Welcome to the leading event for church facilities and technology teams!

WfX 07 Worship Facilities Conference & Expo

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Top 10
Mistakes that Churches Make

dBA Acoustics

10. Lack of a realistic budget

3

10. Budgeting

- Need to develop a "**Realistic**" budget
  - Cost cutting without awareness of performance cut

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10. Budgeting

Example:

- If your project is 20% over budget, cutting 20% from the A/V system may leave you with <50% of a working system.
- What would happen if you cut 20% of the structural steel budget?

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10. Budgeting

Opportunities for cost reductions

- Loose equipment purchases
- Reuse of existing equipment
- Equipment / System Leasing?

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9. Doing It Yourself

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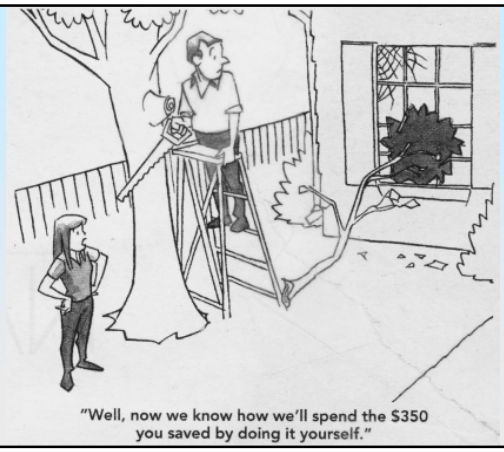

9. Doing It Yourself

- Especially hanging loudspeakers or projectors
- Are you voiding the Manufacturer's warranty ?

9

8. Theatrical Lighting

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8. Theatrical Lighting

- Inadequate power / conduit
- Separate dimming systems for house and platform lighting
- Incorrect lighting locations / angles

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7. Infrastructure?

- Are you planning adequate infrastructure for expansion?
  - Conduit
  - power
  - dimming systems
- If you expect to expand, it is in your best interest to plan to expand.

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6. Noisy Power System

HumM

BUZZ

13

6. Power System

- Not having a properly designed Technical power/ground system

HumM

BUZZ

14

5. Noise Control

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5. Noise Control

- Not evaluating/considering HVAC noise and noise isolation between spaces

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5. Noise Control

- Noise control is much simpler (less expensive) to design and verify on paper.

NC-30 max in worship spaces

NC-35 for ancillary spaces

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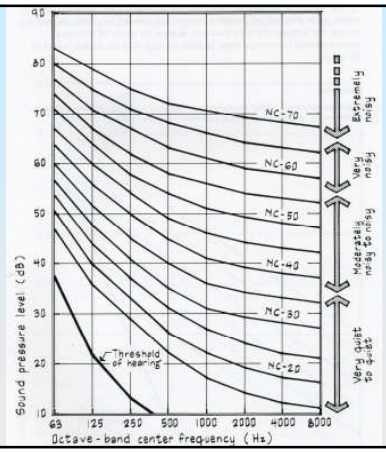

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4. Not having an engineer design all technology systems.

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4. Engineering

- Match **needs** to budget, not the other way around
- Proper understanding of necessary infrastructure (conduit, power, etc…)

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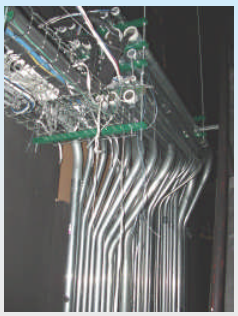
4. Engineering



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4. Engineering

- A firm understanding of real-world physics is a must.
  - Many use the term “Engineer” and “Consultant” as marketing tools, and not a basis of knowledge.

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4. Engineering

- Have an engineer design the loudspeaker system
  - must include an awareness of acoustical interaction
  - Too many or too few loudspeakers?
  - Someone not biased by particular brands or available product profit.

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4. Engineering

- Pseudo-Stereo loudspeaker system?

