

7847FSE-3G, 7847FSE-HD, 7847FSE

3G/HD/SD-SDI Advanced Frame Synchronizer with Embedded Audio



The 7847FSE Frame Synchronizers are designed to re-time a SMPTE ST 424 (3Gb/s), SMPTE ST 292-1 (1080i/60, 1080i/59.94, 1080i/50, 1080p/24sF, 1080p/23.98sF, 720p/60, 720p/59.94, or 480p/59.94) or SMPTE ST 259-1 (625i/50, 525i/59.94) input to a local reference tri-level or composite sync signal. When necessary, frames are repeated or dropped to maintain synchronization.

The 7847FSE supports synchronization of both the video and any embedded audio present including the preservation of all VANC data. When the input video is lost, this module will pass the input content, freeze the last good frame or generate black video.

The frame synchronizers also have the ability to set the audio delay independently from the video delay and have the ability to adjust video parameters such as brightness, contrast, saturation and hue control. The adjustment of audio parameters such as gain, mixing stereo pairs into monaural

and reassignment of audio channels is fully supported on up to 16 channels of embedded audio.

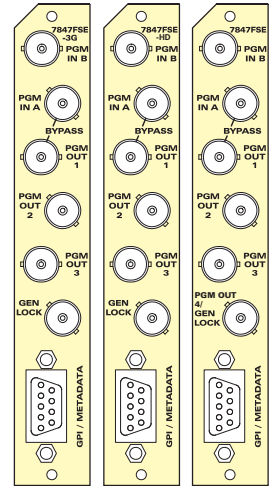
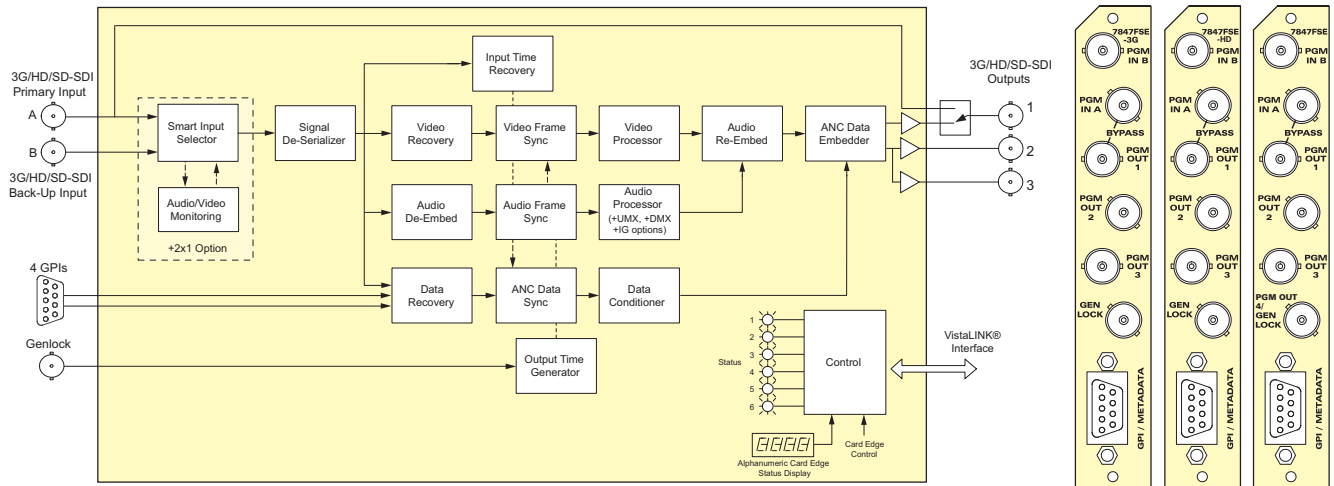
IntelliGain™ Audio and Loudness Processor

- Consistent audio loudness levels within a channel and/or program
- Automatic detection and level adjust for loud commercials
- Gain control within a program interval to preserve audio dynamic range
- Artifact-free transitions between program and commercials
- Elimination of drastic volume changes during commercials and interstitials

The 7847FSE is VistaLINK® capable, offering remote monitoring, control and configuration capabilities via Simple Network Management Protocol (SNMP) giving the flexibility to manage operations, including signal monitoring and module configuration from SNMP capable control systems (Manager or NMS).

