

# Alphanumeric Display Terminals - Basic Characteristics

The accompanying comparison charts summarize the characteristics of 184 commercially available alphanumeric display terminals from 74 vendors. Nearly all of the information was supplied by the manufacturers during the months of January and February 1976. Their cooperation is acknowledged and greatly appreciated.

Datapro sent repeated requests for information to more than 80 companies known or believed to be in the display terminal business. The 74 usable responses summarized in our charts provide a comprehensive picture of the commercial display terminals that are currently available in the United States and Canada. *The absence of any specific company from our charts means that the company either failed to respond to our repeated information requests or was unknown to us.*

The chart entries and their significance are explained in the following paragraphs.

## Part 1 - Left hand page

### Terminal Description

The industry trend toward "intelligent" terminals is indicated by the growing number of terminals with

A discussion of the important basic characteristics of display terminals plus a summary of the characteristics of 184 commercially available alphanumeric display terminals from 74 vendors. A two-page comparison chart format permits inclusion of extensive information on each product.

For a perspective of display terminals, including comprehensive user rating information, see Report C09-025-101 behind the Management/System Guides tab in Volume 1.

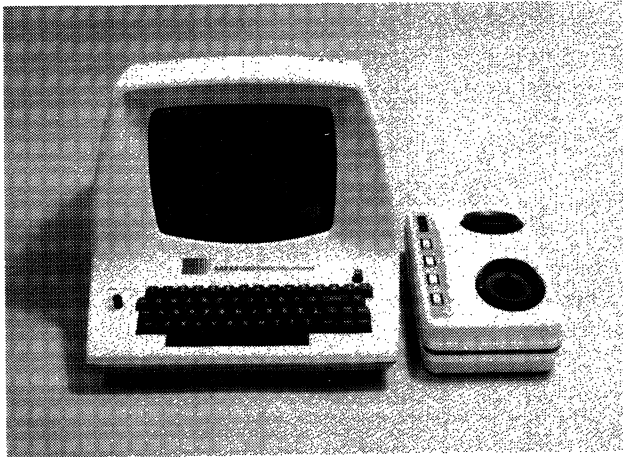
control and user functions implemented through some type of processor. The *processor control* entry includes a wide range of arrangements from simple microprocessor-based terminals to complex display-oriented minicomputer systems. (Terminals that do not contain a processor as their nucleus are hard-wired units that are often referred to as "dumb" terminals, because their functions cannot be changed and little flexibility is offered.)

Since all processors require memory for program and data storage, the *memory range* in bytes is provided to define >



*Designed as a replacement for Teletype's Model 40, the microprocessor-based ICC 40+ has all the bells and whistles, and features a removable CRT that can be tilted and swiveled for operator viewing convenience. The manufacturer, ICC/Milgo, is a leading modem vendor.*

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For just \$65 per month (on a one-year lease), you can get your "glass teleprinter" from Western Union Data Services. As WU's initial display terminal offering, the Video 100 (a Lear Siegler ADM-3) provides Teletype compatibility and features a 12-inch screen that can display 960 or 1920 characters. The Video 100 is available with an acoustic telephone coupler, teleprinter, and cassette tape drive.

- ▷ the minimum and maximum memory capacity of an expanded memory. In microprocessor-based terminals, memory is usually composed of read-only memory (ROM) and/or programmable read-only memory (PROM) for microprogram storage and random access memory (RAM) for data storage.

Display terminals are available in one of two basic terminal configurations: *stand-alone* and *cluster*. Stand-alone units are typically those that contain all components that support the operation of the terminal including display, keyboard, interface, and power supply within a single cabinet. Auxiliary units such as printers, cassette tape drives, etc., are usually external devices. Sometimes a stand-alone unit includes separate cabinets for terminal control and keyboard/display sections, and it may even include one or two separate displays. A cluster configuration typically includes a terminal control unit and a number of individual cable-connected keyboard/display units, which can often be located several thousand feet from the controller. In some cases, the vendor provides a multiplexer that accommodates a cluster of stand-alone terminals. A *local cluster* arrangement refers to a terminal that can be attached directly to a computer I/O channel and can operate as an on-line peripheral subsystem. A *remote cluster* arrangement refers to a terminal that is connected to the host computer via a communications facility. The size of a cluster arrangement is defined by the entries: *maximum number of displays per controller*, *maximum number of printers per controller*, and *maximum number of devices (including displays and printers) per controller*. In many cases displays and printers can be combined in any mix on the same controller. Cluster configurations that can accommodate *any mix of screen sizes on the same controller* are noted.

Local cluster arrangements must provide a *computer* interface to attach to the I/O channel of the host

computer. Because most terminals are equipped with an RS-232 interface, they can be directly attached to many minicomputers with such a serial I/O interface.

Terminals that are designed to be hand-carried in a suitcase-like enclosure are noted in the entry *portable case*.

### Compatibility

Some terminals are designed as direct replacements for other terminals. In the alphanumeric display terminal market, replacement terminals fall into four principal categories: those designed to replace an IBM 3270 and/or 3275, those designed to replace an IBM 2260 and/or 2265, those designed to replace a Teletype Model 33 and 35 teleprinter, and those designed to replace a Teletype Model 40 display terminal. Some vendors provide compatibility with *other* terminals such as those produced by Burroughs, Honeywell, and UNIVAC. Datapro included these five entries to define the category of compatibility. Compatibility requirements include identical protocol, code and unit code structure, timing, asynchronous or synchronous operation, and transmission speed. Some vendors even provide identical cables, which is a cost-effective consideration in a local cluster environment. At least two vendors (Genesis One and Memorex) provide compatible replacements for only the display station in an IBM 3270 cluster environment.

### Programmability

Programmability for processor-controlled terminals can be implemented via a combination of different techniques. The entry *user-created programs* defines the capability for the terminal to operate under the direction of a user-created application program stored within the terminal. This requires the provision of an assembly-like language at the very least. Programmability via *user-define parameters* refers to the use of fixed programs, such as a data entry program where the user defines field length and type, duplication, skipping, etc. Microprocessor-based terminals are controlled via a microprogram (firmware), which is stored in the unit's ROM. Usually, the terminal operates under the control of *vendor-defined firmware*, but in some cases the vendor permits the user to define or create the microprograms, hence the entry *user-defined firmware*. Any *vendor-supplied software* is noted, such as assemblers, operating systems, emulators, etc. Minicomputer-based terminals are generally software-supported and usually provide at least an assembly language for users to create application programs. The entry *software pricing* identifies the vendor-supplied software as standard (supplied with the basic terminal at no extra cost) or extra cost.

### Display Organization

Printed information is generally arranged according to an orderly format consisting of a maximum number of printed lines per page and characters per line. This orderly ▷

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➤ arrangement is also used to characterize the arrangement of data display on the face of a CRT screen or other display device. The electronic circuitry that produces the display image is designed to a specified set of parameters that define the capacity (i.e., the maximum number of display positions) and the display format (i.e., the maximum number of displayable lines and displayable characters per line). Information is displayed in a rectangular area smaller than the total surface area of the display device. The factors that determine the required size of the display area are the display arrangement and the size of the displayable characters, which is normally a fixed parameter.

Symbol formation and the set of displayable symbols are functions of the character generator, which accepts coded characters (typically ASCII) from the computer and keyboard and converts them to a number of dots or strokes so that the form of the symbol or image can be displayed. In CRT's, characters are formed by a variety of techniques, including dots, strokes, starburst, or monoscope. The dot technique is by far the most popular. Each character is formed within a matrix of dots, and only those dots required to form the specific character are intensified. Typically, a dot matrix contains 35 dots arranged 7 dots high by 5 dots wide. Characters can be made clearer by increasing the number of dots within the matrix. The stroke technique forms characters by drawing short straight lines between specified points.

Solid-state display devices, such as plasma (gas) and LED (Light Emitting Diodes) are gaining popularity, but at present are generally limited to small display capacities consisting of a few characters. These typically form a character image in much the same way as a CRT display (i.e., via a dot matrix), though some form symbols through line segments.

### Display Features

Attention can be drawn to vital information and different types of significant data can be visually separated by the use of the following display features:

- Color—characters or fields can be separated by color, which can also be used to identify conditions or types of data. Few display terminals offer color, primarily due to cost, but the few that do offer up to eight colors.
- Reverse video—displays a *negative* image of data, i.e., data normally displayed in white on a dark background is displayed in black on a white background. Characters or fields can be displayed in reverse video.
- Programmable brightness levels—visually separates different kinds of displayed information by displaying each type of a different intensity level, such as a fixed format and the entered data.

- Character and/or field blinking—vital information consisting of a single character or an entire field is blinked to attract attention.

Some terminals offer several of these display features, which can be combined to produce even more effective results.

Some applications require viewing more data than can be displayed at one time. The following features satisfy this need:

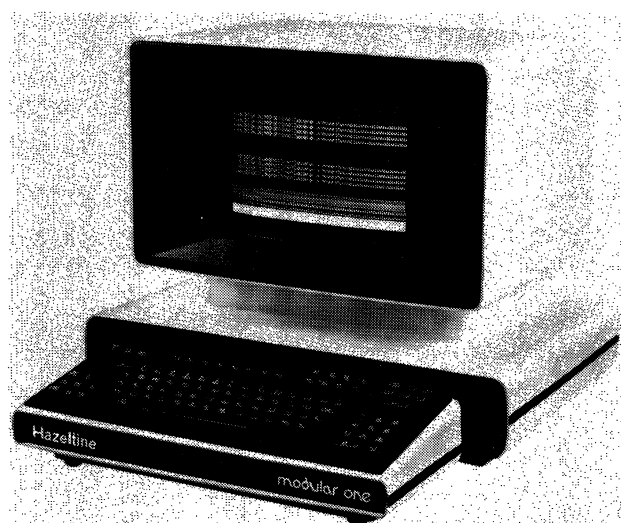
- Roll (or scroll)—this feature moves all displayed lines of data up or down by one line as a new line is added and an existing one removed. In some cases, the first line is linked with the last so that the data is rolled but not lost. Typically, data is lost as it rolls off the screen. This feature permits the user to scan through a volume of data to locate key information.
- Paging—this feature stores two or more frames or *pages* of data and displays any selected page.

Although roll and paging features can be software implemented in the host computer, the comparison chart entry applied to *only* those terminals that implement the features via hardware or firmware.

Many terminals provide the roll feature, but few provide paging. Some provide both features.

### Cursor Control

The cursor marks the position on the screen where the next character will be read or written from memory. Cursor controls enable the operator to maneuver the cursor on the screen and facilitate the input and output of data. Typical cursor controls include: ➤



Brand new from Hazeltine is the microprocessor-based Modular One. Priced at a startlingly low \$1,420 (base price for 1 to 50 units), with quantity discounts available, the terminal has a standard 1920-character screen and offers a host of options, including a polling feature with user-defined protocol.

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Control Data's new, microprocessor-based Model 92451 Conversational Display provides Teletype Model 33/35 compatibility and features a 960- or 1920-character screen and a host of options. Auxiliary devices include a single- or dual-drive diskette or cassette tape unit and a 180-cps impact or 30-cps non-impact printer. The OEM base price is \$2,000; quantity discounts are available.

- ▷ ● Move left (L)—moves the cursor one space to the left, which can be from the initial character position of a line to the last character position of the previous line if the terminal features wraparound.
- Move right (R)—moves the cursor one space to the right, which can be from the last character position of a line to the first character position of the next line if the terminal features wraparound.
- Move up (U)—moves the cursor to the same position on the previous line, which can be from the first line to the last line if the terminal features wraparound.
- Move down (D)—moves the cursor to the same position on the following line, which can be from the last line to the first line if the terminal features wraparound.
- Home top (H)—moves the cursor to the initial character position of the first line.
- Home bottom—moves the cursor to the initial character position of the last line.
- Tab—moves the cursor forward to the next tab stop or backward to the previous tab stop (backtab).
- Return (RT)—moves the cursor to the initial character position of the next line; this is identical to the carriage return function of a typewriter.
- Backspace—moves the cursor one space to the left.

- Line Feed—moves the cursor to the same position on the following line.

Some cursors blink, others keep moving as long as the control key remains depressed. All cursors should be of the nondestructive type. Different manufacturers use a variety of symbols to indicate the cursor position on the screen. Some terminals also have *addressable/readable cursors*, which enable the position of the cursor to be written or read by the host computer under program control.

### Format Control

Most businesses use printed forms for daily activities such as billing, ordering, payroll, etc. Some CRT terminals can duplicate the printed form on the face of the screen, and data can be keyed into the blank spaces just as the typist enters data into a printed form. This “fill-in-the-blanks” approach to data entry requires a *protected format* capability. Display terminals that incorporate this feature treat the fixed format differently from keyed data. Field identifiers such as “name” or “salesman number” are protected from inadvertent key entry, and data entry is confined to the variable fields (blank spaces) following the field identifiers. Some terminals automatically *tab* to the beginning of the next variable field immediately following the entry of the character that completes each field. The tab key is used where a field is partially filled.

Some terminals permit *format creation via the keyboard*; i.e., the fixed format can be keyed and *edited* on the screen before it is *stored* in the terminal's memory or on cassette tape, diskette, or hard disk. Depending on memory size, multiple formats can be stored. Of course, format storage on magnetic media is virtually unlimited. ▷



Plantronic's VuSet, available from the Bell System for \$35 per month, provides a 3-inch CRT that displays any of 64 characters in up to 64 display positions. It's intended for applications that involve short messages such as account status, sales statistics, customer balances, etc. The VuSet attaches to any Touch-Tone telephone, which is used to call the computer and to enter data; a VuSet modem is required at the computer end.



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Designed for the traveler, Digi-Log's TeleComputer is an attache-encased terminal that includes a 5-inch display, keyboard, and acoustic telephone coupler. It's Teletype-compatible, weighs less than 25 pounds, and sells for \$1,470, with a 14 percent discount for 100-unit quantities. A 12-inch monitor is also available.

▷ Having completed entry into the fixed format, the operator transmits the data to the central computer. A feature called *partial screen transmit* promotes line economies by transmitting only the keyed data; the fixed format remains displayed and the "blanks" are erased for the next entry. This feature is also useful for transmitting only a portion of the displayed data such as a field, line, or block.

Editing features in a display terminal can consist of any combination of the functions listed below, although the best terminal for editing purposes would include all of them. Each function is performed with respect to the current position of the cursor. The desirable editing functions are:

- **Character insert**—the capability to insert a character into an existing line of displayed text; the remaining characters shift to the right or "spread" to accommodate the added character. The spreading capability may terminate at the last character position of the line or at the last displayable position on the screen. Data is lost when it is spread beyond the termination point.
- **Character delete**—the capability to delete a character from an existing line of displayed text; the remaining text closes up when the character is deleted.
- **Line insert**—the capability to insert a line of text into existing text; the text spreads to accommodate the added line.
- **Line delete**—the capability to delete a line of text from existing text; the remaining text closes up when the line is deleted.

- **Erase**—the capability to erase a character, line of text, message, field, or the complete screen. Most terminals include character erase and some form of display erase, which may erase the entire contents of the display, just that portion following the cursor location, or a combination of both functions. *Line* erase is optional in many terminals.
- **Character repeat**—enters a continuous sequence of symbols as long as the appropriate key remains depressed.

### Keyboard

Keyboard *style* defines the general arrangement of keys; e.g., typewriter or data entry style. The *character/code set* refers to the set of symbols that appear on the keytops and, in many cases, to the actual character codes generated for each key depression, such as ASCII, EBCDIC, APL, etc. Some terminals are available with more than one keyboard style to satisfy particular user needs.

Keyboards that can either fit flush against the display or be located some distance away via cable connection are referred to as *detachable* keyboards. This feature provides increased configuration flexibility and operator convenience.

Some terminals are available with program function keys. These are special keys whose character codes are interpreted by the user's program. A function key is used to reduce the number of required input keystrokes to save time and reduce the number of input errors. Depressing one key could instruct the system to "sell one seat" or "call Chart A," for example.

Most keyboards are equipped with *cursor control keys* and *edit function keys* to permit the operator to manipulate the cursor and edit keyed data before it is transmitted and/or recorded.

A *numeric keypad* is a special keyboard feature that includes a set or block of 10 numeric keys, usually located to the right of the main keygroup. These numeric keys are arranged in an adding-machine format and are particularly useful for applications that require a high volume of numeric entries or arithmetic calculations.

### Part 2—Right hand page

#### Operator Features

Special operator oriented features are provided by some terminals, especially those that emulate the IBM 3270, which has all of the following:

- **Numeric lock**—locks the keyboard in numeric mode so that only numerics can be entered.



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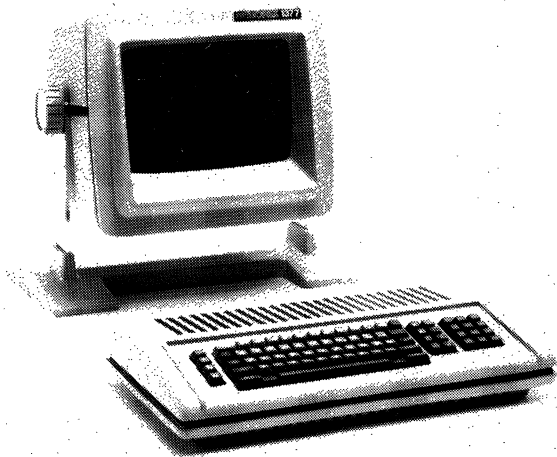
- ● Audible alarm—alerts an operator absent from the terminal to a pending message.
- Keylock—electronically locks the terminal to prevent operator control.
- Operator I.D. card reader—a device that reads magnetic stripe identification cards (similar to a plastic storage card) to insure proper user identification for security purposes.
- Light pen—a hand-held device similar to a pen that permits the user to initiate commands or to “call for” a page of data by pointing the pen at a displayed entry.

### Ancillary Devices

External I/O devices can add considerable flexibility to the applications possibilities for display terminals. A cassette tape drive or diskette drive can be used to store display formats, data to be transmitted, or user programs in the case of intelligent terminals. A serial printer provides hard copy when required.

These devices can usually be added to a terminal by the user via the terminal's RS-232 serial interface. The device is attached between the terminal and the external modem.

Although the above I/O devices are the most common, other devices can be and are used, such as industry-compatible 7- or 9-track magnetic tape drives, disk drives (cartridge or pack type), line printers, card readers, etc.



*Memorex recently announced its presence with its new 1377, an attractive plug-to-plug replacement for the IBM 3272-2 Display Station. The Memorex 1377 plugs into an IBM local or remote (BSC or SDLC) control unit, can use existing IBM cables, and displays up to 1920 characters. Features include a non-glare tiltable screen, a detachable 78-key typewriter or operator console keyboard, upper and lower case alphabets, and a selector light pen in addition to all IBM features. The Memorex 1377 can be used in both the IBM 3270 and 3790 systems. It weighs just 49 pounds including keyboard.*

### Transmission Parameters

The display terminal contains a communications interface that enables communications between the terminal and the central computer site. Mode and technique define the operating mode and the method in which data is transmitted. There are three operating modes: simplex (transmission in one direction only), half duplex (transmission both directions, but not simultaneously), and full duplex (simultaneous transmission in both directions).

Data is transmitted synchronously or asynchronously. Asynchronous transmission is characterized by the transmission of data in irregular spurts, where the duration of time can vary between successive transmitted characters; the transmission from an unbuffered teletypewriter is a good example. Synchronous transmission implies the transmission of data in a steady stream. The time interval between successive characters is always precisely the same. The communications interface either provides clocking or accepts external clocking signals from the data set.

*Communications protocol* refers to the type of line discipline (control code sequence and control characters) that the terminal employs. The two most commonly used protocols are ASCII and IBM's Binary Synchronous Communications (BSC) technique. IBM's latest protocol, Synchronous Data Line Control (SDLC), will be widely used in the future. Other large mainframe vendors such as Burroughs, Honeywell, and Digital Equipment Corporation (DEC) have produced their own communications protocols.

The *transmission code* refers to the bit pattern of the transmitted characters. Two codes are prominent: EBCDIC and ASCII. The latter has been accepted as an industry and government standard, and is now the most commonly used code by display terminals.

The *unit code structure* specifies the total number of bits transmitted for each character. Asynchronous operating conventions require a single start bit and one or two stop bits to be combined with the character code for each transmitted character; therefore, an 8-level code such as ASCII is transmitted as a 10- or 11-unit code. Following Teletype's lead, the 11-unit code structure has been generally adopted for transmission at 10 characters per second; 10-unit codes are typically used at higher operating speeds.

The CRT terminal is a high-speed device that is usually capable of transmitting and receiving several thousand characters per second; however, it must run at a speed that is compatible with the communications system in which it is used. Most terminals are used on voice-grade facilities, which limit the *transmission speed* to a practical maximum of 4800 bits per second over the dial network and 9600 bits per second over leased or private lines. ➤

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- ▷ Terminals that are capable of operating at more than one transmission speed typically feature *operator selectable speeds* via switch selection.

*Message format* refers to the way data is transmitted, e.g., by block or by character. Terminals that are designed to be transmission-compatible with a Teletype unit transmit a character for each key depression. Buffered terminals transmit data in multi-character blocks. The line or block mode permits data to be composed and edited prior to each transmission and generally permits more efficient utilization of the communications facility. Some terminals offer manual selection between the modes.

### Transmission Features

*Multipoint operation* characterizes terminals that are capable of operating in a multiple-terminals-per-line environment such as that employed by the IBM 3270 and 2260/2265 display terminals. Basic to implementing this capability is the ability of a terminal to distinguish a control message intended for it alone. Polling invites the terminals to send data. Addressing informs the terminal that a message from the central computer is coming, so that it will be conditioned to receive. Central control of the message traffic is maintained by the central computer.

*Automatic answer* refers to the facility for unattended operation on the dial network whereby incoming calls are automatically answered and messages are received without human intervention.

*Auto call* refers to the facility for unattended operation on the dial network whereby outgoing calls are automatically “dialed” and messages are transmitted without human intervention.

### Terminal Interface

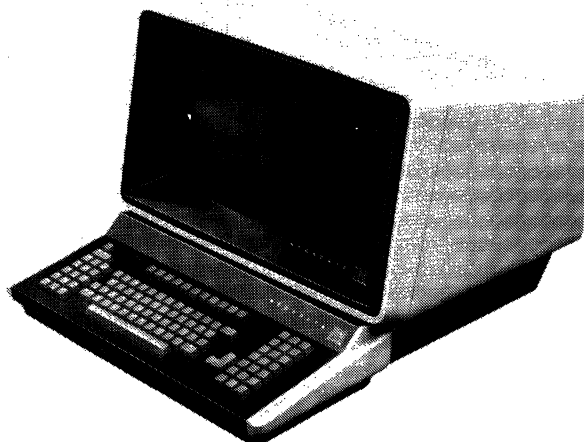
Display terminals usually have interfaces meeting the standards of the EIA RS-232B/C specification and connect to an external modem or acoustic telephone coupler.

### Line Interface

Some terminals contain an *integral modem* that can be connected directly to a communications line. In some cases the vendor provides an *acoustic telephone coupler*, so that the terminal can be connected to a conventional telephone handset, or makes available a separate *external modem*.

### Diagnostics

The entry *self diagnostics* denotes the terminal's capability to identify failures via self-generated test procedures. Failures are typically indicated by displayed test patterns or by indicator lamps. Self-diagnostics are typically performed while the terminal is in the off-line mode.



*The new Megadata System 700 is a user-programmable terminal that incorporates a 12-bit minicomputer (similar to the DEC PDP-8E) with up to 64K bytes of user memory. Programming is performed in assembly language. The standard 1920-character screen displays 64 to 256 different characters via a programmable character generator. A host of peripherals is available, and all are program-controlled. The base price is \$2,995, with quantity discounts available.*

*On-line* diagnostics denotes failure analysis of the terminal via diagnostic procedures generated by an external source, such as the host computer.

*Off-line* diagnostics denotes failure analysis of the terminal performed via diagnostic procedures while the terminal is in the off-line mode.

### Pricing

Terminal pricing is provided for unit quantities (one terminal) unless otherwise specified. One, two, and three year leases (where applicable) and purchase prices are shown for the display station, serial printer, and terminal controller. Purchase prices are also provided for optional software. Quantity discounts are noted when available.

Single entries generally indicate the price of the basic unit without options; price ranges show the price of the basic unit and the price of an expanded unit with all options. In some cases, the terminal vendor offers a lease term other than those shown, such as a 4- or 5-year lease or a 30- or 60-day, short-term rental. In such cases, the lease prices and terms appear in the Comments at the bottom of the charts.

Many terminal vendors do not lease their equipment, and in these cases you'll find dashes in the lease price entries. Also, a number of terminal makers sell their wares on an OEM basis only, for incorporation into systems supplied by other vendors.

### Availability

*Date of first production delivery* indicates when the first production model of each terminal was delivered (or is scheduled to be delivered) to a customer. ▷

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Here's an example of the use of partial reverse video (dark characters on light background) and formatted operation. The Tektronix 4023 is a general-purpose alphanumeric terminal with a 12-inch CRT, capable of displaying up to 1920 characters. Options include the Ruling Character Set (shown above as the solid horizontal and vertical lines), a hard-copy unit (Model 4023), and a cartridge tape drive (Model 4923). Tektronix is a leading vendor of graphic display terminals.

▷ Display units installed to date shows how many display units of each type has been delivered to customers as of approximately June 1, 1976. All figures were supplied by the vendors themselves, and a number of companies chose not to release this information.

*Serviced by* specifies the party responsible for maintaining the terminal. In some cases the vendor provides total service; in others a national service organization is responsible. Service is sometimes rendered under the combined efforts of both the vendor and an independent service organization; usually in this situation, the vendor handles those areas close to his headquarters or where it has a multiplicity of installations, and the service company handles other geographical areas.

*Number of service locations* specifies the total number of service points nationwide that provide customer service for the terminal.

### Comments

Comments at the bottom of the charts describe significant or unusual features, capabilities, or applications which are not reflected in the standard entries. □

### Manufacturers

Listed below, for your convenience in obtaining additional information, are the full names and addresses of the 74 vendors whose products are summarized in the comparison charts.

*Ann Arbor Terminals, Inc.*, 6107 Jackson Road, Ann Arbor, Michigan 48103. Telephone (313) 769-0926.

*Applied Digital Data Systems, Inc.*, 100 Marcus Boulevard, Hauppauge, New York 11787. Telephone (516) 231-5400.

*Beehive Terminals*, 870 West 2600 South, PO Box 19244, Salt Lake City, Utah 84119. Telephone (801) 487-0741.

*Bunker Ramo Corporation*, Trumbull Industrial Park, Trumbull, Connecticut 06609. Telephone (203) 377-4141.

*Burroughs Corporation*, Business Machines Group, Room 2A38, Burroughs Place, Detroit, Michigan 48232. Telephone (313) 972-9115.

*CompuTek, Inc.*, 143 Albany Street, Cambridge, Massachusetts 02139. Telephone (617) 864-5140.

*Computer Communications, Inc.*, 2610 Columbia Street, Torrance, California 90503. Telephone (213) 320-9101.

*Computer Optics, Inc.*, Berkshire Industrial Park, Bethel, Connecticut 06801. Telephone (203) 744-6720.

*Conrac Corporation*, Conrac Division, 600 N. Rimsdale Avenue, Covina, California. Telephone (213) 966-3511.

*Control Data Corporation*, 8100 34th Avenue South, Minneapolis, Minnesota 55420. Telephone (612) 853-4656.

*Courier Terminal Systems, Inc.*, 2202 E. University Drive, Phoenix, Arizona 85034. Telephone (602) 244-1392.

*Data General Corporation*, Route 9, Southboro, Massachusetts, 01770. Telephone (617) 485-9100.

*Data 100 Corporation*, 7725 Washington Avenue South, Minneapolis, Minnesota 55435. Telephone (612) 941-6500.

*Data Pathing, Inc.*, 370 San Alesco Avenue, Sunnyvale, California 94086. Telephone (408) 734-0100.

*Datamedia Corporation*, 7300 N. Crescent Boulevard, Pennsauken, New Jersey 08110. Telephone (609) 665-2382.

*Datapoint Corporation*, 9725 Datapoint Drive, San Antonio, Texas 78284. Telephone (512) 696-4520.

*Delta Data Systems Corporation*, Woodhaven Industrial Park, Cornwells Heights, Pennsylvania 19020. Telephone (215) 639-9400.

*Digi-log Systems, Inc.*, Babylon Road, Horsham, Pennsylvania 19044. Telephone (215) 672-0800.

*Digital Equipment Corporation*, 146 Main Street, Maynard, Massachusetts 01754. Telephone (617) 897-5111.

*Four-Phase Systems, Inc.*, 19333 Vallco Parkway, Cupertino, California 95014. Telephone (408) 255-0900.

*Genesis One Computer Corporation*, 300 East 44th Street, New York, New York 10017. Telephone (212) 557-3500.

*Goodwood Data Systems, Ltd.* (formerly I.P. Sharp Associates, Ltd.), PO Box 1900, 150 Rosamond Street, Carleton Place, Ontario, Canada K0A 1J0. Telephone (613) 257-3610.

*GTE Information Systems, Inc.*, One Stamford Forum, Stamford, Connecticut 06904. Telephone (203) 357-2000.

*Hazeltine Corporation*, Greenlawn, New York 11740. Telephone (516) 261-7000.

*Hendrix Electronics, Inc.*, 645 Harvey Road, Manchester, New Hampshire 03103. Telephone (603) 669-9050.

*Hewlett-Packard*, 1501 Page Mill Road, Palo Alto, California 94304. Telephone (415) 493-1501.

*Honeywell Information Systems, Inc.*, 60 Walnut Street, Wellesley Hills, Massachusetts 02181. Telephone (617) 237-4100. ▷

## Alphanumeric Display Terminals — Basic Characteristics

- *International Business Machines Corporation (IBM)*, Data Processing Division, 1133 Westchester Avenue, White Plains, New York 10604. Telephone (914) 696-1900.
- Incoterm Corporation*, 65 Walnut Street, Wellesley, Massachusetts 02181. Telephone (617) 237-2100.
- Informers, Inc.*, 2218 Cotner Avenue, Los Angeles, California 90064. Telephone (213) 477-4216.
- Infoton, Inc.*, Second Avenue, Burlington, Massachusetts 01803. Telephone (617) 272-6660.
- Interface Technology, Inc.*, 10506 Kahlmyer Drive, St. Louis, Missouri 63132. Telephone (314) 426-6880.
- International Communications Corporation (ICC)*, 8600 N.W. 41st Street, Miami, Florida 33166. Telephone (305) 592-7654.
- International Telephone & Telegraph Corporation (ITT)*, Data Equipment & Systems Division, East Union Avenue, East Rutherford, New Jersey 07073. Telephone (201) 935-3900.
- Jacquard Systems*, 1505 11th Street, Santa Monica, California 90404. Telephone (213) 393-3711.
- Kustom Electronics Inc.*, Data Communications Division, 1010 West Chestnut, Chanute, Kansas 66720. Telephone (316) 431-4380.
- Lear Siegler, Inc.*, Electronic Instrumentation Division, 714 North Brookhurst Street, Anaheim, California 92803. Telephone (714) 774-1010.
- Leasco Data Communications Corporation*, 20030 Century Boulevard, Germantown, Maryland 20767. Telephone (301) 428-0500.
- Megadata Computer and Communications Corporation*, 35 Orville Drive, Bohemia, New York 11716. Telephone (516) 589-6800.
- Memorex Corporation*, Equipment Group, San Tomas at Central Expressway, Santa Clara, California 95052. Telephone (408) 987-3412.
- Microtech Data Systems, Inc.*, 1141 East Janis Street, Carson, California 90746. Telephone (213) 637-1981.
- NCR Corporation*, EDP Products, Building 23, 3rd Floor, Main & K Streets, Dayton, Ohio 45409. Telephone (513) 449-6620.
- Olivetti Corporation of America*, 500 Park Avenue, New York, New York 10022. Telephone (212) 371-5500.
- Omron Systems, Inc.*, 432 Toyama Drive, Sunnyvale, California 94086. Telephone (408) 734-8400.
- Ontel Corporation*, 3 Fairchild Court, Plainview, New York 11803. Telephone (516) 822-7800.
- Pertec Business Systems*, 17112 Armstrong Avenue, Santa Ana, California 92705. Telephone (714) 540-8340.
- Plantronics, Inc.*, 385 Reed Street, Santa Clara, California 95050. Telephone (408) 249-1160.
- Quotron Systems, Inc.*, 5454 Beethoven Street, Los Angeles, California 90066. Telephone (213) 398-2761.
- Randal Data Systems, Inc.*, 365 Maple Avenue, Torrance, California 90503. Telephone (213) 320-8550.
- Raytheon Data Systems Company*, Division of Raytheon Company, 1415 Boston-Providence Turnpike, Norwood, Massachusetts 02162. Telephone (617) 762-6700.
- Research, Inc.*, PO Box 24064, Minneapolis, Minnesota 55424. Telephone (612) 941-3300.
- Sanders Data Systems, Inc.*, Daniel Webster Highway, Nashua, New Hampshire 03060. Telephone (603) 885-6685.
- Scientific Measurement Systems, Inc.*, 26 Olney Avenue, Cherry Hill, New Jersey 08003. Telephone (609) 424-5220.
- Selecterm, Inc.*, 2 Audubon Road, Wakefield, Massachusetts 01880. Telephone (617) 246-1300.
- Singer Business Machines*, Division of The Singer Company, 70 New Dutch Lane, Fairfield, New Jersey 07006. Telephone (201) 256-4000.
- Sycor, Inc.*, 100 Phoenix Drive, Ann Arbor, Michigan 48104. Telephone (313) 971-0900.
- TEC, Inc.*, 2727 N. Fairview Avenue, Tucson, Arizona 85705. Telephone (602) 792-2230.
- Tektronix, Inc.*, PO Box 500, Beaverton, Oregon 97005. Telephone (503) 644-0161.
- Teleram Communications Corporation*, 1032 Mamaroneck Avenue, Mamaroneck, New York 10543. Telephone (914) 698-7789.
- Teletype Corporation*, 5555 Touhy Avenue, Skokie, Illinois 60076. Telephone (312) 982-2000.
- Termiflex Corporation*, 17 Airport Road, PO Box 1123, Nashua, New Hampshire 03060. Telephone (603) 889-3883.
- Terminal Communications, Inc.*, 3301 Terminal Drive, Raleigh, North Carolina 27611. Telephone (919) 834-5251.
- Trans-Lux Corporation*, 625 Madison Avenue, New York, New York 10022. Telephone (212) PL 1-3110.
- Trivex, Inc.*, Information Systems Division, 3180 Red Hill Avenue, Costa Mesa, California 92626. Telephone (714) 546-7781.
- Univac Division*, Sperry Rand Corporation, PO Box 500, Blue Bell, Pennsylvania 19422. Telephone (215) 542-4011.
- Video Data Systems*, 657 Old Willets Path, Hauppauge, New York 11787. Telephone (516) 234-1010.
- Wang Laboratories, Inc.*, 836 North Street, Tewksbury, Massachusetts 01876. Telephone (617) 851-4111.
- Western Union Data Services Company*, 70 McKee Drive, Mahwah, New Jersey 07430. Telephone (201) 529-1170.
- Westinghouse Canada, Ltd.*, Box 510, Hamilton, Ontario, Canada L8N 3K2. Telephone (416) 528-8811.
- Wiltek, Inc.*, Glover Avenue, Norwalk, Connecticut 06850. Telephone (203) 853-7400.
- Wintek Corporation*, 902 North 9th Street, Lafayette, Indiana 47904. Telephone (317) 742-6802.
- Wyle Computer Products*, a Division of Wyle Laboratories, 3200 Magruder Boulevard, Hampton, Virginia 23666. Telephone (804) 838-0122.
- Xerox Corporation*, 70 South Aviation Boulevard, El Segundo, California 90245. Telephone (213) 679-4511.
- Zentec Corporation*, 2368-C Walsh Avenue, San Clara, California 95050. Telephone (408) 246-7662. □

Alphanumeric Display Terminals – Equipment Specifications

Part 1: Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Ann Arbor Terminals DESIGN III KSR/R0	Ann Arbor Terminals Series 200 KSR/R0	Applied Digital Data Systems (ADDS) Consul 520	Applied Digital Data Sys. (ADDS) Consul 580 & MRD 460	Applied Digital Data Systems (ADDS) MRD 460
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	No	No	No	No
Memory range, bytes	—	—	—	—	—
Stand-alone unit	Yes	Yes	Yes	Yes	Yes
Local cluster arrangement	No	No	No	No	No
Remote cluster arrangement	No	No	No	No	No
Max. no. of displays/controller	—	—	—	—	—
Max. no. of printers/controller	—	—	—	—	—
Max. no. of devices/controller	—	—	—	—	—
Any mix of screen sizes/controller	—	—	—	—	—
Computer Interface	No	No	No	No	No
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	No	No	No
IBM 2260/2265	No	No	No	No	No
Teletype 33/35	Std.	Std.	Std.	Std.	Std.
Teletype 40	No	No	Std.	—	Std.
Other	None	None	No	No	No
<b>PROGRAMMABILITY</b>					
Programmed via:					
User-created programs	No	No	No	No	No
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	No	No	No	No	No
User-defined firmware	No	No	No	No	No
Vendor-supplied software	No	No	No	No	No
Software pricing	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	256-3200	256-3200	1920	1920	1920
Display arrangement, lines x chars/line	8 x 32 to 40 x 80	8 x 32 to 40 x 80	24 x 80	24 x 80	24 x 80
Display area, h x w, inches	14-inch diag.	9 to 23-inch diag.	8 x 10-inch diag.	8 x 10; 12" diag.	9/25-inch diag.
Total displayable symbols	64, 96, or 128	64, 96, or 128	64	64	64
Symbol formation	5 x 7 or 7 x 9 dot matrix	5 x 7 or 7 x 9 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	8 colors std.
Reverse video	Opt.	Opt.	No	No	Std.
Programmable brightness levels	2 opt.	2 opt.	No	No	2 std.
Character and/or field blinking	Both opt.	Both opt.	No	No	Both std.
Roll	Std.	Std.	Up std.	Std.	No
Paging	No	No	No	—	No
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	No	L, R, U, D, H	U, D, L, R, H
Cursor blinking	Opt.	Opt.	Opt.	Opt.	Opt.
Addressable/readable cursor	Std. addressable only	Std. addressable only	Std. addressable only	Std. addressable only	Std. addressable only
<b>FORMAT CONTROL</b>					
Protected format	Opt.	Opt.	No	No	Std.
Format creation via keyboard	Opt.	Opt.	No	No	Std.
Format editing via keyboard	Opt.	Opt.	No	No	Std.
Format storage	Opt.	Opt.	No	No	1 std.
Partial screen transmit	Opt.	Opt.	No	No	No
Tabulation	Opt.	Opt.	No	No	Std.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	Opt.	Opt.	No	Std.	No
Line insert/delete	Opt.	Opt.	No	No	No
Character erase	Std.	Std.	Std.	Std.	Std.
Line erase	Opt.	Opt.	No	No	Std.
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Std.	Std.	No	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Teletype	Teletype	Typewriter	Typewriter	Typewriter
Character/code set	ASCII	ASCII	ASCII	ASCII	ASCII
Detachability	Std.	Std.	No	No	Std.
Program function keys	No	No	No	No	No
Cursor control keys	6 std.	6 std.	No	Std.	4 std.
Edit function keys	3 std.; 5 opt.	3 std.; 5 opt.	No	5 std.	4 std.
Numeric keypad	Std.	Opt.	No	Std.	Std.



