

# Commercial INTEGRATOR

THE BUSINESS HANDBOOK FOR TECHNOLOGY PROFESSIONALS



## THE BUSINESS OF HOUSE OF WORSHIP INTEGRATION

OVERCOMING  
LIGHTING AND  
ACOUSTICAL  
CHALLENGES IN  
A/V INSTALLATION

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MARKETING TO  
MEN OF THE CLOTH

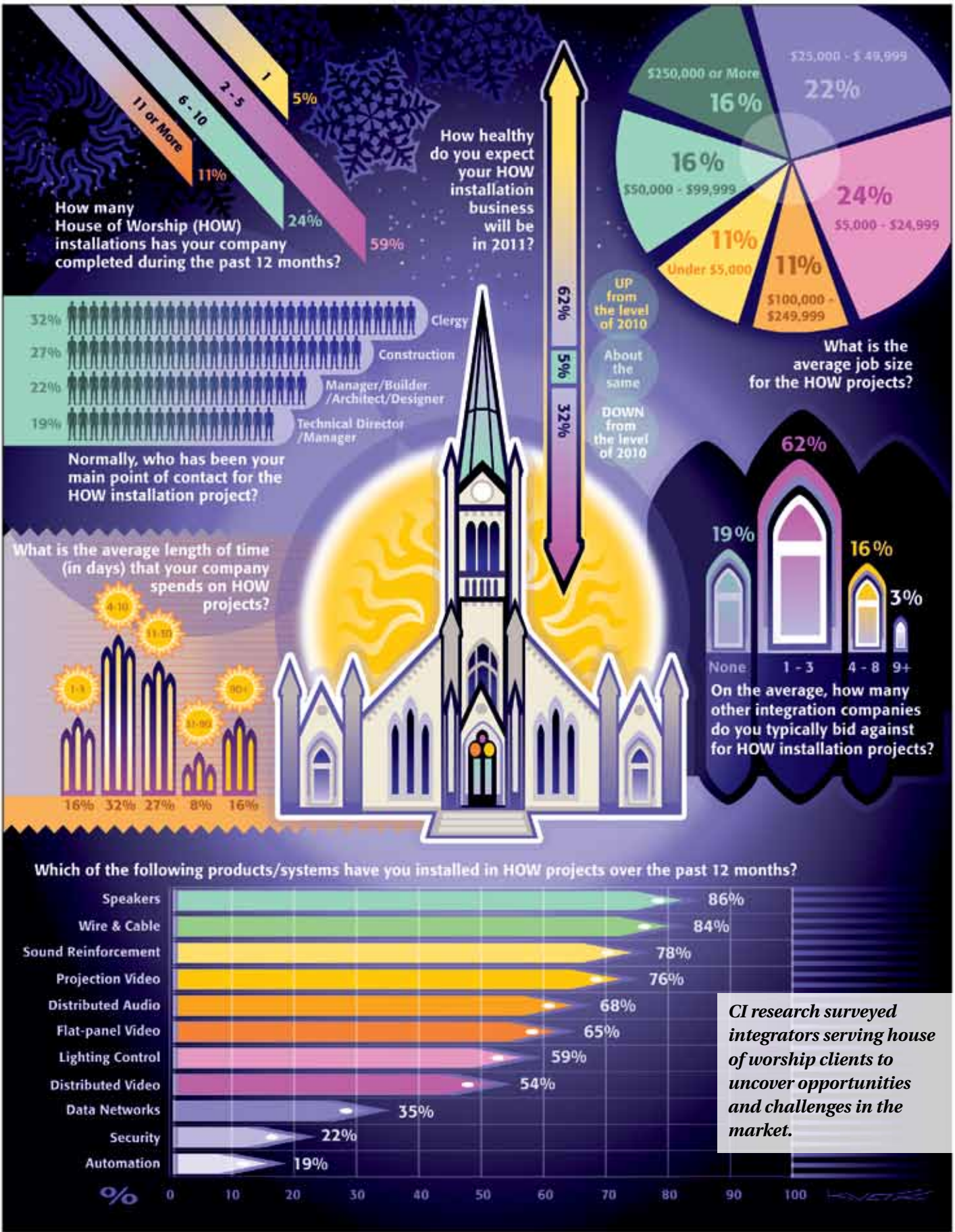
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*CI research surveyed integrators serving house of worship clients to uncover opportunities and challenges in the market.*

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# 4 Tips for DEPLOYING PROJECTORS

To understand HOW projection needs, integrators' research should include attending their clients' services. *by Mark Coxon*



**INSTALLING PROJECTORS** in houses of worship can, for many reasons, be challenging. Success with these jobs has a lot to do with taking a unique approach.

