

# Welcome!!!!

## Standards and Best Practices

### Plenary Session

THE CENTER  
OF IT ALL

# Standards and Best Practices Program

# 350 Volunteers!

# Agenda

- **InfoComm® Housekeeping**
- **Introductions**
- **Development Overview**
- **Report from Standards Steering Committee**
- **Report from Best Practices Program**
- **Report from Liaisons**
- **Task Groups and Task Forces Meetings**
- **Reports from Task Groups and Task Forces**
- ***IGNITE STANDARDS***
- **Q&A**
- **Closing Remarks**

# Housekeeping Items

- Restrooms
- Smoke free building
- Cellphones

# Introductions

- Name, where you from?
- Company
- Why you are in AV
- Favorite standard

# Development Overview

- Types of Standards and Where They Come From
- InfoComm's Audiovisual Standards Development
  - 1) Amplified Audio System Performance Standards "Suite"
  - 2) Display and Lighting Standards In Development
  - 3) Partnerships and Liaisons
  - 4) ANSI-ISO
  - 5) Power Switching and Monitoring
  - 6) Design Standards
  - 7) EN54 and NFPA 72
  - 8) EnergyStar and TCO
  - 9) ISO 14001 and EMS
  - 10) Emerging Technical Standards
- Audiovisual Best Practices

# DID YOU KNOW? *infoComm***11**

INFORMATION COMMUNICATIONS MARKETPLACE

- Approximately **500,000** technology standards are the technology foundation for the global economy
- It costs at least **\$1.5 billion** each year to maintain the global standardization system
- Widespread participation and standard adoption advances industry sector **professionalism** and stimulates **trade**

# Types of Standards

- Basic
- Data
- Interoperability
- Management
- Material Specifications
- Process
- Performance
- Product
- Service
- Standard Practices/Guides
- Standard Terminologies
- Testing

InfoComm is currently  
focused on developing  
Performance Standards...



# History of ANSI



# Standards in Architecture

- Architects and Engineers utilize standards in many aspects of their designs....



# Audiovisual Industry Utilizes Technical Standards from Elsewhere



# InfoComm Standards History

Board Discussion of Standards 2004

ANSI Accredited Standards Developer 2008

InfoComm Joins ASTM 2010

Standards Program established 2006 – 2007

First standards completed 2008/2009

First ANSI Program Audit completed 10/10



# The First Three ANSI / InfoComm Standards

ANSI/INFOCOMM 1M-2009

## ANSI/INFOCOMM 1M-2009

### Audio Coverage Uniformity in Enclosed Listener Areas

#### InfoComm International Performance Standard

2009-11-08



11242 Waples Mill Road, Suite 200  
Farmingdale, NY 11735  
www.infocomm.org

703.273.7200  
800.659.7469  
703.278.8062

#### Abstract

One of the fundamental goals of sound system performance for both speech reinforcement and program audio is the delivery of uniform coverage in the listening area. A well executed audio system design is one that allows all listeners to hear the system at approximately the same sound pressure level throughout the desired frequency spectrum range, no matter where positioned in the designated listening area. This standard provides a characterization of and a procedure to measure this spatial coverage, with criteria for use in the design and commissioning of audio systems.

#### Keywords

ACU, Audio Coverage Uniformity, Audio System, Critical Distance, Listener Area, Sound Pressure Level, Sound System, Spatial Coverage, Uniformity

#### Disclaimer

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ANSI/INFOCOMM 2M-2010

## ANSI/INFOCOMM 2M-2010

### Standard Guide for Audiovisual Systems Design and Coordination Processes

#### InfoComm International Standard

2010-12-05



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#### Abstract

A successful professional audiovisual system installation depends on the clear definition and coordination of processes, resources, and responsibilities of the design and installation project teams. A properly documented audiovisual system provides the information necessary to understand and implement the system goals and project requirements in a logical and efficient manner. The documentation should complement and coordinate related architectural, engineering, and construction documentation. This standard outlines a consistent set of the standard tasks, responsibilities, and deliverables required for professional audiovisual systems design and construction.

#### Keywords

Audiovisual, AV system, AV design, AV documentation, AV infrastructure, MasterFormat™, construction documentation, best practice, AV installation, InfoComm

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INFOCOMM 3M: 2011 CD2

## Projected Image System Contrast Ratio

### InfoComm International Performance Standard

Committee Draft 2: 2011-03-16



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#### Abstract

This Standard defines projected image system contrast ratio and its measurement. It applies to both permanently installed systems and live events. It applies to front and rear projection. This Standard defines four contrast ratios based on content viewing requirements. System contrast ratio refers to the image as it is presented to viewers in a space with ambient light. Practical metrics to measure and validate the defined contrast ratios are provided.

