

## 1. Checklist

Your GST-80x carton should contain the following items:

⇒ The descriptions of the Smart Media Converter series are shown below:

GST-802	10/100/1000BASE-T to 1000BASE-SX Smart Gigabit Media Converter
GST-802S	10/100/1000BASE-T to 1000BASE-LX Smart Gigabit Media Converter
GST-805A	10/100/1000BASE-T to 1000BASE-SX/LX Smart Gigabit Media Converter (mini-GBIC,SFP)
GST-806A15	10/100/1000BASE-T to 1000BASE-LX WDM Smart Gigabit Media Converter-TX: 1310 -20km
GST-806B15	10/100/1000BASE-T to 1000BASE-LX WDM Smart Gigabit Media Converter-TX: 1550 -20km
GST-806A60	10/100/1000BASE-T to 1000BASE-LX WDM Smart Gigabit Media Converter-TX:1310 - 60km
GST-806B60	10/100/1000BASE-T to 1000BASE-LX WDM Smart Gigabit Media Converter-TX: 1550 - 60km

⇒ AC-DC Power Adapter (Output: 5V DC, 2A max.)

⇒ This User's Manual

If any item is missing or damaged, please consult the dealer from whom you purchased your Gigabit Ethernet Media Converter.



The GST-805A comes with one vacant SFP module slot. The mini GBIC SFP module is not bundled in the package.

## 2. Product Features

GST-80x Smart Media Converter:

### Standards:

- Complies with IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX, IEEE 802.3ab 1000BASE-T, IEEE 802.3z 1000BASE-SX/LX Ethernet Standard

### Interface:

- One 10/100/1000BASE-T port with RJ45 connector
- One 1000BASE-SX/LX port with LC/SC/WDM connector supporting multi-mode or single-mode fiber optic cable
- Auto-negotiation and Auto-MDI/MDI-X for 10/100/1000BASE-T port

### Layer 2 Features:

- Flow control: Back pressure for half duplex and IEEE 802.3x for full duplex
- Full wire-speed forwarding rate
- 16K Jumbo Frame size supported
- Link Loss Return (LLR) switch on each fiber optic to aid in troubleshooting remote network connections
- Link Loss Carry Forward (LLCF) works with LLR in diagnosing network connections

### Smart Management:

- Provides DIP switch for fiber (Auto-negotiation/Manual) and LFP function (Disable/Enable) setting
- Manageable through Managed Media Converter Chassis System (MC-1610MR/MC-1610MR48)
- Bandwidth control/TS-1000 OAM/IEEE 802.3ah OAM/Loop Back Test function provided with MC-1610MR/MC-1610MR48 Managed Media Converter Chassis System

### Hardware:

- Used as a stand-alone device or work with Managed Media Converter Chassis for up to 16 converters with redundant power supply for optional expansion use
- LED indicators for converter status
- Choice of fiber connectors from SC, LC, WDM, multi-mode/single-mode fiber/1000BASE-SX/LX mini GBIC module
- EMI standards complies with FCC, CE class A

## 3. Product Outlook

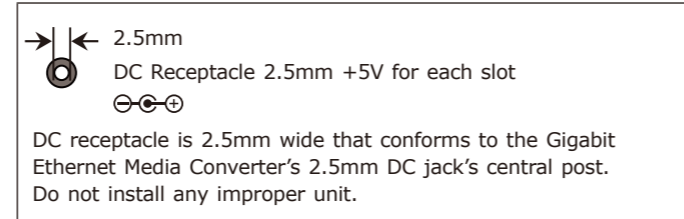
**Right View:** There are one RJ45 twisted-pair jack (**Auto-MDI/MDI-X**), one fiber-optic connector (**vary by model**) and four LED indicators.

**Left View:** There is one DC jack for DC 5V power adapter.

### Power Information

The power jack of Smart Media Converter measures 2.5mm in the central post and requires +5VDC power input. It conforms to the bundled AC-DC adapter and PLANET's Media Chassis. Should you have any issue of power connection, please contact your local sales representative.

The AC-DC adapter is used as a spare part when your Smart Media Converter is installed to a Media Chassis.



GST-802/GST-802S:



GST-805A:



GST-806A15/GST-806B15/GST-806A60/GST-806B60:



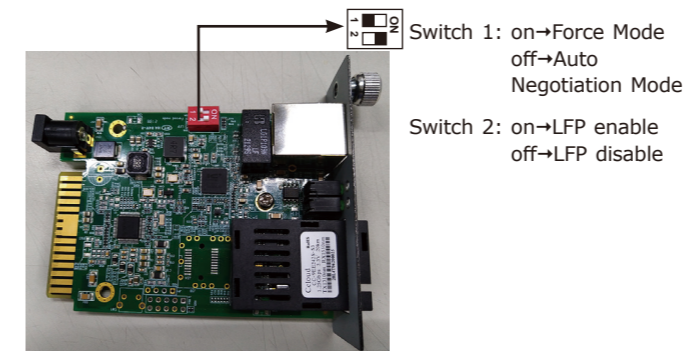
### LED Indicators

LED	Color	Status	Indication
PWR	Green	Lights Off	Power off.
		Lights On	Power on when +5V DC is detected.
Fiber LNK/ACT	Green	Lights Off	Indicates the link through that port is not established.
		Lights On	Indicates the link through that port is successfully established.
		Lights Blink	Indicates that port is actively sending or receiving data.
TP LNK/ACT	Green	Lights Off	The link through that port is not established.
		Lights On	The link through that port is successfully established.
		Lights Blink	Indicates that port is actively sending or receiving data.
TP 1000	Green	Lights Off	Indicates that the port is operating at 10Mbps or 100Mbps.
		Lights On	Indicates that the port is operating at 1000Mbps.

