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# Media Equipment Selection Methods for Law Libraries\*

Terrence E. McCormack\*\*

*Media resources and equipment have become commonplace in law libraries in recent years, yet librarians continue to have questions about selecting the best media equipment in an ever-changing technological information environment. Mr. McCormack provides a guide to encourage and assist law librarians in developing a systematic plan for selecting the best media equipment for law library applications.*

## I. Introduction

Audiovisual media are now a major component of information services in law libraries. The primary purpose of this article is to assist the librarian in choosing the best equipment needed for these media. After briefly reviewing the uses of media and media equipment in the legal environment and expressing some caveats about selecting equipment in an age of changing technologies, the article focuses on an equipment selection plan and sources of equipment information. The Equipment Selection Plan in section IV is written for selecting the media equipment that is now popular in the legal environment: audio, video, and microform equipment, and alternative projection systems. While these guidelines do not specifically address the intricacies of evaluating CD-ROM, interactive video and computer technology, they provide a framework relevant for selecting all kinds of equipment.

## II. Past and Present Applications of Media Equipment and Services in the Legal Community

During the past two decades, the legal community has intensified its use of media technologies in educational and practical legal settings. Law firms, law schools, and law libraries have created media services that use

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videocassette recorders, camcorders, video monitors, interactive videodisc systems, audiocassette recorders, reel-to-reel audio recorders, 35mm slide projectors, slide/tape players, overhead projectors, 16mm film projectors, microform reader printers, and microform readers.

The increased use of media in law schools and law firms is partially attributable to enhancements in transmission, storage, and access of information not available in traditional print formats. Video technology first debuted in law schools in the early 1970s, and entered law firms somewhat later.<sup>1</sup>

Many media applications are currently used in the law school classroom. Some law schools require students to videotape their trial or appellate practice performances for faculty critique. Documentaries on 16mm film and videotape are popular among law school faculty for providing students with social and historical perspectives on legal issues. Audiotapes and audio recorders have a wide range of applications that include recording lectures, continuing legal education programs, and special events. Law school faculty sometimes use short segments of an audio program to incite discussion.<sup>2</sup> Instructors have found that overhead transparency projections have pedagogical value for graphically depicting the flow of complex processes or ideas through presentation of cartoons and diagrams.<sup>3</sup> Projection of 35mm slides also offers large screen graphics. Unlike the simple overhead transparency, a slide offers a detailed photographic cross section of an event or a visual image.<sup>4</sup>

Today a growing number of law firms use commercially produced legal education programs that include a variety of lectures and demonstrations on substantive subjects, as well as techniques for trials, negotiations, and interviewing.<sup>5</sup> Law firms have also found in-house video to be a useful tool for recording depositions and interviews.

Both librarians and library users have depicted microform formats such as microfiche, microfilm, and microcard as among the most "unfriendly" media available in libraries. Yet these cumbersome media formats have the overpowering advantage of providing concentrated storage of massive amounts of legal information in a small space. While new computerized optical media formats are threatening the demise of microform, librarians and library users can expect to deal with microforms for at least the next

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1. E. MILLER, *VIDEO: A GUIDE FOR LAWYERS* 8, 11 (1983).

2. Johnson, *Audiovisual Enhancement of Classroom Teaching: A Primer for Law Professors*, 37 J. LEGAL EDUC. 97 (1987).

3. *Id.* at 105-06.

4. *Id.* at 119.

5. See Miller, *Firms Expand Video Use, Harvard Survey Finds*, Nat'l L.J., Oct. 4, 1982, at 13.

ten to twenty years. CD-ROM, one possible heir apparent to microform, is proving its value by providing compact electronic storage and random access of print information on optical disc.

Interactive optical video programs, the newest hi-tech entries into the legal environment, have successfully substituted passive video programming with video simulations that the user can control and react to.<sup>6</sup> At least one producer of interactive video programs updates both substance (to insure relevancy in legal information) and programming (to develop higher levels of user interaction).

Both older and state-of-the art media technologies come with a specific set of management problems, which range from training users to developing methods for materials storage.<sup>7</sup> As a rule, newer technologies merely replace the management problems of older systems.<sup>8</sup> In response to rapidly changing technologies and the new problems created, equipment selection procedures must allow for change and adaptability.

