

PRODUCT DATA SHEET

The Model 2236MXD Terminal Processor from Wang Laboratories, Inc., is an intelligent peripheral controller for 2200MVP central processing units and designed to serve four interactive 2236DE terminals concurrently. As many as eight terminals can be controlled by using the maximum two Model 2236MXD Terminal Processors per 2200MVP CPU, allowing a total of nine terminals to operate simultaneously. In addition to this flexible capacity, the Model 2236MXD performs many functions pertaining to terminal control normally executed by the CPU, thus enhancing system throughput by relieving the CPU of the burden of terminal I/O processing.

TERMINAL HANDLING

Each Model 2236DE Interactive Terminal can be attached to the Model 2236MXD Terminal Processor locally at distances of up to 2,000 feet (609.6 meters) or remotely through the use of modems and standard four-wire telecommunications lines. Communication between the terminal and the Model 2236MXD Terminal Processor is asynchronous, full-duplex, with selectable line speeds ranging from 300 bits per second (bps) to 19,200 bps. To accelerate communications between the Model 2236DE Terminals and the Model 2236MXD Terminal Processor, data compression is performed in both directions on strings of four or more contiguous characters. A ready/busy protocol is employed to control information flow, eliminating the need for the terminal printer to keep pace with the serial communication data rate. All features are automatic and transparent to the user and the BASIC-2 program executing in memory.

DETAILS OF MODEL 2236MXD TERMINAL PROCESSOR OPERATION

The Model 2236MXD Terminal Processor contains separate input and output buffers for each terminal. Two independent communication channels are associated with each terminal; one channel transfers keyed characters to the input buffer (up to 36 keystrokes), while the other channel transfers output buffer information, including echos of keyed characters, and program-generated display output and printer output. Information sent to be printed on the terminal printer is automatically line buffered, and data

2200

MODEL 2236MXD TERMINAL PROCESSOR

- Intelligent Terminal Processor for 2200MVP CPUs
- Controls Up to Four Interactive Terminals
- Performs Automatic Data Compression
- Selectable Line Speeds
- Built-In Remote Terminal Communications Capabilities



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transmission is regulated by an internal ready/busy protocol. Subsequently, padded characters are never required, regardless of the speed of the attached printer.

In addition, all character-editing operations (e.g., backspace, move cursor, delete, and erase) are carried out in the microprocessor-controlled 2236MXD, thereby freeing the CPU for processing. Data is sent from the Model 2236MXD Terminal Processor in a compressed format in which consecutive strings of four or more characters are reduced to a three-character block and then decompressed at the terminal. This feature can substantially increase throughput in most applications. The combination of independent buffering and high-speed, full-duplex communication allows uninterrupted keying with simultaneous display at each interactive terminal in a multiterminal system.

Terminal/Terminal Processor Interface

The four plugs on the 2236MXD Terminal Processor and one plug on each 2236DE Interactive Terminal are 25-pin, RS-232-C compatible. Each Interactive Terminal can be situated in a local, extended-local, or remote environment relative to the CPU and Terminal Processor. A description of each type of connection follows.

If the local cable connection between the 2236MXD and an Interactive Terminal is less than 25 feet (7.6 m), transmission rates of 19,200 baud occur with direct four-wire connection using a Wang-supplied cable. For cable distances between 25 feet (7.6 m) and 2,000 feet (609.6 m), optional cables are available in 100-foot (30.5 m) increments to provide direct extended-local connection at speeds of 19,200 baud.

For cable distances beyond 2,000 feet (609.6 m), two asynchronous full-duplex, RS-232-C compatible modems per terminal must be used to provide the communication link. One modem is connected to a plug in the Terminal Processor; the other is connected to an Interactive Terminal. For distances up to 5 miles (8 km), short-haul modems may be employed using a private, four-wire connection between modems. For distances exceeding 5 miles (8 km), telephone lines (switched networks) or private lines provide the connection between two telecommunication modems.

For modem connections, the 2236MXD Terminal Processor baud rates (all factory-set at 9600 baud) may be set upon installation at either 300, 600, 1200, 2400, or 19,200 baud by a Wang Service Representative for any terminal. Although each Interactive Terminal's baud rate is manually selectable, its rate must be the same as

the baud rate set at the Terminal Processor plug to which the terminal is connected.

Cable is optionally available for modem connections to Wang equipment in lengths of 12 feet (3.7 m), with optional extensions of 25 feet (7.6 m) and 50 feet (15.2 m). Two lengths of modem cable for each Interactive Terminal connection provide the necessary link between the Terminal Processor and its modem and between the Interactive Terminal and its modem. Modem cable is 25-pin, RS-232-C compatible.

2236MXD TERMINAL PROCESSOR SPECIFICATIONS

Operating Environment

Same as the CPU

Power Requirements

Supplied by the CPU

I/O Slots Required

Model 2236MXD Terminal Processor requires one I/O slot. Supports up to four terminals in an MVP configuration.

(Two Model 2236MXD processors require two I/O slots and support up to eight terminals.)

Communications Mode

Full-duplex, asynchronous mode for Model 2236DE Interactive Terminals

Asynchronous Character Format Options

Parity: odd

Number of Data Bits: 8

Number of Stop Bits: 1

Number of Start Bits: 1

Transmission Rates

For each plug, independent of the other plugs on the Terminal Processor, the transmission rate may be set by a Wang Service Representative to 300, 600, 1200, 2400, 9600, or 19,200 baud.

ORDERING SPECIFICATIONS:

The Model 2236MXD Terminal Processor must be compatible with the 2200MVP CPU or another 2200 CPU (T or VP) for limited application. It must be available in a four-terminal version and must provide local direct-wire connection at communication speeds of up to 19,200 baud. It must contain one microprocessor and communication electronics as well as a keyboard buffer of at least 30 bytes. For modem use, it must provide speeds of either 300, 600, 1200, 2400, 9600, or 19,200 baud for any Model 2236DE terminal. The communication mode must be asynchronous, full-duplex.

Standard Warranty Applies

Wang Laboratories reserves the right to change specifications without prior notice.



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