



INS21

VBI line inserter/swapper (data bridge)

A Synapse® product

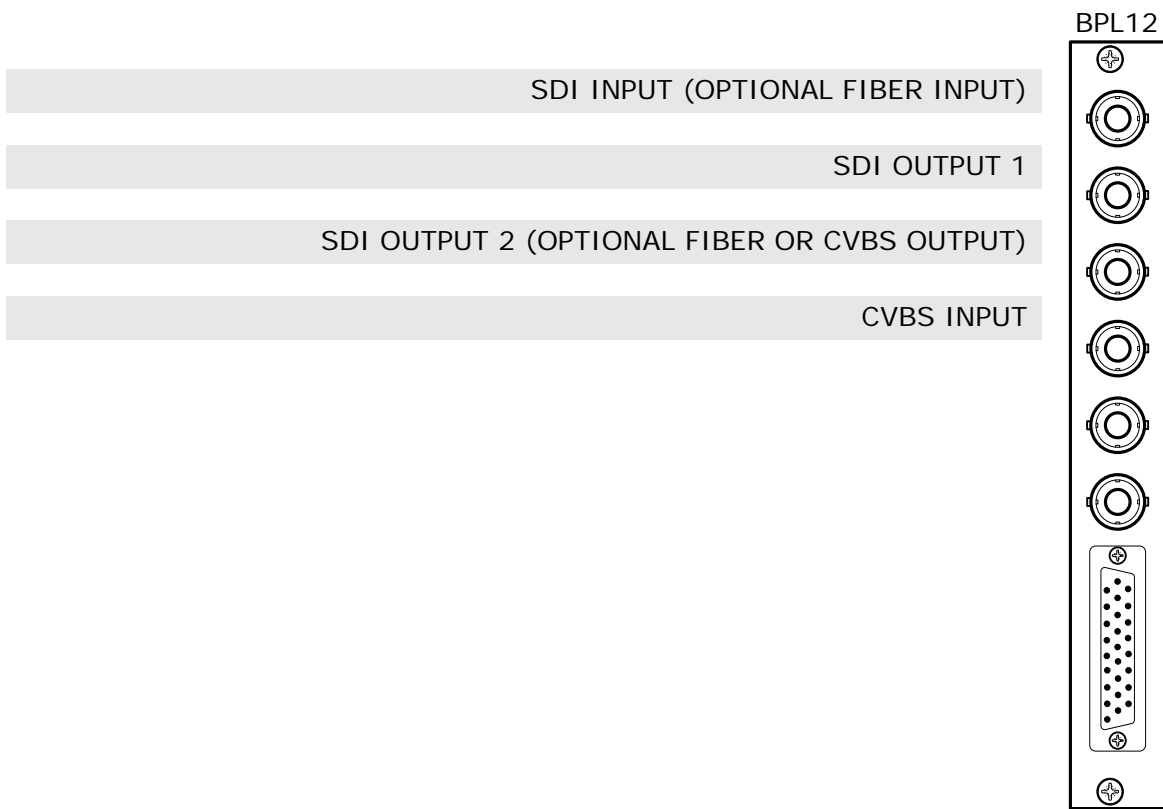
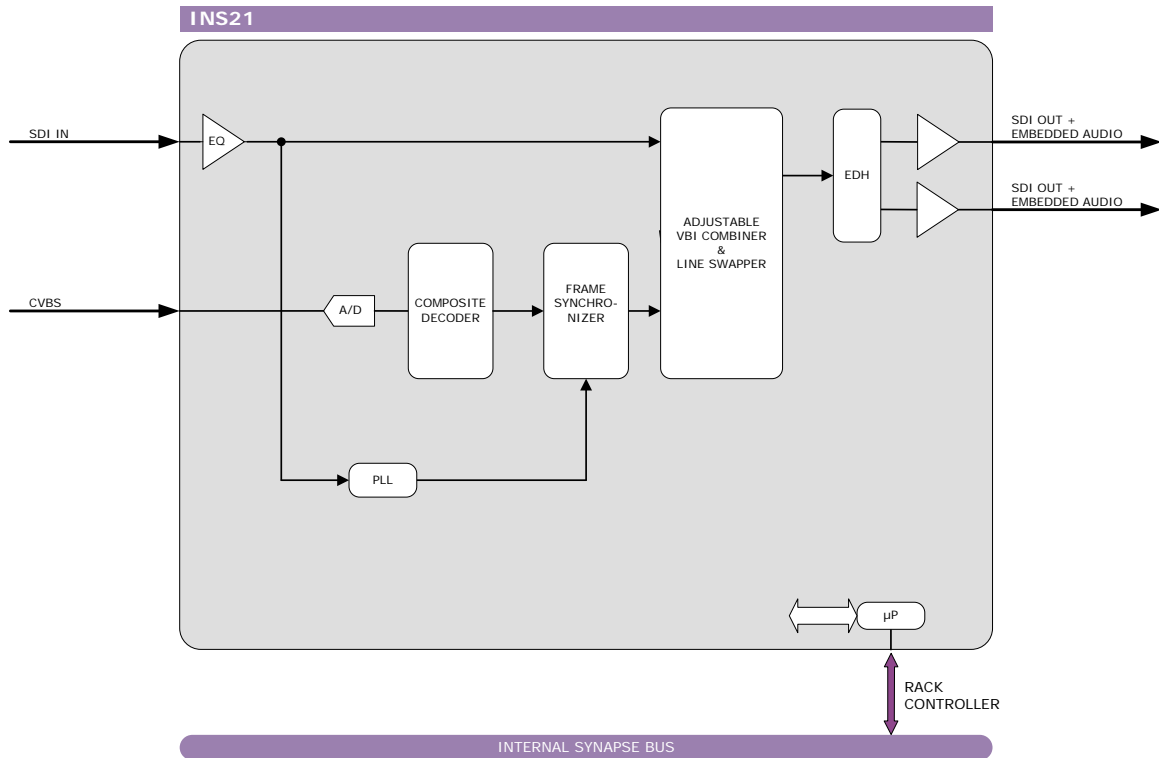
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Block schematic & I/O panel



