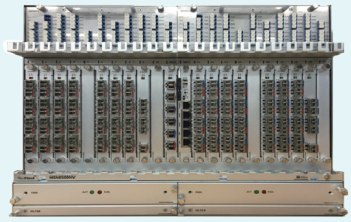
flexiHaul HSN8500NA Solution

Flexible xHaul Solution for 4G and 5G



PRIMARY APPLICATIONS

- Fronthaul Transport at 4G/5G Cell Sites
- Ethernet Midhaul & Backhaul Integrated Solution
- Wavelength Aggregation

flexiHaul HSN8000 Series

flexiHaul HSN8000 Family of xHaul Solutions

HFR Networks' flexiHaul HSN8000 xHaul solutions offer a complete portfolio of CPRI and Ethernet over WDM solutions for cost effective and high performance transportation of mobile traffic and Carrier Ethernet offerings. These field proven WDM solutions support CPRI transport with low latency, minimal jitter, and unparalleled flexibility across active or passive WDM. HFR Networks' solutions have been proven in large scale customer deployments at leading global tier one mobile operators. These solutions enable service providers to rapidly expand mobile services, especially when fiber is constrained and it is imperative to quickly to add capacity to create new revenue streams.

PRODUCT OVERVIEW

The HSN8500NA is a member of the cost-effective and highly scalable HSN8000 family, and is generally deployed in central offices or Baseband Unit (BBU) hotels. The HSN8500NA serves as an aggregator for the full flexiHaul family line-up where the following serve as remote terminals: HSN8300NA and HSN8100NA.

The HSN8500NA has a flexible, pay-as-you-grow architecture with a variety of plug-in service modules to allow a customer to customize the solution to their specific application and needed configuration.

The HSN8500NA supports point to point, linear chain, point to multi-point and ring with ring protection. The 8U chassis includes twenty service slots used to transport different fronthaul services via CWDM or DWDM based on transponder type over dark fiber. In addition, the HSN8500NA is efficiently managed by the HSN8800 EMS, which provides the necessary tools for both traffic provisioning and overall system monitoring.

Feature Rich, Pay-as-You-Grow Architecture

The flexiHaul HSN8000 series is a highly scalable solution portfolio built on a flexible, pay-as-you-grow architecture to achieve cost effective CAPEX/OPEX and an optimal return on investment. Utilizing a diverse set of plug-and-play service cards, the flexiHaul HSN8000 series allows a carrier to choose any combination of supported services and facilitates easy operation and maintenance.

Integrated Carrier-Class Element Management System: Greatly Simplifies Network Operations

The flexiHaul HSN8500NA solution is efficiently managed by HFR Networks' flexiHaul Element Management System (EMS) which provides the necessary tools for effortless set-up, traffic provisioning, integrated test measurement, and ongoing system monitoring. The flexiHaul EMS offers full visibility and operational control into remotely deployed RAN transport and Ethernet access equipment. Pre-integrated with HFR Networks' solutions, this highly scalable, carrier-class software solution runs on commercial off-the-shelf hardware or in a cloud instance. It ensures operators can quickly install new services while maintaining higher performance in order to exceed their customers' service level agreements (SLAs). Highly intuitive, the flexiHaul EMS helps optimize operations across a range of xHaul and Ethernet access service use cases, including mobile fronthaul/ backhaul applications and converged Carrier Ethernet offerings.

KEY FEATURES

- Proven CWDM/DWDM supports CPRI transport with low latency and reduced jitter
- Enables the expansion of mobile services quickly, especially when fiber is constrained
- Maximizes fiber efficiency while supporting a mix of mobile and Ethernet services
- Delivers increased performance to meet timing requirements for mobile applications
- Offers field tested interoperability across leading RAN vendors and Carrier Ethernet OEMs
- Increases the transmission distance up to 80km by utilizing pluggable EDFA SFPs for midhaul or backhaul
- Provides centralized components and lowers OPEX with rich OAM features
- Integrated EMS enables full visibility, control, and monitoring for effortless operation

Physical Characteristics

For HSN8500NA Chassis	
Dimensions	88(H) X 481(W) X 300(D) mm
Weight	27.1 kg (59.6 lbs)
Power Consumption	680 W (Fully Loaded)
Mounting Type	19” or 23” Rack Mountable
For HSN7200NA Passive Mux Shelf	
Dimensions	88(H) X 440(W) X 243.5(D) mm
Weight	3.5 kg (Shelf Only)
Mounting Type	19” or 23” Rack Mountable

System Capacity

Service Slots	20
Chassis Capacity	Up to 80 Channels
CWDM/DWDM	ITU-T G.694.1, ITU-T G.694.2
Transmission Distance	Up to 40 km

Channel Interfaces

Service Interfaces	CPRI: 2/3/4/5/7/8/10, OBSAI 3G/6G, eCPRI/RoE/xRAN up to 25 Gbps, GbE, 10GbE, 25GbE
Optical Connector Type	LC/UPC

Transponder Options

CPRI	4 Ports: CPRI 2/3/4/5/7/8, 3 Ports: CPRI 10
OBSAI	4 Ports: 3G/6G
Ethernet	4 Ports: GbE, 10 GbE
eCPRI/RoE/xRAN/ Ethernet	3 Ports: eCPRI/RoE/xRAN up to 25G, 25GbE

Protection/Switching

Switching Time	<50 ms
Operating Modes	Automatic, Manual
Configurations	Non-revertive & Revertive Switching

Network Management

Operation	EMS (Server, Client), Local Craft Terminal
Protocols	SNMP v2/v3
Physical Interface	10/100/1000 Base-TX

Main Control Unit (MCU)

Console Port	1 Port: RS-232C
Management Ports	2 Ports: 100/1000 Base-TX (WAN)
Local Management Ports (LMP)	2 Ports: 100/1000 Base-TX (LAN)
Visual LED Indicators	System Activity, System Failure, System Alarm LED: CRI/MAJ/MIN/ ACO, WAN/LAN Status: Act, Link

Data Communications Unit (DCUE)

OSC Ports	8 Ports
Visual LED Indicators	Unit Status, Link Status
LMU1B	4 Ports OTDR Unit

OAM

Fault Controls	Alarm Severity: Critical, Major, Minor, Warning
Classification Levels	Unit, Module, Port
Performance Monitoring	15 MIN/24 HR
Test Functions	Local & Remote Loopback, Delay Measurement, BERT
Visual LED Indicators	System Activity, System Failure, ACO, Alarms Status (Critical, Major, Minor)
Housekeeping and Office Alarms	7 Housekeeping Alarm Inputs 6 Office Alarm Outputs

Topologies/Power/Environmental

Topologies	Point to Point, Linear Chain, Point to Multi-point, Ring, BiDi Linear
Power	-48V DC (-40 ~ -56V DC) +24V DC (+20 ~ +28V DC)
Environmental	Operating: -5 °C to 55 °C Storage: -40 °C to 70 °C Humidity: Up to 85% (Non-Condensing)

Regulatory & Compliance

FCC Part 15 Class A, CE Mark, UL 60950-1, IEC 60950-1
IC (Canada EMI), CB, NEBS Level 3, Class 1
ATT-TP-76200, Issue 19, June 2014
VZ TPR 9205, Issue 5, October 2011

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