Alphanumeric Display Terminals – Equipment Specifications

Part 2:      Operator Features      Transmission Features      Diagnostics  
Ancillary Features      Terminal Interface      Pricing  
Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Ann Arbor Terminals DESIGN III KSR/R0	Ann Arbor Terminals Series 200 KSR/R0	Applied Digital Data Systems (ADDS) Consul 520	Applied Digital Data Sys. (ADDS) Consul 580 & MRD 380	Applied Digital Data Systems (ADDS) MRD 460
<b>OPERATOR FEATURES</b>					
Numeric keylock	—	—	Opt.	—	No
Audible alarm	Opt.	Opt.	Std.	Std.	No
Keylock	—	—	No	No	No
Operator I.D. card reader	No	No	No	No	No
Light pen	No	No	No	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	No	No	RS-232 interface	RS-232 interface
Diskette drive (floppy disk)	No	No	No	RS-232 interface	RS-232 interface
Serial printer	No	No	Impact	Non-impact	No
Print speed & positions, cps	—	—	30 @ 80	—	—
Other devices	None	None	None	None	None
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	ASCII	ASCII	ASCII	ASCII	ASCII
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Unit code structure, bits/char.	10	10	10	10	10
Speed, bits/second	Up to 9600	Up to 9600	Up to 9600	Up to 9600	Up to 1500 cps
Operator selectable speeds	—	—	—	—	—
Format: character, line, or block	Char./block opt.	Char./block opt.	Char. only	Char. only	Char. only
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	Opt.	Opt.	No	No	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	RS-232C, CCITT V.24, 20 ma	RS-232C, 20 ma opt.	RS-232C, CCITT V.24, 20 ma, TTL
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	Yes	Yes	Yes
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
Vendor-supplied external modem	No	No	No	No	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	No	No
In line	No	No	No	No	No
On line	No	No	No	No	No
Off line	No	No	No	No	No
<b>PRICING (Price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	—	—	—	—	—
Display station, 2 year lease, \$/mo.	—	—	—	—	—
Display station, 3 year lease, \$/mo.	—	—	—	—	—
Serial printer, 1 year lease, \$/mo.	—	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	—	—	—	—	—
Controller, 2 year lease, \$/mo.	—	—	—	—	—
Controller, 3 year lease, \$/mo.	—	—	—	—	—
Purchase price:					
Display station, \$	1,070-1,995	—	1,595	1,795 (Consul 580)	Contact vendor
Serial printer, \$	—	—	—	—	—
Controller, \$	—	720-1,345	—	—	—
Software, \$	—	—	—	—	—
Quantity discounts available	Yes	Yes	Yes	Yes	Yes
<b>AVAILABILITY</b>					
Date of first production delivery	12/73	5/70	4/76	'73(580); '74(380)	9/75
Display units installed to date	1,650	5,700	—	3000/200	150
Serviced by	Ann Arbor	Ann Arbor	NCR	NCR	ADDS
No. of service locations	—	—	—	—	—
<b>COMMENTS</b>	Terminals are available in a total of 6 display formats: 16 x 32, 24 x 40, 16 x 80, 20 x 50, 24 x 80, and 40 x 80. DESIGN III uses same circuitry as Series 200, but is housed in attractive casework. Series 200 is available as circuit boards with monitor in desk or rack mounting			Also available from NCR as Model 796-101; MRD 380 is rack-mount controller priced at \$1,195	

Alphanumeric Display Terminals – Equipment Specifications

**Part 1:** Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Applied Digital Data Sys. (ADDS) Consul 880A & MRD 780A	Applied Digital Data Systems (ADDS) Consul 920	Applied Digital Data Sys. (ADDS) Consul 980 & MRD 980	Applied Digital Data Systems (ADDS) Consul 980A	Applied Digital Data Systems (ADDS) Envoy 620
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	No	No	No	No
Memory range, bytes	—	—	—	—	—
Stand-alone unit	Yes	Yes	Yes	Yes	Yes
Local cluster arrangement	No	No	No	No	No
Remote cluster arrangement	No	No	No	No	—
Max. no. of displays/controller	1; up to 96 chained	—	—	—	—
Max. no. of printers/controller	—	—	—	—	—
Max. no. of devices/controller	—	—	—	—	—
Any mix of screen sizes/controller	—	—	—	—	—
Computer interface	No	No	No	No	No
Portable case	No	No	No	No	Yes; 29 lbs.
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	No	Std.	No
IBM 2260/2265	No	No	No	No	No
Teletype 33/35	No	No	Std.	No	Std.
Teletype 40	No	No	No	No	Std.
Other	No	No	No	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	No	No
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	No	No	No	No	No
User-defined firmware	No	No	No	No	No
Vendor-supplied software	No	No	No	No	No
Software pricing	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	1920	1920	1920	1920	1920
Display arrangement, lines x chars./line	24 x 80	24 x 80	24 x 80	24 x 80	24 x 80
Display area, h x w, inches	8 x 10; 12" diag.	8 x 10; 12" diag.	8 x 10; 12" diag.	8 x 10; 12" diag.	2 x 3; 5" diag.
Total displayable symbols	64	96	96	96	64
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	Std.; selectable	Std.; selectable	Std.; selectable	No
Programmable brightness levels	2 std.	2 std.	2 std.	2 std.	No
Character and/or field blinking	Both std.	Both std., 2 speeds	Both std., 2 speeds	Both std., 2 speeds	No
Roll	Up std.	Up std.	Up std.	Up std.	Up std.
Paging	No	No	No	No	No
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	L, R, U, D, H	L, R, U, D, H	L, R, U, D, H	L, R, U, D, H	U, D, L, R, H
Cursor blinking	No	Opt.	Opt.	No	Opt.
Addressable/readable cursor	Std. addressable only	Std.	Std. addressable only	Std.	Std.
<b>FORMAT CONTROL</b>					
Protected format	Std.	Std.	Std.	Std.	No
Formation creation via keyboard	Std.	Std.	Std.	Std.	No
Format editing via keyboard	Std.	Std.	Std.	Std.	No
Format storage	Std.	Std.	Std.	Std.	No
Partial screen transmit	Std.	Std.	Std.	Std.	No
Tabulation	Std.	Std.	Std.	Std.	No
<b>EDIT FUNCTIONS</b>					
Character insert/delete	Std.	No	Std.	Std.	No
Line insert/delete	No	No	Std.	Std.	No
Character erase	Std.	Std.	Std.	Std.	Std.
Line erase	Std.	Std.	Std.	Std.	No
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Std.	Std.	Std.	Std.	No
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	ASCII	ASCII	ASCII	ASCII	ASCII
Detachability	No	No	No	No	No
Program function keys	No	11 opt.	11 opt.	11 opt.	No
Cursor control keys	5 std.	5 std.	5 std.	5 std.	5 std.
Edit function keys	6 std.	4 std.	8 std.	8 std.	2 std.
Numeric keypad	Std.	Std.	Std.	Std.	No

Alphanumeric Display Terminals – Equipment Specifications

Part 2:      Operator Features      Transmission Features      Diagnostics  
                  Ancillary Features      Terminal Interface      Pricing  
                  Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Applied Digital Data Sys. (ADDS) Consul 880A & MRD 780A	Applied Digital Data Systems (ADDS) Consul 920	Applied Digital Data Sys. (ADDS) Consul 980 & MRD 980	Applied Digital Data Systems (ADDS) Consul 980A	Applied Digital Data Systems (ADDS) Envoy 620
<b>OPERATOR FEATURES</b>					
Numeric keylock	—	—	—	—	Opt.
Audible alarm	No	Std.	Std.	Std.	Std.
Keylock	—	—	—	—	No
Operator I.D. card reader	No	No	No	No	No
Light pen	No	No	No	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	RS-232 interface	RS-232 interface	RS-232 interface	RS-232 interface	RS-232 interface
Diskette drive (floppy disk)	RS-232 interface	RS-232 interface	RS-232 interface	RS-232 interface	RS-232 interface
Serial printer	Non-impact	Non-impact (NCR)	Impact (Centron.)	None	Non-impact (NCR)
Print speed & print positions, cps	—	—	—	—	30 cps;80 positions
Other devices	None	None	None	None	None
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Async./sync.	Asynchronous
Communications protocol	ASCII	ASCII	ASCII	BSC	ASCII
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Unit code structure, bits/char.	10	10	10	8/10	10/11
Speed, bits/second	Up to 9600	Up to 9600	Up to 9600	Up to 9600	Up to 9600
Operator selectable speeds	—	—	—	—	5 std.
Format: character, line, or block	Block only	Char./block	Char./block	Block only	Char. only
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	Std.	No	No	Std.	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C, 20 ma opt.	RS-232C, 20 ma opt.	RS-232C	RS-232C, CCITT V.24, 20 ma
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	Yes	Yes	No
Integral modem	No	No	No	No	Std.
Integral acoustic coupler	No	No	No	No	Std.
Vendor-supplied external modem	No	No	No	No	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	No	No
In line	No	No	No	No	No
On line	No	No	No	No	No
Off line	No	No	No	No	No
<b>PRICING (Price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	—	—	—	—	—
Display station, 2 year lease, \$/mo.	—	—	—	155	—
Display station, 3 year lease, \$/mo.	—	—	—	125	80
Serial printer, 1 year lease, \$/mo.	—	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	—	—	—	—	—
Controller, 2 year lease, \$/mo.	—	—	—	—	—
Controller, 3 year lease, \$/mo.	—	—	—	—	—
Purchase price:					
Display station, \$	3,265(880A);3,845	2,600	2,800 (Con. 980)	3,200	2,250
Serial printer, \$	—	—	—	—	—
Controller, \$	—	—	—	—	—
Software, \$	—	—	—	—	—
Quantity discounts available	Yes	Yes	Yes	Yes	Yes
<b>AVAILABILITY</b>					
Date of first production delivery	9/73	4/70	11/74,4/75 (MRD)	6/75	10/75
Display units installed to date	600/200	5,000	600 (Consul 980)	—	100
Serviced by	NCR	NCR	NCR	NCR	NCR
No. of service locations	—	—	—	—	—
<b>COMMENTS</b>	Also available from NCR as Model 796-301; MRD 780A is rack-mount controller priced at \$2,825 to \$3,170		MRD 980 is rack-mount controller priced at \$1,995		

Alphanumeric Display Terminals – Equipment Specifications

Part 1: Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Applied Digital Data Systems (ADDS) Envoy 680	Beehive Terminals Mini Bee 2	Beehive Terminals Mini Bee 4	Beehive Terminals Super Bee 2	Beehive Terminals Super Bee 3
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	No	No	Microprocessor	Microprocessor
Memory range, bytes	—	—	—	2K	2K
Stand-alone unit	Yes	Yes	Yes	Yes	Yes
Local cluster arrangement	No	No	No	No	No
Remote cluster arrangement	No	No	No	No	No
Max. no. of displays/controller	—	—	—	—	—
Max. no. of printers/controller	—	—	—	—	—
Max. no. of devices/controller	—	—	—	—	—
Any mix of screen sizes/controller	—	—	—	—	—
Computer interface	No	No	No	No	No
Portable case	Yes; 26 lbs.	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	No	No	No
IBM 2260/2265	No	No	No	No	No
Teletype 33/35	Std.	Std.	Std.	Std.	No
Teletype 40	No	No	No	No	No
Other	No	No	No	No	Opt. protocols
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	No	No
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	No	No	No	Yes	Yes
User-defined firmware	No	No	No	Yes	Yes
Vendor-supplied software	—	—	—	No	No
Software pricing	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	1920	2000	2000	2000	2000
Display arrangement, lines x chars./line	24 x 80	25 x 80	25 x 80	25 x 80	25 x 80
Display area, h x w, inches	2 x 3; 5' diag.	6.5 x 8.4	6.5 x 8.4	6.5 x 8.4	6.5 x 8.4
Total displayable symbols	64	64	128	128	128
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	No	Std.	Std.	Std.
Programmable brightness levels	No	2 std.	No	No	No
Character and/or field blinking	No	Both std.	No	Both std.	Both std.
Roll	Up std.	Up std.	Up std.	Up & down std.	—
Paging	No	—	—	Forward & backward std.	Forward & backward std.
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H	L, R, U, D, H	L, R, U, D, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Opt.	No	Std.	Std.	Std.
Addressable/readable cursor	Std.	No	Std. addressable only	Both std.	Both std.
<b>FORMAT CONTROL</b>					
Protected format	No	Std.	Std.	Std.	Std.
Format creation via keyboard	No	Std.	Std.	Std.	Std.
Format editing via keyboard	No	Std.	Std.	Std.	Std.
Format storage	—	Std.	Std.	Std.	Std.
Partial screen transmit	No	Std.	Std.	Std.	Std.
Tabulation	No	Std.	Std.	Std.	Std.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	No	Std.	No	Std.	Std.
Line insert/delete	No	No	No	Std.	Std.
Character erase	Std.	Std.	Std.	Std.	Std.
Line erase	No	Std.	Std.	Std.	Std.
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	No	Std.	Std.	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	ASCII	ASCII	ASCII	ASCII	ASCII
Detachability	No	No	Std.	Std.	Std.
Program function keys	No	—	No	8 std.	8 std.
Cursor control keys	5 std.	Std.	Std.	Std.	Std.
Edit function keys	No	No	No	Std.	Std.
Numeric keypad	No	No	Std.	Std.	Std.

Alphanumeric Display Terminals – Equipment Specifications

**Part 2:** Operator Features      Transmission Features      Diagnostics  
Ancillary Features      Terminal Interface      Pricing  
Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Applied Digital Data Systems (ADDS) Envoy 680	Beehive Terminals Mini Bee 2	Beehive Terminals Mini Bee 4	Beehive Terminals Super Bee 2	Beehive Terminals Super Bee 3
<b>OPERATOR FEATURES</b>					
Numeric keylock	No	No	No	No	No
Audible alarm	No	Std.	Std.	Std.	Std.
Keylock	No	No	No	No	No
Operator I.D. card reader	No	No	No	No	No
Light pen	No	No	No	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	Yes	RS-232 interface	No	No
Diskette drive (floppy disk)	No	Yes	RS-232 interface	No	No
Serial printer	No	No	RS-232 interface	RS-232 interface	RS-232 interface
Print speed & print positions, cps	No	—	—	—	—
Other devices	None	None	None	None	None
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Async./sync.	Async./sync.
Communications protocol	ASCII	ASCII	ASCII	User specified	User specified
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Unit code structure, bits/char.	10	10/11	10	8/10	8/10
Speed, bits/second	Up to 300	Up to 9600	Up to 9600	Up to 9600	Up to 9600
Operator selectable speeds	—	—	—	—	—
Format: character, line, or block	Char./block	Char./block	Char./block	Char./block	Char./block
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	No	No	No	Opt.	Std.
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	RS-232C	RS-232C	RS-232C
<b>LINE INTERFACE</b>					
External modem required	No	Yes	Yes	Yes	Yes
Integral modem	Std.	No	No	No	No
Integral acoustic coupler	Std.	No	No	No	No
Vendor-supplied external modem	No	No	No	No	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	No	No
In line	No	No	No	No	No
On line	No	No	No	No	No
Off line	No	No	No	No	No
<b>PRICING (Price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	—	—	—	—	—
Display station, 2 year lease, \$/mo.	—	—	—	—	—
Display station, 3 year lease, \$/mo.	99-106	—	—	—	—
Serial printer, 1 year lease, \$/mo.	—	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	—	—	—	—	—
Controller, 2 year lease, \$/mo.	—	—	—	—	—
Controller, 3 year lease, \$/mo.	—	—	—	—	—
Purchase price:					
Display station, \$	3,895-4,090	1,795	2,395	3,295	3,695
Serial printer, \$	—	—	—	—	—
Controller, \$	—	—	—	—	—
Software, \$	—	—	—	—	—
Quantity discounts available	Yes	Yes	Yes	Yes	Yes
<b>AVAILABILITY</b>					
Date of first production delivery	4/70	8/73	4/74	5/73	6/74
Display units installed to date	300	3,000	600	4,500 (incl. SB 3)	—
Served by	NCR	Factory & Sorbus	Factory & Sorbus	Factory & Sorbus	Factory & Sorbus
No. of service locations	—	20	30	30	30
<b>COMMENTS</b>					

## Alphanumeric Display Terminals – Equipment Specifications

**Part 1:**

**Terminal Description**  
Compatibility  
Programmability

**Display Organization**  
Display Features  
Cursor Control

**Format Control**  
Edit Functions  
Keyboard Parameters

VENDOR AND MODEL	Beehive Terminals Speedi Bee 8	Beehive Terminals Edit Bee	Bunker Ramo Model 2204/15	Bunker Ramo Model 2206/17	Bunker Ramo Model 2210
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	Microprocessor	No	No	No
Memory range, bytes	—	2000	—	—	—
Stand-alone unit	Yes	Yes	No	No	No
Local cluster arrangement	No	No	Yes	Yes	Yes
Remote cluster arrangement	No	No	Yes	Yes	Yes
Max. no. of displays/controller	—	—	36	36	36
Max. no. of printers/controller	—	—	9	9	9
Max. no. of devices/controller	—	—	36	36	36
Any mix of screen sizes/controller	—	—	Std.	Std.	Std.
Computer interface	—	—	—	—	—
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	No	No	No
IBM 2260/2265	No	No	Std.	Std.	Std.
Teletype 33/35	No	No	No	No	No
Teletype 40	No	No	No	No	No
Other	No	No	—	—	—
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	No	No
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	No	Yes	No	No	No
User-defined firmware	No	Yes	No	No	No
Vendor-supplied software	No	No	No	No	No
Software pricing	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	2000	2000	960	960	198
Display arrangement, lines x chars./line	25 x 80	25 x 80	12 x 80 or 24 x 37	12 x 80 or 24 x 37	10 x 20
Display area, h x w, inches	6.5 x 8.4	6.5 x 8.4	4.75 x 6.5	6.25 x 8.75	1.5 x 2.13
Total displayable symbols	128	128	92	92	92
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	Std.	Std.	No	No	No
Programmable brightness levels	Std.	2 std.	No	No	No
Character and/or field blinking	Both std.	Both std.	Field std.	Field std.	Field std.
Roll	No	Up & down std.	No	No	No
Paging	No	Forward & backward std.	No	No	No
<b>CURSOR CONTROL</b>					
Cursor positioning: Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, Rt.	L, R, H, Rt.	L, R, H, Rt.	L, R, H, Rt.
Cursor blinking	No	No	No	No	No
Addressable/readable cursor	Std. addressable only	Std.	Std. addressable only	Std. addressable only	Std. addressable only
<b>FORMAT CONTROL</b>					
Protected format	Std.	Std.	Std.	Std.	Std.
Format creation via keyboard	Std.	Std.	No	No	No
Format editing via keyboard	Std.	Std.	Std.	Std.	Std.
Format storage	Std.	Std.	—	—	—
Partial screen transmit	Std.	Std.	Std.	Std.	Std.
Tabulation	Std.	Std.	Std.	Std.	Std.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	No	Std.	Std.	Std.	No
Line insert/delete	No	Std.	No	No	No
Character erase	Std.	Std.	Std.	Std.	Std.
Line erase	Std.	Std.	Std.	Std.	No
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Std.	Std.	No	No	No
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Block
Character/code set	ASCII	ASCII	ASCII	ASCII	ASCII
Detachability	Std.	Std.	Std.	Std.	No
Program function keys	No	8 std.	16 std.	16 std.	6 std.
Cursor control keys	Std.	Std.	6 std.	6 std.	5 std.
Edit function keys	Erase only	—	4 std.	4 std.	2 std.
Numeric keypad	Opt.	Std.	Std.	Std.	Std.



Alphanumeric Display Terminals -- Equipment Specifications

Part 2:      Operator Features      Transmission Features      Diagnostics  
 Ancillary Features      Terminal Interface      Pricing  
 Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Beehive Terminals Speedi Bee 8	Beehive Terminals Edit Bee	Bunker Ramo Model 2204/15	Bunker Ramo Model 2206/17	Bunker Ramo Model 2210
<b>OPERATOR FEATURES</b>					
Numeric keylock	No	No	Std.	Std.	Std.
Audible alarm	Std.	Std.	Opt.	Opt.	No
Keylock	No	No	No	No	No
Operator I.D. card reader	No	No	No	No	No
Light pen	No	No	No	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	No	RS-232 interface	Impact	Impact	Impact
Print speed & print positions, cps	—	—	10/30/120/165	10/30/120/165	10/30/120/165
Other devices	None	None	Paper tape reader/ punch	Paper tape reader/ punch	Paper tape reader/ punch
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Async./sync.	Async./sync.	Async./sync.	Async./sync.
Communications protocol	—	User specified	ASCII	ASCII	ASCII
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Unit code structure, bits/char.	10	10/11	8/10	8/10	8/10
Speed, bits/second	500K char./sec.	Up to 9600	1200-4800	1200-4800	1200-4800
Operator selectable speeds	—	—	No	No	No
Format: character, line, or block	Char./block	Block only	Block only	Block only	Block only
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	No	Std.	Std.	Std.	Std.
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	TTL 8-bit par'l	RS-232C	RS-232C	RS-232C	RS-232C
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	Yes	Yes	Yes
Integral modem	No	No	Opt.	Opt.	Opt.
Integral acoustic coupler	No	No	No	No	No
Vendor-supplied external modem	No	No	Opt.	Opt.	Opt.
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	No	No
In line	No	No	No	No	No
On line	No	No	Yes	Yes	Yes
Off line	No	No	No	No	No
<b>PRICING (Price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	—	—	—	—	—
Display station, 2 year lease, \$/mo.	—	—	46	41	21
Display station, 3 year lease, \$/mo.	—	—	46	41	21
Serial printer, 1 year lease, \$/mo.	—	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	—	70-123	70-123	70-123
Serial printer, 3 year lease, \$/mo.	—	—	70-123	70-123	70-123
Controller, 1 year lease, \$/mo.	—	—	—	—	—
Controller, 2 year lease, \$/mo.	—	—	98-179	98-179	98-179
Controller, 3 year lease, \$/mo.	—	—	98-179	98-179	98-179
Purchase price:					
Display station, \$	3,695	3,995	1,610	1,525	800
Serial printer, \$	—	—	2,650-4,015	2,650-4,015	2,650-4,015
Controller, \$	—	—	3,710-7,110	3,710-7,110	3,710-7,110
Software, \$	—	—	—	—	—
Quantity discounts available	Yes	Yes	No	No	No
<b>AVAILABILITY</b>					
Date of first production delivery	12/75	7/75	3/73	1/70	1/70
Display units installed to date	75	75-100	—	—	—
Serviced by	Factory & Sorbus	Factory & Sorbus	Bunker Ramo	Bunker Ramo	Bunker Ramo
No. of service locations	—	—	—	—	—
<b>COMMENTS</b>			All display models can be intermixed on same controller		Small desk-top unit containing block keyboard and 3-inch screen

Alphanumeric Display Terminals – Equipment Specifications

**Part 1:** Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Bunker Ramo Model 2212	Burroughs TD 700	Burroughs TD 800	Burroughs TD 820	Computek 200 Series
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	No	No	No	Minicomputer
Memory range, bytes	—	—	—	—	16K-32K
Stand-alone unit	No	Yes	Yes	Yes	Yes
Local cluster arrangement	Yes	No	No	No	No
Remote cluster arrangement	Yes	No	No	No	Yes
Max. no. of displays/controller	36	—	—	—	2/4
Max. no. of printers/controller	9	—	—	—	—
Max. no. of devices/controller	36	—	—	—	—
Any mix of screen sizes/controller	Std.	—	—	—	—
Computer interface	—	—	—	—	No
Portable case	No	No	No	No	Opt.
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	Opt.	Opt.	Opt.	Via microprogram
IBM 2260/2265	Std.	Opt.	Opt.	Opt.	Via microprogram
Teletype 33/35	No	No	No	No	Via microprogram
Teletype 40	No	No	No	No	No
Other	No	Burroughs	Burroughs	Burroughs	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	No	Yes
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	No	No	No	No	Yes
User-defined firmware	No	No	No	No	Yes
Vendor-supplied software	No	No	No	No	Macro-assem.; link- ing loader; diskette oper. sys.; multi- track oper. system
Software pricing	—	—	—	—	Std.
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	480	256	960/1920	960/1920	480/9600/2000
Display arrangement, lines x chars./line	12 x 40	8 x 32	12/24 x 80	12/24 x 80	25 x 80
Display area, h x w, inches	3 x 4	3.25 x 8.75	7.5 x 9.5	14.8 x 16.4	6 x 8
Total displayable symbols	92	64	64	96	128
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	14 x 20 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	No	No	Std.	Std.
Programmable brightness levels	No	No	No	No	2 std.
Character and/or field blinking	Field std.	No	No	Both std.	Both std.
Roll	No	No	No	Up & down std.	Std.
Paging	No	No	No	No	Std.
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	L, R, H, Rt,	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	No	Not specified	Std.	No	Opt.
Addressable/readable cursor	Std. addressable only	No	No	Std.	Std.
<b>FORMAT CONTROL</b>					
Protected format	Std.	Std.	Std.	Std.	Std.
Format creation via keyboard	No	Std.	Std.	Std.	Std.
Format editing via keyboard	Std.	Std.	Std.	Std.	Std.
Format storage	None	Std.	Std.	Std.	Std.
Partial screen transmit	Std.	Opt.	Std.	Std.	Std.
Tabulation	Std.	Opt.	Std.	Std.	Std.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	Std.	Opt.	Std.	Std.	Std.
Line insert/delete	No	No	No	Std.	Std.
Character erase	Std.	Std.	Std.	Std.	Std.
Line erase	Std.	No	No	Std.	Std.
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	No	No	Std.	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Block	Typewriter/ data entry	Typewriter/data data entry/numeric	Typewriter/ data entry	Data entry
Character/code set	ASCII	ASCII	ASCII	ASCII	ASCII
Detachability	No	Std.	Std.	Std.	Std.
Program function keys	12 std.	No	No	All keys	22 std.
Cursor control keys	6 std.	6 std.	6 std.	6 std.	6 std.
Edit function keys	5 std.	Opt.	5 std.	8 std.	8 std.
Numeric keypad	Std.	No	No	Opt.	Std.

Alphanumeric Display Terminals – Equipment Specifications

Part 2: Operator Features      Transmission Features      Diagnostics  
Ancillary Features      Terminal Interface      Pricing  
Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Bunker Ramo Model 2212	Burroughs TD 700	Burroughs TD 800	Burroughs TD 820	Computek 200 Series
<b>OPERATOR FEATURES</b>					
Numeric keylock	Std.	No	No	No	No
Audible alarm	No	No	Std.	Std.	Opt.
Keylock	No	No	No	No	No
Operator I.D. card reader	No	No	No	Opt.	No
Light pen	No	No	No	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	No	No	Single/dual	Single/dual
Diskette drive (floppy disk)	No	No	No	Single	One to six drives
Serial printer	Impact	Impact	Impact	Impact	Impact
Print speed & print positions, cps	10, 30, 120, 165	—	—	—	30/165 @ 132
Other devices	Paper tape reader/punch	None	None	None	Card reader, 210- and 320-lpm printers
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	Half-duplex	Half-duplex	Half-duplex	Half/full-duplex
Technique	Async./sync.	Async./sync.	Async./sync.	Async./sync.	Async./sync.
Communications protocol	ASCII	ASCII/BSC	ASCII/BSC	ASCII/BSC	ASCII/BSC
Code	ASCII	ASCII	ASCII	ASCII	ASCII/EBCDIC
Unit code structure, bits/char.	8/10	8/10/11	8/10/11	8/10/11	8/10/11
Speed, bits/second	1200-4800	Up to 9600	Up to 9600	Up to 9600	110 to 19,200
Operator selectable speeds	No	No	No	No	—
Format: character, line, or block	Block only	Char./block	Char./block	Char./block	Char./block
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	Std.	Std.	Std.	Std.	Std.
Auto answer	No	No	No	No	Std.
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C opt.	RS-232C opt.	RS-232C opt.	RS-232C
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	Yes	Yes	Yes
Integral modem	Opt.	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
Vendor-supplied external modem	Opt.	No	No	No	Opt.
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	No	Yes
In line	No	No	No	No	No
On line	Yes	—	—	—	—
Off line	No	No	No	No	Yes
<b>PRICING (Price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	—	115	130-145	160-175	—
Display station, 2 year lease, \$/mo.	37	—	—	—	—
Display station, 3 year lease, \$/mo.	37	113	127-142	150-165	Contact vendor
Serial printer, 1 year lease, \$/mo.	—	—	—	—	—
Serial printer, 2 year lease, \$/mo.	70-123	—	—	—	—
Serial printer, 3 year lease, \$/mo.	70-123	—	—	—	—
Controller, 1 year lease, \$/mo.	—	—	—	—	—
Controller, 2 year lease, \$/mo.	98-179	—	—	—	—
Controller, 3 year lease, \$/mo.	98-179	—	—	—	—
Purchase price:					
Display station, \$	1,345	4,150	5,000-5,500	6,200-6,800	3,000-8,500
Serial printer, \$	2,650-4,015	—	—	—	—
Controller, \$	3,710-7,110	—	—	—	—
Software, \$	—	—	—	—	—
Quantity discounts available	No	—	—	—	—
<b>AVAILABILITY</b>					
Date of first production delivery	1/70	6/73	9/73	2nd qtr. 1975	1972
Display units installed to date	—	—	—	—	Over 2,500
Serviced by	Bunker Ramo	Burroughs	Burroughs	Burroughs	Computek/Sorbus
No. of service locations	65	—	—	—	—
<b>COMMENTS</b>	Small desk-top unit containing 3 block keygroups and 6-inch screen	Uses Burroughs Self-Scan gas technology display panel; display, control, and keyboard are separate; several terminals can share one modem			

Alphanumeric Display Terminals – Equipment Specifications

**Part 1:** Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Computer Communications Model CC-40	Computer Optics CO:77	Conrac 401 Series	Conrac 480 Series (Models 8, 12, & 25)	Control Data Model 711
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	No	401 Plus only	No	No
Memory range, bytes	—	—	—	—	—
Stand-alone unit	Yes	Yes	Yes	Yes	Yes
Local cluster arrangement	No	No	No	No	No
Remote cluster arrangement	No	Yes	Yes	Yes	No
Max. no. of displays/controller	15	32	16	8/16/32	—
Max. no. of printers/controller	—	31	—	—	—
Max. no. of devices/controller	—	32	16	8/16/32	—
Any mix of screen sizes/controller	—	Yes	No	—	—
Computer interface	No	Yes	No	No	—
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	Std.	Opt.	No	No
IBM 2260/2265	Opt.	No	No	No	No
Teletype 33/35	No	No	Opt.	Std.	No
Teletype 40	No	No	No	No	No
Other	No	NO	No	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	No	No
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	No	No	Plus only	No	No
User-defined firmware	No	No	No	No	No
Vendor-supplied software	—	—	—	—	—
Software pricing	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	960/1920	480/960/1920	2000	960/2000	2000
Display arrangement, lines x chars./line	24 x 40/80	12 x 40/80; 24 x 80	25 x 80	12/25 x 80	25 x 80
Display area, h x w, inches	Variable	15 inch diag.	7.5 x 10	7.5 x 10	7.5 x 10
Total displayable symbols	64; 96 opt.	64; 96 opt.	128	64; 128	128
Symbol formation	5 x 7 dot matrix	7 x 9 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	No	No	No	No
Programmable brightness levels	No	2 std.	2 std.	2 std. (25)	2 std.
Character and/or field blinking	Both std.	No	Std.	Std. (8 & 25)	No
Roll	No	No	Std.	Std.; opt. (8 & 12)	Up std.
Paging	Yes	No	No	No	No
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	No	Std.	Std. (12 & 25)	Std.
Addressable/readable cursor	Std.	Std.	Std.	Std. (25)	No
<b>FORMAT CONTROL</b>					
Protected format	Std.	Std.	Std.; plus only	Std.; opt. (8 & 12)	No
Format creation via keyboard	Std.	Std.	Std.; plus only	—	No
Format editing via keyboard	Std.	Std.	Std.; plus only	—	No
Format storage	Std.	Std.	Std.; plus only	—	No
Partial screen transmit	Std.	Std.	Std.	Std.; opt. (12)	Opt.
Tabulation	Std.	Std.	Std.	Std. (25)	Std.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	No	Std.	Std.	Std.; opt. (8 & 12)	Opt.
Line insert/delete	No	Opt.	Std.	Std.; opt. (8)	Opt.
Character erase	Std.	Std.	Std.	Std.	Std.
Line erase	Std.	Std.	Std.	Std.	Opt.
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Std.	Std.	Std.	Opt.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter	Typewriter; others	Several	Teletype	Typewriter
Character/code set	ASCII	ASCII/EBCDIC	ASCII	ASCII	ASCII
Detachability	Std.	Std.	Opt., plus only	No	No
Program function keys	16 std.	Std.	20 std. & 10 opt.	10 opt.	None
Cursor control keys	6 std.	5 std.	6 std.	6 std.	6 std.
Edit function keys	4 std.	6 std.	8 std.	—	3 std.; 5 opt.
Numeric keypad	No	Opt.	Opt.; 3 only	Opt.	Std.

Alphanumeric Display Terminals – Equipment Specifications

Part 2: Operator Features      Transmission Features      Diagnostics  
Ancillary Features      Terminal Interface      Pricing  
Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Computer Communications Model CC-40	Computer Optics CO:77	Conrac 401 Series	Conrac 480 Series (Models 8, 12, & 25)	Control Data Model 711
<b>OPERATOR FEATURES</b>					
Numeric keylock	No	Opt.	—	—	No
Audible alarm	Opt.	Opt.	Std.	Std.	Std.
Keylock	No	Opt.	—	—	No
Operator I.D. card reader	No	Opt.	No	No	No
Light pen	Opt.	Opt.	No	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	No	No	RS-232 (25)	No
Diskette drive (floppy disk)	No	No	2 ports opt.	RS-232 (25)	No
Serial printer	Impact/non-impact	Impact	2 ports opt.	Impact	Impact/non-impact
Print speed & print positions, cps	—	275 @ 132	—	—	—
Other devices	None	None	Contact vendor	Contact vendor	None
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half-duplex
Technique	Async./sync.	Synchronous	Async./sync.	Asynchronous	Synchronous
Communications protocol	ASCII	BSC/SDLC	ASCII; others opt.	ASCII	ASCII/CDC BSC
Code	ASCII	ASCII/EBCDIC	ASCII	ASCII	ASCII
Unit code structure, bits/char.	8/10	8	8/10/11	10/11	8
Speed, bits/second	150 to 9600	1200 to 9600	110-9600;50K opt.	110-9600;50K opt.	2000 to 4800
Operator selectable speeds	—	—	—	—	No
Format: character, line, or block	Block only	Block only	Char./block	Char./block	Block
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	Std.	Std.	Std., plus only	Opt. (25 only)	Std.
Auto answer	Std.	Opt.	No	Std.	Std.
Auto call	No	No	No	—	No
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	RS-232C	RS-232C	RS-232C
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	Yes	Yes	Yes
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
Vendor-supplied external modem	No	No	No	No	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	No	No
In line	No	No	No	No	No
On line	No	No	No	No	No
Off line	No	No	No	No	No
<b>PRICING (Price range shows cost of basic unit and unit with all options)</b>					
Lease pricing including maintenance:					
Display station, 1 year lease, \$/mo.	—	50-73	—	—	—
Display station, 2 year lease, \$/mo.	—	—	—	—	110
Display station, 3 year lease, \$/mo.	115-194	46-66	—	—	—
Serial printer, 1 year lease, \$/mo.	—	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	—	290-295	—	—	—
Controller, 2 year lease, \$/mo.	—	260-270	—	—	—
Controller, 3 year lease, \$/mo.	—	—	—	—	—
Purchase price:					
Display station, \$	—	1,707-2,335	1,800-3,600	1,000-2,600	3,969-4,662
Serial printer, \$	—	—	—	—	—
Controller, \$	3,850-5,600	8,632	3,000-6,000	3,000-5,000	—
Software, \$	—	—	—	—	—
Quantity discounts available	—	—	Yes	Yes	—
<b>AVAILABILITY</b>					
Date of first production delivery	3/74	1st qtr. 1974	9/70; 5/75 (Plus)	73/74; 75 (25)	6/71
Display units installed to date	Over 200	Over 2,000	Over 5,000	—	1,000
Serviced by	CCI	COI	Conrac & Sorbus	Conrac & Sorbus	CDC
No. of service locations	—	—	—	—	—
<b>COMMENTS</b>	Controller price includes one display unit		Model 401-B is equipped with Burroughs interface; Model 401 Plus is microprocessor-based and is available with programming support		

Alphanumeric Display Terminals – Equipment Specifications

Part 1: Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Control Data Model 713	Control Data Model 714	Control Data Model 92451	Control Data Model 92452	Courier Executerm 60 & 260
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	No	Microprocessor	No	No
Memory range, bytes	—	—	See Comments	—	—
Stand-alone unit	Yes	No	Yes	Yes	No
Local cluster arrangement	No	No	No	No	Yes
Remote cluster arrangement	No	Yes	No	No	Yes
Max. no. of displays/controller	—	15	—	—	32
Max. no. of printers/controller	—	—	—	—	32
Max. no. of devices/controller	—	15	3	3	32
Any mix of screen sizes/controller	—	—	—	—	Yes
Computer interface	—	No	—	—	Yes; IBM 360/370
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	No	No	No
IBM 2260/2265	No	No	No	No	Std.
Teletype 33/35	Yes	No	Std.	Std.	No
Teletype 40	No	No	No	No	No
Other	No	No	No	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	No	No
User-defined parameters	No	No	Yes	Yes	No
Vendor-defined firmware	No	No	Yes	Yes	No
User-defined firmware	No	No	Yes	Yes	No
Vendor-supplied software	No	No	No	No	No
Software pricing	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	640/1280 opt.	640/1280	960; 1920 opt.	1920	480/960/1920
Display arrangement, lines x chars./line	8/16 x 80	8/16 x 80	12 x 80; 24 x 80 opt.	12 x 80; 24 x 80 opt.	12 x 40/80; 24 x 80
Display area, h x w, inches	8 x 10	8 x 10	8 x 5.25	8 x 5.25	7 x 10
Total displayable symbols	64; 96 opt.	64; 96 opt.	128	128	64
Symbol formation	5 x 9 dot matrix	5 x 9 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix	7 x 8 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	Opt.	No	No	No
Programmable brightness levels	No	2 std.	2 opt.	2 opt.	No
Character and/or field blinking	No	No	Both opt.	Both opt.	Field std.
Roll	Std.	Std.	Up std.	No	Up std.
Paging	No	No	2 pg. opt.	No	—
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H	U, D, L, R, H	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Std.	Std.
Addressable/readable cursor	No	No	Std.	Std. addressable only	Std. addressable-line only
<b>FORMAT CONTROL</b>					
Protected format	—	—	Opt.	No	Std.
Format creation via keyboard	—	—	Opt.	No	Std.
Format editing via keyboard	—	—	Opt.	No	Std.
Format storage	—	—	Opt.	No	Std.
Partial screen transmit	Std.	Opt.	Opt.	No	Std.
Tabulation	No	No	Opt.	No	Std.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	No	Opt.	Opt.	No	Std.
Line insert/delete	No	Opt.	Opt.	No	No
Character erase	Std.	Std.	Std.	Std.	Std.
Line erase	No	Opt.	Std.	Std.	Std.
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Std.	Std.	Std.	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter/ data entry
Character/code set	Teletype	ASCII	ASCII	ASCII	ASCII/EBCDIC
Detachability	No	No	Std.	Std.	No
Program function keys	No	No	4 std.	Opt.	8 opt.
Cursor control keys	Std.	Std.	5 std.	Opt.	6 std.
Edit function keys	No	Opt.	4 std.	Opt.	6 std.
Numeric keypad	Std.	Std.	Std.	Opt.	Opt.



