



FibeAir[®] 1500R

High Capacity Wireless Network Solution

FibeAir 1500R is a versatile point-to-point microwave radio optimized for SONET/SDH networks, with the most comprehensive combination of advanced features and capabilities in a single platform. From 155 to 622 Mbps SDH/SONET and the widest frequency and modulation schemes, FibeAir 1500R is an essential building block for any wireless backhaul network.



- Optimized for high capacity SDH/SONET
- Simple upgrades: from 1 to 4 x STM-1/OC-3 in a 1RU Indoor Unit
- Licensed microwave radio bands 6-38 GHz
- Double capacity per given channel bandwidth using XPIC
- Longer distances, smaller antennas with High Power RF Unit
- Flexible configurations for chain, ring or mesh network topologies
- Easy split-mount or all-indoor installation
- Excellent reliability and maintainability

A single powerful system for multiple services capacity and applications



Introducing FibeAir® 1500R

Whether it's cellular, triple play converged services or legacy networks, today more than ever, operators are looking for a solution that will cover the most modern telecommunications trends. Based on a deep understanding of operator requirements and with future evolution in mind, Ceragon created the FibeAir 1500R family of products, which answers the need for a future-proof, efficient wireless networking solution. State-of-the-art technology and a common hardware platform supporting multiple capacities, frequencies and configurations, make the FibeAir solution ideal for a broad range of network applications and ensures backhaul profitability.

Optimizing operator costs and reducing risk were the foundations of the FibeAir 1500R system design.

With its rapid deployment and maximum equipment efficiency, Ceragon's field proven solution allows operators to leverage their investments and OPEX by simplifying migration to higher capacity multi-service systems.

Integrated Solutions

TDM

Delivering carrier-class, high-capacity SDH/SONET with 1, 2 or 4 x STM-1/OC3 capacities, FibeAir 1500R radios constitute the power behind your transport network.

Packet/TDM Convergence

Full interoperability and management integration with field-proven MSPPs (Multi Service Provisioning Platforms) ensures a cost-effective alternative for IP-enabled transport networks. This combination enables FibeAir 1500R to deliver virtually any service with a robust fiber-like quality, converging TDM, ATM and Ethernet traffic interfaces can be provided within the same radio carrier.

Long-Haul

FibeAir RFU-HP (High Power RF Unit) is the first split-mount radio to be optimized for long-haul applications. Ceragon's unique embedded space diversity protection, with dual receiver architecture, extremely high transmit power and IF combining algorithm, guarantee superior performance and errorless transmission. For operators, this means a carrier-grade solution that uses less equipment and smaller antennas, resulting in substantial savings on initial investments and operational expenditures.

System Overview

FibeAir 1500R provides wireless high-capacity digital transmission over short, medium and long distances, in a variety of network capacities, frequencies and modulation schemes.

Capacities

The FibeAir 1500R system can easily upgrade TDM capacities of 155 to 622 Mbps, using the same 1U IDU. The two independent modules in the 1U chassis can each deliver 155 to 311 Mbps for SDH/SONET, optimizing the solution for every network topology and configuration.

Topologies

Supported topologies include point-to-point, ring, star, mesh and cascaded chain. In East-West configurations (ring and cascaded topologies) one carrier is directed to the East and the other to the West, reducing equipment and resource requirements in each node, which in turn, increases network efficiency.

Configurations

A typical FibeAir 1500R configuration includes an Indoor Unit (IDU) consisting of a compact 1U chassis with two independent traffic modules, a single control unit for both modules, an RFU and an antenna.

The two independent, hot-swappable carriers can be used for protection, diversity or double capacity. High spectral efficiency is ensured by choosing the same frequency for double the capacity, whereby both carriers are used for vertical and horizontal polarization, implemented by the built-in XPIC mechanism. A 2U IDU that can host up to four carriers is available for optimized protected configurations using XPIC and space diversity.

Protection

Protected configurations for FibeAir 1500R include 1+1/2+2 HSB and 1+1 HSB with space or frequency diversity and with optional XPIC, Cross Polarization Interference Canceller mechanism. The hitless/errorless protection mechanism, provides superior resilience. Network protection schemes include SNCP/UPSR (e.g. 2+0 East-West configurations) and MSP 1+1. All traffic affecting circuitry has inherent redundancy.

Distances

FibeAir RFUs (RF Unit) are used for short to medium haul applications and operate in the frequency range of 6-38 GHz. FibeAir RFU-HP (High Power RF Unit) are used for long haul applications, operate in the frequency range of 6-11 GHz and can be installed outdoors in a split-mount configuration or all-indoor in a standard rack.

Seamless Integration

FibeAir 1500R IDUs can seamlessly integrate in any SDH/SONET, IP and ATM network, that support a wide variety of Ethernet and TDM interfaces, including nx E1/T1, nx E3/DS3, nx STM-1/OC-3, STM-4/OC-12, nx FE and nx GbE.

This enables network designers to meet growing market needs, including integration of current and next generation technologies, using the same radio equipment.

FibeAir 1500R Family

FibeAir 1500R Optical



Optical 155 Mbps (STM-1 / OC-3)
Single mode / multimode



Optical 311 Mbps (2 x STM-1 / 2 x OC-3) Single mode / multimode



Electrical 155 Mbps (STM-1)



Electrical 311 Mbps (2 x STM-1)

Applications

The FibeAir 1500R family enables rapid and cost-effective high-capacity connectivity for carriers, both in the cellular and fixed operator markets as well as for private networks.

