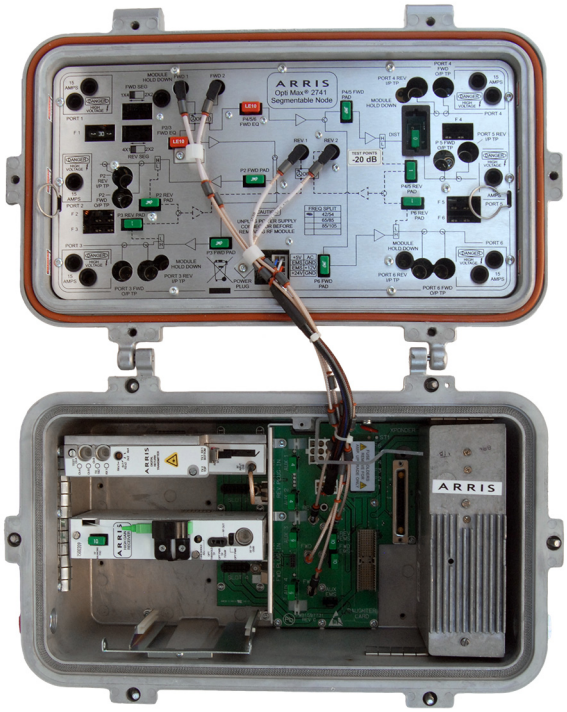
Opti Max™ Optical Node Series

OM2741
2x2 Segmentable Node



FEATURES

- 1 GHz GaN technology delivers higher output and enhanced reliability for fiber deep designs
- Integrated segmentation switches simplify future node upgrades
- Shared optics modules, power supply and accessories with OM4100 node leverage sparing and training
- Supports CWDM, DWDM, and CORWave® multiwavelength technologies
- SFP based digital return expands upstream bandwidth and enables service group aggregation
- Lid upgrades enable amplifiers to be seamlessly converted to nodes for cost saving cascade reductions
- Integrated optical passive design for multiwavelength support and ease of installation

PRODUCT OVERVIEW

The ARRIS Opti Max™ OM2741 provides cable operators with a compact, fiber deep solution to manage network growth. The node features integrated segmentation switches that allow future segmentation without any additional parts or expense. The technician can enable new segments by simply adding a transmitter or receiver as required, then flipping a switch to activate the new configuration. By reducing the requirement for additional configuration boards and minimizing maintenance time, the OM2741 provides a lower total cost of ownership for the MSO.

With its premium high-gain receiver and advanced, next-generation GaN hybrid technology, the OM2741 is appropriate for a variety of architectures. The node accepts modules and accessories common with the 4x4 fully segmentable OM4100, easing sparing requirements, reducing inventory, and simplifying deployment training.

As a cascade reduction tool, the OM2741 also supports optical upgrades for legacy products, including OM2700 and select Navicor nodes, Flex Net 700/800 series amplifiers, and Flex Max® 900 amplifiers. CORWave multiwavelength solutions are helping to evolve older networks by allowing operators to transmit additional content to existing master node locations. These new wavelengths are demuxed at the main node location and onto new fiber that is then pulled to the optimum amplifier location for conversion to an optical node. This method of enabling service group segmentation and capacity expansion helps reduce the overall cost of network upgrades, while also helping to extend fiber closer to the premise.

The OM2741 supports optional 85 MHz digital return path transceivers featuring pluggable SFPs. SFPs are available in 1310, 1550, CWDM, and DWDM technologies to tailor to any network requirement. Combined with the complementary CHP digital return receivers, digital return links allow increased distances in the return path, a wider range of operating temperature for better reliability, and the capability to change return segmentation from the headend without a costly truck roll.

OPTIONS
85 MHz Digital Return transmitter expands return path bandwidth using CWDM or DWDM SFP pluggable optics
42 MHz Digital Return Transceiver provides service group aggregation capability, where a master node collects signals from up to 16 nodes for transport back to the optical headend
DOCSIS status monitoring transponders based on HMS/SCTE standards

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

GENERAL NODE SPECIFICATIONS

Characteristics	Specifications	
Forward Path Optical		
Optical Input Wavelength, nm	1270 to 1610	
Optical Input Range, dBm[1]	–6 to +3	
Equivalent Input Noise (HG Rx), pA/Hz$^{0.5}$	5.0	
Forward Path RF		
Operating Passband, MHz	**5-42/54-1002**	**5-85/105-1002**
Output Level @ 1006 MHz, –3 dBm input, 3% OMI, dBmV, min.[2]	59	59
Level Stability, dB, max.	± 2.0	± 2.0
Forward Aligned Tilt[3]	17.0 ± 1.0	16.0 ± 1.0
Flatness @ Gain Slope	± 1.0	± 1.0
Return Loss, dB, min. (All RF Ports)	16.0	16.0
Port to Port Isolation, (600 MHz/1002MHz), dB, typ.	70/60	70/60
NTSC Channel Performance[4,5]	**79 Channels**	**71 Channels**
Frequency, MHz	1002/870/550/54	1002/870/550/105
Output Level, dBmV[2]	56/53.5/48/39	56/53.5/48/40
Carrier to Noise Ratio, 4 MHz, 0 dBm/3.5% OMI , dB	58	58
Composite Triple Beat, –dBc	68	68
Composite 2IM, –dBc	64	64
Cross Modulation, per NCTA std., –dBc	65	65
Composite Intermodulation Noise CIN, dB[6]	58	58
Hum Modulation (Time Domain @ 15 A)		
85 to 750 MHz, dB	60	60
751 to 1002 MHz, dB	55	55
Return Path RF		
Operating Passband, MHz	5-42	5-85
Optimum RF Input Level, dBmV/6 MHz	12	9
Flatness @ Gain Slope, dB	± 1.0	± 1.0
Return Loss, dB (All RF Ports)	16.0	16.0
Port to Port Isolation, dB, typ.	70	70

NOTES:

Specification Document Numbers 1508244 Rev B, 1508736 Rev B

1. Circuit resiliency to +5 dBm.
2. At the specified operational tilt, the maximum Enhanced GaN output level for 870 MHz or 1002 MHz loading is 60.0 dBmV at the highest frequency. *Do not operate above 60 dBmV @ 1 GHz analog equivalent*
3. GEQL-1GHz-100 EQ typically installed at each RF port at the factory to achieve tilt.
4. The distortion values listed are for the Node only. To obtain a particular link performance, combine the listed Node performance values with the applicable transmitter performance values.
5. Analog channels occupying the 105 to 550 MHz frequency range with digitally compressed channels or equivalent broadband noise to 1002 MHz at levels 6 dB below equivalent video channels.
6. Systems operating with digitally compressed channels or equivalent broadband noise from 550 to 1002 MHz at levels 6dB below equivalent video channels will experience a composite distortion (CIN) appearing as noise in the 54-550 MHz frequency spectrum.

Customer Care

Contact Customer Care for product information and sales:

- United States: 866-36-ARRIS
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Note: Specifications are subject to change without notice.

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