VT240/VT241

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One Easy-to-use Terminal Brings Graphics and Text Together.

The VT240 series of video display terminals combines conversational text and graphics capabilities with human engineering. The result is easy-to-use terminals that can help you increase your productivity.

The VT240 terminal is monochromatic. The VT241 terminal produces text and graphics in striking colors. Both include VT100 capabilities as well as convenient new features such as 15 programmable function keys and selective erase.

The VT240 and the VT241 terminals generate full bit-map graphics in ReGIS (Remote Graphics Instruction Set) and Tektronix* 4010/4014 emulation, supporting industry standards.

Human engineering makes the VT240 and the VT241 comfortable and easy to use. The keyboards are optimum height for efficient typing. The three keypads and function keys on each keyboard are separated and arranged in a layout that is logical and easy to use. This helps reduce fatigue and eliminate errors. Plain language setup menus make it easy for first-time, as well as experienced, users to operate the terminals and control setup functions.

The VT240 and VT241 terminals are truly international, with multinational character set support, multiple language keyboards available in normal (typewriter) or word processing version, and a universal power supply.

The combination of graphics, text capabilities, and human engineering makes the VT240 and the VT241 terminals high productivity tools that can be used in most any environment in the world.

*Tektronix is a trademark of Tektronix, Inc.

Highlights

User-oriented Features

- Multiple language keyboards available in normal (typewriter) or word processing version
- Multinational character set support
- Downline-loadable character set
- 15 programmable function keys
- Selective erase
- VT100 compatibility mode
- Normal or reverse video, blinking, underline, and bold attributes on a character-by-character basis
- Double-height/double-width characters
- Small compact design with detachable keyboard
- Nonglare screen
- Plain-language setup menu for feature selection (English, French, or German available)
- Serial input channel
- Integral modem (optional)

Graphics Features

- Screen resolution of 800 by 240 pixels
- Two full graphics planes
- Color map for 4 colors from a palette of 64
- Direct execution of ReGIS commands or Tektronix 4010/4014 graphics protocols

Engineering

- RGB output for auxiliary color monitors
- Serial printer port for local print functions
- Communications speeds up to 19,200 baud
- Nonvolatile memory stores feature settings
- EIA and 20-milliampere interfaces
- Local echo selectable
- Composite video output for auxiliary monitors
- Universal power supply
- CRT Saver

Operating Mode

The VT240 and VT241 terminals have three operating modes, making them flexible enough to run on most Digital and many non-Digital host computers. They can operate in VT200 mode (7-bit or 8-bit control), VT100 mode, and VT52 mode. Except for VT52 mode, all modes support standard ANSI functions. The VT240 and VT241 can connect to a host computer either locally or remotely via an optional integral modem. The local echo feature allows the terminals to be used on non-Digital computers.

Screen Display

Both the VT240 and VT241 terminals provide a screen display of 24 lines by 80 or 132 columns. The 132-column format is especially useful for viewing spreadsheets and other tabular work. Crisp, clear text displays are provided by the terminals' 10-by-10-dot matrix. Most characters are 7-by-8 with descenders on some lowercase characters and ascenders on some multinational characters. Double-width and double-height characters, selectable on a line-by-line basis, make text on the screen even easier to read.

In addition, any character can be displayed in a selectable combination of blinking, bold, underline, and normal or reverse video. These attributes are useful in formatting copy, prompting the user, and highlighting portions of the text.

The basic character set for the VT240 and VT241 terminals features 32 line-drawing and other graphic characters that can be used to present solid-line displays of simple forms and data plotting.

Graphics

The VT240 and VT241 provide powerful bit-map graphics capability for business graphics, presentation graphics, and for reviewing designs created on more sophisticated graphics equipment. Using Digital's ReGIS protocol, commands can be sent to the terminal to generate lines, text, curves and circles. The terminal is also capable of storing frequently used command sequences (up to 5000 ASCII characters) to minimize processor and communication line loading. The VT240 and VT241 contain two planes permitting displays in four shades of grey, or four colors from a palette of 64. Because you can address each screen pixel individually, you also have greater font flexibility and color shading capability.

The display has a resolution of 800 by 240 and is noninterlaced to produce crisp, medium-resolution graphics. The VT240 and VT241 terminals integrate the presentation of text and graphics as a single screen image. They also support both ReGIS and Tektronix 4010/4014 protocols.

