HSN8500NA PRODUCT OVERVIEW
HSN8500NA is a member of the cost-effective and highly scalable flexiHaul product line. This system is generally deployed in central offices or BBU hotels. Like the other systems in the flexiHaul product line, HSN8500NA 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 8U shelf includes twenty service slots used to transport different fronthaul services via CWDM or DWDM based on transponder type over dark fiber.

HSN8500NA serves as an aggregator for the full flexiHaul line-up where the following serve as remote terminals: HSN8300NA, and HSN8100NA.

HSN8500NA supports point to point, linear chain, point to multi-point and ring with ring protection. In addition, HSN8500NA is efficiently managed by the HSN8800 EMS, which provides the necessary tools for both traffic provisioning and overall system monitoring.

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

ARCHITECTURE
• Compact design
• Modular architecture
• Optionally use the HSN7200NA passive mux shelf to expand fiber fan-out to any HSN8000NA series chassis

OAM and MAINTAINABILITY
• Alarms, statistics, performance monitoring
• Remote management via optical supervisory channel (OSC)
• Local / remote logical loopbacks
• Connectivity, signal level, delay, 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
• Ring protection switching less than 50 ms
• Delay equalization for ring protection
• FEC (Forward Error Correction) support
• Flexible topology architecture
  - Point to point, linear chain, ring, point to multi-point, BiDi linear

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HSN8500NA SYSTEM SPECIFICATION

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 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, ring, BiDi linear
- Power: -48V DC (-40 ~ -56V DC)
- +24V DC (+20 ~ +28V DC)
- Environmental: Operating: -5 ~ +55 °C, Storage: -40 ~ +70 °C, Humidity: Up to 85% (non-condensing)

Protection/Switching
- Switching time: <50ms
- Operating mode: Automatic, manual
- Configuration: Non-revertive switching, revertive switching

OAM
- Fault control: Alarm severity: Critical, Major, Minor, Warning
- Classification level: Performance monitoring: Unit, Module, Port
- Test function: 15 min, 1 day
- Local / remote loopback
- Delay measurement
- Visual LED Indicators: BERT
- System activity, system failure, ACO, Alarms status (Critical, Major, Minor)
- Environmental and Office Alarms: 7 Housekeeping inputs, 6 Office Alarm outputs

Network Management
- Operation: EMS (server, client), Local Craft Terminal
- Protocols: SNMPv2/v3
- Physical interface: 10 / 100 / 1000 Base-TX

Physical Characteristics
- For HSN8500NA Chassis: Dimension: 355(H) X 481(W) X 300(D) mm, Weight: 27.05kg, Power consumption: 680W (Fully loaded), Mounting type: 19” or 23” rack mountable
- For HSN7200NA Passive Mux Shelf: Dimension: 88(H) X 440(W) X 243.5(D) mm, Weight: 3.5kg (only shelf), 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 x4
- 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
- CPRI/Line 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, High link budget profile (FEC enabled)
- Support
- Delay Equalization

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 (MCU)
- Type: Main Control Process Unit
- Console port: RS-232C x1 port
- Management port: 100 / 1000 Base-TX x2 ports (WAN)
- Local Management Port(LMP): 100 / 1000 Base-TX x2 ports (LAN)
- LEDs: System activity, system failure, System alarm LED: CR/MAJ/MIN/ACO, WAN/LAN status: Act, Link

Data Communication Unit (DCU/DCUE)
- Type: Data Communication Unit
- OSC ports: 6 ports / 8 ports
- LEDs: Unit status, Link status

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, Issue 19, June 2014
- VZ TPR 9206, Issue 5, October 2011

Manufacturing and support proudly provided by Fujitsu Network Communications, Richardson Texas
For more information, please contact your Fujitsu Sales Representative

Fujitsu Network Communications, Inc.
2801 Telecom Parkway, Richardson, TX 75082   Tel : 888.362.7763   us.fujitsu.com/telecom

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