs 8A and B
- **BPH39R-PANEL:** I/O panel for GDR216 with SFP module option on inputs A and B (1 less output compared to BPH37, BHX37 and BPH38

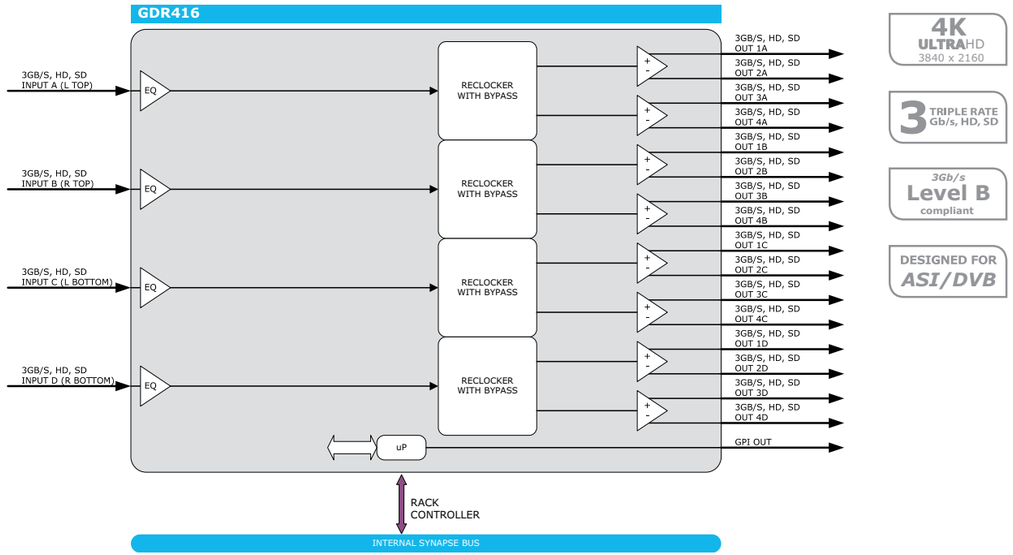
Relay bypass I/O:

- **BHX37-PANEL:** I/O panel for GDR216 with relay bypass
- **BHX42-PANEL:** I/O panel for GDR216 with relay bypass on BNC connectors instead of DIN1.0/2.3 (less outputs compared to BHX37)

Specifications

visit www.evs.com

GDR216

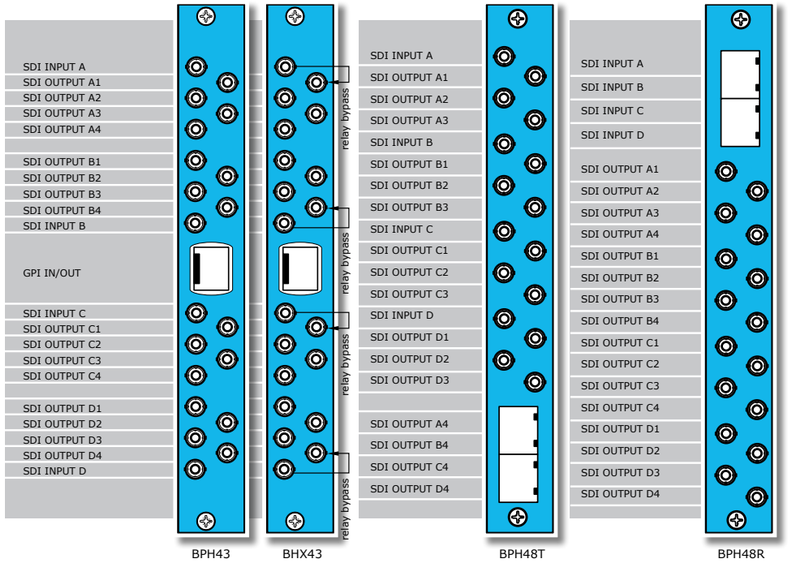


4K ULTRAHD 3840 x 2160

3 TRIPLE RATE Gb/s, HD, SD

3Gb/s Level B compliant

DESIGNED FOR ASI/DVB



4K, HD and SD four input distribution amplifier with 4 reclocked outputs per channel

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:
  - 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 I/O standards through use of SFP modules, like fibers and HDMI I/O with BPH48x

Applications

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

Ordering information

Module:

- **GDR416-I/O:** 4K, 3Gb/s, HD, SD-SDI quad reclocking distribution amplifier

Standard I/O:

- **BPH43-PANEL:** I/O panel for GDR416 with RJ45 GPI/O

SFP I/O:

- **BPH48T-PANEL:** I/O panel for GDR416 with SFP module output options
- **BPH48R-PANEL:** I/O panel for GDR416 with SFP module input options

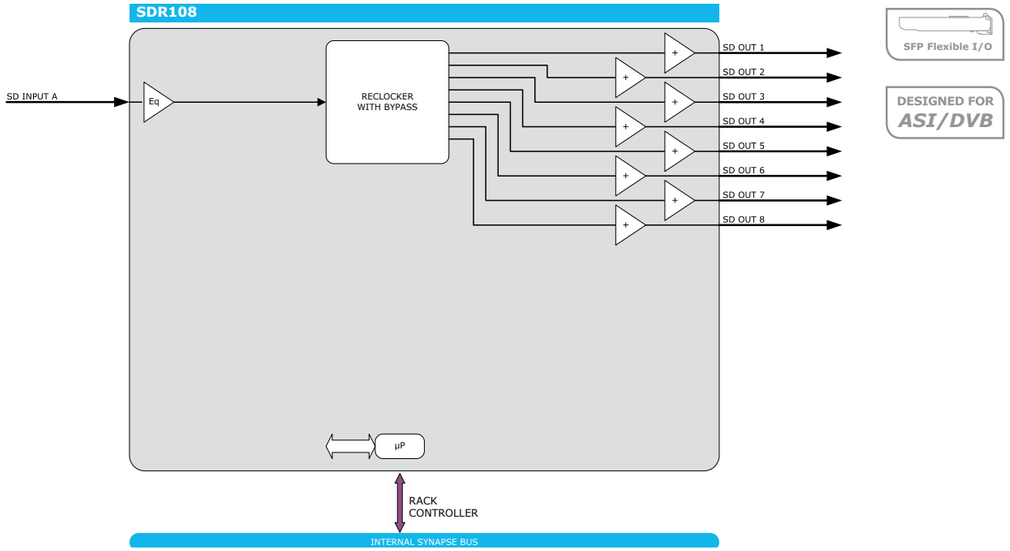
Relay bypass I/O:

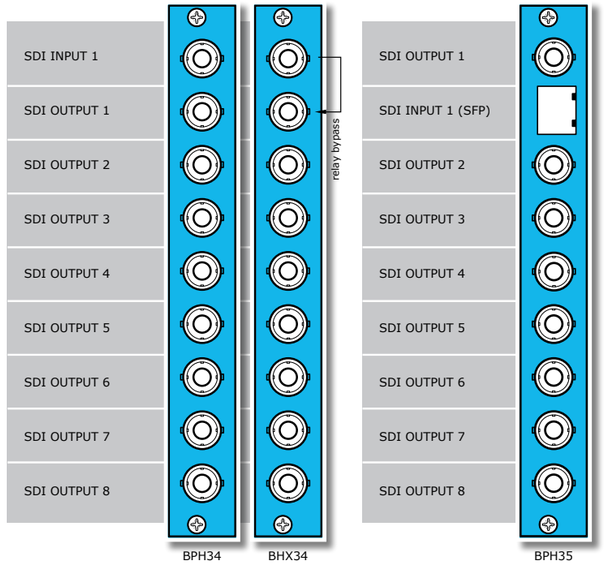
- **BHX43-PANEL:** I/O panel for GDR416 with relay bypass

Specifications

visit www.evs.com

GDR416





SD 1 to 8 distribution amplifier with reclocked outputs (ASI/DVB compatible)

The SDR108 is a single channel SD SDI reclocking 1 input to 8 outputs distribution amplifier. This card is ASI/DVB compatible.

- Compatible with
  - SD SDI 270 Mbit/s (SMPTE 259M)
  - ASI/DVB
- Bypass function of the reclocker for non-standard frequencies
- Optional SFP module on the input (only with BPH35) for fiber, CVBS, HDMI or SDI input

Applications

- Single channel generic wideband SD SDI distribution amplifier

Ordering information

Module:

- **SDR108-I/O:** SD SDI reclocking ditribution amplifier

Standard I/O:

- **BPH34-PANEL:** I/O panel for SDR108

Relay bypass I/O:

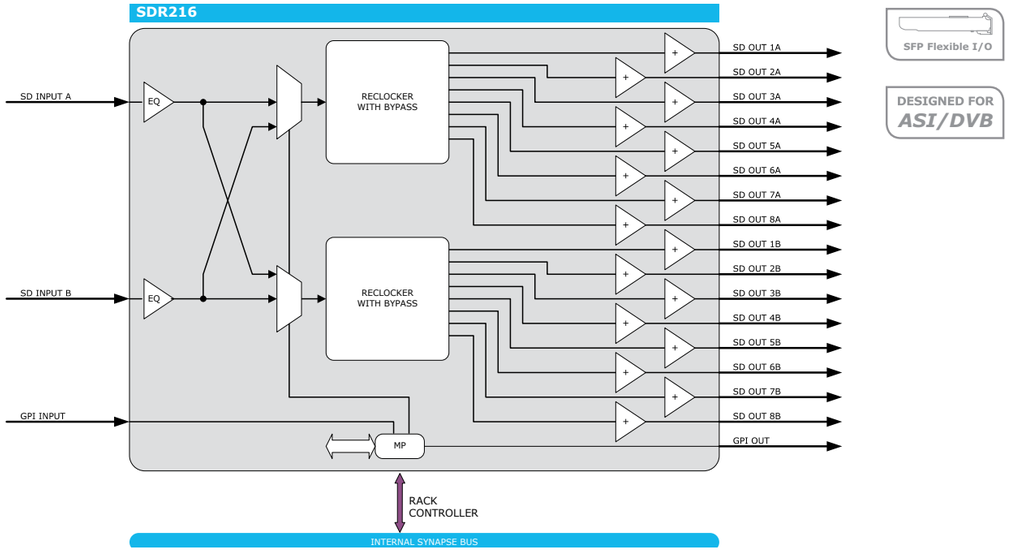
- **BHX34-PANEL:** I/O panel for SDR108 with relay bypass

SFP I/O:

- **BPH35R-PANEL:** I/O panel for SDR108 with SFP module option on input 1

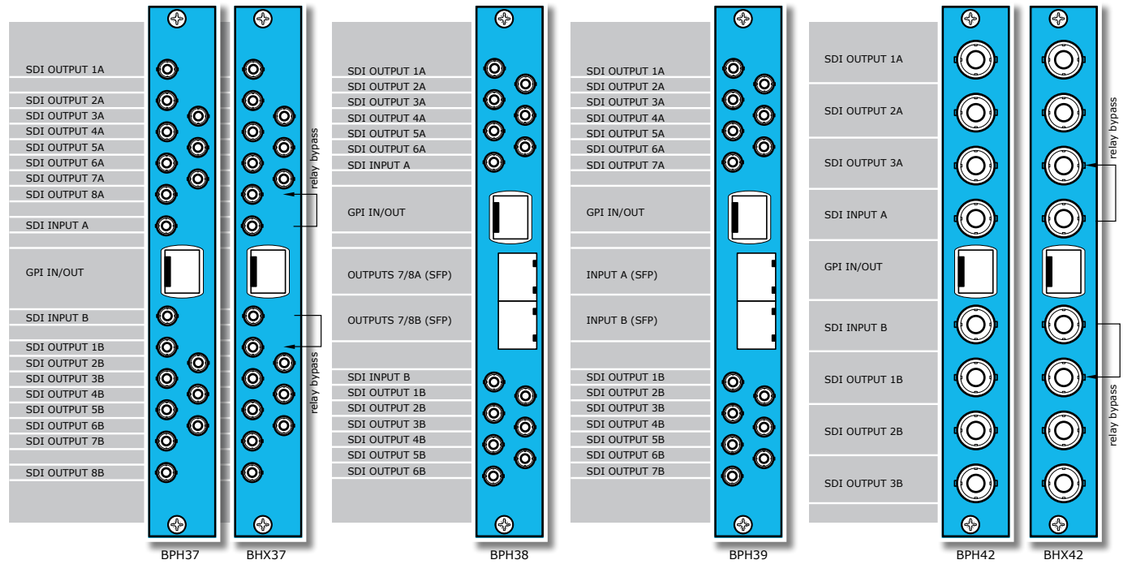
Specifications

visit www.evs.com



SFP Flexible I/O

DESIGNED FOR *ASI/DVB*



SD dual input distribution amplifier with 16 reclocked outputs (ASI/DVB compatible)

The SDR216 is a dual channel SD SDI reclocking distribution amplifier with simple switching capabilities and selectable outputs. This card is ASI/DVB compatible.

- Single or dual channel with 16 configurable outputs
- Flexible selection of inputs to outputs
- Input switching as emergency bypass (not clean) on carrier detects
- GPI controlled input swapping and status monitoring
  - GPI input 1 = select input 1
  - GPI input 2 = select input 2
  - GPI output 0 = crossed mode or straight mode status
  - GPI output 1 = input 1 status
  - GPI output 2 = input 2 status
- 2x2 or 2x1 function
- 2x 1→8 or 1x 1→16 function
- Compatible with
  - SD SDI 270 Mbit/s (SMPTE 259M)
  - ASI/DVB
- Bypass function of the reclocker for non-standard frequencies
- Optional SFP modules on outputs 7A/B and 8A/B with BPH38 for 2x fiber, 2x CVBS, 2x SDI outputs or 1x HDMI output modules
- Optional SFP modules on the inputs with BPH39 (2 sfp modules with 1 input each) for 2x fiber, 2x CVBS, 2x SDI input or 2x HDMI input. This backpanel has 7 outputs per input instead of 8.

Applications

- Dual channel generic wideband SD SDI distribution amplifier
- 1 to 16 generic wideband SD SDI distribution amplifier

Ordering information

Module:

- **SDR216-I/O:** 3Gb/s, HD, SD SDI dual reclocking distribution amplifier

Standard I/O:

- **BPH37-PANEL:** I/O panel for SDR216
- **BPH42-PANEL:** I/O panel for SDR216 with BNC connectors instead of DIN1.0/2.3 (less outputs compared to BPH37, BPH38 or BPH39)

SFP I/O:

- **BPH38T-PANEL:** I/O panel for SDR216 with SFP module options on outputs 7A and B and outputs 8A and B
- **BPH39R-PANEL:** I/O panel for SDR216 with SFP module option on inputs A and B (1 less output compared to BPH37, BHX37 and BPH38

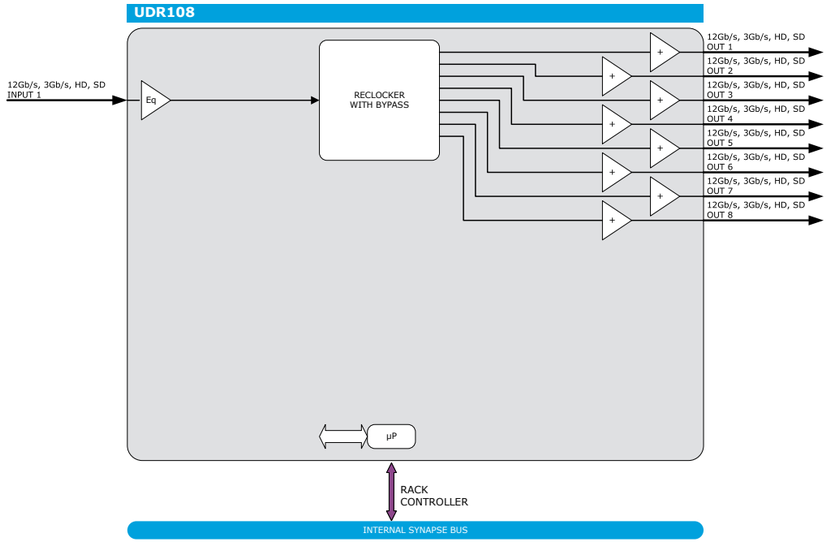
Relay bypass I/O:

- **BHX37-PANEL:** I/O panel for SDR216 with relay bypass
- **BHX42-PANEL:** I/O panel for SDR216 with relay bypass on BNC connectors instead of DIN1.0/2.3 (less outputs compared to BHX37)

Specifications

visit www.evs.com

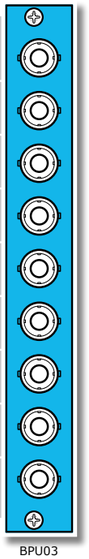
SDR216



4K ULTRAHD 3840 x 2160

DESIGNED FOR ASI/DVB

12Gb/s SDI INPUT 1
12Gb/s SDI OUTPUT 1
12Gb/s SDI OUTPUT 2
12Gb/s SDI OUTPUT 3
12Gb/s SDI OUTPUT 4
12Gb/s SDI OUTPUT 5
12Gb/s SDI OUTPUT 6
12Gb/s SDI OUTPUT 7
12Gb/s SDI OUTPUT 8



BPU03

UHD, FHD, HD and SD distribution amplifier with 8 reclocked outputs (single wire 12Gb/s SDI)

The UDR108 is a single channel 12Gb/s UHD reclocking distribution amplifier. This card is ASI/DVB compatible.

- Compatible with:
  - SD SDI 270 Mbit/s (SMPTE 259M)
  - HD SDI 1485 Mbit/s (SMPTE 292M)
  - 3Gb/s SDI 2970 Mbit/s (SMPTE 424M)
  - Ultra HD 12Gb/s SDI (SMPTE 2082-1)
  - MADI
  - ASI/DVB
- Bypass function of the reclocker for non-standard frequencies

Applications

- Single channel 12Gb/s generic wideband DA

Ordering information

Module:

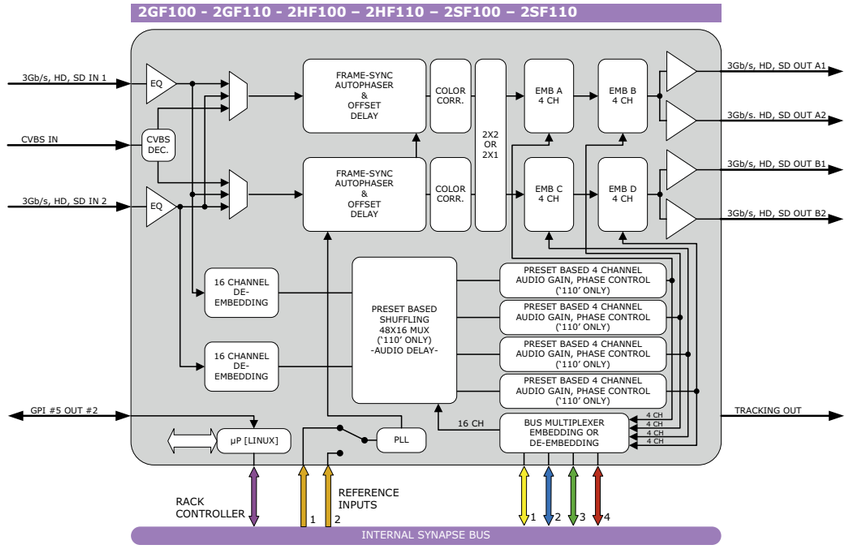
- **UDR108-I/O:** UHD, FHD, HD, SD-SDI distribution amplifier with 8x 12Gb/s reclocked outputs

Standard I/O:

- **BPU03-PANEL:**
  I/O panel for UDR108 with 12Gb/s SDI I/O

Specifications

visit www.evs.com



TWINS

MASTER Card

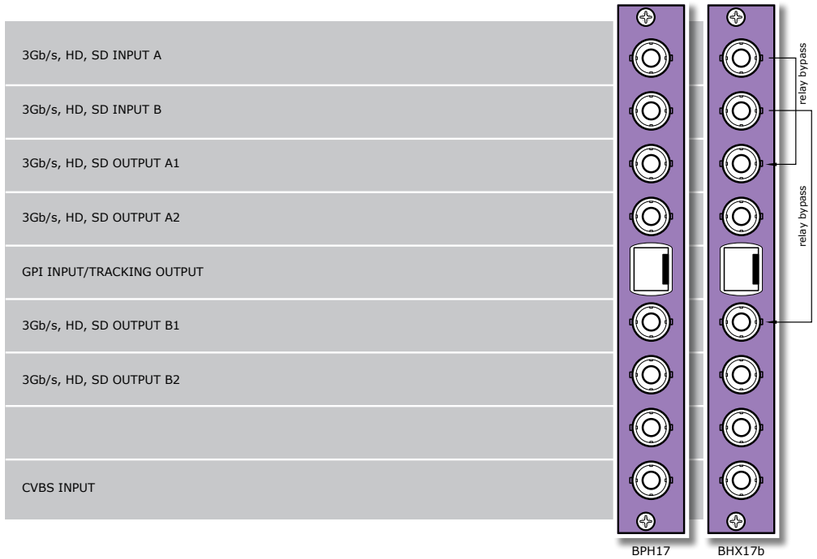
3 TRIPLE RATE Gb/s, HD, SD

Upgradable to 3Gb/s

AFD ready S2016

Powered by LINUX

3Gb/s Level B compliant



Dual channel 3Gb/s, HD, SD frame synchronizer with optional audio shuffler

The 2GF100/110 are dual channel frame synchronizers with back-up inputs and 8 channel audio transparency and color correcting capabilities. The powerful matrix multiplexer can feed audio from the embedded domain into the Synapse bus to an ADD-ON card like the DIO48. This matrix multiplexer also allows for audio to be inserted from the ADD-ON bus into the embedded domain of the 2GF100/110. The 2GF110 adds a full audio shuffler and audio ProcAmp with gain and phase control.

- 3 inputs: 2 SDI and 1 composite.
- Configurable output function
  - Straight (1=1, 2=2)
  - Crossed (2=1, 1=2)
  - A only (1=1, 2=1)
  - B only (1=2, 2=2)
- Compatible with the following input formats (auto selecting):
  - 1080p59.94
  - 1080p50
  - 1080i59.94
  - 1080i50
  - 1080p29.97
  - 1080p25
  - 1080p23.98
  - 720p59.94
  - 720p50
  - 720p29.97
  - 720p25
  - 720p23.98
  - SD525
  - SD625
- Two individual conversion paths. The inputs can be different standards SD or HD and unlocked to the single output format.
- Framesync with output phase control in frames, lines and pixels with respect to reference. Delay setting are stored per output format for a constant latency operation.
- 30 Frames delay offset (per channel) for all 1080 formats
- 60 Frames delay offset (per channel) for all 720 formats
- 125 Frames delay offset (per channel) for all SD formats
- 5 GPI inputs assignable to various preset banks
- ARC triggers by VI, WSS, WSSext and S2016 (AFD)
- Individual color corrector for video path A and B
- Transparent for 8 channels of embedded audio per channel
- Embedded domain cross input audio shuffling, gain and phase control (2GF/2HF110 only)
- Embedding and de-embedding through synapse bus
- Video ProcAmp, Color corrector and Hue control
- Locks to Bi-level, Tri-level syncs or SDI input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Complementary cards:

- DAC20, DAC24, DAS24, DIO48, ADC20, ADC24, DIO24

Applications

- Transmission output frame synchronizer with back-up input.
- Combining embedded audio channels of 2 inputs into 1 (2GF110 only)

Ordering information

Module:

- **2GF100-I/O:** Dual channel 3Gb/s, HD, SD frame synchronizer
- **2GF110-I/O:** Dual channel 3Gb/s, HD, SD frame synchronizer with audio shuffler ProcAmp

Standard I/O:

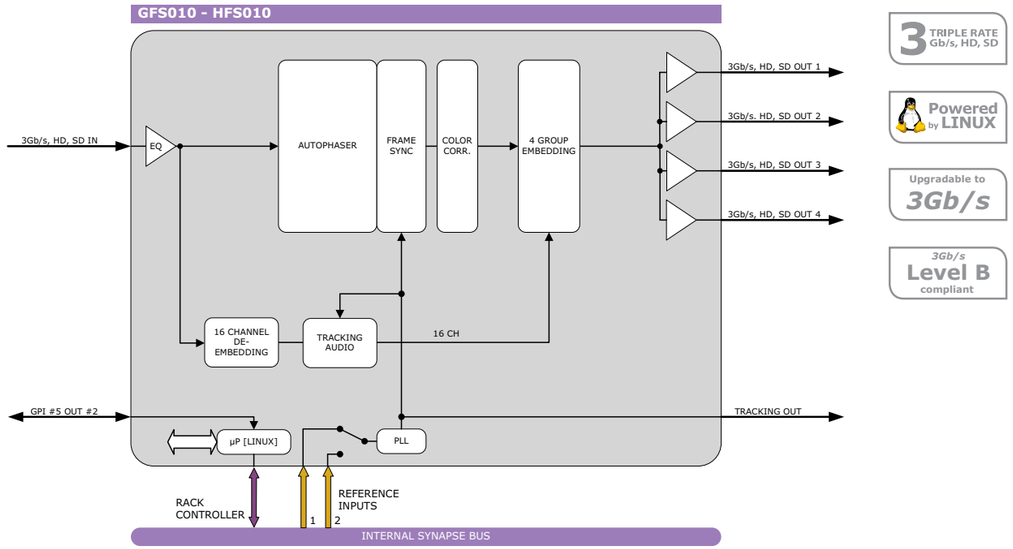
- **BPH17-PANEL:** Standard I/O panel for 2GFxxx

Relay bypass I/O:

- **BHX17b-PANEL:** I/O panel for 2GFxxx with relay bypass

Specifications

visit www.evs.com

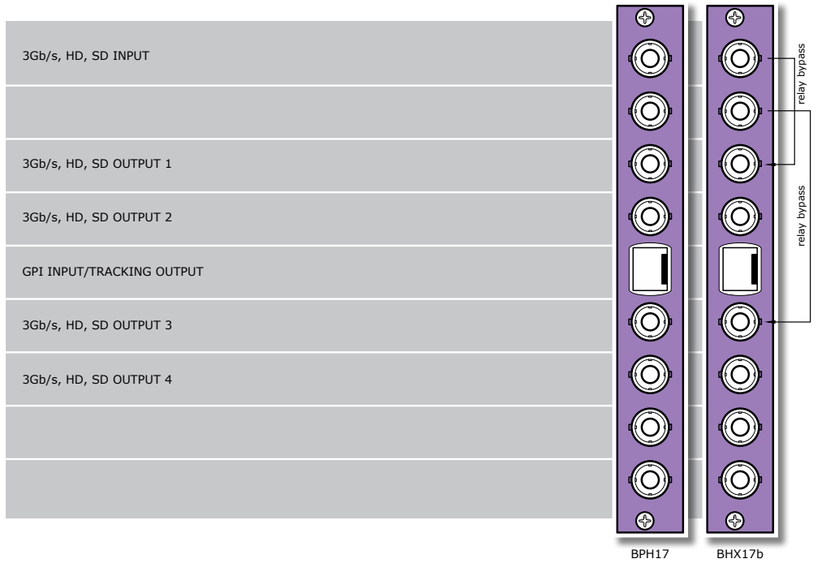


3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Upgradable to 3Gb/s

3Gb/s Level B compliant



3Gb/s, HD, SD basic frame synchronizer

The GFS010 is a frame synchronizer with 16 channel audio transparency and color correcting capabilities.

