

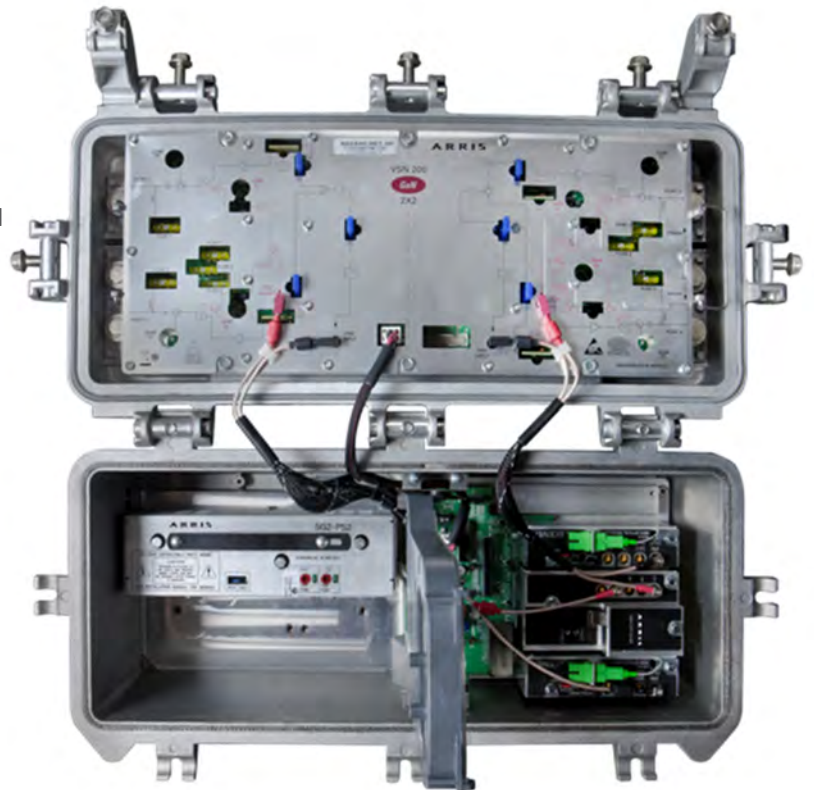
VSN200

**2X2 SEGMENTABLE OPTICAL NODE,
OPTICAL NODE SERIES**



FEATURES

- 1 GHz GaN technology delivers higher output and enhanced reliability for fiber deep designs
- Integrated optics module switches simplify future node upgrades
- Shared optics modules and accessories with MBN100 node leverage sparing and training
- Supports CWDM, DWDM, and CORWave® multiwavelength technologies
- SFP based 85 MHz digital return expands upstream bandwidth
- Lid upgrades enable amplifiers to be seamlessly converted to nodes for cost saving cascade reductions
- Redundant power supply option improves network reliability



PRODUCT OVERVIEW

The ARRIS Versatile Segmentable Node VSN200 is the perfect solution for system operators who need a flexible fiber deep solution to manage network growth. With its high level GaN outputs, the VSN200 is appropriate for a variety of architectures including new builds and network extensions. As a cascade reduction tool, the VSN200 uses the same housing base as the SG2000/SG2440 node, providing operators with the ability to segment node locations with just an Electronics Package (E-Pack) and Lid swap. As a result, operators can avoid the costly down-times associated with cutting out the entire node.



Operators can economically deploy the VSN200 as a 1X1, and scale to a 2X2 with just the addition of a second optical receiver and transmitter, no configuration boards are required. The VSN200 utilizes Mini-Bridger Node MBN100 optics modules that provide excellent optical, RF, and thermal performance. Return transmitters include CWDM analog transmitters that, when combined with ruggedized optical passives, enable multiple wavelengths to be combined on a single fiber.

The node uses next-generation MBN-DRT-2X-85 85 MHz digital return transmitters to optimize return segmentation. Utilizing pluggable SFP optics, these transmitters provide operators with the flexibility of selecting DWDM, CWDM, or 1310 nm based on their network requirements. The node can be ordered with the host digital return transmitter pre-configured in the station, allowing the operator to select and add the SFP at the time of installation.

The VSN200's standard features include Fast Transfer Electronic Crowbar (FTEC), Ingress Control Switches (ICS), and 14.5 dB slope. Accessible Linear Mid-Stage Equalizers (LMEs) and JXP plug-in attenuator locations at each RF port allow for custom installations.

The VSN200 requires an optional embedded plug-in board to locally control redundant receivers or Ingress Control Switch (ICS) operation. The ICS is a valuable tool for isolating the source of return path noise and interference. By upgrading to the NODE-DOCSIS transponder, operators can utilize standards-based MIBs to remotely monitor and control these functions.

RELATED PRODUCTS

Digital Return Transmitter	Optical Patch Cords
SFPs	Optical Passives
Fiber Service Cable	Installation Services

SPECIFICATIONS

OPTICAL RECEIVER	
Optical Wavelength	1290 nm to 1600 nm
Optical Input Power Range	-4.0 to 2.0 dBm continuous
Optical Connector Type	SC/APC
Optical Input Return Loss	45 dB minimum
Equivalent Input Noise Current	7 pA/√ Hz Max.
RF	
Operational Bandwidth	Fmin to 1003 MHz
Flatness	± 1.0 dB Fmin to 1003 MHz
Output Slope	14.5 ± 1.0 dB
Level Stability	± 2.0 dB over operating temperature range
RF Output Test Points	-20 ± 1.0 dB (internal)
RF Output Return Loss	16 dB minimum

SPECIFICATIONS CONTINUED

STATION PERFORMANCE

Output Level	48 dBmV @ 550 MHz with 0 dBm optical input power
Power Consumption	88 W maximum
Hum Modulation @15 A	-60 dBc max.
Segmented Isolation	-70 dB 54 to 550 MHz -65 dB 551 to 870 MHz -60 dB 871 to 1003 MHz
AC Bypass Current	15 A

79 CH. ANALOG DISTORTION

Composite Triple Beat (CTB)	-65 dBc
Composite Second Order (CSO)	-62 dBc
Carrier to Composite Noise (CCN)	50.5 dB

NOTE: 79 analog NTSC channels 55.25 to 547.25 MHz, 75 digital NTSC channels 552 to 1002 MHz, 6 dB below analog, using LM1000 transmitter, 20 km, 0 dBm at receiver input; +48 dBmV output at 547.25 MHz, 14.5 dB virtual tilt from 52 to 1002 MHz.

DIGITAL DISTORTION

Modulation Error Rate (MER)	40 dB
Noise Power Ratio (NPR)	44 dB
Bit Error Rate (BER)*	<1x10 ⁻⁸
Carrier to Composite Noise (CCN)	45 dB

NOTE: All Digital channel loading with +49 dBmV (actual) at 1002 MHz. LM1000 transmitter, 20 km, 0 dBm at receiver input; 14.5 dB virtual tilt from 52 to 1003 MHz.

* Pre-FEC

MECHANICAL/ENVIRONMENTAL

Dimensions	21.6 in (L) × 10.6 in (W) × 11.0 in (D)
Weight	Minimum 37 lb
Mounting	Aerial/Strand
RF Connector	SCTE-compliant 5/8" housing, accepts 1.5" stinger
Operating Temperature Range	-40 °C to +60 °C (-40 °F to +140 °F)
Weather Rating	IP68

Note: Specifications are subject to change without notice.

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