### III. Selecting Equipment in an Age of Changing Media Technologies

Selectors of new media equipment must adapt to significant trends: the rapid transformation that media technologies undergo and the increasing computerization of such media. Those who select media today must develop flexible policies that allow for change rather than perpetuate static practices. Too often one hears the archaic phrases, "Maybe we should wait until the technology is stabilized," or "When will they develop a standard for this format?" Such statements are characteristic of those who seek the benefits of a safe and predictable technological world.

Today, media equipment evaluation must take place inside a current of modification and change, which requires selectors to compare the potential benefits of new technologies to the benefits of existing ones. Equipment selection policies must take into account the value of older technologies, while encompassing those elements in new technologies that are in sync with the currents of learning and information trends. A selection policy must begin with the following basic caveats.

1. *Existing technologies only become obsolete when they have ceased to serve an information need.* For example, the reel-to-reel audio recorder

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6. In this definition, an interactive video system consists of an optical (laser) videodisc player, video monitor, and microcomputer. Through the dual operation of an optical video presentation and computer program, the system provides the user with a high level of interactive control, which affects the course and eventual outcome of a program.

7. Veaner, *Managing the Invisible Media*, 78 LAW. LIBR. J. 95 (1986).

8. *Id.* at 102.

still provides high quality sound and longer recording times than its successor, the cassette recorder.

2. *Newer technologies are only practical when they have the potential to become cost-effective, provide superior performance over existing systems, and can be integrated into environmental designs.* The new digital audiotape (DAT) recorders offer superior performance over analog cassette recorders and increase the capabilities for post-production enhancements. However, at this stage of development, it might be unwise for libraries to replace their \$100 analog recorders with \$1,000 dollar DAT recorders that require more security and a larger budget. Newer media technologies can be a solution to an information problem,<sup>9</sup> but they do not automatically indicate obsolescence of viable existing systems. Avoid the danger of "technofix," in which technology becomes the solution to all problems.<sup>10</sup>

3. *Manufacturers regularly come out with new formats and equipment designs<sup>11</sup> and will probably continue to do so.* Media format standardization exists only in the minds of people who long for a clean, neat world. A practical approach is to work with media formats and equipment categories that are presently dominant in legal subject areas, such as conventional VHS and 3/4 U-matic videotape, as opposed to Beta or 8mm video formats. Some members of the AALL Micrographics Audiovisual Special Interest Section express the need for publisher standardization of microform reduction ratios and polarity. While publisher standardization is most desirable, the problem can be rectified with the purchase of reader printers equipped with zoom lenses and bimodal exposure.

4. *Selection policies must be adaptable to changing technologies.* People resist change for any number of reasons. Some educators put up roadblocks to technological innovations, fearing the demise of traditional teaching methods.<sup>12</sup> Librarians sometimes view media technology as an expensive marauder that threatens the stability of the print world with vacillating electronic formats. Such intransigent attitudes toward media technologies may rob library patrons of important information that is available only through specific media formats.

With these caveats in the background, the following equipment selection plan offers general guidelines. It is followed by a bibliography,

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9. Ely & Plomp, *The Promises of Educational Technology: A Reassessment*, in *EDUCATIONAL MEDIA AND TECHNOLOGY YEARBOOK* 1988, at 5, 15 (D. Ely ed.).

10. J. NAISBITT, *MEGATRENDS* 52-53 (1982).

11. Ellison & DiFelice, *A Strategy for Purchasing Media Equipment*, in *MEDIA LIBRARIANSHIP* 260, 262 (J. Ellison ed. 1985).

12. Ely & Plomp, *supra* note 9, at 13.

which lists sources of information, and an "equipment selection checklist." Implementation of an equipment selection plan should be structured to allow time to plan and perform needs assessments, to consider equipment types, to evaluate models, and to begin new equipment services.

#### IV. Equipment Selection Plan<sup>13</sup>

The diverse and innovative nature of media technology has made equipment selection an arduous but necessary task for media librarians. This task can be accomplished more easily by developing a systematic plan to evaluate and acquire the best equipment at the lowest possible price. To match equipment and product lines to a media need, a selector must allot time to evaluate equipment options within the context of the information need and the prospective user.

