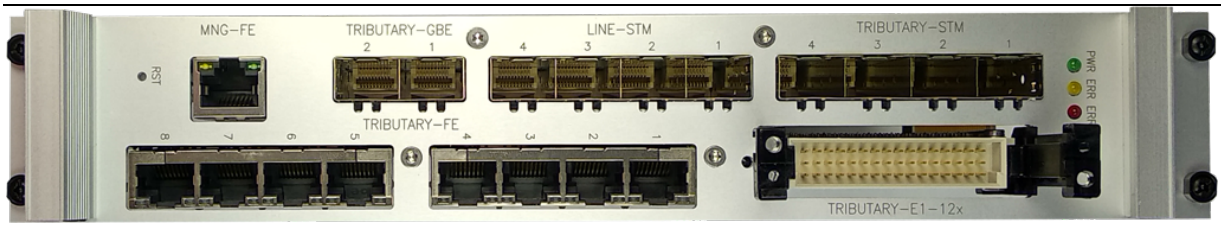

ASH16

SDH Plug-in Module for PCM30U-OCH System

The ASH16 device is an SDH transmission device up to the STM-16 level. It provides TDM transmission services of E1 and FE and GBE types and thus enables the integration of TDM and packet transmissions in one unit. It is designed as an access device to SDH or DWDM transport networks, or for the construction of its own SDH networks of smaller capacities. The Ethernet transmission function enables a defined connection between geographically separated LAN networks with precisely defined throughput. It uses VLAN, and QoS standards for this. By combining SDH ports, it can operate in any topology from a terminal to circular or star structures. Supported backup mechanisms allow backup of both line and post signal. The system is equipped with SDH cross-connect with commutation capability at the level of virtual containers from VC12 to VC4, PDH cross-connect with switching level 64 kbit/s and with CAS support. For Ethernet transmissions, it enables the chaining of containers for the necessary security of transmission capacity.

ASH16 is a plug-in unit of the PCM30U-OCH family with the TOPONET monitoring system. It complements the range of the PCM30U-OCH family with a module of the STH-16 SDH transmission system. With built-in PDH cross-connect and connectivity via the system's internal bus, it is linked to low-speed PDH voice/data/teleprotection contribution units.

Main Benefits

- Upgrading the existing ASH4 to STM16 level
- Multi-service transport (TDM and packet)
- L2/VLAN/QoS support (guaranteed bandwidth, low latency)
- Integration with PCM30U-OCH system (internal bus)
- SDH Cross-connect (HO, LO) and PDH (64 kbit/s)

Basic Parameters

Signal Capacity and Structure:

- LOXC 5 Gb/s commutation capacity (2016x VC-12),
- transit with full power 4x STM-16 (64x VC-4),
- ETSI multiplex hierarchy for E1, FE and GE, see figure

Tributary Ports:

- E1 with CRC-4 support ASH4
- Ethernet with GFP-T/VCAT/LCAS mapping
- Static or dynamic (in-operation) VCAT/LCAS range setting
- Additional VCAT re-synchronization mode (standard/low delay)

Cross-connect:

- at SDH level: VC-12/TU12 (2688 x 2688), VC-3/TU3 (48 x 48)
- at PDH level: 252 x 2Mbps - built-in cross-connect,

Ethernet L2 aggregation:

- SDH mapping for each VLAN
- QoS classification by port ID (IEEE 802.1g), VLAN ID or priority (IEEE 802.1p), police control
- SPQ or DWRR queue mode selection

Transmission Backup:

- MSP 1 + 1 on STM-16 / STM-4 lines
- SNCP 1 + 1 for VC-12 and VC-3

Synchronization:

- According to G.781 standard, internal SEC quality source
- External synchronization input/output 2 Mbit/s (T3/T4)
- Reference synchronization from E1 (T12) post ports

Management:

- Management channels DCC R / MS-OH ASH4 or in E1 payload (VC-12)
- Routing of the external management system (IPv4) via control channels

Port Numbers:

- SFP STM4/16 (link. signal): 4
- SFP STM1/4 (trib. signal) 4
- FE/RJ45 (trib. signal): 8
- SFP GBE (trib. signal): 2
- E1/(6xRJ45 connector) (trib. signal): 12xE1 (together with SYNC (T12) support)

Dimensions:

- The blade features the same dimensions and similar construction as previous ASH4
- Optical range: according to available SFPs

Other Parameters:

- Ambient temperature range: from -40 to +45°C
- Power Consumption functions: from 14W to 25W depending on equipment and

Management System:

- Local LCT: ASH View (Windows)
- Central TOPONET: within the PCM30U-OCH family

Multiplexer ETSI Hierarchy