Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

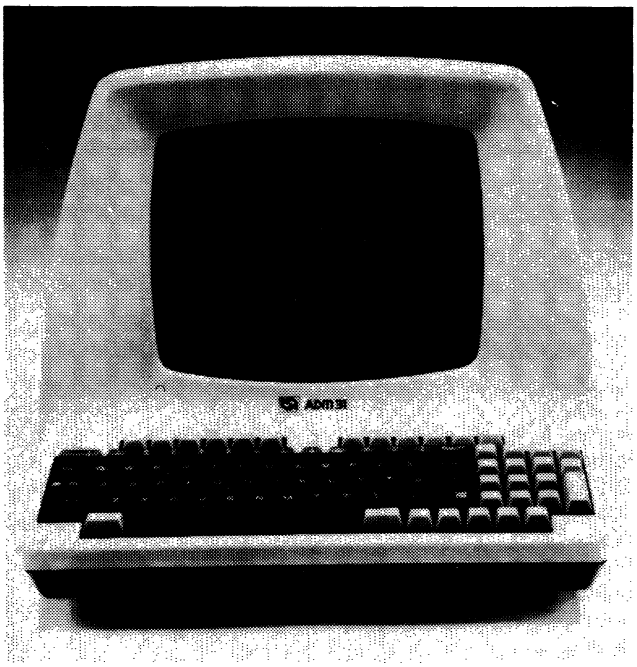
Alphanumeric display terminals are today the most common interface between man and the computer. Probably any American between the ages of five and sixty-five could identify one of these terminals because of having seen them in bank branches, schools, the credit office of a department store, where the individual works, or simply from watching television. The use of alphanumeric display terminals (or CRTs, as they are frequently referred to) is now so widespread, that *growth* in their usage has tapered off from the explosive growth of three or four years ago. The display terminal market has reached maturity.

A complete overview of general-purpose, non-user-programmable, alphanumeric display terminals—including display terminal characteristics, market perspectives, a summary of user experience with over 11,000 installed units, buying guidance, and comparison charts of commercially available terminals from vendors.

General Categories

All the terminals covered in this report have three features in common: 1) each has a keyboard that can generate and a monitor that can display a full alphanumeric character/code set; 2) each has the capability to send and receive data via communications 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.

Display terminals fall into one of three general categories: dumb, smart, and user-programmable. This report concerns itself with dumb and smart terminals, according to Datapro's definitions. User-programmable terminals have been placed into a distinct and separate section (C21) because of their sophistication, features, and price.



Lear Siegler's ADM Series is a popular family of ASCII terminals. The ADM-31 is a microprocessor-controlled "smart" terminal featuring full editing capabilities, visual attributes, formatting, and protected fields. Two full 1920-character pages of memory, (up to 3840 characters) are included.

Naturally, there is some overlap between dumb, smart, and user-programmable terminals. The definitions of these categories are given as follows:

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 user can tailor the terminal to fit his own application via a limited degree of programming, such as format creation and parameter definition.

User-programmable 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.

For more information on user-programmable terminals, see report number C21-010-101 entitled "User-Programmable Terminals—Management Perspective and Equipment Specifications."

We have not identified a separate category of "intelligent" terminals because the industry does not exhibit a consistent correlation between the name and the device functions. Some "intelligent" terminals are programmed via factory-installed firmware and give the user no more capability to create programs than the "smart" terminals defined above. Other terminals marketed as "intelligent" are fully user-programmable.

But what about price? As usual, price is in proportion to capability. Dumb display terminals are the least expensive and typically range between $800 and $1,500 in purchase price for single quantities. Smart terminals are generally priced between dumb terminals and programmable terminals, with some overlap in both directions. (Naturally, added capabilities, such as program function keys and additional display stations, raise the price.) Quantity discounts available from some vendors can reduce per-unit costs, typically by 10 to 30 percent.

Some of the more prominent dumb terminals are those offered by Applied Digital Data Systems (ADDS), Beehive, Hazeltine, Ann Arbor, and Lear Siegler. Some of ▷

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the more prominent smart terminals include the Hewlett-Packard 2640 series, the IBM 3270 Information Display system, the Teletype Model 40, and the Univac Uniscope terminals.

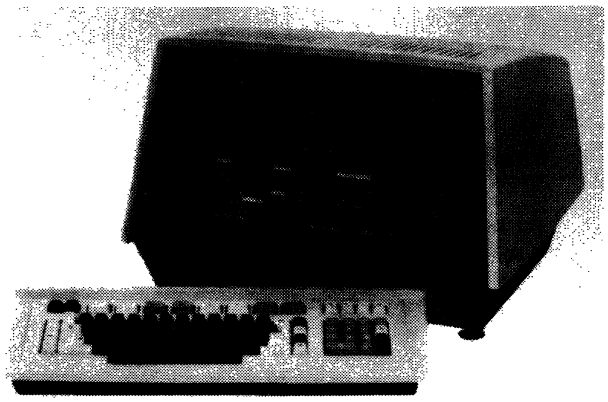
Microprocessor Control

Since the introduction of the alphanumeric display terminal in 1965, the single most important development in the industry has been the addition of microprocessor control. Initially, display terminal prices were prohibitively high for many applications as a result of low-volume production and the material and assembly (labor) cost of discrete components. With the advent of the microprocessor, terminal prices were driven down, making them more affordable to the average DP user. In early 1975, industry sources estimated that only about 10 percent of all display terminals installed featured microprocessor control; now, virtually all terminals manufactured are microprocessor-based.

Since the initial price plunge caused by the introduction of microprocessor technology, terminal prices in the industry have stabilized. Instead of slashing prices further, most vendors now are adding more and more features, expanding the capabilities and the functions of their equipment. It is safer to add features via the microprocessor than it is to reduce prices when the cost of keyboards, power supplies, CRTs, cabinets, labor and transportation are continually rising. The user still benefits by getting more sophistication for the same price (see also the paragraph on Ergonomics). Additionally, the utilization of microprocessors has enabled manufacturers to reduce the physical size of the units, further increasing their acceptance. And the microprocessor precludes obsolescence, since future functions frequently can be implemented via reprogramming.

Microprocessor-based programs (firmware) reside in ROM or PROM memory. ROM-resident programs, which are inexpensive when reproduced 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 putting in a new one. This flexibility is highly beneficial to the manufacturer, since older equipment can be updated and non-standard customer specifications 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, define the character/code sets to be generated by the keyboard and displayed on the screen, implement special features, set control parameters, 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 the user to submit his own firmware specifications.



The TAB 132/15 Smart Display Terminal features a 15-inch, high resolution, non-glare screen, with 80 or 132 column format. Large, flicker-free characters are formed by a 7 x 11 dot matrix in a 9 x 14 or 9 x 16 cell. Character attributes include blinking, bold, underline, reverse video. Protected fields may be based on any attribute.

Display Media

The vast majority of display terminals manufactured today employ a cathode ray tube (CRT) as the display medium. The popularity of this device stems from its flexibility, high character capacity, and relatively low cost. In addition to being able to display alphabetic and numeric characters in virtually any format, the CRT can highlight characters by means of underscoring, reverse video, blinking, or several levels of brightness. Some CRT terminals can display double size characters. Many CRT terminals have a graphics character set for creating forms and report formats on the 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 or engineering graphics on the other hand, is a completely different discipline which requires a graphics terminal, the subject of report 70D5-010-92 in DATAPRO 70. Graphics terminals can also display alphanumeric characters, but they are considerably more expensive.

Other types of alphanumeric displays have existed for years and at one time, were thought to be a serious challenge to the CRT. Examples of these are LEDs (light emitting diodes) which are very popular in calculators and point of sale (POS) terminals, and gas discharge displays such as Burroughs Self-Scan, which are common in bank teller terminals, ATMs (automatic teller machine), factory data collection equipment, general purpose data entry equipment and hand held display terminals. Liquid crystal displays (LCD) were also thought to be applicable to the terminal areas, but a clear legible alphabetic character has only recently been produced via liquid crystal.

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Consequently, use of these is confined primarily to digital watches and calculators which require only numerics. Some pocket computers employ a single line alphanumeric LCD display.

The above mentioned alternate types of displays are advantageous where a limited number of characters are needed, where format flexibility is not important, and space restrictions (particularly depth) may be severe. But for general purpose dialog with a computer, the CRT has no peer and is here to stay.

Ergonomics

According to the American National Standard ANSI 294.1-1972, Ergonomics is defined as: "A multi-disciplinary activity dealing with the interactions between man and his total working environment, plus such traditional and environmental aspects as atmosphere, heat, light, and sound as well as of tools and equipment of the workplace."

Recently, the display terminal industry has become increasingly aware of the need to consider human factors, or ergonomics, in the design of their equipment. The trend toward making CRTs more "operator-friendly" began in Europe, particularly the Scandinavian countries, where powerful unions representing clerical workers have implemented rigid guidelines as to what types of display terminals their members will use. In the United States, some newer CRT manufacturers, hoping to capture a share of the market, are appealing to the user through marketing campaigns aimed at emphasizing the human factors which influenced the design of their terminals.

The average operator of a display terminal is concerned primarily with two components with which he or she has the most interaction: the keyboard, for inputting of data, and the display screen, for verifying what was keyed and for reading the outputted data. Ergonomic design improvements are therefore concentrated on these two components.

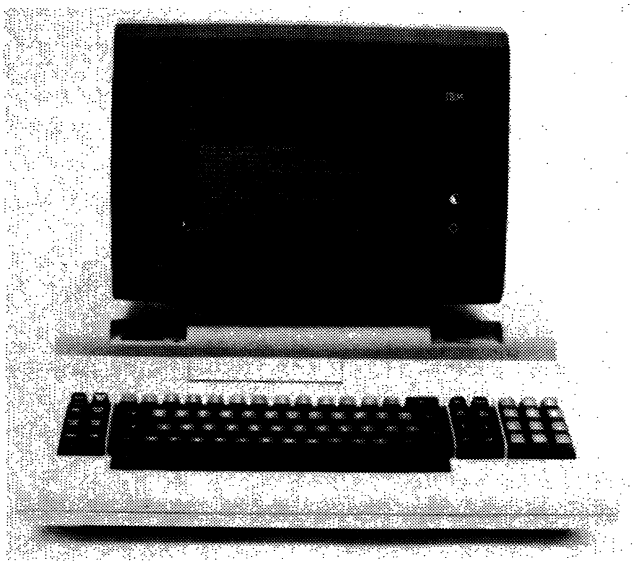
The majority of display terminal vendors now offer keyboards that are detached or detachable. Connected to the display console via a cable or coiled wire, these keyboards may be placed at some distance (usually 3 to 6 feet) from the console, allowing the operator to place the keyboard in the most comfortable position(s) while working at the terminal.

The layout of the keyboard is also a concern. Most keyboards feature a typewriter-style layout, for ease of training personnel already familiar with a typewriter's key arrangement. Dedicated (separate) numeric keypads are also generally available, duplicating the key arrangement of a pocket calculator or adding machine, for fast numeric entry. In addition, some vendors have added a palm rest for the numeric pad, for operator comfort. Many vendors also offer sculptured key caps in place of flat key caps, to facilitate speed of data entry and improve operator comfort. For keyboard feedback, vendors may offer either audible or tactile (touch sensitive) key click, which tells the operator that the key has been depressed far enough to register.

Another important design factor to be considered is the slope and thickness of the keyboard assembly itself. Most keyboards manufactured today are either sloped or stepped, and the optimum profile angle is generally believed to be between 5 and 15 degrees. It has also been determined in studies that the thickness of the keyboard, or the distance from the base of the keyboard to the home row of keys, generally should not exceed 30 mm.

Operator eye strain or fatigue is a consideration which must be dealt with when designing a CRT display screen. Most display screens produced today are etched or contain a bonded faceplate to reduce glare. Another method of glare reduction being utilized by more and more manufacturers is the addition of tilt and/or swivel adjustments. These adjustments not only allow the operator to place the viewing area in a position to avoid glare, but also to place the screen at the most comfortable viewing angle.

The phosphor color and size of characters also contributes to their legibility. White or green phosphor characters are generally used in the United States; green phosphor characters are becoming increasingly popular, and in Europe they are considered easier on the eyes than the standard white. Amber phosphors are also used in Europe, and some domestic vendors who also have large European markets are beginning to offer amber phosphor characters in this country. The vast majority of display terminals on the market today utilize the dot matrix technique to form characters. The more dots that are contained in the



The Model 3101 signalled IBM's entry into the ASCII terminal market. Human engineering features on the 3101 include a tilt and swivel monitor, a concave contrast-enhancing screen filter, and a detachable keyboard. The 3101 is available for purchase only, and prices begin at $1,295. Quantity discounts are also available.

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Table 1. IBM 3270 Compatibility

Vendor	System	Controllers	Displays	Printers
Beehive	DM 3270	—	3276-2	3287
Computer Optics	Mark IV	3271/3272	3277	3287
Control Concepts	EM 3275	—	3275/3276	N/A
DatagraphiX	132-70	3274	3278	*
Datapoint	3670	—	3277	N/A
Elbit	DS 376X/377X	3271-2	3277-2	3287
Harris	8000	3271/3272	3277	*
Harris	9200	3274	3278	3287/3289
ITT Courier	270	3271/3272/3274	3275/3276/3277/3278	*
Lee Data	Series 300	3274-1A, -1B, -1C, -1D, -SC	3278-2, -3, -4, -5	*
MDS Trivex	Plus 70	3271/3272	3275/3276/3277	3288
MDS Trivex	Plus 80	—	3278	*
Megadata	MC-77	—	3277	N/A
Memorex	1377	—	3277-2	*
Memorex	2076/2078	—	3276-1, -2, -3, -4/3278-1, -2, -3, -4	3287, 3289
Northern Telecom	290	3272/3274	3276/3277	*
Olivetti	TCV 280	3271/3272	3277	N/A
Paradyne	7802 VDU 77	—	3277	N/A
Phone 1	P1-14	3271	—	N/A
Racal-Milgo	4270	3274	3275/3276/3278-2	3287/3289
Raytheon	PTS-2000	3274	3276/3278	*
Teletype	4540			
Telex	270	3271/3272	3275/3276/3277/3278	3284/3286/3287 3289

*Printer available from vendor.

character cell, the sharper the character will appear. For years, 5 x 7 characters were the standard of the industry; today, 7 x 7 and 7 x 9 characters are more common, and they provide a clearer character. Some vendors have incorporated higher refresh rates to reduce image instability, or flicker, in the characters, further improving their legibility. One vendor, DatagraphiX, uses a patented Charactron shaped beam technique to generate fully-formed, high resolution, flicker-free characters. This results in a physically larger and somewhat more expensive terminal, but one in which eye fatigue has been virtually eliminated.

The size of the characters generated depends on the size of the screen and the display format used. Characters will be larger on 15" (diagonally measured) screens than on 12" screens; likewise, characters will be larger in an 80 character-per-line format than in a 132 character-per-line format. Display enhancements such as double height and double width characters can alleviate this problem, but are generally included to highlight significant data, not for general usage.

To facilitate specialized data entry, some vendors offer a light-pen option, which allows the user to enter data via a light-pen for applications involving menu selection. A variation of this is the touch-sensitive screen, offered by a small number of vendors, which allows the user to input data by touching the screen with a finger or a pen. Finally, LSI circuitry has contributed to the use of smaller power supplies. Some CRT terminals have smaller cooling fans than before resulting in reduced noise level. Individually, these improvements may be slight, but when considered cumulatively, they represent a vast improvement over the terminals of say, five years ago.

The improvements in ergonomic factors will have two results. They will make the terminal more acceptable to the manager or executive who will use it only occasionally. But more important, they will make life easier for the operator whose entire job consists of operating a terminal. It is about time that we recognize how important that operator is.

Major Display Markets

Excluding specialized terminals for dedicated markets such as brokerage houses, banks and retail POS, the alphanumeric display terminal industry has focused its attention on two principal markets: the ASCII terminal market, and the IBM 3270 replacement market.

The most active of these two markets has been, and will most likely continue to be, the ASCII terminal market, because it represents the greatest profit potential for the small terminal manufacturers. The replacement market for the IBM 3270 Information Display System, although not as active as the ASCII market, is also growing, as IBM continues to enhance the system.

IBM's Best-Seller, the 3270

The IBM 3270 has strongly impacted the alphanumeric display terminal market since deliveries began late in 1971. The first generation of devices 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 3278/3289 printers) that offers increased capabilities at prices much lower than comparable older models. Along with that announcement came major price reductions on the older equipment.

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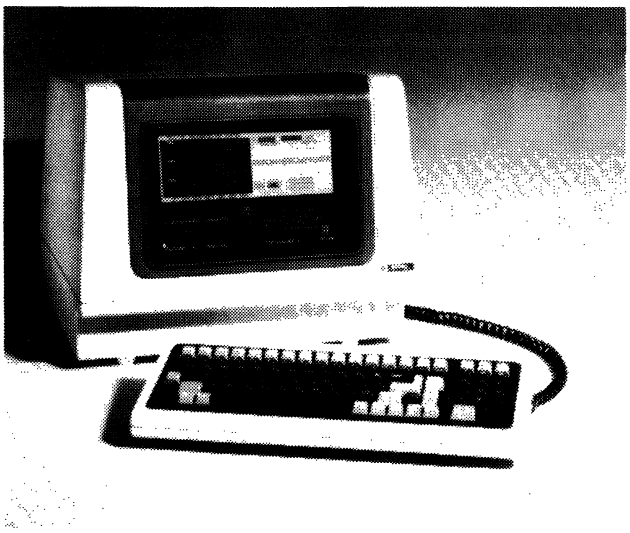

The TeleVideo Systems Model 950 features a detachable, typewriter-style keyboard; 11 special function keys (shiftable to 22) are standard. The 12" diagonal display screen can accommodate 24 lines of 80 characters each, and 15 special graphics characters are also included.

The 1977 announcement boosted the 3270 family into a favorable position in the highly competitive terminal marketplace, and it has maintained that position. In late 1979, color displays and printers were added to the family.

One concept that allows IBM to hold the line in terms of prices is its Customer Set-Up (CSU) plan, applicable to all the newer components. Under this plan, the customer installs the equipment himself. IBM expects the installation to be a "same-day-as-delivery" possibility, because rental or lease charges start the working day after delivery, without having any IBM personnel look at the equipment. If there is a problem, charges do not start until the equipment is fixed. Movement of equipment is also permitted under this agreement, and if the customer wants to discontinue using any component, he must pack it up himself and put it on the loading dock for pick-up. Internal test and check features have been installed on all components so that the user can diagnose most problems himself.

An indication of the 3270's success is the number of competitive units that emulate it. It is the most emulated display in history. Table 1 indicates which independent vendors offer 3270-compatible equipment.

The ASCII Terminal Market

The ASCII display terminal market is the largest segment of the two major display markets with regard to both number of units marketed and quantity sold. This market originated as the Teletype replacement market, with units intended to replace the highly popular Teletype ASR 33/35 terminals. Although today not many of the ASCII terminals purchased are actually replacing the older Teletype units, the ASCII terminal market is still universally referred to as the Teletype-compatible market.

Manufacturers of ASCII terminals generally aim their products at educational and commercial users requiring large numbers of low-priced terminals for applications such as order entry and time-sharing. Applied Digital Data Systems (ADDS), Hazeltine, and Lear Siegler are considered among the leading independent manufacturers in this market. Price is a key factor for success in this market.

IBM entered the TTY-compatible market with the introduction of the model 3101 ASCII terminal in October, 1979. The IBM unit was priced about 20 percent higher than the competition, and in a radical departure from their traditional marketing approach, IBM made the 3101 available for purchase only, with quantity discounts available for high volume orders. The company provides maintenance/repair service only through IBM Service Centers, to which the customer must mail the defective part, after removing it himself. Even more surprising, IBM made the 3101 available on a 15-day trial basis, a move apparently made to counteract disappointing sales results. As of today, the 3101 still has not achieved the popularity enjoyed by some of the older established lines of ASCII terminals, such as the ADDS Regent Series, the Hazeltine 1400 and 1500 Series', and the Lear Siegler ADM Series.

The message from this is that in a price-sensitive market with established suppliers, IBM cannot walk in as the new kid on the block and pick up all of the marbles just because it is IBM. We think that that is the sign of a mature market.

User Experience

To assess the current level of user satisfaction with display terminals, and to determine the patterns of usage of these terminals, Datapro conducted an extensive user survey. A Reader Survey form was included in the December 1980 supplements to DATAPRO REPORTS ON DATA COMMUNICATIONS, and mailed to all subscribers. By March 1, usable responses had been received from 101 users with a total of 11,362 installed display stations.

Because many of the users reported on more than one model of display, the user replies generated a total of 208 responses or individual equipment ratings and profiles. The orientation of the users participating in the survey can be shown by the following table:

	Responses		Displays	
Responses on:	Number	Percent	Number	Percent
IBM displays	55	26	6,051	53
Other displays	153	74	5,311	47
Total	208		11,362	

Overall, the average number of displays per response was 55, while the average number of displays per responding user was 112; these averages are somewhat misleading, however, because of a few responses from some exceptionally large IBM users (one user reported on a total of 1200 installed units).

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The users were asked to rate the overall performance, ease of operation, hardware reliability, maintenance service, and software and technical support for each display by assigning a rating of excellent, good, fair, or poor. The resulting ratings for display models or families are summarized in the accompanying table. Any model or category that received more than two user responses is identified by manufacturer; models, categories, or manufacturers receiving only one or two responses were categorized as "other." Prospective buyers should note that the small sample sizes for some of these models make it unwise to draw firm conclusions from the indicated ratings.

To put the raw counts into a form more readily grasped, Datapro calculated a weighted average for each rating category. Each user response was assigned a weight of one, and the ratings were weighted on the conventional scale of 4, 3, 2, and 1 for excellent, good, fair, and poor, respectively. The data is presented as an additional information source, not as the final word on the worth of the displays represented. Individual vendor's ratings are tabulated on page 108.

The ratings assigned by the responding users can also be combined to form this overall picture of current user satisfaction with the IBM displays, other manufacturers' displays, and all displays:

	Weighted Averages		
	IBM displays	Other displays	All displays
Overall performance	3.6	3.2	3.3
Ease of operation	3.3	3.3	3.3
Display clarity	3.3	3.1	3.2
Keyboard feel & usability	3.2	3.1	3.1
Hardware reliability	3.4	3.1	3.2
Maintenance service	3.3	2.9	3.0
Technical support	3.0	2.9	2.9
Number of responses	55	153	208

The users were asked whether they were using their terminals as plug-compatible replacement for another vendor's terminals. Of the total 208 users responding, 71 were using IBM 3270, Burroughs TD Series, Honeywell VIP Series, or DEC VT Series; 103 were using terminals made by another vendor to emulate one of these or to emulate Teletype's Model 33/35 teleprinters; and 34 were using terminals made by another vendor but were not emulating any other terminal. The users not using one of the above-mentioned terminals can be tabulated as follows:

Plug-Compatibility with:	Number of User Responses	Percent of Responses
Teletype 33/35	24	18%
IBM 3270/3275/3277	57	42
IBM 2260/2265	1	1
Burroughs TD Series	5	4
Honeywell VIP Series	1	1
DEC VT-50/52	4	3
Other emulations	11	8
No emulation	34	25

Clearly, the replacement of IBM display units continues to dominate the replacement market segment, even though many displays having compatibility with other vendors' protocols have been introduced.

The users were also asked questions designed to determine the current usage patterns for display units. Of the total 208 users, 119 reported having single display station configurations, and 90 reported having clustered display station configurations. (Users were counted in more than one category if they reported multiple types of usage.)

Single-station configurations can be summarized as follows:

	Remote Connection to Computer (via Communications Lines)	Local Computer Connection
Number of user responses	74	73
Percent of total user responses	36%	35%

Cluster configurations are described below:

	Remote Connection to Computer (via Communications Lines)	Local Computer Connection
Number of user responses	66	65
Percent of total user responses	32%	31%

When queried about what applications they presently used their terminals for, most users indicated interactive data entry & inquiry and program development. The current applications are noted in the following table:

	Now	Percent
Interactive data entry & inquiry	182	88%
Text editing/word processing	77	37
Program development	166	80
Intracompany message traffic	60	29
Business graphics	24	12
System console	79	38
Other	11	5

On the subject of color display terminals, most users (70%) responded no when asked if they currently were using a color display, while 15% responded yes (this figure is up significantly from the 1% who responded yes last year); 9% responded that they intended to put a color display into use within the next two years. The most frequently mentioned application of a color display was business graphics. The results of the question on color display usage are listed below:

Color Display Usage	Total	Percent
Yes	32	15%
No	146	70%
Yes, within 2 years	18	9%

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When asked who performs maintenance and repair service on their display terminals, most users indicated the manufacturer. The responses were as follows:

Maintenance	Total	Percent
Manufacturer	163	78%
In-house	24	11%
Third-party	23	11%

The final question in our survey asked what peripherals, if any, were attached to these terminals. Of the 208 users, 83 or 40% reported that they use a station printer, while less than one percent recorded the use of an OCR wand. These and the other results are listed in the following:

Peripheral Usage	Total	Percent
Station printer	83	40%
Diskette	11	5%
Tape cartridge/cassette	12	3%
Other	10	5%

Display Terminal Characteristics

The accompanying comparison charts summarize the characteristics of commercially available alphanumeric display terminals from vendors. Nearly all of the information was supplied by the manufacturers during the months of February and March 1980. Their cooperation is acknowledged and greatly appreciated.

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

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

Terminal Description

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

Terminals that are designed to be hand-held, such as the Taumark Tera or the Termiflex HT Series, or to be hand-carried, are noted in the entry transportability.

Some terminals are designed as direct replacements for other terminals. In the alphanumeric display terminal market, replacement terminals fall into two principal categories: those designed to replace an IBM family terminal and those designed to replace a terminal in the ASCII/Teletype market.

Some vendors provide *compatibility* with other terminals such as those produced by Burroughs, Digital Equipment, Honeywell, and Univac. For example, several vendors—including Ann Arbor, Datamedia, General Terminal, Hazeltine, Human Designed Systems, Informer, Intertec, Micro-Term, Visual Technology, and Volker-Craig—are currently marketing units compatible with Digital Equipment's VT-52 terminal (a unit that is still widely used despite being out of production.) Still other vendors—including Direct, DatagraphiX, TAB Products, and Teleray—have introduced units that offer compatibility with the newer DEC VT-100, perhaps spurred on by the production problems experienced by DEC after the VT-100's introduction (the VT-100 was recently taken off of allocation). Many vendors offer emulation for both the VT-52 and VT-100.

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. For example, although numerous vendors offer IBM 3270 compatibility, only a few, including ITT Courier, Memorex, Telex, MDS Trivex, and Basic Four/Wordstream, make a true plug-for-plug replacement for the 3277 display station.

Programmability for processor-controlled terminals can be implemented via a combination of different techniques. The entry *user-programmable* defines the capability for

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USERS' RATINGS OF ALPHANUMERIC DISPLAY TERMINALS

Display Supplier and Model	No. of User Responses	No. of Displays in Use	Weighted Averages and Response Counts																																			
			Overall Performance					Ease of Operation					Display Clarity					Keyboard Feel and Usability					Hardware Reliability					Maintenance Service					Software and Technical Support				
			WA	E	G	F	P	WA	E	G	F	P	WA	E	G	F	P	WA	E	G	F	P	WA	E	G	F	P	WA	E	G	F	P	WA	E	G	F	P
ADDS all models	4	106	3.3	1	3	0	0	3.5	2	2	0	0	3.3	1	3	0	0	2.5	0	2	2	0	3.5	2	2	0	0	3.0	1	2	1	0	3.0	1	2	1	0
Beehive, all models	3	55	3.5	1	1	1	0	2.7	1	1	0	1	3.3	1	2	0	0	3.5	1	1	1	0	2.7	1	0	2	0	*	1	0	1	0	*	1	0	1	0
Burroughs TD 830	4	180	3.0	0	4	0	0	3.5	2	2	0	0	3.3	2	1	1	0	3.8	3	1	0	0	3.3	1	3	0	0	2.5	1	1	1	1	3.0	1	2	1	0
Burroughs TD 832	3	171	3.0	0	3	0	0	2.7	0	2	1	0	2.7	1	1	0	1	3.0	0	3	0	0	3.0	0	3	0	0	2.7	1	0	2	0	3.0	1	1	1	0
Burroughs, others and unspecified	4	27	3.0	0	4	0	0	3.0	0	4	0	0	2.5	0	3	0	1	3.0	1	2	1	0	3.3	1	3	0	0	2.5	1	1	1	1	2.5	1	0	3	0
Subtotals	11	378	3.0	0	11	0	0	3.1	2	8	1	0	2.8	3	5	1	2	3.3	4	6	1	0	3.2	2	9	0	0	2.5	3	2	4	2	2.8	3	3	5	0
Data General, all models	4	158	3.0	1	2	1	0	3.8	3	1	0	0	3.5	2	2	0	0	3.0	1	2	1	0	3.0	1	2	1	0	3.0	2	0	2	0	3.0	2	0	2	0
Datamedia, all models	4	117	3.5	2	2	0	0	3.5	2	2	0	0	3.3	1	3	0	0	3.5	2	2	0	0	3.7	2	1	0	0	*	1	1	0	0	*	1	1	0	0
DEC VT-100	6	41	3.8	5	1	0	0	3.5	4	1	1	0	3.7	4	2	0	0	3.7	4	2	0	0	3.7	4	2	0	0	2.8	3	1	1	0	3.5	3	3	0	0
Four Phase, all models	5	234	3.2	1	4	0	0	3.0	0	5	0	0	2.4	0	2	3	0	2.8	0	4	1	0	2.8	1	2	2	0	2.8	4	1	0	1	2.8	1	3	0	1
Harris, all models	6	178	3.0	1	4	1	0	3.5	3	3	0	0	3.0	1	4	1	0	2.8	1	3	2	0	3.0	0	6	0	0	3.2	1	5	0	0	3.3	2	4	0	0
Hazeltine, all models	3	816	2.3	0	1	2	0	2.7	0	2	1	0	2.7	0	2	1	0	2.3	0	1	2	0	2.3	0	1	2	0	1.7	0	0	2	1	*	0	0	0	2
Heath (Zenith), all models	3	3	3.3	1	2	0	0	3.0	1	1	1	0	3.0	1	1	1	0	2.7	1	1	0	1	3.7	2	1	0	0	3.7	2	1	0	0	3.7	2	1	0	0
Hewlett-Packard 2621	8	204	4.0	8	0	0	0	3.6	6	1	1	0	3.9	7	1	0	0	4.0	7	0	0	0	3.6	5	3	0	0	3.6	5	1	1	0	3.4	4	2	1	0
Hewlett-Packard, other 2600 series	4	38	4.0	4	0	0	0	4.0	4	0	0	0	4.0	4	0	0	0	3.8	3	1	0	0	4.0	4	0	0	0	4.0	4	0	0	0	4.0	3	0	0	0
Subtotals	12	242	4.0	12	0	0	0	3.8	10	1	1	0	3.9	11	1	0	0	3.9	10	1	0	0	3.8	9	3	0	0	3.8	9	1	1	0	3.6	7	2	1	0
Honeywell VIP Series	4	171	3.3	2	1	1	0	3.0	1	2	1	0	2.5	0	2	2	0	2.8	0	3	1	0	3.0	1	2	1	0	3.5	2	2	0	0	2.5	0	2	2	0
IBM 3101	3	515	3.0	0	3	0	0	2.7	0	2	1	0	3.7	2	1	0	0	3.0	1	1	1	0	3.3	1	2	0	0	*	1	0	0	0	*	0	0	2	0
IBM 3274	3	440	3.3	1	2	0	0	3.3	1	2	0	0	3.3	1	2	0	0	3.0	1	1	1	0	3.3	1	2	0	0	4.0	3	0	0	0	3.0	1	1	1	0
IBM 3276	6	554	3.7	4	2	0	0	3.3	2	4	0	0	3.3	2	4	0	0	2.8	2	1	3	0	3.7	4	2	0	0	3.3	3	2	1	0	3.0	2	2	2	0
IBM 3277	7	425	3.4	3	4	0	0	3.6	4	3	0	0	3.3	2	5	0	0	3.4	3	4	0	0	3.3	2	5	0	0	3.3	2	5	0	0	3.3	2	5	0	0
IBM 3278	21	2842	3.7	15	6	0	0	3.3	7	14	0	0	3.3	7	14	0	0	3.2	8	9	4	0	3.6	13	7	1	0	3.3	10	8	3	0	3.0	8	6	6	1
IBM 3279	4	324	4.0	4	0	0	0	3.5	2	2	0	0	3.5	2	2	0	0	3.3	1	3	0	0	3.8	3	1	0	0	3.5	2	2	0	0	3.5	2	2	0	0
IBM 3270, other & unspecified	6	851	3.2	1	5	0	0	3.2	1	5	0	0	3.0	1	4	1	0	3.3	2	4	0	0	3.2	1	5	0	0	3.2	1	5	0	0	3.2	1	5	0	0
IBM, others & unspecified	5	100	3.6	3	2	0	0	3.4	2	3	0	0	3.2	1	4	0	0	3.0	1	3	1	0	2.8	0	4	1	0	2.4	0	3	1	1	2.0	0	2	1	2
Subtotals	55	6051	3.6	31	24	0	0	3.3	19	35	1	0	3.3	18	36	1	0	3.2	19	26	10	0	3.4	25	28	2	0	3.3	22	25	5	1	3.0	16	23	12	3
ITT Courier 270/2700/2750	6	407	3.2	1	5	0	0	3.3	2	4	0	0	3.3	2	4	0	0	3.5	3	3	0	0	2.8	1	3	2	0	3.2	1	4	0	0	2.8	1	2	2	0
ITT Courier, others and unspecified	6	139	3.2	1	5	0	0	3.7	4	2	0	0	3.0	0	6	0	0	3.2	1	5	0	0	2.7	0	4	2	0	3.0	0	6	0	0	2.5	0	3	3	0
Subtotals	12	546	3.2	2	10	0	0	3.5	6	6	0	0	3.2	2	10	0	0	3.3	4	8	0	0	2.8	1	7	4	0	2.8	1	10	0	0	2.4	1	5	5	0
Lear Siegler ADM-3A	6	49	3.3	2	4	0	0	3.7	4	2	0	0	3.0	2	2	2	0	2.8	2	1	3	0	3.3	3	2	1	0	2.5	1	1	4	0	2.8	1	3	2	0
Lear Siegler, others and unspecified	3	190	3.3	1	2	0	0	3.3	1	2	0	0	3.3	1	2	0	0	3.0	0	3	0	0	2.7	1	1	0	1	2.7	0	2	1	0	2.3	0	1	2	0
Subtotals	9	239	3.3	3	6	0	0	3.6	5	4	0	0	3.1	3	4	2	0	2.9	2	3	3	0	3.1	4	3	1	1	2.6	1	3	5	0	2.7	1	4	4	0
MDS Trivex, all models	3	11	3.0	1	1	1	0	3.0	0	3	0	0	3.3	1	2	0	0	3.0	0	3	0	0	2.7	1	1	0	1	3.0	1	1	1	0	2.7	1	1	0	1
Memorex 1377	6	548	3.3	3	2	1	0	3.5	3	3	0	0	3.0	1	4	1	0	3.2	2	3	1	0	3.2	2	3	1	0	2.8	1	3	2	0	2.5	1	2	2	1
Tektronix, all models	5	59	3.8	4	1	0	0	3.6	4	0	1	0	4.0	5	0	0	0	3.6	4	0	1	0	3.8	4	1	0	0	3.6	4	0	1	0	3.6	4	0	1	0
Teletype 40 Series	6	63	3.5	3	3	0	0	3.2	1	5	0	0	3.5	3	3	0	0	3.5	3	3	0	0	3.3	3	2	1	0	3.2	3	2	0	1	3.5	3	3	0	0
Telex 270 Series	7	273	3.0	1	5	1	0	3.3	2	5	0	0	3.4	4	2	1	0	3.1	2	4	1	0	2.6	1	2	4	0	3.0	1	5	1	0	3.0	1	5	1	0
Univac UTS-400	5	789	3.2	1	4	0	0	3.2	1	4	0	0	2.8	1	2	2	0	2.8	1	2	2	0	2.8	1	2	2	0	2.2	0	1	4	0	2.0	0	1	3	1
Univac Uniscope models	4	97	2.3	1	1	0	2	2.3	1	1	0	2	2.8	1	1	2	0	2.3	1	1	0	2	2.3	1	1	0	2	2.5	1	0	3	0	2.0	1	0	1	2
Subtotals	9	886	2.8	2	5	0	2	2.8	2	5	0	2	2.8	2	3	4	0	2.6	2	3	2	2	2.6	2	3	2	2	2.4	1	1	7	0	2.0	1	1	4	3
All Others	31	424	3.0	7	15	8	0	3.0	6	17	7	0	2.9	7	11	12	1	2.8	8	11	8	3	3.0	9	16	3	3	2.7	5	11	11	2	2.9	7	16	5	2
GRAND TOTALS	208	11,362	3.3	84	104	17	2	3.3	78	112	14	3	3.2	70	104	31	3	3.1	70	93	36	6	3.2	77	97	26	7	3.0	65	80	46	7	2.9	59	81	46	13

LEGEND Weighted Average (WA) is based on assigning a weight of 4 to each user rating of Execellent (E), 3 to Good (G), 2 to Fair (F), and 1 to Poor (P).
*Weighted Average invalid if fewer than three responses are received.

the terminal to operate under the direction of a user-created application program stored within the terminal (see C21-010-101). This requires the provision of an of assembly-like language at the very least. Programmability via user-defined parameters or user-defined firmware refers to the use of fixed programs, such as a data entry program where the user defines field length and type, duplication, skipping, etc.