Alphanumeric Display Terminals – Equipment Specifications

Part 2:      Operator Features      Transmission Features      Diagnostics  
Ancillary Features      Terminal Interface      Pricing  
Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Control Data Model 713	Control Data Model 714	Control Data Model 92451	Control Data Model 92452	Courier Executerm 60 & 260
<b>OPERATOR FEATURES</b>	—	—	—	—	—
Numeric keylock	Std.	Std.	No	No	No
Audible alarm	—	—	Std.	Std.	Opt.
Keylock	—	—	No	No	No
Operator I.D. card reader	No	No	No	No	No
Light pen	No	No	No	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	No	S-D opt.	No	No
Diskette (floppy disk)	No	No	S-D opt.	No	No
Serial printer	Non-impact	Impact/non-impact	Impact/non-impact	Impact/non-impact	Impact
Print speed & print positions, cps	—	—	—	—	132 @ 165 cps
Other devices	None	None	None	None	None
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half-duplex
Technique	Asynchronous	Async./sync.	Asynchronous	Asynchronous	Asynchronous
Communications protocol	ASCII	ASCII/CDC BSC	ASCII	ASCII	ASCII
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Unit code structure, bits/char.	10	10	10/11	10/11	10
Speed, bits/second	75 to 300	2000 to 4800	110 to 9600	110 to 9600	1200 to 4800
Operator selectable speeds	—	—	10 std.	10 std.	—
Format: character, line, or block	Char. only	Char./block	Char./block/line	Char./block/line	Block only
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	Std.	Std.	Opt.	No	Std.
Auto answer	No	Std.	Opt.	No	No
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	RS-232 B/C, CCITT V.24	RS-232 B/C, CCITT V.24	RS-232C
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	No	Yes	Yes; remote only
Integral modem	No	No	Opt.	No	No
Integral acoustic coupler	No	No	No	No	No
Vendor-supplied external modem	No	No	No	No	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	Yes	No	No
In line	No	No	No	No	No
On line	No	No	No	No	Yes
Off line	No	No	Yes	No	No
<b>PRICING (Price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	63	85	—	—	—
Display station, 2 year lease, \$/mo.	—	—	—	—	78-115
Display station, 3 year lease, \$/mo.	—	—	—	—	—
Serial printer, 1 year lease, \$/mo.	—	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	—	140-158	—	—	—
Controller, 2 year lease, \$/mo.	—	—	—	—	—
Controller, 3 year lease, \$/mo.	—	—	—	—	100-300
Purchase price:					
Display station, \$	2,095-2,448	3,465-4,095	2,000-2,350	1,000-1,500	1,500-2,500
Serial printer, \$	—	—	—	—	—
Controller, \$	—	—	—	—	2,300-6,000
Software, \$	—	—	—	—	—
Quantity discounts available	—	—	Yes	Yes	—
<b>AVAILABILITY</b>					
Date of first production delivery	4/71	7/73	10/75	3/76	7/70; 5/71 (260)
Display units installed to date	2,000	250	—	—	5,000 (incl. 65/265)
Serviced by	CDC	CDC	CDC	CDC	Courier
No. of service locations	—	—	—	—	—
<b>COMMENTS</b>			1K-6K RAM: 4K-8K PROM memory	Several versions available	

Alphanumeric Display Terminals – Equipment Specifications

Part 1: Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Courier Executerm 65 & 265	Courier 2700	Courier 2750	Data General Model 6012	Datamedia Elite 1500A
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	No	No	No	No
Memory range, bytes	—	—	—	—	—
Stand-alone unit	Yes	No	Yes	Yes	Yes
Local cluster arrangement	No	Yes	No	No	No
Remote cluster arrangement	No	Yes	No	No	No
Max. no. of displays/controller	—	32	—	—	—
Max. no. of printers/controller	—	32	—	—	—
Max. no. of devices/controller	—	32	—	—	—
Any mix of screen sizes/controller	—	Yes	—	—	—
Computer interface	No	IBM 360/370	No	No	No
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	Std.	Std.	No	No
IBM 2260/2265	Std.	Opt.	No	No	No
Teletype 33/35	No	No	No	Std.	Std.
Teletype 40	No	No	No	No	No
Other	No	No	No	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	No	No
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	No	No	No	No	No
User-defined firmware	No	No	No	No	No
Vendor-supplied software	No	No	No	No	No
Software pricing	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	240/480/960/1920	480/960/1920	480/960/1920	1920	256/480/960/1440/1920
Display arrangement, lines x chars./line	6/12x40;12/24x80	12x40/80;24x80	12x40/80;24x80	24 x 80	8 x 32; 6 to 24 x 80
Display area, h x w, inches	7 x 10	7 x 10	7 x 10	7 x 9	1.5/3/4.5/6 x 9
Total displayable symbols	64	64; 96 opt.	64; 96 opt.	64	64
Symbol formation	7 x 8 dot matrix	7 x 10 dot matrix	7 x 10 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	No	No	No	No
Programmable brightness levels	No	2 std.	2 std.	No	No
Character and/or field blinking	Field std.	Field std.	Field std.	Both std.	No
Roll	Up std.	No	No	Std.	Up std.
Paging	No	No	No	—	No
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Std.	No
Addressable/readable cursor	Std. addressable-line only	Std.	Std.	No	No
<b>FORMAT CONTROL</b>					
Protected format	Std.	Std.	Std.	Std.	No
Format creation via keyboard	Std.	Std.	Std.	Std.	No
Format editing via keyboard	Std.	Std.	Std.	Std.	No
Format storage	Std.	Std.	Std.	Std.	No
Partial screen transmit	Std.	Std.	Std.	Std.	No
Tabulation	Std.	Std.	Std.	Std.	No
<b>EDIT FUNCTIONS</b>					
Character insert/delete	Std.	Std.	Std.	No	No
Line insert/delete	No	No	No	No	No
Character erase	Std.	Std.	Std.	Std.	No
Line erase	Std.	Std.	Std.	Std.	No
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Std.	Std.	Std.	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter/data entry	Typewriter/data entry	Typewriter/data entry	Typewriter/data entry	Typewriter
Character/code set	ASCII	ASCII/EBCDIC	ASCII/EBCDIC	ASCII	ASCII
Detachability	No	Std.	Std.	No	Std.
Program function keys	8 opt.	6/12 std.	6/12 std.	No	—
Cursor control keys	Std.	Std.	Std.	6 std.	6 std.
Edit function keys	Std.	Std.	Std.	4 std.	2 std.
Numeric keypad	Opt.	Opt.	Opt.	Std.	Opt.

Alphanumeric Display Terminals – Equipment Specifications

**Part 2:**      Operator Features      Transmission Features      Diagnostics  
                  Ancillary Features      Terminal Interface      Pricing  
                  Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Courier Executerm 65 & 265	Courier 2700	Courier 2750	Data General Model 6012	Datamedia Elite 1500A
<b>OPERATOR FEATURES</b>					
Numeric keylock	No	Opt.	Opt.	No	No
Audible alarm	Opt.	Opt.	Opt.	Opt.	Std.
Keylock	No	Opt.	Opt.	No	No
Operator I.D. card reader	No	Opt.	Opt.	No	No
Light pen	No	Opt.	Opt.	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Impact	Impact	Impact	No	RS-232 interface
Print speed & print positions, cps	80	—	—	—	—
Other devices	None	80-col. card reader	None	None	None
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half-duplex	Half-duplex	Half-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Synchronous	Synchronous	Asynchronous	Asynchronous
Communications protocol	ASCII	BSC	BSC	ASCII	ASCII
Code	ASCII	ASCII/EBCDIC	ASCII/EBCDIC	ASCII	ASCII
Unit code structure, bits/char.	8	8	8	10	10
Speed, bits/second	1200 to 4800	1200 to 9600	1200 to 9600	110-4800	50 to 4800
Operator selectable speeds	No	No	No	—	—
Format: character, line, or block	Block only	Block only	Block only	Char./block	Char. only
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	Std.	Std.	Std.	No	No
Auto answer	No	No	No	No	Opt.
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	RS-232C	RS-232C	RS-232C
<b>LINE INTERFACE</b>					
External modem required	Yes; remote only	Yes; remote only	Yes	Yes	Yes
Integral modem	No	No	No	No	Opt.
Integral acoustic coupler	No	No	No	No	No
Vendor-supplied external modem	No	No	No	No	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	No	No
In line	No	No	No	No	No
On line	Yes, IBM	Yes, IBM	Yes, IBM	No	No
Off line	No	No	No	No	No
<b>PRICING (Price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	—	—	—	—	65
Display station, 2 year lease, \$/mo.	83-140	111-244	143-344	—	65
Display station, 3 year lease, \$/mo.	—	98-197	129-314	—	—
Serial printer, 1 year lease, \$/mo.	—	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	100-180	100-180	—	—
Serial printer, 3 year lease, \$/mo.	—	93-164	93-164	—	—
Controller, 1 year lease, \$/mo.	—	—	—	—	—
Controller, 2 year lease, \$/mo.	—	135-460	—	—	—
Controller, 3 year lease, \$/mo.	—	123-401	—	—	—
Purchase price:					
Display station, \$	1,700-3,230	3,100-5,825	4,150-6,975	2,700	1,250-1,430
Serial printer, \$	—	—	—	—	—
Controller, \$	—	4,200-9,650	—	150	—
Software, \$	—	—	—	—	—
Quantity discounts available	—	—	—	Yes	—
<b>AVAILABILITY</b>					
Date of first production delivery	7/70; 4/71 (265)	1/74	1/74	9/74	2/72
Display units installed to date	5,000 (incl. 60/260)	9,000 (incl. 2750)	9,000 (incl. 2700)	—	—
Serviced by	Courier	Courier	Courier	Data General	Datamedia
No. of service locations	—	—	—	—	—
<b>COMMENTS</b>		Uses standard IBM 3270 cables			Also available as RO unit using ASCII or Baudot

Alphanumeric Display Terminals — Equipment Specifications

**Part 1:** Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Datamedia Elite 1520A	Datamedia Elite 1520 APL/ASCII	Datamedia Elite 2000A	Datamedia Elite 2100A	Datamedia Elite 2500A
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	No	No	No	No
Memory range, bytes	—	—	—	—	—
Stand-alone unit	Yes	Yes	Yes	Yes	Yes
Local cluster arrangement	No	No	No	No	No
Remote cluster arrangement	No	No	No	No	No
Max. no. of displays/controller	—	—	—	—	—
Max. no. of printers/controller	—	—	—	—	—
Max. no. of devices/controller	—	—	—	—	—
Any mix of screen sizes/controller	—	—	—	—	—
Computer interface	—	—	—	—	—
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	No	No	No
IBM 2260/2265	No	No	No	No	No
Teletype 33/35	Std.	Std.	Std.	Std.	Std.
Teletype 40	No	No	No	No	No
Other	No	No	No	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	No	No
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	No	No	No	No	No
User-defined firmware	No	No	No	No	No
Vendor-supplied software	No	No	No	No	No
Software pricing	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	1920	1920	960/1440/1920	1440/1920	1920
Display arrangement, lines x chars./line	24 x 80	24 x 80	12/18/24 x 80	18/24 x 80	24 x 80
Display area, h x w, inches	6 x 9	6 x 9	3/4.5/6 x 9	4.5/6 x 9	6 x 9
Total displayable symbols	64; 128 opt.	64; 128 opt.	64	64	127
Symbol formation	5 x 7/9 dot matrix	5 x 7/9 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7/9 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	No	No	No	No
Programmable brightness levels	No	No	No	No	2 std.
Character and/or field blinking	No	No	No	No	Both std.
Roll	Up std.	Up std.	Up std.	No	Up std.
Paging	—	No	—	—	—
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.; non-blink opt.	Std.	No	No	Opt.
Addressable/readable cursor	Std. addressable only	Std. addressable only	No	Std. addressable only	Std. addressable only
<b>FORMAT CONTROL</b>					
Protected format	No	No	No	No	Std.
Format creation via keyboard	No	No	No	No	Std.
Format editing via keyboard	No	No	No	No	Std.
Format storage	No	None	No	No	Std.
Partial screen transmit	No	No	Std.	Std.	Std.
Tabulation	No	Std.	No	No	Opt.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	No	No	No	No	Opt.
Line insert/delete	No	No	No	No	Opt.
Character erase	Std.	Std.	Std.	Std.	Std.
Line erase	Std.	Std.	Std.	Std.	Std.
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Std.	Std.	Std.	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	ASCII	ASCII/APL	ASCII	ASCII	ASCII
Detachability	Std.	Std.	Std.	Std.	Std.
Program function keys	No	No	No	No	8 std.
Cursor control keys	6 std.	5 opt.	6 std.	6 std.	6 std.
Edit function keys	4 std.	3 opt.	4 std.	4 std.	4 std.; 4 opt.
Numeric keypad	Opt.	Opt.	Opt.	Opt.	Std.

Alphanumeric Display Terminals – Equipment Specifications

Part 2:      Operator Features      Transmission Features      Diagnostics  
                  Ancillary Features      Terminal Interface      Pricing  
                  Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Datamedia Elite 1520A	Datamedia Elite 1520 APL/ASCII	Datamedia Elite 2000A	Datamedia Elite 2100A	Datamedia Elite 2500A
<b>OPERATOR FEATURES</b>					
Numeric keylock	No	No	No	No	No
Audible alarm	Std.	Std.	Std.	Std.	Std.
Keylock	No	No	No	No	No
Operator I.D. card reader	No	No	No	No	No
Light pen	No	No	No	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	RS-232 interface	No	RS-232 interface	RS-232 interface	RS-232 interface
Print speed & print positions, cps	—	—	—	—	—
Other devices	None	None	None	None	None
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	ASCII	ASCII	ASCII	ASCII	ASCII
Code	ASCII	APL/ASCII	ASCII	ASCII	ASCII
Unit code structure, bits/char.	10	10/11	10	10	10
Speed, bits/second	50 to 9600	50 to 9600	50 to 1800	50 to 9600	50 to 9600
Operator selectable speeds	No	No	No	No	No
Format: character, line, or block	Char. only	Char. only	Char./block	Block only	Char./block
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	No	No	No	Std.	Opt.
Auto answer	No	No	Opt.	No	Opt.
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C, CCITT V.24	RS-232C	RS-232C	RS-232C
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	Yes	Yes	Yes
Integral modem	Opt.	Opt.	Opt.	Opt. 1200 bps	Opt.
Integral acoustic coupler	No	No	No	No	No
Vendor-supplied external modem	No	No	No	No	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	No	No
In line	No	No	No	No	No
On line	No	No	No	No	No
Off line	No	—	No	No	No
<b>PRICING (Price range shows cost of basic unit and unit with all options)</b>					
Lease pricing including maintenance:					
Display station, 1 year lease, \$/mo.	65-75	85	75	—	85-95
Display station, 2 year lease, \$/mo.	65-75	85	75	—	85-95
Display station, 3 year lease, \$/mo.	—	—	—	—	—
Serial printer, 1 year lease, \$/mo.	—	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	—	—	—	—	—
Controller, 2 year lease, \$/mo.	—	—	—	—	—
Controller, 3 year lease, \$/mo.	—	—	—	—	—
Purchase price:					
Display station, \$	1,555-1,705	2,150-2,225	1,775-1,895	2,035-2,095	2,080-2,480
Serial printer, \$	—	—	—	—	—
Controller, \$	—	—	—	—	—
Software, \$	—	—	—	—	—
Quantity discounts available	Yes	Yes	Yes	Yes	Yes
<b>AVAILABILITY</b>					
Data of first production delivery	1/75	6/75	9/70	10/72	7/73
Display units installed to date	—	—	—	—	—
Served by	Datamedia	Datamedia	Datamedia	Datamedia	Datamedia
No. of service locations	—	—	—	—	—
<b>COMMENTS</b>		For APL users			

## Alphanumeric Display Terminals – Equipment Specifications

**Part 1:**      Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Data 100 Model 73	Data Pathing 3101 & 3102	Data Pathing MIT 130 System	Datapoint 1100	Datapoint 2200
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	Minicomputer	Minicomputer	Minicomputer	Minicomputer
Memory range, bytes	—	1000 to 1920	32K to 64K	4K to 16K	4K to 16K
Stand-alone unit	Yes	Yes	No	Yes	Yes
Local cluster arrangement	No	No	Yes	No	Yes
Remote cluster arrangement	No	No	Yes	No	Yes
Max. no. of displays/controller	—	—	12 to 48	—	8
Max. no. of printers/controller	—	None	16	—	8
Max. no. of devices/controller	—	—	64	—	16
Any mix of screen sizes/controller	—	No	Std.	—	No
Computer interface	No	—	No	No	No
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	Yes	No	No
IBM 2260/2265	No	No	Yes	No	No
Teletype 33/35	Std.	No	No	Yes	Yes
Teletype 40	No	No	No	No	No
Other	No	None	None	2780, 3780, HASP, UT200, DATA- SHARE, DCT 2000	2780, 3780, HASP, UT200, DATA- SHARE, DCT 2000
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	Yes	Yes	Yes	Yes
User-defined parameters	No	Yes	Yes	Yes	Yes
Vendor-defined firmware	No	No	Yes	Yes	Yes
User-defined firmware	No	No	No	No	No
Vendor-supplied software	—	Language & op. system	Language & op. system	Language & op. system, others	Language & op. system, others
Software pricing	—	Std.	Std.	Std.	Std.
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	960/1920	1000/1920	240/480/960/1920	960	960
Display arrangement, lines x chars./line	12/24 x 80	20 x 50; 24 x 80	6/12x40; 12/24x80	12 x 80 char.	12 x 80 char.
Display area, h x w, inches	6 x 9	7 x 9	7 x 9	3.5 x 7	3.5 x 7
Total displayable symbols	64	66	64	128	128
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	7 x 9 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	No	No	No	No
Programmable brightness levels	No	No	2 std.	No	No
Character and/or field blinking	No	Both std.	Both std.	No	No
Roll	Up std.	Std., up & down	No	Up std.	Up std.
Paging	—	Unlimited	Unlimited	Programmable	Programmable
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H	U, D, L, R, H, Rt., Tab, BS	U, D, L, R, Tab, BS, B Tab	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	No	Std.	Std.	Std.	Std.
Addressable/readable cursor	Std.; addressable only	Std.	Std.; addressable only	Std.; addressable only	Std.; addressable only
<b>FORMAT CONTROL</b>					
Protected format	No	Std.	Std.	No	No
Format creation via keyboard	No	No	No	Yes	Yes
Format editing via keyboard	No	No	No	Yes	Yes
Format storage	No	Unlimited	Unlimited	Programmable	Programmable
Partial screen transmit	Std.	Std.	Std.	Programmable	Programmable
Tabulation	Std.	Std.	Std.	Std.	Std.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	No	Std.	Std.	Std.	Std.
Line insert/delete	No	Std.	No	Std.	Std.
Character erase	No	Std.	Std.	Std.	Std.
Line erase	No	Std.	Std.	Std.	Std.
Screen erase	No	Std.	Std.	Std.	Std.
Character repeat	Std.	Std.	Std.	No	No
<b>KEYBOARD PARAMETERS</b>					
Style	Teletype	Typewriter	Typewriter/ Block Alphanumeric	Typewriter	Typewriter
Character/code set	ASCII	ASCII	Data Entry/others	ASCII	ASCII
Detachability	No	Std.	EBCDIC	No	No
Program function keys	No	No	12 to 20 std.	Programmable	Programmable
Cursor control keys	5 std.	Std.	Std.	Std.	Std.
Edit function keys	1 std.	Std.	Std.	Std.	Std.
Numeric keypad	Std.	Opt.	Opt.	Std.	Std.



Alphanumeric Display Terminals – Equipment Specifications

Part 2: Operator Features      Transmission Features      Diagnostics  
Ancillary Features      Terminal Interface      Pricing  
Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Data 100 Model 73	Data Pathing 3101 & 3102	Data Pathing MIT 130 System	Datapoint 1100	Datapoint 2200
<b>OPERATOR FEATURES</b> Numeric keylock Audible alarm Keylock Operator I.D. card reader Light pen	No Std. No No No	No Opt. No No No	Std. Opt. Opt. Opt. No	No Std. No No No	No Std. No No No
<b>ANCILLARY DEVICES</b> Cassette tape drive Diskette drive (floppy disk) Serial printer Print speed & print positions, cps Other devices	No No RS-232 interface — None	No No Impact 100@80; 165@132 None	No No Impact 100@80; 165@132 Card reader	Dual To 4 spindles Impact 120 @ 120 Disk, tape drives, card reader	Dual To 4 spindles Impact 120 @ 120 Disk, tape drives, card reader
<b>TRANSMISSION PARAMETERS</b> Mode Technique Communications protocol Code Unit code structure, bits/char. Speed, bits/second Operator selectable speeds Format: character, line, or block	Half-duplex Async./sync. ASCII/BSC ASCII 10 110 to 1200 No Char. only	Half-duplex Synchronous DPI BSC ASCII 8 2400 No Block only	Half/full-duplex Synchronous SDLC EBCDIC 8 2400 to 9600 No Block only	Half/full-duplex Async./sync. ASCII ASCII 10 Up to 9600 No Char./block	Half/full-duplex Async./sync. ASCII ASCII 10 Up to 9600 No Char./block
<b>TRANSMISSION FEATURES</b> Multipoint operation (pollable/addr.) Auto answer Auto call	No No No	Std. No No	Std. No No	No Std. Std.	No Std. Std.
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	RS-232C	RS-232B/C	RS-232B/C
<b>LINE INTERFACE</b> External modem required Integral modem Integral acoustic coupler Vendor-supplied external modem	Yes No No No	Opt. Yes No Opt.	Opt. Opt. No Opt.	Yes Opt. No Opt.	Yes Opt. No Opt.
<b>DIAGNOSTICS</b> Self diagnostics In line On line Off line	No No No No	Yes Yes Yes Yes	Yes Yes Yes Yes	Yes No No Yes	Yes No No Yes
<b>PRICING</b> (Price range shows cost of basic unit and unit with all options) Lease price including maintenance: Display station, 1 year lease, S/mo. Display station, 2 year lease, S/mo. Display station, 3 year lease, S/mo. Serial printer, 1 year lease, S/mo. Serial printer, 2 year lease, S/mo. Serial printer, 3 year lease, S/mo. Controller, 1 year lease, S/mo. Controller, 2 year lease, S/mo. Controller, 3 year lease, S/mo. Purchase price: Display station, S Serial printer, S Controller, S Software, S Quantity discounts available	105 97 — — — — — — — — 3,360 — — — —	138; 170 — 128; 160 143; 192 — — 132; 176 — — — 6,090; 7,455 6,300; 8,400 — — Contact vendor	Contact vendor for all pricing — — — — — — — — — — — — — —	211-273 200-254 173-224 165 144 140 — — — — 7,200-12,880 5,500 — — Yes	284 260 234 165 144 140 — — — — 8,571 5,500 — — Yes
<b>AVAILABILITY</b> Date of first production delivery Display units installed to date Serviced by No. of service locations	8/70 — Data 100 —	1970 1000 Data Pathing Inc. —	2/76 — Data Pathing Inc. —	1/74 3,000 Datapoint 63	4/72 8,000 Datapoint 63
<b>COMMENTS</b>		Turnkey support for source data management; controlled by DPI comm. processor	Turnkey support for source data management; controlled by DPI comm. processor		

Alphanumeric Display Terminals – Equipment Specifications

Part 1:

Terminal Description  
Compatibility  
Programmability

Display Organization  
Display Features  
Cursor Control

Format Control  
Edit Functions  
Keyboard Parameters

VENDOR AND MODEL	Datapoint 3000 & 3300	Datapoint 3500 (3360)	Datapoint 3600	Datapoint 5500	Delta Data Systems Model 4000
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	No	No	Minicomputer	Microprocessor
Memory range, bytes	—	—	—	48K	3K
Stand-alone unit	Yes	Yes	Yes	Yes	Yes
Local cluster arrangement	No	No	No	Yes	Yes
Remote cluster arrangement	No	No	No	Yes	Yes
Max. no. of displays/controller	—	—	—	16	95
Max. no. of printers/controller	—	—	—	16	2
Max. no. of devices/controller	—	—	—	32	95
Any mix of screen sizes/controller	—	—	—	No	Opt.
Computer interface	No	No	No	No	No
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	No	No	Opt.
IBM 2260/2265	No	Std.	No	No	Opt.
Teletype 33/35	Std.	No	No	Yes	Std.
Teletype 40	No	No	No	No	Opt.
Other	Datashare	Datashare	Datashare	2780, 3780, HASP, UT200, DCT 2000, DATA- SHARE	Various protocols available
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	Yes	Opt.
User-defined parameters	No	No	No	Yes	Opt.
Vendor-defined firmware	No	No	No	Yes	Yes
User-defined firmware	No	No	No	No	Opt.
Vendor-supplied software	No	No	No	Language, op. sys- tem, assembler, & others	—
Software pricing	—	—	—	Std.	Std.; extra cost
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	1800	2048	1920	960	2048
Display arrangement, lines x chars./line	25 x 72	25 x 82	24 x 80	12 x 80	25 x 80
Display area, h x w, inches	7.5 x 10	5 x 8	5 x 8	3.5 x 7	6 x 11
Total displayable symbols	64	64	96	128	224
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	1 color std.	1 color std.	1 color std.	1 color std.	No
Reverse video	No	No	No	No	Std.
Programmable brightness levels	No	No	No	No	Opt.
Character and/or field blinking	No	No	No	No	Both std.
Roll	Up std.	No	Up std.	Up std.	Up & down std.
Paging	No	No	No	Programmable	Std.
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Std.	Std.
Addressable/readable cursor	No	Std. addressable only	Std. addressable only	Std. addressable only	Std.
<b>FORMAT CONTROL</b>					
Protected format	No	No	No	No	Std.
Format creation via keyboard	No	No	No	Yes	Std.
Format editing via keyboard	Std.	Std.	Std.	Yes	Std.
Format storage	None	None	None	Programmable	Up to mem. size
Partial screen transmit	No	No	No	Programmable	Std.
Tabulation	No	Std.	Std.	Std.	Std.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	No	No	No	Std.	Std.
Line insert/delete	No	No	No	Std.	Std.
Character erase	Std.	Std.	Std.	Std.	Std.
Line erase	Std.	Std.	No	Std.	Std.
Screen erase	Std.	Std.	No	Std.	Std.
Character repeat	Std.	Std.	No	No	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter/ data entry
Character/code set	ASCII	ASCII	ASCII	ASCII	ASCII; others opt.
Detachability	No	No	No	No	Opt.
Program function keys	No	No	No	Programmable	8 std.; others opt.
Cursor control keys	Std.	Std.	Std.	Std.	6 std.
Edit function keys	No	No	No	Std.	9 std.; others opt.
Numeric keypad	Std.	Std.	Std.	Std.	Std.

Alphanumeric Display Terminals – Equipment Specifications

Part 2:      Operator Features      Transmission Features      Diagnostics  
                  Ancillary Features      Terminal Interface      Pricing  
                  Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Datapoint 3000 & 3300	Datapoint 3500 (3360)	Datapoint 3600	Datapoint 5500	Delta Data Systems Model 4000
<b>OPERATOR FEATURES</b>					
Numeric keylock	No	No	No	No	—
Audible alarm	Std.	Std.	Std.	Std.	Std.
Keylock	No	No	No	No	—
Operator I.D. card reader	No	No	No	No	—
Light pen	No	No	No	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	Single	No	No	Dual	RS-232 interface
Diskette drive (floppy disk)	No	No	No	To 4 spindles	RS-232 interface
Serial printer	Impact	Impact	Impact	Impact	Impact/non-impact
Print speed & print positions, cps	120 @ 120	120 @ 120	120 @ 120	120 @ 120	—
Other devices	None	None	None	None	Multiplexor with 16 to 64 channels
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	Half/full-duplex	Full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Async./sync.	Asynchronous	Async./sync.	Async./sync.
Communications protocol	TTY	ASCII	ASCII	ASCII	ASCII; others opt.
Code	ASCII	ASCII	ASCII	ASCII	ASCII; others opt.
Unit code structure, bits/char.	10	10	10	8/10	8/10
Speed, bits/second	110 to 2400	300 to 4800	110 to 9600	Up to 9600	110 to 9600
Operator selectable speeds	10 std.	4 std.	No	No	—
Format: character, line, or block	Char. only	Block only	Char. only	Char./block	Char./block
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	No	No	No	No	Opt.
Auto answer	No	No	No	Std.	Opt.
Auto call	No	No	No	Std.	No
<b>TERMINAL INTERFACE</b>	RS-232 B/C	RS-232 B/C	RS-232 B/C	RS-232 B/C	RS-232C
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	Yes	Yes	Yes
Integral modem	No	No	No	Opt.	No
Integral acoustic coupler	No	No	No	No	Opt.
Vendor-supplied external modem	Opt.	Opt.	Opt.	Opt.	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	Yes	—
In line	No	No	No	No	No
On line	No	No	No	No	No
Off line	No	No	No	Yes	—
<b>PRICING (Price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	85	103	77	1,102	155
Display station, 2 year lease, \$/mo.	78	95	70	1,001	143
Display station, 3 year lease, \$/mo.	71	81	64	913	—
Serial printer, 1 year lease, \$/mo.	165	165	165	165	—
Serial printer, 2 year lease, \$/mo.	144	144	144	144	—
Serial printer, 3 year lease, \$/mo.	140	140	140	140	—
Controller, 1 year lease, \$/mo.	—	—	—	—	165
Controller, 2 year lease, \$/mo.	—	—	—	—	150
Controller, 3 year lease, \$/mo.	—	—	—	—	—
Purchase price:					
Display station, \$	2,400	2,900	1,950	34,500	2,300-3,400
Serial printer, \$	5,500	5,500	5,500	5,500	—
Controller, \$	—	—	—	—	3,750-5,000
Software, \$	—	—	—	—	—
Quantity discounts available	Yes	Yes	Yes	Yes	Yes; 6 or more units
<b>AVAILABILITY</b>					
Date of first production delivery	1968/1970	1/70	12/74	2/75	2/75
Display units installed to date	6,200	500	2,400	500	500
Serviced by	Datapoint	Datapoint	Datapoint	Datapoint	Delta & GTE
No. of service locations	63	63	63	63	44
<b>COMMENTS</b>					

Alphanumeric Display Terminals – Equipment Specifications

Part 1: Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Delta Data Systems Model 4500	Delta Data Systems 5000/APL, 5100, 5200, & 5500	Delta Data Systems Model 5300	Delta Data Systems Model 5280	Digi-Log Model 33 & 209 TeleComputers
<b>TERMINAL DESCRIPTION</b>					
Processor control	Microprocessor	No	Microprocessor	No	No
Memory range, bytes	4K to 16K	—	4K-64K	—	—
Stand-alone unit	Yes	Yes	Yes	Yes	Yes
Local cluster arrangement	No	No	No	No	No
Remote cluster arrangement	Via opt. multiplex.	Via opt. multiplex.	Via opt. multiplex.	Via opt. multiplex.	No
Max. no. of displays/controller	16 (multiplexer)	16 (multiplexer)	16 (multiplexer)	16 (multiplexer)	10
Max. no. of printers/controller	—	—	—	—	—
Max. no. of devices/controller	—	—	—	—	—
Any mix of screen sizes/controller	—	—	—	—	—
Computer interface	No	No	No	No	No
Portable case	No	No	No	No	Opt.
<b>COMPATIBILITY</b>					
IBM 3270/3275	Opt.	Opt. w/multiterm2	Opt.	Opt. w/multiterm2	No
IBM 2260/2265	Opt.	Opt.	Opt.	Opt. w/multiterm2	Std.
Teletype 33/35	Std.	Std.	Opt.	Opt.	No
Teletype 40	Opt.	Opt.	Opt.	Opt.	No
Other	No	Various protocols available	Various protocols available	Various	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	Yes	No	No	No	No
User-defined parameters	Yes	No	No	No	No
Vendor-defined firmware	Yes	Yes	Yes	Yes	No
User-defined firmware	Yes	Yes	Yes	Yes	No
Vendor-supplied software	Yes	No	No	—	No
Software pricing	Extra cost	—	Std.	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	2048	1024 to 3072	1024 to 3072	1024 to 3072	640
Display arrangement, lines x chars./line	25 x 80	27 x 80	27 x 80	27 x 80	16 x 40/80
Display area, h x w, inches	6 x 11	6 x 11	6 x 11	6 x 11	Variable
Total displayable symbols	224	64; 96 opt.	64	64; 96 opt.	64
Symbol formation	5 x 7 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	Std.	Opt.	Opt.	Opt.	No
Programmable brightness levels	Opt.	Opt.	Opt.	Opt.	No
Character and/or field blinking	Both std.	Both std.	Both std.	Both std.	Both std.
Roll	Up & down std.	—	—	—	Up std.
Paging	Std.	Std.	Std.	Std.	No
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Std.	Opt.
Addressable/readable cursor	Std.	Std.	Std.	Std.	Std. addressable only
<b>FORMAT CONTROL</b>					
Protected format	Std.	Std.	Std.	Std.	No
Format creation via keyboard	Std.	Std.	Std.	Std.	No
Format editing via keyboard	Std.	Std.	Std.	Std.	No
Format storage	Up to 12K mem.	Up to mem. size	Up to mem. size	Up to mem. size	No
Partial screen transmit	Std.	Std.	Std.	Std.	No
Tabulation	Std.	Std.	Std.	Std.	No
<b>EDIT FUNCTIONS</b>					
Character insert/delete	Std.	Std.; except 5100	Opt.	Std.	No
Line insert/delete	Std.	Std.; except 5100	Opt.	Std.	No
Character erase	Std.	Std.	Std.	Std.	Std.
Line erase	Std.	Std.	Std.	Std.	No
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Std.	Std.	Std.	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter/ data entry	Typewriter/ data entry	Typewriter/ data entry	Typewriter/ data entry	Teletype
Character/code set	ASCII	ASCII	ASCII/EBCDIC	ASCII	ASCII
Detachability	Opt.	Opt.	Opt.	Opt.	No
Program function keys	8 std.	12 opt.	12 opt.	12 opt.	No
Cursor control keys	6 std.	6 std.	6 std.	6 std.	—
Edit function keys	9 std.; others opt.	10 std.; others opt.	10 std.; others opt.	10 std.; others opt.	—
Numeric keypad	Std.	Std.	Std.	Std.	No

Alphanumeric Display Terminals — Equipment Specifications

Part 2:      Operator Features      Transmission Features      Diagnostics  
                  Ancillary Features      Terminal Interface      Pricing  
                  Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Delta Data Systems Model 4500	Delta Data Systems 5000/APL, 5100, 5200, & 5500	Delta Data Systems Model 5300	Delta Data Systems Model 5280	Digi-Log Model 33 & 209 TeleComputers
<b>OPERATOR FEATURES</b> Numeric keylock Audible alarm Keylock Operator I.D. card reader Light pen	Opt. Std. Opt. Opt. No	Opt. Std. Opt. Opt. Opt. except 5500	Opt. Std. Opt. Opt. No	Opt. Std. Opt. Opt. Std.	No Std. No No No
<b>ANCILLARY DEVICES</b> Cassette tape drive Diskette drive (floppy disk) Serial printer Print speed & print positions, cps Other devices	Single/dual Single/dual Impact/non-impact 110 to 165 cps Various	Opt. Opt. Opt. 10 to 165 cps Various	Opt. Opt. Opt. 10 to 165 cps Various	Single/dual Single/dual Impact/non-impact 110 to 165 Various	RS-232 interface RS-232 interface RS-232 interface — None
<b>TRANSMISSION PARAMETERS</b> Mode Technique Communications protocol Code Unit code structure, bits/char. Speed, bits/second Operator selectable speeds Format: character, line, or block	Half/full-duplex Async./sync. ASCII; others opt. ASCII; others opt. 10/11 110 to 9600 10 std. Char./block	Half/full-duplex Async./opt. sync. ASCII ASCII 10/11 110 to 9600 10 std. Char./block	Half/full-duplex Async./sync. ASCII/EBCDIC ASCII/BSC 10/11 1200/2400 8 std. Char./block	Half/full-duplex Async./sync. ASCII; others opt. ASCII 10/11 110 to 9600 10 std. Char./block	Half/full-duplex Asynchronous ASCII ASCII 10/11 75 to 9600 — Char. only
<b>TRANSMISSION FEATURES</b> Multipoint operations (pollable/addr.) Auto answer Auto call	Opt. Opt. Opt.	Opt. Opt. Opt.	Opt. Opt. Opt.	Opt. Opt. Opt.	No No No
<b>TERMINAL INTERFACE</b>	RS-232 B/C, CCITT V.24	RS-232 B/C, CCITT V.24	RS-232 B/C, CCITT V.24	RS-232 B/C, CCITT V.24	RS-232C
<b>LINE INTERFACE</b> External modem required Integral modem Integral acoustic coupler Vendor-supplied external modem	Yes Opt. Opt. Opt.	Yes Opt. Opt. Opt.	Yes Opt. Opt. Opt.	Yes Opt. Opt. Opt.	Yes Opt. Opt. No
<b>DIAGNOSTICS</b> Self diagnostics In line On line Off line	Opt. No Yes Yes	Opt. No Opt. Opt.	Opt. No Opt. Opt.	Opt. No Yes Yes	No No No No
<b>PRICING</b> (Price range shows cost of basic unit and unit with all options) Lease price including maintenance: Display station, 1 year lease, \$/mo. Display station, 2 year lease, \$/mo. Display station, 3 year lease, \$/mo. Serial printer, 1 year lease, \$/mo. Serial printer, 2 year lease, \$/mo. Serial printer, 3 year lease, \$/mo. Controller, 1 year lease, \$/mo. Controller, 2 year lease, \$/mo. Controller, 3 year lease, \$/mo. Purchase price: Display station, \$ Serial printer, \$ Controller, \$ Software, \$ Quantity discounts available	— — — — — — — — — — 4,000 250 — 50 & up Yes	161-189 153-180 140-160 — — — 165 150 135 2,300-4,725 — 3,750-5,000 — Yes	270 258 236 — — — — — — — 5,250 — — — Yes, 6 or more units	Contact vendor for pricing — — — — — — — — — — — — — Yes	— — — — — — — — — — — 1,195-1,695 — —
<b>AVAILABILITY</b> Date of first production delivery Display units installed to date Serviced by No. of service locations	— — Delta & GTE 44	1970 5,200 Delta & GTE 44	1970 300 Delta & GTE 44	— — Delta & GTE —	9/72 Over 2,500 Digi-Log —
<b>COMMENTS</b>	Memory can be any mix of ROM, PROM, and RAM. Programmable multiplexor MultiTerm 2 is available; see Comments, 5000/APL	MultiTerm 2 is a microprocessor-based multiplexor with up to 64K of memory and software emulators for IBM 2260/2265 & 3270			A portable controller that uses separate monitor and keyboard (included in higher cost above)

## Alphanumeric Display Terminals – Equipment Specifications

**Part 1:**      Terminal Description      Display Organization      Format Control  
                  Compatibility      Display Features      Edit Functions  
                  Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Digi-Log TeleComputer II	Digi-Log Series 300	Digi-Log Series 400	Digi-Log Series 3300 Microterm	Digital Equipment Model VT-50
<b>TERMINAL DESCRIPTION</b>					
Processor control	Microprocessor	No	No	Microprocessor	No
Memory range, bytes	—	—	—	—	—
Stand-alone unit	Yes	Yes	Yes	Yes	Yes
Local cluster arrangement	No	No	No	No	No
Remote cluster arrangement	No	No	No	No	No
Max. no. of displays/controller	10	10	10	—	—
Max. no. of printers/controller	—	—	—	—	—
Max. no. of devices/controller	—	—	—	—	—
Any mix of screen sizes/controller	—	—	—	—	—
Computer interface	—	—	—	—	—
Portable case	Opt., 22 lbs.	Std., 10 lbs.	Std.	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	Yes, via microprog.	Yes, via microprog.	No
IBM 2260/2265	No	No	Yes, via microprog.	Yes, via microprog.	No
Teletype 33/35	Std.	Std.	Opt., via microprog.	Yes, via microprog.	Std.
Teletype 40	No	No	No	No	No
Other	No	No	No	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	—	No	No	—	No
User-defined parameters	—	No	No	—	No
Vendor-defined firmware	Yes	No	No	Yes	No
User-defined firmware	Yes	No	No	Yes	No
Vendor-supplied software	No	No	No	No	No
Software pricing	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	1280	640/1280	640/1280	1920	960
Display arrangement, lines x chars./line	16 x 40/80	16 x 40/80	16 x 40/80	24 x 80	12 x 80
Display area, h x w, inches	Variable	Variable	Variable	Variable	8.7 x 4.3
Total displayable symbols	64	63	128	128	64
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7/9; 7 x 9 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	Opt.	No	No	Std.	No
Programmable brightness levels	No	No	No	2 std.	No
Character and/or field blinking	Both opt.	Both opt.	Both std.	Both std.	No
Roll	Up std.	Up std.	Up std.	Up std.	Up std.
Paging	—	—	—	—	—
<b>CURSOR CONTROL</b>					
Cursor positioning: Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Opt.	Opt.	Opt.	Std.	Std.
Addressable/readable cursor	Std. addressable only	Std. addressable only	No	Std.	No
<b>FORMAT CONTROL</b>					
Protected format	Opt.	No	No	Std.	No
Format creation via keyboard	Opt.	No	No	Std.	No
Format editing via keyboard	Opt.	No	No	Std.	No
Format storage	Opt.	No	No	Std.	No
Partial screen transmit	Opt.	No	No	Std.	No
Tabulation	No	No	No	Std.	Std.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	No	No	No	Std.	No
Line insert/delete	No	No	No	Std.	No
Character erase	Std.	Std.	No	Std.	Std.
Line erase	No	Std.	No	Std.	Std.
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Std.	No	No	Std.	No
<b>KEYBOARD PARAMETERS</b>					
Style	Teletype	No keyboard	No keyboard	Typewriter	Typewriter
Character/code set	ASCII	—	—	ASCII	ASCII
Detachability	No	—	—	Opt.	No
Program function keys	No	—	—	10 opt.	4 std.
Cursor control keys	6 std.	—	—	6 std.	6 std.
Edit function keys	3 std.	—	—	7 std.	2 std.
Numeric keypad	No	—	—	Opt.	No