Features & Benefits

- Synchronizes 3Gb/s, HD-SDI or SD-SDI video signals with embedded audio
- Supports additional frames of video and audio delay
- Program Video output bypass relay protected on power loss
- Programmable output phase with respect to reference input
- Freeze on last good frame, or go to black on loss of video or pass input
- Synchronizes four groups of embedded audio
- Adjustable brightness, contrast, saturation
- Active Format Descriptor insertion as per SMPTE 2016
- Smart 2x1 protection switch with soft 2x1 option
- Dolby metadata insertion as per SMPTE 2020
- Full audio processor including channel shuffling, gain and phase inversion
- Protection switching to backup input
- Card edge status LEDs
- Optional upmixing, downmixing and loudness control
- VistaLINK® capable for remote monitoring, control and configuration capabilities via SNMP; using VistaLINK® PRO, CP-2116E or CP-2232E Control Panels. VistaLINK® is available when modules are used with the 3RU 7800FR frame and a 7700FC VistaLINK® Frame Controller module in slot 1 of the frame



Specifications

Serial Video Input Inputs A & B:

Standard: SMPTE ST 424 (3Gb/s) 1080p (-3G models)
SMPTE ST 292-1 (1.5Gb/s), 1080i, 1035i, 720p (-3G/HD models)
SMPTE ST 259-1 (270Mb/s) 525i, 625i

Connector: BNC per IEC 61169-8 Annex A

Input Equalization:
SD: Automatic to 300m @ 270Mb/s with Belden 1694A or equivalent cable
Automatic to 115m @ 1.5Gb/s with Belden 1694A or equivalent cable
HD: Automatic to 80m @ 3Gb/s with Belden 1694A or equivalent cable

Return Loss:
SD: > 15dB up to 270MHz
HD: > 13dB up to 1.5GHz
3G: > 10dB up to 3.0GHz

Serial Video Outputs:

Number of Outputs: 3 (1 output is bypass relay protected)
Connectors: BNC per IEC 61169-8 Annex A
Signal Level: 800mV nominal
DC Offset: 0V ±0.5V
Rise and Fall Time:
SD: 900ps nominal
HD: 200ps nominal
Overshoot: < 10% of amplitude
Wide Band Jitter: < 0.2 UI (HD)

Genlock Input:

Type: NTSC or PAL Color Black 1V p-p, or Composite bi-level sync (525i/59.94 or 625i/50) 300mV
HD Tri-level Sync

Connector: BNC per IEC 61169-8 Annex A
Termination: 75Ω (dip-switch selectable)

Processing Functions:

Video:
Black Level: ±7%
Luminance Gain: ±6dB
Chrominance Gain: ±6dB

Audio:
Gain: ±24dB
Remapping: Any input or mono mix of any L/R pair to any output

Electrical:

Voltage: +12V DC
Power: 15W
EMI/RFI: Complies with FCC Part 15, Class A
EU EMC Directive

Physical (number of slots):

350FR: 2
7700FR-C: 2
7800FR: 1
7801FR: 1



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Ordering Information

7847FSE-3G	3G/HD/SD-SDI Advanced Frame Synchronizer with Embedded Audio
7847FSE-HD	HD/SD-SDI Advanced Frame Synchronizer with Embedded Audio
7847FSE	SD-SDI Advanced Frame Synchronizer with Embedded Audio

Ordering Options Rear Plate must be specified at time of order (Eg. Model +3RU)

+2x1 Smart 2x1 protection switch with soft 2x1 option
+UMX Stereo to 5.1 Up-mix
+DMX 5.1 to 2-Channel Stereo Downmix
+IG IntelliGain Loudness Management

Rear Plate Suffix
+3RU

3RU Rear Plate for use with 350FR, 7700FR-C and 7800FR Multiframe

Accessories
7800FC/7700FC
CP-2116E-H
CP-2232E

VistaLINK® Frame Controller
 Remote Control Panel
 Remote Control Panel

Enclosures
350FR
7700FR-C
7800FR
7801FR

3RU Portable Multiframe which holds up to 7 single slot modules
 3RU Multiframe which holds up to 15 single slot modules
 3RU Multiframe which holds up to 15 single slot modules
 1RU Multiframe which holds up to 4 single or 2 dual slot modules

