

Sigma

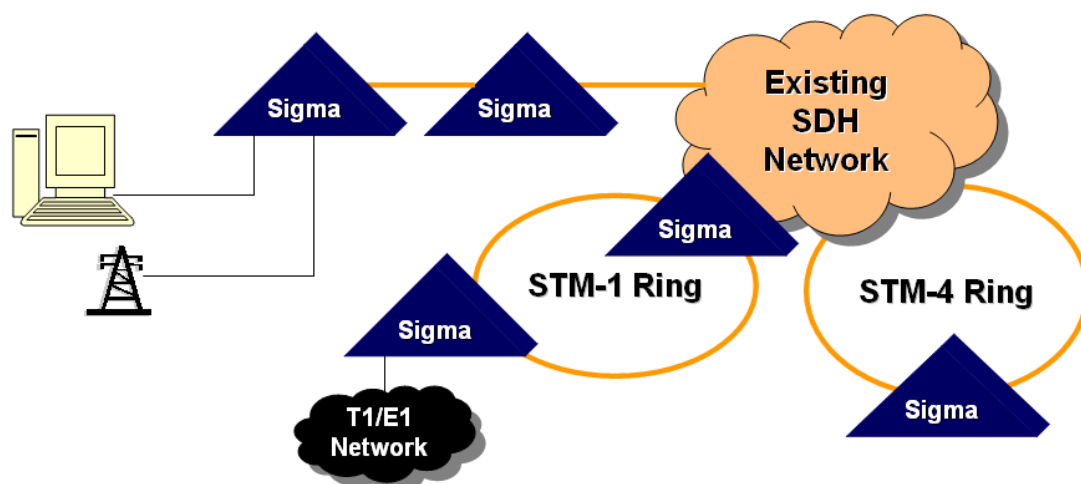
Compact SDH (STM-1/STM-4)

Exartech Sigma is a compact STM-1/STM-4 add/drop multiplexer, specially suitable for the utilization in extending networks to the edge by providing cost-effective multi-service access and delivering more revenue-generating services to subscribers. It transports TDM (Time Division Multiplexing), Ethernet and IP (Internet Protocol) over existing SDH (Synchronous Digital Hierarchy) network, and can be customized for the traffic demand, in the access network, which is typical for residential and business applications.

Key features:

- Fully cross connection
- Terminal Multiplexer (TM) and Add/Drop Multiplexer (ADM) applications
- Topology: Point to Point, Linear, and Ring
- Remote software downloadable
- Support 1+1 Linear MSP (Multiplex Section Protection) and (SNCP Sub-Network Connection Protection)
- Friendly GUI (Graphic User Interface) for OAM&P (Operation, Administration, Maintenance, and Provision)
- Optional point to point EOW (Engineering Order Wire) function

Application Diagram:



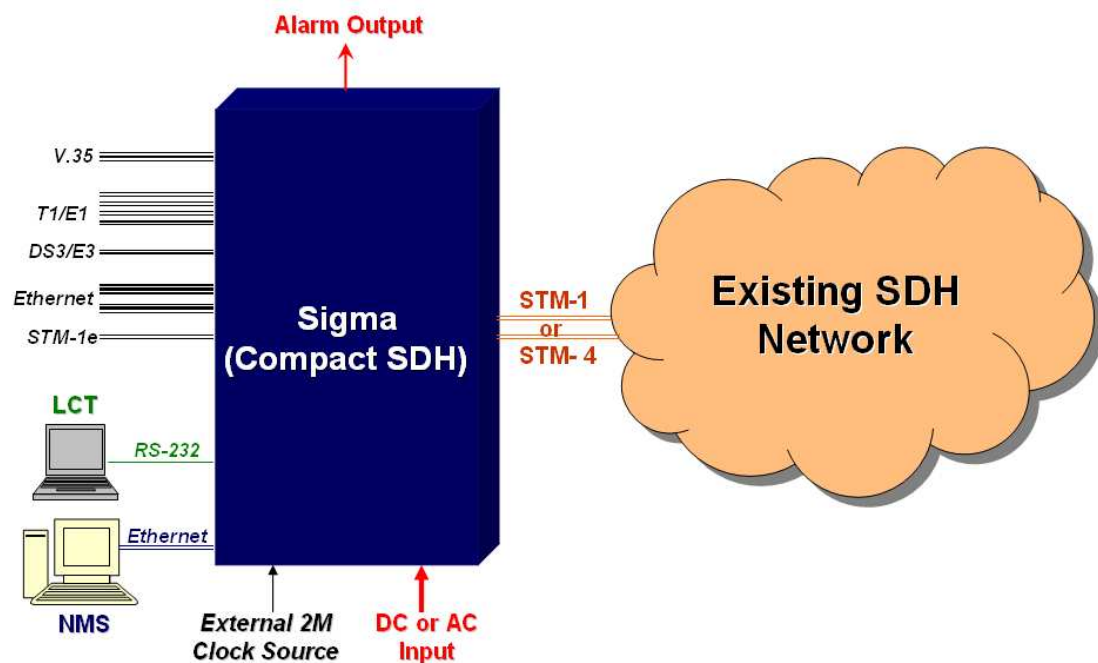
The main unit consists:

- Two ports STM-1 (or STM-4) optical interface (for 1+1 MSP or SNCP)
- 16 ports E1 interface (120 ohm; 75 ohm for option)
- External 2M clock source
- RS-232 and LAN port for network management
- LED display and alarm output

Sigma provides the following expansion cards:

- STM-1o (optical interface)
- STM-1e (electrical interface)
- E1 (can be configured as T1)
- 10/100 BASE-T
- DS3 (can be configured as E3)
- V.35 (N x 64K)
- SHDSL

System Overview of Sigma:



Technical Specifications:

STM-4 Optical Interface:

- Interface Type: S4.1, L4.1, or L4.2
- Transmission Rate: 622.08M
- Meet ITU-T G.957/G.958 requirements

STM-1 Optical Interface:

- Interface Type: S1.1, L1.1, or L1.2
- Transmission Rate: 155.52M
- Meet ITU-T G.957/G.958 requirements

STM-1 Electrical Interface:

- Transmission Rate: 155.52M
- AC impedance: 75 ohm

T3 (DS3) Interface:

- Transmission Rate: 44.736M
- AC impedance: 75 ohm

E3 Interface:

- Transmission Rate: 34.368M
- AC impedance: 75 ohm

E1 Interface:

- Transmission Rate: 2.048M
- AC impedance: Default 120 ohm; 75 ohm for option

T1 Interface:

- Transmission Rate: 1.544M
- AC impedance: 100 ohm

SHDSL Interface:

- Line code: TC-PAM
- Transmission Rate: up to 2.3M
- AC impedance: 135 ohm
- Meet ITU-T G.991.2 requirements

Ethernet Interface:

- Meet IEEE 802.3 requirements
- 10/100 auto negotiation
- AC impedance: 100 ohm

Serial Port (Datacom) Interface:

- Interface: V.35
- Data Rate: N x 64 K, N=1 ~ 32

Craft Interface:

- Interface: RS-232C Asynchronous

NMS Interface:

- Interface: 10/100Base-T

Power Supply:

- DC: -48VDC
- AC: 110/220VAC @ 50/60Hz

Environmental Conditions:

- Temperature: -10 ~ 60°C (operation)
- Humidity: 5 ~ 95% (RH)

EMI/EMC/Safety:

- EMI: FCC, Part 15, Sub B (Class A)
- CISPR22 Class A