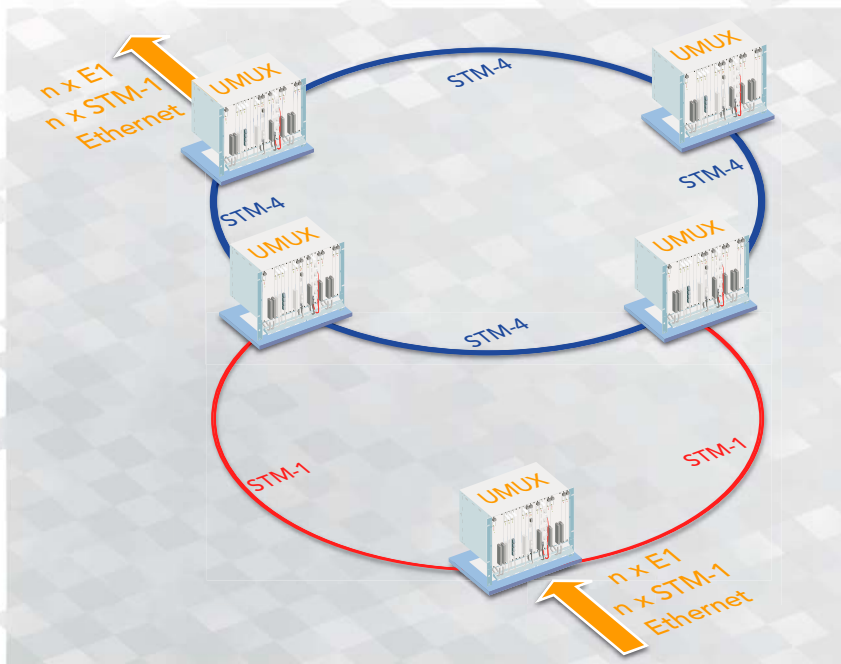


# UMUX SDH STM-4 unit SYN4E

Cost effective UMUX solution for  
EoS (Ethernet over SDH) and SDH STM-4 network applications



- 2 x SDH STM-1/STM-4 dual speed aggregate interfaces
- 2 x SDH STM-1 tributary interfaces
- 4 x 10/100/1000BaseT
- Cross connect capacity
  - 18 x 18 VC-4
  - 36 x 36 VC-3
  - 693 x 693 VC-12
- Complete EoS capability – Ethernet and SDH interfaces on a single unit

The new UMUX SDH STM-4 unit SYN4E offers scalable and cost-effective delivery of reliable, flexible, secure, and managed services. KEYMILE's SDH STM-4 solutions deliver new revenue opportunities through next generation technology whilst reducing infrastructure and operations costs.

## ■ Unit description

The new UMUX SDH unit SYN4E is a one slot plug-in unit for the UMUX family (UMUX 1200, 1500). Based on highly integrated ASSP (Application Specific Standard Product), the unit supports a