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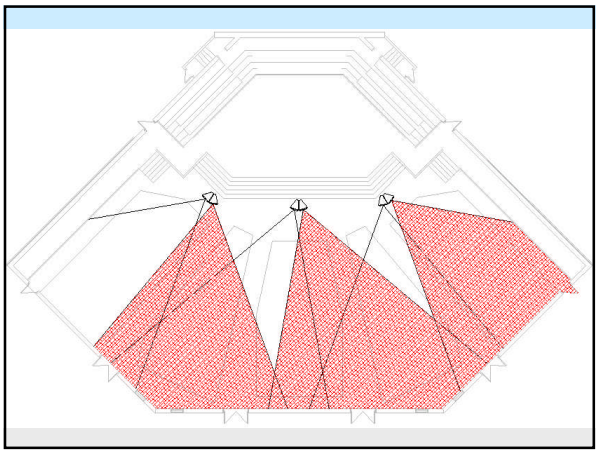
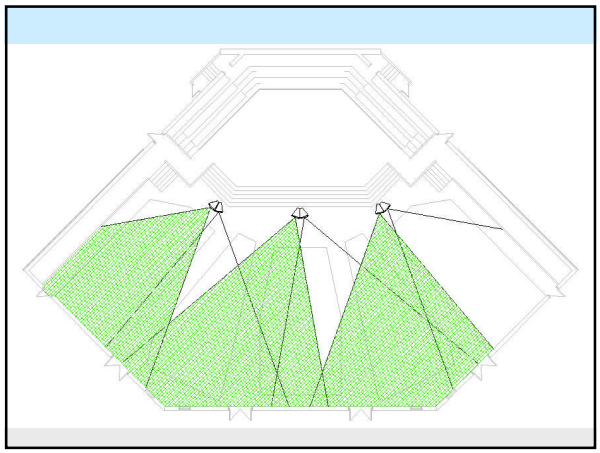
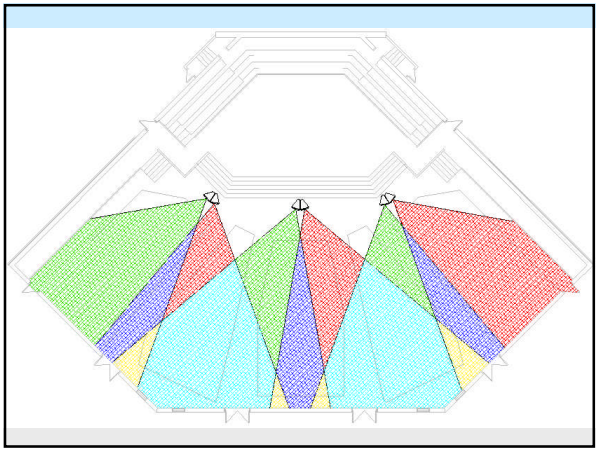
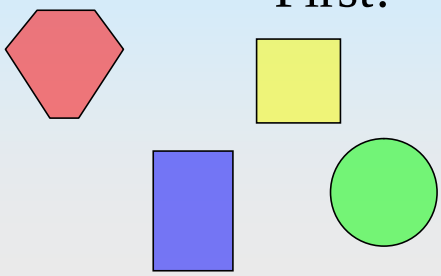






3. Think Acoustics First!



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3. Think Acoustics First!

- Room Shaping
  - Parallel walls aren't necessarily bad, and non-parallel walls aren't necessarily good.

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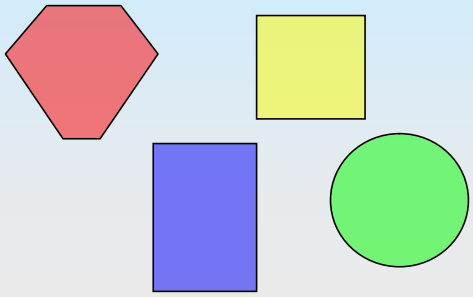
Shaping Your Space



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3. Think Acoustics First!

