

HARMONY HUB 800

ADAPTABLE MULTI-SERVICE NODAL SWITCH



DESIGNED FOR BOTH SMALL AND LARGE MICROWAVE HUBS, THE HARMONY HUB 800 PROVIDES ADVANCED MULTI-SERVICE AGGREGATION AND ETHERNET SERVICES.

Part of DragonWave's Harmony backhaul solution, the Harmony Hub 800 is a compact indoor unit which provides maximum flexibility for 2G, 3G and LTE traffic aggregation. The Harmony Hub 800 is the perfect backhaul node for Harmony Radio systems, with 16 Gbps switching capacity, and support for up to 12 radio directions in a single unit.

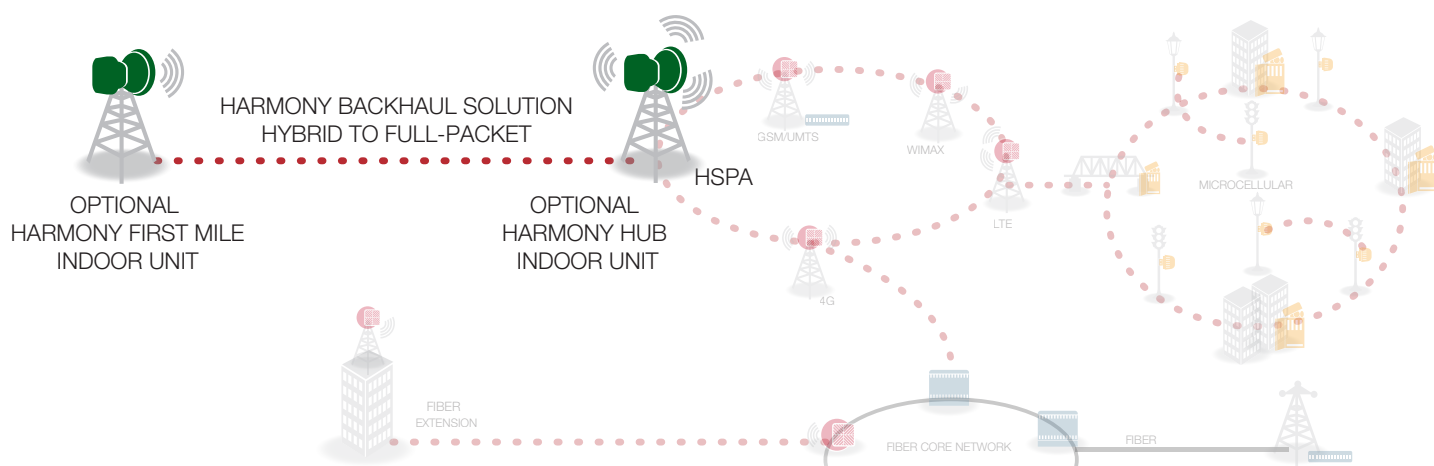
In addition to supporting advanced Ethernet processing features, the Harmony Hub 800 can carry TDM traffic natively or via circuit emulation – a simple and cost effective solution for operators moving to converged packet networks.

Optimized for mobile network evolution, the Harmony Hub 800 supports advanced clock synchronization and recovery mechanism including Synchronous Ethernet, IEEE 1588v2 (Master, Slave and Boundary clock functionality), Adaptive Clock Recovery (ACR) and Differential Clock Recovery (DCR).

The Harmony Hub 800's high density TDM and Ethernet access interfaces include Fast and Gigabit Ethernet, E1/T1, and channelized STM-1, as well as two expansion slots.

SOLUTION HIGHLIGHTS

- High density node supporting up to 12 directions and 16 Gbps switch throughput
- 802.1ad provider bridging and 802.1Q bridging
- E-LINE and E-LAN services
- Advanced QoS with 8 priority queues, policing, Simple Random Early Detection/Discard (SRED)
- Ethernet OAM: 802.1ag and ITU-T Y.1731
- Advanced clock synchronization with SyncE and 1588v2
- Multi-service platform with CESOP, SATOP, MLPPP termination and Ethernet over SDH
- Power over Ethernet support for Harmony Radio
- Multiple protection configurations
- RSTP/MSTP, G.8031, G.8032 Network protection and CES Linear Protection
- Up to 48 x E1/T1 and 2 x STM-1 TDM ports
- 12 x 100/1000BaseT and 2 x SFP Ethernet interfaces



SWITCHING CAPACITY

16 Gbps

ETHERNET PORTS (MAIN BOARD)

4 x 10/100/1000 Base-T, two of which have embedded power (Power over Ethernet)

2 x SFP (can be configured as 100/1000 Base-Fx or STM-1)

TDM PORTS (MAIN BOARD)

16 x E1/T1/J1

2 x SFP (can be configured as 1000 Base-FX or STM-1)

EXPANSION SLOTS

4-port GE card (optical or electrical)

16 x E1/T1/J1 CES/MLPPP card

2-port STM-1; supports STM-1 EoS and STM-1 Clear Channel CES

2-port Power Injector card (providing 2 x PoE ports)

2-port FlexBus card

SYSTEM PORTS

1 x 10/100/1000 Base-T out-of-band management port

1 x 10/100/1000 Base-T DCN management port

1 x dry contact (2-in and 2-out)

1 x 1pps clock and ToD output port

SERVICES

E-Line and E-LAN service

E1/T1/J1 CESoPSN (RFC5086)

E1 SAToP (RFC4553)

STM-1 CESoPSN and SAToP

64Kbps grooming for E1 CES

NETWORK MANAGEMENT (NMS)

Packet-based microwave

Hybrid microwave

TDM and packet transport networks

n x E1 MLPPP

BRIDGING AND VLAN MANIPULATION

IEEE802.1ad provider bridging

IEEE 802.1Q bridging

MAC table size: 16K

Support for Static MAC

VLAN insertion and translation

QUALITY OF SERVICE (QoS)

Traffic classification and mapping based on port, MAC, VLAN ID, VLAN priority bits, IP address, DSCP, etc.

Policing on port, VLAN, and queue

8 priority queues per port

Scheduler: Strict Priority, WDRR, WRR

Congestion Control: sRED

Per-port and per-queue traffic shaping

PERFORMANCE MONITORING

Packet counters according to RFC2819 RMON MIB, RFC2863

Y.1731 performance measurement

FAULT DETECTION

Y.1731/802.1ag

PROTECTION

xSTP based network protection

1+1 hot-standby (HSBY) nodal protection

LAG

G.8031, G.8032

50ms CES 1+1 linear protection

IDU redundancy

CLOCK SYNCHRONIZATION

Adaptive Clock Recovery (ACR)

Differential Clock Recovery (DCR)

Synchronous Ethernet with and without SSM

IEEE 1588v2 Master, Slave, and Boundary Mode

Clock sources: Network clock via ACR/DCR/158v2

Line clock from any E1/T1 port

Synchronous Ethernet SSM

Internal free-run clock

SUPPORTED ODU CONFIGURATIONS

1+0

1+1 space diversity/frequency diversity, 1+1 HSBY

2+0 FD/XPIC (with load sharing), 2+0 drop/insert and forwarding

POWER

Supply: -40.5 to -57.6 VDC (two inputs)

Consumption: Typical: 35W, Maximum 45W

ENVIRONMENTAL

Operating Temperature Range: -5°C to +55°C / 23°F to 131°F

DIMENSIONS & WEIGHT

4.4 cm x 24 cm x 44 cm; 2.3 kg

1.7" x 9.4" x 17.3"; 5.1 pounds