##### A. Preliminary Planning

Successful equipment evaluation and selection require effort, research, and time.<sup>14</sup> From my experience with the Micrographics Audiovisual Special Interest Section of AALL, it is apparent that many law librarians need to develop the basic skills necessary for equipment selection. Allotting sufficient time for initial research will result in the development of a base of knowledge that will help shorten the process in the future.

Librarians who are novices at media equipment selection ideally should begin their quest six months to a year before the date of final selection. Advantages of early research include time to determine the desired equipment options, to review models, and to contact distributors or technicians. Librarians fortunate enough to have an assistant should consider delegating certain selection responsibilities. The assistant can help with phone calls, written correspondence, meeting with sales representatives, and compilation of user equipment statistics.

Additional time may be necessary to assess the existing and future media requirements for the library. A prioritized equipment needs list is extremely useful, particularly when dealing with library administrators, who might bestow large amounts of unspent money at the end of a fiscal year. For difficult budget periods, the preparation of statistical evidence (such as the number of requests that result from equipment deficiencies) can help justify an equipment need to reluctant administrators.

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13. A concise checklist for the selection process presented in this section is found in the appendix.

14. Ellison & DiFelice, *supra* note 11, at 260.

### ***B. Matching Equipment to an Informational Need***

A new equipment purchase usually results from the library having to meet an expressed informational need.<sup>15</sup> If the selection of new equipment is not orchestrated with a particular need, what is purchased may be inadequate or overqualified for uses that come up later.<sup>16</sup> Selecting equipment that matches an information need requires a review of media availability, equipment function, cost, and the physical environment.

Media availability refers to those predominant formats that store the needed information and are available from a commercial source or through in-house production. For commercially produced legal subject matter, the predominant formats are videotape, audiotape, optical interactive video-discs, optical CD-ROM, microform, and conventional print. With respect to in-house production, users of legal information prefer media that can be produced, processed, and delivered in a short period of time. The media choices include videotape, audiotape, overhead transparencies, and slide photography. Information format is one major factor in the selection of equipment, along with the methods used to deliver the information.

Equipment function addresses the information task that a specific piece of equipment should accomplish through its mechanical operation.<sup>17</sup> Equipment models may perform many or only a few operations. Applying a rule of specificity in equipment choices will isolate those pieces of equipment that best fulfill an information need, without including added features that may be impediments to the user. For example, equipment engineered for one function, such as audio or video playback, will accomplish that one task more effectively than a machine that can perform several functions.<sup>18</sup> Videocassette decks designed for playback are simple in construction and have lower breakdown rates than more sophisticated recording equipment. The simplicity of these machines allows for easier staff training and smooth operation.

Smaller libraries with limited budgets may have to compromise the specificity rule and purchase multifunction machines. For example, the high cost of microform reader printers may cause smaller libraries with diverse microform collections to select a multifunction machine. If possible, it is better to select machines with only those functions that are certain to be used.

It is also necessary to determine whether portable or stationary equipment is available, and which will best meet the information need.

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15. *Id.*

16. Simons, *Choosing Audio-Visual Equipment*, 13 LIBR. TRENDS 503, 504 (1965).

17. W. SCHMID, *MEDIA CENTER MANAGEMENT* 115-19 (1980).

18. Ellison & DiFelice, *supra* note 11, at 261.

Portable equipment is generally smaller, lightweight, and simple to operate. Stationary equipment is generally larger and heavier, offers more features, and is more complex to operate. Such choices do not exist in every technology: while video equipment is available in either form, presently microform reader printer technology offers only stationary models.

Where the choice exists, a decision should be made based on the types of services provided. For example, where audio or video usage will be primarily for playback in specific secure locations, stationary equipment is preferred. If there will also be over-the-counter equipment loans or setups in remote locations, then a proportional number of portable systems will be required. If the library has daily demand for remote video playback and only occasional demand for off-air recording, it should proportion its video equipment selection in favor of small and portable playback models rather than stationary recording models.