Think like a parishioner. Whether you are an avid churchgoer or not, keep in mind that in this environment, your gear is not the star of the show. People are coming for worship, not for the HD.

There are some "Go Big or Go Home" TV churches, as well as some small community churches with a strong evangelical worship style, and everything in between.

If you land a job with a house of worship, I recommend the first thing you do is attend a service to find out how the pastor and congregation interact and how the service is structured. When you do this, you will have enough information to design the proper projector system.

Here are some tips for installing projectors in houses of worship:

## Respect the Architecture

A lot goes into the look and feel of a church, and the last thing they want is for electronics to detract. There are a couple things you can do on the install side to make this happen. One is to look at rear projection options. Sometimes there is opportunity to use space behind the altar to mount projectors from the rear and project in that direction.

Other times, there may be mechanical space above offices or classrooms adjacent to the sanctuary, where electronics can be placed behind rear projection screens cut into the walls. In either scenario, you limit the chances that a pole mounted projector blocks the view of a Ner Tamid or cross or crucifix that may be hanging nearby.

## Leverage the Architecture to Your Advantage

If you do have to rely on front projection, approach it from a different angle, literally. Many professional projectors have a lens shift option that allows you to place projectors a few degrees off center with the screen to provide additional placement options and minimize their impact on the space. If you need steeper angles, use a projector that has off axis projection capabilities, and can be placed even farther left or right of the screen.

Some models have horizontal keystoneing that can restore the aspect ratios to keep projectors hidden in corners or next to beams

or other structures to minimize their presence. Screens can be hung in ways to mirror other features like lights or banners in the space. I have a job where the screen cases will be powder coated to match other rods in the space and banners will hang from the rear, as they do from the other rods. The screen material comes down in front of the banners when in use, and disappears, leaving the space as it was before the screens existed.

## Adjust Your Focus

Consider placing the projectors closer or farther away, and use projectors with optional zoom, telezoom, and short throw lenses. These can allow you to place projectors in any area from half the screen width to 8 times the screen width away, opening the flood-gates for unique placement opportunities.

## Let There Be Light

Make sure you take measurements of ambient light during the time of day that services take place, and arrange a demo with a screen and the projector you intend to supply. You will set the proper expectations of brightness and clarity for the decision makers, and assure the worship experience is optimized.

Remember that lumens have to be divided by the area of the screens to get a real idea of how bright the image will be. Factor in times during the service that the screens are in use. If there are gaps in between the visual content, make sure you allow for warm up and cool down times on the bulbs in your programming set up, or for AV muting in between.

Factor in the interference that may be caused by the screens raising and lowering, and what they may block when they do. I have seen churches with ornate wooden crosses, backlit with LEDs where a screen comes down five minutes into the service, blocking it from view, and it stays down until after the service has ended.

Many of these issues might entail a little more cost upfront. But if you position these installation recommendations correctly to the decision makers who write the checks, letting them know that you are thinking like a parishioner and not a salesman, they usually find a way to raise the extra money and are blessed with a system that draws their congregation closer together, without sitting through a commercial for your equipment manufacturer. **CI**

# Reconfiguring Church Speakers for **BETTER AUDIO**

Many churches can't afford top-notch equipment. Here's how to improve audio using the church's existing speakers.

*by Ray Rayburn*



A **BEAUTIFUL HOUSE OF WORSHIP** can be a less-than-ideal acoustic environment.

Expensive equipment isn't necessarily the answer. Integrators can provide intelligible sound to an entire congregation from the sound equipment the church already owns.

Contrary to the belief that two is better than one, using a single loudspeaker may be all that it takes to vastly improve audio quality.

Smaller sound systems usually include two loudspeakers, and these are typically deployed so that one loudspeaker covers one half of the room, and the other covers the remaining half. The idea is solid: more uniform sound coverage to the entire room. And in rooms with reasonable acoustics, this indeed can offer acceptably intelligible sound. But in very "live" rooms, the use of two loudspeakers can actually make the situation worse. One of the major factors in determining how intelligible the sound will be for listeners is the ratio of direct sound from a loudspeaker they hear as compared with the amount of echoes and reverberant sound they hear.

## Improving Intelligibility

Simple logic tells us if two or more loudspeakers are used in a live room, each listener will hear the direct sound from the loudspeaker they are closest to, in addition to plenty of the reverberant sound from the other loudspeaker.

Two or more loudspeakers create at least twice the amount of reverberant energy, and, in a live space, the ratio of direct to reverberant sound can suffer greatly - and with it, intelligibility.

Anything that will either deliver more direct sound to the listener's ears, or less reverberant sound from the room, can improve intelligibility. Therefore, disconnect one loudspeaker. Then position the remaining loudspeaker so it's aimed diagonally across the room, pointed at the two-thirds point of the coverage area.

