BLACK BOX®

NETWORK SERVICES

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MAY 1994
ME600A-F
ME600A-FST
ME600A-M
ME600A-MST
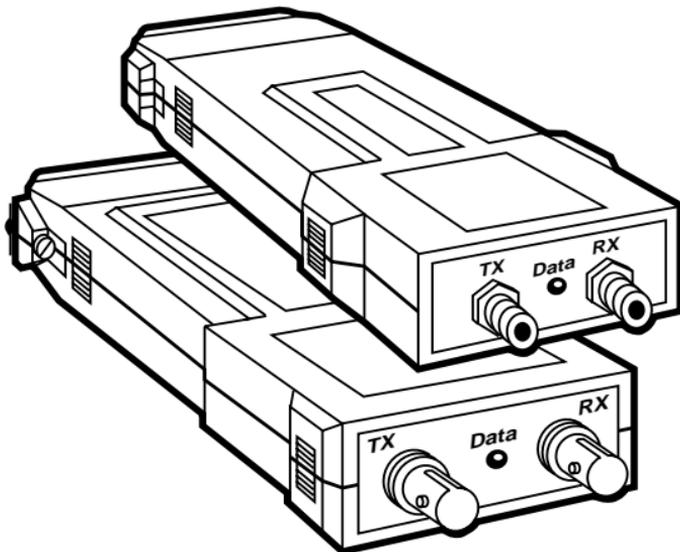
Async Fiberoptic Modem

FEDERAL COMMUNICATIONS COMMISSION
AND INDUSTRY CANADA
RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This digital apparatus does not exceed the Class A limits for Radio noise emission from digital apparatus set out in the Radio Interference Regulation of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par Industrie Canada.

1. Specifications

Protocol — Asynchronous

Speed — Up to 19,200 bps

Operation — Full or half-duplex over duplex
  optical cable

Diagnostics — None

Interface — RS-232C/V.24

Connectors — Both models have (2) SMA optical
  connectors and (1) RS-232C connector as follows:
  ME600A-F: (1) DB25F (female)
  ME600A-M: (1) DB25M (male)

Pulse Width Distortion — Less than 25%

Optical Output Levels — -30 dBm into
  100/140 fiber, -36 dBm into 50/125 fiber

Receiver Sensitivity — -45 dBm

Operating Wavelength — 820 nm

Operating Range — Maximum range is 2 miles
(3 km) when the following fibers are used:
100/140 fiber with attenuation of 4 dB/km
or 50/125 fiber with attenuation of 3 dB/km

Temperature — 32° to 122°F (0° to 50°C)

Humidity — Up to 95% non-condensing

Power — Derived from the RS-232C interface;
no external power required

Size — 0.9" H x 2.1" W x 4.0" D (2.4 x 5.3 x 10.2 cm)

Weight — 2.6 oz. (0.07 kg)

2. Introduction

The Async Fiber Optic Modem is a full- or half-duplex, asynchronous, point-to-point fiberoptic modem. It sends an RS-232 signal over fiberoptic cable. Power for the modem is derived from the RS-232 interface. The RS-232 port is switch selectable for DCE or DTE operation. You can set the carrier for continuous operation, for switched operation, or for control by the RTS signal. Models are available with SMA or ST connectors. A typical application is shown in **Figure 2-1**.
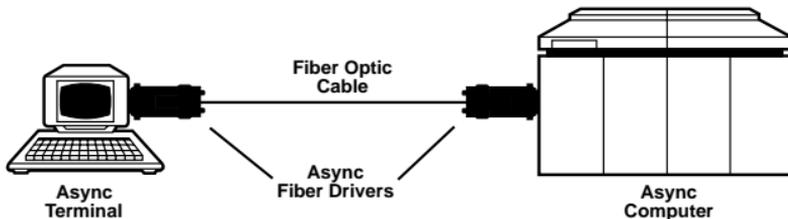

Fig. 2-1. Typical Application.

3. Installation

Follow these steps to install the Async Fiber Optic Modem:

1. See **Table 3-1** for the factory setting of the Async Fiber Optic Modem. If the factory settings are correct for your application, skip to step 5. If the factory settings need to be changed, go to step 2.

2. Remove the cover of the Async Fiber Optic Modem by pressing in on the four tabs located on each side of the unit and lifting the top half of the cover from the bottom half.

Table 3-1. Straps and Switch Settings

STRAP/ SWITCH	FUNCTION	POSITION	FACTORY SETTING
CARR	Carrier constantly ON	ON	ON
	Controlled by RTS	CL	
DLY	RTS/CTS Delay	2 msec	2 msec
		5 msec	
DCE/ DTE	Modem is DCE	DCE	DCE
	Modem is DTE	DTE	

3. Set the straps and switch using **Table 3-1** and **Figure 3-1** as guides. If the device connected to the Async Fiber Optic Modem is a DCE, set the DCE/DTE switch on the Async Fiber Optic Modem to DTE. If the device connected to the Async Fiber Optic Modem isa DTE, set the DCE/DTE switch on the Async Fiber Optic Modem to DCE.

4. Align the top half of the cover with the bottom half and press the two halves together to close the unit.
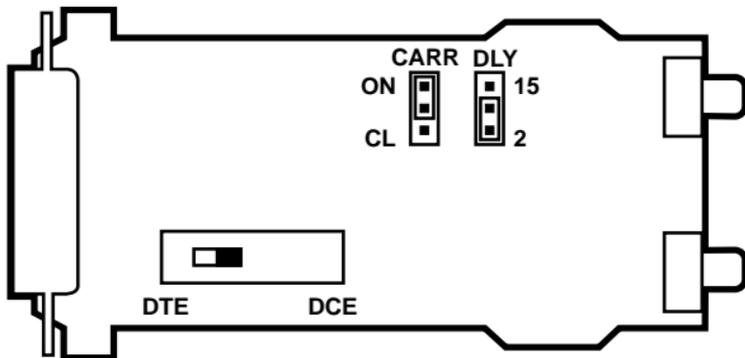
Fig. 3-1. Straps and Switch Locations.

5. Plug the RS-232 connector into the computer or terminal port and fasten the connector with its screwlocks.

6. Remove the plastic dust caps from the SMA connectors of the Async Fiber Optic Modem. Connect the fiber cables to the modems as follows:

   • Connect TX at the local modem to RX at the remote modem.

   • Connect RX at the local modem to TX at the remote modem.

7. Repeat steps 1 through 6 for the modem at the other site.

   The Async Fiber Optic Modem is now ready for operation.