

2436 Series Interactive Terminals

INTRODUCTION

The Wang Model 2436 Series Interactive Terminals are ergonomically designed for maximum comfort in the office environment. They are available in three models -- the 2436DE, the 2436DW, and the 2426DW -- and are compatible with the 2200 series of Central Processing Units (CPUs).

The Models

The Model 2436DE Terminal is designed to support data processing and graphics applications. Graphics provides the user with the tools to create highlighted displays, boxes, and special graphic figures.

The Model 2436DW and the Model 2426DW Terminals are designed to support data processing and graphics applications, as well as an optional 2200 Word Processing (WP) Software Package. This package provides the user with extensive word processing capabilities, allowing for the creation, editing, and printing of full-length documents. The Model 2426DW has an extended foreign-language keyboard.

Other special features include self-test diagnostics, repeating keys, and a printer interface that allows the user to print out a CRT display.

Standard Features

The 2436 Series Interactive Terminal consists of an adjustable Cathode Ray Tube (CRT) connected by a 4-foot (1.2 meter) cable to a low-profile, movable keyboard. The CRT and the

keyboard surfaces have a matte-finish to minimize glare. The user can tilt the CRT display to provide a comfortable viewing angle. A brightness switch can be adjusted to accommodate lighting conditions or operator preference.

THE CRT DISPLAY

The Interactive terminal includes a 12-inch (30.5 cm) CRT screen display with a 24-line, 80 characters-per-line capacity. The CRT displays a full 128-character set, including uppercase and lowercase keyboard characters, special symbols, and underlining. The CRT also displays an alternate character set of graphic characters and box graphics. Display

speed is approximately 2,000 characters per second at 19,200 baud. A blinking cursor resembling an underscore indicates where the next character will appear on the CRT display.

The Interactive Terminal defines a character display attribute for each position on the CRT display. By using special codes before displaying a character or a string of characters, the programmer can cause the output to be bright or normal intensity, blinking or nonblinking, underlined, or reversed video.

More than one attribute can be assigned to a character to allow, for example, both reversed video and blinking portions on a screen display. Error messages, input fields, and other special



notes can be emphasized by using the appropriate character attributes.

THE KEYBOARD

The detachable keyboard consists of a typewriter keyboard, 7 program control keys, a numeric keypad, and 16 Special Function keys that can be programmed to perform up to 32 user-defined functions. The keys are well designed and ideally suited for high-speed typing or data entry. All keys provide adjustable audio feedback, and they repeat when the user holds them down. A program-controlled audio alarm with adjustable volume minimizes operator monitoring by signaling when special conditions occur.

The keyboard supports both uppercase and lowercase characters for data processing and word processing applications, or uppercase characters only, for data processing applications.

The Model 2436DW includes special keys to support the optional WP package. These keys include the cursor control keys and the editing keys such as INSERT, DELETE, PREV SCRN, and NEXT SCRN. Additional word processing keys such as INDENT, PAGE, CENTER, DEC TAB, FORMAT, MERGE, NOTE, STOP, SRCH, REPLACE, COPY, MOVE, COMMAND, SUPERSCRIP, and GO TO PAGE simplify document creation and revision.

The CENTER key, for example, automatically centers a line of text. The MOVE key allows text to be moved within a document. The REPLC key allows a character-defined sequence to be replaced by another.

CAPABILITIES

Graphics Capabilities

The Interactive Terminals use both an alternate character set and unused portions of each character position to create a variety of graphics. Box graphics allow line segments to be drawn at any character position. Character graphics, which display geometric designs rather than the normal characters, are an alternate character set.

Box graphics are used for drawing horizontal or vertical lines on the screen, enabling forms to be depicted, or fields to be separated by lines or boxes. Horizontal lines are drawn between character lines on the CRT screen, while vertical lines are drawn through the center of character positions.

Characters contained within a box do not interfere with the line segments. A prompt contained within a box, for example, can be rewritten a number of times without altering or erasing the box itself. Consequently, box graphics can increase the readability of a dense display without reducing the capacity of that display.

Character graphics divide the character position into six equal areas. Character codes allow one or more of these areas to be displayed on the screen. Adjacent areas of two graphic characters touch, making it possible to create continuous light or dark areas on the screen. When combined with display attributes, character graphics are useful in constructing bar graphs, histograms, and other special displays.

Word Processing

The Model 2436DW and the Model 2426DW Terminals support the optional 2200 WP Software Package that adds word processing capabilities similar to those of the Wang Word Processing System, Office Information System, and VS Integrated Information System.

The features of this WP Software Package include operator prompts and automatic word wraparound, automatic indexing for superscripts and subscripts, automatic centering, indenting and decimal alignment, global search and replace, text movement, text copy, and right margin justification.

Editing capabilities include the insertion and deletion of characters, words, lines, paragraphs, or entire sections of text. Glossary, another special feature, allows the user to record commonly used words, phrases, or standard paragraphs for easy recall and display.