Mobile Cellular Infrastructure

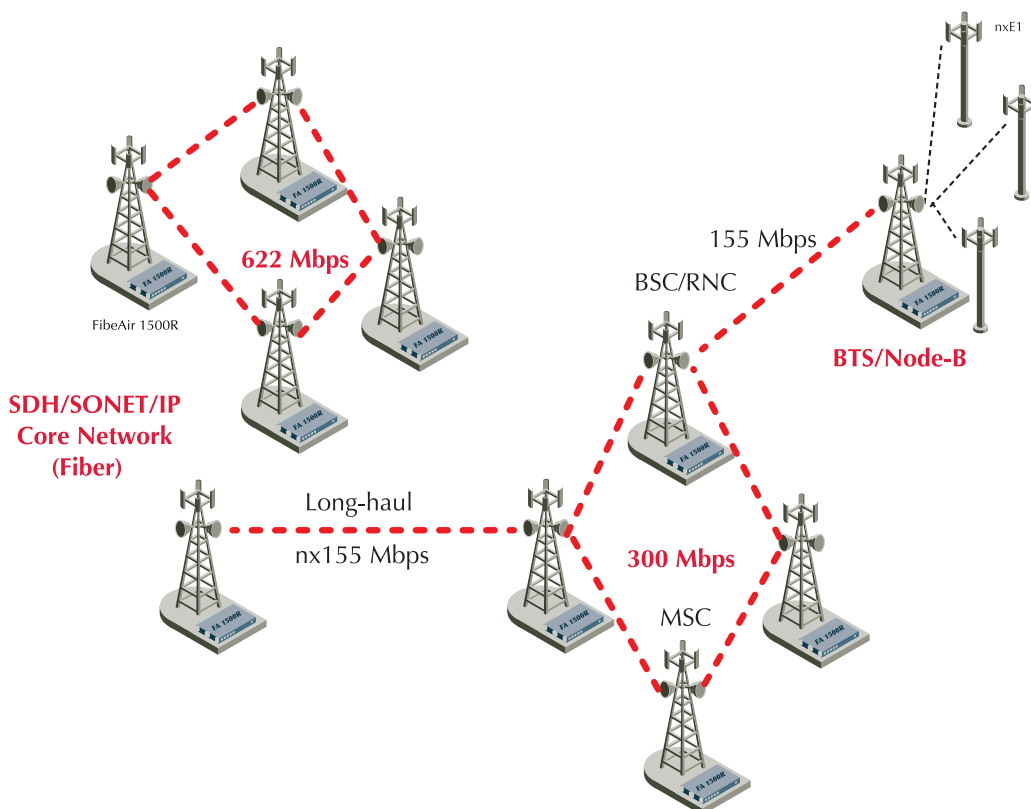
Ceragon's FibeAir 1500R is an optimal solution for mobile cellular networks, which require higher capacity due to an increase in subscribers, cell sites and data rich applications. FibeAir enables fast and efficient network expansion and as an intelligent network element, offers a smooth migration to higher capacities when needed.

Fixed Networks

To bridge the broadband access gap between end-user demands and the core network infrastructure, FibeAir offers high-capacity wireless metropolitan ring/mesh/chain and PTP solutions in the core network. Ceragon's FibeAir delivers integrated high speed data, video and voice traffic in the most optimum cost-effective manner whether across a city or far into the suburbs.

Private Networks

Easy to install and operate, the modular FibeAir design is ideal for private networks, educational campuses, financial institutions, utility companies, governmental and corporate facilities providing direct carrier-class connections for all traffic types.



Key Advantages

- Incomparable cost-effective performance, with the latest XPIC and modulations
- Scalable Architecture: 1RU IDU supports 155-622Mbps capacities.
- Fast service provisioning
- Smaller antennas, lower installation costs
- Modular, "expand-on-demand", scalable and future-proof architecture
- Long, medium and short reach using the same indoor unit
- Built-in space and frequency diversity
- Assured interoperability with standard SDH/SONET and IP equipment
- Comprehensive network management
- Split-mount and all-indoor installations



Maximum Versatility, Maximum Choice

FibeAir 1500R is a versatile system that presents an easy method of “on the fly” wireless network upgrades in accordance with expansion requirements.

Packed with an impressive combination of advanced features and capabilities, Ceragon’s field proven solutions allows operators to leverage their investments and OPEX by simplifying migration to higher capacity multi-service networks.

Comprehensive Network Management

Ceragon provides state-of-the-art management based on SNMP. Our management applications are written in Java code and enable management functions at both the element and network levels. The applications run on Windows 2000/2003/XP and Sun Solaris.



CeraView® is Ceragon's SNMP-based EMS (Element Management System) that enables the operator to perform element configuration, RF and SDH

performance monitoring, remote diagnostics, alarm reports and more. CeraView integrates with different NMS (Network Management System) platforms, such as Ceragon's PolyView NMS, HP OpenView®, SNMPc and 3rd Party Network Management Systems, to provide more comprehensive system management.

PolyView™ is Ceragon's NMS that includes CeraMap™, its friendly and powerful graphical interface. PolyView can be used to update and monitor network topology status, provide statistical and inventory reports, download software, and configure elements in the network. In addition, it can integrate with Northbound NMS platforms, to provide enhanced network management.

Ceragon Networks Ltd.

Ceragon Networks Ltd. (NASDAQ and TASE: CRNT) is a leading provider of high capacity wireless backhaul solutions that enable fiber-like connectivity for SONET/SDH networks, next generation IP-based networks and hybrid networks.

Ceragon's FibeAir® family of products support all wired and wireless access

technologies and address Service Providers' need to cost-effectively build-out and scale their networks to meet increasing demands for bandwidth and premium services.

Ceragon's solutions are deployed by more than 150 service providers of all sizes, as well as in hundreds of private networks, in 85 countries.

Ceragon Comprehensive Network Offering:



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