



2IX09/10

**Dual channel (enhanced) integrity checking probe with  
switch-over function and frame synchronizer**

**A Synapse® product**

*Synapse*

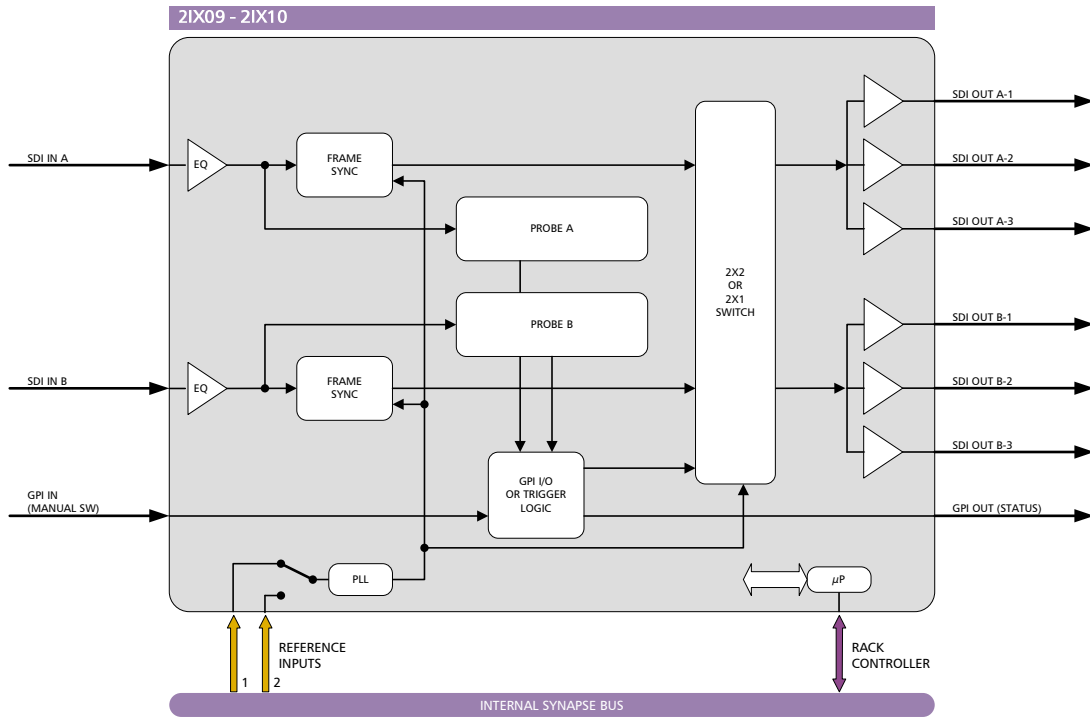


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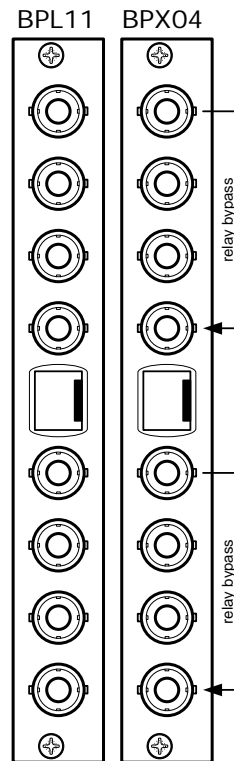
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Block schematic & I/O panel



- SDI INPUT A (OPTIONAL FIBER INPUT)
- SDI OUTPUT A-1
- SDI OUTPUT A-2
- SDI OUTPUT A-3 (OPTIONAL FIBER OR CVBS OUTPUT)
- GPI INPUT/OUTPUT
- SDI INPUT B (OPTIONAL FIBER INPUT)
- SDI OUTPUT B-1
- SDI OUTPUT B-2
- SDI OUTPUT B-3 (OPTIONAL FIBER OR CVBS OUTPUT)

For fiber connectivity see [www.axon.tv](http://www.axon.tv)



## Features

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The 2IX09/10 is a dual channel high performance SDI video and embedded audio probe (signal integrity monitor) with clean switch-over function. The difference between the 2IX09 and 2IX10 is that the latter has an enhanced range of probing functions that include phase reversal and macro blocking detection. The 2IX08 is the basic version without the integrated frame synchronizers. 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. Each output has a fan-out of 3 and all outputs can be sourced from the same input. The module has the following features:

