

FibeAir 1500HP Specifications

RF Specifications for 128 QAM Modulation STM-1/OC-3/3xDS3

Frequency	6L GHz	7 GHz	8 GHz	11 GHz
Standards	ETSI; FCC	ETSI	ETSI	ETSI; FCC
Operating Frequency Range (GHz)	5.925-6.425	7.1-7.9	7.725-8.5	10.7-11.7
RF Channel Spacing (MHz)	28, 30	28, 29.65	28, 29.65	28, 30
Tx Power* (dBm)	29	29	29	27
RSL Threshold (dBm) at BER=10 ⁻⁶	-69	-69	-69	-69
System Gain (dBm)	98	98	98	96
ATPC (dB)	>20			

RF Specifications for 64 QAM Modulation STM-1/OC-3/3xDS3

Frequency	6H GHz	8 GHz	11 GHz
Standards	ETSI		ETSI; FCC
Operating Frequency Range (GHz)	6.425-7.1	7.725-8.5	10.7-11.7
RF Channel Spacing (MHz)	40	40.74	40
Tx Power* (dBm)	30	30	28
RSL Threshold (dBm) at BER=10 ⁻⁶	-71	-71	-71
System Gain (dBm)	101	101	99
ATPC (dB)	>20		

RF Specifications for 50-200 Mbps Ethernet Solutions FE + 8E1/DS1, GbE + 8E1/DS1

Frequency	6L/6H GHz	7 GHz	8 GHz	11 GHz
Standards	ETSI; FCC	ETSI	ETSI	ETSI; FCC
Operating Frequency Range (GHz)	5.925-6.425 6.425-7.1	7.1-7.9	7.725-8.5	10.7-11.7
RF Channel Spacing (MHz)	10, 14, 15, 20, 28, 29, 29.65, 30, 40			
Modulation	QPSK, 32, 64, 128, 256 QAM			
Tx Power* (dBm)	30, 29, 30, 29.65, 28			28, 27, 28, 27, 26
RSL Threshold (dBm) at BER=10 ⁻⁶	-84, -75, -71, -69, -64			
ATPC (dB)	>20			

RF Specifications for 64 QAM Modulation DS3

Frequency	6L/6H GHz	11 GHz
Standards	ETSI; FCC	ETSI; FCC
Operating Frequency Range (GHz)	5.925-6.425 6.425-7.1	10.7-11.7
RF Channel Spacing (MHz)	10	10
Tx Power* (dBm)	30	28
RSL Threshold (dBm) at BER=10 ⁻⁶	-77	-77
System Gain (dBm)	107	105
ATPC (dB)	>20	

Note: For additional Ethernet solution specifications, contact your Ceragon representative

System Specifications	
Capacity (Mbps)	45 - nx155
Wayside Channels	E1/T1, Ethernet Bridge 10BaseT per carrier
User Channels	V.11, or RS-232, 10BaseT, or G.703 (optional)
Interface Modules	STM-1/OC-3: Electrical - CM/BNC, Optical - SM/SC, SM/MM, DS3: Electrical, Fast Ethernet: 100BaseT, GbE
Switching	Hitless, Errorless
Payload Types	TDM: SDH STM-1, SONET OC-3, nxE1/T1/DS3, ATM: ATM over SONET/SDH, IP: Ethernet
System Configurations	1+0 to N+0, 1+1 to N+N
Network Management	
Type	SNMP, in compliance with RFC 1213, RFC 1595 (SONET MIB)
Local or Remote NMS Station	CeraView® and PolyView™ with advanced GUI for Windows 2000/2003/XP and Sun Solaris integrated with HP OpenView
NMS Interface	Ethernet bridge 10Base-T, RS-232 (PPP, SLIP), built-in Ethernet hub
Local Config. & Monitoring	Standard ASCII terminal, serial RS-232
In-Band Management	DCCr, DCCm, media-specific, proprietary
TMN	NMS functions are in accordance with ITU-T recommendations for TMN
Performance Monitoring	Integral with onboard memory per ITU-T G.828
Mechanical/Electrical	
Transceiver Dimensions (RFU)	Height: 490 mm (19"), Width: 144 mm (6"), Depth: 280 mm (11")
Weight	7 kg (16 lbs) excluding branching unit
Rack Type	19" or ETSI 600 mm
IDU-RFU Connection	Coaxial cable RG-223 (100 m/300 ft), Belden 9914/RG-8 (300 m/1000 ft) or equivalent, N-type connectors (male)
Max System Power Consumption	1+0: 80W, 1+1: 130W
All-Indoor Temperature Range	-5°C to +45°C
Split-Mount Temperature Range	-35°C to +55°C
Power Supply	-40.5 to -57 VDC, 24V optional

*The Tx Power values in the tables are for the split-mount installation type. For all-indoor installations, the guaranteed Tx Power is 3dB higher. All specifications are subject to change without prior notification. All values are guaranteed.



