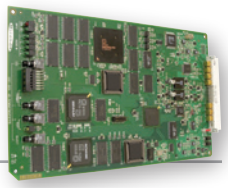
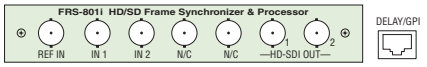
FRS-801i HD/SD Frame Synchronizer



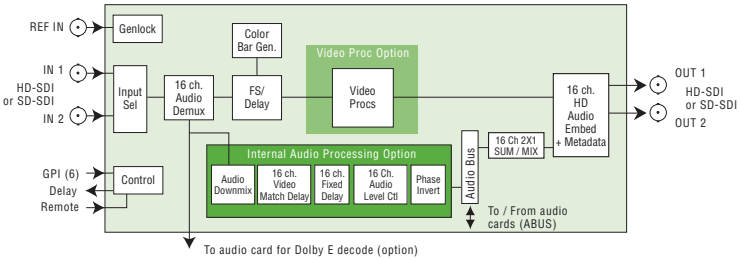
The FRS-801i is a hybrid frame synchronizer designed to support both HD-SDI (SMPTE 292M) and SD-SDI (SMPTE 259M-C) video formats. 525 & 625 formats are supported in SD-SDI while 1080i59.94/50 and 720p59.94 are supported in HD-SDI. When locked to a local reference, it provides an infinite phasing adjustment window. A video proc-amp option (FRS-801i-OPT-PROC) provides signal-level adjustments in the component domain (Y, Cb, Cr, Black...). The FRS-801i-OPT-AUD16 option provides control of embedded audio (16 channels, 4 groups), with gain, mixing, shuffling and delay adjustment. The FRS-801i can be combined with the DAP-781i audio processing module for Dolby E decoding and discrete inputs/outputs.

Key Features and Benefits

- Hybrid HD/SD video and audio frame sync with automatic input detection
- Dual HD/SD inputs with remote controlled input select
- Auto fail over mode
- Handles hot switching on input
- Flexible HD/SD reference input
- Optional video proc-amp (at component level)
- Optional embedded audio processing featuring 16 channels (4 groups) of audio delay, level controls, summing and shuffling.
- Built in test pattern and tone generator
- Configuration and operation by card edge, GPI, RCP-100 or iControl
- Audio downmix from 5.1 to 2.0 Lt Rt/stereo
- Dolby Metadata insertion in HD-SDI signal



FRS-801i Back (Symphonie-R-HDM)



FRS-801i Functional Block Diagram

Technical Specifications

VIDEO INPUTS (2)

SIGNAL	SMPTE 259M-C (270Mbps) and SMPTE 292M (1.485, 1.485/1.001 Gbps)
SUPPORTED FORMATS:	SD: 480i59.94, 576i50 HD: SMPTE 274M: 1080i59.94, 1080i50 HD: SMPTE 296M: 720p59.94, 720p50
CABLE LENGTH:	275 m (900') Belden 8281 at 270 Mbps 140 m (350') Belden 1694A at 1.485 Gbps
RETURN LOSS:	> 15 dB up to 1.5 GHz

HD/SD VIDEO OUTPUT

SD MODE:

SIGNAL (2):	SMPTE 259-C (270 Mbps)
SUPPORTED FORMATS:	SD: 480i59.94, 576i50
RETURN LOSS:	> 15 dB up to 270 MHz

HD MODE:

SIGNAL (2):	SMPTE 292M (1.485, 1.485/1.001 Gbps)
SUPPORTED FORMATS:	HD: SMPTE 274M: 1080i59.94, 1080i50 HD: SMPTE 296M: 720p59.94, 720p50
RETURN LOSS:	> 15 dB up to 1.5 GHz
JITTER:	< 0.2UI as per SMPTE 292M

REFERENCE INPUT

SIGNAL (1):	SMPTE 170M/SMPTE 318M/ITU 624-4/BUT 470-6 or Comp. Sync SMPTE 274M / SMPTE 296M Tri-Level Sync
RETURN LOSS:	> 35 dB up to 5.75 MHz

GPI (6)

CONNECTOR:	RJ-69 (RJ-45 10pin-contact) providing 4 user presets and 2 input select (Opto-isolated)
DELAY TRACKING:	Miranda Video Audio tracking signal

VIDEO PROCESSING PERFORMANCE

SIGNAL PATH:	10 bits
PROCESSING DELAY:	6 µs to 3 frames max

AUDIO PROCESSING PERFORMANCE (OPTIONAL)

QUANTIZATION:	20-24 bits
SAMPLING:	48 kHz, synchronous
CHANNELS:	16 (4 Groups)

OTHER

TEST PATTER GENERATOR:	Color bars 100% white With 100% bars
TEST TONE GENERATOR:	-18 dBFs, 24 bit, 1 kHz continous tone on right channel with pulsed tone on left channel in every pair.
POWER:	8 W

Ordering Information

FRS-801i	HD/SD Frame Synchronizer
Housing Frames:	Symphonie, Quartet 2
Rear Modules:	Symphonie-R-HDM
Options:	
FRS-801i-OPT-PROC	Video Processing Option
FRS-801i-OPT-AUD16	16 Channel Internal Audio Processing Option
Remote Control:	
iControl	Remote Control and Monitoring
iControl Solo	Stand-alone Remote Control Software
RCP-100	Remote Control Panel