Features

The INS21 is a vertical interval (Vertical Blanking) inserter with a composite input and an SDI input and output. VBI (for example Teletext) information present in the composite signal can be inserted into the SDI signal. The INS21 can insert any composite line between line 7 – 22 and line 320 – 335 from the composite domain to any line between line 7 – 22 and line 320 – 335 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.

- Takes any line between 7 and 22 of Field 1 and any line between line 320 and 335 of field 2 of the composite input and inserts it any line between 7 and 22 of Field 1 and any line between line 320 and 335 of field 2 of the SDI domain
- Lines can be swapped, blanked or set transparent.
- Built-in proc-amp
- 2 processed outputs
- Locks to SDI input
- Full control and status monitoring through the front panel of the SFR04/SFR08/SFR18 frame and the Ethernet port (ACP)
- Optional 1 fiber input (replacing 1 SDI input) or 1 fiber output (replacing 1 SDI output) on I/O panel
- Optional 1 CVBS output (replacing 1 SDI output) on I/O panel

Applications

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

Ordering information

Module:

- **INS21:** VBI line inserter/swapper (data bridge)

Standard I/O:

- **BPL12_INS21:** I/O panel for INS21

Fiber outputs:

- **BPL12T_FC/PC_INS21:** I/O panel for INS21 with fiber transmitter on FC/PC
- **BPL12T_SC_INS21:** I/O panel for INS21 with fiber transmitter on SC

Fiber inputs:

- **BPL12R_FC/PC_INS21:** I/O panel for INS21 with fiber receiver on FC/PC
- **BPL12R_SC_INS21:** I/O panel for INS21 with fiber receiver on SC

CVBS output:

- **BPL12C_INS21:** I/O panel for INS21 with CVBS output

Specifications

Video Input (CVBS)

Standard	PAL (ITU624-4), NTSC (SMPTE 170M)
Number of Inputs	1
Impedance	75 Ohms
Return Loss	> 35dB up to 10MHz
Frequency Response	< ± 0.25 dB (100KHz to 4.2MHz)
Differential Gain	< $\pm 0.5\%$ typical
Differential Phase	< $\pm 0.2^\circ$ typical
Noise Floor	< -57dB RMS (black video, 15KHz to 5MHz)
C/L Gain	< $\pm 0.5\%$
C/L Delay	< ± 9 ns
Minimum Delay	3 lines

Serial Video Input (SDI)

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

Serial Video Output

Standard	SMPTE 259M 525/59.95 or 625/50
Number of Outputs	2
Connector	BNC
Signal Level	800mV nominal
DC Offset	0V ± 0.5 V
Rise/Fall Time	900ps nominal
Overshoot	< 10% of amplitude
Return Loss	> 15dB to 270MHz
Jitter	< 0.1UI

Miscellaneous

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

Electrical

Voltage	+24V to +30V
Power	<9 Watts