Equipment should be the best that the budget allows, but cost should never be a sole determinant for final selection.<sup>19</sup> Too often, librarians select equipment that appears to be a bargain, but fails to meet the information need. Emphasizing a comfortable purchase price over quality may be costly over the long term. Accurate pricing information should combine the purchase price with an annual projection of operating costs, including supplies, service contracts, repairs, and personnel training.<sup>20</sup>

In assessing the library's physical environment in terms of the use and storage of media equipment, one must evaluate location, security, and existing climate concerns. Adequate examination of these environmental variables will result in the placement of equipment so that users can operate it without unforeseen impediments.

When considering location or the effective deployment of equipment in particular working environments, several questions arise: Is there a place to put the equipment? What accommodations are necessary? For example, if the equipment is intended for individualized instruction in a carrel or on a table top, there must be a minimum user work space of three by three feet, as well as space for the equipment.

What benefits and problems do the design and function of this equipment create? Does this equipment require more expensive or sophisticated backup systems to work effectively in a given space? The new

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19. *Id.* at 260 (discussing cost outlay and the danger of becoming overly cautious in selecting equipment).

20. Supplies are a very important cost consideration in the selection of a reader printer. Selectors should obtain information concerning toner, toner cartridges, toner waste cartons, emulsion-coated paper, and any other supply costs. Another cost factor is copy volume per supply unit (e.g., the estimated yield of print copies per bottle of toner).

portable microchip (or liquid crystal display chip) video projectors<sup>21</sup> are excellent for presentations in rooms with a projection throw of ten to fifteen feet. However, in large lecture halls with throws between forty and sixty feet, some projectors must be fitted with a telephoto lens. Additionally, a speaker must sometimes be added for audio amplification to large groups. Together a telephoto lens and a speaker could add \$300.00 onto the cost of the projector.

Will demand for a spin-off service be created by this equipment that cannot be met by the library? For example, centralized audio or video wiring to allow remote playback and recording might end the need for transportation services, but may proliferate requests for audio and video services to remote locations.

Equipment security is a major concern that is relative to location or places of use. Equipment locations in public service areas, such as carrels or rooms with public access, may require security devices such as clamps, cables, and locking cabinets. Libraries and media departments that purchase equipment for distribution to classrooms or offices need a circulation system to account for the location of equipment. The system also needs staff to distribute and collect equipment at designated times in order to prevent theft.

Media departments with rooms designated for media use should include doors with dead bolts and locking windows. Audible alarms will maximize equipment security when used in combination with a number of types of detectors, such as infrared motion sensors that detect body heat, photo relay sensors that guard halls and doorways, motion detectors that pick up movement in open space, door and window contacts for detecting unauthorized openings, and glass breakage detectors for doors and windows. Although there are no conventional locks or alarm systems that a sophisticated intruder cannot overcome, using combinations of locks will cost a potential thief time and increase the chances of detection.

Climate is often neglected in the selection process but is vital to the healthy operation of equipment.<sup>22</sup> Heat, humidity, and dirt, which have long posed problems for preservation of library materials, adversely affect media equipment as well.

All types of projectors overheat in poorly ventilated rooms because of their high BTU output. Acceptable temperature and humidity ranges become more stringent with sophisticated equipment; the ranges are

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21. The newer and smaller video projectors use a microchip (liquid crystal display, or LCD, chip) that generates red, green, and blue (R.G.B.) video signals, which a lamp projects and converges into a color image on a screen or wall.

22. W. SCHMID, *supra* note 17, at 129.

published in manufacturers' equipment manuals. Operating safety ranges for equipment generally follow the ranges for personal comfort.<sup>23</sup>

Dust is one of the biggest hazards for any type of media equipment and can lead to corrosion of moving metal and nonmetal parts, such as video and audio heads and cassettes. Film projectors and microform reader printers are especially susceptible to dust because of exposed film tracks. In film equipment, dust will wear down rubber and plastic rollers, belts, and gears, and also cause extensive damage to film. Some projection equipment has a filter over the fan intakes to help prevent dust buildup inside the machine.