Alphanumeric Display Terminals – Equipment Specifications

**Part 2:** Operator Features      Transmission Features      Diagnostics  
Ancillary Features      Terminal Interface      Pricing  
Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Digi-Log TeleComputer II	Digi-Log Series 300	Digi-Log Series 400	Digi-Log Series 3300 Microterm	Digital Equipment Model VT-50
<b>OPERATOR FEATURES</b>					
Numeric keylock	No	No	No	No	No
Audible alarm	Opt.	Opt.	Opt.	Opt.	Std.
Keylock	No	No	No	No	No
Operator I.D. card reader	No	No	No	No	No
Light pen	No	No	No	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	RS-232 interface	RS-232 interface	RS-232 interface	RS-232 interface	No
Diskette drive (floppy disk)	RS-232 interface	RS-232 interface	RS-232 interface	RS-232 interface	No
Serial printer	RS-232 interface	RS-232 interface	RS-232 interface	RS-232 interface	Non-impact
Print speed & print positions, cps	—	—	—	—	—
Other devices	5-inch portable CRT	None	None	None	None
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Async./sync.	Async./sync.	Asynchronous
Communications protocol	ASCII	ASCII	ASCII/BSC	ASCII/BSC	ASCII
Code	ASCII	ASCII	ASCII/EBCDIC	ASCII	ASCII
Unit code structure, bits/char.	10/11	10/11	8/10/11	8/10/11	10/11
Speed, bits/second	75 to 9600	110 to 9600	50 to 9600	75 to 9600	75 to 9600
Operator selectable speeds	—	—	—	—	—
Format: character, line, or block	Char. only	Any	Any	Char./block	Char. only
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	No	No	No	Opt.	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	RS-232C	RS-232C opt., 20/60 ma opt.	RS-232C
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	Yes	Yes	Yes
Integral modem	Opt.	No	No	Opt.	No
Integral acoustic coupler	Opt.	No	No	Opt.	Opt.
Vendor-supplied external modem	No	No	No	No	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	No	No
In line	No	No	No	No	No
On line	No	No	No	No	No
Off line	No	No	No	No	No
<b>PRICING (Price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	—	—	—	—	—
Display station, 2 year lease, \$/mo.	—	—	—	—	—
Display station, 3 year lease, \$/mo.	—	—	—	—	—
Serial printer, 1 year lease, \$/mo.	—	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	—	—	—	—	—
Controller, 2 year lease, \$/mo.	—	—	—	—	—
Controller, 3 year lease, \$/mo.	—	—	—	—	—
Purchase price:					
Display station, \$	—	—	—	2,100-5,000	1,250
Serial printer, \$	—	—	—	—	—
Controller, \$	1,295-1,720	790-1,100	1,995	—	60
Software, \$	—	—	—	—	—
Quantity discounts available	—	—	—	—	—
<b>AVAILABILITY</b>					
Date of first production delivery	9/75	3/74	12/74	9/73	9/74
Display units installed to date	Over 300	Over 300	Over 400	1,000	—
Serviced by	Digi-Log	Digi-Log	Digi-Log	Digi-Log	DEC
No. of service locations	—	—	—	—	—
<b>COMMENTS</b>					
		Hardwired controller, uses external monitor without keyboard	Portable controller; uses separate monitor and keyboard (included in higher cost above)	A portable controller that uses separate monitor and keyboard (included in higher cost above)	Provides local copy of displayed data via integral printer

## Alphanumeric Display Terminals – Equipment Specifications

**Part 1:**      Terminal Description      Display Organization      Format Control  
                  Compatibility      Display Features      Edit Functions  
                  Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Digital Equipment Model VT-52	Digital Equipment Model VT-61/t	Four-Phase Systems System IV/40	Four-Phase Systems System IV/70	Genesis One Model G77C "The Plug"
<b>TERMINAL DESCRIPTION</b>					
Processor control	Microprocessor	Microprocessor	Yes	Yes	Microprocessor
Memory range, bytes	—	—	24-72K	12-96K	—
Stand-alone unit	Yes	Yes	No	No	No
Local cluster arrangement	No	No	Yes	Yes	Yes
Remote cluster arrangement	No	No	Yes	Yes	Yes
Max. no. of displays/controller	—	—	16	32	32
Max. no. of printers/controller	—	—	16	32	31
Max. no. of devices/controller	—	—	16	32	32
Any mix of screen sizes/controller	—	—	Std.	Std.	Std.
Computer interface	—	—	—	—	No
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	Std.	Std.	Std.
IBM 2260/2265	No	No	Std.	Std.	No
Teletype 33/35	Yes	Yes	No	No	No
Teletype 40	No	No	No	No	No
Other	No	No	IBM 2948/2915, others	IBM 2948/2915, others	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	Yes	Yes	No
User-defined parameters	No	No	Yes	Yes	No
Vendor-defined firmware	No	No	No	No	Yes
User-defined firmware	No	No	No	No	No
Vendor-supplied software	No	No	Data entry pkg., utilities, COBOL, RPG, Assembler	Data entry pkg., utilities, COBOL, RPG, Assembler	No
Software pricing	No	No	Std.	Std.	Extra cost
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	1920	1920	1152/1920	1152/1920	480/1920
Display arrangement, lines x chars./line	24 x 80	24 x 80	24 x 48/80	24 x 48/80	12 x 40, 24 x 80
Display area, h x w, inches	8.7 x 4.3	8.7 x 4.3	7.25 x 10.25	7.25 x 10.25	7 x 10.5
Total displayable symbols	128	128	125	125	64
Symbol formation	7 x 7	7 x 8	7 x 9 dot matrix	7 x 9 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	—	Std.	No	No	No
Programmable brightness levels	—	No	3 std.	3 std.	3 std.
Character and/or field blinking	—	No	Both std.	Both std.	No
Roll	—	Up & down std.	Up & down std.	Up & down std.	No
Paging	—	—	Multiple paging std.	Multiple paging std.	No
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Std.	Opt.
Addressable/readable cursor	Std. addressable only	Std.	Std.	Std.	Std.
<b>FORMAT CONTROL</b>					
Protected format	No	Std.	Std.	Std.	Std.
Format creation via keyboard	No	Std.	Std.	Std.	No
Format editing via keyboard	No	Std.	Std.	Std.	No
Format storage	No	Std.	Unlimited std.	Unlimited std.	1 std.
Partial screen transmit	No	Std.	Std.	Std.	Std.
Tabulation	Std.	Std.	Std.	Std.	Std.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	No	Std.	Std.	Std.	Std.
Line insert/delete	No	Std.	Std.	Std.	No
Character erase	No	Std.	Std.	Std.	Std.
Line erase	Std.	Std.	Std.	Std.	No
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Std.	Std.	Std.	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter	Typewriter	Typewriter/	Typewriter/	Typewriter/
Character/code set	ASCII	ASCII	data entry	data entry	data entry
Detachability	No	No	ASCII/EBCDIC	ASCII/EBCDIC	EBCDIC
Program function keys	3 std.	4 std.	Std.	—	Std.
Cursor control keys	4 std.	4 std.	12 std.	12 std.	12 opt., 3 std.
Edit function keys	12 reassignable	12 reassignable	6 std.	6 std.	9 std.
Numeric keypad	Std.	Std.	4 std.	4 std.	5 std.
			Std.	Std.	Opt.



Alphanumeric Display Terminals – Equipment Specifications

Part 2:      Operator Features      Transmission Features      Diagnostics  
                  Ancillary Features      Terminal Interface      Pricing  
                  Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Digital Equipment Model VT-52	Digital Equipment Model VT-61/t	Four-Phase Systems System IV/40	Four-Phase Systems System IV/70	Genesis One Model G77C "The Plug"
<b>OPERATOR FEATURES</b> Numeric keylock Audible alarm Keylock Operator I.D. card reader Light pen	No Std. — No —	No Std. Std. No —	Std. Opt. No No No	Std. Opt. No No No	Opt. Opt. Opt. Opt. Opt.
<b>ANCILLARY DEVICES</b> Cassette tape drive Diskette drive (floppy disk) Serial printer Print speed & print positions, cps Other devices	No No Non-impact — No	No No Non-impact — No	No Single Impact — Disk & tape drives, card reader	No Single Impact — Disk & tape drives, card reader	No No Impact 88, 120, 165 —
<b>TRANSMISSION PARAMETERS</b> Mode Technique Communications protocol Code Unit code structure, bits/char. Speed, bits/second Operator selectable speeds Format: character, line, or block	Half/full-duplex Asynchronous No ASCII 10/11 75 to 9600 9 std. Char. only	Half/full-duplex Asynchronous No ASCII 10/11 75 to 9600 10 std. Char./block	Half/full-duplex Async./sync. BSC, SDLC ASCII/EBCDIC Variable 1200 to 9600 Multiple std. Char./block	Half/full-duplex Async./sync. BSC, SDLC ASCII/EBCDIC Variable 1200 to 9600 Multiple std. Char./block	See Comments — — — — — — —
<b>TRANSMISSION FEATURES</b> Multipoint operation (pollable/addr.) Auto answer Auto call	No No No	No No No	Std. Std. Opt.	Std. Std. Opt.	— — —
<b>TERMINAL INTERFACE</b>	RS 232C, 20 ma	RS 232C, 20 ma	RS-232 B/C	RS-232 B/C	—
<b>LINE INTERFACE</b> External modem required Integral modem Integral acoustic coupler Vendor-supplied external modem	No No No No	Opt. Opt. No No	Yes No No No	Yes No No No	— — — —
<b>DIAGNOSTICS</b> Self diagnostics In line On line Off line	No No No No	Yes Yes Yes Yes	Yes Yes Yes Yes	Yes Yes Yes Yes	No No Yes Yes
<b>PRICING</b> (Price range shows cost of basic unit and unit with all options) Lease price including maintenance: Display station, 1 year lease, \$/mo. Display station, 2 year lease, \$/mo. Display station, 3 year lease, \$/mo. Serial printer, 1 year lease, \$/mo. Serial printer, 2 year lease, \$/mo. Serial printer, 3 year lease, \$/mo. Controller, 1 year lease, \$/mo. Controller, 2 year lease, \$/mo. Controller, 3 year lease, \$/mo. Purchase price: Display station, \$ Serial printer, \$ Controller, \$ Software, \$ Quantity discounts available	— — — — — — — — — — 1,995 — — — Yes	— — — — — — — — — — 2,950 — — — Yes	47 — 45 90 — 90 295 — 270 1,915 3,500 13,865 No charge Yes	47 — 45 90 — 90 370 — 348 1,915 3,500 16,000 No charge Yes	— 113 — — — — — — — 3,800 — — — —
<b>AVAILABILITY</b> Date of production delivery Display units installed to date Serviced by No. of service locations	12/75 — DEC —	3/76 — DEC —	7/73 Over 20,000 Four-Phase 56	2/71 Over 20,000 Four-Phase 56	1/75 2500 Sorbus —
<b>COMMENTS</b>					Replaces IBM 3277-2 Display station; plugs into IBM 3271-2 (re-mote) or 3272-2 (local) Control Units

Alphanumeric Display Terminals – Equipment Specifications

Part 1: Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Goodwood Data Systems GDS-100	Goodwood Data Systems GDS-300	GTE Information Systems IS/7100	GTE Information Systems IS/7700 & IS/7701	GTE Information Systems IS/7801/A & IS/7802
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	No	No	No	Microprocessor
Memory range, bytes	—	—	—	—	—
Stand-alone unit	Yes	No	Yes	No	No
Local cluster arrangement	No	Yes	No	Yes	IS/7802
Remote cluster arrangement	No	Yes	No	Yes	IS/7801, IS/7801A
Max. no. of displays/controller	—	8 or 16	—	24	26 or 5 (IS/7801A)
Max. no. of printers/controller	—	—	—	12	26 or 5 (IS/7801A)
Max. no. of devices/controller	—	8 or 16	—	36	26 or 5 (IS/7801A)
Any mix of screen sizes/controller	—	Std.	—	Yes	Yes
Computer interface	No	Minicomputer	No	Yes	Yes
Portable case	Yes, 25 lbs.	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	Opt.	No	No	Std.
IBM 2260/2265	No	Opt.	Std.	Std.	No
Teletype 33/35	No	Std.	No	No	No
Teletype 40	No	No	No	No	No
Other	IBM 2701, 2741	No	No	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	No	No
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	No	No	No	No	No
User-defined firmware	No	No	No	No	No
Vendor-supplied software	—	—	—	—	—
Software pricing	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	980/1920	256 to 1920	240/480/960/1920	240/480/960/1920	240/480/960/1920
Display arrangement, lines x chars./line	12/40, 24/80	8/32 to 24/80	6/12x40; 12/24x80	6/12x40; 12/24x80	6/12x40; 12/24x80
Display area, h x w, inches	Variable	Variable	7.5 x 9.5	7.5 x 9.5	7.5 x 9.5
Total displayable symbols	—	64; 96	64	64	128
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	Opt.	No	No	Std.
Programmable brightness levels	No	No	No	No	2 std.
Character and/or field blinking	No	Char. only	Std.	Std.	Field std.
Roll	Up std.	No	No	No	No
Paging	No	No	No	No	No
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	L, R, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H	U, D, L, R, H	U, D, L, R, H, Rt.
Cursor blinking	Opt.	No	No	No	Std.
Addressable/readable cursor	Addressable line	Addressable only	Std. addressable only	Std. addressable only	Std.
<b>FORMAT CONTROL</b>					
Protected format	No	No	Std.	Std.	Std.
Format creation via keyboard	No	No	Std.	Std.	Std.
Format editing via keyboard	No	No	Std.	Std.	Std.
Format storage	—	—	Std.	Std.	Std.
Partial screen transmit	No	No	Std.	Std.	No
Tabulation	No	No	Std.	Std.	Std.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	No	No	Std.	Std.	Std.
Line insert/delete	No	No	No	No	No
Character erase	No	No	Std.	Std.	Std.
Line erase	No	Yes	Std.	Std.	Std.
Screen erase	Yes	Yes	Std.	Std.	Std.
Character repeat	No	No	No	No	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter	Any	Typewriter/ data entry	Typewriter/ data entry	Typewriter/data entry/console
Character/code set	APL	ASCII	ASCII	ASCII	ASCII/EBCDIC
Detachability	Std.	Std.	Std.	Std.	Std.
Program function keys	No	Any	No	No	12 std.
Cursor control keys	3 std.	6 std.	5 std.	5 std.	6 std.
Edit function keys	No	Any	5 std.	5 std.	6 std.
Numeric keypad	No	Opt.	No	No	Opt.

## Alphanumeric Display Terminals – Equipment Specifications

<b>Part 2:</b>	<b>Operator Features</b> Ancillary Features Transmission Parameters	<b>Transmission Features</b> Terminal Interface Line Interface	<b>Diagnostics</b> Pricing Availability
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VENDOR AND MODEL	Goodwood Data Systems GDS-100	Goodwood Data Systems GDS-300	GTE Information Systems IS/7100	GTE Information Systems IS/7700 & IS/7701	GTE Information Systems IS/7801/A & IS/7802
<b>OPERATOR FEATURES</b>					
Numeric keylock	No	No	No	No	No
Audible alarm	No	No	No	No	Std.
Keylock	No	No	No	No	Opt.
Operator I.D. card reader	No	No	No	No	No
Light pen	No	Opt.	No	No	Opt.
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	No	No	Impact	Impact	Impact
Print speed & print positions, cps	No	No	—	—	—
Other devices	No	No	No	No	No
<b>TRANSMISSION PARAMETERS</b>					
Mode	Full-duplex	Full-duplex	Half-duplex	Half-duplex	Half-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Synchronous
Communications protocol	IBM 2741	ASCII	ASCII	ASCII	BSC
Code	IBM Corresp.	ASCII	ASCII	ASCII	ASCII/EBCDIC
Unit code structure, bits/char.	10	11	10	10	8
Speed, bits/second	134.5	1200 to 9600	1200 to 9600	1200 to 9600	1200 to 9600
Operator selectable speeds	No	No	No	No	No
Format: character, line, or block	Char. only	No	Block only	Block only	Block only
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	No	No	Std.	Std.	Std.
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	RS-232C	RS-232C	RS-232C
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	Yes	Yes	Yes
Integral modem	No	No	No	No	No
Integral acoustic coupler	Std.	No	No	No	No
Vendor-supplied external modem	Opt.	Yes	No	No	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	No	No
In line	No	No	No	No	No
On line	No	No	IBM	IBM	IBM
Off line	Yes	Yes	No	No	No
<b>PRICING (Price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	—	Contact vendor	126-162	74	120
Display station, 2 year lease, \$/mo.	—	—	—	—	—
Display station, 3 year lease, \$/mo.	—	—	—	—	—
Serial printer, 1 year lease, \$/mo.	—	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	—	—	—	244-594	200-225
Controller, 2 year lease, \$/mo.	—	—	—	—	—
Controller, 3 year lease, \$/mo.	—	—	—	—	—
Purchase price:					
Display station, \$	1,800-2,200	—	4,680-4,980	1,715	3,136
Serial printer, \$	—	—	—	—	—
Controller, \$	—	—	—	10,620-23,850	5,696-6,496
Software, \$	—	—	—	—	—
Quantity discounts available	No	—	—	—	—
<b>AVAILABILITY</b>					
Date of first production delivery	4/73	7/74	6/72	4/72	2/75, 4/75 (01A)
Display units installed to date	Over 100	—	1,500	5,000	3,000
Serviced by	Goodwood	Goodwood	GTEIS	GTEIS	GTEIS
No. of service locations	—	—	—	—	—
<b>COMMENTS</b>	Portable controller with keyboard uses video monitor; replaces the IBM 2741		Supports one printer		Cluster limit for IS/7801 A is 5; prices for clusters over 8 for 7801/02 are substantially higher; contact vendor for 7801 A pricing

## Alphanumeric Display Terminals – Equipment Specifications

**Part 1:**      **Terminal Description**      **Display Organization**      **Format Control**  
**Compatibility**      **Display Features**      **Edit Functions**  
**Programmability**      **Cursor Control**      **Keyboard Parameters**

VENDOR AND MODEL	Hazeltine 1000 & 1200	Hazeltine 2000	Hazeltine 3000	Hazeltine Modular One	Hendrix 5200/5200 B
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	Microprocessor	Microprocessor	Microprocessor	No
Memory range, bytes	—	—	—	—	—
Stand-alone unit	Yes	Yes	Yes	Yes	Yes
Local cluster arrangement	No	No	No	No	No
Remote cluster arrangement	No	No	No	No	No
Max. no. of displays/controller	—	—	—	—	—
Max. no. of printers/controller	—	—	—	—	—
Max. no. of devices/controller	—	—	—	—	—
Any mix of screen sizes/controller	—	—	—	—	—
Computer interface	No	No	No	No	No
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	No	No	No
IBM 2260/2265	No	No	No	No	No
Teletype 33/35	Yes	Yes	No	Yes	No
Teletype 40	No	No	No	No	No
Other	No	No	Customer specified	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	No	No
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	No	No	Yes	Yes	No
User-defined firmware	No	No	Yes	Yes	No
Vendor-supplied software	No	No	No	No	No
Software pricing	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	960; 1920 (1200)	1998; 2000	1998; 2000	1920	3072
Display arrangement, lines x chars./line	12/24 x 80 (1200)	22 x 74; 25 x 80	27 x 74; 25 x 80	24 x 80	32 x 96
Display area, h x w, inches	4.6 x 9.2	6.0 x 8.5	6.0 x 8.5	6.0 x 9.0	17-inch diag.
Total displayable symbols	64 std.; 96 opt.	64 std.; 96 opt.	64 std.; 96 opt.	64 std.; 96 opt.	128; 256
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	No	No	Std.	Std.
Programmable brightness levels	No	2 std.	2 std.	2 std.	2 std. plus 2 opt.
Character and/or field blinking	No	Field opt.	Field opt.	Field opt.	No
Roll	Up std.	Up std.	Up std.	Up std.	Std.
Paging	No	Yes	Yes	No	No
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	No	Opt.	Opt.	Opt. (no cost)	Std.
Addressable/readable cursor	No	Std. addressable only	Std. addressable only	Std.	No
<b>FORMAT CONTROL</b>					
Protected format	No	Std.	Std.	Std.	No
Format creation via keyboard	No	Std.	Std.	Std.	Opt.
Format editing via keyboard	No	Std.	Std.	Opt.	No
Format storage	No	Std.	Std.	Std.	No
Partial screen transmit	No	Std.	Std.	Opt.	Std.
Tabulation	No	Std.	Std.	Opt.	Opt.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	No	Std.	Std.	Opt.	Std.
Line insert/delete	No	Std.	Std.	Opt.	Std.
Character erase	No; std. (1200)	Std.	Std.	Std.	Std.
Line erase	No	No	No	Std.	Std.
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	No	Std.	Std.	Opt.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Teletype	Teletype	Teletype	Typewriter	Typewriter
Character/code set	ASCII	ASCII	ASCII	ASCII	TTS
Detachability	No	Std.	Std.	No	No
Program function keys	No	No	No	8 opt.	No
Cursor control keys	4 std.	6 std.	6 std.	6 std.	6 std.
Edit function keys	No	7 std.	7 std.	3 std.; 5 opt.	8 std.
Numeric keypad	No	Std.	Std.	Std.	No

Alphanumeric Display Terminals – Equipment Specifications

**Part 2:**      **Operator Features**      **Transmission Features**      **Diagnostics**  
**Ancillary Features**      **Terminal Interface**      **Pricing**  
**Transmission Parameters**      **Line Interface**      **Availability**

VENDOR AND MODEL	Hazeltine 1000 & 1200	Hazeltine 2000	Hazeltine 3000	Hazeltine Modular One	Hendrix 5200/5200 B
<b>OPERATOR FEATURES</b>					
Numeric keylock	No	No	No	No	No
Audible alarm	Std.	Std.	Std.	Std.	No
Keylock	No	No	No	Opt.	No
Operator I.D. card reader	No	No	No	No	No
Light pen	No	No	No	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	Dual	Dual	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Non-impact (1200)	Impact/non-impact	Impact/non-impact	No	No
Print speed & print positions, cps	30 @ 80	30 @ 80; 120 @ 120	30 @ 80; 120 @ 120	—	—
Other devices	No	Remote monitors	Remote monitors	No	Paper tape reader, punch
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Async.; sync. opt.	Async.; sync. opt.	Asynchronous
Communications protocol	ASCII	ASCII	User defined	User defined	TTS/ASCII
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Unit code structure, bits/char.	10/11	10/11	10/11	10/11	10/11
Speed, bits/second	110 to 9600	110 to 9600	110 to 9600	110 to 9600	110 to 9600
Operator selectable speeds	2 std.	5 std.	5 std.	No	No
Format: character, line, or block	Char. only	Char./block	Block only	Char.; block opt.	Char. only
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	No	No	Std.	Opt.	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232 B/C	RS-232 B/C	RS-232 B/C	RS-232 B/C	RS-232C opt.
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	Yes	Yes	Yes
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
Vendor-supplied external modem	Opt.	Opt.	Opt.	Opt.	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	No	No
In line	No	No	No	No	No
On line	No	No	No	No	No
Off line	Yes	Yes	Yes	Yes	No
<b>PRICING (Price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	49; 65 (1200)	98	125	—	—
Display station, 2 year lease, \$/mo.	—	—	110	—	—
Display station, 3 year lease, \$/mo.	—	—	—	—	—
Serial printer, 1 year lease, \$/mo.	83	83; 150 (impact)	83; 150 (impact)	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	—	—	50-75	—	—
Controller, 2 year lease, \$/mo.	—	—	—	—	—
Controller, 3 year lease, \$/mo.	—	—	—	—	—
Purchase price:	1,495;				
Display station, \$	1,590 (1200)	2,995	3,900	1,420	9,800-12,800
Serial printer, \$	2,350 (1200 only)	2,350;4,350(imp't)	2,350;4,350(imp't)	—	—
Controller, \$	—	—	—	—	—
Software, \$	—	—	—	—	—
Quantity discounts available	Yes	Yes	Yes	Yes	—
<b>AVAILABILITY</b>					
Date of first production delivery	6/73; 10/74 (1200)	10/70	3/74	2/76	1970
Display units installed to date	2,700; 2,000(1200)	23,000	600	—	—
Serviced by	Syntonic/Hazeltine	Syntonic/Hazeltine	Syntonic/Hazeltine	Syntonic/Hazeltine	Hendrix
No. of service locations	53	53	53	53	—
<b>COMMENTS</b>	Options include answerback and 202C or current loop interface	Options include answerback and 202C or current loop interface		Available for OEM purchase only; extensive choice of no-charge and low-cost options	Designed for text editing

Alphanumeric Display Terminals – Equipment Specifications

Part 1: Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Hendrix 6000 Series	Hewlett-Packard 2640 A/C & 2644A	Honeywell VIP 7700	Honeywell VIP 7760	IBM 3275 Information Display System
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	Microprocessor	No	Microprocessor	No
Memory range, bytes	—	See Comments	—	24K to 64K	—
Stand-alone unit	No	Yes	Yes	No	Yes
Local cluster arrangement	No	No	Yes	Yes	No
Remote cluster arrangement	Yes	No	Yes	Yes	No
Max. no. of displays/controller	8	—	10	8-32	—
Max. no. of printers/controller	1	—	10	4-16	—
Max. no. of devices/controller	8	—	10	8-32	—
Any mix of screen sizes/controller	No	—	—	Standard	—
Computer interface	No	No	Honeywell	Honeywell	No
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	No	No	Yes
IBM 2260/2265	No	No	No	No	No
Teletype 33/35	Optional	Standard	No	No	No
Teletype 40	No	No	No	No	No
Other	No	No	Honeywell	Honeywell	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	No	No
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	No	Yes	No	Yes	No
User-defined firmware	No	No	No	No	No
Vendor-supplied software	No	No	No	Yes	No
Software pricing	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	1296	1920	960/1920	960/1920	480/1920
Display arrangement, lines x chars./line	18 x 72	24 x 80	12/24 x 80	12/24 x 80	12/24 x 80
Display area, h x w, inches	12-inch diag.	5 x 10	5.5 x 8.5	6 x 9	14-inch diag.
Total displayable symbols	256	64; up to 512 opt.	63; 96 opt.	96	64
Symbol formation	7 x 9 dot matrix	7 x 9 dot matrix	5 x 7 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	Standard	Standard	No	No	No
Programmable brightness levels	2 std. plus 2 opt.	1 opt.	No	No	2 std.
Character and/or field blinking	Standard	Optional	Standard	Standard	No
Roll	Standard	Up & down std.	No	No	No
Paging	No	Variable	No	Standard	No
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R
Cursor blinking	Standard	Standard	Standard	Standard	No
Addressable/readable cursor	Standard	Standard	Std.; addressable only	Standard	Std.; addressable only
<b>FORMAT CONTROL</b>					
Protected format	Standard	Standard	Standard	Standard	Standard
Format creation via keyboard	Standard	Standard	Standard	No	Standard
Format editing via keyboard	Standard	Standard	Standard	Standard	Standard
Format storage	Standard	Variable	Standard	95	Standard
Partial screen transmit	Standard	Standard	Standard	Standard	Standard
Tabulation	Optional	Standard	Standard	Standard	Standard
<b>EDIT FUNCTIONS</b>					
Character insert/delete	Standard	Standard	Standard	Standard	Standard
Line insert/delete	Standard	Standard	Standard	Standard	No
Character erase	Standard	Standard	Standard	Standard	Standard
Line erase	Standard	Standard	Standard	Standard	Standard
Screen erase	Standard	Standard	Standard	Standard	Standard
Character repeat	Standard	Standard	Standard	Standard	Standard
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Several
Character/code set	TTS	ASCII	ASCII	ASCII	ASCII/EBCDIC
Detachability	No	Yes	No	Optional	Standard
Program function keys	Over 30	8 standard	36 optional	26 standard	Optional
Cursor control keys	6 standard	6 standard	6 standard	8	6 standard
Edit function keys	8 standard	4 standard	8 standard	9	4 standard
Numeric keypad	No	Standard	Standard	Standard	Standard

Alphanumeric Display Terminals – Equipment Specifications

Part 2:            Operator Features            Transmission Features            Diagnostics  
                         Ancillary Features            Terminal Interface            Pricing  
                         Transmission Parameters            Line Interface            Availability

VENDOR AND MODEL	Hendrix 6000 Series	Hewlett-Packard 2640 A/C & 2644A	Honeywell VIP 7700	Honeywell VIP 7760	IBM 3275 Information Display System
<b>OPERATOR FEATURES</b> Numeric keylock Audible alarm Keylock Operator I.D. card reader Light pen	No Standard No No No	Standard Standard No No No	No No Optional Optional No	No No Optional No —	Optional Optional Optional Optional Optional
<b>ANCILLARY DEVICES</b> Cassette tape drive Diskette drive (floppy disk) Serial printer Print speed & print positions, cps Other devices	No No Optional — Paper tape reader, punch, 2.4 M-byte disk	Dual cart. (2644) No Impact/non-impact — No	Dual No Impact — No	No Yes Optional 120 @ 120 No	No No IBM 3284-3 40 @ 120/132 No
<b>TRANSMISSION PARAMETERS</b> Mode Technique Communications protocol Code Unit code structure, bits/char. Speed, bits/second Operator selectable speeds Format: character, line, or block	Half-duplex Asynchronous ASCII ASCII 10/11 110 to 9600 No Char. only	Half/full-duplex Asynchronous TTY ASCII 10/11 110 to 2400 5 standard Char./block	Half-duplex Synchronous ASCII Honeywell 8 2000 to 4800 No Block only	Half/full-duplex Synchronous VIP ASCII 8 2400/4800 No Block only	Half-duplex Synchronous BSC/SDLC ASCII/EBCDIC 8 1200 to 7200 No Block only
<b>TRANSMISSION FEATURES</b> Multipoint operation (pollable/addr.) Auto answer Auto call	No No No	No No No	Standard Standard No	Standard No No	Standard No No
<b>TERMINAL INTERFACE</b>	RS-232C opt.	RS-232C	RS-232C	RS-232C, CCITT V.24	RS-232C
<b>LINE INTERFACE</b> External modem required Integral modem Integral acoustic coupler Vendor-supplied external modem	Yes No No No	Yes No No No	Yes No No No	Yes No No No	Yes No No Optional
<b>DIAGNOSTICS</b> Self diagnostics In line On line Off line	No No No No	Yes No Yes Yes	No No No No	Yes Yes Yes Yes	No No Yes No
<b>PRICING</b> (Price range shows cost of basic unit and unit with all options.) Lease price including maintenance: Display station, 1 year lease, \$/mo. Display station, 2 year lease, \$/mo. Display station, 3 year lease, \$/mo. Serial printer, 1 year lease, \$/mo. Serial printer, 2 year lease, \$/mo. Serial printer, 3 year lease, \$/mo. Controller, 1 year lease, \$/mo. Controller, 2 year lease, \$/mo. Controller, 3 year lease, \$/mo. Purchase price: Display station, \$ Serial printer, \$ Controller, \$ Software, \$ Quantity discounts available	— — — — — — — — — — — 5,900 — 32,300-196,000 — —	Full pay-out Lease available — — — — — — — — — 3,000-5,000 3,000 — — Yes	157-285 — 135-242 — — — 98 — 85 (5-yr.) — 4,860-8,770 3,025 — —	51-84 — 46-76 152-182 — — 139-165 462 — 420 — 1,840-3,040 4,500-5,450 16,800 — —	150-360 — — 145 — — — — — — 5,290-11,009 4,845 — — —
<b>AVAILABILITY</b> Date of first production delivery Display units installed to date Serviced by No. of service locations	1972 — Hendrix —	1975 4000 (2640A) Hewlett-Packard 162	10/73 Over 2,000 Honeywell —	5/76 — Honeywell 155	2nd qtr. 1972 — IBM —
<b>COMMENTS</b>	Designed for text editing and text publishing	2640 has 8K ROM; 1K RAM in A, 4K in C, exp. to 8K; 2644A also has 128-char. Cyrillic & cartridge tape unit. All models of- fer 64-char. math or line-drawing set			

## Alphanumeric Display Terminals – Equipment Specifications

<b>Part 1:</b>	<b>Terminal Description</b> Compatibility Programmability	<b>Display Organization</b> Display Features Cursor Control	<b>Format Control</b> Edit Functions Keyboard Parameters
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VENDOR AND MODEL	IBM 3277 Information Display System	IBM 2260 Display Station	IBM 2265 Display Station	IBM 3790 Communication System	IBM 5937
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	No	No	Yes	No
Memory range, bytes	—	—	—	8K-48K	—
Stand-alone unit	No	No	Yes	No	Yes
Local cluster arrangement	Yes	Yes	No	Yes	No
Remote cluster arrangement	Yes	Yes	No	Yes	No
Max. no. of displays/controller	32	24	—	16	—
Max. no. of printers/controller	31	1	—	31	—
Max. no. of devices/controller	32	25	—	22	—
Any mix of screen sizes/controller	Yes	No	—	51	—
Computer interface	3272 only	Yes	No	No	No
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	Yes	No	No	No	Yes
IBM 2260/2265	No	Yes	Yes	No	No
Teletype 33/35	No	No	No	No	No
Teletype 40	No	No	No	No	No
Other	No	No	No	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	No	No
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	No	No	No	No	No
User-defined firmware	No	No	No	No	No
Vendor-supplied software	No	No	No	No	No
Software pricing	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	480/1920	240/480/960	960	480/1920	240
Display arrangement, lines x chars./line	12 x 40; 24 x 80	6/12 x 40; 12 x 80	15 x 64; 12 x 80	12 x 40; 24 x 80	6 x 40
Display area, h x w, inches	14-inch diag.	4 x 9	4.6 x 10.3	14-inch diag.	—
Total displayable symbols	64	64	64	64	44
Symbol formation	7 x 9 dot matrix	5 x 7 dot matrix	Stroke	7 x 9 dot matrix	Gas panel
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	No	No	No	—
Programmable brightness levels	2 std.	No	No	2 std.	Std.
Character and/or field blinking	No	No	No	No	—
Roll	No	No	No	No	Std.
Paging	No	No	No	No	No
<b>CURSOR CONTROL</b>					
Cursor positioning: Up, Down, Left, Right, Home, Return	U, D, L, R	U, D, L, R	U, D, L, R	U, D, L, R	U, D, L, R, H
Cursor blinking	No	No	No	No	No
Addressable/readable cursor	Std., addressable only	Opt., addressable line only	Opt., addressable line only	Std., addressable only	No
<b>FORMAT CONTROL</b>					
Protected format	Std.	Std.	Std.	Std.	Std.
Format creation via keyboard	Std.	Std.	Std.	Std.	—
Format editing via keyboard	Std.	Std.	Std.	Std.	—
Format storage	Std.	Std.	Std.	Std.	—
Partial screen transmit	Std.	Std.	Std.	Std.	No
Tabulation	Std.	Opt.	Opt.	Std.	—
<b>EDIT FUNCTIONS</b>					
Character insert/delete	Std.	No	No	Std.	No
Line insert/delete	No	No	No	No	No
Character erase	Std.	No	No	Std.	Std.
Line erase	Std.	Opt.	Std.	Std.	Std.
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Std.	No	No	Std.	No
<b>KEYBOARD PARAMETERS</b>					
Style	Several	Typewriter/num.	Typewriter	Typewriter	Block
Character/code set	ASCII/EBCDIC	ASCII	ASCII	ASCII/EBCDIC	ASCII/EBCDIC
Detachability	Std.	Std.	Std.	Std.	No
Program function keys	Std.	No	No	Opt.	—
Cursor control keys	4 std.	4 std.	4 std.	4 std.	4 std.
Edit function keys	6 std.	1 std.; 1 opt.	2 std.	6 std.	Programmable
Numeric keypad	Std.	Opt.	No	Std.	Std.



