FACILITIES MANAGEMENT
by
Jack Master
Wright Line, Inc.

When planning a computer facility it is important to keep in mind a simple fact; "PEOPLE MAKE THE SYSTEMS WORK".

A computer system consists of three basic functions. It is the computer hardware's responsiblity to process the information. The responsibility of systems development, programming and utilizing the information producing capabilities of the computer are all the responsibilities of people.

My discussion will evolve around filing and storage systems designed with people productivity in mind. I will discuss four key areas in a company's computer based information system that a facility manager must be concerned with.

    I.   Magnetic Media Filing Tapes & Disks.
    II. Data Entry Work Stations
    III. Documentation Filing
    IV. Vital Records Protection and Security

MAGNETIC MEDIA FILING

Computer Tape

Magnetic tape of various sizes are utilized in the computer operations room, they vary from 600 foot reels to 2400" reels. Fortunately the diameter of the reel is the only variable. The two methods of storing, filing and purchasing tape today are, two piece plastic canisters (like movie reels) and the most popular, tape seal (wrap around belt) system. A survey of computer tape manufacturers has concluded that 95% of the tape sold is shipped witha tape seal belt.

When choosing a tape filing and storage system the following points must be considered:

    1. Tape Protection
    2. Ease of Handling
    3. Ease of filing and retreiving (color coded I.D. Labels)
    4. Floor space required
    5. Compatibility of Filing Systems with Tapes of various sizes.
    6. Cost of purchasing new tapes with your filing device included.
    7. Operator Productivity

When the above is considered you will probably choose the tape seal hanging system of filing and storing your computer tapes.

The hanging system is marketed by a variety of companies offering the solutions to the points mentioned previously.

The number of tapes in use will determine the physical size of your central tape library. In planning your tape library security must be kept in mind. In small tape library's (1000 reels or less) this can be accomplished by lockable cabinets. In larger installations a seperate room equipped with Halon Systems and state of the art security entry devices. Whatever type of library is used the need to transport tapes will be required it is essential that you choose tape truck compatible with your filing system.

A storage rack or cabinet should be located close to your tape drives for filing of scratch tapes and work in process tapes, once again the storage unit must be compatible with your tape filing system.

DISK PACK - DISK CARTRIDGE FILING

Disk pack/Disk Cartridge filing is predominantly accomplished by specialized cabinets. The cabinets you choose should have the following features:

A. Flexibility for future change. When you upgrade to a larger size disk pack, the cabinet interior should have the capability of adjusting to your future needs. Many computer accessory companies offer this flexibility in their lines of computer media storage.

B. Full suspension rollout shelves should be used as the interior components of your disk pack cabinet. The cabinet should also provide you with a safety interlocking system that prevents the cabinet from toppling over on the computer operator.

The use of fixed shelves for disk packs should be discouraged. It is a very unsafe method of filing because an operator cannot get a safe grasp on the disk pack cover handle (because it cannot be exposed as it is on a rollout shelf) and thereby exposes the risk of dropping a pack and losing valuable information. The use of fixed shelves as opposed to rollout shelves also requires that more space per level be used within the confines of the cabinet, thereby depleting filing capacity.

DATA ENTRY/CRT WORKSTATIONS

This segment is geared towards operator oriented terminals that consist of keyboard for input and either a printer or CRT for output.

Terminals require human operators. Since the speed at which these devices can be operated are extremely high, effective utilization depends primarily upon productivity of the operators.

It has been proven time and again that planned terminal work stations improve the productivity of the operators.

I will discuss four areas that must be considered when designing a terminal work station, they are;

A. Keyboard Height
B. Viewing Height
C. Work Surface
D. Storage Space

Keyboard Height

To avoid operator fatigue and errors, it is important that keyboards be placed at the proper working height. This requirement has long been recognized for typists. Those of you who feel inclined to place a keyboard terminal on top of a standard 29" high office desk and expect the operator of that terminal to be comfortable and productive, I pose the following question, "If these terminals were instead going to be typewriter and there operators were instead going to be typists, would you place them on top of the desks?" Twenty seven inches in height is the proven industry standard.

Viewing Height

Operators should be able to read information from the display screen without stretching or changing position. The display should also be placed slightly below normal eye level to avoid glare from overhead lighting and to reduce eye fatigue.

Work Surface

Adequate work surface for writing or for reference documents is essential in many terminal applications.

Storage Space

Reference material and the operator's personal items require storage locations. These are easy to overlook but must be considered. Often data phones or modems are used with the terminal, plus extra cable are used with the terminal and they too must have a storage location.

Other aspects of a proper workstation to be considered are: chairs, footrests, anti-static mats and swivels.

Many computer accessory companies can provide you with work

stations designed specifically for terminal operators.

DOCUMENTATION FILING

Documentation is a vital part of the total data processing picture
it includes, the output documents generated by the computer,
and the essential communications that are necessary in order
to create and maintain the systems, programs and operating
procedures that make the computer based information system
so valuable.

You should consider the following when choosing a filing system
for your documentation:

It consists of many different sizes and shapes such as ... manuals,
computer reports and listings, flow charting and layout forms,
punched cards, etc. Your filing system should be able to properly
fit the variety of shapes and sizes.

Various documentation that is used together should be filed
together, your filing system should provide this.

Reference documentation should be at the users fingertips. Your
filing system should provide both a filing mode and a reference
mode.

Documentation moves physically from place to place in systems,
programming, operations and user departments. Your filing
system must provide total filing compatibility at all locations.

Documentation may change in its physical size. Your filing
equipment must provide you with the flexibility to change as your
requirements change.

Over the past decade, the electronic data processing activities
of a corporation have become intertwined with the business
operations of end-user departments. Proportionally, more and more
of a company's information assests are entered, processed, stored
and retrieved via the facilities of data processing systems. The
increased complexity of data processing systems and systems
hardware creates communication problems for project teams and
generate the need for increased documentation. In the case of
both - the end user department and the data processing team -
the adequacy of documentation management and handling methodologies
is a critical issue.

If your filing system provides you with the previously mentioned
capabilities and your standards recognize a filing hierarchy
you have successfully solved a key management issue.

SAFE GUARDING DATA PROCESSING MEDIA

Data processing tapes and disks containing vital information must be protected by placing them in specially insulated records containers which have been approved by Underwriters Laboratory for temperatures up to 150 degrees F. Underwriters Laboratory does not certify a fire door that will protect the contents of a records vault or file room at 150 degrees F. during a fire. Thus, data processing media containing vital information can only be physically safeguarded by placing them in specially insulated records containers.

Vital records magnetic tape files and the computer programs used to process them can be provided with additional protection by copying them in card image form onto duplicate tape reels to be dispersed for storage at a geographically remote company operating location. The principles behind protecting paper vital records by dispersal apply here as well. To avoid possible fraud, these dispersed tapes should be placed in the custody of the internal auditor at the location where they are stored. Where data files are updated periodically, three genera-tions of the file can be retained; the current version and two previous ones. The granfather (oldest) version of the vital records file is stored off-site until replaced by a later version. When the vital information files is maintained on a disk file, a snapshot (complete copy of its content at a specific point in time) is made periodically by copying file content onto a tape. The two oldest snapshot tapes are stored off-site until replaced in turn by later snapshots. In both instances, these off-site stored tapes can be used with related transaction records to recontruct files damaged in a disaster or by computer processing error.