



ASH4-BOX

SMALL SDH TRANSMISSION SYSTEM (BOX type)

The ASH4-BOX device is an SDH transmission device to the STM-4 level. It provides TDM services such as E1 / T1 and 10/100/1000 Ethernet, enabling TDM integration and packet transmission in one unit. It is designed as an access device for SDH transport networks, possibly also for the construction of own small - size SDH networks. It is included in the category CPE - Customer Premises Equipment. The Ethernet transmission function allows for a defined connection between geographically separated LANs with precisely defined throughput. Combining four SDH ports, it can work in any topology from terminal to circular or star-shaped structures. Supported backup mechanisms allow for the backup of both line and contributory signals. The system is equipped with SDH cross connect with commutating capability at the virtual container level from VC12 to VC4, allowing their chaining for Ethernet transmissions, thus accurately determining their transmission capacity.

The ASH4-BOX device belongs to the PCM30U-OCH family, including the unified supervision system TOPONET. It is in a BOX design for placing on a shelf with 2x48 VDC redundant power. It complements the PCM30UOCH family with a standalone SDH transmission system, especially cost-effective in transmission applications without the need for narrowband voice and data services.

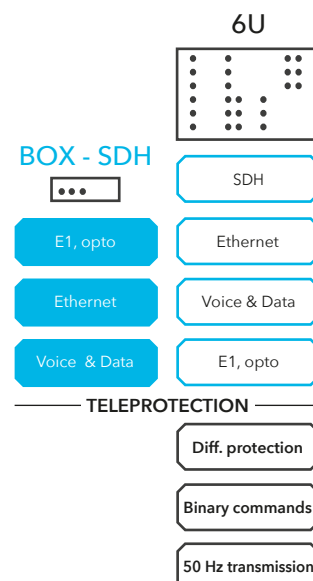
MAIN FEATURES

- Savings in acquisition and operating costs
- Multiservice transport (TDM and packet)
- LAN networking (guaranteed bandwidth, low delay)
- Simple operation

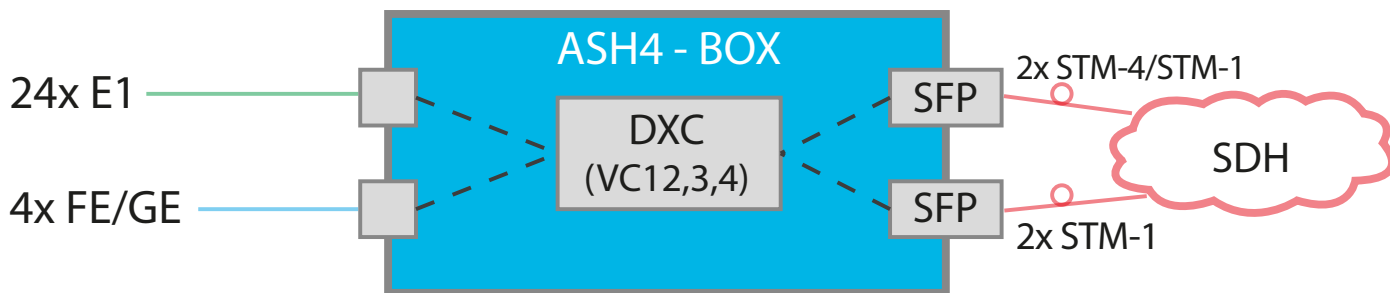
PROPERTIES

- SDH transmission to the STM-4/OC-12 level
- TDM E1/T1 transmission services
- 10/100/1000 Ethernet, VCAT and Dynamic LCAS
- Transmission services
- Topology (terminal, split, circle, star)
- Crossconnect 2.5 Gbps SDH / VCxx Level
- MSP, SNCP backup
- Ethernet interface FE Line or FE/GBE contributory
- Redundant power supply 48 VDC
- Central or local supervision (Eth, SNMP)
- DCC supervisory channel (RSOH, MsOH or VC12)
- Separate management ports (FE), serial (USB) and ext. synchronization
- Compatible with the PCM30U-OCH family (features identical to the ASH4 plugin)

SDH transmission system



APPLICATION



- 2x SFP ports STM-1
- 2x SFP ports optional STM-1 or STM-4

E1 equipment transmissions are mapped to VC12 containers, for Ethernet transmissions, mapping of different levels (VC12, VC3, VC4) or linking them to Nx according to capacity may be chosen.

With its four STM ports and the ability to back up the line signal, the device can operate in different physical topology networks, such as:

- Terminal - a simple or backed-up level of STM-1 or STM-4
- Split - simple STM-1 or STM-4 levels or STM-1 backed-up levels
- Circle - simple STM-1 or STM-4 levels or STM-1 backed-up levels
- The transition from the circular network STM-4 to the circular STM-1, and more

TECHNICAL PARAMETERS

Number of ports

Type	Max. number
Power	2
STM-1 (SFP)	2
STM-4/STM-1 (SFP)	2
SYNC	1

General

Power: 2x 48 VDC / max. 24W
Dimensions: (W x H x D) mm 69.5 x 254.5 x 264 (basic) ~82 x 254.5 x 264 mm (including feet) ~82 x 254.5 x ~280 mm (including feet and connector holders)
Environment: 0 to +50 °C non-condensing 0% to 95% sstorage -20 to +65°C Operation at altitudes up to 2000 m over sea level
EMC: Resistance: EN 61000-4-2,4-3,4-4,4-5, 4-6, 4-8,4-9, 4-12, 4-16, 4-17,4-18, 4-29 Emissivity: EN 61000-6-4
Supervision: Local: Windows client, remote IP or local USB access Management port: Ethernet 100 (RJ45) Central: TOPONET (SNMP, Backup server) Remote access: PPP over SDH DCC Mapping: RSOH, MSOH or VC12 IP routing 6-level authorization

Contribution interface

24 ports E1/T1: G.703, 120 or 75 Ohm Mapping: LAPS, GFS or PPP Troughput: Nx VC12, Nx VC3, Nx VC4 Connector: 2x group by 12 interfaces (ERNI 3x16)
4x Ethernet: Connector: RJ45 Mapping: LAPS, GFP, PPP

Number of ports

Typ	Max. number
FE/GBE (RJ45) over SDH	4
E1/G.703 (RJ45)	24
Eth (management)	1

Functional

Cross connect SDH: Level: VC12, VC3, VC4, chained VCxx Matrix capacity 2,5 Gb/s
SDH multiplexer: AU3 or AU4 mode: VC12, VC3, VC4
Synchronization: Internal, external (RJ45), from STM-1/4 (SSM)
Alarm Log: Capacity: 3000 records Filter by category Time synchronization: NTP
Diagnostics: SFP diagnostics Statistics: G.823 RSOH, MSOH, HO.Mx, LO.Mx alarms Diagnostic loops

Line interface

SDH - STM-1, STM-4: By SFP Type: SM 1310/1550 nm, WDM, range up to 180 km Backup: SNCP ring, MSP Topology: Ring, Terminal, Protected Linear Midspan
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