4505
Dual ASI and SMPTE 310M Converter MPEG Transport Processor

The 4505 is a two channel MPEG Transport Stream Processor that works with both DVB-ASI and SMPTE 310M bitstreams. Similar in architecture and functionality to the 4500 module, the 4505 has the additional capability of handling two streams of 310M or ASI.

The 4505 provides stream content analysis with support for both Priority 1 and Priority 2 test protocols of the ETR 290 DVB measurement guidelines. As a converter, it can translate ASI to 310M or 310M to ASI. Using the reference input, the output bitstream can be synchronized to a video or 10 MHz reference signal.

The 4505 module is useful in broadcast and transmission applications. Set the outputs of the 4505 module to the desired signal type, either ASI or 310M. The module auto senses what type of signal is on the input and converts as needed. Outputs can be configured independently so that one channel could convert ASI to 310M and the other channel could convert 310M to ASI. Advanced configuration in the Avenue Control System allows choosing which services on the input are passed on to the output.

The built-in transport stream analyzer detects whether the input constitutes a valid signal by checking for PAT, PMT, and PID packets. In addition to the ETR 290 test protocols, the user can configure tests to define the minimum number of video and audio packets expected per second in a given service. Alarms can be generated via SNMP, Avenue PC, and contact closure outputs.

The 4505 brings the 310M symbol clock into the same precision as the transmitter which optimizes transmission performance. The 4505's output bitstreams can be synchronized to a video or 10 MHz reference signal. This is of particular importance in 310M applications where the symbol clock frequency acts directly in the transmitter modulation process. By using an Avenue 7400 SPG with the GPS reference option, the 4505 Stream Processor will ensure the highest possible accuracy in transmission.

Controls are easily accessed through an Avenue Control Panel, Avenue PC, GPIs, or front edge module controls.

For critical signals paths, consider using a 4450, 4455 or 7455 bypass protection switch.

Features

- **Convert between SMPTE 310M and ASI signals or ASI to SMPTE 310M for broadcast and transmission**

- **Two channels on one module provide high density conversion**

- **Built-in signal analyzer detects Signal Presence, Program Packets, PMT, PAT and PIDs**

- **Deliver a pristine signal to your transmitter for optimum transmitter performance**

- **Reference input used to correct the 310M symbol clock and remove jitter**

- **Clock management for Single Frequency Networks (SFN)**

- **CRC and Checksum data integrity testing**

- **ETR 290 Compliant for both Priority 1 and Priority 2**

- **Stream monitor alarms via TCP-IP, SNMP, RS-232 and GPI**

- **Remote control and monitoring**
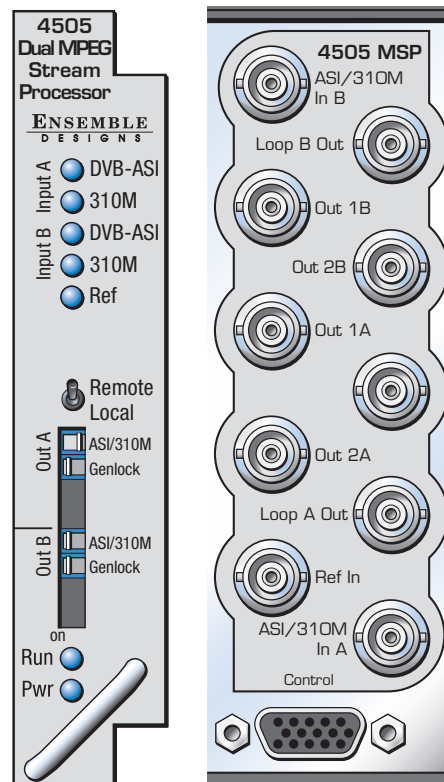
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Input Signal

Number	Two (one per channel)
Signal Type	DVB-ASI at 270 Mb/s or SMPTE 310M

Loopback

Number	Two (one per channel)
Impedance	75 Ω

Output Signal (processed)

Number	Four (two per channel)
Signal Type	DVB-ASI at 270 Mb/s or SMPTE 310M, selectable
Impedance	75 Ω

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