7. Aperture cards, another microform, are in fact the only truly unitized microform. Individual or groups of frames are mounted in a punched card. Code numbers punched in the card allow rapid retrieval by means of unit record equipment. This approach is widely used for large images such as engineering drawings but has found some application in areas such as the U.S. Patent Office. Both applications have low distribution requirements and relatively little demand for access. Aperture cards are basically limited by their production and maintenance cost. At present they are the most expensive form of microform.

Microfilm Type

8. Three types of film material are in common usage:

- Silver halide film, available in reversal or in direct copying type, is exposed by white light and chemically developed; basically used for original master copies and where archival requirements must be met.

- Diazo film, exposed by ultra-violet light and fixed by ammonia, only allows direct copying; used mostly for high-quality duplicates but use for masters and archival storage requirements might be possible, depending on the application.

- Vesicular or thermal film, a reversal film only, is also exposed by ultra-violet light but fixed by heat; fairly short-lived compared to the other two and is widely used for inexpensive duplicates.

The type of film or film mix used will depend on the specific application in mind.

Conclusion

9. For high-volume retrieval information, it seems that microfiche with automated separate indexing is most desirable while cartridge roll film is more applicable for low-volume retrieval such as archival storage. A large volume variety of equipment is available to suit almost any application. An attempt to convey typical costs is not realistic without considering system requirements. Some idea of equipment costs are presented below for comparison sake only:

	Cartridge	Fiche
Viewers	$ 1,500	$ 300
Viewer/Printer	5,000	2,000
Duplicator/Developer	15,000	3,000
Camera	4,000	15,000

10. The above figures represent comparable features whenever possible.