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Designing, Production, Customization and Consultant Service  
**in Network and Fiber Optic System**



## Technical Specification

**SAE-COETHSTM-155**

**Gigabit Ethernet (GE1-3) over SDH(1+1) STM1(1+1) Channel**





## Product Description

- Provide 2 STM-1 optical interfaces, supports 1+1 optical path protection
- provides 4 Gigabit Ethernet interfaces (3 GE and 1 fiber Ethernet interfaces) compliant with IEEE 802.3 series standard
- Designed Two STM-1 optical interfaces; SFP optical module (LC interface); Hot pluggable
- Support 155Mb/s line bit rate, single mode, transmission distance is optional (depend on the SFP optical module)
- Power Supply is -48V DC, 220V AC single power access
- Designed with 1U height, 19 inch, 155mm depth, and can be installed on standard rack
- Any of the GE1-3, GX4 can be used as the Ethernet management interface



## Full Description

**SAE-COETHSTM-155** prepares SDH transmission interface for Ethernet and STM-1 interfaces. This equipment provides optical port & electric port. It provides 4 Gigabit Ethernet interfaces (3 GE adopt RJ45 connector, support auto-negotiation, which can work in 1000M full-duplex, 100M full/half-duplex, 10M full/half-duplex mode; supports auto MDI/MDX function compliant with IEEE 802.3 series standard & 1 fiber Ethernet interfaces) and 2 STM-1 optical interfaces, supports 1+1 optical path protection. In 1+1 mode, the 4 Ethernet interfaces share one VCG and the bandwidth is one VC4 (139Mb/s). In 2+0 mode, the 4 Ethernet interfaces share two VCG channels and the bandwidth is two VC4. The fiber gigabit Ethernet interface adopts 1.25G SFP module, which can work in 1000M full-duplex mode, transmission distance is optional (depend on the SFP optical module).

**SAE-COETHSTM-155** Provides two WAN port (inside and invisible), each corresponding to one VCG separately, the bandwidth of each VCG is a VC4 and the line bit rate is 155Mb/s, single mode, transmission distance is optional.

It can be widely used in the networks of wireless Telecom, mobile, radio and television and other operators. It encloses the Ethernet packets to SDH load and establishes a wide range and high-speed connection between Ethernet interfaces. Furthermore, it provides network designers with comprehensive remote management access via ESDH-MSAP. **SAE-COETHSTM-155** is an EoS equipment more dedicated to Ethernet services, which prepare affordability and improve the operator network at the same time.

**SAE-COETHSTM-155** is designed in strict accordance with ITU-T recommendations and relevant national standards, and can support a variety of popular networking forms, such as point-to-point, link, T-type network, ring network, etc. The utilized components in **SAE-COETHSTM-155** were rigorous screened, have superior performance in stability, environmental adaptability. A real high-quality shell was made by aluminum, strong, resist and electromagnetic interference, ensure stability and security of this product. Power input also chooses a suitable industry-standard types of power connector, to get more powerful resistance to environment.



**Application**

Netcom, Unicom, Mobile, Wireless Network System  
 Outdoor Intelligent transportation supervisory system (ITS).  
 Tele-Communication System

**Technical Specification**

<b>Product name</b>	<b>SAE-COETHSTM-155</b>
<b>features</b>	
<b>Interface</b>	<ul style="list-style-type: none"> <li>• 2 STM-1 optical interfaces; SFP optical module</li> <li>• 4 Gigabit Ethernet interfaces(GE1-3 RJ45 connector , GX4 Fiber port)</li> <li>• 1 Console port RS232 serial management interface (RJ45 connector)</li> </ul>
<b>Ethernet interface</b>	<ul style="list-style-type: none"> <li>• 3 copper Gigabit Ethernet interfaces compliant with IEEE802.3 serial standard;</li> <li>• G1-3 Gigabit Ethernet interfaces adopt RJ45 connector,</li> <li>• support auto-negotiation, which can work in 1000M full-duplex, 100M full/half-duplex, 10M full/half-duplex mode;</li> <li>• supports auto MDI/MDX function</li> <li>• The fiber Gigabit Ethernet interface adopts 1.25G SFP module,</li> <li>• It can work in 1000M full-duplex mode, transmission distance is optional (depend on the SFP optical module)</li> <li>• Provides two WAN port (inside and invisible), each corresponding to one VCG separately, the bandwidth of each VCG is a VC4.</li> </ul>