- 1 input
- Compatible with the following input formats (auto selecting):
  - 1080p59.94
  - 1080p50
  - 1080i59.94
  - 1080i50
  - 1080p29.97
  - 1080p25
  - 1080p23.98
  - 720p59.94
  - 720p50
  - 720p29.97
  - 720p25
  - 720p23.98
  - SD525
  - SD625
- Transparent for 16 channels of embedded audio
- Video ProcAmp (Y and C control)
- Color corrector (RGB and total gain, RGB and total black)
- Hue control for NTSC inputs
- Locks to Bi-level, Tri-level syncs or SDI input
- Framesync with output phase control in Lines and pixels with respect to reference
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Applications

- Transmission output frame synchronizer
- General purpose post router autophaser

Ordering information

Module:

- **GFS010-I/O:** 3Gb/s, HD, SD frame synchronizer

Standard I/O:

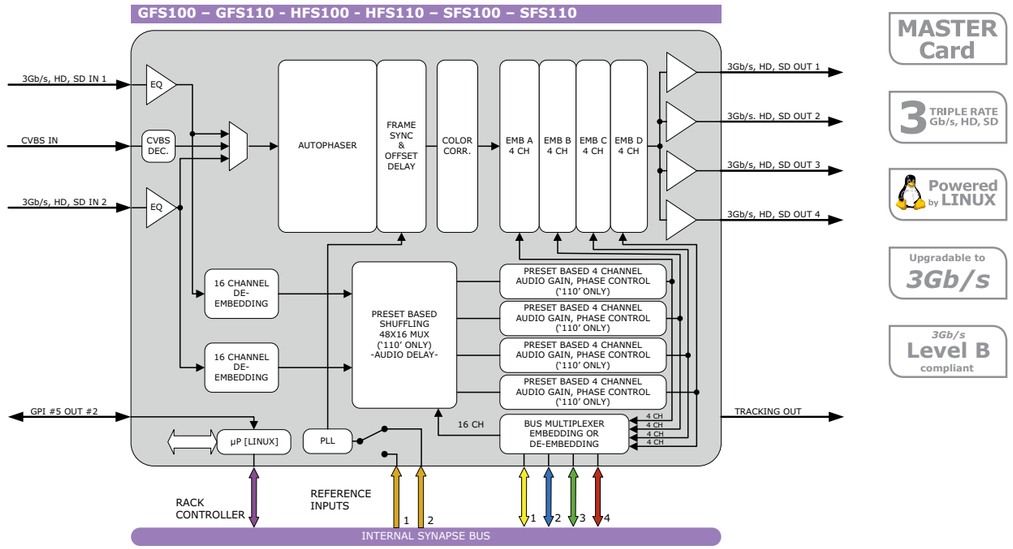
- **BPH17-PANEL:** I/O panel for GFS010

Relay bypass I/O:

- **BHX17b-PANEL:** I/O panel for GFS010 with relay bypass

Specifications

visit www.evs.com



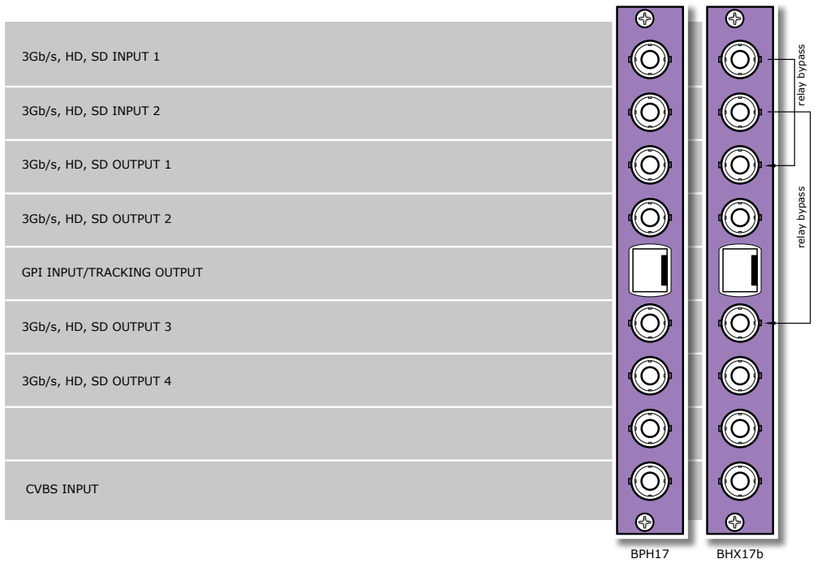
MASTER Card

3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Upgradable to 3Gb/s

3Gb/s Level B compliant



3Gb/s, HD, SD frame synchronizer with optional audio shuffler

The GFS100/110 are frame synchronizers with back-up inputs and 16 channel audio transparency and color correcting capabilities. The powerful matrix multiplexer can feed audio from the embedded domain into the Synapse bus to an ADD-ON card like the DIO48. This matrix multiplexer also allows for audio to be inserted from the ADD-ON bus into the embedded domain of the GFS100/110. The GFS110 add a full audio shuffler and audio ProcAmp with gain and phase control.

- 3 inputs: 2 SDI and 1 composite.
- Compatible with the following input formats (auto selecting):
  - 1080p59.94
  - 1080p50
  - 1080i59.94
  - 1080i50
  - 1080p29.97
  - 1080p25
  - 1080p23.98
  - 720p59.94
  - 720p50
  - 720p29.97
  - 720p25
  - 720p23.98
  - SD525
  - SD625
- Framesync with output phase control in frames, lines and pixels with respect to reference. Delay setting are stored per output format for a constant latency operation.
- 30 Frames delay offset (per channel) for all 1080 formats
- 60 Frames delay offset (per channel) for all 720 formats
- 120 Frames delay offset (per channel) for all SD formats
- 5 GPI inputs assignable to various preset banks
- Transparent for 16 channels of embedded audio
- Embedded domain cross input audio shuffling, gain and phase control (GFS/HFS/SFS110 only)
- Embedding and de-embedding through synapse bus
- Video ProcAmp, Color corrector and Hue control
- Locks to Bi-level, Tri-level syncs or SDI input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Complementary cards:

- DAC20, DAC24, DAS24, DIO48, ADC20, ADC24, DIO24

Applications

- Transmission output frame synchronizer with back-up input
- General purpose post router autophaser

Ordering information

Module:

- **GFS100-I/O:** 3Gb/s, HD, SD frame synchronizer
- **GFS110-I/O:** 3Gb/s, HD, SD frame synchronizer with audio shuffler ProcAmp

Standard I/O:

- **BPH17-PANEL:** I/O panel for GFSxxx

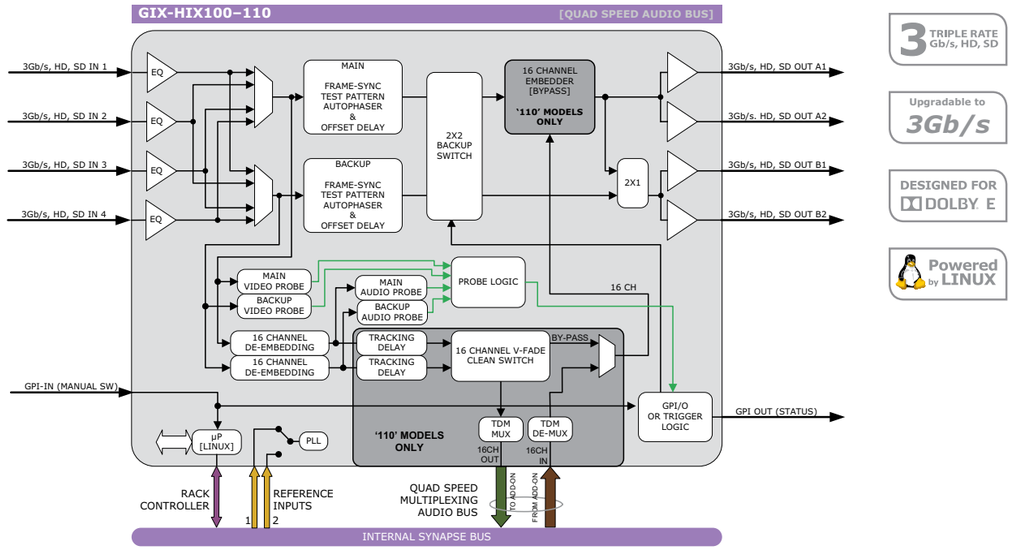
Relay bypass I/O:

- **BHX17b-PANEL:** I/O panel for GFSxxx with relay bypass

Specifications

visit www.evs.com

GFS100 - GFS110



3 TRIPLE RATE Gb/s, HD, SD

Upgradable to 3Gb/s

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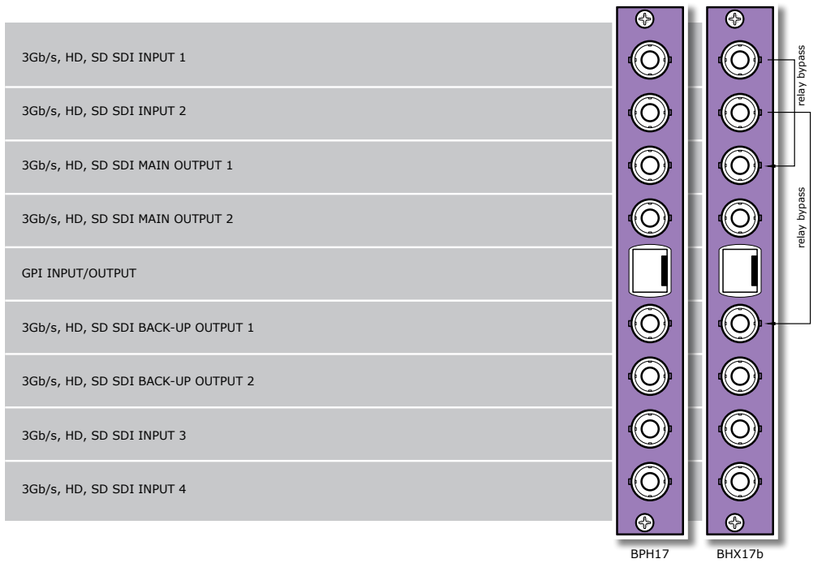
Powered by LINUX



Dual channel 3Gb/s, HD, SD integrity checking probe with optional clean audio (2×1) switch-over function

The GIX100-110 are dual channel high performance 3Gb/s, HD and SD SDI video and embedded audio probes (signal integrity monitor) with clean video switch-over function.

The switch function can be triggered by any of the integrity controls or by GPI. Besides the extensive probe functions, the cards also provide full line and frame synchronization on both inputs.

The '110' adds a smooth 16 channel audio change over with V-fade processing. An interesting feature is the ability to apply 4 individual sources and pre-route these signals to any of the main channels. This enables a back-up functionality beyond two channels and can be used for adding a third or fourth back-up channel.

- 4 free selectable inputs per probe input
- Clean back-up switching through built-in frame synchronizers (input formats need to be equal)
- Clean audio switch-over through V fade in '110'
- Tracking audio delay in '110'
- Output configuration of 2x main + 2x back-up or 4x main (in 2x2 mode, the back-up channel has no clean audio processing)
- Probe functions:
  - SDI carrier detect
  - TRS validation
  - ANC checksum validation
  - Video content freeze detection
  - Video content black detection
  - VANC WST and OP47 present detection
  - Timecode availability
  - Audio channel detection (16 channels)
  - Audio silence detection (16 channels)
  - Audio Clip/5 sample full-scale indication (16 channels)
  - Dolby E present detection (with disable of V fade function in '110')
- An extensive probing matrix allows adjustment of individual classes of importance of the channels next to the main and back-up channels
- Test pattern generator as 5th source for emergency and test
- Quad Speed Audio ADD-ON bus for post fade audio processing ('110' only)
- Locks to Bi-level, Tri-level or SDI input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Complementary cards for '110' model:

- DLA41, DLA42, DLA43, DLA44, DIO88, DBD18

Applications

- The GIX can be used as station output card, and ingest quality control card or a generic 2 x 2 switch
- The integrity checking can also be performed for alarm monitoring purposes with the switch function disabled
- Generic probing with automatic back-up switching
- Multi input back-up capability allows for complex back-up routing in multi platform environments

ordering information

Modules:

- **GIX100-I/O:** Dual channel 3Gb/s, HD, SD enhanced integrity checking probe with switch-over function
- **GIX110-I/O:** Dual channel 3Gb/s, HD, SD enhanced integrity checking probe with switch-over function and clean audio switching

Standard I/O:

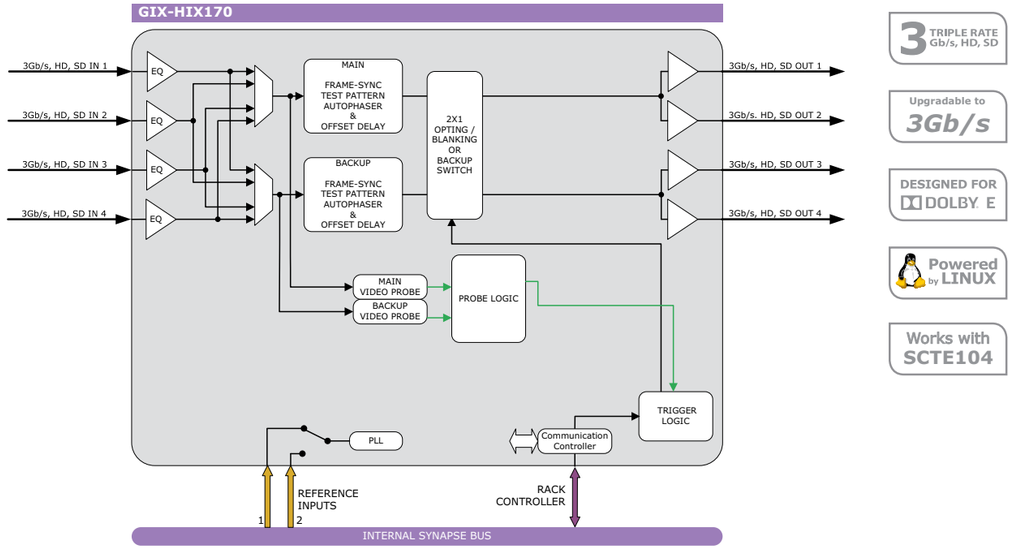
- **BPH17-PANEL:** I/O panel for GIXxxx

Relay bypass I/O:

- **BHX17b-PANEL:** I/O panel for GIXxxx with relay bypass

Specifications

visit www.evs.com



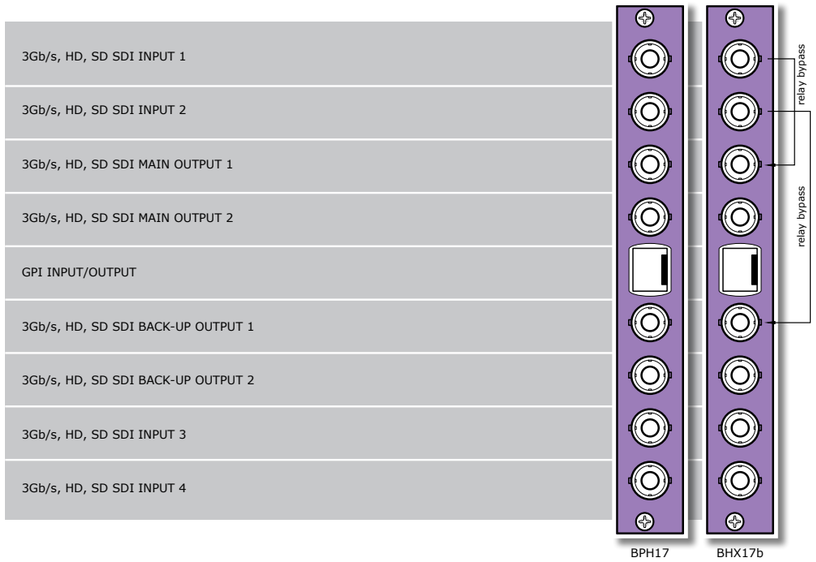
3 TRIPLE RATE Gb/s, HD, SD

Upgradable to 3Gb/s

DESIGNED FOR DOLBY E

Powered by LINUX

Works with SCTE104



Dual channel 3Gb/s, HD, SD integrity checking probe with SCTE104 (WHP296) compatibility

The GIX170 is a dual channel high performance 3Gb/s, HD and SD SDI video and SCTE104 probe (signal integrity monitor) with opting, blanking or backup video switch-over function.

The switch function can be triggered by any of the integrity controls. Besides the extensive probe functions, the cards also provide full line and frame synchronization on both inputs.

An interesting feature is the ability to apply 4 individual sources and pre-route these signals to any of the main channels. This enables a backup functionality beyond two channels and can be used for adding a third or fourth backup channel.

The core capacity of the GIX170 is the ability to switch on SCTE104 (WHP296) triggers or the absence of them as outlined below. When not used as SCTE104 switch, the card reverts to a 2x1 backup function without SCTE probing.

- 4 free selectable inputs per probe input
- Clean back-up switching through built-in frame synchronizers (input formats need to be equal)
- OUtput configuration: 4x main
- Probe functions:
  - SCTE104 triggers (refer to our website for specifics)
  - SDI carrier detect
  - TRS validation
  - ANC checksum validation
- An extensive probing matrix allows adjustment of individual classes of importance of the channels next to the main and back-up channels
- Test pattern generator as 5th source for emergency and test
- Quad Speed Audio ADD-ON bus (monitoring only)
- Locks to Bi-level, Tri-level or SDI input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Complementary cards for '110' model:

- DLA41, DLA42, DLA43, DLA44, DIO88, DBD18

Applications

- The GIX170 can be used as station output card, and ingest quality control card or a generic 2 x 1 switch.
- The integrity checking can also be performed for alarm monitoring purposes with the switch function disabled.
- Generic probing with automatic back-up switching
- Multi input backup capability allows for complex backup routing in multi platform environments

ordering information

Modules:

- **GIX170-I/O:** Dual channel 3Gb/s, HD, SD enhanced integrity checking probe with SCTE104 compatibility

Standard I/O:

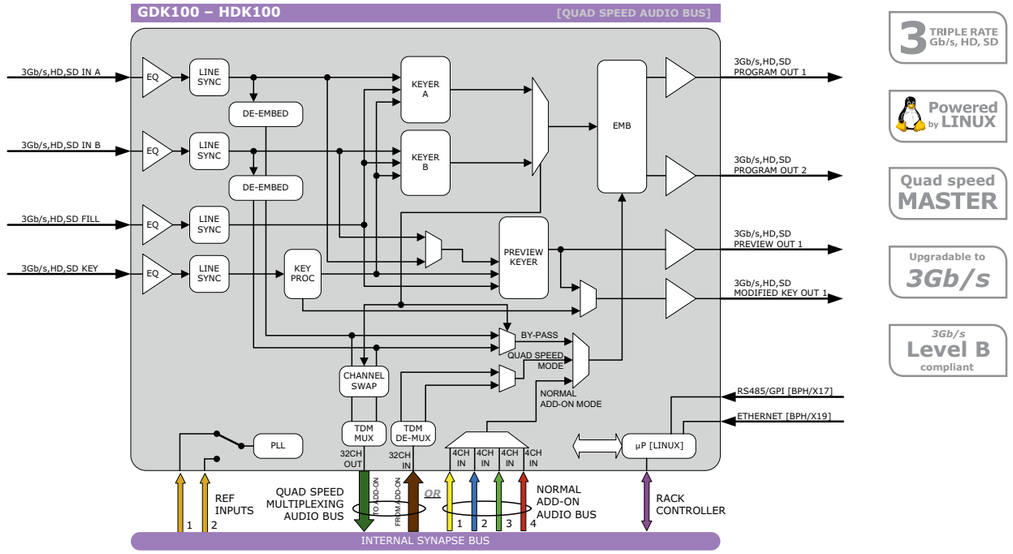
- **BPH17-PANEL:**
  I/O panel for GIX170

Relay bypass I/O:

- **BHX17b-PANEL:**
  I/O panel for GIX170 with relay bypass

Specifications

visit www.evs.com



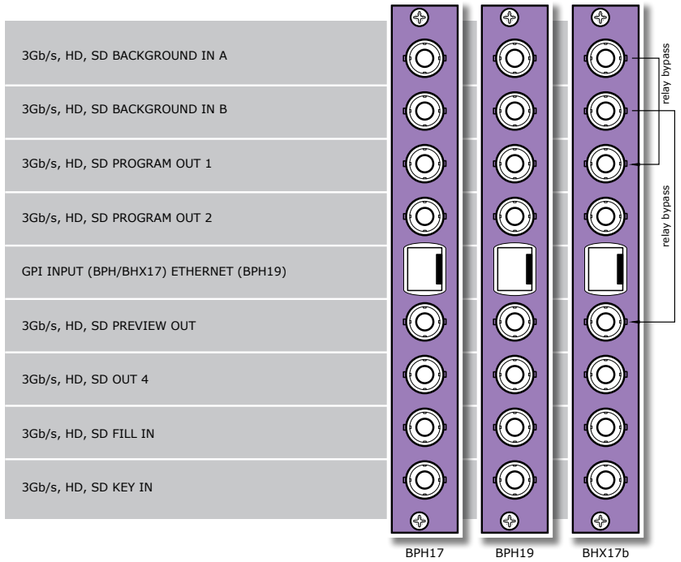
3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Quad speed MASTER

Upgradable to 3Gb/s

3Gb/s Level B compliant



Dual background input 3Gb/s, HD, SD downstream keyer

The GDK100 is a keyer module for the Synapse system. This module has 4 triple rate (SD, HD, 3Gb/s) inputs: 2 background inputs, 1 fill input and 1 key input. It also has 4 triple rate outputs: 2 program outputs, 1 preview output and a user definable output (program, preview or modified key output). Depending on the connector panel you have either Ethernet (for easy and fast card upgrading) or GPI control (over RJ45).

The GDK is compatible with SD-SDI (270Mb/s), HD-SDI (1.5Gb/s) and 3Gb/s for full 1080p50 or 1080p59.94 use.

