Model 7450
HD Protection Switch

The 7450 module is a fail-safe, bypass protection switch for critical digital paths for broadcast or satellite applications. When a fault is detected in the primary input, and the secondary input is verified as good, the switch will activate, causing the secondary input to be switched to the module's output. The 7450 includes a passive, fail-safe path that ensures there is an output even in the event of a total power failure.

The 7450 supports HD SDI signals. Different types of signal testing (vetting) can be enabled on the 7450 and it will apply the tests automatically and independently for the Primary and Secondary inputs.

The health of a high definition video signal is determined by monitoring crucial parameters in order of increasing complexity; Timing Reference Signal (TRS), or a persistent loss of digital sync is tested first. Black, Embedded Audio and Freeze are also evaluated. Each test can be configured by the user. For example, the sophisticated Black Detector includes configurable parameters for black level threshold, pixel count, and duration time.

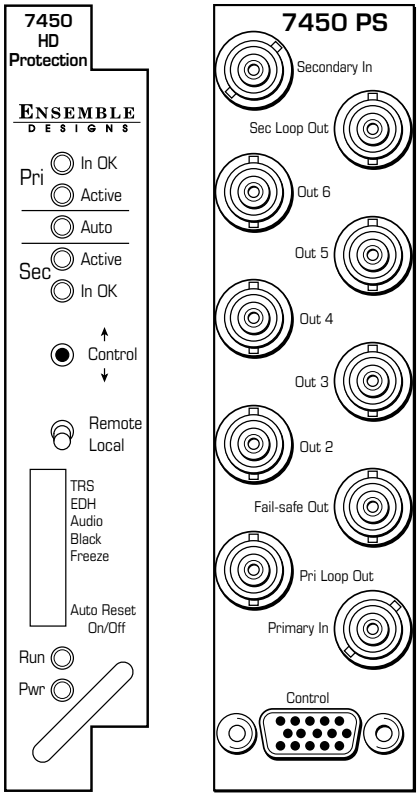
The Freeze detection system can be set to detect a clean or noisy source. Freeze Time sets the number of seconds for the 7450 to switch to the secondary input after a video freeze condition is detected in the primary input.

The switch can operate in two modes: automatic or non-resetting. In fully automatic mode, the 7450 will automatically switch back to the primary signal once it's been restored. In the non-resetting mode, the secondary input remains routed to the output, even after the primary input has recovered.

Controls are easily accessed through an Avenue Control Panel, Avenue PC software, GPIs, or front edge module controls. GPI inputs allow faults detected in upstream equipment to contribute to the switching logic.

Features

- Fail-safe Bypass Protection Switch for Critical Signal Paths
- Use with HD SDI signals
- Detects Closed Caption Data, TRS, Black, Silence, Freeze
- Detection specifics are user programmable
- Passes embedded audio
- Alarm generation
- Remote control and monitoring



www.ensembledesigns.com tel 530.478.1830

Serial Digital Input

Number	Two
Type	HD Serial Digital 1.485 Gb/s SMPTE 274M, 292M or 296M
Max Cable Length	100 Meters Belden 1694A

Automatic Cable Input Equalization

HD Standards Supported:

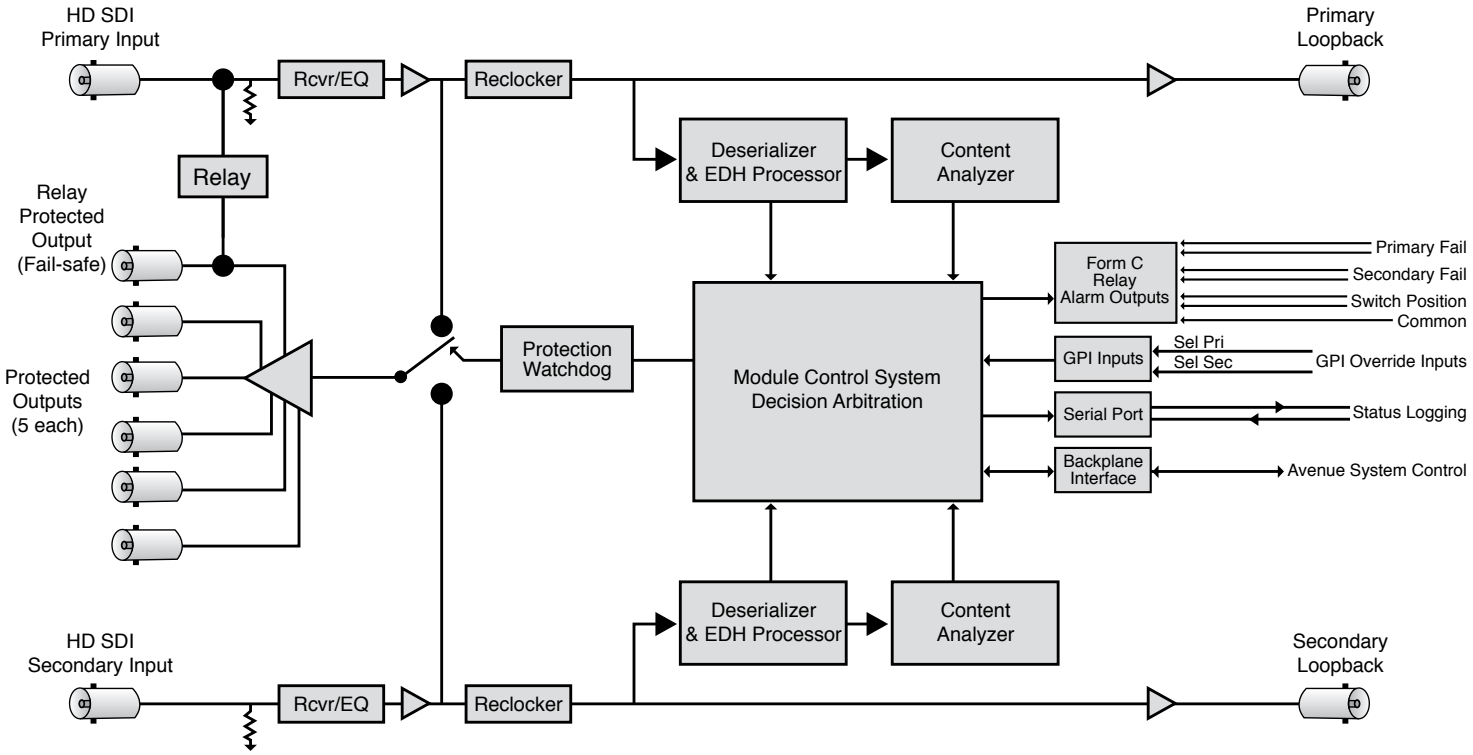
1080i (SMPTE 274M -4, 5, 6) 50, 59.94 or 60 Hz
720p (SMPTE 296M -1, 2, 3) 59.94 or 60 Hz
1080p (SMPTE 274M -9, 10, 11) 23.98, 24, 25 Hz
1080sF (RP211 -14, 15, 16) 23.98, 24, 25 Hz

Serial Digital Loopback

Number	Two total One primary One secondary
Impedance	75 Ω

Serial Output Signal

Number	Six total One Fail-safe bypass output Five DA outputs
Signal Type	HD Serial Digital Follows input
Impedance	75 Ω

General Specifications

Power Consumption	<7.0 watts
Temperature Range	0 to 40° C ambient (all specs met)
Relative Humidity	0 to 95% noncondensing
Altitude	0 to 10,000 ft.
Fusing	4 each 0.75 Amp PTC resettable fuse with each domain of the module independently regulated.