
**1270 Terminal Control Unit
Maintenance Manual, Volume I**

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PREFACE

This manual provides Memorex Field Service Representatives with procedural data, maintenance instructions, theory of operation, and testing procedures to be used when servicing the Memorex 1270 Terminal Control Unit. The manual is divided into two volumes. This manual, *Volume I*, provides the procedural data and maintenance instructions for general servicing of the TCU. *Volume II* contains material concerning the theory of 1270 TCU operation and also provides detailed procedures to be used when conducting tests from the test panel of the 1270 TCU.

The contents of *Volume I* of this maintenance manual are divided into six sections. Section 1 describes each of the standard and optional features and groups these features into the functional sections of the 1270 to which they are pertinent. Section 2 provides a procedure for use when installing the TCU and briefly describes each of the options which may be plugged on the 1270 PCBs. Section 3 briefly describes the function of the switches and indicators on both the control panel and each of the roller bar positions of the test panel. Section 4 discusses maintenance aids and the general maintenance requirements for performing scheduled and unscheduled servicing. Section 5 provides instructions for installing and removing replaceable components and Section 6 provides procedures to be used when adjusting components of the power supply assemblies.

In addition to *Volume I* and *Volume II*, *1270 Terminal Control Unit Maintenance Manual*, 1270.20-00, the following publications should be readily available for reference.

- 1270.51-00 *1270 Terminal Control Unit Diagnostic System User's Guide*
- 1270.70-00 *1270 Terminal Control Unit Diagnostic System Reference Card*
- 2870.001 *1270 Terminal Control Unit Illustrated Parts Catalog*
- 2579.001 *Modems Technical Descriptions*
- 2979.001 *Modems General Descriptions*
- The Technical Bulletin Manual*
- Logic Manuals*

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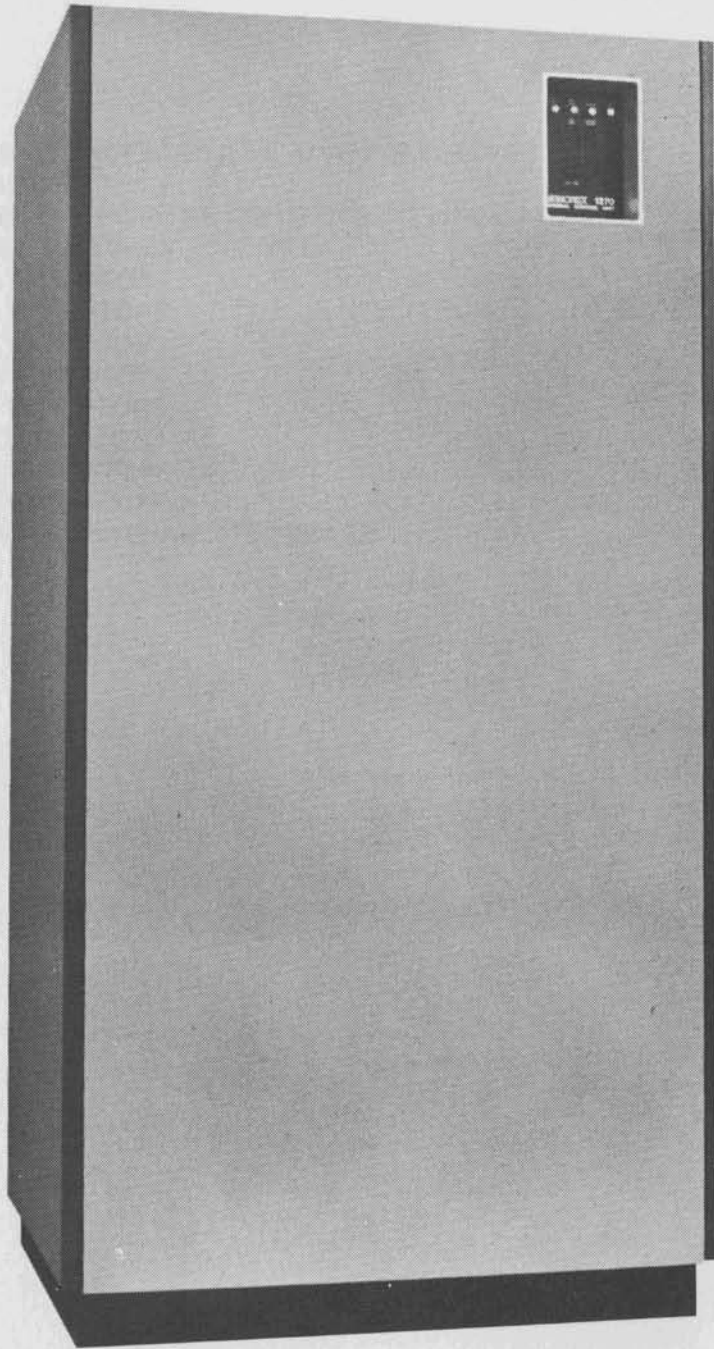
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Memorex 1270 Terminal Control Unit

SECTION 1.

GENERAL INFORMATION

1.1 GENERAL DESCRIPTION

The Memorex 1270 Terminal Control Unit is designed to provide the IBM System/360 or System/370 user with a versatile interface to a wide range of local and remote communication devices. In providing this versatility, the 1270 accommodates 1 to 96 communication lines and is capable of operation in half- or full-duplex mode over two- or four-wire facilities for asynchronous (start/stop) and synchronous transmissions. Asynchronous transmission facilities may be voice grade and may be switched, leased, or privately owned. Synchronous transmission facilities are supported via voice-grade and wideband line control.

For low-speed transmissions, the basic 1270 supports communication terminals in asynchronous mode at line speeds of 110, 134.5, 150, 300, 600, and 1200 bits per second (bps). Synchronous mode is used for high-speed devices which follow established IBM Binary Synchronous Communication (BSC) conventions and is supported at line speeds up to 9,600 bps with a synchronous adapter and up to 50,000 bps with a wideband adapter. Figure 1-1 illustrates the types of devices that can be attached to the 1270.

The 1270 attaches to the multiplexer channel of the IBM System/360 or System/370. When communicating with the channel, the 1270 operates in multiple-byte multiplex mode to request and transfer data to or from the CPU. Data is transferred in bursts of up to four bytes during any one I/O channel servicing cycle. In communicating with a remote terminal, the 1270 transmits and receives serially by bit. It provides internal character buffering of up to eight bytes for both asynchronous and synchronous transmissions. The 1270 does not impose restrictions on message length and may be equipped to recognize and translate transmission codes which do not exceed an eight-level, eleven-unit structure (eight data bits and three start/stop bits). These transmission codes include ASCII, Correspondence, PTTC, and BCD in asynchronous mode and ASCII and EBCDIC in synchronous mode. Synchronous transparency is also supported.

All character and bit control, character decoding, data handling, and matching to common-carrier equipment is accomplished by the functional sections within the 1270. Specifically, the 1270 performs the following functions, when applicable, during a transmit or receive operation:

- Inserts and deletes certain control characters that are required by the remote terminals but which are not part of the data required by the CPU.
- Generates timeout intervals to ensure that no unreasonable delays occur.
- Handles the polling and selection of remote terminals under control of the CPU.
- Provides for the recognition of different transmission codes and speeds.
- Signals an interrupt to the CPU when the data transmission is ended.