- 2 selectable background inputs
- Key input
- Fill input
- Self key
- The 4th output can be software configured for any output task: program, preview or modified key output
- Adjustable slice level and transparency (with definable modified key monitor output)
- Preview output for content verification prior to go on air
- Transparent for 16 channels of embedded audio
- Transparent for all ANC data
- Compatible with the following input formats:
  - 1080p59.94
  - 1080p50
  - 1080i59.94
  - 1080i50
  - 1080p29.97
  - 1080p25
  - 1080p23.98
  - 720p59.94
  - 720p50
  - 720p29.97
  - 720p25
  - 720p23.98
  - SD525
  - SD625
- Depending on the connector panel you have either Ethernet or GPI control.
  - GPI with BPH17 or BHX17b
  - Ethernet with BPH19 (for fast updates)
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Complementary cards:

- DAC20, DAC24, DAS24, DIO48, ADC20, ADC24, DIO24, DLA44, DLA43

Applications

- The GDK100 can be used as a downstream keyer for external logo generated keying and other graphical overlay keying

Specifications

visit www.evs.com

Ordering information

Module:

- **GDK100-I/O:** 3Gb/s, HD, SD downstream keyer with dual background input

Standard I/O:

- **BPH17-PANEL:** I/O panel for GDK100 with GPI
- **BPH19-PANEL:** I/O panel for GDK100 with Ethernet

Relay bypass I/O:

- **BHX17b-PANEL:** I/O panel for GDK100 with GPI with relay bypass

3Gb/s, HD keyer, mixer with dual 2D DVE

For the GDK200 block schematic please refer to the the next page.

The GDK200 is an advanced keyer platform for use in transmission applications. Especially where a full MASTER control unit is overkill these cards can be a cost and space saving alternative. These units have 4 triple rate (all SD, HD, 3Gb/s capable) inputs: 2 background inputs, 1 fill input and 1 key input. It also has 4 triple rate outputs: 2 program outputs and 2 preview outputs. Depending on the connector panel you have either Ethernet (for easy and fast card upgrading) or GPI control (over RJ45).

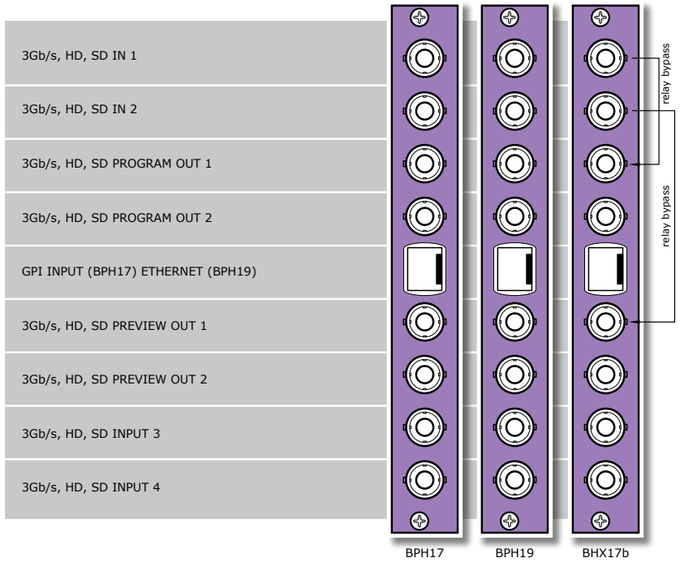
The GDK200 is not designed for external 3rd party control protocols. The units can be used with GPI's, and Cerebrum control panels. 3rd party control is possible via ACP.

The GDK is compatible with SD SDI, HD SDI and 3Gb/s SDI (for 1080p50 or 1080p59.94 use).

- 2 selectable background inputs
- Key input
- Fill input
- Self key
- 2x 2D DVE
- Advanced routing capabilities for flexible program/ production applications
- Mix engine with speed and transition adjustments
- Adjustable slice level and transparency (with definable modified key monitor output)
- Preview output with transition preview for content verification prior to go on air
- Transparent for 16 channels of embedded audio
- Transparent for all ANC data
- Quad Speed audio bus for enhanced external audio applications
- Compatible with the following input formats:
  - 1080p59.94
  - 1080p50
  - 1080i59.94
  - 1080i50
  - 1080p29.97
  - 1080p25
  - 1080p23.98
  - 720p59.94
  - 720p50
  - 720p29.97
  - 720p25
  - 720p23.98
  - SD525
  - SD625
- Depending on the connector panel you have either Ethernet or GPI control.
  - GPI with BPH17 or BHX17b
  - Ethernet with BPH19 (for fast updates)
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Complementary cards:

- DLA44, DLA43, DLA42, ADC24 and DIO24 (for Voice Over functions)



Applications

- The GDK200 can be used as an entry level program output processor for basic program channels
- Production (3Gb/s) mixer/2D-DVE for life applications like sports events

Specifications

visit www.evs.com

Ordering information

Module:

- **GDK200-I/O:** 3Gb/s, HD, SD keyer/mixer with 2D DVE

Standard I/O:

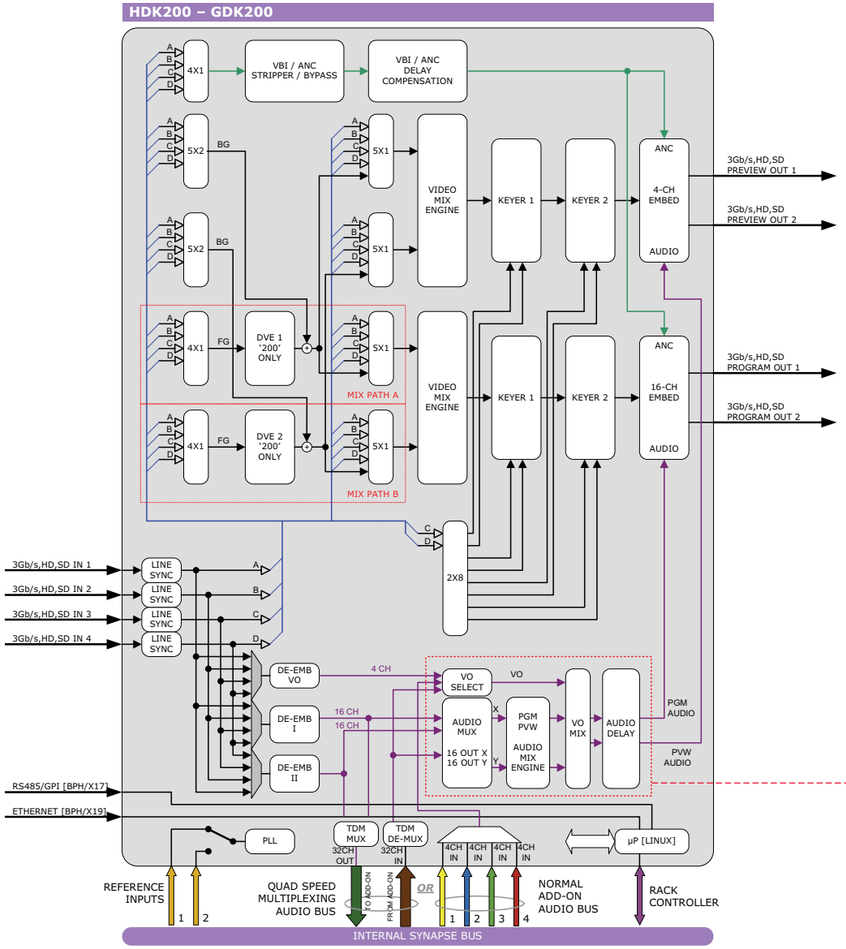
- **BPH17-PANEL:** I/O panel for GDKxxx with GPI
- **BPH19-PANEL:** I/O panel for GDKxxx with Ethernet

Relay bypass I/O:

- **BHX17b-PANEL:** I/O panel for GDKxxx with GPI with relay bypass

GDK200

3Gb/s, HD keyer, mixer with dual 2D DVE



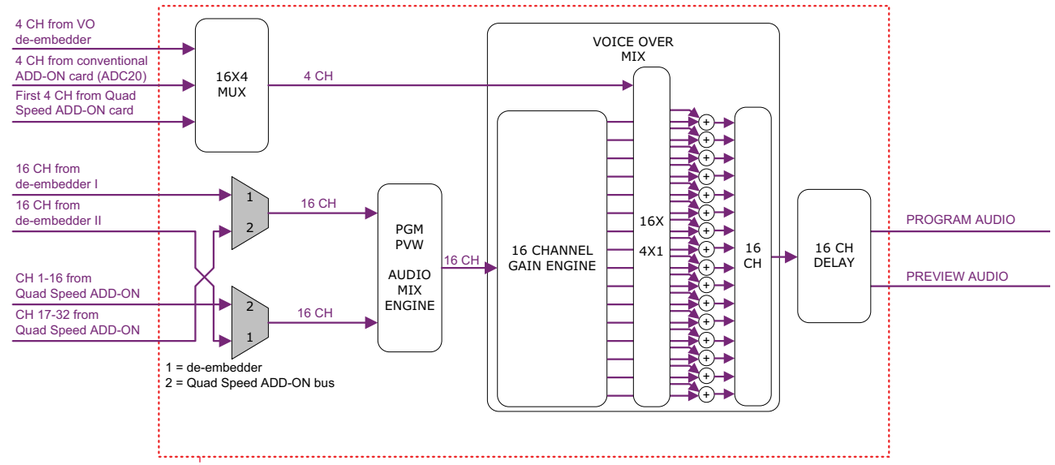
3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Quad speed MASTER

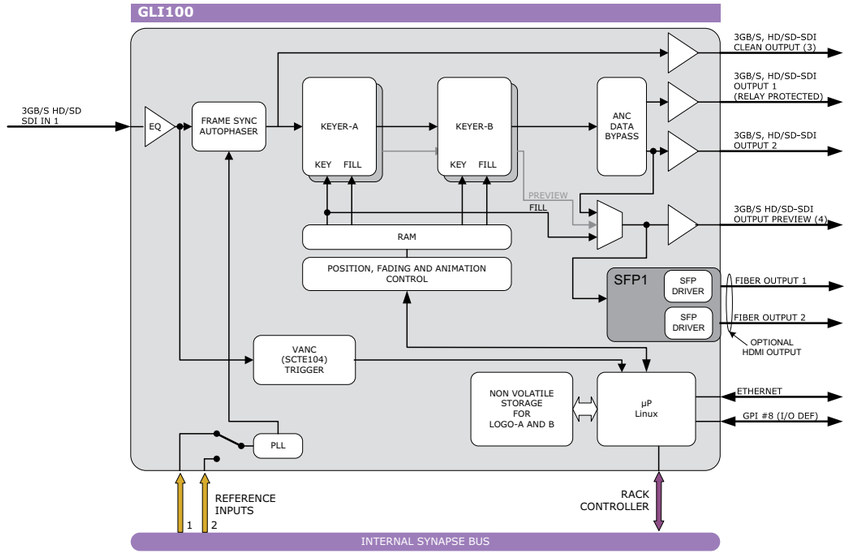
Upgradable to 3Gb/s

3Gb/s Level B compliant



The product description, feature summary and ordering information of the GDK200 can be found on the previous page.

GDK200

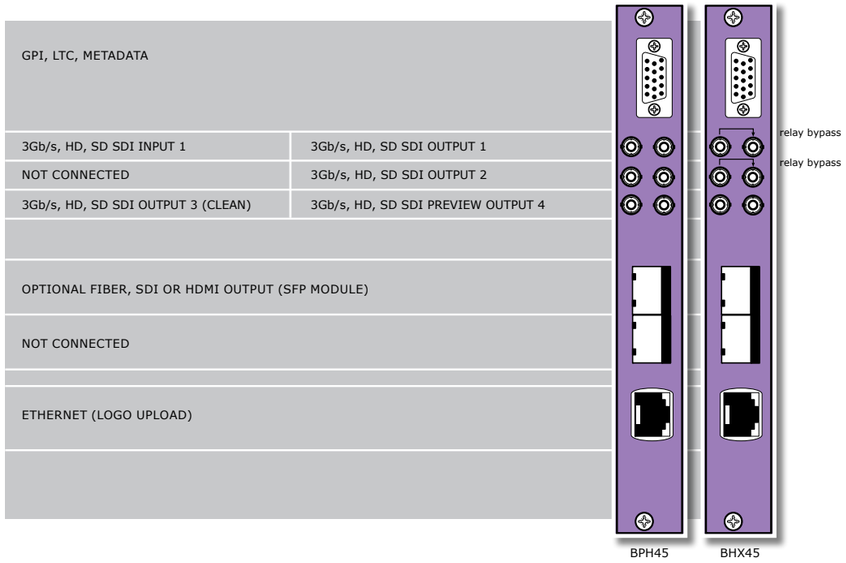


3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Works with SCTE104

Upgradable to 3Gb/s



3Gb/s, HD, SD SDI preset based dual logo inserter

The GLI100 is a dual logo inserter, with a preset based logo recall function through a flexible user interface and a local storage. Multiple logos including animated ones can be selected through the synapse menu, GPI, or triggered by VANC (SCTE104) data contained the input. The GLI100 is capable of inserting two logos and will be used for channel branding with the option to alter the main channel logo on the fly, preset based and simultaneously add a "theme logo" that is triggered as a one shot with predefined fade in and fade out times.

The GLI100 is capable of generating logos to be inserted by other devices and can be configured to provide Key and Fill. It has a fully featured preview bus allowing transitions and keying levels to be previewed before the logo or audio placed into the program stream.

Intelligent Content Allocation ensures efficient use of image RAM. For full frames, the area of interest is automatically detected up to 20 percent of the screen surface. This increases animation duration from 100 for full frames (1920x1080) to 500 frames (20% area of 1920x1080).

- 3Gb/s, HD and SD SDI compatible
- Formats: 1080p50/59.94, 1080i50/59.94, 720p50/59.94 SD625/50, SD525/59.94
- Logo inserter or generator mode (key and fill output)
- Two individual logo inserters
- Logos are stored in onboard non-volatile memory and accessible through FTP or WebDAV
- Logo A: 32 presets for full screen 1920x1080, or a maximum 500 frames of animation
- Logo B: Sharing the memory allocated for Logo A, Logo B has an additional 32 presets for full screen 1920x1080, or maximum 500 frames of animation
- Horizontal and vertical positioning
- Transparency settings
- Fade in and fade out time
- Macro: fade in, hold, fade out and animation, 1 time or loop
- Frame-sync and autophaser for stable input locking
- On loss of input, show freeze, color field or recall apology preset on processed output
- Clean output from frame-synchronizer
- Optional HDMI or Fiber output on SFP cage
- 8 GPIO contacts assignable to presets, including optional take and priority mode.
- Trigger information contained in VANC (SCTE104) packets on SDI input can be used to recall logos
- Input video format and presence can be detected and used in conjunction with GPIs, VANC (SCTE104) information to select banks of logos, the specific logo from each range is determined by the information contained in the other trigger signals.
- Safety relay bypass when using a BHX45
- Logo uploading through dedicated Ethernet port
- Locks to Bi-level, Tri-level syncs or SDI input
- Full control and status monitoring through the front panel of the frame and via the Ethernet port (ACP)

Applications

- Channel branding
- Full screen static announcements
- Animations and dynamic theme logos

Ordering information

Module:

- **GLI100-I/O:** 3Gb/s, HD, SD SDI preset based dual logo inserter

Standard I/O:

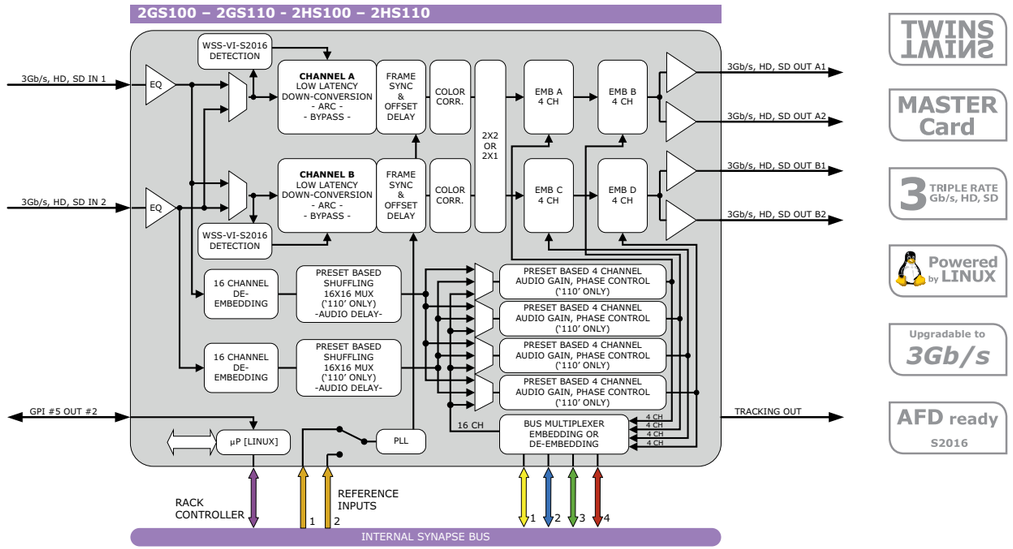
- **BPH45-PANEL:** I/O panel for GLI100

Relay bypass I/O:

- **BHX45-PANEL:** I/O panel with relay bypasses for GLI100

Specifications

visit www.evs.com



TWINS

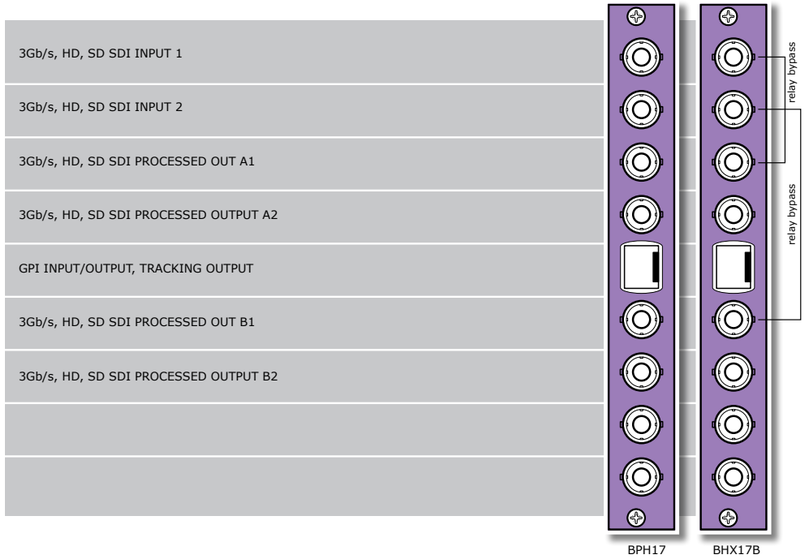
MASTER Card

3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Upgradable to 3Gb/s

AFD ready S2016



Dual channel 3Gb/s, HD, SD down-converter with color corrector and optional cross input audio shuffler

The 2GS100/110 are dual channel high-quality down converters. The optimized scaling and filter algorithms ensure crisp broadcast ready pictures from a native 3Gb/s or HD source, by use of a 64 tap FIR filters. The embedded audio is carried over to the SD domain. The appropriate aspect ratio can be applied by control of S2016 and GPI inputs by use of 16 presets per output that can store the aspect ratio conversions.

The 2GS110 is also very powerful cross-input audio shufflers and ProcAmps. With the 110 models you can de-embed 2x8 channels out of any of the 16 embedded audio channels of both HD/SD inputs and shuffle these channels. This means you can combine embedded audio channels from input 1 and embedded audio channels from input 2 in your SD outputs. The embedded audio is carried over to the SD domain.

The 2GS100/110 is compatible with SD, HD and 3Gb/s SDI (for full 1080p50 or 1080p59.94 use).

- 3 inputs: 2 SDI and 1 composite
- Configurable output function (straight, crossed, A only or B only)
- Low latency conversion process: as low as 1 field in controlled timing environment
- 5 GPI inputs assignable to various preset banks
- ARC triggers by S2016 (AFD)
-
-
- Compatible with the following input formats (auto selecting):
  - 1080p59.94
  - 1080p25
  - 720p25
  - 1080p50
  - 1080p23.98
  - 720p23.98
  - 1080i59.94
  - 720p59.94
  - SD525
  - 1080i50
  - 720p50
  - SD625
  - 1080p29.97
  - 720p29.97
- Output standards: SD625 or SD525 (only one standard can be chosen for both outputs simultaneously)
- framesync with output phase control in frames, lines and pixels with respect to reference. Delay setting are stored per output format for a constant latency operation
- 30 Frames (1080i/p), 60 frames (720p) or 125 frames (SD) delay offset per channel
- All ARC modes contain:
  - Anamorphic
  - V-Zoom
  - PBox 4:3/14:9
  - Center Cut
  - LBox 16:9/14:9
  - Variable H and V
- 16 Free individual programmable presets banks for:
  - Down-converter ARC A and B
  - Transparent ARC A and B
  - VI/WSS/AFD insertion A and B
  - Shuffling/gain/phase (110 only)
- Individual RGB color correctors for video channels A and B
- Transparent for 8 channels of embedded audio per channel
- Embedded domain cross input audio shuffling, gain and phase control (2GS/2HS110 only)
- Embedding and de-embedding through synapse bus
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Applications

- High quality low latency up-conversion (with zero motion artifacts) for 2 channels
- Free running fill-in camera positions up-conversion and synchronization
- Combining embedded audio channels of 2 inputs into 1 (2GS110 only)

Ordering information

Module:

- **2GS100-I/O:** Dual channel 3Gb/s up-converter with color corrector
- **2GS110-I/O:** Dual channel 3Gb/s up-converter with color corrector with cross input audio shuffler

Standard I/O:

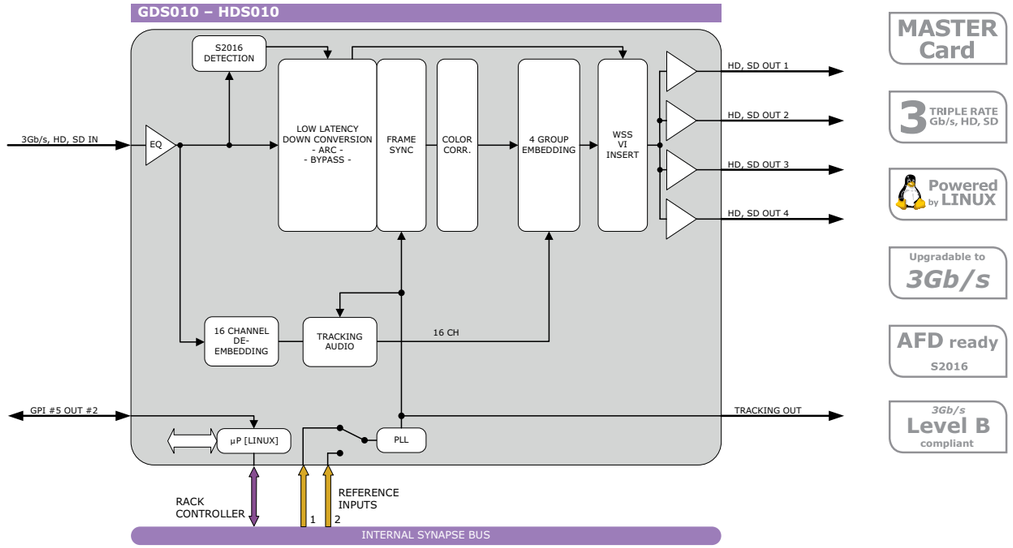
- **BPH17-PANEL:** I/O panel for 2GSxxx

Relay bypass I/O:

- **BHX17b-PANEL:** I/O panel for 2GSxxx with relay bypass

Specifications

visit www.evs.com



MASTER Card

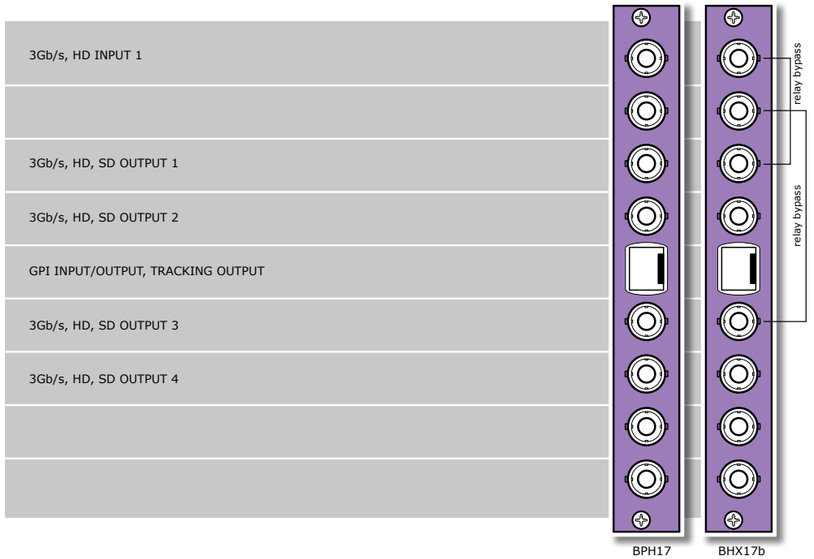
3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Upgradable to 3Gb/s

AFD ready S2016

3Gb/s Level B compliant



3Gb/s, HD, SD basic down-converter/synchronizer

The GDS010 is a low latency down-converter with 16 channel audio transparency.

The GDS010 is compatible with SD, HD and 3Gb/s SDI (for full 1080p50 or 1080p59.94 use).