#### Keywords

Audiovisual; audiovisual standard; AV system performance; basic decision making; contrast; contrast ratio; critical decision making; digital signage; front projection; full motion video; image quality; InfoComm; information; informational display; informational viewing; inspection; presentation; projected image; projection screen; rear projection; system contrast ratio; videoconferencing

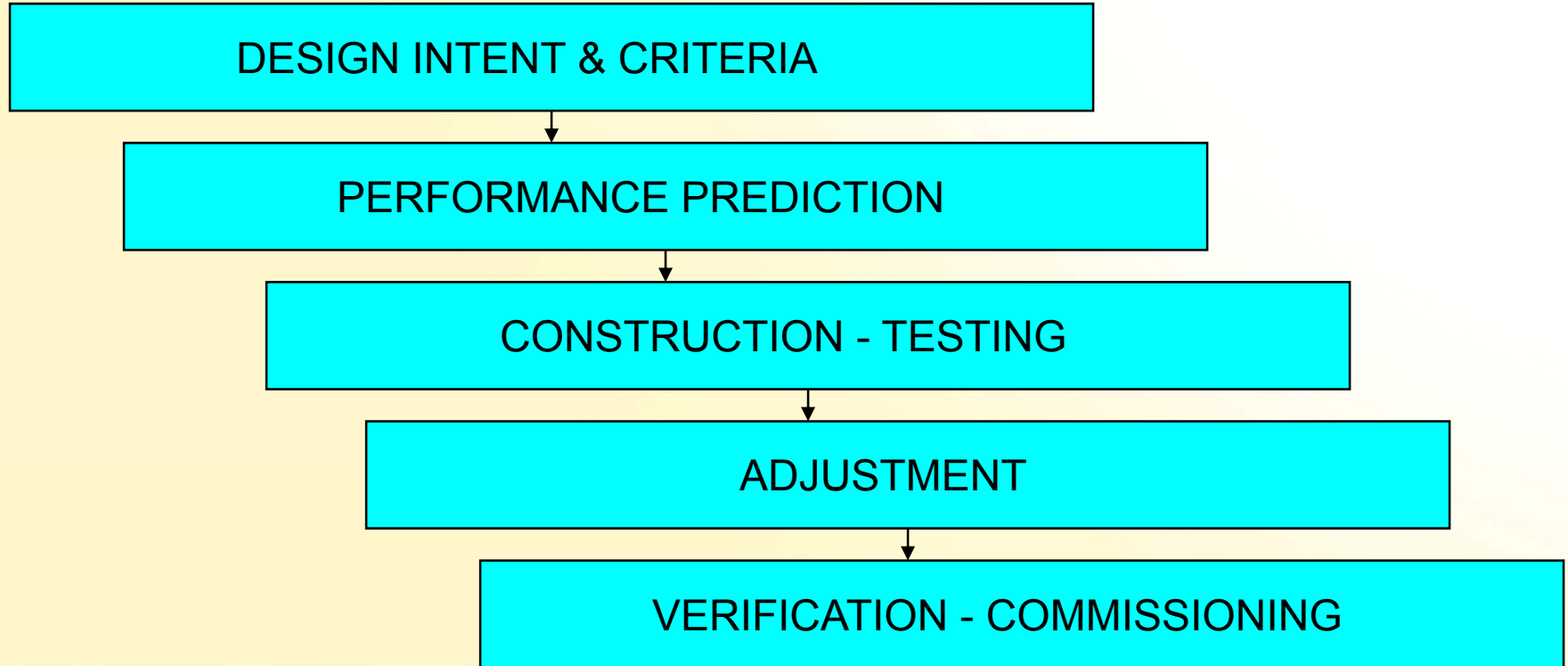
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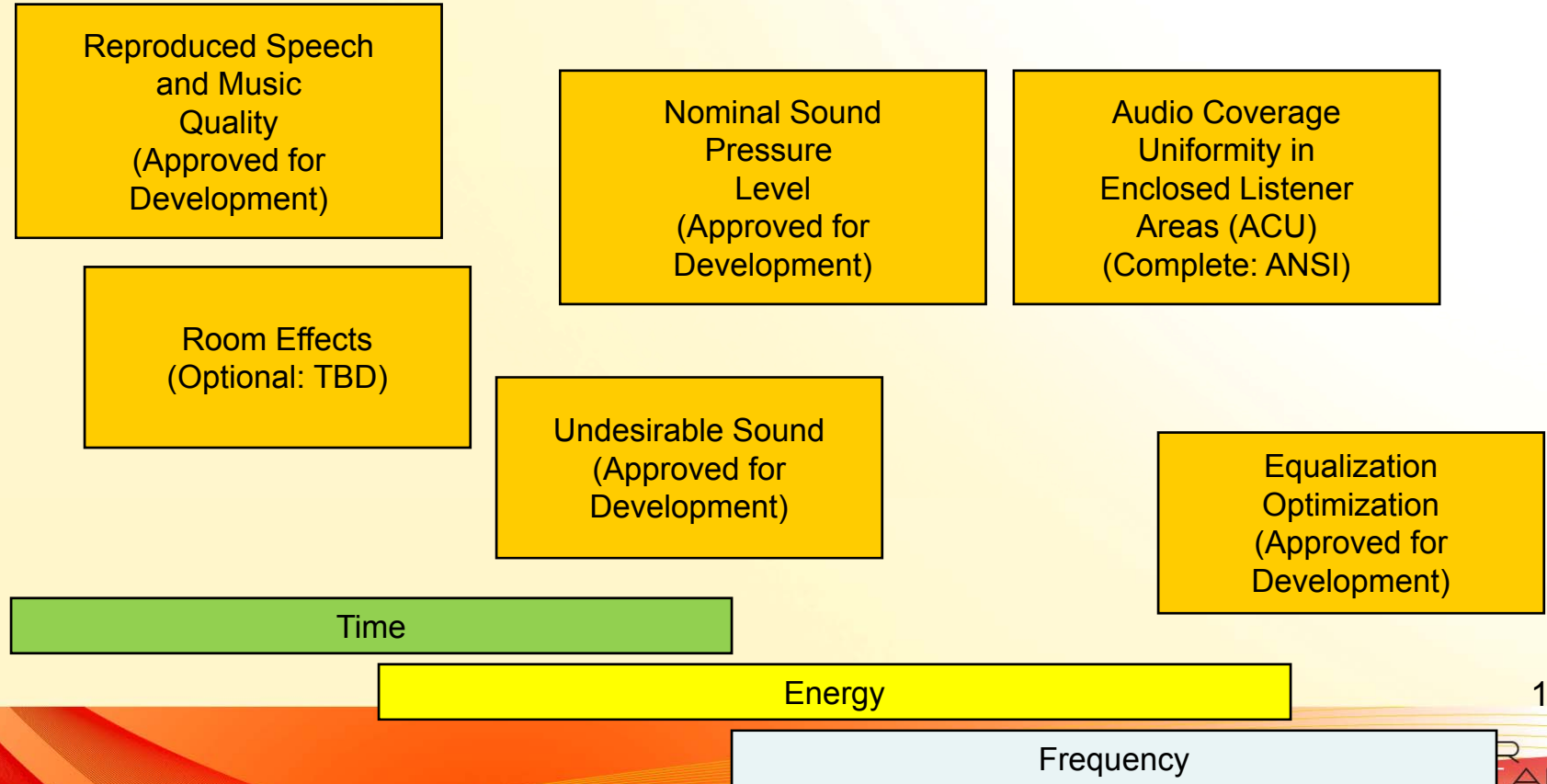
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# Standards Used Throughout Project



