

# Optical Node Series (NC)

## NC4000H3

2x2 Segmentable 1 GHz Node  
Ultra-High Output

### FEATURES

- 60 dBmV ultra-high output at 1 GHz via GaN technology for Fiber Deep applications
- 2x2 segmentable
- Four RF outputs, two auxiliary ports for power or video, and two fiber ports
- Multiple forward/return frequency split options
- Uses automotive blade fuses and JXP pads and equalizers
- Superior upstream performance via advanced universal digital return modules
- Built-in, all-digital node status monitoring
- Redundant power supply option
- Strand or pedestal mounting



### PRODUCT OVERVIEW

The ARRIS NC4000H3 series 2x2 segmentable node is designed to provide the utmost reliability, flexibility, and adaptability in an outdoor optical node platform, and is ideal for Fiber Deep applications.

With an ultra-high output level of up to 60 dBmV (at 1002 MHz) available on all four RF output ports of the OA4324HG RF Output Amplifier, the NC4000H3 can be used to extend the reach of the coax distribution network in Fiber Deep architectures. Utilizing the standard or high gain optical receivers enables optical inputs between +3 and -10 dBm. This flexible and rugged platform is also scalable. Both downstream paths and upstream paths can be fully segmented using ARRIS's universal digital return solutions. This includes a host of ITU CWDM and DWDM options, further expanding the deployment of advanced "bandwidth-hungry" services into fiber-poor areas while reducing real estate and powering requirements in the field.

The NC4000H3 supports deployment of a wide range of field-hardened EDFAs and optical switches for extended fiber reach, routing options, and system reliability. Remote monitoring capability is provided with integrated network management, eliminating the added cost of a third-party status monitoring transponder.

The NC4000H3 node platform also supports next-generation architectures and technologies such as Node PON, Node QAM, EPoC, and more, providing a seamless migration to support tomorrow's services.

SPECIFICATIONS		
Characteristics	Specification	
<b>Physical</b>		
Dimensions	20" L x 9.5" W x 10.75" H (50.8 cm x 24.1 cm x 27.3 cm)	
Weight	38 lbs (17.1 kg)	
Housing Ports	6 AC/RF ports and 2 fiber ports	
<b>Environmental</b>		
Operating Temperature Range	-40° to +60°C (-40° to +140°F)	
Storage Temperature Range	-40° to +85°C (-40° to +185°F)	
Humidity	5% to 95% non-condensing	
<b>General</b>		
Passband options	<b>Return</b> 5 - 45 MHz 5 - 60 MHz 5 - 65 MHz 5 - 85 MHz	<b>Forward</b> 54 - 1002 MHz 72 - 1002 MHz 85 - 1002 MHz 102 - 1002 MHz
RF Test Points (Fwd and Rtn)	-20 dB	
Flatness	± 1 dB	
Output return loss (at the node output)	> 16 dB	
Optical input range	-3 to +3 dBm into AR4x03G receiver -10 to +2 dBm into AR4x14G receiver	
<b>Power Requirements</b>		
Operating Input voltage range	44 to 95 V <sub>RMS</sub> (47-70 Hz Quasi-Square Wave)	
Power passing	15 A <sub>RMS</sub>	
Power supply start-up input voltage	40-44 V <sub>RMS</sub>	
Power supply turn off input voltage	34-38 V <sub>RMS</sub>	
Power supply efficiency	73% typical	
DC power consumption	<ul style="list-style-type: none"> <li>73 W (standard configuration of 4 RF outputs and 1 optical Rx)</li> <li>10 W (second Optical Receiver, AR4x14)</li> <li>6 W (Return Transceiver, DT4250 with TR4000 SFP)</li> <li>9 W (Node EDFA, single-width FA4500 series)</li> </ul>	
<b>RF Performance for HFC Applications (See Note 1)</b>		
<b>High Level Fiber Deep Application</b>		
Channel Loading (see Note 2)	Up to 550 MHz	Analog NTSC
	550-1002 MHz	256 QAM at -6 dBc
Nominal output level (per port)	at 1002 MHz	60 dBmV
	at 54 MHz	42 dBmV
Nominal slope	54/1002	18 dB linear
Link performance (see Note 3)	CNR	49 dB
	CSO	58 dB
	CTB	56.5 dB

**NOTES:**

- Performance with 0.5 dBm input to node's Optical Receiver from a 1 GHz Model AT33xxG-A-2-AS Analog 1310 nm Transmitter
- For alternate channel loading performance, contact your ARRIS Sales Representative
- Link performance, including transmitter (with CW channel loading to 550 MHz and 256QAM loading above 550 MHz at -6 dBc)

**ORDERING INFORMATION**

A typical configuration of the NC4000H3 series optical node includes the NH4000-H housing with external test ports, one PS4001 power supply, one 51–1002 MHz optical receiver module (AR4214) with SC/APC connectors, the OA4324HG 4-port RF amplifier module, and JXP equalizers and pads. A backup PS4001 power supply may be separately ordered. Also available are optional plug-in modules that are described on separate data sheets; FA4500 series Optical Amplifiers, DT4250N Universal Digital Return Transceivers, optical or RF redundancy switches, and return ingress switch options. Please contact your ARRIS sales representative for information regarding specific equipment configuration options to meet your particular requirements.

**RELATED PRODUCTS**

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



**Customer Care**

Contact Customer Care for product information and sales:

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

**Note:** Specifications are subject to change without notice.

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