- Low latency conversion process (as low as 1 field in controlled timing environment)
- Compatible input (auto selecting) and output formats :
  - 1080p59.94
  - 1080p50
  - 1080i59.94
  - 1080i50
  - 1080p29.97
  - 1080p25
  - 1080p23.98
  - 1035i/59.94
  - 720p59.94
  - 720p50
  - 720p29.97
  - 720p25
  - 720p23.98
  - SD525
  - SD625
- Framesync with output phase control lines and pixels with respect to reference
- All ARC modes contain:
  - Anamorphic
  - Center Cut
  - V-Zoom
  - LBox 16:9/14:9
  - PBox 4:3/14:9
  - Variable H and V
- 16 Free individual programmable presets banks for:
  - Down-converter ARC
  - VI insertion
  - WSS insertion
  - S2016 insertion
- 5 GPI inputs assignable to various preset banks
  - Down-conversion aspect ratio
  - Insertion of VI, WSS, AFD (S2016)
- ARC triggers by VI, WSS, WSSext and S2016 (AFD)
- Transparent for 16 channels of embedded audio
- Hue control for NTSC inputs
- OP47 translation into WST-B
- Color corrector (RGB and total gain, RGB and total black)
- Locks to Bi-level syncs or SDI input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Applications

- Basic down-conversion with transparent audio

Ordering information

Module:

- **GDS010-I/O:** 3Gb/s, HD, SD down-converter

Standard I/O:

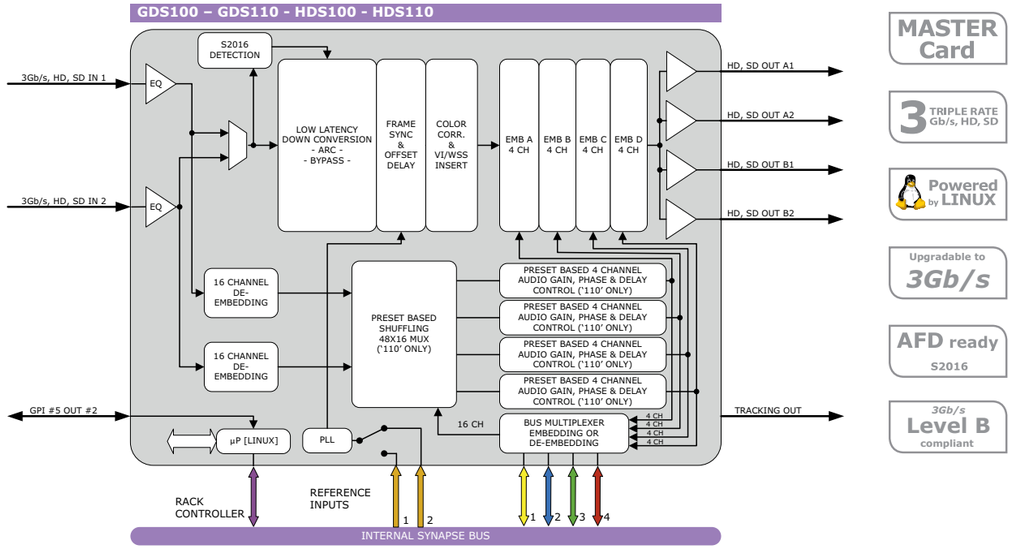
- **BPH17-PANEL:** I/O panel for GDS010

Relay bypass I/O:

- **BHX17b-PANEL:** I/O panel for GDS010 with back-up relay and RJ45 GPI I/O

Specifications

visit www.evs.com



MASTER Card

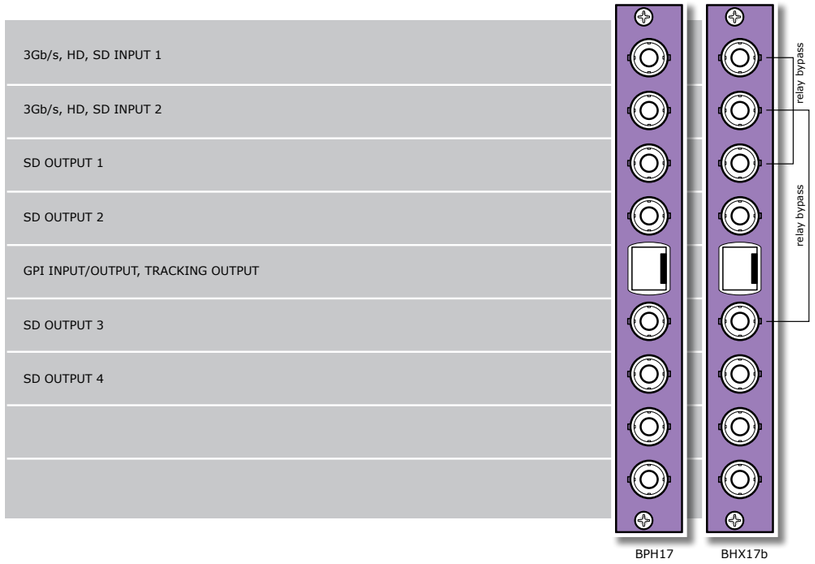
3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Upgradable to 3Gb/s

AFD ready S2016

3Gb/s Level B compliant



BPH17 BHX17b

3Gb/s, HD, SD down-converter/synchronizer with optional cross input audio shuffler

The GDS100/110 are high-quality down converters. The optimized scaling and filter algorithms ensure crisp broadcast ready pictures from a native 3Gb/s or HD source, by use of a 64 tap FIR filters. The appropriate aspect ratio can be applied by control of S2016 and GPI inputs by use of 16 presets per output that can store the aspect ratio conversions.

They are also very powerful cross-input audio shufflers and ProcAmps. With the 110 models you can de-embed 2x8 channels out of any of the 16 embedded audio channels of both HD and SD inputs and shuffle these channels. This means you can combine embedded audio from input 1 and from input 2 in your SD outputs. The embedded audio is carried over to the SD domain.

The GDS100/110 is compatible with SD, HD and 3Gb/s SDI (for full 1080p50 or 1080p59.94 use).

- 2 SDI inputs
- Low latency conversion process (as low as 1 field in controlled timing environment)
- Compatible input (auto selecting) and output formats:
  - 1080p59.94
  - 1080p50
  - 1080i59.94
  - 1080i50
  - 1080p29.97
  - 1080p25
  - 1080p23.98
  - 720p59.94
  - 720p50
  - 720p29.97
  - 720p25
  - 720p23.98
  - SD525
  - SD625
- Framesync with output phase control in frames, lines and pixels with respect to reference. Delay setting are stored per output format for a constant latency operation
- 30 Frames (1080i/p), 60 frames (720p) or 125 frames (SD) delay offset per channel
- 16 Free individual programmable presets banks for:
  - Down-converter ARC
  - Transparent ARC
  - VI/WSS/AFD insertion
  - Shuffling/gain/phase (110 only)
- 5 GPI inputs assignable to various preset banks
- All ARC modes contain:
  - Anamorphic
  - Center Cut
  - V-Zoom
  - LBox 16:9/14:9
  - PBox 4:3/14:9
  - Variable H and V
- Color corrector (RGB and total gain, RGB and total black)
- Hue control for NTSC
- OP47 translation into WST-B
- Transparent for 16 channels of embedded audio
- Embedded domain cross input audio shuffling, gain and phase control (110 only)
- Embedding and de-embedding through synapse bus
- Locks to Tri-level, Bi-level or SDI input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Complementary cards:
- DAC20, DAC24, DAS24, DIO48, ADC20, ADC24, DIO24

Applications
- Transmission output down-conversion with back-up input

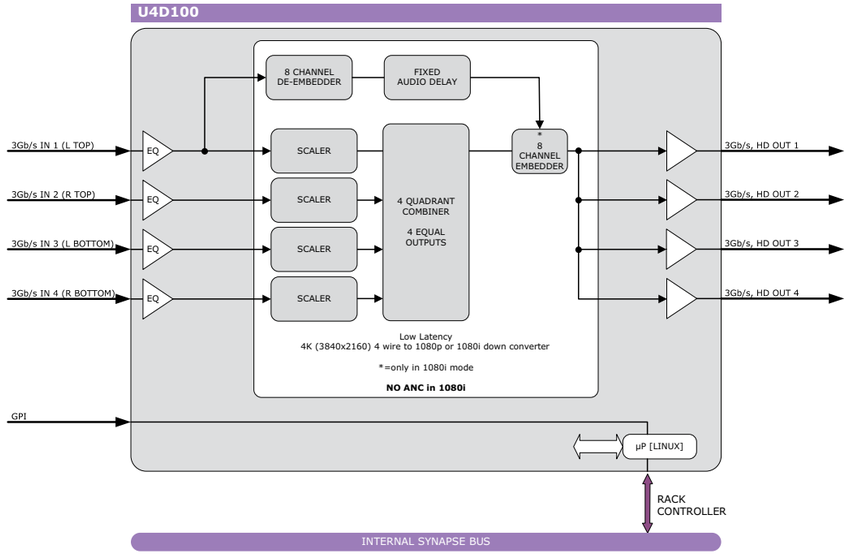
Ordering information

Module:
- **GDS100-I/O:** 3Gb/s, HD, SD down- converter
- **GDS110-I/O:** 3Gb/s, HD, SD down- converter with audio shuffler ProcAmp

Standard I/O:
- **BPH17-PANEL:** I/O panel for G-HDSxxx

Relay bypass I/O:
- **BHX17b-PANEL:** I/O panel for GDSxxx with relay bypass

Specifications
visit www.evs.com

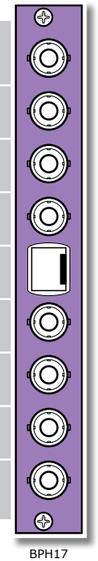


4K ULTRAHD 3840 x 2160

Powered by LINUX

3Gb/s Level B compliant

3Gb/s INPUT 1 (LEFT TOP)
3Gb/s INPUT 2 (RIGHT TOP)
3Gb/s PROCESSSED OUTPUT 1
3Gb/s PROCESSSED OUTPUT 2
GPI
3Gb/s PROCESSSED OUTPUT 3
3Gb/s PROCESSSED OUTPUT 4
3Gb/s INPUT 3 (LEFT BOTTOM)
3Gb/s INPUT 4 (RIGHT BOTTOM



BPH17

4K Ultra HD (3840 × 2160) 4 wire to 1080p or 1080i down converter

The U4D100 is a 4K (3840x2180), 4 wire, to 1080p down-converter. This low latency unit combines and filters the four quadrants into a 1080p (1920x1080) signal.

For the 1080p60 and 1080p50 standards the card is completely transparent for all the ANC data from input 1. For the other standards the card must be locked to input and is only transparent for 2 groups of audio.

- Four 1080p50/59.94 (level B compatible) inputs
- 4 outputs, equal signals (one 1080p50/59.94 output on all 4 outputs)
  - one 1080p50/59.94 signal on all 4 outputs (fully ANC transparent)
  - or one 1080i50/59.94 or 1080p25/29.97 signal on all 4 outputs with 4 groups of audio and no other ancilliary data (no ANC transparency!)
- Low latency (20ms @ 50Hz, 16.7ms @ 59.95Hz)
- 4K four wire (3840 x 2160)
- Compatible with 1080p50/59.94 inputs (auto selecting)
- Transparent for 16 channels of embedded audio
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Applications

- Down conversion from 4K production sets

Ordering information

Module:

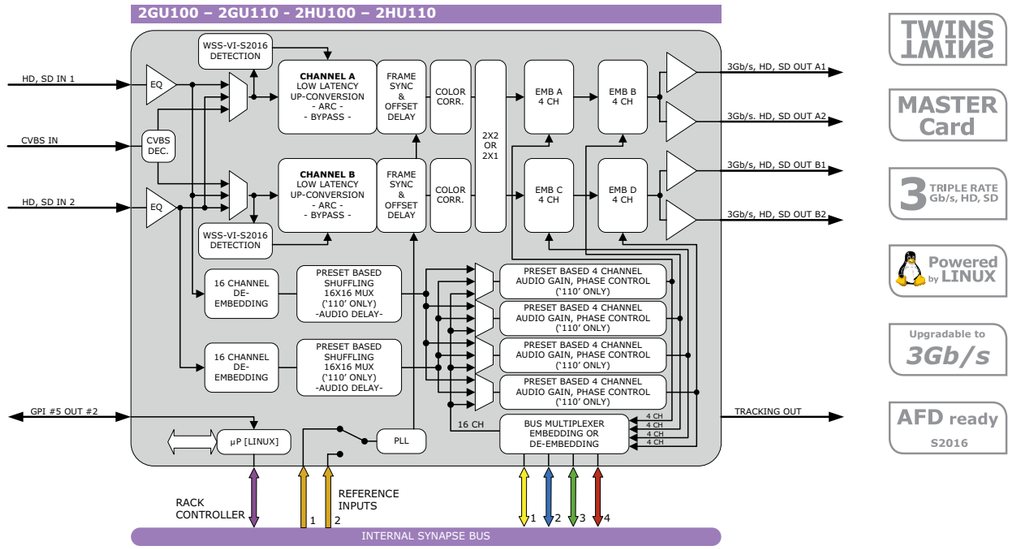
- **U4D100-I/O:** 4K Ultra HD (3840 x 2160) 4 wire to 1080p or 1080i down converter

Standard I/O:

- **BPH17-PANEL:** I/O panel for U4D100

Specifications

visit www.evs.com



TWINS

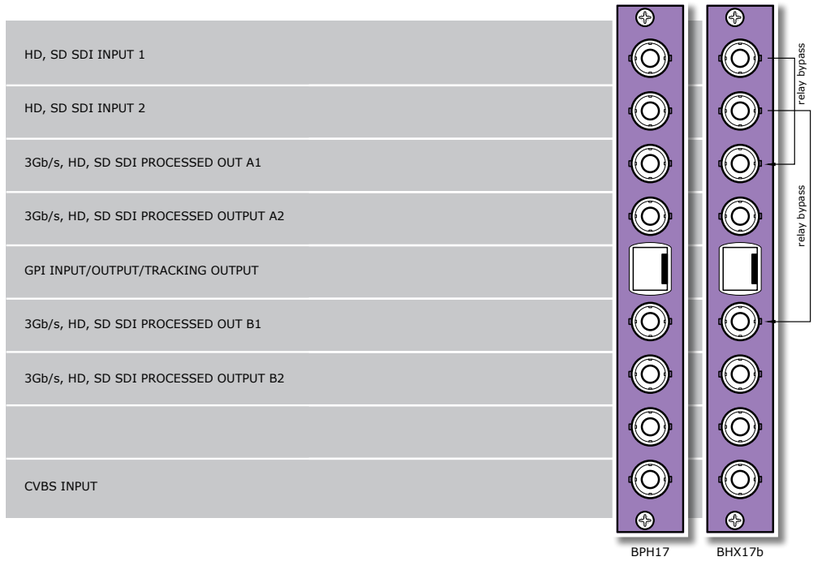
MASTER Card

3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Upgradable to 3Gb/s

AFD ready S2016



Dual channel 3Gb/s, HD up-converter with color corrector and optional cross input audio shuffler

The 2GU100/110 are dual channel high-quality up converters. The optimized scaling and filter algorithms ensure crisp broadcast ready pictures from a native SD or HD source, by use of a 64 tap FIR filters. The cards allow you to simulcast 2 HD or 3Gb/s signals from 2 native HD, SD or 1 CVBS and an SD infrastructure. The appropriate aspect ratio can be applied by control of VI, WSS and GPI inputs by use of 16 presets per output.

They are also very powerful cross-input audio shufflers and ProcAmps. With the 110 models you can de-embed 2x 8 channels out of any of the 16 embedded audio channels of both HD/SD inputs and shuffle these channels. This means you can combine embedded audio channels from input 1 and embedded audio channels from input 2 in your 3Gb/s (2GU), HD, SD outputs. The embedded audio is carried over to the HD or 3Gb/s domain.

The 2GU100/110 is compatible with SD, HD and 3Gb/s SDI (for full 1080p50 or 1080p59.94 use).

- 3 inputs: 2 SDI and 1 composite
- Configurable output mode (straight, crossed, A only, B only)
- Low latency conversion process: as low as 1 field in controlled timing environment
- 5 GPI inputs assignable to various preset banks
- ARC triggers by S2016 (AFD)
- Individual RGB color correctors for video channels A and B
- Compatible with the following input (auto selecting) and output formats:
  - 1080p59.94
  - 1080p25
  - 720p25
  - 1080p50
  - 1080p23.98
  - 720p23.98
  - 1080i59.94
  - 720p59.94
  - SD525
  - 1080i50
  - 720p50
  - SD625
  - 1080p29.97
  - 720p29.97
- One format can be chosen for both outputs simultaneously
- Framesync with output phase control in frames, lines and pixels with respect to reference. Delay setting are stored per output format for a constant latency operation
- 30 Frames (1080i/p), 60 frames (720p) or 125 frames (SD) delay offset per channel
- All ARC modes contain:
  - Anamorphic
  - V-Zoom
  - PBox 4:3/14:9
  - Center Cut
  - LBox 16:9/14:9
  - Variable H and V
- 16 Free individual programmable presets banks for:
  - Up-converter ARC A and B
  - Transparent ARC A and B
  - AFD insertion A and B
  - Shuffling/gain/phase (110 only)
- Transparent for 8 channels of embedded audio per channel
- Embedded domain cross input audio shuffling, gain and phase control (110 only)
- Locks to Tri-level, Bi-leveland SDI input
- Embedding and de-embedding through synapse bus
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Complementary cards:

- DAC20, DAC24, DAS24, DIO48, ADC20, ADC24, DIO24

Applications

- High quality low latency up-conversion (with zero motion artifacts) for 2 channels
- Free running fill-in camera positions up-conversion and synchronization
- Combining embedded audio channels of 2 inputs into 1 (110 only)

Ordering information

Modules

- **2GU100-I/O:** Dual channel 3Gb/s up-converter with color corrector
- **2GU110-I/O:** Dual channel 3Gb/s up-converter with color corrector with cross input audio shuffler

Standard I/O:

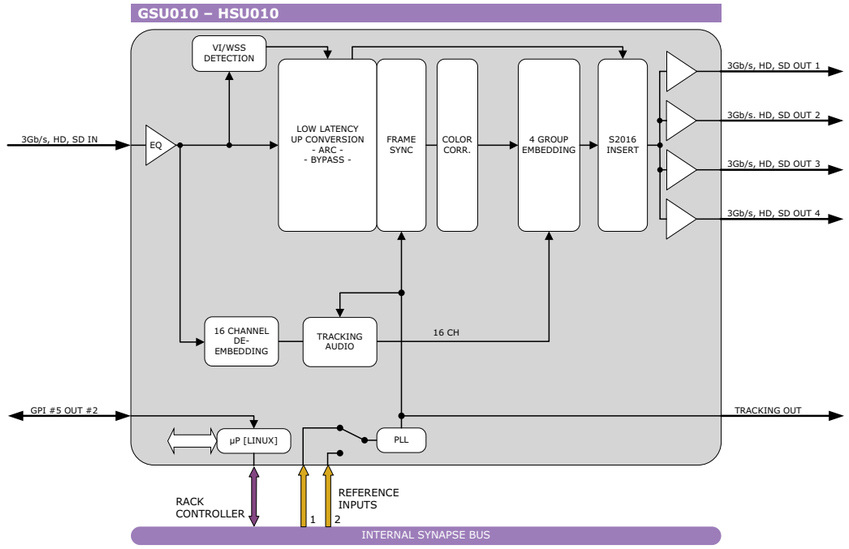
- **BPH17-PANEL:** I/O panel for 2GUxxx

Relay bypass I/O:

- **BHX17b-PANEL:** I/O panel for 2GUxxx with relay bypass

Specifications

visit www.evs.com



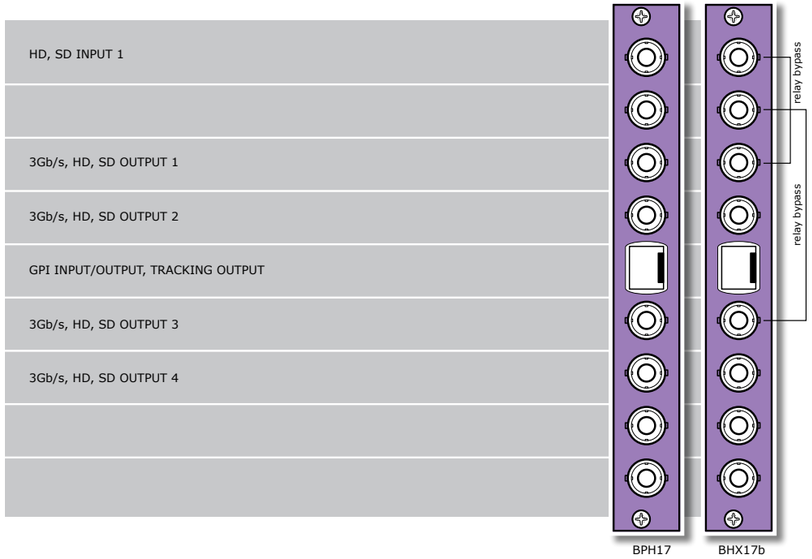
3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Upgradable to 3Gb/s

AFD ready S2016

3Gb/s Level B compliant



3Gb/s, HD, SD basic up-converter/synchronizer

The GSU010 is a low latency up-converter with 16 channel audio transparency.

The GSU010 is compatible with SD, HD and 3Gb/s SDI (for full 1080p50 or 1080p59.94 use).

- Low latency conversion process (as low as 1 field in controlled timing environment)
- Compatible input (auto selecting) and output formats:
  - 1080p59.94
  - 1080p25
  - 720p25
  - 1080p50
  - 1080p23.98
  - 720p23.98
  - 1080i59.94
  - 720p59.94
  - SD525
  - 1080i50
  - 720p50
  - SD625
  - 1080p29.97
  - 720p29.97
- Framesync with output phase control lines and pixels with respect to reference
- All ARC modes contain:
  - Anamorphic
  - V-Zoom
  - PBox 4:3/14:9
  - Center Cut
  - LBox 16:9/14:9
  - Variable H and V
- 16 Free individual programmable presets banks for:
  - Up-converter ARC
  - Transparent ARC
  - S2016 insertion
- 5 GPI inputs assignable to various preset banks
  - Up-conversion ARC
  - Transparent ARC (when output is equal to input)
  - Insertion of AFD (S2016)
- ARC triggers by VI, WSS, WSSext and S2016 (AFD)
- Transparent for 16 channels of embedded audio
- Hue control for NTSC inputs
- WST-B translation into OP47
- Color corrector (RGB and total gain, RGB and total black)
- Locks to Bi-level syncs or SDI input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Applications

- Basic up-conversion with transparent audio
- OB Van input up-converter/synchronizer
- Infrastructure up-converter

Ordering information

Module:

- **GSU010-I/O:** 3Gb/s, HD, SD-SDI up-converter

Standard I/O:

- **BPH17-PANEL:** I/O panel for GSU010

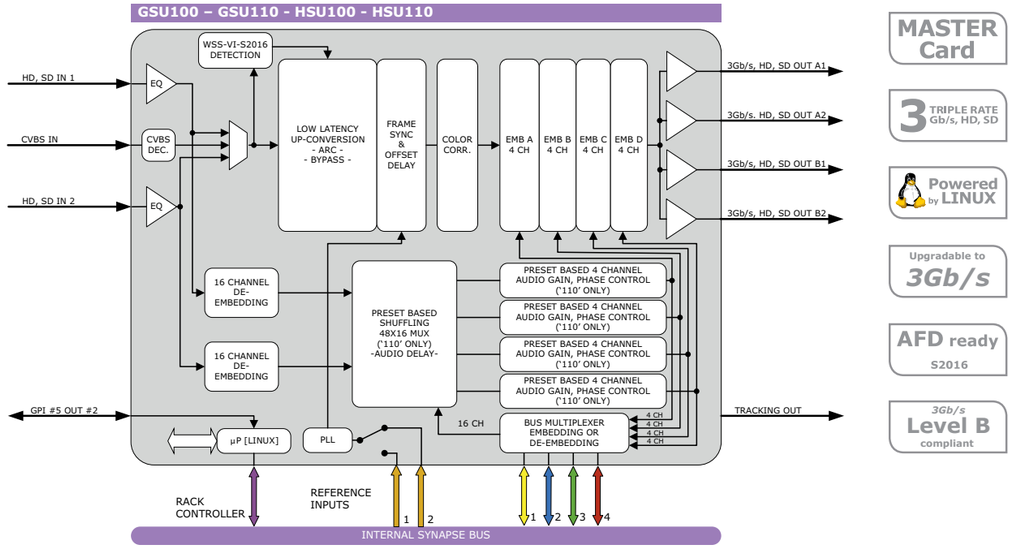
Relay bypass I/O:

- **BHX17b-PANEL:** I/O panel for GSU010 with relay bypass

Specifications

visit www.evs.com

GSU010



MASTER Card

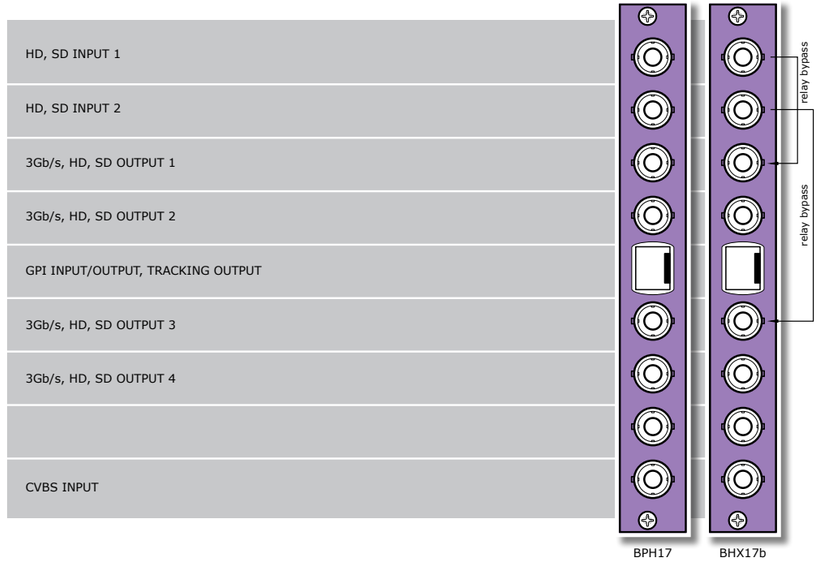
3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Upgradable to 3Gb/s

AFD ready S2016

3Gb/s Level B compliant



3Gb/s, HD, SD UP-converter/synchronizer with optional cross input audio shuffler

The GSU100/110 are high-quality up converters. The optimized scaling and filter algorithms ensure crisp broadcast ready pictures from a native HD or SD source, by use of a 64 tap FIR filters. The appropriate aspect ratio can be applied by control of S2016 and GPI inputs by use of 16 presets per output that can store the aspect ratio conversions.

