

4445

ASI Smart and Clean Bypass Protection Switch



The 4445 module provides clean switching for DVB-ASI signals in transmission, broadcast, and satellite systems. The 4445 is a smart 2x1 switch that combines drill down analysis of the transport stream with auto alignment of packet timing. It is both a clean switch and a fail-safe bypass protection switch for use with critical feeds.

Content analysis, including ETR 290 compliant testing, automatically identifies stream faults. An extensive range of test parameters are provided, including the ability to test for minimum data rates of specific PIDs (both referenced and unreferenced).

Each input of the 4445 travels through a dynamically variable delay buffer. The purpose of the buffers is to align the two streams to matching points that will allow clean switching without the need for decoding. Buffer depth is adjustable. Operation with small buffers causes the least timing latency, while the use of larger buffers can be used to switch before a fault is actually seen on-air.

When the 4445 is being used to switch between identical streams that have different latencies (fiber versus satellite), buffer depth will automatically adjust to match and compensate for those differences. You can set the target switch point to be a GOP, I-frame, frame or packet for the selected program in the stream. The resulting switch will be imperceptible by downstream equipment.

When switching between differing streams, the 4445 will switch with the smallest possible disruption in the output.

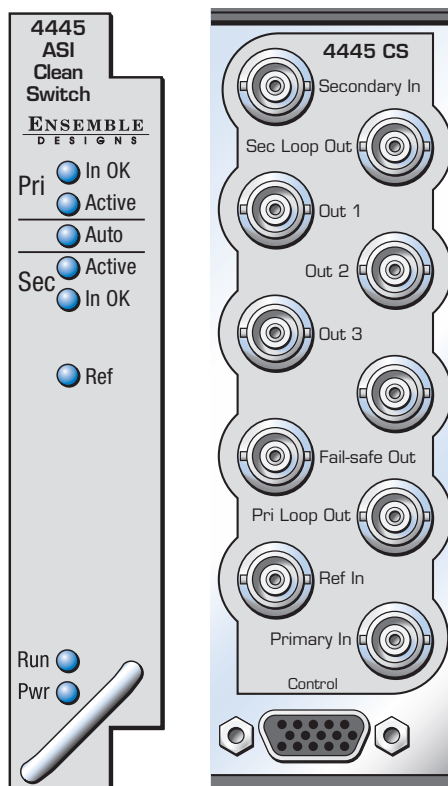
The switched signal is delivered on a new transport clock. This clock can be self-generated by the 4445 or locked to an external reference. This is a very important feature because it ensures that downstream equipment will see a consistent transport bit clock, regardless of the signal being transported.

The 4445 acts as a TBC for ASI streams by removing all jitter and putting a new PCR, PTS and DTS onto the output stream. Jitter removal improves your ASI stream and is critical for downstream MPEG and transmission equipment.

The 4445 is ideal for use with sources such as STLs, satellite feeds, transoceanic cable, and terrestrial fiber.

Features

- **Fail-Safe Bypass Protection Switch for critical ASI stream**
- **Clean Switch - when using identical streams, the switch occurs at the beginning of an I-frame and is imperceptible by downstream equipment**
- **Acts as a TBC for ASI streams by removing all jitter and improving your transmission stream**
- **Cleans the clock - generates a new transport clock on the output signal**
- **Detects Signal Presence, Program Packets, PAT , PMT, and PIDs with PID specific targeting**
- **Detection specifics are user programmable**
- **ETR 290 Compliant for both Priority 1 and Priority 2**
- **Stream monitor alarms via TCP/IP, SNMP, RS-232 and GPI**
- **Alarm generation**
- **Remote control and monitoring**



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Input Signal

Number	Two
Signal Type	DVB-ASI at 270 Mb/s

Loopback

Number	Two total One primary One secondary
Impedance	75 Ω

Output Signal

Number	Four clean outputs One is a fail-safe bypass output
Signal Type	Follows input
Impedance	75 Ω
Delay	Adjustable up to 2 sec

Reference Input

Number	Two: External or Frame Master Reference
Signal Type	PAL or NTSC composite video or 10 MHz 1V P-P sine or square
Return Loss	>40 dB (applies to external ref input)

Signal Analysis

ETR 290 Compliant, Priority 1 and Priority 2

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