- Control of Reflections (good and bad)
  - Early reflections
  - Support for congregational singing and choir
  - Late reflections and focusing
- Have the proper materials located correctly (not too much / too little, or poorly located)

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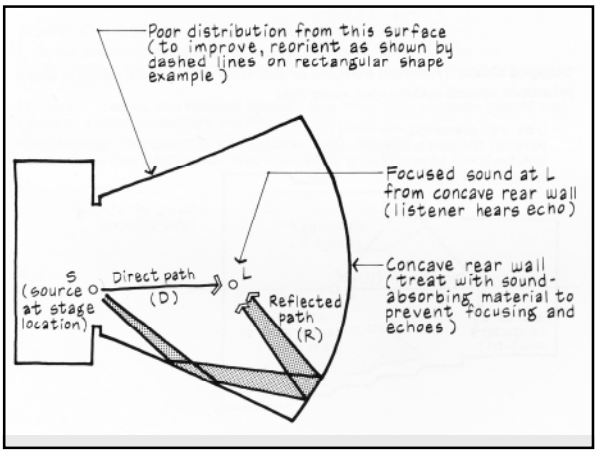

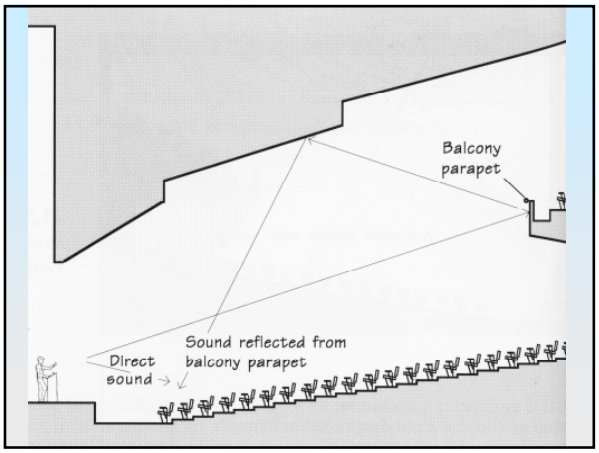

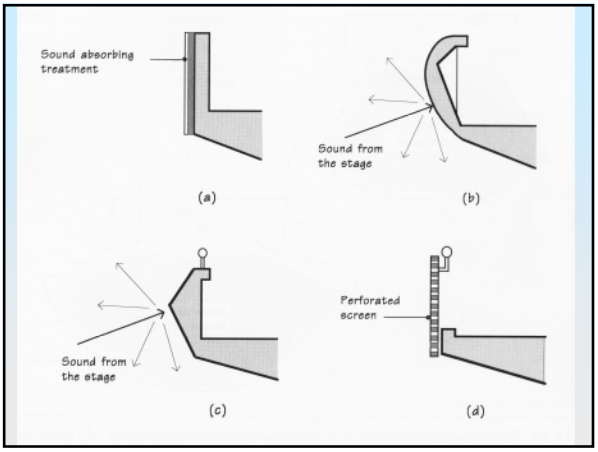

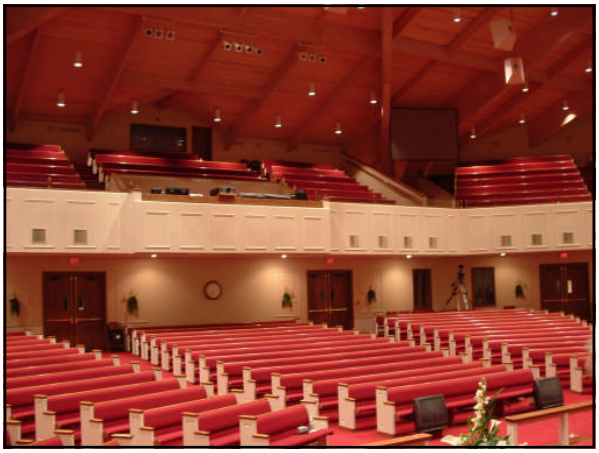

3. Think Acoustics First!

- Appropriate Ceiling Height / Volume
  - Balcony
  - Projection screens
  - Light angles (catwalks)

