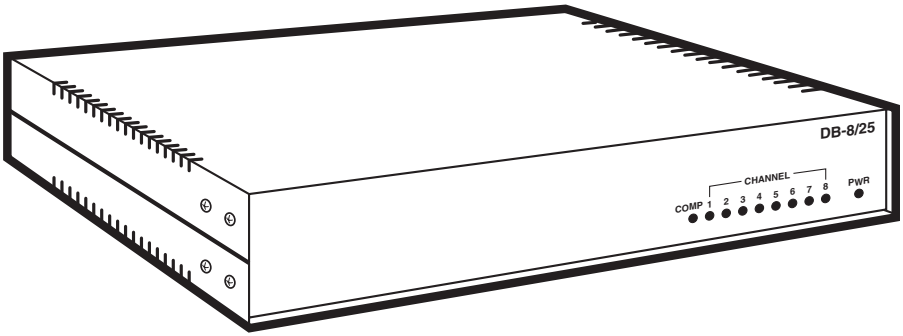
BLACK BOX
NETWORK SERVICES

JULY 1999
TL158A-R3
TL158AE-R3

DB25 Data Broadcast



CUSTOMER SUPPORT INFORMATION

Order **toll-free** in the U.S. 24 hours, 7 A.M. Monday to midnight Friday: **877-877-BBOX**
FREE technical support, 24 hours a day, 7 days a week: Call **724-746-5500** or fax **724-746-0746**
Mail order: **Black Box Corporation**, 1000 Park Drive, Lawrence, PA 15055-1018
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TRADEMARKS USED IN THIS MANUAL

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

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 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 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 lineas 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 objectos 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: Objectos 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.

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1. Specifications

Transmission Rate —	Up to 19.2 kbps; the unit is transparent to data and code rate
Interface —	Each port individually DTE/DCE selectable
Connectors —	(9) DB25 female
Indicators —	(10) Red LEDs: PWR, Channels 1 through 8 active, COMP active
MTBF —	250,000 hours (ground benign environment)
Enclosure —	Metal
Power Input to Wall-Mount Transformer —	TL158A-R3: 115 VAC, 60 Hz @ 50 mA; TL158AE-R3: 230 VAC, 50 Hz @ 25 mA
Power Consumption —	6 watts
Size —	2.3"H x 12.1"W x 11.2"D (5.8 x 30.7 x 28.4 cm)
Weight —	7 lb., 2.3 oz. (3.24 kg) without power supply; 8 lb., 5.1 oz. (3.77 kg) with power supply

2. Introduction

The DB25 Data Broadcast receives an asynchronous signal and redistributes it to up to eight slave devices. It can be used, for example, to distribute a signal from a computer to eight different terminals. The DB25 Data Broadcast takes the signal appearing at the composite connector (COMP), regenerates it, and distributes it to eight slave connectors (CH 1–8).

3. Installation

The shipping container should include this manual, the DB25 Data Broadcast, and the wall-mount transformer.

An optional rackmount kit (part number TL486) is available.

To install the DB25 Data Broadcast:

1. Remove power from the terminal or computer that will be connected to the DB25 Data Broadcast unit.

2. Connect the composite connector (labeled "COMP") on the rear of the DB25 Data Broadcast to the source of data (usually a modem, multiplexor, or computer port). The length of this cable should not exceed 50 feet (15.2 m) in most applications without using extended-distance cable. Set the DTE/DCE jumper as appropriate.

NOTE

If connecting to a modem, multiplexor, or terminal/printer port on a computer, select DTE. The connector will output data on pin 2 and input data on pin 3.

If connecting to the COM port, terminal, or printer, select DCE. The connector will output data on pin 3 and input data on pin 2.

3. Connect up to eight slave devices (usually terminals or printers) to the channel connectors of the DB25 Data Broadcast. The length of these cables should not exceed 50 feet (15.2 m) in most applications without using extended-distance cable. Set the DCE/DTE jumper for each port as appropriate. (See the Note above.)

4. Plug the wall-mount transformer into a wall socket. The red PWR (power) light should be ON.

5. Apply power to the master and slave devices.

6. The DB25 Data Broadcast is now ready for operation.

4. Functional Description

The DB25 Data Broadcast unit supports three leads on each port connector: Transmit Data (TXD), Receive Data (RXD), and Signal Ground (SG). The input to the composite "COMP" port is regenerated and simultaneously sent out on the output lead of each of the eight slave ports, channels 1 through 8.

The input into each of the slave ports is regenerated, ORed together, and assembled to produce the output signal which is transmitted from the composite port. The signals grounds for all of the ports are tied together.

RTS, CTS, DTR, DSR, and CD are also supported and looped back as shown in the following pin diagram.

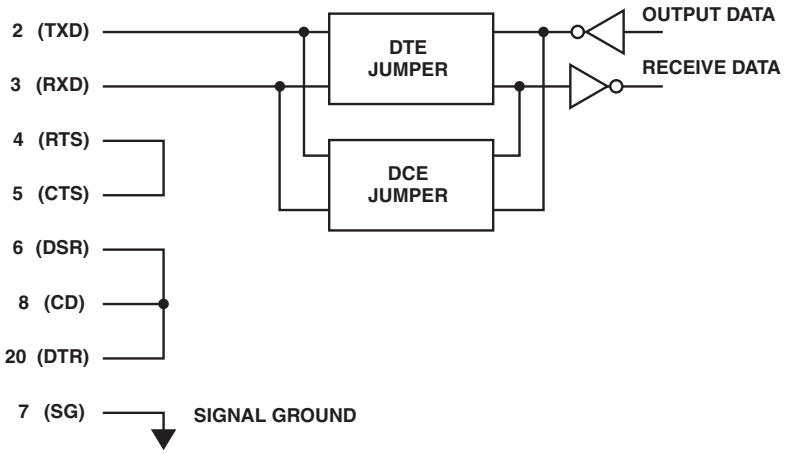

Figure 1. Pin Designations for the DB25 Connectors.

The front-panel indicators show the presence of primary power when the red PWR light is on. The state of the composite input signal is indicated by the COMP LED lighting whenever a "SPACE" is detected. The state of each slave port's input signal is indicated by the CH 1–2 LED lighting whenever a "SPACE" is detected.

5. Troubleshooting

The most effective way to troubleshoot a system using the DB25 Data Broadcast is to bypass the DB25 Data Broadcast completely and connect one of the slave devices (such as a terminal) directly to the source equipment (computer port, modem, or concentrator). If the problem is corrected with the Data Concentrator out of the circuit, inspect the unit closely for loose connections. If the unit is defective, return it for repair.

A loopback connector and an asynchronous terminal (or a PC with a terminal-emulation program) may also be used to check the DB25 Data Broadcast. Connect the terminal to the composite channel and connect the loopback connector, in turn, to each of the slave channels. Set the terminal to full-duplex mode. Then type a few letters. If you see those letters on the terminal screen, the DB25 Data Broadcast is working.

Common Problems and Their Causes

Problem	Cause
No indicator lights.	Unpowered wall outlet. Wallmount transformer loose in wall socket. Defective DB25 Data Broadcast.
No Composite channel data light (COMP) and no data received by slave devices.	Data source not functioning. Cable not connected. Defective DB25 Data Broadcast.
Composite channel data light (COMP) “On” but no data received by slave devices.	Slave devices not plugged in or not turned on. Data cables not connected. Defective DB25 Data Broadcast.

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