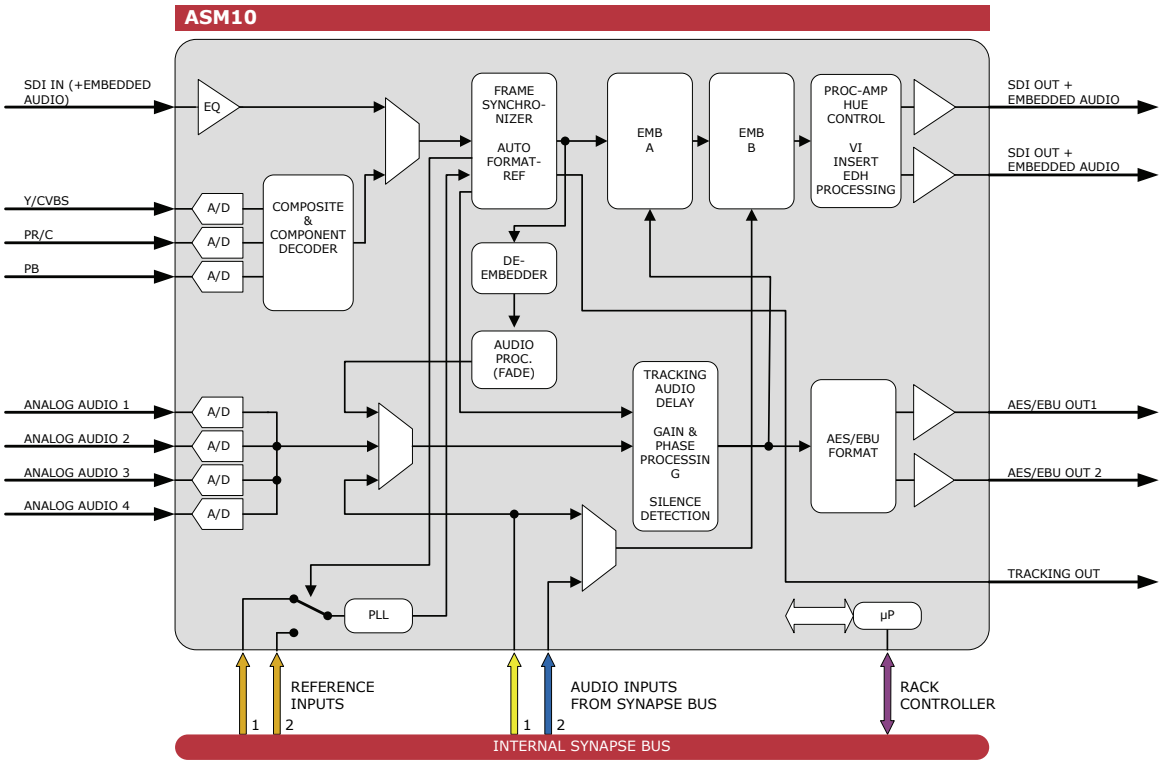
ASM10

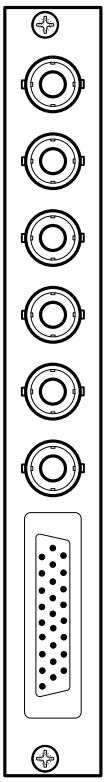
Analog to digital A/V (12 bit) bridge with SDI & embedded audio bypass/processing input

A Synapse® product

Block schematic & I/O panel



BPL12



SDI INPUT (OPTIONAL FIBER INPUT)

SDI OUTPUT 1

SDI OUTPUT 2 (OPTIONAL FIBER OR CVBS OUTPUT)

Y/CVBS INPUT

C/Pr INPUT

Pb INPUT

ANALOG AUDIO INPUT - AES/EBU OUTPUT

Features

The ASM10 is an ultimate example of combined functions and features in a single module. The module bridges the analog world to the digital world. With composite or component video and analog audio inputs, the ASM10 is ideal to digitize an analog tape machine to an SDI + embedded audio signal. It can also be found in a studio or transmission environment that is being upgraded to a central SDI + embedded audio single layer router. If an AES/EBU layer is required, the ASM10 provides this signal too. To preserve your investment after the infrastructure is digitized; it comes with an analog input by-pass function and can be used as an SDI frame synchronizer and embedder. The ASM10 is the mirror function of the SAM10 (without frame sync).