ReGIS (Remote Graphics Instruction Set)

ReGIS is Digital's general purpose graphics language that can be easily controlled from high level languages such as BASIC, COBOL and FORTRAN. In addition, a number of ReGIS based software solutions are available such as DECslide and DECgraph for presentation and business graphics needs.

Tektronix 4010/4014 Protocols

The Tektronix 4010/4014 protocols give you access to the many existing industry-standard graphics applications using the Tektronix protocol. In this mode, the VT240/241 terminals use a 640-by-240 pixel array which is centered on the screen. The terminals support a 12-bit addressing capability with a 4,096-by-3,072 pixel array.

Keyboard

The easy-to-use streamlined keyboard of the VT240 and VT241 can help you increase your productivity. The terminal's standard, (typewriter) alphanumeric keypad, editing keypad, auxiliary keypad, and function keys are grouped separately. Their logical arrangement increases data entry speed and reduces chance of error. The 30-millimeter home row key height makes typing a less tedious task.

The keyboard is detachable, connected to the monitor by a six-foot coiled cord. This allows you to put the keyboard wherever it's most comfortable for you to work. It's so thin and lightweight, you can even place it on your lap.

Monitor and System Box

The VT240 terminal has a monochrome monitor (available with white, green, or amber phosphor). The VT241 has an RGB color monitor. Both produce clear, sharp text and graphics. Ergonomically and aesthetically designed, the compact, wedge-shaped monitors take up little space on your desk. Both terminals have nonglare screens. You can adjust the angle of the monitors for comfortable viewing and adapt the screens' contrast and brightness to your liking with controls right on the monitors.

Function Keys

The VT240 and the VT241 both have 25 programmed function keys that make the terminals even easier to use. In addition, 15 programmable keys are also provided. They can be downline loaded from the host to contain unique user-defined character sequences. A total of 256 characters can be assigned to these functions, and they can be changed at any time. Help and do function keys reduce key strokes and provide you assistance when they are supported by system software. Five other function keys are reserved for local terminal functions, including hold screen, print screen, and setup.

Printer Port/Serial Input Channel

The printer port for the VT240/241 terminals is a bidirectional RS-232C interface and serves two functions. As a serial input channel, it allows you to send data from an input device such as a mouse, digitizer, and a wand directly to the host. Its output function lets you connect a printer directly to the VT240/241 and initiate local print functions without host intervention. When in local-keyboard-to-printer mode, characters entered on the keyboard will be sent to the printer.

Optional Integral Modem/Autodialer

The VT240 and VT241 terminals support an optional integral modem (VT24X-AA) that allows you to communicate with a host computer at a remote site. This option can be controlled at the keyboard and permits you to use the same communications line for the terminal and a telephone.

The modem operates at 0-300 or 1200 baud and is compatible with Digital DF series and Bell 103J and 212A series of modems. The modem has autoanswer which means that connections can be initiated at the host computer without operator attendance at the terminal. This is particularly helpful when you are using a printer via the VT240/241 printer port. The autodial feature lets you dial a host computer directly from the keyboard. You can also dial one of two telephone numbers stored in nonvolatile memory, saving you the time of looking up often used numbers.

Software Compatibility

VT100 compatibility mode makes it possible for you to use much of the software that supports the VT100, VT101, and VT102 on the VT240 and VT241 terminals with little or no software change. Refer to the VT240 and VT241 programmer's reference manual for differences between VT240 and VT100 family software.

In ReGIS mode, much of Digital's graphics software has been upgraded to support and take advantage of the VT240 and VT241, in addition to the VT125. For information on VT240/241 support for a particular Digital-supplied software package, refer to the Software Product Description (SPD) for that package.

Setup Mode

The VT240/241 terminals extend the capabilities of the VT100 terminals by giving you more control of the terminals' operations. You can select features in user-friendly setup menus and then store them in nonvolatile memory. In Setup mode, the terminals display a menu from which you select the terminals' operating characteristics. The menu will display predefined values for these characteristics. You can either use these characteristics as defined or change their values, and store them so that they become the standard parameters automatically.

