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Find the *Xtera / Meriton Networks 1455 OFA* at our website: ***Click HERE***



Extending Optical Reach Beyond Metro Constraints

AMPLIFIERS AND ACCESSORIES

MERITON'S AGILE OPTICAL NETWORKING AON

- Metro-regional extension components of Meriton's AON architecture
- 1455 OFA supports link fiber lengths up to 600 km
- Wide range of network topologies
- Raman amplifier extends reach out to 800km+
- Variable gain range provides network flexibility
- Advanced automated gain control and transient suppression
- 100% slope matched dispersion compensation modules
- Compact footprint, rack-mounted, NEBS-III compliant extension products
- Carrier-grade reliability

1455 OFA (OPTICAL FIBER AMPLIFIER)

Meriton Networks has a full suite of next-generation optical amplifiers that feature extended variable gain range, superior noise figure and gain flatness to optimize the optical performance in the network. The 1455 OFA can be used for regional applications, supporting distances up to 600 km. It is also ideal for applications requiring mid-stage insertion of dispersion compensation or when out-of-band direct Ethernet management access to the line amp sites is not available. The automatic gain control (AGC) and fast transient response of the amplifier enables dynamic wavelength provisioning and versatility. The 1455 OFA is a 2RU rack-mount unit which includes an integrated redundant DC power supply.



VARIABLE GAIN

The variable gain of the amplifiers enhances the network flexibility allowing a wide range of span loss combinations to be supported within a single platform. When a span loss change occurs as a result of a fiber cut and repair, the adjustable gain can be used to reset the network to the optimal operating point. The amplifiers have an adjustable gain range of 10dB.

TRANSIENT SUPPRESSION AND AUTOMATIC GAIN CONTROL

The amplifiers provide fast transient suppression by controlling the overshoot and undershoot and can respond to the most drastic power changes with overshoots or undershoots of less than 0.5dB. Automatic gain control maintains a constant gain by monitoring the input power and adjusting the optical pump power. The amplifiers ensure that optimum pump power is applied to rapidly suppress any transients.

GAIN EQUALIZATION OR FLATNESS

The 1455 OFA provides +/-0.75dB gain flatness (with an additional tilt control feature) and less than 6dB typical noise figure across the C-band. These characteristics enable long optical links by cascading multiple amplifiers while still providing excellent optical signal to noise ratio (OSNR). The superior noise figure and gain flatness performance is maintained across all input powers and gain settings.

NETWORK MANAGEMENT

The amplifiers provide full remote monitoring, configuration and upgrade capability through a local SNMP, and TL1 interface. Remote connection is supported via 10/100 Mb/s Ethernet ports. The Meriton Networks 8600 NMS (Network Management System) manages the amplifiers via the Ethernet port, receiving fault data, and offering cut-through GUI interface support.

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1455 RAMAN AMPLIFIER

Meriton Networks provides additional reach extension over and above the 1455 OFA with its Raman amplifier product. The Raman amplifier can extend the reach of a 1455 OFA network from 600km to more than 800km. It is typically employed where span losses are greater than the maximum supported by the 1455 OFA, to provide significant OSNR improvement, or in cases where there is a requirement to skip huts between network element locations. The Raman amplifier is a fully managed 1RU rack-mount unit that can deliver variable gain up to 10dB on G.652 fiber and up to 13dB on G.655 fibers

OSNR IMPROVEMENT

The Raman amplifier configured as a counter-propagating distributed pump, provides OSNR improvement for long fiber spans without introducing additional non-linear impairments that would result from boosting the channel powers at the transmit end of the fiber.

LASER SAFETY

The Raman module employs multiple, independent parallel laser safety mechanisms. This allows the amplifier and the network within which it is installed to be classified as class 1M laser products.

AUTO SHUT DOWN/START UP

The unit monitors line conditions and will automatically power down the pump lasers in the event of a fiber cut. The unit will also detect when the fiber cut has been repaired and automatically power up to the provisioned gain setting prior to the fiber cut.

NETWORK MANAGEMENT

The 1455 Raman amplifier provides full remote monitoring, configuration and upgrade capability through a local SNMP interface. Remote connection is supported via 10/100 Mb/s Ethernet ports. The Meriton Networks 8600 NMS (Network Management System) manages the amplifiers via the Ethernet port, receiving fault data, and offering cut-through interface support.

1100 DCM (DISPERSION COMPENSATION MODULE)

The Meriton 1100 DCM series is an optimal solution to efficiently correct the effect of chromatic dispersion on single mode fiber at both 2.5 Gb/s and 10 Gb/s across the entire C-band. The 1100 DCM features 100% dispersion slope compensation, low insertion loss and polarization mode dispersion.

The 1100 DCM is a fully passive 1RU rack-mount unit, with the ability to hold two standard-length (40 km, 60 km or 80 km) DCM modules or one extended-length (100 km or 120 km) DCM module. The DCM modules are easily removable for ease of upgrade and swapping. DCM standard-length modules can be configured for separate east/west ring applications or combined together for additional dispersion compensation.

