



VERSATILE TELECOMMUNICATIONS NODE

VTN244 FIBER DEEP 2X2 OPTICAL NODE

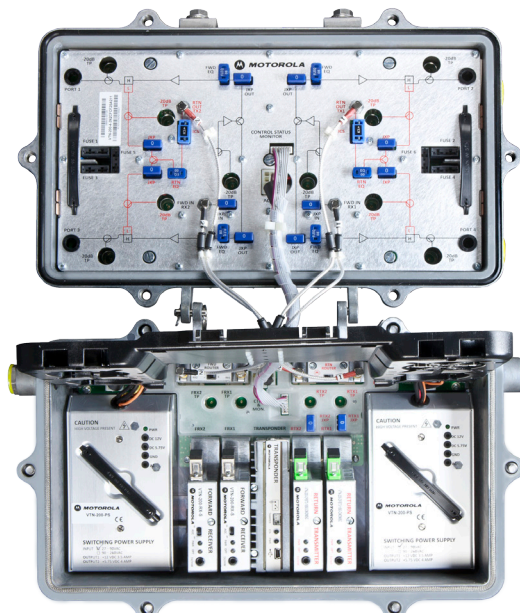
A full-featured optical node that supports network segmentation.

Product Overview

Motorola's Versatile Telecommunications Node is designed to meet the growing need for delivering fiber deeper into operator's networks. The VTN244 is an exceptional blend of performance and value in a compact aluminum housing. Premium features include forward path segmentation, return path segmentation, redundant power supplies and optional Local Channel Injection. The node can be deployed as a cost-effective 1x1 and scales easily to a 2x2 to manage network demands. The node is Electronics Package (E-Pack)-based to enable ease of maintenance.

Downstream Performance

The VTN244 can be configured with a single receiver, or two receivers in either a redundant or segmented mode. A forward configuration router board directs the signals from the receiver(s) depending on the selected mode (redundant or segmented). The receiver is a plug-in module that features optical AGC to maintain a constant RF output across a wide optical input range. Optical AGC can be easily enabled or disabled via a switch on the receiver depending on installation preferences. The receiver features a dynamic input range of -7 to 0 dBm, scaled optical power voltage test point and status LED's. An RF test point on the VTN244 lid board assists technicians with setting proper operating levels.



Highlights

- 1006 MHz Gallium Arsenide (GaAs)
- Four high-level outputs 55 dBmV
- Forward segmentation or redundancy
- Return segmentation or redundancy
- Redundant power supplies
- FP/DFB/CWDM reverse transmitters
- Local Channel Injection
- 100/240V mains
- 24/90 V network
- Euro-DOCIS status monitoring
- Optical AGC
- 15A power passing
- RF -20 dB test point
- IP68 weather rating

The VTN244 features four high-level Gallium Arsenide (GaAs) outputs. The main RF Electronics Package features ergonomic plug-in attenuators and equalizers to facilitate easy set-up and maintenance. RF test points are available to assist technicians with setting proper operating levels without disrupting service.

Upstream Performance

The return path can be configured for a combined return onto a single transmitter or two transmitters for redundancy. Alternately, the return path can be segmented, where each pair of RF returns are directed to independent transmitters. The node can be configured with a wide variety of analog transmitter technologies including Fabry Perot, Distributed Feedback, and Coarse Wave Division Multiplexed (CWDM) 2 mW transmitters. CWDM transmitters are available in sixteen wavelengths from 1270 to 1610 nm. All transmitters feature a scaled optical power voltage test point and status LED's.

An RF test point on the VTN244 lid board assists technicians with setting proper return input levels to the transmitters. The node features two fiber service cable entry ports and fiber management tray with room for pad and equalizer storage.

Status Monitoring

The VTN244 can be configured with an optional Euro-DOCSIS or DOCSIS status monitor transponder for remote management and control. The node can also be configured with Ingress Control Switches to allow operators to diagnose upstream noise issues.



Specifications

OPTICAL RECEIVER	
Optical Input Level	-7 to 0 dBm
Optical Wavelength	1100 – 1600 nm
Input Noise Current	7.0 pA/Hz
Optical Test Point	1 V/mW
Optical Connector	SC/APC
Optical Input Return Loss	45 dB
Optical AGC Range	-7 to 0 dBm
Number of Optical Receivers	Up to two, plug-in
RF FORWARD PATH	
Downstream Frequency	54 – 1006 MHz
Output Level	55 dBmV
Level Flatness	±1.0 dB
RF Test Point	-20 dB
Output Slope	14.5 +/- 1 dB
RF Output Return Loss	16 dB
Diplex Splits	5-42/54 – 1006 MHz 5-65/85 – 1006 MHz 5-85/104 – 1006 MHz
REVERSE PATH	
Upstream Frequency	5 – 85 MHz
Level Flatness	±1.0 dB
RF Test Point	-20 dB
Ingress Control States	0, -6, -40 dB
Thermal Stability	±1.0 dB
TRANSponder	
Euro-DOCSIS	Version 2.0
HMS Monitoring Protocol	SNMPv1
DOCSIS Monitoring Protocol	SNMPv1, v2, v3
TX Frequency Range	5 to 65 MHz
TX Output Power	+ 8 to +58 dBmV
Channel Bandwidth	6 and 8 MHz

PERFORMANCE	
Composite Triple Beat	-63 dBc
Composite Second Order	-59 dBc
Composite Carrier Noise	50 dB
System M, 79 analog channels, 55.25 MHz through 547.25 MHz plus 75 digital channels , 552 MHz through 1002 MHz at -6 dB. +44 dBmV output at 547.25 MHz with 7.5 dB linear tilt from 54 to 547.26 MHz LM1000E9 or equivalent transmitter through 20 km, 0 dBm at node input	
MECHANICAL/ENVIRONMENTAL	
Protection Class	IP68
Weight	10.5 kg
Dimensions (cm)	38.0 L x 23.3 W x 16.5 D
Operating Temperature	-40°C to +60°C
Power Consumption	60 W typical (2x2 configuration @ 90V AC)
AC Current	15A
REVERSE PATH TRANSMITTERS	
FP 1310 nm	
Output Power	0 dBm
NPR	38/9 dB
Power Consumption	2.5 W
DFBT 1310 nm	
Output Power	3 dBm
NPR	40/11 dB
Power Consumption	3.0 W
DFBT CWDM	
Output Power	3 dBm
NPR	40/13 dB
Power Consumption	3.0 W
Wavelengths	16, from 1270 to 1610 nm
Number of Transmitters	Up to two, plug-in

Specifications are subject to change without notice.

For ordering information, contact your Motorola account executive for more information.

System Integration Services

Your Broadband System business and operational goals are complex. Using Motorola Mobility's System Integration Services can make achieving those goals a lot easier. Our expert team will plan, document, and deploy the services you need to accomplish your goals. And if flexibility is a concern, don't worry: we provide both horizontal (across multiple technologies) and vertical (engineering, labor, project management) system integration.

