winyuan

155SC

Product Brief STM-1 SDH

1. Overview

155SC is designed as a STM-1 level optical modem with two 155.520Mb/s optical interfaces to provide an ultra-compact, cost-effective and flexible multi-service platform. With 4 Ethernet interfaces compatible with IEEE 802.3/802.3u standard and 4/8 E1 interfaces compliant to ITU-T G.703 standard, it is easy to implement E1 and Ethernet transmission over SDH.

155SC supports port-based VLAN and IEEE 802.1Q tag-based VLAN. By adopting ITU-T G.7041, G.7042 and G.707-compliant EOS (Ethernet Over SDH) technology and VLAN technology, each Ethernet port can employs 1~4 separate Virtual Concatenation Groups (VCG), and each VCG can be assigned to one or more Ethernet ports. The bandwidth of VCG can be flexibly configured for efficient transmission of Ethernet data over SDH network.

155SC supports NE management based on CLI command and RAYVIEW network management platform based on SNMP_V1 and SNMP_V2 protocol, to perform excellent management such as configurations, alarm monitoring and performance statistic.

155SC is suitable for data access network on the user side. With the technology compliant to ITU-T standards, it can communicate with products from other vendors adopting the same standards.

2. Features

- **System Cabinet**
  - Height **:**1U; Width **:** 270mm; Length : 195mm
- **Supports TU-12 Granularity Cross Connection.**
- **Optical Interfaces**
  - Two STM-1 optical interfaces; SFP optical module (LC interface); Hot plugging.
  - Supports only single mode fiber**.** Transmitting distance **:**15km (by default), 40km, and 80km.
  - Complies with GB/T15941-1995 and ITU-T G.813 standards.
  - Supports RPD (Remote Power-Down Detection);transmits local power-off message.
  - Supports ALS (Automatic Leaser Shutdown) to protect operators from hurt.
- **E1 Interfaces**
  - Provides an E1 I/F card slot, 4-E1 or 8-E1 I/F card are selectable.
  - 120Ω balanced / 75Ω unbalanced E1 interfaces(RJ45 / DB37 connector) are selectable.
  - E1 interface complies with ITU-T G.703 standard.
- **ETH Interfaces**
  - 4 LAN ports(physical interfaces). Each supports self-negotiation. 10M/100M; Half-/Full-duplex.
  - 4 internal WAN ports, each corresponds to a VCG which has a bandwidth of up to 48 VC12 (100Mbps). At most 63 VC12 can be configured to the entire bandwidth of the 4 VCGs.
  - 4 LAN ports and 4 WAN ports comply with IEEE802.3/802.3u standard, support frames of 802.3 format and Ethernet II.
  - Supports traffic control and the filtering function for the broadcast storms.
  - Supports port-based VLAN and tag-based VLAN that comply with IEEE 802.1Q standard.
  - Supports GFP-F encapsulation; complies with ITU-TG.7041 standard.
  - Supports VCAT and LCAS; complies with ITU-T G.707, G.7042 standards.
  - Provides VC12 time-delay detection. The maximum tolerable differential delay between any of two VC-12 channels is 112ms.

- Provides both LCAS and non-LCAS modes.

■ **Auxiliary Interfaces**

- Provides ETH network management interface---EMU (RJ45 mode).
- Provides serial network management interface---CONSOLE (RJ45 mode).

■ **Timing Mode**

- Tracing internal timing source is selectable; complies with ITU-T G.813 standard.
- Tracing STM-1 optical line timing source (T11, T12) is selectable.
- Timing sources can be switched over according to alarms, SSM values, frequency offset, and the priority levels manually set by men, or can be switched over by users directly.

■ **Channel Protection**

- Supports 1+1 channel protection; the protection switching time is less than 50ms.
- Supports automatic switching and forced switching.

■ **Supports built-in BERT and multiple loopbacks.**

■ **Supports software on-line upgrading, easy for maintenance.**

■ **Network Element Management**

- Supports DCC and embedded DCN modes of network management.
- Supports CLI management based on serial port and TELNET**.** CLI supports only the control over the local equipment and can not manipulate other NEs in the network**.**
- Supports SNMP_V1 and SNMP_V2 protocols; supports PC-based, C/S mode of network management platform--- RAYVIEW, to implement the configuration, control and maintenance.