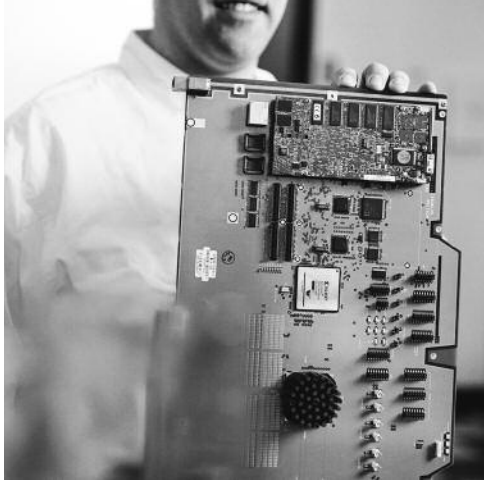
APPLICATIONS

- Longer reach 2.5 Gb/s & 10 Gb/s metropolitan optical networks
- Post-compensation at the optical receiver module
- In-line compensation at the Meriton Networks 1455 OFA line amplifier
- Pre-compensation at the optical transmit site

The 1100 DCM Series is available in these distances for SMF and LEAF fibers:

1104 DCM	40 km
1106 DCM	60 km
1108 DCM	80 km
1110 DCM	100 km
1112 DCM	120 km

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1450 OFA
Technical Specifications

MODEL	NOMINAL GAIN	VARIABLE GAIN RANGE	INPUT POWER	SATURATED OUTPUT POWER
1451 OFA (Pre/Line)	30dB	20dB to 30dB	-29dBm to -13dBm	17.3dBm +/- 0.3dB
1452 OFA (Pre/Line)	25dB	15dB to 25dB	-29dBm to -5dBm	20.3dBm +/- 0.3dB
1453 OFA (Booster)	13dB	3dB to 13dB	-15dBm to 10dBm	23.3dBm +/- 0.3dB

1455 MODEL	NOMINAL GAIN	VARIABLE GAIN RANGE	INPUT POWER	SATURATED OUTPUT POWER
OLA (Pre/Line)	26dB Max.	16dB to 26dB	-5dBm to -28dBm	16dBm
OLAM (Pre/Line) 0-15 dB Mid-Stage Access	29dB Max.	19dB to 29dB	-5dBm to -28dBm	18dBm
OBA (Booster)	10dB	10dB Fixed	+8dBm to -15dBm	18dBm

1455 RAMAN AMPLIFIER TECHNICAL SPECIFICATIONS

Gain (G.652) < 10dB Max **Gain (G.655)** < 13dB Max **Input Power** -10dBm to -42dBm

OPTICAL	1450 OFA	1455 OFA	1455 RAMAN
Wavelength Range:	1530 to 1563 nm	1528 to 1563nm	1529 to 1562nm
Noise Figure, Maximum:	5.5dB	6dB	-1dB
Gain Flatness, Maximum:	1.0dB	+/-0.75 dB max.	1.0dB
Optical Return Loss:	> 27dB	40dB max	40dB
Polarization Sensitivity:	< 0.5dB	<0.5dB	<0.6dB
Optical Connector:	SC	SC	SC

POWER OPTIONS:	-48 VDC, 2 Amps max.	-48 VDC	-48 VDV
		Dual Redundant, Power Feed, Supported	
Power Range:	-40 to -60 VDC	-40 to -60 VDC	-35 to -75 VDC
Power Consumption:	20 Watts maximum	Depends on shelf loading	35 Watts maximum

OPERATING ENVIRONMENT			
Operating Temperature:	0° to +55° C	-5° to +55° C	-5° to +55° C
Storage Temperature:	-40° to +75° C	-40° to +70° C	-40° to +85° C

PHYSICAL DIMENSIONS	1.75" (1RU) H x 19.0" W x 10.0" D	3.5" (2RU) H x 19.0" W x 10.95" D	1.75" (1RU) H x 19.0" W x 10.0" D
Weight:	8.4 lbs (3.8 kg)	16.5 lbs (7.5 kg)	

COMMUNICATIONS	Interface, Local RS-232 Port Interface, Network RJ-45 Port, 10/100Base-T, Alarm Contact RJ-45 Port	Interface, Local RS-232 Port Interface, Network RJ-45 Port, 10/100Base-T, Alarm Contact RJ-45 Port	Interface, Local RS-232 Port Interface, Network RJ-45 Port, 10/100Base-T
NEBS/ETSI COMPLIANT	Fully Compliant	Fully Compliant	Fully Compliant
EMC/SAFETY COMPLIANT	Fully Compliant	Fully Compliant	Fully Compliant

1100 DCM
Technical Specifications

OPTICAL PARAMETERS

Dispersion	Loss (dB) SMF-28	LEAF
1104	5.1	4.8
1106	6.8	5.6
1108	8.4	6.5
1110	10.1	7.3
1120	11.8	8.2

RETURN LOSS

Connector return loss: < -45dB
Module return loss (including Rayleigh Back-Scattering) < -27dB

OPERATING ENVIRONMENT

Operating Temperature:
-5° to +70° C (23° F to 158° F)
Storage Temperature:
-40° to +85° C (-40° F to 185° F)
Relative Humidity: < 85%

REGULATORY APPROVALS

Telcordia GR-2854 compliant

PHYSICAL DIMENSIONS

Height 4.4 cm (1.75 in.)
Width 44.2 cm (17.5 in.)
Depth 27.9 cm (11 in.)
Standard Connector: SC/UPC
Suitable for 19"/23" racks

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ABOUT MERITON NETWORKS INC.

Meriton Networks Inc. has developed the industry's first unified end-to-end Agile Optical Networking (AON) architecture, a crucial element for carrier and enterprise migration to next-generation IP services networks. A flexible, scalable, future proof infrastructure capable of multi-service, multi-topology support, the Meriton AON architecture equips telecommunications networks with the capabilities needed for the Broadband Revolution, including rapid service deployment with one-time node engineering and zero-touch, automated provisioning under a unified control plane. With metro access, metro core and regional extension products, all fully managed by a best-in-class suite of network planning and management tools, Meriton Networks gives network operators a single source for the rapid, cost-effective delivery of high-speed services.

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