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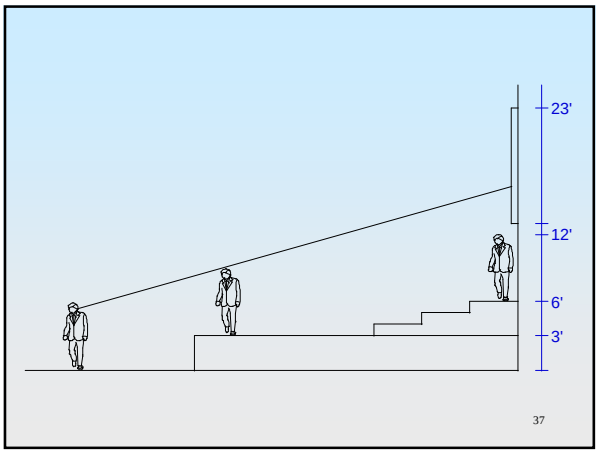

3. Think Acoustics First!

- Acoustics as an afterthought
  - Bad Approach: "Aesthetics 1st - ability to hear 2nd"
  - How can you worship if you can't understand?
  - "Do it right the 1st time"

With proper planning - acoustical materials can seem as if they were meant to be there!

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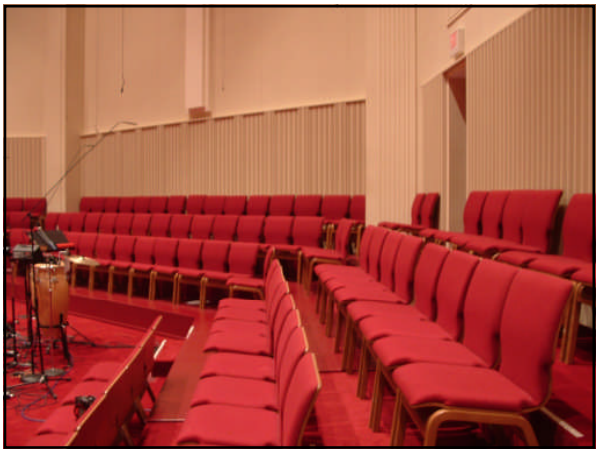
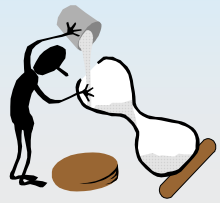


2. The Sooner the Better



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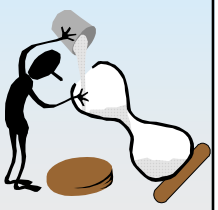
2.

- Involve a professional early
  - Saves design time = $$$
  - Acoustical considerations
  - Conduit/power requirements
  - HVAC noise isolation requirements



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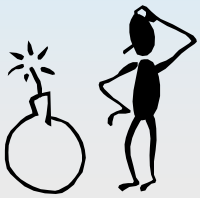
1. What effects your presentation?



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Four variables that will shape what the audience/congregation hears

1. Architectural Acoustics
   - The room's shape and materials will color the sound, as well as greatly effect speech intelligibility
   - Don't forget about HVAC noise

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Four variables that will shape what the audience/congregation hears

1. Architectural Acoustics
2. Sound Reinforcement System
   - An improperly designed sound reinforcement system will accentuate the acoustical flaws of a room, rendering speech unintelligible and music muddy

45

Four variables that will shape what the audience/congregation hears

1. Architectural Acoustics
2. Sound Reinforcement System
3. Sound System Operator
   - A Sound System with all the greatest bells and whistles means nothing if the operator isn't properly trained

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Four variables that will shape what the audience/congregation hears

1. Architectural Acoustics
2. Sound Reinforcement System
3. Sound System Operator
4. Presenter
   - Needs to be aware of the technical and acoustical limitations of the facility.

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Four variables that will shape what the audience/congregation hears

1. Architectural Acoustics
2. Sound Reinforcement System
3. Sound System Operator
4. Presenter

Any 1 of these 4 can make or break a quality event

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There are several items pertaining to the architectural acoustics and technology systems which need to be discussed and coordinated from the very beginning of the project. With proper planning, implementation of these systems can happen seamlessly and without great headaches on the part of the owner.

dBA Acoustics
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