Alphanumeric Display Terminals – Equipment Specifications

Part 2: Operator Features      Transmission Features      Diagnostics  
Ancillary Features      Terminal Interface      Pricing  
Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	IBM 3277 Information Display System	IBM 2260 Display Station	IBM 2265 Display Station	IBM 3790 Communication System	IBM 5937
<b>OPERATOR FEATURES</b>					
Numeric keylock	Opt.	No	No	Opt.	No
Audible alarm	Opt.	No	No	Opt.	No
Keylock	Opt.	No	No	Opt.	No
Operator I.D. card reader	Opt.	No	No	Opt.	No
Light pen	Opt.	No	No	Opt.	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	IBM 3284/3286	IBM 1053-4	IBM 1053-4	IBM 3793	No
Print speed & print positions, cps	40/66 @ 120-132	14.8 @ 128	14.8 @ 128	—	—
Other devices	IBM 3288 line printer 120-lpm @ 132 char./line	No	No	Disk, 4.2-26.9 million bytes	Remote sensors
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half-duplex	Half-duplex	Half-duplex	Half-duplex	Half-duplex
Technique	Synchronous	Asynchronous	Asynchronous	Synchronous	Synchronous
Communications protocol	BSC/SDLC	ASCII	ASCII	SDLC	BSC/SDLC
Code	ASCII/EBCDIC	ASCII	ASCII	EBCDIC	ASCII/EBCDIC
Unit code structure, bits/char.	8	10	10	8	8
Speed, bits/second	1200 to 7200	1200/2400	1200/2400	1200/2400	1200 to 7200
Operator selectable speeds	No	No	No	No	No
Format: character, line, or block	Block only	Block only	Block only	Block only	Block only
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	Std.	Std.	Std.	Std.	Std.
Auto answer	No	No	No	No	No
Auto call	No	No	—	—	—
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	RS-232C	RS-232C opt.	RS-232C
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	Yes	Yes	Yes
Integral modem	No	No	No	Opt.	Opt., 1200 bps
Integral acoustic coupler	No	No	No	No	No
Vendor-supplied external modem	Opt.	Opt.	Opt.	Opt.	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	No	No
In line	No	No	No	No	No
On line	Yes	Yes	Yes	Yes	—
Off line	No	No	No	No	No
<b>PRICING (price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	100-240	42-73	214	See Comments	—
Display station, 2 year lease, \$/mo.	—	—	—	—	—
Display station, 3 year lease, \$/mo.	—	—	—	—	385-494 (5-yr.)
Serial printer, 1 year lease, \$/mo.	168-213	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	184-716	431-2,872	183-276	—	—
Controller, 2 year lease, \$/mo.	—	—	—	—	—
Controller, 3 year lease, \$/mo.	—	—	—	—	—
Purchase price:					
Display station, \$	3,460-6,440	1,295-2,179	5,480	—	12,545-15,000
Serial printer, \$	5,065-7,505	—	—	—	—
Controller, \$	5,635-14,932	17,530-88,016	7,190-10,576	—	—
Software, \$	—	—	—	—	—
Quantity discounts available	—	—	—	—	—
<b>AVAILABILITY</b>					
Date of first production delivery	2nd qtr. 1972	6/66	4/69	1st qtr. 1975	Mid 1976
Display units installed to date	—	—	—	—	—
Serviced by	IBM	IBM	IBM	IBM	IBM
No. of service locations	—	—	—	—	—
<b>COMMENTS</b>				Remote shared-processor data entry system. Pricing is complex and depends upon system configuration	Data collection terminal for rugged factory environment; handles up to 16 lines to sensors

Alphanumeric Display Terminals – Equipment Specifications

Part 1: Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Incoterm SPD 320	Incoterm SPD 325	Incoterm SPD 10/20	Incoterm SPD 10/25	Incoterm SPD 20/20
<b>TERMINAL DESCRIPTION</b>					
Processor control	Minicomputer	Minicomputer	Minicomputer	Minicomputer	Minicomputer
Memory range, bytes	16K; 32 opt.	4K	2K	4K	16K-32K
Stand-alone unit	No	Yes	Yes	Yes	No
Local cluster arrangement	Yes	No	No	No	Yes
Remote cluster arrangement	Yes	No	No	No	Yes
Max. no. of displays/controller	8/16	2	2	2	16
Max. no. of printers/controller	16	1	8	4 + 7	4-16 + 8 = 24
Max. no. of devices/controller	32	2	10	13	40
Any mix of screen sizes/controller	No	No	No	No	No
Computer Interface	No	No	No	No	No
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	Std.	Std.	No	Opt.	Opt.
IBM 2260/2265	No	No	Opt.	Opt.	Opt.
Teletype 33/35	No	No	Opt.	Opt.	Opt.
Teletype 40	No	No	No	No	No
Other	No	No	No	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	Yes	Yes	Yes
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	No	No	No	No	No
User-defined firmware	No	No	No	No	No
Vendor-supplied software	3270 emulator	3275 emulator	SPD/DOS (diskette), assembler, emulation package	SPD/DOS (diskette), assembler, emulation package	SPD/DOS (diskette), assembler, emulation package
Software pricing	Std.	Std.	Std.	Std.	Std.
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	480/960/1920	480/960/1920	960/1920	960/2000	960/1920
Display arrangement, lines x chars./line	12/24 x 40/80	12/24 x 40/80	15/30 x 64	12/25 x 80	12/24 x 80
Display area, h x w, inches	6.5 x 9	6.5 x 9	6.5 x 9	6.5 x 9	6.5 x 9
Total displayable symbols	64	64	64; 121 opt.	64; 128 opt.	64; 128 opt.
Symbol formation	7 x 10 dot matrix	7 x 10 dot matrix	7 x 10; 8 x 14 (opt.) dot	7 x 10; 8 x 12 (opt.) dot	7 x 10; 8 x 12 (opt.) dot
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	No	No	No	No
Programmable brightness levels	2 std.	2 std.	No	2 std.	2 std.
Character and/or field blinking	Std.	Std.	Opt.	Opt.	Opt.
Roll	No	No	Opt.	Opt.	Opt.
Paging	No	No	—	—	—
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Opt.	Opt.	Std.
Addressable/readable cursor	Std.	Std.	Std.	Std.	Std.
<b>FORMAT CONTROL</b>					
Protected format	Std.	Std.	Opt.	Std.	Std.
Format creation via keyboard	No	No	Opt.	No	—
Format editing via keyboard	No	No	Opt.	No	—
Format storage	Std.	Std.	Opt.	Std.	—
Partial screen transmit	Std.	Std.	Opt.	Opt.	Opt.
Tabulation	Std.	Std.	Opt.	Opt.	Opt.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	Std.	Std.	Opt.	Opt.	Opt.
Line insert/delete	Std.	Std.	Opt.	Opt.	Opt.
Character erase	Std.	Std.	Opt.	Opt.	Opt.
Line erase	Std.	Std.	Opt.	Opt.	Opt.
Screen erase	Std.	Std.	Opt.	Opt.	Opt.
Character repeat	Std.	Std.	Opt.	Opt.	Opt.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter	Typewriter	Several	Several	Several
Character/code set	EBCDIC	EBCDIC	Several	Several	Several
Detachability	Std.	Std.	Std.	Std.	Std.
Program function keys	24 std.	24 std.	24 std.	24 std.	24 std.
Cursor control keys	Via software	Via software	Via software	Via software	Via software
Edit function keys	Via software	Via software	Via software	Via software	Via software
Numeric keypad	Std.	Std.	Opt.	Opt.	Opt.



Alphanumeric Display Terminals – Equipment Specifications

Part 1: Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Informer I211 and R211	Informer D-301 and D-302	Informer M-501	Informer P301, P302, P306	Infoton Vistar/GTX
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	No	No	No	No
Memory range, bytes	512	512	512	512	—
Stand-alone unit	Yes	No	Yes	Yes	Yes
Local cluster arrangement	No	Yes	No	Yes	Yes
Remote cluster arrangement	No	Yes	No	Yes	No
Max. no. of displays/controller	—	1 or up to 128	1	1 or up to 128	1
Max. no. of printers/controller	—	1 or 32	—	1 or 32	—
Max. no. of devices/controller	—	1	—	1	—
Any mix of screen sizes/controller	—	Opt.	—	—	—
Computer Interface	No	No	No	No	No
Portable case	No	No	No	Yes, 25 lbs.	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	No	No	No
IBM 2260/2265	No	No	No	No	No
Teletype 33/35	Yes	Yes	Yes	Yes	Yes
Teletype 40	No	No	No	No	Yes
Other	No	No	No	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	No	No
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	No	No	No	No	No
User-defined firmware	No	No	No	No	No
Vendor-supplied software	No	No	No	No	No
Software pricing	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	512	512	512	512	1920
Display arrangement, lines x chars./line	6 x 32	6 x 32	6 x 32	6 x 32	24 x 80
Display area, h x w, inches	3.5 x 4.5	3.5 x 4.5	3.5 x 4.5	3.5 x 4.5	7 x 9
Total displayable symbols	64; 96 opt.	64; 96 opt.	128	64	64
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	No	No	No	No
Programmable brightness levels	2 std.	2 std.	2 std.	2 std.	No
Character and/or field blinking	No	No	No	No	No
Roll	Up std.	Up std. (301 only)	Up std.	Up std. (301 only)	Up std.
Paging	No	No	No	No	No
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	None	U, D, L, R, H, Rt.	None
Cursor blinking	Opt.	Opt.	Opt.	Opt.	No
Addressable/readable cursor	Std. addressable only	Std. addressable only	—	Std. addressable only	No
<b>FORMAT CONTROL</b>					
Protected format	No	No(301); std.(302)	No	No(301); std.(302)	No
Format creation via keyboard	No	No(301); std.(302)	No	No(301); std.(302)	No
Format editing via keyboard	No	No	No	No	No
Format storage	1 std.	1 std.	No	1 std.	No
Partial screen transmit	No	No(301); opt.(302)	No	No(301); opt.(302)	No
Tabulation	No	No	No	No	No
<b>EDIT FUNCTIONS</b>					
Character insert/delete	No	No	No	No	No
Line insert/delete	No	No	No	No	No
Character erase	No	No	No	No	Opt.
Line erase	No	No	No	No	No
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Opt.	Opt.	No	Opt.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter	Data entry	No keyboard	Data entry	Teletype
Character/code set	ASCII	ASCII	—	ASCII	ASCII
Detachability	See comments	No	—	No	Std.
Program function keys	None	10 std.	—	10 std.	No
Cursor control keys	2 std.	7 std.	—	7 std.	No
Edit function keys	No	No	—	No	No
Numeric keypad	No	Std.	—	Std.	No

Alphanumeric Display Terminals – Equipment Specifications

Part 2:      Operator Features      Transmission Features      Diagnostics  
                  Ancillary Features      Terminal Interface      Pricing  
                  Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Informer I211 and R211	Informer D-301 and D-302	Informer M-501	Informer P301, P302, P306	Infoton Vistar/GTX
<b>OPERATOR FEATURES</b>					
Numeric keylock	Std.	Std.	No	Std.	No
Audible alarm	Std.	Std.	No	Std.	Std.
Keylock	Std.	Std.	No	Std.	No
Operator I.D. card reader	No	No	No	No	No
Light pen	No	No	No	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	No	No	Yes (306 only)	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Impact	Impact	No	Impact	No
Print speed & print positions, cps	40 @ 32	40 @ 32	No	40 @ 32	—
Other devices	No	No	No	No	No
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	ASCII	ASCII	ASCII	ASCII	ASCII
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Unit code structure, bits/char.	10	10	10	10	10/11
Speed, bits/second	110 to 9600	110 to 9600	110 to 9600	110 to 9600	50-9600
Operator selectable speeds	2 std.; 8 opt.	2 std.; 8 opt.	8 std.	2 std.; 8 opt.	15 std.
Format: character, line, or block	Char. only	Char.(301); block (302)	Char. only	Char. (301); block (302)	Char. only
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	Opt.	Opt.	No	Opt.	No
Auto answer	No	No(301); std.(302)	No	No(301); std.(302)	No
Auto call	No	No(301); std.(302)	No	No(301); std.(302)	No
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	RS-232C	RS-232C	RS-232C, CCITT V.24
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	Yes	Yes	Yes
Integral modem	No	No	No	Opt.	No
Integral acoustic coupler	No	No	No	Opt. (306 only)	No
Vendor-supplied external modem	No	No	No	Opt.	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	No	No
In line	No	No	No	No	No
On line	No	No	No	No	No
Off line	No	No	No	No	No
<b>PRICING (price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	99	99	99	99	—
Display station, 2 year lease, \$/mo.	—	—	—	—	—
Display station, 3 year lease, \$/mo.	—	—	—	—	—
Serial printer, 1 year lease, \$/mo.	99	99	99	99	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	—	—	—	—	—
Controller, 2 year lease, \$/mo.	—	—	—	—	—
Controller, 3 year lease, \$/mo.	—	—	—	—	—
Purchase price:					
Display station, \$	1,850-1,890	1,950-1,990	1,590	2,080	1,215
Serial printer, \$	1,075-1,560	1,075-1,560	—	1,075-1,560	—
Controller, \$	—	—	—	—	—
Software, \$	—	—	—	—	—
Quantity discounts available	Yes	Yes	Yes	Yes	Yes, 25 or more
<b>AVAILABILITY</b>					
Date of first production delivery	10/72	8/73	8/73	2/76	4/76
Display units installed to date	1,000	1,000	30	—	—
Serviced by	Informer	Informer	Informer	Informer	Opscan/Infoton
No. of service locations	—	—	—	—	50
<b>COMMENTS</b>	I 211 is designed for executive use, with keyboard in drawer; R 211 is rack mounted	D-301 is stand-alone unit; D-302 is stand-alone or cluster	M-501 is used as a monitor and does not have keyboard		

Alphanumeric Display Terminals – Equipment Specifications

Part 1: Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Infoton Vistar/Satellite	Infoton Vistar/2	Interface Technology Model 736	International Com munications Corp. ICC 40+ Data Display System	ITT Model 3501 Asciscop
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	Yes	No	Microprocessor	No
Memory range, bytes		12K	—	6K RAM;10K ROM	—
Stand-alone unit	Yes	Yes	Yes	Yes	Yes
Local cluster arrangement	No	No	No	No	No
Remote cluster arrangement	No	No	No	No	No
Max. no. of displays/controller	—	—	—	—	—
Max.no. of printers/controller	—	—	—	—	—
Max. no. of devices/controller	—	—	—	—	—
Any mix of screen sizes/controller	—	—	—	—	—
Computer Interface	No	No	No	No	No
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	No	No	No
IBM 2260/2265	No	No	No	Opt.	No
Teletype 33/35	Yes	Yes	Std.	Opt.	Std.
Teletype 40	Yes	Opt.	No	Std.	No
Other	—	—	—	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	No	No
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	No	Yes	No	Yes	No
User-defined firmware	No	Yes	No	No	No
Vendor-supplied software	No	No	No	No	No
Software pricing	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	1920	1920	4/8/12/16	1920	960
Display arrangement, lines x chars./line	24 x 80	24 x 80	1 x 16	24 x 80	12 x 80
Display area, h x w, inches	7 x 9	7 x 9	0.3 inch-high chars.	5.75 x 10.5	5 x 8
Total displayable symbols	96	128	15	127	65
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	7-segment LED's	7 x 11 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	No	No	Std.; cursor only	No
Programmable brightness levels	No	2 std.	No	2 std.	No
Character and/or field blinking	No	No	No	Both opt.	No
Roll	Up std.	Up std.	No	Opt.	Std.
Paging	No	No	No	Opt.	No
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	None	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	No	No	No	No	Std.
Addressable/readable cursor	Std.	Std.	No	Std./addressable only	No
<b>FORMAT CONTROL</b>					
Protected format	No	Std.	No	Opt.	No
Format creation via keyboard	No	Std.	No	Opt.	No
Format editing via keyboard	No	Std.	No	Opt.	No
Format storage	No	Std.	No	Opt.	No
Partial screen transmit	Std.	Std.	No	Std.	Std.
Tabulation	No	Std.	No	Opt.	No
<b>EDIT FUNCTIONS</b>					
Character insert/delete	No	Std.	No	Std.	No
Line insert/delete	No	Std.	No	Std.	No
Character erase	Std.	Std.	No	Std.	Std.
Line erase	Std.	Std.	No	Std.	No
Screen erase	Std.	Std.	No	Std.	Std.
Character repeat	Std.	Std.	No	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter	Typewriter	Numeric block	Typewriter	Teletype
Character/code set	ASCII	ASCII	Numerics only	ASCII	ASCII
Detachability	Std.	Std.	No	Std.	No
Program function keys	5 std.	6 std.	2 std.	Opt.	None
Cursor control keys	5 std.	5 std.	No	6 std.	6 std.
Edit function keys	No	4 std.	No	8 std.	3 std.
Numeric keypad	Std.	Std.	No	No	No

Alphanumeric Display Terminals – Equipment Specifications

Part 2: Operator Features      Transmission Features      Diagnostics  
Ancillary Features      Terminal Interface      Pricing  
Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Infoton Vistar/Satellite	Infoton Vistar/2	Interface Technology Model 736	International Communications Corp. ICC 40+ Data Display Sys.	ITT Model 3501 Asciscope
<b>OPERATOR FEATURES</b> Numeric keylock Audible alarm Keylock Operator I.D. card reader Light pen	Std. Std. No No No	Std. Std. No No No	No Opt. No No No	No Std. No No No	No Std. No No No
<b>ANCILLARY DEVICES</b> Cassette tape drive Diskette drive (floppy disk) Serial printer Print speed & print positions, cps Other devices	No No No — No	No No No — No	No No No — No	No No Impact 110@80-240@120 No	No No Impact/non-imp't. — No
<b>TRANSMISSION PARAMETERS</b> Mode Technique Communications protocol Code Unit code structure, bits/char. Speed, bits/second Operator selectable speeds Format: character, line, or block	Half/full-duplex Asynchronous No ASCII 10/11 50-9600 15 std. Char./block	Half/full-duplex Asynchronous Opt. ASCII 10/11 50-9600 15 std. Char./block	Half/full-duplex Asynchronous ASCII ASCII 10/11 110/300 — Char. only	Half/full-duplex Async./sync. ASCII ASCII 8/10/11 Up to 3600 Yes Char./block	Half/full-duplex Asynchronous ASCII ASCII 10/11 110/300/1200/2400 — Char./block
<b>TRANSMISSION FEATURES</b> Multipoint operation (pollable/addr.) Auto answer Auto call	No No No	Opt. Opt. No	No No No	Opt. Opt. No	No No No
<b>TERMINAL INTERFACE</b>	RS-232C, CCITT V.24	RS-232C, CCITT V.24	RS-232C	RS-232C	RS-232C
<b>LINE INTERFACE</b> External modem required Integral modem Integral acoustic coupler Vendor-supplied external modem	Yes No No No	Yes No No No	Yes No Opt. Opt.	Yes Opt. No Opt.	No Std. Std. No
<b>DIAGNOSTICS</b> Self-diagnostics In line On line Off line	No No No No	No No No No	— — — —	Yes No No No	No No No No
<b>PRICING</b> (price range shows cost of basic unit and unit with all options) Lease price including maintenance: Display station, 1 year lease, \$/mo. Display station, 2 year lease, \$/mo. Display station, 3 year lease, \$/mo. Serial printer, 1 year lease, \$/mo. Serial printer, 2 year lease, \$/mo. Serial printer, 3 year lease, \$/mo. Controller, 1 year lease, \$/mo. Controller, 2 year lease, \$/mo. Controller, 3 year lease, \$/mo. Purchase price: Display station, \$ Serial printer, \$ Controller, \$ Software, \$ Quantity discounts available	— — — — — — — — — — 1,795 — — — Yes	— — — — — — — — — — 2,795 — — — Yes	— — — — — — — — — — 600 — — — Yes	140-156 125-141 99-115 60-130 (basic) 50-117 (basic) 42-100 (basic) — — — 3,750-4,530 1,410-3,330 (basic) — — Yes	65 — — — — — — — — — 2,195 — — — —
<b>AVAILABILITY</b> Date of first production delivery Display units installed to date Served by No. of service locations	4/76 — Opscan/Infoton 50	3/75 300 Opscan/Infoton 50	8/74 60 Interface Tech. —	2/75 60 ICC Nationwide	12/72 1,000 ITT —
<b>COMMENTS</b>			Terminal contains an LED display and numeric keyboard	40 + 10 printer is a modified Oki-data CP 110; 40 + 20, a modified GE TermiNet 1200, calculator firmware is optional	

Alphanumeric Display Terminals – Equipment Specifications

Part 1: Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	ITT Model 3100 Alphascope	Jacquard J100 & J105	Kustom MCT-10	Lear Siegler ADM-1	Lear Siegler ADM-2
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	Minicomputer	No	Microprocessor	Microprocessor
Memory range, bytes	—	Up to 128K	—	2-8K	2-8K
Stand-alone unit	Yes	Yes	Yes	Yes	Yes
Local cluster arrangement	Yes	Yes	No	No	No
Remote cluster arrangement	Yes	Yes	No	No	No
Max. no. of displays/controller	1/4/8/16/32	30 J105's per J100	—	—	—
Max. no. of printers/controller	1/4	—	—	—	—
Max. no. of devices/controller	36	30	—	—	—
Any mix of screen sizes/controller	No	—	—	No	No
Computer Interface	Yes, IBM 360/370	No	—	No	—
Portable case	No	No	No; mobile	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	Opt.	No	No	No
IBM 2260/2265	Std.	No	No	No	No
Teletype 33/35	No	Std.	No	Yes	Yes
Teletype 40	No	No	—	No	No
Other	No	No	—	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	Yes	No	No	No
User-defined parameters	No	—	No	No	No
Vendor-defined firmware	No	No	No	Yes	Yes
User-defined firmware	No	No	No	No	No
Vendor-supplied software	No	Yes	No	No	No
Software pricing	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	240/480/960/ 1360/1920	1920	256	960/1920 opt.	1920
Display arrangement, lines x chars./line	6/12/17/24 x 40/80	24 x 80	8 x 32	12/24 x 80	24 x 80
Display area, h x w, inches	5 x 8	8 x 10	3.38 x 9.18	7.5 x 9.25	7.5 x 9.25
Total displayable symbols	65	96	64	96	128
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 9 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	No	No	No	No
Programmable brightness levels	No	Std.	No	No	No
Character and/or field blinking	No	Std.	No	No	Std.
Roll	No	Std.	No	Up std.	Up std.
Paging	No	Std.	No	No	No
<b>CURSOR CONTROL</b>					
Cursor positioning: Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H	U, D, L, R, H	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Std.	No
Addressable/readable cursor	No	Std.	No	Std.	Std.
<b>FORMAT CONTROL</b>					
Protected format	Opt.	Std.	No	Std.	Std.
Format creation via keyboard	Opt.	Std.	No	Std.	Std.
Format editing via keyboard	Opt.	Std.	No	Std.	Std.
Format storage	Opt.	Std.	No	None	None
Partial screen transmit	Std.	Std.	Std.	Opt.	Std.
Tabulation	Std.	Std.	No	Std.	Std.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	Std.	Std.	No	Opt.	Std.
Line insert/delete	No	Std.	No	Opt.	Std.
Character erase	Std.	Std.	No	Std.	Std.
Line erase	Std.	Std.	No	Opt.	Std.
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Std.	Std.	No	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	ASCII	ASCII	ASCII	ASCII	ASCII
Detachability	No	Std.	No	No	No
Program function keys	None	20 std.	11 std.	No	16 std.
Cursor control keys	6 std.	5 std.	5 std.	7 std.	9 std.
Edit function keys	6 std.	8 std.	1 std.	2 std.	11 std.
Numeric keypad	Opt.	Std.	No	Opt.	Std.



Alphanumeric Display Terminals — Equipment Specifications

Part 2:      Operator Features      Transmission Features      Diagnostics  
 Ancillary Features      Terminal Interface      Pricing  
 Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	ITT Model 3100 Alphascope	Jacquard J100 & J105	Kustom MCT-10	Lear Siegler ADM-1	Lear Siegler ADM-2
<b>OPERATOR FEATURES</b>					
Numeric keylock	No	No	No	No	No
Audible alarm	Std.	Opt.	Std.	Opt.	Std.
Keylock	No	No	No	Std.	Std.
Operator I.D. card reader	No	No	No	No	No
Light pen	No	No	No	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	Yes	No	No	No
Serial printer	Impact/non-impact	—	Non-impact	Impact	Impact
Print speed & print positions, cps	—	—	—	10 to 960 cps	10 to 960 cps
Other devices	No	Disk and tape units	No	No	No
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Async./sync.	Synchronous	Asynchronous	Async./sync.
Communications protocol	ASCII	ASCII/BSC	ASCII	ASCII	ASCII
Code	ASCII	ASCII/EBCDIC	ASCII	ASCII	ASCII
Unit code structure, bits/char.	10	8/10	8	10/11	10/11
Speed, bits/second	1200/2400/4800	110 to 9600	866/1300	110 to 9600	110 to 9600
Operator selectable speeds	No	—	—	3 std.	8 std.
Format: character, line, or block	Block only	Programmable	Block only	Char./block	Char./block
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	Std.	Programmable	Std.	Opt.	Opt.
Auto answer	No	Opt.	Std.	No	No
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	—	RS-232C, current loop	RS-232C, current loop
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	No	Yes	Yes
Integral modem	No	Opt.	Std.	No	No
Integral acoustic coupler	No	Opt.	No	No	No
Vendor-supplied external modem	Opt.	No	No	No	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	No	No
In line	No	No	No	No	No
On line	No	No	No	No	No
Off line	No	No	No	No	No
<b>PRICING (price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	40-45	—	—	—	—
Display station, 2 year lease, \$/mo.	—	—	—	—	—
Display station, 3 year lease, \$/mo.	—	—	—	—	—
Serial printer, 1 year lease, \$/mo.	—	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	95-1,920	—	—	—	—
Controller, 2 year lease, \$/mo.	—	—	—	—	—
Controller, 3 year lease, \$/mo.	—	—	—	—	—
Purchase price:					
Display station, \$	1,200-1,400	Contact vendor	3,650	1,800	2,895
Serial printer, \$	—	—	—	—	—
Controller, \$	6,150-68,525	Contact vendor	27,500-90,000	—	—
Software, \$	—	—	—	—	—
Quantity discounts available	—	—	—	Yes	Yes
<b>AVAILABILITY</b>					
Date of first production delivery	9/70	3/74	3/72	8/73	6/74
Display units installed to date	1,000	—	290	7,000	1,800
Serviced by	ITT & 3rd party	Jacquard	Kustom	Lear Siegler	Lear Siegler
No. of service locations	—	—	—	—	—
<b>COMMENTS</b>		J100 contains a CRT, keyboard, and minicomputer with up to 128K bytes of core memory	Mobile terminal for communication via two-way radio; contains plasma display		

Alphanumeric Display Terminals – Equipment Specifications

Part 1: Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Lier Siegler ADM-3	Leasco ADM-1	Leasco ADM-2	Leasco ADM-3	Megadata Sir-1000 U & Sir-1075/77
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	Microprocessor	Microprocessor	No	Minicomputer
Memory range, bytes	—	2-8K	2-8K	—	4K-26K
Stand-alone unit	Yes	Yes	Yes	Yes	Yes
Local cluster arrangement	No	No	No	No	Via multiplexer
Remote cluster arrangement	No	No	No	No	Via multiplexer
Max. no. of displays/controller	—	—	—	—	8-32
Max. no. of printers/controller	—	—	—	—	8-32
Max. no. of devices/controller	—	—	—	—	8-32
Any mix of screen sizes/controller	No	No	No	No	Std.
Computer interface	No	—	—	—	No
Portable case	No	No	No	No	Std.
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	No	No	Std. (1075/77)
IBM 2260/2265	No	No	No	No	No
Teletype 33/35	Yes	Yes	Yes	Yes	No
Teletype 40	No	No	No	No	No
Other	No	No	No	No	Univac (10004)
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	No	No
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	No	Yes	Yes	No	Std.
User-defined firmware	No	No	No	No	Std.
Vendor-supplied software	No	No	No	No	No
<b>Software pricing</b>	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	960/1920	960/1920 opt.	1920	960/1920	512/1024/1920/ 2160
Display arrangement, lines x chars./line	12/24 x 80	12/24 x 80	24 x 80	12/24 x 80	8/16 x 64; 24 x 80
Display area, h x w, inches	7.5 x 9.25	7.5 x 9.25	7.5 x 9.25	7.5 x 9.25	8 x 10
Total displayable symbols	64	96	128	64	64; 128 opt.
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	5 x 9 dot matrix	5 x 7 dot matrix	7 x 8 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	No	No	No	Std.
Programmable brightness levels	No	No	No	No	Std.
Character and/or field blinking	No	No	Std.	No	Std.
Roll	No	Up std.	Up std.	No	Std.
Paging	No	No	No	No	Opt.
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	D, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	D, Rt.	U, D, L, R, H, Rt.
Cursor blinking	No	Std.	No	No	Std.
Addressable/readable cursor	No	Std.	Std.	No	Std.
<b>FORMAT CONTROL</b>					
Protected format	No	Std.	Std.	No	Std.
Format creation via keyboard	No	Std.	Std.	No	Std.
Format editing via keyboard	No	Std.	Std.	No	Std.
Format storage	None	None	None	None	Std.
Partial screen transmit	No	Opt.	Std.	No	Std.
Tabulation	No	Std.	Std.	No	Std.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	No	Opt.	Std.	No	Std.
Line insert/delete	No	Opt.	Std.	No	Std.
Character erase	Std.	Std.	Std.	Std.	Std.
Line erase	No	Opt.	Std.	No	Std.
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Std.	Std.	Std.	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Teletype	Typewriter	Typewriter	Teletype	Typewriter
Character/code set	ASCII	ASCII	ASCII	ASCII	ASCII
Detachability	No	No	Std.	No	Opt.
Program function keys	No	No	16 std.	No	Up to 51
Cursor control keys	2 std.	7 std.	9 std.	2 std.	6 std.
Edit function keys	No	2 std.	11 std.	No	8 std.
Numeric keypad	No	Opt.	Std.	No	Opt.

Alphanumeric Display Terminals — Equipment Specifications

Part 2:      Operator Features      Transmission Features      Diagnostics  
Ancillary Features      Terminal Interface      Pricing  
Transmission Parameters      Line Interface      Availability

COMPANY	Lear Siegler ADM-3	Leasco ADM-1	Leasco ADM-2	Leasco ADM-3	Megadata Sir-1000 U & Sir-1075/77
<b>OPERATOR FEATURES</b>					
Numeric keylock	No	No	No	No	Opt.
Audible alarm	Std.	Opt.	Std.	Std.	Std.
Keylock	Std.	Std.	Std.	Std.	Std.
Operator I.D. card reader	No	No	No	No	Opt.
Light pen	None	No	No	None	Opt.
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	No	No	No	Opt.
Diskette drive (floppy disk)	No	No	No	No	Single/dual
Serial printer	No	Impact	Impact	No	Impact
Print speed & print positions, cps	—	10 to 960 cps	10 to 960 cps	—	120-300 lpm
Other devices	None	None	None	None	Card reader and others
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half-duplex
Technique	Asynchronous	Asynchronous	Async./sync.	Asynchronous	Asynchronous
Communications protocol	ASCII	ASCII	ASCII	ASCII	ASCII
Code	ASCII	ASCII	ASCII	ASCII	ASCII, BSC
Unit code structure, bits/char.	10/11	10/11	10/11	10/11	10
Speed, bits/second	110 to 19,200	110 to 9600	110 to 9600	110 to 19,200	Up to 19,200
Operator selectable speeds	11 std.	3 std.	8 std.	11 std.	8 std.
Format: character, line, or block	Char. only	Char./block	Char./block	Char. only	Char./block
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	No	Opt.	Opt.	No	Std.
Auto answer	Opt.	No	No	Opt.	Opt.
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232C, current loop	RS-232C, current loop	RS-232C, current loop	RS-232C, current loop	RS-232C
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	Yes	Yes	Yes
Integral modem	No	No	No	No	Opt.
Integral acoustic coupler	No	No	No	No	Opt.
Vendor-supplied external modem	No	No	No	No	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	No	No
In line	No	No	No	No	No
On line	No	No	No	No	Yes
Off line	No	No	No	No	No
<b>PRICING (price range shows cost of basic unit and unit with all options)</b>					
Lease pricing including maintenance:					
Display station, 1 year lease, \$/mo.	—	80-94	120-130	65-70	Third party lease
Display station, 2 year lease, \$/mo.	—	74-87	110-118	62-67	—
Display station, 3 year lease, \$/mo.	—	68-78	105-111	59-64	—
Serial printer, 1 year lease, \$/mo.	—	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	—	—	—	—	—
Controller, 2 year lease, \$/mo.	—	—	—	—	—
Controller, 3 year lease, \$/mo.	—	—	—	—	—
Purchase price:					
Display station, \$	1,095	1,950-2,285	2,895-3,100	1,250-1,350	4,500-7,500
Serial printer, \$	—	—	—	—	2,000-8,000
Controller, \$	—	—	—	—	2,100 (multiplexor)
Software, \$	—	—	—	—	—
Quantity discounts available	—	—	—	—	Yes
<b>AVAILABILITY</b>					
Date of first production delivery	1/76	4/75	4/75	10/76	12/73
Display units installed to date	100	Over 700	Over 700	—	Over 150
Serviced by	Lear Siegler	Leasco	Leasco	Leasco	Megadata and C&W
No. of service locations	—	—	—	—	—
<b>COMMENTS</b>		Produced by Lear Siegler as the ADM-1	Produced by Lear Siegler as the ADM-2	Produced by Lear Siegler as the ADM-3	Sir-1000 replaces UNIVAC's Uniscope; Sir 1075/77, IBM's 3270. Designed for text editing; cluster arrangement vice one or more 8-channel multiplexers

Alphanumeric Display Terminals – Equipment Specifications

**Part 1:** Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Megadata SiR-1000 C-4/8	Megadata SiR-1000/WP	Megadata System 700	Memorex 1377	Microtech Micro 2000
<b>TERMINAL DESCRIPTION</b> Processor control Memory range, byte Stand-alone unit Local cluster arrangement Remote cluster arrangement Max. no. of displays/controller Max. no. of printers/controller Max. no. of devices/controller Any mix of screen sizes/controller Computer interface Portable case	Minicomputer 4K-20K Yes No No — — — — No No	Minicomputer 8K-20K Yes No No — — — — No No	Minicomputer 4K-64K Yes Yes Yes 8 1 9 Std. No No No	Microprocessor — No Yes Yes 32 — — — — No No	Microprocessor 8K-64K Yes See Comments See Comments — — About 10 — No No
<b>COMPATIBILITY</b> IBM 3270/3275 IBM 2260/2265 Teletype 33/35 Teletype 40 Other	Opt. Opt. Opt. Opt. Burroughs, UNIVAC	Opt. Opt. Opt. Opt. Burroughs, UNIVAC	Std. Std. Std. Std. Honeywell	Std. No No No No	No No No No No
<b>PROGRAMMABILITY</b> Programmable via: User-created programs User-defined parameters Vendor-defined firmware User-defined firmware Vendor-supplied software  Software pricing	No No Std. Std. No	No No Std. Std. No	No Yes Yes Yes No	No No No No Yes	Yes — Yes Yes Macro language, disk operating sys- tem line protocol
<b>DISPLAY ORGANIZATION</b> Display positions, chars./display Display arrangement, lines x chars./line Display area, h x w, inches Total displayable symbols Symbol formation	1536 64 x 24 10 x 10 192 7 x 8 dot matrix	6400 80 x 80 10 x 12 192 8 x 12 dot matrix	960/1920/2160 80x24/27; 64x24 8 x 9 64 to 256 7 x 9; 8 x 10/12; 12 x 15	1920 80 x 24 7 x 9.5 89 7 x 9 dot matrix	1920 80 x 24 12-inch diag. 96; 128 opt. 5 x 7 dot matrix
<b>DISPLAY FEATURES</b> Color Reverse video Programmable brightness levels Character and/or field blinking  Roll Paging	Std. 4 or 8 Opt. Std. Std.  Std. Opt.	No Std. Std. Std.  Std. Opt.	No Std. 2 std. Std.  Up & down std. Std.	No Std. 2 std. No  No No	No Std. Std. Std.  No No
<b>CURSOR CONTROL</b> Cursor positioning; Up, Down, Left, Right, Home, Return Cursor blinking Addressable/readable cursor	U, D, L, R, H, Rt.  Std. Std.	U, D, L, R, H, Rt.  Std. Std.	U, D, L, R, H, Rt.  Std. Std.	U, D, L, R  No Std.	U, D, L, R, H, Rt.  Std. Both std.
<b>FORMAT CONTROL</b> Protected format Format creation via keyboard Format editing via keyboard Format storage Partial screen transmit Tabulation	Std. Std. Std. Std. Std. Std.	Std. Std. Std. Std. Std. Std.	Std. Std. Std. Variable Std. Std.	Std. No No Std. Std. No	Vice program Vice program Vice program Vice program Std. Programmable
<b>EDIT FUNCTIONS</b> Character insert/delete Line insert/delete Character erase Line erase Screen erase Character repeat	Std. Std. Std. Std. Std. Std.	Std. Std. Std. Std. Std. Std.	Std. Std. Std. Std. Std. Std.	Std. No Std. Std. Std. Some keys	Std. Opt. Std. Std. Std. Std.
<b>KEYBOARD PARAMETERS</b> Style Character/code set Detachability Program function keys Cursor control keys Edit function keys Numeric keypad	Typewriter ASCII Opt. 51 6 std. 8 std. Std.	Typewriter ASCII Opt. 71 6 std. 8 std. Opt.	Typewriter/data entry ASCII Std. 71 std. 5 std. 8 std. Opt.	Typewriter/ console EBCDIC Std. 12 std. 7 std. 5 std. No	Typewriter ASCII 128 No 10 std. 6 std. 5 std. Std.

Alphanumeric Display Terminals — Equipment Specifications

Part 2:      Operator Features      Transmission Features      Diagnostics  
Ancillary Features      Terminal Interface      Pricing  
Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Megadata SiR-1000 C-4/8	Megadata SiR-1000/WP	Megadata System 700	Memorex 1377	Microtech Micro 2000
<b>OPERATOR FEATURES</b> Numeric keylock Audible alarm Keylock Operator I.D. card reader Light pen	Opt. Std. Std. Opt. No	Opt. Std. Std. Opt. No	Opt. Std. Std. Opt. Opt.	Std. Std. Opt. No Opt.	Std. Std. Std. Opt. No
<b>ANCILLARY DEVICES</b> Cassette tape drive Diskette drive (floppy disk) Serial printer Print speed & print positions, cps Other devices	Single/dual Single/dual Impact — Card reader and paper tape punch and vendor	Single/dual Single/dual Impact — Card reader and paper tape punch and vendor	Single/dual Single/dual Impact/non-impact 10 cps None	No No No — None	No 2 std. User specified — Fixed head disk line printers
<b>TRANSMISSION PARAMETERS</b> Mode Technique Communications protocol Code Unit code structure, bits/char. Speed, bits/second Operator selectable speeds Format: character, line, or block	Half-duplex Asynchronous ASCII ASCII 10 Up to 19,200 8 std. Char./block	Half/full-duplex Asynchronous ASCII ASCII 10 Up to 13,000 cps 8 std. Char./block	Half/full-duplex Asynch./sync. ASCII/BSC/SDLC ASCII/EBCDIC 5 to 11 75-9600 8 std. Char./block	Half/full-duplex Synchronous SDLC; BSC ASCII/EBCDIC 8 1200-7200 — Block	Half/full-duplex Asynch./sync. ASCII/BSC/SDLC ASCII/EBCDIC 8, 10, 11 110 to 9600 No Char., line, block
<b>TRANSMISSION FEATURES</b> Multipoint operation (pollable/addr.) Auto answer Auto call	Std. Opt. —	Std. Opt. —	Std. Opt. Opt.	Std. No No	Std. Std. Std.
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	RS-232C, CCITT V.24 20/60 ma	RS-232C	RS-232C
<b>LINE INTERFACE</b> External modem required Integral modem Integral acoustic coupler Vendor-supplied external modem	Yes Opt. Opt. Opt.	Yes Opt. Opt. Opt.	Yes Opt. Opt. Opt.	Yes No No Opt., IBM	Yes Yes Opt. No
<b>DIAGNOSTICS</b> Self diagnostics In line On line Off line	No No Yes No	No No Yes No	No Yes Yes Yes	No No Yes No	Std. No Std. Std.
<b>PRICING</b> (price range shows cost of basic unit and unit with all options) Lease price including maintenance: Display station, 1 year lease, \$/mo. Display station, 2 year lease, \$/mo. Display station, 3 year lease, \$/mo. Serial printer, 1 year lease, \$/mo. Serial printer, 2 year lease, \$/mo. Serial printer, 3 year lease, \$/mo. Controller, 1 year lease, \$/mo. Controller, 2 year lease, \$/mo. Controller, 3 year lease, \$/mo. Purchase price: Display station, \$ Serial printer, \$ Controller, \$ Software, \$ Quantity discounts available	— — — — — — — — — — — 5,000-7,500 2,000-8,000 — — Yes, with 10 or more	765 (base) 390 (base) — — — — — — — — — 7,500 (base) 2,000-8,000 — — Yes, with 10 or more	— — — — — — — — — — — 2,950-12,000 5,000 6,400-9,400 2,500-8,000 Yes, with 10 or more	130-163 110-143 — — — — — — — — — 3,800-4,775 — — — No	Third party lease — — — — — — — — — — — 7,500-9,000 — — — Yes
<b>AVAILABILITY</b> Date of first production delivery Display units installed to date Serviced by No. of service locations	1973 Over 500 Megadata and C&W —	12/74 Over 100 Megadata —	2/76 75 Megadata & Sorbus —	5/76 — Memorex 53	4/76 — Third party —
<b>COMMENTS</b>	Data can be displayed in 4 or 8 colors	Designed for text editing (word processing)	Minicomputer-based terminal with 4K to 64K bytes of memory; uses DEC assembly language	Microprocessor-based replacement for IBM 3277-2 Display Unit; attaches to IBM controller	Incl. calculator packages; uses Intel 8080A microproc. with 4-K min. ROM, 256-bytes PROM, and 64K max. RAM. Can be used as central controller for up to 25 MJIS terminals

Alphanumeric Display Terminals — Equipment Specifications

**Part 1:** Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Microtech MJIS	NCR 796 Series Models 101, 201, 301 & 401	Olivetti DE-520	Olivetti TCV 270	Omron 8025 A
<b>TERMINAL DESCRIPTION</b>					
Processor control	—	No	Yes	Yes	Microprocessor
Memory range, bytes	—	—	4K to 16K	2K to 8K	Up to 16K
Stand-alone unit	No	Yes	Yes	Yes	Yes
Local cluster arrangement	Yes	No	No	No	No
Remote cluster arrangement	Yes	No	No	Yes	No
Max. no. of displays/controller	10	—	—	32	—
Max. no. of printers/controller	—	—	4	32	—
Max. no. of devices/controller	10	—	8	32	—
Any mix of screen sizes/controller	—	—	No	No	—
Computer interface	—	NCR Century	No	No	No
Portable case	Opt.	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	No	No	Std.
IBM 2260/2265	No	No	No	No	No
Teletype 33/35	No	Std.	Yes	No	Std.
Teletype 40	No	No	Yes	Yes	—
Other	No	—	Univac (DCT 2000); Burroughs	No	—
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	Yes	Yes	No
User-defined parameters	No	No	Yes	Yes	No
Vendor-supplied firmware	No	No	No	Yes	Yes
User-defined firmware	No	No	No	Yes	Opt.
Vendor-supplied software	No	No	Yes	Yes	—
Software pricing	—	—	Std.	Std.	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	32	1920	920	480; 1920	1920
Display arrangement, lines x chars./line	2 x 16	24 x 80	11 x 31	12 x 40; 24 x 80	24 x 80
Display area, h x w, inches	—	8 x 10	4.75 x 5.5	12-inch-diag.	8 x 10
Total displayable symbols	64	64; 96 (401)	64; 96	64; 96	224
Symbol formation	Dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	7 x 9 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	No	No	No	Std.
Programmable brightness levels	No	2 std., 201, 301, 401	No	2 std.	2 std.
Character and/or field blinking	No	Std., 201, 301, 401	Char. std.	No	Field std.
Roll	No	Std.	No	Yes	Std.
Paging	No	—	Yes	No	Std.
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	None	U, D, L, R, H	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	No	Opt., 101 only	Opt.	Opt.	Std.
Addressable/readable cursor	No	Std.	Std.	Std.	Std.
<b>FORMAT CONTROL</b>					
Protected format	Std.	Std.; 201, 301, 401	Std.	Std.	Std.
Format creation via keyboard	Std.	Std.; 201, 301, 401	Std.	Std.	Std.
Format editing via keyboard	Std.	Std.; 201, 301, 401	Std.	Std.	Std.
Format storage	Std.	Std.; 201, 301, 401	Std.	12	Std.
Partial screen transmit	Std.	Std.; 201, 301, 401	Std.	Std.	Std.
Tabulation	No	Std.	Yes	Yes	Std.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	No	Std., 201 & 301	No	Std.	Std.
Line insert/delete	No	Std., 401 only	No	No	Delete std.
Character erase	No	No	Std.	Std.	Std.
Line erase	No	No	Std.	No	Std.
Screen erase	No	Std.	Std.	Std.	Std.
Character repeat	No	Std.	Std.	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Data collection	Typewriter	Typewriter/data entry	Typewriter/data entry	Typewriter/data entry
Character/code set	ASCII	ASCII	ASCII/EBCDIC	ASCII/EBCDIC	ASCII/EBCDIC
Detachability	No	No	No	Std.	Opt.
Program function keys	13 std.	—	None	12 opt.	16 std.; 48 opt.
Cursor control keys	None	5 std.	6 std.	6 std.	6 std.
Edit function keys	None	6 std.	4 std.	5 std.	7 std.
Numeric keypad	Std.	Std.	No	Opt.	Std.

