HSN8130NA PRODUCT OVERVIEW

HSN8130NA is a member of the highly scalable and cost-effective flexiHaul™ WDM product line. The HSN8130NA is used to transport CPRI and GbE services from a small cell site as a remote terminal for flexiHaul™ platforms: HSN8500NA, HSN8300NA or HSN8100NA aggregator.

Like the other systems in the flexiHaul product line, HSN8130NA has a flexible, pay-as-you-grow architecture with plug-in service cards, thereby allowing the customer the ability to choose any combination of supported services as well as facilitate easy operation and maintenance. This 1U shelf includes one service slot used to transport service via CWDM or DWDM based on transponder type over dark fiber.

The HSN8130NA supports point to point and linear chain topologies. In addition, HSN8130NA is efficiently managed by the HSN8800 GUI based EMS, which provides the necessary tools for traffic provisioning, integrated test measurement and overall system monitoring.

PRIMARY APPLICATIONS

• Fronthaul transport at 4G and 5G cell sites
• Ethernet midhaul and backhaul integrated solution
• Wavelength aggregation

ARCHITECTURE

• Compact design
• Modular architecture
• Can be used in linear configuration with HSN8110

OAM and MAINTAINABILITY

• Alarms, statistics, performance monitoring
• Remote management via in-band optical supervisory channel (OSC)
• Local / remote logical loopbacks
• Integrated measurement tools: connectivity, signal level, span latency, distance measurement

KEY FEATURES

• Multi-protocol support
  - CPRI (option 2, 3, 4, 5, 7), OBSAI 3G/6G
  - eCPRI/ROE/xRAN up to 25Gbps
  - GbE, 10GbE, 25GbE
• System latency per transponder without FEC
  - Less than 1.4 μs
• Jitter
  - Less than ±0.35 UI
• FEC (Forward Error Correction) support
• Flexible topology architecture
  - Point to point, linear chain, point to multi-point, BiDi linear
• OSC Bypass (STEM RT)

HSN8130NA
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

Topology
- Point to point, linear chain, point to multi-point
- **Power**: -48V DC (-40 ~ -56V DC), +24V DC (+20 ~ +28V DC)
- **Environmental**: Operating: -40°C ~ +70°C, Storage: -40°C ~ +70°C
- **Humidity**: 5 to 95% Relative (non-condensing)

Channel Interface

- **Service interface**: CPRI (option 2, 3, 4, 5, 7), OBSAI 3G/6G, eCPRI/ROE/xRAN up to 25Gbps, GbE, 10GbE, 25GbE
- **Optical connector type**: LC / UPC

Transponder Options

- **CPRI**: 4 ports CPRI (option 2, 3, 4, 5, 7), OBSAI 3G/6G, GbE
- **Ethernet**: 4 ports GbE, 10GbE
- **eCPRI/ROE/xRAN/Ethernet**: 3 ports eCPRI/ROE/xRAN 25G, 25GbE

Configurations/Power/Environmental

- **Topology**: Point to point, linear chain, point to multi-point
- **Power**: -48V DC (-40 ~ -56V DC)
- **Environmental**: Operating: -40°C ~ +70°C, Storage: -40°C ~ +70°C
- **Humidity**: 5 to 95% Relative (non-condensing)

OAM

- **Fault control**: Alarm severity: Critical, Major, Minor, Warning
- **Classification level**: Unit, Module, Port
- **Performance monitoring**: 15 min, 1 day
- **Test function**: Local / remote loopback, Delay measurement, BERT
- **Visual LED Indicators**: System activity, system failure, Alarms status (Critical, Major, Minor), Door Alarm
- **Environmental Alarm**: 7 Housekeeping Inputs

Network Management

- **Operation**: EMS (server, client)
- **Protocols**: SNMPv2 / v3
- **Physical interface**: 10 / 100 Base-TX

Physical Characteristics

- **Dimension**: 44(H) X 483(W) X 300(D) mm
- **Weight**: 4kg (8.8 lbs)
- **Power consumption**: 40W (fully loaded)
- **Mounting type**: 19" or 23" rack mountable

Supported Service Modules

**RoE3J (3-Port 25G transponder)**
- **Type**: eCPRI, ROE, xRAN, 25GbE
- **Client/WDM ports**: 3 / 3
- **Line monitoring**: LOS
- **Performance monitoring**: SFP, SFP+, DDM
- **eCPRI delay (one-way)**: < 1.4 µs

**ETU4G (4-Port Ethernet transponder)**
- **Type**: eCPRI, ROE, xRAN, 10GbE, GbE
- **Client/WDM ports**: 4 / 4
- **Ethernet monitoring**: LOS, LF/RF
- **Performance monitoring**: SFP, SFP+, DDM, FCS, Frame counter
- **Ethernet delay (one-way)**: 2.0 ~ 13.5 µs (depends on frame size)

**OTU4G (4-Port enhanced transponder)**
- **Type**: CPRI 3/4/5/7 x4 ports or CPRI 3/4/5/7 x3 ports + GbE x1 port
- **Client/WDM ports**: 4 / 4
- **CPRILine monitoring**: LOS, LOF, CV, BIP, AIS, RDI
- **Performance monitoring**: SFP, SFP+, DDM, BIP, ES, SES, UAS
- **FEC**: Support
- **CPRI delay (one-way)**: < 0.5 µs (without FEC)
- **Profile**: Low latency profile, Standard OAM profile
- **Delay Equalization**: Support

**TTU4G (4-Port basic transponder)**
- **Type**: CPRI 3/4/5/7 x4 ports or CPRI 3/4/5/7 x3 ports + GbE x1 port
- **Client/WDM ports**: 4 / 4
- **Line monitoring**: LOS
- **Performance monitoring**: SFP, SFP+, DDM
- **CPRI delay (one-way)**: < 0.5 µs

Main Control Unit (MSU)

- **Type**: Main Control Process Unit
- **Console port**: RS-232C x1 port
- **Management port**: 10 / 100 Base-TX x2 ports (WAN)
- **Local Management Port (LMP)**: 10 / 100 Base-TX x2 ports (LAN)
- **LEDs**: System activity, System failure
- **System alarm LEDs**: CR/MAJ/MIN/ACO
- **OSC port**: WAN/LAN status: Act, Link
- **MDCB1 Mux – x2 ports**: MDCB1 Mux – x2 ports
- **MDCB2 Mux – x1 port**: MDCB2 Mux – x1 port
- **Housekeeping inputs**: 7 inputs for +24V, 7 inputs for - 48V

Regulatory & Compliance

- **FCC Part 15 Class A**, **CE Mark**, **UL 60950-1**, **IEC 60950-1**
- **IC (Canada EMI)**, **CB**, **NEBS Level 3**
- **ATT-TP-76200, Issue19, June 2014**
- **VZ TPR 9205, Issue 5, October 2011**

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