SOUND ADVICE

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Upgrading Your Sound System?

Sound systems may need upgrading for one or more of at least three reasons:

- The present system does not work correctly.
- The present system is showing its age or is technologically outdated.
- Additional capabilities are desired that the present system cannot deliver.

Incorrect operation of a sound system may or may not indicate a need to replace the system. Often, the problems are related to operator error, acoustical issues, or maladjustment. A good consultant can help you with these problems, and will have no motivation to sell you new equipment that you may not need, since true consultants are not in the sales business.

If your present system is over 10 years old, it may be nearing the end of its useful life and may soon begin to need frequent repairs. It is also likely to be technologically outdated. An example of technological senescence is a system that uses a graphic equalizer rather than a digital signal processor (DSP). Graphic equalizers were common in older systems, as they provided a way to smooth the sound of the system at a reasonable cost. However, in the last few years, the cost of DSP's has dropped significantly while their capabilities have risen. The performance advantages of using a properly adjusted DSP rather than a graphic equalizer are enormous. Another instance of outdated technology is cassette-based – rather than CD-based – recording of events.

Today's public is accustomed to events that engage them visually as well as aurally, and so video presentation (and often, video recording) has become an expected part of a system's capabilities. In some cases, various forms of Internet access integration into systems are desired as well.

One way to go about upgrading a technical system (sound and/or video) is to contact one or more contractors for proposals. There is a common belief that the competitive bidding thus entailed ensures the best performance for a given investment. However, as in any field, systems contractors are not all alike. At the top of the heap are companies owned and staffed by true experts who are dedicated to providing the best value and performance for their customers. At the bottom are companies whose main business may be computers or musical instruments, and who are only slightly interested in sound and video systems. All shades of businesses exist in between.

Here is where good advice is invaluable. Providing this advice is what consultants do. A good consultant not only knows scientific principles, equipment, and system design, but also knows the performance of many systems contractors in the area. The range of services that a consultant can provide include acoustical analysis and design, troubleshooting sound/video system problems,

sound and video needs assessment and design, assistance in evaluating proposals from contractors, system commissioning and adjustment, and operator training. Three examples of a consultant's assistance follow.

1. **Full Design Services:** The consultant begins by leading the owner's people in assessing their needs in a new system, then designs a system to meet those needs. A bid package is prepared with full drawings, and is submitted to contractors. The resulting bids are reviewed by the owner, architect, and consultant, and an installation contract is awarded. The consultant then serves as a resource for the architect, electrical contractor, and systems contractor during the installation process. After the new system is installed, but before the final payment is made to the systems contractor, the consultant commissions the system, making sure that all work is done correctly and as specified, and making adjustments as necessary. Next, the consultant trains anyone who will operate the new system. Finally, the consultant remains available to help the owner as needed if any questions arise that the systems contractor cannot answer.

2. **Evaluation and Commissioning:** The consultant begins by leading a needs assessment, then writes a summary of system requirements. This summary is then offered to systems contractors for proposals. The consultant assists in evaluating the proposals and selecting a contractor. The contractor is responsible for the actual systems design and for interfacing with the architect and electrical contractor, as well as system installation. After installation is complete, but before the final payment is made to the systems contractor, the consultant commissions the system, making sure that all work is done correctly and as specified, and making adjustments as necessary. Next, the contractor trains anyone who will operate the new system. This scenario reduces the consultant's involvement, but is less costly for the owner.

3. **Evaluation:** The consultant begins by leading a needs assessment, then writes a summary of system requirements. These requirements are offered to three contractors known by the consultant to provide good systems design, installation, and after-sale support. Since the contractors are pre-approved, the owner evaluates the resulting proposals, involving the consultant only in the event that there are specific questions. The remainder of the installation, commissioning, and training is completed by the systems contractor. Naturally, this is the least expensive alternative, but even it does provide assurance that the new system will meet the agreed-upon needs and will be installed correctly. Thus the owner is protected against potentially costly errors.

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