**aurora** NETWORKS | **ARRIS**

## FEATURES

- Output level – 53 dBmV at 1002 MHz
- 4x4 fully segmentable for HFC applications
- 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
- Integrated, all-digital node status monitoring
- Redundant power supply option
- Pedestal or strand mounting



## PRODUCT OVERVIEW

The ARRIS NC4000S2 series optical node platform supports a wide range of advanced architectures and is ideal for traditional HFC applications. With an output level of up to 53 dBmV (at 1002 MHz) on each of the four RF ports of the OA4244SG RF Output Amplifier, the NC4000S2 can be used to extend the reach of the coax distribution network.

All four downstream and upstream paths can be fully segmented. In the upstream, this is accomplished using ARRIS's industry-leading universal digital return technology which uses SFPs for the optics, affording the widest range of ITU-grid CWDM and DWDM options.

A high gain receiver is also available, supporting optical inputs as low as -10 dBm, maximizing the reach of both single- and multi-wavelength transmitters. With a wide selection of customized optical passives, field-hardened EDFAs and optical switches, the node platform can extend the deployment of advanced, high-availability, "bandwidth-hungry" services into fiber-poor areas while reducing real estate and powering requirements in the field. Remote monitoring is provided via an integrated network management plug-in, eliminating the added cost of a third-party status monitoring transponder system.

The NC4000S2 optical node platform also supports next-generation architectures and technologies such as Node PON, Node QAM, and more, providing a seamless migration to support tomorrow's services. Status monitoring capability is provided via an integrated network management plug-in, eliminating the need for added-cost status monitoring transponders.  An optional narrowcast receiver is available for split-band applications.

| RELATED PRODUCTS | |
|---|---|
| Digital Return Transmitter | Optical Patch Cords |
| SFPs | Optical Passives |
| Fiber Service Cable | Installation Services |

## SPECIFICATIONS

| Characteristics | Specification | |
|---|---|---|
| **Physical** | | |
| 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) | |
| **Environmental** | | |
| Operating Temperature Range | –40°C to +65°C (–40°F to +149°F) | |
| Storage Temperature Range | -40°C to +85°C (-40°F to +185°F) | |
| Humidity | 5% to 95% non-condensing | |
| **General** | | |
| Passband options | **Reverse** | **Forward** |
| | 5 - 42 MHz | 51 - 1002 MHz |
| | 5 - 60 MHz | 72 - 1002 MHz |
| | 5 - 65 MHz | 85 - 1002 MHz |
| | 5 - 85 MHz | 102 - 1002 MHz |
| RF Test Points (Fwd and Rtn) | –20 dB | |
| Flatness | ± 1 dB | |
| Output return loss (at the node output) | > 16 dB | |
| **Power Requirements** | | |
| Operating Input voltage range | 44 to 95 $V_{RMS}$  (47–70 Hz Quasi-Square Wave) | |
| Power passing | 15 $A_{RMS}$ | |
| Power supply start-up input voltage | 40–44 $V_{RMS}$ | |
| Power supply turn off input voltage | 34–38 $V_{RMS}$ | |
| Power supply efficiency | 73% typical | |
| DC power consumption | • 57 W (standard configuration of 4 RF outputs and 1 optical Rx) | |
| | • 11 W (second Optical Receiver, AR4203G) | |
| | • 6 W (Return Transceiver, DT4250 with TR4000 SFP) | |
| | • 9 W (Node EDFA, single-width FA4500 series) | |
| **RF Performance for HFC Applications (See Note 1)** | | |
| | **High Level HFC Application** | **Typical Level HFC Application** |
| Channel Loading | | |
| Up to 550 MHz | Analog NTSC | Analog NTSC |
| 550-1002 MHz | 256QAM at -6 dBc | 256QAM at -6 dBc |
| Nominal output level (per port) | | |
| at 1002 MHz | 53 dBmV | 49 dBmV |
| at 51 MHz | 39 dBmV | 35 dBmV |
| Nominal slope | | |
| 51 / 1002 | 14 dB linear | 14 dB linear |
| Link performance (see Note 2) | | |
| CCN (CNR + CIN) | 51 dB | 51 dB |
| CSO | 62 dB | 63 dB |
| CTB | 64 dB | 66 dB |

**NOTES:**
1.  Performance with 0.5 dBm input to node's Optical Receiver from a 1 GHz Model AT33xxG-N-1-AS Analog 1310 nm Transmitter
2.  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 NC4000S2 series optical node includes the NH4000-H housing with external test ports, one PS4001 power supply, one optical receiver module; AR4x03G or AR4x14G (high gain) with SC/APC connectors, the OA4244SG 4-port RF amplifier module, and standard equalizers and pads. A backup PS4001 power supply may be separately ordered. Also available are additional optional plug-in modules that are described on separate data sheets. These include FA4500 series Optical Amplifiers, DT4250 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.

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

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www.amt.com

Advanced Media Technologies, Inc. · 3150 SW 15th Street Deerfield Beach, FL 33442
(888) 293-5856 · (954) 427-5711 · Fax (954) 427-9688