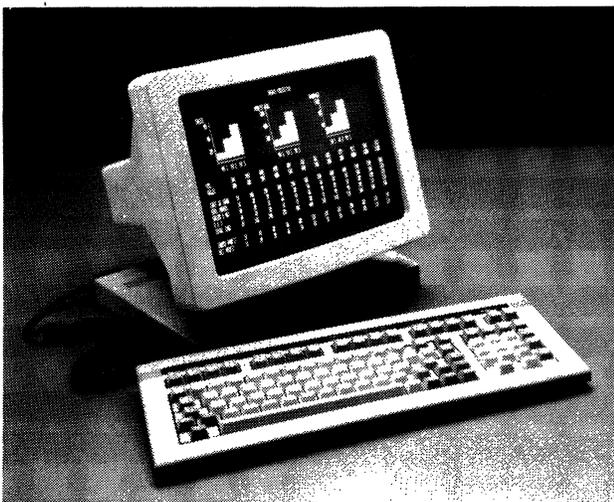


Alphanumeric Display Terminals

The first "dumb" terminal, featuring limited editing capabilities, was introduced in 1972 by Lear Siegler, Inc./Data Products Division. This terminal was used basically for data entry applications. Since that time, the video display terminal (VDT, or CRT, as it is commonly referred to) has grown into the principal interface between people and computers. As computers continue to permeate every aspect of our society, more and more people are exposed to them, not only as a business tool, but as a useful household and educational commodity. Originally invented as a "glass teletype," the display terminal has developed to the point where it is a primary component in the vast majority of modern computer applications, including data entry, inquiry/response, telemarketing, computer graphics, word processing/text editing, and many others. This report is focused on alphanumeric display terminals designed for general-purpose business applications.

Enhancements in the design and functionality of the cathode-ray tube (CRT) have contributed to the growth of the market. However, one of the major controlling factors, in terms of how it affects the end user, is price. Originally, dumb terminals were the least expensive, while smart terminals and user-programmable terminals were each more expensive; price was proportionate to capability. While this is still true, advances in technology have made the lines of definition between what is dumb and what is smart less distinct. These technological advances are responsible for the drastic drop in prices over the past 10



The Wyse WY-50 is a full-function, general-purpose ASCII terminal with 80-/132-column tilt/swivel display. Other features include multiple emulations and 16 dedicated function keys.

The terminal market has experienced continuing upheaval over the last few years with declining prices and dwindling margins creating fierce competition. Nevertheless, the alphanumeric display terminal market remains viable. Terminal vendors continue to come and go, but the major players are successfully maintaining respectable market shares. This report will focus on alphanumeric display terminals designed for general-purpose business applications. It includes a brief historical summary of the market; current market trends; developments in ergonomics; and a look at the industry's major segments. Also included are comparison columns detailing the specifications of 282 display terminal models offered by 56 vendors.

years and the virtual extinction of the dumb terminal. When considering that, a little more than five years ago, only the most basic dumb terminals carried a price tag below \$1,000, and that today the price has fallen below \$400, it is obvious that the technological improvements in display terminals have had a significant impact upon their price.

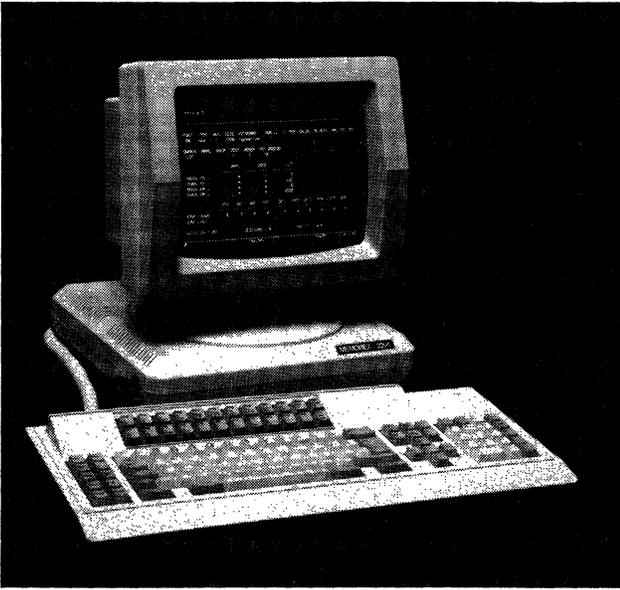
Another factor in the decline in prices is terminal emulation. Although IBM continues to dominate the market with its popular 3270 Information Display System, 3270-compatible terminals and peripherals are plentiful in today's market. This market saturation of full-featured, lower-priced IBM imitators has caused Big Blue to adjust its prices downward to maintain the upper hand in its own market.

Other popular compatible markets are the Digital Equipment Corporation VT100 and VT200 markets. Like IBM, Digital has a sizable following in these areas. Many vendors are raking in profits by marketing cheaper clones of the VT100 and VT200 Video Display Family terminals.

GENERAL CATEGORIES

All display terminals discussed in this report have three features in common: 1) each has a keyboard and monitor that can generate and display a full alphanumeric character/code set; 2) each has the capability to send and receive data via communication lines to a remote host computer; and 3) each is marketed for general-purpose usage in the United States and Canada and is identified as a distinct product to end users.

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The Memorex 2291 Display Station has a 122-key modifiable keyboard, screen printer support, and modular design and is a plug-compatible replacement for the IBM 3191 Display Station.

Three general categories of terminals have been determined: dumb, smart, and user programmable; the definitions are listed below.

Dumb terminals offer a limited number of functions; most feature teletype compatibility.

Smart terminals offer extended functions, such as editing and formatted data entry. In some cases, the users can tailor the terminal to fit their own applications via a limited degree of programming, such as format creation and parameter definition.

User-programmable terminals (or *intelligent*) terminals feature software support. The vendor typically provides an operating system, an assembler- or compiler-driven programming language, subroutines, I/O utilities, one or more protocol emulators, and one or two application programs, such as data entry and text editing. (The emergence of the microcomputer has limited this class of terminal.)

These categories have been squeezed from both sides, however. At the high end, user-programmable terminals have all but given way to microcomputers; very few companies continue to manufacture these high-priced terminals. At the low end, advances in technology and plunging prices have led to the extinction of the dumb terminal as such. Today, practically all display terminals on the market fall into the smart terminal category.

MICROCOMPUTERS VS TERMINALS

The acceptance of the microcomputer by corporations has somewhat jeopardized the display terminal market. The

microcomputer market has also seen a steady decline of prices, making the microcomputer a more attractive buy. A number of firms are using them as multipurpose workstations that duplicate some of the functions traditionally performed by terminals. As microcomputer-to-mainframe links improve, more and more microcomputers will be capable of performing terminal tasks in addition to microcomputing tasks. The multiuser microcomputer market provides another arena into which the display terminal vendor can sell. However, with an estimated 10 million display terminals installed throughout the United States, this industry will remain an important part of the office environment for the foreseeable future.

MICROPROCESSOR CONTROL

Since the introduction of the display terminal in 1965, the single most important development in the industry has been the addition of the microprocessor. In 1975, only 10 percent of the terminals installed offered this feature; now, all terminals manufactured are microprocessor controlled. At one point, the Intel 8088 was considered the industry standard. However, the 80286 has surpassed it in popularity and is the most widely used microprocessor for terminals today. The 80286 will soon give way to the newer 80386.

Microprocessor-based programs (firmware) reside in ROM or PROM. ROM-resident programs, which are inexpensive when produced in large quantities, control those features which are permanent and unchangeable, while PROM-resident programs are typically produced in smaller quantities and implement customized or modifiable features. Either type can be replaced by simply removing the old chip and inserting a new one. This flexibility is highly beneficial to the manufacturer, since older equipment can be updated, and nonstandard customer specifications can be fulfilled without costly hardware changes. Theoretically, program interchangeability might also benefit the user, but in practice it is doubtful that the requirements of a particular user will change often enough to make it a great advantage. The fact that PROM replacement generally must be done at the factory or by a field service technician precludes frequent PROM replacement.

In addition to controlling basic terminal functions, the microprocessor firmware can provide protocol emulation, definition of the character/code sets to be generated by the keyboard and displayed on the screen, implementation of special features, control parameter setting, etc. Firmware specifications are generally determined at the time of order and, once the firmware is in place, execution is transparent to the user. Some vendors have predetermined programs from which to choose; a few permit users to submit their own firmware specifications.

DISPLAY MEDIA

The most widely accepted display medium for terminals today is the cathode-ray tube (CRT). This device is simi-

Alphanumeric Display Terminals

lar to a television picture tube and is used to display textual and graphic information. Its flexibility, high character capacity, and relatively low cost are the primary factors contributing to its popularity.

The CRT has the capability to display alphanumeric characters in an endless number of formats. Employing this medium, such visual attributes as blinking, underlining, reverse video, and varying levels of brightness can be achieved. Some CRT terminals can display double-size characters. A growing number of CRT vendors are offering graphics character sets for creating forms, report formats, graphs, and pie charts on-screen. Some CRTs also permit the creation of business graphics—for example, bar, column, and pie charts reflecting sales, income and expense, inventory levels, etc. Interactive graphics and engineering graphics, on the other hand, are completely different disciplines which require a high-resolution graphics terminal. Graphics terminals can also display alphanumeric characters, but they are considerably more expensive.

In addition to the CRT, other media include light-emitting diodes (LEDs), which are popular in calculators and point-of-sale (POS) terminals, and gas-discharge displays. These media generally produce higher resolution displays than CRTs, but their high cost has prevented them from overtaking the CRT in popularity.

ERGONOMICS

The effect on the operator of display terminal design has only recently been considered. This interest in *ergonomics*, which is defined as the study of interactions between workers and their environment, began in Europe, where powerful unions representing clerical workers have implemented guidelines as to what types of display terminals their members will use. Although the United States has not implemented such guidelines, vendors, realizing the market value of enhancing their products with these ergonomic features, have done so voluntarily.

Ergonomic improvements have been concentrated in the two components with which the operator interacts most, the display screen and the keyboard. The majority of screens and keyboards were once attached as one unit; we now find that arrangement to be the exception rather than the norm.

Keyboards are now detached or detachable, connecting to the display via a coiled cord that allows the operator to position it for optimum comfort. Keyboard color and the arrangement of keys have also been affected by improved ergonomics. These changes make it simpler to identify specific sets of keys and simpler to train personnel already familiar with the typewriter-style key arrangement. In addition, some vendors have included palm rests for operator comfort, and sculptured key caps have replaced flat caps. Studies have shown that a slope of 5 to 15 degrees is

the most comfortable profile angle for keyboard operators, while thickness, or distance from the base of the keyboard to the home row of keys, generally should not exceed 30 mm.

When making CRTs more “user friendly,” manufacturers placed considerable emphasis on the display screen because eye strain and fatigue were major points of dissatisfaction. In the past, when the display and keyboard were attached, there was little or no chance of positioning the screen to avoid glare. Since undertaking the task of improving terminal ergonomics, most manufacturers have incorporated tilt and swivel mechanisms in their units. This allows the display screen to be raised or lowered to alleviate strain on the eye muscles, the neck, and back. The swivel capability offers flexibility in operator position.

MAJOR DISPLAY MARKETS

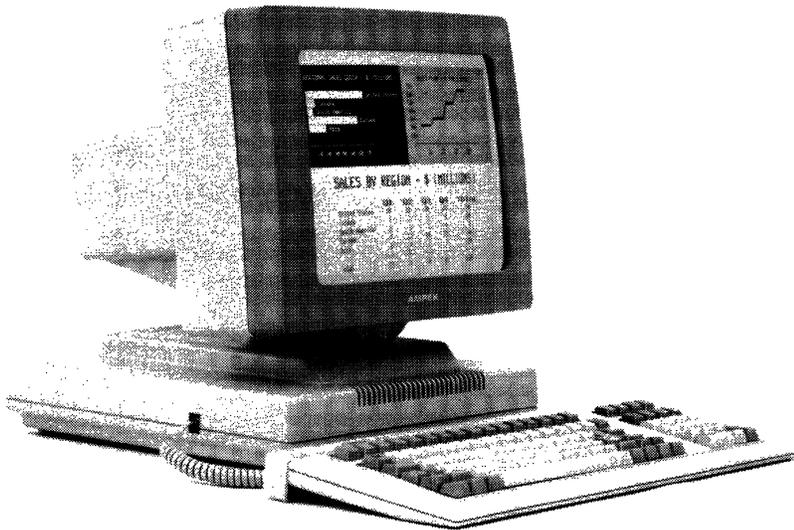
The alphanumeric display terminal market generally is acknowledged to contain two major segments: the ASCII (asynchronous) terminal market and the IBM 3270-compatible (synchronous) terminal market.

- The ASCII, or asynchronous, terminal market includes general-purpose displays from independent manufacturers such as Wyse Technology (the leader in units shipped), TeleVideo Systems, Applied Digital Data Systems (ADDS), Esprit Systems, Visual Technology, and ITT Qume, as well as terminals from computer system makers such as Digital Equipment Corporation, AT&T, Unisys, and Data General.
- The IBM 3270-compatible market includes the IBM 3270 Information Display System product line and



The Harris H191 Display Terminal is IBM 3191 compatible with a 12- or 14-inch monitor and a 1,920-character screen. The H191 offers screen printer support, light pen support, and extended highlighting.

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The Ampex 270 is an ASCII terminal with a 14-inch nonglare amber, white, or green flat screen, tilt/swivel display, a 70 Hz screen refresh rate, and a 30-mm. DIN keyboard with N-Key rollover and adjustable slope. It features 16 programmable function keys and 16 programmable editing and cursor control keys.

compatible offerings from vendors such as Telex, ITT Courier, AT&T, and Lee Data.

Both segments continue to enjoy healthy growth, particularly the ASCII market. Low prices and increased price/performance have made display terminals more attractive than ever to potential users and continue to play a major role in the direction of each of these segments. The display terminal market remains one of the most volatile sectors of the data processing industry. Increased functionality and feature selection coupled with rapidly declining price levels mark both of the major segments of the market.

IBM's Best-Seller—The 3270

The IBM 3270 has had a strong impact on the alphanumeric display terminal market since deliveries began late in 1971. The first generation of devices, which were discontinued as IBM products in late 1982, included the 3271/3272 control units, 3275 display station, 3277 display, and 3284/3286/3288 printers. In 1977, the product line was radically overhauled, resulting in the announcement of a second generation of components (the 3274 control unit, 3276 control/display, 3278 display, and 3287/3289 printers) that offered increased capabilities at much lower prices than comparable older models. Along with that announcement came major price reductions on the older equipment. In late 1979, color displays and printers were added to the family.

In March 1983, IBM made some long-awaited changes and enhancements to the 3270 product line. It unveiled the 3178 Display Station, a smaller and less expensive version of the popular 3278 Model 2 display; new versions of the 3274 Control Unit, offering improved price/performance; the 3290 Information Panel, a gas plasma display; the 3299 Terminal Multiplexer, a coaxial cable eliminator; price reductions of approximately 10 percent

on older existing 3270 models; purchase discounts of 40 percent on the 3178 for quantities of 3,000 or more, with the conversion of leased 3278s applying to that quantity; and an option permitting the attachment of the IBM Personal Computer to the 3278 Display Station. These announcements were followed in October with the introduction of the 3270 Personal Computer, a version of the firm's PC for use as part of a 3270 cluster. The 3179 color display and 3180 display, both compact terminals along the same lines as the 3178, were unveiled in March 1984.

These changes were made by IBM to protect its large (and lucrative) 3270 installed base. This installed base numbers well over 1.5 million units. The independent 3270-compatible terminal vendors, through lower prices or improved price/performance, were seriously eroding IBM's share of the market. These independents include vendors such as Alcatel Courier (formerly ITT Courier), Telex, AT&T, Lee Data, Memorex, and several others. In order to remain competitive, these vendors were forced to reply to the IBM announcements with new products and/or price reductions of their own. Some could not, and a small shakeout occurred, with Raytheon Data Systems (once IBM's number one competitor in this market) and MDS Trivex exiting the market.

By adding the 3270-PC, as well as Personal Computer attachability, to the 3270 system, IBM has addressed a threat as much internal as competitive. The overwhelming acceptance and popularity of the IBM Personal Computer poses a real threat to the entire display terminal industry. As personal computing becomes the rule, and not the exception, in most major corporations, IBM is moving to protect its huge 3270 installed base by incorporating personal computing into the 3270 system. Most of the independents now offer some type of personal computing with their product lines, either via their own equipment or through IBM Personal Computer attachability. In

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the near future, some type of personal computing capability is likely to become requisite for competing in this market.

With the increased pressure from IBM, it is now more important than ever that independent vendors offer a complete line of 3270-compatible products. Today's successful independents must couple a full range of products with lower prices, improved price/performance, and added value, in order to create the opportunity to penetrate an IBM shop.

To reap the benefits of both worlds, some vendors have introduced systems that provide synchronous and asynchronous communications. Users can simultaneously gain access to more than one host computer, transfer data among them, and view operations through multitasking display terminals. This is particularly significant for businesses using different systems in various locations. The AT&T 6500 Multi-function Communications System and the IBM 3174 Subsystem Control Unit are among the few systems offering this versatility.

The ASCII Terminal Market

The ASCII display terminal market is the largest segment of the two major display markets, with regard to number of vendors, number of units marketed, and quantity sold. This market originated as the Teletype (TTY) replacement market, with units intended to replace the highly popular Teletype ASR 33/35 terminals. Although few of the ASCII terminals purchased are actually replacing the older Teletype units, the ASCII terminal market is still often referred to as the teletype-compatible market.

Manufacturers of ASCII terminals generally aim their products at educational and commercial users who require large numbers of low-priced terminals for applications such as order entry and time-sharing.

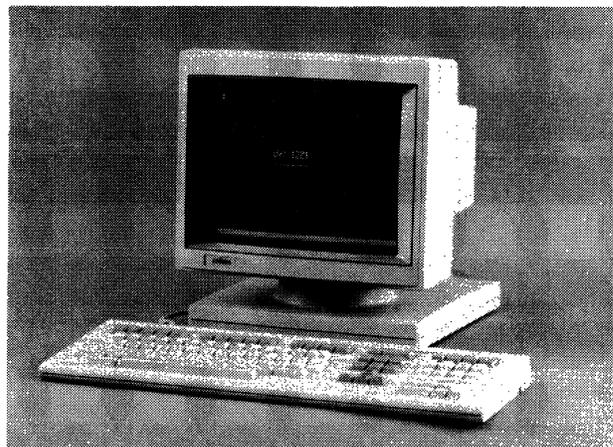
As mentioned earlier in this report, price is a key factor for success in this market. The continuing price war between the low-end entries in the ASCII terminal market has made recent activity in this segment even greater in the past. Initially, only the truly "dumb" terminals (like the original dumb unit, the Lear Siegler ADM 3) were available for less than \$1,000. Now, features such as block mode transmission and editing capabilities are available at below traditional dumb terminal prices. In addition to price cuts, vendors are attempting to make their offerings more attractive by adding enhanced features such as business graphics, split-screen or windowing capabilities, and a variety of visual attributes. ASCII terminal vendors are also paying a lot of attention to ergonomics, incorporating features such as tilt/swivel screens and low-profile keyboards into their products.

Leaders in the ASCII field generally provide a full range of terminal models, ranging from low-end units to editing

models. The current leaders include Wyse Technology, TeleVideo Systems, Applied Digital Data Systems (ADDS), Esprit Systems, and ITT Qume. TeleVideo was the first to offer terminals at extremely low prices. It kept the terminal's prices low by manufacturing them overseas. This allowed TeleVideo to quickly become the low-end terminal market leader. Wyse later copied TeleVideo's approach and gained the bulk of sales. Features such as ease of use, quality of design, and competitive prices helped propel Wyse to the top of the market. Wyse markets the WY-50 and the upgraded WY-60, which includes a wide selection of enhanced features.

TeleVideo offers four low-end models, each with improved editing and graphics characteristics. For the general-purpose ASCII market, TeleVideo offers Models 955 and 905. The 905 is compatible with the Lear Siegler 3A/5A, ADDS A2, the ITT Qume QVT 101, and TeleVideo's own 925 and 910. Model 9220 is Digital VT220 compatible, and Model PT100 is Digital VT100 compatible.

An active but somewhat separate subsection of the ASCII terminal market consists of the Digital Equipment Corporation VT100, its successor, the VT220, the VT300 family, and those terminals that offer Digital emulation. A large number of vendors are involved in the Digital Equipment Corporation emulation market, including those general-purpose terminal vendors mentioned above; in fact, most major ASCII terminal manufacturers provide at least one Digital emulator in their product line. The venerable VT100 is the most widely emulated ASCII terminal, with more than 1 million imitators sold. When the VT100 was first introduced, Digital did not anticipate its popularity and was unable to meet the huge demand. As a result, several competitors created VT100 look-alikes.



The UVT1224 terminal from Unisys offers total emulation of Unisys SVT1220 and is compatible with Digital Equipment's VT52, VT100, and VT220 video terminals.

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As a by-product of Digital emulation, vendors are now providing ANSI X3.64 code compatibility on their terminals. The American National Standards Institute (ANSI) first published the X3.64 standard for two-dimensional data devices in 1977. The goal of the standard was to standardize control codes for all terminals. The Digital VT100 was the first display terminal to conform to the ANSI standard, and the VT220 also conforms. In order to provide true Digital emulation, the makers of Digital emulators also are required to provide ANSI X3.64 code compatibility on their products.

In addition to Digital, most of the major mainframe and minicomputer vendors offer terminal product lines for use with their computer systems. Hewlett-Packard claims a large installed base of display terminals, as do Unisys and Data General.

DISPLAY TERMINAL CHARACTERISTICS

The accompanying comparison columns summarize the characteristics of 282 commercially available alphanumeric display terminals from 56 vendors. Nearly all of the information was supplied by the manufacturers during December 1987. Their cooperation is acknowledged and greatly appreciated.

Datapro sent repeated requests for information to over 85 companies known or believed to be in the display terminal business. The usable responses, summarized in our comparison columns, provide a comprehensive picture of the commercial display terminals 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 column entries and their significance are explained in the following paragraphs.

VENDOR AND MODEL

Lists the model number or name of the product and the name of the company that manufactures it.

PHYSICAL SPECIFICATIONS

Screen Size—Information is displayed in a rectangular area, slightly smaller than the total surface of the display screen. The factors that determine the required size of the screen area are the display arrangement and the size of the displayable characters. For example, the typical 1,920-character display uses a 12- or 15-inch (diagonal) screen area.

Screen Capacity/Screen Arrangement—Information displayed on the screen of a CRT is generally arranged ac-

ording to an orderly format consisting of a maximum number of printed lines per screen and characters per line. The electronic circuitry that produces the display image is designed to a specified set of parameters that define the *screen capacity* (i.e., the maximum number of display positions) and the *screen arrangement* (i.e., the maximum number of displayable lines and displayable characters per line). The most common display capacity is 1,920 characters arranged in 24 lines of 80 characters. Many vendors offer 132-character display lines, which can eliminate the need to revise or patch software designed for standard 132-column printers or to maintain dual sets of programs for 80-column and 132-column output.

Status Line—This line usually appears at the bottom of the display screen and provides status information on the terminal, such as the display parameters in use.

Character Color—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. *Character phosphor* refers to the physical coating of phosphorous on the back side of the screen which, when illuminated, creates the displayed characters. The type of phosphor used defines the color of the displayed character, as well as the persistence of the phosphor (a long-persistence phosphor is less likely to cause image flicker problems than a short-persistence phosphor; however, the image of a long-persistence phosphor is more likely to smear when lines are scrolled). Among the more common phosphors available are P4 (white) and P31 or P39 (green). Amber and yellow-green phosphors are also available on some terminals.

Display Ergonomics—are becoming increasingly important as terminal features. One feature gaining popularity is a *tilt and/or swivel screen*. This feature allows the mounting of the display monitor onto a separate desktop base or pedestal and allows the operator to twist the screen vertically (“tilt”) and/or horizontally (“swivel”) to the best position for viewing.

Keyboard Style—defines the general arrangement of keys; e.g., typewriter or data entry (keypunch) style. Data entry keyboards have a numeric keypad embedded in the alphabetic part of the keyboard which is accessed via numeric shift.

Function Keys—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.

Keyboard Ergonomics—Keyboards that can fit flush against the display or be located some distance away, via

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cable connection, are referred to as *detachable* keyboards. This feature provides increased configuration flexibility and operator convenience.

Scrolling—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. In others, 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.

Many vendors now feature smooth scrolling, in which data is rolled or scrolled smoothly up or down (much the same as the credits at the end of a movie).

Although scroll features can be software implemented in the host computer, the comparison column entry applies only to those terminals that implement the feature via hardware or firmware. Many terminals provide the scroll feature, but relatively few provide paging. Some provide both features.

Protect Format—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 than they treat keyed data. Field identifiers such as “name” or “salesperson number” are protected from inadvertent key entry, and data entry is confined to the variable fields (blank spaces) following the field identifiers.

FUNCTIONAL SPECIFICATIONS

Compatibility—Some vendors provide *compatibility* and can replace terminals such as those produced by Digital Equipment, Honeywell, and Unisys (formerly Burroughs and Sperry).

Either of two types of compatibility may be offered: transmission compatibility or plug-to-plug compatibility. Transmission 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. Most vendors with transmission-compatible units offer additional features and functions that the original vendor's equipment does not have, implemented via minor changes in host software. Units with true plug-to-plug compatibility not only have identical transmission parameters but also identical features and functions; no alteration to host software is necessary, but no enhancements beyond the original vendor's equipment are available.



CIE Terminals' CIT101XL is a full emulator of Digital VT100 and CIT-101e terminals. It uses a Digital VT100 keyboard and offers four pages of video memory.

Graphics Capability—bar charts, pie charts, and graphs may be used to present certain types of information. In most cases, an affirmative answer in this category indicates the presence of line drawing or special graphics character sets. It generally does *not* indicate the presence of highly sophisticated graphics capabilities found on graphics-dedicated terminals.

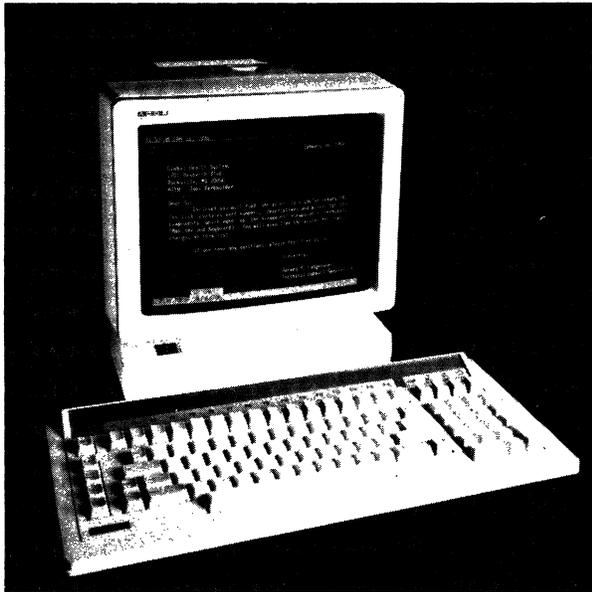
Split Screen, Windows/Multisessions—A few vendors now offer a *split-screen* and/or *windows* feature on their terminals, in which the display screen can be divided or partitioned into a number of separate workspaces. Data in these workspaces can be manipulated (e.g., scrolled, stored, or transmitted) independently of the rest of the screen.

Memory—In most terminals, the number of characters that can be stored by the terminal's display memory equals the maximum screen capacity. In some terminals, however, storage is provided for more characters than can be displayed on the screen at one time. This additional data may be stored character by character, by the line, or by the “page” (a full screen of data). *Memory* defines the total number of characters, lines, and pages that can be stored in the terminal's display memory.

Editing Capabilities—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. Desirable editing functions are:

- *Character insert*—the capability to insert a character into an existing line of displayed text; the remaining

Alphanumeric Display Terminals



The ADDS 2020 has a HelpNotes feature that allows the user to program assistance messages directly into the terminal as well as providing a clock, alarm, calendar, and calculator that works directly with a current application.

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 on many terminals.

TRANSMISSION PARAMETERS

Nearly every display terminal contains a communications interface that enables communications between the terminal and the central computer site.

Mode—defines the operating mode. There are two operating modes: half duplex (transmission in both directions,

but not simultaneously) and full duplex (simultaneous transmission in both directions).

Technique—defines the method in which data is transmitted. 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.

Code—refers to the bit pattern of the transmitted characters. Two codes predominate: 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. EBCDIC is most commonly used with IBM equipment and its replacements.

Communications Protocol—refers to the type of line discipline (control code sequence and control characters) that the terminal employs. The three most commonly used protocols are ASCII, IBM’s Binary Synchronous Communications (BSC) technique, and IBM’s Synchronous Data Link Control (SDLC) line discipline. Other large system vendors such as Burroughs, Honeywell, and Digital Equipment Corporation have produced their own communications protocols. Many display terminals now also conform to the ANSI X3.64 standard for control codes; if ANSI standard conformity exists, it will be indicated here.

Format—refers to the way data is transmitted (e.g., by block, by line, 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 multicharacter 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 of modes.

Maximum Speed, bps—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 (bps) over the dial network and 9600 bps over leased or private lines.

Terminal Interface—Display terminals usually have a *terminal interface* that meets the standards of the EIA RS-232-C specification or the 20 mA current loop and connects to an external modem or acoustic telephone cou-

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pler. Other interface types include RS-422, RS-423, and MIL-188 (military). IBM 3270 and 3270-compatible terminals generally connect directly to a cluster controller via coaxial cable.

