The protection switch is a critical part of implementing fault tolerance through redundancy. When done well, the protection switch ensures the integrity of its output video even when faced with a catastrophic error. When video sources arrive on redundant paths, a protection switch chooses the best one as the source for the facility.

The 7800R2x2–ACS–HD/3G is a protection switch that performs this task with excellence. A configurable set of advanced Audio Video Monitoring (AVM) parameters are used to determine an input's validity. The Advanced Clean Switch (ACS) uses this information to choose a valid input video source for the output. This determination is done on each frame and the ACS ensures a change between input sources is not detectable.

These monitoring capabilities include the ability to detect SDI errors. The AVM parameters include frozen picture detection, black picture detection, picture and audio level monitoring as well as Ancillary Data monitoring. Many of these AVM metrics have user–adjustable thresholds and time periods to suit any application.

The 7800R2x2–ACS–HD/3G's delay buffers make it possible to completely avoid allowing an error through. The delay for each input is also independent, allowing the video content to be temporally aligned before switching. Once aligned, a change in the output video source will happen without a temporal "slip" in the content, making the switch visually undetectable. Additionally, Evertz SoftSwitch technology ensures "popless" switching of embedded audio, making the switch audibly undetectable.
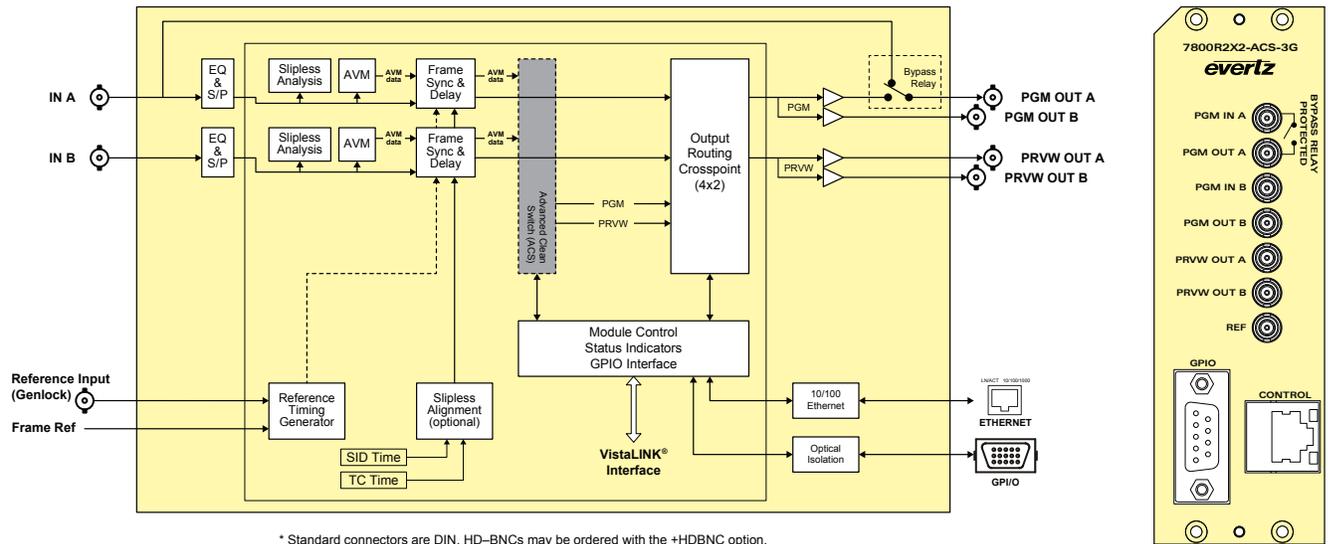
In many of today's systems, main and backup paths could go through different networks and communication technologies, and so the skew between signals cannot be assumed to be fixed. The +TCA option enables the module to use the embedded time code information (ATC) to automatically adjust internal delay buffers so that there is no skew between the inputs to the 7800R2x2–ACS–HD/3G's crosspoint. With this powerful feature, all input video signals are both synchronized in phase and aligned in time.

The 7800R2x2–ACS–HD/3G can also pass time–sensitive GPI information across the switch. The GPIs are delayed and aligned to ensure that the GPO state during a particular output frame matches the state of the GPI when that frame arrived at the input.

Advanced features like these allow for the ultimate in protection for important content. When downtime is costly, the 7800R2x2–ACS–HD/3G ensures maximum uptime and uninterrupted delivery of revenue generating content.

▶Features & Benefits

- Support for SD, HD and 3Gb/s SDI signals
- Visually and audibly seamless switching among inputs
- Integral frame synchronizers
- Evertz advanced Audio & Video Monitoring is provided for thorough signal analysis and switching criteria based on signal and content metrics
- Optional input signal auto–alignment using embedded timecode information
- Optional manually adjustable delay to temporally align skewed input signals

- 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 7800FR or 7801FR with 7800/7801FC frame controller installed
- Web GUI for remote monitoring, control and configuration capabilities when modules are used with the 7800FR or 7801FR with 7800/7801FC frame controller installed

* Standard connectors are DIN. HD–BNCs may be ordered with the +HDBNC option.

▶**Specifications**

Serial Digital Video Input		Serial Digital Video Output		Electrical	
Standard:	SMPTE ST 424 2.970 Gb/sec (1080p/59.94Hz level A&B) SMPTE ST 292–1 1.485 Gb/s (1080i/59.94Hz, 720p/59.94Hz) SMPTE ST 259–1 270 Mb/s (525i/59.94Hz)	Standard:	SMPTE ST 424 2.970 Gb/sec (1080p/59.94Hz level A&B) SMPTE ST 292–1 1.485 Gb/s (1080i/59.94Hz, 720p/59.94Hz) SMPTE ST 259–1 270 Mb/s (525i/59.94Hz)	Voltage: Power: EMI/RFI:	+12VDC <30 Watts Complies with FCC regulations for class A devices Complies with EU EMC directive
Number of Inputs:	2	Number of Outputs:	4	**Physical**	
Connector:	DIN 1.0/2.3, HDBNC Optional	Connector:	DIN 1.0/2.3, HDBNC optional	Number of slots 7800/7801FR Frame:	2
Input Equalization:	Automatic to 80m @ 2.970 Gb/s with Belden 1694 or equivalent Automatic to 100m @ 1.485 Gb/s with Belden 1694 or equivalent Automatic to 300m @ 270 Mb/s with Belden 1694 or equivalent	Signal Level: SD Rise/Fall Times: HD Rise/Fall Times: Return Loss:	800mV Nominal 740ps nominal 200ps nominal >15 dB to 1.5 GHz >10 dB to 3.0 GHz		
Return Loss:	>15 dB to 1.5 GHz >10 dB to 3.0 GHz				

▶**Ordering Information**

7800R2x2–ACS–3G	3G/HD/SD Protection Clean Switch with Advanced Audio/Video Monitoring
7800R2x2–ACS–HD	HD/SD Protection Clean Switch with Advanced Audio/Video Monitoring

Ordering Options:

+TCA	Temporal auto–alignment of input signals based on embedded timecode
+SID	Temporal auto–alignment of input sugnals based on embedded source
+HDBNC	Coaxial connectors on rear plate

Rear Plate Suffix:

+3RU	3RU Rear Plate

Enclosures:

7800FR	3RU Multiframe which holds up to 15 single slot modules
7800FR–QT	3RU Multiframe which holds up to 15 single slot modules, low noise
7801FR	1RU Multiframe which holds up to 4 single slot modules or two dual slot modules