These are also very powerful cross-input audio shufflers and ProcAmps. With the 110 models you can de-embed 2x8 channels out of any of the 16 embedded audio channels of both HD and SD inputs and shuffle these channels. This means you can combine embedded audio from input 1 and from input 2 in your SD outputs. The embedded audio is carried over to the SD domain.

The GSU100/110 is compatible with SD, HD and 3Gb/s SDI (for full 1080p50 or 1080p59.94 use).

- 3 input: 2 SDI and 1 composite
- Low latency conversion process (as low as 1 field in controlled timing environment)
- Compatible input (auto selecting) and output formats:
  - 1080p59.94
  - 1080p50
  - 1080i59.94
  - 1080i50
  - 1080p29.97
  - 1080p25
  - 1080p23.98
  - 720p59.94
  - 720p50
  - 720p29.97
  - 720p25
  - 720p23.98
  - SD525
  - SD625
- Framesync with output phase control in frames, lines and pixels with respect to reference. Delay setting are stored per output format for a constant latency operation
- 30 Frames (1080i/p), 60 frames (720p) or 125 frames (SD) delay offset per channel
- 16 Free individual programmable presets banks for:
  - Up-converter ARC
  - Transparent ARC
  - S2016 (AFD) insertion
  - Shuffling/gain/phase (110 only)
- 5 GPI inputs assignable to various preset banks
- ARC triggers by VI, WSS, WSSext and S2016 (AFD)
- All ARC modes contain:
  - Anamorphic
  - Center Cut
  - V-Zoom
  - LBox 16:9/14:9
  - PBox 4:3/14:9
  - Variable H and V
- Color corrector (RGB and total gain, RGB and total black)
- Hue control for NTSC inputs
- WST-B translation into OP47
- Transparent for 16 channels of embedded audio
- Embedded domain cross input audio shuffling, gain and phase control (110 only)
- Embedding and de-embedding through synapse bus
- Locks to Tri-level, Bi-level or SDI input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Complementary cards:

- DAC20, DAC24, DAS24, DIO48, ADC20, ADC24, DIO24

Applications

- OB Van input up-converter/ synchronizer
- Infrastructure up-conversion

Ordering information

Module:

- **GSU100-I/O:** 3Gb/s, HD, SD SDI up-converter
- **GSU110-I/O:** 3Gb/s, HD, SD SDI up-converter with audio shuffler ProcAmp

Standard I/O:

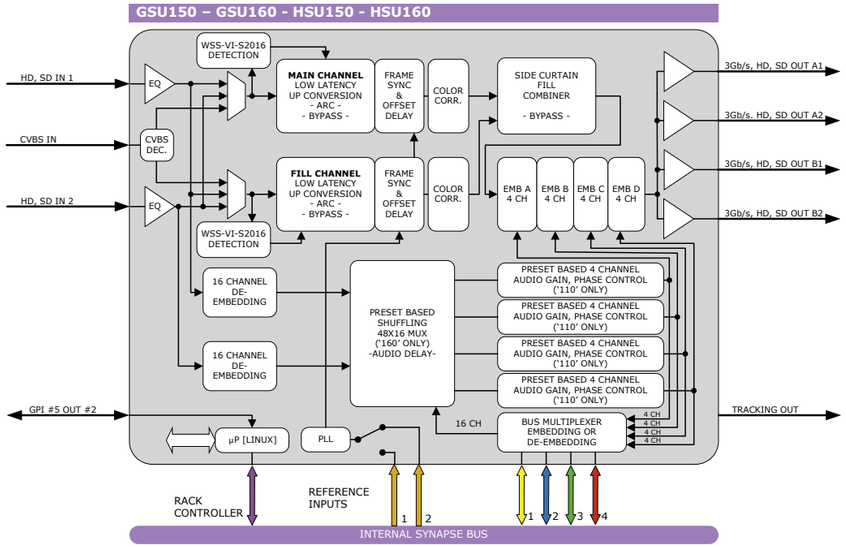
- **BPH17-PANEL:** I/O panel for GSUxxx

Relay bypass I/O:

- **BHX17b-PANEL:** I/O panel for GSUxxx with relay bypass

Specifications

visit www.evs.com



TWINS

MASTER Card

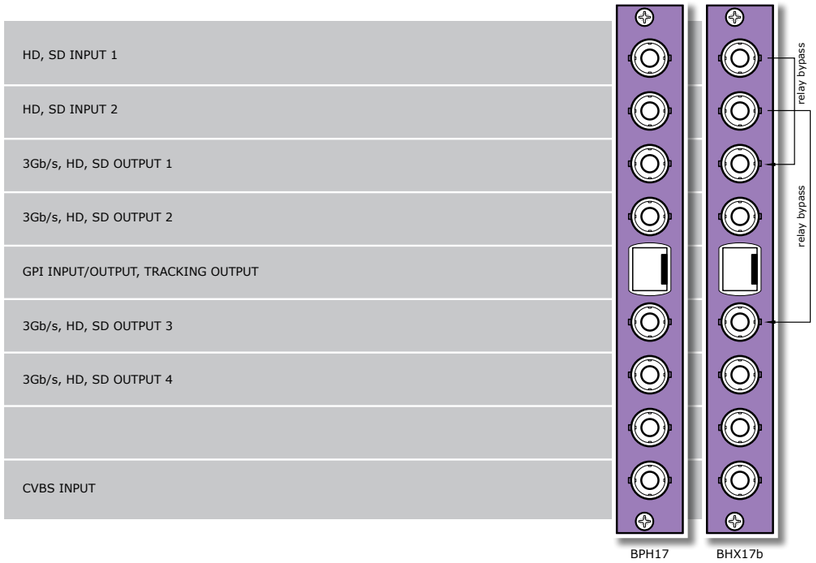
3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Upgradable to 3Gb/s

AFD ready S2016

3D Applications



3Gb/s, HD, SD up-converter/synchronizer with side curtains and optional cross input audio shuffler

The GSU150/160 are high-quality up converters. The optimized scaling and filter algorithms ensure crisp broadcast ready pictures from a native HD or SD source, by use of a 64 tap FIR filters. The appropriate aspect ratio can be applied by control of S2016 and GPI inputs by use of 16 presets per output that can store the aspect ratio conversions.

Besides also being powerfull cross input audio shufflers and proc amps, the output stage of these cards can be configured in various ways. In straight and crossed mode the card acts as a dual channel (TWINS) card (audio transparency reduced to 8 channels). You can even mix/lay-over input 1 and input 2 into one output feed with for instance a "side curtain" effect, a mix or side by side.

The GSU150/160 is compatible with SD, HD and 3Gb/s SDI (for full 1080p50 or 1080p59.94 use).

- 3 input: 2 SDI and 1 composite
- Configurable output mode: straight, crossed, A only, B only, side curtains (adjustable), mix, or Side by Side (for 3D)
- Compatible input (auto selecting) and output formats:
  - 1080p59.94
  - 1080p50
  - 1080i59.94
  - 1080i50
  - 1080p29.97
  - 1080p25
  - 1080p23.98
  - 720p59.94
  - 720p50
  - 720p29.97
  - 720p25
  - 720p23.98
  - SD525
  - SD625
- One standard can be chosen for both outputs simultaneously
- Framesync with output phase control in frames, lines and pixels with respect to reference. Delay setting are stored per output format for a constant latency operation
- 30 Frames (1080i/p), 60 frames (720p) or 125 frames (SD) delay offset per channel
- 16 Free individual programmable presets banks for:
  - Up-converter ARC
  - Transparent ARC
  - S2016 (AFD) insertion
  - Shuffling/gain/phase (160 only)
- 5 GPI inputs assignable to various preset banks
- ARC triggers by VI, WSS, WSSext and S2016 (AFD)
- All ARC modes contain:
  - Anamorphic
  - Center Cut
  - V-Zoom
  - LBox 16:9/14:9
  - PBox 4:3/14:9
  - Variable H and V
- Individual RGB color corrector for channel A and B
- Hue control for NTSC inputs
- Transparent for 16 channels of embedded audio
- Embedded domain cross input audio shuffling, gain and phase control (160 only)
- Embedding and de-embedding through synapse bus
- Locks to Tri-level, Bi-level or SDI input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Complementary cards:

- DAC20, DAC24, DAS24, DIO48, ADC20, ADC24, DIO24

Applications

- OB Van input up-converter/synchronizer
- Infrastructure up-conversion
- Up-conversion with side-fill/curtain input

Ordering information

Module:

- **GSU150-I/O:** 3Gb/s, HD, SD SDI up-converter with side curtain
- **GSU160-I/O:** 3Gb/s, HD, SD-SDI up-converter with side curtains and audio shuffler ProcAmp

Standard I/O:

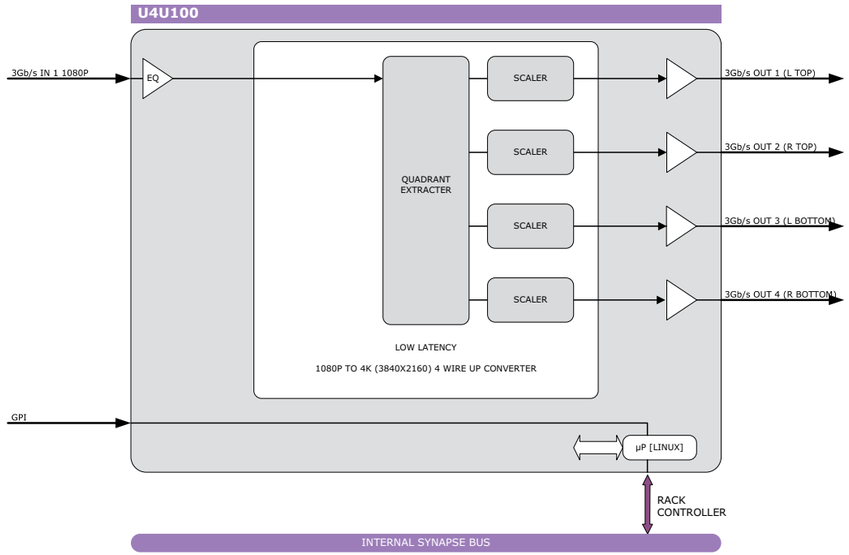
- **BPH17-PANEL:** I/O panel for GSUxxx

Relay bypass I/O:

- **BHX17b-PANEL:** I/O panel for GSUxxx with relay bypass

Specifications

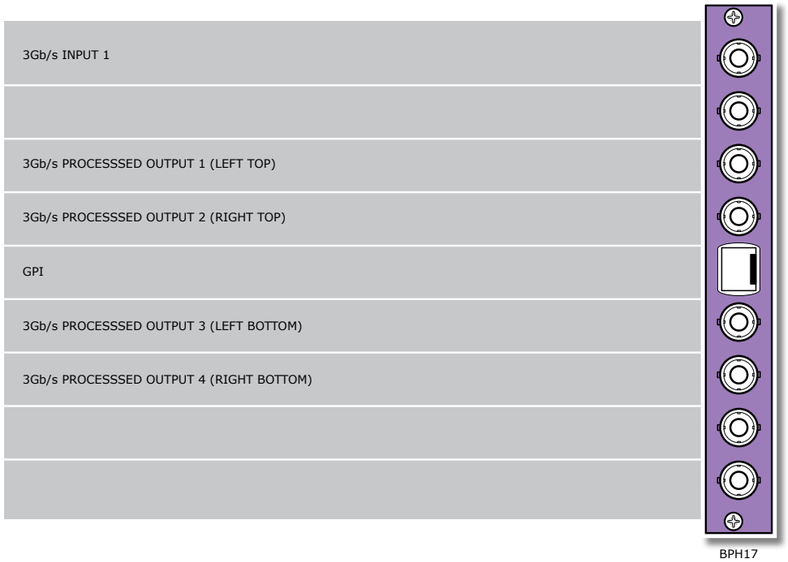
visit www.evs.com



4K ULTRAHD 3840 x 2160

Powered by LINUX

3Gb/s Level B compliant



BPH17

1080P to 4K Ultra HD (3840 × 2160) 4 wire UP converter

The U4U100 is a 1080p to 4k (4 wire) ultra HD up-converter. The low latency unit extracts four quadrants out of a 1080p (1920x1080) and scales each individual part into to 4 full 1920x1080 pictures

- One 1080p 50/59.94 input (level B compatible)
- 4 outputs, one for each quadrant
- Low latency (20ms @ 50Hz, 16.7ms @ 59.95Hz)
- 4K four wire (3840 x 2160)
- Compatible with 1080p59.94 or 1080p50 inputs
- Transparent for 16 channels of embedded audio
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Applications

- Up conversion for 4K production sets

Ordering information

Module:

- **U4U100-I/O:** 1080p to 4K Ultra HD (3840 x 2160) 4 wire up converter

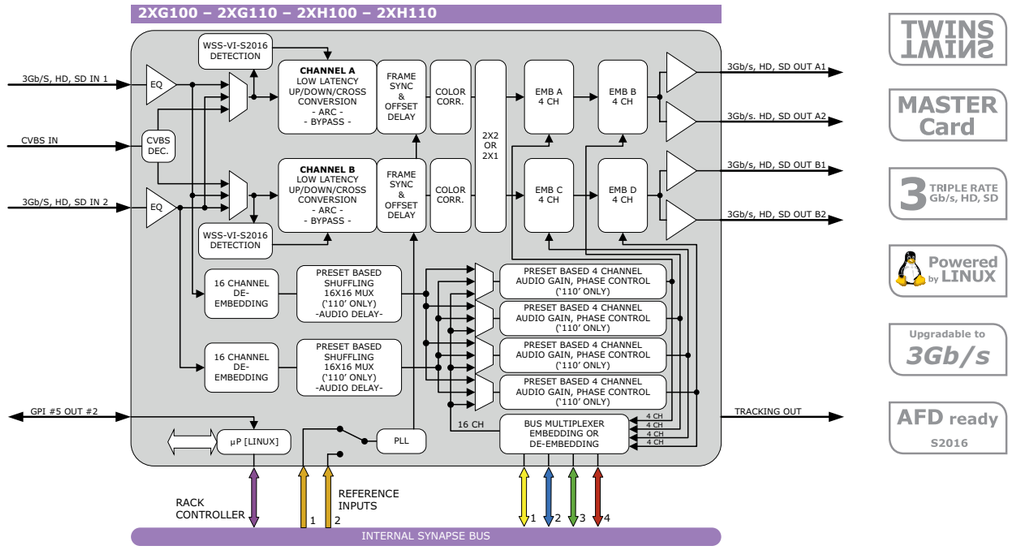
Standard I/O:

- **BPH17-PANEL:** I/O panel for U4U100

Specifications

visit www.evs.com

U4U100



TWINS

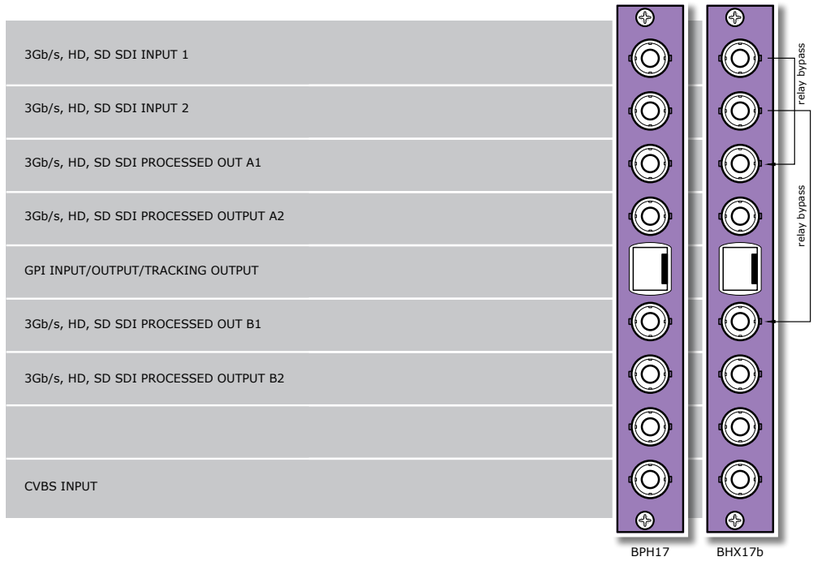
MASTER Card

3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Upgradable to 3Gb/s

AFD ready S2016



Dual channel 3Gb/s, HD, SD up/down/cross-converter and synchronizer with optional audio shuffler

The 2XG100/110 are dual channel high-quality up/down/cross converters. The optimized scaling and filter algorithms ensure crisp broadcast ready pictures from a native SD or HD source, by use of a 64 tap FIR filters. The cards allow you to simulcast 2 HD or 3Gb/s (2XG models only) signals from 2 native HD, SD or 1 CVBS and an SD infrastructure.

They are also very powerful cross-input audio shufflers and ProcAmps. With the 110 models you can de-embed 2x 8 channels out of any of the 16 embedded audio channels of both SDI inputs and shuffle these channels. This means you can combine embedded audio channels from input 1 and embedded audio channels from input 2 in your 3Gb/s, HD, SD outputs.

The 2XG100/110 is compatible with SD, HD and 3Gb/s SDI (for full 1080p50 or 1080p59.94 use).

- 3 inputs: 2 SDI and 1 composite
- Configurable output mode (straight, crossed, A only, B only)
- Low latency conversion process: as low as 1 field in controlled timing environment
- 5 GPI inputs assignable to various preset banks
- ARC triggers by S2016 (AFD)
- Individual RGB color correctors for video channels A and B
- Transparent for 8 channels of embedded audio per channel
- Locks to Tri-level, Bi-leveland SDI input
- Compatible with the following input (auto selecting) and output formats:
  - 1080p59.94
  - 1080p50
  - 1080i59.94
  - 1080i50
  - 1080p29.97
  - 1080p25
  - 1080p23.98
  - 720p59.94
  - 720p50
  - 720p29.97
  - 720p25
  - 720p23.98
  - SD525
  - SD625
- One format can be chosen for both outputs simultaneously
- Two individual conversion paths. The input can be different standard SD or HD, converted to one output format
- Framesync with output phase control in frames, lines and pixels with respect to reference. Delay setting are stored per output format for a constant latency operation
- 30 Frames (1080i/p), 60 frames (720p) or 125 frames (SD) delay offset per channel
- All ARC modes contain:
  - Anamorphic
  - Center Cut
  - V-Zoom
  - LBox 16:9/14:9
  - PBox 4:3/14:9
  - Variable H and V
- 16 Free individual programmable presets banks for:
  - Up/down/cross-converter ARC A and B
  - Transparent ARC A and B
  - VI/WSS/AFD insertion A and B
  - Shuffling/gain/phase (110 only)
- Embedded domain cross input audio shuffling, gain and phase control (110 only)
- Embedding and de-embedding through synapse bus
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Complementary cards:

- DAC20, DAC24, DAS24, DIO48, ADC20, ADC24, DIO24

Applications

- Truck input synchronizer converter
- Infrastructure up/down/cross-conversion
- Combining embedded audio channels of 2 inputs into 1 (110 only)

Ordering information

Modules

- **2XG100-I/O:** Dual channel 3Gb/s, HD, SD-SDI up/down/cross-converter
- **2XG110-I/O:** Dual channel 3Gb/s, HD, SD-SDI up/down/cross-converter with audio shuffler ProcAmp

Standard I/O:

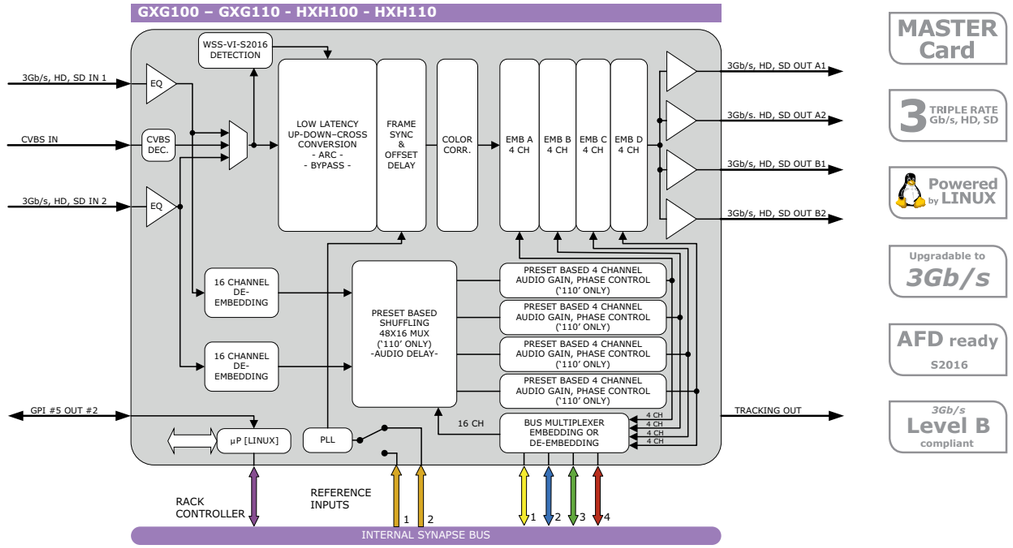
- **BPH17-PANEL:** I/O panel for 2XGxxx

Relay bypass I/O:

- **BHX17b-PANEL:** I/O panel for 2XGxxx with relay bypass

Specifications

visit www.evs.com



MASTER Card

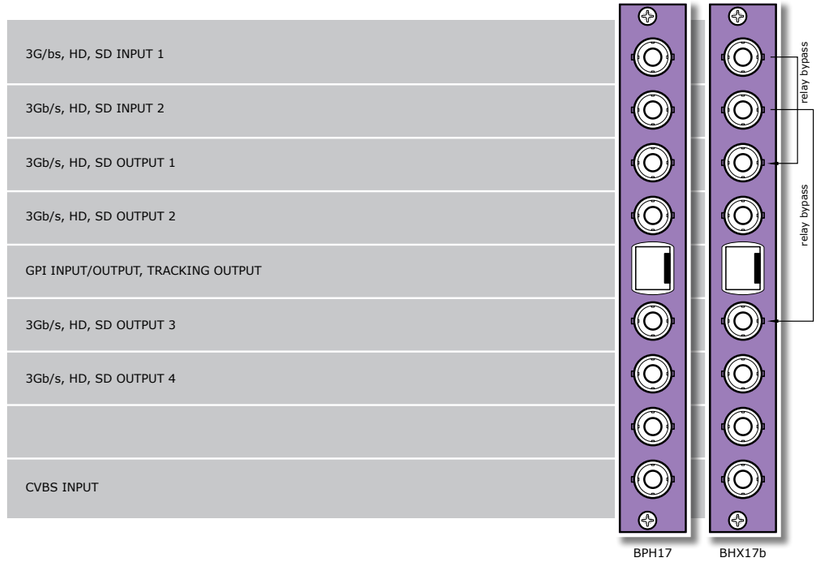
3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Upgradable to 3Gb/s

AFD ready S2016

3Gb/s Level B compliant



3Gb/s, HD, SD UP/down/cross-converter/synchronizer with optional cross input audio shuffler

The GXG100/110 are high-quality up/down/cross converters. The optimized scaling and filter algorithms ensure crisp broadcast ready pictures from a native HD or SD source, by use of a 64 tap FIR filters. The appropriate aspect ratio can be applied by control of S2016 and GPI inputs by use of 16 presets per output that can store the aspect ratio conversions.