The entry *self diagnostics* denotes the terminal's capability to identify failures via self-generated test procedures. Failures are typically indicated by displayed text patterns, by indicator lamps, or by messages appearing on the 25th line of the display screen. Self-diagnostics are typically performed while the terminal is in the off-line mode.

Display Parameters

Printed information is generally arranged according to an orderly format consisting of a maximum number of printed lines per page and characters per line. This orderly arrangement is also used to characterize the arrangement of data displayed on the face of a CRT screen or other display device. The electronic circuitry that produces the display image is designed to a specified set of parameters that define the capacity (i.e., the maximum number of display positions) and the display format (i.e., the maximum number of displayable lines and displayable characters per line). The most common display capacity is 1920 characters arranged in 24 lines of 80 characters. A few vendors, including Datamedia, DatagraphiX, DEC, and Visual Technology, 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. Information is displayed in a rectangular area smaller than the total surface area of the display device. The factors that determine the required size of the display area are the display arrangement and the size of the displayable characters, which is normally a fixed parameter.

Symbol formation and the set of displayable symbols are functions of the character generator, which accepts coded characters (typically ASCII) from the computer and

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keyboard and converts them to a number of dots or strokes so that the form of the symbol or image can be displayed. In CRT's, characters are formed almost exclusively by the dot matrix technique. Each character is formed within a matrix of dots, and only those dots required to form the specific character are intensified. Typically, a dot matrix contains 35 dots arranged 7 dots high by 5 dots wide. Characters can be made clearer by increasing the number of dots within the matrix. The stroke technique forms characters by drawing short straight lines between specified points.

Display arrangement, display medium, and symbol formation all have a great impact on display clarity. Test several units to decide which is easiest on the operator's eyes.

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

- Color—characters or fields can be separated by color, which can also be used to identify conditions or types of data. A few vendors, including Intelligent Systems, Megadata, and IBM, offer up to eight colors as a standard feature; several other vendors offer a color option.

- Reverse video—displays a *negative* image of data, i.e., data normally displayed in white on a dark background is displayed in black on a white background. Characters or fields can be displayed in reverse video.

- Programmable brightness levels—visually separates different kinds of displayed information by displaying each type of data in a different intensity level, such as a fixed format and the entered data.

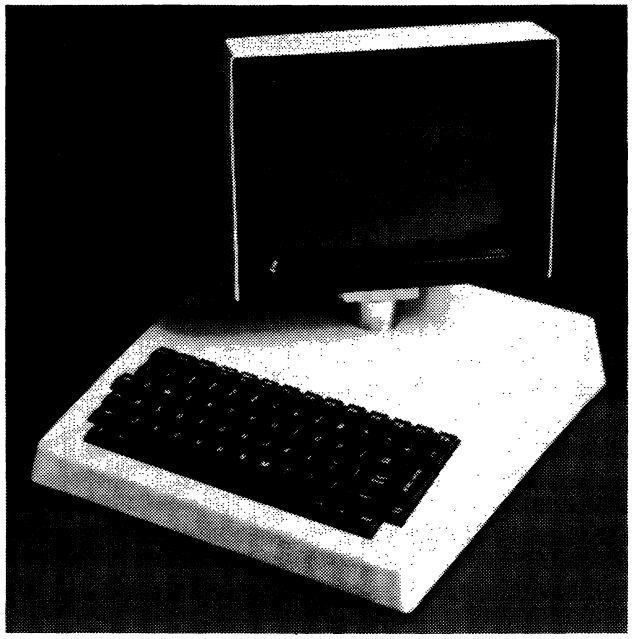
- Character and/or field blinking—vital information consisting of a single character or an entire field is blinked to attract attention.

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

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

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

  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).



Informer's Model 401 is lightweight (14 lbs.) and features a "footprint" of only 13" by 12". The unit's non-glare screen measures 9" diagonally, has an 80-column format, and can be tilted and swiveled.

- Paging—this feature stores two or more frames or *pages* of data and displays any selected page.

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

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

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

- Move left (L)—moves the cursor one space to the left, which can be from the initial character position of a line to the last character position of the previous line if the terminal features wraparound.

- Move right (R)—moves the cursor one space to the right, which can be from the last character position of a line to the first character position of the next line if the terminal features wraparound.

- Move up (U)—moves the cursor to the same position on the previous line, which can be from the first line to the last line if the terminal features wraparound.

- Move down (D)—moves the cursor to the same position on the following line, which can be from the last line to the first line if the terminal features wraparound.

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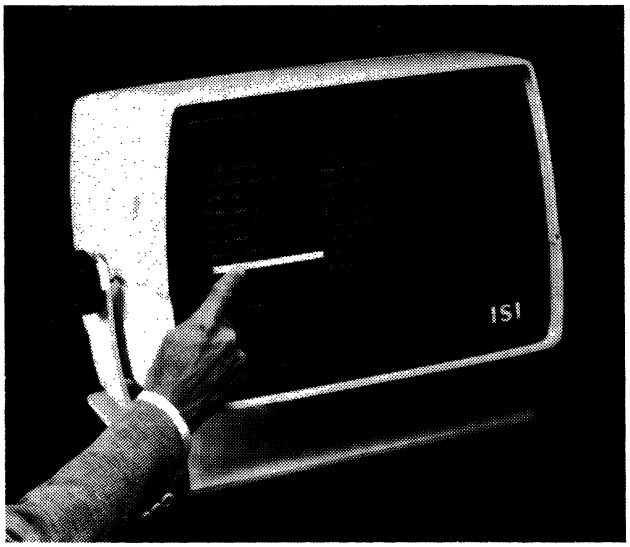

Interaction Systems' TT-100 is a touch sensitive display terminal. The touch-sensitive capability allows menu-type data to be entered by touching the selected information display screen with the fingertip. The TT-100 allows personnel who are not familiar with keyboard operations to conduct an interactive dialog at the terminal.

- Home top (H)—moves the cursor to the initial character position of the first line.
- Home bottom—moves the cursor to the initial character position of the last line.
- Tab—moves the cursor forward to the next tab stop or backward to the previous tab stop (backtab).
- Return (RT)—moves the cursor to the initial character position of the next line; this is identical to the carriage return function of a typewriter.
- Backspace—moves the cursor one space to the left.
- Line Feed—moves the cursor to the same position on the following line.

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

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

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

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

- Character insert—the capability to insert a character into an existing line of displayed text; the remaining characters shift to the right or "spread" to accommodate the added character. The spreading capability may terminate at the last character position of the line or at the last displayable position on the screen. Data is lost when it is spread beyond the termination point.
- Character delete—the capability to delete a character from an existing line of displayed text; the remaining text closes up when the character is deleted.
- Line insert—the capability to insert a line of text into existing text; the text spreads to accommodate the added line.
- Line delete—the capability to delete a line of text from existing text; the remaining text closes up when the line is deleted.
- Erase—the capability to erase a character, line of text, message, field, or the complete screen. Most terminals include character erase and some form of display erase, which may erase the entire contents of the display, just that portion following the cursor location, or a combination of both functions. Line erase is optional in many terminals.
- Character repeat—enters a continuous sequence of symbols as long as the appropriate key remains depressed.

Keyboard Parameters

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. The *character/code set* refers to the set of symbols that appear on the keytops and, in many cases, to

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the actual character codes generated for each key depression, such as ASCII, EBCDIC, APL, etc. Some terminals are available with more than one keyboard style to satisfy particular user needs.

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

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

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

Ancillary Devices

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

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

Although the above I/O devices are the most common, *other devices* can be and are used, such as industry-compatible 7- or 9-track magnetic tape drives, disk drives (cartridge or pack type), line printers, card readers, etc. Many units have an audible alarm which sounds whenever the operator's attention should be drawn to the prompting message area of the screen. Composite video permits multiple monitors to be attached to the terminal so that data may be viewed on more than one screen at the same time.

Transmission Parameters

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

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

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

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

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

Message *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 multi-character blocks. The line or block mode permits data to be composed and edited prior to each transmission and generally permits more efficient utilization of the communications facility. Some terminals offer manual selection between the modes.

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

Auto answer refers to the facility for unattended operation on the dial network whereby incoming calls are

automatically answered and messages are received without human intervention.

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

Display terminals usually have a *terminal interface* that meets the standards of the EIA RS-232-C specification or the 20mA current loop, and connects to an external modem or acoustic telephone coupler. EIA RS-449, the heir apparent to RS-232-C, is not widely used as of yet.

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

Pricing and Availability

Terminal pricing is provided for unit quantities (one terminal) unless otherwise specified. One- and two-year lease prices, including maintenance, and purchase prices are shown for the complete terminal (including keyboard, display, and controller) for stand-alone units, and for the keyboard/display station and terminal controller for cluster units.

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

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

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

Display units installed to date shows how many display units of each type had been delivered to customers as of approximately March 1, 1981. All figures were supplied by the vendors themselves, and a number of companies chose not to release this information.

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

Comments

Comments at the bottom of the charts 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 80 vendors whose products are summarized in the comparison charts.

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

Anderson Jacobson, Incorporated, 521 Charcot Avenue, San Jose, CA 95131. Telephone (408) 263-8520.

Ann Arbor Terminals, Incorporated, 6175 Jackson Road, Ann Arbor, MI 48103. Telephone (313) 663-8000.

Applied Digital Data Systems, Incorporated (ADDS), 100 Marcus Boulevard, Hauppauge, NY 11787. Telephone (516) 231-5400.

Applied Dynamics International, 3800 Stone School Road, Ann Arbor, MI 48104. Telephone (313) 973-1300.

Basic Four, (Service Division of MAI), 300 East 44th St., New York, NY 10017. Telephone (212) 557-3500.

Beehive International, 4910 Amelia Earhart Drive, Box 25668, Salt Lake City, UT 84125. Telephone (801) 355-6000.

The Braegen Corporation, 20740 Valley Green Drive, Cupertino, CA 95014. Telephone (408) 255-4200.

Burroughs Corporation, Room 4D20, Burroughs Place, Detroit, MI 48232. Telephone (313) 972-8068.

Cobar, Inc., 1181 N. Fountain Way, Anaheim, CA 92806. Telephone (714) 992-4345.

Computer Optics, Incorporated (a division of Four-Phase Systems), Berkshire Industrial Park, Bethel, CT 06801. Telephone (203) 744-6720.

Control Concepts Corporation, 2361 South Jefferson Davis Highway, Arlington, VA 22202. Telephone (703) 920-5740.

Control Data Corporation, 8100 34th Avenue South, Minneapolis, MN 55440. Telephone (612) 853-4656.

Custom Terminals, Inc., P.O. Box 19906, Raleigh, NC 27619. Telephone (919) 876-8731.

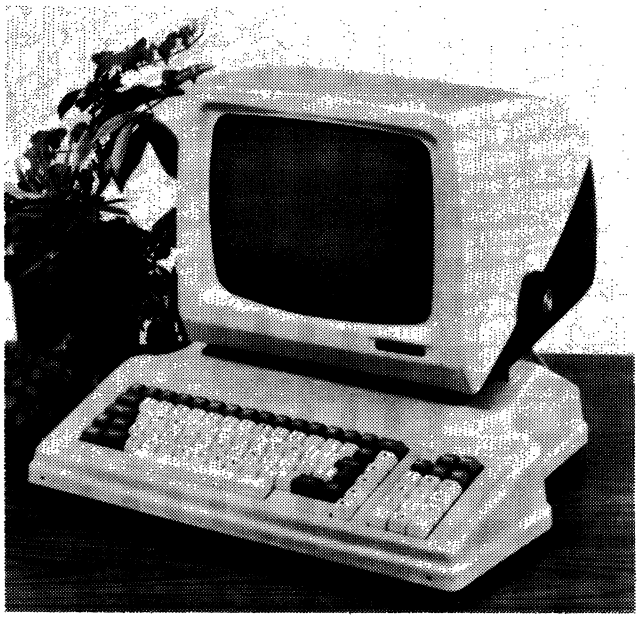
Data General Corporation, Route 9, Westboro, MA 01581. Telephone (617) 366-8911.

DatagraphiX, Incorporated, P.O. Box 82449, San Diego, CA 92138. Telephone (714) 291-9960.

Datamedia Corporation, 7300 North Crescent Boulevard, Pennsauken, NJ 08110. Telephone (609) 665-5400.

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

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications



Teleray's Series 10 display terminals are available in as many as six enclosure styles, depending on the model selected. The "T" style pictured here, with the molded integral keyboard and tilt adjustable screen, is available on Models 10, 11, 12, 14, and 100.

Data Terminals & Communications, 590 Division Street, Campbell, CA 95008. Telephone (408) 378-1112.

Dataview, Incorporated, 23A Dana Street, Malden, MA 02148. Telephone (617) 322-2244.

Datavue Corporation, 1911 22nd Avenue South, Seattle, WA 98144. Telephone (206) 322-9330.

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

Digital Equipment Corporation (DEC), Main Street, Maynard, MA 01754. Telephone (617) 897-5111.

Direct, Inc., 1279 Lawrence Station Road, Sunnyvale, CA 94086. Telephone (408) 734-5504.

Elbit Inc. (a subsidiary of Elbit Data Systems Ltd.), 1350 Ave. of the Americas, New York, NY 10019. Telephone (212) 887-1511.

Falco Data Products, Inc., 735 Loma Verde, Suite #1, Palo Alto, CA 94303. Telephone (415) 493-8945.

G. R. Electronics Limited, 1640 Fifth Street, Santa Monica, CA 90401. Telephone (213) 395-4774.

General Digital Corporation, 700 Burnside Avenue, East Hartford, CT 06108. Telephone (203) 289-7391.

General Terminal Corporation (formerly Infoton), 14831 Franklin Avenue, Tustin, CA 92680. Telephone (714) 730-0123.

Harris Corporation, Data Communications Division, 16001 Dallas Parkway, P.O. Box 400010, Dallas, TX 75240. Telephone (214) 386-2000

Hazeltine Corporation, Greenlawn, NY 11740. Telephone (516) 261-7000.

Hewlett-Packard, Data Terminals Division, 19400 Homestead Road, Cupertino, CA 95014. Telephone (408) 257-7000.

Honeywell Corporation, Airline and Financial Industries Division (formerly Incoterm), 65 Walnut Street, Wellesley Hills, MA 02181. Telephone (617) 237-2100.

Honeywell Information Systems, Incorporated, 200 Smith Street, Waltham, MA 02154. Telephone (617) 895-6000.

Human Designed Systems, Incorporated, 3700 Market Street, Philadelphia, PA 19104. Telephone (215) 382-5000.

Informer, Incorporated, 8332 Osage Avenue, Los Angeles, CA 90045. Telephone (213) 649-2030.

Intelligent Systems Corporation, 5965 Peachtree Corners East, Norcross, GA 30071. Telephone (404) 449-5961.

Interaction Systems, Inc., 24 Munroe Street, Newtonville, MA 02160. Telephone (617) 244-9557.

International Business Machines Corporation (IBM), Data Processing Division, 1133 Westchester Avenue, White Plains, NY 10604. Telephone (914) 696-1900.

International Business Machines Corporation (IBM), General Systems Division, 875 Johnson Ferry Road N.E., Atlanta, GA 30342. Telephone (404) 256-7000.

Intertec Data Systems Corporation, 2300 Broad River Road, Columbia, SC 29210. Telephone (803) 798-9100.

ITT Courier Terminal Systems, Incorporated, 1515 West 14th Street, Tempe, AZ 84281. Mailing Address: P.O. Box 29039, Phoenix, AZ 85038. Telephone (602) 275-7555.

Lear Siegler, Incorporated, Data Products Division, 714 North Brookhurst Street, Anaheim, CA 92803. Telephone (714) 774-1010.

Lee Data Corporation, 10206 Crosstown Circle, Minneapolis, MN 55344. Telephone (612) 932-0300.

MDS Trivex, Incorporated (Division of Mohawk Data Sciences), 3180 Red Hill Avenue, Costa Mesa, CA 92626. Telephone (714) 546-7781.

Megadata Computer & Communications Corporation, 35 Orville Drive, Bohemia, NY 11716. Telephone (516) 589-6800.

Memorex Corporation, Communications Group, 18922 Forge Drive, Cupertino, CA 95014. Telephone (408) 996-9000.

Microdata Corporation, 17481 Red Hill Avenue, Irvine, CA 92714. Telephone (714) 540-6730.

Micro-Term, Incorporated, 1314 Hanley Industrial Court, St. Louis, MO 63144. Telephone (314) 968-8151.

NCR Corporation, EDP Products, Building 26, 3rd Floor, Main & K Streets, Dayton, OH 45479. Telephone (513) 449-6620.

Northern Telecom Inc. 6100 Blue Circle Drive, Minnetonka, MN 55343. Mailing Address: P.O. Box 1222, Minneapolis, MN 55440. Telephone (612) 932-8000.

Olivetti Corporation of America, 155 White Plains Road, Tarrytown, NY 10591. Telephone (914) 631-8100.

Paradyne Corporation, 8550 Ulmerton Road, Largo, FL 33541. Telephone (813) 536-4771.

Perkin-Elmer, Terminals Division, 360 Route 206 South, Flanders, NJ 07836. Telephone (201) 584-1400.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

The Teletype Model 4420 is a multipurpose buffered keyboard display terminal. The unit is designed to handle a range of tasks from fill-in-the-blanks data entry to on-line timesharing. The terminal operates asynchronously, with character or block transmission at speeds up to 9600 bps. The 13" diagonal display screen features a 24-line by 80-column format. Ergonomic features include a tiltable, glare reducing screen, a rotatable base, and a detached keyboard.

Perry Data Systems, Inc., 3401 Spring Forest Road, Raleigh, NC 27658. Telephone (919) 876-8100.

Phone 1, 1011 River Lane, Loves Park, IL 61111. Telephone (815) 877-9008.

Plantronics, Incorporated, 345 Encinal Street, Santa Cruz, CA 95060. Telephone (408) 426-5858.

Racal-Milgo, Incorporated, Computer Products Division, 8600 N.W. 41st Street, Miami, FL 33166. Telephone (305) 592-8600.

Raytheon Data Systems Company, 1415 Boston-Providence Turnpike, Norwood, MA 02062. Telephone (617) 762-6700.

Soroc Technology, Incorporated, 165 Freedom Avenue, Anaheim, CA 92801. Telephone (714) 992-2860.

Southwest Data Systems, Inc., 2509 Empire Ave., Burbank, CA 91504. Telephone (213) 841-1610.

Sycor: See Northern Telecom.

TAB Products Co., 1451 California Avenue, Palo Alto, CA 94304. Telephone (415) 858-2500.

Taumark, Incorporated, 6621 Century Avenue, Middleton, WI 53562. Telephone (608) 831-9291.

TEC, Incorporated, 2727 North Fairview Avenue, Tucson, AZ 85705. Telephone (602) 792-2230.

Tektronix, Incorporated, Information Display Group, P.O. Box 500, Beaverton, OR 97077. Telephone (503) 644-0161.

Telcon Industries, 1401 N.W. 69th Street, Ft. Lauderdale, FL 33309. Telephone (305) 971-2250.

Teleram Communications Corporation, 2 Corporate Park Drive, White Plains, NY 10604. Telephone (914) 694-9270.

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

Teletype Corporation, 5555 Touhy Avenue, Skokie, IL 60077. Telephone (312) 982-2000.

TeleVideo, Incorporated, 1170 Morse Avenue, Sunnyvale, CA 94086. Telephone (408) 745-7760.

Telex Computer Products, Inc., 16600 Dooley Road, Addison, TX 75001. Telephone (214) 233-5800.

Telex Terminal Communications, Inc., 3301 Terminal Drive, Raleigh, NC 27611. Telephone (919) 834-5251.

Termiflex Corporation, 18 Airport Road, Nashua, NH 03060. Telephone (603) 889-3883.

Terminal Data Corporation of Maryland, 11878 Coakley Circle, Rockville, MD 20852. Telephone (301) 881-7655.

Texas Instruments, Inc., Digital Systems Group, P.O. Box 1444, Houston, TX 77001. Telephone (713) 937-2000.

Trivex: See MDS Trivex.

Sperry Univac Division, Sperry Corp., P.O. Box 500, Blue Bell, PA 19424. Telephone (215) 542-4011.

Visual Technology, Incorporated, Railroad Avenue, Dundee Park, Andover, MA 01810. Telephone (617) 475-8056.

Volker Craig Limited, 266 Marsland Drive, Waterloo, Ontario, Canada N2J 3Z1. Telephone (519) 884-9300.

Western Union Data Services Company, 1 Lake Street, Upper Saddle River, NJ 07458. Telephone (201) 825-5000.

Westinghouse Canada, Limited, Information Displays, Electronic Systems Division, Box 5009, 777 Walker's Line, Burlington, Ontario, Canada L7R 4B3. Telephone (416) 528-8811.

Xerox Computer Services, 5310 Beethoven Street, Los Angeles, CA 90066. Telephone (213) 390-3461.

Zenith Data Systems, 1000 Milwaukee Avenue, Glenview, IL 60025. Telephone (312) 391-7000.

Zentec Corporation, 2400 Walsh Avenue, Santa Clara, CA 95050. Telephone (408) 246-7662.□

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Ampex Dialogue 30	Ampex Dialogue 80	Anderson Jacobson AJ 510-02	Ann Arbor Terminals Model 400E	Ann Arbor Terminals K1680 COMPAT
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	2741 opt.	No	No
Teletype compatibility	Std.	Std.	Std.	Std.	Std.
Other compatibility	No	No	No	No	No
User programmable	No	No	See comments	No	No
Self diagnostics	Std.	Std.	Std.	No	No
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	1920	480 to 1920	1286
Display arrangement, lines x chars./line	24 x 80	24 x 80	24 x 80	24 x 80 std.; 12 x 40, 24 x 40 opt.	16 x 80; opt. 16 x 32, 8 x 32
Display area, h x w, inches	12-in. diag.	12-in. diag.	15-in. diag.	8 x 10; 15-in. diag.	8 x 10; 15-in. diag.
Total displayable symbols	128	128	128 ASCII; 40 graphics	64 std.; 95 opt.	64; opt. 95
Symbol formation	6 x 8 dot matrix	6 x 8 dot matrix	7 x 10 dot matrix	7 x 7 dot matrix	7 x 7 dot matrix
Color	No	No	No	No	No
Reverse video	No	Std.	Std.	Std.	Std.
Programmable brightness levels	No	Std.	Std.	Std.	Std.
Character and/or field blinking	No	Char., field std.	Std.	Char. std.	Char. std.
Roll	Up std.	Up std. & flip	Up std.	Std.	Std.
Paging	No	2 std., 4 opt.	No	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Std.	Std.
Addressable/readable cursor	Both std.	Both std.	Both std.	Add. std.; read opt.	No
Protected format	No	Std.	Std.	No	No
Partial screen transmit	No	Std.	Std.	No	No
Tabulation	Forward tab std.	Forward/back std.	Std.	Opt.	No
Character insert/delete	No	Std.	Std.	No	No
Line insert/delete	No	Std.	Std.	No	No
Erase	Screen std.	Char., line, screen	Char., line, screen std.	Screen std.	Screen std.
Character repeat	Std.	Std.	Std. & specified char. repeat	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Data entry	Data entry
Character/code set	128 ASCII	128 ASCII	128 ASCII; APL opt.	128 ASCII	128 ASCII
Detachability	Std.	Std.	No	Std.	Std.
Program function keys	No	20 std.	No	Up to 36 opt.	Up to 36 opt.
Numeric keypad	Std.	Std.	Std.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	Opt.	No	No
Diskette drive (floppy disk)	No	No	Opt.	No	No
Serial printer	No	No	Opt.	No	No
Other devices	Extension printer port	Extension printer port	AJ 410, DCI	No	No
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex std.	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	ASCII	ASCII	ASCII	—	No
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Speed, bits/second	50 to 19,200	50-19,200	110 to 9600	Up to 9600	110 to 9600
Format: character, line, or block	Char. only	Char., line, block	Char., line, page	Char. only	Char. only
Multipoint operation (pollable/addr.)	No	No	No	No	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C, 20 mA	RS-232-C, 20 mA	RS-232-C	RS-232 std.; 20 mA opt.	RS-232 std.; 20 mA opt.
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Purchase only	Purchase only	105	—	—
Display station, 2 year lease, $/mo.	—	—	100	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	999	1,249-1,434	2,195	1,200	1,200
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	3/81	7/80	11/78	12/77	3/78
Display units installed to date	—	1200	—	5,000	1,000
Serviced by	Ampex	Ampex	Anderson Jacobson	Ann Arbor Terminals	Ann Arbor Terminals
COMMENTS			40-char. graphics set std.; programmable page & field delimiters; format & graphics modes; programmable tabs; page protect.		

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Ann Arbor Terminals K2480 COMPAT	Ann Arbor Terminals ADM3A COMPAT	Ann Arbor Terminals VT52 COMPAT	Ann Arbor Terminals 4080 COMPAT	Ann Arbor Terminals 6080 COMPAT
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	No	No
Teletype compatibility	Std.	Std.	Std.	Std.	Std.
Other compatibility	No	Lear Siegler ADM-3A	DEC VT-52	Ann Arbor K4080D	No
User programmable	No	No	No	No	No
Self diagnostics	No	No	No	No	No
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	1920	3200	4800
Display arrangement, lines x chars./line	24 x 80; opt. 24 x 40	24 x 80	24 x 80	40 x 80	60 x 80
Display area, h x w, inches	8 x 10; 15-in. diag.	15-in. diag.	15-in. diag.	15-in. diag.	8 x 10; 15-in. diag.
Total displayable symbols	64; opt. 95	95	95	95	96
Symbol formation	7 x 7 dot matrix	7 x 7 dot matrix	7 x 7 dot matrix	7 x 7 dot matrix	7 x 7 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	No	No	Std.	Std.
Programmable brightness levels	Std.	No	No	Std.	Std.
Character and/or field blinking	Char. std.	No	No	Char. std.	Char. std.
Roll	Std.	Std.	Std.	Std.	Std.
Paging	No	No	No	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	No	Std.	Std.	Std.
Addressable/readable cursor	No	Addressable only	Addressable only	Addressable only	No
Protected format	No	No	No	No	No
Partial screen transmit	No	No	No	No	No
Tabulation	Opt.	No	Std.	Std.	No
Character insert/delete	No	No	No	No	No
Line insert/delete	No	No	No	No	No
Erase	Screen std.	Screen std.	Screen, line std.	Screen std.	Screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Data entry	Teletype	Typewriter	Teletype	Data entry
Character/code set	128 ASCII	128 ASCII	128 ASCII	128 ASCII	128 ASCII
Detachability	Std.	Std.	Std.	Std.	Std.
Program function keys	Up to 36 opt.	Up to 36 opt.	Up to 28 opt.	Up to 36 opt.	Up to 36 opt.
Numeric keypad	Std.	Std.	Std.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	No	No	No	No	No
Other devices	No	—	—	—	No
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex std.	Half/full-duplex opt.	Half/full-duplex std.	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	No	—	—	—	No
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Speed, bits/second	110 to 9600	110 to 9600	110 to 9600	110 to 9600	110 to 9600
Format: character, line, or block	Char. only	Char. only	Char. only	Char. only	Char. only
Multipoint operation (pollable/addr.)	No	No	No	No	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232 std.; 20 mA opt.	RS-232 std.; 20 mA opt.	RS-232 std.; 20 mA opt.	RS-232; 20 mA opt.	RS-232 std.; 20 mA opt.
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	—	—	—	—	—
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,200	1,400	1,400	1,595	1,895
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	3/78	11/78	11/78	2/79	4/79
Display units installed to date	3,000	300	3,000	500	100
Serviced by	Ann Arbor Terminals	Ann Arbor Terminals	Ann Arbor Terminals	Ann Arbor Terminals	Ann Arbor Terminals
COMMENTS					

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Ann Arbor Terminals Ambassador	Applied Digital Data Systems (ADDS) Regent 100	Applied Digital Data Systems (ADDS) Regent 200	Applied Digital Data Systems (ADDS) Regent 20	Applied Digital Data Systems (ADDS) Regent 25
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	No	No	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	No	No
Teletype compatibility	Std.	Std.	Std.	Std.	Std.
Other compatibility	No	No	No	No	No
User programmable	Via user-defined parameters	No	No	No	No
Self diagnostics	Std.	Std.	Std.	No	No
DISPLAY PARAMETERS					
Display positions, chars./display	1440-4800	1920	1920	1920	1920
Display arrangement, lines x chars./line	18 x 80 to 60 x 80, selectable	24 x 80	24 x 80	24 x 80	24 x 80
Display area, h x w, inches	15-in. diag.	12-in. diag.	12-in. diag.	8 x 10; 12-in. diag.	8 x 10; 12-in. diag.
Total displayable symbols	96	128	128	128	128
Symbol formation	7 x 9 dot matrix	8 x 8	8 x 8	5 x 8 dot matrix	5 x 8 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	Std.	Std.	Std.	Std.
Programmable brightness levels	2 std.	2 std.	2 std.	No	No
Character and/or field blinking	Both std.	Std.	Std.	No	No
Roll	Std.	Up std.	Up std.	Up std.	Up std.
Paging	Std.	No	No	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Selectable	Selectable
Addressable/readable cursor	Both std.	Both std.	Both std.	Addressable	Addressable
Protected format	Std.	No	Std.	No	No
Partial screen transmit	Std.	No	Std.	No	No
Tabulation	Forward/back std.	No	Std.	No	No
Character insert/delete	Std.	No	Opt.	No	No
Line insert/delete	Std.	No	Opt.	No	No
Erase	Char., line, screen	Page, line, screen std.	Std.	Line, EOP, screen	Line, EOP, screen
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	128 ASCII	128 ASCII	128 ASCII	128 ASCII	128 ASCII
Detachability	Std.	Opt.	Opt.	No	No
Program function keys	20 std.	8/16 opt.	8/16 std.	No	No
Numeric keypad	Std.	Std.	Std.	No	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	RS-232-C	RS-232-C	No	No
Diskette drive (floppy disk)	No	RS-232-C	RS-232-C	No	No
Serial printer	No	RS-232-C	RS-232-C	EIA RS-232	EIA RS-232
Other devices	Printer output std.	—	—	Audible alarm std.	Audible alarm std.
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	ASCII	ASCII	ASCII	No	No
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Speed, bits/second	110 to 19,200	75 to 9600	75 to 9600	Up to 9600	Up to 9600
Format: character, line, or block	Char., line, block	Char.	Char./line/block	Character	Character
Multipoint operation (pollable/addr.)	No	No	No	No	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C std., 20 mA opt.	RS-232-C; 20 mA	RS-232-C, 20 mA	RS-232-C	RS-232-C
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	—	—	—	—	—
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,300	1,460	1,975	695	1,095
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	7/80	8/77	9/77	3/79	3/79
Display units installed to date	200	Over 15,000	Over 5,000	Over 5,000	Over 8,000
Serviced by	Ann Arbor Terminals	—	—	GE/TRW	GE/TRW
COMMENTS	Implements ANSI X3.46 1979 Standard. Includes self-diagnostics, loadable function keys, versatile set-up lines, and printer output.	Features include terminal status line, limited graphics, and terminal bypass printing.	Features include terminal status line, limited grpahics, and terminal bypass printing.	Std. Switch selectable. Foreign character font. Monitor mode displays control code.	Std. Switch selectable foreign character font. Monitor mode displays control code. Numeric pad is switch selectable function keypad.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Applied Digital Data Systems (ADDS) Regent 40	Applied Digital Data Systems (ADDS) Regent 60	Applied Dynamics International Series 60	Basic Four (Service Div. of MAI) Model G77C	Beehive International Model DM10
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Cluster	Stand-alone
Maximum displays/controller	1	1	10	32	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	3270	No
Teletype compatibility	Std.	Std.	Std.	No	Std.
Other compatibility	No	No	Several opt.	No	No
User programmable	No	No	No	No	No
Self diagnostics	Std.	Std.	No	No	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	256 to 920	1920	1920
Display arrangement, lines x chars./line	24 x 80	24 x 80	24 x 80 or less in either dimension	24 x 80	24 x 80 plus 25th status line
Display area, h x w, inches	8 x 10; 12-in. diag.	8 x 10; 12-in. diag.	15-in. diag. optional	7 x 10.5, 14-in. diag.	12" diag.; 15" opt.
Total displayable symbols	128	128	64 std., 128 opt.	64	128 ASCII
Symbol formation	7 x 8 dot matrix	7 x 8 dot matrix	5 x 7 std., 7 x 9 opt.	5 x 7 dot matrix	5 x 7 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	Std.	Selectable	No	Std.
Programmable brightness levels	Std.	Std.	Selectable	Std.	2 std.
Character and/or field blinking	Field std.	Field std.	Selectable	No	Both std.
Roll	Up std.	Up std.	Std., switch-select.	No	Up std.
Paging	No	1 page	Up to 32 pgs.	No	Single page
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Selectable	Selectable	Selectable	Opt.	Blinking block
Addressable/readable cursor	Both	Both	Both std.	Std.	Both std.
Protected format	No	Std.	Selectable	Std.	No
Partial screen transmit	No	Std.	Yes	Std.	No
Tabulation	No	Forward/back std.	No	Std.	Forward tab
Character insert/delete	No	Std.	Selectable	Std.	No
Line insert/delete	Std.	Std.	Selectable	No	No
Erase	All std.	All std.	Selectable	Char., screen std.	Screen, end-of-line, end-of-page
Character repeat	Std.	Std.	Selectable	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Per customer specs.	Typewriter/data entry	Typewriter
Character/code set	128 ASCII	128 ASCII	Any	96 EBCDIC	128 ASCII
Detachability	No	No	Yes	Std.	Std.
Program function keys	8/16 std.	8/16 std.	Up to 48 opt.	12 std., 3 std.	No
Numeric keypad	Std.	Std.	Opt.	Opt. 15 keys	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	RS-232-C/Centronics	No	No
Diskette drive (floppy disk)	No	No	RS-232-C/Centronics	No	No
Serial printer	EIA RS-232	EIA RS-232	RS-232-C/Centronics	Impact	No
Other devices	Audible alarm std.	Audible alarm std.	Audible alarm	Audible alarm, ID card reader, light pen, security keylock opt.	No
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	See comments	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	—	Asynchronous
Communications protocol	No	No	No	—	—
Code	ASCII	ASCII	ASCII	—	ASCII
Speed, bits/second	Up to 9600	Up to 9600	110 to 19,200	—	110 to 19,200
Format: character, line, or block	Character	All std.	Char., line, block	—	Character
Multipoint operation (pollable/addr.)	No	No	No	—	No
Auto answer	No	No	No	—	No
Auto call	No	No	No	—	No
Terminal interface	RS-232-C; 20 mA dc	RS-232-C; 20 mA dc	RS-232 std.; 20/60 mA, TTL opt.	—	RS-232-C, 20 mA std.
Integral modem	No	No	No	—	No
Integral acoustic coupler	No	No	No	—	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	—	—	—	—	Third party
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,300	1,500	1,520	2,300	1,245
Controller, purchase, $	—	—	720	—	—
Date of first production delivery	3/79	3/79	9/78	1/75	8/78
Display units installed to date	Over 5,000	Over 2,000	Over	20,000	—
Serviced by	GE/TRW	GE/TRW	OEM only; no field service	Sorbus	Beehive, Western Union
COMMENTS	Foreign character fonts available; terminal status line; monitor mode; terminal bypass printing; limited graphics; Regent 100 compatibility.	Foreign character fonts available; terminal status line; monitor mode; terminal bypass printing; limited graphics; Regent 100 compatibility.	All units utilize the same hardware; firmware controlling 2 microprocessors customizes the unit to customer specifications without incurring engineering charges.	Replaces IBM 3277-2 Display Station; plugs into IBM 3271-2 (remote), 3271-2 (local), or 3791 (remote) Control Units and Local Display Adapter for System/3.	Line lock/memory lock with invisible address pointer std.; 11-char. line drawing set; time of day clock