- 12-bit video A/D conversion and decoding
- 24-bit audio A/D conversion and processing
- Frame synchronizer with smooth audio handling
- Delay mode (input lock)
- Individual H and V offset adjustment in pixel and lines (with respect to reference)
- Auto detecting of PAL, NTSC or SECAM with correct reference input selection (SFR08 and SFR18 only)
- Automatic input gain adjustment
- Video Proc amp
- Noise reduction
- Hue adjustment in both SDI and analog path
- Decoder Y-shaping and Y-peaking adjustment
- Adjustable analog audio reference levels of +15, +18 and +24dBu for 0 dBFS
- Adjustable audio gain +12 db to -60 dB
- Adjustable audio phase 0 deg or 180 deg
- Individual selection of embedded domain audio, or local analog audio input, or ADD-ON audio input
- Tracking audio delay on analog audio inputs
- Second group embedding through ADD-ON card
- SDI frame sync mode
- Auto format detection
- VI and WSS insertion
- EDH insertion
- Locks to Bi-level sync
- 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

Complementary cards

- ADC20, ADC24, ADL24, DIO24, DIO48, DLA44, DLA43

Applications

- A/V bridge to digitize an analog tape machine (Beta SP)
- Mobile truck input capture card for free running audio and video sources
- Lines centre input capture card for free running audio and video sources
- VHS digitizer (+ embedded audio)
- Analog set-top box or IRD digitizer (+embedded audio)

Ordering information

Module:
- **ASM10:** Analog to digital A/V bridge (12 bit) with SDI & embedded audio bypass / processing input

Standard I/O:
- **BPL12_ASM10:** I/O panel for ASM10

Fiber outputs:
- **BPL12T_FC/PC_ASM10:** I/O panel for ASM10 with fiber transmitter on FC/PC
- **BPL12T_SC_ASM10:** I/O panel for ASM10 with fiber transmitter on SC

Fiber inputs:
- **BPL12R_FC/PC_ASM10:** I/O panel for ASM10 with fiber receiver on FC/PC
- **BPL12R_SC_ASM10:** I/O panel for ASM10 with fiber receiver on SC

CVBS output:
- **BPL12C_ASM10:** I/O panel for ASM10 with CVBS output

Specifications

Video Input

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

Reference Input through RRC

Number of Inputs	2 on SFR18, 2 on SFR08 and 1 on SFR04
Bi-level	PAL Black Burst ITU624-4/SMPTE318, Composite NTSC SMPTE 170M 1Vp-p nominal, 75 Ohms terminated through loop

Analog Audio Input

Type	Balanced analog audio
Number of Inputs	4
Connector	Removable terminal strip or female sub-D
Impedance	10k Ohms nominal (differential)
Sampling Rate	48KHz
Signal Level	0dB FS => 12dBu, 15dBu, 18dBu or 24dBu
Level Control Range	+12dB to -60dB 0.25dB increments
Frequency Response	< ±0.1dB, 20Hz to 20kHz (broadcast quality)
Dynamic Range	100dB @-60 dBFS
THD+N	< 0.002% (>96dB) @ 1kHz, -1dB FS < 0.002% (> 96dB) @ 20Hz to 20kHz, -1dB FS
CMRR	> 60dB at 1kHz

AES Audio Output

Number of Outputs	2
Connector	sub-D (balanced)
Resolution	24 bits
Sampling Rate	48KHz synchronous
Minimum Input/Output Delay	2.5ms
Maximum Input/Output Delay	1300 ms

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 ±0.5V
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