These are also very powerful cross-input audio shufflers and ProcAmps. With the 110 models you can de-embed 2x8 channels out of any of the 16 embedded audio channels of both HD and SD inputs and shuffle these channels. This means you can combine embedded audio from input 1 and from input 2 in your SD outputs. The embedded audio is carried over to the SD domain.

The GXG100/110 is compatible with SD, HD and 3Gb/s SDI (for full 1080p50 or 1080p59.94 use).

- 3 input: 2 SDI and 1 composite
- Low latency conversion process (as low as 1 field in controlled timing environment)
- Compatible input (auto selecting) and output formats:
  - 1080p59.94
  - 1080p25
  - 720p25
  - 1080p50
  - 1080p23.98
  - 720p23.98
  - 1080i59.94
  - 720p59.94
  - SD525
  - 1080i50
  - 720p50
  - SD625
  - 1080p29.97
  - 720p29.97
- Framesync with output phase control in frames, lines and pixels with respect to reference. Delay setting are stored per output format for a constant latency operation
- 30 Frames (1080i/p), 60 frames (720p) or 125 frames (SD) delay offset per channel
- 16 Free individual programmable presets banks for:
  - Up/down/cross-converter ARC
  - Transparent ARC
  - WSS/VI/S2016 (AFD) insertion
  - Shuffling/gain/phase (110 only)
- 5 GPI inputs assignable to various preset banks
- ARC triggers by VI, WSS, WSSext and S2016 (AFD)
- All ARC modes contain:
  - Anamorphic
  - V-Zoom
  - PBox 4:3/14:9
  - Center Cut
  - LBox 16:9/14:9
  - Variable H and V
- Color corrector (RGB and total gain, RGB and total black)
- Hue control for NTSC inputs
- OP47 translation into WST-B and vice versa
- Transparent for 16 channels of embedded audio
- Embedded domain cross input audio shuffling, gain and phase control (110 only)
- Embedding and de-embedding through synapse bus
- Locks to Tri-level, Bi-level or SDI input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Complementary cards:

- DAC20, DAC24, DAS24, DIO48, ADC20, ADC24, DIO24

Applications

- OB Van input up/down/ cross-converter/ synchronizer
- Infrastructure up/down/ cross-conversion

Ordering information

Module:

- **GXG100-I/O:** 3Gb/s, HD, SD SDI up/down/ cross-converter
- **GXG110-I/O:** 3Gb/s, HD, SD SDI up/down/ cross-converter with audio shuffler ProcAmp

Standard I/O:

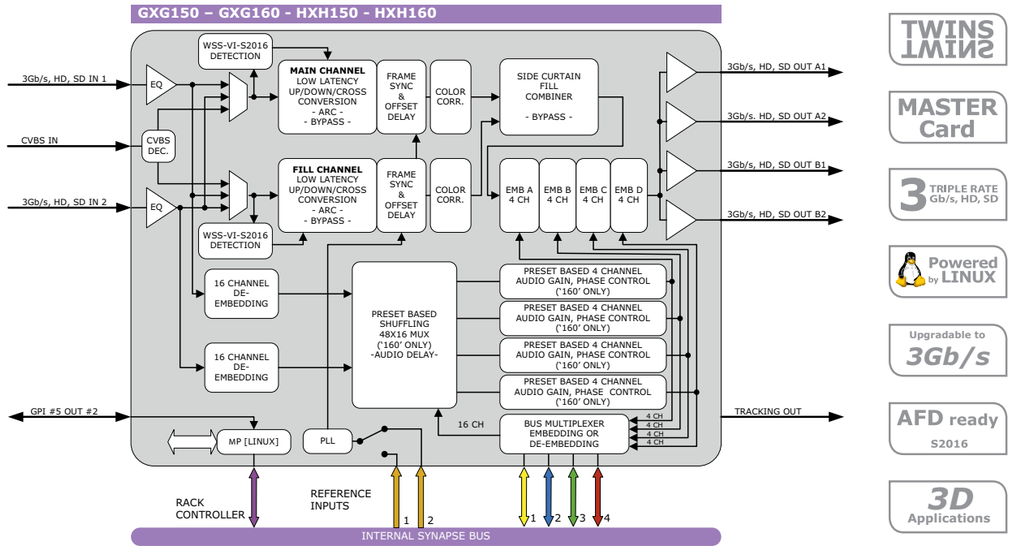
- **BPH17-PANEL:** I/O panel for GXGxxx

Relay bypass I/O:

- **BHX17b-PANEL:** I/O panel for GXGxxx with relay bypass

Specifications

visit www.evs.com



TWINS

MASTER Card

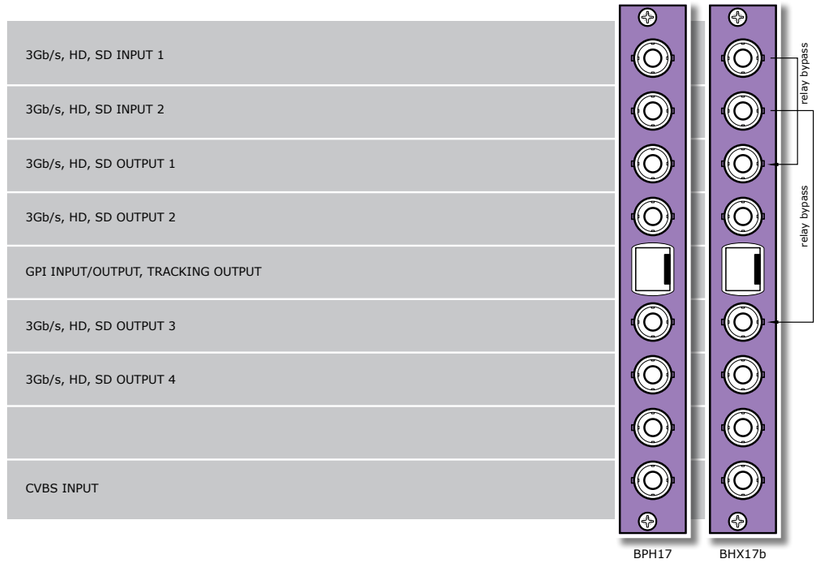
3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

Upgradable to 3Gb/s

AFD ready S2016

3D Applications



3Gb/s, HD, SD up/down/cross-converter/synchronizer with side curtains and optional audio shuffler

The GXG150/160 are high-quality up/down/cross converters. The optimized scaling and filter algorithms ensure crisp broadcast ready pictures from a native HD or SD source, by use of a 64 tap FIR filters. The appropriate aspect ratio can be applied by control of S2016 and GPI inputs by use of 16 presets per output that can store the aspect ratio conversions.

Besides also being powerfull cross input audio shufflers and proc amps, the output stage of these cards can be configured in various ways. In straight and crossed mode the card acts as a dual channel (TWINS) card (audio transparency reduced to 16 channels). You can even mix/lay-over input 1 and input 2 into one output feed with for instance a "side curtain" effect, a mix or side by side.

The GXG150/160 is compatible with SD, HD and 3Gb/s SDI (for full 1080p50 or 1080p59.94 use).

- 3 input: 2 SDI and 1 composite
- Configurable output mode: straight, crossed, A only, B only, side curtains (adjustable), mix, or Side by Side (for 3D)
- Compatible input (auto selecting) and output formats:
  - 1080p59.94
  - 1080p50
  - 1080i59.94
  - 1080i50
  - 1080p29.97
  - 1080p25
  - 1080p23.98
  - 720p59.94
  - 720p50
  - 720p29.97
  - 720p25
  - 720p23.98
  - SD525
  - SD625
- One standard can be chosen for both outputs simultaneously
- Framesync with output phase control in frames, lines and pixels with respect to reference. Delay setting are stored per output format for a constant latency operation
- 30 Frames (1080i/p), 60 frames (720p) or 125 frames (SD) delay offset per channel
- 16 Free individual programmable presets banks for:
  - Up/down/cross-converter ARC
  - Transparent ARC
  - WSS/VI/S2016 (AFD) insertion
  - Shuffling/gain/phase (160 only)
- 5 GPI inputs assignable to various preset banks
- ARC triggers by VI, WSS, WSSext and S2016 (AFD)
- All ARC modes contain:
  - Anamorphic
  - Center Cut
  - V-Zoom
  - LBox 16:9/14:9
  - PBox 4:3/14:9
  - Variable H and V
- Individual RGB color corrector for channel A and B
- Hue control for NTSC inputs
- Transparent for 16 channels of embedded audio
- Embedded domain cross input audio shuffling, gain and phase control (160 only)
- Embedding and de-embedding through synapse bus
- Locks to Tri-level, Bi-level or SDI input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Complementary cards:

- DAC20, DAC24, DAS24, DIO48, ADC20, ADC24, DIO24

Applications

- OB Van input up/down/cross-converter/synchronizer
- Infrastructure up/down/cross-conversion
- Up/down/cross-conversion with side-fill/curtain input

Ordering information

Module:

- **GXG150-I/O:** 3Gb/s, HD, SD SDI up/down/cross-converter with side curtain
- **GXG160-I/O:** 3Gb/s, HD, SD-SDI up/down/cross-converter with side curtains and audio shuffler ProcAmp

Standard I/O:

- **BPH17-PANEL:** I/O panel for GXGxxx

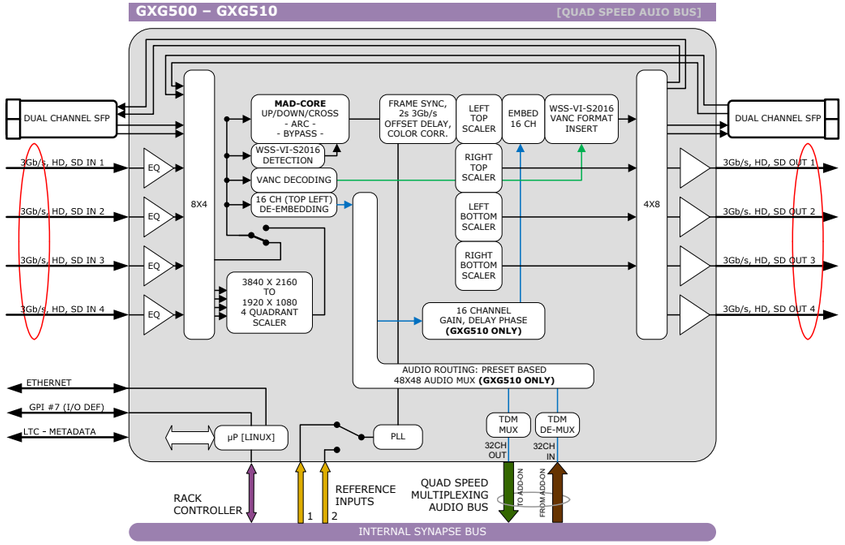
Relay bypass I/O:

- **BHX17b-PANEL:** I/O panel for GXGxxx with relay bypass

Specifications

visit www.evs.com

GXG150 - GXG160



3 TRIPLE RATE Gb/s, HD, SD

4K ULTRAHD 3840 x 2160

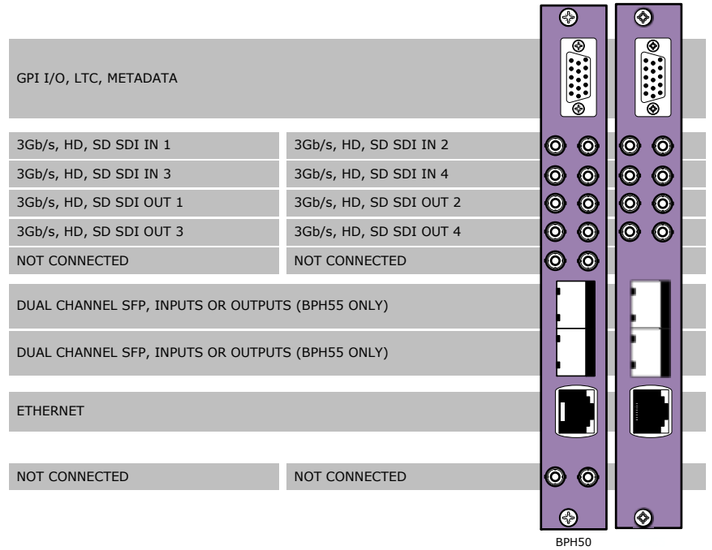
Powered by LINUX

AFD ready S2016

3Gb/s Level B compliant

Quad speed MASTER

SFP Flexible I/O



BPH50

High end 3Gb/s, HD, SD up/down/cross-converter and frame synchronizer with optional audio shuffler

The GXG500/510 is a high end up/down/cross converter. Based on EVS's Motion Optimized Quality De-interlacer (MOQD), and extensively computer optimized scaling and filter algorithms the new 500 series of up/down/cross converters ensure the absolute best quality video conversion from any standard to any standard within the same framerate. The card allows you to simulcast any output standard in any format from any source standard.

The embedded audio is carried over to the SD, HD or 3Gb/s domain. The appropriate aspect ratio can be applied by control of VI, WSS and GPI inputs by use of 16 presets per output that can store the aspect ratio conversions.The -510 models also have very powerful cross-input audio shufflers and proc-amps.

Beside being the industry highest quality up/down converter, the GXG500/510 also functions as a 4K 4-wire up and down converter.

- Industry highest quality de-interlacing algorithm using EVS's MOQD
- 4 x 3Gb/s SDI inputs (level B compliant)
- 4 x 3Gb/s SDI outputs, equal signals or 4K quadrants
- 4K four wire (3840 x 2160) compatible
- 10Gb/s Ethernet connection for future use
- Medium latency conversion process (2 frames)
- Quad Speed audio bus Embedding and de-embedding
- Video proc-amp (Y and C control), Color corrector (RGB gain and black) and Hue control
- Locks to Tri-level, Bi-level or SDI input 1 or 2
- Compatible with the following input (auto selecting) and output formats (only one output standard can be chosen for all outputs simultaneously): 1080p25/29.97/50/59.94, 1080i50/59.94, 720p50/59.94, SD625, SD525
- Frame sync with auto-phaser and control in Frames, Lines and pixels with respect to reference with a maximum of 25 frames delay offset per channel
- All ARC modes contain Anamorphic, Center Cut, V-Zoom, LBox-16:9, LBox-14:9, PBox-4:3, PBox-14:9 and Variable H and V (50-200%)
- 16 free individual programmable preset banks with settings for:Down-, Up- and, Cross Conversion, Pass through (with ARC function), Simultaneous VI, WSS and AFD (S2016) insertion and Embedder shuffling, gain, phase and delay
- Multiple GPI inputs/outputs with predefined modes
- ARC triggers by VI, WSS, WSS-ext and S2016 (AFD)
- Transparent for 16 channels of embedded audio
- Embedded domain 64x64 routing to and from the in/outputs and Quad Speed Audio Bus (510 only)
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Complementary cards:

- DIO88, DLA44/43/42/41, DAW77/88/99, DSF66, DDP24/94 or any Quad Speed Bus ADD-ON card

Applications

- High End Truck dual input frame synchronizer and anything to anything converter
- High End Infrastructure up/down/cross conversion
- High End transmission up/cross conversiongh
- High End 4K up/down converter

Specifications

visit www.evs.com

Ordering information

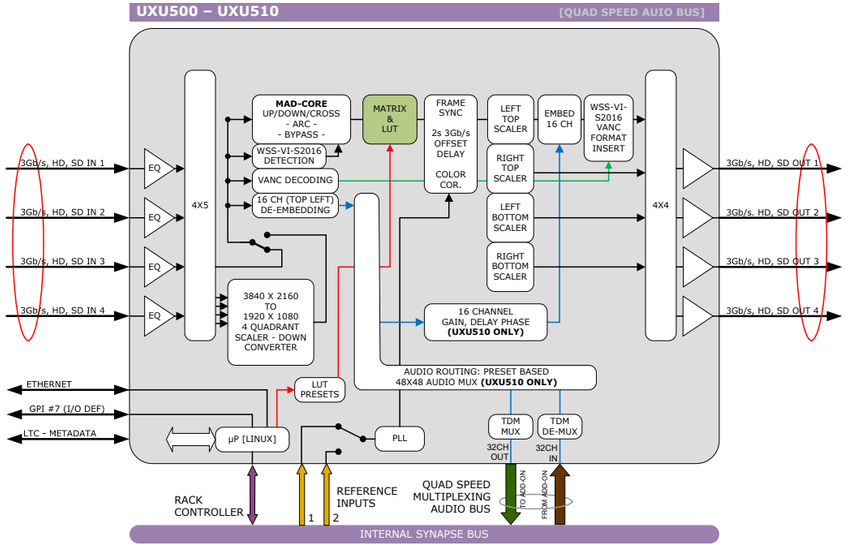
Module:

- **GXG500-I/O:** High end 3Gb/s, HD, SD up/down/cross converter and frame synchronizer
- **GXG510-I/O:** High end 3Gb/s, HD, SD up/down/cross converter and frame synchronizer with full audio shuffling

Standard I/O:

- **BPH50-PANEL:** I/O panel for GXG500-510
- **BPH55-PANEL:** I/O panel for GXG500-510 with 2 SFP cages

GXG500 - GXG510



4K ULTRAHD 3840 x 2160

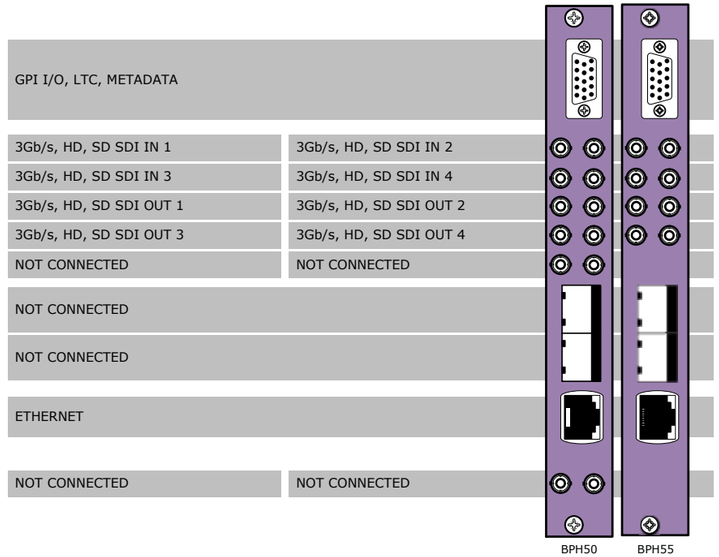
3 TRIPLE RATE Gb/s, HD, SD

HDR High Dynamic Range

AFD ready S2016

3Gb/s Level B compliant

Quad speed MASTER



4K (UHD) format converter with LUT based color space and dynamic range converter

The UXU500/510 has all the features and functions of the GXG500/510.

The difference between the GXG500/510 and UXU500/510 is the addition of a LUT based color space and dynamic range conversion. The LUT can be stored on 16 presets and selected on the fly.

The module is compatible with standard LUT tables in either 1D or 3D formats.

- Fully features 4K (3840x2160) Ultra HD 4 wire, 3Gb/s, HD-SDI, SD-SDI up/down/cross converter
- LUT based color space and dynamic range conversion
- 16 LUT presets for standard LUT tables (.cube, .LUT, .TXT extensions)
- 1D LUT 10 bits 1024 RGB values (1024x3 rows)
- 3D LUT 10 bits 35937 RGB values (33x33x33)
- Side by side split screen mode with slider for evaluation of LUT values
- LUT bypass mode
- Compatible with ITU-R BT709 and ITU-R BT.2020 I/O (conversion matrix from YCrCb to RGB and back)
- Optional cross-input audio shuffler (UXU510)

Complementary cards:

- DIO88, DLA44/43/42/41, DAW77/88/99, DSF66, DDP24/94 or any Quad Speed Bus ADD-ON card

Applications

- LUT based color space abd dynamic range conversion
- High End Truck dual input frame synchronizer and anything to anything converter
- High End Infrastructure up/down/cross conversion
- High End transmission up/cross conversion
- UHD (4k) up and down conversion from-and-to any supported video standard in the same frequency

Ordering information

Module:

- **UXU500-I/O:** High end 3Gb/s, HD, SD up/down/cross converter with color space and dynamic range converter
- **UXU510-I/O:** High end 3Gb/s, HD, SD up/down/cross converter with color space and dynamic range converter and with full audio shuffling

Standard I/O:

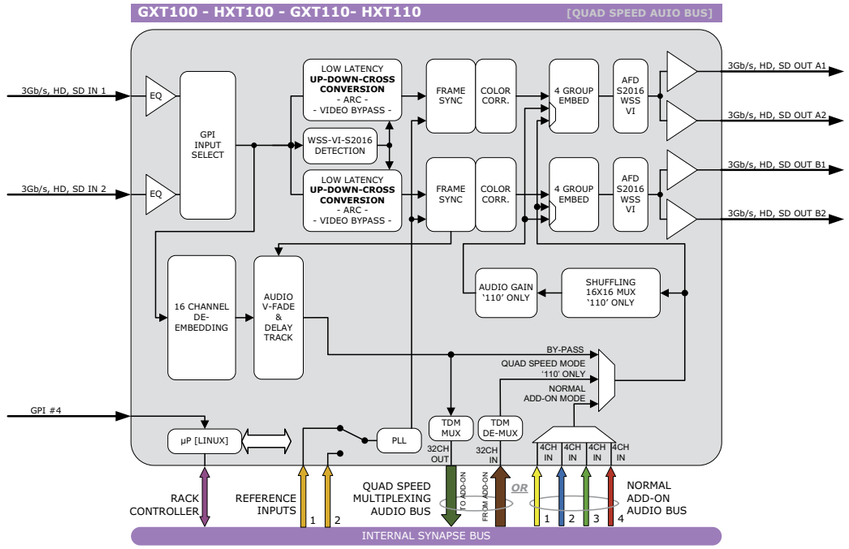
- **BPH50-PANEL:** I/O panel for UXU500-510

Relay bypass I/O:

- **BPH55-PANEL:** I/O panel for UXU500-510

Specifications

visit www.evs.com



Quad speed MASTER

3 TRIPLE RATE Gb/s, HD, SD

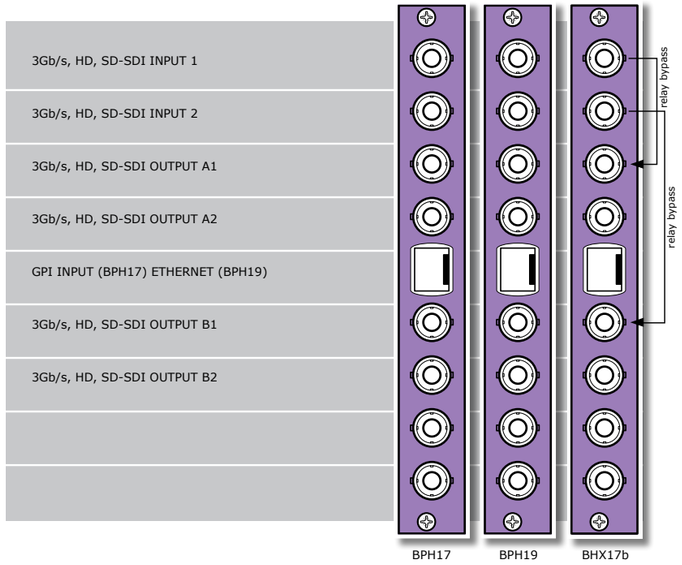
Powered by LINUX

Upgradable to 3Gb/s

COMPATIBLE WITH DOLBY E

AFD ready S2016

3Gb/s Level B compliant



3Gb/s, HD, SD frame synchronizer, transmission up/down/cross-converter and (de) embedder with optional cross input audio shuffler

The GXT100/110 are frame synchronizers and 16 channel embedders and de-embedders combined with high-quality up/down/cross-converting. The dual input capability can be used as an emergency bypass switch. The optimized scaling and filter algorithms ensure crisp broadcast ready pictures from a native HD source, by use of a 64-tap FIR filters. This card is designed as a transmission output module that enables simultaneous feeding of HD and SD (with embedded audio). ADD-ON cards can be used as audio in and output cards. All products can be up- or down graded with a software key.