Frequent staff dusting of internal equipment components with swabs and compressed air will alleviate some dust problems. Video and audio heads should be cleaned with freon or alcohol solutions and a sponge-tipped swab to remove iron oxide and dust (cotton-tipped swabs may clog heads with fibers). Equipment dust covers, along with frequent vacuuming in equipment areas, also help prevent dust buildup problems.

Static electricity became an environmental concern with the emergence of equipment loaded with IC chips.<sup>24</sup> Unlike their predecessors, today's microform reader printers contain many microchips. This means fewer belts, gears, levers, springs, and other mechanical devices than in the reader printers of old. However, because ICs are highly sensitive to static electric charges, a highly charged user can blow a chip, which may cost \$600.00 to replace. To combat static electricity, the library can purchase antistatic floor mats or touch pads, or have service dealers install ground kits behind equipment consoles.

Poor climatic conditions may result in high equipment breakdown rates and service delays. Major investments in air conditioners, humidifiers, or dehumidifiers may be needed to help alleviate problems and improve the working climate. However, new equipment should also be accompanied by the inexpensive accessories and cleaning agents that help control climatic problems.

### *C. Matching Equipment to the User*

Matching equipment to the information need is only the first part of the selection process. Serious consideration must be given to human factors in the operation and design of equipment. The best equipment will combine the qualities for performing an information task while meeting the operating requirements of the user group.

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23. *Id.*

24. ICs, or integrated circuits, are a dense combination of microcircuits on small silicon chips that perform a number of functions.

One of the most important considerations in the selection process is who will set up and use the equipment. Sophisticated "staff-use-only" machines can be selected if serious staff training is planned to overcome any barriers and to insure proper use. The library user's main concern is "[w]hich button to push."<sup>25</sup> Therefore, equipment for direct patron use must be easy to operate, durable to insure long life, and safe whenever possible; in addition, models should be standardized.

Machines that are simple and straightforward to operate create satisfied staff and patrons and directly improve library services. Managerial benefits include time savings in staff and user training, reductions in mechanical problems and subsequent troubleshooting, low maintenance, and low repair costs. Where appropriate, simple diagrams and instructions may be posted near or on a machine. Caution should be used in circulating instruction manuals, however, since they tend to be difficult to understand and cumbersome for patrons to use.<sup>26</sup>

As computer systems continue to intersect with media technologies and evolve into more complex systems,<sup>27</sup> staff training will also become more complex in the areas of problem solving and equipment operation. For example, training for an interactive video system is more time-consuming and complex than for a standard video playback. Before selecting new technology, study the operating requirements and prepare staff for any dramatic changes in the library's operating structure.

A good preventive maintenance program is important for enhancing equipment longevity. However, it is possible to determine equipment durability and longevity at the point of selection.<sup>28</sup> A choice exists between consumer or industrial lines of equipment.

Industrial grade equipment will generally withstand the stresses associated with the number and variety of users and abusers in the library setting. The construction of industrial lines offers heavier gages of plastic or metal housings and shock-resistant components. While industrial equipment generally costs ten to twenty-five percent more than consumer models, the extra investment usually pays off with lower breakdown rates and higher levels of operating vitality.<sup>29</sup>

Safety is easily overlooked, but is of serious concern to the user. While safety criteria vary with different media technologies, the following

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25. Ellison & DiFelice, *supra* note 11, at 262.

26. *Id.*

27. J. NAISBITT, *supra* note 10, at 27-31 (discussing the three stages of evolving technologies).

28. See Post, *Longevity and Depreciation of Audiovisual Equipment*, TECH TRENDS, Nov. 1987, at 12, 12-14 (table on AV equipment depreciation).

29. Neitzke, *Getting the Most from Your AV Dollar*, TECHNICALITIES, Sept. 1985, at 11, 12 (discussing the distinctions between industrial and consumer equipment).

checklist of safety features developed by W. T. Schmid covers the basic concerns:

1. a three-prong grounded plug
2. Underwriters Laboratories approval
3. rounded edges and corners
4. heat output and ventilation
5. automatic power shut-off for internal access
6. quality construction
7. thermocoupler to prevent overload in projection equipment
8. proper equipment weight and size to facilitate transport<sup>30</sup>

It is also advisable to have a class C fire extinguisher near media equipment to put out electrical fires.