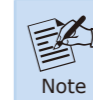
## 4. Managing the Media Converter

This section describes how to operate the GST-80x Smart Media Converter through its DIP Switch and Web Management Media converter chassis. Before using the GST-80x smart function, please read this chapter carefully.

Please refer to the table below for DIP switch usages.

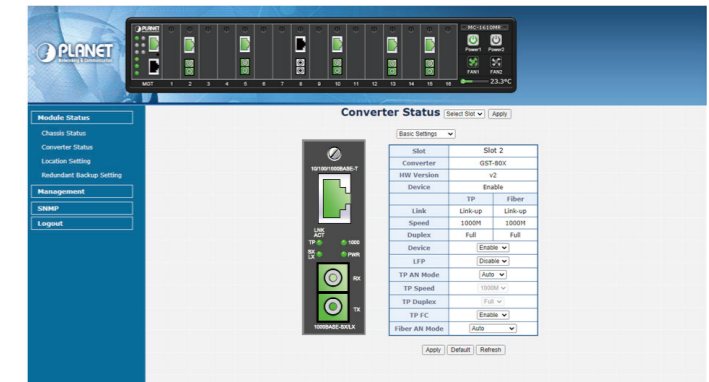


DIP Switch	Mode	Description
DIP Switch 1	On	It will be in the Forced Mode when switched to "On".
	Off	It will be in the Auto-Negotiation mode by default when switched to "Off".
DIP Switch 2	On	When switched to "On", LFP will be enabled by default.
	Off	When switched to "Off", LFP will be disabled.



When two converters are used at the same time, they **MUST** be set to the "Forced" mode; if not, either mode can be set to according to your requirements.

The Management Media Converter Chassis-MC-1610MR/MC-1610MR48 displays the status of GST-80x; besides, the Management Media Converter Chassis controls the function and OAM/Bandwidth setting through its management system.



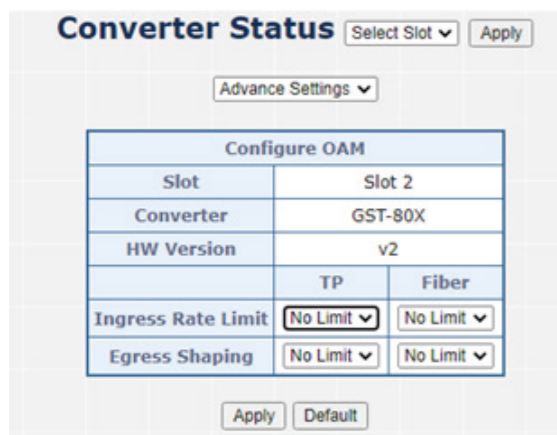
Through the Management Media Converter Chassis System, you can control the setting of GST-80X, such as device (disable/enable), LFP (disable/enable), UTP (auto-negotiation/manual), speed (10/100/1000Mbps), duplex mode (half/full duplex mode) and flow control (disable/enable), and fiber (auto-negotiation/manual).

Item	Description
Device	To enable or disable per GST-80x Converter board.
LFP	To enable or disable the LFP function from GST-80x Converter board.
TP AN Mode	To set the UTP port to Auto-negotiation or Forced Mode.
TP Speed	To set the UTP port to 1000Mbps, 100Mbps or 10Mbps.
TP Duplex	To set the UTP port to Full duplex or Half duplex mode.
TP FC	To set the Flow Control of the UTP port to enable or disable.
Fiber AN Mode	To set the Fiber port to Auto-negotiation or Forced Mode.



Please note that if the converter is connected with a switch which is in the auto negotiation mode, the converter must also be set to the auto negotiation mode. If both devices are converters, auto negotiation mode must be disabled.

To easily know the TP/Fiber port link status of the other end of the device, the Management Media Converter Chassis System provides OAM Setting that includes TS-1000 OAM/IEEE 802.3ah OAM/Loop Back Test function. In addition, the bandwidth control function allows to define the available transmit/receive bandwidth on TP/Fiber port of GST-80x.



Item	Description
OAM Setting	Provides OAM Configuration on GST-80x.
Ingress Rate Limit	Defines receive rate for bandwidth control from TP and Fiber ports of GST-80x.
Egress Shaping	Defines transmit rate for bandwidth control from TP and Fiber ports of GST-80x.

