FCC COMPLIANCE STATEMENT

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the instructions provided with the equipment, may cause interference to radio and TV reception. The equipment has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference in a commercial environment. However, there is no guarantee that interference will not occur in a particular installation.

If you suspect this equipment is causing interference, turn your transceiver on and off while your radio or TV is showing interference to determine the source of the interference.

You can try to correct the interference by one or more of the following measures:

1. Reorient the receiving radio or TV antenna where this may be done safely.
2. To the extent possible, relocate the radio, TV or the other receiver away from the equipment.
3. Plug the computer which has the equipment installed into a different power outlet so that equipment and the receiver are on different branch circuits.

If necessary, you should consult the place of purchase or an experienced radio/ television technician for additional suggestion.

CAUTION : The phone jack cannot be connected to telephone system.

1 Introduction

Congratulations on your purchase of our products. 10BaseT/100BaseTX MII Transceiver(***Model A***), 100BaseFX MII Transceiver with ST connector(***Model B***) and 100BaseFX MII Transceiver with SC connector(***Model C***) are Fast Ethernet standard compliant MII Transceivers. These MII Transceivers allow direct attachment to Fast Ethernet device's MII port.

As defined in IEEE 802.3u Fast Ethernet standards, MII (Media Independent Interface) is a standard Fast Ethernet interface to provide Fast Ethernet devices the flexibility and expansion capability on network connections using various connecting media such as CAT5 unshielded twisted-pair cable or fiber optic cables.

Models A, B, and C come with one standard MII connector on one end for connecting to MII ports on Fast Ethernet devices (such as Switches and Hubs). On the other end, ***Model A*** provides one RJ-45 connector for connecting to CAT5 unshielded twisted-pair cable and ***Model B/Model C*** provides one pair of ST/SC type fiber optic connectors for connecting fiber optic cables.

Figure 1-1 Three MII Transceiver models

MII transceiver's operation mode (10/100Mbps auto-sensing, Half-/Full-Duplex) is solely depending on the Fast Ethernet device which it is connected to. Therefore, it's very important to find out the specifications and configurations of the Fast Ethernet device's MII port before connecting the MII transceiver. These MII transceivers support all the MII ports in Fast Ethernet switches and Fast Ethernet hubs as illustrated in Table 1-1. Please refer to Chapter 5 for detailed installation instructions.

	Model A 10BaseT/100BaseTX MII Transceiver	***Model B/Model C*** 100BaseFX MII Transceiver
Fast Ethernet Hub MII Port	100Mbps Half Duplex	100Mbps Half Duplex
Fast Ethernet Switch MII Port	10/100Mbps Half/Full Duplex	100Mbps Half/Full Duplex

Table 1-1 MII Transceiver transmission modes according to different devices

User's Manual

MII Transceiver

- **10BaseT/100BaseTX**
- **100BaseFX**

Contents

2 Features & Specifications

(1) Features

- Industry standards compliant: *Model A* supports 10Base-T and 100Base-TX standards and *Model B/Model C* support 100Base-FX standards.
- Standard MII connector for connecting to any Fast Ethernet device's MII port.
- Support Half-Duplex and Full-Duplex operating modes.
- *Model A* supports both 10Mbps (10Base-T) and 100Mbps (100Base-TX) operating mode. *Model B/Model C* supports only 100Mbps (100Base-FX) operating mode.
- Complete set of diagnostic LEDs indicate the transceiver's operating status.
- Slim and compact design

(2) Specifications

Model A 10BaseT/100BaseTX MII Transceiver	*Model B/Model C* 100BaseFX MII Transceiver
■ Standards : IEEE 802.3 10Base-T & 802.3u 100Base-TX	■ Standards : IEEE 802.3u 100Base-FX
■ 10/100Mbps Port : RJ-45 x 1 with Nway Auto-negotiation	■ 100Mbps Fiber Port : ST x 1 (*Model B*), SC x 1 (*Model C*)
■ MII Port : MII x 1 (connecting to switch, hub or workstation)	■ MII Port : MII x 1 (connecting to switch, hub or workstation)
■ Transmission Mode : Full-Duplex or Half-Duplex	■ Transmission Mode : Full-Duplex or Half-Duplex
■ PHY Address : 0 & 1 (selectable)	■ PHY Address : 0, 1, 2, 3 (selectable)
■ LEDs : 100M, FDX, Collision, Rx, Tx, Link	■ LEDs : 100M, FDX, Collision, Rx, Tx, Link
■ Dimensions : 3.35 x 1.97 x 0.83 in. 85 x 50 x 21 mm	■ Dimensions : MT - 3.74 x 1.97 x 0.83 in. 95 x 50 x 21 mm MC - 3.54 x 1.97 x 0.83 in. 90 x 50 x 21 mm
■ Weight : 0.45 lb./100g	■ Weight : 0.45 lb./100g
■ Operating Temperature : 32-131°F (0-55°C)	■ Operating Temperature : 32-131°F (0-55°C)
■ Operating Humidity : 10-95% (Noncondensing)	■ Operating Humidity : 10-95% (Noncondensing)
■ Emission : FCC Class A & CE Mark	■ Emission : FCC Class A & CE Mark
■ Warranty : Two-year	■ Warranty : Two-year

