OVERVIEW

The vS9500 mux/demux interoperates with other Ventura products to form a layered approach to multiplexing and network interfacing ranging from E3/DS3, OC-3 to OC-192 rates. With the most efficient use of bandwidth available, these products are designed to squeeze the maximum number of channels into a given capacity.

The vS9500 can be used as a companion card with the other family members performing the function of sub-multiplexing for ASI bandwidth optimizing and multiplexing into SDTI for adapting to fiber metropolitan or SDI/SONET long-distance networks.

KEY FEATURES

- As a master mux, the vS9500-AM combines up to four DVB-ASI inputs into one 270Mbps SDTI (SMPTE 305-M) output.
- As a submux, the vS9500-AM combines up to 4 DVB-ASI inputs into one pseudo ASI transport stream (TS) for input to a master mux, facilitating the combination of up to 16 DVB-ASI TS into one 270Mbps SDTI output.
- The vS9500-AD provides the demultiplexing.
- Aggregates TS payload up to 178Mbps for maximum bandwidth in SDTI mode.
- Individual channel bandwidth ceiling provides total control over capacity available to client (to a resolution of 0.1Mbps per TS).
DVB-ASI TS multiplexer to SDTI sub-multiplexer/bandwidth optimizer/fiber adapter

**Features**

- Individual TS rates can be between 1Mbps and 178Mbps
- Optional single or dual optical outputs at mux with optional single or dual optical receivers at demux for path diversity with automatic protection switching
- Used with VS103/VS101 chassis under AEMS (Advanced Element Management System)
- DVB validity check (PID, PAT, PMT, ES and SES)
- Reed-Solomon FEC can be applied to each ASI TS for reliable MPEG-2 transmission
- Reed-Solomon checking for each input and output
- Each input TS is assigned conditional access codes (2 layers) for secure content delivery
- Any mux/submux ASI input can be switched to any demux output across network
- Small Formfactor Pluggable (SFP) optics provide efficient use of space, available in 1310, 1550 and any ITU CWDM or DWDM wavelengths
- NEBS Level 3 compliant for reliable performance in harsh environments
### Specifications

#### Video Formats

**Input formats**: DVB-ASI (EN50083-9), or ASI, containing data from 800kbps up to 178Mbps

**Impedance**: 75 Ohm

**Nominal level**: 800mV (pk – pk)

**Cable Eq**: 300m of Belden 8281 cable

#### Multiplexer and Demultiplexer Video Interfaces

- **Standard**: DVB-ASI (EN50083-9)
- **Mux video inputs**: 4 x 270Mbps
- **Demux video outputs**: 4 x 270Mbps
- **Monitor**: Selectable buffered version of input, front panel

#### Multiplexer and Demultiplexer Network Interfaces

- **Format**: SDTI SMPTE 305M or ASI submux ASI packets 192/208 bytes
- **Mux outputs**: 2 x 270Mbps
- **Demux inputs**: 2, plus 2 x 270Mbps input loop-through signal
- **Mux/demux payload**: 270Mbps, containing data from 800kbps up to 178Mbps, SDTI
- **Input impedance**: 75 Ohm, with loop-through capability in demux

#### Multiplexer and Demultiplexer Payload Processing

- **Port management**: ETR 290 level checking
- **Port bandwidth**: 800Kbps – 178Mbps assignable per port, any rating
- **Forward error correction**: Reed-Solomon
- **TS payload**: 178Mbps (no FEC)

#### Optical Transmitter

- **# of outputs**: 1 primary with optional secondary (SFP)
- **Connector**: SC
- **Data rate**: 270Mbps, SDTI
- **Laser type**: SFP
- **Laser wavelengths**: 1310, 1550, CWDM, DWDM
- **Output power level**: 0dBm min
- **Fiber type**: Single mode

#### Optical Receiver (Optional)

- **# of inputs**: 1 primary with optional secondary (SFP)
- **Connector**: SC/PC
- **Receiver type**: PIN
- **Input wavelengths**: 1260nm – 1620nm
- **Sensitivity**: < -32dBm
- **Max input power**: +1dBm
- **Fiber type**: Single mode

#### Front Panel LED Indicators

The front panel LED bank provides a comprehensive overview of both the card status and traffic status. Utilizing three-state LED’s (off, green and amber or off, green and red) payload and network faults can be quickly diagnosed providing immediate remedial guidance to in-station personnel. Fault finding tables are available with the product.

#### External Alarms

Normally open relay contacts. Closed for major and minor alarm signals.

#### Element Management

A Web interface presents a comprehensive set of status, control and alarm variables from a Ventura shelf element manager, such as the FCS183. The FCS183 is a powerful Linux based embedded management system that also supports SNMP and XML. It also acts as an agent for card upgrades, storing multiple images for each card in the VS103 or VS101 chassis. Users can apply these images to install upgrades from a remote location.

#### Physical and Environmental

Resides in a single slot of a VS101 or VS103 Ventura series chassis

- **Power consumption**: 10W (All options)
- **Operating temperature**: 0°C to +50°C
- **Storage temperature**: -10°C to +70 °C
- **Relative humidity**: 20% - 95% RH, non-condensing
- **Compliance**: CSA, UL, CE, FCC, Class A, NEBS Level 3, C-Tick

#### Ordering Options

- **VS9500-AM**: DVB-ASI T5 multiplexer to SDTI sub-multiplexer/bandwidth optimizer/fiber adapter
- **VS9500-AD**: SDI/DVB-ASI T5 demultiplexer sub-demultiplexer/bandwidth optimizer
- **SFP-TV-1310-S**: 1310nm Fabry-Perot Laser SFP, 0dBm nominal launch power
- **SFP-RV-PIN**: PIN receiver SFP, -32dBm nominal sensitivity

Other SFP optics are available in 1310, 1550, CWDM and DWDM wavelengths. For these optical interface options, see the Ventura SFP options data sheet.

*Pseudo ASI for submultiplexing*