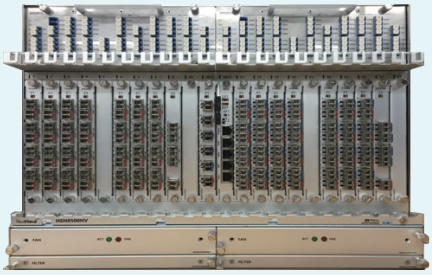
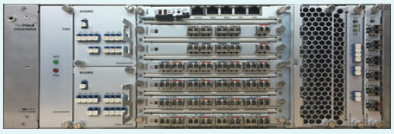
flexiHaul HSN8000 Series Transport Solution

Flexible WDM Transport for Service Providers, Mobile Network Operators, and Fiber Providers to Maximize the Capability of Outside Plant Fiber Resources



HSN8500



HSN8300

HSN8100

Flexible Wavelength Transport Solution

HFR Networks' flexiHaul HSN8000 Series Transport Solution offers a complete portfolio of WDM interface options and topologies for deploying scalable, cost effective and highly reliable services throughout the access network domain. This field proven and Tier 1 carrier deployed WDM solution was purpose built to support everything from wireline services to mobile network operator use cases including Ethernet and CPRI/eCPRI interfaces from 1-100G and beyond. The solution inherently provides end-to-end remotely monitorable wavelength transport while maintaining ultra-low latency, minimal jitter, unparalleled flexibility and remote troubleshooting capabilities across limited fiber resources. Monitorable WDM technology ensures the full utilization of the fiber capacity, which lowers time to market and increases available service options across the network. HFR Networks' solutions have been proven around the globe with several large-scale customer deployments. These transport solutions enable service providers to rapidly expand service delivery to create new revenue streams - especially when fiber is constrained and/or it is imperative to add capacity.

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

The flexiHaul 8000 Series Transport Solution is efficiently managed by HFR Networks' flexiHaul HiEMS (Element Management System) which provides the necessary tools for effortless set-up, traffic provisioning, integrated test measurement, and ongoing system monitoring. The flexiHaul HiEMS 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 HiEMS 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 reliability across a challenging set of access network use cases.
- Enables the expansion of services quickly, especially when fiber is constrained.
- Maximizes fiber efficiency & capacity while supporting a mix of services.
- Delivers increased performance to meet timing requirements for mobile applications.
- Offers field tested and deployed multi-vendor interoperability.
- Increases the transmission capacity and service distance across the outside fiber plant.
- Provides centralized remote monitorability (embedded OTDR, BERT, DDM & KPI's).
- Integrated HiEMS enables full visibility, control, and monitoring for effortless remote operation.

flexiHaul HSN8000 Series Transport Portfolio

The flexiHaul 8000 Series Transport Solution is comprised of three different models, each with a particular form factor designed to address the specific application need throughout the access fiber network domain.

- **The HSN8500 chassis** is the largest of the three and can serve as an aggregator for multiple remote terminals. The 8500 can support up to 80 independent services across 20 independent card slots.
- **The HSN8300 chassis** is smaller than the 8500 and is typically deployed as a remote terminal in the outside plant. The 8300 can support up to 20 to 26 independent services across 5 to 6 independent card slots depending on the environmental configuration.
- **The HSN8100 chassis** is the smallest of the three and is typically deployed as a remote terminal in the outside plant. The 8100 can support up to 8 independent services across 2 independent card slots.

All three models support point to point, linear chain, point to multi-point and ring with ring protection architectures. All of the chassis utilize the same common cards, passive WDM optics and software which simplifies sparing, deployment and operational configuration. Each active shelf can be equipped with a unique set of passive WDM optics that provide wavelength access to a fiber or fiber pair end-to-end.

		HSN8500	HSN8300	HSN8100
Fronthaul Transport at 4G and 5G Cell Sites		✓	✓	✓
Ethernet Midhaul and Backhaul Integrated Solution		✓	✓	✓
Wavelength Aggregation		✓	✓	✓
Monitoring Units	DCUE: 8 OSC Ports, Data Communication Unit	✓	✓	✓
	LMU1B: 4 Ports OTDR Unit	✓	✓	✓
Physical Characteristics	Dimensions	355(H) X 481(W) X 300(D) mm	177(H) X 483(W) X 298(D) mm	88(H) X 483(W) X 300(D) mm
	Weight	27.1 kg (59.6 lbs)	11.3 kg (24.9 lbs)	6.8 kg (14.9 lbs)
	Rack Units	8RU	4RU	2RU
	Mounting Type	19” or 23” Rack Mount		
System Capacity	Service Slots	20	6	2
	Chassis Capacity	80 Channels	24 Channels	8 Channels
	CWDM/DWDM	ITU-T G.694.1, ITU-T G.694.2		
	Distance	Up to 80 km		
Channel Interfaces	Service Interfaces	CPRI: 2/3/4/5/7/8/10, eCPRI/RoE/xRAN up to 25Gbps, GbE, 10GbE, 25GbE		
	Connector Type	LC/UPC		
Transponder Options	CPRI	4 Ports: CPRI 2/3/4/5/7/8 3 Ports: CPRI 10		
	Ethernet	4 Ports: GbE, 10GbE		
	eCPRI/RoE/xRAN/ Ethernet	3 Ports: eCPRI/RoE/xRAN up to 25G, 25GbE		
Service Modules	Supported Transponders	RoE3J: 3 Port 25G Transponder		
		ETU4G: 4 Port Ethernet Transponder		
		OTU4X: 4 Port Enhanced Transponder		
Main Control Unit	Type	Main Control Process Unit		
	Console Port	RS-232C x 1 Port		
	Management Ports	100/1000 Base-TX x 2 Ports (WAN)	100/1000 Base-TX x 2 Ports (WAN)	100/1000 Base-TX x 2 Ports (WAN)
	Local Management Ports	100/1000 Base-TX x 2 Ports (LAN)	100/1000 Base-TX x 2 Ports (LAN)	100/1000 Base-TX x 2 Ports (LAN)
Regulatory & Compliance		FCC Part 15 Class A, CE Mark, RoHS 6 Compliance with Directive 2002/95/EC, 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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