Standardizing equipment entails selection from the same manufacturer, and if possible, purchase of multiple units of the same or similar models. The advantage is uniformity in operating procedures and repair services.

Where a library has randomly purchased equipment (for example, several VCRs that operate differently or various projectors that accept different ANSI bulb types), training, maintenance, and repair become chaotic tasks. Standardization simplifies training, and saves time, money, and staff energy. From a maintenance perspective, standardization limits repair work to one manufacturer's service center.<sup>31</sup>

#### *D. Distributors, Ordering, and the Warranty Period*

Distributors are part of the selection process, from the first phone call for information to the final sale. Therefore, it is important to select and locate several distributors with which one can develop a good working relationship.<sup>32</sup> Preferably, the distributor should have a local office, be an official dealer and distributor for at least two manufacturers, and have a vested interest in serving the local educational, governmental, and business media markets. A distributor should be equipped for service and repair of equipment at its local office. Distributors should also provide a service contract that covers most parts and labor at a reasonable annual rate. Remember that any equipment purchased should have, at the minimum, a thirty- to ninety-day warranty for parts and labor.

When beginning the search for equipment, it is best to make phone contacts with three to five local distributors. Information requests should

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30. See W. SCHMID, *supra* note 17, at 130.

31. Ellison & DiFelice, *supra* note 11, at 262 (discussing the relationship between equipment standardization and dealer repair services).

32. *Id.* at 263.

include equipment specifications and options, along with price quotes on equipment, supplies, and accessories. It is equally important to identify those vendors that provide quality maintenance service and support for the products they sell. Contact media professionals in schools, businesses, and libraries to obtain recommendations on vendors. Avoid equipment distributors that do not provide demonstrations or have an in-house service department. Armed with this type of information, it becomes easy to eliminate distributors that do not provide equipment features and services required.

The type of library management organization will generally dictate the particular method used for ordering equipment. Sometimes administrators or purchasing agents require a written justification before making an actual purchase decision. The purchase process might consist of a librarian ordering directly; in larger institutions, bidding might be necessary. In either case, the purchase order should identify all required specifications, and include service contracts, service manuals, and any added services a distributor may make available. Extra service items in the purchase order will increase the purchase price.<sup>33</sup>

During the warranty period, new equipment should be put into service and tested immediately: avoid the "save it" syndrome.<sup>34</sup> Mechanical defects are better detected during the warranty period. Try to avoid attaching property identification markers to the equipment until the warranty period has ended.

When new equipment arrives, (1) unpack it systematically, checking for damage on the shipping box, which would indicate any impact from a drop or other shock; (2) check the shipping list in order for all components expected and make sure the correct model has been received; (3) remove the major equipment component and check for marks, dents, and other defects that would indicate any physical shock; and (4) read the users manual, test all equipment operations, and put the machine into service within the warranty period. Any mechanical problems that develop in new equipment should be reported to the distributor immediately.

## V. Sources of Information

Access to information on prospective equipment or emerging technologies is essential to making the proper selection decision. Consulting several sources, such as equipment users, media organizations and various

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33. *Id.* at 265.

34. *Id.* at 266.

specialized publications, will aid in developing a well-rounded evaluation of a product.

A full equipment analysis consists of two parts: a user market analysis and a literature analysis. Equipment that has been on the market for a year or more can be effectively researched through a user analysis. Newer equipment, however, may have to be selected based on manufacturer's claims and independent reports.

A user market analysis begins by identifying librarians, teachers, and other media specialists who are presently using the equipment models of interest. Personal contacts through the Micrographic Audiovisual Special Interest Section of AALL will help pinpoint law librarians with similar equipment applications. Phone calls or correspondence to public or academic librarians working with media are also useful for gathering information. One should question these individuals about equipment performance and operating and repair costs. Media technicians also can provide unbiased information on maintenance and ease of repair.

