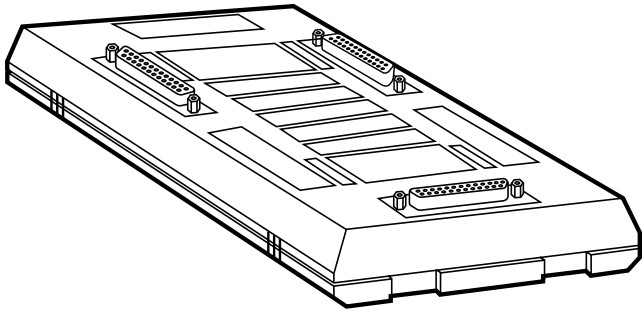




2-Channel Async TDM



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
Web site: www.blackbox.com • E-mail: info@blackbox.com

**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 conectado 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 líquidos 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.

Contents

Chapter	Page
1. Specifications	6
2. Introduction	10
2.1 Features	10
2.2 Typical Application	11
3. Installation	12

1. Specifications

Number of Subchannels—(2), both operating at the same rate

Transmission Format—Asynchronous

Data Rate—Up to 19,200 bps for main channel; up to 9600 bps for sub-channels, see Table 1-1 for data-rate selection

Number of Data Bits—5, 6, 7, or 8

Stop Bits—1 or 2

Parity—Even, odd, or no parity (2 stop bits are required for no parity)

Interface—V.24/RS-232, three 25-pin, female connectors attached to the unit

Temperature—32 to 122°F (0 to 50°C)

Humidity—Up to 90%, non-condensing

Power—No AC power required; uses ultra-low power derived from the data and control signals

Size—1.2"H x 4.4"W x 7.3"D (3.2 x 11.4 x 18.9 cm)

Weight—10 oz. (285 g)

2-CHANNEL ASYNC TDM

Table 1-1. Strap Selection.

Strap Identity	Function	Possible Positions	Definitions	Normal Factory Setting
Data Rate	Selects the data rate on the sub-channels (same for both)	1 2 3 4 5 6	9600 bps 4800 bps 2400 bps 1200 bps 600 bps 300 bps 150 bps	2400 bps
Parity SW1 SW2	Selects parity for each channel	SW1 (Ch 1) SW2 (Ch 2) OFF ON	ODD EVEN	ODD
Stop Bit SW3 SW4	Selects number of stop bits for each channel	SW3 (Ch 1) SW4 (Ch 2) OFF ON	1 stop bit 2 stop bits with 6, 7, or 8 data bits	1 stop bit
Parity Enable SW5 SW6	Selects parity enable or disable for each channel	SW5 (Ch 1) SW6 (Ch 2) OFF ON*	ENABLE DISABLE	ENABLE
Number of Data Bits SW7 SW8	Selects number of data bits (same for each channel)	SW7 SW8 ON OFF OFF ON ON ON	6 bits 7 bits 8 bits	7 bits

NOTE

When using no parity, 2 stop bits are necessary.

2. Introduction

The 2-Channel Async TDM is a full-duplex, character-interleaved time-division multiplexor, enabling two asynchronous terminals to share one asynchronous modem or a multiplexor port. Its two async sub-channels operate at the same data rate, selectable up to 9600 bps. The main channel operates at twice that rate—up to 19200 bps.

The 2-Channel Async TDM is compatible with async character formats using 5, 6, 7, or 8 data bits. Both sub-channels must use the same number of data bits and the same total number of bits. The async character format should have 1 parity bit and 1 or 2 stop bits. If the parity bit is not generated by the DTE, the characters must have 2 stop bits. Parity of each sub-channel can be independently set to odd or even.

2.1 Features

- Full-duplex TDM
- Selectable data rates from 150 bps to 9600 bps
- No AC power required

- Easy to install and configure
- Miniature and lightweight

2.2 Typical Application

Figure 2-1 shows a typical application of the 2-Channel Async TDM.

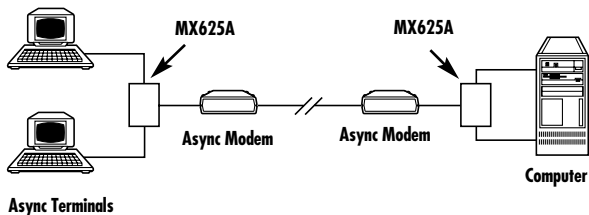


Figure 2-1. Typical Application.

3. Installation

Installation of the 2-Channel Async TDM is simple and straightforward.

Refer to Table 1-1 for the factory setting. If the factory setting does not suit your requirements, you can change it as follows:

Remove the cover by pressing the four markings on the sides.

Strapping information for individual straps is printed on the PCB of the TDM.

1. Determine the data rate, which should be the same for both channels, and strap DATA RATE to the speed appropriate for your equipment. The setting represents the rate of the sub-channel.
2. Select the parity, even or odd, for each channel, by strapping PARITY SELECT (SW1 and SW2) to the appropriate position. If no parity, select either even or odd.
3. Select the number of stop bits for each channel by strapping STOP BITS (SW3 and SW4) to the appropriate position.

NOTE

When using No Parity, 2 stop bits are required.

4. Select parity enable or disable for each channel by strapping PARITY ENABLE to the appropriate position (SW5 and SW6).
5. Determine the number of data bits to suit your equipment and strap DATA BITS (SW7 and SW8) to the appropriate position. Use one selection for both channels.
6. Refasten the cover. Connect each sub-channel to your units by using straight-through cables, and connect the main channels to the modem or multiplexor.



Figure 3-1. Strapping Diagram.

2-CHANNEL ASYNC TDM

Table 3-1. Sub-Channel Cable.

V.24/RS-232 Signal	Pin No. TDM	Pin No. Terminal	
PG	1	1	(Optional)
TD	2	2	
RD	3	3	
RTS	4	4	
CTS	5	5	(Optional)
DSR	6	6	(Optional)
SG	7	7	
DCD	8	8	(Optional)
DTR	20	20	

NOTE

Wires marked as “Optional” may be omitted, unless required by the equipment connected to the TDM.

NOTES



© Copyright 1997. Black Box Corporation. All rights reserved.

1000 Park Drive • Lawrence, PA 15055-1018 • 724-746-5500 • Fax 724-746-0746