PRICING AND AVAILABILITY

Purchase Price—pricing is provided for unit quantities (one terminal) unless otherwise specified. Single entries generally indicate the price of the basic unit without options; price ranges show the price of the basic unit, the price of an expanded unit with all options, or the price of the low and high ends of a multiple-unit family.

Annual Maintenance—shows the cost of service during regular business hours (usually 9 a.m. to 5 p.m., Monday through Friday).

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; in this situation, the vendor usually handles those areas close to its headquarters or where it has a multiplicity of installations, and the service company handles other geographical areas.

Date of Announcement—indicates the date that the terminal was announced to the public.

Date of First Commercial Delivery—indicates when the first production model of each terminal was delivered (or is scheduled to be delivered) to a customer.

Number of Units Installed to Date—shows how many display units of each type had been delivered to customers. All figures were supplied by the vendors themselves, and a number of companies chose not to release this information.

VENDOR PHONE NUMBER

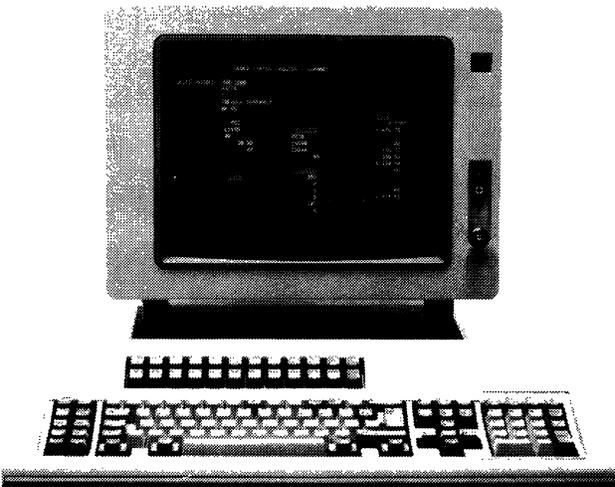
The vendor's phone number is supplied at the bottom of each comparison column as a courtesy to the reader.

COMMENTS

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

VENDORS

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



The IBM 3180 Display Station offers a 15-inch adjustable display unit, a logic element that snaps onto the back of the CRT, and a modifiable keyboard.

Alcatel Courier
(formerly ITT Courier)
1515 West 14th Street
Tempe, AZ 84281 (602) 894-7000 or (800) 528-1400

Ampex Corporation
200 North Nash Street
El Segundo, CA 90245 (213) 640-0150

Applied Digital Data Systems, Inc. (ADDS)
100 Marcus Boulevard
Hauppauge, NY 11788 (516) 231-5400

AT&T
5555 Touhy Avenue
Skokie, IL 60077 (312) 982-2000

Beehive International
4910 Amelia Earhart Drive
Salt Lake City, UT 84116-2837 (801) 355-6000

Chi Corporation
26055 Emery Road
Cleveland, OH 44128 (216) 831-2622

CIE Terminals, Inc.
2505 McCabe Way
Irvine, CA 92714-6297 (714) 660-1421

Computer Communications, Inc.
2610 Columbia Street
Torrance, CA 90503 (213) 320-9100

Comterm, Inc.
93 Hymus Boulevard
Pointe-Claire, Quebec Canada H9R 1E2 (514) 694-4332

Contel Business Systems, Inc.
2055 West 190th Street, P.O. Box 3759
Torrance, CA 90510 (213) 323-8170

Control Data Corporation
8100 34th Avenue South
Minneapolis, MN 55440 (612) 482-4930

Alphanumeric Display Terminals

Cumulus Technology Corporation
1077 Elwell Street
Palo Alto, CA 94303 (415) 960-1200

Cybernex Ltd.
1257 Algoma Road
Ottawa, Ontario, Canada K1B 3W7 (613) 741-1540 or
(800) 267-3660

Data General Corporation
4400 Computer Drive
Westboro, MA 01580 (617) 366-8911

Datamaxx USA Corporation
P.O. Box 6477
Tallahassee, FL 32314 (904) 224-8213

Datamedia Corporation
11 Trafalgar Square
Nashua, NH 03063 (603) 886-1570

Datapoint Corporation
9725 Datapoint Drive
San Antonio, TX 78284 (512) 699-7000

Davox Corporation
4 Federal Street
Billerica, MA 01821 (617) 667-4455

Delta Data Systems Corporation
8310 Guilford Road
Columbia, MD 21046 (301) 290-6400

Digital Equipment Corporation
146 Main Street
Maynard, MA 01754 (617) 897-5111

Direct, Inc.
460 Aldo Avenue
Santa Clara, CA 95054 (408) 980-1414



The Dasher D220 Color Display Terminal from Data General has eight available colors and 64 possible foreground/background combinations, and colors are selected by software commands or by default.

Esprit Systems, Inc.
100 Marcus Drive
Melville, NY 11747 (516) 293-5600

General Business Technology, Inc.
1891 McGaw Avenue
Irvine, CA 92714 (714) 261-1891 or (800) 521-1891

Harris Corporation
16001 Dallas Parkway, P.O. Box 809022
Dallas, TX 75380-9022 (214) 386-2000

Hewlett-Packard
1820 Embarcadero Road
Palo Alto, CA 94303
Contact your local Hewlett-Packard sales office.

Honeywell Bull, Inc.
200 Smith Street
Waltham, MA 02154 (617) 895-6858

Human Designed Systems, Inc.
3440 Market Street
Philadelphia, PA 19104 (215) 382-5000

Intecolor Corporation
225 Scientific Drive
Norcross, GA 30092 (404) 449-5961

Intelligent Information Systems (IIS)
92 Kansas Street
Hackensack, NJ 07601 (201) 343-8353

International Business Machines Corporation (IBM)
Old Orchard Road
Armonk, NY 10504
Contact your local IBM representative.

ITT Qume Corporation
2350 Qume Drive
San Jose, CA 95131 (408) 942-4000

Kimtron Corporation
1709 Junction Court, #380
San Jose, CA 95112 (408) 436-6550

Lear Siegler (see Zentec)

Lee Data Corporation
7075 Flying Cloud Drive
Eden Prairie, MN 55344 (612) 828-0300

Liberty Electronics
332 Harbor Way
San Francisco, CA 94080 (415) 742-7000

Link Technologies, Inc.
47339 Warm Springs Boulevard
Fremont, CA 94539 (415) 651-8000

Memorex Corporation
611 South Milpitas Boulevard
Milpitas, CA 95035-5473 (408) 957-1000

Micro-Term, Inc.
512 Rudder Road
Fenton, MO 63026 (314) 343-6515

Alphanumeric Display Terminals

NCR Corporation

1700 South Patterson Road
Dayton, OH 45479 (513) 445-5000

Nixdorf Computer Corporation

300 Third Avenue
Waltham, MA 02154 (617) 890-3600

Paradyne Corporation

8550 Ulmerton Road
Largo, FL 33540 (813) 530-2000

Perfect Terminal, Inc.

42307 Osgood Road
Fremont, CA 94538 (415) 656-8383

Prime Computer, Inc.

Prime Park
Natick, MA 01760 (617) 655-8000

Random Corporation

581 Northland Road
Cincinnati, OH 45240 (513) 825-0880

Tandem Computers, Inc.

14231 Tandem Boulevard
Austin, TX 78728 (512) 244-8000

Tandy Corporation

1700 One Tandy Center
Fort Worth, TX 76102 (817) 390-3300

Telegenix, Inc.

26 Olney Avenue
P.O. Box 5550
Cherry Hill, NJ 08034 (609) 424-5220

Teleray, Inc.

P.O. Box 24064
Minneapolis, MN 55424 (612) 941-3300

TeleVideo Systems, Inc.

1170 Morse Avenue
Sunnyvale, CA 94086 (408) 745-7760

Telex Computer Products, Inc.

6422 E. 41st Street
Tulsa, OK 74135 (918) 627-1111

Term-Tronics, Inc.

4990 Viewridge Avenue
San Diego, CA 92123 (619) 565-6330

TIL Systems Limited

20 Bay Street, 14th Floor
Toronto, Ontario Canada M5J 2N8 (416) 869-1157

Unisys Corporation

One Unisys Place
Detroit, MI 48232 (313) 972-7000

Unisys Corporation

P.O. Box 500
Blue Bell, PA 19422 (215) 542-4011

Visual Technology, Inc.

1703 Middlesex Street
Lowell, MA 01851 (617) 459-4903

Westinghouse Canada Inc.

777 Walker Line, P.O. Box 5009
Burlington, Ontario Canada L7R 4B3 (416) 528-8811

Wyse Technology, Inc.

3571 North First Street
San Jose, CA 95134 (408) 433-1000

Zentec Corporation

2400 Walsh Avenue
Santa Clara, CA 95051 (408) 727-7662. □

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Alcatel Courier 9210/12	Alcatel Courier 9216	Alcatel Courier 9230/9232	Alcatel Courier 9236
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	15	14
Screen Capacity, characters	1,920	1,920	1,920/3,564	1,920/2,560
Screen Arrangement, lines x char./line	24 x 80	24 x 80	24 x 80, 32 x 80, 43 x 80	24 x 80, 32 x 80
Status Line	—	—	—	—
Character Color	Green, amber	—	Green (9230), amber (9232)	—
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel	Tilt, swivel
Keyboard Style	Typewriter, data entry	Typewriter, data entry	Typewriter, data entry, APL	Typewriter, data entry, APL
Function Keys	24	24	24	24
Keyboard Ergonomics	Detachable	Detachable	Detachable	Detachable
Scrolling	No	No	No	No
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	—	—	—	—
Graphics Capability	No	No	No	No
Split Screen	No	No	Yes	Yes
Windows/Multisessions	No	No	Yes	Yes
Memory	1,920 characters	1,920 characters	1,920-3,564 char.	1,920/2,560 characters
Editing Capabilities	Line insert/delete, erase	Character & line insert/ delete, erase	Character insert/delete, erase	Character insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Synchronous	Synchronous	Synchronous	Synchronous
Code	EBCDIC	EBCDIC	EBCDIC	EBCDIC
Communications Protocol	BSC, SNA/SDLC	BSC, SNA/SDLC	BSC, SNA/SDLC	BSC, SNA/SDLC
Format	Block	Block	Block	Block
Maximum Speed, bps	Up to 56K bps	Up to 56K bps	Up to 56K bps	Up to 56K bps
Terminal Interface	Coaxial	Coaxial	Coaxial	Coaxial
PRICING AND AVAILABILITY				
Purchase Price, \$	1,295	1,895	1,795	2,595
Annual Maintenance, \$	—	—	—	—
Serviced By	Alcatel Servcom	Alcatel Servcom	Alcatel Servcom	Alcatel Servcom
Date of Announcement	July 1986	July 1986	April 1984	April 1984
Date of First Commercial Delivery	July 1986	July 1986	Fall 1984	Fall 1984
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(800) 528-1400	(800) 528-1400	(800) 528-1400	(800) 528-1400
COMMENTS	Includes a 3-yr. on-site maintenance warranty.	Part of 9000 Series; attaches to Alcatel Courier 94XX controller.	Part of 9000 Series; attaches to Alcatel Courier 94XX controller.	Part of 9000 Series; attaches to Courier 94XX controllers.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Alcatel Courier 9291	Alcatel Courier 9292-C	Alcatel Courier 9292-D	Ampex 210 Plus
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	1,920	1,920/2,560/3,440/3,564	1,920/2,560/3,440/3,564	3,168
Screen Arrangement, lines x char./line	24 x 80	24 x 80, 43 x 80, 32 x 80, 27 x 132	24 x 80, 43 x 80, 32 x 80, 27 x 132	24 x 80, 24 x 132
Status Line	Yes	Yes	Yes	Yes
Character Color	Green, amber	Multicolor	Green, amber	Green, amber, white
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	Typewriter, data entry, APL, IBM 3270 compatible	Typewriter, data entry, APL, IBM 3270 compatible	Typewriter, APL, data entry, IBM 3270 compat.	Typewriter
Function Keys	24	24	24	14 embedded on numeric keypad
Keyboard Ergonomics	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, tilt adjustable, low profile
Scrolling	No	No	Up & down	Up & down, smooth
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	IBM 3270 family	IBM 3270 family	IBM 3270 family	ADDS, Lear Siegler, TeleVideo, Espirt/Hazeltine, Qume QVT-102
Graphics Capability	No	No	No	Line graphics symbols
Split Screen	No	No	No	No
Windows/Multisessions	No	No	No	No
Memory	1 screen	1 screen	4 screens	1 screen
Editing Capabilities	Line & char. insert/delete, erase			
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Synchronous	Synchronous	Synchronous	Asynchronous
Code	EBCDIC	EBCDIC	EBCDIC	ASCII
Communications Protocol	BSC, SNA, SDLC, X.25	BSC, SNA, SDLC, X.25	BSC, SNA, SDLC, X.25	ASCII
Format	Block	Block	Block	Character, block, line
Maximum Speed, bps	Up to 56K bps	Up to 56K bps	Up to 56K	19.2K bps
Terminal Interface	Coaxial	Coaxial	Coaxial	RS-232-C; RS-422 and 20 mA are optional
PRICING AND AVAILABILITY				
Purchase Price, \$	1,295	2,045	—	419
Annual Maintenance, \$	—	—	—	—
Serviced By	Alcatel Servcom	Alcatel Servcom	Alcatel Servcom	Sorbus
Date of Announcement	—	—	—	1986
Date of First Commercial Delivery	—	—	—	1986
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER				
	(800) 528-1400	(800) 528-1400	(800) 528-1400	(213) 640-0150
COMMENTS				
	Plugs directly into IBM or compatible controllers.	Plugs directly into IBM or compatible controllers.	Plugs directly into IBM or compatible controllers.	2-year warranty; CRT saver; extra-fast screen refresh rate; 17 resident emulations; line graphics; 14 programmable function keys with 400 bytes non-volatile memory.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Ampex 219	Ampex 220	Ampex 230 Plus	Ampex 232
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	3,840	3,168, or 7,680 if opt. memory is used	7,680	3,300
Screen Arrangement, lines x char./line	24 x 80, 24 x 132; 48 x 80, 96 x 80 option	24 x 80, 24 x 132	24 x 80, 24 x 132, 48 x 80 or 132, 96 x 80	25 x 132
Status Line	Yes	Yes	Yes	No
Character Color	Green, amber, white	Green, amber, white	Green, amber, white	Green, amber, white
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	Typewriter	DEC VT220	Typewriter	IBM Enhanced PC or IBM PC/AT
Function Keys	32	15	32	10
Keyboard Ergonomics	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable, low profile
Scrolling	Up & down, smooth	Up & down, smooth	Up & down, smooth	Up & down
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Digital VT100 family, Wyse	Digital VT200 family	Wyse, ADDS, TeleVideo, Espirit, Hazeltine	TeleVideo, IBM PC
Graphics Capability	Yes, line graphics	Yes, line graphics	Yes, line and block gr.	Yes, 15 line symbols
Split Screen	Yes	Yes	Yes	No
Windows/Multisessions	No	No	No	No
Memory	2 screens	1 screen; 4 optional	4 screens	1 screen
Editing Capabilities	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ANSI, X3.64	ANSI, X3.64	ASCII	ASCII, scan codes
Format	Character, block, line	Character, block, line	Character, block, line	Character, block, line
Maximum Speed, bps	38.4K bps	19.2K bps	38.4K bps	38.4K bps
Terminal Interface	RS-232-C; RS-422 and 20 mA are optional	RS-232-C; RS-422 and 20 mA are optional	RS-232-C; RS-422 and 20 mA are optional	RS-232-C; RS-422 and 20 mA are optional
PRICING AND AVAILABILITY				
Purchase Price, \$	599	529	519	499
Annual Maintenance, \$	—	—	—	—
Serviced By	Sorbus	Sorbus	Sorbus	Sorbus
Date of Announcement	1985	1985	1986	1986
Date of First Commercial Delivery	1985	1985	1986	1986
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(213) 640-0150	(213) 640-0150	(213) 640-0150	(213) 640-0150
COMMENTS	2-year warranty; CRT saver; 9-resident national character sets; variable-speed, smooth scroll; double-size characters.	2-year warranty; 400 bytes non-volatile programmable function key memory; block mode; variable-speed, smooth scroll; fully buffered, bidirectional printer port.	2-year warranty; nine resident national char. sets; embedded and non-embedded video attributes; double-size char.; bidirectional printer port; extra-fast refresh rate.	2-year warranty; IBM scan codes or ASCII codes; parallel printer port; full 256 IBM character set; nine resident national char. sets.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Ampex 270	Ampex 280	ADDS 1010	ADDS 2020
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	5,676	7,680	1,920	1,920 (80 col.), 3,168 (132 col.)
Screen Arrangement, lines x char./line	24 x 80, 43 x 80, 24 x 132, 25 x 132, *	24 x 80, 48 x 80 or 132, 24 x 132, 96 x 80	24 x 80	26 x 80, 24 x 132
Status Line	Yes	—	—	Yes
Character Color	Green, amber, white	Multicolor	White	Green, amber, white
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt
Keyboard Style	Typewriter	Typewriter	Typewriter	Typewriter, PC keyboard (opt.)
Function Keys	32	32	12	16/32 std.
Keyboard Ergonomics	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable, low profile	Detachable, low profile, tilt adjustable	Low profile, Detachable, tilt adjustable
Scrolling	Up & down, smooth	Up & down, smooth	Smooth	Smooth
Protect Format	Yes	Yes	No	No
FUNCTIONAL SPECIFICATIONS				
Compatibility	TeleVideo, Wyse, ADDS, Lear Siegler	TeleVideo, Wyse, ADDS, Lear Siegler, Espirit/Hazeltine	ADDS, Lear Siegler, IBM 316X	ADDS, Lear Siegler, IBM 316X
Graphics Capability	Yes, block and line	Yes, block and line	No	No
Split Screen	Yes	Yes	No	No
Windows/Multisessions	Yes	No	No	No
Memory	4 screens	4 screens	1 screen	1 screen
Editing Capabilities	Line & char. insert/delete, erase	Line & char. insert/delete, erase	—	—
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ASCII	ASCII	ASCII	ASCII
Format	Character, block, line	Character, block, line	Character	Character
Maximum Speed, bps	38.4K bps	38.4K bps	19.2K bps	19.2K bps
Terminal Interface	RS-232-C, RS-423	RS-232-C; RS-422 and 20 mA are optional	RS-232-C	RS-232-C
PRICING AND AVAILABILITY				
Purchase Price, \$	569	1,095	395	395
Annual Maintenance, \$	—	—	Contact vendor	Contact vendor
Serviced By	Sorbus	Sorbus	ADDS	ADDS
Date of Announcement	November 1987	November 1987	October 1986	October 1986
Date of First Commercial Delivery	November 1987	January 1988	October 1986	October 1986
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(213) 640-0150	(213) 640-0150	(516) 231-5400	(516) 231-5400
COMMENTS	2-year warranty; Over-scan; 25, 26, 43, or 44 line display; 70 Hz screen refresh rate; dual host ports; 4 pages of display memory. * 80 x 42	2-year warranty; 64 colors; 16 foreground and 16 background colors or 64 foregr. and 1 backgr. color; colors independently selected for foreground and background.		

Alphanumeric Display Terminals

MANUFACTURER & MODEL	ADDS 3220	AT&T 605 Business Communications Terminal	AT&T 610 Business Communications Terminal	AT&T 615 Multitasking Terminal
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	1,920/3,168	1,920	1,920	1,920
Screen Arrangement, lines x char./line	24 x 80, 24 x 132	24 x 80, 24 x 132, 25 x 80	24 x 80, 24 x 132	24 x 80, 24 x 132
Status Line	Yes	Yes	Yes	Yes
Character Color	Green, amber, white	Green, amber	Green, amber	Green, amber
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjust.; 98-key (std.)	Tilt, swivel/height adjust., 98-key (std.)
Keyboard Style	Typewriter	IBM PC compatible	AT&T UNIX PC style opt.	AT&T UNIX PC style-opt., VT220, 4425 Emul. avail.
Function Keys	22	36	16	36—plus 28/window
Keyboard Ergonomics	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable/low profile/tilt adjust./smooth/jump	Detachable, low profile, tilt adjustable
Scrolling	Up & down, smooth	Smooth	Up & down	Up & down, smooth, jump
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Digital VT100/VT200/VT52 family, ANSI X3.64,	TTY, Wyse, TeleVideo, ANSI X3.64	TTY, Wyse, TeleVideo, ANSI X3.64	TTY, Wyse, TeleVideo, ANSI X3.64
Graphics Capability	No	Yes, line drawing	Yes, line drawing	Yes, line drawing
Split Screen	Yes	Yes	Yes	Yes
Windows/Multisessions	No	No	No	Yes—3 windows
Memory	1 screen	1 screen	1 screen	1 screen (3 for 4425 emulation)
Editing Capabilities	Line & char. insert/delete, erase	—	—	—
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Full duplex	Full duplex	Full duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ANSI	ANSI, X3.64	ANSI, X3.64, ASCII	ANSI, X3.64, ASCII
Format	Character	Character	Character	Character
Maximum Speed, bps	19.2K bps	300 to 38.4K bps	19.2K bps	19.2K bps
Terminal Interface	RS-232-C	RS-232-C	RS-232-C	RS-232-C
PRICING AND AVAILABILITY				
Purchase Price, \$	695	595	875	945
Annual Maintenance, \$	Contact vendor	72	84	120
Serviced by	ADDS	AT&T	AT&T	AT&T
Date of Announcement	August 1986	September 1987	March 1986	November 1986
Date of First Commercial Delivery	August 1986	November 1987	April 1986	December 1986
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(516) 231-5400	(312) 982-2422	(312) 982-2422	(312) 982-2422
COMMENTS		PC XT/PC AT mode keyboard; UNIX and MS-DOS applications.		Multitasking windows; integrated dialer/modems available; expansion cartridge port.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	AT&T 620 Multitasking Terminal With Graphics	AT&T 630 Multitasking Terminal With Graphics	Beehive 078	Beehive 191D
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	16	14	14
Screen Capacity, characters	1,920	Variable	1,920	2,560
Screen Arrangement, lines x char./line	24 x 80	Lines—61/69; character—89/109/140	24 x 80	24 x 80
Status Line	Yes	No	Yes	Yes
Character Color	Green, amber	Amber, white	Green	Green, amber
Display Ergonomics	Tilt, swivel/height adjust., 98-key (std.)	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	AT&T UNIX PC style-opt.	98-key standard	IBM 3270 compatible	Typewriter, APL, data entry, IBM 3270 compat.
Function Keys	36, plus 28/window	14	24	24
Keyboard Ergonomics	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, tilt adjustable, low profile	Detachable, tilt adjust- able, low profile
Scrolling	Up & down	Up & down	No	Up & down
Protect Format	Yes	—	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	TTY, Wyse, TeleVideo, ANSI X3.64	TTY	IBM 3270 family	IBM 3270 family, IBM 3191D/3191E/3191L emulation
Graphics Capability	Yes, Tek 4014 & GSS CGI	Yes	No	No
Split Screen	Yes	Yes	No	No
Windows/Multisessions	Yes, 6 windows	7 window/host	No	No
Memory	1 screen	Over 5 pages/window	1 screen	1 screen
Editing Capabilities	—	Line & character in- sert, delete & erase	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Full duplex	Full duplex	Half-duplex	Half-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	EBCDIC
Communications Protocol	ANSI, X3.64, ASCII	ANSI, X3.64	ASCII	IBM Coax A Control Unit Protocol (CUT)
Format	Character	Character	Character	Character
Maximum Speed, bps	19.2K bps	19.2K bps	19.2K bps	2.4M bps
Terminal Interface	RS-232-C	RS-232-C	RS-232-C	Coaxial
PRICING AND AVAILABILITY				
Purchase Price, \$	1,295	2,595	995	1,260
Annual Maintenance, \$	185	252	—	—
Serviced by	AT&T	AT&T	Beehive	Beehive
Date of Announcement	November 1986	September 1987	May 1983	June 1987
Date of First Commercial Delivery	December 1986	August 1987	June 1983	July 1987
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(312) 982-2422	(312) 982-2422	(801) 355-6000	(801) 355-6000
COMMENTS	Optional 3-button flat mouse; multitasking window; 4014 & CGI graphics protocol; in- tegrated dialer/modems available; expansion cartridge port.	Dual-host; multitasking windows; downloadable; local intelligence; 1024 x 1024 bit mapped, non-glare coated screen.	A 3178-style ASCII terminal for slave attachment to protocol converters and Beehive's 3270MS.	3,000 character play/ record capability, printer port, light pen, magnetic strip, and bar code reader.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	ADDS 3220	AT&T 605 Business Communications Terminal	AT&T 610 Business Communications Terminal	AT&T 615 Multitasking Terminal
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	1,920/3,168	1,920	1,920	1,920
Screen Arrangement, lines x char./line	24 x 80, 24 x 132	24 x 80, 24 x 132, 25 x 80	24 x 80, 24 x 132	24 x 80, 24 x 132
Status Line	Yes	Yes	Yes	Yes
Character Color	Green, amber, white	Green, amber	Green, amber	Green, amber
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	Typewriter	IBM PC compatible	AT&T UNIX PC style	AT&T UNIX PC style, VT220
Function Keys	22	36	16	36
Keyboard Ergonomics	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile	Detachable, low profile, tilt adjustable
Scrolling	Up & down, smooth	Smooth	Up & down	—
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Digital VT100/VT200/VT52 family, ANSI X3.64,	TTY, Wyse, TeleVideo, ANSI X3.64	TTY, Wyse, TeleVideo, ANSI X3.64	TTY, Wyse, TeleVideo, ANSI X3.64
Graphics Capability	No	No	No	No
Split Screen	Yes	Yes	Yes	—
Windows/Multisessions	No	No	No	No
Memory	1 screen	1 screen	1 screen	1 screen
Editing Capabilities	Line & char. insert/delete, erase	—	—	—
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Full duplex	Full duplex	Full duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ANSI	ANSI, X3.64	ANSI, X3.64, ASCII	ANSI, X3.64, ASCII
Format	Character	Character	Character	Character
Maximum Speed, bps	19.2K bps	300 to 38.4K bps	19.2K bps	19.2K bps
Terminal Interface	RS-232-C	RS-232-C	RS-232-C	RS-232-C
PRICING AND AVAILABILITY				
Purchase Price, \$	695	595	875	945
Annual Maintenance, \$	Contact vendor	—	48	123
Serviced By	ADDS	AT&T	AT&T	AT&T
Date of Announcement	August 1986	September 1987	March 1986	November 1986
Date of First Commercial Delivery	August 1986	November 1987	April 1986	December 1986
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(516) 231-5400	(312) 982-2000	(312) 982-2000	(312) 982-2000
COMMENTS				