- SDI carrier detect
- EDH detection
- TRS validation
- ANC checksum validation\*
- Y/Pr/Pb Range validation ( $64 < Y < 940$ ,  $64 < Pr$  or  $Pb < 960$ )\*
- Video content freeze detection
- Video content black detection
- Video monochrome detection (Stuck C value)\*
- Macro blocking detection\*
- Timecode availability\*
- VI value detection\*
- WSS value detection\*
- Audio channel detection (16 channels)\*
- Audio silence detection (4 pairs)\*
- Audio Phase reversal detection within one group (4 pairs)\*
- Audio Clip/5 sample full-scale indication (4 pairs)\*
- Dolby E present detection\*
- Full control and status monitoring through the front panel of the SFR04/SFR08/SFR18 frame and the Ethernet port (ACP)
- Optional 2 fiber inputs (replacing 2 SDI inputs) or 2 fiber outputs (replacing 2 SDI outputs) on I/O panel
- Optional 2 CVBS outputs (replacing 2 SDI outputs) on I/O panel

\* = 2IX10 only

## Applications

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- The 2IX10 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

## Ordering information

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**Module:**

- **2IX09:** Dual channel integrity checking probe with switch-over function and frame synchronizer
- **2IX10:** Dual channel enhanced integrity checking probe with switch over function and frame synchronizer

**Standard I/O:**

- **BPL11\_2IX09:** I/O panel for 2IX09
- **BPX04\_2IX09:** I/O panel for 2IX09 with relay bypass
- **BPL11\_2IX10:** I/O panel for 2IX10
- **BPX04\_2IX10:** I/O panel for 2IX10 with relay bypass

**Fiber outputs:**

- **BPL11T2\_FC/PC\_2IX09:** I/O panel for 2IX09 with 2 fiber transmitters on FC/PC
- **BPL11T2\_SC\_2IX09:** I/O panel for 2IX09 with 2 fiber transmitters on SC
- **BPL11T2\_FC/PC\_2IX10:** I/O panel for 2IX10 with 2 fiber transmitters on FC/PC
- **BPL11T2\_SC\_2IX10:** I/O panel for 2IX10 with 2 fiber transmitters on SC

**Fiber inputs:**

- **BPL11R2\_FC/PC\_2IX09:** I/O panel for 2IX09 with 2 fiber receivers on FC/PC
- **BPL11R2\_SC\_2IX09:** I/O panel for 2IX09 with 2 fiber receivers on SC
- **BPL11R2\_FC/PC\_2IX10:** I/O panel for 2IX10 with 2 fiber receivers on FC/PC
- **BPL11R2\_SC\_2IX10:** I/O panel for 2IX10 with 2 fiber receivers on SC

**CVBS outputs:**

- **BPL11C2\_2IX09:** I/O panel for 2IX09 with 2 CVBS outputs
- **BPL11C2\_2IX10:** I/O panel for 2IX10 with 2 CVBS outputs

## Specifications

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### Serial Video Input

<b>Standard</b>	625/50 or 525/59.94 SMPTE 259M-C (270Mb/s) with SMPTE 272M embedded audio
<b>Number of Inputs</b>	2 (1 per channel)
<b>Equalization</b>	Automatic to 300m @ 270Mb/s with Belden 1694A or equivalent cable
<b>Return Loss</b>	> 15dB up to 270MHz

### SD Serial Video Output

<b>Standard</b>	625/50 or 525/59.94 SMPTE 259M-C (270Mb/s) with SMPTE 272M embedded audio
<b>Number of Outputs</b>	3 per channel or 6 in 2x1 mode
<b>Signal Level</b>	800mV nominal
<b>DC Offset</b>	0V $\pm$ 0.5V
<b>Rise/Fall Time</b>	800ps nominal
<b>Overshoot</b>	< 10% of amplitude
<b>Return Loss</b>	> 15dB up to 270MHz

### Reference Video Input

<b>Standard</b>	PAL (ITU624-4), NTSC (SMPTE 170M)
<b>Number of Inputs</b>	2 on SFR18, 2 on SFR 08, 1 on SFR04
<b>Connector</b>	BNC
<b>Signal Level</b>	1V nominal
<b>Impedance</b>	High impedance, with loop for termination
<b>Return Loss</b>	> 25dB to 10MHz

### 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>	<9 Watts