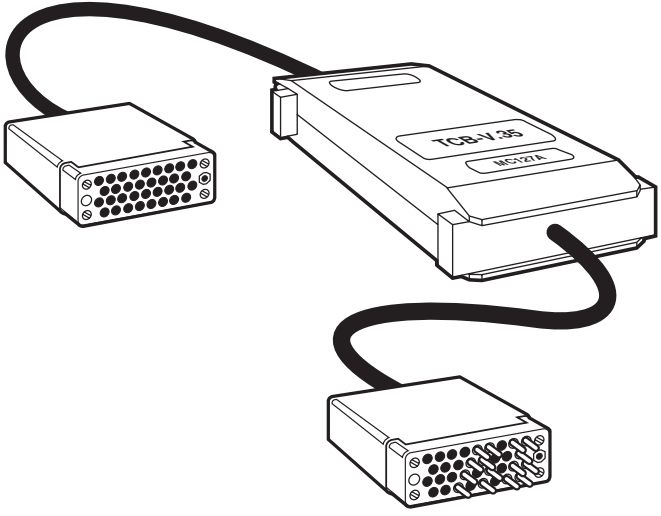
FEBRUARY 2001
MC127A

Tail Circuit Buffer TCB-V.35



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**

TRADEMARKS USED IN THIS MANUAL

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1. Specifications

Protocol — Transparent

Speed — Up to 2.048 Mbps

Operation — Full duplex

Interface — V.35

Connectors — (2) 34-pin M-block: (1) male, (1) female

Power — From control signals on the interface

Size — 1.2"H x 2"W x 5.3"D (3 x 5.1 x 13.5 cm)

Weight — 0.2 lb. (0.1 kg)

2. Introduction

2.1 Description

The TCB-V.35 lets you connect two independently clocked DCEs. When two internally clocked devices exchange data and neither can be clocked externally, the TCB-V.35 acts as an interface between them. The unit has the electrical and functional characteristics of the V.35 interface.

The TCB-V.35 uses two 512-bit buffers to reduce errors caused by drift between the two DCE clocks. Upon overflow or underflow, the TCB-V.35 automatically restarts at the middle of the buffer.

A schematic diagram (Figure 1) shows the flow of data clocking in and out of the buffers, as follows:

- Receive Clock of DCE “A” clocks Receive Data into buffer A. Transmit Clock of DCE “B” clocks Transmit Data out of buffer A.

- Receive Clock of DCE “B” clocks Receive Data into buffer B. Transmit Clock of DCE “A” clocks Transmit Data out of buffer B.

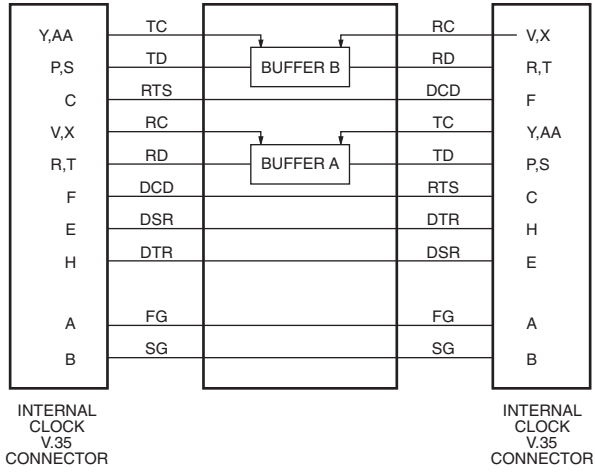

Figure 1. TCB-V.35 schematic.

The TCB-V.35 interface for each balanced pair can operate with cables of up to 2 meters (6.6 feet) on each side. The unit operates without connection to the mains supply, using low power derived from the DCE interface signals.

2.2 Features

- DCE-to-DCE connection.
- Two internal 512-bit buffers.
- Data rates up to 2.048 Mbps.
- Easy to install.
- No AC power required.
- Compact, lightweight.

3. Application

Connect sub-channels of two multiplexors operating with different clocks, as shown in Figure 2.

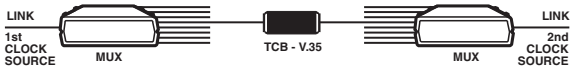

Figure 2. TCB-V.35 connecting two multiplexors operating with different clocks.

4. Installation

Installing the TCB-V.35 is straightforward and simple. No tuning or strapping is required. To install the unit, connect each end of the TCB-V.35 to one of the DCEs, either directly or by using an extension cable, allowing up to 2 meters (6.6 feet) on each side.

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