**Note** Please refer to the manual of Management Media Converter Chassis (MC-1610MR/MC-1610MR48) for more details about OAM Setting and bandwidth control function.

## 7. Cable Connection Parameter

The wiring details are shown below:

Duplex	Connection	Limitation (max.)
Twisted Pair		
Half/Full	Node to Node Node to Switch/Hub	100 meters

**Fiber Optic Cables:**

Standard (Wavelength)	1000BASE-SX (850nm)	1000BASE-LX (1310nm)
Fiber Type & Cable Specifications	Multi-mode Single-mode	50/125µm or 62.5/125µm 9/125µm

## 8. Product Specifications

Model	GST-802	GST-802S	GST-805A
Hardware Specifications			
Copper Interface	10/100/1000BASE-T RJ45 port, Auto-MDI/MDI-X, Twisted Pair		
Optic Interface	1000BASE-SX Multi-mode, <b>Duplex SC</b>	1000BASE-LX Single mode, <b>Duplex SC</b>	1000BASE-X <b>SFP slot</b>
Optic Wavelength	850nm	1310nm	NA

## 5. Link fault pass-through (LFP)

The LFP function includes the Link-Fault-Passthrough function (LLCF/LLR) and the DIP Switch design. LLCF/LLR can immediately alarm administrators the issue of the link media and provide efficient solution to monitor the network. The DIP Switch will disable or enable the LFP function.

LLCF (Link Loss Carry Forward) means when a device is connected to the converter and the TP line loses the link, the converter's fiber will disconnect transmission link. LLR (Link Loss Return) means when a device is connected to the converter and the fiber line loses the link, the converter's fiber will disconnect transmission link.

**Note** LFP function is ON by default setting. If you are familiar with the network installation and for diagnostic purpose (i.e. check which end is broken), you can turn it off and reset the converter to make it take effect. Otherwise, please keep it in the default position.

## 6. Duplex Mode Support

The GST-80x Smart Media Converter TP port supports triple speeds -- 10/100/1000BASE-T -- in the auto-negotiation mode. It will auto detect the link speed and the duplex mode by default with its link partner. The fiber port (1000BASE-SX/LX) runs at **1000Mbps in the full-duplex** transmission in the auto-negotiation mode. Please also check the setting of the link partner.



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**Energy Saving Note of the Device**

This power required device does not support Standby mode operation. For energy saving, please remove the power cable to disconnect the device from the power circuit. Without removing power cable, the device will still consume power from the power source. In view of Saving the Energy and reducing the unnecessary power consumption, it is strongly suggested to remove the power connection for the device if this device is not intended to be active.



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Storage Environment	Temperature: -10~70 degrees C Humidity: 5~95% non-condensing			
Emissions	FCC Class A, CE Class A			
Standards	IEEE 802.3, 10BASE-T IEEE 802.3u, 100BASE-TX IEEE 802.3ab, 1000BASE-T IEEE 802.3z, 1000BASE-SX/LX IEEE 802.3ah OAM			

Model	GST-806A15	GST-806B15	GST-806A60	GST-806B60
Hardware Specifications				
Copper Interface	10/100/1000BASE-T RJ45 port, Auto-MDI/MDI-X, Twisted Pair			
Optic Interface	1000BASE-BX Single mode WDM <b>Simplex SC</b>			
Optic Wavelength	TX:1310nm RX:1550nm	TX:1550nm RX:1310nm	TX:1310nm RX:1550nm	TX:1550 nm RX:1310 nm
Fiber Maximum Distance	20km		60km	
Speed	Twisted-pair	10/20Mbps for Half/Full Duplex 100/200Mbps for Half/Full Duplex 2000Mbps for Full Duplex		
	Fiber-optic	2000Mbps for Full Duplex		
Cable	10BASE-T: 2-pair UTP Cat. 3,4,5, up to 100 m 100BASE-TX: 2-pair UTP Cat. 5, up to 100 m 1000BASE-T: 4-pair STP Cat 5 up to 100m			

Cable	Fiber-optic Cable	9/125µm single-mode cable, provides long distance for 20/60km
LED Indicator	PWR (Green) TP: 1000, LINK/ACT (Green) Fiber: LINK/ACT (Green)	
DIP Switch	Fiber (Auto-negotiation/Manual), LFP (Disable/Enable)	
Power Consumption	2.3 watts/7.8BTU (maximum)	
OAM	TS-1000, IEEE 802.3ah terminal	
Jumbo Frame size	16K	
Power Input	DC 5V/2A	
Dimensions (W x D x H)	93 x 80 x 26 mm	
Weight	207g	
Operating Environment	Temperature: 0~50 degrees C Humidity: 5~95% non-condensing	
Storage Environment	Temperature: -10~70 degrees C Humidity: 5~95% non-condensing	
Emissions	FCC Class A, CE Class A	
Standards	IEEE 802.3, 10BASE-T IEEE 802.3u, 100BASE-TX IEEE 802.3ab, 1000BASE-T IEEE 802.3z, 1000BASE-LX IEEE 802.3ah OAM	