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FibeAir® 1500HP

Next generation high-capacity long-haul wireless solutions



- High transmit power
- Longer distances
- Smaller antennas
- Low installation costs
- Built-in diversity
- IF combining
- Enhanced resiliency
- End-to-end solution

Introducing FibeAir® 1500HP

Ceragon's innovative FibeAir 1500HP was designed as an ideal wireless networking solution for end-to-end long distance connectivity allowing the deployment of voice and data services for fixed and mobile backhaul networks. Quickly and easily deployed, the FibeAir 1500HP system represents an economical alternative to fiber optic lines and is a highly reliable point-to-point backbone transmission system.

Focused on Optimization

With key technological advancements, FibeAir 1500HP is the first split-mount radio to be truly optimized for long-haul applications. Ceragon's unique embedded space diversity with dual receiver architecture, extremely high transmit power and IF combining algorithm guarantee superior performance and errorless transmission. For operators this means a reliable solution that can use less equipment and smaller antennas, providing substantial savings on initial investments and operational expenditures.

Packed with the latest generation technology and cost-saving features, FibeAir 1500HP is your best choice for effective long-haul telecommunications.

FibeAir[®] 1500HP - The first split-mount radio truly optimized for long-haul applications



System Overview

Unparalleled Flexibility

FibeAir 1500HP, the latest member of the FibeAir family, provides wireless high-capacity data transmission over long distances, in a wide variety of network capacities, frequencies and configurations. FibeAir 1500HP operates in the frequency range of 6-11 GHz and can be installed outdoors, in a simple split-mount configuration, or all-indoor in a standard rack. Capacities can be easily upgraded from 45 Mbps up to nx155 Mbps.

Unique Traffic Protection

For maximum versatility and transmission efficiency, the Radio Frequency Unit (RFU) is equipped with space diversity capability. The unit includes two receivers and one transmitter, an IF combining algorithm and extremely high transmit power. The dual receivers and IF combining algorithm, provide reliable and enhanced diversity protection against the multipath phenomenon. In a 1+1 Hot Standby link with space diversity, the system consistently transmits error-free data, and retains its space diversity capability. With its reliable fiber-like transceiving quality and protection capabilities, FibeAir 1500HP is a dependable telecommunications solution for different network topologies, such as chain, ring, mesh, and star.

Applications

Mobile and Fixed Networks

Quickly deployed and optimized for long-haul applications, FibeAir 1500HP is ideal for expansion to rural areas. With ultra high-power, FibeAir 1500HP uses smaller antennas providing a significant advantage for operators as well as reducing environmental impact. Ceragon's backbone solution provides more capacity for more users, cell sites and bandwidth-hungry applications. Our system offers smooth migration from PDH to SONET/SDH networks and next generation IP, with capacities of nxDS3, nxE1/DS1, and GbE. Applications include voice, Internet, PABX, DSL, video, VoIP and others.

Broadcast Networks

With ultra-long distance radio hop capability, FibeAir 1500HP is an economic choice for cross-country digital broadcast connectivity. The scalability and reliability of FibeAir solutions are ideal for high-quality transport of contribution and distribution services. Applications include Digital Video Broadcast, TV, radio and telemedicine.

Private Networks

FibeAir 1500HP provides high-capacity connectivity for enterprise LAN and PBX systems. Its hardware optimization significantly reduces equipment requirements for low frequency long-haul radio hops, which results in lower network, operation and maintenance costs. FibeAir 1500HP is ideal for utility operators, corporate enterprises, education campuses, hospitals, banks and others. Applications include IP LAN connectivity, (FE, GbE), VoIP, client-server application, remote storage, video conferencing, TDM services, infrastructure redundancy and more.

Government & Emergency Services

Ceragon's quality products meet the high-level demands of government customers by providing rapidly deployed secure and long distance transmission, in a compact, light weight, scalable solution. Applications include military deployments over long distances, border-to-headquarter communication, disaster recovery, temporary installations, surveillance, and monitoring.

End-to-End 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 NMS, HP OpenView[®] and SNMPc, to provide more comprehensive system management.

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

Key Features

- Frequency range of 6-11 GHz
- Ultra high transmit power: 29/32 dBm
- Innovative digital IF combiner
- Dual receiver architecture
- Configurable capacity: from 45 Mbps to n+n x 155 Mbps
- Variety of interfaces for TDM & IP PDH/SDH/SONET/FE/GbE
- Configurable modulation: QPSK/32/64/128/256 QAM
- Configurable channel bandwidth: 10/14/25/28/30/40 MHz
- Built-in XPIC (Cross Polarization Interference Canceller) for Co-Channel Dual Polarization
- Split-mount & all-indoor installation using same hardware
- Simple and flexible installation
- Easy system expansion
- Compliant with ETSI, FCC, ITU-T, ITU-R, and IEEE standards and frequency plans
- ATPC (Automatic Tx Power Control)



FibeAir 1500HP, with its inherent advantages, is an optimal solution for network operators looking to offer high-capacity long-haul applications and converged data, voice and video services in an economical way.