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Beehive International Model DM1A	Beehive International Model DM20	Beehive International Model DM30	Beehive International DMS Series	Beehive International Model DM3270
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	No	No
Teletype compatibility	Std.	Std.	Std.	See comments	3276-2/BSC
Other compatibility	No	No	No	See comments	No
User programmable	No	No	No	Yes, via user-defined firmware	No
Self diagnostics	Std.	Std.	Std.	Std.	No Std.
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	1920	1920	1920
Display arrangement, lines x chars./line	24 x 80 plus 25th status line	24 x 80 plus 25th status line	24 x 80 plus 25th status line	24 x 80 plus 25th status line	24 x 80 plus 25th status line
Display area, h x w, inches	12" diag.; 15" opt.	12" diag.; 15" opt.	12" diag.; 15" opt.	12" diag.; 15" opt.	12" diag.; 15" opt.
Total displayable symbols	128 ASCII	128 ASCII	128 ASCII	128 ASCII	128
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	7 x 7 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	Std.	Std.	Std.	Std.
Programmable brightness levels	2 std.	2 std.	2 std.	2 std.	3 std.
Character and/or field blinking	Both std.	Both std.	Both std.	Both std.	Std.
Roll	Up std.	Up std.	Up & down std.	Up std.	No
Paging	Single page	Single page	Two pages; 4 opt.	Single page	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Blinking block	Blinking block	Blinking block	Blinking block	Std.
Addressable/readable cursor	Both std.	Both std.	Both std.	Both std.	Both std.
Protected format	No	Std.	Std.	No	Std.
Partial screen transmit	No	Std.	Std.	No	Std.
Tabulation	Forward tab	Forward/back std.	Forward/back std.	Forward tab	Forward/back std.
Character insert/delete	No	Both std.	Both std.	No	Both std.
Line insert/delete	No	Both std.	Both std.	No	No
Erase	Screen, end-of-line, end-of-page	Line, screen, field, end-of-screen	Line, screen, field, end-of-screen	Screen, end-of-line, end-of-page	Char., screen, field
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	128 ASCII	128 ASCII	128 ASCII	128 ASCII	128 EBCDIC
Detachability	Std.	Std.	Std.	Std.	Std.
Program function keys	12 user-defined std.	16 std.	16 std.	12 user-defined std.	24 std. + 3 PA keys
Numeric keypad	Std.	Std.	Std.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	No	No	No	No	No
Other devices	Std. bidirectional RS-232-C aux. port	Std. bidirectional RS-232-C aux. port	Std. bidirectional RS-232-C aux. port	Std. bidirectional RS-232-C aux. port	Impact Alarm, bidirectional RS-232 aux. port
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Synchronous
Communications protocol	—	ASCII	ASCII	—	BSC
Code	ASCII	ASCII	ASCII	ASCII	EBCDIC
Speed, bits/second	110 to 19,200	110 to 19,200	110 to 19,200	110 to 19,200	150 to 9600
Format: character, line, or block	Character	Char., line, blk., fld.	Char., line, fld., blk.	Char., line, blk., fld.	Block
Multipoint operation (pollable/addr.)	No	No	No	No	Std.
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C, 20 mA std.	RS-232-C, 20 mA	RS-232-C, 20 mA	RS-232-C, 20 mA std	RS-232-C
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Third party	Third party	Third party	Third party	Third party
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,645	1,895	2,095	—	2,395
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	8/78	10/78	6/79	8/78	2/81
Display units installed to date	—	—	—	—	—
Serviced by	Beehive, Western Union	Beehive, Western Union	Beehive, Western Union	Beehive, Western Union	Beehive, Western Union
COMMENTS	All std. features of DM10 plus buffered bidirectional aux. port; permits split-speed operation between terminal and aux. device or CPU and aux. device.	Full editing facilities; line drawing forms mode; capability to time-share aux. to main port and screen; line lock/memory lock, with invisible address pointer std.	All standard DM 20 features plus two page display memory, (four page memory opt.), and parallel printer interface.	All std. features of DM Series plus opt. emulation pkgs. for DEC VT52, Data General Dasher, ADDS Regent 100, Microdata Prism; also available without software as OEM unit.	Supports a Beehive serial ASCII printer. Double buffered printing with concurrent keyboard and display operation.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Beehive International Micro 4400	Braegen 3081	Braegen 3161	Burroughs TD 500 Series	Burroughs TD 730
TERMINAL DESCRIPTION					
Stand-alone or cluster	Either	Cluster	Cluster	Stand-alone	Stand-alone
Maximum displays/controller	1	32	32	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	3270, 1403, 2501	3270 local & BSC	No	3275 opt.
Teletype compatibility	No	No	No	No	No
Other compatibility	Burr. TD 830 Series	No	No	Burroughs	Burroughs
User programmable	No	No	No	No	No
Self diagnostics	Std.	No	No	Yes	Yes
DISPLAY PARAMETERS					
Display positions, chars./display	1920	480/1920	1920	600	480
Display arrangement, lines x chars./line	24 x 80 plus 25th status line	12 x 40, 24 x 80	24 x 80	15 x 40	12 x 40
Display area, h x w, inches	12" diag.; 15" opt.	12-inch. diag.	15-in. diag.	5-/9-in. diag.	4.7 x 8.4
Total displayable symbols	128 ASCII	196	196	96 ASCII	128
Symbol formation	5 x 7 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix	5 x 7 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	Std.	Std.	Std.	No
Programmable brightness levels	2 std.	2 std.	2 std.	No	No
Character and/or field blinking	Std.	Std.	Std.	No	Std.
Roll	Up and down std.	Opt.	Opt.	—	Std.
Paging	Std.	Opt.	Opt.	—	Std.
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	—	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	—	Std.
Addressable/readable cursor	Both std.	Std.	Std.	—	Std.
Protected format	Std.	Std.	Std.	—	Std.
Partial screen transmit	Std.	Std.	Std.	—	Std.
Tabulation	Forward/back std.	Std.	Std.	—	Std.
Character insert/delete	Both std.	Std.	Std.	—	Std.
Line insert/delete	Both std.	Opt.	Opt.	—	Std.
Erase	Page, field, line, screen	Char., field, screen std.	Char., field, screen std.	—	Std.
Character repeat	Std.	Std.	Std.	—	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter, data entry, console	Typewriter, data entry, console	Typewriter or numeric/function	Typewriter
Character/code set	128 EBCDIC	256 EBCDIC	256 EBCDIC	128 ASCII	128 ASCII
Detachability	Std.	Std.	Std.	Std.	Std.
Program function keys	16 std.	10 std., 15 opt.	10 std., 15 opt.	Yes	—
Numeric keypad	Std.	Opt.	Opt.	Opt.	Opt.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	Single/dual
Diskette drive (floppy disk)	No	Std., single	Std., single	No	No
Serial printer	Impact	Impact	Impact	No	Impact
Other devices	Buffered I/O port	Alarm, disk, line printer, card reader	Alarm, disk, line printer, card reader	ID card reader, magnetic card reader	Line printers, audible alarm, ID card reader
TRANSMISSION PARAMETERS					
Mode	Half-duplex	Half-duplex	Half-duplex	Half-duplex	Half-duplex
Technique	Async./sync.	Synchronous	Synchronous	Asynchronous	Async./sync.
Communications protocol	—	BSC	BSC	Burroughs	BSC/Burr.
Code	ASCII	ASCII, EBCDIC	ASCII/EBCDIC	ASCII	ASCII
Speed, bits/second	50 to 19,200	1200 to 19,200	1200 to 19,200	Up to 9600	Up to 38,400
Format: character, line, or block	Char., line, blk., fld.	Char./block	Char./block	Block	Char./block
Multipoint operation (pollable/addr.)	Std.	Std.	Std.	Std.	Std.
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C, TDI	RS-232-C	RS-232-C	RS-232-C	RS-232-C
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Third party	64	64	84-105	120-130
Display station, 2 year lease, $/mo.	—	57	57	—	—
Controller, 1 year lease, $/mo.	—	286	286	—	—
Controller, 2 year lease, $/mo.	—	263	263	—	—
Display station, purchase, $	3,245	2,560	2,560	1,975-2,450	2,715-2,865
Controller, purchase, $	—	12,300 (local); 11,300	12,300 (local); 11,300	—	—
Date of first production delivery	8/80	—	3/80	4/78	6/77
Display units installed to date	—	1,200	500	—	—
Serviced by	Beehive	Braegen	Braegen	Burroughs	Burroughs
COMMENTS	11 graphics symbols and lines, line lock, memory, lock/split screen, full editing and formatting facilities supports Beehive serial ASCII printer.	May be connected to up to 8 IBM hosts, local & remote, and switched to operate with 14 different applications.	May be connected to up to 8 IBM hosts, local & remote, and switched to operate with up to 14 different applications.	Based on 1980 information.	Based on 1980 information.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Burroughs TD 830	Cobar Model 3132	Computer Optics Mark IV	Control Concepts EM-3275	Control Data Model 714
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Either	Either	Either
Maximum displays/controller	1	—	32	1	15
Transportability	No	No	No	No	No
IBM compatibility	3275 opt.	No	3270 Series	3275/BSC	No
Teletype compatibility	No	No	No	No	No
Other compatibility	Burroughs	DEC VT-100	No	No	No
User programmable	No	No	No	No	No
Self diagnostics	Yes	Std.	Yes	Std.	Yes
DISPLAY PARAMETERS					
Display positions, chars./display	2000	1920/3160	480, 960, 1920	480/960/1920	1280/1920
Display arrangement, lines x chars./line	80 x 25	24 x 80; 24 x 132	12 x 40; 12 x 80; 24 x 80	24 x 80 plus 25th status line	16 x 80; 24 x 80
Display area, h x w, inches	7.5 x 9	12-in. diag.	15-in. diag.	12-in. diag.	8 x 10
Total displayable symbols	128	128 ASCII	96	96 EBCDIC	96
Symbol formation	5 x 7 dot matrix	7 x 10 dot matrix	7 x 9 dot matrix	8 x 8 dot matrix	5 x 9 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	Std.	Std.	No	Yes
Programmable brightness levels	Std.	Std.	2 std.	2 std.	No
Character and/or field blinking	Std.	Std.	Std.	No	No
Roll	Std.	Std.	No	Up & down std.	Std.
Paging	Std.	No	No	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	No.	Std.	Std.
Addressable/readable cursor	Std.	Both std.	No	Both std.	No
Protected format	Std.	Std.	Std.	Std.	Std.
Partial screen transmit	Std.	Std.	Std.	Std.	Std.
Tabulation	Std.	Forward/back std.	Std.	Forward/back std.	Std.
Character insert/delete	Std.	Std.	Std.	Std.	Std.
Line insert/delete	Std.	Std.	Std.	Std.	Std.
Erase	Std.	Char., line, screen Std.	Char., field, screen std.	Char., line, screen	Char., screen std. line opt.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter, data entry, other	Data entry	Typewriter
Character/code set	128 ASCII	96 ASCII & 31 spec.	128 EBCDIC/ASCII	96 EBCDIC/64 ASCII	ASCII
Detachability	Std.	Std.	Std.	Std.	No
Program function keys	—	4 std.	Up to 12 std.	12 std.	8
Numeric keypad	Opt.	Std.	Opt.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	Single/dual	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Impact	No	Impact	Impact opt.	Impact/non-impact
Other devices	Line printers, audible alarm, ID card reader	Aux. RS-232-C port	Line printer, audible alarm	No	Audible alarm std.
TRANSMISSION PARAMETERS					
Mode	Half-duplex	Full-duplex	Half-duplex	Half duplex	Half/full-duplex
Technique	Async./sync.	Asynchronous	Synchronous	Synchronous	Synchronous
Communications protocol	BSC/Burr.	—	BSC	BSC	ASCII/CDC MODE 4
Code	ASCII	ASCII	ASCII/EBCDIC	ASCII, EBCDIC	ASCII
Speed, bits/second	Up to 38,400	50 to 19,200	Up to 9600	300 to 9600	2000 to 9600
Format: character, line, or block	Char./block	Char., line, block	Block	Block	Block
Multipoint operation (pollable/addr.)	Std.	No	Std.	Std.	Std.
Auto answer	No	No	No	Opt.	No
Auto call	No	No	No	Opt.	No
Terminal interface	RS-232-C	RS-232-C	RS-232-C	RS-232-C	RS-232-C
Integral modem	No	No	No	Opt.	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	124-154	—	55	Contact vendor	112-259
Display station, 2 year lease, $/mo.	—	—	50	Contact vendor	—
Controller, 1 year lease, $/mo.	—	—	180	Contact vendor	—
Controller, 2 year lease, $/mo.	—	—	164	Contact vendor	—
Display station, purchase, $	2,796-2,951	1,795	1,800-2,250	2,350	4,490-10,108
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	8/76	—	1st qtr. 1974	7/80	5/78
Display units installed to date	—	—	Over 5,000	—	Over 500
Serviced by	Burroughs	Cobar	Four-Phase Systems	Third party	CDC
COMMENTS	Based on 1980 information.	Plug-compatible with DEC VT-100/132.			

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Control Data Model 722/10/20	Control Data Model 751	Control Data Model 752	Custom Terminals CTi 1000 Display	Data General Dasher D1 (Model 6052)
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	—	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	2740, 3767	No
Teletype compatibility	Std.	Std.	Std.	No	Std.
Other compatibility	Control Data	No	No	Telex TC 241, 767	No
User programmable	No	No	No	No	No
Self diagnostics	Std.	Yes	Yes	Std.	Yes
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	1920	1840	1920
Display arrangement, lines x chars./line	24 x 80	24 x 80	24 x 80	23 x 80	24 x 80
Display area, h x w, inches	12-in. diag.	12-in. diag.	12-in. diag.	12-in. diag.	6 x 9
Total displayable symbols	96 ASCII	128 ASCII	128 ASCII	64	64
Symbol formation	8 x 10 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix	7 x 10 dot matrix	5 x 7 dot matrix
Color	No	No	No	No	No
Reverse video	No	No	No	Std.	No
Programmable brightness levels	Std.	2 std.	2 std.	No	No
Character and/or field blinking	Std.	Both std.	Both std.	No	Both std.
Roll	Std.	Up std.	Up std.	Up, down std.	Up std.
Paging	No	Opt.	No	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	No	Std.
Addressable/readable cursor	Both std.	Std.	Addrressable only	Yes	Addressable only
Protected format	No	Std.	No	Opt.	No
Partial screen transmit	Std.	Std.	No	Std.	Yes
Tabulation	Std.	Std.	No	Std.	No
Character insert/delete	Std.	Std.	No	No	No
Line insert/delete	Std.	Std.	No	No	No
Erase	No	Char., line, screen std.	Char., line, screen std.	Std.	Line, screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Teletype
Character/code set	ASCII	64/96 ASCII	64/96 ASCII	64 EBCD	64 ASCII
Detachability	No	Std.	Std.	No	Std.
Program function keys	12 std.	No	No	No	8 std.
Numeric keypad	Std.	Std.	Std.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	Single/dual drive	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Impact/non-impact	Impact/non-impact	Impact/non-impact	120 cps	Yes
Other devices	Audible alarm std.	Audible alarm std.	Audible alarm std.	—	—
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half-duplex	Full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	ASCII, TTY	ASCII	ASCII	IBM 2740, 3767	ASCII
Code	ASCII	ASCII	ASCII	EBCD	ASCII
Speed, bits/second	110 to 19,200	110 to 9600	110 to 9600	Up to 1800	110-19,200
Format: character, line, or block	Character	Char./line/page	Char. only	Block	Char. only
Multipoint operation (pollable/addr.)	No	Opt.	No	Std.	No
Auto answer	No	Opt.	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C, 20 mA	RS-232-C, current loop	RS-232-C, current loop	RS-232-C	RS-232-C, 20 mA
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	74	100-134	55	—	Purchase only
Display station, 2 year lease, $/mo.	—	—	—	130	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,575	3,150-3,765	1,650-1,750	2,350	1,990
Controller, purchase, $	—	—	—	—	400
Date of first production delivery	2/81	9/76	3/77	5/80	10/76
Display units installed to date	—	Over 500	Over 500	—	—
Serviced by	CDC	CDC	CDC	TRW	Data General
COMMENTS					Monitor tilts and swivels.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Data General Dasher D2 (Model 6053)	Data General Dasher D3 (Model 6093)	Data General Dasher D100 (Models 6106, 6107)	Data General Dasher D200 (Models 6108, 6109)	DatagraphiX 132A
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	No	No
Teletype compatibility	Std.	Std.	Std.	Std.	Std.
Other compatibility	No	No	No	No	No
User programmable	No	No	No	No	No
Self diagnostics	Yes	Std.	Std.	Std.	Yes
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	1920	1920	3960
Display arrangement, lines x chars./line	24 x 80	24 x 80	24 x 80	24 x 80	30 x 132
Display area, h x w, inches	6 x 9	12-in. diag.	12-in. diag.	12-in. diag.	8 x 11
Total displayable symbols	96	96 ASCII plus	96 ASCII	96 ASCII	96
Symbol formation	5 x 8 dot matrix	5 x 8 dot matrix	7 x 11 dot matrix	7 x 11 dot matrix	Charactron
Color	No	No	No	No	No
Reverse video	No	Std.	Std.	Std.	No
Programmable brightness levels	2 std.	Std.	Std.	Std.	Yes
Character and/or field blinking	Both std.	Std.	Std.	Std.	No
Roll	Up std.	No	No	No	Yes
Paging	No	No	No	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	No	No	Std.
Addressable/readable cursor	Addressable only	Both std.	Both std.	Both std.	Yes
Protected format	No	Std.	No	No	No
Partial screen transmit	Yes	Std.	No	No	Yes
Tabulation	No	Std.	Std.	Std.	Std.
Character insert/delete	No	Std.	No	No	Std.
Line insert/delete	No	Std.	No	No	Std.
Erase	Line, screen std.	Line, screen std.	Line, screen std.	Line, screen std.	Char., line, screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	96 ASCII	128 ASCII	128 ASCII	128 ASCII	128 ASCII
Detachability	Std.	Std.	Std.	Std.	Std.
Program function keys	11 std.	13 std.	No	19 std.	No
Numeric keypad	Std.	Std.	Std.	Std.	No
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Yes	Interface std.	Opt. interface	Opt. interface	RS-232-C
Other devices	—	Tone on bell	Tone on bell	Tone on bell	Audible alarm
TRANSMISSION PARAMETERS					
Mode	Full-duplex	Full-duplex	Full-duplex	Full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	ASCII	ASCII	ASCII	ASCII	ASCII
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Speed, bits/second	110-19,200	Up to 19,200	Up to 19,200	Up to 19,200	110-9600
Format: character, line, or block	Char. only	Char., block	Character	Character	Char., line, block
Multipoint operation (pollable/addr.)	No	No	No	No	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C, 20 mA	RS-232-C, 20 mA std.	RS-232-C, 20 mA std.	RS-232-C, 20 mA std.	RS-232-C, 20 mA
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Purchase only	N/A	N/A	N/A	226-265
Display station, 2 year lease, $/mo.	—	N/A	N/A	N/A	Conditional
Controller, 1 year lease, $/mo.	—	N/A	N/A	N/A	—
Controller, 2 year lease, $/mo.	—	N/A	N/A	N/A	—
Display station, purchase, $	2,290	2,590	1,750	1,950	3,950-4,450
Controller, purchase, $	400	—	—	—	—
Date of first production delivery	10/76	6/79	2/80	2/80	11/77
Display units installed to date	—	—	—	—	—
Serviced by	Data General	Data General	Data General	Data General	DatagraphiX
COMMENTS	Monitor tilts and swivels.	Lease and Rental available via third parties and terminal resellers. Monitor tilts and swivels.	Lease and rental available via third parties and terminal resellers. Monitor tilts and swivels. Printer interface option is an additional $400.	Lease and rental available via third parties and terminal resellers. Monitor tilts and swivels. Printer interface option is an additional $400.	Memory buffer of 60 or 120 lines.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	DatagraphiX 132B	DatagraphiX 132-1	DatagraphiX 132-2	DatagraphiX 132-70 System	Datamedia Elite 1521A
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Either	Stand-alone
Maximum displays/controller	1	—	—	32	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	See comments	No
Teletype compatibility	Std.	Std.	Std.	No	Std.
Other compatibility	No	See comments	No	Univac opt.	No
User programmable	No	No	No	No	No
Self diagnostics	—	Std.	Std.	—	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	3960	3168	3168	Up to 3564	1920
Display arrangement, lines x chars./line	30 x 132	24 x 132	24 x 132 plus 25th status line	12 x 40 to 27 x 132	24 x 80
Display area, h x w, inches	8 x 11	5.5 x 10	12-in. diag.	8 x 11	12", 15" diag.
Total displayable symbols	96	96 ASCII	96 ASCII	96	128 ASCII
Symbol formation	Charactron	Charactron	Charactron	Charactron	5 x 9 dot matrix
Color	No	No	No	No	No
Reverse video	No	No	No	No	No
Programmable brightness levels	Yes	2 std.	Std.	2 std.	2 opt.
Character and/or field blinking	No	Char. std.	Std.	No	No
Roll	Yes	No	Up & down std.	No	Up std.
Paging	Yes	No	No	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt. new line std.
Cursor blinking	Std.	Std.	Std.	Std.	Std.
Addressable/readable cursor	Yes	Both std.	Both std.	Addressable	Addressable only
Protected format	Yes	No	Std.	Std.	No
Partial screen transmit	Yes	No	Std.	Std.	No
Tabulation	Std.	Forward/back std.	Forward/back std.	Forward/back std.	Forward std.
Character insert/delete	Std.	No	Std.	Std.	No
Line insert/delete	Std.	No	Std.	Std.	No
Erase	Std.	Line & screen std.	Char., line, screen std.	Char., line, screen std.	Char., line, screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	128 ASCII	128 ASCII	128 ASCII	EBCDIC & ASCII	128 ASCII
Detachability	Std.	No	No	Std.	Std.
Program function keys	12 std.	No	8 std. (16 func.)	12 std.	12 opt.
Numeric keypad	Std.	Std.	Std.	Std.	Opt.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	RS-232-C interface
Diskette drive (floppy disk)	No	No	No	No	RS-232-C interface
Serial printer	RS-232-C	Yes	Yes	Yes	RS-232-C interface
Other devices	Audible alarm	Audible alarm std.	Audible alarm	Audible alarm std.	Audible alarm, composite video out std.
TRANSMISSION PARAMETERS					
Mode	Full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Synchronous	Asynchronous
Communications protocol	ASCII	ASCII	ASCII	BSC	ASCII
Code	ASCII	ASCII	ASCII	EBCDIC & ASCII	ASCII
Speed, bits/second	110 to 9600	300 to 19,200	300 to 19,200	Up to 9600	50 to 9600
Format: character, line, or block	Char., line, block	Char. only	Char., line, block	Block only	Char. only
Multipoint operation (pollable/addr.)	No	No	No	Std.	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C, 20 mA	RS-232-C, 20 mA dc	RS-232-C, 20 mA	RS-232-C	RS-232-C std., 20 mA opt.
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	255-284	Purchase only	Purchase only	219	—
Display station, 2 year lease, $/mo.	Conditional	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	195	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	4,450-4,950	2,150	2,395	4,450	1,295-1,695
Controller, purchase, $	—	—	—	4,000	—
Date of first production delivery	11/78	1/80	11/80	2/80	10/77
Display units installed to date	—	—	—	—	Over 5,000
Serviced by	DatagraphiX	DatagraphiX	DatagraphiX	DatagraphiX	Datamedia
COMMENTS	Memory buffer of 60 or 120 lines.	Optional VT-100/VT-52 compatibility. English language menu for ease of operator set-up. A 25th status line. Quantity discounts available.	English language menu for ease of operator set-up. Quantity discounts available.	Compatible with all remote stand-alone and cluster configurations for all 3277 and 3278 terminal models. Quantity discounts available for terminals.	Quantity discounts available.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Datamedia Elite 3000A Series	Datamedia Elite 3045A APL/ASCII	Datamedia DT80/1	Datamedia DT 80/3	Datamedia DT 80/5 (APL)
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	No	No
Teletype compatibility	Std.	Std.	Std.	Std.	Std.
Other compatibility	See comments	No	DEC VT-100	See comments	DEC VT-100/APL
User programmable	No	No	No	No	No
Self diagnostics	Std.	Std.	Std.	Std.	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	1920-3168	1920/1848/3168	1920-3168
Display arrangement, lines x chars./line	24 x 80	24 x 80	24 x 80; 24 x 132	24 x 80; 14 x 132; 24 x 132 opt.	24 x 80; 24 x 132
Display area, h x w, inches	12", 15" diag.	12", 15" diag.	12", 15" diag.	12" diag.; 14" opt.	12", 15" diag.
Total displayable symbols	128 ASCII	See comments	96 ASCII & 31 spec.	96 ASCII & 32 spec.	See comments
Symbol formation	5 x 9 dot matrix	5 x 9 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	No	No	Std.	Std.
Programmable brightness levels	2 std.	2 std.	2 std.	Std.	2 std.
Character and/or field blinking	Char., field std.	No	Std.	Char. std.	Std.
Roll	Up std.	Up std.	Up, down std.	Std.	Up, down std.
Paging	No	No	No	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt., new line std.	U, D, L, R, H, Rt., new line std.	U, D, L, R, H, Rt., new line std.	U, D, L, R, H, Rt.,	U, D, L, R, H, Rt., new line std.
Cursor blinking	Std.	Std.	Std.	Std.	Std.
Addressable/readable cursor	Both std.	Both std.	Both std.	Std.	Both std.
Protected format	Std.	Std.	No	Std.	No
Partial screen transmit	Std.	Std.	No	No	No
Tabulation	Forward/back std.	Forward/back std.	Forward	Std.	Forward
Character insert/delete	Std.	Std.	No	Std.	No
Line insert/delete	Std.	No	No	Std.	No
Erase	Char., line screen std.	Char., line, screen std.	Char., line, screen std.	Char., line, screen std.	Char., line, screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	128 ASCII	128 ASCII or APL	96 ASCII & 31 spec.	64 ASCII	See comments
Detachability	Std.	Std.	Std.	Std.	Std.
Program function keys	10 std.	10 std.	18 std.	No	18 std.
Numeric keypad	Std.	Std.	Std.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	RS-232-C interface	RS-232-C interface	RS-232-C interface	RS-232-C interface	RS-232-C interface
Diskette drive (floppy disk)	RS-232-C interface	RS-232-C interface	RS-232-C interface	RS-232-C interface	RS-232-C interface
Serial printer	RS-232-C interface	RS-232-C interface	RS-232-C interface	RS-232-C interface	RS-232-C interface
Other devices	Audible alarm, composite video out std.	Audible alarm, composite video std.	Audible alarm, composite video in/out	Aux. RS-232-C port	Audible alarm, composite video in/out
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Async./sync.	Asynchronous	Asynchronous
Communications protocol	ASCII	ASCII	ASCII	ASCII	ASCII/APL
Code	ASCII	ASCII/APL	ASCII	ASCII	ASCII
Speed, bits/second	50 to 9600	50 to 9600	50 to 9600	50 to 9600	50 to 9600
Format: character, line, or block	Char., line, block	Char., line, block	Character	Character	Character
Multipoint operation (pollable/addr.)	Opt.	No	No	No	No
Auto answer	No	No	No	Std.	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C std.; 20 mA opt.	RS-232-C std.; 20 mA opt.	RS-232-C std.; 20 mA opt.	RS-232-C std.; 20 mA opt.	RS-232-C std., 20 mA opt.
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	—	—	—	—	—
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,595-1,995	1,795-2,195	1,595	1,395	1,740
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	2/78	3/78	8/79	12/80	3/80
Display units installed to date	Over 2000	Over 1000	Over 5,000	—	Over 1,000
Serviced by	Datamedia	Datamedia	Datamedia	Datamedia	Datamedia
COMMENTS	DEC VT-52, Data General Dasher 6053, Datamedia Elite 2500 compatibility available. Quantity discounts available.	Total displayable symbols: 128 ASCII, 32 APL, 62 overstrike characters. Quantity discounts available.	Quantity discounts available.	Compatible with Lear Siegler ADM-3A, Hazeltine 1420, ADDS Regent 25, and Datamedia 1521. Compatibility modes and operation parameters are accessed via keyboard.	Total displayable symbols: 128 ASCII/APL, 31 spec., 69 overstrike. Character/code set: 96 ASCII, 31 spec., 128 APL. Quantity discounts available.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Datapoint 8200	Datapoint 3670	Data Terminals & Communications DTC-382V	Dataview Marquis	Dataview Marquis/X-Y
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	3277-BSC	2741 opt.	No	No
Teletype compatibility	Std.	No	Std.	Std.	No
Other compatibility	Datashare	Datashare	No	No	No
User programmable	No	See comments	No	No	No
Self diagnostics	Std.	Std.	No	Yes	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	1920	1920	1920
Display arrangement, lines x chars./line	24 x 80	24 x 80	24 x 80	24 x 80	24 x 80
Display area, h x w, inches	5 x 8	5 x 8	7 x 9; 12-in. diag.	12-in. diag.	7 x 9
Total displayable symbols	96	96	128 ASCII	64	96
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	7 x 9 dot matrix	5 x 7 dot matrix	7 x 9
Color	No	No	No	No	No
Reverse video	No	Std.	Std.	No	Std.
Programmable brightness levels	Std.	No	Std.	—	Std.
Character and/or field blinking	No	No	Std.	No	No
Roll	Up & down std.	Up & down std.	Up & down std.	Yes	Std. up & down
Paging	No	No	4 std., 8 opt.	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	Horiz. bottom line	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Yes	Std.
Addressable/readable cursor	Addressable only	Addressable only	Addressable only	Yes	Addr. std./read. opt.
Protected format	No	Yes	Std.	No	No
Partial screen transmit	No	Yes	Std.	No	No
Tabulation	No	Forward/back std.	Forward/back std.	No	Std. forward
Character insert/delete	No	Std.	Std.	No	No
Line insert/delete	No	No	Std.	No	No
Erase	Char. & screen std.	Char., line, screen std.	Std.	Screen std.	Char. & screen std.
Character repeat	Std.	Std.	Std.	Yes	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	ASCII	ASCII	128 ASCII	ASCII	128 ASCII
Detachability	Opt.	Std.	No	No	Opt.
Program function keys	12 std.	12 std.	19 std.	No	No
Numeric keypad	Std.	Std.	Std.	No	Opt.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	RS-232-C interface
Diskette drive (floppy disk)	No	No	5.25" disk (Micro 210)	No	RS-232-C interface
Serial printer	Impact	No	Impact	No	RS-232-C interface
Other devices	Audible alarm std.	Audible alarm std.	Micro 210 microcomputer, DTC 9212-212 compatible	Audible alarm	—
TRANSMISSION PARAMETERS					
Mode	Full-duplex	Full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Synchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	ASCII	BSC	ASCII	ASCII	ASCII
Code	ASCII	EBCDIC	ASCII/EBCDIC	ASCII	ASCII/EBCDIC
Speed, bits/second	50 to 9600	9600	9600	Up to 9600	75 to 9600
Format: character, line, or block	Character	Block	Character	Character	Char. only
Multipoint operation (pollable/addr.)	No	No	No	No	No
Auto answer	No	No	Opt.	No	No
Auto call	No	No	Opt.	No	No
Terminal interface	RS-232-C	RS-232-C	RS-232-C	RS-232-C, 20 & 60 mA current loop	RS-232-C, 20 mA current loop
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	65	130	225	—	—
Display station, 2 year lease, $/mo.	60	115	215	—	—
Controller, 1 year lease, $/mo.	—	355	—	—	—
Controller, 2 year lease, $/mo.	—	290	—	—	—
Display station, purchase, $	1,575	3,675	5,700*	805	895-1,295
Controller, purchase, $	—	7,075	Included in above	—	—
Date of first production delivery	9/79	12/79	1978	1/77	9/77
Display units installed to date	10,000	N/A	600	—	—
Serviced by	Datapoint	Datapoint	DTC/Dow Jones or third parties	Dataview (factory)	Dataview (factory)
COMMENTS		Through the use of a Datapoint 1500, the 3670 can be clustered (up to 16) and be user-programmable via user-created programs.	*The video display is mounted above the printer and sold as one unit. A metal wheel print mechanism is available. Printer buffer is 256 characters.	Based on 1980 information.	Based on 1980 information.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Dataview Monarch	Dataview Monarch-52	Dataview Titan	Datavue 132/C	Delta Data Systems Model 4050
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	Opt.	No	Opt.	No	No
Teletype compatibility	Std.	Std.	Opt.	Std.	Std.
Other compatibility	DEC; others opt.	No	Opt.	See comments	See comments
User programmable	No	No	No	Via user-defined parameters	Opt.
Self diagnostics	Std.	No	Std.	No	No
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	1920	1920, 3960	2000
Display arrangement, lines x chars./line	24 x 80	24 x 80	24 x 80	24, 27, 30 x 80, 132	25 x 80
Display area, h x w, inches	7 x 9	12-in. diag.	7 x 9	7 x 13	6 x 11
Total displayable symbols	128	128 ASCII	128	96 ASCII	224
Symbol formation	7 x 9	5 x 7 dot matrix	7 x 9	5 x 7 plus descend.	5 x 7 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	No	Std.	Full screen only	Std.
Programmable brightness levels	2 std.	No	2 std.	2 std.	Opt.
Character and/or field blinking	No	No	Char. std.; field opt.	No	Both std.
Roll	Up & down std.	No	Up & down std.	Up, down, std.	Up & down std.
Paging	Opt., 2 pages	No	2 std.; 30 opt.	No	Std.
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Std.	Std.
Addressable/readable cursor	Both std.	Addressable only	Both std.	Both std.	Std.
Protected format	Opt.	No	Std.	Std.	Std.
Partial screen transmit	Opt.	No	Std.	Std.	Std.
Tabulation	Std.; back opt.	Std.	Std.; back opt.	Std.	Std.
Character insert/delete	Opt.	No	Std.	Std.	Std.
Line insert/delete	Opt.	No	Std.	Std.	Std.
Erase	Char., line, screen std.	Line, screen std.	Char., line, screen std.	Std.	Char., line, screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	128 ASCII/EBCDIC	ASCII	128 ASCII/EBCDIC	96 ASCII	ASCII; others opt.
Detachability	Opt.	No	Opt.	Opt.	Opt.
Program function keys	3 opt.	3 std.	3 std.; others opt.	16	8 std.; others opt.
Numeric keypad	Std.	Std.	Std.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	RS-232-C interface	No	RS-232-C interface	No	RS-232-C interface
Diskette drive (floppy disk)	RS-232-C interface	No	RS-232-C interface	No	RS-232-C interface
Serial printer	RS-232-C interface	Printer port EIA	RS-232-C interface	No	Impact/non-impact
Other devices	—	Audible alarm std.	—	Audible alarm	Audible alarm std.; light pen opt.
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Async./sync.	Asynchronous	Async./sync.	Asynchronous	Async./sync.
Communications protocol	ASCII/BSC	ASCII	ASCII/BSC/SDLC	—	ASCII; others opt.
Code	ASCII/EBCDIC	ASCII	ASCII/EBCDIC	ASCII	ASCII; others opt.
Speed, bits/second	75 to 19,200	50 to 19,200	75 to 19,200	50 to 19,200	110 to 9600
Format: character, line, or block	Char., block opt.	Character	Char./line/block	Char., line, block	Char./block
Multipoint operation (pollable/addr.)	Opt.	No	Std.	No	Opt
Auto answer	No	No	No	No	Opt.
Auto call	No	No	No	No	No
Terminal interface	RS-232-C & 20 mA current loop	RS-232-C of 20 mA current loop std.	RS-232-C & 20 mA current loop	RS-232-C, 20 mA	RS-232-C, current loop
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	—	—	—	—	150-170
Display station, 2 year lease, $/mo.	—	—	—	—	138-156
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,435-1,995	1,360	2,195 (base)	1,995	2,995-3,500
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	1/78	12/78	5/78	12/80	5/76
Display units installed to date	—	—	—	200	4000
Serviced by	Dataview (factory)	Dataview	Dataview (factory)	Distributors	Delta & Sorbus
COMMENTS	Emulation protocol for several prominent terminals; Intel 8055; split data rates; based on 1980 information.	Plug-for-plug replacement for DEC VT-52 and VT-100; keyboard layout is identical to VT-52; split baud rate std.; based on 1980 information.	Emulation protocol for several prominent terminals; Intel 8055; split data rates; based on 1980 information.	Compatible with most ASCII terminals.	Plug-to-plug replacement for Univac & Honeywell displays

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Delta Data Systems Model 2830	Digital Equipment Model VT-55	Digital Equipment Model VT-61/t	Digital Equipment Model VT-100	Direct VP800/A
TERMINAL DESCRIPTION					
Stand-alone or cluster	Either	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	—	1	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	No	No
Teletype compatibility	Std.	Std.	Std.	Std.	No
Other compatibility	Burroughs TD830	No	No	No	DEC VT-100
User programmable	No	No	No	No	No
Self diagnostics	Std.	No	Yes	Yes	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	1920	1920; 3168 opt.	1920, 3168
Display arrangement, lines x chars./line	24 x 80	24 x 80	24 x 80	24x80; 24x132 opt.	24 x 80; 24 x 132 plus status line
Display area, h x w, inches	15-in. diag.	8.7 x 4.3	8.7 x 4.3	8 x 4.5	12-in. diag.
Total displayable symbols	136	128	128	128	96 ASCII
Symbol formation	7 x 9 dot matrix	7 x 7	7 x 8 dot matrix	7 x 9 dot matrix	7 x 11 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	No	Std.	Yes	Std.
Programmable brightness levels	Std.	No	No	Yes	No
Character and/or field blinking	Both std.	No	No	Yes	Std.
Roll	Up & down std.	No	Up & down std.	Up, down, smooth	Up & down std.
Paging	12 pages std.	No	Yes	No	Std.
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Std.	Std.
Addressable/readable cursor	Both std.	Addressable only	Std.	Yes	Std.
Protected format	Std.	No	Std.	No	Std.
Partial screen transmit	No	No	Std.	No	Std.
Tabulation	Forward/back std.	Std.	Std.	Std. & program. tabs	Std.
Character insert/delete	Std.	No	Std.	No	Std.
Line insert/delete	Std.	No	Std.	No	Std.
Erase	Char., line, screen std.	Line, screen std.	Char., line, screen std.	Line, screen, partial line, partial screen	Std.
Character repeat	Std.	Std.	Std.	Yes	Std.
KEYBOARD PARAMETERS					
Style	Typewriter, data entry	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	128 ASCII	128 ASCII	ASCII	ASCII	96 ASCII
Detachability	Std.	No	No	Yes	No
Program function keys	No	3 std.	19	4 std.	16
Numeric keypad	Std.	Std.	No	Yes	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Impact/non-impact	Non-impact	No	No	No
Other devices	Audible alarm std.	—	Audible alarm std.	Audible alarm std.	Buffered printer port opt.
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	See comments	See comments	Full-duplex	Half/full duplex
Technique	Async./sync.	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	Burroughs TDI	ASCII	ASCII	ASCII	—
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Speed, bits/second	Up to 9600	75 to 9600	75 to 9600	50 to 19,200	50 to 19,200
Format: character, line, or block	Char./block	Char. only	Char./block	Char. only	Char., line, block
Multipoint operation (pollable/addr.)	Std.	No	No	No	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C std., CCITT opt.	RS-232-C, 20 mA current loop	RS-232-C or 20 mA dc	RS-232-C; current loop opt.	RS-232-C
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	—	Purchase only	Purchase only	Purchase only	Purchase only
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	2,950	5,830	3,900	2,150	2,350
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	9/79	—	7/76	—	12/80
Display units installed to date	1000	—	—	—	—
Serviced by	Delta & Sorbus	DEC	DEC	DEC	Direct
COMMENTS	Leasing available through distributors.	Also provides graphics capability; transmission modes are full-duplex and full-duplex with local copy.	Transmission modes are full-duplex and full-duplex with local copy.	ANSI std. escape sequences; all user controls and adjustments can be done from keyboard; customized parameters can be saved in non-volatile memory; line drawing set std.; int. to serial printer opt..	