Table 2-1 MII Transceiver specification

3 Package Contents

- One MII Transceiver
- User's manual

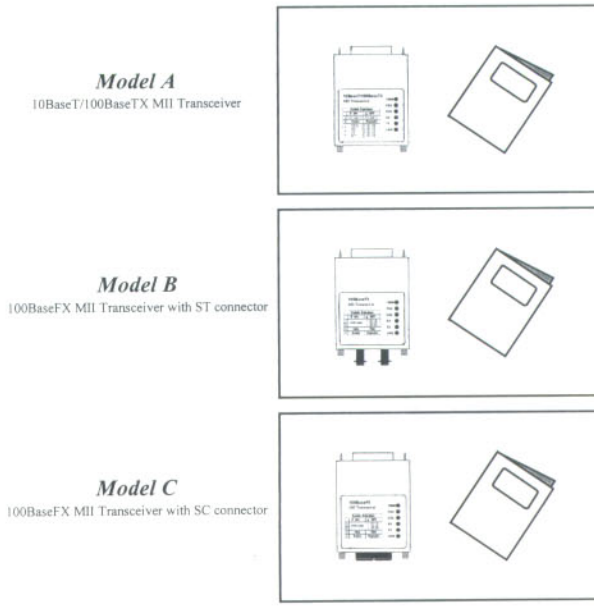

Figure 3-1 Package contents

4 Physical Description

(1) Panel

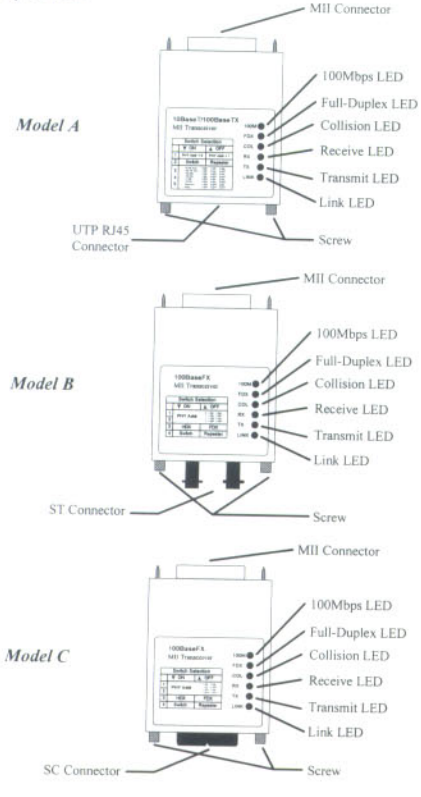

Figure 4-1 Physical and LED description

(2) LED

LED	Color	Status	Description
100M (100Mbps)	Green	Lit	This port run at 100Mbps
		Off	Not connected or run at 10M
FDX (Full Duplex)	Green	Lit	This port run at Full Duplex
		Off	Not connected or run at Half Duplex
COL (Collision)	Red	Lit	Collision detected in this segment
		Off	No Collision
Rx (Receive)	Green	Lit	Data packets received
		Off	No data packets received
Tx (Transmit)	Green	Lit	Data packets transmitted
		Off	No data packets transmitted
Link	Green	Lit	A valid link is established
		Off	No link is established

Table 4-1 LED description

5 Installation

1. Operating Environment

These MII Transceivers must be installed and operated within the limits of specified operating temperature and humidity (see previous section under Specifications). Do not place objects on top of the unit. Do not position the transceiver near any heating source such as heater, radiator, or direct exposure to sun. Prevent entering of water and moisture into the unit. If necessary, use dehumidifier to reduce humidity.