Local equipment distributors in any geographic area serve as a middle link between the consumer, manufacturers, and related professional media organizations. Distributors can provide information concerning the latest price changes, changing equipment lines, and equipment specifications.<sup>35</sup> Additionally, distributors will provide consumers with on-site demonstrations of prospective equipment, and information on local equipment shows. The best place to start locating distributors is the yellow pages of the telephone directory.<sup>36</sup>

The media equipment literature consists of a wide range of directories, evaluative reports, media handbooks, and manuals, in addition to other books and periodical articles. In starting an equipment search, librarians should first consult basic reference sources to identify general types of equipment, as well as specific models, manufacturers, and distributors.<sup>37</sup> The following publications are among those most useful:

*The Audiovisual Marketplace*. New York: R. R. Bowker, 1974/75-. Annual directory provides extensive classified lists of media manufacturers by products and services, company and media association directories, lists of reference books and periodicals, a list of organizational acronyms and initialisms, and industrial yellow pages.

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35. *Id.* at 262-64 (discussing manufacturers and vendors).

36. *Id.* at 262. Check under the headings "audio," "audiovisual," "video," and "microform" for starters.

37. See generally Palmer, *A Reader's Guide to Audiovisual Equipment*, in *MEDIA LIBRARIANSHIP*, *supra* note 11, at 268 (containing annotations of the following titles, plus other useful titles).

*Educational Media and Technology Yearbook.* Littleton, Colo.: Libraries Unlimited, 1985-. Yearbook includes annotated lists of media organizations and associations, graduate programs in instructional technology, a directory of funding organizations, a classified subject mediagraphy of reference materials, and a directory of media producers, distributors, and publishers.

*The Equipment Directory of Audio-Visual Computer and Video Products.* Fairfax, Va.: International Communications Industries Association, 1984/85-. Annual directory includes descriptions of a variety of audiovisual equipment and products with specifications, prices, and item photographs.

The following reference sources are useful for locating independent evaluations:

*EPIEgram: Equipment.* Water Mill, N.Y.: Educational Products Information Exchange Institute, October-June, 1977-. Monthly. Provides the user with up-to-date information on new equipment lines. Tests and reports are completed by independent consultants.

*Library Technology Reports.* Chicago: American Library Association, 1967. Bimonthly. Occasionally, has detailed test evaluations of media and microform equipment. Reports are prepared and written by independent researchers and consultants.

Current media trade journals also are important sources of evaluative information on new equipment and different techniques of equipment use. To stay informed of trends in media technology, a subscription to one or two of the following trade journals is recommended:

*Audiovisual Communications.* New York: United Business Publications, 1967-. Monthly. Focuses on the educational and business markets. Includes articles on production techniques, media applications, equipment reviews and emerging technologies. Recommended for those involved in a variety of media services.

*Educational Technology.* Englewood, N.J.: Educational Technology Publications, 1965-. Monthly. Intended for people involved in educational communication. Frequently provides the reader with articles on learning technology applications. Also includes a section on products and services. Primarily recommended for those who need or are interested in improving instructional use of media.

*E\*ITV.* Ridgefield, Conn.: Tepfer Publications, 1972-. Monthly. Directed toward educational professionals. Contains articles on the application and evaluation of new equipment and emerging media; also has a new products section. Recommended for those who are involved in selecting video equipment and implementing instructional video or television programming.

*Media and Methods*. Philadelphia: American Association of Media Specialists and Libraries, 1964-. Bimonthly. Directed at elementary and secondary school media specialists. Features useful articles on media equipment and applications that can be applied to the law library environment. Also has a new products section. Recommended as supplemental reading.

*Tech Trends: For Leaders in Education and Training*. Washington, D.C.: Association for Educational Communications and Technology, 1985-. Bimonthly. (Formerly, *Instructional Innovator*, 1980-1985.) Targeted at educational media professionals. Contains information on the latest trends in instructional technology and also includes a new products section. Very specific to the educational technology market and recommended only as support reading.

*Videography*. New York: P.N.S. Publications, 1976-. Monthly. Aimed toward users of industrial or broadcast video equipment. Offers excellent articles on equipment evaluation, instructional video, and video production. Recommended for libraries that are setting up any type of video operation.