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Elbit DS 2000-A	Elbit DS 377X	Elbit DS 376X	Elbit DS-2653	Elbit DS-2100
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Cluster	Stand-alone	Stand-alone
Maximum displays/controller	1	1	16	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	3277-2; see comments	3271-2, BSC	No	No
Teletype compatibility	Std.	No	No	Std.	Std.
Other compatibility	See comments	No	No	Data General	DEC VT-52, VT-100
User programmable	No	No	No	No	No
Self diagnostics	No	No	Opt.	Std.	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	1920	1920	1920
Display arrangement, lines x chars./line	24 x 80, plus status line	24 x 80	24 x 80	24 x 80	24 x 80 plus 25th status line
Display area, h x w, inches	15-in. diag.	15-in. diag.	15-in. diag.	15-in. diag.	15-in. diag.
Total displayable symbols	128 ASCII	64/96 ASCII	64/96 ASCII	96 ASCII	128 ASCII
Symbol formation	7 x 9 dot matrix	5 x 8 dot matrix	5 x 8 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	No	No	No	Std.
Programmable brightness levels	2 std.	2 std.	2 std.	2 std.	2 std.
Character and/or field blinking	Both std.	No	No	Both std.	Char. std.
Roll	Up std.	No	No	Up std.	Up & down std.
Paging	2 pages std.	No	No	1 page std.	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R	U, D, L, R	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	No	No	No	No
Addressable/readable cursor	Both std.	No	No	Both std.	Both std.
Protected format	Std.	Std.	Std.	No	No
Partial screen transmit	Std.	No	Std.	Std.	No
Tabulation	Forward std.	Std.	Std.	No	Fwd. std.
Character insert/delete	Std.	Std.	Std.	No	No
Line insert/delete	Std.	No	No	No	No
Erase	Char., line, screen std.	Char., line, screen std.	Char., line, screen std.	Line & screen std.	Line, screen, partial line, partial screen
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter, data entry	Typewriter, data entry	Typewriter	Typewriter
Character/code set	64/96 ASCII	96 EBCDIC	96 EBCDIC	128 ASCII	128 ASCII
Detachability	Std.	Std.	Std.	Std.	Std.
Program function keys	No	12 std.	12 std.	11 std.	4 std.
Numeric keypad	Std.	No	No	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No		
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Non-impact	No	Matrix impact	No	No
Other devices	Audible alarm std.	Audible alarm std., keylock std., light pen opt.	Audible alarm std., keylock std., light pen opt.	Impact Audible alarm std.	No Audible alarm std.
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	—	Half/full-duplex		
Technique	Asynchronous	—	Synchronous	Full-duplex Asynchronous	Full-duplex Asynchronous
Communications protocol	ASCII	—	BSC	ASCII	ASCII
Code	ASCII	—	EBCDIC	ASCII	ASCII
Speed, bits/second	50 to 19,200	—	1200 to 9600	50 to 19,200	50 to 19,200
Format: character, line, or block	Char., line, block	Block only	Block only	Character	Character
Multipoint operation (pollable/addr.)	No	No	Std.	No	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C, 20 mA current loop	—	RS-232-C	RS-232-C, 20 mA	RS-232-C, 20 mA
Integral modem	No	No	No		
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Purchase only	Purchase only	Purchase only		
Display station, 2 year lease, $/mo.	—	—	—	Purchase only	Purchase only
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,800	1,900	—	—	—
Controller, purchase, $	—	—	4,200	1,900	1,900
Date of first production delivery	10/79	1/77	5/79	—	—
Display units installed to date	—	Over 1,000	100	10/80	10/80
Serviced by	Elbit	Elbit	Elbit	— Elbit	— Elbit
COMMENTS	Microprocessor based; utilizing the attribute approach for extensive display features; emulations for DEC VT-100, Data General Dasher, & APL are also available.	Direct interchangable replacement for IBM 3277-2 display station, using IBM 3271-2 and 3272-2 control units, or Elbit DS 376-X control unit. Quantity discounts available.	The DS 376X controller is housed in the cabinet of a DS 377-X station. Quantity discounts available.	Based on Elbit DS 2000-A; Data General Dasher 6053 emulator; quantity discounts available.	Based on Elbit DS 2000-A; advanced video features std.; quantity discounts available.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Elbit DS-2APL	Falco Data Products Terminalsmith 1	G. R. Electronics Ltd. Pocket Terminal	General Digital Corp. Vue Point	General Terminal Corporation GT-100A
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	—
Transportability	No	No	Hand-held	Portable case	No
IBM compatibility	No	No	—	Special order	No
Teletype compatibility	Std.	Std.	ASCII std.	Opt.	Std.
Other compatibility	No	See comments	—	No	See comments
User programmable	No	Via user-created programs	No	Via user-defined parameters	Via user-defined parameters
Self diagnostics	Std.	Std.	No	Opt.	No
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	8	480	1920
Display arrangement, lines x chars./line	24 x 80 plus 25th status line	24 x 80	1 line-8 characters	12 x 40	24 x 80, plus 25th status line
Display area, h x w, inches	15-in. diag.	12-in. diag.	0.18 x 2.0 in	5 x 9	6.5 x 8.5
Total displayable symbols	See comments	128	64 ASCII	96 ASCII	96 ASCII
Symbol formation	7 x 9 dot matrix	7 x 10 dot matrix	16 segment LED	5 x 7	5 x 9 dot matrix
Color	No	No	—	No	No
Reverse video	No	Std.	No	No	Std.
Programmable brightness levels	2 std.	Std.	No	Std.	2 std.
Character and/or field blinking	Field std.	Std.	Location blinking	Char. or field std.	No
Roll	Up & down std.	Std.	No	Up std.	Up std.
Paging	2 pages std.	Std.	Yes	3 pages std., 51 opt.	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	—	All & random	U, D, L, R, H, Rt.
Cursor blinking	No	Std.	Std.	Std.	Std.
Addressable/readable cursor	Both std.	Std.	No	Addressable	Both std.
Protected format	Std.	Std.	No	Std.	Std.
Partial screen transmit	Std.	Std.	No	No	Std.
Tabulation	Fwd. std.	Std.	No	Forward std.	Forward/back std.
Character insert/delete	Std.	Std.	Std.	No	Std.
Line insert/delete	Std.	Std.	No	—	Std.
Erase	Line & screen std.	—	Yes	Char., line, screen & partial screen	Char., line, screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Alphanumeric calculator-style	Typewriter opt.	Typewriter
Character/code set	128 ASCII	128 ASCII	128 ASCII	128 ASCII	128 ASCII
Detachability	Std.	Std.	Portable	Std.	Opt.
Program function keys	No	12	No	Via touch screen	8 opt.
Numeric keypad	Std.	Std.	Std.	Via touch screen	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Non-impact	Impact, non-impact	No	Non-impact	RS-232-C std.
Other devices	Audible alarm std.	2 I/O ports, 2 separate RS-232 interfaces	None	Audible alarm std.	Audible alarm std., composite video opt.
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Full-duplex	Full-duplex	Half/full-duplex
Technique	Asynchronous	—	Asynchronous	Asynchronous	Asynchronous
Communications protocol	ASCII	SDLC	—	EIA RS-232-C	ASCII
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Speed, bits/second	50 to 19,200	Up to 19,200	Up to 2400	300-19,200	110-19,200
Format: character, line, or block	Char., line, block	Char., line, block	Character	Character	Char., block std.
Multipoint operation (pollable/addr.)	No	Std.	No	Opt.	No
Auto answer	No	Opt.	No	No	No
Auto call	No	Opt.	No	No	No
Terminal interface	RS-232-C, 20 mA	RS-232-C	RS-232-C or 20 mA	RS-232-C std.; 20 mA opt.	RS-232-C, 20 mA
Integral modem	No	Opt.	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Purchase only	Purchase only	—	—	Purchase only
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,950	1,195	395	3,500	1,095
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	6/80	10/80	5/77	9/79	12/78
Display units installed to date	—	1,100	2,500	35	—
Serviced by	Elbit	Dow Jones	G.R. Electronics Ltd.	General Digital Corp.	Factory
COMMENTS	Based on Elbit DS 2000-A; 288 displayable symbols include 128 ASCII, 32 APL, and 128 overstrike; quantity discounts available.	Includes smooth scrolling, 8 pages of memory, and graphics option. Weighs less than 30 pounds.		The VuePoint is a touch-input terminal with optional keyboard and printer.	Solid-state keyboard; metal case construction; 32 char. line drawing set; Z-80 microprocessor based.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	General Terminal Corporation GT-100D	General Terminal Corporation GT-100E	General Terminal Corporation GT-101	General Terminal Corporation GT-110	General Terminal Corporation GT-400
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	—	—	—	—	—
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	No	No
Teletype compatibility	Std.	Std.	Std.	Std.	Std.
Other compatibility	Data General Dasher	See comments	See comments	See comments	See comments
User programmable	Via user-defined parameters	See comments	Via user-defined parameters	Via user-defined parameters	Via user-defined parameters
Self diagnostics	Std.	Std.	Std.	Std.	No
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	1920	1920	2000
Display arrangement, lines x chars./line	24 x 80 plus 25th status line	24 x 80 plus 25th status line	24 x 80, plus 25th status line	24 x 80, plus 25th status line	25 x 80
Display area, h x w, inches	6.5 x 8.5	6.5 x 8.5	6.5 x 8.5	6.5 x 8.5	6.5 x 8.5
Total displayable symbols	96 ASCII	96 ASCII	96 ASCII plus	96 ASCII plus	128 ASCII
Symbol formation	5 x 9 dot matrix	5 x 7 dot matrix	5 x 9 dot matrix	5 x 9 dot matrix	5 x 9 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	Std.	Std.	Std.	Std.
Programmable brightness levels	Std.	Std.	2 std.	2 std.	2 std.
Character and/or field blinking	No	No	No	Char., line, field std.	Char., line, field std.
Roll	Up std.	Up std.	Up std.	Up std.	Up std.
Paging	No	No	No	No	3 pages opt.
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Std.	Std.
Addressable/readable cursor	Both std.	Both std.	Both std.	Both std.	Both std.
Protected format	Std.	Std.	Std.	Std.	Std.
Partial screen transmit	Std.	Std.	Std.	Std.	Std.
Tabulation	No	Forward std.	Forward/back std.	Forward/back std.	Forward/back std.
Character insert/delete	No	No	Std.	Std.	Std.
Line insert/delete	No	No	Std.	Std.	Std.
Erase	Line, screen std.	No	Char., line, field, std.	Char., line, field std.	Char., line, screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	96 ASCII	96 ASCII	128 ASCII	128 ASCII	128 ASCII
Detachability	Opt.	Opt.	Opt.	Opt.	Opt.
Program function keys	8 std.	See comments	8 opt.	16 std.	8 std.; 24 opt.
Numeric keypad	Std.	Std.	Std.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Impact	See comments	RS-232-C std.	RS-232-C std.	RS-232-C std.
Other devices	Audible alarm, composite video	See comments	Audible alarm std., composite video opt.	Audible alarm std., composite video opt.	Audible alarm std., buffered printer port opt.
TRANSMISSION PARAMETERS					
Mode	Full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	ASCII	ASCII	ASCII	ASCII	ASCII, polling opt.
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Speed, bits/second	110-19.2K	110-19.2K	110-19,200	110-19,200	50-19,200
Format: character, line, or block	Character	Char./block	Char., field, block	Char., field, blk., line	Char., line, block
Multipoint operation (pollable/addr.)	No	No	No	No	Opt.
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C	RS-232-C	RS-232-C, 20 mA	RS-232-C, 20 mA	RS-232-C, 20/60 mA
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Purchase only	Purchase only	Purchase only	Purchase only	Purchase only
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,595	995	1,095	1,095	1,625
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	—	—	2/80	4/80	6/77
Display units installed to date	—	—	—	—	—
Serviced by	Factory	Factory	Factory	Factory	Factory
COMMENTS	Emulates DG 5053 Dasher; enhanced operation offers 32-line graphics, 8 program function keys, smooth scroll, user-adjustable clock, metal case reduces REI and EMI.	Emulates DEC VT-52, ADDS 520, 580 or Hazeltine 1500; prog. function keys on VT-52, printer port on VT-52 & ADDS 520; metal case; green phosphor option.	Compatible with I-200 and ADM-3A control set. Solid-state keyboard; metal case; 32 character line drawing set std., Z-80 microprocessor based.	Compatible with I-200 and ADM-3A; foreign character sets available; 32 char. line drawing set; 64 block char. set; metal case; Z-80 microprocessor based.	Model GT-400/B compatible with Burroughs TD830. GT-400 optionally emulates Hazeltine 2000. Metal case; solid-state keyboard; line drawing set opt.; Z-80 microprocessor.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Harris 8000 Series	Harris 9200	Hazeltine 1410	Hazeltine 1420	Hazeltine 1500 Series
TERMINAL DESCRIPTION					
Stand-alone or cluster	Cluster	Cluster	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	32	32	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	3270 BSC & SDLC	3270 BSC & SNA	No	No	No
Teletype compatibility	No	No	Yes	Yes	Std.
Other compatibility	Burr., HIS, Univac	No	No	No	No
User programmable	No	No	No	No	No
Self diagnostics	Std.	Std.	No	No	No
DISPLAY PARAMETERS					
Display positions,,chars./display	Up to 1920	Up to 3440	1920	1920	1920
Display arrangement, lines x chars./line	12 x 40/80, 24 x 80	12 x 80, 24 x 80, 32 x 80, 43 x 80	24 x 80	24 x 80	24 x 80
Display area, h x w, inches	12-in. diag.	15-in. diag.	6 x 9	6 x 9	6 x 9
Total displayable symbols	96/128 ASCII	128	64 ASCII	96	95
Symbol formation	7 x 9 dot matrix	7 x 13 dot matrix	5 x 7	5 x 9	7 x 10 dot matrix
Color	No	No	No	No	No
Reverse video	No	No	No	No	Std.
Programmable brightness levels	2 std.	Std.	No	Yes	Std.
Character and/or field blinking	Std.	Std.	No	Char. std.	No
Roll	—	No	Up std.	Up std.	Up std.
Paging	No	No	No	1	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	No	No	—
Addressable/readable cursor	Std.	Std.	Std.	Both std.	Both std.
Protected format	Std.	Std.	No	No	Std.; 1510 & 1520
Partial screen transmit	Std.	Std.	No	No	Std.; 1510 & 1520
Tabulation	Std.	Std.	No	Forward/back std.	Std.
Character insert/delete	Yes	Std.	No	No	No
Line insert/delete	Yes	Std.	No	Std.	Std.
Erase	Char., line, screen	—	Screen std.	Line & screen std.	Char., line, screen std.
Character repeat	Std.	Std.	No	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter, data entry, others	Typewriter	Teletype	Typewriter	Typewriter
Character/code set	ASCII, EBCDIC	128 ASCII/ EBCDIC	128 ASCII	128 ASCII	128 ASCII
Detachability	Std.	Std.	No	No	No
Program function keys	Up to 36	Up to 24	No	12 std.	Std., 1510 & 1520
Numeric keypad	Std.	Std.	Std.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	Dual drive opt.	No	No	No	No
Serial printer	45, 60, 120, 165 cps	80, 130, 180 cps	No	Interface opt. only	RS-232-C interface
Other devices	Hard disk, 200 lpm line printer	300 lpm band printer, light pen, mag. stripe reader	No	—	—
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Async./sync.	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	BSC, SDLC	BSC/SNA	ASCII	None	ASCII
Code	ASCII, EBCDIC	ASCII/ EBCDIC	ASCII	ASCII	ASCII
Speed, bits/second	1200 to 9600	Up to 9600	Up to 9600	Up to 9600	Up to 19,200
Format: character, line, or block	Character/block	Character, block	Character	Character	Char., line, block
Multipoint operation (pollable/addr.)	Std.	Std.	No	No	No
Auto answer	Opt.	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C	RS-232-C	RS-232-C	RS-232-C std., 20 mA opt.	RS-232-C, 20 mA dc current loop
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Contact vendor for pricing	Contact vendor for pricing	—	—	—
Display station, 2 year lease, $/mo.			—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	—	—	900	995	1,225-1,650
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	1976	5/80	7/78	10/79	6/7 1977
Display units installed to date	4200 systems (U.S.)	—	See comments	—	See 1410
Serviced by	Harris Systems	Harris Systems	Hazeltine (factory)	Hazeltine	TRW/Hazeltine
COMMENTS	An interactive terminal system with enhanced capabilities for local format storage & queued transaction handling.		Said to be lowest IC-count terminals in industry; based on microcomputer technology; two-year warranty is standard; over 90,000 Hazeltine displays (all models) have been delivered.	A two-year warranty is standard.	1500 Conversational Terminal; 1510 Buffered Terminal; 1520 Buffered Terminal with additional 2K Print Buffer.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Hazeltine Executive 80 Model 20	Hazeltine Executive 80 Model 30	Hewlett-Packard 2621A/P	Hewlett-Packard 2622	Hewlett-Packard 2624A
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	No	No
Teletype compatibility	Std.	Std.	Std.	Std.	Std.
Other compatibility	No	No	No	No	No
User programmable	No	No	No	No	No
Self diagnostics	Std.	Std.	Std.	Std.	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	1920, 3168	1920, 3168	1920	1920	1920
Display arrangement, lines x chars./line	24 x 80; 24 x 132	24 x 80; 24 x 132	24 x 80	24 x 80	24 x 80
Display area, h x w, inches	11 x 8; 15" diag.	11 x 8; 15" diag.	12-in. diag.	6 x 8.5	6 x 8.5
Total displayable symbols	128	128	128 ASCII	128; line draw opt.	128; line draw opt.
Symbol formation	7 x 10 (5 x 9 132 col.)	7 x 10 (5 x 9 132 col.)	7 x 9 dot matrix	7 x 11 dot matrix	7 x 11 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	Std.	No	Std.	Std.
Programmable brightness levels	No	No	No	No	No
Character and/or field blinking	Std.	Std.	No	Char. std.	Char. std.
Roll	Std.	Std.	Up, down std.	Up & down std.	Up & down std.
Paging	1 page std.	2 pages std.	2 pages std.	2 pages std.	4 std., opt. to 9
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, Home-up, Home-down, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Std.	Std.
Addressable/readable cursor	Both std.	Both std.	Both std.	Both std.	Both std.
Protected format	Std.	Std.	No	Std.	Std.
Partial screen transmit	Std.	Std.	Char., line std.	No	No
Tabulation	Std.	Std.	Fwd./back std.	Std.	Std.
Character insert/delete	Std.	Std.	Std.	Std.	Std.
Line insert/delete	Std.	Std.	Std.	Std.	Std.
Erase	Std.	Std.	Char., line, screen std.	Char., line, screen std.	Char., line, screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	128 ASCII	128 ASCII	128 ASCII	128 ASCII	128 ASCII
Detachability	Opt.	Std.	Std.	Std.	Std.
Program function keys	8 std.	16 std.	8 std.	8 std.	8 std.
Numeric keypad	Std.	Std.	Embedded std.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	RS-232-C int. opt.	RS-232-C int. opt.	No	No	No
Diskette drive (floppy disk)	—	—	No	No	No
Serial printer	—	—	Integ. therm. (2621P)	No	Impact, non-impact
Other devices	—	—	No	Integral thermal printer opt.	Integral thermal printer opt.
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Full-duplex	Full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	—	—	ASCII	ASCII	ASCII
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Speed, bits/second	Up to 19,200	Up to 19,200	110 to 9600	110 to 9600	110 to 9600
Format: character, line, or block	Character, block	Char., line, block	Char., line	Char., line, block	Char., line, block
Multipoint operation (pollable/addr.)	No	No	No	No	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C, 20 mA	RS-232-C, 20 mA	RS-232-C	RS-232-C, 20 mA	RS-232-C, 20 mA
Integral modem	No	No	No	Opt.	Opt.
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	—	—	83/146	Purchase only	Purchase only
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,165	1,815	1,495/2,650	2,075	2,890
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	2/81	2/81	10/78	4/81	10/80
Display units installed to date	—	—	—	—	—
Serviced by	Hazeltine & TRW	Hazeltine & TRW	HP	HP	HP
COMMENTS	Enhanced video package includes 132 columns, smooth scrolling, double height/width char.; split screen std.; CRT tilt opt.	Enhanced video package includes 132 columns, smooth scrolling, double height/width char.; split screen,CRT tilt std.; opt. serial parallel buffered printer port.	Interactive terminal with enhanced high-resolution display, 8 screen-labeled control keys, soft configuration, and integral 120-cps thermal printer (2621P only).		Includes 11 advanced editing checks.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Hewlett-Packard 2626A	Hewlett-Packard 2645A	Honeywell VIP 7100/7105	Honeywell VIP 7200	Honeywell VIP 7700R/ 7705R
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	No	No
Teletype compatibility	Std.	Std.	Std.	Std.	No
Other compatibility	No	No	No	No	Honeywell
User programmable	No	No	No	No	No
Self diagnostics	Std.	Std.	No	No	Yes
DISPLAY PARAMETERS					
Display positions,. chars./display	1920	1920	960	1920	1920
Display arrangement, lines x chars./line	24 x 80	24 x 80	12 x 80	24 x 80	24 x 80
Display area, h x w, inches	6 x 8.5	5 x 10	12-in. diag.	12-in. diag.	12-in. diag.
Total displayable symbols	128; line draw opt.	128; 512 opt.	63/95	64/95	63/95
Symbol formation	7 x 11 dot matrix	7 x 9 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	Std.	No	No	No
Programmable brightness levels	No	2 opt.	No	Std.	No
Character and/or field blinking	Char. std.	Opt.	No	Opt.	Both std.
Roll	Up, down, hor. std.	Std., up & down	Std., up only	Std. up only	No
Paging	Std.	Std.	No	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	L, R, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	No	Std.	Std.
Addressable/readable cursor	Both std.	Both std.	No	Std.	Addressable only
Protected format	Std.	Std.	No	No	Std.
Partial screen transmit	Std.	Std.	No	No	Std.
Tabulation	Std.	Std.	No	No	Std.
Character insert/delete	Std.	Std.	No	No	Std.
Line insert/delete	Std.	Std.	No	No	Std.
Erase	Char., line, screen std.	Char., line, screen std.	Screen std.	Line & screen std.	Char., line, screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	128 ASCII	128 ASCII	128 ASCII	128 ASCII	96 ASCII
Detachability	Std.	Std.	Std.	Std.	Std.
Program function keys	8 std.	8 std.	Std.	14 std.	Std.
Numeric keypad	Std.	Std.	No	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	Dual drive	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Impact, non-impact	Impact/non-impact	No	No	Impact
Other devices	Integral thermal printer opt.	Audible alarm std.	Audible alarm std.	Auxiliary port connection	No
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Full-duplex	Half/full-duplex	Half-duplex
Technique	Async./sync.	Async./sync.	Asynchronous	Asynchronous	Synchronous
Communications protocol	ASCII/BSC	ASCII/BSC	ASCII	ASCII	Honeywell
Code	ASCII	ASCII/EBCDIC	ASCII	ASCII	ASCII
Speed, bits/second	110 to 9600	110 to 9600	75 to 9600	75 to 9600	2400/4800/9600
Format: character, line, or block	Char., line, block	Block/char.	Char. only	Char./block	Block only
Multipoint operation (pollable/addr.)	Std.	Opt.	No	No	Std.
Auto answer	No	Opt.	No	No	Opt.
Auto call	No	No	No	No	No
Terminal interface	RS-232-C, 20 mA	RS-232-C, current loop	RS-232-C, CCITT, or 20/60 mA dc	RS-232-C, 20 mA current loop	RS-232-C, CCITT, or MIL STD 188
Integral modem	Opt.	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Purchase only	183	Purchase only	Purchase only	—
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	4,150	3,500	1,500	1,980	—
Controller, purchase, $	—	—	—	—	3,390-3,990
Date of first production delivery	7/80	10/76	12/76	5/77	3/77
Display units installed to date	—	See comments	Over 2000	Over 5000	Over 5000
Serviced by	HP	HP	Honeywell	Honeywell	Honeywell
COMMENTS	Includes multiple workspaces/ windows.	Over 45,000 264X terminals have been installed.		Data Entry Model 7207 available with Honeywell DEF II Level 6 software.	Up to 32 units can be multidropped on a single line.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Honeywell VIP 7801/7802	Honeywell VIP 7804/7805	Honeywell/ Incoterm SPD 315 & 315 LFC	Honeywell/ Incoterm SPD 320/330 & SPD 320/ 320 LFC	Human Designed Systems Concept 100
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Cluster	Cluster	Stand-alone
Maximum displays/controller	1	1 to 32	4	32	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	3270 SNA/BSC/SDLC	3270 BSC, SDLC	No
Teletype compatibility	Std.	No	No	No	Std.
Other compatibility	No	Honeywell	No	No	No
User programmable	No	No	No	No	Via user-defined parameters
Self diagnostics	Std.	Std.	Std.	No	No
DISPLAY PARAMETERS					
Display positions, chars./display	2000	2000	960/1920	960/1920	1920
Display arrangement, lines x chars./line	25 x 80	25 x 80	12/24 x 40/80	12/24 x 40/80	24 x 80
Display area, h x w, inches	12-in./15-in. diag.	12-in./15-in. diag.	6.5 x 9	6.5 x 9	12-in. diag.
Total displayable symbols	106	106	64	64	128 ASCII, 384 user
Symbol formation	7 x 10 dot matrix	7 x 10 dot matrix	7 x 10 dot matrix	7 x 10 dot matrix	7 x 11 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	Std.	No	No	Std.
Programmable brightness levels	Std.	Std.	2 std.	2 std.	3 std.
Character and/or field blinking	Std.	Std.	Std.	Std.	Char. std.
Roll	Std.	Std.	No	No	Std.; up & down
Paging	No	No	No	No	4 pages opt.
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Opt.	Opt.	Std.	Std.	Std.
Addressable/readable cursor	Both std.	Both std.	Std.	Std.	Std.
Protected format	Std.	Std.	Std.	Std.	Std.
Partial screen transmit	Std.	Std.	Std.	Std.	Std.
Tabulation	Std.	Std.	Std.	Std.	Std. fwd./back/field
Character insert/delete	Std.	Std.	Std.	Std.	Std.
Line insert/delete	Std.	Std.	Std.	Std.	Std.
Erase	EOP, line, field std.	EOP, line, field std.	Char., line, screen std.	Char., line, screen std.	Char., line, screen, memory std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	128 ASCII	128 ASCII	EBCDIC/ASCII	EBCDIC/ASCII	128 ASCII
Detachability	Std.	Std.	Std.	Std.	Std.
Program function keys	12 std.	12 std.	24 std.	24 std.	8 std.; 11 opt.
Numeric keypad	Std.	Std.	Std.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	Single	Single	No
Diskette drive (floppy disk)	No	No	Dual on LFC	Dual on LFC	No
Serial printer	Opt.	Opt.	Impact	Impact	No
Other devices	Audible alarm, auxiliary port	Audible alarm, keylock	Audible alarm std.	Audible alarm std.	Opt. peripheral interface
TRANSMISSION PARAMETERS					
Mode	Full-duplex-TWA	Half-duplex-TWA	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Synchronous	Synchronous	Synchronous	Asynchronous
Communications protocol	None	Honeywell	BSC/SDLC	BSC/SDLC	ASCII
Code	ASCII	ASCII	ASCII/EBCDIC	ASCII/EBCDIC	ASCII
Speed, bits/second	19,200	Up to 19,200	1200 to 9600	1200 to 9600	50 to 9600
Format: character, line, or block	Char., line, page	Block	Block only	Block only	Char./block
Multipoint operation (pollable/addr.)	No	Std.	Std.	Std.	No
Auto answer	Std.	Std.	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C, 20 mA	RS-232-C	RS-232-C	RS-232-C	RS-232-C, 20 mA opt.
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	—	—	Contact vendor	Contact vendor	Purchase only
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	2,885-3,195	3,060-3,360	—	—	1,575-2,500
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	—	—	1978	1974	3/78
Display units installed to date	—	—	—	—	—
Serviced by	Honeywell	Honeywell	Honeywell	Honeywell AFID	HDS
COMMENTS	25th display line for status and bi-directional conversation. Optional 72 line x 80 character scrolling storage, 100 line buffered print adapter, graphics available.	Terminals can be daisy-chained. Optional scrolling with 48 line storage; 100 line buffer and print adapter; 25th display line for status/communication.		Incoterm was acquired by Honeywell early in 1978.	Business graphics std.; windowing capability std.; networking; programmable function keys.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Human Designed Systems Concept 108	Human Designed Systems Concept APL	Human Designed Systems Concept APL/8	Human Designed Systems Concept 520 Series	Informer 301 Series
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	No	No
Teletype compatibility	Std.	Std.	Std.	Std.	Std.
Other compatibility	No	No	No	DEC VT-52	No
User programmable	Via user-defined parameters	Via user-defined parameters	Via user-defined parameters	Via user-defined parameters	No
Self diagnostics	Std.	No	Std.	No	No
DISPLAY PARAMETERS					
Display positions, chars./display	1920, 3168	1920	1920, 3168	1920	512; 1024 opt.
Display arrangement, lines x chars./line	24 x 80; 24 x 132	24 x 80	24 x 80; 24 x 132	24 x 80	16 x 32; 16 x 64 opt.
Display area, h x w, inches	12-in. diag.	12-in. diag.	12-in. diag.	12-in. diag.	3.5 x 4.5
Total displayable symbols	128 ASCII	128 ASCII/APL	128 ASCII/APL	128 ASCII, 384 user	64 ASCII; 96 opt.
Symbol formation	7 x 9 dot matrix	7 x 11 dot matrix	7 x 9 dot matrix	7 x 11 dot matrix	5 x 7 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	Std.	Std.	Std.	No
Programmable brightness levels	3 std.	3 std.	3 std.	3 std.	2 std.
Character and/or field blinking	Char. std.	Char. std.	Char. std.	Char. std.	Char. opt.
Roll	Up & down std.	Std.; up & down	Up & down std.	Std.; up & down	Up std.
Paging	4 std., 8 opt.	4 pages opt.	4 std., 8 opt.	4 pages opt.	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Std.	Opt.
Addressable/readable cursor	Both std.	Std.	Both std.	Std.	Addressable only
Protected format	Std.	Std.	Std.	Std.	Std.
Partial screen transmit	Std.	Std.	Std.	Std.	No
Tabulation	Std. fwd/back/field	Std. fwd./back/field	Std. fwd/back/field	Std. fwd./back/field	No
Character insert/delete	Std.	Std.	Std.	Std.	No
Line insert/delete	Std.	Std.	Std.	Std.	No
Erase	Char., line, screen, memory std.	Char., line, screen, memory std.	Std.	Char., line, screen memory std.	Screen std.
Character repeat	Std.	Std.	Std.	Std.	Opt.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	128 ASCII	128 ASCII/APL	128 ASCII/APL	128 ASCII; opt. APL	ASCII
Detachability	Std.	Std.	Std.	Std.	Opt.
Program function keys	8 std., 11 opt.	8 std., 11 opt.	8 std., 11 opt.	8 std., 11 opt.	10 std.
Numeric keypad	Std.	Std.	Std.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	No	No	No	No	No
Other devices	Opt. peripheral interface	Opt. peripheral interface	Opt. peripheral interface	Opt. peripheral interface	Audible alarm std. Composite video opt.
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	ASCII	—	ASCII	—	ASCII
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Speed, bits/second	50 to 9600	50-9600	50 to 9600	50-9600	110 to 9600
Format: character, line, or block	Char., block	Char., block	Char., block	Char., block	Character
Multipoint operation (pollable/addr.)	No	No	No	No	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C, 20 mA	RS-232-C, 20 mA opt.	RS-232-C, 20 mA	RS-232-C, 20 mA opt.	RS-232-C; 20 mA opt.
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	—	—	—	—	—
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,575-2,120	1,400-2,030	1,750-2,145	1,360-1,675	850-1,895
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	—	3/78	—	1/80	10/72
Display units installed to date	—	—	—	—	—
Serviced by	HDS	HDS	HDS	HDS	Informer, third party
COMMENTS	Business graphics, windowing, allocatable memory for display or function keys std.	Business graphics std.; windowing capability std.; networking; programmable function keys.	Business graphics, windowing, allocatable memory for display or function keys std.	Business graphics std.; windowing capability std.; networking; programmable function keys.	

