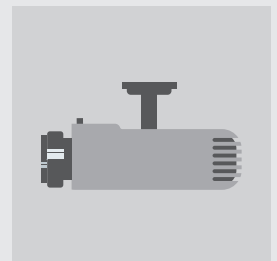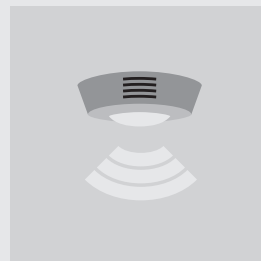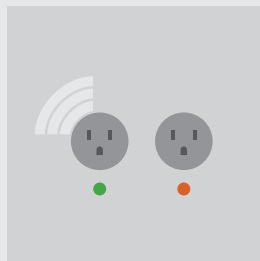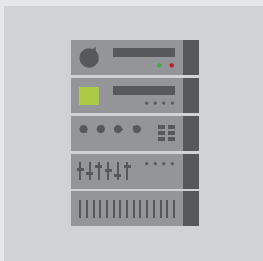# AV Systems Energy Management Handbook

For use with ANSI/INFOCOMM 4:2012
Audiovisual Systems Energy Management

InfoComm International® Standards and Industry Innovations

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About InfoComm International

InfoComm International® is the international trade association representing the professional audiovisual and information communications industries. Established in 1939, InfoComm has more than 5,000 members, including manufacturers, systems integrators, dealers and distributors, independent consultants, programmers, rental and staging companies, end users and multimedia professionals from more than 80 countries. InfoComm International is the leading resource for AV standards, market research and news. Its training, certification and education programs set a standard of excellence for AV professionals. InfoComm International is the founder of InfoComm, the largest annual conference and exhibition for AV buyers and sellers worldwide. InfoComm also produces trade shows in Asia, Europe, Latin America, and the Middle East. Visit www.infocomm.org.

About This Handbook

This handbook is intended for any organization or individual interested in applying *ANSI/INFOCOMM 4:2012 Audiovisual Systems Energy Management*. It is specifically designed to assist audiovisual professionals in the assessment of energy management needs, the design of an energy management system, and the implementation of such a system.

ANSI/INFOCOMM 4:2012 Audiovisual Systems Energy Management has been developed under the rigorous ANSI principles of openness, consensus, balance, and transparency. The standard provides requirements for efficient and continuous energy management of audiovisual systems based on operational and functional requirements.

For AV System Owners and End Users

The system owner makes final decisions regarding the audiovisual system project. This person or group has an opportunity to help his or her organization run more efficiently by requiring that power is used in a responsible manner. A long-term plan for efficient and responsible energy use may fail without planning, protocols, and programs. Some major consequences could be an increase in the organization's carbon footprint, failure to comply with sustainability requirements, and difficulties in dealing with unexpected rises in utility costs.

Implementing a well-designed AV energy management system that includes automating, energy monitoring, and proper training may save an organization enough money to recoup the investment within a few years. If the initial investment or Return on Investment (RoI) seems prohibitive, owners should realize that they have the possibility of encouraging future savings and goodwill.

For AV System Consultants, Designers, Integrators

Designing an energy-efficient AV system requires additional considerations beyond turning devices on and off. If a designer is new to designing for energy management needs, probably the most important consideration is achieving the project goals by procuring/upgrading AV components that have control interfacing capabilities. Some other questions to ask that can affect the design:

- How do I select equipment with power-related features that I need?
- What kinds of additional components do I need to control and monitor power?
- What documentation do I need to tell installers how to connect components to the energy management system?

By assuming an advocacy role with the owners and clients, an opportunity surfaces to enhance the perception of their organizational operations. The integration of an energy management system may be seen by others as a visible, positive enhancement, unlike other traditional installation and maintenance work that is typically hidden from view.

Preface

In recent years, the conversations about committing to resource conservation, and being "sustainable," or "green," have been all around us. So many initiatives have been undertaken to identify and manage energy savings at every level of energy generation and consumption that it is difficult for people to know exactly how they can participate, or exactly what they should do. In the audiovisual community, this conversation reached the InfoComm Board of Directors, who decided to pursue an ANSI standard development process to define the specific techniques to be adopted by those wishing to save energy in their systems. At the same time, an inquiry was begun into how the audiovisual industry relates to smart/intelligent buildings; and how AV systems can become both "greener" and aid other aspects of buildings to become more sustainable.

Why is it that there has been such a lack of attention to the issue? Perhaps there are deep-rooted habits that need to be broken, or perhaps there just has not been enough urgency brought to the subject. Here are four long-standing ideas about how AV systems should be powered that need to be looked at with a more responsible attitude:

- *It is "better" for electronic equipment to be left on all the time*. The thinking was that it would last longer because it would not be subjected to the thermal gradients associated with power cycling.

- *Power switching equipment is optional*. To make a sales proposal more attractive to a prospective client, these components could be left out of a project or value-engineered out.

- *Client convenience*. Clients could have their AV systems available to them at any time without control interfaces.

- *Powering up an AV system to a known previous state.* Historically, AV control systems did not have easy-to-use non-volatile memory, so the control system lost all state and variable information when power was lost.

Discussions in InfoComm University™ classes and evidence from student projects and exam results have shown that these perceptions are prevalent throughout the industry, regardless of project type or location.

In this day and age of energy efficiency consciousness, it is remarkable how few audiovisual systems have any type of power switching mechanisms. A great variety of devices from simple to complex are available for this purpose, including sequential switching devices that provide additional benefits.

However, we continue to leave tens of thousands of pieces of equipment on all the time, unnecessarily wasting energy and our clients' money. Yes, there are components that need to stay on, such as control system processors, but even these are now being designed with low-power-consumption standby modes. The technical ability to create responsible systems has finally caught up with the will to do so.