



# Synapse

## GDK200

3Gb/s, HD Keyer, Mixer with dual 2D DVE

A Synapse® product

Quad speed  
**MASTER**

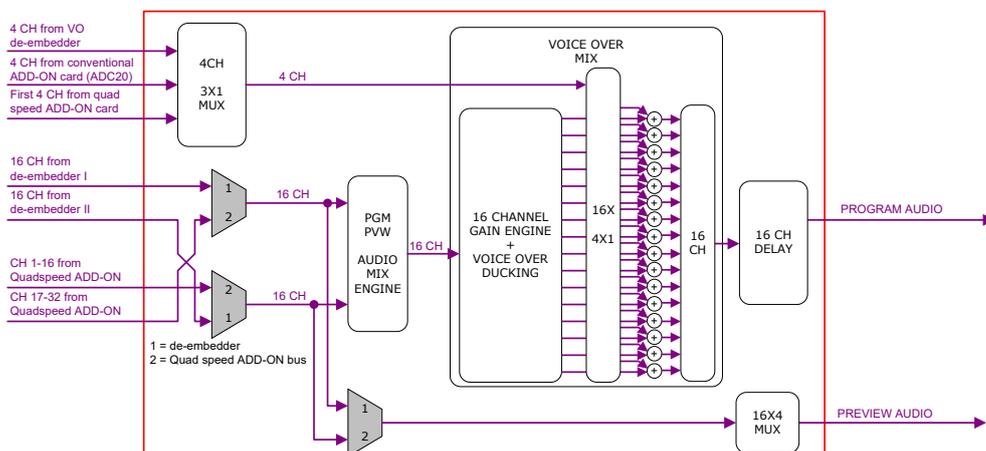
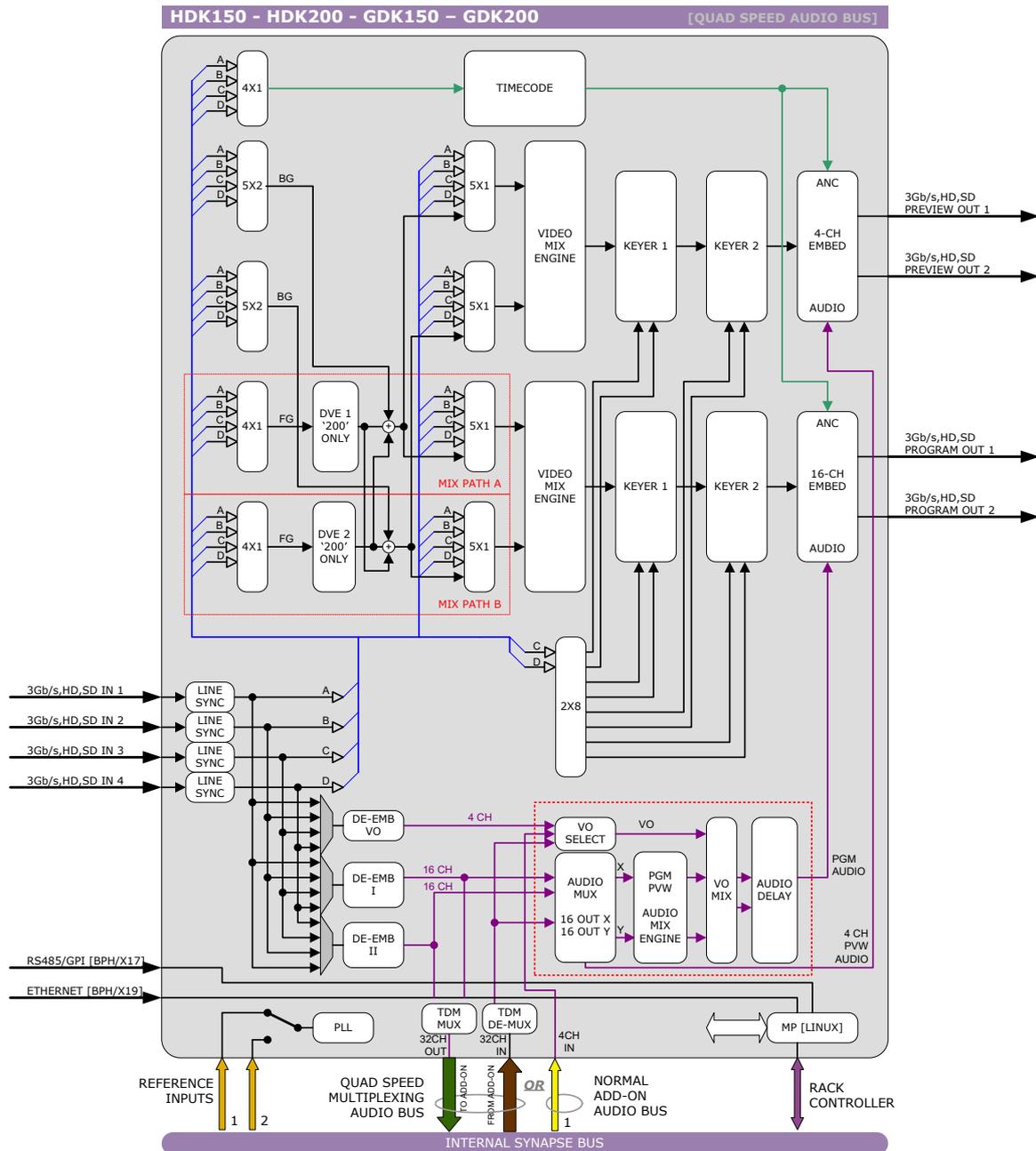
**3** TRIPLE RATE  
Gb/s, HD, SD