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Informer 302/304 Series	Intelligent Systems Intecolor 3600 Series	Intelligent Systems Intecolor 8000 Series	IBM 3101 Display Terminal	IBM 3271/3277 Information Display System
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Cluster
Maximum displays/controller	1	1	1	NA	32
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	No	3270 System
Teletype compatibility	Std.	Std.	Std.	Std.	No
Other compatibility	See comments	No	ADDS, Haz. 1500	No	No
User programmable	No	Via user-defined firmware	Via user-defined firmware	No	No
Self diagnostics	No	No	Opt.	—	Via host DEMF software
DISPLAY PARAMETERS					
Display positions, chars./display	512 to 1920	1024/2048	3840/1920	190	480/1920
Display arrangement, lines x chars./line	16 x 32, 12 x 40 16 x 64, 24 x 80	16/32 x 64 (reg./ double-hgt. ch.)	48/24 x 80 (reg./ double-hgt. ch.)	24 x 80; 25th status line	12 x 40; 24 x 80
Display area, h x w, inches	3.5x4.5; 5.25x6.75	13-in. diag.	13-, 19-, 25-in. diag.	—	14-in. diag.
Total displayable symbols	64; 128 ASCII	64; 192 opt.	64; 192 opt.	128	64 std.; 120 APL opt.
Symbol formation	5x7;7x9 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	7 x 14 dot matrix	7 x 9 dot matrix
Color	No	8 fore; 8 back std.	8 fore.; 8 back. std.	No	No
Reverse video	No; Yes	Std.	Std.	Yes	No
Programmable brightness levels	2 std.	No	No	—	2 std.
Character and/or field blinking	No; char. std.	Std.	Std.	Yes	No
Roll	No; up & down std.	Up std.	Up std.	—	No
Paging	No; up to 4 pages std.	3 pages opt.	No	—	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	Yes	U, D, L, R
Cursor blinking	Opt.; selectable	Std.	Std.	Yes	No
Addressable/readable cursor	Addressable; both std.	Both std.	Std.	—	Addressable only
Protected format	Std.	Opt.	Opt.	Yes	Std.
Partial screen transmit	Std.	Std.	Std.	No	Std.
Tabulation	Forward/back	Fwd. std.	Fwd. std.	Yes	Std.
Character insert/delete	No; yes	Opt.	Opt.	Yes—Mdl.20,22,23	Std.
Line insert/delete	No; yes	Opt.	Opt.	Yes—Mdl.20,22,23	No
Erase	Screen, unprotected; char., line	Screen std.; char., line std.	Char., line, screen std.	Yes—Mdl.20,22,23	Char., line, screen std.
Character repeat	Opt.; std.	Opt.	Std.	Yes	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	IBM Selectric	Several
Character/code set	ASCII	192 ASCII	192 ASCII	ASCII	ASCII/EBCDIC
Detachability	Opt.; 128 opt.	No	Std.	Std.	Std.
Program function keys	10 std.; 28 std.	16 opt.	16 opt.	8	Std.
Numeric keypad	Std.	Opt.	Opt.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	Opt.	Opt.	No	No
Serial printer	No; RS-232-C interf.	Opt.	Opt.	Yes	Impact
Other devices	Audible alarm; composite video	RS-232C interface std.	RS-232C interface std.	No	Audible alarm, I.D. reader, light pen, keylock
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	ASCII	ASCII	ASCII	ASCII	BSC/SDLC
Code	ASCII	ASCII	ASCII	ASCII	ASCII/EBCDIC
Speed, bits/second	110-9600;50-19,200	110-9600	110 to 9600	Up to 9600	1200 to 9600
Format: character, line, or block	Block; char., line	Char., std., block opt.	Char. std., block opt.	Character; block	Block only
Multipoint operation (pollable/addr.)	Std.; selectable	No	No	No	Std.
Auto answer	No	No	No	—	No
Auto call	No	No	No	—	No
Terminal interface	RS-232C; 20 mA opt.	RS-232C std.	RS-232C std., 20 mA opt.	RS-232-C, RS-422A, 20 mA current loop	RS-232C
Integral modem	No	No	No	—	No
Integral acoustic coupler	No	No	No	—	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	—	Purchase only	Purchase only	—	92-185
Display station, 2 year lease, $/mo.	—	—	—	—	78-158
Controller, 1 year lease, $/mo.	—	—	—	—	173-705
Controller, 2 year lease, $/mo.	—	—	—	—	147-602
Display station, purchase, $	1,595-1,995; 1,350	1,995	1,895	1,295-1,520	2,094-3,468 3,315-9,128
Controller, purchase, $	—	—	—	—	2nd qtr. 1972
Date of first production delivery	10/74; 12/78	6/79	4/76	See comments	—
Display units installed to date	—	1000	Over 10,000	—	IBM
Serviced by	Informer, third party	Factory, depot or third party	Factory, depot or third party	IBM	
COMMENTS	302 Series specs appear as the first entry in the column. 304 opt. emulation: DEC VT-52, TEC 425, NCR 101 & 301, Data General 6053, ADDS Regent 100 and Lear Siegler ADM-1A	Full 128 x 128 color graphics std.	Features high resolution graphics: 160 x 192 std., 384 x 480 opt.; powered by an Intel 8080 microprocessor	Models 10 & 12, November 1979; Model 13, January 1980; Models 20, 22 and 23, March 1980.	See Report C21-491-101 for details

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SUPPLIER AND MODEL	IBM 3274/3278 Information Display System	IBM 3275 Information Display System	IBM 3276/ 3278-3279 Information Display System	IBM 5250 Information Display System	Intertec Data Systems Intertube III
TERMINAL DESCRIPTION					
Stand-alone or cluster	Cluster	Stand-alone	Cluster	Either	Stand-alone
Maximum displays/controller	32	1	8	Up to 9	1
Transportability	No	No	No	No	No
IBM compatibility	3270 System	3270 System	3270 System	SDLC	No
Teletype compatibility	No	No	No	No	Std.
Other compatibility	No	No	No	No	No
User programmable	No	No	No	No	Via user-defined parameters
Self diagnostics	Via host DEMF software	Via host DEMF software	Via host DEMF software	Yes	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	See comments	1920	See comments	960, 1920	2000
Display arrangement, lines x chars./line	12 x 40; 12/24/ 32/43 x 80	24 x 80 —	12/24/32/43 x 80	12/24 x 80	25 x 80
Display area, h x w, inches	14-in. diag.	14-in. diag.	14-in. diag.	12-/15-in. diag.	12-in. diag.
Total displayable symbols	64; 96; 120 APL	64 std.; 120 APL opt.	96; 120 APL opt.	96;188 Multi-Nat'l opt.	128 ASCII
Symbol formation	7 x 9/14, 7 x 11	7 x 9 dot matrix	7 x 9/14, 7 x 11	8 x 16 dot matrix	8 x 10
Color	No	No	3279 only	No	No
Reverse video	No	No	No	Std.	Std.
Programmable brightness levels	2 std.	2 std.	2 std.	Std.	Std.
Character and/or field blinking	No	No	No	Std.	Std.
Roll	No	No	No	Std.	Std.
Paging	No	No	No	No	Std.
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	No	No	Std.	Std.
Addressable/readable cursor	Addressable only	Addressable only	Addressable only	Both std.	Std.
Protected format	Std.	Std.	Std.	Std.	Std.
Partial screen transmit	Std.	Std.	Std.	Std.	Std.
Tabulation	Std.	Std.	Std.	Std.	Std.
Character insert/delete	Std.	Std.	Std.	Std.	Std.
Line insert/delete	No	No	No	No	Std.
Erase	Char., line, screen std.	Char., line, screen std.	Char., line, screen std.	Char., field, screen std.	Std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Several	Several	Several	Typewriter	Typewriter
Character/code set	ASCII/EBCDIC	ASCII/EBCDIC	ASCII/EBCDIC	EBCDIC	ASCII
Detachability	Std.	Std.	Std.	Std.	No
Program function keys	Std.	Opt.	Opt.	24 std.	14 std.
Numeric keypad	Std.	Std.	Std.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Impact	Impact	Impact	Impact	RS-232C
Other devices	Aud. alarm, mag. slot reader, light pen, keylock, I.D. reader, Encrypt/ Decrypt	Audible alarm, I.D. card reader, light pen, keylock	Audible alarm, mag. slot reader, light pen, keylock, Encrypt/Decrypt	Mag. stripe reader, selector light pen, aud. alarm, keylock	Audible alarm std.
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Synchronous	Synchronous	Synchronous	Synchronous	Asynchronous
Communications protocol	BSC/SDLC	BSC/SDLC	BSC/SDLC	BSC/SDLC	ASCII
Code	ASCII/EBCDIC	ASCII/EBCDIC	ASCII/EBCDIC	EBCDIC	ASCII
Speed, bits/second	1200 to 9600	1200 to 9600	1200 to 9600	1200 to 9600	110 to 9600
Format: character, line, or block	Block only	Block only	Block only	Block only	Char., line, block
Multipoint operation (pollable/addr.)	Std.	Std.	Std.	Yes	Opt.
Auto answer	No	No	No	Yes	Opt.
Auto call	No	No	No	No	Opt.
Terminal interface	RS-232C	RS-232C	RS-232C	RS-232C, twinax cable	RS-232C
Integral modem	No	No	No	Opt.	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	76-133	150-207	76-150	99-124	—
Display station, 2 year lease, $/mo.	65-113	128-176	65-127	84-105	—
Controller, 1 year lease, $/mo.	385-872	—	187-316	203-261	—
Controller, 2 year lease, $/mo.	328-743	—	159-272	173-222	—
Display station, purchase, $	2,700-4,275	3,315-4,510	2,700-5,255	3,010-3,740	995
Controller, purchase, $	13,190-28,600	—	6,390-11,070	5,645-7,440	—
Date of first production delivery	2/78	2 qtr. 1972	2/78	1/78	8/78
Display units installed to date	—	—	—	—	Over 10,000
Serviced by	IBM	IBM	IBM	IBM	Intertec & third party
COMMENTS	Display positions available include 480, 960, 1920; 2560, and 3440; controller accommodates 3278 & 3277 display stations: see Report C21-491-101 for details	See Report C21-491-101 for details	Display positions available include 960, 1920, 2560, and 3440; see Report C21-491-101 for details	Workstations for IBM S/34, S/38, and Series/1; 5251-1/11 is remote cluster or local station; 5251-2/12 is remote cluster controller/station; 5252 is remote cluster or local dual station	Z-80 processor based; single board design; uses specially designed nonglare, high resolution CRT

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Informer 304 Series	Informer 401	Intelligent Systems Intecolor 3600 Series	Intelligent Systems Intecolor 8000 Series	Interaction Systems, Inc. TT-100
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	No	No
Teletype compatibility	Std.	Std.	Std.	Std.	Std.
Other compatibility	See comments	See comments	No	ADDS, Haz. 1500	No
User programmable	No	No	Via user-defined firmware	Via user-defined firmware	No
Self diagnostics	Std.	Std.	No	Opt.	No
DISPLAY PARAMETERS					
Display positions, chars./display	512 to 1920	1920	1024/2048	3840/1920	1920
Display arrangement, lines x chars./line	16 x 32, 12 x 40, 16 x 64, 24 x 80	24 x 80	16/32 x 64 (reg./double-hgt. ch.)	48/24 x 80 (reg./double-hgt. ch.)	24 x 80
Display area, h x w, inches	5.25 x 6.75	9-in. diag.	13-in. diag.	13-, 19-, 25-in. diag.	15-in. diag.
Total displayable symbols	128 ASCII	128	64; 192 opt.	64; 192 opt.	96 ASCII
Symbol formation	7 x 9 dot matrix	7 x 9 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	10 x 14 dot matrix
Color	No	No	8 fore; 8 back std.	8 fore.; 8 back. std.	No
Reverse video	Std.	Std.	Std.	Std.	Std.
Programmable brightness levels	2 std.	Std.	No	No	No
Character and/or field blinking	Char. std.	Std.	Std.	Std.	No
Roll	Up & down std.	Up std.	Up std.	Up std.	Up & down std.
Paging	Up to 4 pages std.	2 pages std.	3 pages opt.	No	2 pages std.
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Selectable	Std.	Std.	Std.	Std.
Addressable/readable cursor	Both std.	Both std.	Both std.	Std.	Addressable only
Protected format	Std.	Std.	Opt.	Opt.	No
Partial screen transmit	Std.	Std.	Std.	Std.	No
Tabulation	Fwd./back/std.	Fwd./back/std.	Fwd. std.	Fwd. std.	Forward std.
Character insert/delete	Std.	Std.	Opt.	Opt.	No
Line insert/delete	Yes	Std.	Opt.	Opt.	No
Erase	Char., line, screen std.	Char., line, screen std.	Screen std.; char., line std.	Char., line, screen std.	Char., line, screen std.
Character repeat	Std.	Std.	Opt.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Opt. typewriter
Character/code set	ASCII	128 ASCII	192 ASCII	192 ASCII	96 ASCII
Detachability	Opt.	Opt.	No	Std.	Std.
Program function keys	28 std.	8 std.	16 opt.	16 opt.	12 std.
Numeric keypad	Std.	Opt.	Opt.	Opt.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	Opt.	Opt.	No
Serial printer	RS-232-C interface	No	Opt.	Opt.	RS-232-C, 20 mA
Other devices	Audible alarm, composite video, bar code reader, light pen	Aux. port, printer port, audible alarm	RS-232-C interface std.	RS-232-C interface std.	Touch screen, audible alarm
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	ASCII	ASCII	ASCII	ASCII	ASCII
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Speed, bits/second	50 to 19,200	50 to 19,200	110-9600	110 to 9600	Up to 9600
Format: character, line, or block	Char., line, block	Char., block	Char., std., block opt.	Char. std., block opt.	Character
Multipoint operation (pollable/addr.)	Selectable	Opt.	No	No	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C, 20 mA opt., RS-422 opt.	RS-232-C std., 20 mA opt.,	RS-232-C std.	RS-232-C std., 20 mA opt.	RS-232-C
Integral modem	No	No	No	No	Opt.
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	—	Purchase only	Purchase only	Purchase only	—
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	2,195	1,350	1,995	2,560	4,000
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	12/78	1/81	6/79	4/76	4/80
Display units installed to date	—	—	1000	Over 10,000	Over 300
Serviced by	Informer, third party	Informer, third party	Factory, depot or third party	Factory, depot or third party	Interaction Systems
COMMENTS	Optional emulations: DEC VT-52, TEC 425, NCR 101 & 301, Data General 6053 ADDS Regent 100 and Lear Siegler ADM-1A.	Available with Lear Siegler, DEC, Hazeltine, and IBM 3101 compatibility.	Full 128 x 128 color graphics, dot addressability std.	Features high resolution graphics: 160 x 192 std., 384 x 480 opt.; powered by an Intel 8080 microprocessor.	Touch-sensitive display terminal. Requires no prior training. Touch with finger on screen, capacitance sensing; not mechanical.

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SUPPLIER AND MODEL	IBM 3101 Display Terminal	IBM 3271/3277 Information Display System	IBM 3274/3278 Information Display System	IBM 3275 Information Display System	IBM 3276/ 3278-3279 Information Display System
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Cluster	Cluster	Stand-alone	Cluster
Maximum displays/controller	NA	32	32	1	8
Transportability	No	No	No	No	No
IBM compatibility	No	3270 System	3270 System	3270 System	3270 System
Teletype compatibility	Std.	No	No	No	No
Other compatibility	No	No	No	No	No
User programmable	No	No	No	No	No
Self diagnostics	—	Via host DEMF software	Via host DEMF software	Via host DEMF software	Via host DEMF software
DISPLAY PARAMETERS					
Display positions, chars./display	190	480/1920	See comments	1920	See comments
Display arrangement, lines x chars./line	24 x 80; 25th status line	12 x 40; 24 x 80	12 x 40; 12/24/ 32/43 x 80	24 x 80 —	12/24/32/43 x 80
Display area, h x w, inches	—	14-in. diag.	14-in. diag.	14-in. diag.	14-in. diag.
Total displayable symbols	128	64 std.; 120 APL opt.	64; 96; 120 APL	64 std.; 120 APL opt.	96; 120 APL opt.
Symbol formation	7 x 14 dot matrix	7 x 9 dot matrix	7 x 9/14, 7 x 11	7 x 9 dot matrix	7 x 9/14, 7 x 11
Color	No	No	No	No	3279 only
Reverse video	Yes	No	No	No	No
Programmable brightness levels	—	2 std.	2 std.	2 std.	2 std.
Character and/or field blinking	Yes	No	No	No	No
Roll	—	No	No	No	No
Paging	—	No	No	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	Yes	U, D, L, R	U, D, L, R, H, Rt.	U, D, L, R	U, D, L, R, H, Rt.
Cursor blinking	Yes	No	Std.	No	No
Addressable/readable cursor	—	Addressable only	Addressable only	Addressable only	Addressable only
Protected format	Yes	Std.	Std.	Std.	Std.
Partial screen transmit	No	Std.	Std.	Std.	Std.
Tabulation	Yes	Std.	Std.	Std.	Std.
Character insert/delete	Yes—Mdl.20,22,23	Std.	Std.	Std.	Std.
Line insert/delete	Yes—Mdl.20,22,23	No	No	No	No
Erase	Yes—Mdl.20,22,23	Char., line, screen std.	Char., line, screen std.	Char., line, screen std.	Char., line, screen std.
Character repeat	Yes	Std.	Std.	Std.	Std
KEYBOARD PARAMETERS					
Style	IBM Selectric	Several	Several	Several	Several
Character/code set	ASCII	ASCII/ EBCDIC	ASCII/ EBCDIC	ASCII/EBCDIC	ASCII/ EBCDIC
Detachability	Std.	Std.	Std.	Std.	Std.
Program function keys	8	Std.	Std.	Opt.	Opt.
Numeric keypad	Std.	Std.	Std.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Yes	Impact	Impact	Impact	Impact
Other devices	No	Audible alarm, I.D. reader, light pen, keylock	Aud. alarm, mag. slot reader, light pen, keylock, I.D. reader, Encrypt/ Decrypt	Audible alarm, I.D. card reader, light pen, keylock	Audible alarm, mag. slot reader, light pen, keylock, Encrypt/Decrypt
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Synchronous	Synchronous	Synchronous
Communications protocol	ASCII	BSC/SDLC	BSC/SDLC	BSC/SDLC	BSC/SDLC
Code	ASCII	ASCII/ EBCDIC	ASCII/ EBCDIC	ASCII/EBCDIC	ASCII/ EBCDIC
Speed, bits/second	Up to 9600	1200 to 9600	1200 to 9600	1200 to 9600	1200 to 9600
Format: character, line, or block	Character; block	Block only	Block only	Block only	Block only
Multipoint operation (pollable/addr.)	No	Std.	Std.	Std.	Std.
Auto answer	—	No	No	No	No
Auto call	—	No	No	No	No
Terminal interface	RS-232-C, RS-422A, 20 mA current loop	RS-232-C	RS-232-C	RS-232-C	RS-232-C
Integral modem	—	No	No	No	No
Integral acoustic coupler	—	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Purchase only	102-207	85-177	167-142	85-165
Display station, 2 year lease, $/mo.	—	87-176	72-150	142-196	72-140
Controller, 1 year lease, $/mo.	—	193-776	201-954	—	208-280
Controller, 2 year lease, $/mo.	—	164-661	171-812	—	177-237
Display station, purchase, $	1,295-1,520	1,779-2,949	2,700-11,725	2,820-3,835	2,700-5,755
Controller, purchase, $	—	2,820-7,758	6,450-26,980	—	6,390-8,820
Date of first production delivery	See comments	2nd qtr. 1972	2/78	2 qtr. 1972	2/78
Display units installed to date	—	—	—	—	—
Serviced by	IBM	IBM	IBM	IBM	IBM
COMMENTS	Models 10 & 12, November 1979; Model 13, January 1980; Models 20, 22 and 23, March 1980.		Display positions available include 480, 960, 1920; 2560, and 3440; controller accommodates 3278 & 3277 display stations.		Display positions available include 960, 1920, 2560, and 3440.

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SUPPLIER AND MODEL	IBM 5250 Information Display System	Intertec Data Systems Intertube III	Intertec Data Systems Emulator	ITT Courier 270	ITT Courier 275
TERMINAL DESCRIPTION					
Stand-alone or cluster	Either	Stand-alone	Stand-alone	Cluster	Stand-alone
Maximum displays/controller	Up to 9	1	1	32	—
Transportability	No	No	No	No	No
IBM compatibility	SDLC	No	No	3270, full line	IBM 3275
Teletype compatibility	No	Std.	Std.	No	No
Other compatibility	No	No	See comments	No	No
User programmable	No	Via user-defined parameters	Via user-defined parameters	No	No
Self diagnostics	Yes	Std.	Std.	Std.	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	960, 1920	2000	1920	480 to 3564	480, 960, 1920
Display arrangement, lines x chars./line	12/24 x 80	25 x 80	24 x 80	12 x 40; 12, 24, 32, 43 x 80; 27 x 132	12 x 40; 12, 24, 32, or 43 x 80
Display area, h x w, inches	12-/15-in. diag.	12-in. diag.	12-in. diag.	7 x 10	7 x 10
Total displayable symbols	96;188 Multi-Nat'l opt.	128 ASCII	128 ASCII	64 std., 96 opt.	64 std., 96 opt.
Symbol formation	8 x 16 dot matrix	8 x 10	8 x 10	7 x 9/12 dot matrix	7 x 9 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	Std.	Std.	Opt., cursor only	No
Programmable brightness levels	Std.	Std.	Std.	2 std.	2 std.
Character and/or field blinking	Std.	Std.	Std.	Field opt.	Field opt.
Roll	Std.	Std.	Std.	No	No
Paging	No	Std.	Std.	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Opt.	Opt.
Addressable/readable cursor	Both std.	Std.	Std.	Both std.	Both std.
Protected format	Std.	Std.	Std.	Std.	Std.
Partial screen transmit	Std.	Std.	Std.	Std.	Std.
Tabulation	Std.	Std.	Std.	Std.	Std.
Character insert/delete	Std.	Std.	Std.	Std.	Std.
Line insert/delete	No	Std.	Std.	No	No
Erase	Char., field, screen std.	Std.	Std.	Char., line, screen std.	Char., line, screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter, data entry, APL, console	Typewriter, data entry
Character/code set	EBCDIC	ASCII	ASCII	64 ASCII, 96 EBC	64 ASCII, 96 EBC
Detachability	Std.	No	No	Std.	Std.
Program function keys	24 std.	14 std.	14 std.	12 std., 24 opt.	6 std., 12 opt.
Numeric keypad	Std.	Std.	Std.	Opt.	Opt.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	Single	No
Serial printer	Impact	RS-232-C	RS-232-C	Impact	Impact
Other devices	Mag. stripe reader, selector light pen, aud. alarm, keylock	Audible alarm std.	Audible alarm std.	—	—
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half-duplex	Half-duplex
Technique	Synchronous	Asynchronous	Asynchronous	Synchronous	Synchronous
Communications protocol	BSC/SDLC	ASCII	ASCII	BSC, SNA SDLC	BSC
Code	EBCDIC	ASCII	ASCII	ASCII, EBCDIC	ASCII, EBCDIC
Speed, bits/second	1200 to 9600	110 to 9600	110 to 9600	9600	To 9600
Format: character, line, or block	Block only	Char., line, block	Char., block	Block	Block
Multipoint operation (pollable/addr.)	Yes	Opt.	Opt.	Std.	Std.
Auto answer	Yes	Opt.	No	No	No
Auto call	No	Opt.	No	No	Yes
Terminal interface	RS-232-C, twinax cable	RS-232-C	RS-232-C	RS-232-C	RS-232-C
Integral modem	Opt.	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	107-134	—	—	Contact vendor	Contact vendor
Display station, 2 year lease, $/mo.	91-114	—	—	Contact vendor	Contact vendor
Controller, 1 year lease, $/mo.	219-274	—	—	Contact vendor	Contact vendor
Controller, 2 year lease, $/mo.	187-239	—	—	Contact vendor	Contact vendor
Display station, purchase, $	3,010-3,740	895	895	Contact vendor	Contact vendor
Controller, purchase, $	5,645-7,440	—	—	—	—
Date of first production delivery	1/78	8/78	3/80	1974	1974
Display units installed to date	—	—	—	—	—
Serviced by	IBM	Intertec & third party	Intertec & third party	ITT Courier	ITT Courier
COMMENTS	Workstations for IBM S/34, S/38, and Series/1; 5251-1/11 is remote cluster or local station; 5251-2/12 is remote cluster controller/station; 5252 is remote cluster or local dual station.	Z-80 processor based; single board design; uses specially designed non-glare, high resolution CRT; also features local editing capability.	Emulates DEC VT-52, Lear Siegler ADM-3A, Hazeltine 1500 series, Soroc 120; all emulations keyboard selectable.	Fully compatible with IBM 3270 Information Display System including 3271/2/4/6/7/8.	

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	ITT Courier 277	ITT Courier 278	ITT Courier 279	ITT Courier 7700	ITT Courier 7750
TERMINAL DESCRIPTION					
Stand-alone or cluster	Cluster	Cluster	Cluster	Cluster	Either
Maximum displays/controller	32	32	32	32	4
Transportability	No	No	No	No	No
IBM compatibility	IBM 3277	IBM 3278	IBM 3279-2A	No	No
Teletype compatibility	No	No	No	No	No
Other compatibility	No	No	No	HIS VIP 7700/7760	HIS VIP 7700/7760
User programmable	No	No	No	No	No
Self diagnostics	Std.	Std.	Std.	Std.	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	480, 1920	1920, 3440	1920	960/1920	960/1920
Display arrangement, lines x chars./line	12 x 40, 24 x 80	24, 32, 43 x 80	24 x 80	12 x 24/80	12/24 x 80
Display area, h x w, inches	7 x 10	7 x 10	7 x 10	7 x 10, 15-in. diag.	7 x 10, 15-in. diag.
Total displayable symbols	64 std., 96 opt.	64 std., 96 opt.	96 std.	96 std., 128 opt.	96 std., 128 opt.
Symbol formation	7 x 9 dot matrix	7 x 9 dot matrix	9 x 12 dot matrix	8 x 10 dot matrix	8 x 10 dot matrix
Color	No	No	Std. (see comments)	No	No
Reverse video	No	No	No	Cursor	Cursor
Programmable brightness levels	2 std.	2 std.	Std.	Std.	Std.
Character and/or field blinking	Field opt.	Field opt.	Field opt.	Both std.	Both std.
Roll	No	No	No	No	No
Paging	No	No	No	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Opt.	Opt.	Opt.	Std.	Std.
Addressable/readable cursor	Both std.	Both std.	Addressable only	Addressable only	Addressable only
Protected format	Std.	Std.	Std.	Std.	Std.
Partial screen transmit	Std.	Std.	Std.	Std.	Std.
Tabulation	Std.	Std.	Fwd./back tab std.	Fwd./back tab std.	Fwd./back tab std.
Character insert/delete	Std.	Std.	Std.	Std.	Std.
Line insert/delete	No	No	Std.	Std.	Std.
Erase	Char., line, screen std.	Char., line, screen std.	Char., line, screen variable fields std.	Char., line, screen, variable fields std.	Char., line, screen, variable fields std.
Character repeat	Std.	—	—	Typamatic keys std.	Typamatic key std.
KEYBOARD PARAMETERS					
Style	Typewriter, data entry	Typewriter, data entry	Typewriter, data entry	Typewriter, data entry	Typewriter, data entry
Character/code set	64 ASCII, 96 EBC	96 EBC	96 ASCII; 128 opt.	96 ASCII; 128 opt.	96 ASCII; 128 opt.
Detachability	Std.	Std.	Std.	Std.	Std.
Program function keys	6 std., 12 opt.	6 std., 12 opt.	12 std., 24 opt.	Std.	Std.
Numeric keypad	Opt.	Opt.	Opt.	Opt.	Opt.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	Single, dual opt.	No
Serial printer	No	No	No	Impact	Impact
Other devices	—	—	—	Mag. badge rdr., line printers, tilt/ swivel base, line extenders, etc.	Mag. badge rdr., line printers, tilt/ swivel base, line extenders, etc.
TRANSMISSION PARAMETERS					
Mode	See comments	See comments	Half-duplex	Half/full-duplex	Half/full-duplex
Technique	See comments	See comments	Synchronous	Synchronous	Synchronous
Communications protocol	See comments	See comments	BSC, SNA SDLC	HIS VIP 7700/7760	HIS VIP 7700/7760
Code	See comments	See comments	ASCII, EBCDIC	ASCII	ASCII
Speed, bits/second	See comments	See comments	9600	Up to 9600	Up to 9600
Format: character, line, or block	See comments	See comments	Blcok	Block	Block
Multipoint operation (pollable/addr.)	See comments	See comments	Std.	Std.	Std.
Auto answer	See comments	See comments	No	Opt.	Opt.
Auto call	See comments	See comments	No	No	No
Terminal interface	See comments	See comments	RS-232-C	RS-232-C, CCITT	RS-232-C, CCITT
Integral modem	See comments	See comments	No	No	No
Integral acoustic coupler	See comments	See comments	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Contact vendor	Contact vendor	Contact vendor	Contact vendor	Contact vendor
Display station, 2 year lease, $/mo.	Contact vendor	Contact vendor	Contact vendor	Contact vendor	Contact vendor
Controller, 1 year lease, $/mo.	Contact vendor	Contact vendor	Contact vendor	Contact vendor	Contact vendor
Controller, 2 year lease, $/mo.	Contact vendor	Contact vendor	Contact vendor	Contact vendor	Contact vendor
Display station, purchase, $	Contact vendor	Contact vendor	Contact vendor	Contact vendor	Contact vendor
Controller, purchase, $	Contact vendor	Contact vendor	Contact vendor	Contact vendor	Contact vendor
Date of first production delivery	1977	1980	1981	1977	1977
Display units installed to date	—	—	—	—	—
Serviced by	ITT Courier	ITT Courier	ITT Courier	ITT Courier	ITT Courier
COMMENTS	Interfaces to IBM 3271, 3272 and 3790 controllers (or System/3) in same manner as on IBM 3277.	Interfaces to IBM 3274, 3276, or 4300 CPUs in some manner as on IBM 3278.	Red, blue, green, and white are std. colors.	Fully compatible with computers that support Honeywell VIP 7700/7760; redundant terminal controller opt.; integral line monitor function; format reveal mode; forms composition mode.	Full compatible with computers that support Honeywell VIP 7700/7760; integral line monitor function; format reveal mode; forms composition mode.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Lear Siegler ADM-3A	Lear Siegler ADM-5	Lear Siegler ADM-31	Lear Siegler ADM-32	Lear Siegler ADM-42
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	No	No
Teletype compatibility	Std.	Std.	Std.	Std.	Std.
Other compatibility	No	No	No	No	No
User programmable	No	No	No	No	No
Self diagnostics	No	No	No	No	No
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	1920	2000	2000
Display arrangement, lines x chars./line	24 x 80	24 x 80	24 x 80	25 x 80	25 x 80
Display area, h x w, inches	12-in. diag.	12-in. diag.	12-in. diag.	15-in. diag.	15-in. diag.
Total displayable symbols	64/96 opt.	128 ASCII	128 ASCII	128 ASCII	128 ASCII
Symbol formation	5 x 7 dot matrix	5 x 9 dot matrix	7 x 11 dot matrix	7 x 11 dot matrix	7 x 11 dot matrix
Color	No	No	No	No	No
Reverse video	No	Std.	Std.	Std.	Std.
Programmable brightness levels	No	2 std.	2 std.	2 std.	2 std.
Character and/or field blinking	No	No	Field std.	Field std.	Field std.
Roll	Std., up only	Up std.	Up std.	Up std.	Up std.
Paging	No	No	2 pages std.	2 std.	4 std.; 8 opt.
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt., new line	U, D, L, R, H, Rt., new line	U, D, L, R, H, Rt., new line
Cursor blinking	No	No	No	No	—
Addressable/readable cursor	Std.	Std.	Std.	Std.	Std.
Protected format	No	No	Std.	Std.	Std.
Partial screen transmit	No	No	Std.	Std.	Std.
Tabulation	No	No	Std.	Std.	Std.
Character insert/delete	No	No	Std.	Std.	Std.
Line insert/delete	No	No	Std.	Std.	Std.
Erase	Char., screen std.	Line, screen std.	Std.	Std.	Std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	64 ASCII	128 ASCII	128 ASCII	128 ASCII	128 ASCII
Detachability	No	No	No	Std.	Std.
Program function keys	No	No	1 std. (2-key seq.)	1 std. (2-key seq.)	16 std.
Numeric keypad	Opt.	Std.	Std.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	No	Impact	Impact	Impact	Impact
Other devices	Audible alarm std.	Audible alarm std.	Audible alarm std.	Audible alarm std.	Audible alarm std.
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Async.; sync. opt
Communications protocol	ASCII	ASCII	ASCII	ASCII	ASCII
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Speed, bits/second	75 to 19,200	75 to 19,200	50 to 9600	50 to 9600	50 to 9600
Format: character, line, or block	Char./block	Character	Char./block/line	Char., line, block	Char./block
Multipoint operation (pollable/addr.)	No	No	Opt.	Opt.	Opt.
Auto answer	Opt.	Opt.	Opt.	Opt.	No
Auto call	No	No	No	No	—
Terminal interface	RS-232-C, 20 mA current loop	RS-232-C, 20 mA	RS-232-C, 20 mA current loop	RS-232-C, 20 mA	RS-232-C, 20 mA current loop
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Purchase only	Purchase only	Purchase only	Purchase only	Purchase only
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	895	995	1,450	1,295	2,195
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	1/76	1/81	8/78	3/81	8/78
Display units installed to date	125,000	—	—	—	—
Serviced by	Lear Siegler & third party	Lear Siegler & third party	Lear Siegler & third party	Lear Siegler & third party	Lear Siegler & third party
COMMENTS	Green phosphor characters and U.K. character set optional. Gated extension port std.	Opt. green phosphor char.; opt. U.K. character set. Gated extension port std.	Green phosphor characters, U.K. character set, and 11 character business graphics set optional.	Opt. green phosphor char.; opt. tilt mechanism; opt. U.K. character set; opt. 11 char. business graphics set.	

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Lee Data Corporation Model 310/320	MDS Trivex Plus 70	MDS Trivex Plus 80	Megadata SiR-1000 C-4/8	Megadata Series 2001 Workstation
TERMINAL DESCRIPTION					
Stand-alone or cluster	Cluster	Either	Cluster	Stand-alone	Stand-alone
Maximum displays/controller	32	32	32	1	1
Transportability	No	No	No	No	No
IBM compatibility	3274/3278	3270/3275	3278	Any IBM exc. SDLC	Any IBM exc. SDLC
Teletype compatibility	No	No	No	Std.	Std.
Other compatibility	No	No	No	See comments	See comments
User programmable	No	No	No	No	No
Self diagnostics	Std.	Yes	Std.	No	Yes
DISPLAY PARAMETERS					
Display positions, chars./display	1920, 3440, 3564	1920	480 to 3440	1536	1600
Display arrangement, lines x chars./line	24 x 80, 43 x 80, 27 x 132	25 x 80	12 x 40 to 43 x 80	64 x 24	80 x 20
Display area, h x w, inches	15-in. diag.	8 x 11	15-in. diag.	10 x 10	8.5 x 11
Total displayable symbols	128	64; 96	96	192	128
Symbol formation	7 x 9 dot matrix	7 x 9 dot matrix	7x14, 7x9 dot matrix	7 x 8 dot matrix	8 x 12 dot matrix
Color	No	No	No	Std. 4 or 8	No
Reverse video	Std.	No	No	Opt.	Std.
Programmable brightness levels	Std.	2 std.	Std.	Std.	Std.
Character and/or field blinking	Field std.	Std.	No	Std.	Std.
Roll	CPU controlled	No	No	Std.	Std.
Paging	No	No	No	Opt.	75 per diskette
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, R, L	U, D, L, R	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Opt.	Opt.	Std.	Std.
Addressable/readable cursor	Addressable	Std.	Std.	Std.	Std.
Protected format	Std.	Std.	Std.	Std.	Std.
Partial screen transmit	Std.	Std.	Std.	Std.	Std.
Tabulation	Forward/back std.	Std.	Std.	Std.	Std.
Character insert/delete	Std.	Std.	Std.	Std.	Std.
Line insert/delete	No	No	Std.	Std.	Std.
Erase	Std.	Char., screen std.	Char., line, screen std.	Char., line, screen std.	Char., word, sentence, para., blk. std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter, data entry, keypunch	Typewriter, data entry, console	Typewriter, data entry, keypunch	Typewriter	Typewriter
Character/code set	96 EBCDIC	EBCDIC	ASCII, EBCDIC	ASCII	—
Detachability	Std.	Std.	Std.	Opt.	—
Program function keys	24 std.	12 opt.	12 std., 24 opt.	51	71
Numeric keypad	Opt.	Opt.	Opt.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	Single/dual	Single/dual
Diskette drive (floppy disk)	Single	No	No	Single/dual	Single/dual
Serial printer	Matrix 120/180 cps	Impact	—	Impact	Impact
Other devices	Audible alarm std.	Audible alarm std., I.D. card reader, light pen opt.	Audible alarm, security lock, light pen	Card reader, paper tape punch, audible alarm, ID card reader	Card reader, disk, paper tape punch, audible alarm, ID card reader, light pen
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half-duplex	Half-duplex	Half-duplex	Half/full-duplex
Technique	Synchronous	Synchronous	Synchronous	Async./sync.	Async./sync.
Communications protocol	BSC	BSC/SDLC	BSC/SDLC	ASCII	ASCII/BSC std.
Code	EBCDIC	EBCDIC	ASCII, EBCDIC	ASCII	ASCII/EBCDIC
Speed, bits/second	2400 to 19,200	110-9600	Up to 9600	See comments	See comments
Format: character, line, or block	Block	Block only	Block	Char./block	Char./block
Multipoint operation (pollable/addr.)	Std.	Std.	Std.	Std.	Std.
Auto answer	Opt.	Opt.	No	Opt.	Opt.
Auto call	No	No	No	No	Opt.
Terminal interface	RS-232-C, CCITT	RS-232-C	RS-232-C	RS-232-C	RS-232-C std., 20 mA opt.
Integral modem	No	No	No	Opt.	Opt.
Integral acoustic coupler	No	No	No	Opt.	Opt.
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Contact vendor	76-80	Contact vendor	Third-party lease	Third-party lease
Display station, 2 year lease, $/mo.	—	66-70	Contact vendor	—	—
Controller, 1 year lease, $/mo.	—	184 (remote)	—	—	—
Controller, 2 year lease, $/mo.	—	169 (remote)	—	—	—
Display station, purchase, $	Contact vendor	2,000	Contact vendor	5,000-7,500	12,500-15,000
Controller, purchase, $	—	4,185 (remote)	—	—	—
Date of first production delivery	9/79	5/75	2/80	1973	6/77
Display units installed to date	—	15,000	500	Over 500	Over 100
Serviced by	Lee Data Corporation	MDS	MDS	Megadata & third party	Megadata & third party
COMMENTS	3278 or 3277 typewriter keyboard available. The screen has a status line. Model 310 is the remote version; Model 320 is the local version.	Local price for 1-year lease of controller is $187; $170 for 2-year lease; $5,390 for purchase.		Compatibilities include Burroughs, Univac, Honeywell, & Hazeltine, transmission speed up to 9600 bps (async.) or 19,200 bps (sync).	Includes dual floppy disk drives and 55-cps bidirectional printer; compat. with Burr., Univac, Honeywell, & Hazel.; transmission speed up to 9600 bps (async.) or 19,200 bps (sync.).

