



VMUX MODULES

For the 4200 RS 17-slot Advanced Services Platform

Features and Benefits

- Provides plug-and-play installation using automatic power balancing
- Supports both terminal and degree two Optical Add/Drop Multiplexer (OADM) configurations
- Adds/drops fixed wavelengths with four- or eight-channel granularity and scalability to 40 channels
- Controls power automatically for added, dropped, and express channels, providing:
 - Independent per-wavelength control for added channels
 - Independent composite control for dropped channels
 - Independent composite control for express channels
- Interworks with Ciena's Dynamic Wavelength Router (DWR) module and can participate in ROADM-based networks
- Eliminates the need for external attenuator pads to lower cost and simplify network design and implementation

The VMUX modules for the 4200 are channelized, managed optical multiplexers/demultiplexers capable of dropping and adding either four or eight specific wavelengths at a given location.

The modules are used in the 4200 in both standard add/drop and ROADM configurations and provide the following functionality:

- Selective add/drop of four or eight adjacent channels (depending on VMUX type)
- Blocking of four or eight add/drop channels in express path
- Express of all non-add/drop channels
- Automatic power management on each add channel
- Provisioning (module level)
- Alarm and fault reporting
- Maintenance and diagnostics

Unlike passive filters that rely on the installation of external attenuators to accomplish wavelength power balancing, the VMUX-4 and VMUX-8

modules provide the 4200 with the ability to automatically control the optical power of the fixed wavelengths being added and terminated. Automatic power control is based on embedded software that adjusts the power levels for added, dropped and express traffic traversing the node with no user intervention to provide optimal transmission performance.