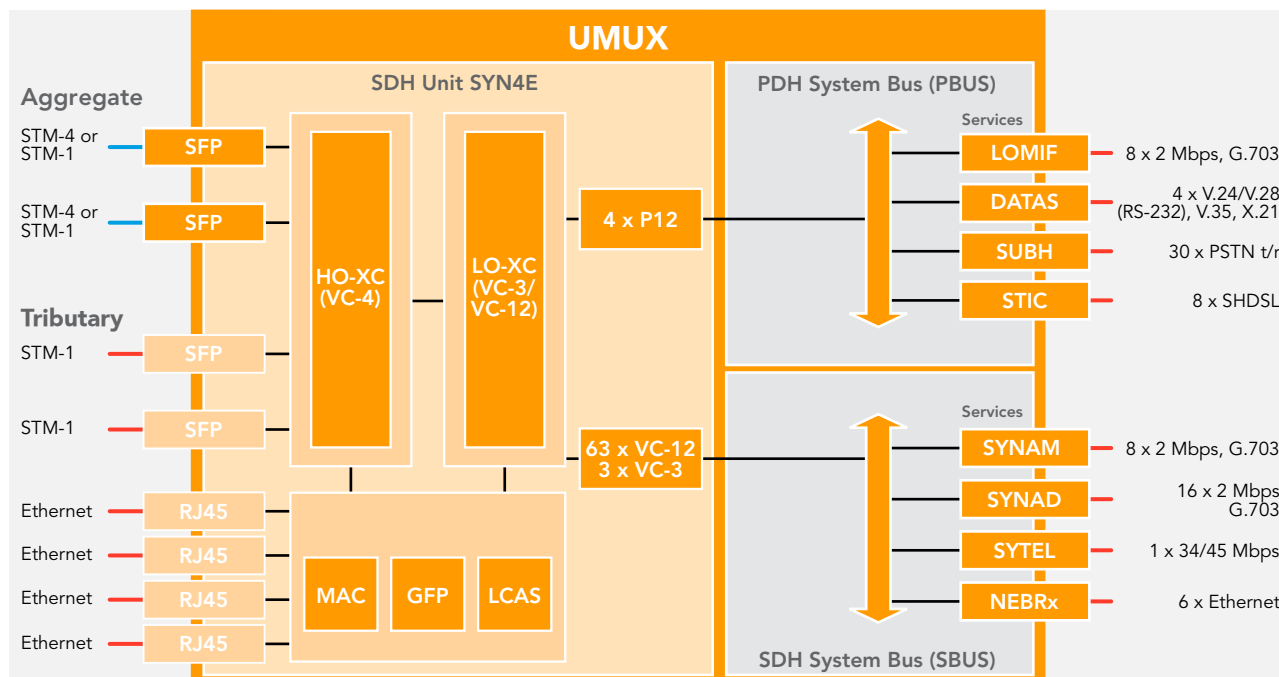
number of tributary interfaces seamlessly: SDH interfaces, Ethernet interfaces and TDM interfaces. The block diagram on the rear side shows the architecture of the new SDH unit SYN4E, the front access interfaces and the access to the UMUX back-plane (PBUS and SBUS).

## ■ Carrier-Grade Solution

The UMUX is hardened for outdoor applications and features redundant power supply and control cards to ensure a carrier grade product. The SDH STM-4 unit further enforces this aspect and guarantees the

highest equipment service availability through the support of recognised traffic and equipment protection standards:

- Multiplex Section Protection (MSP)
- Sub-Network Connection Protection (SNCP)
- 1+1 Equipment Protection (EQP)
- Synchronous Equipment Timing Source (SETS) protection
- Ethernet-over-SDH providing Link Capacity Adjustment Scheme (LCAS)



Block diagram UMUX SYN4E

## Technical Data

| General                                 |                                                                                           |
|-----------------------------------------|-------------------------------------------------------------------------------------------|
| VC services                             | Cross connect 18 x 18 VC-4<br>Cross connect 36 x 36 VC-3<br>Cross connect 693 x 693 VC-12 |
| Multiplex Section Protection (MSP)      | 1+1 unidirectional and bi-directional                                                     |
| Traffic protection                      | Sub-Network Connection Protection (SNCP)                                                  |
| Equipment protection                    | 1+1 EQP, through 2 units                                                                  |
| Performance monitoring                  | According to G.826                                                                        |
| Synchronisation                         | SETS                                                                                      |
| Access to PBUS                          | 4 x P12                                                                                   |
| Access to SBUS                          | 3 x VC-3 or 63 x VC-12                                                                    |
| SDH STM-1/STM-4 – Aggregate             |                                                                                           |
| Bit rate                                | 622 Mbps or 155 Mbps                                                                      |
| Number of ports                         | 2 (SDH STM-4 optical interface or SDH STM-1 optical/electrical)                           |
| Port types                              | SFP-based                                                                                 |
| SDH STM-1 – Tributary                   |                                                                                           |
| Bit rate                                | 155 Mbps                                                                                  |
| Number of ports                         | 2                                                                                         |
| Port types (optical and electrical)     | SFP-based                                                                                 |
| Ethernet over SDH                       |                                                                                           |
| Framing procedure                       | GFP according to ITU-T G.7041                                                             |
| VC concatenation                        | Virtual concatenation according to ITU-T G.783                                            |
| Link Capacity Adjustment (LCAS)         | According to ITU-T G.7042                                                                 |
| Bit rate                                | 10 Mbps, 100 Mbps, 1 Gbps                                                                 |
| Interfaces                              | 4 x 10/100/1000BaseT                                                                      |
| Front connector type                    | 4 x RJ45                                                                                  |
| Others                                  |                                                                                           |
| Module width (4 HP = 20.32 mm)          | 1                                                                                         |
| Environments temperature range/humidity | According to UMUX environmental spec.                                                     |



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 or contact us: [info@keymile.com](mailto:info@keymile.com) ...