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Megadata MC-77	Megadata System 700	Megadata System 700/RTE	Megadata System 850	Memorex 1371/1377
TERMINAL DESCRIPTION					
Stand-alone or cluster	Either	Either	Stand-alone	Stand-alone	Cluster
Maximum displays/controller	8	8	1	1	32
Transportability	No	No	No	No	No
IBM compatibility	3277	Any IBM exc. SDLC	Opt.	No	3277-2
Teletype compatibility	Std.	Std.	Opt.	Std.	No
Other compatibility	Hazeltine, Univac	See comments	See comments	Opt.	No
User programmable	No	Via user-defined firmware	No	No	No
Self diagnostics	Opt., via user-defined firmware	Yes	Yes	Opt.	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	1920	960/1920/2160	1600, 1920	2,000	1920
Display arrangement, lines x chars./line	80 x 24	80 x 24/27; 64 x 24	80 x 20, 80 x 24	80 x 25 (1 status line)	24 x 80
Display area, h x w, inches	7.5 x 9.25	8.5 x 11	8.5 x 11; 15-in. diag.	8.5x11; 15-in. diag.	7 x 9.5
Total displayable symbols	128	64 to 256	128 ASCII	128 ASCII	—
Symbol formation	7 x 9 dot matrix	7x9;8x10/12;12x15	8 x 12, 7 x 9	7 x 9 dot matrix	7 x 8 dot matrix
Color	No	No	No	No	No
Reverse video	No	Std.	Std.	Std.	No
Programmable brightness levels	Opt.	2 std.	Std.	Std.	2 std.
Character and/or field blinking	Opt.	Std.	Std.	Std.	No
Roll	Std.	Up & down std.	Up & down std.	Up std.	No
Paging	Std.	Opt.	25 pages of diskette	4 pages std.	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, Rt.
Cursor blinking	Std.	Std.	Std.	Std.	No
Addressable/readable cursor	Std.	Std.	Both std.	Both std.	Std.
Protected format	Std.	Std.	Std.	Std.	Std.
Partial screen transmit	Std.	Std.	Std.	Std.	Std.
Tabulation	Std.	Std.	Std.	Std.	Std.
Character insert/delete	Std.	Std.	Std.	Std.	Std.
Line insert/delete	Std.	Std.	Std.	Std.	No
Erase	Char., line, screen std.	Char., line, screen std.	Char., word, sentence, para., block std.	Char., line, screen std.	Char., field, screen std.
Character repeat	Std.	Std.	—	Std.	Some keys
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter, data entry, console
Character/code set	128 ASCII	ASCII	128 ASCII	128 ASCII	EBCDIC/ASCII
Detachability	No	Std.	Std.	Std.	No
Program function keys	29 std.	71 std.	71	Opt.	12 std.
Numeric keypad	Std.	Std.	Std.	Std.	Opt.
ANCILLARY DEVICES					
Cassette tape drive	No	Single/dual	Single/Dual	No	No
Diskette drive (floppy disk)	Single/dual	Single/dual	Dual std.	No	No
Serial printer	Impact	Impact/non-impact	Impact	Impact	Impact
Other devices	—	Mag. tape, disk, line printers, audible alarm, ID reader, light pen, touch screen	Card reader, disk, paper tape punch, audible alarm, ID card reader, light pen, letter printer	4K bits of EAROM to store commonly used telephone number, & codes	Audible alarm std., light pen opt.
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Async./sync.	Async./sync.	Async./sync.	Synchronous
Communications protocol	ASCII, 83B3	ASCII/BSC	ASCII/BSC	ASCII	BSC
Code	ASCII	ASCII/EBCDIC	ASCII/EBCDIC	ASCII	EBCDIC
Speed, bits/second	Up to 19,200	Up to 19,200	Up to 19,200	Up to 9600	1200-19,200
Format: character, line, or block	Char./block	Char./block	Char./block	Char./block	Block
Multipoint operation (pollable/addr.)	Std.	Std.	Std.	Opt.	Std.
Auto answer	No	Opt.	Opt.	Std.	No
Auto call	No	Opt.	Opt.	Std.	No
Terminal interface	RS-232-C, 20 mA current loop	RS-232-C, 20/60 mA, RS-422, RS-449	RS-232-C std., 20 mA opt., RS-422 opt.	RS-232-C	RS-232-C
Integral modem	No	Opt.	Opt.	No	No
Integral acoustic coupler	No	Opt.	Opt.	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Third-party lease	Third-party lease	Third-party lease	Third-party lease	—
Display station, 2 year lease, $/mo.	—	—	Third-party lease	Third-party lease	85
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	265-571
Display station, purchase, $	3,000	4,000-12,000	7,000	1,995	2,600
Controller, purchase, $	—	6,400-9,400	—	—	6,050-9,326
Date of first production delivery	1/77	2/76	2/80	5/80	5/76
Display units installed to date	1,750	Over 4,500	Over 250	N/A	Over 50,000
Serviced by	Megadata & third party	Megadata & third party	Megadata & third party	Megadata & third party	Memorex
COMMENTS		Desktop terminal with 12-bit micro and 4K to 64K bytes of memory; uses DEC assembly language; other compatibilities include Burroughs, Univac, Honeywell, & Hazeltine.	Desktop terminal with integral dual mini-floppy disk drives, compatible with Burroughs, Univac, Honeywell, & Hazeltine; RJE capability.	Desktop terminal with 8-bit microprocessor, up to 24K RAM/PROM memory, with Auto-Dial, printer and current loop interfaces standard.	Microprocessor-based replacement for IBM 3277-2. Display Unit; attaches to Memorex or IBM controller; 25th display line for line and column indicators and systems status.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Memorex 2076/2078	Microdata PRISM II	Micro-Term ACT-5A	Micro-Term MIME-2A	Micro-Term MIME 2A-OK
TERMINAL DESCRIPTION					
Stand-alone or cluster	Cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	8	—	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	3276/3278	No	No	No	No
Teletype compatibility	No	Std.	Std.	Std.	Std.
Other compatibility	No	No	No	See comments	See comments
User programmable	No	No	No	No	No
Self diagnostics	Std.	Std.	No	No	No
DISPLAY PARAMETERS					
Display positions, chars./display	960, 1920, 2560, 3440, 3564	1920	1920	1920	1920
Display arrangement, lines x chars./line	12/24/32/43 x 80	24 x 80	24 x 80	24 x 80	24 x 80
Display area, h x w, inches	8 x 10	7 x 9	6 x 8; 12-in. diag.	6 x 8; 12-in. diag.	12-in. diag.
Total displayable symbols	96	96	128	128	128
Symbol formation	7 x 9/14, 7 x 8/12	5 x 7 dot matrix	7 x 11 dot matrix	7 x 11 dot matrix	7 x 9 dot matrix
Color	No	No	No	No	No
Reverse video	No	Std.	Std.	Std.	Std.
Programmable brightness levels	2 std.	Opt.	Full/half intensity	Full/half intensity	Std.
Character and/or field blinking	No	Opt.	Both std.	Both std.	Std.
Roll	No	Std.	Up std.	Up std.	Up (smooth) std.
Paging	No	No	No	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Selectable	Std.	Std.	Std.
Addressable/readable cursor	Addressable only	Both std.	Std.	Std.	Std.
Protected format	Std.	Opt.	Std.	Std.	Std.
Partial screen transmit	Std.	—	Std.	Std.	Std.
Tabulation	Forward/back std.	Forward std.	Std.	Std.	Std.
Character insert/delete	Std.	No	Std.	Std.	Std.
Line insert/delete	No	No	Std.	Std.	Std.
Erase	Char., field, screen std.	Line & screen std.	Char., line, screen, std.	Char., line, screen std.	Char., line, screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter/data entry	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	EBCDIC/ASCII	ASCII	128 ASCII	128 ASCII	128 ASCII
Detachability	Std.	Std.	No	No	Std.
Program function keys	10, 12, 24 opt.	No	Std.	Std.	No
Numeric keypad	No	Std.	Inlaid & separate keypad	Inlaid & separate keypad	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Impact	Opt.	No	No	No
Other devices	Audible alarm, light pen, alt. coaxial switch. keylock, unprotected field ind.	—	Serial printer port, audible alarm	Serial printer port; audible alarm	Audible alarm, buffered printer port
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full duplex	Half/full duplex
Technique	Synchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	BSC	—	Serial ASCII	Serial ASCII	ASCII
Code	EBCDIC	ASCII	ASCII	ASCII	ASCII
Speed, bits/second	1200-9600	Up to 9600	110 to 19,200	110 to 19,200	300 to 19,200
Format: character, line, or block	Block	Character	Char., line, block	Char., line, block	Char., line, block
Multipoint operation (pollable/addr.)	Std.	No	No	No	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C	RS-232-C	RS-232-C, 20 mA std.	RS-232-C, 20 mA std.	RS-232-C, 20 mA
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	—	Purchase only	Purchase only	Purchase only	Purchase only
Display station, 2 year lease, $/mo.	66-97	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	116-158	—	—	—	—
Display station, purchase, $	2,431-3,565	2,500	995	1,045	1,395
Controller, purchase, $	4,494-5,904	—	—	—	—
Date of first production delivery	2/80	1/80	9/78 (ACT-V)	8/78 (MIME-I/II)	11/80
Display units installed to date	Over 5,000	—	5,000	6,000	—
Serviced by	Memorex	Microdata	Micro-Term	Micro-Term	Micro-Term
COMMENTS	Tiltable display, anti-glare screen, line & column indicators std., unprotected field indicator opt., separate controller, lightweight and energy efficient.	Microprocessor controlled; quantity discounts available.	Smooth or jump scroll; disable or enable keyclick at keyboard; modular assembly, vertical split screen, keyboard selectable.	Emulation of DEC VT-52, Hazeltine 1500, Soroc 120; smooth or jump scroll; disable or enable keyclick at keyboard; modular assembly.	Emulates DEC VT-52, Hazeltine 150C, Lear Siegler ADM-3A. Green screen, tilt, key click, brightness, contrast, wrap or no wrap std.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Micro-Term MIME 314	Micro-Term MIME 100	Micro-Term MIME 100-DK	NCR 796 Series Models 301 & 401	NCR 796-501
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	No	No
Teletype compatibility	Std.	Std.	Std.	Std.	No
Other compatibility	See comments	DEC VT-100	DEC VT-100	No	NCR BSC
User programmable	No	No	No	No	No
Self diagnostics	No	Yes	Std.	No	No
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920; 3168 opt.	1920; 3168 opt.	1920	1920
Display arrangement, lines x chars./line	24 x 80	24 x 80; 24 x 132 opt.	24 x 80; 24 x 132 opt.	24 x 80	24 x 80
Display area, h x w, inches	6 x 8; 12-in. diag.	6 x 8; 12-in. diag.	12-in. diag.	8 x 10	8 x 10; 12-in. diag.
Total displayable symbols	96	128	128	64; 96 (401)	96
Symbol formation	5 x 9 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix	5 x 7 dot matrix	5 x 7
Color	No	No	No	No	No
Reverse video	Opt.	Std.	Std.	No	Std., selectable
Programmable brightness levels	No	Full/half intensity	Std.	2 std.	2 std.
Character and/or field blinking	No	Both std.	Std.	Std.	Both std.
Roll	Up std.	Up/down std.	Up, down (smooth)	Std.	Std.
Paging	No	No	No	—	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H	U, D, L, R, H
Cursor blinking	No	Std.	Std.	—	—
Addressable/readable cursor	Std.	Std.	Std.	Std.	Addressable std.
Protected format	No	No	No	Std.	Std.
Partial screen transmit	Std.	No	No	Std.	Std.
Tabulation	Std.	Std.	Std.	Std.	Std.
Character insert/delete	Std.	Std.	Std.	Std., 301	Std.
Line insert/delete	Std.	Std.	Std.	Std., 401 only	Std.
Erase	Char., line, screen std.	Char., line, screen std.	Char., line, screen std.	Screen std.	Screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	96 ASCII	128 ASCII	128 ASCII	ASCII	128 ASCII
Detachability	No	No	Std.	No	No
Program function keys	No	Std.	No	—	No
Numeric keypad	Inlaid & separate	Std.	Std.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	No	No	No	Yes	Impact, non-impact
Other devices	Audible alarm, aux. port	Audible alarm, buffered printer port	Audible alarm, buffered printer port	Audible alarm std.	Parallel printer
TRANSMISSION PARAMETERS					
Mode	Half/full duplex	Full-duplex	Full-duplex	Half/full-duplex	Half-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Synchronous
Communications protocol	Serial ASCII	Serial ASCII	ASCII	ASCII	ASCII, BSC
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Speed, bits/second	110 to 9600	50 to 19,200	50 to 19,200	110 to 9600	Up to 9600
Format: character, line, or block	Block std.	Char.	Character	Char./block	Line/block
Multipoint operation (pollable/addr.)	No	No	No	Std., 301 only	Std.
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C, 20 mA std.	RS-232-C or 20 mA std.	RS-232-C, 20 mA	RS-232-C	RS-232-C
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Purchase only	Purchase only	Purchase only	80-150	155
Display station, 2 year lease, $/mo	--	—	—	—	145 (3-year)
Controller, 1 year lease, $/mo.	--	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	895	1,995	2,195	2,000-3,500	3,750
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	2/80	2/80	11/80	1/74	8/76
Display units installed to date	2,000	—	—	10,000	Over 1,500
Serviced by	Micro-Term	Micro-Term	Micro-Term	NCR	NCR
COMMENTS	Emulation of Lear Siegler ADM-3A, Hazeltine 1410, Micro-Term ACT-IV. Unique power supply furnished by monitor modular assembly.	Total VT-100 compatibility, advanced video std. All user controls from keyboard, 256 char. buffer, screen saver feature.	Green screen, tilt, advanced video, screen saver std.	Manufactured by ADDS as model 880A (301).	

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	NCR 7900 Model 1	Northern Telecom Inc. 292-IV	Northern Telecom Inc. Model 294C	Northern Telecom Inc. Model 296C	Olivetti TCV-280 System BS-281 & BS-286
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Cluster	Cluster	Cluster	Cluster
Maximum displays/controller	—	16	16	8	16 (281); 8 (286)
Transportability	No	No	No	No	No
IBM compatibility	No	3272	3270 BSC & SNA	3270 BSC & SNA	3270 BSC & SDLC
Teletype compatibility	Std.	No	No	No	No
Other compatibility	No	No	No	No	No
User programmable	No	No	No	No	No
Self diagnostics	Std.	Std.	Std.	Std.	Yes
DISPLAY PARAMETERS					
Display positions, chars./display	2000	1920	1920, 2560, 3440	1920, 2560, 3440	1920
Display arrangement, lines x chars./line	25 x 80	24 x 80	24 x 80; 32 x 80; 43 x 80	24 x 80; 32 x 80; 43 x 80	24 x 80
Display area, h x w, inches	8 x 6; 12-in. diag.	15-in. diag.	15-in. diag.	15-in. diag.	15-in. diag.
Total displayable symbols	64, 96, 128 selectable	64, 96	64, 96	64, 96	64
Symbol formation	7 x 7 dot matrix	9 x 7 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	No	No	No	No
Programmable brightness levels	2 std.	2 std.	2 std.	2 std.	2 std.
Character and/or field blinking	Std.	No	No	No	Both std.
Roll	Up std.	No	No	No	No
Paging	No	No	No	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Std.	Std.
Addressable/readable cursor	Addressable only	Addressable only	Addressable only	Addressable only	Both std.
Protected format	No	Std.	Std.	Std.	Std.
Partial screen transmit	No	Std.	Std.	Std.	Std.
Tabulation	No	Std.	Std.	Std.	Fwd./back std.
Character insert/delete	No	Std.	Std.	Std.	Std.
Line insert/delete	No	No	No	No	No
Erase	Line, screen std.	Character, screen std.	Character, screen std.	Character, screen std.	Char., line, screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter, data entry, keypunch	Typewriter, data entry, keypunch	Typewriter, data entry, keypunch	Typewriter, data entry, keypunch
Character/code set	64, 96, 128 ASCII	ASCII, EBCDIC	ASCII, EBCDIC	ASCII, EBCDIC	ASCII/EBCDIC
Detachability	Opt.	Std.	Std.	Std.	Std.
Program function keys	1 key (96 functions)	12 opt.	12 opt.	12 opt.	12 opt.
Numeric keypad	Std., touch-tone style opt.	Opt.	Opt.	Opt.	Opt.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Impact, non-impact	Impact	Impact	Impact	Impact
Other devices	Audible alarm std.	ID badge reader, light pen opt.	ID badge reader, light pen opt.	ID badge reader, light pen opt.	Audible alarm, ID reader, light pen
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Channel connect	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	—	Synchronous	Synchronous	Synchronous
Communications protocol	ASCII	—	BSC; SNA SDLC	BSC; SNA SDLC	BSC/SDLC
Code	ASCII	—	ASCII; EBCDIC	ASCII; EBCDIC	ASCII/EBCDIC
Speed, bits/second	50-19,200	—	1200 to 9600	1200 to 9600	1200 to 9600
Format: character, line, or block	Char. or line	—	Block	Block	Block
Multipoint operation (pollable/addr.)	No	—	Std.	Std.	Std.
Auto answer	Std.	—	No	No	No
Auto call	No	—	No	No	No
Terminal interface	RS-232	—	RS-232-C	RS-232-C	RS-232-C
Integral modem	No	—	No	No	No
Integral acoustic coupler	No	—	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	95	76	70	70	—
Display station, 2 year lease, $/mo.	—	65	57	57	—
Controller, 1 year lease, $/mo.	—	559	314	314	—
Controller, 2 year lease, $/mo.	—	541	253	253	—
Display station, purchase, $	2,000	2,240	2,265	2,265	2,080
Controller, purchase, $	—	18,160	10,475	10,475	7,690 (281); 3,080
Date of first production delivery	6/79	—	2/81	2/81	10/78
Display units installed to date	1,000	—	—	—	N/A
Serviced by	NCR	NTI	NTI	NTI	Olivetti
COMMENTS	Four video attributes (blink, half-intensity, reverse video, or underline) may be combined. Weighs 25 lbs.				The internal controller is capable of supporting up to 16 (281) or 8 (286) Olivetti TCV-287 or printers.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Paradyne 7802 Visual Display Unit 77	Paradyne PDS 270	Paradyne 9440	Perkin-Elmer Bantam 550	Perkin-Elmer Bantam 550B
TERMINAL DESCRIPTION					
Stand-alone or cluster	Cluster	Either	Either	Stand-alone	Stand-alone
Maximum displays/controller	6	32	3	1	1
Transportability	No	No	No	No	No
IBM compatibility	Yes, 3277	IBM local	1052	No	No
Teletype compatibility	No	No	No	Std.	Std.
Other compatibility	No	No	No	No	No
User programmable	No	No	—	No	No
Self diagnostics	No	Std.	Std.	Std.	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	1920	1920	1920
Display arrangement, lines x chars./line	24 x80	24 x 80	24 x 80	24 x 80	24 x 80
Display area, h x w, inches	12-in. diag.	14-in. diag.	12-in. diag.	12-in. diag.	12-in. diag.
Total displayable symbols	96 ASCII	128 ASCII/EBCDIC	128 ASCII/EBCDIC	128 ASCII	128 ASCII
Symbol formation	7 x 11 dot matrix	8 x 16 dot matrix	7 x 14 dot matrix	5 x 9 dot matrix	7 x 10 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	Std.	No	Std., switchable	Full screen only
Programmable brightness levels	2 std.	2 std.	Std.	No	No
Character and/or field blinking	No	Std.	Std.	No	No
Roll	No	No	Std.	Std.	Up std.
Paging	No	No	No	No	Std.
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt. from host only
Cursor blinking	No	Std.	Std.	No	No
Addressable/readable cursor	Std.	Both std.	Addressable only	Addressable std.	Addressable only
Protected format	Std.	Std.	Std.	No	No
Partial screen transmit	Std.	Std.	No	No	No
Tabulation	Std.	Std.	Std.	Fixed tab stops	Forward, fixed stops
Character insert/delete	Std.	Std.	Std.	No	No
Line insert/delete	Std.	Std.	Std.	No	No
Erase	Char., line, screen std.	Char., line, screen std.	Char., line, screen std.	Char., screen std.	Screen std.
Character repeat	Std.	Std.	Std.	Repeat key std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter, data entry	Typewriter	Typewriter	Typewriter
Character/code set	128 ASCII	ASCII/EBCDIC	ASCII	128 ASCII	128 ASCII
Detachability	No	Std.	Std.	No	No
Program function keys	16 std.	24 std	24 std.	No	No
Numeric keypad	Std.	Std.	Opt.	Std., "shadowed"	No
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Yes	Impact	Impact	Via "wye" aux. port	Via "wye" aux. port
Other devices	Audible alarm std.	Light pen, audible alarm, keylock, composite video opt.	Light pen, audible alarm, keylock, composite video opt.	Audible alarm opt.	Audible alarm opt.
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Synchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	Paradyne SDLC	Paradyne SDLC	Paradyne SDLC	Teletype	Teletype
Code	EBCDIC	ASCII/EBCDIC	ASCII/EBCDIC	ASCII	ASCII
Speed, bits/second	75 to 9600	1200 to 38,400	Up to 19,200	110 to 9600	110 to 9600
Format: character, line, or block	Char./block	Block	Character	Character	Character
Multipoint operation (pollable/addr.)	No	Std.	No	No	No
Auto answer	No	Opt.	No	No	No
Auto call	No	Opt.	No	No	No
Terminal interface	RS-232-C	RS-232-C	RS-232-C	RS-232-C std. 20 mA dc opt.	RS-232-C std., 20 mA opt.
Integral modem	No	Opt.	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	—	—	—	Leases from dealer only	Purchase only
Display station, 2 year lease, $/mo.	155	57 (9478); 136 (9476)	134	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	3,800	3,150; 6,000	3,000	966	935
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	10/77	11/80	11/80	12/78	12/78
Display units installed to date	400	500	200	—	—
Serviced by	Paradyne	Paradyne	Paradyne	Perkin-Elmer	Perkin-Elmer
COMMENTS	Display used as 3270-compatible unit for PIX II Data Communication System.	9478-keyboard & display; 9476-keyboard, display, & controller; opt. built-in response time monitor; line printer capability up to 900 lpm.	Display used as IBM 1052-compatible unit for PIX II Data Communication System console.		

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Perkin-Elmer Bantam 550E	Perkin-Elmer Bantam 550S	Perkin-Elmer Super Owl 1251	Perry Data Systems PDS 9800	Perry Data Systems PDS 9810
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	3101	No
Teletype compatibility	Std.	Std.	Std.	Std.	Std.
Other compatibility	No	No	No	No	Lear Siegler
User programmable	No	No	Via function keys only	No	No
Self diagnostics	Std.	Std.	Std.	Std.	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	1920	1920	1920
Display arrangement, lines x chars./line	24 x 80	24 x 80	25 x 80	24 x 80	24 x 80
Display area, h x w, inches	12-in. diag.	12-in. diag.	12-in. diag.	9-in. diag.	9-in. diag.
Total displayable symbols	128 ASCII	128 ASCII	128 ASCII	128 ASCII	128 ASCII
Symbol formation	7 x 10 block	7 x 10 block	9 x 12 block	5 x 7 dot matrix	5 x 7 dot matrix
Color	No	No	No	No	No
Reverse video	Full screen only	Full screen only	Std.	Std.	Std.
Programmable brightness levels	No	No	2 std.	Std.	Std.
Character and/or field blinking	No	No	Field std.	Std.	Opt.
Roll	Up std.	Up std.	Up std.	Up std.	Up std.
Paging	1 std.	1 std., 1 opt.	No	1 page std.	1 page std.
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt. from host only	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	No	Std.	Opt.	Std.	Opt.
Addressable/readable cursor	Addressable only	Both std.	Both std.	Both std.	Both std.
Protected format	No	Std.	Std.	Std.	Std.
Partial screen transmit	No	Std.	Std.	Opt.	Opt.
Tabulation	Forward, fixed stops	Fwd/back, fixed	Forward/back std.	Opt.	Opt.
Character insert/delete	No	Std.	Std.	Opt.	Opt.
Line insert/delete	No	Std.	Std.	Opt.	Opt.
Erase	Screen std.	Line, page std.	Field, line, screen unprotected only	Opt.	Line, screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	128 ASCII	128 ASCII	128 ASCII	96 ASCII	96 ASCII
Detachability	No	No	Std.	Std.	Std.
Program function keys	No	4 (shift to 8)	12/24 std., 16/32 opt.	10 std.	25 std.
Numeric keypad	Std.	Std.	Opt.	Opt.	Opt.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Via "wye" aux. port	Via "wye" aux. port	Buffered port std.	Opt.	Opt.
Other devices	Audible alarm opt.	Audible alarm opt.	—	Opt.	Opt.
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	Teletype	Teletype	Teletype	ASCII	ASCII
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Speed, bits/second	110 to 9600	110 to 9600	110 to 9600	110 to 9600	110 to 9600
Format: character, line, or block	Character	Char., line, block	Char., line, block	Char., block	Character
Multipoint operation (pollable/addr.)	No	No	Std.	No	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C std., 20 mA opt.	RS-232-C std., 20 mA opt.	RS-232-C std., 20 mA opt.	RS-232-C std.	RS-232-C std.
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Purchase only	Purchase only	Purchase only	—	—
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,016	1,189	1,895	1,395	2,750
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	12/80	12/80	9/80	6/80	9/80
Display units installed to date	—	—	—	—	—
Serviced by	Perkin-Elmer	Perkin-Elmer	Perkin-Elmer	Perry	Perry
COMMENTS			Price given for unit with standard keyboard; optional large keyboard includes 16/32 programmable non-volatile function keys & numeric pad.	Plug-compatible with IBM 3101.	

