MICROFORMS – A DURABLE INFORMATION MEDIA

Microforms are photographically reduced versions of printed words to a point where they are no longer legible to the naked eye. Suitable magnifying devices are needed to make them readable. The reduction in size is expressed either as a ratio (e.g. 1 : 24) or as a multiplication factor (e.g. 24x). Microforms are available in a variety of formats, physical sizes and reduction ratios. Microforms generally include microfilms, microfiches, microcards, etc. These are briefly described in the following paragraphs.

Microform is not new so far as its use in libraries is concerned. In the early 1930s, the decaying 'New York Times' back files were reproduced on 35 mm film, which offered economy both in storage space and reproduction costs. Dramatic increase in the costs of conventional publishing over the years has once again drawn the attention of publishers, librarians and other information managers in favour of microforms as highly suitable media for information dissemination as well as storage and retrieval.

Why Microforms?

Substantial savings can be achieved in storage space by using microform versions of documents and it would also help in maintaining them better and for longer periods. Books and periodicals stored in microform save upto 80 to 90% of space. Also, the postal and freight charges for mailing microforms would be a fraction of the charges for hard copies. In addition, microform documents provide uniformity in the formats of documents and also compactness and convenience in accessing the information stored in these forms. Another advantage of microforms is that large collections can be kept near the working place of the users; a mini-library kept near the working places can induce more usage of the documents or the information contained therein.

Economy is thus achieved through several ways:

- Microform material costs only a fraction of the cost of paper for bulky documents/collections;
- Reproduction in multiple number of copies is cheaper;
- Involves less mailing charges;
- Binding expenditure is mostly avoided;
- Copies of rare manuscripts are cheaper; and
- Saving of storage space, storage cabinets etc.

Formats and Specifications

Microfilm: Of the various widths of photographic film available, mostly 35mm and 16 mm are in use. Standard length of the film is 100 feet (30.5 meters) giving over 2,000 pictures or 'frames' on 16 mm. The 35 mm roll gives about 800 pictures.

Microfiche: Microfiche usually comes in A6 size and caries either 60 or 98 frames at 20x or 24x reduction, though reductions of 42x and 48x taking 208 and 270 pages

are also in use. High reduction microfiches such as 'superfiche' (75x) and 'ultrafiche' (150x) that can take 1,000 pages and 3,200 pages per fiche are also used but fiches having 60 and 98 frames are commonly used.

Micro-opaque/Microprint: This is a microfiche on card instead of film and varies in size from 5" x 3" to 6" x 9". Micro-opaque cannot be duplicated easily and cheaply and therefore its use is on the decline except in microlitho or miniaturised printing, where reduction ratio is very low (2x). It can be read with the naked eye or simple hand-held lens.

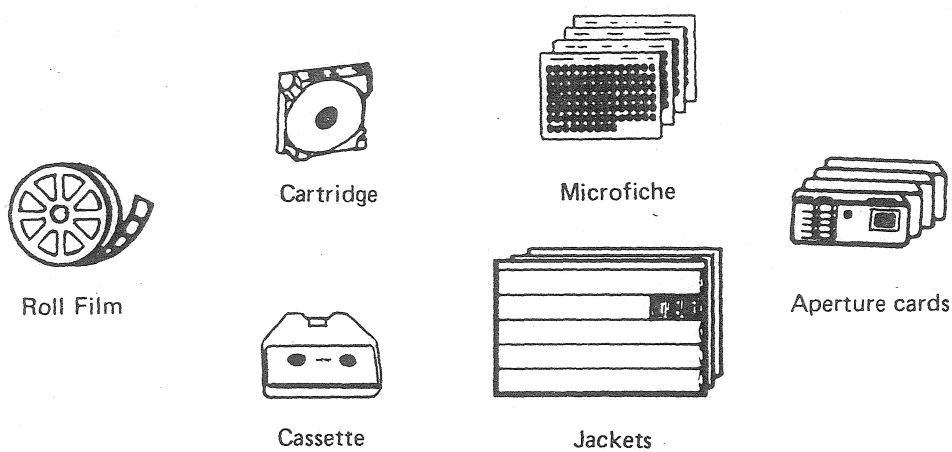
Computer-Output-Microform (COM): The information held within a computer system can be reproduced onto a microform. Normally computer output is a paper printout or a visual on the screen, but COM involves machine-processed information including graphic illustrations, onto a microform. Thus the computer output is pieces of microfilm or microfiche. COM allows high quality outputs at speeds upto 500 pages per minute and it is possible to record 90,000 characters per second on the film.