Alphanumeric Display Terminals

MANUFACTURER & MODEL	AT&T 620 Multitasking Terminal With Graphics	AT&T 630 Multitasking Terminal With Graphics	Beehive 078	Beehive 191D
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	1,920	Variable	1,920	2,560
Screen Arrangement, lines x char./line	80 only	81, 109, 140	24 x 80	24 x 80
Status Line Character Color	Yes Green, amber	No Amber	Yes Green	Yes Green, amber
Display Ergonomics	Tilt, swivel/height adjustable	Tilt	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	AT&T UNIX PC style	AT&T UNIX PC style	IBM 3270 compatible	Typewriter, APL, data entry, IBM 3270 compat.
Function Keys	36	20	24	24
Keyboard Ergonomics	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, tilt adjustable, low profile	Detachable, tilt adjust- able, low profile
Scrolling	—	Up & down	No	Up & down
Protect Format	Yes	—	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	TTY, Wyse, TeleVideo, ANSI X3.64	TTY	IBM 3270 family	IBM 3270 family, IBM 3191D/3191E/3191L emulation
Graphics Capability	Yes	Yes	No	No
Split Screen	Yes	Yes	No	No
Windows/Multisessions	Yes	Yes	No	No
Memory	1 screen	Over 5 pages/window	1 screen	1 screen
Editing Capabilities	—	—	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Full duplex	Full duplex	Half-duplex	Half-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	EBCDIC
Communications Protocol	ANSI, X3.64, ASCII	ANSI, X3.64	ASCII	IBM Coax A Control Unit Protocol (CUT)
Format	Character	Character	Character	Character
Maximum Speed, bps	19.2K bps	19.2K bps	19.2K bps	2.4M bps
Terminal Interface	RS-232-C	RS-232-C	RS-232-C	Coaxial
PRICING AND AVAILABILITY				
Purchase Price, \$	1,295	2,595	995	1,260
Annual Maintenance, \$	60	72	—	—
Serviced By	AT&T	AT&T	Beehive	Beehive
Date of Announcement	November 1986	June 1987	May 1983	June 1987
Date of First Commercial Delivery	December 1986	July 1987	June 1983	July 1987
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(312) 982-2000	(312) 982-2000	(801) 355-6000	(801) 355-6000
COMMENTS			A 3178-style ASCII terminal for slave attachment to protocol converters and Beehive's 3270MS.	3,000 character play/ record capability, printer port, light pen, magnetic strip, and bar code reader.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Beehive 191DP	Beehive 191T	Beehive 192C	Beehive 192D
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	143	14	14	14
Screen Capacity, characters	2,560	1,920	3,440	3,564
Screen Arrangement, lines x char./line	24 x 80	24 x 80	24 x 80, 43 x 80	24 x 80, 43 x 80, 32 x 80, 27 x 132
Status Line	Yes	Yes	Yes	Yes
Character Color	White	Green, amber	Multicolor	Green, amber
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	Typewriter, APL, data entry, IBM 3270 compat.	Typewriter, APL, data entry, IBM 3270 compat.	Typewriter, APL, data entry, IBM 3270 compat.	Typewriter, APL, data entry, IBM 3270 compat.
Function Keys	24	24	24	24
Keyboard Ergonomics	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable
Scrolling	Up & down	No	Up & down	Up & down
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	IBM 3270 family, IBM 3192W emulation	IBM 3270 family, IBM 3191 emulator	IBM 3270 family, IBM 3192C & 3192L emulation	IBM 3270 family, IBM 3192D
Graphics Capability	No	No	No	No
Split Screen	No	No	No	No
Windows/Multisessions	No	No	No	No
Memory	1 screen	1 screen	1 screen	1 screen
Editing Capabilities	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-duplex	Half-duplex	Half-duplex	Half-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	EBCDIC	EBCDIC	EBCDIC	EBCDIC
Communications Protocol	IBM Coax A CUT protocol	IBM Coax A	IBM Coax A CUT protocol	IBM Coax A CUT protocol
Format	—	Character	—	Character
Maximum Speed, bps	2.4M bps	2.4M bps	2.4M bps	2.4M bps
Terminal Interface	Coaxial	Coaxial	Coaxial	Coaxial
PRICING AND AVAILABILITY				
Purchase Price, \$	1,340	995	1,550	1,490
Annual Maintenance, \$	—	—	—	—
Serviced By	Beehive	Beehive	Beehive	Beehive
Date of Announcement	March 1987	September 1986	May 1987	May 1987
Date of First Commercial Delivery	March 1987	September 1986	May 1987	May 1987
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(801) 355-6000	(801) 355-6000	(801) 355-6000	(801) 355-6000
COMMENTS	70 Hz flicker-free refresh positive screen; black characters on white background.	3,000 character play/record capability; printer port; light pen; magnetic strip; bar code reader.	3,000 character play/record; printer port; light pen; magnetic strip reader; bar code reader.	3,000 character play/record; printer port; light pen; magnetic strip reader; bar code reader.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Beehive 192F	Beehive 192DR	Beehive 192FR	Beehive 3270MS
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	3,564	2,560	3,564	1,920
Screen Arrangement, lines x char./line	24 x 80, 43 x 80, 32 x 80, 27 x 132	24 x 80, 32 x 80	24 x 80, 27 x 132, 43 x 80, 32 x 80	24 x 80
Status Line	Yes	Yes	Yes	Yes
Character Color	Multicolor	Green, amber	Multicolor	Green
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel
Keyboard Style	IBM 3270 compatible	Typewriter, APL, data entry, IBM 3270 compat.	Typewriter, APL, data entry, IBM 3270 compat.	IBM 3270 compatible
Function Keys	24	24	24	24
Keyboard Ergonomics	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable
Scrolling	Up & down	Up & down	Up & down	No
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	IBM 3270 family, IBM 3192F emulation	IBM 3270 family, IBM 3192D emulator with an integral cluster controller	IBM 3270 family, 3192F with an integral cluster controller	IBM 3270 family, IBM 3276 emulator
Graphics Capability	No	No	No	No
Split Screen	No	No	No	No
Windows/Multisessions	No	Yes	Yes	No
Memory	1 screen	4 screens	4 screens	1 screen
Editing Capabilities	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-duplex	Half-duplex	Half-duplex	Half-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	EBCDIC	EBCDIC	EBCDIC	EBCDIC
Communications Protocol	IBM Coax A CUT protocol	BSC, SNA, SDLC, Coax A CUT protocol	BSC, SNA, SDLC, Coax A CUT protocol	BSC, SNA
Format	Character	Character, block	Character, block	Character
Maximum Speed, bps	2.4M bps	56K bps (sync), 2.4M coax	56K bps (sync), 2.4M coax	19.2K bps
Terminal Interface	Coaxial	RS-232-C, coaxial	RS-232-C	RS-232-C
PRICING AND AVAILABILITY				
Purchase Price, \$	1,850	1,660	2,250	2,495
Annual Maintenance, \$	—	—	—	—
Serviced By	Beehive	Beehive	Beehive	Beehive
Date of Announcement	June 1987	October 1987	October 1987	March 1985
Date of First Commercial Delivery	June 1987	October 1987	October 1987	March 1985
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(801) 355-6000	(801) 355-6000	(801) 355-6000	(801) 355-6000
COMMENTS	3,000 character storage; printer port; light pen; magnetic strip reader; bar code reader.	3192D emulator with an integral 3274 cluster controller for stand-alone remote operation featuring multisessions; cut/paste; host addressable printer port.	Full 3192F emulator with an integral 3274 cluster controller for stand-alone remote operation; features multisessions, cut/paste, and a host addressable printer port.	3178 with an integral 3274 cluster controller; host addressable printer port; slave ports for up to four slave Beehive 078 terminals.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Chi MP-UTS Terminal	Chi MP-3270 Terminal	Chi MP-2 Terminal	Chi EMP-SI Terminal
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	2,025/3,325	2,000	2,000/3,325	2,025/3,325
Screen Arrangement, lines x char./line	24 x 133 (user select.)	24 x 80	24 x 80/133 in UTS; 24 x 80 in IBM	25
Status Line	—	—	—	—
Character Color	P31 green	P31 green	P31 green	P31 green
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel	Tilt
Keyboard Style	Typewriter	Typewriter	Typewriter	Typewriter
Function Keys	32	Yes	Yes	Yes
Keyboard Ergonomics	Detachable	Detachable	Detachable	Detachable
Scrolling	Up/down	No	Up/down	Up/down
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Unisys UTS 20/40/400, Digital VT100	Unisys UTS, Digital VT100	Unisys UTS 20/40/400, Digital VT100	IBM mainframes using 3270; Unisys
Graphics Capability	No	No	No	No
Split Screen	No	No	No	No
Windows/Multisessions	No	No	No	No
Memory	2 pages	2 pages	2 pages	2 pages
Editing Capabilities	Char. & line insert/ delete, erase	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Full-duplex	Half-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Sync/async	Synchronous	Sync/async	Synchronous
Code	ASCII/EBCDIC	EBCDIC	ASCII, EBCDIC	ASCII, EBCDIC
Communications Protocol	Uniscope, BSC	3270 BSC	Uniscope/3270 BSC	Uniscope, BSC
Format	Block	Block	Block	Block
Maximum Speed, bps	50-19.2K bps	50-19.2K bps	19.2K bps (async)	19.2K bps (sync)
Terminal Interface	RS-232-C, Unisys mux	RS-232-C sync (BSC), IBM format	RS-232-C	RS-232-C
PRICING AND AVAILABILITY				
Purchase Price, \$	900 (100+ units)	900 (100 + units)	1,475	1,675
Annual Maintenance, \$	—	—	—	—
Serviced By	Unisys, Chi	Unisys, Chi	Chi, Unisys	Chi, Unisys
Date of Announcement	April 1985	May 1985	August 1986	September 1986
Date of First Commercial Delivery	April 1985	June 1985	September 1986	October 1986
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(216) 831-2622	(216) 831-2622	(216)831-2622	(216)831-2622
COMMENTS	Optional protocol up-grades available—IBM 3270, Digital VT100; programmable function keys, cursor pad, intelligent modem control.		Interface port is software configured to either Unisys UTS or IBM 3270 BSC sync operation.	Interface port is software configured to either Unisys UTS or IBM 3270 sync operation.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	CIE Terminals CIT 50+	CIE Terminals CIT 101XL	CIE Terminals CIT 326	Computer Communications Inc. (CCI) 8178
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	12
Screen Capacity, characters	1,920/3,168/3,300/ 2,000	1,920/3,168/2,000/ 3,300	1,920/3,168/3,300/ 2,000	1,920
Screen Arrangement, lines x char./line	25 x 80, 25 x 132, 24 x 80, 24 x 132	24 x 80, 24 x 132, 25 x 80, 25 x 132	24 x 80, 24 x 132, optional 25th data line	24 x 80
Status Line	Yes	Yes	Yes	Yes, two status lines
Character Color	Green, amber, white	Green, amber, white	Green, amber, white	Green
Display Ergonomics	Tilt, swivel/height adjust, non-glare screen	Tilt, swivel/height adjust, non-glare screen	Tilt, swivel/height adjust, non-glare screen	Tilt, swivel/height adjustable
Keyboard Style	Typewriter, Digital VT100 Type, ASCII Type	Typewriter, Digital VT100 Type	Typewriter, Digital VT220 Type	IBM 3270 compatible
Function Keys	16 keys, shiftable to 32 combinations	16 keys, shiftable to 32 combinations	45 keys, with 180 combinations	24
Keyboard Ergonomics	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable, low profile	Detachable, low profile, tilt adjustable
Scrolling	Up & down, smooth	Up & down, smooth	Up & down, smooth	No
Protect Format	Yes	Yes	No	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Digital VT100 family, Wyse, ADDS, IBM 316X, Lear Siegler, TeleVideo, Espirit/Hazeltine *	Digital VT100 family, Wyse, ADDS, IBM 316X, Lear Siegler, TeleVideo, Espirit/Hazeltine *	Digital VT100/VT200 families, ANSI X3.64, Digital VT52	TTY, TIPS, IBM 3270 family
Graphics Capability	No	No	No	No
Split Screen	Yes	Yes	Yes	—
Windows/Multisessions	No	No	Yes	No
Memory	1 screen	4 screens	4 screens	1 screen
Editing Capabilities	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Async, sync
Code	ASCII	ASCII	ASCII	ASCII, EBCDIC
Communications Protocol	ANSI, X3.64, ASCII	ANSI, X3.64, ASCII	ANSI, X3.64, ASCII	BSC, SNA, SDLC, TTY
Format	Character, block	Character, block	Character	Block
Maximum Speed, bps	38.4K bps	38.4K bps	19.2K bps	19.2K bps
Terminal Interface	RS-232-C	RS-232-C	RS-232-C, 20 mA; RS-442, RS-423 optional	RS-232-C, coaxial, twisted pair
PRICING AND AVAILABILITY				
Purchase Price, \$	595	645	595	595
Annual Maintenance, \$	—	—	—	—
Serviced By	CIE Terminals	CIE Terminals	CIE Terminals	CCI
Date of Announcement	November 1985	November 1986	September 1987	1983
Date of First Commercial Delivery	December 1985	January 1987	October 1987	1984
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(714) 660-1421	(714) 660-1421	(714) 660-1421	Part of CCI 8274 cluster controller family.
COMMENTS	Dual personality ASCII/ANSI; 26th function key label line, bidirectional auxiliary port. * ANSI X3.64, Digital VT52	Has all features as CIT 50+, as well as 4K bytes non-volatile RAM for function key memory. * CIT 101E, Digital VT52, Digital VT200 family	Dual sessions; hori- zontal split windows; 14- inch flat screen CRT; 1,024 bytes non-volatile RAM for function key memory, programmable function key editor, hot key for dual session selection, full screen set-up menus.	

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Comterm 6178	Comterm 6191	Comterm 6192C	Comterm 6192D
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	15
Screen Capacity, characters	1,920/3,564	1,920/3,564	1,920	2,560, 3440, 1920, 3,564
Screen Arrangement, lines x char./line	24 x 80, 32 x 80, 43 x 80, 27 x 132	24 x 80, 32 x 80, 43 x 80, 27 x 132	24 x 80	24 x 80, 43 x 80, 32 x 80, 27 x 132
Status Line	Yes	Yes	Yes	Yes
Character Color	P39 green, PLA amber	P39 green, PLA amber	Multicolor	Green
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	Typewriter (English & French)	Typewriter (English & French)	IBM 3270 compatible	IBM 3270 compatible
Function Keys	24	24	24	24
Keyboard Ergonomics	Detachable	Detachable	Tilt adjustable, Low profile	Detachable, Tilt adjustable, Low profile.
Scrolling	No	No	Up & down	Up & down
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	—	—	IBM 3270 family	IBM 3270 family
Graphics Capability	No	No	No	No
Split Screen	No	Yes	Yes	Yes
Windows/Multisessions	No	Yes	Yes	Yes
Memory	—	—	—	—
Editing Capabilities	Character insert/delete, erase	Character & line insert/delete, erase	Record/playback editor	Record/playback editor
TRANSMISSION SPECIFICATIONS				
Mode	Half-duplex	Half-duplex	Half-duplex	Half-duplex
Technique	Synchronous	Synchronous	Synchronous	Synchronous
Code	EBCDIC	EBCDIC	EBCDIC	EBCDIC
Communications Protocol	BSC, SNA/SDLC	BSC, SNA/SDLC	BSC, SNA, SDLC, X.25	BSC, SNA, SDLC, X.25
Format	Block	Block	Block	Block
Maximum Speed, bps	1200—19.2K bps	1200-19.2K bps	1200 to 19.2K bps	1200 to 19.2K bps
Terminal Interface	Coax Type A	Coax Type A	Coaxial	Coaxial
PRICING AND AVAILABILITY				
Purchase Price, \$	Contact vendor	Contact vendor	2,295	2,195
Annual Maintenance, \$	—	—	140	110
Serviced By	Comterm	Comterm	Comterm Inc.	Comterm
Date of Announcement	1986	1986	April 1987	April 1987
Date of First Commercial Delivery	1986	1986	April 1987	April 1987
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(514) 694-4332	(514) 694-4332	(514) 694-4332	(514) 694-4332
COMMENTS	Attaches to Comterm 6274 controller or IBM 3274 compatible.	Attaches to Comterm 6274 controllers or IBM 3274 compatible.	External accessible option pack offering added value features such as window management. Built in electronic Bipler/Multiplexer emulation. Record playback editing package.	External accessible option pack offering added value features such as window management. Built in electronic Bipler/Multiplexer emulation. Record playback editing package.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Comterm 6192F	Contel Business Systems C320/C321	Control Data Model 714	Control Data Model 721
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	8 x 10	15
Screen Capacity, characters	2,580/3,440/1,920/ 3,584	1,820	1,280/1,920	1,920/3,960
Screen Arrangement, lines x char./line	24 x 80, 43 x 80, 32 x 80, 27 x 132	24 x 80	16 x 80, 24 x 80	24 x 80, 30 x 80, 24 x 132, 30 x 132
Status Line	Yes	Yes	—	—
Character Color	Multicolor	Green, amber	White	Green
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	No	Tilt, swivel
Keyboard Style	IBM 3270 compatible	IBM PC compatible	Typewriter	Typewriter
Function Keys	24	10, programmable to 40	8	15
Keyboard Ergonomics	Tilt adjustable, low profile	Detachable, low profile, tilt adjustable *	—	Detachable
Scrolling	Up & down	Up & down	No	Up
Protect Format	Yes	—	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	IBM 3270 family	TTY	—	CDC 722
Graphics Capability	No	Yes	—	721-31
Split Screen	Yes	Yes	No	No
Windows/Multisessions	Yes	No	—	—
Memory	—	1 screen	2,560, 3,940 characters	—
Editing Capabilities	Record playback editor	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-duplex	Full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Synchronous	Asynchronous	Synchronous	Async (std.), sync (opt.)
Code	EBCDIC	ASCII	ASCII	ASCII
Communications Protocol	BSC, SNA, SDLC, X.25	ASCII	ASCII, CDC	ASCII, BSC (opt.)
Format	Block	Character	Block	Block, character
Maximum Speed, bps	1200 to 19.2K	19.2K bps	2000-9600 bps	110-19.2K bps
Terminal Interface	Coaxial	RS-232-C	RS-232-C	RS-232-C
PRICING AND AVAILABILITY				
Purchase Price, \$	2,545	Suggested list: C320— \$875, C321—\$1,195	4,490—10,108	2,295-2,895
Annual Maintenance, \$	155	—	—	—
Serviced By	Comterm Inc.	Contel	Control Data	Control Data
Date of Announcement	September 1987	September 1986	May 1978	April 1982
Date of First Commercial Delivery	September 1987	September 1986	May 1978	June 1982
Number of Units Installed to Date	—	Over 15,000	Over 500	Over 15,000
VENDOR PHONE NUMBER	(514) 694-4332	(213) 323-8170	(612) 482-6579	(612) 482-6579
COMMENTS	External accessible option pack offering added value features such as window manage- ment. Built in elect- ronic Bipler/Multi- plexer emulation. Record/playback editing package.	* Other keyboard ergonomics include keyclick, and operator-selectable typematic keys.		721-21—Basic TTY; 732-31—Basic TTY & PLATO/graphics; three maintenance options— on-site, mail-in to service center, and customer self- maintenance. 1-yr. lease—\$125/159 per month.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Control Data Model 722-10	Control Data Model 722-30	Cumulus Technology Model HPC	Cumulus Technology VCT
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	12	12	15	15
Screen Capacity, characters	1,920	1,920	3,564	1,920/2,560
Screen Arrangement, lines x char./line	24 x 80	24 x 80	27 x 132	24 x 80, 24 x 132
Status Line	—	—	Yes	Yes
Character Color	White	Green	White	White
Display Ergonomics	No	Tilt, swivel	Tilt, swivel/height adjustable	Tilt, swivel/height adjust., 75 Hz refresh
Keyboard Style	Typewriter	Typewriter	HP 239X	Typewriter
Function Keys	12	12	8	24
Keyboard Ergonomics	—	Detachable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable
Scrolling	Up & down	Step	Up & down, smooth	Up & down, smooth
Protect Format	No	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Control Data	CDC Advanced Mode, ADDS Viewpoint, ANSI	HP 239X, HP 700/9X	Digital VT200 family, ANSI X3.64
Graphics Capability	—	31 special char.	No	No
Split Screen	No	No	No	Yes
Windows/Multisessions	—	—	No	No
Memory	—	—	8 screens	8 screens
Editing Capabilities	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & character insert/delete, erase	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Full-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ASCII, TTY	ASCII	ASCII, X3.64	ANSI, X3.64
Format	Character	Block, character	Character, line, block	Character, block, line
Maximum Speed, bps	110-9600 bps	75-19.2K	19.2K bps	9600, 19.2K, 38.4K bps
Terminal Interface	RS-232-C	RS-232-C, CCITT	RS-232-C, RS-422	RS-232-C, RS-422
PRICING AND AVAILABILITY				
Purchase Price, \$	850	850	795	649
Annual Maintenance, \$	—	—	—	5-yr. warranty
Serviced By	Control Data	Control Data	Authorized service centers	Cumulus
Date of Announcement	February 1981	April 1984	December 1987	February 1988
Date of First Commercial Delivery	February 1981	September 1984	December 1987	February 1988
Number of Units Installed to Date	Over 900	Over 1,000	—	—
VENDOR PHONE NUMBER	(612) 482-6579	(612) 482-6579	(415) 960-1200	(415) 960-1200
COMMENTS	1-yr. lease—\$50 per month.	1-yr. lease—\$50 per month; quantity pricing—20-49 units—\$700 each; 50-99 units—\$650 each.	Five-year limited warranty. Forms cache capabilities; has flat profile screen; 75 Hz refresh rate; 90-inches of active display area; 13 x 16 character cell size; built-in desktop accessories and help screens.	

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Cybernex RB 1100	Cybernex RB 1210	Cybernex RH 7305	Cybernex RH 7813
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	2,080	2,080	2,080	2,080
Screen Arrangement, lines x char./line	12 x 40, 12 x 80, 24 x 40, 24 x 80	12 x 40, 12 x 80, 24 x 40, 24 x 80	24 x 80	24 x 80
Status Line	Yes (2)	Yes (2)	Yes (2)	Yes (2)
Character Color	Green	Green	Green	Green
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel	Tilt, swivel
Keyboard Style	Typewriter	Typewriter	Typewriter	Typewriter
Function Keys	10 physical, 20 logical	10 physical, 20 logical	12 plus 10 programmable	12 plus 10 programmable
Keyboard Ergonomics	Detachable	Detachable	Detachable	Detachable
Scrolling	Up & down	Up & down	Up & down	Up & down
Protect Format	Yes	Yes	No	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Unisys ET 1100	Unisys ET 1100, ET 1210	Honeywell VIP 7300	Honeywell VIP 7800/7300 Series
Graphics Capability	No	No	11 line drawing	11 line drawing
Split Screen	No	No	No	No
Windows/Multisessions	—	—	—	—
Memory	15 pages	360 lines	80 x 24 x 3	80 x 24 x 3
Editing Capabilities	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Async/sync	Async/sync	Asynchronous	Async/sync
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	Burroughs	Burroughs	Honeywell, ASCII	Honeywell, ASCII
Format	Line, block	Line, block	Character	Character, block
Maximum Speed, bps	Up to 38.4K bps	Up to 38.4K bps	Up to 38.4K bps	Up to 38.4K bps
Terminal Interface	RS-232-C, TDI	RS-232-C, TDI mA	RS-232-C, RS-422, 20 mA	RS-232-C, RS-422, 20 mA
PRICING AND AVAILABILITY				
Purchase Price, \$	Contact vendor	Contact vendor	Contact vendor	Contact vendor
Annual Maintenance, \$	—	—	—	—
Serviced By	Cybernex, third party vendors	Cybernex, third party vendors	Cybernex, third party vendors	Cybernex, third party vendors
Date of Announcement	December 1985	December 1986	March 1985	March 1985
Date of First Commercial Delivery	December 1985	March 1987	September 1985	September 1985
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(613) 738-9301	(613) 738-9301	(613) 738-9301	(613) 738-9301
COMMENTS	Totally remappable keyboard; 109-key keyboard, ET 1100-compat., extra cursor pad; lifetime keyboard warranty; upward compatible with Cybernex SA 830.	Lifetime keyboard warranty; totally remappable; 109-key keyboard with extra cursor pad; upwardly compatible with Cybernex SA-830, RB 1100.	Lifetime keyboard warranty.	Sold exclusively in Canada by Honeywell Canada; lifetime keyboard warranty.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Cybernex RH 7814	Cybernex RH 78164	Cybernex RH 7826	Cybernex RG 220 Turbo
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	2,080	2,080	2,080	Up to 3,248
Screen Arrangement, lines x char./line	24 x 80	24 x 80	24 x 80	24 x 80, 24 x 132
Status Line	Yes (2)	Yes (2)	Yes (2)	Yes (2)
Character Color	Green	Green	Green	Green
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel	Tilt, swivel
Keyboard Style	Typewriter	Typewriter	Typewriter, multi-function	Typewriter
Function Keys	12 plus 10 programmable	12 plus 10 programmable	12 plus 10 programmable	105 (6 banks of 15 keys)
Keyboard Ergonomics	Detachable	Detachable	Detachable	Detachable
Scrolling	Up & down	Up & down	Up & down	Up & down, smooth
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Honeywell VIP 7800 Series	Honeywell VIP 7800/7700 Series	Honeywell VIP 7800/7700 Series	Digital VT220
Graphics Capability	11 line drawing	11 line drawing	11 line drawing	Bus. graphics/prog.
Split Screen	No	No	No	Yes
Windows/Multisessions	—	—	—	—
Memory	80 x 24 x 3	80 x 24 x 3	80 x 24 x 3	1 page
Editing Capabilities	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Async/sync	Async/sync	Async/sync	Async/sync
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	Honeywell, ASCII	Honeywell, ASCII	Honeywell, ASCII	ASCII
Format	Character, block	Character, block	Character, block	Character
Maximum Speed, bps	Up to 38.4K bps	Up to 38.4K bps	Up to 38.4K bps	Up to 38.4K bps
Terminal Interface	RS-232-C, RS-422, 20 mA	RS-232-C, RS-422, 20 mA	RS-232-C, RS-422, 20 mA	RS-232-C, RS-422, 20 mA
PRICING AND AVAILABILITY				
Purchase Price, \$	Contact vendor	Contact vendor	Contact vendor	Contact vendor
Annual Maintenance, \$	—	—	—	—
Serviced By	Cybernex, third party vendors	Cybernex, third party vendors	Cybernex, third party vendors	Cybernex, third party vendors
Date of Announcement	March 1985	—	—	March 1985
Date of First Commercial Delivery	March 1985	—	—	June 1985
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(613) 738-9301	(613) 738-9301	(613) 738-9301	(613) 738-9301
COMMENTS	Upward-compatible from Cybernex SA 7814 & SA 7800; sold exclusively in Canada by Honeywell Canada; lifetime keyboard warranty.	Lifetime keyboard warranty.	Lifetime keyboard warranty. Sold exclusively in Canada by Honeywell Canada.	Lifetime keyboard warranty; special Cybernex menu with extra functions beyond DEC; 6 banks of 15 keys each in addition to 15 programmable function keys; 106 keys.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Cybernex XLA 87 Series	Cybernex XLA 87H +	Cybernex XLA 110	Cybernex XLA 110
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	2,000	1,920	1,920	2,000
Screen Arrangement, lines x char./line	24 x 80	24 x 80	24 x 80	24 x 80
Status Line Character Color	Yes Green	Yes Green	Yes Green	Yes Green
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel	Tilt, swivel
Keyboard Style	Typewriter	Typewriter	Typewriter	Typewriter
Function Keys	Varies; model dependent	10	3 std., 16 opt.	10 std.
Keyboard Ergonomics	Detachable	Detachable	Detachable	Detachable
Scrolling	Up & down	Up	Up & down	Up & down
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	See comments	Hazeltine 1500, 1510, 1520	See comments	Cybernex MDLS 1100
Graphics Capability	Business graphics (opt.) No	No No	No No	No No
Split Screen	—	—	—	—
Windows/Multisessions	1 page	1 page	1 page	1 page
Memory	—	—	—	—
Editing Capabilities	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ASCII	ASCII	ASCII	ASCII
Format	Character, block	Character, block	Character, block	Character, block
Maximum Speed, bps	Up to 19.2K bps	Up to 19.2K bps	Up to 19.2K bps	Up to 19.2K bps
Terminal Interface	RS-232-C, 20 mA	RS-232-C, 20 mA	RS-232-C, 20 mA	RS-232-C, 20 mA
PRICING AND AVAILABILITY				
Purchase Price, \$	Contact vendor	Contact vendor	Contact vendor	Contact vendor
Annual Maintenance, \$	—	—	—	—
Served By	Cybernex, third party vendors	Cybernex, third party vendors	Cybernex, third party vendors	Cybernex, third party vendors
Date of Announcement	January 1982	—	December 1986	—
Date of First Commercial Delivery	March 1982	—	January 1987	—
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(613) 738-9301	(613) 738-9301	(613) 738-9301	(613) 738-9301
COMMENTS	Lifetime keyboard warranty; emulations for Hazeltine 1510/1520, Rexon 303, and others. Customization available; volume dependent.	Lifetime keyboard warranty.	Lifetime keyboard warranty; OEM character/ block mode.	

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Cybernex XLA D220	Cybernex XLB 3178	Cybernex XM 3270	Cybernex XLB 4309
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	1,920	2,000	2,000	2,000
Screen Arrangement, lines x char./line	24 x 80	24 x 80	24 x 80	24 x 80
Status Line	Yes	Yes	Yes	Yes
Character Color	Green	Green	Green	Green
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel	Tilt, swivel
Keyboard Style	Typewriter	Typewriter (IBM)	Typewriter (IBM)	Typewriter (IBM)
Function Keys	15 fixed; 15 prog.	24 std. plus all non-ASCII keys	24 std.	24 std.
Keyboard Ergonomics	Detachable	Detachable	Detachable	Detachable
Scrolling	Up	Up & down	Up & down	Up & down
Protect Format	No	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Data General D200	ANSI X3.64	ANSI X3.64	ANSI X3.64
Graphics Capability	No	No	No	No
Split Screen	No	No	No	No
Windows/Multisessions	—	—	—	—
Memory	1 page	1 page	1 page	1 page
Editing Capabilities	Erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ASCII	ASCII	ASCII	ASCII
Format	Character	Character, block	Character, block	Character, block
Maximum Speed, bps	Up to 19.2K bps	Up to 38.4K bps	Up to 38.4K bps	Up to 38.4K bps
Terminal Interface	RS-232-C, 20 mA	RS-232-C (std.) RS-422 (opt.)	RS-232-C (std.) RS-422 (opt.)	RS-232-C (std.) RS-422 (opt.)
PRICING AND AVAILABILITY				
Purchase Price, \$	Contact vendor	Contact vendor	Contact vendor	Contact vendor
Annual Maintenance, \$	—	—	—	—
Serviced By	Cybernex, third party vendors	Cybernex, third party vendors	Cybernex, third party vendors	Cybernex, third party vendors
Date of Announcement	February 1982	January 1986	September 1983	October 1985
Date of First Commercial Delivery	May 1982	—	November 1983	October 1985
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(613) 738-9301	(613) 738-9301	(613) 738-9301	(613) 738-9301
COMMENTS	Print page, through print with display, both buffered; 15 function keys, with up to 80 characters each; lifetime keyboard warranty.	Lifetime keyboard warranty; character mode terminal, works with any protocol converter; looks to operator as 3278-2; looks to protocol converter as VT100.	Block mode terminal suited to packet-switched networks; supported by Simware, Pearle, & IBM 7171 protocol converters; IBM 3278 keyboard layout; selectable ANSI X3.64 mode.	Completely MAI-compatible, including Basic Four motor bars; 114 keys; lifetime keyboard warranty.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Cybernex XLB 5291	Data General Dasher D214/D215	Data General Dasher D220	Data General Dasher D286
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	12	12	13
Screen Capacity, characters	2,000	1,920	1,920	1,920
Screen Arrangement, lines x char./line	24 x 80	24 x 80	24 x 80	24 x 80
Status Line	Yes	—	—	—
Character Color	Green	Green, amber	Multicolor	Multicolor
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt	Tilt, swivel
Keyboard Style	Typewriter (IBM)	Typewriter	Typewriter	Typewriter
Function Keys	24 std.	15	19 (plus local print)	15
Keyboard Ergonomics	Detachable	Detachable	Detachable, low profile, tilt adjustable	Detachable
Scrolling	Up & down	No	Smooth or jump	Up
Protect Format	Yes	No	—	No
FUNCTIONAL SPECIFICATIONS				
Compatibility	ANSI X3.64	DG Dasher, ANSI X3.64	ANSI X3.64	—
Graphics Capability	No	No	No	No
Split Screen	No	No	—	No
Windows/Multisessions	—	No	No	No
Memory	1 page	—	—	640K
Editing Capabilities	Line & char. insert/ delete, erase	Line insert/delete	—	Line insert/delete
TRANSMISSION SPECIFICATIONS				
Mode	Half/full-duplex	Full-duplex	—	Full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ASCII	ASCII	—	ASCII
Format	Character, block	Character	Character	Character
Maximum Speed, bps	Up to 38.4K bps	50-19.2K bps	19.2K bps	Up to 19.2K bps
Terminal Interface	RS-232-C (std.) RS-422 (opt.)	20 mA (D211)	RS-232-C, RS-422, 20 mA	RS-232-C, 20 mA
PRICING AND AVAILABILITY				
Purchase Price, \$	Contact vendor	795/895	2,275	Contact vendor
Annual Maintenance, \$	—	—	—	—
Serviced By	Cybernex, third party vendors	Data General	Data General	Data General
Date of Announcement	January 1986	March 1986	—	November 1986
Date of First Commercial Delivery	—	March 1986	April 1985	November 1986
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER				
	(613) 738-9301	(617) 366-8911	(617) 366-8911	(617) 366-8911
COMMENTS				
	Character mode terminal; works with any protocol converter; looks to operator as 5291; looks to protocol converter as VT100; lifetime keyboard warranty.			

