



MARCH 1997

ME131A-F

ME132A-F

ME131A-M

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ME131AE-F

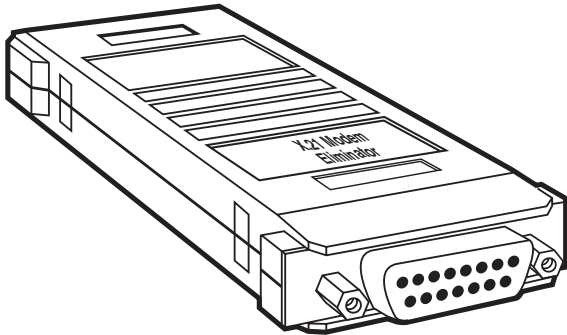
ME132AE-F

ME131AE-M

ME132AE-M

# X.21 Modem Eliminator 56K

# X.21 Modem Eliminator 64K



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## CUSTOMER SUPPORT INFORMATION

Order **toll-free** in the U.S.: Call **877-877-BBOX** (outside U.S. call **724-746-5500**)

FREE technical support 24 hours a day, 7 days a week: Call **724-746-5500** or fax **724-746-0746**

Mailing address: **Black Box Corporation**, 1000 Park Drive, Lawrence, PA 15055-1018

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**FEDERAL COMMUNICATIONS COMMISSION  
AND  
INDUSTRY CANADA  
RADIO FREQUENCY INTERFERENCE STATEMENTS**

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 B 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 classe A prescrites dans le Règlement sur le brouillage radioélectrique publié par Industrie Canada.*

# NORMAS OFICIALES MEXICANAS (NOM) ELECTRICAL SAFETY STATEMENT

## INSTRUCCIONES DE SEGURIDAD

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
4. Todas las instrucciones de operación y uso deben ser seguidas.
5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc..
6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.
8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.

10. El equipo eléctrico deber ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.
11. El aparato eléctrico deberá ser connectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.
12. Precaución debe ser tomada de tal manera que la tierra fisica y la polarización del equipo no sea eliminada.
13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.
14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.
15. En caso de existir, una antena externa deberá ser localizada lejos de las líneas de energia.
16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.
17. Cuidado debe ser tomado de tal manera que objetos liquidos no sean derramados sobre la cubierta u orificios de ventilación.
18. Servicio por personal calificado deberá ser provisto cuando:
  - A: El cable de poder o el contacto ha sido dañado; u
  - B: Objetos han caído o líquido ha sido derramado dentro del aparato; o
  - C: El aparato ha sido expuesto a la lluvia; o
  - D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o
  - E: El aparato ha sido tirado o su cubierta ha sido dañada.

### TRADEMARKS USED IN THIS MANUAL

*Any trademarks mentioned in this manual are acknowledged to be the property of the trademark owners.*

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# 1. Specifications

**Transmission Format**—Synchronous

**Transmission Mode**—Emulates half- or full duplex

**Data Rates**—ME131A: 56 kbps;  
ME132A: 64 kbps

**Range**—330 feet (100 m) at 56 or 64 kbps

**Indication**—Continuous or controlled by the control signal from the DTE

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

**Humidity**—Up to 95% non-condensing

**Interface**—X.21/V.11

**Connectors**—(2) DB15 male or female

**Power**—115 VAC, 60 Hz or 230 VAC, 50 Hz

**Size**—1.2"H x 2"W x 5.3"D (3 x 3.9 x 13.5 cm)

**Weight**—3.5 oz. (100 g)

## 2. Introduction

### 2.1 Description

The X.21 Modem Eliminator replaces two synchronous high-speed modems by permitting direct port-to-port connection. It generates the signal timing required for proper operation of the two synchronous DTEs as well as the control and indication signals necessary to emulate half- or full-duplex operation.

Eight models are available:

- X.21 Modem Eliminator 56K with female connectors and 120-VAC power supply (ME131A-F)
- X.21 Modem Eliminator 56K with male connectors and 120-VAC power supply (ME131A-M)
- X.21 Modem Eliminator 56K with female connectors and 230-VAC power supply (ME131AE-F)
- X.21 Modem Eliminator 56K with male connectors and 230-VAC power supply (ME131AE-M)



## X.21 MODEM ELIMINATOR

- X.21 Modem Eliminator 64K with female connectors and 120-VAC power supply (ME132A-F)
- X.21 Modem Eliminator 64K with male connectors and 120-VAC power supply (ME132A-M)
- X.21 Modem Eliminator 64K with female connectors and 230-VAC power supply (ME132AE-F)
- X.21 Modem Eliminator 64K with male connectors and 230-VAC power supply (ME132AE-M)

The indication signal on all models can be set so that it is constantly ON, or it can be used as a port-to-port “handshaking” signal where control on one port is converted to indication on the other port.

Physical connection between the X.21 Modem Eliminator and the terminal or computer is via two 15-pin X.21 connectors.

## 2.2 Features

- Synchronous
- Data rates of 56 or 64 kbps
- Range of 330 feet (100 m) on each side
- X.21/V.11 interface
- Easy to install and configure
- Miniature, lightweight

## 2.3 Application

Figure 2-1 shows a typical application of the X.21 Modem Eliminator.

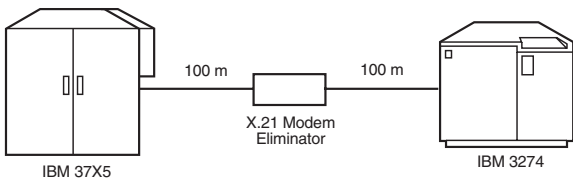


Figure 2-1. Typical Application.

### 3. Installation

Installation of the X.21 Modem Eliminator is straightforward and simple. Just follow these steps:

1. Open the unit by pressing the marked places on the sides. If this is difficult, insert a small screwdriver into the slot, where there is a small opening. Lift the handle, gently levering the tip of the screwdriver down. The cover will separate without pressure.

#### **CAUTION**

**Do not insert the screwdriver straight into the middle of the slot, since this may break off the prongs that snap the cover together.**

2. Choose the mode of operation according to **Table 3-1** and **Figure 3-1**. There are two strap selections to be made.
3. Close the unit and connect it to the computer and terminal either directly or through an X.21 cable.
4. Check that the power supply is according to the specifications given.
5. Plug the jack into the power plug on the side of the unit and then insert the power supply into the wall socket.

**Table 3-1. Strap Selection.**

Strap Identity	Function	Possible Position	Factory Setting
Indication 1	ON: Port 1 Indication is constantly on. CTR: Port 1 Indication is controlled by Port 2 Control signal.	ON  CTR	ON
Indication 2	ON: Port 2 Indication is constantly on. CTR: Port 2 Indication is controlled by Port 1 Control signal.	ON  CTR	ON



**Figure 3-1. Strapping Diagram.**

## X.21 MODEM ELIMINATOR

Table 3-2. Connector Pinout.

Pin	Name	Direction	Function
1		common	Shield
8	G	common	Signal Ground
3, 10	C	to Modem Eliminator	Control
5, 12	I	from Modem Eliminator	Indication
6, 13	S	from Modem Eliminator	Signal Timing
2, 9	T	to Modem Eliminator	Transmit Data
4, 11	R	from Modem Eliminator	Receive Data



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