Several standard specifications relating to micro-copying of various types of documents like newspapers, maps, technical drawings, journals, etc. and also for the related equipment are issued by the American National Standards Institute (ANSI), British Standards Institution (BSI), Indian Standards Institution (ISI), International Standards Organisation (ISO) and other similar organisations.

Disadvantages of Microforms

Despite so many advantages as seen above, users still prefer hard copies to microforms. One of the main reasons could be that the users would frequently like to browse the literature which is easily possible with hardcopy forms but not so easy or convenient in the case of microforms. Also to use microform literature, users are required to consult secondary sources like catalogues,

Fig 1. *Various microform formats.*



indexes, bibliographies to reach the desired information. Added to this, since viewing devices are to be used to read microtexts, they cannot be conveniently consulted outside the library even though portable readers are available. The hard copies on the other hand, can be consulted even at odd moments and between other jobs. Similarly, users who wish to consult a number of documents simultaneously will find the microform reading tiring and laborious To meet the demands at peak hours, large number of readers are required which are costly and occupy large space, hence the purpose of procuring microforms to save space and money gets diluted. It is observed that users have a tendency to ask for xerox copies of almost everything they consult which in turn will affect the economy intended to achieve through microforms.

Storage and Maintenance

Microforms should be stored in dust-free and air-tight steel cabinets. Film rolls should be kept in individual dust-proof cans (film cartridges preferred). Microfiches should be stacked in upright positions in separate polythene jackets or special covers meant for them. Highly used films must have special coatings for longer life.

For archival preservation, microforms must be kept at a temperature of 21°C or below, and between 15 to 40 percent relative humidity. If the stored films are taken out for use in the library, sufficient warm-up time must be allowed before use. These should be stored away from books, etc to protect from the chemicals used against pests and insects, as these chemicals can damage the microforms. They should never be touched with fingers except at edges and handled in clean and dust-proof rooms. For removing dust from the films, standard photographic film cleaning liquids can be used.

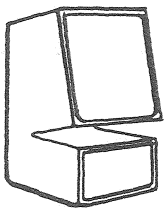
Microform Readers and Reader-Printers

Readers: A variety of readers are available for viewing microforms. The choice will depend upon the environment in which they will be used (i.e. inside the library/office, or outside), the users' needs, the specific microform system in use, and the cost. Basic types of readers are:

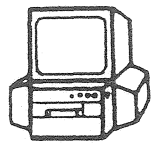
(a) Lap reader – designed for compactness and personnel use, they are available at present only as microfiche readers.

(b) Portable reader – designed to be

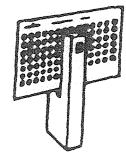
Fig 2. Microform reading equipments.



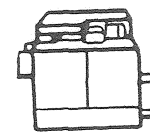
Reader



Reader Printer



Hand – Held Viewer



Enlarger – Printer

folded into a case similar to a portable typewriter-case for carrying conveniently,

(c) Desk reader – designed for use on a desk table or stand; and

(d) Free-standing unit – designed to stand alone as a self-contained unit.

Many manufacturers offer lists of accessories along-with the equipment, such as extra lenses, floor stands, combination stands, microform storage units, and adaptors for different types of microforms and other capabilities. The number of operating features, controls, and accessories on any unit is directly related to its intended functions and affects cost.

Reader-printers and Enlarger-printers: A reader-printer is a device both for viewing and producing occasional hard-copy reproduction from a microform. An enlarger-printer is generally not used for viewing but rather used for producing high volumes of hard-copy.

Future of Microforms

Since printing was invented, there has never been a period of more rapid and radical development among the information media than it has been after the advent of microform media. However, the electronic media covering floppy and hard discs, tapes, etc, appear to replace the microform media, as they facilitate faster storage and retrieval of information. Some information specialists have predicated the functioning of paperless offices and libraries by 2000 A D. in advanced countries. Electronic journal is a recent advancement for use on online terminals. But in recent times, microforms have acquired a better visual colour effect due to the advent of high resolution colour films. These films give faithful reproduction of colour tonal values. Microforms would be preferred against the electronic images or video display images on vedeo display units for documents, say in the field of medicine describing human systems in colour, and in similar cases. Reading convenience and cost aspects also weigh more in favour of microforms for an average reader, as a microform reader is cheaper than a video terminal facility. The trend indicates that future libraries will serve the users with a combination of all available recording media. The new emerging systems will be hybrid system a combination of all such types of forms and associated equipment and gadgets to meet the everchanging needs of users. Even then, the microform will emerge as the most durable form of storing and distributing the information. □