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Data General Dasher D411	Data General Dasher D461	Data General Dasher D470C	Datamaxx USA Corporation DMX-1100
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	12	12	12	14
Screen Capacity, characters	1,944/3,240	1,944/3,240	1,944	1,920
Screen Arrangement, lines x char./line	24 x 81/135; horiz. scrolling to 208 ch/line	24 x 81/135; up to 208 char. per line	24 x 81	24 x 80
Status Line	—	—	—	Yes
Character Color	P31 green, amber	P31 green, amber	Multicolor	Green, amber
Display Ergonomics	Tilt	Tilt	Tilt	Tilt, swivel/height adjustable
Keyboard Style	Typewriter	Typewriter	Typewriter	Typewriter
Function Keys	15	15	19 + 5 special function keys	40
Keyboard Ergonomics	Detachable	Detachable	Detachable, low profile, tilt adjustable	Detachable, tilt adjustable, low profile
Scrolling	Up/down/horizontal	Up/down/horizontal	Up & down, smooth	Up & down
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	DG D400, ANSI X3.64	DG D400, ANSI X3.64	DG Dasher 200 Series	Burroughs
Graphics Capability	No	Yes	Yes	No
Split Screen	Yes	Yes	—	No
Windows/Multisessions	Yes	Yes	Yes	No
Memory	—	—	—	10 screens
Editing Capabilities	Char. & line insert/delete, erase	Character & line insert/delete, erase	Line & char. insert/delete	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Full-duplex	Full-duplex	Full-duplex	Half duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Async/sync
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ASCII	ASCII	—	Burroughs Poll/Select
Format	Character	Character	Character	Block
Maximum Speed, bps	110-19.2K bps	110-19.2K bps	19.2K bps	19.2K
Terminal Interface	RS-232-C, RS-422, 20 mA	RS-232-C, RS-422, 20 mA	RS-232-C, RS-422, 20 mA	RS-232-C
PRICING AND AVAILABILITY				
Purchase Price, \$	1,195	1,495	3,175	1,095
Annual Maintenance, \$	—	—	—	125
Serviced By	Data General	Data General	Data General	Datamaxx, Kettermans, NCR
Date of Announcement	May 1983	May 1983	—	1984
Date of First Commercial Delivery	July 1983	July 1983	June 1984	1984
Number of Units Installed to Date	—	—	—	5,000
VENDOR PHONE NUMBER	(617) 366-8911	(617) 366-8911	(617) 366-8911	(904) 224-8213
COMMENTS		Alphanumeric and character-mapped graphics terminal; additional 3572 user-defined characters/symbols available.		

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Datamaxx USA Corporation DMX-1210	Datamaxx USA Corporation EXT-1250	Datamaxx USA Corporation EXT-1260	Datamaxx USA Corporation EXT-1278
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	Not specified	3,960	3,960	3,960
Screen Arrangement, lines x char./line	28 x 80	30 x 132 (variable)	30 x 132 (variable)	30 x 132 (variable)
Status Line Character Color	Yes Green, amber	Yes Green, amber	Yes Green, amber	Yes Green, amber
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	Typewriter	Typewriter	Typewriter	Typewriter
Function Keys	40	40	40	40
Keyboard Ergonomics	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable, low profile
Scrolling	Up & down	Up & down	Up & down	Up & down
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Burroughs	TTY, Burroughs	TTY, Digital VT100 family, Burroughs, Data General D200/D210	TTY, Digital VT100 family, IBM 3270 family, Burroughs, Data General D200/D210
Graphics Capability	No	No	No	No
Split Screen	Yes	Yes	Yes	Yes
Windows/Multisessions	Yes	Yes	Yes	Yes
Memory	10 screens	16 screens, 40K function key memory	16 screens, 40K function key memory	16 screens, 40K function key memory
Editing Capabilities	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half duplex	Half duplex	Half duplex	Half duplex
Technique	Async/sync	Async/sync	—	—
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ASCII, Burroughs Poll/Select	ASCII, Burroughs Poll/Select	ASCII, Burroughs	BSC, SNA, ASCII, Burroughs Poll/Select
Format	Block	Block	Block	Block
Maximum Speed, bps	19.2K	38.4K	38.4K	38.4K
Terminal Interface	RS-232-C	RS-232-C	RS-232-C	RS-232-C, coaxial
PRICING AND AVAILABILITY				
Purchase Price, \$	1,195	1,495	1,545	2,495
Annual Maintenance, \$	125	125	125	240/depot
Serviced By	Datamaxx, Kettermans, NCR	Datamaxx, Kettermans, NCR	Datamaxx, Kettermans, NCR	Datamaxx, Kettermans, NCR
Date of Announcement	1986	1986	1986	1985
Date of First Commercial Delivery	1986	1987	1987	1986
Number of Units Installed to Date	1,000	500	200	200
VENDOR PHONE NUMBER	(904) 224-8213	(904) 224-8213	(904) 224-8213	(904) 224-8213
COMMENTS		Multiple simultaneous protocols and host access	Multiple simultaneous protocols	Multiple simultaneous protocols

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Datamaxx USA Corporation EXT-7301	Datamaxx USA Corporation DMX-7310	Datamaxx USA Corporation EXT-7501	Datamaxx USA Corporation EXT-LETS
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	1,920	1,920	1,920	1,920
Screen Arrangement, lines x char./line	24 x 80	24 x 80	24 x 80	24 x 80
Status Line	Yes	Yes	Yes	Yes
Character Color	Green, amber	Green, amber	Green, amber	Green, amber
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	Typewriter	Typewriter	Typewriter	Typewriter
Function Keys	40	20	40	40
Keyboard Ergonomics	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable, low profile
Scrolling	Up & down	Up & down	Up & down	Up & down
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	TTY, NCR 7900/3, NCR 7901, Data General D200/D210	NCR 7900/3	TTY, NCR 501, NCR 7901	TTY
Graphics Capability	No	No	No	AT&T 4013, Racal 4010
Split Screen	No	No	No	No
Windows/Multisessions	No	No	No	No
Memory	10 screens, 4K function key memory	2 screens, 2K function key memory	10 screens, 4K functionality	10 screens, 10K function key memory
Editing Capabilities	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half duplex	Half duplex	Half-duplex	Half duplex
Technique	Asynchronous	Asynchronous	Synchronous	Async/sync
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ASCII, NCR	NCR	ASCII, NCR sync	ASCII, AT&T 8A1/8S1
Format	Block	Block	Block	Block
Maximum Speed, bps	19.2K	19.2K	19.2K	19.2K
Terminal Interface	RS-232-C	RS-232-C	RS-232-C	RS-232-C
PRICING AND AVAILABILITY				
Purchase Price, \$	1,495	1,095	1,525	2,495 includes printer
Annual Maintenance, \$	125	125	125	40/month, on site
Serviced By	Datamaxx, Kettermans, NCR	Datamaxx, Kettermans, NCR	Datamaxx, Kettermans, NCR	Datamaxx, Kettermans, NCR
Date of Announcement	1984	1986	1984	1985
Date of First Commercial Delivery	1984	1986	1984	1985
Number of Units Installed to Date	2,000	500	700	1,000
VENDOR PHONE NUMBER	(904) 224-8213	(904) 224-8213	(904) 224-8213	(904) 224-8213
COMMENTS	Multiple simultaneous protocols		Multiple simultaneous protocols	Multiple simultaneous protocols; special features for law-enforcement networks.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Datamedia ColorScan/2	Datamedia ColorScan 90	Datamedia Elite 60	Datamedia Elite 90
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	—	—	—
Screen Capacity, characters	4,488	1,920/ 3,168	1,920/3,168	1,920/3,168
Screen Arrangement, lines x char./line	24 x 80, 24 x 132, 34 x 132	24 x 80, 24 x 132	24 x 80, 24 x 132	24 x 80, 24 x 132
Status Line	Yes	Yes	Yes	Yes
Character Color	Multicolor	—	—	—
Display Ergonomics	Tilt, swivel/height adjustable	Tilt	Tilt	Tilt
Keyboard Style	IBM PC compatible, Digital VT200	—	—	—
Function Keys	24	18 precoded	15 user program, 4 pre- coded	18 precoded
Keyboard Ergonomics	Detachable, low profile, tilt adjustable	Detachable	Detachable	Detachable
Scrolling	Up & down, smooth	Smooth	Smooth	Smooth
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	TTY, Digital VT100/VT200 family	ADDS Regent 25, LSI ADM 3A	ANSI X3.64, Digital VT100-131	ADDS Regent 25, LSI ADM 3A
Graphics Capability	Yes	Yes (opt.)	No	Opt.
Split Screen	No	Yes	No	Yes
Windows/Multisessions	No	No	No	No
Memory	Variable	Variable	Variable	—
Editing Capabilities	Line & char. insert/ delete, erase	No	No	No
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ANSI, ASCII	—	—	—
Format	Character, line	Character	Character	Character
Maximum Speed, bps	38.4K bps	50-19.2K bps	50-19.2K bps	50-19.2K bps
Terminal Interface	RS-232-C	RS-232-C (std.) 20 mA (opt.)	RS-232-C (std.) 20 mA (opt.)	RS-232-C (std.) 20 mA (opt.)
PRICING AND AVAILABILITY				
Purchase Price, \$	2,000	1,850	950	925
Annual Maintenance, \$	—	—	—	—
Serviced By	Datamedia	Datamedia	Datamedia	Datamedia
Date of Announcement	June 1987	—	—	—
Date of First Commercial Delivery	—	—	—	—
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(603) 886-1570	(603) 886-1570	(603) 886-1570	(603) 886-1570
COMMENTS				

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Datapoint 7350	Davox 1900	Davox 4900	Davox 5900
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	12	12	12
Screen Capacity, characters	2,000	2,000	2,000-3,000	2,000-3,000
Screen Arrangement, lines x char./line	25 x 80	24 x 80	24 x 80	24 x 80
Status Line	Yes	Yes (3)	Yes (3)	Yes (3)
Character Color	Amber	Green, amber	Green, amber	Color
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel	Tilt, swivel	Tilt, swivel
Keyboard Style	Data entry, IBM PC and 3270 compatible	Typewriter	Typewriter	Typewriter
Function Keys	21	Yes	Yes	Yes
Keyboard Ergonomics	Detachable, tilt adjustable	Detachable	Detachable	Detachable
Scrolling	Up & down, side to side	Jump	Jump	Yes
Protect Format	Through software	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	82XX	Digital VT100, PC	Digital VT100/VT200/VT52, PC, other Async	Digital VT100/VT200/VT52, PC, other Async
Graphics Capability	No	No	No (3270 async opt.)	No (3270 async opt.)
Split Screen	Software	No	Yes	Yes
Windows/Multisessions	Yes	No	—	—
Memory	Software dependent	1 page	1 page	1 page
Editing Capabilities	—	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Sync/async	Sync/async	Sync/async
Code	ASCII	EBCDIC, ASCII	EBCDIC, ASCII	EBCDIC, ASCII
Communications Protocol	ASCII, ARCNET	ASCII, BSC, SNA/SDLC	ASCII, BSC, SNA/SDLC	ASCII, BSC, SNA/SDLC
Format	Character	Character, block	Character, block	Character, block
Maximum Speed, bps	2.5M bps	300-19.2K bps	300-19.2K bps	300-19.2K bps
Terminal Interface	RS-232-C, RS-422, Coaxial	RS-232-C	RS-232-C	RS-232-C
PRICING AND AVAILABILITY				
Purchase Price, \$	1,495	1,295-2,995	2,695	2,995
Annual Maintenance, \$	228	92-185	115-275	135-323
Serviced By	Intelogic Trace	Davox, CDC	Davox, CDC	Davox, CDC
Date of Announcement	1986	December 1983	May 1986	May 1986
Date of First Commercial Delivery	1986	January 1984	June 1986	June 1986
Number of Units Installed to Date	—	7,000	3,000	4,500
VENDOR PHONE NUMBER	(512) 699-7000	(617) 667-4455	(617) 667-4455	(617) 667-4455
COMMENTS		Integral telephone with manual keypad and directory, autodial mode, screen dial.	Integral telephone with manual keypad and directory, autodial mode, screen dial. Supports multiple, simultaneous on-line sessions with IBM, PC, Digital, and other async hosts.	Integral telephone with manual keypad and directory, autodial mode, screen dial. Supports multiple, simultaneous on-line sessions with IBM, PC, Digital, and other async hosts.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Delta Data DD 220	Digital Equipment VT100 Series	Digital Equipment VT220 Series	Digital Equipment VT240
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	12	12	12
Screen Capacity, characters	1,920/3,168	1,848/1,920/3,168	1,920/3,168	1,920/3,168
Screen Arrangement, lines x char./line	24 x 80, 24 x 132	24 x 80, 14 x 132, 24 x 132	24 x 80, 24 x 132, 24 x 132	24 x 80, 24 x 132
Status Line Character Color	Yes P31 green	— White	— White, green, amber	— White, green, amber
Display Ergonomics	Tilt	Tilt, swivel (opt.)	Tilt	Tilt
Keyboard Style	Typewriter	Typewriter	Typewriter	Typewriter
Function Keys	18	4	20	20
Keyboard Ergonomics	Detachable, tilt adjustable, low profile	Detachable	Detachable	Detachable
Scrolling	Up & down	Smooth, bidirectional	Yes	Yes
Protect Format	Yes	No	No	No
FUNCTIONAL SPECIFICATIONS				
Compatibility	Digital VT200 family	VT100 Series	VT100/VT52, ANSI X3.64	VT100/VT52, ANSI X3.64, Tektronix 4010/4014
Graphics Capability	No	VT125	No	Yes
Split Screen	Yes	Yes	Yes	Yes
Windows/Multisessions	No	—	—	—
Memory	2 screens	—	—	—
Editing Capabilities	Line & character insert/ delete, erase	Char. & line insert/de- lete, erase (VT120/131)	Char. & line insert/de- lete, erase	Char. & line insert/de- lete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Full duplex	Full-duplex	Full-duplex	Full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ANSI, ASCII	ASCII, ANSI	ASCII, ANSI	ASCII, ANSI
Format	Character	Character	Character	Character
Maximum Speed, bps	75-38.4K	50-19.2K bps	75-19.2K bps	75-19.2K bps
Terminal Interface	RS-232-C	RS-232-C (std.); RS-423, 20 mA (opt.)	RS-232-C (std.); RS-423, 20 mA (opt.)	RS-232-C (std.); RS-423, 20 mA (opt.)
PRICING AND AVAILABILITY				
Purchase Price, \$	2,470-2,745	895-3,800	1,095	2,195
Annual Maintenance, \$	N/A	—	—	—
Serviced By	Delta Data	Digital Equipment	Digital Equipment	Digital Equipment
Date of Announcement	November 1986	1978	November 1983	November 1983
Date of First Commercial Delivery	December 1986	1978	November 1983	November 1983
Number of Units Installed to Date	Information not available	Over 500,000	—	—
VENDOR PHONE NUMBER	(301) 290-6400	(617) 897-5445	(617) 897-5445	(617) 897-5445
COMMENTS	Tempest terminal, meets NACSIM 5100A	Models: VT100, VT101, VT102, VT125 (graphics), and VT131; ANSI-standard escape sequences.	Plain language setup menu for feature selection in English, French, & German; multi- national character set support; multiple lan- guage keyboards avail- able; word processing keyboards available.	Bit-mapped graphics ver- sion of VT220; two graphic protocols; Tek- tronix 4010/4014 & Digi- tal ReGIS; 800 x 240 pixel screen resolution.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Digital Equipment VT241	Digital Equipment VT300 Series	Direct 820	Direct 825
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	13	14 (13—VT340)	12	12
Screen Capacity, characters	1,920/3,168	—	1,920	1,920/3,168
Screen Arrangement, lines x char./line	24 x 80, 24 x 132	24 x 80, 24 x 132	24 x 80, 24 x 132	24 x 80, 24 x 132
Status Line	—	—	—	—
Character Color	Color	White, green, amber	P4 white	P4 white, P31 green
Display Ergonomics	Tilt	Tilt, swivel	—	—
Keyboard Style	Typewriter	Typewriter	Typewriter	Typewriter
Function Keys	20	User definable	8	8
Keyboard Ergonomics	Detachable	Detachable	Detachable	Detachable
Scrolling	Yes	—	Yes	Yes
Protect Format	No	—	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Digital VT100/VT52, Tektronix 4010/4014, ANSI X3.64	VT100/VT200 family, Tek- tronix 4010/4014	HP 2640, HP 2645A, HP 2622	HP 2540, HP 2645A, HP 2622
Graphics Capability	Yes	Yes	—	Line drawing set
Split Screen	Yes	Yes	Yes	Yes
Windows/Multisessions	Yes	Yes	Yes	Yes
Memory	—	6 screens	4.2K	16K (std.), 32K (opt.)
Editing Capabilities	Char. & line insert/ delete, erase	Char. & line insert/de- lete, erase	Char. & line insert/ delete, erase	Char. & line insert/ delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Full-duplex	Full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ASCII, ANSI	ASCII, ANSI	DC1/DC2, Eng. Ack	DC1/DC2, Eng./Ack
Format	Character	Character, block	Character, line, block	Character, line, block
Maximum Speed, bps	75-19.2K bps	75-19.2K bps	50-19.2K bps	50-19.2K bps
Terminal Interface	RS-232-C, RS-423, 20 mA	RS-232-C, Digital 423 DECconnect (3 ports)	RS-232-C	RS-232-C
PRICING AND AVAILABILITY				
Purchase Price, \$	3,195	1,895 (VT330), 2,795 (VT340)	Contact vendor	Contact vendor
Annual Maintenance, \$	—	—	—	—
Serviced By	Digital Equipment	Digital Equipment	Contact vendor	Contact vendor
Date of Announcement	November 1983	April 1987	April 1983	July 1981
Date of First Commercial Delivery	November 1983	May 1987	June 1983	July 1981
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(408) 980-1414	(617) 897-5445	(408) 980-1414	(408) 980-1414
COMMENTS	Color version of VT240.	Runs dual sessions over a single wire.		HP line-drawing set; fold-up keyboard; user- adjustable convenience features; upgrade to CP/M computer system (opt.); screen-labeled function keys.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Direct 828/1	Direct 831	Direct DT-9220	Esprit Systems ESP 6110+
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	12	12	14	14
Screen Capacity, characters	1,920/3,168/3,696	1,920/3,168/3,696	512	1,920
Screen Arrangement, lines x char./line	24 x 80, 24 x 132, 28 x 132	24 x 80, 24 x 132, 28 x 132	24 x 80, 24 x 132; 24/25/26/27 data formats	24 x 80
Status Line	—	—	Yes	—
Character Color	P4 white, P31 green	P4 white, P31 green	Green, amber, white	White
Display Ergonomics	—	—	Tilt	Tilt, swivel
Keyboard Style	Typewriter	Typewriter	Digital VT220 style	Typewriter
Function Keys	8 or 16	16	—	4/8
Keyboard Ergonomics	Detachable	Detachable	Detachable, low profile	Detachable
Scrolling	Yes	Bidirectional; 3 rates	Up & down, smooth	Yes
Protect Format	Yes	Yes	—	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	HP 2640, HP 2645A, Digital VT100/VT52	Digital VT100/VT131/VT52	Digital VT100/VT200 family	Esprit II, ADDS R25 & View, LSI ADM 3A
Graphics Capability	Line drawing set	Line drawing set	Yes	No
Split Screen	Yes	Yes	No	No
Windows/Multisessions	Yes	Yes	No	No
Memory	32K	16K (st.), 32K (opt.)	4 screens	—
Editing Capabilities	Char. & line insert/delete, erase	Char. & line insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	DC1/DC2, Eng. Ack	X-On/X-Off, DTR	ANSI, ASCII	TTY
Format	Character, line, block	Character, line, block	Character, block, line	Character, line, block
Maximum Speed, bps	50-19.2K bps	50-19.2K bps	38.4K	19.2K bps
Terminal Interface	RS-232-C	RS-232-C	RS-232-C, 20 mA	RS-232-C, RS-422; 20 mA is optional
PRICING AND AVAILABILITY				
Purchase Price, \$	Contact vendor	Contact vendor	650	395
Annual Maintenance, \$	—	—	—	—
Serviced By	Contact vendor	Contact vendor	Direct	Esprit Depot Repair, TRW
Date of Announcement	March 1981	November 1982	December 1987	July 1984
Date of First Commercial Delivery	April 1981	November 1982	—	August 1984
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(408) 980-1414	(408) 980-1414	(408) 980-1414	(516) 293-5600
COMMENTS	Same as 825 plus down-line loadable fonts.	Full data entry checking & forms capabilities. Downline loading char. fonts, line drawing set, fold-up keyboard. All features & controls settable from keyboard and saveable in non-volatile RAM.		

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Esprit Systems ESP 6310	Esprit Systems ESP 6515	Esprit Systems OPUS 2	Esprit Systems Esprit III Color
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	13
Screen Capacity, characters	2,000	2,000/3,168	1,920	1,920
Screen Arrangement, lines x char./line	25 x 80	24 x 80	26 x 80/132 plus	26 x 80 plus status
Status Line	—	—	—	—
Character Color	Green or optional amber	Green, amber	Green, amber, white	Green
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel	Tilt
Keyboard Style	Typewriter	Typewriter	Typewriter	Typewriter
Function Keys	11/22	18/36	16	22
Keyboard Ergonomics	Detachable	Detachable	Detachable	Detachable
Scrolling	Yes	Smooth	Smooth	No
Protect Format	Yes	No	No	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	TTY, TeleVideo 925, ADDS View, LSI ADM 3A/5	TTY, Digital VT100/VT220	TTY, WY-50, TVI 925/910, ADDS Viewpoint	TTY, TeleVideo 950
Graphics Capability	Yes	No	Line drawing	Yes
Split Screen	No	Yes	No	Yes
Windows/Multisessions	No	Yes	No	Yes
Memory	—	—	—	—
Editing Capabilities	Line & char. insert/delete, erase	Line insert/delete, erase	Line insert/delete, erase	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII, ANSI	ASCII	ASCII
Communications Protocol	TTY	TTY	ASCII	TTY
Format	Character, line, block	Character	Character	Character, block
Maximum Speed, bps	19.2K bps	38.4K	38.4K	19.2K
Terminal Interface	RS-232-C, 20 mA, RS-422 is optional	RS-232-C, 20 mA; RS-422 is optional	RS-232-C; RS-422 and 20 mA are optional	RS-232-C or 20 mA
PRICING AND AVAILABILITY				
Purchase Price, \$	695	695	549	995
Annual Maintenance, \$	—	—	—	—
Serviced By	Esprit Depot Repair, TRW	Esprit Depot Repair, TRW	Esprit Depot Repair, TRW	Esprit Depot Repair, TRW
Date of Announcement	November 1983	May 1985	August 1986	May 1983
Date of First Commercial Delivery	November 1983	August 1985	August 1986	July 1983
Number of Units Installed to Date	60,000	1,000	—	—
VENDOR PHONE NUMBER	(516) 293-5600	(516) 293-5600	(516) 293-5600	(516) 293-5600
COMMENTS	Upgradable to standalone PC			

Alphanumeric Display Terminals

MANUFACTURER & MODEL	General Business Technology 7700DS	General Business Technology 7710DS	Harris H179-01	Harris H180-14
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	1,920	1,920	1,920	1,920/3,564
Screen Arrangement, lines x char./line	25 x 80	25 x 80	24 x 80	24 x 80, 32 x 80, 43 x 80, 27 x 132
Status Line	—	—	Yes	Yes
Character Color	Green, amber	Green, amber	Color	Green, amber
Display Ergonomics	Tilt & swivel	Tilt & swivel	Tilt, swivel	Tilt, swivel
Keyboard Style	IBM 5251 compatible	3180 style	Typewriter, data entry, APL	Typewriter, data entry, APL, EBCDIC
Function Keys	24	24	24	24
Keyboard Ergonomics	Detachable	Detachable	Detachable	Detachable
Scrolling	Up & down	Up & down	No	No
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	IBM 34/36/38	IBM 34/36/38	—	—
Graphics Capability	No	No	No	No
Split Screen	No	No	No	No
Windows/Multisessions	No	No	—	—
Memory	391 characters	—	—	—
Editing Capabilities	Line & char. insert/delete	Line & char. insert/delete	Char. & line insert/delete, erase	Char. & line insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-duplex	Half-duplex
Technique	Synchronous	Synchronous	Synchronous	Synchronous
Code	EBCDIC	EBCDIC	EBCDIC	EBCDIC
Communications Protocol	BSC, SNA/SDLC	BSC, SNA/SDLC	BSC, SNA/SDLC	BSC, SNA/SDLC
Format	Character, block, line	Character, block, line	Character	Character
Maximum Speed, bps	1 megabyte	1 megabyte	2.3M bps	2.3M bps
Terminal Interface	Twinax (IBM 5251)	Twinax (direct or remote)	Coaxial	Coaxial
PRICING AND AVAILABILITY				
Purchase Price, \$	1,450	1,550	1,695	1,595
Annual Maintenance, \$	105	156	156	156
Serviced By	ITT Servcom	ITT Servcom	Harris	Harris
Date of Announcement	—	January 1987	March 1985	March 1985
Date of First Commercial Delivery	—	January 1987	December 1985	November 1985
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(714) 261-1891	(714) 261-1891	(214) 386-2000	(214) 386-2000
COMMENTS	User-programmable up to 224 characters.	Part of Challenger Information Display System; attaches to Harris H174 control units and equivalent IBM controllers.	Part of Challenger Information Display System; attaches to Harris HX74 control units & equivalent IBM controllers.	Part of Challenger Information Display System; attaches to Harris HX74 control units & equivalent IBM controllers.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Harris H181-01	Harris H191-E	Harris H191-S	Hewlett-Packard HP 700/22
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	12, 14	12, 14	14
Screen Capacity, characters	1,920/3,564	1,920	1,920	3,168
Screen Arrangement, lines x char./line	24 x 80, 32 x 80, 43 x 80, 27 x 132	24 x 80	24 x 80	24 x 80, 24 x 132
Status Line	Yes	Yes	Yes	Yes
Character Color	Color	Green, amber	Green, amber	Green, amber, white
Display Ergonomics	Tilt, swivel	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel
Keyboard Style	Typewriter	Typewriter	Typewriter	VT220
Function Keys	24	24	24	30
Keyboard Ergonomics	Detachable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable
Scrolling	No	No	No	Up & down, smooth
Protect Format	Yes	Yes	Yes	No
FUNCTIONAL SPECIFICATIONS				
Compatibility	—	IBM 3270 family	IBM 3270 family	TTY, ANSI X3.64, Digital VT100/VT200 family
Graphics Capability	No	No	No	No
Split Screen	No	No	No	No
Windows/Multisessions	—	No	No	No
Memory	—	—	—	4 screens
Editing Capabilities	Char. & line insert/delete, erase	Line & char. insert/delete, erase character	Line & char. insert/delete, erase character	Line & char. insert/delete
TRANSMISSION SPECIFICATIONS				
Mode	Half-duplex	Full-duplex	Full-duplex	Full-duplex
Technique	Synchronous	Synchronous	Synchronous	Asynchronous
Code	EBCDIC	EBCDIC	EBCDIC	ASCII
Communications Protocol	BSC, SNA/SDLC	BSC, SNA/SDLC	BSC, SNA/SDLC	ANSI, X3.64, ASCII
Format	Character	Character	Character	Character
Maximum Speed, bps	2.3M bps	2.3M bps	2.3M bps	38.4K bps
Terminal Interface	Coaxial	Coaxial, twisted pair	Coaxial, twisted pair	RS-232-C, 20 mA
PRICING AND AVAILABILITY				
Purchase Price, \$	1,895	1,295	1,115 and up	575
Annual Maintenance, \$	156	50	45 and up	—
Serviced By	Harris	Harris	Harris	HP
Date of Announcement	September 1986	September 1987	September 1987	September 1987
Date of First Commercial Delivery	October 1986	December 1987	November 1987	September 1987
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(214) 386-2000	(214) 386-2000	(214) 386-2000	(800) 538-8787
COMMENTS	Part of Challenger Information Display System; attaches to Harris HX74 control units & equivalent IBM controllers.	Part of the Challenger Information Display System; supports Harris Coax Multidrop and built in RJ11 connector; attaches to Harris HX74 control units and equivalent IBM controllers.	Part of the Challenger Information Display System; supports Harris Coax Multidrop and built in RJ11 connector; attaches to Harris HX74 control units and equivalent IBM controllers.	

