

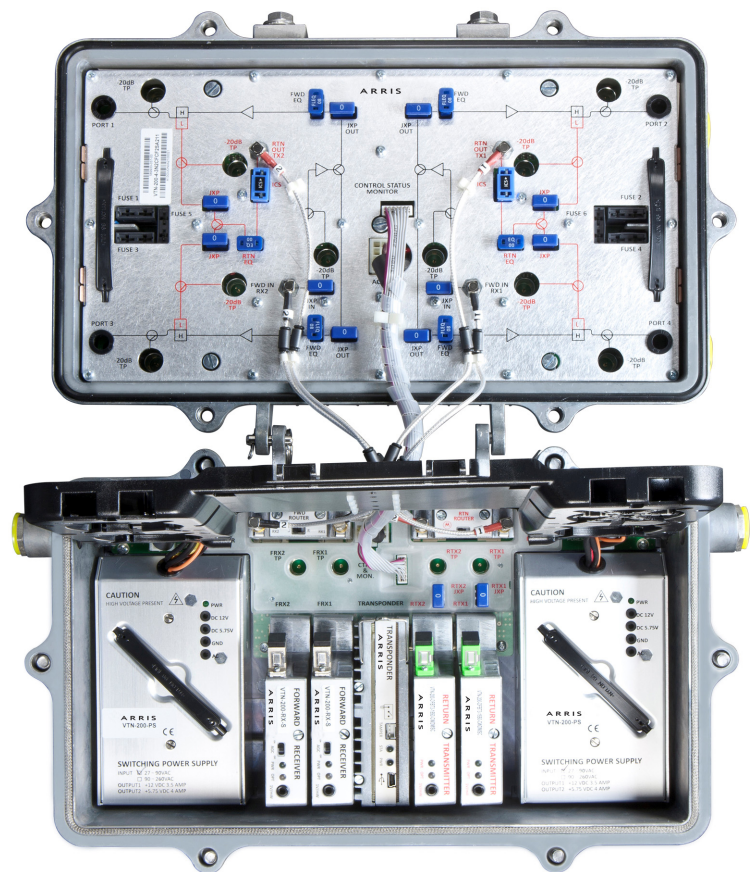
# Optical Node Series

VTN244

2X2 Segmentable Node

## FEATURES

- Modular RF electronic package, power supply, and optics modules enables quick maintenance and upgrades
- Wide range of return path technologies including 1310, CWDM & DWDM tailored to network requirements
- Enables bandwidth expansion via downstream and upstream segmentation
- Shared optics modules with UCN optical node leveraging sparing and training
- Optical AGC accommodates optical network changes without compromising subscriber experience



## PRODUCT OVERVIEW

The ARRIS Versatile Telecommunications Node (VTN) 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. 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.

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 to combine all four return legs onto a single transmitter or in a redundant configuration with the addition of a second transmitter. 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 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 LEDs.

As networks increase in complexity, Dense Wave Division Multiplexed (DWDM) 8 mW transmitters are available in 40 wavelengths based on the ITU Channel plan. These transmitters provide an ideal solution when designs call for more wavelength aggregation or greater link distance than CWDM transmitters can provide.

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 EuroDOCSIS 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.

#### RELATED PRODUCTS

DOCSIS Transponder	Ingress Control Switches
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Power Supplies	Optical Passives
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Fiber Service Cable	Installation Services
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## SPECIFICATIONS

### Optical Receiver

#### General

Optical Input level	-7 to 0 dBm	Optical Connector	SC/APC
Optical Wavelength	1100 to 1600 nm	Optical Input Return Loss	45 dB
Input Noise Current	7.0 pA/Hz	Optical AGC Range	-7 to 0 dBm
Optical Test Point	1 V/mW	Number of Optical Receivers	Up to two, plug-in

#### RF Forward Path

Downstream Frequency	54 to 1006 MHz	Output Slope	14.5 ± 1 dB
Gain Limited Output level	55 dBmV Virtual @ 1 GHz	RF Output Return Loss	16 dB
Level Flatness	± 0.75 dB	Diplex Splits	5 – 42/54 – 1006 MHz
RF Test Point	-20 dB		5 – 65/85 – 1006 MHz
			5 – 85/104 – 1006 MHz

#### Performance

Composite Triple Beat	-63 dBc	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.
Composite Second Order	-60 dBc	
Composite Carrier Noise	50 dB	

#### RF Reverse Path

Upstream Frequency	5 to 42, 65, 85 MHz	Ingress Control States	0, -6, -40 dB
Level Flatness	± 1.0 dB	Thermal Stability	± 1.0 dB
RF Test Point	-20 dB		