2. Setting MII Transceiver's operating mode

As mentioned in Chapter 1, in order to configure the MII transceiver's operating mode properly, first you need to find out the specifications and configurations of the MII port which the transceiver will be attached to. Please refer to the device's manual or contact the manufacturer to find out this information. Table 1-1 in this manual provides some examples of MII Transceiver configuration for various types of Fast Ethernet devices.

3. Configure the MII Transceivers

Each MII transceiver comes with a group of DIP switches. Three types of parameters can be set by these DIP switches:

- Switch or Repeater mode : Set to "switch mode" when connecting the MII transceiver to a switch, router, workstation, or network adapter. Set to "repeater mode" when connecting the MII transceiver to a hub or repeater.
- PHY Address : Select MII port PHY address, default at 0*.
  [*] The default PHY address (0) will work with most MII ports unless it is specified otherwise.
- Transmission Mode : Select Auto-negotiation, 10Mbps, or 100Mbps; Full-Duplex or Half-Duplex.

■ *Model A*

A group of five DIP switches are used to configure *Model A* : first switch to select PHY address, second switch to select "switch" or "repeater" mode, and combination of last three switches to set transmission mode.

Figure 5-1 Model MX DIP switches

	DIP Switch 1
PHY Address = 0	ON
PHY Address = 1	OFF

Table 5-1 Select PHY Address

	DIP Switch 2
Switch Mode Attach to Switch ...	ON
Repeater Mode Attach to Hub, Repeater ...	OFF

Table 5-2 Select switch/repeater mode

	DIP Switch 3	DIP Switch 4	DIP Switch 5
10Mbps, auto-detect Half or Full Duplex	ON	ON	ON
100Mbps, auto-detect Half or Full Duplex	ON	ON	OFF
Force 100Mbps Half Duplex	ON	OFF	ON
Force 100Mbps Full Duplex	ON	OFF	OFF
Force 10Mbps Half Duplex	OFF	ON	ON
Force 10Mbps Full Duplex	OFF	ON	OFF
Reserved	OFF	OFF	ON
Nway Auto-negotiation	OFF	OFF	OFF

Table 5-3 Switch 3, 4, & 5 Setting

■ *Model B/Model C*

A group of four DIP switches are used to configure *Model B/ Model C*: combinations of first and second switches to select PHY address, third switch to select Full-Duplex or Half-Duplex mode, the fourth switch to select "switch" or "repeater" mode.

Figure 5-2 *Model B/Model C* DIP switches

	DIP Switch 1	DIP Switch 2
PHY Address = 0	ON	ON
PHY Address = 1	ON	OFF
PHY Address = 2	OFF	ON
PHY Address = 3	OFF	OFF

Table 5-4 Select PHY Address

	DIP Switch 3
100Mbps Half-Duplex	ON
100Mbps Full-Duplex	OFF

Table 5-5 Select Full-Duplex or Half-Duplex

	DIP Switch 4
Switch Mode Attach to Switch ...	ON
Repeater Mode Attach to Hub, Repeater ...	OFF

Table 5-6 Select switch/repeater mode

4. Connecting the MII transceiver to the MII port

Firmly attach the MII transceiver to the MII port and secure the transceiver with the screws as illustrated in Figure 5-3.

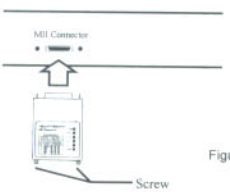

Figure 5-3 Connect MII transceiver

5. Connecting the cable

Make sure the cables are properly connected to the MII transceiver and the network device, the Link status LED shall be lit. The 100M LED shall be lit if the MII transceiver operates at 100Mbps and the FDX LED shall be lit if the MII transceiver operates at Full-Duplex mode.

6 Trouble-shooting

1. Link Status LED is not lit

- Check the power switch on the network device with the MII transceiver; make sure it is turned ON. Make sure the network device on the other end of the cable is also powered ON.
- Check the MII transceiver; make sure it is firmly attached and secured to the MII port.
- Check the network cable; make sure the UTP cable complies with EIA/TIA 568 specification and fiber optic cables comply with industry standards.

2. Can not transmit data

- Check the MII transceiver's setting; make sure the "Switch/Repeater" mode setting matches the network device.
- Check the MII transceiver's setting; make sure the "Full-Duplex/Half-Duplex" mode setting matches the network device.

3. Collision LED flashes constantly

- Remove all the network cables; connect the cables back one by one to isolate the source of the collision.
- Check the network cable, inferior cable quality will result in excessive collision and error packets.

[!] Contact your dealer if problem persist.