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Hewlett-Packard HP 700/41	Hewlett-Packard HP 700/71	Hewlett-Packard HP 700/92	Hewlett-Packard HP 700/94
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	1,920	1,920	3,168	3,168
Screen Arrangement, lines x char./line	24 x 80	24 x 80	24 x 80, 24 x 132	24 x 80, 24 x 132
Status Line	Yes	Yes	Yes	Yes
Character Color	Green, amber	Green, amber, white	Green, amber, white	Green, amber, white
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel	Tilt, swivel/height adjustable
Keyboard Style	ASCII layout	IBM 3270 compatible	HP Block mode	HP Block Mode
Function Keys	32	24	8	8
Keyboard Ergonomics	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable
Scrolling	Up & down, smooth	No	Up & down, smooth	Up & down
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	TTY, Wyse, ADDS, Lear Siegler, TeleVideo, Esprit/Hazeltine, Qume	IBM 3270 family	Digital VT200 family, HP Block Mode, ANSI X3.64	Digital VT200 family, HP Block Mode
Graphics Capability	Yes	No	No	No
Split Screen	Yes	No	No	No
Windows/Multisessions	No	No	No	No
Memory	1 screen	1 screen	8 screens	16 screens
Editing Capabilities	Line & char. insert/delete	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Synchronous	Asynchronous	Asynchronous
Code	ASCII	EBCDIC	ASCII	ASCII
Communications Protocol	ASCII	IBM 3270	ANSI, X3.64, ASCII	ANSI, X3.64, ASCII
Format	Character, line, block	Character	Block	Block
Maximum Speed, bps	38.4K	—	38.4K bps	38.4K bps
Terminal Interface	RS-232-C	Coaxial	RS-232-C, RS-422	RS-232-C, RS-422
PRICING AND AVAILABILITY				
Purchase Price, \$	375	695	895	1,195
Annual Maintenance, \$	—	—	—	—
Serviced By	HP	HP	HP	HP
Date of Announcement	September 1987	September 1987	September 1987	September 1987
Date of First Commercial Delivery	September 1987	September 1987	September 1987	September 1987
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(800) 538-8787	(800) 538-8787	(800) 538-8787	(800) 538-8787
COMMENTS	The HP 700/41 is an entry level ASCII terminal.	IBM 3191-compatible terminal.	HP Block Mode Display terminal.	High-performance terminal.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Hewlett-Packard HP 2392A	Hewlett-Packard HP 2393A	Hewlett-Packard HP 2394A	Hewlett-Packard HP 2397A
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	12	12	12	12
Screen Capacity, characters	1,920	1,920	1,920	1,920
Screen Arrangement, lines x char./line	24 x 80	24 x 80	24 x 80	24 x 809
Status Line	—	—	—	—
Character Color	P31 green	P31 green	P31 green	Color
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel	Tilt, swivel
Keyboard Style	Typewriter	Typewriter	Typewriter	Typewriter
Function Keys	8	12	8	12
Keyboard Ergonomics	Detachable	Detachable	Detachable	Detachable
Scrolling	Up & down, smooth	Up & down, smooth	Up & down, smooth	Up & down, smooth
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	ANSI X3.64	Tektronix 4010/4014, ANSI X3.64	ANSI X3.64	Tektronix 4010/4014, ANSI X3.64
Graphics Capability	No	Yes	No	Yes
Split Screen	Forward/backward	Forward/backward	No	No
Windows/Multisessions	—	—	No	No
Memory	4 pages (std.) 8 (opt.)	12 pages	8 pages	12 pages
Editing Capabilities	Char. & line insert/ delete, erase	Line & char. insert/ delete, erase	Line & char. insert/ delete	Line & char. insert/ delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Full-duplex	Full-duplex	Full-duplex	Full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ASCII	ASCII	ASCII	ASCII
Format	Character, block, line	Character, line, block	Character, line, block	Character, line, block
Maximum Speed, bps	110-19.2K bps	110-19.2K bps	110-19.2K bps	110-19.2K bps
Terminal Interface	RS-232-C	RS-232-C	RS-232-C	RS-232-C
PRICING AND AVAILABILITY				
Purchase Price, \$	1,400	2,295	1,910	3,595
Annual Maintenance, \$	—	—	—	—
Serviced By	HP	HP	HP	HP
Date of Announcement	June 1984	June 1985	June 1985	September 1985
Date of First Commercial Delivery	June 1984	June 1985	June 1985	September 1985
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(800) 538-8787	(800) 538-8787	(800) 538-8787	(800) 538-8787
COMMENTS	Compact display terminal designed for a wide range of applications.	Graphics terminal; optional touchscreen, bar code reader, tablet, mouse.	Data entry terminal.	Color graphics terminal; optional touchscreen, bar code reader, tablet, mouse.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Honeywell Bull HDS-5, HDS7505/7506/7507	Honeywell Bull HDS-1 HDS 7101/7102	Honeywell Bull HDS-3 HDS 7403/7404	Honeywell Bull HDS 7807/7808
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	2,000/10,560	2,000	2,000/10,560	2,000/10,560
Screen Arrangement, lines x char./line	24 x 80, 24 x 132	26 x 80	25 x 80, 25 x 132	24 x 80, 24 x 132
Status Line	Yes	—	—	Yes
Character Color	Green, amber	Green, amber	Green, amber	Green, amber
Display Ergonomics	Tilt, swivel	Tilt, swivel (opt.)	Tilt, swivel (opt.)	Tilt, swivel (opt.)
Keyboard Style	Typewriter, data entry	Typewriter	Typewriter	Typewriter (multi-function)
Function Keys	12	14	16/15	12
Keyboard Ergonomics	Detachable, low profile, tilt adjustable	Detachable	Detachable	Detachable
Scrolling	Up & down, smooth, jump	Up, smooth	Up & down	Up & down, smooth, jump
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	ANSI X3.64, Honeywell Bull VIP	ADDS Viewpoint, Wyse WY-50, TVI 910/925, ADM 3A/5	Wyse WY-50, Digital VT100/VT220/VT52	Honeywell/Bull VIP/3.64
Graphics Capability	Yes (line graphics)	Line graphics	Line graphics	Line graphics
Split Screen	Yes (5 partitions)	No	Yes	Yes (5 partitions)
Windows/Multisessions	No	—	—	—
Memory	3 screens	80/25/1	80/25/1, 132/25/1	3 pages
Editing Capabilities	Line & char. insert/delete, erase, tabulat.	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Full-duplex	Full-duplex	Full-duplex	Full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Async/sync
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	X3.64, Honeywell Bull VIP, X-On/X-Off	X-On/X-Off, DTR, RTS	X-On/X-Off, DTR, RTS	X-On/X-Off, DTR, RTS, Honeywell/Bull VIP/3.64
Format	Character, block, line	Character	Character, block	Character, block, line
Maximum Speed, bps	9600 bps	300-38.4K bps	300-38.4K bps	300-9600 bps
Terminal Interface	RS-232-C, RS-422	RS-232-C, RS-422A	RS-232-C, RS-422A	RS-232-C, RS-422A
PRICING AND AVAILABILITY				
Purchase Price, \$	995	525	750	1,200
Annual Maintenance, \$	75	85	95	100
Serviced By	Honeywell Bull	Honeywell/Bull	Honeywell/Bull	Honeywell/Bull
Date of Announcement	March 1987	September 1986	September 1986	November 1986
Date of First Commercial Delivery	April 1987	January 1987	January 1987	December 1986
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(617) 895-6858	(617) 895-6858	(617) 895-6858	(617) 895-6858
COMMENTS	Honeywell Bull Customer Assisted Maintenance Program (CAMP) is available at \$31/yr. One-year warranty.	Honeywell/Bull Customer Assisted Maintenance Program (CAMP) available at \$51/yr. One-year warranty.	Honeywell/Bull Customer Assisted Maintenance Program (CAMP) available at \$57/yr. One-year warranty.	Honeywell/Bull Customer Assisted Maintenance Program (CAMP) available at \$60/yr. One-year warranty. ANSI X3.64 mode (std.).

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Honeywell Bull VIP 7201	Human Designed Systems HDS3200 Model 10	Human Designed Systems HDS3200 Model 20	Human Designed Systems HDS3200 Model 30
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	12	15	15	15
Screen Capacity, characters	1,920	1,920/2,00/3,168/3,300	1,920/2,000/3,168/3,300/ 3,564/3,840/4,000/6336	1,920/2,00/3,168/3,300
Screen Arrangement, lines x char./line	24 x 80	24 x 80, 25 x 80, 25 x 132	24 x 80, 25 x 80, 25 x 80, 25 x 132, 48 x 80	24 x 80, 25 x 80, 25 x 132, 48 x 80, 50 x 80
Status Line	—	Yes	Yes	Yes
Character Color	Green	Green, amber, page white	Green, amber, page white	Green, amber, page white
Display Ergonomics	Tilt (opt.)	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	Typewriter	DEC VT220	Digital VT200	Digital VT220
Function Keys	7	42 x 3	42 x 3	42 x 3
Keyboard Ergonomics	Detachable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable
Scrolling	Up	Up & down, smooth	Up & down, smooth	Up & down
Protect Format	—	—	—	Smooth
FUNCTIONAL SPECIFICATIONS				
Compatibility	Honeywell/Bull VIP	TTY, Digital VT100/ VT200 family, Tektronix 4010/4014	TTY, Digital VT100/ VT200 family, Tektronix 4010/4014	TTY, Tektronix 4010/ 4014, Digital VT100/ VT200 family
Graphics Capability	No	Yes	Yes	Yes
Split Screen	No	Yes	Yes	Yes
Windows/Multisessions	—	Yes	Yes	Yes
Memory	80/24/1	4 pages	4 pages	4 pages
Editing Capabilities	Line & char. insert/ delete, erase	Line insert/delete, erase	Line insert/delete, erase	Line insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ASCII 7-bit	ANSI, X-On/X-Off, CTS/ RTS	ANSI, X-On/X-Off, CTS/ RTS	ANSI, X-On/X-Off, CTS/ RTS
Format	Character, block, line	Character	Character	Character
Maximum Speed, bps	300-19.2K bps	38.4K	38.4K bps	38.4K bps
Terminal Interface	RS-232-C, RS-422A	RS-232-C, 20 mA, RS-423	RS-232-C, 20 mA, RS-423	RS-232-C, 20 mA, RS-423
PRICING AND AVAILABILITY				
Purchase Price, \$	795	699	999	1,299
Annual Maintenance, \$	See comments	—	—	—
Serviced By	Honeywell/Bull	Human Designed Systems	Human Designed Systems	Human Designed Systems
Date of Announcement	December 1982	—	—	—
Date of First Commercial Delivery	February 1983	—	—	—
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(617) 895-6858	(215) 382-5000	(215) 382-5000	(215) 382-5000
COMMENTS	Honeywell/Bull Customer Assisted Maintenance Program (CAMP) avail- able at \$80/yr. One-year warranty.	Upgradable to other models in the 3200 Series; resolution 1056 x 400.	Ungradable to other models in the 3200 Series Resolution 1056 x 800.	Resolution 1056 x 800; true pan and zoom with standard 256K display list (512K optional); storage for four graphs.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Intecolor Corp. AG 480 14E/14R	Intecolor Corp. ColorTrend 410	Intecolor Corp. ColorTrend 220	Intecolor Corp. ColorTrend 260/270
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	1,920/3,960	1,920	2,000	1,920 (260), 2,000 (270)
Screen Arrangement, lines x char./line	Up to 132 x 30	24 x 80	24 x 80	24 x 80
Status Line	No	No	Yes	No (260), Yes (270)
Character Color	Multicolor	Multicolor	Multicolor	Multicolor
Display Ergonomics	Tilt	Tilt	Tilt	Tilt, rackmount
Keyboard Style	Typewriter, Digital VT220	Typewriter	Typewriter, Digital VT220	Typewriter
Function Keys	48+ (all keyboard except four)	24	40	24 (260), 40 (270)
Keyboard Ergonomics	Detachable, low profile, tilt adjustable			
Scrolling	Up & down	Up	Up, smooth	Up, smooth (270 only)
Protect Format	No	No	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Digital VT100 family, Tektronix 4105A	Digital VT100 family, ANSI X3.64	Digital VT100/VT200 family, ANSI X3.64	Digital VT100 family, ANSI X3.64, Digital VT200 family (270 only)
Graphics Capability	Yes	Yes	No	Yes (260), no (270)
Split Screen	Yes	Yes	No	No
Windows/Multisessions	Yes	No	No	No
Memory	2 screens	2 screens	1 screen	2 screens (260), 1 screen (270)
Editing Capabilities	—	Line & char. insert/delete	Line & char. insert/delete	Line & char. insert/delete
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ANSI, X3.64	ANSI, X3.64	ANSI, X3.64	ANSI, X3.64
Format	Character	Character	Character	Character
Maximum Speed, bps	Up to 38.4K	19.2K	19.2K	19.2K
Terminal Interface	RS-232-C	RS-232-C	RS-232-C, 20 mA	RS-232-C, 20 mA (270)
PRICING AND AVAILABILITY				
Purchase Price, \$	1,995	1,395	1,695	1,795 (260), 2,095 (270)
Annual Maintenance, \$	Contact vendor	Contact vendor	Contact vendor	Contact vendor
Serviced By	Intecolor Service Centers	Intecolor Service Centers	Intecolor Service Centers	Intecolor Service Centers
Date of Announcement	1986	1984	1985	1986
Date of First Commercial Delivery	1986	1984	1985	1986
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(404) 449-5961	(404) 449-5961	(404) 449-5961	(404) 449-5961
COMMENTS		132-column fold mode	132-column fold mode	132-column fold mode

Alphanumeric Display Terminals

MANUFACTURER & MODEL	IIS IS-392F	IIS IS-396	IIS IS-397 Model 1	IIS IS-397 Model 1C
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	1,920/2,560/3,168/3,440/ 3,564	1,920	1,920/3,168	1,920
Screen Arrangement, lines x char./line	24 x 80, 32 x 80, 43 x 80, 27 x 132	24 x 80	24 x 80, 27 x 132	24 x 80
Status Line	—	—	Yes	Yes
Character Color	Multicolor (7 colors)	P39	Green, amber, white	Multicolor (7 colors)
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	Typewriter, data entry, APL, IBM 3270 compatible	All as in IBM	Typewriter, data entry, IBM 5250 compatible	Typewriter, data entry, IBM 5250 compatible
Function Keys	24	24	24	24
Keyboard Ergonomics	Detachable, low profile tilt adjustable	Detachable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable
Scrolling	Up & down	No	No	No
Protect Format	Yes	No	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	IBM 3270 family	—	IBM 5250 family	IBM 5250 family
Graphics Capability	No	Semi-graphic	No	No
Split Screen	No	Yes	No	No
Windows/Multisessions	Yes	Yes	No	No
Memory	1, 2, 3, 4 screens	8KB	1 screen	1 screen
Editing Capabilities	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-duplex	Half-duplex	Half-duplex	Half-duplex
Technique	Synchronous	Synchronous	Synchronous	Synchronous
Code	EBCDIC	IBM 5250	EBCDIC	EBCDIC
Communications Protocol	BSC, SNA, SDLC, 3270 coax	IBM 5250 twinax	IBM 5250 Twinax	IBM 5250 Twinax
Format	Character, line, block	Character, block, line	Character, block, line	Character, block, line
Maximum Speed, bps	2.5M bps	1M bps	1M bps	1M bps
Terminal Interface	Coaxial	Twinax	Twinax	Twinax
PRICING AND AVAILABILITY				
Purchase Price, \$	Contact vendor	Contact vendor	Contact vendor	Contact vendor
Annual Maintenance, \$	—	—	—	—
Serviced By	IIS, Inc.	IIS	IIS, Inc.	IIS, Inc.
Date of Announcement	November 1987	March 1987	October 1986	June 1987
Date of First Commercial Delivery	November 1987	March 1987	October 1986	June 1987
Number of Units Installed to Date	900	1,500	1,500	800
VENDOR PHONE NUMBER	(201) 343-8353	(201) 343-8353	(201) 343-8353	(201) 343-8353
COMMENTS	Additional features include parallel printer port (std.), 1500 ch. record/playback (std.), rule function (std.), bar code reader (opt.), magnetic strip reader (opt.), built-in balun RJ11 (opt.), built-in coax doubler (opt.).	Additional features include printer port for screen and system printing (opt.).	Additional features include printer port for screen and system printing (std.), bar code reader (opt.), magnetic strip reader (opt.).	Additional features include printer port for screen/system printing (std.), bar code reader (opt.), magnetic strip reader (opt.).

Alphanumeric Display Terminals

MANUFACTURER & MODEL	IBM 3101	IBM 3104	IBM 3161	IBM 3162
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	12	12	12	14
Screen Capacity, characters	1,920	1,920	1,920	2,000-3,828
Screen Arrangement, lines x char./line	24 x 80	24 x 80	24 x 80 plus	24 x 29, 80 x 132
Status Line	Yes	Yes	Yes	Yes
Character Color	Green	White	Green (11,12), amber (210/220)	Green, amber
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel	Tilt, swivel
Keyboard Style	Typewriter	Typewriter, data	Typewriter	Typewriter
Function Keys	8 standard	10 (Model B1); 24 (Model B2)	24 standard	24 standard
Keyboard Ergonomics	Detachable	Detachable	Detachable	Detachable
Scrolling	No	Yes	Up & down	Up & down
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	—	—	ADDS Viewpoint, Lear Siegler ADM 3A, Hazel- time 1500, Televideo 910	Digital VT220/100/52, Televideo 910/910+/912/ 920/925/925E, Hazeltine 1500, ADDS, Wyse, LSI
Graphics Capability	No	No	Line drawing set	Line drawing set
Split Screen	No	Yes	Yes	Yes
Windows/Multisessions	No	Yes	Yes	Yes
Memory	—	—	1,920 characters	1,920 characters
Editing Capabilities	Erase	Line & char. insert/ delete, erase	Erase	Erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Synchronous	Asynchronous	Asynchronous
Code	ASCII	BSC/SDLC	X-On/X-Off	X-On/X-Off
Communications Protocol	ASCII	EBCDIC	ASCII	ASCII
Format	Character, block	Block	Character, block	Character, block
Maximum Speed, bps	110 to 9600	Up to 38.4K	50-19.2K	50-19.2K
Terminal Interface	RS-232-C, RS-422-A	Communication loop, twisted pair	RS-232-C, RS-422-A	RS-232-C, RS-422-A
PRICING AND AVAILABILITY				
Purchase Price, \$	1,430-1,650	2,192-2,150	695-774	645-724
Annual Maintenance, \$	77-209	104-231	35-65	35-45
Serviced By	IBM	IBM	IBM	IBM
Date of Announcement	1979	March 1982	June 1985	September 1986
Date of First Commercial Delivery	1979	—	July 1985	September 1986
Number of Units Installed to Date	Over 150,000	—	—	—
VENDOR PHONE NUMBER	Contact local IBM Rep	Contact local IBM Rep	Contact local IBM Rep	Contact local IBM Rep
COMMENTS	Models 13 and 23; all other models have been withdrawn from marketing.	Models B1 equipped with 75-key data-entry key- board; Model B2 equipped with 87-key type-writer keyboard; used with the 8100 Information System.	Models 11 and 12.	Models 110/120, 210/220, 310/320, and 410/420.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	IBM 3163	IBM 3164	IBM 3178	IBM 3179
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	12	14	12	14
Screen Capacity, characters	1,920	1,920	1,920	1,920
Screen Arrangement, lines x char./line	24 x 80	24 x 80	24 x 80	24 x 80
Status Line	Yes	Yes	Yes	Yes
Character Color	Green (11/12), amber (210/220)	Multicolor	Green	Multicolor
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel	Tilt, swivel
Keyboard Style	Typewriter	Typewriter	Typewriter, data	Typewriter, data
Function Keys	24 standard	24 standard	10/12 standard	24 standard
Keyboard Ergonomics	Detachable	Detachable	Detachable	Detachable
Scrolling	Up & down, smooth	Up & down, smooth	No	No
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Digital VT100/VT52 (via optional cartridge)	Digital VT100/VT52 (via optional cartridge)	IBM 3278 Model 2	IBM 3279-S2A/S2B (1); 5291-1 (2)
Graphics Capability	Line drawing set	Line drawing set	No	No
Split Screen	Yes	Yes	No	No
Windows/Multisessions	Yes	Yes	No	No
Memory	7,680 characters	7,680 characters	—	—
Editing Capabilities	Erase	Line & char. insert/ delete, erase	Character insert/delete, erase	Character insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Synchronous	Synchronous
Code	X-On/X-Off	ASCII	BSC, SNA/SDLC	BSC, SNA/SDLC
Communications Protocol	ASCII	X-On/X-Off	EBCDIC	EBCDIC
Format	Character, block	Character, block	Block	Block
Maximum Speed, bps	50-19.2K	50-19.2K	1200-9600	1200-9600
Terminal Interface	RS-232-C, RS-422-A	RS-232-C, RS-422-A	Coaxial, twisted pair	Coaxial, twisted pair, twinax
PRICING AND AVAILABILITY				
Purchase Price, \$	1,095-1,174	1,295-1,374	1,495-1,550	2,095 (1); 2,195 (2)
Annual Maintenance, \$	40-80	45-85	66-252	92-142
Serviced By	IBM	IBM	IBM	IBM
Date of Announcement	June 1985	February 1986	March 1983	March 1984
Date of First Commercial Delivery	June 1985	February 1986	—	March 1984
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	Contact local IBM Rep	Contact local IBM rep	Contact local IBM rep	Contact local IBM rep
COMMENTS	Models 11 and 12; may be divided into 3 horizontal or vertical viewports, using a 7,680-character data buffer.	Models 11 and 12; may be divided into 3 horizontal or vertical viewports using a 7,680-character data buffer.	Part of 3270 Informa- tion Display System; attaches to 3174, 3274, or 3276 control unit; Models C1, C2, C3, and C4.	Available in two models: Model 1 is part of 3270 family; Model 2 is part of 5250 family; attaches to 3174, 3274, 3276, and 5294 control units.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	IBM 3179-G	IBM 3180	IBM 3191	IBM 3192
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	15	12	15
Screen Capacity, characters	1,920	1,920-3,564 (Md. 1); 1,920	1,920	1,920/2,560
Screen Arrangement, lines x char./line	24 x 80, 32 x 80	24/32/43 x 80, 27 x 132 (Md. 1), 24 x 80 (2)	24 x 80	24 x 80, 32 x 80, 43 x 80, 27 x 80
Status Line	Yes	Yes	—	—
Character Color	Multicolor	Green	Green (A10/A20), amber (B10/B20)	Color
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel	Tilt, swivel
Keyboard Style	Typewriter, data	Typewriter, data	Typewriter, data entry	Typewriter
Function Keys	24 standard	24 standard	10/12	24
Keyboard Ergonomics	Detachable	Detachable	Detachable	Detachable
Scrolling	No	No	No	Vertical
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	IBM 3179/3279-S3G	IBM 3278 (Model 1); 5251 (Model 2)	IBM 3278 Model 2, 3278	IBM 3278 Models 2 and 3
Graphics Capability	No	No	No	No
Split Screen	No	No	No	No
Windows/Multisessions	No	No	—	—
Memory	—	—	—	—
Editing Capabilities	Character insert/delete, erase	Character insert/delete, erase	Character insert/delete, erase	Character insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Synchronous	Synchronous	Synchronous	Synchronous
Code	BSC, SNA/SDLC	BSC, SNA/SDLC	EBCDIC	EBCDIC
Communications Protocol	EBCDIC	EBCDIC	BSC, SNA/SDLC	BSC, SNA/SDLC
Format	Block	Block	Block	Block
Maximum Speed, bps	1200-9600	1200-9600	1200-9600 bps	1200-9600 bps
Terminal Interface	Coaxial, twisted pair	Coaxial, twisted pair, twinax	Coaxial, twisted pair	Coaxial, twisted pair
PRICING AND AVAILABILITY				
Purchase Price, \$	2,995	2,295 (2), 2,195 (1)	1,295	Contact vendor
Annual Maintenance, \$	92-142	69-135	40	—
Serviced By	IBM	IBM	IBM	IBM
Date of Announcement	June 1985	March 1984	June 1986	—
Date of First Commercial Delivery	June 1985	March 1984	June 1986	—
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	Contact local IBM rep	Contact local IBM rep	Contact local vendor	Contact local vendor
COMMENTS	Part of 3270 family; attaches to 3174/3274/ 3276 control units; Models G1 and G2; 3979 Expansion Unit (\$295) provides aux- iliary device ports.	Available in two models: Model 1 is part of 3270 family; Model 2 is part of 5250 family; Model 1 features multiple display capacities.	Part of 3270 Information Display System; attaches to 3174, 3274, or 3276 control unit; Models A10, A20, B10, and B20.	Part of 3270 Information Display System; attaches to 3174, 3274, or 3276 control unit.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	IBM 3193	IBM 3194	IBM 3196	IBM 3197
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	15	14	12	15
Screen Capacity, characters	1,920/3,840	1,920	1,920	1,920/3,564
Screen Arrangement, lines x char./line	24 x 80, 32 x 80, 43 x 80, 48 x 80	24 x 80	24 x 80	24 x 80, 27 x 132
Status Line	—	—	Yes	Yes
Character Color	Black/white	Color	Green, amber	Green
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel	Tilt, swivel
Keyboard Style	Typewriter, data entry	Typewriter, data entry	Typewriter	Typewriter
Function Keys	10/12	10/12	24 command functions	24 command functions
Keyboard Ergonomics	Detachable	Detachable	Detachable	Detachable
Scrolling	No	No	Yes	—
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	IBM 3278 Model 2, 3, & 4, 3178	IBM 3179 Model 1	—	IBM 3180 Model 2
Graphics Capability	Images	No	No	No
Split Screen	No	No	No	No
Windows/Multisessions	—	—	—	—
Memory	—	—	—	—
Editing Capabilities	Character insert/delete, erase	Character insert/delete, erase	Character insert/delete, erase	Character insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Synchronous	Synchronous	Synchronous	Synchronous
Code	EBCDIC	EBCDIC	EBCDIC	EBCDIC
Communications Protocol	BSC, SNA/SDLC	BSC, SNA/SDLC	BSC, SNA/SDLC	BSC, SNA/SDLC
Format	Block	Block	Block	Block
Maximum Speed, bps	1200-9600 bps	1200-9600 bps	1200-9600 bps	1200-9600 bps
Terminal Interface	Coaxial, twisted pair	Coaxial, twisted pair	Coaxial, twisted pair	Coaxial, twisted pair
PRICING AND AVAILABILITY				
Purchase Price, \$	2,495	2,895	1,295	1,795-1,895
Annual Maintenance, \$	75	240	55	—
Serviced By	IBM	IBM	IBM	IBM
Date of Announcement	June 1986	June 1986	June 1986	February 1987
Date of First Commercial Delivery	September 1986	1987	—	February 1987
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	Contact local vendor	Contact local vendor	Contact local vendor	Contact local vendor
COMMENTS	Part of 3270 Information Display System; attaches to 3174, 3274, or 3276 control unit; Models 010 and 020; provides multiple logical termi- nals, multiple partitions and imaging.	Part of 3270 Information Display System; attaches to 3174, 3274, or 3276 control unit; Models H20 and H50; provides windowing, with two note pads and from 1 to 4 host sessions.	Part of 5250 Information Display System; Models A10 and B10 attach to 5294 control unit; Models A20 and B20 do not.	