### Reverse Path Transmitters

<b>General:</b>	CWDM Wavelengths: 16 DWDM Wavelengths: 40 ITU Channels	Number of Transmitters: Up to two, plug-in
<b>DFBT 1310 nm:</b>	Output Power: 0 dBm; NPR: 40/11 dB	Power Consumption: 3.0 W
<b>DFBT3 CWDM:</b>	Output Power: 3 dBm; NPR: 40/13 dB	Power Consumption: 3.0 W
<b>DFBT DWDM:</b>	Output Power: 8 dBm; NPR: 40/15 dB	Power Consumption: 3.5 W

### Transponder

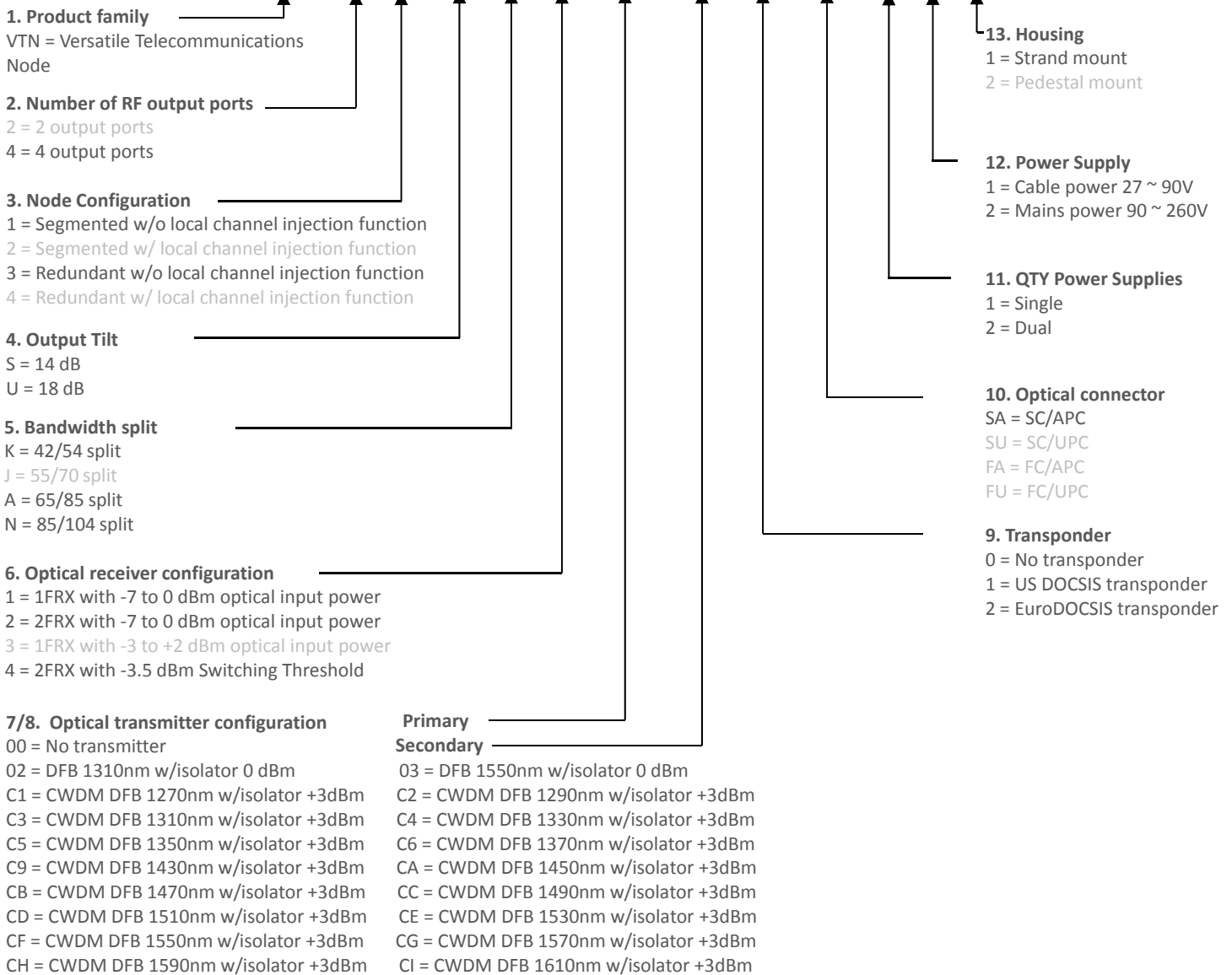
TX Frequency Range	5 to 65 MHz	EuroDOCSIS	Version 2.0
TX Output Power	+8 to +58 dBmV	HMS Monitoring Protocol	SNMP v1
Channel Bandwidth	6 and 8 MHz	DOCSIS Monitoring Protocol	SNMP v1, v2, v3

### 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 @ 90 VAC)
AC Current	15 A

**ORDERING MATRIX**

VTN-4-3-U-N-1-00-00-0-SA-1-1-1



Note: Specifications are subject to change without notice.

## Customer Care

Contact Customer Care for product information and sales:

- United States: 866-36-ARRIS
- International: +1-678-473-5656

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Nodes-VTN