- Dual 3Gb/s, HD, SD SDI input (auto selecting)
- Low latency conversion process
- Dual 3Gb/s, HD outputs
- Dual SD outputs (simultaneous anamorphic widescreen and pan-scan)
- Up-conversion from 720p or 1080i to 1080p (equal frame-rate)
- Down-conversion (including 1080p to SD-SDI)
- Cross-conversion 720p to 1080i and vice versa
- Dual input back-up function
- Automatic by input carrier detection
- Manual by direct control (ACP)
- GPI inputs for ARC triggers and preset selection
- 2 frame synchronizers for the 3Gb/s, HD and SD domain with individual output timing control
- Color correction in 3Gb/s, HD and SD domain (RGB and total gain, RGB and total black)
- H+V sharpness control in SD domain for crisp down converted picture quality
- 5 GPI inputs for ARC and Shuffle triggers
- Transparent for 16 channels of embedded audio both HD and SD path
- Embedded domain audio shuffling (110 models only)
- Quad Speed audio bus compatible
- Embedding through Synapse bus
- De-embedding to Synapse bus with transparent input to output handling
- Video ProcAmp (Y and C control) and Hue control
- Compatible with:
  - 270 Mbit/s (SMPTE 259M) 50 and 59.94Hz
  - 1485 Mbit/s (SMPTE 292M) 50 and 59.94Hz
  - 2970 Mbit/s (SMPTE 424M) 50 and 59.94Hz (GXT100/110 only)
- AFD insertion in HD domain
- AFD, WSS, WSS-ext and VI insertion in SD domain
- Timecode transparency and conversion
- OP47 translation into WST-B and vice versa
- I/O delay measurement for both output domain
- CRC status information for both inputs
- 6 selectable lines VBI transparancy when not converting
- 16 channel embedder in both HD and SD domain
- Locks to Bi-level, Tri-level syncs and SDI input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Complementary cards:

- DAC20, DAC24, DAS24, DIO48, ADC20, ADC24, DIO24, DLA44, DLA43

Applications

- OB Van output card with 16 channel embedding (in combination with 2 x DIO48)
- 2x1 HD protection switch with SD monitoring output
- Dual domain (HD & SD) production up/down/ cross-converter with individual timing adjustment

Ordering information

Module:

- **GXT110-I/O:** 3Gb/s, HD, SD frame synchronizer, transmission up/down/ cross-converter with (de)embedder and audio shuffler ProcAmp
- **GXT100-I/O:** 3Gb/s, HD, SD frame synchronizer and transmission up/ down/cross-converter with (de)embedder

Standard I/O:

- **BPH17-PANEL:** I/O panel for GXTxxx with GPI connection
- **BPH19-PANEL:** I/O panel for GXTxxx with Ethernet connection

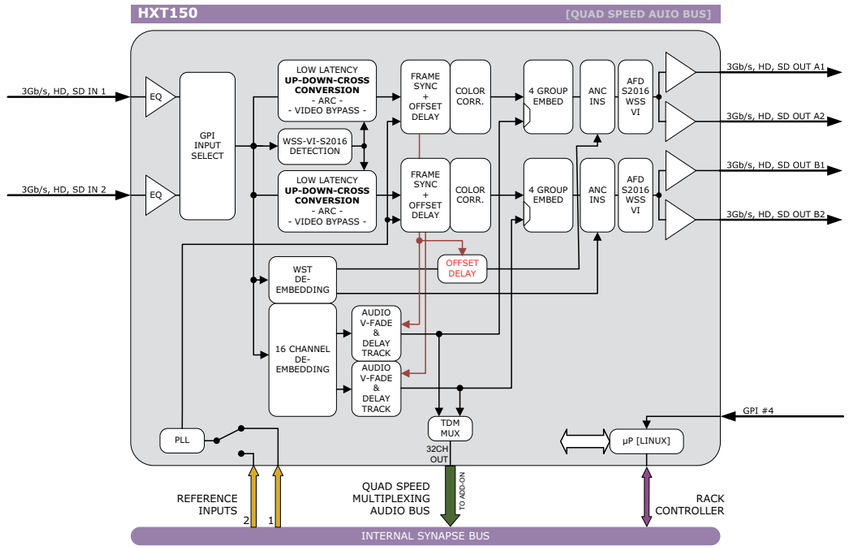
Relay bypass I/O:

- **BHX17-PANEL:** I/O panel for GXTxxx with GPI connection with relay bypass

Specifications

visit www.evs.com

GXT100 - GXT110



Quad speed MASTER

3 TRIPLE RATE Gb/s, HD, SD

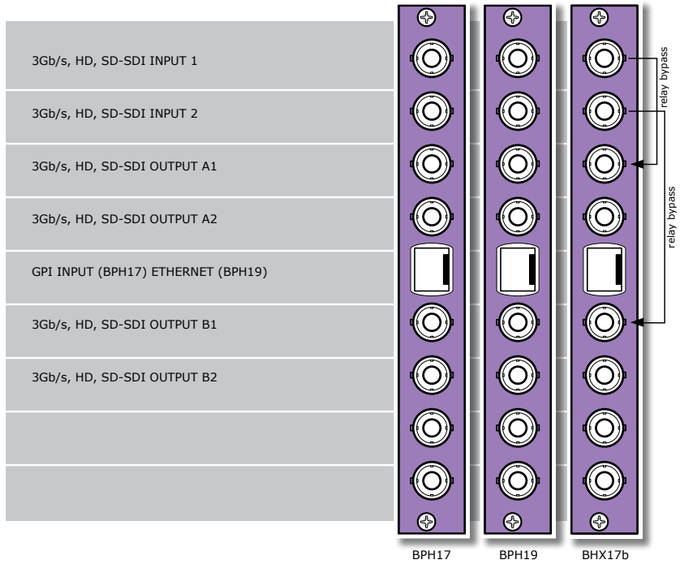
Powered by LINUX

Upgradable to 3Gb/s

COMPATIBLE WITH DOLBY E

AFD ready S2016

3Gb/s Level B compliant



Dual HD and SD frame synchronizer, up/down/cross-converte and (de)embedder with second channel offset delay (stat multiplex optimization)

The HXT150 dual output up/down/cross converter is a transmission tool optimized to have a second channel running on a medium long offset delay that will improve statistical multiplexing efficiency.

One application is that the SD output in both anamorphic and letterbox formats run on the same multiplexer and because of the SD 5 seconds offset delay will help with multiplexing

- Dual HD, SD SDI input (auto selecting)
- Low latency conversion process
- 2x HD output
- 2x SD output (simultaneous anamorphic widescreen and pan-scan)
- Up-conversion from SD, 720p or 1080i
- Down-conversion
- Cross-conversion 720p to 1080i and vice versa
- Dual input back-up function (manual, auto or GPI control)
- GPI inputs for ARC triggers and shuffle triggers
- 2 frame synchronizers for the HD and SD domain with individual output timing control
  - one frame synchronizer with an additional offset delay
- Color correction in HD and SD domain (RGB and total gain, RGB and total black)
- H+V sharpness control in SD domain for crisp down converted picture quality
- 4 GPI inputs for ARC and Shuffle triggers
- Transparent for 16 channels of embedded audio both HD and SD path
- Quad Speed audio bus OUT compatible
- De-embedding to Synapse bus with transparent input to output handling
- Video ProcAmp (Y and C control) and Hue control
- Compatible with:
  - 270 Mbit/s (SMPTE 259M) 50 and 59.94Hz
  - 1485 Mbit/s (SMPTE 292M) 50 and 59.94Hz
- AFD insertion in HD domain
- AFD, WSS, WSS-ext and VI insertion in SD domain
- I/O delay measurement for both output domains
- Reporting of chosen input
- CRC status information for both inputs
- Locks to Bi-level, Tri-level syncs and SDI input
- OP47 to WST cross conversion and vice versa
- Timecode cross conversion
- CC-608 to CC-708 conversion and vice versa
- 6 selectable lines VBI transparancy when not converting
- 16 channel embedder in both HD and SD domain
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Applications

- OB Van output card
- 2x1 HD protection switch with SD monitoring output
- Dual domain (HD & SD) production up/down/ cross-converter with individual timing adjustment
- Dual SD output from an HD infrastructure in both Anamorphic as well ass Letterbox formats with a 5 second offset delay to smoothen statistical multiplexers

Ordering information

Module:

- **HXT150-I/O:** Single input dual output HD and SD, frame synchronizer, up/down/cross converter with second channel offset delay for Statistical Multiplex optimization.

Standard I/O:

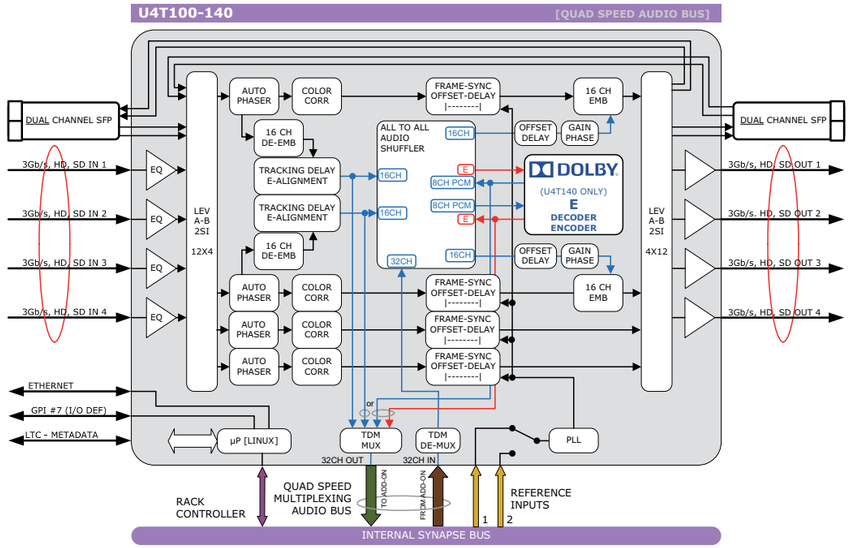
- **BPH17-PANEL:**
  I/O panel for HXT150 with GPI connection
- **BPH19-PANEL:**
  I/O panel for HXT150 with Ethernet connection

Relay bypass I/O:

- **BHX17-PANEL:**
  I/O panel for HXT150 with GPI connection with relay bypass

Specifications

visit www.evs.com



4K ULTRAHD 3840 x 2160

3 TRIPLE RATE Gb/s, HD, SD

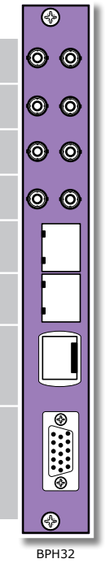
DESIGNED FOR DOLBY E

Quad speed MASTER

SFP Flexible I/O

3Gb/s Level B compliant

3Gb/s, HD, SD INPUT 1	3Gb/s, HD, SD INPUT 2
3Gb/s, HD, SD INPUT 3	3Gb/s, HD, SD INPUT 4
3Gb/s, HD, SD OUTPUT 1	3Gb/s, HD, SD, OUTPUT 2
3Gb/s, HD, SD OUTPUT 2	3Gb/s, HD, SD, OUTPUT 4
INPUT/OUTPUT SFP-1 (DUAL CHANNEL)	
INPUT/OUTPUT SFP-2 (DUAL CHANNEL)	
ETHERNET	
GPI I/O, LTC, METADATA	



BPH32

4K (3840×2160) Ultra HD 4 wire toolbox with optional Dolby E processing

The U4T100 and U4T140 are 4k (4 wire) production toolboxes that will ease the challenges of a 4 wire production setup where the left top corner (channel A) is used to carry VANC and HANC data like timecode and embedded audio. We also added a second quadrant audio de-embedder and embedder with full audio shuffling.

The I/O is capable of handling four times 1080p formatted as level A, level B or 2Si (two sample interleaved).The card can also be used with 1080i, 720p, SD and 1080psf 23.98.

The '140' has an extra Dolby E encoder and decoder on board and will be capable of handling these signals internally. A Quad Speed Audio bus can be used for additional Dolby E processing or other audio processing by using an ADD-ON card like the DEE28

- Extremely low intrinsic latency of 5 lines
- 4K 4 wire (3840 x 2160)
- 4 inputs with seperate internal processing
- 4 input autophasers
- 4 Frame synchronizers and offset delay blocks controllable in two stages (left top and rest)
- 4 outputs
- RGB color correction of all 4 processing channels as one
- Level A,B and 2Si compliant
- Compatible with 1080p50/59.94, 1080psf23.98, 1080i50/59.94, 720p50/59.94 and SD625/525
- Transparent for 32 channels of embedded audio in first and second videoquadrant
- Full audio shuffling between all audio sources and destinations
  - Move audio from quadrant 1 to quadrant 2
  - All channels (embedded and coming from the bus) can be a source for the dolby processor
- 32 channel Quad Speed Audio bus connectivity (Quad Speed Bus outputs 17 to 32 are de-embedder 2 ***or*** the Dolby Channels)
- SFP sockets for fiber connectivity
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Complementary cards:
- DEE28 for extra Dolby E processing. Up to 3 extra cards for 4 Dolby E channels total.
- DIO88 for physical AES/EBU I/O
- All other Quad Speed Bus cards like DSF66 or DLAxx

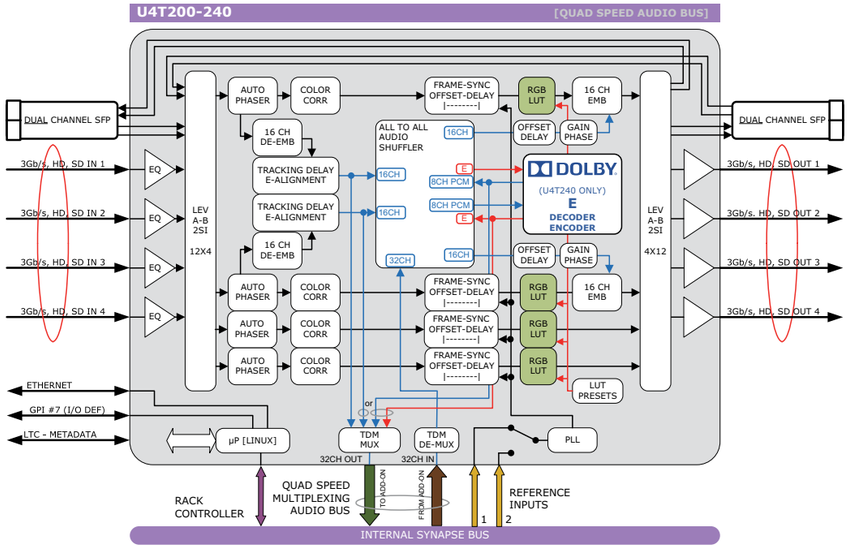
Applications
- All 4K four wire challenges
- 4 wire synchronization and auto phasing
- Embedding and de-embedding in all UHD applications
- Encoding and decoding to and from Dolby E embedded data
- 4K color correction
- Level A to level B or to 2Si conversion in any direction

Ordering information
Module:
- **U4T100-I/O:** 4K (4 wire) toolbox
- **U4T140-I/O:** 4K (4 wire) toolbox with embedded Dolby processing

Standard I/O:
- **BPH32-PANEL:** I/O panel for U4T100 or U4T140

Relay bypass I/O:
- **BHX32-PANEL:** I/O panel for U4T100 or U4T140 with relay bypass

Specifications
visit www.evs.com



4K ULTRAHD 3840 x 2160

3 TRIPLE RATE Gb/s, HD, SD

HDR High Dynamic Range

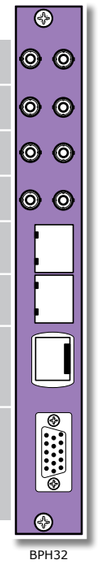
DESIGNED FOR DOLBY E

Quad speed MASTER

SFP Flexible I/O

3Gb/s Level B compliant

3Gb/s, HD, SD INPUT 1	3Gb/s, HD, SD INPUT 2
3Gb/s, HD, SD INPUT 3	3Gb/s, HD, SD INPUT 4
3Gb/s, HD, SD OUTPUT 1	3Gb/s, HD, SD, OUTPUT 2
3Gb/s, HD, SD OUTPUT 2	3Gb/s, HD, SD, OUTPUT 4
INPUT/OUTPUT SFP-1 (DUAL CHANNEL)	
INPUT/OUTPUT SFP-2 (DUAL CHANNEL)	
ETHERNET	
GPI I/O, LTC, METADATA	



BPH32

4K (UHD) toolbox with LUT based color space and dynamic range converter and option Dolby E processing

The U4T200 and U4T240 have all the features and functions of the U4T100 and U4T140.

The difference between the U4T100/140 and U4T200/240 is the addition of a LUT based color space and dynamic range conversion. The LUT can be stored on 16 presets and selected on the fly.

The odule is compatible with standard LUT tables in either 1D or 3D formats.

- Fully features 4K (3840x2160) Ultra HD 4 wire toolbox
- LUT based color space and dynamic range conversion
- 16 LUT presets for standard LUT tables (.cube, .LUT, TXT extensions)
- 1D LUT 10 bits 1024 RGB values (1024x3 rows)
- 3D LUT 10 bits 35937 RGB values (33x33x33)
- Side by side split screen mode with slider for evaluation of LUT values
- LUT bypass mode
- Compatible with ITU-R BT709 and ITU-R BT.2020 I/O (conversion matrix from YCrCb to RGB and back)
- Optional Dolby E encoder and decoder (U4T240)

Complementary cards:

- DEE28 for extra Dolby E processing. Up to 3 extra cards for 4 Dolby E channels total.
- DIO88 for physical AES/EBU I/O
- All other Quad Speed Bus cards like DSF66 or DLAxx

Applications

- LUT based color space abd dynamic range conversion
- All 4K 4 wire challenges
- 4 wire synchronization and alignment
- Embedding and de-embedding in all UHD applications
- Encoding and decoding to and from Dolby E embedded data
- Color correction
- Level A to level B to 2Si conversion in any direction

Ordering information

Module:

- **U4T200-I/O:** 4K (4 wire) toolbox with color space and dynamic range converter
- **U4T240-I/O:** 4K (4 wire) toolbox with color space and dynamic range converter and with embedded Dolby processing

Standard I/O:

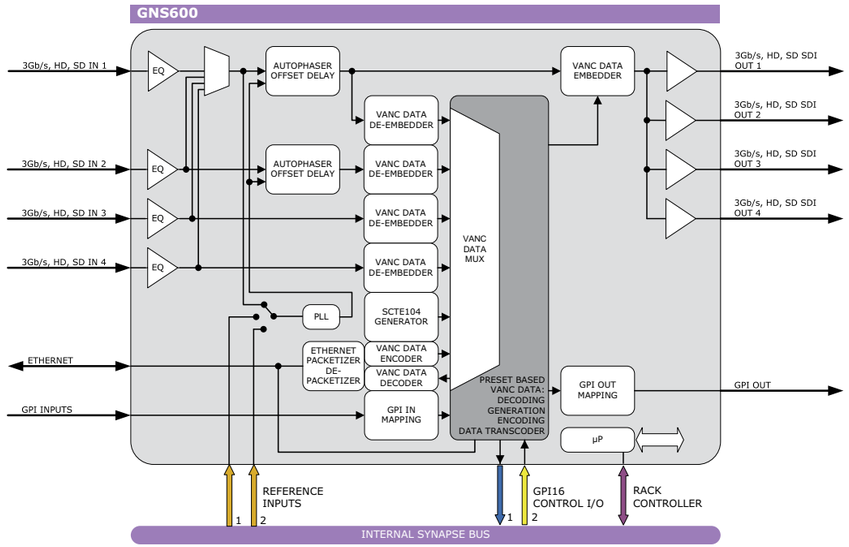
- **BPH32-PANEL:** I/O panel for U4T200 or U4T240

Relay bypass I/O:

- **BHX32-PANEL:** I/O panel for U4T200 or U4T240 with relay bypass

Specifications

visit www.evs.com



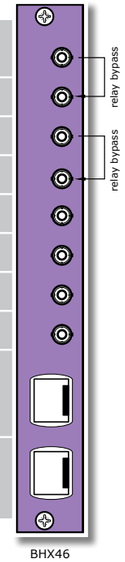
3 TRIPLE RATE Gb/s, HD, SD

Works with SCTE104

Powered by LINUX

AFD ready S2016

3Gb/s, HD, SD SDI INPUT 1
3Gb/s, HD, SD SDI OUTPUT 1
3Gb/s, HD, SD SDI INPUT 2
3Gb/s, HD, SD SDI OUTPUT 2
3Gb/s, HD, SD SDI INPUT 3
3Gb/s, HD, SD SDI OUTPUT 3
3Gb/s, HD, SD SDI INPUT 4
3Gb/s, HD, SD SDI OUTPUT 4
ETHERNET
GPI I/O



BHX46

SCTE104 VANC inserter, Ethernet data-bridge for 3G, HD and SD SDI Inputs and X31 Cue encoder/decoder

The GNS600 is a 3G, HD and SD SDI SCTE104 inserter with SDI inputs outputs. SCTE104 information present in the SDI signal can be transcoded and inserted into the main 3G, HD or SD SDI signal. The GNS600 can insert data from both the Ethernet and SDI domain into lines in SDI or insert a user defined cue on a preset base.

The GNS600 can insert or decode SMPTE-2010 packets containing SCTE104 Digital Program Insertion (DPI) messages to/ from VANC. Transcode between SCTE104 HD and SCTE104 SD data is also possible. The card will decode the SCTE104 DPI messages (contained on any or only user specified lines) and monitor for specific (user defined) content and trigger the appropriate GPO or pass the DPI message content to other control systems via Ethernet connection. Messages received as SCTE104 packets will be treated as status changes and may be logged by an external system.

The card will encode the cues received from local GPI, or via ACP as predefined (user configurable) SCTE104 DPI Operation messages packets. The card will also format information, received as Ethernet from external control systems, and inject this SCTE104 messages. Note: SCTE104 specifies availability of user defined operation names on ID C000-FFFE, these are supported on this card.

This data embedding is transparent to embedded audio that might be present in the SDI domain. The card has preset configurations and these can be recalled on the reception of appropriate SCTE104 DPI messages, via local GPIs or manual control via ACP

Another function of this card is as standalone card that can insert or decode X31 cues into or from the vertical blanking. The card will decode the cues and pass the status to GPI.

- SCTE104 (HD) translation into SCTE104 (SD) bridging
- GPI triggered SCTE104 DPI or user defined message (preset based)
- GPI outputs triggered by SCTE104 DPI messages (preset based)
- 3x GPI input and 4 x bidirectional GPI/O (up to 7 inputs)
- 10 additional GPI inputs and 16 outputs with the bus controlled GPI16 ADD-ON card
- Ethernet controlled SCTE104 insertion (embedding of SMPTE2010)
- 4 processed outputs
- 32 Presets
- X31 cue encoding and decoding for 1080i/50 and SD625 formats
  - Inserts incoming cues generated on GPI's in WST-B (SD) or OP47 (HD)
  - Output of GPI's on GPI16 card
  - GPI inputs from HSI21 card
- Locks to SDI input, or external reference
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Applications

All SCTE104 insertion applications like:

- Advertisement insertion
- local news triggers
- GPI transport
- SCTE104 removal or transcoding

Ordering information

Modules:

- **GNS600-I/O:** SCTE104 VANC inserter, ethernet data bridge for 3G/bs, HD and SD SDI inputs and X31 Cue encoder/decoder

Relay bypass I/O:

- **BHX46-PANEL:** I/O panel for GNS600 with relay bypass

Specifications

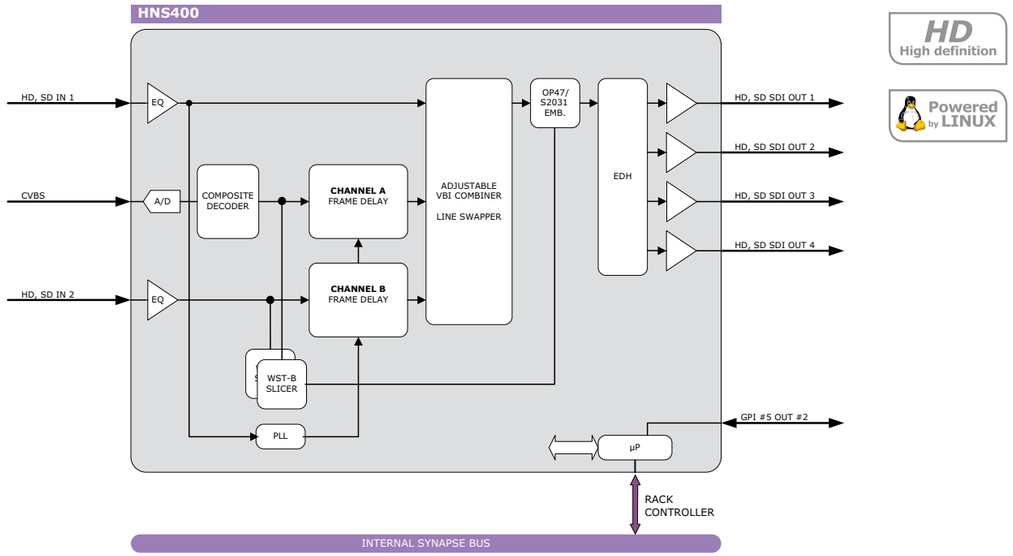
visit www.evs.com

Conversion abilities

Input \ Output	SD625	SD525	720p50	720p60	1080i50	1080i60	1080p50	1080p60
SD625	bridge/ swap SCTE104 to/from		SCTE104 SD to HD		SCTE104 SD to HD		SCTE104 SD to HD	
SD525		bridge/ swap SCTE104 to/from		SCTE104 SD to HD		SCTE104 SD to HD		SCTE104 SD to HD
720p50	SCTE104 HD to SD		bridge/ swap SCTE104 to/from		bridge/ swap SCTE104 to/from		bridge/ swap SCTE104 to/from	
720p60		SCTE104 HD to SD		bridge/ swap scte104 to/from		bridge/ swap SCTE104 to/from		bridge/ swap SCTE104 to/from
1080i50	SCTE104 HD to SD		bridge/ swap SCTE104 to/from		bridge/ swap SCTE104 to/from		bridge/ swap SCTE104 to/from	
1080i60		SCTE104 HD to SD		bridge/ swap SCTE104 to/from		bridge/ swap scte104 to/from		bridge/ swap SCTE104 to/from
1080p50	SCTE104 HD to SD		bridge/ swap SCTE104 to/from		bridge/ swap SCTE104 to/from		bridge/ swap SCTE104 to/from	
1080p60		SCTE104 HD to SD		bridge/ swap SCTE104 to/from		bridge/ swap SCTE104 to/from		bridge/ swap SCTE104 to/from

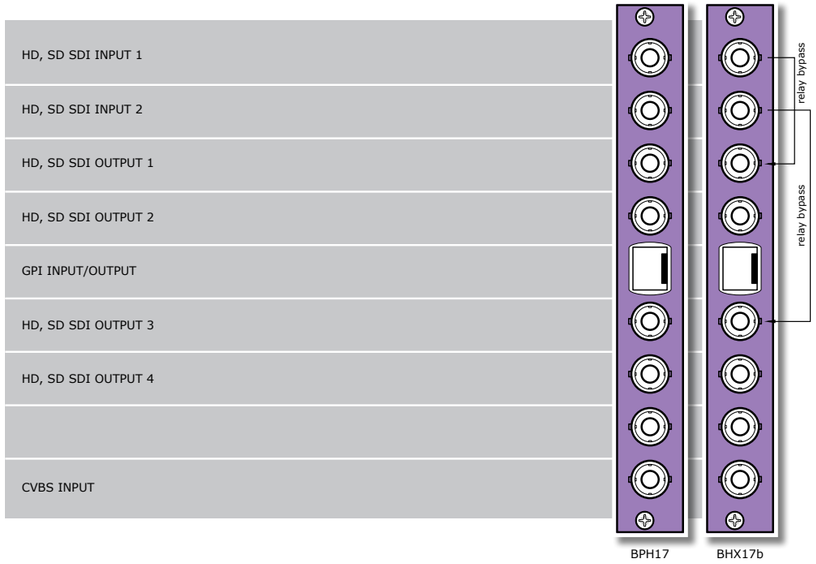
Notes:

- Input format = SDI input 2 and 3 format
- Output format = SDI ouput 1 format
- Empty cells represent 'No Operation'. Different frequencies cannot be mixed.