In all, there are seven setup menus that allow you to define such parameters as keyboard language, communications and print speeds, parity, key click, autowrap, cursor style, margin bell, and answerback message. Setup menus can be displayed in English, French, or German.

CRT Saver

The VT240 and VT241 terminals' CRT Saver extends the life of the CRT tube by blanking the screen (without losing any data) if the terminals haven't received information from the user or the host within 30 minutes. Pressing any key (the Shift or Control key is recommended) or receiving data from the host restores the screen.

Selective Erase

The Selective Erase feature allows selected character positions on the screen to be erased. As a result, the amount of information transmitted can be reduced, thus accelerating host-to-terminal communication and increasing your productivity. For example, this feature supports applications where data is entered by filling in the blanks of a form. After the blanks are filled and the data is accepted by the host, the host can, with a single command, erase only the information in the blanks. The form remains on the screen for the next data entry sequence.

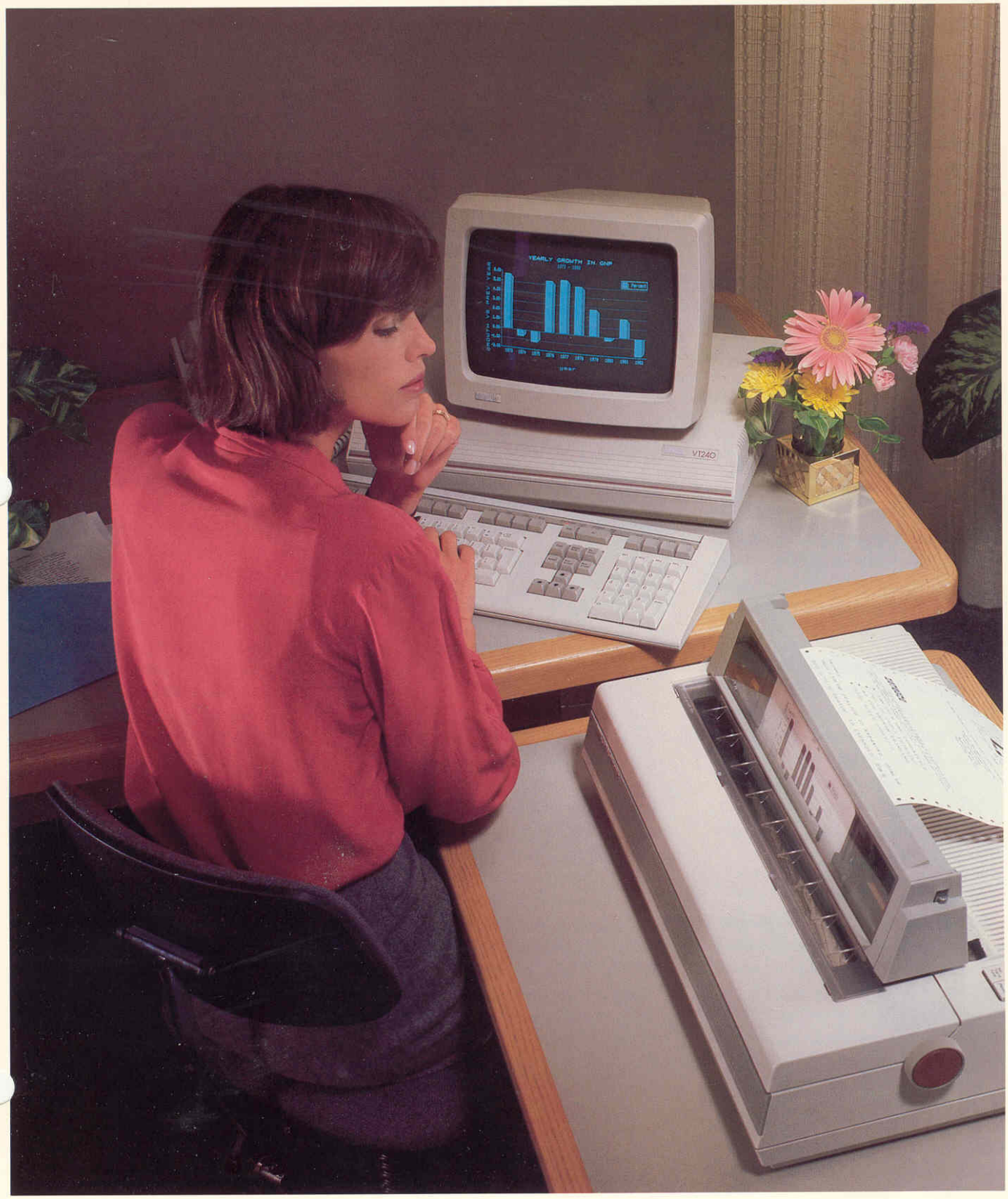
Composite Video

Composite video allows the VT240 and the VT241 terminals to drive an auxiliary monitor. This feature is useful when you want to display information to a group of people.