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Perry Data Systems PDS 9812	Perry Data Systems PDS 9815	Perry Data Systems PDS 9880	Phone 1 P1-14	Plantronics VuSet DS-150C
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Either	Stand-alone
Maximum displays/controller	1	1	1	8	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	3271 Cont.	No
Teletype compatibility	Std.	Std.	Std.	Std.	Std.
Other compatibility	Data General	Hazeltine 1510	ADDS 580	No	No
User programmable	No	No	No	No	No
Self diagnostics	Std.	Std.	Std.	Std.	No
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	1920	1920	64/128
Display arrangement, lines x chars./line	24 x 80	24 x 80	24 x 80	24 x 80	4/8 x 16
Display area, h x w, inches	9-in. diag.	9-in. diag.	9-in. diag.	12-in. diag.	3-in. diag.
Total displayable symbols	128 ASCII	128 ASCII	128 ASCII	128	64
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	7 x 9 dot matrix	5 x 7 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	Std.	Std.	No	No
Programmable brightness levels	Std.	Std.	Std.	Std.	No
Character and/or field blinking	Opt.	Opt.	Opt.	No	Both std.
Roll	Up std.	Up std.	Up std.	Up std.	No
Paging	1 page std.	1 page std.	1 page std.	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H	—
Cursor blinking	Opt.	Opt.	Opt.	No	No
Addressable/readable cursor	Both std.	Both std.	Both std.	Both std.	No
Protected format	Opt.	Std.	Opt.	Std.	No
Partial screen transmit	Opt.	Std.	No	Std.	No
Tabulation	Opt.	Std.	No	Fwd./back tab std.	No
Character insert/delete	Opt.	Std.	Opt.	Std.	No
Line insert/delete	Opt.	Std.	Opt.	Std.	No
Erase	Line, screen std.	Std.	Opt.	Line, screen std.	Screen std.
Character repeat	Std.	Std.	Std.	Std.	No
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Touch-Tone or alphanumeric
Character/code set	96 ASCII	128 ASCII	128 ASCII	ASCII	DTMF; 97 ASCII
Detachability	Std.	Std.	Std.	No	Std.
Program function keys	34 std.	10 std.	10 std.	32 std.	No
Numeric keypad	Std.	Std.	Std.	Std.	No
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Opt.	Opt.	Opt.	Impact	No
Other devices	Opt.	Line printer, parallel printer	Line printer, parallel printer	Audible alarm, hand-fed card reader, and badge reader	—
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Async./sync.	Asynchronous
Communications protocol	ASCII	ASCII	ASCII	TTY, BSC	ASCII
Code	ASCII	ASCII	ASCII	ASCII, EBCDIC	ASCII
Speed, bits/second	110 to 9600	110 to 9600	110 to 9600	To 9600	110, 150, 300
Format: character, line, or block	Character	Char., line, block	Character	Char./block	Char. only
Multipoint operation (pollable/addr.)	No	Opt.	No	Std.	No
Auto answer	No	No	No	Opt.	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C std.	RS-232-C	RS-232-C	RS-232-C	RJ-11C (telephone jack)
Integral modem	No	No	No	Opt.	Std.
Integral acoustic coupler	No	No	No	Opt.	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	—	—	—	Purchase only	See comments
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,796	1,796	1,695	2,710	875 (w/keyboard)
Controller, purchase, $	—	—	—	9,200	—
Date of first production delivery	9/80	9/80	10/80	9/76	4/73
Display units installed to date	—	—	—	325	4,000
Serviced by	Perry	Perry	Perry	Phone 1 exchange	Local telephone co.
COMMENTS	Data entry terminal, includes 34 program function keys for easy menu selection.			Basic station is TTY compatible; Phone 1 emulation controllers provide for IBM 3271 compatibility.	Leased to user by local telephone co. unit attaches directly to telephone set or private line; quantity discounts available.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Racal-Milgo 4270	Racal-Milgo 4276	Racal-Milgo 4010 MPL	Raytheon Data Systems PTS-100	Raytheon PTS-2000
TERMINAL DESCRIPTION					
Stand-alone or cluster	Cluster	Stand-alone	Stand-alone	Cluster	Cluster
Maximum displays/controller	32	1	1	32	32 (lg.), 8 (sm.)
Transportability	No	No	No	No	No
IBM compatibility	3274 BSC/SDLC	3276/3275 BSC/SD	No	Std.	IBM 3274,3276,3278
Teletype compatibility	No	No	AT&T #8A1 (40/3)	Std.	No
Other compatibility	No	No	No	Honeywell, Univac	No
User programmable	No	No	No	No	No
Self diagnostics	Std.	Std.	Std.	Std.	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	1920	480, 960, 1920	960, 1920, 2560, 3440
Display arrangement, lines x chars./line	24 x 80	24 x 80	24 x 80	12 x 40, 15 x 64, 12 x 80, 24 x 80, 30 x 64	12 x 80; 24 x 80; 32 x 80; 43 x 80
Display area, h x w, inches	15-in. diag.	15-in. diag.	15-in. diag.	9-in., 15-in. diag.	15-in. diag.
Total displayable symbols	96 ASCII/EBCDIC	96 ASCII/EBCDIC	127 ASCII	64, 96 ASCII	128 ASCII
Symbol formation	7 x 9 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix	7 x 7, 7 x 9	7 x 14 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	No	Std.	Std.	Std.
Programmable brightness levels	2 std.	2 std.	4 std.	3 std.	3 std.
Character and/or field blinking	Field opt.	No	Std.	Char. std.	Char. std.
Roll	No	No	Std.	No	No
Paging	No	No	8 pages	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H	U, D, L, R, H	U, D, L, R, H	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	No	No	Std.	Std.
Addressable/readable cursor	Std.	Std.	Addressable only	Both std.	Both std.
Protected format	Std.	Std.	Std.	Std.	Std.
Partial screen transmit	Std.	Std.	Std.	Std.	Std.
Tabulation	Std.	Std.	Forward std.	Forward/back std.	Forward/back std.
Character insert/delete	Std.	Std.	Std.	Std.	Std.
Line insert/delete	Opt.	Std.	Std.	No	No
Erase	Char., line, screen std.	Char., line, screen std.	Char., line, screen std.	Char., line, screen std.	Char., line, screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter, data entry	Typewriter, data entry	Typewriter	Typewriter, data entry	Typewriter, data entry
Character/code set	ASCII/EBCDIC	ASCII/EBCDIC	ASCII	ASCII, EBCDIC	128 ASCII/EBCDIC
Detachability	Std.	Std.	Std.	No	No
Program function keys	24 std.	24 std.	6 std.	2 std., 14 opt.	24 std.
Numeric keypad	Std.	Std.	Std.	Opt.	Opt.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	Single	No	No	No	Single
Serial printer	160 cps	160 cps	No	30, 50, 100, 120 cps	Impact
Other devices	120 lpm printer, Audible alarm, password sec.	120 lpm printer, Audible alarm, password sec.	120 lpm printer, Audible alarm, password sec.	Card reader, magnetic stripe reader	Light pen opt.
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half-duplex
Technique	Synchronous	Synchronous	Asynchronous	Async/sync	Synchronous
Communications protocol	BSC/SDLC	BSC	AT&T 8A1	BSC/SDLC	BSC, SNA
Code	EBCDIC/ASCII	EBCDIC/ASCII	ASCII	ASCII, EBCDIC	ASCII/EBCDIC
Speed, bits/second	9600	9600	4800	Up to 9600	Up to 9600
Format: character, line, or block	Block	Block	Character	Block	Block
Multipoint operation (pollable/addr.)	Std.	Std.	Std.	Std.	Std.
Auto answer	No	No	Std.	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C	RS-232-C	RS-232-C	RS-232-C, CCITT V.24	RS-232-C
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	78	170	208	—	80
Display station, 2 year lease, $/mo.	66	154	173	Contact vendor	64
Controller, 1 year lease, $/mo.	116	—	—	—	115 (sm.), 251 (lg.)
Controller, 2 year lease, $/mo.	111	—	—	Contact vendor	95 (sm.), 194 (lg.)
Display station, purchase, $	2,560	5,660	5,275	Contact vendor	2,095
Controller, purchase, $	3,949	—	—	Contact vendor	2,850(sm.), 6,320(lg.)
Date of first production delivery	6/80	1/81	7/80	—	4/80
Display units installed to date	2000	50	1200	150,000+	2,500
Serviced by	Racal-Milgo	Racal-Milgo	Racal-Milgo	Raytheon	Raytheon
COMMENTS		SDLC protocol support planned for 1982.		IBM compatibility includes IPARS, 3270 BSC, 3274 BSC, 3274 SDLC, 3271 SDLC	Permits field-upgradability from small to large controller; three-year leasing available.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Perry Data Systems PDS 9812	Perry Data Systems PDS 9815	Perry Data Systems PDS 9880	Phone 1 P1-14	Plantronics VuSet DS-150C
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Either	Stand-alone
Maximum displays/controller	1	1	1	8	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	3271 Cont.	No
Teletype compatibility	Std.	Std.	Std.	Std.	Std.
Other compatibility	Data General	Hazeltine 1510	ADDS 580	No	No
User programmable	No	No	No	No	No
Self diagnostics	Std.	Std.	Std.	Std.	No
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	1920	1920	64/128
Display arrangement, lines x chars./line	24 x 80	24 x 80	24 x 80	24 x 80	4/8 x 16
Display area, h x w, inches	9-in. diag.	9-in. diag.	9-in. diag.	12-in. diag.	3-in. diag.
Total displayable symbols	128 ASCII	128 ASCII	128 ASCII	128	64
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	7 x 9 dot matrix	5 x 7 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	Std.	Std.	No	No
Programmable brightness levels	Std.	Std.	Std.	Std.	No
Character and/or field blinking	Opt.	Opt.	Opt.	No	Both std.
Roll	Up std.	Up std.	Up std.	Up std.	No
Paging	1 page std.	1 page std.	1 page std.	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H	—
Cursor blinking	Opt.	Opt.	Opt.	No	No
Addressable/readable cursor	Both std.	Both std.	Both std.	Both std.	No
Protected format	Opt.	Std.	Opt.	Std.	No
Partial screen transmit	Opt.	Std.	No	Std.	No
Tabulation	Opt.	Std.	No	Fwd./back tab std.	No
Character insert/delete	Opt.	Std.	Opt.	Std.	No
Line insert/delete	Opt.	Std.	Opt.	Std.	No
Erase	Line, screen std.	Std.	Opt.	Line, screen std.	Screen std.
Character repeat	Std.	Std.	Std.	Std.	No
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Touch-Tone or alphanumeric
Character/code set	96 ASCII	128 ASCII	128 ASCII	ASCII	DTMF; 97 ASCII
Detachability	Std.	Std.	Std.	No	Std.
Program function keys	34 std.	10 std.	10 std.	32 std.	No
Numeric keypad	Std.	Std.	Std.	Std.	No
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Opt.	Opt.	Opt.	Impact	No
Other devices	Opt.	Line printer, parallel printer	Line printer, parallel printer	Audible alarm, hand-fed card reader, and badge reader	—
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Async./sync.	Asynchronous
Communications protocol	ASCII	ASCII	ASCII	TTY, BSC	ASCII
Code	ASCII	ASCII	ASCII	ASCII, EBCDIC	ASCII
Speed, bits/second	110 to 9600	110 to 9600	110 to 9600	To 9600	110, 150, 300
Format: character, line, or block	Character	Char., line, block	Character	Char./block	Char. only
Multipoint operation (pollable/addr.)	No	Opt.	No	Std.	No
Auto answer	No	No	No	Opt.	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C std.	RS-232-C	RS-232-C	RS-232-C	RJ-11C (telephone jack)
Integral modem	No	No	No	Opt.	Std.
Integral acoustic coupler	No	No	No	Opt.	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	—	—	—	Purchase only	See comments
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,796	1,796	1,695	2,710	875 (w/keyboard)
Controller, purchase, $	—	—	—	9,200	—
Date of first production delivery	9/80	9/80	10/80	9/76	4/73
Display units installed to date	—	—	—	325	4,000
Serviced by	Perry	Perry	Perry	Phone 1 exchange	Local telephone co.
COMMENTS	Data entry terminal, includes 34 program function keys for easy menu selection.			Basic station is TTY compatible; Phone 1 emulation controllers provide for IBM 3271 compatibility.	Leased to user by local telephone co. unit attaches directly to telephone set or private line; quantity discounts available.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Racal-Milgo 4274	Racal-Milgo 4276	Racal-Milgo 4010 MPL	Raytheon PTS-2000
TERMINAL DESCRIPTION				
Stand-alone or cluster	Cluster	Stand-alone	Stand-alone	Cluster
Maximum displays/controller	32	1	1	32 (lg.), 8 (sm.)
Transportability	No	No	No	No
IBM compatibility	3274 BSC/SDLC	3276/3275 BSC/SDLC	No	IBM 3274,3276,3278
Teletype compatibility	No	No	AT&T #8A1 (40/3)	No
Other compatibility	No	No	No	No
User programmable	No	No	No	No
Self diagnostics	Std.	Std.	Std.	Std.
DISPLAY PARAMETERS				
Display positions, chars./display	1920	1920	1920	960, 1920, 2560, 3440
Display arrangement, lines x chars./line	24 x 80	24 x 80	24 x 80	12 x 80; 24 x 80; 32 x 80; 43 x 80
Display area, h x w, inches	15-in. diag.	15-in. diag.	15-in. diag.	15-in. diag.
Total displayable symbols	96 ASCII/EBCDIC	96 ASCII/EBCDIC	127 ASCII	128 ASCII
Symbol formation	7 x 9 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix	7 x 14 dot matrix
Color	No	No	No	No
Reverse video	Std.	No	Std.	Std.
Programmable brightness levels	2 std.	2 std.	4 std.	3 std.
Character and/or field blinking	Field opt.	No	Std.	Char. std.
Roll	No	No	Std.	No
Paging	No	No	8 pages	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H	U, D, L, R, H	U, D, L, R, H	U, D, L, R, H, Rt.
Cursor blinking	Std.	No	No	Std.
Addressable/readable cursor	Std.	Std.	Addressable only	Both std.
Protected format	Std.	Std.	Std.	Std.
Partial screen transmit	Std.	Std.	Std.	Std.
Tabulation	Std.	Std.	Forward std.	Forward/back std.
Character insert/delete	Std.	Std.	Std.	Std.
Line insert/delete	Opt.	Std.	Std.	No
Erase	Char., line, screen std.	Char., line, screen std.	Char., line, screen std.	Char., line, screen std.
Character repeat	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS				
Style	Typewriter, data entry	Typewriter, data entry	Typewriter	Typewriter, data entry
Character/code set	ASCII/EBCDIC	ASCII/EBCDIC	ASCII	128 ASCII/EBCDIC
Detachability	Std.	Std.	Std.	No
Program function keys	24 std.	24 std.	6 std.	24 std.
Numeric keypad	Std.	Std.	Std.	Opt.
ANCILLARY DEVICES				
Cassette tape drive	No	No	No	No
Diskette drive (floppy disk)	Single	No	No	Single
Serial printer	160 cps	160 cps	No	Impact
Other devices	120 lpm printer, Audible alarm, password sec.	120 lpm printer, Audible alarm, password sec.	120 lpm printer, Audible alarm, password sec.	Light pen opt.
TRANSMISSION PARAMETERS				
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half-duplex
Technique	Synchronous	Synchronous	Asynchronous	Synchronous
Communications protocol	BSC/SDLC	BSC	AT&T 8A1	BSC, SNA
Code	EBCDIC/ASCII	EBCDIC/ASCII	ASCII	ASCII/EBCDIC
Speed, bits/second	9600	9600	4800	Up to 9600
Format: character, line, or block	Block	Block	Character	Block
Multipoint operation (pollable/addr.)	Std.	Std.	Std.	Std.
Auto answer	No	No	Std.	No
Auto call	No	No	No	No
Terminal interface	RS-232-C	RS-232-C	RS-232-C	RS-232-C
Integral modem	No	No	No	No
Integral acoustic coupler	No	No	No	No
PRICING AND AVAILABILITY				
Display station, 1 year lease, $/mo.	78	170	208	80
Display station, 2 year lease, $/mo.	66	154	173	64
Controller, 1 year lease, $/mo.	116	—	—	115 (sm.), 251 (lg.)
Controller, 2 year lease, $/mo.	111	—	—	95 (sm.), 194 (lg.)
Display station, purchase, $	2,560	5,660	5,275	2,095
Controller, purchase, $	3,949	—	—	2,850(sm.), 6,320(lg.)
Date of first production delivery	6/80	1/81	7/80	4/80
Display units installed to date	165	30	150	2,500
Serviced by	Racal-Milgo	Racal-Milgo	Racal-Milgo	Raytheon
COMMENTS		SDLC protocol support planned for 1982.		Permits field-upgradability from small to large controller; three-year leasing available.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Soroc IQ 120	Soroc IQ 135	Soroc IQ 140	Southwest Data Systems R725
TERMINAL DESCRIPTION				
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	—
Transportability	No	No	No	No
IBM compatibility	No	No	No	No
Teletype compatibility	Std.	Std.	Std.	Std.
Other compatibility	No	Soroc IQ 120	Lear Siegler ADM-2	Basic 4
User programmable	No	Via user-defined parameters	No	No
Self diagnostics	No	No	No	No
DISPLAY PARAMETERS				
Display positions, chars./display	1920	1920	1920	1920
Display arrangement, lines x chars./line	24 x 80	25 x 80	25 x 80	24 x 80
Display area, h x w, inches	12-in. diag.	12-in. diag.	12-in. diag.	12-in. diag.
Total displayable symbols	96	128	128	96 ASCII/32 control
Symbol formation	5 x 9 dot matrix	5 x 9 in 7 x 10 fld.	5 x 9 dot matrix	5 x 9 dot matrix
Color	No	No	No	No
Reverse video	No	Std.	Std.	Std.
Programmable brightness levels	2 std.	Std.	2 std.	Std.
Character and/or field blinking	No	Std.	Std.	No
Roll	Std., up only	Up std.	Std., up only	No
Paging	No	No	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt., full addressability
Cursor blinking	No	Std.	Std.	Std.
Addressable/readable cursor	Addressable only	Both std.	Both std.	No
Protected format	Std.	Std.	Std.	Std.
Partial screen transmit	Std.	Std.	Std.	No
Tabulation	Std.	Forward/back std.	Std.	No
Character insert/delete	No	Std.	Std.	No
Line insert/delete	No	Std.	Std.	Std.
Erase	Line, screen std.	Char., line, screen std.	Line, screen std.	Line, screen std.
Character repeat	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS				
Style	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	96 ASCII	96 ASCII	96 ASCII	128 ASCII
Detachability	No	Opt.	Std.	No
Program function keys	No	14 std.	16 std.	4 std.
Numeric keypad	Std.	Std.	Std.	Std.
ANCILLARY DEVICES				
Cassette tape drive	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No
Serial printer	No	No	No	Impact
Other devices	Audible alarm std.	Audible alarm std.	Audible alarm std.	—
TRANSMISSION PARAMETERS				
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	ASCII	ASCII	ASCII	—
Code	ASCII	ASCII	ASCII	ASCII
Speed, bits/second	75 to 19,200	110 to 19,200	110 to 19,200	110-9600
Format: character, line, or block	Char./block	Char., line, block	Char./block	Character
Multipoint operation (pollable/addr.)	No	No	Opt.	No
Auto answer	No	No	No	No
Auto call	No	No	No	No
Terminal interface	RS-232-C, 20 mA current loop	RS-232-C, 20 mA	RS-232-C, 20 mA current loop	RS-232-C, 20 mA
Integral modem	No	No	No	No
Integral acoustic coupler	No	No	No	No
PRICING AND AVAILABILITY				
Display station, 1 year lease, $/mo.	Purchase only	Purchase only	Purchase only	Purchase only
Display station, 2 year lease, $/mo.	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—
Display station, purchase, $	995	1,120	1,495	1,875
Controller, purchase, $	—	—	—	—
Date of first production delivery	11/76	1/81	8/78	11/80
Display units installed to date	40,000	300	5,000	120
Serviced by	Soroc	Soroc	Soroc	TRW/Southwest Data Systems
COMMENTS		Includes programmable transmit & print delimiters, keyboard repeat rate, blink rate, enable/disable cursor; graphics option available.		Designed to be compatible with Basic 4 systems.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	TAB 132/15	Taumark Tera System Handheld Terminal	TEC, Inc. Model 70	TEC, Inc. Models 415, 425, & 435
TERMINAL DESCRIPTION				
Stand-alone or cluster	Stand-alone	Radio net. cluster	Stand-alone	Stand-alone
Maximum displays/controller	1	250	1	1
Transportability	No	Yes	No	No
IBM compatibility	No	3270 opt.	No	No
Teletype compatibility	Opt.	Std. (controller)	Std.	No
Other compatibility	DEC VT-52, VT-100	To customer reqs.	No	No
User programmable	Via user-defined parameters	On custom systems	No	No
Self diagnostics	Std.	On custom systems	No	No
DISPLAY PARAMETERS				
Display positions,.chars./display	3168	64	2000	1920
Display arrangement, lines x chars./line	24 x 132	4 x 16	25 x 80	24 x 80
Display area, h x w, inches	15-in. diag.	2.5 x 3.62	6 x 9	6 x 9
Total displayable symbols	64	64 ASCII std.	126	68
Symbol formation	7 x 11 dot matrix	5 x 7 dot matrix	7 x 9 dot matrix	5 x 7 dot matrix
Color	No	No	No	No
Reverse video	Std.	No	Opt.	Opt.
Programmable brightness levels	Std.	No	Opt.	No
Character and/or field blinking	Std.	No	Opt	Std.
Roll	Std.	Up, down, std.	Up std.	Std.
Paging	4 pages std.	1920-char. buf. opt.	3 opt.	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	Right, left, line advance	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	No	Std.	Std.
Addressable/readable cursor	Std.	Addr. std., read opt.	Both std.	Std.
Protected format	Std.	16 1-line form. std.	Opt.	Std.
Partial screen transmit	Std.	Std.	Opt.	Std.
Tabulation	Forward/back std.	No	Opt.	Std.
Character insert/delete	Std.	No	Opt.	Std.
Line insert/delete	Std.	No	Opt.	Std.
Erase	Line, screen std.	Char., line, screen std.	Char., screen std., line opt.	Line, screen std.
Character repeat	Std.	No	Std.	Std.
KEYBOARD PARAMETERS				
Style	Typewriter	40-key alphanumeric std., others opt.	Typewriter, TTY	Teletype
Character/code set	64 ASCII	64 ASCII std.	128 ASCII	81 ASCII
Detachability	Std.	No	Std.	Std.
Program function keys	14 std.	Opt.	8 std.	No
Numeric keypad	Std.	Std.	Opt.	Opt.
ANCILLARY DEVICES				
Cassette tape drive	No	No	—	No
Diskette drive (floppy disk)	No	No	Single	No
Serial printer	Opt.	No	Impact, non-impact	RS-232 interface
Other devices	—	Bar code reader, A/D probe, audible alarm, battery-low indicator	Magnetic stripe card reader; audible alarm std.	Audible alarm std.
TRANSMISSION PARAMETERS				
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Async.,sync.,bisync.	Async. std., sync. opt.	Asynchronous
Communications protocol	—	ASCII std., BSC opt.	—	ASCII, see comments
Code	ASCII	ASCII std., EBC. opt.	ASCII	ASCII
Speed, bits/second	Up to 19,200	600 to 50K (cont.)	50-9600	110 to 9600
Format: character, line, or block	Char., line, block	Block	Char./line, blk. opt.	Block only
Multipoint operation (pollable/addr.)	No	Std. (terminals)	No	Std. (425)
Auto answer	Std.	No	No	No
Auto call	No	No	No	No
Terminal interface	RS-232-C, 20mA	RS-232-C, 20 mA (controller)	RS-232-C, TTL std.; 20/60 mA dc opt.	RS-232-C, 20/60 mA dc
Integral modem	No	Std. (terminal)	No	No
Integral acoustic coupler	No	No	No	No
PRICING AND AVAILABILITY				
Display station, 1 year lease, $/mo.	Purchase only	Lease through third party	—	Purchase only
Display station, 2 year lease, $/mo.	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—
Display station, purchase, $	2,450	3,600 (w/o radio) 5,250 (w/o radio)	1,400-1,900	2,100-2,600
Controller, purchase, $	—	—	—	—
Date of first production delivery	4/81	7/78	4/77	2/70
Display units installed to date	—	—	4,000	9,000 (all mdls.)
Serviced by	TAB Products	Taumark, Inc.	TEC	TEC
COMMENTS		Provides 2-way on-line comm. via FM radio btwn. mobile personnel & base station controller, which controls network & converts radio protocol to acceptable digital format for host comp.	Rack-mount AVA.	Model 415 has parallel (TTL logic) interface; Model 425 has serial interface; rack-mounted units available.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	TEC, Inc. Model 455	TEC, Inc. Model 510	TEC, Inc. Model 570	TEC, Inc. Model 610	TEC, Inc. Model 630
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	No	No
Teletype compatibility	Std.	Std.	Std.	Std.	Std.
Other compatibility	No	ADM-3A	No	ADM-3A	Lear Siegler ADM-3A
User programmable	No	No	Via user-defined firmware	No	No
Self diagnostics	No	Std.	Std.	Std.	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	1920	2000	2000	2000	2000
Display arrangement, lines x chars./line	24 x 80	25 x 80	25 x 80	25 x 80	25 x 80
Display area, h x w, inches	6 x 9	6 x 9	6 x 9	6 x 9	6 x 9
Total displayable symbols	68	95	128	95	95
Symbol formation	5 x 7 dot matrix	6 x 8 dot matrix	6 x 8 dot matrix	6 x 8 dot matrix	6 x 8 dot matrix
Color	No	No	No	No	No
Reverse video	No	Std.	Std.	Std.	Std.
Programmable brightness levels	No	Std.	Std.	No	Std.
Character and/or field blinking	Std.	Std.	Std.	Std.	Std.
Roll	Std.	Up std.	Up std.	Up std.	See comments
Paging	No	No	3 pages opt.	No	Opt. 1, 2, or 4
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Std.	Std.
Addressable/readable cursor	Both std.	Both std.	Both std.	Both std.	Both std.
Protected format	Std.	Std.	Std.	Std.	Std.
Partial screen transmit	Std.	Std.	Std.	Std.	Std.
Tabulation	Std.	Forward/back std.	Std.	Forward/back std.	Forward/back std.
Character insert/delete	Std.	No	Std.	No	Std.
Line insert/delete	Std.	No	Std.	No	Std.
Erase	Line, screen std.	Char., screen std.	Char., line, screen std.	Char., screen std.	Char., line, screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	TTY/typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	113 ASCII	128 ASCII	128 ASCII	128 ASCII	96 ASCII
Detachability	Std.	No	Opt.	Opt.	Std.
Program function keys	No	No	7 std.	No	16 std.
Numeric keypad	Std., opt. 455	Opt.	Opt.	Opt.	Opt.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	RS-232 interface	No	Ser. buffered/unbuff.	No	No
Other devices	Audible alarm std.	Auxillary I/O	Aux. I/O	Auxillary I/O	Printer port
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	ASCII	ASCII	TTY	ASCII	ASCII
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Speed, bits/second	110 to 9600	110 to 9600	50 to 19,200	110 to 9600	110 to 9600
Format: character, line, or block	Char./block	Char., line, block	Char., line, block	Char., line, block	Char., line, block
Multipoint operation (pollable/addr.)	No	No	No	No	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232C, 20/60 mA dc	RS-232C std.; 20/60 mA dc opt.	RS-232C, TTL, 20/60 mA std.	RS-232C std.; 20/60 mA dc opt.	RS-232C std.; 20/60 mA opt.
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Purchase only	Purchase only	Purchase only	Purchase only	Purchase only
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	2,100-2,600	618-925	1,115-1,425	748-1081	650-940
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	1/70	9/79	3/79	—	—
Display units installed to date	8,500	1,400	1,400	—	—
Serviced by	TEC	TEC	TEC	TEC	TEC
COMMENTS	Rack mount available.		Limited graphics opt.		Scroll up & down, page up & down standard on page mode units.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	TEC, Inc. Models 1401, 1440, 1445, 2401, & 2402	Tektronix 4024	Tektronix 4025	Telcon Ambassador IV	Telcon VCS 780
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	—	—
Transportability	No	No	No	Portable	No
IBM compatibility	No	No	Opt.	No	No
Teletype compatibility	Std.	Std.	Std.	Std.	Std.
Other compatibility	No	No	No	DEC VT-103	No
User programmable	No	No	No	No	No
Self diagnostics	No	Yes	Yes	Std.	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	960 (1401) 1920	2720	2720	1920	1920
Display arrangement, lines x chars./line	12/24 x 80	34 x 80	34 x 80	24 x 80	24 x 80
Display area, h x w, inches	6 x 9	6.7 x 9	6 7 x 9	—	—
Total displayable symbols	64/96/128	64/96/128	64/96/128	96/128	128
Symbol formation	5 x 7 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix	5 x 8 dot matrix	5 x 8 dot matrix
Color	No	No	No	No	No
Reverse video	No	No	Std.	Std.	Std.
Programmable brightness levels	2 std.; 1401 & 240x	Enhance std.	Enhance std.	No	No
Character and/or field blinking	Std.; 1401 & 240x	Both std.	Both std.	No	No
Roll	Std	Std.	Std.	Up std.	Std.
Paging	No	Std.	Std.	1 page std.	6½ pages
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.; LF, BS (1440)	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt. start, end
Cursor blinking	Std.	No	No	Std.	Std.
Addressable/readable cursor	Std.; 1401 & 240x	Yes	Yes	Addressable only	No
Protected format	Std.; 1401 & 240x	Yes	Yes	No	No
Partial screen transmit	Std.; 1401 & 240x	Std.	Std.	No	No
Tabulation	Std.; 1401 & 240x	Std.	Std.	Set, delete, tab	Set, delete, tab
Character insert/delete	No	Std.	Std.	No	Std.
Line insert/delete	No	Std.	Std.	No	Std.
Erase	Screen std.	Std.	Std.	Screen std.	Char., line, screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Teletype	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	ASCII	128 ASCII	128 ASCII	128 ASCII	128 ASCII
Detachability	Std.	Std.	Std.	No	No
Program function keys	No	12	12	No	No
Numeric keypad	Opt.	Std.	Std.	No	No
ANCILLARY DEVICES					
Cassette tape drive	RS-232C interface	No	No	No	Opt.
Diskette drive (floppy disk)	No	No	No	No	Opt. single/dual
Serial printer	RS-232C interface	Impact (4642)	Impact (4642)	Non-impact	Opt.
Other devices	Audible alarm std., aux. I/O	4632 Hard Copy Unit, 9923 Cartridge Tape Drive	4631 Hard Copy Unit, 4924 Cartridge Tape Drive, 4662 Plotter	—	—
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	ASCII	ASCII	ASCII	—	—
Code	ASCII	ASCII	ASCII	ASCII	ASCII, Baudot
Speed, bits/second	110 to 9600	Up to 9600	Up to 9600	110 to 9600	45 to 4800
Format: character, line, or block	Char./block	Char./Block	Char./Block	—	—
Multipoint operation (pollable/addr.)	No	Opt.	Opt.	No	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232C, 20/60 mA dc	RS-232-C std., 20 mA current loop opt.	RS-232-C std., 20 mA current loop opt.	RS-232-C, 20 mA	RS-232-C, 20 mA
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	Std.	Std.
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Purchase only	—	—	208	149
Display station, 2 year lease, $/mo.	—	—	—	184	130
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,125-1,725	3,500 (base)	4,000 (base)	3,495	2,995
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	11/74 to 4/75	11/77	11/77	6/80	6/79
Display units installed to date	10,000	—	—	—	—
Serviced by	TEC	Tektronix	Tektronix	TRW	TRW
COMMENTS	Model 2402 is a 2401 with lower case alphabetics	Has 4K to 32K memory	Has 4K to 32K memory; can have 6 char. sets; up to 11 user-defined char. sets with Graphics option	Includes text search & replace, text move, auto wordings.	Includes text search & replace, text move, auto wordings.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Teleram P1888	Teleram 2277 Mark II	Teleram Portabubble TM/81	Teleray 10	Teleray 11 (APL)
TERMINAL DESCRIPTION					
Stand-alone or cluster	Either	Either	Either	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	Portable case (22 lbs.)	No	Portable case	No	No
IBM compatibility	No	No	No	No	No
Teletype compatibility	Std.	Std.	Std.	Std.	Std.
Other compatibility	RS-232-C async.	RS-232-C asynch.	RS-232-C asynch.	See comments	No
User programmable	Via user-defined parameters	Via user-defined parameters	Via user-defined parameters	Via user-defined parameters	Via user-defined parameters
Self diagnostics	Yes	No	No	No	No
DISPLAY PARAMETERS					
Display positions, chars./display	832	1840	544/816	1920	1920
Display arrangement, lines x chars./line	52/line	80/line	34 line/54 line select	24 x 80; 24 x 40	24 x 80; 24 x 40
Display area, h x w, inches	7-in. diag.	12-in. diag.	5-in. diag.	6 x 8.5; 12-in. diag.	6 x 8.5; 12-in. diag.
Total displayable symbols	128 ASCII	128 ASCII	128 ASCII	128 ASCII	128 ASCII & 96 APL
Symbol formation	7 x 9 dot matrix	7 x 9 dot matrix	7 x 9	7 x 9 plus descenders	7 x 9 plus descenders
Color	No	No	No	No	No
Reverse video	Std.	Std.	No	Std.	Std.
Programmable brightness levels	Std.	Std.	Std.	Std.	Std.
Character and/or field blinking	Both	Both	Both	Std.	Std.
Roll	Up, down std.	Up, down std.	Up & down std.	Up and down std.	Up and down std.
Paging	No	Yes, full memory	Full memory std.	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H	U, D, L, R, H	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	No	No	No	Std.	Std.
Addressable/readable cursor	No	No	No	Both std.	Both std.
Protected format	No	No	No	Std.	Std.
Partial screen transmit	No	No	No	Std.	Std.
Tabulation	Forward/back std.	Fwd./back std.	Forward/back std.	Forward/back std.	Forward/back std.
Character insert/delete	Std.	Std.	Std.	Std.	Std.
Line insert/delete	Std.	Std.	Std.	Std.	Std.
Erase	Char./line/screen	Character/line/screen std.	Char./line/screen std.	EOL, EOP, Page	EOL, EOP, Page
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	128 ASCII, 64 TTS	128 ASCII, 64 TTS	See comments	128 ASCII	128 ASCII & 96 APL
Detachability	Yes	Yes	No	Opt.	Opt.
Program function keys	No	No	No	32 func.	32 func.
Numeric keypad	No	No	No	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	Single	No	No	No	No
Diskette drive (floppy disk)	No	Single	No	No	No
Serial printer	Yes	Opt./separate	Opt./separate	No	No
Other devices	Through RS-232-C interface	All RS-232-C interfaces	All RS-232-C interfaces	RS-232-C peripheral port.	RS-232-C peripheral port
TRANSMISSION PARAMETERS					
Mode	Half-duplex	Half-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	None	None	None	ASCII	ASCII
Code	ASCII, TTS, BAUDOT	ASCII, TTS, BAUDOT	ASCII, TTS, BAUDOT	ASCII	ASCII/APL
Speed, bits/second	1200, 300	Select., 1200, 300	50-9600	50 to 19,200	50 to 19,200
Format: character, line, or block	Char./block	Char./block	Character/block	Char./block	Char./block
Multipoint operation (pollable/addr.)	No	No	No	No	No
Auto answer	Std.	Std.	Std.	Std.	Std.
Auto call	No	No	No	No	No
Terminal interface	RS-232-C	RS-232-C	RS-232-C; acoustic coupler	RS-232-C std.; 20 mA opt.	RS-232-C std.; 20 mA opt.
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	Yes	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	—	—	—	69	93
Display station, 2 year lease, $/mo.	—	—	—	62	84
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	—	—	—	1,150	1,590
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	—	—	—	9/78	7/79
Display units installed to date	—	—	—	—	—
Serviced by	—	—	—	Teleray or dist.	Teleray or dist.
COMMENTS			Character/code set: 128 ASCII, 64 TTS, 64 Baudot; 14.8 lb. unit.	Compatibility options: DEC VT-52, DG 6053, Microdata Prism. Available in six enclosure styles. Keyboard features N-key rollover.	Available in 3 enclosure styles. Keyboard features N-key rollover.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Teleray 12	Teleray 14	Teleray 100	Teletype Model 40/1	Teletype Model 40/2
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	No	No
Teletype compatibility	Std.	Std.	Std.	Std.	Std.
Other compatibility	No	No	DEC VT-100	No	No
User programmable	Via user-defined parameters	Via user-defined parameters	Via user-defined parameters	No	No
Self diagnostics	No	No	No	Std.	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	3,840 (2 pages)	1920	960 to 3168	1920	1920
Display arrangement, lines x chars./line	24 x 80; 24 x 40	24 x 80; 24 x 40	24 x 40, 66, 80, and 132	24 x 80	24 x 80
Display area, h x w, inches	6 x 8.5; 12-in. diag.	6 x 8.5; 12-in. diag.	6 x 8.5; 12-in. diag.	5.25 x 11.25	5.25 x 11.25
Total displayable symbols	128 ASCII	128 ASCII	128 ASCII + 32 graph.	127	127
Symbol formation	7 x 9 plus descenders	7 x 9, plus descenders	7 x 9, plus descenders	7 x 9 dot matrix	7 x 9 dot matrix
Color	No	No	No	No	No
Reverse video	Std.	Std.	Std.	No	No
Programmable brightness levels	Std.	Std.	Std.	2 opt.	2 opt.
Character and/or field blinking	Std.	Std.	Std.	Std., char. only	Std., char. only
Roll	Up and down std.	Up & down std.	Smooth scroll	Std., up & down	Std., up & down
Paging	2 pages std.	4 pages std.	No	Opt. 2/3 pages	Opt., 2/3 pages
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	No	No
Addressable/readable cursor	Both std.	No	Both std.	No	No
Protected format	Std.	No	Std.	Opt.	Opt.
Partial screen transmit	Std.	Std.	Std.	Std.	Std.
Tabulation	Forward/back std.	Forward/back std.	Forward/back std.	Opt.	Opt.
Character insert/delete	Std.	No	Std.	Std.	Std.
Line insert/delete	Std.	No	Std.	Std.	Std.
Erase	EOL, EOP, Page	EOL, line, screen, EOM, memory	EOL, line, screen, EOM, memory	Screen std.	Screen std.
Character repeat	Std.	Std.	Std.	Partial	Partial
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	128 ASCII	128 ASCII	128 ASCII + 32 graph.	127 ASCII	127 ASCII
Detachability	Opt.	Opt.	Opt.	No	No
Program function keys	32 func.	32 functions	20 functions	No	No
Numeric keypad	Std.	Std.	Std.	No	No
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	No	No	No	Impact	Impact
Other devices	RS-232-C peripheral port.	Peripheral port.	Bi-directional peripheral port	Audible alarm std.	Audible alarm std.
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	ASCII	ASCII	ASCII	ASCII	ASCII
Code	ASCII	ASCII	ASCII/ANSI	ASCII	ASCII
Speed, bits/second	50 to 19,200	50 to 19,200	50 to 19,200	1050/1200	110 to 4800
Format: character, line, or block	Char./block	Char., block	Char., block	Line/block	Block/char.
Multipoint operation (pollable/addr.)	No	No	No	No	No
Auto answer	Std.	Std.	Std.	Std.	Std.
Auto call	No	No	No	No	No
Terminal interface	RS-232-C std.; 20 mA opt.	RS-232-C std.; 20 mA opt.	RS-232-C std.; 20 mA opt.	RS-232-C	RS-232-C or 20/60 mA dc
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	99	111	105	Purchase only	Purchase only
Display station, 2 year lease, $/mo.	89	100	94	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,690	1,890	1,750	4,250-5,323	4,722-5,463
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	9/79	10/80	12/80	10/73	10/73
Display units installed to date	—	—	—	—	—
Serviced by	Teleray or dist.	Teleray or dist.	Teleray or dist.	Teletype & Bell	Teletype & Bell
COMMENTS	Available in four enclosure styles. Keyboard features N-key follower.	Available in three enclosure styles; light weight (24 lbs.). Space-over-data cursor mode. Programmable transmission rates; N-key rollover.	Available in five enclosure styles; light weight (24 lbs.). Non-volatile programmable function memory; advanced video std.; non-volatile set-up.	For use on the dial network (DDD); also available from AT&T (Bell System) as Dataspeed 40, and from leasing companies.	For use on the dial network (DDD); also available from AT&T (Bell System) as Dataspeed 40, and from leasing companies.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Teletype Model 40/3	Teletype Model 40/4	Teletype Model 4420	Teletype Model 4540 Series	Teletype Model 4543
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Either	Stand-alone	Cluster	Stand-alone
Maximum displays/controller	1	1, 2, or 36	1	1 to 32	1
Transportability	No	No	No	No	No
IBM compatibility	No	3270 BSC	No	3270 BSC, SDLC	SDLC
Teletype compatibility	No	No	Std.	No	No
Other compatibility	No	No	No	No	No
User programmable	No	No	No	No	No
Self diagnostics	Std.	Std.	Std.	Std.	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	1920	1920	1920
Display arrangement, lines x chars./line	24 x 80	24 x 80	24 x 80	24 x 80	24 x 80
Display area, h x w, inches	5.25 x 11.25	5.25 x 11.25	13-in. diag.	5.25 x 11.25	13-in. diag.
Total displayable symbols	127	127	128	127	64 EBCDIC
Symbol formation	7 x 9 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix
Color	No	No	No	No	No
Reverse video	No	No	Std.	No	No
Programmable brightness levels	2 opt.	3 std.	Std.	3 std.	3 std.
Character and/or field blinking	Std., char. only	Field std.	Char. std.	Field std.	Field std.
Roll	Std., up & down	No	Up & down std.	No	No
Paging	Opt., 2/3 pages	No	3 pages std.	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt., NL, Tab, B1 tab	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	No	Opt.	No	Opt.	Opt.
Addressable/readable cursor	No	Std.	Both std.	Std.	Std.
Protected format	Opt.	Std.	Std.	Std.	Std.
Partial screen transmit	Std.	Std.	Std.	Std.	Std.
Tabulation	Opt.	Yes	Forward/back std.	Yes	Std.
Character insert/delete	Std.	Std.	Std.	Std.	Std.
Line insert/delete	Std.	Std.	Std.	Std.	Std.
Erase	Char., line, screen std.	Screen std.	Char., line, screen std.	Screen std.	Screen std.
Character repeat	Partial	Partial	Std.	Partial	Partial
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter, data entry	Typewriter	Typewriter, data entry	Typewriter, data entry
Character/code set	127 ASCII	96 ASCII/EBCDIC	128 ASCII	96 ASCII/EBCDIC	64 EBCDIC
Detachability	Std.	Opt.	Std.	Opt.	Std.
Program function keys	No	12 std.	10 std.	12 std.	24
Numeric keypad	No	Opt. (typewriter keyboard only)	Opt.	Opt. (typewriter keyboard only)	Opt.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Impact	Impact	Impact	Impact	Impact
Other devices	Audible alarm std.	Audible alarm std.	Line printer, audible alarm	Audible alarm std., magnetic stripe reader opt.	Line, printer, audible alarm std.; stripe reader opt.
TRANSMISSION PARAMETERS					
Mode	Half-duplex	Half-duplex	Half/full-duplex	Half-duplex	Half/full-duplex
Technique	Asynchronous	Synchronous	Asynchronous	Synchronous	Synchronous
Communications protocol	ASCII	BSC	TTY	BSC, SDLC	SDLC
Code	ASCII	ASCII/EBCDIC	ASCII	ASCII/EBCDIC	ASCII/EBCDIC
Speed, bits/second	1050/1200	2400/4800/9600	Up to 9600	2400/4800/9600	2400/4800/9600
Format: character, line, or block	Block only	Block only	Char., line, block	Block only	Block
Multipoint operation (pollable/addr.)	Std.	Std.	No	Std.	Std.
Auto answer	Std.	Std.	Std.	Std.	Std.
Auto call	No	No	No	No	No
Terminal interface	RS-232-C	RS-232-C	RS-232-C std., 20 mA opt.	RS-232-C	RS-232-C
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Purchase only	Purchase only	Purchase only	Purchase only	Purchase only
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	4,808-5,258	1,335-1,820	3,928	2,255-2,793	4,730
Controller, purchase, $	1,485-1,492	Contact vendor	Inc.	3,775-5,464	Incl
Date of first production delivery	10/73	11/75	11/80	3/79	5/81
Display units installed to date	—	—	—	—	—
Serviced by	Teletype & Bell	Teletype & Bell	Teletype	Teletype & Bell	Teletype
COMMENTS	For multipoint leased-line operation; also available from AT&T (Bell System) as Dataspeed 40, and from leasing companies.	Also available from AT&T (Bell System) as Dataspeed 40/4, Mini-cluster sup. up to 3 dev.; Maxi-cluster supports up to 36 dev.; Stand-alone available in private line or dial-up version.		Also available from AT&T (Bell System) as Dataspeed 4540, requires only ordinary two-twisted-pair wires for connection up to 5000 feet from controller to display.	

