



FIRMAMENT OF TERMINALS

by

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In the beginning, the world of communicating with a computer was in the form of a punched card. Gradually, shafts of sunlight began to penetrate and a firmament of data entry devices began to appear. This slow evolution has accelerated until, within only the last year or two, User Services people are now confronted with an unbelievable variety of terminals and other data entry devices. These people must be able to help users in their search for the best means of communications. Previously, assisting users to acquire terminals meant having systems programmers determine the compatibility of a terminal with the host computer. Today, this means suggesting new types of terminals to users, and often the types suggested have only recently become available. Therefore, User Services personnel must be aware of today's range of terminals and the directions in which new developments are taking place.

The attached chart shows the basic types of cathode ray tube and hard copy terminals, the features which may be found on some of these types, and optional devices which may be attached to terminals. The User Services Terminal Consultant must become familiar with these basic terminal types and features, and must be able to advise prospective users on the suitability of these terminals and features for their specific needs.

I have found that one of the best sources of information is sales representatives. These people are generally happy to supply prices and descriptions of all their available models and to keep me informed of new models or price changes. To cultivate this working relationship, I had to initiate calls to different terminal vendors to ask for

equipment demonstrations. I continue to do this as I hear of new equipment becoming available in our area, but more often, new vendors call me on the suggestion of other salesmen who have called on me. Trade magazines provide a second source of information, but this is not as valuable as I feel users are generally most satisfied with equipment which is represented and serviced locally. I maintain a file of each vendor's equipment which is represented and serviced locally. Each vendor's equipment is filed according to terminal type. When users explain their prospective terminal applications, I discuss the various features they might use, and then show them sales brochures on the terminals which have those features. I also suggest they look at the Datapro report listing nearly all currently available terminals and their features. After that, the users generally complete the evaluation themselves. I have found that the final selection is often done on a subjective basis, depending on such features as appearance, keyboard touch or helpfulness of the salesperson.

The most exciting part of terminal consulting in the future will undoubtedly be keeping up with the beginning avalanche of new developments. Many cities now have retail computer stores, where for a few hundred dollars customers can buy kits or fully-assembled computers and terminals. This is only the first step toward mass-merchandised, low-cost computers and terminals for the general public. Computer Output Microfilm offers an excellent alternative to printouts for data base information, program listings, or lengthy reports. Its ease of handling and built-in cross referencing capabilities make it far easier to work with than paper. Graphics

outputs can also be put on microfilm. This is an inexpensive and effective way to present and store large volumes of data, such as time-dependent data from monitoring devices. When this microfilm is converted to movies, fluctuations in the data appear as dramatic changes on the screen.

Terminals are no longer restricted by power and telephone availability. Handheld, battery powered terminals can be taken into the field for manual data collection and storage. Self-contained monitors or small computers can be left in remote areas or in operational environments to monitor and record or transmit data. Terminal consultants should be able to suggest such possible methods of data collection, and refer prospective users to others who are actually using them.

Another new development is the availability of kits or finished components which allow a home TV set to serve as a computer terminal. When these terminals are used with low-cost computer kits, we are fast approaching the reality of computers in every home. In the future, feature movies may be distributed directly to homes on inexpensive video disks. This technology, coupled with home processors, can turn the family TV set into a university offering computer-assisted instruction courses in every imaginable field. Similarly, for the commercial user, there are the fully portable communicating computers we have seen advertised on nationwide TV.

The distinction between data processing and word processing is becoming blurred. Electronic typewriters with tape or disk storage can perform edit functions and communicate with computers. When a computer center produces its manuals and newsletter, individual contributors can type rough drafts directly into the computer from an ordinary terminal. The editor can change these on the computer, and the typist can then transfer them to storage on the word processing terminal where they are automatically justified and printed.

These are just a few exciting new developments. More and more, computer users will be turning to User Services for advice in computer access methods. By keeping abreast of these new developments, we can experience the thrill of introducing the users to these new ideas.

Hard Copy Devices

TTY (ASR 33)
Thermal printer
Selectric type
Daisy wheel
Dot matrix impact
Chain printer
Xerox-type

Features Which May Be Needed

High speed (1200 to 9600 baud)
Print quality
Low cost
Portability
Graphics
132 columns or more
Low cost paper
Upper/lower case

Cathode Ray Tubes

Features Which May Be Needed

Readability (color of screen, form of characters, glare, intensity)
Graphics
High speed (1200, 4800, 9600 baud)
Number of columns
Block mode (send entire page, one line, designated data, etc.)
Editing on screen - cursor control
character insert
character delete
line insert
line delete
Protected fields
White on black/black on white, blinking characters, half-intensity
Programmability
Portability

Optional Devices

Paper tape
Magnetic tape (single or dual)
Diskette or floppy disk
Programmable memory (BASIC or other language)
Hard copy for CRT
Plotter
OCR wand
Bar Code Reader

Non-Traditional Devices

Terminals using TV monitors
Portable computers
Computer kits
Battery-operated terminals
Word processing terminals
Battery-operated data collection devices