 Powered  
by **LINUX**

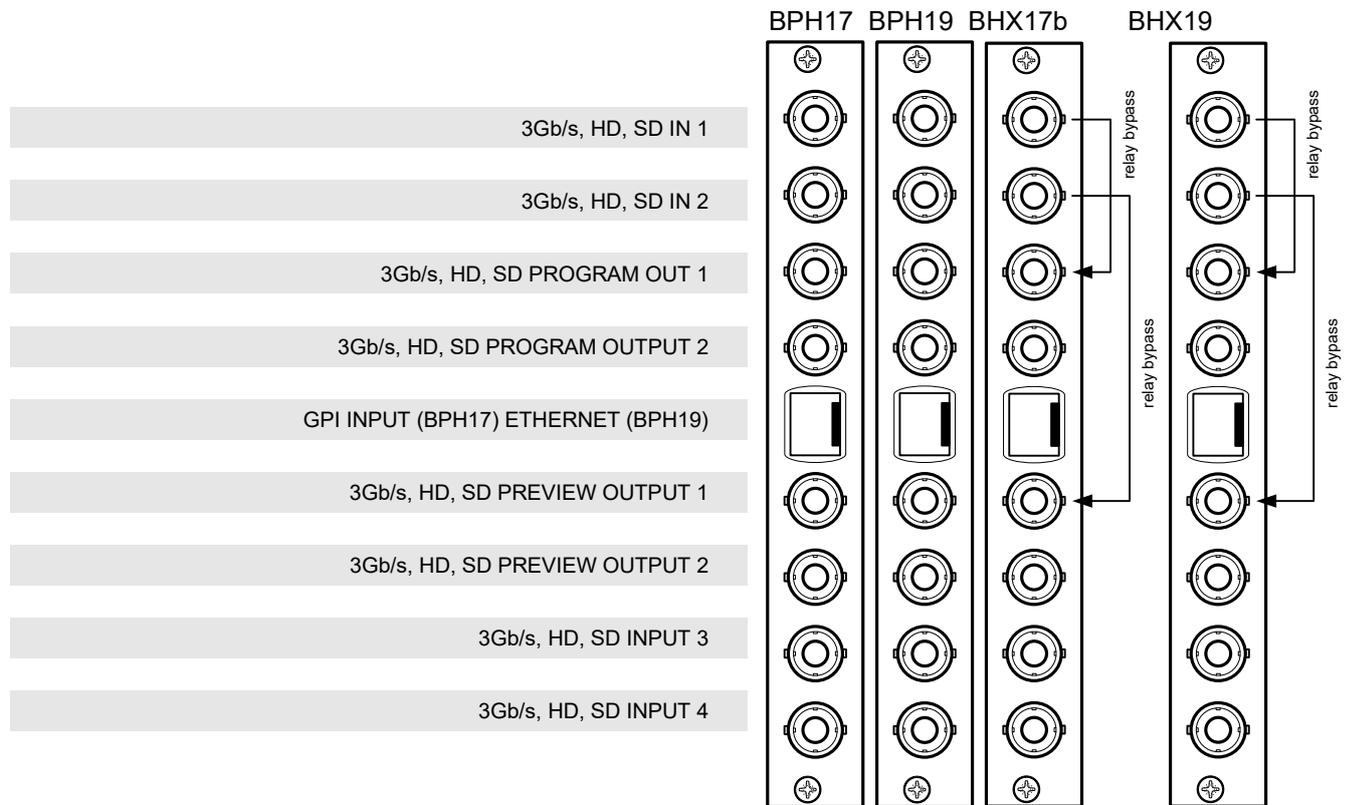


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Block schematic



I/O panel



## Features

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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 direct external 3<sup>rd</sup> party control protocols (i.e. M2100). Normal automation still is possible like on all Synapse cards. The units can be used with GPI's, and Cortex 'soft' control panels. Of course is 3<sup>rd</sup> party control via ACP possible.

The following is a summary of the features the GDK200 offers:

- 2 selectable background inputs
- Key input
- Fill input
- Self key
- 2x 2D DVE (in 200)
- Advanced routing capabilities for flexible program/production applications
- Mix engine with speed and transition adjustments
- Adjustable slice level and transparency
- Preview output with transition preview, for content verification prior to go on air
- Transparent for 16 channels of embedded audio
- Transparent for Time Code data
- Quad speed Synapse audio bus for enhanced external audio applications
- Compatible with:
  - 270 Mb/s (SMPTE 259M) 50 and 59.94Hz
  - 1485 Mb/s (SMPTE 292M) 50 and 59.94Hz (HDK/GDK only)
  - 2970 Mb/s (SMPTE 424M) =3Gb/s 50 and 59.94Hz (GDK only)
- Locks to Tri-level or Bi-level syncs

Depending on the connector panel you have either Ethernet or GPI control.

- GPI with BPH17 or BHX17b
- Ethernet with BPH19 or BHX19 (for Logo insertion)

Complementary cards:

- ADC24 and DIO24 for VO functions

## Applications

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- 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

## Ordering information

**Module:**

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

**Standard I/O:**

- **BPH17-PANEL:** I/O-panel for G/HDK150/200 with GPI
- **BPH19-PANEL:** I/O-panel for G/HDK150/200 with Ethernet

**Relay by-pass I/O:**

- **BHX17b-PANEL:** I/O-panel for G/HDK150/200 with GPI and relay bypass
