WANG LABORATORIES, INC.
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DATA SHEET

The Model 2227B Buffered Asynchronous Communications Controller adds a wide range of data transmission/reception capabilities to the stand-alone computer capabilities of Wang systems. The controller's integrated microprocessor and multi-character input/output buffers simplify telecommunications control procedures and reduce CPU processing requirements. With the controller, a System 2200 configuration can be programmed to function like a variety of asynchronous terminals (e.g., a Teletype® terminal, an IBM 2741 Selectric® Typewriter Terminal, a Wang 1200 Word Processing Terminal) or to communicate with another comparably-equipped System 2200.

FEATURES

The Model 2227B controller has fixed microcode residing in a read-only-memory and also has a 1K-byte random-access-memory for input/output data buffering, storage of initialization information (including code translation tables and a communication control vector), and storage of current status information.

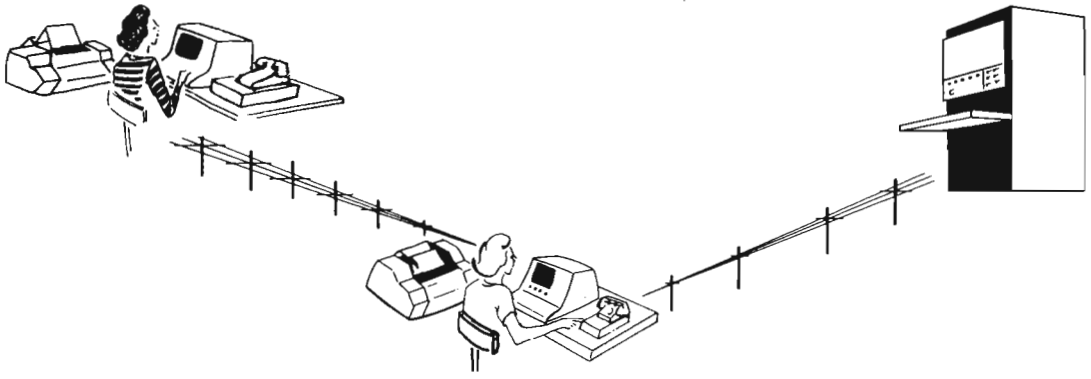
The controller supports asynchronous transmission rates from 110 to 9600 bits per second. Any one of the following rates can be set via the initializing communication control vector: 110, 134.5, 150, 200, 300, 600, 1200, 1800, 2400, 4800 or 9600 bps.

The following character formatting options can be selected via the communication control vector: parity (odd, even or no), the number of data bits (5, 6, 7 or 8), and the number of stop bits (1, 1.5 or 2).

Data transmission/reception can overlap CPU data handling with respect to the input and output media. The controller performs operations such as the following:

- telecommunications control and data buffering
- break signal detection and transmission
- code translation
- automatic echoplex operation
- automatic insertion and removal of shift characters
- detection of received timeouts
- substitution of characters received in error
- synchronization of the beginning of received data on one of several specified characters
- sensing the secondary received data, and setting the secondary transmitted data modem signals (also called reverse or supervisory channel data signals).

Some of these features are discussed briefly in the information which follows.



MODEL 2227B BUFFERED ASYNCHRONOUS COMMUNICATIONS CONTROLLER

Code Translation

If required for a particular application, two 256-byte code translation tables (one for data transmission operations and the other for reception operations) can be loaded into the controller memory to allow interchange of data between the CPU and the controller in the System 2200 USASCII code set, regardless of the transmission code set.

Insertion and Removal of Shift Characters

If a particular code is included in the communication control vector, the controller automatically inserts and removes shift characters, thereby eliminating the need to program each operation. Such a feature is useful when a System 2200/2227B transmits and receives data in a code set which utilizes shift characters, e.g., when emulating an IBM 2741 or a Wang 1200 system.

Status Information

The current status regarding transmission errors, break signal reception, and modem signals can be requested and received at any time. Available information with respect to received data consists of character parity and framing errors, received time-outs, and buffer overrun conditions. Available modem signals are Data Set Ready, Secondary Received Data, and Received Line Signal Detector.

Other Control Functions

The controller can send and receive break signals to interrupt transmission to or from the host computer. Also, the controller can send a disconnect signal to the modem under program control.

CENTRAL PROCESSOR COMPATIBILITY

The Model 2227B controller can be plugged into an I/O slot in the following 2200 Series CPU's: the System 2200T, the System 2200S with Option 23 or 24, or the System 2200B or C with Option 2. A minimum memory size of 8K bytes is recommended.

MODEL 2227B SPECIFICATIONS

Size of Controller Board

Length	14 in. (35.6 cm)
Width	7.5 in. (19.1 cm)
Depth	1.2 in. (3.2 cm)

Weight

2 lb (0.9 kg)

Power Requirements

Supplied by the CPU.

Electrical Connection

A 25-pin RS-232-C, CITT V.24 compatible female plug facilitates hookup of a modem.

A hole on the faceplate facilitates mounting, if required, of a light or special wire to indicate the value of the Data Set Ready modem signal.

SPECIFICATIONS (Cont.)

Cable

A 12-foot (3.6m) cable, equipped with 25-pin RS-232-C compatible male connectors on each end, is supplied as an accessory.

Asynchronous Transmission Rates

110, 134.5, 150, 200, 300, 600, 1200, 1800, 2400, 4800 or 9600 bits per second.

Character Format Options

Parity: odd, even, or no.
Number of Data Bits: 5, 6, 7 or 8.
Number of Stop Bits: 1, 1.5, or 2.

Communication Mode

Full or half duplex.

Compatible Modems

Bell 103 or 202 type, or equivalent.
Null modem, available from Wang, for direct communications link.

Standard Warranty Applies

ORDERING SPECIFICATIONS

An asynchronous communications controller compatible with Wang's System 2200. The unit must have its own microprocessor with fixed microcode capable of implementing the following operations: code translation, automatic echoplex operation, automatic insertion and removal of shift characters, substitution of characters received in error, and synchronization of the beginning of received data on one of several specified characters. A 1K-byte RAM must be provided for storage of initialization information and current information including status and buffered input/output data.

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