

INTRODUCTION

The Model 2336 Workstation is an interactive workstation ergonomically designed for maximum comfort in the office environment. It is available in two models, the 2336DE and the 2336DW, and is compatible with the 2200 series of Central Processing Units (CPUs).

The Models

The Model 2336DE is designed to support data processing and graphics applications. Graphics provide the user with the tools to create highlighted displays, boxes, and special graphic figures.

The Model 2336DW is 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.

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 Models 2336DE and 2336DW Workstations consist of an adjustable Cathode Ray Tube (CRT) connected by a 1.8 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. Brightness and contrast

controls can be adjusted to accommodate lighting conditions or operator preference.

THE CRT DISPLAY

The Model 2336 Workstation 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 2000 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 Model 2336 Workstation 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 of bright or normal intensity, blinking or non-blinking, underlined or reversed video.

More than one attribute can be assigned to a character to allow, for example, both reversed video and

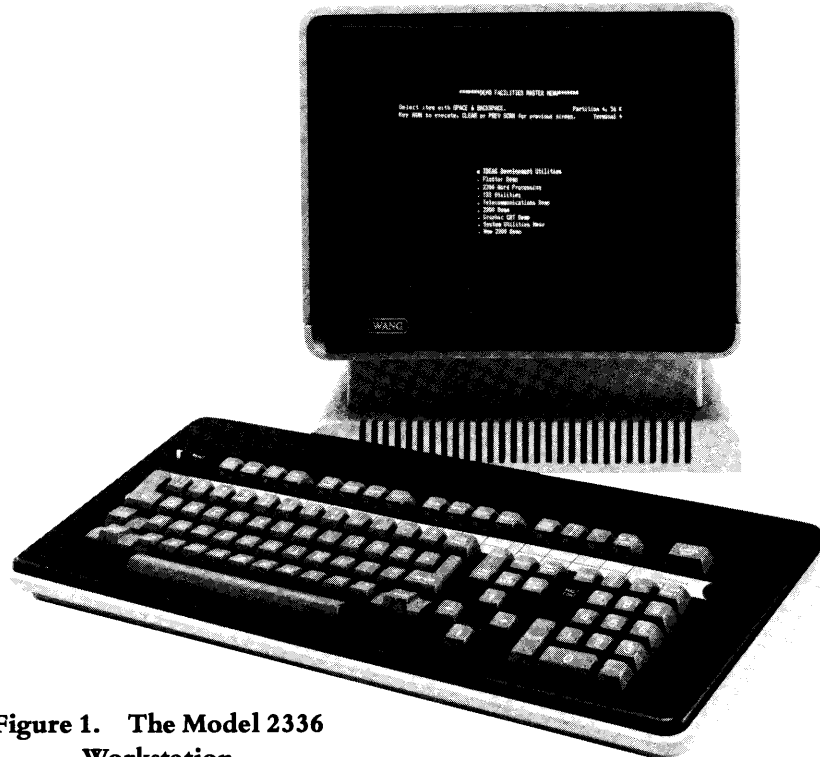


Figure 1. The Model 2336 Workstation

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 2336DW 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 SCRNL, and NEXT SCRNL. Additional word processing keys such as INDENT, PAGE, CENTER, DEC TAB, FORMAT, MERGE, NOTE, STOP, SRCH, REPLACE, COPY, MOVE, COMMAND, SUPERSCRIPT, 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 Models 2336DE and 2336DW Workstations 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 2336DW Workstation supports 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 Intergrated 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 a 2200MVP, LVP, or VP CPU, each Model 2336 Workstation 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 workstations, and buffer data entered from or transferred to the workstations.

The Models 2336MXE and 2236MXD Terminal Processors are intelligent peripheral controllers for the 2200MVP and 2200LVP CPUs. Each 2336MXE and 2336MXD Terminal Processor can support up to four workstations. Each CPU can support up to three processors. Thus, each 2200MVP and 2200LVP CPU is capable of supporting up to 12 workstations.

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

The 2200SVP CPU includes a terminal controller. Thus, the workstation can plug directly into the workstation connector on the back of the 2200SVP CPU; no additional controllers are needed.

The Model 2336 Workstations can be attached locally to the 2200MVP or LVP CPU at distances of up to 2000 feet (606.1 meters), or remotely via modems and telephone lines. Workstations con-

nected to a 2200SVP or VP CPU must be attached locally at a maximum distance of 50 feet (15.2 meters) and 2000 feet (606.1 meters), respectively.

Communication between the Model 2336 Workstations 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 workstations and the CPU, the system performs automatic data compression on information transmitted to each workstation.

The Printer

Each Model 2336 Workstation 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 Model 2336 Workstations employ microprocessors to optimize data throughput. For example, strings of four or more identical characters are compressed for transmission into 3-byte blocks. A ready/busy protocol controls information flow between the workstation 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 Model 2336 Workstations. A Wang-supplied, direct-connection cable or an optional modem cable plugs into an RS-232-C-compatible connector on the terminal.

Diagnostics

As an added feature, the Model 2336 Workstations perform self-testing diagnostics when powered on. These diagnostics check terminal condition 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.

MODELS 2336DE AND 2336DW SPECIFICATIONS

Size

Height	15.00 in. (38.10 cm)
Depth	12.50 in. (31.75 cm)
Width	13.50 in. (34.29 cm)
Weight	30.00 lb (13.6 kg)

CRT

Display Size	12.0 in diagonal (30.5 cm)
Capacity	24 lines, 80 characters/line

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

Keyboard

Height
2.75 in. (6.99 cm)
Depth
9.00 in. (22.9 cm)
Width
21.50 in. (54.61 cm)
Weight
10.00 lb (4.5 kg)
Cable length
6.00 ft (1.8 m)

Character Size

Height
0.16 in. (0.41 cm)
Width
0.09 in. (0.23 cm)

Character Set

128 characters including uppercase 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 2200MVP, LVP, SVP, or VP 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 \pm 10%
50 or 60 HZ \pm 1.0 Hz
50W

Operating Environment

Temperature
60° to 90°F (16° 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 workstation to the power source. One 25.0 ft (7.6 m) direct connection (standard) is provided with each workstation. 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 2000 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).

Standard Warranty Applies