- **BHX19-PANEL:** I/O-panel for G/HDK150/200 with Ethernet and relay bypass

## Specifications

### Video input

|                         |   |
|-------------------------|---|
| <b>Standard</b>         | SD,HD and 3Gb/s SDI: SMPTE 292M, SMPTE 259M, SMPTE424   |
| <b>Number of inputs</b> | 4   |
| <b>Connector</b>        | BNC   |
| <b>Equalization</b>     | Typical maximum equalized length of Belden 1694A cable: 70m at 2.97Gb/s, 140m at 1.485Gb/s, and 350m at 270Mb/s |
| <b>Return loss</b>      | > 15dB up to 3GHz   |

### Serial video output

|                          |  |
|--------------------------|--|
| <b>Number of outputs</b> | 4  |
| <b>Connector</b>         | BNC  |
| <b>Signal level</b>      | 800mV nominal  |
| <b>DC offset</b>         | 0V ±0.5V   |
| <b>Rise/Fall time</b>    | 135ps nominal  |
| <b>Overshoot</b>         | < 10% of amplitude                                   |
| <b>Return loss</b>       | > 15dB up to 1.5GHz (typ)<br>> 10dB up to 3GHz (typ) |
| <b>Wideband jitter</b>   | < 0.2UI  |

### Reference Input through RRC

|                         |  |
|-------------------------|--|
| <b>Number of Inputs</b> | 2 on SFR18, 2 on SFR08 and 1 on SFR04  |
| <b>Tri-level</b>        | SMPTE274M, SMPTE296M<br>600 mVp-p nominal, 75 Ohms terminated through loop                                     |
| <b>Bi-level</b>         | PAL Black Burst ITU624-4/SMPTE318, Composite NTSC SMPTE 170M<br>1Vp-p nominal, 75 Ohms terminated through loop |

### Miscellaneous

|                              |                           |
|------------------------------|---------------------------|
| <b>Weight</b>                | Approx. 250g              |
| <b>Operating temperature</b> | 0° C to +50° C            |
| <b>Dimensions</b>            | 137 x 296 x 20 mm (HxWxD) |

### Electrical

|                |              |
|----------------|--------------|
| <b>Voltage</b> | +24V to +30V |
| <b>Power</b>   | <17 Watts    |