Alphanumeric Display Terminals

MANUFACTURER & MODEL	IBM 3276	IBM 3278	IBM 3279	IBM 3290
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	10.7 x 13.4
Screen Capacity, characters	960-3,440	960-3,560	1,920/2,560	5,300/9,920
Screen Arrangement, lines x char./line	12 x 80, 24 x 80, 32 x 80, 43 x 80	12 x 80, 24 x 80, 32 x 80, 27 x 132	24 x 80, 32 x 80	50 x 106, 62 x 160
Status Line	—	—	—	—
Character Color	White	White	Color	Amber gas plasma
Display Ergonomics	—	—	—	—
Keyboard Style	Typewriter, data entry, APL	Typewriter, data entry, APL	Typewriter, data entry, APL	Typewriter, APL
Function Keys	12/24	12/24	10/12	24
Keyboard Ergonomics	Detachable	Detachable	Detachable	Detachable
Scrolling	No	No	No	Yes
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	—	—	—	—
Graphics Capability	No	No	Opt.	No
Split Screen	No	No	No	Up to 16 partitions
Windows/Multisessions	—	—	—	—
Memory	—	—	—	—
Editing Capabilities	Character insert/delete, erase	Character insert/delete, erase	Character insert/delete, erase	Character insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Synchronous	Synchronous	Synchronous	Synchronous
Code	EBCDIC	EBCDIC	EBCDIC	EBCDIC
Communications Protocol	BSC, SNA/SDLC	BSC, SNA/SDLC	BSC, SNA/SDLC	BSC, SNA/SDLC
Format	Block	Block	Block	Block
Maximum Speed, bps	1200-9600 bps	1200-9600 bps	1200-9600 bps	1200-9600 bps
Terminal Interface	Coaxial, twisted pair	Coaxial, twisted pair	Coaxial, twisted pair	Coaxial, twisted pair
PRICING AND AVAILABILITY				
Purchase Price, \$	5,380-5,830	1,484-2,060	2,190-3,115	7,100
Annual Maintenance, \$	—	—	—	210
Serviced By	IBM	IBM	IBM	IBM
Date of Announcement	1977	1977	October 1979	March 1983
Date of First Commercial Delivery	1977	1978	October 1979	—
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	Contact local vendor	Contact local vendor	Contact local vendor	Contact local vendor
COMMENTS	Control unit/display station; part of 3270 Information Display System; supports up to 7 additional devices.	Part of 3270 Information Display System; attaches to 3174, 3274, and 3276 control units.	Part of 3270 Information Display System; attaches to 3174, 3274, and 3276 control units.	Part of 3270 Information Display System; attaches to 3174, and 3274 control units.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	IBM 5251	IBM 5291/5292	ITT Qume QVT 101 Plus	ITT Qume QVT 119 Plus
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	12	12	14	14
Screen Capacity, characters	1,920	1,920	1,920	3,300
Screen Arrangement, lines x char./line	24 x 80	24 x 80	24 x 80	24 x 80/132 plus status line
Status Line	—	Yes	—	—
Character Color	White	White	Green; amber or white screens optional	Green, amber or white screens optional
Display Ergonomics	—	—	Tilt, swivel	Tilt, swivel
Keyboard Style	Typewriter	Typewriter	Typewriter	Typewriter
Function Keys	24	24 command functions	44	44
Keyboard Ergonomics	Detachable	Detachable	Detachable	Detachable
Scrolling	Yes	Yes	Jump	Up & down, smooth
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	IBM 5250 System	IBM 5251-11	TeleVideo 910/920/925, QVT 101	QVT 119, WY-50, TVI 910+ /920/925/950
Graphics Capability	No	No	Yes	Yes
Split Screen	—	—	No	Yes
Windows/Multisessions	—	—	No	No
Memory	—	—	—	—
Editing Capabilities	Character insert/delete, erase	Character insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Synchronous	Synchronous	Asynchronous	Asynchronous
Code	EBCDIC	EBCDIC	ASCII	ASCII
Communications Protocol	BSC, SNA/SDLC	BSC, SNA/SDLC	—	—
Format	Block	Block	Character, line, block	Character, line, block
Maximum Speed, bps	1200-9600 bps	1200-9600 bps	Up to 19.2K bps	38.4K bps
Terminal Interface	Coaxial, twisted pair	Coaxial, twisted pair	RS-232-C; RS-422 optional	RS-232-C; RS-422 optional
PRICING AND AVAILABILITY				
Purchase Price, \$	2,135-3,040	1,850/4,950-6,995	445	595
Annual Maintenance, \$	—	115/423-513	—	—
Serviced By	IBM	IBM	ITT Servcom	ITT Servcom
Date of Announcement	1977	July 1982	April 1986	April 1986
Date of First Commercial Delivery	1978	—	April 1986	June 1986
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	Contact local vendor	Contact local vendor	(408) 942-4000	(408) 942-4000
COMMENTS	Part of 5250 Information Display System; 5251-11 is remote cluster or local station; 5251-12 is remote cluster controller/station; attaches to 5294 control unit.	5291 is a monochrome terminal; 5292 is a color version available in two models; part of 5250 Information Display System; attaches to 5294 control unit.	Foreign character sets; screen saver; function keys changed from square to round; pastel shaded break, escape, and clear keys.	Function keys changed from square to round; pastel shaded break; escape, and clear keys; programmable clock and calculator function.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	ITT Qume QVT 201	ITT Qume QVT 203 Plus	ITT Qume QVT 202	Lee Data 1214
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	24 x 80
Screen Capacity, characters	1,920/3,168	3,300	1,920/3,168	1,920/3,168
Screen Arrangement, lines x char./line	24 x 80/132	24 x 80/132 plus status line	24 x 80/132	24/32/43 x 80
Status Line	—	—	—	—
Character Color	Green; amber is optional	Green; white and amber are optional	Green; amber is optional	Green or amber
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel	Tilt, swivel
Keyboard Style	Typewriter	Typewriter	Typewriter	Typewriter, data entry
Function Keys	34	14	32	24
Keyboard Ergonomics	Detachable	Detachable	Detachable	Detachable
Scrolling	Smooth	Up & down, smooth	Smooth	No
Protect Format	No	Yes	No	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Digital VT102/VT220/ VT100	Digital VT220/131/100/ VT50, QVT 103/203	Digital VT102/VT220/ VT220/VT52	TTY
Graphics Capability	Yes	Yes	No	No
Split Screen	Yes	—	Yes	No
Windows/Multisessions	Yes	—	Yes	No
Memory	—	—	—	—
Editing Capabilities	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase	Erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	EBCDIC
Communications Protocol	ASCII	—	ASCII	BSC, SNA/SDLC
Format	Character	Character	Character	Block
Maximum Speed, bps	19.2K	38.4K bps	—	—
Terminal Interface	RS-232-C; RS-422, 20 mA optional	RS-232-C; RS-422 optional	RS-232-C; RS-422, 20 mA optional	—
PRICING AND AVAILABILITY				
Purchase Price, \$	695	645	795	—
Annual Maintenance, \$	—	—	—	—
Serviced By	ITT Servcom	ITT Servcom	ITT Servcom	Lee Data
Date of Announcement	March 1985	November 1986	March 1985	1986
Date of First Commercial Delivery	March 1985	January 1987	March 1985	1986
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(408) 942-4000	(408) 942-4000	(408) 942-4000	(612) 828-0300
COMMENTS		Function keys changed from square to round; IBM PC monitor compatible video output; multi-page support; calculator and clock functions.		

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Intecolor Corp. 3815/3865	Intecolor Corp. 8815/8865	IIS IS-320	IIS IS-378
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	20	14	14
Screen Capacity, characters	3,840	3,840	1,920/3,168	1,920
Screen Arrangement, lines x char./line	48 x 80	48 x 80	24 x 80, 24 x 132	24 x 80
Status Line	No	No	Yes	—
Character Color	Multicolor	Multicolor	Green, amber, white	P39
Display Ergonomics	Tilt (3815), rackmount (3865)	Tilt, swiv/ht adjust (8815), rackmt (8865)	Tilt, swivel/height adjustable	Tilt, swivel
Keyboard Style	Typewriter, Intecolor 8800/3800	Typewriter, Intecolor 8800/3800	Typewriter, data entry	All as in IBM
Function Keys	16 optional	16 optional	36	24
Keyboard Ergonomics	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable
Scrolling	Up	Up	Up & down, smooth	No
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Intecolor 8000 G/R	Intecolor 8000 G/R	Digital VT100/VT200 family	—
Graphics Capability	Yes	Yes	No	Semi-graphic
Split Screen	No	No	No	No
Windows/Multisessions	No	No	No	No
Memory	1 screen, up to 4 optional	1 screen, up to 4 optional	1 screen	2KB
Editing Capabilities	Line & char. insert/ delete	Line & char. insert/ delete	Line & char. insert/ delete, erase	Char. & line insert/ delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-duplex	Half-duplex
Technique	Asynchronous	Asynchronous	Synchronous	Synchronous
Code	ASCII	ASCII	ASCII	IBM 3270
Communications Protocol	Intecolor 8800/3800 G/R	Intecolor 8800/3800 G/R	ASCII	IBM 3270 coax
Format	Character	Character	Character	Block, line, character
Maximum Speed, bps	38.4K bps	38.4K bps	19.2K bps	2.5M bps
Terminal Interface	RS-232-C, 20 ma (opt.)	RS-232-C, 20 ma (opt.)	RS-232-C	Coax
PRICING AND AVAILABILITY				
Purchase Price, \$	2,795 (3815), 3,195 (3865)	3,245 (8815), 3,645 (8865)	Contact vendor	Contact vendor
Annual Maintenance, \$	Contact vendor	Contact vendor	—	—
Serviced By	Intecolor Service Centers	Intecolor Service Centers	IIS	IIS
Date of Announcement	1986 (3815) 1987 (3865)	1987	September 1987	September 1983
Date of First Commercial Delivery	1986 (3815) 1987 (3865)	1987	October 1987	October 1983
Number of Units Installed to Date	—	—	900	20,000
VENDOR PHONE NUMBER	(404) 449-5961	(404) 449-5961	(201) 343-8353	(201) 343-8353
COMMENTS	Designed for industrial applications.	Designed for industrial applications.		

Alphanumeric Display Terminals

MANUFACTURER & MODEL	IIS IS-379	IIS IS-391	IIS IS-392 Model C	IIS IS-392 Model D
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	Up to 2,560	1,920	1,920/2,560	1,920/2,560/3,168/3,440/ 3,564
Screen Arrangement, lines x char./line	Up to 32 x 80	24 x 80, 32 x 80	24 x 80, 32 x 80	24 x 80, 32 x 80, 27 x 132, 43 x 80
Status Line	—	—	Yes	Yes
Character Color	Color	P39	Multicolor (7 colors)	Green, amber, white
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	All as in IBM	All as in IBM	Typewriter, IBM 3270 compatible, APL	Typewriter, data entry, APL, IBM 3270 compatible
Function Keys	24	24	24	24
Keyboard Ergonomics	Detachable	Detachable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable
Scrolling	No	No	Up & down	Up & down
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	—	—	IBM 3270 family	IBM 3270 family
Graphics Capability	Semi-graphic, APL	Semi-graphic	No	No
Split Screen	Yes	No	No	No
Windows/Multisessions	Yes	No	No	Yes
Memory	4KB	2KB	1 screen	1, 2, 3, 4 screens
Editing Capabilities	Char. & line insert/ delete, erase	Char. & line insert/ delete, erase	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-duplex	Half-duplex	Half-duplex	Half-duplex
Technique	Synchronous	Synchronous	Synchronous	Synchronous
Code	IBM 3279	IBM 3270	EBCDIC	EBCDIC
Communications Protocol	IBM 3270 coax	IBM 3270 coax	BSC, SNA, SDLC, IBM 3270 coax	BSC, SNA, SDLC, 3270 coax
Format	Block, line, character	Character, line, block	Character, block, line	Character, block, line
Maximum Speed, bps	2.5M bps	2.5M bps	2.5M	2.5M bps
Terminal Interface	Coax	Coax	Coaxial	Coaxial
PRICING AND AVAILABILITY				
Purchase Price, \$	Contact vendor	Contact vendor	Contact vendor	Contact vendor
Annual Maintenance, \$	—	—	—	—
Serviced By	IIS	IIS	IIS	IIS
Date of Announcement	May 1985	August 1986	July 1987	May 1987
Date of First Commercial Delivery	October 1985	November 1986	July 1987	May 1987
Number of Units Installed to Date	3,000	11,000	2,000	4,000
VENDOR PHONE NUMBER				
	(201) 343-8353	(201) 343-8353	(201) 343-8353	(201) 343-8353
COMMENTS				
	Additional features in- clude parallel printer port (opt.), record/ playback (std.), built- in Balun RJ11 (opt.).	Additional features in- clude parallel printer port (std./opt.), record/playback (std.), built-in Balun RJ11 (opt.), built-in coax doubler (opt.).	Additional features in- clude parallel printer port (std.), 1500 ch. record/playback (std.), rule function (std.), bar code reader (opt.), magnetic strip reader (opt.), built-in Balun RJ11 (opt.), built-in coax doubler (opt.).	Additional features include parallel printer port (std.), 1500 ch. record/playback (std.), rule function (std.), bar code reader (opt.), magnetic strip reader (opt.), VT100 emulation (opt.), built-in balun RJ11 (opt.), built-in coax doubler (opt.).

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Lee Data 1222	Lee Data 2131	Liberty Electronics Freedom One	Liberty Electronics Freedom One ANSI
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	27 x 132	27 x 132	14	14
Screen Capacity, characters	1,920/3,564	1,920/3,564	2,168	—
Screen Arrangement, lines x char./line	24/32/43 x 80	24/32 x 80	24 x 80, 24 x 132	24 x 80, 24 x 132
Status Line	—	—	—	Yes
Character Color	Green	Color screen	Green	Amber
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel	Tilt, swivel
Keyboard Style	Typewriter, data entry, APL	Typewriter, data entry, APL	Typewriter	Digital VT220, Data General
Function Keys	24	24	44/88 programmable	15 user-programmable
Keyboard Ergonomics	Detachable	Detachable	Detachable	Detachable, low profile, tilt adjustable
Scrolling	No	No	Up & down, smooth	—
Protect Format	Yes	Yes	Yes	—
FUNCTIONAL SPECIFICATIONS				
Compatibility	TTY, Digital VT100/VT132 VT 52, HP 2624B	Digital VT100/VT132/ VT 52	TVI 950/925, Wyse Wy-50, ADDS VP A2	Digital VT100/VT200 family, Data General Dasher D210/D211
Graphics Capability	No	Optional	Line drawing	No
Split Screen	No	—	Yes	Yes
Windows/Multisessions	Yes	—	—	No
Memory	—	—	4 pages	1 screen
Editing Capabilities	Erase	Erase	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Async/sync	Async/sync	Asynchronous	Asynchronous
Code	EBCDIC, ASCII	EBCDIC	ASCII	ASCII
Communications Protocol	BSC, SNA/SDLC, ASCII	BSC, SNA/SDLC, EBCDIC	ASCII	ANSI, X3.64
Format	Block, line, character	Block	Character, block	Character
Maximum Speed, bps	19.2K bps	19.2K bps	50-38.4K bps	38.4K bps
Terminal Interface	RS-232-C	RS-232-C	RS-232-C	RS-232-C
PRICING AND AVAILABILITY				
Purchase Price, \$	—	—	449	499
Annual Maintenance, \$	—	—	—	Contact vendor
Serviced By	Lee Data	Lee Data	Liberty, third party	Liberty, third party
Date of Announcement	1985	1985	March 1986	1986
Date of First Commercial Delivery	1985	1985	—	February 1987
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(612) 828-0300	(612) 828-0300	(415) 742-7040	(415) 742-7040
COMMENTS			1 year warranty; emulations: Freedom 200, ADDS VP A2, TVI 950/925, Lear Siegler ADM 31, Wyse WY-50.	Entry level unit; no down-line loadable character set.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Liberty Electronics Freedom One Plus	Liberty Electronics Freedom One Turbo	Link Technologies Link 125	Link Technologies Link 220
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	2,168	2,168	3,432	3,432
Screen Arrangement, lines x char./line	24 x 80, 24 x 132	24 x 80, 24 x 132	26 x 80, 26 x 132	26 x 80, 26 x 132
Status Line	—	—	Yes	Yes
Character Color	Amber	Green, amber	Green, amber, white	Green, amber, white
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	Typewriter	Typewriter	Typewriter, data entry	Typewriter, Digital VT220
Function Keys	44/88 programmable	44/88 programmable	20/40	38
Keyboard Ergonomics	Detachable	Detachable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable
Scrolling	Up & down, smooth	Up & down, smooth	Up	Up & down, smooth
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Freedom 1	Freedom 1 Plus, Digital VT220/VT100/VT52	TTY, Wyse, ADDS, Lear Siegler, TeleVideo	TTY, Digital VT100/VT200 family, Digital VT132
Graphics Capability	Line drawing	Line drawing	No	No
Split Screen	Yes	Yes	Yes	Yes
Windows/Multisessions	—	—	No	No
Memory	4 pages	4 pages	2 screens	2 screens
Editing Capabilities	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ASCII	ASCII	ASCII	ANSI, ASCII, X3.64
Format	Character, block	Character, block	Character, line, block	Character, block
Maximum Speed, bps	50-38.4K bps	50-38.4K bps	38.4K bps	38.4K bps
Terminal Interface	RS-232-C (std.); RS-422, 20 mA (opt.)	RS-232-C (std.); RS-422, 20 mA (opt.)	RS-232-C, RS-422, 20 mA	RS-232-C, RS-422, RS-423, 20 mA
PRICING AND AVAILABILITY				
Purchase Price, \$	549	599	495	595
Annual Maintenance, \$	—	—	—	—
Serviced By	Liberty, third party	Liberty, third party	Link Technologies	Link Technologies
Date of Announcement	October 1986	October 1986	May 1985	November 1985
Date of First Commercial Delivery	—	—	May 1985	January 1985
Number of Units Installed to Date	—	—	91,125	12,437
VENDOR PHONE NUMBER	(415) 742-7040	(415) 742-7040	(415) 651-8000	(415) 651-8000
COMMENTS	3 year warranty; emulations: Freedom One and all emulations: IBM PC, IBM PC compatibility with slave card.	3 year warranty; emulations: PC compatible w/slave card; emulations; IBM PC, Digital VT220/VT100/VT52 and Data General Dasher D211 and D210.		

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Link Technologies MC1	Link Technologies MC3	Link Technologies MC10	Link Technologies PC Graphics
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	2,000	5,808	5,808	2,000
Screen Arrangement, lines x char./line	25 x 80	44 x 80; 44 x 132	44 x 80, 44 x 132	25 x 80
Status Line	Yes	Yes	Yes	Yes
Character Color	Green, amber	Green, amber, white	Green, amber, white	Green, amber, white
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	IBM AT	Typewriter, data entry, PC enhanced	Typewriter, data entry, Digital VT220	IBM AT
Function Keys	10/20	32, 40/20	20/40	10/20
Keyboard Ergonomics	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable
Scrolling	Up	Up & down, smooth	Up & down, smooth	Up
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	TeleVideo, PC Term	TTY, Digital VT100 fam., Wyse, ADDS, ANSI X3.64, Lear Siegler, TeleVideo PC Term	TTY, Digital VT100/VT200 family, Wyse, ADDS, Lear Siegler, TeleVideo, IBM 3101, Esprit/Hazeltine	PC Term—Hercules graphics
Graphics Capability	No	No	Yes	Yes
Split Screen	Yes	Yes	Yes	Yes
Windows/Multisessions	No	Yes	Yes	No
Memory	1 screen	6 screens	6 screens	2 screens
Editing Capabilities	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ASCII, scancode	ANSI, ASCII, X3.64	ANSI, X3.64, ASCII	ASCII, scan code
Format	Character, block	Character, line, block	Character, block, line	Character
Maximum Speed, bps	19.2K	38.4K	38.4K	38.4K bps
Terminal Interface	RS-232-C	RS-232-C, RS-422, 20 mA	RS-232-C, 20 mA, RS-422, RS-423	RS-232-C
PRICING AND AVAILABILITY				
Purchase Price, \$	595	565	595	749
Annual Maintenance, \$	—	—	—	—
Serviced By	Link Technologies	Link Technologies	Link Technologies	Link Technologies
Date of Announcement	April 1986	November 1986	May 1987	November 1986
Date of First Commercial Delivery	June 1986	January 1987	October 1987	November 1986
Number of Units Installed to Date	9,437	28,315	—	—
VENDOR PHONE NUMBER	(415) 651-8000	(415) 651-8000	(415) 651-8000	(415) 651-8000
COMMENTS		Three-year warranty; two hosts connected simultaneously; parallel printer port.	Modular concept terminal with cartridge options for light pen, graphics, bar code reader, modem, extra ports, and mouse.	

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Link Technologies PC Term	Memorex 2051	Memorex 2178	Memorex 2179
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	15	12	14
Screen Capacity, characters	3,432	1,920	1,920	1,920
Screen Arrangement, lines x char./line	26 x 80, 26 x 132	24 x 80	24 x 80	24 x 80
Status Line Character Color	Yes Green, amber, white	— P39 green or PLA amber	Yes Green, amber	Yes Multicolor
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel	Tilt, swivel/height adjust., nonglare filter	Tilt, nonglare filter, swivel/height adjustable
Keyboard Style	IBM AT (PC enhanced)	Typewriter	Typewriter, IBM 3270 compatible	Typewriter, APL, data entry, IBM 3270 compat. 24
Function Keys	20	10/12/24 std.	24	24
Keyboard Ergonomics	Detachable, low profile, tilt adjustable	Detachable	Detachable, low profile, tilt adjust., palm rest	Detachable, low profile, tilt adjustable
Scrolling	Up	No	No	No
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Wyse, TeleVideo, PC Term scan code	—	IBM 3270 family	IBM 3270 family
Graphics Capability	No	No	No	No
Split Screen	Yes	No	No	No
Windows/Multisessions	No	No	Yes	Yes
Memory	2 screens	1,920 characters	1 screen	1 screen
Editing Capabilities	Line & char. insert/ delete, erase	Character insert/delete, erase	Erase, erase field, character insert/delete	Character insert/delete, erase, erase field
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Synchronous	Synchronous	Synchronous
Code	ASCII	EBCDIC	EBCDIC	EBCDIC
Communications Protocol	ASCII, scan code	BSC, SNA/SDLC	BSC, SNA, SDLC	BSC, SNA, SDLC
Format	Character, block	Block	Block	Block
Maximum Speed, bps	38.4K bps	1200-9600 bps	56K	56K bps
Terminal Interface	RS-232-C, RS-422	Twinax	Coaxial	Coaxial
PRICING AND AVAILABILITY				
Purchase Price, \$	649	Contact vendor	1,195	1,745
Annual Maintenance, \$	—	—	69-135	—
Serviced By	Link Technologies	Memorex	Memorex	Memorex
Date of Announcement	November 1985	1982	April 1984	April 1986
Date of First Commercial Delivery	January 1986	1982	September 1984	May 1986
Number of Units Installed to Date	49,812	—	—	—
VENDOR PHONE NUMBER				
	(415) 651-8000	(800) 225-5679	(800) 225-5679	(800) 225-5679
COMMENTS				
				Purchase price includes one year warranty.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Memorex 2179-2	Memorex 2180-2	Memorex 2191	Memorex 2192-C
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	15	12	14
Screen Capacity, characters	3,440	3,440	1,920	1,920/2,560/3,440
Screen Arrangement, lines x char./line	24 x 132	24 x 132	24 x 80	24 x 80, 43 x 80, 32 x 80
Status Line	Yes	Yes	—	Yes
Character Color	Multicolor	Green, amber	P39 green or PLA amber	Multicolor
Display Ergonomics	Tilt, swivel/height adjust., nonglare screen	Tilt, swivel/height ad- just., nonglare screen	Tilt, swivel	Tilt, nonglare filter, swivel/height adjust.
Keyboard Style	Data entry, 122 key	Typewriter, data entry	Typewriter	Typewriter, APL, data entry, IBM 3270 compat.
Function Keys	32	32	10/12/24 std.	24
Keyboard Ergonomics	Detachable, low profile, tilt adjust., palm rest	Detachable, low profile, tilt adjust., palm rest	Detachable	Detachable, low profile, tilt adjust., palm rest
Scrolling	Up & down	Up & down	No	No
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	IBM System 3X	IBM System 3X	—	IBM 3270 family
Graphics Capability	—	No	No	No
Split Screen	—	No	No	No
Windows/Multisessions	Yes	Yes	No	Yes
Memory	Record/playback	Record/playback	1,920 characters	1 screen
Editing Capabilities	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase	Character insert/delete, erase	Character insert/delete, erase, field erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Synchronous	Synchronous	Synchronous	Synchronous
Code	EBCDIC	EBCDIC	EBCDIC	EBCDIC
Communications Protocol	Twinax	Twinax	BSC, SNA/SDLC	BSC, SNA, SDLC
Format	Character	Character	Block	Block
Maximum Speed, bps	1200-9600 bps	1200-9600 bps	1200-9600 bps	56K bps
Terminal Interface	Twinax	Twinax	Twinax	Coaxial
PRICING AND AVAILABILITY				
Purchase Price, \$	1,415	1,250	1,545	1,845
Annual Maintenance, \$	Contact vendor	Contact vendor	—	Contact vendor
Serviced By	Memorex	Memorex	Memorex	Memory
Date of Announcement	1986	1986	September 1985	June 1987
Date of First Commercial Delivery	1986	1986	September 1985	July 1987
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(800) 225-5679	(800) 225-5679	(800) 225-5679	(800) 225-5679
COMMENTS	Offers a system addressable printer port.	Offers a system addressable printer port.		Price includes 1-year warranty; 3-year warranty available for additional \$150.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Memorex 2192-D	Memorex 2192-DS	Memorex 2291	Memorex 2296
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	15	15	12	12
Screen Capacity, characters	2,560/1,920/3,440/3,564	1,920/2,560/3,440/3,564	1,920	1,920
Screen Arrangement, lines x char./line	24 x 80, 43 x 80, 32 x 80, 24 x 132	24 x 80, 43 x 80, 32 x 80, 24 x 132	24 x 80	24 x 80
Status Line	Yes	Yes	Yes	Yes
Character Color	Green, amber, white	Green, amber, white	Green, amber	Green, amber
Display Ergonomics	Tilt, nonglare filter, swivel/height adjustable	Tilt, nonglare filter, swivel/height adjustable	Tilt, nonglare filter, swivel/height adjustable	Tilt, nonglare screen, swivel/height adjustable
Keyboard Style	Typewriter, data entry, APL, IBM 3270 compatible	Typewriter, data entry, APL, IBM 3270 compatible	Typewriter, data entry, IBM 3270 compatible	Typewriter, 122 key
Function Keys	24	24	24	32
Keyboard Ergonomics	Detachable, low profile, tilt adjust., palm rest	Detachable, low profile, tilt adjust., palm rest	Detachable, low profile, tilt adjust., palm rest	Detachable, low profile, tilt adjust., palm rest
Scrolling	Up & down	No	No	No
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	IBM 3270 family	IBM 3270 family	IBM 3270 family	IBM System 3X
Graphics Capability	No	No	No	No
Split Screen	No	Yes	No	No
Windows/Multisessions	Yes	Yes	Yes	No
Memory	1 screen	1 screen	1 screen	Record/playback
Editing Capabilities	Character insert/delete, erase, field erase	Character insert/delete, erase, field erase	Character insert/delete, erase, field erase	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Synchronous	Synchronous	Synchronous	Synchronous
Code	EBCDIC	EBCDIC	EBCDIC	EBCDIC
Communications Protocol	BSC, SNA, ADLC	BSC, SNA, SDLC	BSC, SNA, SDLC	Twinax
Format	Block	Block	Block	Character
Maximum Speed, bps	56K bps	56K bps	56K bps	1200-9600 bps
Terminal Interface	Coaxial	Coaxial	Coaxial	Twinax
PRICING AND AVAILABILITY				
Purchase Price, \$	1,745	2,295	1,195	975
Annual Maintenance, \$	—	—	—	Contact vendor
Serviced By	Memorex	Memorex	Memorex	Memorex
Date of Announcement	June 1987	June 1987	August 1986	1987
Date of First Commercial Delivery	July 1987	July 1987	September 1986	1987
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(800) 225-5679	(800) 225-5679	(800) 225-5679	(800) 225-5679
COMMENTS	Purchase price includes 1-yr. warranty; 3-yr. warranty available for additional \$100.	Purchase price includes 1-yr. warranty; 3-yr. warranty available for additional \$200.	Purchase price includes a 3-yr warranty.	Has screen printer port.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Memorex 2391	Micro-Term ForeSight 4520	Micro-Term ForeSight 4525	Micro-Term ForeSight 4540
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	1,920/2,560	3,564	3,564	3,564
Screen Arrangement, lines x char./line	24 x 80, 32 x 80	25 x 80, 25 x 132	25 x 80, 25 x 132	25 x 80, 25 x 132
Status Line	Yes	Yes	Yes	Yes
Character Color	Green, amber, white	Soft-white/Overscan	Soft-white/overscan	Soft-white/overscan
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	Typewriter, data entry, IBM 3270 compatible	Typewriter, data entry, VT220 and VT100 style 30	Typewriter, data entry, VT220 and VT100 style 30	Typewriter, data entry, VT220 and VT100 style 30
Function Keys	24	30	30	30
Keyboard Ergonomics	Detachable, low profile, tilt adjust., palm rest	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable, low profile
Scrolling	No	Up & down, smooth	Up & down, smooth	Up & down, smooth
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	IBM 3270 family	Digital VT100 family, TTY, Digital VT200 family, ANSI X3.64	Digital VT100 and VT200 families, TTY, ANSI X3.64	Digital VT100 and VT200 families, TTY, ANSI X3.64, Tektronix 4010/4014 and REGIS
Graphics Capability	No	No	No	Yes
Split Screen	No	Yes	Yes	Yes
Windows/Multisessions	Yes	Yes	Yes	Yes
Memory	1 screen	2 screens	7 screens	7 screens alphanumeric + three graphics screens
Editing Capabilities	Character insert/delete, erase, field erase	Line & char. insert/delete	Line & char. insert/delete	Line & char. insert/delete
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Synchronous	Asynchronous	Asynchronous	Asynchronous
Code	EBCDIC	ASCII	ASCII	ASCII
Communications Protocol	BSC, SNA, SDLC	ANSI, X3.64	ANSI, X3.64	ANSI, X3.64
Format	Block	Character, line	Character, line	Character, line
Maximum Speed, bps	56K bps	38.4K bps	38.4K bps	38.4K bps
Terminal Interface	Coaxial	RS-232-C, RS-422, 20 mA	RS-232-C, RS-422, 20 mA	RS-232-C, RS-422, 20 mA
PRICING AND AVAILABILITY				
Purchase Price, \$	1,325	695 list	795 list	1,495 list
Annual Maintenance, \$	—	Factory quote, 2-yr warranty from factory	2-yr factory return with first 90 days on-site \$0	2-yr factory return with first 90 days on-site \$0
Serviced By	Memorex	TRW	TRW	TRW
Date of Announcement	—	November 1986	November 1986	November 1987
Date of First Commercial Delivery	—	January 1987	January 1987	November 1987
Number of Units Installed to Date	—	15,000	8,000	1,000
VENDOR PHONE NUMBER	(800) 225-5679	(314) 343-6515	(314) 343-6515	(314) 343-6515
COMMENTS	Purchase price includes 1-yr warranty; 3-yr. warranty available for additional \$100.	Product has 20 x 20 character cell size and displays black characters on a soft-white, over-scanned monitor.	Product has 20 x 20 character cell size and displays black characters on a soft-white, over-scanned monitor.	Product has 20 x 20 character cell size and displays black characters on a soft-white, over-scanned monitor.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Micro-Term ForeSight 4560	NCR 4920	NCR 4940	NCR 4970
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	3,564	1,920/3,168	1,920/3,168	1,920, 3,168
Screen Arrangement, lines x char./line	25 x 80, 25 x 132	24 x 80, 24 x 132	24 x 80, 24 x 132	24 x 80, 24 x 132
Status Line	—	Yes	Yes	Yes
Character Color	Soft-white/overscan	Green, amber, white	Green, amber, white	Green, amber, white
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel	Tilt, swivel	Tilt, swivel
Keyboard Style	Typewriter, data entry, VT220 and VT100 style	Typewriter	Typewriter	Typewriter
Function Keys	30	12 (shift 24)	32	22
Keyboard Ergonomics	Detachable, tilt adjustable, low profile	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable
Scrolling	Up & down, smooth	Up & down	Up & down, smooth	Up & down, smooth
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Digital VT100 and VT200 families, TTY, ANSI X3.64, Tektronix 4010/4014	TTY, ADDS, NCR 7930	TTY, Wyse, ADDS, Esprit/Hazeltine, TeleVideo, ANSI X3.64	TTY, ADDS, Digital VT100 and VT200 family, ANSI X3.64
Graphics Capability	Yes	No	No	No
Split Screen	Yes	No	No	Yes
Windows/Multisessions	Yes	No	No	Yes
Memory	7 screens alphanumeric + three graphics screens	2 screens	2 screens	2 screens
Editing Capabilities	Line & char. insert/delete	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ANSI, X3.64	ASCII	ANSI, X3.64, ASCII	ANSI, X3.64, ASCII
Format	Character, line	Character, block	Character, block	Character, block
Maximum Speed, bps	38.4K bps	38.4K bps	38.4K bps	38.4K bps
Terminal Interface	RS-232-C, RS-422, 20 mA	RS-232-C	RS-232-C	RS-232-C
PRICING AND AVAILABILITY				
Purchase Price, \$	1,295 list	995	695	745
Annual Maintenance, \$	2-yr factory return with first 90 days on-site \$0 TRW	108	96	120
Serviced By		NCR	NCR	NCR
Date of Announcement	November 1986	April 1987	April 1987	April 1987
Date of First Commercial Delivery	January 1987	April 1987	April 1987	April 1987
Number of Units Installed to Date	5,000	—	—	—
VENDOR PHONE NUMBER				
	(314) 343-6515	(513) 445-5000	(513) 445-5000	(513) 445-5000
COMMENTS				
	Product has 20 x 20 character cell size and displays black characters on a soft-white, over-scanned monitor. Draws graphics at 2 million pixels per second.			