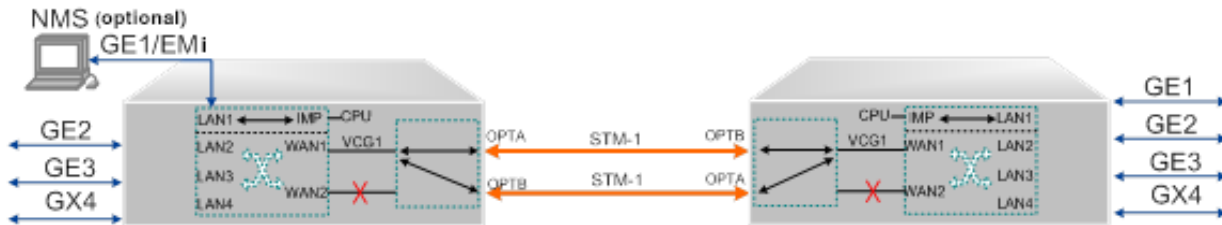
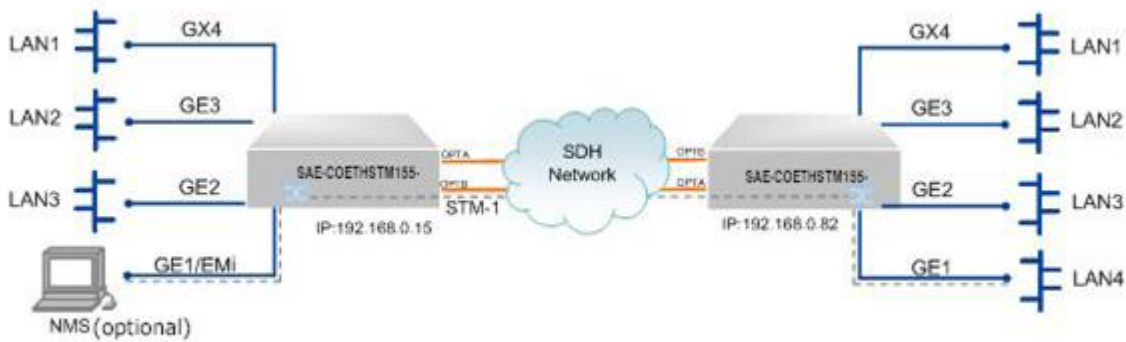
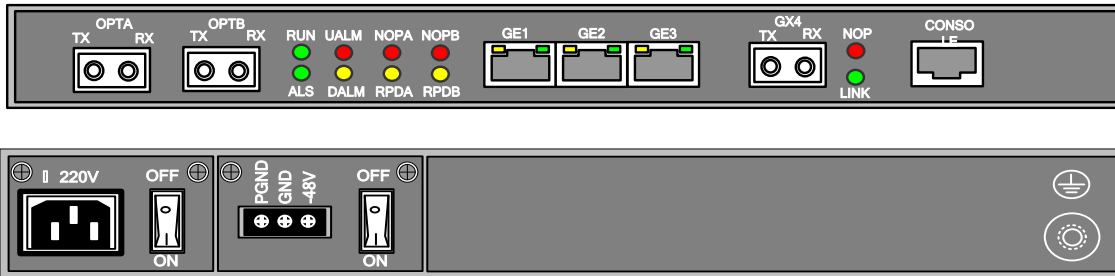
<b>Fiber interface</b>	<ul style="list-style-type: none"><li>• Two STM-1 optical interfaces; SFP optical module (LC interface); Hot pluggable</li><li>• <b>The line bit rate is 155Mb/s, single mode, transmission distance is optional (depend on the SFP optical module)</b><ul style="list-style-type: none"><li>✓ 40Km, 1310nm</li><li>✓ 80Km, 1550nm</li><li>✓ 120Km, 1550nm</li><li>✓ Single mode, 1550/1310nm,</li></ul></li><li>• Supports real-time detection for the status of optical module</li><li>• Supports Automatic Laser Shutdown (ALS) to protect operators from hurt</li><li>• Supports Remote Power down Detect (RPD) function</li><li>• <b>1.25G SFP optical module (optional)</b><ul style="list-style-type: none"><li>✓ 15Km, 1310nm</li><li>✓ 30Km, 1310nm</li><li>✓ 80Km, 1550nm</li><li>✓ 120Km, 1550nm</li><li>✓ Single mode, 1550/1310nm, 15Km</li></ul></li></ul>
<b>Management Interface</b>	<ul style="list-style-type: none"><li>• Any of the GE1-3, GX4 can be used as the Ethernet management interface (EMi)</li><li>• Provides one serial management interface (CONSOLE)</li></ul>
<b>Ethernet Switch bridge</b>	<ul style="list-style-type: none"><li>• Supports unicast, multicast and broadcast frame</li><li>• Supports 802.3x flow control and broadcast storm filtering control*</li><li>• 8K MAC address table,</li><li>• ageing time configurable : optional 12s / 300s, the default is 300s</li></ul>



<b>Management Support</b>	<ul style="list-style-type: none"><li>• Support: MAC address dynamic learning function</li><li>• MAC address configuration: 256 items static</li><li>• Accepts frames with length: between 64 and 1552/2048 bytes (otherwise filtering)</li><li>• port-based VLAN and IEEE802.1Q tag-based VLAN</li><li>• QinQ(Double Tag VLAN)</li><li>• VLAN table : up to 4K items</li><li>• Link Aggregation for WAN and LAN port: up to 4 link aggregation groups</li><li>• IEEE 802.1P QoS</li><li>• Port Mirroring</li><li>• Dynamic ARL Table Learning and Searching</li><li>• port rate control</li><li>• Provides performance statistic for each Ethernet interface</li><li>• Simple Network Management Protocol (SNMP), compatible with V1 and V2C protocol</li><li>• FTP protocol and firmware download online without disturbance of existing traffic</li><li>• Monitoring the alarms and status in real-time</li></ul>
<b>Power Supply</b>	<ul style="list-style-type: none"><li>• -48V DC, 220V AC single power access</li><li>• power consumption is less than 10W</li></ul>
<b>Dimension</b>	216*130*31mm
<b>Environmental Aspects</b>	<ul style="list-style-type: none"><li>• Operating Temperature:10°C~ 50 C;</li><li>• Working Humidity: 5 % ~ 95 %, non-condensing;</li><li>• Storage Temperature: 40°C~ 80 C;</li><li>• storage Humidity: 5 % ~ 95 %, non-condensing</li></ul>



**Product Application Disply**



(1+1) protection