Alphanumeric Display Terminals — Equipment Specifications

Part 2:      Operator Features      Transmission Features      Diagnostics  
Ancillary Features      Terminal Interface      Pricing  
Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Microtech MJIS	NCR 796 Series Models 101, 201, 301 & 401	Olivetti DE-520	Olivetti TCV 270	Omron 8025 A
<b>OPERATOR FEATURES</b>					
Numeric keylock	—	—	Opt.	Opt.	—
Audible alarm	Std.	Std.,101; Opt.,201	Std.	Std.	Std.
Keylock	—	—	Opt.	Opt.	—
Operator I.D. card reader	No	No	No	Opt.	No
Light pen	No	No	No	Opt.	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	No	Single/dual	No	1 or 2 drives
Diskette drive (floppy disk)	Single	No	Dual	Dual	No
Serial printer	Opt.	Non-impact (NCR)	Impact	Impact	Impact/non-impact
Print speed & print positions, cps	—	—	100 to 300	100 to 300	—
Other devices	Hand-held wand	None	None	None	—
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half-duplex	Half/full-duplex	Full-duplex	Full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Async./sync.	Async./sync.	Async.A, B/sync.
Communications protocol	ASCII	ASCII	ASCII/BSC	ASCII/BSC	ASCII/BSC
Code	ASCII	ASCII	ASCII/EBCDIC	ASCII/EBCDIC	ASCII/EBCDIC
Unit code structure, bits/char.	10/11	10/11	8/10/11	8/10/11	8/10/11
Speed, bits/second	2400; 9600 paral.	110 to 9600	110 to 4800	600 to 4800	Up to 2400/9600
Operator selectable speed	—	—	No	No	—
Format: character, line, or block	Block only	Char./block	Block only	Block only	Char./block
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	Std.	Std., 301 only	Std.	Std.	Opt.
Auto answer	Std.	No	Opt.	No	Opt.
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	RS-232C	RS-232C	RS-232C
<b>LINE INTERFACE</b>					
External modem required	Yes	No	Yes	Yes	Yes
Integral modem	Opt.	Std., 201	No	No	Opt.
Integral acoustic coupler	No	Opt., 201	No	No	No
Vendor-supplied external modem	No	No	Opt.	Opt.	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	Yes	Yes	—
In line	No	No	Yes	Yes	—
On line	No	No	Yes	Yes	—
Off line	No	No	Yes	Yes	—
<b>PRICING (price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	—	80-150	—	—	—
Display station, 2 year lease, \$/mo.	—	—	160-550	120-235	85-370
Display station, 3 year lease, \$/mo.	—	—	—	—	—
Serial printer, 1 year lease, \$/mo.	—	75-150	—	—	—
Serial printer, 2 year lease, \$/mo.	—	70-130	126	126	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	—	—	—	—	—
Controller, 2 year lease, \$/mo.	—	—	—	—	—
Controller, 3 year lease, \$/mo.	—	—	—	—	—
Purchase price:					
Display station, \$	Sold OEM only	2,000-3,500	6,600-20,000	5,000-10,000	2,800-36,000
Serial printer, \$	—	1,465-5,615	3,800	3,800	—
Controller, \$	—	—	—	—	—
Software, \$	—	—	—	—	—
Quantity discounts available	Yes	—	No	No	Yes
<b>AVAILABILITY</b>					
Date of first production delivery	—	1/74	2/71	10/74	12/73
Display units installed to date	—	3,000 (all models)	22,000	15,000	Over 1,000
Serviced by	—	NCR	Olivetti	Olivetti	Omron & W.U.
No. of service locations	—	—	150	150	—
<b>COMMENTS</b>	Data collection terminal for factory use; uses plasma (gas) display	Manufactured by ADDS as models 580 (101), 880 (201), and 880A (301)	Manufactured by Sycor, Inc. as Model 340; uses Olivetti TPS assembler-type language	Options include 6K RAM, check digit verification, and arithmetic and logical operations; made by Sycor, Inc., as Model 250	Microprocessor-based unit with up to 16K bytes of RAM in 2K or 4K increments; software support; Diablo HyType printer available

Alphanumeric Display Terminals – Equipment Specifications

Part 1: Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Ontel OP-1	Ontel 4000 Series	Pertec Model 7100	Plantronics VU Set DS-150A	Quotron Series 800
<b>TERMINAL DESCRIPTION</b>					
Processor control	Microprocessor	Microprocessor	Microprocessor	No	Minicomputer
Memory range, bytes	4K-64K	1K to 4K	—	—	4K-128K
Stand-alone unit	Yes	Yes	Yes	Yes	No
Local cluster arrangement	Yes	No	No	No	Yes
Remote cluster arrangement	Yes	No	No	No	Yes
Max. no. of displays/controller	4	—	—	—	24
Max. no. of printers/controller	4	—	—	—	—
Max. no. of devices/controller	4	—	—	—	36
Any mix of screen sizes/controller	No	—	—	—	No
Computer interface	No	No	No	No	No
Portable case	No	No	Std.	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	No	No	Opt.
IBM 2260/2265	No	No	No	No	Opt.
Teletype 33/35	Std.	Std.	Std.	Std.	Opt.
Teletype 40	No	No	No	No	No
Other	No	Burroughs 8000; IBM 2741	No	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	Yes	No	No	No	Yes
User-defined parameters	Yes	No	No	No	No
Vendor-defined firmware	Yes	Yes	Yes	No	No
User-defined firmware	Yes	No	Yes	No	No
Vendor-supplied software	Yes	No	No	No	Assembly language, operating system, others
Software pricing	Std.	Std.	—	—	Std.
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	1600/1920/2000	1600	960/1920	64	1200/1600
Display arrangement, lines x chars./line	20/24/25 x 80	20 x 80	12/24 x 80	4 x 16	20 x 60/80
Display area, h x w, inches	7 x 10	7 x 10	5.5 x 8.25	3-inch diag.	48 x 64; 6 x 8
Total displayable symbols	128/256	112	64; 96 opt.	64	96
Symbol formation	5 x 10/13 x 11 dot matrix	5 x 10 dot matrix	7 x 9 dot matrix	5 x 7 dot matrix	14 x 22 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	Std.	Std.	Std.	No	Opt.
Programmable brightness levels	2 std.	No	No	2 std.	No
Character and/or field blinking	Both std.	Field std.	No	Field std.	Opt.
Roll	Up & down std.	Up & down std.	Std.	No	No
Paging	—	—	—	No	No
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H	None	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	No	Std.
Addressable/readable cursor	Std.	Std.	Std.	No	Std., addressable only
<b>FORMAT CONTROL</b>					
Protected format	Std.	Std.	Std.	No	Opt.
Format creation via keyboard	Std.	Std.	Std.	No	No
Format editing via keyboard	Std.	Std.	Std.	No	Opt.
Format storage	Variable	Std.	Std.	No	Opt.
Partial screen transmit	Std.	Std.	Std.	No	Opt.
Tabulation	Std.	Std.	Std.	No	Opt.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	Std.	Std.	Std.	No	Opt.
Line insert/delete	Std.	Std.	Std.	No	Opt.
Character erase	Std.	No	No	No	Std.
Line erase	Std.	Std.	Opt.	No	No
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Std.	Std.	Std.	No	Opt.
<b>KEYBOARD PARAMETERS</b>					
Style	Teletype	Teletype	Typewriter	Touch-Tone; 12 keys	Block/typewriter
Character/code set	ASCII	ASCII/APL	ASCII	DTMF	ASCII
Detachability	Std.	Std.	Std.	Std.	Std.
Program function keys	38 std.	None	5 std.; 11 opt.	2 std.	10 opt.
Cursor control keys	5 std.	5 std.	5 std.	No	6 std.
Edit function keys	Programmable	3 std.	6 std.; 1 opt.	No	2 std.; 5 opt.
Numeric keypad	Std.	Std.	Opt.	Std.	No



Alphanumeric Display Terminals – Equipment Specifications

Part 2: Operator Features Ancillary Features Transmission Parameters Transmission Features Terminal Interface Line Interface Diagnostics Pricing Availability

VENDOR AND MODEL	Ontel OP-1	Ontel 4000 Series	Pertec Model 7100	Plantronics VU Set DS-150A	Quotron Series 800
<b>OPERATOR FEATURES</b>					
Numeric keylock	No	No	—	No	—
Audible alarm	Std.	Std.	Std.	Std.	Opt.
Keylock	No	No	—	No	—
Operator I.D. card reader	No	No	—	No	No
Light pen	No	No	No	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	1 to 4 drives	No	No	No	No
Diskette drive (floppy disk)	1 to 4 drives	No	No	No	Single
Serial printer	Impact/non-impact	Impact	Impact	No	Impact/non-impact
Print speed & print positions, cps	—	—	—	—	—
Other devices	None	Cartridge disk drives (Diablo series 20 & 30)	None	None	Card reader, disk and mag. tape drives and printers
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half-duplex	Half/full-duplex
Technique	Async./sync. opt.	Async./sync. opt.	Async./sync.	Asynchronous	Async./sync.
Communications protocol	ASCII/BSC	ASCII	ASCII	ASCII	ASCII/BSC/Baudot
Code	ASCII/EBCDIC	ASCII/EBCDIC	ASCII	ASCII/DTMF	ASCII/EBCDIC
Unit code structure, bits/char.	7/11	10/11	8/10/11	10/11	8/10/11
Speed, bits/second	Up to 2400/9600	Up to 50,000	Up to 9600	110, 150, 300	37.5 to 9600
Operator selectable speeds	17 std.	11 std.	—	—	—
Format: character, line, or block	Char./block	Char./block	Char./block	Char. only	Char./block
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	Opt.	Opt.	Std.	No	Opt.
Auto answer	Opt.	No	Std.	No	Opt.
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232C, 20 ma	RS-232C, 20 ma	RS-232C	RS-232C	RS-232C
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	Yes	Yes	Yes
Integral modem	Opt.	No	Opt.	Std.	No
Integral acoustic coupler	No	No	No	No	No
Vendor-supplied external modem	Opt.	No	No	No	—
<b>DIAGNOSTICS</b>					
Self diagnostics	Yes	No	No	No	—
In line	No	No	No	No	—
On line	No	No	No	No	—
Off line	Yes	No	No	No	—
<b>PRICING (price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	Sold OEM only	Sold OEM only	Sold OEM only	See Comments	—
Display station, 2 year lease, \$/mo.	—	—	—	—	—
Display station, 3 year lease, \$/mo.	—	—	—	—	—
Serial printer, 1 year lease, \$/mo.	—	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	—	—	—	—	—
Controller, 2 year lease, \$/mo.	—	—	—	—	—
Controller, 3 year lease, \$/mo.	—	—	—	—	—
Purchase price:			2,235-2,638	—	1,200-4,200
Display station, \$	1,795 (qty. 100)	2,950 (qty. 100)	(qty. 51-100)	—	—
Serial printer, \$	2,500	2,990	—	—	—
Controller, \$	—	—	—	—	26,000-90,000
Software, \$	—	—	—	—	—
Quantity discounts available	Yes	Yes	—	—	—
<b>AVAILABILITY</b>					
Date of first production delivery	11/74	1970	4/74	4/73	9/71
Display units installed to date	Over 300	Over 450	Over 2,000	800	8,000
Serviced by	Third party	Third party	Pertec	Local telephone co.	Quotron
No. of service locations	—	—	—	—	—
<b>COMMENTS</b>				Leased to user by local telephone co. for about \$30 to \$35 per month; unit attaches directly to telephone set	Display-oriented minicomputer system; 16-bit processor has 750 nanosecond cycle time

## Alphanumeric Display Terminals – Equipment Specifications

**Part 1:**      **Terminal Description**      **Display Organization**      **Format Control**  
**Compatibility**      **Display Features**      **Edit Functions**  
**Programmability**      **Cursor Control**      **Keyboard Parameters**

VENDOR AND MODEL	Randal Data Systems Models CT1, CT2, & CT3	Raytheon Data Systems PTS-100	Raytheon Data Systems PTS/1200	Research Inc. Teleray Model 3311	Research, Inc. Teleray Model 3511 and 3711
<b>TERMINAL DESCRIPTION</b>					
Processor control	Microprocessor	Minicomputer	Minicomputer	No	No
Memory range, bytes	—	8/16K-32K/64K	48K to 128K	—	—
Stand-alone unit	Yes	Yes	Yes	Yes	Yes
Local cluster arrangement	No	Yes	Yes	No	No
Remote cluster arrangement	No	Yes	Yes	No	No
Max. no. of displays/controller	—	32	24	—	—
Max. no. of printers/controller	—	20	20	—	—
Max. no. of devices/controller	—	32	46	—	—
Any mix of screen sizes/controller	—	Std.	Std.	—	—
Computer interface	No	No	No	No	No
Portable case	CT3; 20 lbs	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	BSC	No	No	No
IBM 2260/2265	No	Std.	No	No	No
Teletype 33/35	Std.	Opt.	Std.	Std.	Std.
Teletype 40	No	No	No	No	No
Other	No	Uniscope U-100 PARS	IBM 2780 & BSC 1, 2, 3, disciplines	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	Yes	Yes	No	No
User-defined parameters	No	Yes	Yes	No	No
Vendor-defined firmware	Yes	No	No	No	No
User-defined firmware	—	No	No	No	No
Vendor-supplied software	No	2260, 3270, U 100 PARS emulators, Cross Assembler, Utilities	Language, Op. Sys tern, Utilities	No	No
Software pricing	—	Std.	Std.	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	1920; 960 (CT1)	480/960/1920	480/960/1920	1920	1920
Display arrangement, lines x chars./line	24 x 80; 12 x 24	12,15,16,24,30lin.	12/24x40 or 80	24 x 80	24 x 80
Display area, h x w, inches	6 x 9	7 x 10	8.5 x 11	7.5 x 9.5	7.5 x 9.5
Total displayable symbols	128; 96 (CT1)	64; 96 opt.	96	64	64; 95 (3711)
Symbol formation	5 x 7 dot matrix	7 x 7/9 dot matrix	7 x 9 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	No	No	No	No
Programmable brightness levels	2 std. (CT 1 & 2)	2 std.	2 std.	No	No
Character and/or field blinking	Std., (CT 1 & 2)	Both std.	Both std.	No	No
Roll	Std., (CT 1 & 2)	—	Up & down std.	Up std.	Up std.
Paging	Std., (CT 2)	No	Any no. pages std.	No	No
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	D, H, Rt.	D, L, R, H, Rt.
Cursor blinking	Std. (CT 2) Opt.(1)	No	No	No	No
Addressable/readable cursor	Std., (CT 1 & 2)	Std.	Std.	No	No
<b>FORMAT CONTROL</b>					
Protected format	Std., (CT 1 & 2)	Std.	Std.	No	No
Format creation via keyboard	Std., (CT 1 & 2)	No	Std.	No	No
Format editing via keyboard	Std., (CT 1 & 2)	No	Std.	No	No
Format storage	—	No limit	No limit	No	No
Partial screen transmit	Std., (CT 1 & 2)	Std.	No	No	No
Tabulation	Std., (CT 1 & 2)	Std.	Std.	No	Opt.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	Std.,(CT2); Opt.(1)	Std.	Std.	No	No
Line insert/delete	Std.,(CT2);Opt.(1)	Std.	Std.	No	No
Character erase	Std.	Std.	Std.	No	No
Line erase	Std.	Std.	Std.	No	No
Screen erase	Std.	Std.	Std.	No	Std.
Character repeat	Std., (CT2); Opt. (2)	Std.	Std.	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Teletype	Typewriter/data entry	Typewriter/data entry	Teletype	Teletype (3511) Typewriter (3711)
Character/code set	ASCII	ASCII/EBCDIC	ASCII/EBCDIC	ASCII	ASCII
Detachability	Std.,(CT2);Opt.(1)	Std.	Std.	Opt.	Opt.
Program function keys	8, 16 or 32 (CT2)	12 std.	12 std.	No	No
Cursor control keys	7 (CT2); 5 (CT1)	8 std.	8 std.	3 std.	5 std.
Edit function keys	—	9 std.	9 std.	1 std.	2 std.
Numeric keypad	Std. (CT2); Opt. (1 & 3)	Opt.	Opt.	Opt.	Opt.

Alphanumeric Display Terminals – Equipment Specifications

Part 2: Operator Features Ancillary Features Transmission Parameters Transmission Features Terminal Interface Line Interface Diagnostics Pricing Availability

VENDOR AND MODEL	Randal Data Systems Models CT1, CT2, & CT3	Raytheon Data Systems PTS-100	Raytheon Data Systems PTS/1200	Research, Inc. Teleray Model 3311	Research, Inc. Teleray Model 3511 and 3711
<b>OPERATOR FEATURES</b> Numeric keylock Audible alarm Keylock Operator I.D. card reader Light pen	Std., (CT 1 & 2) Std. Std. No No	Opt. Opt. Opt. Opt. No	Opt. Opt. Opt. Opt. No	— Std. — No No	— Opt. — No No
<b>ANCILLARY DEVICES</b> Cassette tape drive Diskette drive (floppy disk) Serial printer Print speed & print positions, cps Other devices	Opt. Opt. Opt. — None	4 drives max. No Impact — Card reader, disk drive	Single No Impact — Disk, card reader	No No No — None	No No No — None
<b>TRANSMISSION PARAMETERS</b> Mode Technique Communications protocol Code Unit code structure, bits/char. Speed, bits/second Operator selectable speeds Format: character, line, or block	Half/full-duplex Asynchronous ASCII ASCII 10/11 75-9600 Std. Char./block; char. only (CT3)	Half/full-duplex Async./sync. BSC/PARS/U 100 ASCII/EBCDIC 6/8/10 Up to 9600 — Block only	Half/full-duplex Synchronous BSC EBCDIC 8 Up to 9600 — Block only	Half/full-duplex Asynchronous ASCII ASCII 10/11 110 to 2400 — Char. only	Half/full-duplex Asynchronous ASCII ASCII 10/11 75 to 9600 — Char. only
<b>TRANSMISSION FEATURES</b> Multipoint operation (pollable/addr.) Auto answer Auto call	Opt., (CT 1 & 2) Opt., (CT 1 & 2) No	Std. Opt. No	Std. Opt. No	No No —	No No —
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C, CCITT V.24	RS-232C, CCITT V.24	RS-232C	RS-232C
<b>LINE INTERFACE</b> External modem required Integral modem Integral acoustic coupler Vendor-supplied external modem	Opt. No No Opt.	Yes No No Yes	Yes No No Yes	Opt. No Opt. No	Opt. Opt. Opt. No
<b>DIAGNOSTICS</b> Self diagnostics In line On line Off line	Yes No No Yes	Yes Yes Yes Yes	Yes Yes Yes Yes	No No No No	No No No No
<b>PRICING</b> (price range shows cost of basic unit and unit with all options) Lease price including maintenance: Display station, 1 year lease, \$/mo. Display station, 2 year lease, \$/mo. Display station, 3 year lease, \$/mo. Serial printer, 1 year lease, \$/mo. Serial printer, 2 year lease, \$/mo. Serial printer, 3 year lease, \$/mo. Controller, 1 year lease, \$/mo. Controller, 2 year lease, \$/mo. Controller, 3 year lease, \$/mo. Purchase price: Display station, \$ Serial printer, \$ Controller, \$ Software, \$ Quantity discounts available	64-135 60-138 42-98 156 148 105 — — — 1,240-2,875 3,085 12,000-39,350 — Yes	52 — 45 150-215 — 130-185 280-870 — 240-740 1,550 3,200-5,950 8,600-22,600 — Yes	52 — 45 150-215 — 130-185 995-2,200 — 830-1,800 1,550 3,600-5,950 28,650-60,000 — Yes	51 48 — — — — — — — 1,200 — — — Yes	54; 61 (3711) 51; 57 (3711) — — — — — — — 1,300; 1,400 (3711) — — — Yes
<b>AVAILABILITY</b> Date of first production delivery Display units installed to date Serviced by No. of service locations	8/73; 6/74; 12/75 2,250 Randal Data 400	9/72 20,000 Raytheon 75	11/74 20,000 Raytheon 75	2/72 Over 2,000 Western Union —	4/75; 9/74 (3711) Over 1,200 Western Union —
<b>COMMENTS</b>		Alternate display formats are 15/30 x 64	Includes PTS-100 components	20 ma. current loop and TTL logic interfaces also available	20 ma. current loop and TTL logic interfaces also available

Alphanumeric Display Terminals — Equipment Specifications

Part 1: Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Research, Inc. Teleray Model 3811	Research, Inc. Teleray Model 3931	Sanders Data Systems 620 & 622 Data Display Systems	Sanders Data Systems 720 Data Display System	Sanders Data Systems 804 System
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	No	No	No	Minicomputer
Memory range, bytes	—	—	—	—	4K
Stand-alone unit	Yes	Yes	Yes	No	Yes
Local cluster arrangement	No	No	No	Yes	No
Remote cluster arrangement	No	No	No	Yes	No
Max. no. of displays/controller	—	—	—	12	—
Max. no. of printers/controller	—	—	—	—	—
Max. no. of devices/controller	—	—	—	12	—
Any mix of screen sizes/controller	—	—	—	—	—
Computer interface	No	No	No	No	—
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	No	No	No
IBM 2260/2265	No	No	Std.	Std.	Opt.
Teletype 33/35	Std.	Std.	No	No	Opt.
Teletype 40	No	No	No	No	No
Other	No	No	No	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	No	Yes
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	No	No	No	No	No
User-defined firmware	No	No	No	No	No
Vendor-supplied software	No	No	No	No	Yes
Software pricing	—	—	—	—	Std.
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	1920	1920	2688	2688	960/1920
Display arrangement, lines x chars./line	24 x 80	24 x 80	40 x 52; 32 x 84	40 x 52; 32 x 84	12/24 x 80
Display area, h x w, inches	7.5 x 9.5	9.4 x 11.9	7.5 x 9.5	7.5 x 9.5	7.5 x 9.5
Total displayable symbols	94; 64 opt.	95	64	64	64; 96 opt.
Symbol formation	5 x 9 dot matrix	5 x 9 dot matrix	Stroke	Stroke	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	Opt.	No	No	No	No
Programmable brightness levels	No	No	2 std.	3 std.	No
Character and/or field blinking	No	No	Std.	Std.	Opt.
Roll	Up std.	Up std.	No	No	Opt.
Paging	No	No	No	No	Opt.
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Opt.	No	Std.	Std.	Std.
Addressable/readable cursor	Std. addressable only	No	Std.	Std.	Std.
<b>FORMAT CONTROL</b>					
Protected format	No	No	Std.	Std.	Opt.
Format creation via keyboard	Std.	No	Std.	Std.	Opt.
Format editing via keyboard	Std.	No	Std.	Std.	Opt.
Format storage	—	No	Std.	Std.	Opt.
Partial screen transmit	No	No	Std.	Std.	Opt.
Tabulation	Opt.	Opt.	Std.	Std.	Std.
<b>EDIT FUNCTIONS</b>					
Character insert	No	No	Std.	Std.	Opt.
Line insert/delete	No	No	No	Std.	Opt.
Character erase	Std.	No	Std.	Std.	Opt.
Line erase	Std.	No	No	Std.	Opt.
Screen erase	Std.	Std.	No	Std.	Opt.
Character repeat	Std.	Std.	Std.	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter	Typewriter	Typewriter/data entry	Several	Typewriter/data entry
Character/code set	ASCII	ASCII/APL	ASCII	ASCII	ASCII
Detachability	Opt.	Opt.	Yes	Yes	Std.
Program function keys	No	No	No	No	Std.
Cursor control keys	Opt.	5 std.	6 std.	6 std.	6 std.
Edit function keys	Opt.	2 std.	4 std.	8 std.	7 opt.
Numeric keypad	Opt.	Opt.	No	Opt.	Std.

Alphanumeric Display Terminals – Equipment Specifications

Part 2:      Operator Features      Transmission Features      Diagnostics  
 Ancillary Features      Terminal Interface      Pricing  
 Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Research, Inc. Teleray Model 3811	Research, Inc. Teleray Model 3931	Sanders Data Systems 620 & 622 Data Display Systems	Sanders Data Systems 720 Data Display System	Sanders Data Systems 804 System
<b>OPERATOR FEATURES</b>					
Numeric keylock	No	—	—	—	—
Audible alarm	Std.	Opt.	No	No	Opt.
Keylock	No	—	—	—	—
Operator I.D. card reader	No	No	No	No	No
Light pen	No	No	No	Opt.	Opt.
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	No	No	No	Dual
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Impact	RS-232 interface	Impact	Impact	Impact
Print speed & print positions, cps	30 cps @ 96	—	—	—	—
Other devices	TV monitor	TV monitor	None	None	Card reader
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	Half/full-duplex	Half-duplex	Half-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Async./sync.	Async./sync.	Async./sync.
Communications protocol	Teletype	ASCII	ASCII	ASCII	ASCII/BSC
Code	ASCII	ASCII	ASCII	ASCII	ASCII/EBCDIC
Unit code structure, bits/char.	10/11	10/11	8/10	8/10	8/10
Speed, bits/second	75 to 9600	75 to 9600	110 to 2400	110 to 9600	110 to 9600
Operator selectable speeds	Std.	—	—	—	—
Format: character, line, or block	Char. only	Char. only	Char./block	Char./block	Char./block
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	No	No	Std.	Std.	Opt.
Auto answer	No	No	No	No	Opt.
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232C, 20 ma dc, TTL	RS-232C, 20 ma dc, TTL	RS-232C	RS-232C	RS-232C
<b>LINE INTERFACE</b>					
External modem required	Opt.	Opt.	Yes	Yes	Yes
Integral modem	Opt.	Opt.	No	No	Opt.
Integral acoustic coupler	No	Opt.	Opt.	No	No
Vendor-supplied external modem	Opt.	Opt.	No	No	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	No	No
In line	No	No	No	No	No
On line	Yes	No	No	No	No
Off line	Yes	No	No	No	No
<b>PRICING (price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	71-73	87	200-220	100-131	213
Display station, 2 year lease, \$/mo.	67-69	83	—	—	—
Display station, 3 year lease, \$/mo.	60-62	—	120-175	65	194
Serial printer, 1 year lease, \$/mo.	—	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	—	—	—	228-284	—
Controller, 2 year lease, \$/mo.	—	—	—	—	—
Controller, 3 year lease, \$/mo.	—	—	—	415	—
Purchase price:					
Display station, \$	1,490-1,550	2,100	5,900-6,100	3,177-3,277	5,630
Serial printer, \$	1,800	—	—	—	—
Controller, \$	—	—	—	7,088-18,000	—
Software, \$	—	—	—	—	—
Quantity discounts available	Yes	Yes	—	—	—
<b>AVAILABILITY</b>					
Date of first production delivery	5/76	3/75	1968/1970(622)	1966	12/71
Display units installed to date	—	Over 300	Over 1,500	Over 5,000	Over 1,000
Serviced by	Western Union	Western Union	Sanders	Sanders	Sanders
No. of service locations	40	—	—	—	—
<b>COMMENTS</b>		20 ma. current loop and TTL logic interfaces also available			

## Alphanumeric Display Terminals – Equipment Specifications

**Part 1:**      **Terminal Description**      **Display Organization**      **Format Control**  
**Compatibility**      **Display Features**      **Edit Functions**  
**Programmability**      **Cursor Control**      **Keyboard Parameters**

VENDOR AND MODEL	Sanders Data Systems 810 System	Sanders Data Systems 8100 System	Sanders Data Systems 8170/8180 8210/8220/8770	Scientific Measurement Systems SMS 1920	Selecterm ADDS 980
<b>TERMINAL DESCRIPTION</b>					
Processor control	Minicomputer	Minicomputer	Microprocessor	No	No
Memory range, bytes	4K-28K	8K-28K	12-32K	1920	—
Stand-alone unit	No	No	Yes	Yes	Yes
Local cluster arrangement	Yes	Yes	Yes	No	No
Remote cluster arrangement	Yes	Yes	Yes	No	No
Max. no. of displays/controller	8	4/8	32	—	—
Max. no. of printers/controller	—	—	32	—	—
Max. no. of devices/controller	8	4/8	64	—	—
Any mix of screen sizes/controller	—	—	Std.	—	—
Computer interface	—	—	—	—	No
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	BSC, SNA/SDLC	No	No
IBM 2260/2265	Opt.	No	Std.	No	No
Teletype 33/35	Opt.	No	No	Std.	Std.
Teletype 40	No	No	No	No	No
Other	No	IBM 2770	See Comments	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	Yes	Yes	Yes	No	No
User-defined parameters	No	No	Yes	No	No
Vendor-defined firmware	No	No	Yes	Yes	No
User-defined firmware	No	No	No	No	No
Vendor-supplied software	Yes	Yes	Yes	No	No
<b>Software pricing</b>	Std.	Std.	Std.	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	480/768/960/ 1536/1920	960/1920	480/960/1920	1920	1920
Display arrangement, lines x chars./line	40/64/80 x 12/24	12/24 x 80	40/80 x 12; 80x24	24 x 80	24 x 80
Display area, h x w, inches	7.5 x 9.5	7.2 x 9.6	12-inch diag.	7 x 10	8 x 10
Total displayable symbols	64; 96 opt.	64; 96 opt.	128	64; 95 opt.	96
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	7 x 9 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	No	No	Std.	Std.
Programmable brightness levels	No	No	2 std.	2 std.	2 std.
Character and/or field blinking	Std.	Field std.	Std.	No	Std.
<b>Roll</b>	Std.	Std.	—	Up std.	Std.
Paging	—	—	No	Single page	No
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H
Cursor blinking	Std.	Std.	Std.	Std.	Opt.
Addressable/readable cursor	Std.	Std.	Std.	Std., addressable only	Std., addressable only
<b>FORMAT CONTROL</b>					
Protected format	Opt.	Std.	Std.	Std.	Std.
Format creation via keyboard	Opt.	Std.	Std.	Std.	Std.
Format editing via keyboard	Opt.	Std.	Std.	Std.	Std.
Format storage	Opt.	Std.	1 std.	1 std.	Std.
Partial screen transmit	Opt.	No	Std.	Std.	Std.
Tabulation	Std.	Std.	Std.	Std.	Std.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	Opt.	No	Std.	Std.	Std.
Line insert/delete	Opt.	No	Opt.	Std.	Std.
Character erase	Std.	No	Std.	Std.	Std.
Line erase	Std.	No	Std.	Std.	No
Screen erase	Std.	No	Std.	Std.	Std.
Character repeat	Std.	Std.	Std.	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter/data entry	Typewriter	Typewriter/data entry/others	Teletype/key punch	Typewriter
Character/code set	ASCII	ASCII	EBCDIC	ASCII	ASCII
Detachability	Opt.	Opt.	Std.	No	No
Program function keys	Std.	13 std.	21	—	Opt.
Cursor control keys	6 std.	6 std.	7 std., 8 opt.	5 std.	5 std.
Edit function keys	4 std., 4 opt.	1 std.	6 std., 8 opt.	5 std.	8 std.
Numeric keypad	Std.	Std.	Std.	11 std.	Std.

Alphanumeric Display Terminals — Equipment Specifications

Part 2: Operator Features Ancillary Features Transmission Parameters  
Transmission Features Terminal Interface Line Interface  
Diagnostics Pricing Availability

VENDOR AND MODEL	Lear Siegler ADM-3A	Megadata Sir-1000 C-4/8	Megadata Sir-1000/WP	Megadata System 700	Megadata Sir-1000 U & Sir-1075/77
<b>OPERATOR FEATURES</b>					
Numeric keylock	No	Opt.	Opt.	Opt.	Opt.
Audible alarm	Std.	Std.	Std.	Std.	Std.
Keylock	Std.	Std.	Std.	Std.	Std.
Operator I.D. card reader	No	Opt.	Opt.	Opt.	Opt.
Light pen	None	No	No	Opt.	Opt.
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	Single/dual	Single/dual	Single/dual	Opt.
Diskette drive (floppy disk)	No	Single/dual	Single/dual	Single/dual	Single/dual
Serial printer	No	Impact	Impact	Impact/non-impact	Impact
Print speeds & positions, cps	—	—	—	10 cps	120-300 lpm
Other devices	None	Card reader and paper tape punch	Card reader and paper tape punch	Magnetic tape and disk drives and line printers	Card reader and others
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	Half-duplex	Half/full-duplex	Half/full-duplex	Half-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Async./sync.	Asynchronous
Communications protocol	ASCII	ASCII	ASCII	ASCII/BSC/SDLC	ASCII
Code	ASCII	ASCII	ASCII	ASCII/EBCDIC	ASCII, BSC
Unit code structure, bits/char.	10/11	10	10	5 to 11	10
Speed, bits/second	110 to 19,200	Up to 19,200	Up to 13,000 cps	75-9600	Up to 19,200
Operator selectable speeds	11 std.	8 std.	8 std.	8 std.	8 std.
Format: character, line, or block	Char./block	Char./block	Char./block	Char./block	Char./block
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	No	Std.	Std.	Std.	Std.
Auto answer	Opt.	Opt.	Opt.	Opt.	Opt.
Auto call	No	—	—	Opt.	No
<b>TERMINAL INTERFACE</b>	RS-232C, current loop	RS-232C	RS-232C	RS-232C, CCITT V.24 20/60 ma	RS-232C
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	Yes	Yes	Yes
Integral modem	No	Opt.	Opt.	Opt.	Opt.
Integral acoustic coupler	No	Opt.	Opt.	Opt.	Opt.
Vendor-supplied external modem	No	Opt.	Opt.	Opt.	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	Yes	No
In line	No	No	No	Yes	No
On line	No	Yes	Yes	Yes	Yes
Off line	No	No	No	Yes	No
<b>PRICING</b> (Price range shows cost of basic unit and unit with all options)					
Lease price including maintenance:	—	Third party lease	Third party lease	Third party lease	Third party lease
Display station, 1 year lease, \$/mo.	—	—	—	—	—
Display station, 2 year lease, \$/mo.	—	—	—	—	—
Display station, 3 year lease, \$/mo.	—	—	—	—	—
Serial printer, 1 year lease, \$/mo.	—	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	—	—	—	—	—
Controller, 2 year lease, \$/mo.	—	—	—	—	—
Controller, 3 year lease, \$/mo.	—	—	—	—	—
Purchase price:					
Display station, \$	1,095	5,000-7,500	7,500 (base)	2,950-12,000	4,500-7,500
Serial printer, \$	—	2,000-8,000	2,000-8,000	5,000	2,000-8,000
Controller, \$	—	—	—	6,400-9,400	2,100 (multiplexer)
Software, \$	—	—	—	2,500-8,000	—
Quantity discounts available	Yes	Yes, with 10 or more	Yes, with 10 or more	Yes, with 10 or more	Yes
<b>AVAILABILITY</b>					
Date of first production delivery	1/76	1973	12/74	2/76	12/73
Display units installed to date	See comments	Over 500	Over 100	300	Over 200
Serviced by	Lier Siegler	Megadata and third party	Megadata and third party	Megadata and third party	Megadata and third party
No. of service locations	—	—	—	—	—
<b>COMMENTS</b>	The ADM-3A is also available in a kit version		Designed for text editing (word processing)	Microprocessor- based terminal with 4K to 73K bytes of memory; uses DEC assembly language	Sir-1000 replaces UNIVAC's Uni- scope; Sir 1075/77, IBM's 3270. De- signed for text editing; cluster arrangement via one or more 8-channel multiplexers

## Alphanumeric Display Terminals — Equipment Specifications

<b>Part 1:</b>	Terminal Description Compatibility Programmability	Display Organization Display Features Cursor Control	Format Control Edit Functions Keyboard Parameters
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VENDOR AND MODEL	Memorex 1377-4	Mohawk MDS Series 21	NCR 796 Series Models 101, 201, 301 & 401	Olivetti DE-520	Olivetti TCV 270
<b>TERMINAL DESCRIPTION</b>					
Processor control	Microprocessor	Yes	No	Yes	Microprocessor
Memory range, bytes	—	32K-64K	—	4K to 16K	2K to 8K
Stand-alone unit	No	Yes	Yes	Yes	Yes
Local cluster arrangement	Yes	Yes	No	No	No
Remote cluster arrangement	Yes	Yes	No	No	Yes
Max. no. of displays/controller	32	4	—	—	32
Max. no. of printers/controller	—	1	—	4	31
Max. no. of devices/controller	—	—	—	8	32
Any mix of screen sizes/controller	—	—	—	No	Yes
Computer Interface	—	Yes	NCR Century	No	No
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	Std.	Yes	No	No	Std.
IBM 2260/2265	No	Yes	No	No	Std.
Teletype 33/35	No	No	Std.	Yes	No
Teletype 40	No	No	No	Yes	No
Other	No	—	—	Univac (DCT 2000); Burroughs	No
<b>PROGRAMMABILITY</b>					
Programmed via:					
User-created programs	No	Yes (21/40)	No	Yes	Yes
User-defined parameters	No	Yes	No	Yes	Yes
Vendor-defined firmware	No	Yes	No	Opt.	Yes
User-defined firmware	No	No	No	No	No
Vendor-supplied software	Yes	Yes	No	Yes	Yes
Software pricing	—	—	—	Std.	Std.
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	1920	480 or 1920	1920	341	480; 1920
Display arrangement, lines x chars./line	80 x 24	12x 40/24 x 80	24 x 80	11 x 31	12 x 40; 24 x 80
Display area, h x w, inches	7 x 9.5	—	8 x 10	4.75 x 5.5	12-inch-diag.
Total displayable symbols	89	—	64; 96 (401)	64; 96	64; 96
Symbol formation	7 x 9 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	Std.	Yes	No	No	No
Programmable brightness levels	2 std.	—	2 std., 201,301,401	No	2 std.
Character and/or field blinking	No	Std.	Std., 201,301,401	Char. std.	Yes
Roll	No	No	Std.	No	No
Paging	No	No	—	Yes	No
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R	—	U, D, L, R, H	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	No	Yes	Opt., 101 only	Std.	Std.
Addressable/readable cursor	Std.	—	Std.	Std.	Std.
<b>FORMAT CONTROL</b>					
Protected format	Std.	—	Std.; 201,301,401	Std.	Std.
Format creation via keyboard	No	—	Std.; 201,301,401	Std.	Std.
Format editing via keyboard	No	—	Std.; 201,301,401	Std.	Std.
Format storage	Std.	—	Std.; 201,301,401	Std.	12
Partial screen transmit	Std.	—	Std.; 201,301,401	Std.	Std.
Tabulation	No	—	Std.	Yes	Yes
<b>EDIT FUNCTIONS</b>					
Character insert/delete	Std.	—	Std.; 201 & 301	No	Std.
Line insert/delete	No	—	Std.; 401 only	No	No
Character erase	Std.	—	No	Std.	Std.
Line erase	Std.	—	No	Std.	No
Screen erase	Std.	—	Std.	Std.	Std.
Character repeat	Some keys	—	Std.	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter/data entry console	Typewriter/data entry	Typewriter	Typewriter/data entry	Typewriter/data entry
Character/code set	EBCDIC	EBCDIC	ASCII	ASCII/EBCDIC	ASCII/EBCDIC
Detachability	Std.	Yes	No	No	Std.
Program function keys	12 std.	—	—	Opt.	12 opt.
Cursor control keys	7 std.	—	5 std.	6 std.	6 std.
Edit function keys	5 std.	—	6 std.	4 std.	5 std.
Numeric keypad	Opt.	Opt.	Std.	No	Opt.



