

# 7860IM2-HD

## IntelliMatch HD/SD-SDI Signal Monitoring and Content Comparison



The 7860IM2-HD IntelliMatch product is the most advanced tool for performing signal monitoring and analysis on HD/SD-SDI signals and for performing content comparisons between signals using the latest digital signal processing technology. Using the 7860IM2-HD allows a broadcaster or content distributor to efficiently and confidently automate the monitoring of the signal path, and to identify any problems as quickly as possible. The 7860IM2-HD does analysis on four inputs, and content comparison on two paths of two inputs.

The 7860IM2-HD performs video analysis using the industry-proven Evertz AVM (audio-video monitoring) core, which includes loss, frozen and black detection for video; loss, level over or under for audio; and loss and line detection for VANC data. Other analysis features are full SCTE104 parsing, and audio format detection for all 16 channels of embedded audio.

Evertz award-winning IntelliTrak® audio/video lip sync engine is built into the 7860IM2-HD. IntelliTrak® allows for lip sync measurement by using audio and video fingerprinting, working with real time, real world signals without the need to watermark. It can either be used standalone (both signals present), as a remote probe (insert its fingerprint into the VANC), or as the measurement device for a remote probe (receives fingerprints inserted in VANC).

IntelliMatch expands on the audio/video fingerprinting technology to perform advanced content comparison functions. Using the 7860IM2-HD, signals up

to 10 seconds apart in time can be analyzed to determine differences between them. Video differences tracked include logo placement, aspect-ratio changes, macroblocking and artifacts. Audio differences include content and level differences on a channel by channel basis. This allows automation of quality control to catch common problems such as misplaced branding, missing or incorrect subtitles, or wrong audio language or subtracks.

In addition to the quantitative measurements between two signals, the 7860IM2-HD output supports performing a video difference between two signals (A-B, for Y, CbCr or both) or a customizable video split, which allows qualitative measurement of the two signals simultaneously. Another tool is on-board PSNR calculations, which can be done to perform quality measurements between two signals.

The 7860IM2-HD is VistaLINK® enabled, 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).

The 7860IM2-HD occupies two card slots and can be housed in the 1RU 7801FR frame, the 3RU 7800FR frame which has a 15 slot capacity, or the portable 3RU 350FR frame which has a seven slot capacity.

### ► Features & Benefits

#### Video Analysis

- Standard Detection
- Loss
- Frozen, full and zoned
- Black

#### Audio Analysis (16 channels Embedded)

- Format Detection (PCM, AC3, Dolby®E)
- Loss
- Level Over
- Level Under

#### VANC Analysis

- Presence Detection
- Line Detection
- SCTE104 Parsing

#### Video Difference Detection

- Zoned signal differences
- Macroblocking (max and average)
- Artifacts (max and average).
- Logo/segment detection
- PSNR Calculation
- Latency

#### Audio Difference Detection (per channel)

- Content difference
- Level differences
- Latency

#### Audio/Video Difference Detection

- Tracks up to 10 seconds of difference between signals
- Lip sync measurement using award-winning IntelliTrak, on-board or remote

#### VANC Difference Detection (per service):

- Line mismatch

#### Input formats

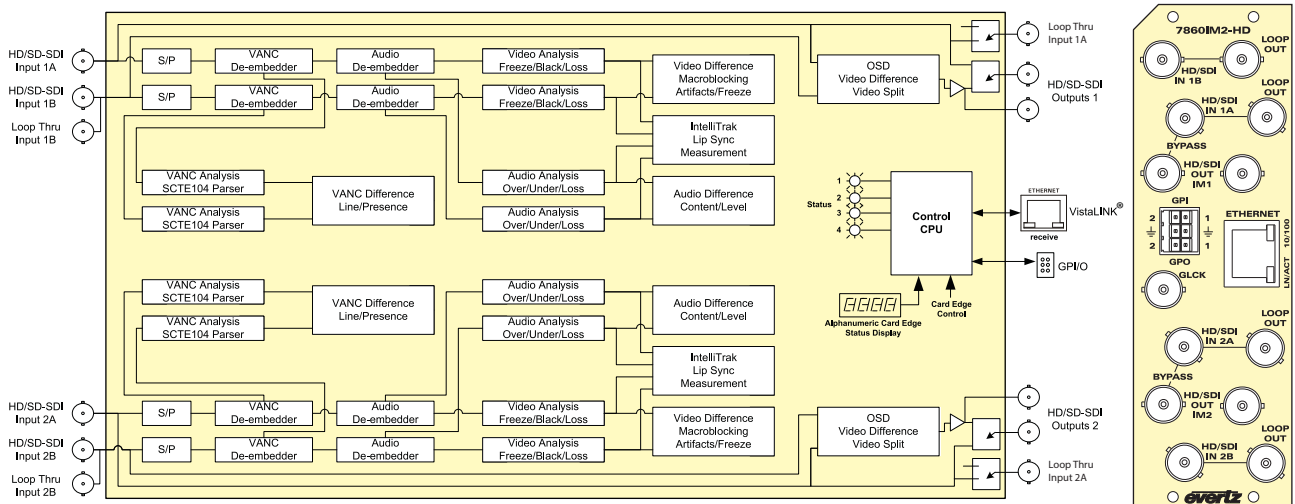
- Video: Auto-sensing SD/HD (720p, 1080i 50/59.94)
- Audio: PCM, AC3, Dolby E

