

## flexiHaul HSN8130NA Solution

### Flexible xHaul Solution for 4G and 5G



*flexiHaul HSN8000 Series*

#### PRIMARY APPLICATIONS

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

#### The 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 HSN8130NA is a member of the cost-effective and highly scalable HSN8000 family, and is used to transport CPRI and GbE services from a small cell site as a remote terminal for an aggregator, such as: the HSN8500NA, the HSN8300NA or the HSN8100NA. It can also be used in linear configuration with the HSN8120.

The HSN8130NA 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 HSN8130NA supports point to point and linear chain topologies. This 1U chassis includes one service slot used to transport service via CWDM or DWDM based on transponder type over dark fiber. In addition, the HSN8130NA 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 HSN8130NA series 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
- Provides centralized components and lowers OPEX with rich OAM features
- Integrated EMS enables full visibility, control, and monitoring for effortless operation

**Physical Characteristics**

Dimensions	44(H) X 483(W) X 300(D) mm
Weight	4.0kg (8.8 lbs)
Power Consumption	125W (Fully Loaded)
Mounting Type	19" or 23" Rack Mountable

**System Capacity**

Service Slots	1
Chassis Capacity	Up to 4 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 25Gbps, 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 Mode	Automatic, Manual
Configuration	Non-revertive & Revertive Switching

**Network Management**

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

**Management Supervisor Unit (MSU)**

Console Ports	1 Port: RS-232C
Management Ports	1 Port: 100/1000 Base-TX (WAN)
Local Management Port (LMP)	1 Port: 100/1000 Base-TX (LAN)
Visual LED Indicators	System Activity, System Failure, System Alarm LED: CRI/MAJ/MIN/ACO, WAN/LAN Status: Act, Link, OSC: Act, Link Status
OSC Port	2 Ports
Housekeeping Ports	7 Inputs for +24V, 7 Inputs for -48V

**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)
Environmental Alarms	7 Housekeeping Inputs

**Topologies/Power/Environmental**

Topologies	Point to Point, Linear Chain, Point to Multi-point, BiDi Linear
Power	HSN8110A – AC 90V~240V HSN8110D – DC -48V(-40V~-56V), +24V(+20V~+28V)
Environmental	Operating: -40 °C to 70 °C Storage: - 40 °C ~ +46 °C Humidity : Up to 95% (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 3
ATT-TP-76200, Issue 19, June 2014
VZ TPR 9205, Issue 5, October 2011

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