■ **One -48V DC, or one ~220V AC power supply; power consumption is less than 15W.**

3. Networking Applications

155SC is designed especially for the applications of access network on the client side, provided with E1 and Ethernet access and transmission. As shown in Fig. 3-1, 155SC equipments are distributed at every client access side, provide with 4/8 paths of E1 traffic and 1-4 paths of Ethernet traffic to access, those data traffic, transmitted on the STM-1 lines, are aggregated on an optical HUB equipment (HUB100-2D), and finally aggregated into the service aggregation equipment. Therefore, it completes the long distance transmission for the client traffic.

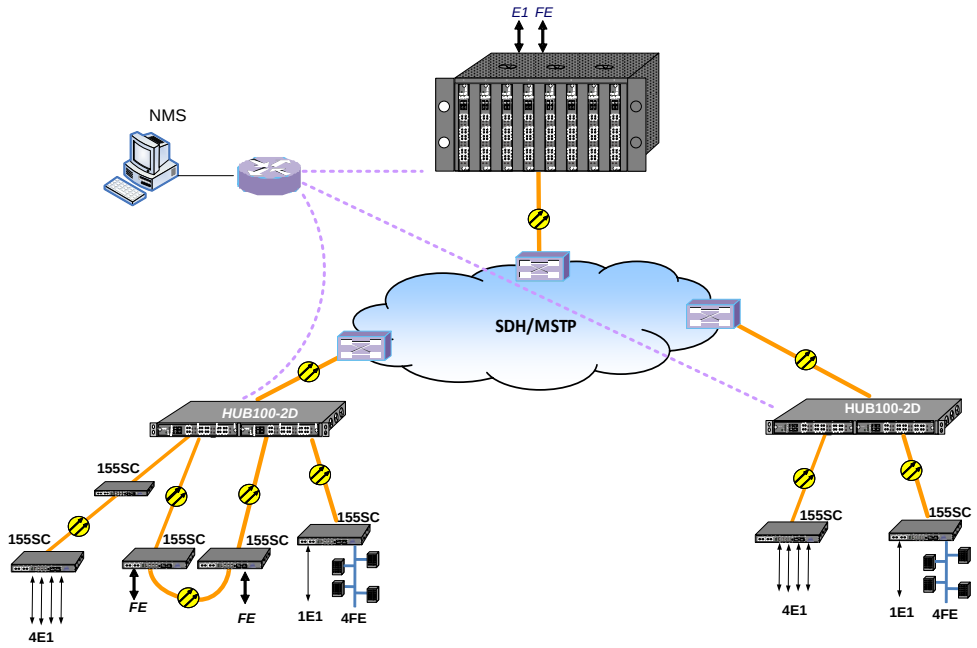

Figure 3-1 A Typical Application

155SC can be used as Terminal Multiplexer (TM) or an Add-Drop-Multiplexer (ADM) to build a point-to-point, ring or chain transmission network. As following figure shows:

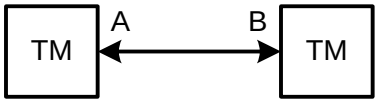

Figure 3-2 Point to point network

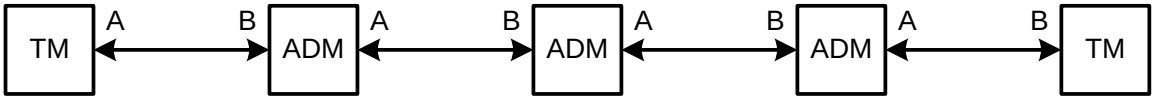

Figure 3-3 Chain network

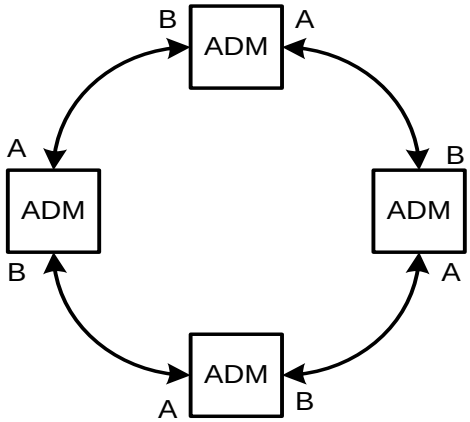

Figure 3-4 Ring network

Note: Make sure optical A of one NE must be connected with optical B of its neighboring NE.