Consumer video and audio magazines offer fundamental information on methods for selecting and maintaining media equipment. Publishers of professional video magazines tend to presume prior media knowledge on the part of their readers. Consumer video and audio magazines often assist those who require a fundamental understanding of audio and video technology. The following are samples of a growing number of consumer magazines:

*Camcorder*. Ventura: Miller Magazines, 1989-. Monthly. Includes articles on consumer and sometimes industrial video cameras, editing systems, VCRs and other enhancement equipment.

*Video Magazine*. New York: Reese Communications, 1987-. Monthly. Includes articles on new product lines, test reports, and technical methods.

The following books are useful as guides for developing a fundamental base of media knowledge:

Casciero, Albert J., and Raymond G. Roney. *Audiovisual Technology Primer*. Englewood, Colo.: Libraries Unlimited, 1988. Recommended for any librarian involved in management of media. Addresses most aspects of library media services, with extensive discussion on media materials, equipment, and production methods. Includes an index and source notes at the end of each chapter.

Scholtz, James C. *Developing and Maintaining Video Collections in Libraries*. Santa Barbara: ABC-CLIO, 1989. Recommended for any librarian who is starting or maintaining a video collection and an inventory of video

equipment. Includes a guide to selecting and maintaining video equipment, along with other aspects of video management. Complete with illustrations, source notes, and index.

Rosenberg, Kenyon C., and John J. Elsbree. *Dictionary of Library and Educational Technology*. Englewood, Colo.: Libraries Unlimited, 1989. Includes a comprehensive listing of media terms and phrases with definitions, and extensive criteria for equipment selection.

Other important sources include distributors' newsletters and pamphlets, which provide the consumer with information on new and existing equipment lines. Though this type of literature is useful, it tends to be slanted in favor of the specific distributor's equipment lines.

Professional media trade associations are also good sources, which may publish or produce reports and other selection information. *The Educational Media and Technology Yearbook* and the *Audiovisual Marketplace* both have lists of professional media associations and groups.

## VI. Conclusion

The future course of audiovisual and nonprint technologies in law libraries will be determined in part by the gradual transition of the legal community from a predominantly print model of communication to one that is multiformatted. As a result of this trend, librarians will be serving growing numbers of legal information users who demand access to information in a variety of formats. For librarians to remain competent information providers, they must invest as much time, effort, money, and personnel in nonprint services as they do for print resources. In doing so, they must develop an understanding of the technologies that are used to produce and disseminate nonprint information and develop systematic plans to match the best media technology to present and future applications. Media technology will continue to evolve and affect library information services. The selection process never ends with the installation of new media equipment, but continues with the evaluation of equipment performance and the continual assessment of future needs.

## Appendix

### Equipment Selection Checklist

The following is a recommended checklist of measures that a librarian should review before and during the selection process. The checklist represents a concise and integrated summary of the basic selection process presented in Section IV of the article.

1. Select a medium that will best meet an instructional or information objective in conjunction with the following considerations.
  - a. *Investigate the technical requirements of the users* or target group along with their needs for information production and delivery.
  - b. *Investigate media format availability.*
2. Contact distributors of required equipment type or format.
  - a. *Identify distributors* that sell the equipment type and models that are required.
  - b. *Request of each distributor:* (1) literature, price quotations, and demonstrations on the equipment of interest; (2) information on the cost of equipment, added features and supplies; and (3) information on equipment service contracts and rates of repair.
3. Evaluate equipment
  - a. *Evaluate and compare equipment models* using distributor information and information from media literature.
  - b. *Obtain evaluative reports* from people in libraries, schools, and businesses who are using the equipment in question.
  - c. *Contact technicians* who work through independent service centers for information on breakdown rates, parts availability, and ease of repair.
4. Evaluate and select through the process of elimination.
  - a. *Select only those equipment lines that have the options and specification that are required.*
  - b. Whenever possible *try to standardize* newer equipment with models that are presently in operation.
  - c. *Select only reputable distributors* that provide quality and timely maintenance service.
5. Receiving new equipment.
  - a. Unpack equipment and check for any damage in shipping.
  - b. Check shipping list to verify that all components have been received.
  - c. Check the machine, making sure that it is the right model.
  - d. Check warranty and service contract for the active date and the termination date.
  - e. Read the operator's manual and then test all equipment operations.
  - f. Put the machine into service during the warranty period.