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	TeleVideo Models 912B/920B	TeleVideo Models 912C/920C	TeleVideo Model 950	Telex Computer Products TC 275	Telex Computer Products TC 276
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Standalone	Both
Maximum displays/controller	1	1	1	1	8
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	3275	3276 BSC/SDLC
Teletype compatibility	Std.	Std.	No	No	No
Other compatibility	No	No	No	No	No
User programmable	No	No	Via user-defined parameters	No	No
Self diagnostics	Std.	Std.	Std.	No	Std.
DISPLAY PARAMETERS					
Display positions,.chars./display	1920	1920	1920	480/1920	1920, 2560, 3440
Display arrangement, lines x chars./line	24 x 80	24 x 80	24 x 80	12 x 40; 24 x 80	24 x 80; 32 x 80; 43 x 80
Display area, h x w, inches	12-in. diag.	12-in. diag.	12-in. diag.	15-in. diag.	15-in. diag.
Total displayable symbols	96 ASCII	96 ASCII	128 ASCII	96 EBCDIC/ASCII	96 EBCDIC/ASCII
Symbol formation	6 x 8 dot matrix	6 x 8 dot matrix	6 x 8 dot matrix	7x9/7x8 dot matrix	9 x 14
Color	No	No	No	1 std.	No
Reverse video	Std.	Std.	Std.	No	No
Programmable brightness levels	2 char., 1 field	2 char., 1 field	2 char., 1 field	2 std.	Std.
Character and/or field blinking	Field std.	Field std.	Field std.	No	No
Roll	Up std.	Up std.	Up std.	No	No
Paging	2 pages opt.	2 pages opt.	2 or 4 pages opt.	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std., selectable	Std., selectable	Std.	No	Std.
Addressable/readable cursor	Both std.	Both std.	Both std.	Std.	Both std.
Protected format	Std.	Std.	Std.	Std.	Std.
Partial screen transmit	Std.	Std.	Std.	Std.	Std.
Tabulation	Column/field std.	Column/field std.	Column/field std.	Std.	Forward/back std.
Character insert/delete	Std.	Std.	Std.	Std.	Std.
Line insert/delete	Std.	Std.	Std.	No	No
Erase	Line, screen std.	Line, screen std.	Line, screen std.	Char.,line, screen std.	Char., screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Teletype	Typewriter	Typewriter	Typewriter/data entry	Typewriter/data entry
Character/code set	128 ASCII	128 ASCII	128 ASCII	ASCII/ EBCDIC	64 ASCII, 96 EBCDIC
Detachability	No	No	Std.	Std.	Std.
Program function keys	11 std. (920B only)	11 std. (920C only)	22 std.	Opt.	24 opt.
Numeric keypad	Std.	Std.	Std.	Std.	Opt.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	No	No	No	Impact	Impact, matrix
Other devices	Extension printer port, bell	Extension printer port, bell	Extension printer port, bell	Audible alarm, light pen, mag. stripe reader opt.	Security lock, audible alarm, light pen
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half-duplex	Half-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Synchronous	Synchronous
Communications protocol	ASCII	ASCII	ASCII	BSC, SDLC	BSC, SDLC
Code	ASCII	ASCII	ASCII	ASCII/ EBCDIC	ASCII, EBCDIC
Speed, bits/second	75-9600	75-9600	50 to 19,200	1200 to 4800	2400 to 9600
Format: character, line, or block	Char., line, block	Char. line, block	Char. line, block	Block only	Block
Multipoint operation (pollable/addr.)	No	No	No	Std.	Std.
Auto answer	No	No	No	No	No
Auto call	Auto dial opt.	Auto dial opt.	Auto dial opt.	No	No
Terminal interface	RS-232-C, 20 mA std.	RS-232-C, 20 mA std.	RS-232-C	RS-232-C	RS-232-C
Integral modem	Opt.	Opt.	Opt.	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Purchase only	Purchase only	Purchase only	N/A	N/A
Display station, 2 year lease, $/mo.	—	—	—	95	153
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	875-945	950-1,030	1,195	4,110	4,200
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	3/79	9/79	1/81	1/74	9/79
Display units installed to date	10,000	10,000	50	2,500	1,500
Serviced by	GE Intr. & Comm.	GE Intr. & Comm.	GE Intr. & Comm.	Telex Service Co.	Telex Service Co
COMMENTS					

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Telex Computer Products TC 277	Telex Computer Products TC 278	Telex Computer Products 310	Termiflex HT/20	Termiflex CD/20
TERMINAL DESCRIPTION					
Stand-alone or cluster	Cluster	Cluster	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	32	32	1	1	1
Transportability	No	No	No	Hand-held	Hand-held
IBM compatibility	3277	3278 BSC/SDLC	3101	No	No
Teletype compatibility	No	No	Std.	Std.	Std.
Other compatibility	No	No	See comments	No	No
User programmable	No	No	No	No	No
Self diagnostics	No	Std.	Std.	No	No
DISPLAY PARAMETERS					
Display positions, chars./display	480/1920	1920 to 3564	1920	16 (see comments)	16
Display arrangement, lines x chars./line	12 x 40; 24 x 80	24 x 80; 32 x 80; 43 x 80; 27 x 132	24 x 80 plus 25th status line	1 x 16	1 x 16
Display area, h x w, inches	15-in. diag.	15-in. diag.	15-in. diag.	2 x 4	2 x 4
Total displayable symbols	96	96 EBCDIC/ASCII	128	96 ASCII	96 ASCII
Symbol formation	7x9/7x8 dot matrix	9 x 14	7 x 11 dot matrix	18 element LED	18 element LED
Color	No	No	No	Red	Red
Reverse video	No	No	Std.	No	No
Programmable brightness levels	2 std.	Std.	Std.	No	No
Character and/or field blinking	No	No	Opt.	Char. std.	Char. std.
Roll	No	No	Up std.	No	No
Paging	No	No	Opt.	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	No	No
Cursor blinking	No	Std.	Std.	No	No
Addressable/readable cursor	Std.	Both std.	Std.	No	No
Protected format	Std.	Std.	Opt.	No	No
Partial screen transmit	Std.	Std.	Opt.	No	No
Tabulation	Std.	Forward/back std.	Std./Prog. tabs	No	No
Character insert/delete	Std.	Std.	Opt.	Std.	Std.
Line insert/delete	Std.	No	Opt.	No	No
Erase	Char., line, screen std.	Char., screen std.	Std.	No	No
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter, data entry	Typewriter, data entry	Typewriter	Modified "Touch-tone	24-key pad
Character/code set	ASCII/EBCDIC	64 ASCII/96 EBCDIC	128 ASCII	128 ASCII	24 ASCII
Detachability	Std.	Std.	Std.	No	No
Program function keys	Opt.	24 opt.	8 std.	No	No
Numeric keypad	Std.	Opt.	Std.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	Line/impact-matrix	Impact, matrix	Yes	No	No
Other devices	Audible alarm, light pen, mag. stripe reader opt.	Security lock, audible alarm, light pen	Audible alarm std.	None	None
TRANSMISSION PARAMETERS					
Mode	—	—	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	—	—	Asynchronous	Asynchronous	Asynchronous
Communications protocol	BSC/SDLC	BSC, SDLC	ASCII	Bit serial	Bit serial
Code	ASCII/EBCDIC	ASCII, EBCDIC	ASCII	ASCII	ASCII
Speed, bits/second	—	—	50 to 19,200	300, 1200, 9600	300, 1200, 9600
Format: character, line, or block	Block only	Block	Opt.	Char. only	Char. only
Multipoint operation (pollable/addr.)	Std.	Std.	No	No	No
Auto answer	No	—	No	No	No
Auto call	No	—	No	No	No
Terminal interface	Coax.	Coax.	RS-232-C, 20 mA, or RS-422	RS-232-C, RS-422, TTL, 20 mA,	RS-232-C, RS-422, TTL, 20 mA,
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	—	—	Purchase only	Purchase only	Purchase only
Display station, 2 year lease, $/mo.	64	51	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,900	1,950	900-1,495	495	495
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	2/74	7/79	5/80	10/80	10/80
Display units installed to date	40,000	7,000	Over 500	—	—
Serviced by	Telex Service Co.	Telex Service Co.	Telex Service Co.	Termiflex	Termiflex
COMMENTS			Custom options and other compatibility available on custom quote. User set-up and control options are selected from keyboard & stored in non-volatile storage.	Unit has 4 indicator lights that identify status of keyboard; priced at $195 in quantities of 500 or more.	Four indicator lights may be set on, off, or blinking by received codes; priced at $195 in quantities of 500 or more.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Termiflex HT/2	Termiflex HT/3	Termiflex HT/4	Termiflex HT/5	Termiflex HT/6
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	Hand-held	Hand-held	Hand-held	Hand-held	Hand-held
IBM compatibility	No	No	No	No	No
Teletype compatibility	Std.	Std.	Std.	Std.	Std.
Other compatibility	No	No	No	No	No
User programmable	No	No	No	No	No
Self diagnostics	No	No	No	No	No
DISPLAY PARAMETERS					
Display positions, chars./display	20	12	24	12	20
Display arrangement, lines x chars./line	2 x 10	1 x 12	2 x 12	2 x 6	1 x 20
Display area, h x w, inches	2 x 4	2 x 4	2 x 4	2 x 4	2 x 4
Total displayable symbols	128 ASCII	96 ASCII	96 ASCII	None	128 ASCII
Symbol formation	5x7 dot LED matrix	5x7 dot LED matrix	5x7 dot LED matrix	Status lights	5x7 dot LED matrix
Color	Red	Red	Red	Red	Red
Reverse video	No	No	No	No	No
Programmable brightness levels	No	No	No	No	No
Character and/or field blinking	No	No	No	No	No
Roll	Std., up & down	No	No	No	Up, down std.
Paging	No	No	No	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	Left, Right	Home	Home	No	Left, Right, Home
Cursor blinking	Std.	No	No	No	Std.
Addressable/readable cursor	No	No	No	No	No
Protected format	No	No	No	No	No
Partial screen transmit	No	No	No	No	No
Tabulation	No	No	No	No	No
Character insert/delete	Yes	Yes	Yes	No	Std.
Line insert/delete	Opt.	Opt.	Opt.	No	No
Erase	Screen std.	Screen std.	Screen std.	Screen std.	Screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Modified "Touch-tone"	Modified "Touch-tone"	Modified "Touch-tone"	Modified "Touch-tone"	Modified "Touch-tone"
Character/code set	128 ASCII	128 ASCII	128 ASCII	128 ASCII	128 ASCII
Detachability	No	No	No	No	No
Program function keys	No	No	No	No	No
Numeric keypad	Std.	Std.	Std.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	No	No	No	No	No
Other devices	None	None	None	None	Audible alarm std.
TRANSMISSION PARAMETERS					
Mode	Full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	Bit serial	Bit serial	Bit serial	Bit serial	Bit serial
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Speed, bits/second	110/150/300/1200	110-2400	110-2400	110-2400	110/150/300/1200
Format: character, line, or block	Char. only	Char. only	Char. only	Char. only	Char. only
Multipoint operation (pollable/addr.)	No	Opt.	Opt.	No	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C, 20 mA	RS-232-C, 20 mA	RS-232-C, 20 mA	RS-232-C, 20 mA	RS-232-C, 20 mA
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Purchase only	Purchase only	Purchase only	Purchase only	Purchase only
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,995	795	1,195	495	1,795
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	6/74	1/77	1/77	2/77	6/78
Display units installed to date	Over 1000	Over 1000	Over 1000	100	500
Serviced by	Termiflex	Termiflex	Termiflex	Termiflex	Termiflex
COMMENTS	All models display data via red LEDs; external power supplies sell for $295 (PS 1A, 6 lbs.) or $175 (PS 5, 2 lbs.). HT 5 features 2 rows of six status lights, HT 3 and HT 4 have Internal Rechargeable Battery Option for $200				

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Termiflex HT/7	Termiflex HT/8	Termiflex HT/10	Termiflex HT/11	Termiflex HT/12
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	Hand-held	Hand-held	Hand-held	Hand-held	Hand-held
IBM compatibility	No	No	No	No	No
Teletype compatibility	Std.	Std.	Std.	Std.	Std.
Other compatibility	No	No	No	No	No
User programmable	No	No	No	No	No
Self diagnostics	No	No	No	No	No
DISPLAY PARAMETERS					
Display positions, chars./display	40	80	12	16	32
Display arrangement, lines x chars./line	2 x 20	4 x 20	1 x 12	1 x 16	2 x 16
Display area, h x w, inches	2 x 4	2 x 4	2 x 4	2 x 4	2 x 4
Total displayable symbols	128 ASCII	128 ASCII	96 ASCII	96 ASCII	96 ASCII
Symbol formation	5x7 dot LED matrix	5x7 dot LED matrix	16 element LED	18 element LED	18 element LED
Color	Red	Red	Red	Red	Red
Reverse video	No	No	No	No	No
Programmable brightness levels	No	No	No	No	No
Character and/or field blinking	No	No	Char. std.	Char. std.	Char. std.
Roll	Up, down std.	Std., up & down	Opt., up & down	Opt., up & down	Opt., up & down
Paging	No	No	No	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	Left, Right, Home	Left, Right, Home	No	No	No
Cursor blinking	Std.	Std.	No	No	No
Addressable/readable cursor	No	No	No	No	No
Protected format	No	No	No	No	No
Partial screen transmit	No	No	No	No	No
Tabulation	No	No	No	No	No
Character insert/delete	Std.	Std.	Std.	Std.	Std.
Line insert/delete	No	No	No	No	No
Erase	Screen std.	Screen std.	No	No	No
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Modified "Touch tone"	Modified "Touch-tone"	Modified "Touch-tone"	Modified "Touch-tone"	Modified "Touch-tone"
Character/code set	128 ASCII	128 ASCII	128 ASCII	128 ASCII	128 ASCII
Detachability	No	No	No	No	No
Program function keys	No	No	No	No	No
Numeric keypad	Std.	Std.	Std.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	No	No	No	No	No
Other devices	Audible alarm std.	Audible alarm std.	None	None	None
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	Bit serial	Bit serial	Bit serial	Bit serial	Bit serial
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Speed, bits/second	110/150/300/1200	110/150/300/1200	300, 1200, 9600	300, 1200, 9600	300, 1200, 9600
Format: character, line, or block	Char. only	Char. only	Char. only	Char. only	Char. only
Multipoint operation (pollable/addr.)	No	No	No	No	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232C, 20 mA	RS-232-C, 20 mA	RS-232C, RS-422, TTL, 20 mA	RS-232C, RS-422, TTL, 20 mA	RS-232C, RS-422, TTL, 20 mA
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	Purchase only	Purchase only	Purchase only	Purchase only	Purchase only
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	2,595	3,995	495	745	995
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	9/78	12/76	6/79	5/80	5/80
Display units installed to date	500	500	N/A	N/A	N/A
Serviced by	Termiflex	Termiflex	Termiflex	Termiflex	Termiflex
COMMENTS	See Comments on previous page.	See Comments on previous page.	See Comments on previous page.	See Comments on previous page.	See Comments on previous page.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Terminal Data Corp. 675	Texas Instruments 911 VDT	Texas Instruments 915/RTC	Texas Instruments Model 940	Texas Instruments INSIGHT Series 10
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Both	Both	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1-8	N/A	N/A
Transportability	Yes; 19 lbs.	No	No	No	Yes; 10 lbs.
IBM compatibility	—	No	No	No	—
Teletype compatibility	Std.	No	No	Std.	Std.
Other compatibility	TI Silent 700	No	No	No	—
User programmable	No	Via user-created programs	No	Via user-defined parameters	No
Self diagnostics	Yes	No	No	Std.	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	1024	1920	1920	1920	960
Display arrangement, lines x chars./line	16 x 64	24 x 80	24 x 80	24 x 80, 11 x 132 std.	24 x 40
Display area, h x w, inches	9-in. diag.	6 x 8; 12" diag.	6 x 8; 12" diag.	12-in. diag.	5½-in.diag.
Total displayable symbols	64, 96	128	128	128 std.; 320 opt.	96 ASCII
Symbol formation	5 x 7	5 x 7	5 x 7	7 x 9	5 x 9
Color	No	No	No	No	No
Reverse video	No	No	No	Std.	No
Programmable brightness levels	No	Std.	Std.	32 std.	No
Character and/or field blinking	No	No	Std.	Std.	No
Roll	No	Std.	Std.	Up & down std.	Up std.
Paging	No	No	No	1 std.; 2, 4 opt.	No
Cursor positioning; Up, Down, Left, Right, Home, Return	No	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	No	No	No	Std.	Std.
Addressable/readable cursor	No	Std.	Std.	Both std.	No
Protected format	No	Std.	Std.	Std.	No
Partial screen transmit	No	No	No	Std.	No
Tabulation	No	Std.	Std.	Forward/back std.	No
Character insert/delete	No	Std.	Std.	Std.	No
Line insert/delete	No	Std.	Std.	Std.	No
Erase	Std.	Std.	Std.	Char., line, field, screen std.	Screen std.
Character repeat	No	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter, data entry	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	ASCII	128 ASCII	128 ASCII	ASCII	ASCII
Detachability	Std.	Std.	No	Std.	No
Program function keys	No	8 std.	8 std.	12 std. (24 func.)	8 std.
Numeric keypad	No	Std.	Std.	Std.	No
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	Single	No	No	No	No
Serial printer	Impact	No	No	No	Non-imprint
Other devices	—	—	—	Audible alarm, printer port	—
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Full-duplex	Full-duplex	Half/full duplex	Full duplex
Technique	Asynchronous	Asynchronous	Synchronous	Asynchronous	Asynchronous
Communications protocol	Asynchronous	Non-std.	BSC	TTY	TTY
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Speed, bits/second	110 to 9600	6 MHz	9600	110 to 19,200	300
Format: character, line, or block	Character	Character	Block	Char., block, field	Character
Multipoint operation (pollable/addr.)	No	No	No	No	No
Auto answer	No	No	Std.	Std.	No
Auto call	No	No	Opt.	No	No
Terminal interface	RS-232C	Non-std.	Non-std. sync. int.	RS-232-C std., 20mA, RS-422 opt.	RS-232-C
Integral modem	675-1 only	No	Std.	No	Std.
Integral acoustic coupler	—	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	125 mo.	139	—	160 (see comments)	—
Display station, 2 year lease, $/mo.	125 mo.	—	—	155	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	725-895 (base)	2,400	3,500	1,895	995
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	3/77 (7/77, 675-1)	4th quarter 1975	8/79	6/81	3/81
Display units installed to date	—	—	—	—	—
Serviced by	Terminal Data	Texas Instr.	Texas Instr.	Texas Instr.	Texas Instr.
COMMENTS				All leased units include 3 pages additional memory, special character sets. Screen can be split into 12 regions, vertical & horizontal divisions.	Base measures 13" x 13", 12" high. Options include PROM module for auto log-on; keyboard addressable.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Univac Uniscope 100	Univac Uniscope 200	Univac UTS 10	Univac UTS 20	Visual Technology, Inc. VISUAL 100
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	—	—	—
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	No	No
Teletype compatibility	No	No	Std.—3.64	No	Yes
Other compatibility	Univac	Univac	No	Uniscope/UTS-400	DEC VT 100
User programmable	No	No	No	No	Via user-defined parameters
Self diagnostics	No	No	Std.	Std.	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	960/1024	1536/1920	1920	1920	1920, 3168
Display arrangement, lines x chars./line	12 x 80; 16 x 64	24 x 64/80	24 x 80	Up to 24 x 80	24 x 80, or 24 x 132
Display area, h x w, inches	5 x 10	7 x 10	12-in. diag.	12-in. diag.	12-in. diag.
Total displayable symbols	64; 96 opt.	64; 96 opt.	128 ASCII	96 ASCII	95 ASCII, 32 graphics
Symbol formation	Stroke	7 x 9 dot matrix	7 x 11 dot matrix	7 x 11 dot matrix	7 x 7 dot matrix
Color	No	No	No	No	No
Reverse video	No	No	Opt.	Opt.	Std.
Programmable brightness levels	No	No	2 std.	2 std.	Std.
Character and/or field blinking	Std.	Std.	No	No	Std.
Roll	Via software	Via software	Up opt.	Up & down std.	Up/down std.
Paging	No	No	No	No	Select. scroll area
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Over char.	Over char.	Yes
Addressable/readable cursor	Std.	Std.	Both std.	Both std.	Both std.
Protected format	Std.	Std.	Std.	Std.	No
Partial screen transmit	Std.	Std.	Std.	Std.	No
Tabulation	Std.	Std.	Std. (block mode)	Std.	Forward/back std.
Character insert/delete	Std.	Std.	Std.	Std.	No
Line insert/delete	Std.	Std.	Std.	Std.	No
Erase	Char., line, screen std.	Char., line, screen std.	Char., line, screen std.	Char., line, screen std.	Char., line, screen Std.
Character repeat	Std.	Std.	Std.	Std.	Selectable
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter, Exp. function	Typewriter, Exp. function, UTS 400	Typewriter
Character/code set	ASCII	ASCII	128 ASCII	96 ASCII/128	128 ASCII
Detachability	No	No	Std.	Std.	Std.
Program function keys	4 opt.	4 opt.	12 std.	22 std.	4 std.
Numeric keypad	Opt.	Opt.	Opt.	Opt.	Std.
ANCILLARY DEVICES					
Cassette tape drive	Dual	Dual	No	No	—
Diskette drive (floppy disk)	No	No	No	No	—
Serial printer	Impact/non-impact	Impact/non-impact	Impact	Impact	—
Other devices	Audible alarm std.	Audible alarm std.	Magnetic stripe reader, tilt/rotate base	Magnetic stripe reader, tilt/rotate base, screen bypass	Audible alarm, buffered printer interface opt.
TRANSMISSION PARAMETERS					
Mode	Half-duplex	Half-duplex	Half/full-duplex	Half-duplex	Half/full-duplex
Technique	Async./sync.	Async./sync.	Asynchronous	Synchronous	Asynchronous
Communications protocol	ASCII (Univac)	ASCII (Univac)	TTY	Uniscope/UTS 400	XON-XOFF, HP opt.
Code	ASCII	ASCII	128 ASCII	96 ASCII	ASCII
Speed, bits/second	Up to 9600	Up to 9600	59 to 9600	Up to 9600	50 to 19,200
Format: character, line, or block	Block only	Block only	Character, block	Block	Character
Multipoint operation (pollable/addr.)	Std.	Std.	No	Poll/address std.	No
Auto answer	Std.	Std.	No	Std.	Std.
Auto call	No	No	No	No	—
Terminal interface	RS-232-C	RS-232-C	RS-232-C, 20 mA	RS-232-C/direct	RS-232-C, 20 mA dc
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	155-173	174-192	—	130	See comments
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	53-76 (mux)	53-76 (mux)	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	3,945-4,365	4,620-5,038	1,360-1,560	3,200	1,695
Controller, purchase, $	2,036-2,849 (mux)	2,036-2,849 (mux)	—	—	—
Date of first production delivery	5/70	2/75	3/81	10/80	3/80
Display units installed to date	—	—	—	—	—
Serviced by	Univac	Univac	Univac	Univac	Visual Technology or its distributors
COMMENTS	Two multiplexers can be cascaded to accommodate up to 31 terminals.	Two multiplexers can be cascaded to accommodate up to 31 terminals.	Central Repair Service Only—$80/yr. Unit is customer installable; weighs 35 lbs. Operator selectable parameters.	Central Repair Service opt. for purch. units—$120/yr. Unit is customer installable; weighs 35 lbs. Operator selectable parameters.	Total VT-100 compatibility. Non-glare screen; Advanced Video features std.; leasing available from distributors.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Visual Technology Inc. VISUAL 110	Visual Technology Inc. VISUAL 200	Visual Technology Inc. VISUAL 400	Volker-Craig Ltd. VC404	Volker-Craig Ltd. VC410
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	No	No
Teletype compatibility	Std.	Yes	Std.	Std.	Std.
Other compatibility	Data Gen. 6053/100	See comments	ANSI, V3.64 std.	No	No
User programmable	Via user-defined parameters	Via user-defined parameters	Via user-defined parameters	No	Via user-defined firmware
Self diagnostics	Std.	Std.	Std.	No	No
DISPLAY PARAMETERS					
Display positions, chars./display	1920, 3168	1920	1920, 3168	1920	1920
Display arrangement, lines x chars./line	24 x 80, 24 x 132	24 x 80	24 x 80; 24 x 132	24 x 80	24 x 80 plus 25th status line
Display area, h x w, inches	12-in. diag.	12-in. diag.	12-in. diag.	8 x 10; 12-in. diag.	12-in. diag.
Total displayable symbols	95 ASCII, 32 graphics	95 ASCII, 32 graphics	128 ASCII, graphics	128 ASCII	128 ASCII
Symbol formation	7 x 7 dot matrix	7 x 9 dot matrix	7 x 9 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
Color	No	No	No		No
Reverse video	Std.	Std.	Std.	Std.	Std.
Programmable brightness levels	Std.	No	Std.	No	Std.
Character and/or field blinking	Std.	Std.	Std.	No	Both std.
Roll	Up & down std.	Up std.	Up & down std.	Up std.	Up std.
Paging	No	No	1 std., 3 or 5 opt.	No	No
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	19 cursor position commands	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	No	Std.	Std.	Std.
Addressable/readable cursor	Both std.	Both std.	Both std.	Addressable only	Addressable only
Protected format	No	Opt.	Std.	No	No
Partial screen transmit	No	Opt.	Std.	No	Std.
Tabulation	Forward/back std.	Forward/back std.	Forward/back std.	No	No
Character insert/delete	No	Std.	Std.	No	Std.
Line insert/delete	No	Std.	Std.	No	No
Erase	Char., line, screen std.	Char., line, screen std.	Char., line, screen field, area std.	Char., line, and screen std.	Char., line, screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	128 ASCII	128 ASCII	128 ASCII	128 ASCII	128 ASCII
Detachability	Std.	Std.	Std.	Std.	Std.
Program function keys	12 std.	14 std.	12 std.	12 opt.	12 std.
Numeric keypad	Std.	Std.	Std.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	—	No	No	No
Diskette drive (floppy disk)	No	—	No	No	No
Serial printer	No	—	No	No	No
Other devices	Audible alarm std.	Audible alarm, printer port	Audible alarm std.	—	—
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	XON-XOFF	—	XON-XOFF	—	—
Code	ASCII	ASCII	ASCII	ASCII	ASCII
Speed, bits/second	50 to 19,200	110 to 19,200	50 to 19,200	110-19,200	110 to 9600
Format: character, line, or block	Character	Char. std.; line blk. opt.	Char., line, block	Character	Line
Multipoint operation (pollable/addr.)	No	No	No	No	No
Auto answer	No	No	Std.	No	No
Auto call	No	—	No	No	No
Terminal interface	RS-232-C, 20 mA	RS-232-C, 20 mA dc	RS-232-C, 20 mA	RS-232-C, 20 mA	RS-232-C, 20 mA
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	See comments	See comments	See comments	—	—
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,695	1,195	1,650	895	1,095
Controller, purchase, $	—	—	—	—	—
Date of first production delivery	2/81	8/79	1/81	3/78	9/80
Display units installed to date	—	—	—	15,000	—
Serviced by	Visual Technology or its distributors	Visual Technology or its distributors	Visual Technology or its distributors	Factory, General Electric	Factory, General Electric
COMMENTS	Includes double/single size characters, smooth scrolling, set-up mode screen, & split screen. Leasing available from distributors.	Switch selectable DEC VT-52, Hazeltine 1500, ADDS 520, Lear Siegler ADM-3A emulation. Block mode opt. Leasing available from distributors.	Includes 9 multiple field definitions, double/single size characters, international character sets, and smooth scrolling. Leasing available from distributors.		Choice of black/white or amber non-glare screen.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Volker-Craig Ltd. VC414H	Volker-Craig Ltd. VC4152	Volker-Craig Ltd. VC415APL	Volker-Craig Ltd. Teletaper II	Volker-Craig Ltd. VC2100
TERMINAL DESCRIPTION					
Stand-alone or cluster	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1	1
Transportability	No	No	No	No	No
IBM compatibility	No	No	No	No	No
Teletype compatibility	Std.	Std.	Std.	Std.	Std.
Other compatibility	Hazeltine 1510	DEC VT-52	No	Baudot	DEC VT-100/VT-52
User programmable	Via user-defined firmware	Via user-defined firmware	Via user-defined firmware	Via user-defined firmware	Via user-defined firmware
Self diagnostics	No	No	No	Std.	Std.
DISPLAY PARAMETERS					
Display positions, chars./display	1920	1920	1920	1920	1920, 3168
Display arrangement, lines x chars./line	24 x 80	24 x 80	24 x 80	24 x 80 plus 25th status line	24 x 80; 24 x 132 plus 25th status line
Display area, h x w, inches	8 x 10; 12-in. diag.	8 x 10; 12-in. diag.	8 x 10; 12-in. diag.	12-in. diag.	12-in. diag.
Total displayable symbols	128 ASCII	128 ASCII	128 ASCII	96 ASCII	128 ASCII, 32 graph
Symbol formation	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	7 x 9 dot matrix
Color					No
Reverse video	Std.	Std.	Std.	No	Std.
Programmable brightness levels	Std.	Std.	Std.	No	Std.
Character and/or field blinking	Both std.	Both std.	Both std.	Std. Status line only	Both std.
Roll	Up std.	Up and down std.	Up std.	Up std.	Up & down std.
Paging	No	No	No	8 std., 16 opt.	2 pages std.
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	Std.	Std.	Std.	Std.	Std.
Addressable/readable cursor	Both std.	Addressable only	Addressable only	No	Both std.
Protected format	Std.	No	No	No	No
Partial screen transmit	Std.	No	Std.	No	No
Tabulation	Forward/back std.	Forward std.	No	Forward tab std.	Forward tab std.
Character insert/delete	Std.	No	Std.	Std.	No
Line insert/delete	Std.	No	Std.	Std.	No
Erase	Char., line and screen std.	Char., line, and screen std.	Char., line, and screen std.	Char., end of line std.	Char., line, screen std.
Character repeat	Std.	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS					
Style	Typewriter	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	128 ASCII	128 ASCII	128 ASCII	128 ASCII, Baudot	128 ASCII, 32 graph.
Detachability	Std.	Std.	Std.	Std.	Std.
Program function keys	8 std.	10 std.	12 opt.	No	4 std.
Numeric keypad	Std.	Std.	Std.	Std.	Std.
ANCILLARY DEVICES					
Cassette tape drive	No	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No	No
Serial printer	No	No	No	No	No
Other devices	—	—	—	Paper tape punch accessory opt.	—
TRANSMISSION PARAMETERS					
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Communications protocol	—	—	—	—	—
Code	ASCII	ASCII	ASCII	ASCII, Baudot	ASCII
Speed, bits/second	110-9600	110-9600	110-9600	110 to 9600	50 to 19,200
Format: character, line, or block	Char., line, block	Character	Char., line	Char., block	—
Multipoint operation (pollable/addr.)	No	No	No	No	No
Auto answer	No	No	No	No	No
Auto call	No	No	No	No	No
Terminal interface	RS-232-C, 20 mA	RS-232-C, 20 mA	RS-232-C, 20 mA	RS-232-C, std., 20 mA opt.	RS-232-C, std., 20 mA, RS-423 opt.
Integral modem	No	No	No	No	No
Integral acoustic coupler	No	No	No	No	No
PRICING AND AVAILABILITY					
Display station, 1 year lease, $/mo.	—	—	—	—	—
Display station, 2 year lease, $/mo.	—	—	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—	—
Display station, purchase, $	1,095	1,095	1,295	2,500	1,940
Controller, purchase, $	—	—	600	—	—
Date of first production delivery	7/78	2/79	2/79	3/81	1/81
Display units installed to date	5,000	1,500	—	—	—
Serviced by	Factory, General Electric	Factory, General Electric	Factory, General Electric	Factory, General Electric	Factory, General Electric
COMMENTS				Choice of black/white or amber screen.	VT-100 compatibility includes full video attributes and 8 user string keys. Choice of black/white or amber screen.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Western Union Data Services Video 100	Westinghouse Model W1625	Westinghouse Model W1640	Westinghouse Model W1642
TERMINAL DESCRIPTION				
Stand-alone or cluster	Stand-alone	Either	Either	Cluster
Maximum displays/controller	1	31	31	31
Transportability	Opt.	No	No	No
IBM compatibility	No	No	No	No
Teletype compatibility	Std.	Std.	Opt.	No
Other compatibility	No	Honey., Univac opt.	Honeywell	Univac, custom
User programmable	No	No	Via user-defined firmware	No
Self diagnostics	No	Std.	Std.	Std.
DISPLAY PARAMETERS				
Display positions, chars./display	960/1920	1920	Up to 2000	2000 max.
Display arrangement, lines x chars./line	12/24 x 80	24/18/12 x 80	24 x 80 std., 25 x 80 opt.	16 x 64 opt. to 25 x 80
Display area, h x w, inches	5.5 x 8.25	12-in. diag.	12-in. diag.	12-in. diag.
Total displayable symbols	64; 95 opt.	126 ASCII, 254 opt.	95 ASCII	95 ASCII
Symbol formation	5 x 7 dot matrix	5 x 7 w/descenders	5 x 7 w/descenders	5 x 7 w/descenders
Color	No	No	No	No
Reverse video	No	Std.	Std.	Std.
Programmable brightness levels	No	2 std.	2 std.	No
Character and/or field blinking	No	Field std.	Field std.	Field std.
Roll	No	Up std., Up & down opt.	Up std., down opt.	Up std.
Paging	No	3/5 pages opt.	1 page std., 15 opt.	1 std., multi. opt.
Cursor positioning; Up, Down, Left, Right, Home, Return	L, R, Rt. std.; U, D, H opt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.	U, D, L, R, H, Rt.
Cursor blinking	No	No	No	No
Addressable/readable cursor	Opt., addressable only	Both std.	Both std.	Both std.
Protected format	No	Std.	Std.	Opt.
Partial screen transmit	No	Std.	Std.	Std.
Tabulation	No	Forward/back std.	Forward/back std.	Forward/back std.
Character insert/delete	No	Std.	Std.	Std.
Line insert/delete	No	Std.	Std.	Std.
Erase	None	Char., line screen std.; pages opt.	Char., line, screen pages opt.	Char., line, screen pages opt.
Character repeat	Std.	Std.	Std.	Std.
KEYBOARD PARAMETERS				
Style	Typewriter	Typewriter	Typewriter	Typewriter
Character/code set	ASCII	128 ASCII	128 ASCII	128 ASCII
Detachability	No	Std.	Std.	Std.
Program function keys	No	7 std.; opt. to 19	6 std., opt. to 20	5 std. (10 codes)
Numeric keypad	Opt.	Std.	Std.	Opt.
ANCILLARY DEVICES				
Cassette tape drive	Single	RS-232-C interface	RS-232-C interface	No
Diskette drive (floppy disk)	No	Opt.	Opt.	No
Serial printer	Impact	RS-232-C interface	RS-232-C interface	RS-232-C int.
Other devices	Audible alarm std.	Audible alarm; buffered printer interface opt.	Audible alarm, buffered printer interface opt.	Audible alarm std., buffered printer int. opt.
TRANSMISSION PARAMETERS				
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half/full-duplex
Technique	Asynchronous	Async./sync.	Async./sync.	Async./sync.
Communications protocol	ASCII	IPARS; ASCII	ASCII	HDLC, IPARS, ASCII
Code	ASCII	ASCII; 6-bit SABRE	ASCII	ASCII, 6-bit SABRE
Speed, bits/second	110 to 19,200	50 to 9600	50-9600 std. 19,200 opt.	110 to 16,000
Format: character, line, or block	Char. only	Char./line/block	Block	Block
Multipoint operation (pollable/addr.)	No	Opt.	Std.	Std.
Auto answer	Opt.	No	No	No
Auto call	No	No	No	No
Terminal interface	RS-232-C	RS-232-C std.; 20 mA opt.	RS-232-C std.; 20 mA opt.	RS-232-C w/parity line
Integral modem	No	No	No	No
Integral acoustic coupler	No	No	No	No
PRICING AND AVAILABILITY				
Display station, 1 year lease, $/mo.	65	—	—	—
Display station, 2 year lease, $/mo.	53	—	—	—
Controller, 1 year lease, $/mo.	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—
Display station, purchase, $	600*	3,100	—	Contact vendor
Controller, purchase, $	—	5,100	Contact vendor	Contact vendor
Date of first production delivery	12/75	11/76	3/80	12/80
Display units installed to date	7,000	5,000	1,000	—
Serviced by	Western Union	Westinghouse Canada—third party	Westinghouse Canada—third party	Westinghouse Canada—third party.
COMMENTS	Built by Lear Siegler as ADM-3 and ADM-3A *Quantity discounts available; 3-year lease—$47/mo.	The W1625 is a base design CRT terminal which can be supplied with custom firmware and I/O configured to meet specific customer requirements	The W1640 is a base design CRT terminal which can be supplied with custom firmware, and I/O configured to meet specific customer requirements	Master/slave system. PCB converts any slave to a Master. Printers can be used with each terminal or up to 4 printers can be shared.

Alphanumeric Display Terminals—Management Perspective and Equipment Specifications

SUPPLIER AND MODEL	Xerox 1330	Zenith Data Systems Z-19	Zentec Zephyr	Zentec ZMS-40
TERMINAL DESCRIPTION				
Stand-alone or cluster	Either	Stand-alone	Stand-alone	Stand-alone
Maximum displays/controller	1	1	1	1
Transportability	No	No	—	Yes
IBM compatibility	No	No	No	Programmable
Teletype compatibility	Std.	No	Std.	Std.
Other compatibility	Xerox network	ANSI, DEC VT-52	—	Programmable
User programmable	No	No	Via user-defined firmware	Via user-created firmware
Self diagnostics	No	No	Std.	Std.
DISPLAY PARAMETERS				
Display positions, chars./display	1120	2000	2000	2000
Display arrangement, lines x chars./line	24 x 80	24 x 80 plus 25th status line	25 x 80	25 x 80
Display area, h x w, inches	12-in. diag.	12-in. diag.	12-in. diag.	12-in. diag.
Total displayable symbols	128 ASCII	95 ASCII, 25 graphics	128 ASCII	128 ASCII to 256
Symbol formation	9 x 11 dot matrix	UC—5x7; LC—5x9	7 x 9	7 x 9; 10 x 10
Color	No	No	No	By quotation
Reverse video	Std.	Std.	Std.	Std.
Programmable brightness levels	No	No	2 std.	2 std.
Character and/or field blinking	Std.	No	Field std.	Std.
Roll	Up std.	Up & down std.	Up std.	Both std.
Paging	2 pages std.	No	2 pages std.	2 std., multiple opt.
Cursor positioning; Up, Down, Left, Right, Home, Return	U, D, L, R, H, Rt.	U, D, L, R, H, Rt., Backspace, Tab	U, D, L, R, H, Rt.	U, D, L, R, H
Cursor blinking	Std.	Std.	No	Std.
Addressable/readable cursor	Both std.	Both std.	Both std.	Programmable
Protected format	No	No	Std.	Programmable
Partial screen transmit	No	No	Std.	Programmable
Tabulation	Std.	Forward tab std.	Forwrd/back std.	Programmable
Character insert/delete	Std.	Std.	Std.	Programmable
Line insert/delete	Std.	Std.	Std.	Programmable
Erase	Char., line, screen std.	Char., line, screen Std.	Char., line, screen std.	Programmable
Character repeat	Std.	Std.	Std.	Std
KEYBOARD PARAMETERS				
Style	Teletype	Typewriter, data entry	Typewriter	Typewriter
Character/code set	128 ASCII	ASCII	128 ASCII	128 to 256 ASCII
Detachability	No	No	No	No
Program function keys	9 std.	8 std.	16 std. (32 codes)	16 std.
Numeric keypad	Std.	Std.	Std.	Std.
ANCILLARY DEVICES				
Cassette tape drive	No	No	No	No
Diskette drive (floppy disk)	No	No	No	No
Serial printer	Impact	No	Printer port opt.	Opt.
Other devices	—	Audible alarm, audible feedback	Audible alarm std.	Audible alarm std., additional RS-232 port opt., 20 mA interface std.
TRANSMISSION PARAMETERS				
Mode	Half/full-duplex	Half/full-duplex	Half/full-duplex	Half-/full-duplex
Technique	Asynchronous	Asynchronous	Asynchronous	Async./sync.
Communications protocol	ASCII	RS-232-C, DCI-DC3	—	Programmable
Code	ASCII	ASCII	ASCII	ASCII std.; others
Speed, bits/second	50 to 9600	110 to 9600	110-19,200	110 to 19,200
Format: character, line, or block	Line, block	Char., block	Char., line, block	Char., block
Multipoint operation (pollable/addr.)	No	No	No	Programmable
Auto answer	No	No	No	Yes
Auto call	No	No	No	Yes
Terminal interface	RS-232-C, 20 mA	RS-232-C	RS-232-C, 20 mA std.	RS-232-C, 20 mA RS-422
Integral modem	No	No	No	No
Integral acoustic coupler	No	No	No	No
PRICING AND AVAILABILITY				
Display station, 1 year lease, $/mo.	97	Contact dealer	—	Purchase only
Display station, 2 year lease, $/mo.	97	Contact dealer	—	—
Controller, 1 year lease, $/mo.	—	—	—	—
Controller, 2 year lease, $/mo.	—	—	—	—
Display station, purchase, $	1,550	995 (list)	1,350	1,700 (qty. 100+)
Controller, purchase, $	—	—	—	—
Date of first production delivery	11/79	6/79	1/80	2/81
Display units installed to date	300	—	200	200
Serviced by	Sorbus	Zenith-auth. service ctrs., Heathkit ctrs.	Zentec and distributors	Zentec-RCA
COMMENTS		Available as Heathkit H-19 do-it-yearself kit (unassembled) for $695.	A low cost, smart terminal featuring full function keyboard. OEM discounts available.	Modem by quotation.