TERMINAL/CPU INTERFACE

When configured with an MVP-type 2200 System, each Interactive Terminal is connected to either a 2236MXE Terminal Processor, a 2236MXD Terminal Processor, or a 22C32 Triple Controller. These devices handle I/O (input/output) operations between the CPU and the terminals, and buffer data entered from or transferred to the terminals.

The Models 2236MXE and 2236MXD Terminal Processors are intelligent peripheral controllers for the 2200 System. Each 2236MXE and 2236MXD Terminal Processor can support up to four terminals. Each CPU can support up to four processors. Thus, each 2200 System CPU is capable of supporting up to 16 terminals.

Each Model 22C32 Triple Controller supports a single terminal and is compatible with the 2200VP, 2200MVP, and 2200LVP CPUs. By using a maximum of three 2236MXD or 2236MXE Terminal Processors and a 22C32 Triple Controller, 13 terminals can run concurrently when supported by a single 2200MVP or 2200LVP CPU.

The Interactive Terminal can be attached locally to the 2200 CPU at distances of up to 2000 feet (606.1 meters), or remotely via modems and telephone lines.

Communication between the Interactive Terminals and the CPU is asynchronous and full-duplex, with selectable line speeds ranging from 300 to 19,200 bits per second. To accelerate communications between the terminals and the CPU, the system performs automatic data compression on information transmitted to each terminal.

The Printer

Each 2436 Series Interactive Terminal can support its own printer for program output and hard copies of CRT displays. From the keyboard, a user can initiate a dump of the display screen to the terminal printer. The printer can reproduce all the standard characters present on the screen. The screen dump feature requires no special software and can be performed at any time.

The Interactive Terminals employ microprocessors to optimize data throughput. For example, strings of four or more identical characters are

compressed for transmission into three-byte blocks. A ready/busy protocol controls information flow between the terminal and the processors. Thus, it is unnecessary for the attached printer to keep up with the serial communication line data rate. These features are automatic and completely transparent to the software executing in the 2200 CPU.

Any standard Wang printer or plotter with a 36-pin cable connection can be plugged into the printer connector on the terminal. A Wang-supplied, direct-connection cable or an optional modem cable plugs into an RS-232-C-compatible connector on the terminal.

Diagnostics

The Interactive Terminal performs self-testing diagnostics when powered on. These diagnostics check terminal conditions before use. If the unit fails one of the tests, a continuous alarm sounds, alerting the user to the failure. The tests allow a Wang customer service representative to quickly identify the problem and minimize downtime.

ONE INDUSTRIAL AVENUE
LOWELL, MASSACHUSETTS 01851
TEL. (617) 459-5000
TWX 710-343-6769, TELEX 94-7421

SPECIFICATIONS

Monitor

Height
11.8 in. (30.0 cm)
Depth
10.8 in. (27.4 cm)
Width
13.0 in. (33.0 cm)
Weight
14.0 lb (6.4 kg)

CRT

Display Size
12.0 in diagonal (30.5 cm)
Capacity
24 lines, 80 characters/line
Character Height
0.16 in. (0.41 cm)
Character Width
0.09 in. (0.23 cm)

Terminal Base (Electronics Unit)

Height
4.38 in. (11.13 cm)
Depth
14.25 in. (36.20 cm)
Width
18.88 in. (47.96 cm)
Weight
13.0 lb (5.85 kg)

Keyboard

Height
2.75 in. (6.99 cm)
Depth
9.00 in. (22.9 cm)
Width
21.50 in. (54.6 cm)
Weight
10.00 lb (4.5 kg)

Character Set

128 characters including upper-case and lowercase letters; each character is assigned one or more attributes for high- or low-intensity display, blinking, reverse video, or underlining. Additional alternate character set consisting of 64 graphic characters and other special symbols is supplied. Also capable of displaying line-segment (box) graphics, separate from either character set.

Character Format

When communicating with a 2200 system:

1 start bit, 1 stop bit
8 data bits plus odd parity
(11 bits/character)
Other selectable character formats:
8 data bits, no parity
7 data bits, odd parity
7 data bits, even parity
(10 bits/character)

Communication Mode

Asynchronous, full-duplex

Transmission Rate

Manually selected for each terminal at 300, 600, 1200, 2400, 4800, 9600, or 19.2K baud

Power Requirements

115 or 230 VAC + 10%
50 or 60 HZ + 1.0 Hz
100 watts

Operating Environment

Ambient Temperature
50° to 90°F (10° to 32°C)
Relative Humidity
(noncondensing)
20% to 80% (allowable)
35% to 65% (recommended)

Cabling

One 8.0 ft (2.4 m) cable connects the terminal to the power source. One 25.0 ft (7.6 m) direct connection (standard) is provided with each terminal. Cabling (optional) is available in 100.0 ft (30.4 m) increments for direct connection up to 1000.0 ft (304.0 m) or in 250.0 ft (76.2 m) increments from 1250.0 ft (378.8 m) to 2,000 ft (606.1 m). Modem cables are available optionally in lengths of 12.0 ft (3.7 m) with extensions of 25.0 ft (7.6 m) and 50.0 ft (15.2 m).

Optional Equipment

Monitor arm for desktop mounting (Part No. 279-1044)

Standard Warranty Applies

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