# 1) Audio System “Suite” of Standards *infoComm11* INFORMATION COMMUNICATIONS MARKETPLACE



# Audio Industry Standards



Theory &  
Metrology

Sound  
Systems

Performance &  
Conformance

Technical &  
Interoperability



## 2) Display and Lighting Standards In Development

- ▶ Videoconferencing Lighting
- ▶ Projected Image Systems Contrast Ratio
- ▶ Display Image Size In Audiovisual Systems
- ▶ SID ICDM (Display Metrology Standard)



# 3) Standards Partnerships (Liaisons)



**AIA- American Institute of Architects** Dennis Paoletti Shen Milsom Wilke, LLC  
**AAJ- Academy of Architecture for Justice** Jennifer Willard Administrative Office of the Courts of California  
**ASIS- American Society for Industrial Security** Thomas D. Keller Charles M. Salter Associates Inc.  
**AES- Audio Engineering Society** Ray Rayburn K2 Audio, LLC  
**ASA- Acoustical Society of America** Steve Thorburn Thorburn Associates  
**BICSI- Building Industry Consulting Service International** Paxson Laird RTKL Associates Inc.  
**bSa- building SMART alliance** Walter Black VidCAD by CommsYS Design, LLC  
**CEDIA- Custom Electronic Design & Installation Association** Rich Green Rich Green, Ink  
**IALD- International Association of Lighting Designers** Jim Benya  
**IES- Illuminating Engineering Society** Jim Yorgey Lutron Electronics Co., Inc.  
**ISA- International Society of Automation** Jacob Jackson Assurity Design Group  
**NFPA- National Fire Protection Association** Greg Miller Gold Line  
**SID- Society for Information Display** Alan Brawn Brawn Consulting  
**SMPS- Society for Marketing Professionals Services** Lisa Thorburn Thorburn Associates  
**SMPTE- Society of Motion Picture and Television Engineers** Brian McCarty Coral Sea Studios Pt. Ltd.  
**SydAudCon- Synergetic Audio Concepts** Howard Quinton Walker Comm  
**USITT- United States Institute for Theatre Technology** Raymond Kent Westlake Reed Leskosky  
**IBT- Integrated Building Technologies Task Force** David Wilts Creston Electronics, Inc.  
**Live Events** Donald Guzauckas Jr HB Group, Inc.  
**NFPA- National Fire Protection Association** John Murray Optimum System Solutions  
**CIC-Convention Industry Council, APEX/ASTM Standard** Midori Connolly Pulse Staging and Events, Inc  
**InfoComm Sustainable AV Task Force** Peter Pekurar Christie Digital Systems

# 4) ANSI - ISO

- In order to participate in ISO standards development, or to create an ISO standard, InfoComm must join with other Standards Developers and work through ANSI, the ISO member
- A TAG (Technical Advisory Group) must be formed by the delegate organization to ISO