Alphanumeric Display Terminals – Equipment Specifications

Part 2:      Operator Features      Transmission Features      Diagnostics  
 Ancillary Features      Terminal Interface      Pricing  
 Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Sanders Data Systems 810 System	Sanders Data Systems 8100 System	Sanders Data Systems 8170/8180 8210/8220/8770	Scientific Measurement Systems SMS 1920	Selecterm ADDS 980
<b>OPERATOR FEATURES</b>					
Numeric keylock	—	—	Std.	No	—
Audible alarm	Opt.	Std.	Std.	No	Std.
Keylock	—	—	Opt.	No	—
Operator I.D. card reader	No	No	Opt.	No	No
Light pen	No	No	Opt.	None	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	Dual	No	No	Single	Single
Diskette drive (floppy disk)	No	No	Opt. dual	Single	No
Serial printer	Impact	Impact	Impact	Impact	RS-232 interface
Print speed & print positions, cps	—	—	30-165cps/200lpm	—	—
Other devices	Card reader, disk drives	Card reader, disk drives	Card reader, disk drive	None	None
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	Half-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Async./sync.	Synchronous	Async./sync.	Async./sync. opt.	Asynchronous
Communications protocol	ASCII/BSC	BSC	BSC/SNA/SDLC	SDLC	ASCII
Code	ASCII/EBCDIC	EBCDIC	EBCDIC/ASCII	ASCII	ASCII
Unit code structure, bits/char.	8/10/11	8	8	10/11	10/11
Speed, bits/second	110 to 9600	2400	300 to 9600 bps	50 to 19,200	110 to 9600
Operator selectable speeds	—	—	No	50 to 19,200	—
Format: character, line, or block	Char./block	Block only	Char./block	Char./block	Char./block
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	Opt.	No	Std.	No	No
Auto answer	Opt.	Opt.	Opt.	No	No
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	RS-232C, CCITT MIL 188 B/C	RS-232C 20 ma	RS-232C, 20 ma
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	Yes	Yes	Yes
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	Opt.
Vendor-supplied external modem	No	No	No	No	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	Yes	No	No
In line	No	No	Yes	No	No
On line	No	No	Yes	No	No
Off line	No	No	Yes	Yes	No
<b>PRICING (price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	69	Contact vendor	101	132	88
Display station, 2 year lease, \$/mo.	—	—	—	94	—
Display station, 3 year lease, \$/mo.	63	—	92	—	—
Serial printer, 1 year lease, \$/mo.	—	—	158	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	146	—	—
Controller, 1 year lease, \$/mo.	189	—	210	—	—
Controller, 2 year lease, \$/mo.	—	—	—	—	—
Controller, 3 year lease, \$/mo.	174	—	191	—	—
Purchase price:					
Display station, \$	1,475	Contact vendor	3,090	2,245	1,895
Serial printer, \$	—	—	3,425	—	—
Controller, \$	6,900	—	8,600	—	—
Software, \$	—	—	—	—	—
Quantity discounts available	—	—	Yes	—	—
<b>AVAILABILITY</b>					
Date of first production delivery	1/73	4/73	1974/1976	9/74	9/73
Display units installed to date	Over 400	Over 30	2,500	100	1,500
Serviced by	Sanders	Sanders	Sanders	SMS	Selecterm
No. of service locations	50	50	50	—	—
<b>COMMENTS</b>			8180 provides more functions than 3270; 8210 emulates UNIVAC 100/200; 8220, Burroughs TD-800; 8770, Honeywell 775, 7700	Mfd. by Applied Digital Data Systems as Consul 580	Mfd. by Applied Digital Data Systems as Consul 980

## Alphanumeric Display Terminals – Equipment Specifications

Part 1:      Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Singer Models 80, 81 & 82	Sycor 255	Sycor 257	Sycor 340	TEC, Inc. Models 410/415 & 420/425
<b>TERMINAL DESCRIPTION</b>					
Processor control	Microprocessor	Microprocessor	Microprocessor	Microprocessor	No
Memory range, bytes	—	—	—	1K – 7K	—
Stand-alone unit	Yes	Yes	No	Yes	Yes
Local cluster arrangement	No	No	No	No	No
Remote cluster arrangement	No	No	Yes	No	No
Max. no. of displays/controller	—	—	32	—	—
Max. no. of printers/controller	—	—	32	—	—
Max. no. of devices/controller	—	—	32	—	—
Any mix of screen sizes/controller	—	—	Yes	—	—
Computer interface	—	—	No	—	—
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	Std.	Std.	No	No
IBM 2260/2265	No	No	No	No	No
Teletype 33/35	No	No	No	Opt.	No
Teletype 40	No	No	No	No	No
Other	No	No	No	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	No	No
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	Yes	Yes	Yes	Yes	No
User-defined firmware	No	No	No	No	—
Vendor-supplied software	No	No	No	No	No
Software pricing	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	1600(80); 960/1920	480/1920	480/1920	578	1000/1920
Display arrangement, lines x chars./line	20x80; 12/24x80	12x40; 24x80	12x40; 24x80	9 x 64	20x50; 24x80
Display area, h x w, inches	5.5x8 (81, 82)	4.5x8.2; 5.8x8.5	4.5x8.2; 5.8x8.5	7.75 x 5.5	74 sq. in.
Total displayable symbols	64	64; 96 opt.	64; 96 opt.	62	67
Symbol formation	7x9 dot matrix	9x7 dot matrix	9x7 dot matrix	5x7 dot matrix	5x7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	No	No	No	No
Programmable brightness levels	No	3 std.	3 std.	No	No
Character and/or field blinking	No	Field std.	Field std.	No	Std.
Roll	Up std.	No	No	Up opt.	Std.
Paging	Yes	No	No	No	No
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, B, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Std.	Std.
Addressable/readable cursor	Std.	Std.	Std.	No	Std.
<b>FORMAT CONTROL</b>					
Protected format	Std.	Std.	Std.	Std.	Std.
Format creation via keyboard	Std.	Std.	Std.	Std.	Std.
Format editing via keyboard	Std.	Std.	Std.	Std.	Std.
Format storage	Std.	Std.	Std.	Std.	Std.
Partial screen transmit	Std.	Std.	Std.	Std.	Std.
Tabulation	Std.	Std.	Std.	Std.	Std.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	Std.	Std.	Std.	No	Std.
Line insert/delete	Std.	No	No	No	Std.
Character erase	Std.	Std.	Std.	Std.	No
Line erase	Std.	No	No	Std.	Std.
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Std.	Partial	Partial	No	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter	Typewriter/data entry	Typewriter/data entry	Typewriter	Teletype
Character/code set	ASCII	ASCII/EBCDIC	ASCII/EBCDIC	ASCII/EBCDIC	ASCII
Detachability	Std., 81, 82	Std.	Std.	No	Std.
Program function keys	Up to 11	12 opt.	12 opt.	No	2 std.
Cursor control keys	6 std.	6 std.	6 std.	6 std.	6 std.
Edit function keys	8 std.	5 std.	5 std.	3 std.	7 std.
Numeric keypad	Std., 80; opt. 81/82	Opt.	Opt.	Std.	Opt.

Alphanumeric Display Terminals — Equipment Specifications

Part 2: Operator Features      Transmission Features      Diagnostics  
Ancillary Features      Terminal Interface      Pricing  
Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Memorex 1377-4	Mohawk MDS Series 21	NCR 796 Series Models 101, 201, 301 & 401	Olivetti DE-520	Olivetti TCV 270
<b>OPERATOR FEATURES</b>					
Numeric keylock	Std.	—	—	No	Opt.
Audible alarm	Std.	—	Std., 101; Opt., 201	Std.	Std.
Keylock	Opt.	—	—	No	Opt.
Operator I.D. card reader	Opt.	—	No	No	Opt.
Light pen	Opt.	—	No	No	Opt.
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	No	No	Single/dual	No
Diskette drive (floppy disk)	No	Yes	No	Single/dual	Dual
Serial printer	No	Yes	Non-impact (NCR)	Impact	Impact
Print speed & positions, cps	—	165 @ 132	—	100 to 175 @132	100 to 175 @ 132
Other devices	None	Magnetic tape, cartridge disk	None	Card reader, mag- netic tape unit, paper tape unit, OCR reader	OCR reader
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	—	Half/full-duplex	Full-duplex	Full-duplex
Technique	Synchronous	—	Asynchronous	Async./sync.	Async./sync.
Communications protocol	SDLC; BSC	BSC/SDLC	ASCII	ASCII/BSC	ASCII/BSC
Code	ASCII/EBCDIC	EBCDIC	ASCII	ASCII/EBCDIC	ASCII/EBCDIC
Unit code structure, bits/char.	8	—	10/11	8/10/11	8/10/11
Speed, bits/second	1200-7200	600-9600	110 to 9600	110 to 4800	600 to 4800
Operator selectable speeds	—	—	—	No	No
Format: character, line, or block	Block	—	Char./block	Char./block	Block only
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	Std.	—	Std., 301 only	Std.	Std.
Auto answer	No	—	No	Opt.	No
Auto call	No	—	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	RS-232C	RS-232C	RS-232C
<b>LINE INTERFACE</b>					
External modem required	Yes	—	No	Yes	Yes
Integral modem	No	—	Std., 201	No	No
Integral acoustic coupler	No	—	Opt., 201	No	No
Vendor-supplied external modem	Opt., IBM	—	No	Opt.	Opt.
<b>DIAGNOSTICS</b>					
Self diagnostics	No	—	No	Yes	Yes
In line	No	—	No	Yes	Yes
On line	Yes	—	No	Yes	Yes
Off line	No	—	No	Yes	Yes
<b>PRICING (Price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	130-163	190	80-150	—	82-300
Display station, 2 year lease, \$/mo.	110-143	—	—	185-600	—
Display station, 3 year lease, \$/mo.	—	162	—	—	—
Serial printer, 1 year lease, \$/mo.	—	—	75-150	—	126
Serial printer, 2 year lease, \$/mo.	—	—	70-130	126	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	—	—	—	—	82
Controller, 2 year lease, \$/mo.	—	—	—	—	—
Controller, 3 year lease, \$/mo.	—	—	—	—	3,090-12,500
Purchase price:					
Display station, \$	3,800-4,775	6,270	2,000-3,500	6,600-20,000	3,800
Serial printer, \$	—	—	1,465-5,615	3,800	2,950
Controller, \$	—	—	—	—	—
Software, \$	—	—	—	—	—
Quantity discounts available	No	—	—	No	No
<b>AVAILABILITY</b>					
Date of first production delivery	5/76	5/77	1/74	2/71	10/74
Display units installed to date	Over 1,000	—	8,000 (all models)	20,500	16,000
Serviced by	Memorex	Mohawk	NCR	Olivetti	Olivetti
No. of service locations	53	—	—	—	150
<b>COMMENTS</b>	Microprocessor-based replacement for IBM 3277-2 Display Unit; attaches to IBM controller	Prices include one display unit and controller with one diskette drive	Manufactured by ADDS as models 580 (101), 880 (201), and 880A (301)	Manufactured by Sycor, Inc.; uses Olivetti TPS assembler-type language	Options include 6K RAM, check digit verification, and arithmetic and logical operations; made by Sycor, Inc., as Model 250

## Alphanumeric Display Terminals — Equipment Specifications

<b>Part 1:</b>	Terminal Description Compatibility Programmability	Display Organization Display Features Cursor Control	Format Control Edit Functions Keyboard Parameters
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VENDOR AND MODEL	Olivetti TCV 278	Omron 8025 A	Omron 8030	Ontel OP-1	Perkin-Elmer Fox-1100
<b>TERMINAL DESCRIPTION</b>					
Processor control	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor
Memory range, bytes	2K to 8K	Up to 16K	2K-65K	4K-64K	2K ROM; 2K RAM
Stand-alone unit	Yes	Yes	Yes	Yes	Yes
Local cluster arrangement	No	No	Yes	Yes	No
Remote cluster arrangement	Yes	No	No	Yes	No
Max. no. of displays/controller	24	—	—	4	—
Max. no. of printers/controller	23	—	—	4	—
Max. no. of devices/controller	24	—	—	4	—
Any mix of screen sizes/controller	No	—	—	No	—
Computer Interface	No	No	No	No	No
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	Std.	No	No	Yes	No
IBM 2260/2265	Std.	No	No	No	No
Teletype 33/35	No	Std.	Std.	Std.	Std.
Teletype 40	Yes	—	—	No	No
Other	No	—	Burroughs & Univac	IBM 2780, Hazeltine 2000	No
<b>PROGRAMMABILITY</b>					
Programmed via:					
User-created programs	Yes	No	Opt.	Yes	No
User-defined parameters	Yes	No	Yes	Yes	No
Vendor-defined firmware	Yes	Yes	Yes	Yes	Yes
User-defined firmware	Yes	Yes	Yes	Yes	No
Vendor-supplied software	Yes	—	Opt.	Yes	No
Software pricing	Std.	—	—	Std.	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	1920	1920	1920	1600/1920/2000	1920
Display arrangement, lines x chars./line	24 x 80	24 x 80	24 x 80	20/24/25 x 80	24 x 80
Display area, h x w, inches	12-inch diag.	8 x 10	8 x 10	7 x 10	12-inch-diag.
Total displayable symbols	64; 96	128; 224 opt.	128; 224 opt.	128/256	96 ASCII
Symbol formation	5 x 7 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix	5 x 10/13 x 11 dot matrix	7 x 9 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	Std.	Std.	Std.	Opt.
Programmable brightness levels	2 std.	2 std.	2 std.	2 std.	No
Character and/or field blinking	Yes	Field std.	Field std.	Both std.	No
Roll	No	Std.	Std.	Up & down std.	Up std.
Paging	No	Opt., 2 pages	Opt., up to 10 pages	—	No
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Std.	Opt.
Addressable/readable cursor	Std.	Std.	Std.	Std.	Std. addressable only
<b>FORMAT CONTROL</b>					
Protected format	Std.	Std.	Std.	Std.	No
Format creation via keyboard	Std.	Std.	Std.	Std.	No
Format editing via keyboard	Std.	Std.	Std.	Std.	No
Format storage	12	Std.	Opt. up to 9	Variable	No
Partial screen transmit	Std.	Std.	Std.	Std.	No
Tabulation	Yes	Std.	Std.	Std.	Std.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	Std.	Std.	Std.	Std.	No
Line insert/delete	No	Delete std.	Std.	Std.	No
Character erase	Std.	Std.	Std.	Std.	Std.
Line erase	No	Std.	Std.	Std.	Std.
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Std.	Std.	Std.	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter/data entry	Typewriter/data entry	Typewriter/data entry	Teletype	Typewriter
Character/code set	ASCII/EBCDIC	128 ASCII	128 ASCII	ASCII	128 ASCII
Detachability	Std.	Opt.	No	Std.	No
Program function keys	12 opt.	16 std.; 48 opt.	128	38 std.	No
Cursor control keys	6 std.	6 std.	6 std.	5 std.	No
Edit function keys	5 std.	7 std.	7 std.	Programmable	No
Numeric keypad	Opt.	Std.	Std.	Std.	Opt.

Alphanumeric Display Terminals – Equipment Specifications

Part 2: Operator Features      Transmission Features      Diagnostics  
Ancillary Features      Terminal Interface      Pricing  
Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Singer Models 80, 81, & 82	Sycor 255	Sycor 257	Sycor 340	Tec, Inc. Models 410/415 & 420/425
<b>OPERATOR FEATURES</b>					
Numeric keylock	—	Opt.	Opt.	No	No
Audible alarm	Std.	Std.	Std.	Std.	Std.
Keylock	—	Opt.	Opt.	No	No
Operator I.D. card reader	No	Std.	Std.	No	No
Light pen	No	Opt.	Opt.	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	No	No	Single/dual	No
Diskette drive (floppy disk)	No	Dual	Dual	Dual	No
Serial printer	No Impact	Impact	Impact	Impact	RS-232 interface
Print speed & print positions, cps	—	80/165 @ 132	80/165 @ 132	80/165 @ 132	—
Other devices	None	None	None	Card reader, line printers, 7-9-tK. mag. tape units	None
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	Half-duplex	Half-duplex	Half-duplex	Half/full-duplex
Technique	Async./sync.	Synchronous	Synchronous	Async./sync.	Asynchronous
Communications protocol	Any	BSC	BSC	ASCII/BSC	ASCII
Code	ASCII	ASCII/EBCDIC	ASCII/EBCDIC	ASCII/EBCDIC	ASCII
Unit code structure, bits/char.	8/10	8	8	8/10	10
Speed, bits/second	Up to 9600	1200 to 4800	1200 to 4800	75 to 4800	110 to 9600
Operator selectable speeds	—	No	No	No	—
Format: character, line, or block	Char./block	Block only	Block only	Char./block	Block only
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	Opt.	Std.	Std.	No	Std.
Auto answer	Opt.	No	No	Opt.	No
Auto call	No	No	No	Opt.	No
<b>TERMINAL INTERFACE</b>	RS-232C; 81 only	RS-232C	RS-232C	RS-232C opt.	RS-232C
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	Yes	Yes	No
Integral modem	Opt.	No	No	No	Std., 420/425
Integral acoustic coupler	No	No	No	No	No
Vendor-supplied external modem	No	No	No	No	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	No	No
In line	No	No	No	No	No
On line	No	No	No	No	No
Off line	No	No	No	No	No
<b>PRICING (price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	139-289	98-110	76-96	150-593	—
Display station, 2 year lease, \$/mo.	—	93-104	72-91	123-536	—
Display station, 3 year lease, \$/mo.	—	—	—	—	—
Serial printer, 1 year lease, \$/mo.	—	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	—	—	80-96	—	—
Controller, 2 year lease, \$/mo.	—	—	76-91	—	—
Controller, 3 year lease, \$/mo.	—	—	—	—	—
Purchase price:					
Display station, \$	4,000-9,000	4,310-4,840	3,340-4,220	6,600-23,720	2,450-3,100
Serial printer, \$	—	—	—	—	—
Controller, \$	—	—	2,290-3,790	—	—
Software, \$	—	—	—	—	—
Quantity discounts available	—	—	—	—	—
<b>AVAILABILITY</b>					
Date of first production delivery	6/72 (80); 9/74	10/73	10/73	2/71	2/70
Display units installed to date	4,000	2,000	2,000	Over 30,000	2,785
Serviced by	Singer	Sycor & Sorbus	Sycor & Sorbus	Sycor & Sorbus	Tec
No. of service locations	—	—	—	—	—
<b>COMMENTS</b>	Models 81 & 82 are microprocessor-based with a vendor-programmable ROM. Up to 63 Model 81's can be chained on one modem				Models 410/415 have parallel (TTL logic) interface; 420/425 have serial interface; rack-mounted units available

Alphanumeric Display Terminals – Equipment Specifications

Part 1: Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Tec, Inc. Model 440	Tec, Inc. Models 450/455 & 460/465	Tec, Inc. Models 1401, 1440, 2401 & 2402	Tec, Inc. Model 4400	Tektronix Model 4023
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	No	No	Microprocessor	—
Memory range, bytes	—	—	—	Up to 28K	—
Stand-alone unit	Yes	Yes	Yes	Yes	Yes
Local cluster arrangement	No	No	No	No	No
Remote cluster arrangement	No	No	No	No	No
Max. no. of displays/controller	—	—	—	—	—
Max. no. of printers/controller	—	—	—	—	—
Max. no. of devices/controller	—	—	—	—	—
Any mix of screen sizes/controller	—	—	—	—	—
Computer Interface	—	—	—	—	—
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	No	No	No
IBM 2260/2265	No	No	No	No	No
Teletype 33/35	Std.	450/455 only	Std.	Std.	Std.
Teletype 40	No	No	No	No	No
Other	No	No	No	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	No	No
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	No	No	No	Yes	—
User-defined firmware	No	No	No	Opt.	—
Vendor-supplied software	No	No	No	No	No
Software pricing	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	1920	1000/1920	960 (1400) 1920	2000	1920
Display arrangement, lines x chars./line	24 x 80	20x50; 24x80	12/24 x 80	25 x 80	24 x 80
Display area, h x w, inches	74 sq. in.	—	54/74 sq. in.	—	4.5 x 8.5
Total displayable symbols	64	67	64/96	128	96
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	No	No	Std.	Std.
Programmable brightness levels	No	No	2 std.; 1401 & 240x	2 std.	5 std.
Character and/or field blinking	No	Std.	Std., 1401 & 240x	Std.	Std.
Roll	Std.	Std.	Std.	Std.	Std.
Paging	—	—	—	—	—
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	Rt., LF, BS	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.; LF, BS (1440)	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Std.	No
Addressable/readable cursor	No	Std.	Std., 1401 & 240x	Std.	Std.
<b>FORMAT CONTROL</b>					
Protected format	No	Std.	Std., 1401 & 240x	Std.	Std.
Format creation via keyboard	No	Std.	Std., 1401 & 240x	Std.	Std.
Format editing via keyboard	No	Std.	Std., 1401 & 240x	Std.	Std.
Format storage	No	Std.	Std., 1401 & 240x	Std.	Std.
Partial screen transmit	No	Std.	Std., 1401 & 240x	Std.	Std.
Tabulation	No	Std.	Std., 1401 & 240x	Std.	No
<b>EDIT FUNCTIONS</b>					
Character insert/delete	No	Std.	No	Std.	Std.
Line insert/delete	No	Std.	No	Std.	Std.
Character erase	Std.	No	No	Std.	No
Line erase	Std.	Std.	No	Std.	Std.
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Std.	Std.	Std.	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Teletype	TTY/typewriter	Teletype	Typewriter	Typewriter
Character/code set	ASCII	ASCII	ASCII	ASCII	ASCII
Detachability	Std.	Std.	Std.	Std.	Std.
Program function keys	None	None	None	None	Std.
Cursor control keys	3 std.	6 std.	8 std.	6 std.	6 std.
Edit function keys	4 std.	7 std.	2 std.	7 std.	7 std.
Numeric keypad	None	Std., opt., 450/455	Opt.	Std.	Std.

## Alphanumeric Display Terminals — Equipment Specifications

**Part 2:**      **Operator Features**      **Transmission Features**      **Diagnostics**  
**Ancillary Features**      **Terminal Interface**      **Pricing**  
**Transmission Parameters**      **Line Interface**      **Availability**

VENDOR AND MODEL	Olivetti TCV 278	Omron 8025 A	Omron 8030	Ontel OP-1	Perkin-Elmer Fox-1100
<b>OPERATOR FEATURES</b>					
Numeric keylock	Opt.	Std.	Std.	No	No
Audible alarm	Std.	Std.	Std.	Std.	Std.
Keylock	Opt.	Opt.	Opt.	No	No
Operator I.D. card reader	Opt.	No	No	No	No
Light pen	Opt.	No	No	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	No	No	1 to 4 drives	No
Diskette drive (floppy disk)	Dual	No	Dual drive	1 to 4 drives	No
Serial printer	Impact	Impact/non-impact	RS-232 interface	Impact/non-impact	Impact
Print speed & positions, cps	100 to 175 @ 132	—	—	—	30 @ 132
Other devices	OCR reader	—	None	None	None
<b>TRANSMISSION PARAMETERS</b>					
Mode	Full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Async./sync.	Async. A, B/sync.	Async./sync.	Async./sync. opt.	Asynchronous
Communications protocol	BSC	ASCII/BSC	ASCII/BSC	ASCII/BSC	ASCII
Code	ASCII/EBCDIC	ASCII/EBCDIC	ASCII/EBCDIC	ASCII/EBCDIC	ASCII
Unit code structure, bits/char.	8/10/11	8/10/11	5 through 11	7/11	10/11
Speed, bits/second	600 to 4800	Up to 2400	Up to 9600	Up to 2400/9600	75 to 9600
Operator selectable speeds	No	5 std.	8 std.	17 std.	11 std.
Format: character, line, or block	Block	Char./block	Char./block	Char./block	Char. only
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	Std.	No	Opt.	Opt.	No
Auto answer	No	Opt.	Opt.	Opt.	No
Auto call	No	No	Opt.	No	Opt.
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	RS-232C	RS-232C, 20 ma	RS-232C, CCITT, or 20 ma dc
<b>LINE INTERFACE</b>					
External modem required	Yes	No	Yes	Yes	Yes
Integral modem	No	No	No	Opt.	No
Integral acoustic coupler	No	No	No	No	No
Vendor-supplied external modem	Opt.	No	No	Opt.	No
<b>DIAGNOSTICS</b>					
Self diagnostics	Yes	—	Opt.	Yes	No
In line	Yes	—	No	No	No
On line	Yes	—	Yes	No	No
Off line	Yes	—	Yes	Yes	No
<b>PRICING (Price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	166-450	Purchase only	Purchase only	Sold OEM only	Purchase only
Display station, 2 year lease, \$/mo.	—	—	—	—	—
Display station, 3 year lease, \$/mo.	—	—	—	—	—
Serial printer, 1 year lease, \$/mo.	126	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	—	—	—	—	—
Controller, 2 year lease, \$/mo.	—	—	—	—	—
Controller, 3 year lease, \$/mo.	—	—	—	—	—
Purchase price:					
Display station, \$	6,140	2,400 (base)	2,750 (base)	1,695-5,500	1,295 (base)
Serial printer, \$	3,800	3,550	—	—	2,995
Controller, \$	—	—	—	—	—
Software, \$	—	—	—	500-1,500	—
Quantity discounts available	No	Yes	Yes	Yes	Yes
<b>AVAILABILITY</b>					
Date of first production delivery	11/76	12/73	8/76	11/74	2/77
Display units installed to date	200	Over 2,500	Over 300	Over 1,500	—
Serviced by	Olivetti	Omron & third party	Omron & third party	Third party	Perkin-Elmer
No. of service locations	150	250	250	—	27
<b>COMMENTS</b>	Includes integral controller capable of supporting 24 IBM 3277-type terminals	Microprocessor-based unit with up to 16K bytes of RAM in 2K or 4K increments; software support; Diablo HyType printer available	Uses Intel 8080 microprocessor	Price based on quantity of 100	

Alphanumeric Display Terminals — Equipment Specifications

**Part 1:** Terminal Description Compatibility Programmability      Display Organization Display Features Cursor Control      Format Control Edit Functions Keyboard Parameters

VENDOR AND MODEL	Perkin-Elmer Owl-1200	Perry PE 9000	Pertec Model 7100	Plantronics VU Set DS-150A	Quotron Series 800
<b>TERMINAL DESCRIPTION</b>					
Processor control	Microprocessor	No	Microprocessor	No	Minicomputer
Memory range, bytes	6K ROM; 2.5K RAM	—	—	—	4K-128K
Stand-alone unit	Yes	Yes	Yes	Yes	No
Local cluster arrangement	No	No	No	No	Yes
Remote cluster arrangement	No	No	No	No	Yes
Max. no. of displays/controller	—	—	—	—	24
Max. no. of printers/controller	—	—	—	—	—
Max. no. of devices/controller	—	—	—	—	36
Any mix of screen sizes/controller	—	—	—	—	No
Computer Interface	No	No	No	No	No
Portable case	No	No	Std.	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	No	No	Opt.
IBM 2260/2265	No	No	No	No	Opt.
Teletype 33/35	Std.	Yes	Std.	Std.	Opt.
Teletype 40	No	—	No	No	No
Other	No	No	No	No	No
<b>PROGRAMMABILITY</b>					
Programmed via:					
User-created programs	No	No	No	No	Yes
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	Yes	No	Yes	No	No
User-defined firmware	No	No	Yes	No	No
Vendor-supplied software	No	No	No	No	Assembly language, operating system, others
Software pricing	—	—	—	—	Std.
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	1920	1920	960/1920	64	1200/1600
Display arrangement, lines x chars./line	24 x 80	24 x 80	12/24 x 80	4 x 16	20 x 60/80
Display area, h x w, inches	12-inch-diag.	12-inch-diag.	5.5 x 8.25	3-inch-diag.	48 x 64; 6 x 8
Total displayable symbols	96 ASCII	64/96	64; 96 opt.	64	96
Symbol formation	7 x 9 dot matrix	5 x 7 dot matrix	7 x 9 dot matrix	5 x 7 dot matrix	14 x 22 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	Std.	No	Std.	No	Opt.
Programmable brightness levels	2 std.	No	No	2 std.	No
Character and/or field blinking		Std.	No	Field std.	Opt.
Roll	Up std.	Up std.	Std.	No	No
Paging	No	No	—	No	No
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, H, Rt.	U, D, L, R, H	None	U, D, L, R, H, Rt.
Cursor blinking	Opt.	Std.	Std.	No	Std.
Addressable/readable cursor	Std.	No	Std.	No	Std., addressable only
<b>FORMAT CONTROL</b>					
Protected format	Std.	No	Std.	No	Opt.
Format creation via keyboard	Std.	No	Std.	No	Opt.
Format editing via keyboard	Std.	No	Std.	No	Opt.
Format storage	1 std.	No	Std.	No	Opt.
Partial screen transmit	Std.	No	Std.	No	Opt.
Tabulation	Std.	No	Std.	No	Opt.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	Std.	No	Std.	No	Opt.
Line insert/delete	Std.	No	Std.	No	Opt.
Character erase	Std.	No	No	No	Std.
Line erase	Std.	No	Opt.	No	No
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Std.	Std.	Std.	No	Opt.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter	Typewriter	Typewriter	Touch-Tone; 12 keys	Block/typewriter
Character/code set	128 ASCII	128 ASCII	ASCII	DTMF	ASCII
Detachability	Opt.	Std.	Std.	Std.	Std.
Program function keys	16 std.	No	5 std.; 11 opt.	2 std.	10 opt.
Cursor control keys	5 std.	5 std.	5 std.	No	6 std.
Edit function keys	7 std.	No	6 std.; 1 opt.	No	2 std.; 5 opt.
Numeric keypad	Std.	Std.	Opt.	Std.	No



Alphanumeric Display Terminals — Equipment Specifications

Part 2:      Operator Features      Transmission Features      Diagnostics  
                  Ancillary Features      Terminal Interface      Pricing  
                  Transmission Parameters      Line Interface      Availability

VENDOR & MODEL	Tec, Inc. Model 440	Tec, Inc. Models 450/455 & 460/465	Tec, Inc. Models 1401, 1440, 2401, & 2402	Tec, Inc. Model 4400	Tektronix Model 4023
<b>OPERATOR FEATURES</b>					
Numeric keylock	No	No	No	No	—
Audible alarm	Std.	Std.	Std.	Std.	Std.
Keylock	No	No	No	No	—
Operator I.D. card reader	No	No	No	No	No
Light pen	No	No	No	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	No	RS-232 interface	RS-232 interface	No
Diskette drive (floppy disk)	No	No	No	RS-232 interface	No
Serial printer	RS-232 interface	RS-232 interface	RS-232 interface	RS-232 interface	Photo. copier
Print speed & print positions, cps	—	—	—	—	8 to 18 sec./page
Other devices	None	None	None	None	None
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Async/sync.	Asynchronous
Communications protocol	ASCII	ASCII/Burroughs	ASCII	ASCII	ASCII
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Unit code structure, bits/char.	10/11	10/11	10/11	8/10/11	10/11
Speed, bits/second	110 to 9600	110 to 9600	110 to 9600	110 to 9600	110 to 9600
Operator selectable speeds	—	—	—	—	Yes
Format: character, line, or block	Char. only	Char./block	Char./block	Char./block	Char./block
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	No	Std., 460/465	No	Std.	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	RS-232C	RS-232C	RS-232C
<b>LINE INTERFACE</b>					
External modem required	Yes	No	No	No	No
Integral modem	No	Std.	Std.; Opt., 1440	Std.	Std.
Integral acoustic coupler	No	No	No	No	No
Vendor-supplied external modem	No	No	No	No	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	No	No
In line	No	No	No	No	No
On line	No	No	No	No	No
Off line	No	No	No	No	No
<b>PRICING (price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	—	—	—	—	140
Display station, 2 year lease, \$/mo.	—	—	—	—	140
Display station, 3 year lease, \$/mo.	—	—	—	—	—
Serial printer, 1 year lease, \$/mo.	—	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	—	—	—	—	—
Controller, 2 year lease, \$/mo.	—	—	—	—	—
Controller, 3 year lease, \$/mo.	—	—	—	—	—
Purchase price:					
Display station, \$	1,920	Contact vendor	1,295-2,145	Contact vendor	3,495
Serial printer, \$	—	—	—	—	—
Controller, \$	—	—	—	—	—
Software, \$	—	—	—	—	—
Quantity discounts available	Yes	Yes	Yes	Yes	—
<b>AVAILABILITY</b>					
Date of first production delivery	1/72	'70; '74, 460/465	11/74 to 4/75	6/75	7/73
Display units installed to date	1,500	4,480	3,500	—	—
Serviced by	Tec	Tec	Tec	Tec	Tektronix
No. of service locations	—	—	—	—	—
<b>COMMENTS</b>					
		Rack mount available	Model 2402 is a 2401 with lower case alphabets	Rack mount available	

Alphanumeric Display Terminals – Equipment Specifications

Part 1: Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Tektronix Models 4010 & 4010-1	Tektronix Model 4006-1	Telaram Communications P-1800	Teletype Models 40/2 & 40/3	Teletype Model 40/4
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	No	Yes	No	No
Memory range, bytes	2520	2590	Up to 120K	—	—
Stand-alone unit	Yes	Yes	Yes	Yes	No
Local cluster arrangement	No	No	No	No	Yes
Remote cluster arrangement	No	No	Opt.	No	No
Max. no. of displays/controller	—	—	—	—	24
Max. no. of printers/controller	—	—	—	—	—
Max. no. of devices/controller	—	—	—	—	24
Any mix of screen sizes/controller	—	—	—	—	No
Computer Interface	—	—	—	No	No
Portable case	No	No	Yes; 23 lbs.	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	No	No	Std.; BSC only
IBM 2260/2265	No	No	No	No	No
Teletype 33/35	Std.	Std.	Std.	No	—
Teletype 40	Std.	Std.	Std.	—	—
Other	No	No	DEC, Extel, General Automation	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	Yes	Yes	No	No	No
User-defined parameters	No	No	Yes	No	No
Vendor-defined firmware	No	No	Yes	Yes	Yes
User-defined firmware	No	No	Yes	No	No
Vendor-supplied software	Fortran	Fortran	No	No	No
<b>Software pricing</b>	Extra cost	Extra cost	Extra cost	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	2520	2590	616	1920	1920
Display arrangement, lines x chars./line	35 x 72	35 x 74	14 x 44	24 x 80	24 x 80
Display area, h x w, inches	5.625 x 7.5	5.625 x 7.5	4.5 x 5.5	5.25 x 11.25	5.25 x 11.25
Total displayable symbols	64	64	127	127	127
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	No	No	No	No
Programmable brightness levels	No	No	Manually adjust.	2 opt.	3 std.
Character and/or field blinking	No	No	No	No	Field std.
Roll	No	No	Up & down std.	Up & down std.	No
Paging	No	No	—	2/3 pages opt.	No
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	H, Rt.	H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	No	No	No	Opt.
Addressable/readable cursor	Std.	Std.	No	No	Std.
<b>FORMAT CONTROL</b>					
Protected format	No	No	No	Opt.	Std.
Format creation via keyboard	No	No	Std.	Std.	No
Format editing via keyboard	No	No	Std.	Std.	No
Format storage	No	No	Up to 60	—	—
Partial screen transmit	Std.	Std.	Std.	Std.	Std.
Tabulation	No	No	Std.	Opt.	Yes
<b>EDIT FUNCTIONS</b>					
Character insert/delete	No	No	Std.	Std.	Std.
Line insert/delete	No	No	Std.	Std.	Std.
Character erase	No	No	Std.	No	No
Line erase	No	No	Std.	No	No
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Std.	Std.	Std.	Partial	Partial
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	ASCII	ASCII	ASCII	ASCII	ASCII
Detachability	No	No	Std.	No	Opt.
Program function keys	No	No	No	No	12 std.
Cursor control keys	No	No	6 std.	7 std.	9 std.
Edit function keys	No	No	8 std.	4 std.	4 std.
Numeric keypad	No	No	No	No	No

Alphanumeric Display Terminals – Equipment Specifications

Part 2:      Operator Features      Transmission Features      Diagnostics  
Ancillary Features      Terminal Interface      Pricing  
Transmission Parameters      Line Interface      Availability

VENDOR AND MODEL	Tektronix Models 4010 & 4010-1	Tektronix Model 4006-1	Telera Communications P-1800	Teletype Models 40/2 & 40/3	Teletype Model 40/4
<b>OPERATOR FEATURES</b> Numeric keylock Audible alarm Keylock Operator I.D. card reader Light pen	No Std. No No No	No Std. No No No	No No Opt. Opt. No	No Std. No No No	Std. Std. No No No
<b>ANCILLARY DEVICES</b> Cassette tape drive Diskette drive (floppy disk) Serial printer Print speed & print positions, cps Other devices	Single Single/dual Photo. copier 10 to 36 sec./page None	Single Single/dual Photo. copier 10 to 36 sec./page None	Single RS-232 interface RS-232 interface — None	No No Impact 220-314 lpm @ 80 None	No No Impact 220-314 lpm @ 80 None
<b>TRANSMISSION PARAMETERS</b> Mode Technique Communications protocol Code Unit code structure, bits/char. Speed, bits/second Operator selectable speeds Format: character, line, or block	Half/full-duplex Async./sync. ASCII ASCII 10/11 110 to 9600 8 std. Char. only	Half/full-duplex Asynchronous Asynchronous ASCII ASCII 10/11 75 to 4800 8 std. Char. only	Half-duplex Asynchronous Asynchronous ASCII ASCII/TTS/other 7/8 Up to 1200 5 std. Block only	Half/full-duplex Asynchronous Asynchronous ASCII ASCII 10 110 to 4800 2 opt., 40/3 only Block/Char. opt.	Half-duplex Synchronous Synchronous BSC ASCII 10 2400/4800 No Block only
<b>TRANSMISSION FEATURES</b> Multipoint operation (pollable/addr.) Auto answer Auto call	No No No	No No No	Std. Opt. Std.	Opt. Std. No	Std. Std. No
<b>TERMINAL INTERFACE</b>	RS-232 B/C CCITT V.24	RS-232 B/C CCITT V.24	RS-232C	RS-232C	RS-232C
<b>LINE INTERFACE</b> External modem required Integral modem Integral acoustic coupler Vendor-supplied external modem	Yes No No No	Yes No No No	Yes No No Std.	Yes No No No	Yes No No No
<b>DIAGNOSTICS</b> Self diagnostics In line On line Off line	No No No No	No No No No	No Yes Yes No	Yes No No Yes	Yes Yes No Yes
<b>PRICING</b> (price range shows cost of basic unit and unit with all options) Lease price including maintenance: Display station, 1 year lease, \$/mo. Display station, 2 year lease, \$/mo. Display station, 3 year lease, \$/mo. Serial printer, 1 year lease, \$/mo. Serial printer, 2 year lease, \$/mo. Serial printer, 3 year lease, \$/mo. Controller, 1 year lease, \$/mo. Controller, 2 year lease, \$/mo. Controller, 3 year lease, \$/mo. Purchase price: Display station, \$ Serial printer, \$ Controller, \$ Software, \$ Quantity discounts available	210 180 150 — — — — — — — 4,195 — — — Yes, with 4 units or more	180 150 120 — — — — — — — 2,995 — — — Yes, with 4 units or more	No leasing — — — — — — — — — 5,495 1,950 — — —	No leasing — — — — — — — — — — 3,613-4,173 1,851 1,087 — No	No leasing — — — — — — — — — — 933 1,633 3,956-3,909 — No
<b>AVAILABILITY</b> Date of first production delivery Display units installed to date Serviced by No. of service locations	10/71 — Tektronix 38	10/75 — Tektronix 38	10/74 Over 200 Telera —	'73,40/2; '74,40/3 Over 6,000 Teletype & Bell 30	1975 — Teletype & Bell 30
<b>COMMENTS</b>	Provides full graphics capability; rack mount available; variety of software packages available	Provides graphics capability; variety of software packages available		Also available from AT&T (Bell System) as Dataspeed 40, and from leasing companies	Also available from AT&T (Bell System) as Dataspeed 40 (pending tariff)