Communications

The VT240 and VT241 terminals communicate with a host and a printer via full-duplex asynchronous lines. There are 10 possible transmit/receive speeds that you can select from a setup menu. The built-in 20-milliampere current loop interface supports communications exceeding 50 feet.

The VT240 and VT241 operate in accordance with EIA standards RS-232C and RS-423, and CCITT Recommendations V.24, V.26 (V.10), and X.20 (V.21) Serial character format is used for communication with the host computer and is user selectable to 7 or 8 bits with or without parity. The terminals' character input buffer, with a user-definable size up to 2,048 characters, and XON/XOFF support help ensure complete transmission of data. Although the throughput of data is dependent on the application, the VT240 and VT241 have been designed to operate at 960 characters per second without restraint in most cases. Use of XOFF support, however, is recommended to accommodate exceptions.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Reliability and Maintainability

The VT240 and VT241 terminals are very reliable because they have only three mechanical switches, one for turning the terminal on and off, one for turning the system box on and off, and one for selecting the power supply voltage. The elimination of other mechanical switches aids the use of diagnostics for testing the terminal functions and adapting to varying environments under host control.

Maintaining the VT240/241 is easy because no preventive maintenance is necessary. If an operating problem does appear, self-test diagnostics and keyboard LEDs greatly facilitate correcting the situation.

Ordering Information

Because the VT240 and VT241 terminals are international products, two items must be specified for each terminal ordered. One item specifies the terminal type, power and screen color. The other item, called the Keyboard Country Kit, specifies the power cord, keyboard and user documentation.

To Find Out More . . .

About Digital's VT240 and VT241 terminals, contact your Digital Sales Representative or call 1-800-Digital, Ext. 700, for the name of the Digital representative nearest you.

Specifications

Character Sets	ASCII, UK National, Digital Special Graphic (Line Drawing), Digital Supplemental and Graphic, and user definable character sets (each 94 characters).
Communications	Full-duplex asynchronous with selectable local echo and full modem control. 7-bit or 8-bit character length 1 or 2 stop bits.
Communication Speed	75, 110, 150, 300, 600, 1200, 2400, 4800, 9600, and 19,200 baud (keyboard selectable). Transmit and receive rates can be set separately.
Parity	Even, odd, mark (7-bit only), space (7-bit only), or none (keyboard selectable). Transmit and receive must be the same.
Interface	EIA RS232C, RS423, and 20-mA standard
Dimensions	
System Unit	8.75 cm H x 45.0 cm W x 30.0 cm D (3.5 in. H x 18.0 in. W x 12.0 in. D)
Keyboard	5.0 cm H x 53.3 cm W x 17.1 cm D (2.0 in. H x 21.0 in. W x 6.75 in. D)
Monitor	VT240: 29.2 cm H x 34.9 cm W x 31.1 cm D (11.5 in. H x 13.75 in. W x 12.25 in. D); VT241: 32.4 cm H x 38 cm W x 42.1 cm D (12.8 in. H x 15 in. W x 17 in. D)
Weight	
System Box	8.2 kg (18 lb)
Monitor	VT240: 6.4 kg (14 lb); VT241: 16.6 kg (36.6 lb)
Keyboard	2.0 kg (4.5 lb)
Power Consumption	
System Box	107 W max
Operating Environment	
Temperature	10–40°C (50–104°F)
Relative Humidity	10–90%
Maximum Wet Bulb	28°C (82°F)
Minimum Dew Point	2°C (36°F)
Maximum Altitude	2.4 km (8000 ft)
Storage Environment	
Temperature	– 40–66°C (– 40–151°F)
Relative Humidity	0–95%
Maximum Altitude	9.1 km (30,000 ft)