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Nixdorf 8278	Paradyne 7812	Paradyne 7814	Paradyne 7913
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	12	12	14	13
Screen Capacity, characters	1,920	1,920	1,920/2,560/3,440	1,920/2,560
Screen Arrangement, lines x char./line	24 x 80	24 x 80	24 x 80, 32 x 80, 43 x 80, 27 x 132	24 x 80, 32 x 80
Status Line	—	—	—	—
Character Color	Amber	P39 green or amber	P39 green, amber	Color
Display Ergonomics	Tilt, swivel/height adjustment	Tilt, swivel	Tilt, swivel	Tilt, swivel
Keyboard Style	Typewriter, data entry	Typewriter	Typewriter	Typewriter
Function Keys	12-24	24	24	24
Keyboard Ergonomics	Detachable	Detachable	Detachable	Detachable
Scrolling	No	No	No	No
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	IBM 3270 family	—	—	—
Graphics Capability	No	No	Optional	Yes
Split Screen	No	No	No	No
Windows/Multisessions	Yes	No	No	No
Memory	—	128K	384K-640K	384K-640K
Editing Capabilities	Line & char. insert/delete, erase	Character insert/delete, erase	Character insert/delete, erase	Character insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-duplex	Full-duplex	Full-duplex	Full-duplex
Technique	Synchronous	Synchronous	Synchronous	Synchronous
Code	EBCDIC	ASCII, EBCDIC	ASCII, EBCDIC	ASCII, EBCDIC
Communications Protocol	HDLC	Paradyne SDLC	Paradyne SDLC	Paradyne SDLC
Format	Block	Block	Block	Block
Maximum Speed, bps	9600 bps	Up to 256K bps	Up to 256K bps	Up to 256K bps
Terminal Interface	RS-232-C, SAS	Paradyne loop	Paradyne Loop	Paradyne Loop
PRICING AND AVAILABILITY				
Purchase Price, \$	1,500	1,300	2,400	3,100
Annual Maintenance, \$	13/month, prime shift	204	276	384
Serviced By	Nixdorf	Paradyne	Paradyne	Paradyne
Date of Announcement	November 1982	February 1985	February 1985	February 1985
Date of First Commercial Delivery	June 1983	March 1985	March 1985	March 1985
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(617) 890-3600	(813) 530-2000	(813) 530-2000	(813) 530-2000
COMMENTS		When connected to Paradyne's PIX, all devices appear as local channel attached.	When connected to Paradyne's PIX, all devices appear as local channel attached.	When connected to Paradyne's PIX, all devices appear as local channel attached.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Perfect Terminals P411	Prime Computer PT 200	Prime Computer PT 250	Random Corporation Colleague PLUS Portable Terminal
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	11
Screen Capacity, characters	3,168	3,564	3,564	4,000
Screen Arrangement, lines x char./line	24 x 80, 24 x 132	24 x 80, 48 x 80, 27 x 132	24 x 80, 48 x 80, 25 x 80, 27 x 132	25 x 80
Status Line	Yes	Yes	Yes	Yes
Character Color	Green, amber, white	Green, amber, white, multicolor	Green, amber	Blue
Display Ergonomics	Tilt, swivel/height adjustable	Tilt	Tilt, swivel	Tilt
Keyboard Style	Typewriter	IBM PC compatible, Prime standard keyboard	Prime standard keyboard	Typewriter
Function Keys	32	52	52	20
Keyboard Ergonomics	Detachable, low profile, tilt adjustable	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable, low profile	Low profile
Scrolling	Up & down, smooth	Up & down, smooth	Up & down, smooth	Up
Protect Format	Yes	No	Yes	No
FUNCTIONAL SPECIFICATIONS				
Compatibility	Data General, Esprit/ Hazeltine	ANSI X3.64, PST 100	PST 100, PT 200	Digital VT100/VT200 family, ANSI X3.64
Graphics Capability	No	Yes	No	No
Split Screen	Yes	No	No	No
Windows/Multisessions	No	No	No	Yes
Memory	1 screen	2 screens	2 screens	60K capture RAM with record capability
Editing Capabilities	Line & char. insert/ delete, erase	—	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ASCII, ANSI, X3.64	SNA, ANSI, X3.64, ASCII	SNA, ANSI, X3.64, ASCII	ANSI
Format	Character, line, block	Character, block	Character, block	Character
Maximum Speed, bps	38.4K	19.2K bps	19.2K bps	19.2K bps
Terminal Interface	RS-232-C, 20 mA	RS-232-C	RS-232-C	RS-232-C, selectable 12A modem
PRICING AND AVAILABILITY				
Purchase Price, \$	795	995	595	1,295
Annual Maintenance, \$	2-yr. warranty	108	60	50
Serviced By	Perfect Terminals	Prime Computer	Prime Computer	Random Corporation
Date of Announcement	1985	January 1985	October 1987	April 1987
Date of First Commercial Delivery	1985	January 1985	December 1987	October 1987
Number of Units Installed to Date	8,000	50,000	—	250
VENDOR PHONE NUMBER				
	(415) 656-8383	(617) 626-1700 x. 3900	(617) 626-1700 x. 3900	(513) 825-0880
COMMENTS				
	Emulates Data General 411, Digital VT100, or Hazeltine 1500.	Terminal has two upgrade options: PC option and graphics option; also supports 13 languages; operates at rates of 50 to 19.2K bps.	Terminal is designed to specifically support 50 Series and Prime EXL systems; operates in merge mode to support Merge 386 software on EXL systems; supports rates of 50 to 19.2K bps; comes with one-year warranty.	Built-in word processor with data capture, record, and send; re- corded files playback offline for user review; battery-powered, offline editing capability.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Random Corporation Colleague Portable Terminal	Tandem 6530 Family	Tandy DT-100	Telegenix, Inc. TDS2200
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	11	9 (30), 12 (31), 15 (32)	14	To 228
Screen Capacity, characters	4,000	2,000	1,920/3,168	32 to 1,929
Screen Arrangement, lines x char./line	25 x 80	25 x 80	24 x 80, 24 x 132	To 24 x 80 (115 ft. viewing distance)
Status Line	Yes	—	—	—
Character Color	Blue	Green	White	Orange, red, yellow
Display Ergonomics	Tilt	Tilt, swivel (30—std., 31 opt.)	Tilt, swivel	Tilt, optional, swivel height adjustable
Keyboard Style	Typewriter	Typewriter	Typewriter (Digital VT220 style)	Typewriter, optional
Function Keys	20	16	16	—
Keyboard Ergonomics	Low profile	Detachable	Detachable	—
Scrolling	Up	Yes	Yes	Up & down
Protect Format	N/A	Yes	No	No
FUNCTIONAL SPECIFICATIONS				
Compatibility	Digital VT100 family	Tandem	Teletype, Digital VT100, ANSI, X3.64	TTY
Graphics Capability	No	No	No	No
Split Screen	No	No	No	Yes
Windows/Multisessions	No	—	No	Yes
Memory	—	Up to 8 pages	—	1 screen
Editing Capabilities	Line & char. insert/delete, erase	Line & char. insert/delete	Erase	See comments
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Simplex
Technique	Asynchronous	Async/sync	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ANSI	ASCII	ASCII, ANSI	ANSI
Format	Character	Character, block	Character	Character
Maximum Speed, bps	19.2K	50-19.2K bps	19.2K	19,200
Terminal Interface	RS-232-C, selectable 212A	RS-232-C, 20 mA	RS-232-C	RS-232-C
PRICING AND AVAILABILITY				
Purchase Price, \$	995	1,950-2,300	695	4,800-79,500
Annual Maintenance, \$	50	—	—	Various
Serviced By	Random Corporation	Tandem	Radio Shack	Telegenix, Inc. & Third Party
Date of Announcement	May 1986	March 1982	July 1984	July 1985
Date of First Commercial Delivery	May 1986	April 1982	July 1984	November 1985
Number of Units Installed to Date	1,500	—	—	—
VENDOR PHONE NUMBER	(513) 825-0880	(512) 244-8000	(817) 390-3300	(800) 424-5220
COMMENTS	Laptop portable with 25 x 80 character screen. Dimensions are 10" x 13" x 2 5/8"; weight is 7.5 pounds. Also includes parallel/serial interface and internal modem; battery powered.	For use with Tandem NonStop Systems; three models available: 6530, 6531, and 6532.	Available at selected Radio Shack stores and dealers.	Non embedded attributes; e.g. "blinking." Over 15,000 plasma gas discharge displays of various sizes installed throughout the U.S., Canada, Europe, & Saudi Arabia. Each display is custom built within certain parameters. Displays are designed for group viewing-140 degree viewing angle. Editing capabilities: blink, hold, scroll, paginate, delay, cursor control, autowrap, etc.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Telegenix, Inc. TDS2070	Telegenix, Inc. TDS2100	Teleray Model 20-DDG	Teleray Model 20-DHP
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	To 88 in.	To 130 in.	14	14
Screen Capacity, characters	64 to 1,920	32 to 1,920	1,920/3,168	1,920/3,168
Screen Arrangement, lines x char./line	To 24 x 80 (35 ft. viewing distance)	To 24 x 80 (55 ft. viewing distance)	24 x 80, 24 x 132, 24 x 40, 24 x 66	24 x 80, 24 x 132, 24 x 40, 24 x 66
Status Line	No		Yes	Yes
Character Color	Orange, red, yellow	Orange, red, yellow	Green, amber, white	Green, amber, white
Display Ergonomics	Tilt, Swivel/height adjustable	Tilt optional	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	Typewriter optional	Typewriter (opt.)	Typewriter	Typewriter
Function Keys	—	—	32 (see comments)	32 (see comments)
Keyboard Ergonomics	—	—	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable
Scrolling	Up & down	Up & down	Up & down, smooth	Up & down, smooth, (see comments)
Protect Format	No	No	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	TTY, ANSI X3.64	TTY, ANSI X3.64	TTY, ANSI X3.64, Digital VT100/VT200 family, Data General 210/211	TTY, ANSI X3.64, HP 700/92, HP 2392A, Digital VT100/VT200 family
Graphics Capability	No	No	Yes (opt.)	No
Split Screen	Yes	Yes	Yes	Yes
Windows/Multisessions	—	Yes	Yes	Yes
Memory	—	1 screen	2 screens	8 screens
Editing Capabilities	Erase, (see comments)	Erase, blink, hold, scroll, paginate	Line & char. insert/delete (see comments)	Line & char. insert/delete, (see comments)
TRANSMISSION SPECIFICATIONS				
Mode	Simplex	Simplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ANSI	ANSI	ANSI, ASCII, X3.64, Data General	ANSI, X3.64, ASCII, HP
Format	Character	Character	Character, block, line, memory, selected area	Character, block, line, memory, selected area
Maximum Speed, bps	19.2K bps	19.2K bps	19.2K bps	19.2K bps
Terminal Interface	RS-232-C	RS-232-C	RS-232-C, RS-422, 20 mA (opt.)	RS-232-C, RS-422, 20 mA (opt.)
PRICING AND AVAILABILITY				
Purchase Price, \$	3,500-24,500	5,500-49,500	895	895
Annual Maintenance, \$	Various	Various	81-on site; 40-priority module exchange	108-on site; 40-priority module exchange
Serviced By	Telegenix, third party	Telegenix, third party	Teleray, Honeywell	Teleray, Honeywell
Date of Announcement	October, 1985	February 1982	November 1984	June 1986
Date of First Commercial Delivery	1986	October 1982	December 1984	August 1986
Number of Units Installed to Date	See "Comments"	See "Comments"	—	—
VENDOR PHONE NUMBER	(800) 424-5220	(800) 424-5220	(612) 941-3300	(612) 941-3300
COMMENTS	Non embedded attributes e.g. "Blinking." Over 15,000 plasma gas discharge displays of various sizes installed throughout the U.S., Canada, Europe, & Saudi Arabia. Each display is custom built within certain parameters. Displays are designed for group viewing-140 degree viewing angle. Also offers following editing capabilities-blink, hold, scroll, paginate, delay, cursor control, autowrap, etc.	Non embedded attributes, e.g. "Blinking." Over 15,000 plasma gas discharge displays of various sizes installed throughout the U.S., Canada, Europe, & Saudi Arabia. Each display is custom built within certain parameters. Displays are designed for group viewing-140 degree viewing angle. Other editing capabilities include delay, cursor control, autowrap, etc.	All 106 keys on keyboard are reprogrammable; horizontal scrolling up to 255 columns; other editing capabilities include repeat previous operation, cursor addressing, word insert/delete, reinstate last deleted word and line, erase line, screen, and memory.	All 106 keys are re-programmable; horizontal scrolling to 255 columns; other editing capabilities are erase line, screen, & memory, cursor addressing, repeat previous operation, reinstate last deleted word, line.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Teleray Model HON5	Teleray Model HON6	Teleray Model HON7	Televideo 905
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	1,920/3,168	1,920/3,168	1,920/3,168	1,920
Screen Arrangement, lines x char./line	24 x 80, 24 x 132, 24 x 40, 24 x 66	24 x 80, 24 x 40, 24 x 66, 24 x 132	24 x 80, 24 x 40, 24 x 66, 24 x 132	24 x 80
Status Line	Yes	Yes	Yes	—
Character Color	Green, amber, white	Green, amber, white	Green, amber, white	Green, amber
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel
Keyboard Style	Typewriter, data entry	Typewriter, data entry	Typewriter, data entry	Typewriter
Function Keys	32 (see comments)	32 (see comments)	32 (user programmable)	16 standard
Keyboard Ergonomics	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable
Scrolling	Up & down	Up & down (see comments)	Up & down (see comments)	Up & down
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	TTY, Digital VT100 family, ANSI X3.64, Honeywell HDS 2/5, VIP 7305	TTY, ANSI X3.64, Digital VT100 family, Honeywell HDS5, VIP 7813	TTT, ANSI X3.64, Digital VT100 family, Honeywell DHS7, VIP 7824	ADDS Regent 25, Viewpoint A2, Lear Siegler, Hazeltine, TeleVideo 910, 910+, 925
Graphics Capability	Yes (opt.)	Yes (opt.)	Yes (opt.)	No
Split Screen	Yes	Yes	Yes	No
Windows/Multisessions	Yes	Yes	Yes	No
Memory	3 screens	3 screens	3 screens	1 page
Editing Capabilities	Line & char. insert/delete, erase (see comm)	Line & char. insert/delete (see comments)	Line & char. insert/delete (see comments)	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous/synchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ANSI, X3.64, ASCII, Honeywell	ANSI, ASCII, X3.64, Honeywell	ANSI, X3.64, ASCII, Honeywell	—
Format	Character, block, line, memory, selected area	Character, line, block, memory, selected area	—	Character, line, block
Maximum Speed, bps	19.2K bps	19.2K bps	19.2K bps	50-19.2K bps
Terminal Interface	RS-232-C, RS-422, 20 mA (opt.)	RS-232-C, RS-422, 20 mA (opt.)	RS-232-C, RS-422, 20 mA (opt.)	RS-232-C
PRICING AND AVAILABILITY				
Purchase Price, \$	800	900	1,100	409
Annual Maintenance, \$	74 (on-site), 40 (priority module exchange)	81—on site; 40—priority module exchange	94—on site; 40—priority module exchange	—
Serviced By	Teleray, Honeywell	Teleray, Honeywell	Teleray, Honeywell	GE Instr. & Comm.
Date of Announcement	December 1985	January 1986	January 1987	July 1985
Date of First Commercial Delivery	January 1986	March 1986	February 1987	July 1985
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(612) 941-3300	(612) 941-3300	(612) 941-3300	(408) 745-7760
COMMENTS	All 113 keys are reprogrammable; horizontal scrolling up to 255 columns. Additional editing capabilities include erase line, screen, memory; repeat previous operation; cursor addressing; reinstate last deleted word or line; insert/delete word.	All 113 keys are reprogrammable; horizontal scrolling up to 255 columns. Additional editing capabilities include erase line, screen, memory; repeat previous operation; cursor addressing; reinstate last deleted word or line; insert/delete word.	All 106 keys are reprogrammable; horizontal scrolling up to 255 columns. Additional editing capabilities include erase line, screen, memory; repeat previous operation; insert/delete word; cursor addressing; reinstate last deleted word, line.	