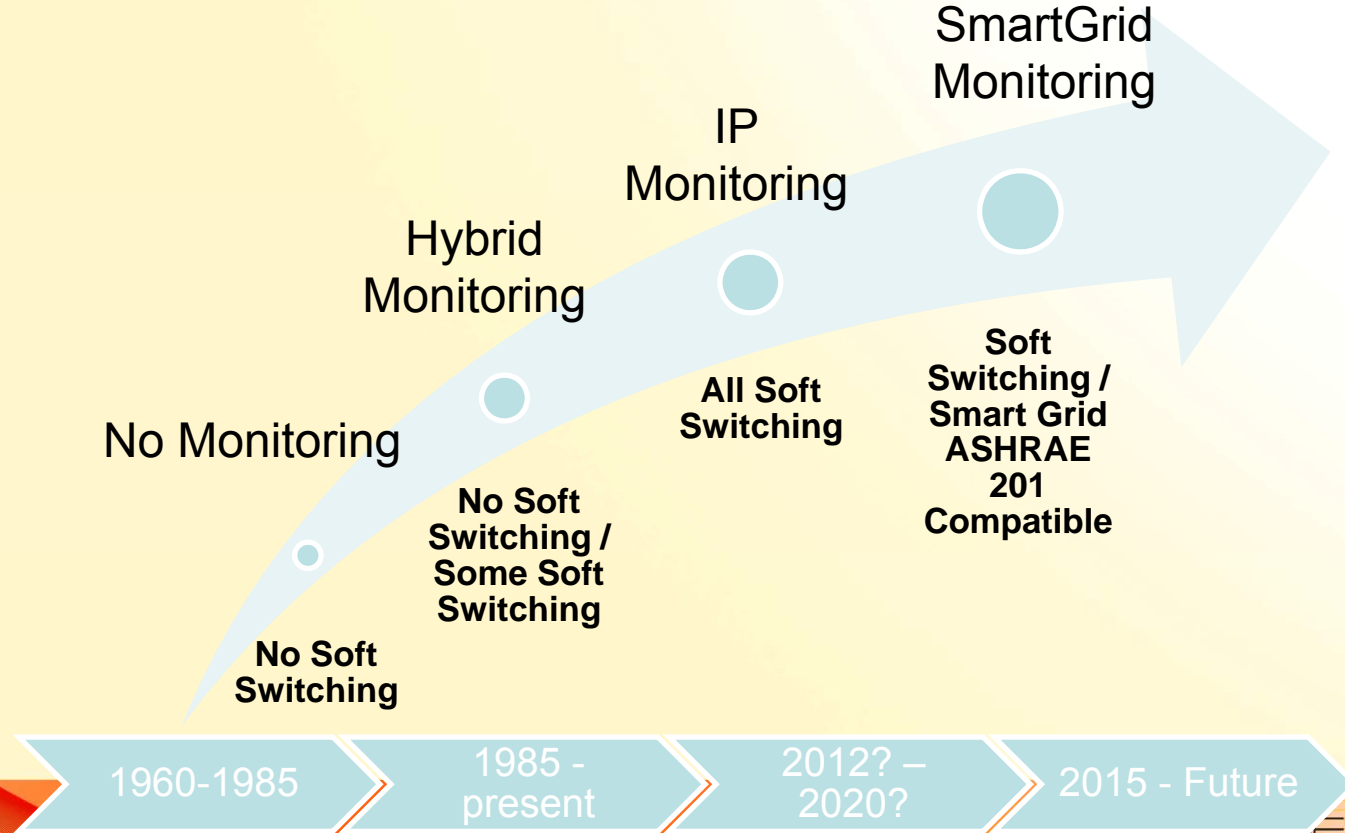
# 5) Power Switching and Monitoring

## Audiovisual Systems Energy Management Performance Standard

- Power Factor (not straight kWh)
- Power States for SYSTEM
- Baseline of System: All On, All On w/Display Off
- Room Functions On (Presentation, Trial, VC, etc.)
- Power Consumption Monitoring and Reporting
- Behavior Modification

*If it's not being used, turn it off!!*

# Power Switching and Monitoring Capabilities Timeline



# 6) Design Standards

- ▶ Standard Guide for Audiovisual Systems Design and Coordination Processes (complete: ANSI/INFOCOMM 2M: 2010)
- ▶ Audiovisual Systems Drawing Symbology (CEDIA and CEA)
- ▶ Sustainability in Event Management (ISO PC250 / ASTM APEX Audiovisual and CIC: Convention Industry Council)



## 7) EN54 and NFPA 72

- Standards for Emergency Evacuation, Life Safety, Fire Alarm, etc.
  - Acoustics
  - Products
  - Cross-Compatibility
  - Implementation
  - Education, Compliance, Commissioning

## 8) EnergyStar and TCO

- EnergyStar Version 2.0 specification establishes On mode and Sleep mode power consumption requirements, and requires that an Auto Power Down feature is enabled on all products by default.
- TCO Certified goes beyond green by combining features such as high performance and ergonomic design with one of the toughest environmental requirements on the market.



## 9) ISO 14001 and EMS

- An EMS (Energy Management System) gives an organization a systematic approach for managing their environmental impact (the consequences of their operations).
- The objective is for ISO 14001 to control environmental impact of the organization's actions and continually increase the environmental performance as measured against objectives.

# 10) Emerging Technical Standards

- Telepresence
- AVB (IEEE 802.1 Audio/Video Bridging)/Interoperability
- Proprietary Media System Control Protocol
- UBAT (Unified Building Automation Technology)
- Command and Control Center Audiovisual (ISA)
- SMPTE “B” Chain Audio for Non-Film Cinema
- ??????????



# InfoComm Best Practices

- New InfoComm program: 2010
- BHAG (Big Hairy Audacious Goal)
- One year terms
- Report directly to Board of Directors
- Scope of Work
- Deliverable

# BIM (Building Information Modeling)

- Parameter List
- Database Format for Audiovisual Equipment
- InfoComm iQ Distribution (AutoDesk SEEK)
- Accompanying Guidebook
- BIM Part 2: 2011

# STEP Rating System

Parallel to LEED: Points accrued and project certified



# New Best Practices Initiatives

- Integrated Building Technologies: 2011
- Audiovisual Systems Implementation

# The Future?

## Groups of Standards

- Audio
- Visual
- Control, Power, IT

## Synergistic Room Technology

- AV, Lights, Shades, HVAC
- Audiovisual Control System
- Occupancy and Power Monitoring

## Artificial Intelligence Audiovisual

- Adaptive Control Systems
- Energy Management

## Outreach

- Architects, Engineers
- Facility Managers, Commissioning Agents

## Training and Education

- Manufacturers
- InfoComm
- Colleges and Universities

Thank You!

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