HD High definition

Powered by LINUX



HD, SD, CVBS VBI/VANC line inserter/swapper/transcoder (data bridge)

The HNS400 is a HD and SD SDI VBI/VANC inserter with composite and SDI inputs and an HD, SD SDI outputs. VBI (for example Teletext) or VANC (OP47, S2031) information present in the composite or SDI signal can be transcoded and inserted into the main HD or SD SDI signal. The HNS400 can insert lines from both composite and SDI domain into lines in the SDI domain. For example, line 7 of the CVBS input can be inserted into line 335 of the SDI signal.

This line exchange is transparent to embedded audio that might be present in the SDI domain. For a complete overview of the insertion and bridging abilities of this card, please refer to www.evs.com.

- WST-B translation into OP47 or S2031
- Lines can be swapped, blanked or set transparent
- Built-in ProcAmp
- 4 processed outputs
- Locks to SDI input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Applications

- Generic data bridge application where composite domain vertical blanking lines are inserted in the SDI domain

Ordering information

Modules:

- **HNS400-I/O:** VBI line inserter/swapper (data bridge)

Standard I/O:

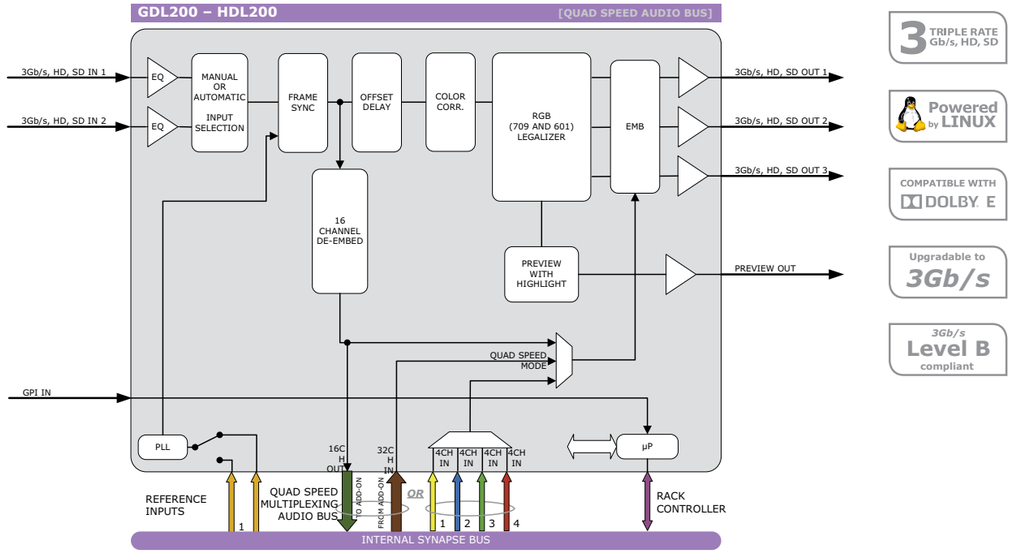
- **BPH17-PANEL:** I/O panel for HNS400

Relay bypass I/O:

- **BHX17b-PANEL:** I/O panel for HNS400 with relay bypass

Specifications

visit www.evs.com



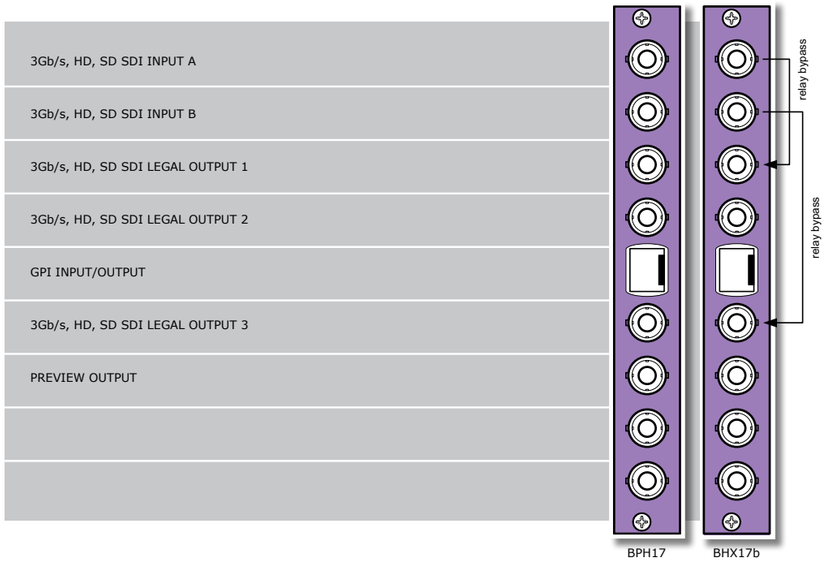
3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

COMPATIBLE WITH DOLBY E

Upgradable to 3Gb/s

3Gb/s Level B compliant



Dual input 3Gb/s and HD RGB legalizer and framesync with preview output and Quad Speed ADD-ON handling

The GDL200 is a dual standard legalizer for digital signals with full framesync functionality. They legalize 3Gb/s, HD and SD SDI streams in the RGB domain within 709 color space (601 for SD).

The preview output with a highlight function that indicates the areas that are being processed. This card is also equipped with the Quad Speed audio bus which enables you to build a complete video and audio legalization ingest platform with the addition of a card of the DLA series.

- 2x 3Gb/s (Level A&B), HD or SD-SDI input (auto selecting)
- 2 input back-up functions:
  - Automatic by input carrier detection
  - Manual by direct control (ACP)
  - GPI
- Framesync/autophaser
- RGB legalization in either HD or 3Gb/s (709) or SD (601) domain
- HD is 16 channel (4 group) transparent
- Triple 3Gb/s (Level A&B), HD or SD output
- Preview output with highlighted legalization markers
- Color correction
- Compatible with the following standards:
  - 1080p 50/59.94
  - 1080i 50/59.94
  - 720p 50/59.94
  - 625/50
  - 525/59.94
- Reporting of chosen input
- CRC status information for both inputs
- Quad Speed audio bus and normal bus
- Locks to SDI input
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Complementary cards:

- DLA41, DLA42, DLA43, DLA44, DIO88, DBD18

Applications

- Ingest legalizing tool for video as well as audio together with a DLA44, DLA43, DLA42 or DLA41
- Transmission legalizer for 3Gb/s, (level A&B) HD or SD signals
- Transmission legalizer with automatic back-up switching
- Tape transfer legalizer

Specifications

visit www.evs.com

Ordering information

Modules:

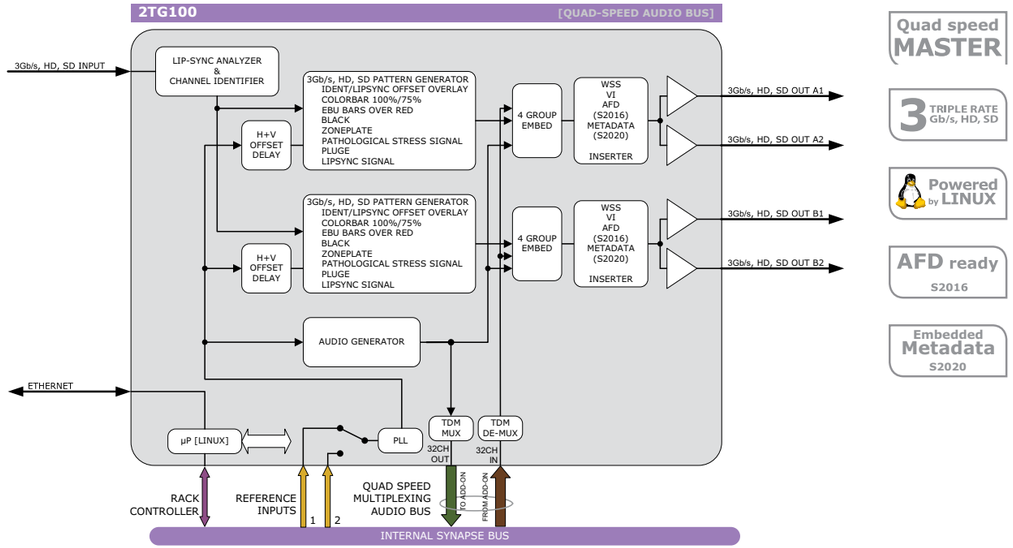
- **GDL200-I/O:** Dual input 3Gb/s and HD RGB legalizer and framesync with preview output and Quad Speed ADD-ON handling

Standard I/O:

- **BPH17-PANEL:** I/O panel for GDL200

Relay bypass I/O:

- **BHX17b-PANEL:** I/O panel for GDL200 with relay bypass



Quad speed MASTER

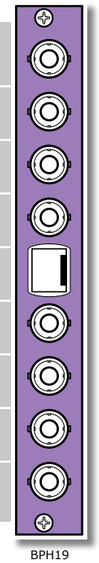
3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

AFD ready S2016

Embedded Metadata S2020

3Gb/s, HD, SD SDI INPUT (FOR LIP-SYNC MEASURMENT)
3Gb/s, HD, SD SDI OUTPUT A1
3Gb/s, HD, SD SDI OUTPUT A2
ETHERNET
3Gb/s, HD, SD SDI OUTPUT B1
3Gb/s, HD, SD SDI OUTPUT B2



BPH19

Dual 3Gb/s, HD, SD test pattern generator with embedded audio signals, Lip-sync measurement and Quad Speed ADD-ON audio I/O

The 2TG100 is a dual channel test pattern generator. Locked to a black and burst or Tri-level sync it can generate 2 fully independent test patterns in either 3Gb/s, HD or SD. 16 test signals of embedded audio are also inserted. These audio signals can be sourced to the Quad Speed audio bus for discrete usage. External audio can also be inserted via the Quad Speed audio bus with for example a DIO88.

The 2TG100 also contains a Lip-Sync analyzer. A 3Gb/s capable SDI input is available to provide a measurement probe. In Cortex/Cerebrum, or as on-screen display overlay, the Lip-Sync offset is shown in milliseconds. The analyzer block also identifies channel swaps.

The fully individual outputs can handle any format in the same frequency. So 1080p50 and 1080i50 can be used simultaneously.

- 2 individual 3Gb/s, HD, SD SDI test patterns
  - Colorbar 100%
  - Colorbar 75%
  - Bars over red 100%
  - Bars over red 75%
  - Black
  - Zoneplate
  - Pathological stress signal
  - Pluge
  - Lip-Sync test signal Generation
- Individual offset delay with respect to reference in pixel increments up to one frame
- S2020 metadata generator
- VI/WSS/AFD(S2016) inserter
- Compatible output formats for each output (only one output frequency can be used at a time while locked to a reference)
  - 1080p59.94
  - 1080p50
  - 1080i59.94
  - 1080i50
  - 1080p29.97
  - 1080p25
  - 1080p23.98
  - 720p59.94
  - 720p50
  - 720p29.97
  - 720p25
  - 720p23.98
  - SD525
  - SD625
- Lip-Sync Analyzer
- Channel swap identifier
- A 16 character text ident can be overlaid on each pattern
- The 16 character text ident can alternatively show the Lip-Sync offset
- 16 channel audio generator with adjustable gain and phase for embedded audio test patterns:
  - Sine 10Hz to 20KHz (with out without 6dB dip sequence)
  - Blits 5.1
  - Lip-Sync (combined with video marker)
  - Stepped Sweep
- External audio via the Synapse bus (normal or Quad Speed technology)

Complementary cards:
- DIO88

Applications
- Generic studio infrastructure test and ident generation
- Infrastructure Lip-sync measurement

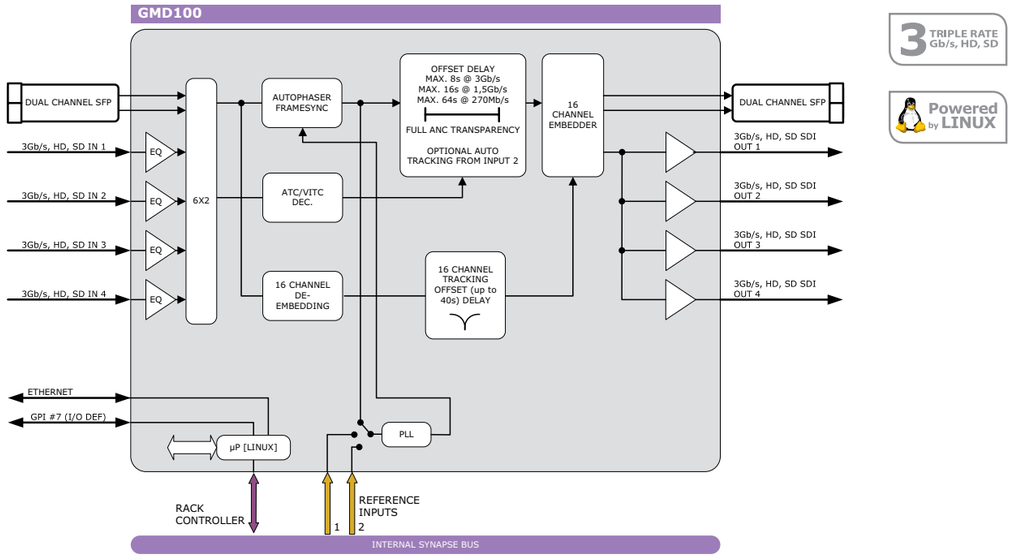
Ordering information

Module:
- **2TG100-I/O:** Dual 3Gb/s, HD and SD test pattern generator

Standard I/O:
- **BPH19-PANEL:** I/O panel for 2TG100

Specifications

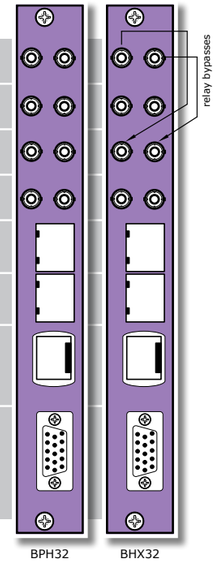
visit www.evs.com



3 TRIPLE RATE Gb/s, HD, SD

Powered by LINUX

3Gb/s, HD, SD INPUT 1	3Gb/s, HD, SD INPUT 2 FOR EMBEDDED TIMECODE
3Gb/s, HD, SD INPUT 3	3Gb/s, HD, SD INPUT 4
3Gb/s, HD, SD OUTPUT 1	3Gb/s, HD, SD, OUTPUT 2
3Gb/s, HD, SD OUTPUT 2	3Gb/s, HD, SD, OUTPUT 4
INPUT SFP-1 (DUAL CHANNEL)	
OUTPUT SFP-2 (DUAL CHANNEL)	
ETHERNET	
GPI I/O	



3Gb/s, HD, SD SDI medium time delay with automatic tracking function

The GMD100 is a medium time 3Gb/s, HD and SD-SDI uncompressed baseband video delay. It can store and delay SDI video. It can store and delay video with complete ANC data up to 8 seconds 3Gb/s and 16 seconds in HD and up to 64 seconds in SD. The separate audio delay can handle a delay up to 40 seconds.

One of the unique features is the capability of syncing a delay to the time code of the second input. An example use of this card is when a video feed is sent down two separate paths or networks, and the delay between the two is unknown. The card on each path would add the appropriate delay to its incoming video to ensure that the output was co-timed. This co-timed output can for example be fed into a backup switch and seamless switching with no time hops is achieved.

- Autophase and framesync
- Adjustable offset delay up to:
  - 1080p: 484 frames | 9.68s @ 50Hz | 8.07s @ 59.94Hz
  - 1080i: 484 frames | 19.36s @ 50Hz | 16.15s @ 59.94Hz
  - 720p: 968 frames | 19.36s @ 50Hz | 16.15s @ 59.94Hz
  - SD: 1936 frames | 77.44s @ 50Hz | 64.60s @ 59.94Hz
- Adjustment in frames, lines and pixels
- Tracking audio delay with offset adjustment up to 40s
- Adjustable full transparent delay mode for video, audio and ancillary data
- Individual audio selections feeding the embedder (shuffling)
- Locks to SDI input, reference or aligns to a reference source of ATC or VITC timecode
- Possible to add an offset to incoming video to match the offset ATC or VITC timecode
- Full transparent delay for video and audio
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Applications

- Dynamic delay compensation for main/backup redundant path applications.
- Timing correction in 3Gb/s, HD and SD virtual studios
- 'Late' embedded audio correction (lipsync)

Ordering information

Modules:

- **GMD100-I/O:** 3Gb/s, HD, SD SDI medium time delay with automatic tracking function

Standard I/O:

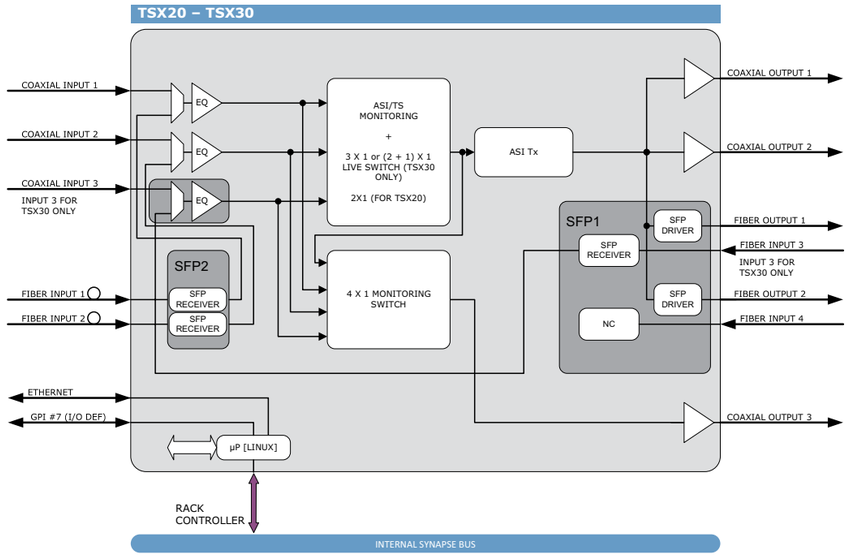
- **BPH32-PANEL:** I/O panel for GMD100

Relay bypass I/O:

- **BHX32-PANEL:** I/O panel for GMD100 with relay bypass

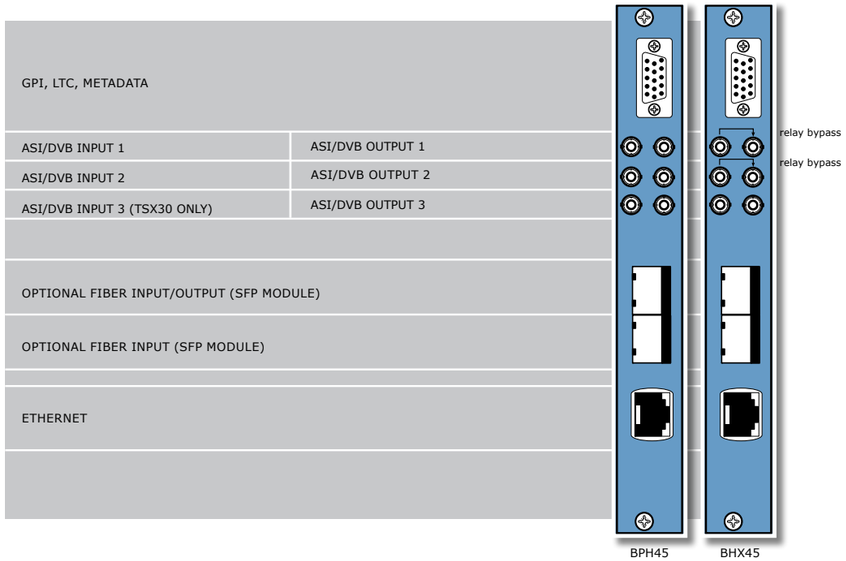
Specifications

visit www.evs.com



DESIGNED FOR *ASI/DVB*

Powered by *Broadcast*



Triple/Dual channel enhanced ASI/DVB monitor

The TSX30 is a triple channel TS/ASI integrity checker with a configurable auto output switch and the TSX20 is a dual input version. The hardware can be fitted with 2 SFP modules that can be used as fiber in and/or outputs. Depending on the modules up to 3 fiber inputs or 2 fiber outputs can be enabled. A combination of 2 fiber inputs and 2 fiber outputs are also possible.

A TSX20 can be software-upgraded to a TSX30

- ASI coaxial Transport Stream I/O
- 3 inputs with 3 analysis cores : configurable as 2+1 or a symmetrical 3 input (TSX30 only)
- 2 inputs symmetrical for the TSX20
- Up to 3 Fiber inputs: SFP2 is always configured as in, SFP1 can be used as dual out or single in
- 3 outputs and optional up to 2 fiber outputs (optional)
- Near-seamless switching between all inputs, preserving TS sync
- On-chip auto-switching and/or external control
- ASI Datalink monitoring with history - byte modes & periodicity
- TS Monitoring with 188/204 modes, rates & customizable alarms
- 64 fully configurable table detection tests
- 64 configurable PID detection tests in 4 upper distance groups
- Optional null TS output on loss of all 3 inputs
- TS and Network Id tests & indication
- Sync_byte_error reporting
- Transport_error_indicator reporting
- Monitor ASI/DVB streams and triggering of corresponding alarms.
- These events can be used to trigger a switch over:
  - Loss of Transport Stream sync bytes
  - No Transport Stream
  - Transport Stream-rate
  - Data-rate
  - Loss of an expected PID from user definable list of 64 PIDs
  - Loss of an expected table from user definable list of 64 tables
- These items can be monitored:
  - Null packets / Active data ratio
  - ASI data link mode
  - 188/204 mode
  - Number of PIDs in the stream
- Full control and status monitoring through the front panel of the frame and the Ethernet port (ACP)

Applications

- Generic ASI/DVB integrity monitoring and backup switching
- Autonomous automatic A/B switching
- Redundancy switching at play out centers, head-ends and encoding/ multiplexing systems
- Input monitoring and switching at DVB-T and DVB-T2 Transmitter sites

Ordering information

Module:

- **TSX20-I/O:** Dual channel enhanced ASI/ DVB monitor with configurable output
- **TSX30-I/O:** Triple channel enhanced ASI/ DVB monitor with configurable output

Standard I/O:

- **BPH45-PANEL:**
  I/O panel for TSX20-30

Relay bypass I/O:

- **BHX45-PANEL:**
  I/O panel for TSX20-30 with relay bypass

Specifications

visit www.evs.com

TSX20 - TSX30

Visit **evs.com** to find out more.

Why EVS ?

EVS is globally recognized as the leader in live video technology for broadcast and new media productions. Our passion and purpose are to help our clients craft immersive stories that trigger the best return on emotion. Through a wide range of products and solutions, we help deliver the most gripping live sports images, buzzing entertainment shows and breaking news content to millions of viewers every day – and in real-time.