#### Output formats

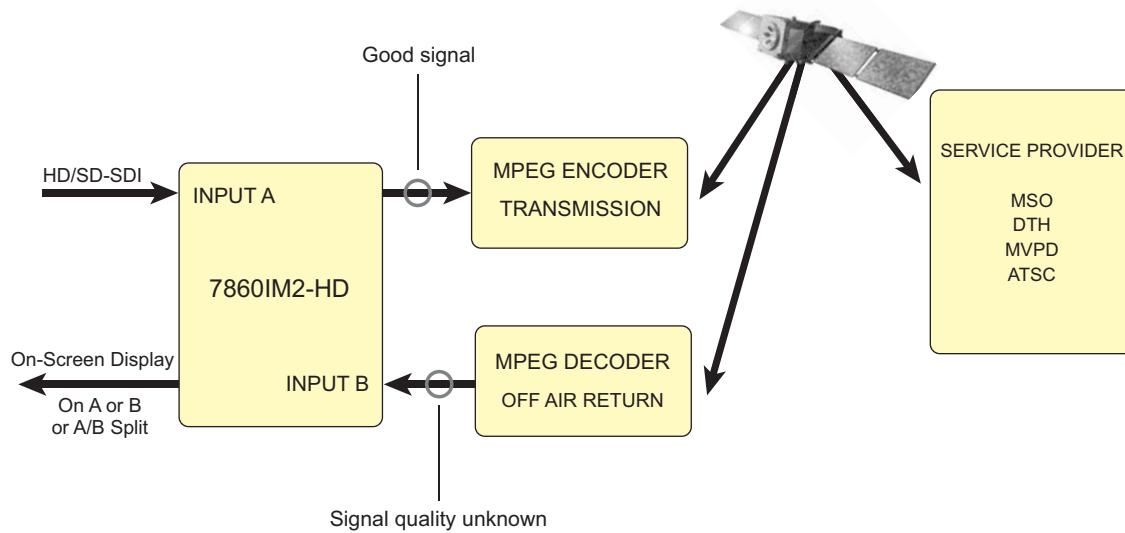
- Same as input
- Output full screen input 1 or input 2
- Output difference between input and input 2
- Output customized split screen between inputs
- OSD

#### Monitoring and Control

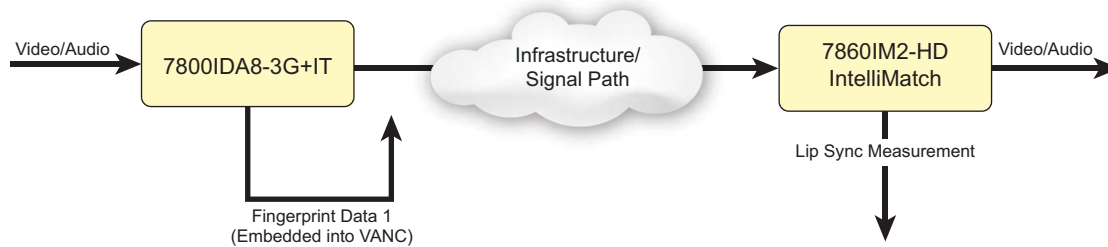
- OSD on output
- Card-edge LED's and display
- VistaLINK® via SNMP
- Easy customizable integration with VLPro Plus
- Evertz Advanced SNMP Control Panels
- Evertz VUE
- GPI/O



►IntelliMatch Application - Transmission Monitoring



►IntelliMatch Application - Remote Lip Sync Measurement



►Specifications

<b>Serial Video Input:</b>		<b>Reclocked Serial Video Output:</b>		<b>Electrical:</b>	
Standard:	Auto-detects standard 1.485Gb/s ST 292-1 (1080i/59.94, 1080i/50,720p/59.94, 720p/50) 270Mb/s SMPTE 259M-C (525i/59.94 or 625i/50)	Standard:	Same as input	Voltage:	+12V DC
Connector:	4 BNC per IEC 61169-8 Annex A	Number of Outputs:	2 per IM path (Input A is bypass relay protected) Loop thru on Input A and Input B	Power:	20W
Input Equalization:	Automatic 100m @ 1.5Gb/s with Belden 1694A or equivalent cable	Connector:	BNC per IEC 61169-8 Annex A	EMI/RFI:	Complies with FCC regulations for Class A devices Complies with EU EMC directive
Return Loss:	> 20dB up to 270MHz > 12dB up to 1.5GHz	Signal Level:	800mV nominal	<b>Physical (number of slots):</b>	
		DC Offset:	0V +/- 0.5V	350FR:	2
		Rise and Fall Time:	200ps nominal	7700FR-C:	2
		Overshoot:	< 10% of amplitude	7800FR:	2
		Return Loss:	> 20dB up to 270MHz > 15dB at 1.5Gb/s	7801FR:	2
		Jitter:	< 0.16 UI (HD)		

►Ordering Information

<b>7860IM2-HD</b>	IntelliMatch HD/SD-SDI Signal Monitoring and Content Comparison	<b>Accessories</b> CP-2116E-H CP-2232E VistaLINK®PRO VUE	Advanced Remote Control Panel Advanced Remote Control Panel PLUS VistaLINK® Graphics Package Configurable Touch-capable Control and Monitoring Software
<b>Ordering Options</b>	Rear plate must be specified at time of order (Eg. Model + 3RU)	<b>Enclosures</b> 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 slot modules
<b>Rear Plate Suffix +3RU</b>	3RU rear plate for use with 350FR, 7700FR-C, 7800FR Multiframes		