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Televideo 955	Televideo 9220	Telex 191 A/B	Telex 078
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	12	12
Screen Capacity, characters	1,920	1,920	1,920	1,920
Screen Arrangement, lines x char./line	24 x 80, 24 x 132	24 x 80, 24 x 132	24 x 80	24 x 80
Status Line	—	Yes	Yes	—
Character Color	Green, amber	Green	Green, amber	Green, amber
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	Typewriter	Typewriter	Typewriter, data entry, IBM 3270 compatible	Typewriter, APL, data entry, IBM 3270 compat.
Function Keys	64 standard	30 non-volatile	24	24 (on typewriter only)
Keyboard Ergonomics	Detachable	Detachable	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable, low profile
Scrolling	Up & down	Up & down	No	No
Protect Format	Yes	Yes	—	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	—	Digital VT220/100/VT52	IBM 3270 family	IBM 3270 family
Graphics Capability	15 graphics symbols	Digital compatible	No	No
Split Screen	No	Yes	—	No
Windows/Multisessions	No	Yes	Yes	Yes
Memory	4 pages	—	1 screen	1 screen
Editing Capabilities	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Character insert/delete, erase	Character insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-duplex	Half-duplex
Technique	Asynchronous	Asynchronous	Synchronous	Synchronous
Code	ASCII	ASCII	EBCDIC	EBCDIC
Communications Protocol	—	—	BSC, SNA/SDLC	BSC, SNA/SDLC
Format	Character, line, block	Character, line, block	Block	Block
Maximum Speed, bps	50-19.2K	50-19.2K	19.2K	19.2K
Terminal Interface	RS-232-C	RS-232-C; RS-422 or 20 mA optional	Coaxial	Coaxial
PRICING AND AVAILABILITY				
Purchase Price, \$	629	619	1,235-1 yr. wrnty. 1,295-3 yr. wrnty.	1,535-3 mo. wrnty. 1,595-3 yr. wrnty.
Annual Maintenance, \$	—	—	—	—
Serviced By	GE Instr. & Comm.	GE Instr. & Comm.	Telex	Telex
Date of Announcement	April 1985	1985	December 1987	August 1984
Date of First Commercial Delivery	April 1985	1985	—	—
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(408) 745-7760	(408) 745-7760	(800) 331-2623; (918) 627-1111	(800) 331-2623; (918) 627-1111
COMMENTS			Attaches to Telex 076, 174, and 274 controllers, 276 control/displays, and equivalent IBM controllers.	Attaches to Telex 076, 174, and 274 controllers, 276 control/displays, and equivalent IBM controllers.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Telex 079	Telex 080	Telex 179	Telex 180-1
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	12	15	14	15
Screen Capacity, characters	1,920	1,920/2,560/3,440, 3,564	1,920, 2,560, 3,440	1,920, 2,560, 3,440, 3,564
Screen Arrangement, lines x char./line	24 x 80	24 x 80, 32 x 80, 43 x 80, 24 x 132	24 x 80, 43 x 80	24 x 80, 43 x 80, 32 x 80, 24 x 132
Status Line	—	—	—	—
Character Color	Multicolor	Green, amber	Multicolor	Green, amber
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	Typewriter, APL, data entry, IBM 3270 compat.	Typewriter, data entry, APL, IBM 3270 compat.	Typewriter, data entry, APL	Typewriter, data entry,
Function Keys	24 (on typewriter only)	24 (on typewriter only)	24 (on typewriter only)	24 (on typewriter only)
Keyboard Ergonomics	Detachable, tilt adjustable, low profile	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable
Scrolling	No	No	No	Up & down
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	IBM 3270 family	IBM 3270 family	IBM 3270 family	IBM 3270 family
Graphics Capability	No	No	No	No
Split Screen	No	No	No	No
Windows/Multisessions	Yes	Yes	Yes	Yes
Memory	1 screen	1 screen	1 screen	1 screen
Editing Capabilities	Character insert/delete, erase	Character insert/delete, erase	Character insert/delete, erase	Character insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half duplex	Half duplex	Half duplex	Half duplex
Technique	Synchronous	Synchronous	Synchronous	Synchronous
Code	EBCDIC	EBCDIC	EBCDIC	EBCDIC
Communications Protocol	BSC, SNA/SDLC	BSC, SNA/SDLC	BSC, SNA/SDLC	BSC, SNA/SDLC
Format	Block	Block	Block	Block
Maximum Speed, bps	19.2K	19.2K	19.2K	19.2K
Terminal Interface	Coaxial	Coaxial	Coaxial	Coaxial
PRICING AND AVAILABILITY				
Purchase Price, \$	1,795	1,795	1,695-2,145	1,795-1 yr. wrnty. 1,895-3 yr. wrnty.
Annual Maintenance, \$	—	—	—	—
Serviced By	Telex	Telex	Telex	Telex
Date of Announcement	August 1984	—	August 1984	June 1982
Date of First Commercial Delivery	—	—	—	—
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(800) 331-2623; (918) 627-1111	(800) 331-2623; (918) 627-1111	(800) 331-2623; (918) 627-1111	(800) 331-2623; (918) 627-1111
COMMENTS	Attaches to Telex 076, 174, and 274 controllers, 276 control/display, and equivalent IBM controllers.	Attaches to Telex 076, 174, and 274 controllers, 76 control/displays, and equivalent IBM controllers.	Attaches to Telex 076, 174, and 274 controllers, 276 control/displays, and equivalent IBM controllers.	Attaches to Telex 076, 174, and 274 controllers, 276 control/displays, and equivalent IBM controllers.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Telex C078 Combined Function Terminal	Telex C179 Combined Function Terminal	Telex 197C	Telex 196
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	12	14	14	12
Screen Capacity, characters	1,920	1,920	1,920	1,920
Screen Arrangement, lines x char./line	24 x 80	24 x 80	24 x 80	24 x 80
Status Line	Yes	Yes	Yes	—
Character Color	Green, amber	Four colors	Multicolor	Green, multicolor
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	Typewriter, IBM 3270 compatible	Typewriter	Typewriter, 102/122 key	Typewriter
Function Keys	24 in each of 10 conditions for a total of 240	24	12 (102-key keyboard), 24 (122-key keyboard)	12, 24
Keyboard Ergonomics	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable
Scrolling	Up & down	Up & down	Up & down	No
Protect Format	Yes	Yes	—	—
FUNCTIONAL SPECIFICATIONS				
Compatibility	TTY, Digital VT100 family, IBM 3270 family, Digital VT200 family, Digital VT52	Digital VT100 family, IBM 3270 family, Digital VT200 family, Digital VT52	IBM 3197C	IBM 3196
Graphics Capability	No	No	No	No
Split Screen	Yes	Yes	Yes; dual sessions	Yes; dual host sessions
Windows/Multisessions	Yes	Yes	—	—
Memory	1 standard window	7 standard	—	—
Editing Capabilities	Character insert/delete, erase	—	—	Character insert/delete
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Twinax communications	Twinax communications
Technique	Async/sync	Synchronous	—	—
Code	ASCII, EBCDIC	ASCII, EBCDIC	EBCDIC	EBCDIC
Communications Protocol	BSC, SNA/SDLC, ASCII	BSC, SNA/SDLC, ASCII	Twinax protocol	Twinax protocol
Format	Character, block	Block	—	—
Maximum Speed, bps	19.2K	19.2K	1 megabyte	1 megabyte
Terminal Interface	RS-232-C, coaxial	RS-232-C, coaxial	Twinax	Twinax
PRICING AND AVAILABILITY				
Purchase Price, \$	2,695	2,995	New product; contact vendor	1,295
Annual Maintenance, \$	—	—	N/A	N/A
Serviced By	Telex	Telex	Telex	Telex
Date of Announcement	September 1986	January 1987	January 1988	January 1988
Date of First Commercial Delivery	—	—	—	—
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(800) 331-2623; (918) 627-1111	(800) 331-2623; (918) 627-1111	(800) 331-2623; (918) 627-1111	(800) 331-2623; (918) 627-1111
COMMENTS	Attaches to Telex 076, 274, and 276 Control Units, IBM 3274/3276 Control Units; has auto dimming screen.	Attaches to Telex 076, 274, and 276 Control Units, IBM 3274/3276 Control Units; has auto dimming screen.	System/3X terminal; auto dimming screen; audible alarm security keylock; up to 1,500 strokes keystroke re-record/playback; host-addressable print; dual session support.	System/3X terminal; auto dimming screen; reverse video/underline/cursor blink; row/column indicator; security keylock; audible alarm; up to 1,500 strokes keystroke record/playback; host-addressable print.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Telex 180-2	Telex 179-2/079-2	Telex 078-2	Telex 078-A
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	15	14 (179-2), 12 (079-2)	12	12
Screen Capacity, characters	1,920, 3,564	1,920	1,920	960 (partition) 1,920 (full screen)
Screen Arrangement, lines x char./line	24 x 80, 27 x 132	24 x 80	24 x 80	24 x 80, 30 x 64
Status Line	Yes	—	—	Yes
Character Color	Green, amber	Multicolor	Green, amber	Green, amber
Display Ergonomics	Tilt	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	Typewriter, 122 key	Typewriter, 122 key	Typewriter, 122 key	Customized
Function Keys	24	24	24	24 (standard), customized
Keyboard Ergonomics	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable
Scrolling	No	No	No	Up & down
Protect Format	—	Yes	Yes	No (expect 3270)
FUNCTIONAL SPECIFICATIONS				
Compatibility	IBM 3180-2	IBM 3179-2	IBM 5251 Model 11	—
Graphics Capability	No	No	No	No
Split Screen	No	No	No	Yes
Windows/Multisessions	No	No	No	Yes
Memory	—	—	—	—
Editing Capabilities	Character insert/ delete	—	Character insert/ delete	Line & char. insert/ delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Twinax communications	Twinax communications	Twinax communications	Full duplex
Technique	—	—	—	Synchronous
Code	EBCDIC	EBCDIC	EBCDIC	ASCII
Communications Protocol	Twinax protocol	Twinax protocol	Twinax protocol	BSC, SNA, ALC
Format	—	—	—	Character
Maximum Speed, bps	1 megabyte	1 megabyte	1 megabyte	9600
Terminal Interface	Twinax	Twinax	Twinax	RS-232-C
PRICING AND AVAILABILITY				
Purchase Price, \$	Contact vendor	Contact vendor	1,295	Contact vendor
Annual Maintenance, \$	N/A	N/A	N/A	N/A
Serviced By	Telex	Telex	Telex	Telex
Date of Announcement	November 1986	November 1986	November 1986	—
Date of First Commercial Delivery	—	—	—	—
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(800) 331-2623; (918) 627-1111	(800) 331-2623; (918) 627-1111	(800) 331-2623; (918) 627-1111	(800) 331-2623; (918) 627-1111
COMMENTS	System/3X terminal; auto dimming screen; reverse video/underline/ cursor blink; row/column indicator; security keylock; audible alarm; up to 1,024 strokes keystroke record/playback; screen print.	System/3X terminal; auto dimming screen; reverse video/underline/ cursor blink; row/column indicator; security keylock; audible alarm; up to 1,024 strokes keystroke record/playback; screen print.	System/3X terminal; auto dimming screen; reverse video/underline/ cursor blink; row/column indicator; security keylock; audible alarm; up to 1,024 strokes keystroke record/playback; screen print.	Airline systems automation terminal; auto dimming screen.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Telex 080-A	Term-Tronics, Inc. Miracle-191	Term-Tronics, Inc. Miracle-191B	Term-Tronics, Inc. Miracle 191P (3191 & 3192)
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	15	12	12	12
Screen Capacity, characters	2,160/2,176/2,720	1,920	1,920	1,920
Screen Arrangement, lines x char./line	34 x 64, 132 x 27, 80 x 27, 80 x 34	24 x 80	24 x 80	24 x 80
Status Line Character Color	Yes Green, amber	Yes Green, amber	Yes Green, amber	Yes Green, amber
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	Customized	Typewriter, IBM 3270 compatible	Typewriter, IBM 3270 compatible	Typewriter, IBM 3270 compatible
Function Keys	24 (standard), customized	24	24	24
Keyboard Ergonomics	Detachable, low profile, tilt adjustable	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable, low profile	Detachable, tilt adjust- able, low profile
Scrolling	Up & down	Up & down	Up & down	Up & down
Protect Format	No (expect 3270)	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	—	IBM 3270 family	IBM 3270 family	IBM 3270 family
Graphics Capability	No	No	No	No
Split Screen	Yes	No	No	No
Windows/Multisessions	Yes	No	No	No
Memory	—	1 screen	1 screen	1 screen
Editing Capabilities	Line & char. insert/ delete, erase	Line insert/delete erase, char. insert	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Full duplex	Half duplex	Half-duplex	Half duplex
Technique	Synchronous	Synchronous	Synchronous	Synchronous
Code	ASCII	EBCDIC	EBCDIC	EBCDIC
Communications Protocol	BSC, SNA, ALC	Category A Coax	Category A Coax	Category A coax
Format	Character	Block	Block	Block
Maximum Speed, bps	9600	2.3 mega bits	2.3 mega bits	2.3 mega bits
Terminal Interface	RS-232-C	Coaxial	Coaxial	Coaxial
PRICING AND AVAILABILITY				
Purchase Price, \$	Contact vendor	1,295	1,995	1,995
Annual Maintenance, \$	N/A		Three year warranty	Three year warranty
Serviced By	Telex	Momentum	Momentum	Momentum
Date of Announcement	—	June 1987	July 1987	February 1988
Date of First Commercial Delivery	—		September 1987	—
Number of Units Installed to Date	—	700	200	—
VENDOR PHONE NUMBER	(800) 331-2623; (918) 627-1111	(617) 565-6330	(609) 565-6330	(619) 565-6330
COMMENTS	Airline systems auto- mation terminal; auto dimming screen.	Three year warranty.	The display station has an integral Bar Code Reader.	The display station has a separately addressable printer port.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Term-Tronics, Inc. Miracle-191L	TIL Systems Limited XPRT	Unisys Model SVT1120	Unisys Model SVT1121
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	12	12	14	14
Screen Capacity, characters	1,920	3,564	1,920/3,168	1,920/3,168
Screen Arrangement, lines x char./line	24 x 80	24 x 80, 24 x 132	24 x 80, 24 x 132	24 x 80, 24 x 132
Status Line	Yes	Yes	Yes	Yes
Character Color	Green, amber	Amber	Green	Green
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjust., swivel base	Tilt, swivel/height adjustable
Keyboard Style	Typewriter, IBM 3270 compatible	Typewriter, IBM PC/3270 compat., data entry	Typewriter, UTS30 (94 key)	Typewriter, UTS30 (94 keys)
Function Keys	24	20	22	22
Keyboard Ergonomics	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable
Scrolling	Up & down	Up & down	No	No
Protect Format	Yes	Optional	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	IBM 3270 family	TTY, Digital VT100 family, IBM 316X, IBM 3270 family	Unisys UTS20	Unisys UTS20L, DCA Network
Graphics Capability	No	Yes	No	No
Split Screen	No	Yes	No	No
Windows/Multisessions	No	Yes	Yes	Yes
Memory	1 screen	4 screens	1 screen	1 screen
Editing Capabilities	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase char./line	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-duplex	Full duplex	Full-duplex	Half-duplex
Technique	Synchronous	Asynchronous	Synchronous	Synchronous
Code	EBCDIC	ASCII	ASCII	ASCII
Communications Protocol	Category A coax	BSC, SNA, SDLC, ASCII, X.25	Uniscop	Uniscop/UDLC
Format	Block	Character, block, line	Block	Block
Maximum Speed, bps	2.3 mega bits	9600	19.2K bps	250K bps
Terminal Interface	Coaxial	RS-232-C	RS-232-C	Coaxial
PRICING AND AVAILABILITY				
Purchase Price, \$	1,645	3,600	795/895	795/895
Annual Maintenance, \$	Three year warranty	540	96/on-site, 63/off-site	120/on-site, 79/off-site
Serviced By	Momentum	TIL Systems Limited	Unisys	Unisys
Date of Announcement	June 1987	1984	October 1985	March 1986
Date of First Commercial Delivery	July 1987	1984	October 1985	March 1986
Number of Units Installed to Date	150	Approximately 2,500	—	—
VENDOR PHONE NUMBER	(617) 565-6330	(416) 869-1157	(215) 542-2240	(215) 542-2240
COMMENTS	The display station has an integral light pen feature.		Offers keyboard lockout; editing capabilities include erase screen, tab forward/backward; two virtual screen displays allow two sessions at the same time; auto ranging power supply is standard.	Editing capabilities include tab forward/backward. Marketed for the Unisys Distributed Communications Architecture (DCA) network. Two virtual screen displays allow two sessions at the same time. Auto ranging power supply is standard.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Unisys Model SVT 1121 Airline Terminal	Unisys Model SVT 1123	Unisys Model SVT 1124	Unisys Model SVT 1125
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	960/1,920/3,960	1,920/3,168	1,920/3,168	1,920/3,168
Screen Arrangement, lines x char./line	24 x 80, 15 x 64, 32 x 80, 24 x 132, 30 x 64	24 x 80, 24 x 132	24 x 80, 24 x 132	24 x 80, 24 x 132
Status Line	Yes	Yes	Yes	Yes
Character Color	Green	Green	Green	Green
Display Ergonomics	Tilt, swivel/height adjust., integrated tilt	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable
Keyboard Style	Typewriter, Unisys 94 key layout	Typewriter, UTS 30 (94 key)	Typewriter, UTS 30 (94 key)	Typewriter, UTS 30 (90 keys)
Function Keys	22	22	22	22
Keyboard Ergonomics	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable
Scrolling	Up & down	No	No	No
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	PARS—Programmed Airline Reservation System	Unisys UT520 remote workstation	Unisys UTS20 remote workstation	X.25/400 mode
Graphics Capability	No	No	No	No
Split Screen	Yes	No	No	No
Windows/Multisessions	Yes	No	No	Yes
Memory	8 screens	1 screen	1 screen	1 screen
Editing Capabilities	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-duplex	Full-duplex	Full-duplex	Full-duplex
Technique	Synchronous	Synchronous	Synchronous	Asynchronous
Code	ASCII	ASCII	ASCII	—
Communications Protocol	ALC (Airline Link Control)	Uniscop	Uniscop	X.25, Uniscop/X.25
Format	Block	Block	Block	Block
Maximum Speed, bps	250K bps	19.2K bps	19.2K bps	9600 bps
Terminal Interface	Coaxial	RS-232-C	RS-232-C	RS-232-C
PRICING AND AVAILABILITY				
Purchase Price, \$	895/795	795/895	795/895	795/895
Annual Maintenance, \$	120/on-site, 79/off-site	120/on-site, 79/off-site	120/on-site, 79/off-site	120/on-site, 79/on-site
Serviced By	Unisys	Unisys	Unisys	Unisys
Date of Announcement	July 1987	October 1986	October 1986	August 1987
Date of First Commercial Delivery	October 1987	March 1987	March 1987	August 1987
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(215) 542-2240	(215) 542-2240	(215) 542-2240	(215) 542-2240
COMMENTS	Single keystroke ZOOM capability. Text string capability to recall up to 56 characters with a single keystroke; tab forward/backward; keyboard lockout.	Tab forward/backward editing capability; keyboard lockout. Marketed as the Unisys UTS20 Remote Workstation replacement on the Unisys System 80. The SVT1123 is identical to the SVT1124 except that it offers English, French, German, and Italian set-up menu languages. Auto ranging power supply is standard.	Marketed as the Unisys UTS20 Remote Workstation replacement on the Unisys System 80. The SVT 1124 is identical to the SVT 1123 except that it offers English, German, Spanish, and Dutch setup menu languages. Auto ranging power supply is standard. Editing capabilities include tab forward/backward; keyboard ergonomics include keyboard lockout.	Two virtual screen displays allow two sessions at the same time. Auto ranging power supply is standard. Editing capability includes tab forward/backward; keyboard lockout is standard.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Unisys Model SVT 1126	Unisys Model UVT 1224	Unisys ET 1100	Unisys PT 1500
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	12
Screen Capacity, characters	1,920/3,168	1,920/3,168	2,080	2,320
Screen Arrangement, lines x char./line	24 x 80, 24 x 132	24 x 80, 24 x 132	12/24 x 40/80	29 x 80
Status Line	Yes	Yes	Yes	—
Character Color	Green	Green	P39 green	P31 green
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel/height adjustable	Tilt, swivel	Tilt, swivel
Keyboard Style	Typewriter, UTS30 (90 key)	Typewriter, data entry, Unisys OFIS kybd.	Typewriter	Typewriter
Function Keys	22	20	10 physical, 20 logical	10
Keyboard Ergonomics	Detachable, low profile, tilt adjustable	Detachable, low profile, tilt adjustable	Detachable	Detachable
Scrolling	No	Up & down	Yes	Up/down
Protect Format	Yes	No	Yes	Application dependent
FUNCTIONAL SPECIFICATIONS				
Compatibility	Unisys UTS30T Editing Terminal (TP)	ANSI X3.64	Unisys	Digital
Graphics Capability	No	Yes (DEC spec. graphics)	No	No
Split Screen	No	No	No	Yes
Windows/Multisessions	Yes	No	No	Yes
Memory	1 screen	1 screen	10 pages	4 pages
Editing Capabilities	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Char. & line insert/delete, erase	Char. & line insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Full-duplex	Half-/full-duplex	Half-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Async/sync	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	Twisted pair/Uniscop	X3.64	Unisys	ASCII
Format	Block	Character, block	Character, block	Character, block, line
Maximum Speed, bps	64K bps	38.4K bps	Up to 38.4K bps	Up to 19.2K/370K bps
Terminal Interface	Twisted pair	RS-232-C	RS-232-C, TDI, BDAA	RS-232-C, RS-422
PRICING AND AVAILABILITY				
Purchase Price, \$	795/895	695 w/DEC VT200 kybrd; 795 w/Data Entry kybrd	1,580	1,400
Annual Maintenance, \$	120/on-site, 79/off-site	108/on-site, 76/off-site	126-252	168
Serviced By	Unisys	Unisys	Unisys	Unisys
Date of Announcement	August 1987	August 1987	April 1983	October 1984
Date of First Commercial Delivery	August 1987	August 1987	May 1983	October 1984
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(215) 542-2240	(215) 542-2240	(313) 972-7000	(313) 972-7000
COMMENTS	Two virtual screen displays allow two sessions at the same time. Auto ranging power supply is standard. Editing capability includes tab forward/backward. Keyboard lockout.	Keyboard rated at 100,000,000 keystroke life cycle.		Requires use of UNIX system; formerly marketed under Burroughs name.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Unisys T27	Visual 241	Visual 601	Visual 602
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	12 (std.), 15 (opt.)	14	14	14
Screen Capacity, characters	1,920	2,320/3,828	1,920/3,168/6,600	1,920/3,168/6,600
Screen Arrangement, lines x char./line	24 x 80	29 x 80, 29 x 132	25 x 80, 25 x 132, 50 x 132	25 x 80, 25 x 132, 50 x 132
Status Line	Yes	Yes	Yes	Yes
Character Color	Green	P21 RGB	White, green, amber	White (std.); green, amber (opt.)
Display Ergonomics	Tilt, swivel/height adjustable	Tilt, swivel	Tilt, swivel	Tilt, swivel
Keyboard Style	—	Typewriter	Typewriter	Typewriter
Function Keys	12; any key on keyboard can be programmed	15/30	32	30
Keyboard Ergonomics	Detachable, tilt adjustable	Detachable	Detachable	Detachable
Scrolling	Up & down, smooth	Up & down, smooth	Up & down	Up & down
Protect Format	Yes	No	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Burroughs Poll Select, TDI	Digital VT220/VT100/ VT52, Tektronix	Wyse 50+, ADDS VP, TVI 910/925	Wyse 50+, ADDS VP, Digital VT100
Graphics Capability	No	Yes	Yes (Tektronix)	Yes (Tektronix)
Split Screen	Yes	No	Yes	Yes
Windows/Multisessions	Yes	No	—	—
Memory	—	1 page	1 page	1 page
Editing Capabilities	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	—	Full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	—	ASCII	ASCII	ASCII
Communications Protocol	—	ASCII	ASCII	ASCII
Format	Block (screen)	Character	Character	Character
Maximum Speed, bps	19.2K bps	50-19.2K bps	110-38.4K bps	110-38.4K bps
Terminal Interface	RS-232-C	RS-232-C (std.), 20 mA (opt.)	RS-422, RS-423	RS-422, RS-423
PRICING AND AVAILABILITY				
Purchase Price, \$	1,295	2,195	695	695
Annual Maintenance, \$	—	—	—	—
Serviced By	Unisys	Visual	Visual	Visual
Date of Announcement	August 1986	November 1984	November 1986	November 1986
Date of First Commercial Delivery	September 1986	May 1985	December 1986	December 1986
Number of Units Installed to Date	50,000	—	—	—
VENDOR PHONE NUMBER	(313) 972-7000	(617) 459-4903	(617) 459-4903	(617) 459-4903
COMMENTS	T27 is a follow-on to ET 1100 terminal products. ET 1100 and PT 1500 still marketed but no longer manu- factured by Unisys.	Digital special graphics; five character sets; Tektronix 4010/ 4014 and Digital ReGIS graphics emulation.	70 Hz overscanned video; Tektronix 4010/4014 graphics std. with resolution of 1056x400; flat profile CRT; calen- dar, alarm clock; and calculator accessories standard.	70 Hz overscanned video; Tektronix 4010/4014 graphics std. with resolution of 1056x400; flat profile CRT; calen- dar, alarm clock; and calculator accessories standard.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Visual 603	Westinghouse Canada 3276/3278	Westinghouse Canada UTS 20	Westinghouse Canada VIP 7814
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	1,920/3,168/6,600	2,400	1,920/2,400	1,920/2,400
Screen Arrangement, lines x char./line	25 x 80, 25 x 132, 50 x 132	24 x 80, 30 x 80	24 x 80, 30 x 80	24 x 80, 30 x 80
Status Line	Yes	Yes	Yes	Yes
Character Color	White (std.); green, amber (opt.)	Amber	Amber	Amber
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel	Tilt, swivel
Keyboard Style	Typewriter	Typewriter	Typewriter	Typewriter
Function Keys	45	30	30	30
Keyboard Ergonomics	Detachable	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable, low profile
Scrolling	Up & down	Up & down	Up & down	Up & down
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Digital VT220/VT100/ VT52; Tektronix	Digital VT100 family, IBM 3270 family, IPARS, UTS20, VIP 7814	Digital VT100 family, IBM 3270 family, IPARS, UTS20, VIP 7814	Digital VT100 family, IBM 3270 family, IPARS, UTS20, VIP 7814
Graphics Capability	Yes (Tektronix)	No	No	No
Split Screen	Yes	Yes	Yes	Yes
Windows/Multisessions	—	Yes	Yes	Yes
Memory	1 page	Up to 12 screens	Up to 12 screens	Up to 12 screens
Editing Capabilities	Line & char. insert/ delete, erase	Line & char. insert/ delete	Line & char. insert/ delete	Line & char. insert/ delete
TRANSMISSION SPECIFICATIONS				
Mode	Half/full-duplex	Half-duplex	Full-duplex	Full-duplex
Technique	Asynchronous	Synchronous	Synchronous	Synchronous
Code	ASCII	EBCDIC	ASCII	ASCII
Communications Protocol	ASCII	BSC, SNA, SDLC, X.25	ASCII	ASCII
Format	Character	Block	Block	Block
Maximum Speed, bps	110-38.4K bps	19.2K bps	9600 bps	9600 bps
Terminal Interface	RS-422, RS-423	RS-232-C (2 or 4 of such ports)	RS-232-C (2 or 4 of such ports)	RS-232-C (2 or 4 of such ports)
PRICING AND AVAILABILITY				
Purchase Price, \$	695	—	—	—
Annual Maintenance, \$	—	—	—	—
Serviced By	Visual	WCI, third party	WCI, third party	WCI, third party
Date of Announcement	November 1986	July 1987	July 1987	July 1987
Date of First Commercial Delivery	December 1986	July 1987	July 1987	July 1987
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(617) 459-4903	(416) 528-8811	(416) 528-8811	(416) 528-8811
COMMENTS	70 Hz overscanned video; Tektronix 4010/4014 graphics std. with resolution of 1056x400; flat profile CRT; calen- dar, alarm clock; and calculator accessories standard.	Multi-emulation capability supporting concurrent operation; configured to meet customer requirements.	Multi-emulation capability supporting concurrent operation; configured to meet customer requirements.	Multi-emulation capability supporting concurrent operation; configured to meet customer requirements.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Westinghouse Canada IPARS	Westinghouse Canada VT100/VT52	Wyse WY-30	Wyse WY-50
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	1,024/1,920/2,400/2294	1,920 2,400	2,080	2,080, 3,432
Screen Arrangement, lines x char./line	24 x 80, 30 x 80, 16 x 64, 31 x 74	24 x 80, 30 x 80	24 x 80 (plus status and label lines)	24 x 80, 24 x 132 plus status/label lines
Status Line	Yes	Yes	—	—
Character Color	Amber	Amber	P31 green (amber opt.)	P31 green, amber (opt.)
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt	Tilt, swivel
Keyboard Style	Typewriter	Typewriter	ASCII	ASCII
Function Keys	30	30	4/16 dedicated, 25 additional	16/32 dedicated
Keyboard Ergonomics	Detachable, tilt adjustable, low profile	Detachable, tilt adjustable, low profile	Detachable	Detachable
Scrolling	Up & down	Up & down	Yes	Yes
Protect Format	No	No	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	Digital VT100 family, IBM 3270 family, IPARS, UTS20, VIP 7814	Digital VT100 family, IBM 3270 family, IPARS, UTS20, VIP 7814	See comments	See comments
Graphics Capability	No	No	Yes, line drawing	Yes, line drawing
Split Screen	Yes	Yes	Yes	Yes
Windows/Multisessions	Yes	Yes	Yes	Yes
Memory	Up to 12 screens	Up to 12 screens	1 page standard	1 page (std.)
Editing Capabilities	Line & char. insert/ delete	Line & char. insert/ delete	Line & char. insert/ delete, erase	Line & char. insert/ delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Full-duplex	Half-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Synchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ASCII	ASCII	ASCII	ASCII
Format	Block	Character	Character, block	Character, block
Maximum Speed, bps	9600 bps	9600 bps	50-38.4K bps	50-38.4K bps
Terminal Interface	RS-232-C (2 or 4 of such ports)	RS-232-C (2 or 4 of such ports)	RS-232-C	RS-232-C
PRICING AND AVAILABILITY				
Purchase Price, \$	—	—	399	599
Annual Maintenance, \$	—	—	—	—
Serviced By	WCI, third party	WCI, third party	Wyse, authorized distributors	Wyse, authorized distributors
Date of Announcement	July 1987	July 1987	August 1985	September 1983
Date of First Commercial Delivery	July 1987	July 1987	August 1985	November 1983
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(416) 528-8811	(416) 528-8811	(408) 433-1000	(408) 433-1000
COMMENTS	Multi-emulation capability supporting concurrent operation; configured to meet customer requirements.	Multi-emulation capability supporting concurrent operation; configured to meet customer requirements.	Wyse WY-50, ADDS, View- point, Lear Siegler ADM 3A/5, ADM 31, TeleVideo 925; tilt/swivel or adjustable arm (opt.).	Emulators include: ADDS Viewpoint, Lear Siegler ADM 3A/5, ADM 31, Tele- Video 910, 920, 925, and Hazeltine 1500.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Wyse WY-60	Wyse WY-75	Wyse WY-85	Wyse WY-99GT
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	14	14	14
Screen Capacity, characters	2,080/3,432/3,250	2,080/3,432	2,080/3,342	3,432/2,080
Screen Arrangement, lines x char./line	26 x 80, 26 x 132, 44 x 80, 44 x 132	24 x 80, 24 x 132 plus status/label lines	24 x 80, 24 x 132	26 x 80, 26 x 132
Status Line	—	—	Yes	Yes
Character Color	Green, amber, paper white	P31 green	P31 green or amber	Amber
Display Ergonomics	Tilt, swivel	Til, swivel	Tilt, swivel	Tilt, swivel
Keyboard Style	ASCII, ANSI, IBM	ANSI	ANSI	ASCII, VT/220, IBM PC enhanced
Function Keys	—	16/32 dedicated	20 dedicated	16 dedicated/66 total
Keyboard Ergonomics	Detachable, tilt adjustable	Detachable	Detachable	Detachable, low profile, tilt adjustable
Scrolling	Up & down	Up and down	Up and down	Up & down, smooth
Protect Format	Yes	Yes	Yes	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	See comments	Digital VT100, ANSI X3.64	Digital VT100/220, ANSI X3.64	TTY, Wyse, ADDS, Lear Siegler, Digital VT 100/VT 200 family, TeleVideo Esprit/Hazeltine
Graphics Capability	Yes, line drawing	Yes, line drawing	Yes, soft font	Yes
Split Screen	Yes	Yes	Yes	Yes
Windows/Multisessions	Yes	Yes	Yes	Yes
Memory	Up to 7 pages std.	1 page	1 page	2 screens
Editing Capabilities	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase	Line & char. insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ASCII/ANSI	ANSI, ASCII	ANSI	ANSI, X3.64, ASCII
Format	Character, line, block	Character, block	Character, block	Character, block, line
Maximum Speed, bps	50-38.4K bps	50-38.4K bps	50-38.4K bps	38.4K bps
Terminal Interface	RS-232-C	RS-232-C	RS-232-C, RS-423	RS-232-C, RS-422, RS-423
PRICING AND AVAILABILITY				
Purchase Price, \$	599	795	599	649
Annual Maintenance, \$	—	—	—	Optional
Serviced By	Wyse, authorized distributors	Wyse, authorized distributors	Wyse, authorized distributors	Wyse
Date of Announcement	April 1986	February 1984	December 1984	April 1987
Date of First Commercial Delivery	April 1986	February 1984	February 1985	April 1987
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(408) 433-1000	(408) 433-1000	(408) 433-1000	(408) 433-1000
COMMENTS	Compatible with Wyse WY-30/50/70; ADDS VP A2/60; TVI 910/910+ /912/920/925/950/955; Hazeltine 1500; Data General Dasher 100/200; IBM 3101/3161/PC terminal; ANSI X3.64; Digital VT52/100.			Over a dozen emulations, plus WYSEWorks desktop utilities. Also compatible with WY996T, WY-50/50T, ANSI X3.64, LS ADM 31/5/3A, PC terminal, PC graphics, Tek 4010/14, CGA.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Wyse WY-350	Zentec ADM 11	Zentec ADM 11plus	Zentec ADM 12plus
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	14	12 (std.), 14 (opt.)	12 (std.), 14 (opt.)	12 (std.), 14 (opt.)
Screen Capacity, characters	2,080/3,432	1,920	1,920	1,920/3,168
Screen Arrangement, lines x char./line	24 x 80, 24 x 132	24 x 80	24 x 80	24 x 80, 24 x 132
Status Line	Yes	Yes	Yes	Yes
Character Color	Color	P31 green, amber (opt.)	P31 green or amber	P31 green (std.), amber (opt.)
Display Ergonomics	Tilt, swivel	Tilt, swivel	Tilt, swivel	Tilt, swivel
Keyboard Style	ASCII	Typewriter	Typewriter	Typewriter
Function Keys	16/32 dedicated	8	16	32
Keyboard Ergonomics	Detachable	Detachable	Detachable	Detachable
Scrolling	Yes	Yes	Yes	Yes
Protect Format	Yes	No	No	Yes
FUNCTIONAL SPECIFICATIONS				
Compatibility	See comments	See comments	See comments	See comments
Graphics Capability	Yes, line drawing	Business graphics	Business graphics	Business graphics
Split Screen	Yes	No	No	Horizontal split
Windows/Multisessions	Yes	No	No	No
Memory	1 page	—	—	2 pages
Editing Capabilities	Line & char. insert/delete, erase	Line/page/screen insert/delete, erase	Char. & line insert/delete, erase	Char. & line insert/delete, erase
TRANSMISSION SPECIFICATIONS				
Mode	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Code	ASCII	ASCII	ASCII	ASCII
Communications Protocol	ASCII	—	—	—
Format	Character, block	Character	Character	Character, block
Maximum Speed, bps	50-38.4K bps	300-19.2K bps	300-19.2K bps	110-19.2K bps
Terminal Interface	RS-232-C	RS-232-C (std.); RS-422, 20 mA (opt.)	RS-232-C (std.); RS-422, 20 mA (opt.)	RS-232-C (std.); RS-422, 20 mA (opt.)
PRICING AND AVAILABILITY				
Purchase Price, \$	999	549	569	599
Annual Maintenance, \$	—	—	—	—
Serviced By	Wyse	Dow Jones	Dow Jones	Dow Jones
Date of Announcement	December 1984	May 1983	May 1985	December 1983
Date of First Commercial Delivery	February 1985	June 1983	June 1985	March 1984
Number of Units Installed to Date	—	—	—	—
VENDOR PHONE NUMBER	(408) 433-1000	(408) 727-7662	(498) 727-7662	(408) 727-7662
COMMENTS	Emulations include: Wyse WY-50, ADDS Viewpoint, Lear Siegler ADM 3A/5, ADM 31, TeleVideo 910/920/925, Hazeltine 1500.	Emulations include LSI ADM 3A/5, ADDS Viewpoint & Regent 25, Hazeltine 1400, 1420, & 1500; Digital VT52. International character sets opt.; formerly marketed by Lear Siegler.	Emulations include LSI ADM 3A/5 & 11; ADDS Viewpoint & Regent 25; Hazeltine 1400, 1420, & 1500; Digital VT52. International character sets opt.; formerly marketed by Lear Siegler.	Emulations include LSI ADM 2, ADM 12, ADM 31, & ADM 32; TeleVideo 912, 920, 925, & 950. International character sets (opt.); formerly marketed by Lear Siegler.

Alphanumeric Display Terminals

MANUFACTURER & MODEL	Zentec ADM 220	Zentec ADM 1178		
PHYSICAL SPECIFICATIONS				
Screen Size, inches (diagonal)	12 or 14 (std.)	12 (std.), 14 (opt.)		
Screen Capacity, characters	1,920	1,920		
Screen Arrangement, lines x char./line	24 x 80, 24 x 132	24 x 80		
Status Line	Yes	Yes		
Character Color	P31 green or amber	P31 green (std.), amber (opt.)		
Display Ergonomics	Tilt, swivel	Tilt, swivel		
Keyboard Style	Typewriter	IBM 3278-style		
Function Keys	30	24		
Keyboard Ergonomics	Detachable	Detachable		
Scrolling	Vertical, horizontal	Up		
Protect Format	No	No		
FUNCTIONAL SPECIFICATIONS				
Compatibility	Digital VT100/VT220/VT52 and ANSI X3.64	—		
Graphics Capability	No	No		
Split Screen	Yes	No		
Windows/Multisessions	Yes	No		
Memory	1 page	1 page		
Editing Capabilities	Char. & line insert/delete, erase	Char. & line insert/delete, erase		
TRANSMISSION SPECIFICATIONS				
Mode	Full-duplex	Half-/full-duplex		
Technique	Asynchronous	Asynchronous		
Code	ASCII	ASCII		
Communications Protocol	ANSI X3.64	—		
Format	Character	Character		
Maximum Speed, bps	75-19.2K bps	300-19.2K bps		
Terminal Interface	RS-232-C (std.); RS-422, 20 mA (opt.)	RS-232-C (std.); RS-422, 20 mA (opt.)		
PRICING AND AVAILABILITY				
Purchase Price, \$	729	695		
Annual Maintenance, \$	—	—		
Serviced By	Dow Jones	Dow Jones		
Date of Announcement	1984	December 1983		
Date of First Commercial Delivery	1984	March 1984		
Number of Units Installed to Date	—	—		
VENDOR PHONE NUMBER	(408) 727-7662	(408) 727-7662		
COMMENTS	International character sets (std.); keyboard option—ADM; 364; formerly marketed by Lear Siegler.	Emulates IBM 3278 Model 2 when used with protocol converter; formerly marketed by Lear Siegler.		