Alphanumeric Display Terminals – Equipment Specifications

**Part 1:** Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Termiflex HT/1 & HT/2 Handheld Terminals	Terminal Communications TC 275	Terminal Communications TC 277	Trans-Lux Vidi News (monitor only)	Trans-Lux News Jet (monitor only)
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	No	No	No	No
Memory range, bytes	—	—	—	—	—
Stand-alone unit	Yes	Yes	No	Yes	Yes
Local cluster arrangement	No	No	Yes	Yes	Yes
Remote cluster arrangement	No	No	Yes	Yes	Yes
Max. no. of displays/controller	—	—	32	Unlimited	Unlimited
Max. no. of printers/controller	—	—	—	—	—
Max. no. of devices/controller	—	—	32	—	—
Any mix of screen sizes/controller	—	—	—	Std.	No
Computer Interface	No	No	Yes	No	No
Portable case	Std.; 1.5 lbs.	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	Std.	Std.	No	No
IBM 2260/2265	No	No	No	No	No
Teletype 33/35	Std.	No	No	No	Yes
Teletype 40	No	No	No	No	No
Other	No	No	No	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	No	No
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	No	No	No	No	No
User-defined firmware	No	No	No	No	No
Vendor-supplied software	No	No	No	No	No
Software pricing	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	10; 20 (HT/2)	480/1920	480/1920	576	288
Display arrangement, lines x chars./line	1x10; 2x10 (HT/2)	12x40; 24x80	12x40; 24x80	12x48	6x48
Display area, h x w, inches	2 x 4	14-inch diag.	14-inch diag.	11 or 23 inch diag.	24 x 87
Total displayable symbols	128	64	64	All Baudot	All Baudot, ASCII
Symbol formation	5 x 7 dot LED matrix	7 x 9 dot matrix	7 x 9 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	Opt.	Opt.	No	No
Programmable brightness levels	No	2 std.	2 std.	No	No
Character and/or field blinking	No	No	No	No	No
Roll	Up & down std.	No	No	No	No
Paging	No	No	No	No	No
<b>CURSOR CONTROL</b>					
Cursor positioning: Up, Down, Left, Right, Home, Return	U, D, H	L, R, U, D, H, Rt.	L, R, U, D, H, Rt.	None	None
Cursor blinking	Std.	No	No	No	No
Addressable/readable cursor	No	Std.	Std.	No	No
<b>FORMAT CONTROL</b>					
Protected format	No	Std.	Std.	No	No
Format creation via keyboard	No	Std.	Std.	No	No
Format editing via keyboard	No	Std.	Std.	No	No
Format storage	No	Std.	Std.	No	No
Partial screen transmit	No	Std.	Std.	No	No
Tabulation	No	Std.	Std.	No	No
<b>EDIT FUNCTIONS</b>					
Character insert/delete	No	Std.	Std.	No	No
Line insert/delete	No	Std.	Std.	No	No
Character erase	No	Std.	Std.	No	No
Line erase	No	Std.	Std.	No	No
Screen erase	Std.	Std.	Std.	No	No
Character repeat	Std.	Std.	Std.	No	No
<b>KEYBOARD PARAMETERS</b>					
Style	Modified "Touchtone"	Typewriter/	Typewriter/	No keyboard	No keyboard
Character/code set	Full ASCII	data entry	data entry	—	—
Detachability	No	ASCII/EBCDIC	ASCII/EBCDIC	—	—
Program function keys	None	Std.	Std.	—	—
Cursor control keys	3 std.	Opt.	Opt.	—	—
Edit function keys	2 std.	6 std.	6 std.	—	—
Numeric keypad	Std.	8 std.	8 std.	—	—
		Std.	Std.	—	—

## Alphanumeric Display Terminals – Equipment Specifications

**Part 2:**      **Operator Features**      **Transmission Features**      **Diagnostics**  
**Ancillary Features**      **Terminal Interface**      **Pricing**  
**Transmission Parameters**      **Line Interface**      **Availability**

VENDOR AND MODEL	Termiflex HT/1 & HT/2 Handheld Terminals	Terminal Communications TC 275	Terminal Communications TC 277	Trans-Lux Vidi News (monitor only)	Trans-Lux News Jet (monitor only)
<b>OPERATOR FEATURES</b>					
Numeric keylock	No	—	—	No	No
Audible alarm	Std.	Opt.	Opt.	No	No
Keylock	No	—	—	No	No
Operator I.D. card reader	No	—	—	No	No
Light pen	No	No	No	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	No	Impact	Impact	No	No
Print speed & print positions, cps	—	—	—	—	—
Other devices	None	None	None	None	None
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	Half-duplex	Half-duplex	Half-duplex	Half-duplex
Technique	Asynchronous	Synchronous	Synchronous	Asynchronous	Asynchronous
Communications protocol	ASCII	BSC	BSC	—	—
Code	ASCII	ASCII/EBCDIC	ASCII/EBCDIC	Baudot	Baudot, ASCII
Unit code structure, bits/char.	10/11	8	8	5	5/10
Speed, bits/second	110/150/300/1200	1200 to 4800	1200 to 7200	50 to 150	50 to 150
Operator selectable speeds	—	No	No	No	No
Format: character, line, or block	Char. only	Block only	Block only	Char. only	Char. only
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	No	Std.	Std.	No	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	RS-232C	RS-232C/loop	RS-232C/loop
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	Yes	Yes	Yes
Integral modem	No	No	No	No	Yes
Integral acoustic coupler	Opt.	No	No	No	No
Vendor-supplied external modem	No	No	No	Yes	Yes
<b>DIAGNOSTICS</b>					
Self diagnostics	No	No	No	No	No
In line	No	No	No	No	No
On line	No	No	No	No	No
Off line	No	No	No	No	No
<b>PRICING (price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	—	132-176	82-154	20.25	325
Display station, 2 year lease, \$/mo.	—	127-173	79-148	20.25	275
Display station, 3 year lease, \$/mo.	—	—	—	20.25	135
Serial printer, 1 year lease, \$/mo.	—	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—	—
Controller, 1 year lease, \$/mo.	—	—	180-196	195	—
Controller, 2 year lease, \$/mo.	—	—	180-196	175	—
Controller, 3 year lease, \$/mo.	—	—	—	165	—
Purchase price:					
Display station, \$	1,190;1,570(HT/2)	5,100-7,550	3,400-5,200	—	16,000
Serial printer, \$	—	—	—	—	—
Controller, \$	—	—	6,630-7,340	4,500	—
Software, \$	—	—	—	—	—
Quantity discounts available	Yes	Yes	Yes	Yes	Yes
<b>AVAILABILITY</b>					
Date of first production delivery	6/74	1/74	2/74	—	—
Display units installed to date	Over 200	230	2,050	—	—
Serviced by	Termiflex	TC1	TC1	Translux	Translux
No. of service locations	—	—	—	20	20
<b>COMMENTS</b>	Switch-selectable speeds; red LED display; external power supplies sell for \$160 (PS/1, 6 lbs.) or \$390 (PS/2 1.5 lbs.). TE/1 coupler sells for \$580			Dedicated to the brokerage industry. Attaches to Trans-Lux teleprinter	Dedicated to the brokerage industry. Attaches to Trans-Lux teleprinter

Alphanumeric Display Terminals — Equipment Specifications

Part 1: Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Trivex 40/80	Trivex Plus 70	Univac Uniscope 100	Univac Uniscope 200	Video Data-Systems 100 Series
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	Microprocessor	No	No	No
Memory range, bytes	—	1K-64K	—	—	—
Stand-alone unit	Yes	No	Yes	Yes	Yes
Local cluster arrangement	Yes	Yes	No	No	No
Remote cluster arrangement	Yes	Yes	No	No	No
Max. no. of displays/controller	32	32	1 or 31 via 2 mux's.	1 or 31 via 2 mux's.	32
Max. no. of printers/controller	—	32	—	—	—
Max. no. of devices/controller	32	32	—	—	—
Any mix of screen sizes/controller	—	Yes	—	—	—
Computer Interface	Yes	Yes	—	—	—
Portable case	No	No	No	No	Opt.
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	Std.	No	No	No
IBM 2260/2265	Std.	No	No	No	Std.
Teletype 33/35	No	No	No	No	—
Teletype 40	No	No	No	No	—
Other	No	No	Univac	Univac	—
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	No	No
User-defined parameters	No	No	No	No	No
Vendor-defined firmware	No	Yes	No	No	No
User-defined firmware	No	No	No	No	No
Vendor-supplied software	No	No	No	No	No
Software pricing	—	—	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	240/480/960	480/1920	960/1024	1536/1920	256 to 1920
Display arrangement, lines x chars./line	6/12 x 40; 12 x 80	12 x 40; 24 x 80	12 x 80; 16 x 64	24 x 64/80	8 x 32 to 24 x 80
Display area, h x w, inches	6 x 9	8 x 11	5 x 10	7 x 10	Variable
Total displayable symbols	64	64; 96	64; 96 opt.	64; 96 opt.	64
Symbol formation	5 x 7 dot matrix	7 x 9 dot matrix	Stroke	7 x 9 dot matrix	7 x 8; 10 x 14 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	No	No	No	No	Opt.
Programmable brightness levels	No	2 std.	No	No	No
Character and/or field blinking	Std.	Std.	Std.	Std.	Char. opt.
Roll	No	Opt., up & down	Via software	Via software	Up opt.
Paging	No	Opt.	—	—	—
<b>CURSOR CONTROL</b>					
Cursor positioning: Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Opt.	Opt.	Std.	Std.	Opt.
Addressable/readable cursor	Std.	Std.	Std.	Std.	No
<b>FORMAT CONTROL</b>					
Protected format	Std.	Std.	Std.	Std.	No
Format creation via keyboard	No	No	Std.	Std.	No
Format editing via keyboard	No	No	Std.	Std.	No
Format storage	Std.	Std.	Std.	Std.	No
Partial screen transmit	No	Std.	Std.	Std.	No
Tabulation	Std.	Std.	Std.	Std.	Std.
<b>EDIT FUNCTIONS</b>					
Character insert/delete	Std.	Std.	Std.	Std.	No
Line insert/delete	Std.	No	Std.	Std.	No
Character erase	Std.	Std.	Std.	Std.	No
Line erase	Std.	No	Std.	Std.	No
Screen erase	Std.	Std.	Std.	Std.	Std.
Character repeat	Std.	Std.	Std.	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter/ data entry	Typewriter/ data entry/console	Typewriter	Typewriter	Typewriter
Character/code set	ASCII	EBCDIC	ASCII	ASCII	ASCII
Detachability	Std.	Std.	No	No	Std.
Program function keys	No	12 opt.	4 std.	4 std.	5 opt.
Cursor control keys	6 std.	9 std.	6 std.	6 std.	6 std.
Edit function keys	8 std.	5 std.	8 std.	8 std.	2 std.
Numeric keypad	Std.	Opt.	Opt.	Opt.	No

Alphanumeric Display Terminals – Equipment Specifications

**Part 2:**      **Operator Features**      **Transmission Features**      **Diagnostics**  
**Ancillary Features**      **Terminal Interface**      **Pricing**  
**Transmission Parameters**      **Line Interface**      **Availability**

VENDOR AND MODEL	Trivex 40/80	Trivex Plus 70	Univac Uniscope 100	Univac Uniscope 200	Video Data Systems 100 Series
<b>OPERATOR FEATURES</b>					
Numeric keylock	—	Std.	No	No	—
Audible alarm	No	Std.	Std.	Std.	No
Keylock	—	Opt.	No	No	—
Operator I.D. card reader	No	Opt.	No	No	Std.
Light pen	No	Opt.	No	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	No	No	Dual	Dual	RS-232 interface
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Impact	Impact	Impact/non-imp't.	Impact/non-imp't.	No
Print speed & print positions, cps	—	80/165 @ 132	30@132;300 @ 80	30@132; 300 @ 80	—
Other devices	None	None	None	None	None
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half-duplex	Half-duplex	Half-duplex	Half-duplex	Half/full-duplex
Technique	Async./sync.	Synchronous	Async./sync.	Async./sync.	Async./sync.
Communications protocol	ASCII	BSC/SDLC	ASCII (Univac)	ASCII (Univac)	ASCII
Code	ASCII	EBCDIC	ASCII	ASCII	ASCII
Unit code structure, bits/char.	8/10	8	8/10	8/10	8/10
Speed, bits/second	Up to 9600	110-9600	Up to 9600	Up to 9600	110 to 9600
Operator selectable speeds	No	No	No	No	—
Format: character, line, or block	Block only	Block only	Block only	Block only	Char./block
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	Std.	Std.	Std.	Std.	No
Auto answer	No	Opt.	Std.	Std.	Opt.
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	RS-232C	RS-232C	RS-232C
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	Yes	Yes	Yes
Integral modem	No	No	No	No	Opt.
Integral acoustic coupler	No	No	No	No	Opt.
Vendor-supplied external modem	No	No	No	No	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	Yes	No	No	No
In line	No	Yes	No	No	No
On line	No	Yes	No	No	No
Off line	No	Yes	No	No	No
<b>PRICING (price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	88	—	137-175	155-189	—
Display station, 2 year lease, \$/mo.	79	94	—	—	—
Display station, 3 year lease, \$/mo.	—	87	—	—	—
Serial printer, 1 year lease, \$/mo.	—	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	175	—	—	—
Serial printer, 3 year lease, \$/mo.	—	165	—	—	—
Controller, 1 year lease, \$/mo.	375	—	53-76 (mux)	53-76 (mux)	—
Controller, 2 year lease, \$/mo.	332	190	—	—	—
Controller, 3 year lease, \$/mo.	—	177	—	—	—
Purchase price:					
Display station, \$	2,300	2,900	4,350-5,696	5,100-6,496	—
Serial printer, \$	—	5,150	—	—	—
Controller, \$	8,900	5,250	2,036-2,849(mux)	2,036-2,849(mux)	495-1,995
Software, \$	—	—	—	—	—
Quantity discounts available	—	—	—	—	—
<b>AVAILABILITY</b>					
Date of first production delivery	4/71	5/75	5/70	2/75	3/73
Display units installed to date	3,000	Over 800	—	—	100
Serviced by	Trivex	Trivex	Univac	Univac	VDS
No. of service locations	—	20	—	—	—
<b>COMMENTS</b>			Two multiplexers can be cascaded to accommodate up to 31 terminals	Two multiplexers can be cascaded to accommodate up to 31 terminals	Controller uses video monitor for display; also available in printed circuit boards

Alphanumeric Display Terminals – Equipment Specifications

Part 1: Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Video Data Systems CG 1000	Wang Laboratories 2200 System	Western Union Data Services Video 100	Westinghouse Models 1600 & 1600 DE	Westinghouse Model 1620
<b>TERMINAL DESCRIPTION</b>					
Processor control	No	Yes	No	No	No
Memory range, bytes	—	4K-32K	—	—	—
Stand-alone unit	Yes	Yes	Yes	Yes	Yes
Local cluster arrangement	No	Yes	No	No	No
Remote cluster arrangement	No	Yes	No	Yes	No
Max. no. of displays/controller	32	4	—	24	—
Max. no. of printers/controller	—	1	—	—	—
Max. no. of devices/controller	—	1	—	24	—
Any mix of screen sizes/controller	—	—	—	—	—
Computer Interface	—	—	—	No	No
Portable case	Yes	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	No	No	No	No
IBM 2260/2265	No	No	No	No	No
Teletype 33/35	Std.	Std.	Std.	Std., 1600 only	Std.
Teletype 40	No	Opt.	Std.	No	No
Other	No	2780/3780 BSC-1/RS-232C	No	No	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	Yes	No	No	No
User-defined parameters	No	Yes	No	No	No
Vendor-defined firmware	No	Yes	No	No	No
User-defined firmware	No	No	No	No	No
Vendor-supplied software	No	Yes	No	No	No
Software pricing	—	Extra cost	—	—	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	256/512	1024/1920	960/1920	1600	1920
Display arrangement, lines x chars./line	8/16 x 32	16 x 64; 24 x 80	12/24 x 80	24 x 80	24 x 80
Display area, h x w, inches	Variable	8 x 10.5	5.5 x 8.25	6 x 8	6.5 x 8.5
Total displayable symbols	64	64; 96 opt.	64; 94 opt.	64; 96 opt.	64; 96 opt.
Symbol formation	10 x 14 dot matrix	5 x 7; 7 x 9 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	Opt.	No	No	No	No
Programmable brightness levels	No	No	No	No	No
Character and/or field blinking	Char. opt.	Yes	No	Char. std.	No
Roll	No	Up std.	No	Up std.	Up std.
Paging	No	—	No	—	—
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	L, R, Rt., CLR	U, D, L, R, H, Rt.	L, R, Rt.
Cursor blinking	Std.	No	No	Std.	No
Addressable/readable cursor	No	Std.	No	Std., addressable only	No
<b>FORMAT CONTROL</b>					
Protected format	No	Yes	No	Std.	No
Format creation via keyboard	No	Std.	No	Std.	No
Format editing via keyboard	No	Std.	No	Std.	No
Format storage	No	Programmable	No	Std.	No
Partial screen transmit	No	Yes	No	Std.	No
Tabulation	Std.	Std.	No	Std.	No
<b>EDIT FUNCTIONS</b>					
Character insert/delete	No	Std.	No	Std.	No
Line insert/delete	Opt.	Std.	No	Std.	No
Character erase	No	Std.	No	Std.	Std.
Line erase	No	Std.	No	Std.	No
Screen erase	Std.	Std.	No	Std.	Std.
Character repeat	Std.	No	Std.	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter	Typewriter	Typewriter	Typewriter/ data entry	Typewriter
Character/code set	ASCII	ASCII	ASCII	ASCII	ASCII
Detachability	No	Std.	No	Opt.; std., DE	Opt.
Program function keys	5 opt.	32 std.	No	9 std., DE only	No
Cursor control keys	6 std.	Programmable	4 std.	6 std.	3 std.
Edit function keys	2 std.; 1 opt.	9 std.	No	8 std.	3 std.
Numeric keypad	No	Std.	Opt.	Std.	Opt.



## Alphanumeric Display Terminals – Equipment Specifications

**Part 2:**      **Operator Features**      **Transmission Features**      **Diagnostics**  
**Ancillary Features**      **Terminal Interface**      **Pricing**  
**Transmission Parameters**      **Line Interface**      **Availability**

VENDOR AND MODEL	Video Data Systems CG 1000	Wang Laboratories 2200 System	Western Union Data Services Video 100	Westinghouse Models 1600 & 1600 DE	Westinghouse Model 1620
<b>OPERATOR FEATURES</b>					
Numeric keylock	—	No	Opt.	—	—
Audible alarm	No	Yes	Std.	Std.	Std.
Keylock	—	No	Opt.	—	—
Operator I.D. card reader	Std.	No	No	—	—
Light pen	No	No	No	No	No
<b>ANCILLARY DEVICES</b>					
Cassette tape drive	RS-232 interface	Single/dual	Single	No	Interface only
Diskette drive (floppy disk)	No	1, 2, or 3 spindles	No	No	No
Serial printer	No	Impact	Impact	Interface only	Interface only
Print speed & print positions, cps	—	200 cps	10/30/120	—	—
Other devices	None	Card reader	None	None	None
<b>TRANSMISSION PARAMETERS</b>					
Mode	Half/full-duplex	Half-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Async./sync.	Asynchronous	Async./sync.	Asynchronous
Communications protocol	ASCII	EBCDIC/ASCII	ASCII	ASCII	ASCII
Code	ASCII	EBCDIC/ASCII	ASCII	ASCII	ASCII
Unit code structure, bits/char.	10/11	10/11	10/11	8/10	10
Speed, bits/second	300	110 to 4800	110 to 19,200	110 to 9600	110 to 2400
Operator selectable speeds	—	Std.	11 std.	—	—
Format: character, line, or block	Block only	Char./block	Char. only	Char./block	Char. only
<b>TRANSMISSION FEATURES</b>					
Multipoint operation (pollable/addr.)	No	No	No	Opt.; std., DE	No
Auto answer	No	Std.	Opt.	Opt.; std., DE	No
Auto call	No	No	No	No	No
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	RS-232C	RS-232C	RS-232C
<b>LINE INTERFACE</b>					
External modem required	Yes	Yes	Yes	Yes	Yes
Integral modem	No	No	No	No	Opt.
Integral acoustic coupler	No	No	No	No	Opt.
Vendor-supplied external modem	No	No	Opt.	No	No
<b>DIAGNOSTICS</b>					
Self diagnostics	No	Yes	No	No	No
In line	No	No	No	No	No
On line	No	Yes	Yes	No	No
Off line	No	No	Yes	No	No
<b>PRICING (price range shows cost of basic unit and unit with all options)</b>					
Lease price including maintenance:					
Display station, 1 year lease, \$/mo.	—	—	65	—	—
Display station, 2 year lease, \$/mo.	—	110	—	—	—
Display station, 3 year lease, \$/mo.	—	79	—	—	—
Serial printer, 1 year lease, \$/mo.	—	—	59-250	—	—
Serial printer, 2 year lease, \$/mo.	—	250	—	—	—
Serial printer, 3 year lease, \$/mo.	—	180	—	—	—
Controller, 1 year lease, \$/mo.	—	—	—	—	—
Controller, 2 year lease, \$/mo.	—	270	—	—	—
Controller, 3 year lease, \$/mo.	—	184	—	—	—
Purchase price:					
Display station, \$	—	2,200	1,300	3,265; 3,400, DE	1,665
Serial printer, \$	—	5,000	1,155-5,065	—	—
Controller, \$	2,995-4,995	5,400	—	3,990-8,430	—
Software, \$	—	—	—	—	—
Quantity discounts available	—	—	—	—	—
<b>AVAILABILITY</b>					
Date of first production delivery	3/75	5/73	12/75	12/71; 1/75, DE	1/75
Display units installed to date	—	Over 7,000	17,000	—	—
Serviced by	VDS	Wang Labs.	Western Union	Westinghouse	Westinghouse
No. of service locations	—	Over 200	over 400	—	—
<b>COMMENTS</b>	Controller uses video monitor for display	Minicomputer-based CRT unit with a host of available peripherals	Built by Lear Siegler as ADM-3	Optional printer interfaces for Centronics 101A, 102A, and 306 printers; 1600 DE designed for on-line data entry	Switch-selectable data rates; single logic pc board

Alphanumeric Display Terminals – Equipment Specifications

Part 1: Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Westinghouse Model 1625	Westinghouse Model 1630	Witek Model 500	Witek Witek II	Witek Model B-R-B
<b>TERMINAL DESCRIPTION</b>					
Processor control	Microprocessor	Microprocessor	—	Yes	No
Memory range, bytes	4K-12K	—	—	24K-64K	—
Stand-alone unit	Yes	Yes	Yes	Yes	Yes
Local cluster arrangement	No	No	No	No	No
Remote cluster arrangement	Opt.	No	No	Yes	No
Max. no. of displays/controller	8	—	32	8	—
Max. no. of printers/controller	1	—	—	8	—
Max. no. of devices/controller	10	—	—	16	—
Any mix of screen sizes/controller	Opt.	—	—	No	—
Computer Interface	No	No	—	—	—
Portable case	No	No	No	No	No
<b>COMPATIBILITY</b>					
IBM 3270/3275	No	Opt.	No	BSC/SDLC	No
IBM 2260/2265	No	Opt.	No	Opt.	No
Teletype 33/35	Std.	Opt.	Std.	Std.	Std.
Teletype 40	Std.	No	No	Std.	No
Other	No	No	No	IBM 2780/3780, TWX, TELEX	No
<b>PROGRAMMABILITY</b>					
Programmable via:					
User-created programs	No	No	No	Yes	No
User-defined parameters	Yes	Yes	No	Yes	No
Vendor-defined firmware	Yes	Yes	—	Yes	No
User-defined firmware	Yes	Yes	—	Yes	No
Vendor-supplied software	No	No	No	Op system, assembler, basic	No
Software pricing	—	—	—	Std.	—
<b>DISPLAY ORGANIZATION</b>					
Display positions, chars./display	1920	1920	1998	1968	1280
Display arrangement, lines x chars./line	24/18 x 80	23/24 x 64/80	27 x 74	24 x 82	16 x 80
Display area, h x w, inches	6.5 x 8.5	6.5 x 9	12-inch-diag.	7 x 10	5.5 x 7
Total displayable symbols	128; 256 opt.	96	64	128	64
Symbol formation	5 x 7/9 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	7 x 9 dot matrix	5 x 7 dot matrix
<b>DISPLAY FEATURES</b>					
Color	No	No	No	No	No
Reverse video	Opt.	Std.	No	Opt.	No
Programmable brightness levels	2 opt.	No	2 std.	2 std.	No
Character and/or field blinking	Field std.	Std.	No	Both opt.	No
Roll	Std.	Opt.	No	Up & down std.	Up std.
Paging	3/5 pages opt.	—	No	Std., no limit	—
<b>CURSOR CONTROL</b>					
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	L, R
Cursor blinking	No	Std.	No	Opt.	No
Addressable/readable cursor	Std. (read opt.)	Std.	Std., addressable only	Std.	No
<b>FORMAT CONTROL</b>					
Protected format	Std.	Std.	Std.	Std.	—
Format creation via keyboard	Std.	Std.	Std.	Std.	—
Format editing via keyboard	Std.	Std.	Std.	Std.	—
Format storage	Std.	Std.	Std.	No limit	—
Partial screen transmit	Std.	Std.	Std.	Std.	—
Tabulation	Std.	Std.	Std.	Std.	—
<b>EDIT FUNCTIONS</b>					
Character insert/delete	Std.	Std.	Std.	Std.	Std.
Line insert/delete	Std.	Std.	Std.	Std.	No
Character erase	Std.	Std.	Std.	Std.	Std.
Line erase	Std.	Std.	Std.	Std.	No
Screen erase	Std.	Std.	Std.	Std.	No
Character repeat	Std.	Std.	Std.	Std.	Std.
<b>KEYBOARD PARAMETERS</b>					
Style	Typewriter	Typewriter	Typewriter/ data entry	Variety	Teletype
Character/code set	ASCII	ASCII/EBCDIC	ASCII	Programmable	ASCII
Detachability	Std.	Std.	Std.	Opt.	Std.
Program function keys	24 on 16 keys	Opt.	None	12 std.	No
Cursor control keys	8 std.	6 std.	6 std.	5 std.	2 std.
Edit function keys	5 std.	5 std.	8 std.	7 std.	4 std.
Numeric keypad	Std.	No	Std.	Std.	No

## Alphanumeric Display Terminals — Equipment Specifications

**Part 2:**      **Operator Features**      **Transmission Features**      **Diagnostics**  
**Ancillary Features**      **Terminal Interface**      **Pricing**  
**Transmission Parameters**      **Line Interface**      **Availability**

VENDOR AND MODEL	Westinghouse Model 1625	Westinghouse Model 1630	Wiltek Model 500	Wiltek Wiltek II	Wintek Model B-R-B
<b>OPERATOR FEATURES</b> Numeric keylock Audible alarm Keylock Operator I.D. card reader Light pen	Std. Std. Opt. Opt. No	— No — No No	— Std. — Std. No	Std. Std. No No —	No No No No No
<b>ANCILLARY DEVICES</b> Cassette tape drive Diskette drive (floppy disk) Serial printer Print speed & print positions, cps Other devices	RS-232 interface Opt. RS-232 interface — None	No No Buffered interface — Interface for card reader	No No Impact — None	No Single Impact — Card reader, disk, magnetic tape	Single No No — —
<b>TRANSMISSION PARAMETERS</b> Mode Technique Communications protocol Code Unit code structure, bits/char. Speed, bits/second Operator selectable speeds Format: character, line, or block	Half/full-duplex Async./sync. ASCII ASCII 10/11 50 to 9600 Std. Char./block	Half/full-duplex Synchronous ASCII ASCII 8 Up to 9600 — Block only	Half/full-duplex Async./sync. ASCII/BSC ASCII 8/10 1200 to 2400 — Char./block	Half/full-duplex Async./sync. BSC/SDLC Programmable Up to 9600 — Char./block	Half/full-duplex Asynchronous ASCII ASCII 10/11 110 to 9600 12 std. Char. only
<b>TRANSMISSION FEATURES</b> Multipoint operation (pollable/addr.) Auto answer Auto call	Opt. Opt. —	Std. Std. —	Std. Std. —	Std. Std. —	Opt. Opt. Opt.
<b>TERMINAL INTERFACE</b>	RS-232 B/C, CCITT V.24	RS-232C	RS-232C	RS-232C	RS-232C
<b>LINE INTERFACE</b> External modem required Integral modem Integral acoustic coupler Vendor-supplied external modem	Yes Opt. No No	Yes No No No	No Std. No No	Yes Std. No Opt.	Yes Opt. Opt. Opt.
<b>DIAGNOSTICS</b> Self diagnostics In line On line Off line	Yes Yes No Yes	— — — —	No No No No	Yes No Yes Yes	Yes No No Yes
<b>PRICING</b> (price range shows cost of basic unit and unit with all options) Lease price including maintenance: Display station, 1 year lease, \$/mo. Display station, 2 year lease, \$/mo. Display station, 3 year lease, \$/mo. Serial printer, 1 year lease, \$/mo. Serial printer, 2 year lease, \$/mo. Serial printer, 3 year lease, \$/mo. Controller, 1 year lease, \$/mo. Controller, 2 year lease, \$/mo. Controller, 3 year lease, \$/mo. Purchase price: Display station, \$ Serial printer, \$ Controller, \$ Software, \$ Quantity discounts available	— — — — — — — — — — Contact vendor — — — — —	— — — — — — — — — — Contact vendor — — — — —	— — — — — — — — — — 12,100 — — — — —	— — — — — — — — — — Contact vendor for lease prices — — — — — — — — — —	— — — — — — — — — — — 875 — — — — — Yes, with 10 units or more
<b>AVAILABILITY</b> Date of first production delivery Display units installed to date Serviced by No. of service locations	4th qtr. 1976 — Westinghouse —	3rd qtr. 1975 — Westinghouse —	— — Wiltek —	— — Wiltek —	1/76 30 Wintek —
<b>COMMENTS</b>		Microprocessor-based unit uses Intel 8080 with up to 6K PROM	Includes two 50K-char. magnetic tape buffers		

Alphanumeric Display Terminals — Equipment Specifications

Part 1: Terminal Description      Display Organization      Format Control  
Compatibility      Display Features      Edit Functions  
Programmability      Cursor Control      Keyboard Parameters

VENDOR AND MODEL	Wyle Series 8000 & 9000	Xerox Models BC 100 & BC 200	Zentec Model 9002	Zentec Model 9003
<b>TERMINAL DESCRIPTION</b> Processor control Memory range, bytes Stand-alone unit Local cluster arrangement Remote cluster arrangement Max. no. of displays/controller Max. no. of printers/controller Max. no. of devices/controller Any mix of screen sizes/controller Computer Interface Portable case	Microprocessor — Yes — — 16; 32 (9000) — 16; 32 (9000) — Std. (minicomputers) Std.	No — Yes — — 4 — — — — Std.	Microprocessor Up to 16K Yes No No — — — No	Microprocessor 6K-65K Yes Yes Yes 2 2 6 Opt. — Yes, 75 lbs.
<b>COMPATIBILITY</b> IBM 3270/3275 IBM 2260/2265 Teletype 33/35 Teletype 40 Other	Std., 9000 only Std. No No No	No No Std. No Xerox	Opt., no cost No No — —	Yes; BSC version No Opt. Opt. SDL C opt.
<b>PROGRAMMABILITY</b> Programmable via: User-created programs User-defined parameters Vendor-defined firmware User-defined firmware Vendor-supplied software	No No Series 9000 — No	No No No No No	Opt. No Yes Yes Opt.	Yes Yes Yes Yes Assembler, disk cataloguer
Software pricing	—	—	Extra cost	Extra cost
<b>DISPLAY ORGANIZATION</b> Display positions, chars./display Display arrangement, lines x chars./line Display area, h x w, inches Total displayable symbols Symbol formation	480/960/1920 12 x 40/80; 24 x 8 7 x 9 64 5 x 7 dot matrix	960/1600 24 x 40; 20 x 80 12 to 17 (diag.) 155 5 x 8 dot matrix	2000 25 x 80 8 x 11 128 7 x 9 dot matrix	1920 24 x 80 15-inch-diag. 128 7 x 9 dot matrix
<b>DISPLAY FEATURES</b> Color Reverse video Programmable brightness levels Character and/or field blinking	No Opt. 9000 only 2 std., 9000 only Opt., 9000 only	No No Std. Std.	No Std. 2 std. Std.	No Std. Std. Std.
Roll Paging	Opt., 9000 only Opt., 9000 only	No No	Std., up & down —	Std., up & down 2 pages opt.
<b>CURSOR CONTROL</b> Cursor positioning; Up, Down, Left, Right, Home, Return Cursor blinking Addressable/readable cursor	U, D, L, R, H  Opt., std. 9000 Std.	U, D, L, R, H  Std. Std., addressable only	U, D, L, R, H, Rt.  Std. Std.	U, D, L, R, H, Rt.  Std. Std.
<b>FORMAT CONTROL</b> Protected format Format creation via keyboard Format editing via keyboard Format storage Partial screen transmit Tabulation	Std. Std. Std. Std. Std. Std.	Std. Std. Std. Std. Std. Std.	Std. Std. Std. Std. Std. Std.	Std. Std. Std. 1 std. Opt. Std.
<b>EDIT FUNCTIONS</b> Character insert/delete Line insert/delete Character erase Line erase Screen erase Character repeat	Std. Std., 9000 only Std. Std. Std. Std.	Std. Std. Std. Std. Std. Std.	Std. Std. Std. Std. Std. Std.	Opt. Std. Std. Std. Std. Std.
<b>KEYBOARD PARAMETERS</b> Style Character/code set Detachability Program function keys Cursor control keys Edit function keys Numeric keypad	Typewriter/data entry ASCII Std., 9000 only 12 std., 9000 only 5 std. 8 std. Opt.	Typewriter ASCII Std. Std. 5 std. 8 std. Opt.	Typewriter ASCII Std. 5 std., plus 10 opt. 6 std. 8 std. Std.	Typewriter ASCII Std. 32 std. 5 std. 5 std. 5 std.

Alphanumeric Display Terminals — Equipment Specifications

Part 2: Operator Features      Transmission Features      Diagnostics  
Ancillary Features      Terminal Interface      Pricing  
Transmission Parameters      Line Interfaces      Availability

VENDOR AND MODEL	Wyle Series 8000 & 9000	Xerox Models BC 100 & BC 200	Zentec Model 9002	Zentec Model 9003
<b>OPERATOR FEATURES</b>				
Numeric keylock	—	—	Opt.	Opt.
Audible alarm	Opt., 9000 only	Std.	Std.	Std.
Keylock	—	—	Opt.	Opt.
Operator I.D. card reader	—	—	No	No
Light pen	—	—	No	No
<b>ANCILLARY DEVICES</b>				
Cassette tape drive	Opt., 9000 only	No	Opt. interface	No
Diskette drive (floppy disk)	Opt., 9000 only	No	Opt. interface	1, 2 or 3 drives
Serial printer	Impact	Opt.	Impact or interface	Impact
Print speed & print positions, cps	—	—	30/45/165 @ 132	30/45/165 @ 132
Other devices	None	None	None	None
<b>TRANSMISSION PARAMETERS</b>				
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Async./Sync.	Async./sync.	Async./sync. opt.	Async./sync. opt.
Communications protocol	ASCII/BSC	ASCII/BSC	ASCII/SDLC planned	ASCII; BSC & SDLC opt.
Code	ASCII/EBCDIC	ASCII	ASCII; others opt.	ASCII
Unit code structure, bits/char.	8/10	8/10	8/10/11	8/10/11
Speed, bits/second	1200 to 9600	300 to 9600	110 to 9600	110 to 9600
Operator selectable speeds	—	—	—	—
Format: character, line, or block	Block only	Char./block	Char./block	Char./block
<b>TRANSMISSION FEATURES</b>				
Multipoint operation (pollable/addr.)	Std.	Std.	Opt.	Opt.
Auto answer	Opt., 9000 only	No	No	Opt.
Auto call	No	No	No	Opt.
<b>TERMINAL INTERFACE</b>	RS-232C	RS-232C	RS-232C	RS-232C MIL-188 B/C
<b>LINE INTERFACE</b>				
External modem required	Yes	Yes	Yes	Yes
Integral modem	No	Opt.	No	No
Integral acoustic coupler	No	Opt.	Opt.	No
Vendor-supplied external modem	No	No	No	No
<b>DIAGNOSTICS</b>				
Self diagnostics	No	No	Yes	Yes
In line	No	No	No	No
On line	No	No	No	No
Off line	No	No	Yes	Yes
<b>PRICING (price range shows cost of basic unit and unit with all options)</b>				
Lease price including maintenance:				
Display station, 1 year lease, \$/mo.	Contact vendor for lease prices	35-225	—	—
Display station, 2 year lease, \$/mo.	—	—	—	—
Display station, 3 year lease, \$/mo.	—	28-115 (4-yr.)	—	—
Serial printer, 1 year lease, \$/mo.	—	—	—	—
Serial printer, 2 year lease, \$/mo.	—	—	—	—
Serial printer, 3 year lease, \$/mo.	—	—	—	—
Controller, 1 year lease, \$/mo.	—	195-235	—	—
Controller, 2 year lease, \$/mo.	—	—	—	—
Controller, 3 year lease, \$/mo.	—	163-196 (4-yr.)	—	—
Purchase price:				
Display station, \$	Contact vendor	3,800	3,485-6,400	4,000-8,000
Serial printer, \$	—	—	—	4,000-(basic)
Controller, \$	—	6,500	—	4,000 (basic)
Software, \$	—	—	—	300-3,000
Quantity discounts available	—	—	—	Yes
<b>AVAILABILITY</b>				
Date of first production delivery	1972; 1975 (9000)	1970; 1971	7/74	6/75
Display units installed to date	—	Over 300	Over 200	153
Serviced by	Wyle or third party	Xerox	Zentec & third party	Zentec & third party
No. of service locations	—	—	3	3
<b>COMMENTS</b>	Discounts available based on lease term & number of units per system; 9000 is micro-programmable	Model BC 100 has smaller screen capacity. Leased units are available only with the Xerox computers	Microprocessor-based unit with up to 16K bytes of memory consisting of ROM, PROM, and RAM	Microprocessor-based unit (Intel 8080) with 6K to 65K bytes of memory