True, the overall sound coverage and loudness will be less uniform, but in a "live" room, this is far more preferred than poor intelligibility.

## Can We Do Even Better?

Most loudspeakers in these sound systems offer a 2-way design, with a cone woofer at the bottom of the cabinet to reproduce lower frequencies and a tweeter at the top of the cabinet to reproduce higher frequencies.

If the loudspeakers offer this design, disconnect the second (now unused) loudspeaker, then turn it upside down and stack it directly on top of the first (in use) loudspeaker. The tweeters of the two loudspeakers are now directly on top of each other, with the woofers at the very top and bottom.

If possible, try to position this "stack" of two loudspeakers a bit over the heads of the congregation, and again, aim it diagonally across the congregation at above the two-thirds point. Be sure to carefully evaluate coverage in the entire region before making a final positioning decision. Further, and only if it can be done safely, consider tilting the stand downward ever so slightly so that it is aimed directly at the ears of that furthest listener.

Now reconnect the second loudspeaker. If the system is stereo, be sure that all pan controls on the mixer are set to the middle position so exactly the same sound goes to both loudspeakers.

This should only be done if the loudspeakers can be stacked safely. Some loudspeakers offer molded plastic cases with curved surfaces that make them impossible to stack in this manner.

Also keep in mind that sound makes the loudspeakers vibrate, which can cause them to move apart and become unstable. I strongly recommend strapping them together with ratchet straps or even bolting them together permanently. A thin sheet of foam between the loudspeakers will eliminate vibration noise. If the loudspeakers are mounted on a stand, make sure the stand is rated to comfortably handle their combined weight.

This approach is not suitable for all situations, and of course, it will not provide the same degree of improvement that can be attained from a properly acoustically-designed room with an optimized sound system. **CI**

*This article was republished from ProSoundWeb.com.*

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# HOW TO SELL TO CLERGY

Integrators serving HOW can't make generalizations about their contacts' decision-making approaches — but they can avoid common mistakes.

*by Brian Blackmore*

**FROM AN EQUIPMENT STANDPOINT**, a modern contemporary church design can look very similar to a performing arts center, corporate auditorium or other live performance venue. The difference between churches and other projects is the people — not just the systems operators, but the decision-making chain of command.

On one church project, your main contact could be a volunteer sound guy. The next project you could be dealing with a staff technical director. On another project you may deal with an executive pastor or business administrator — maybe even the senior pastor. To generalize and offer a single “best practices” document to help an integrator navigate church projects would be naïve about the many nuances of dealing with churches.

The church market is not homogenous. While the technical demands are often similar from church to church, the decision-making structure, the autonomy (or not) of certain roles, the level of client technical knowledge, the timeframes, and the budgets can span the gamut.

If your primary point of contact for the project is the technical director or other technical person, your daily discussions and relationship-building conversations can often revolve around technical issues. But when it comes to dealing with senior lead-

ers, building committees and pastors the waters can be more treacherous.

Pastors won't care how much you know until they know how much you care.

Senior leaders, including senior pastors are usually very busy, and dealing with

the church's technical issues is not why they got into the ministry. The technical details around your company's design often won't connect with those in senior leadership.

Some pastors are knowledgeable, interested and involved in the A/V design and installation process. Others couldn't care less



or simply don't see the value in investing in right-sized, well-engineered systems.

### Art of the Soft Sell

Success in the church market will not be found using a "hard selling" technique. This is simply not the way to sell to churches. Most senior leaders will not respond well to it, and your reputation will suffer. Taking a "hard sale" approach or another aggressive closing technique likely won't serve either party well through what is likely to be a long design and installation process.

Maintaining a healthy relationship through an extended time frame based upon a weak moment when your "closer" got the church to sign on the dotted line will not likely result in a pleasant ending, nor will it get your company the positive referrals that are so important to success the church market.

If you find yourself working on a project where the primary contact is non-technical, for example a senior pastor, or if you are asked to attend or present at various committee meetings, the best general advice is to be prepared to ask a lot of good, well thought out questions.

The answers they provide could give you the insight into whether this is a church that knows what it wants to achieve, or one that is going to try to figure it out as they go. The former could turn out to be the type of project where both the integrator and client could profit in a personal, spiritual and financial sense. The latter could turn into the bottomless pit of change orders — or worse yet, changes in staff — and wind up being a complete waste of time and money for all involved. **CI**

*BRIAN BLACKMORE is president of Production Media Inc. (PMI), publisher of Church Production Magazine, Worship Facilities Magazine and Worship Facilities DESIGNER Magazine, and presenters of WFX – Worship Facilities Conference and Expo.*

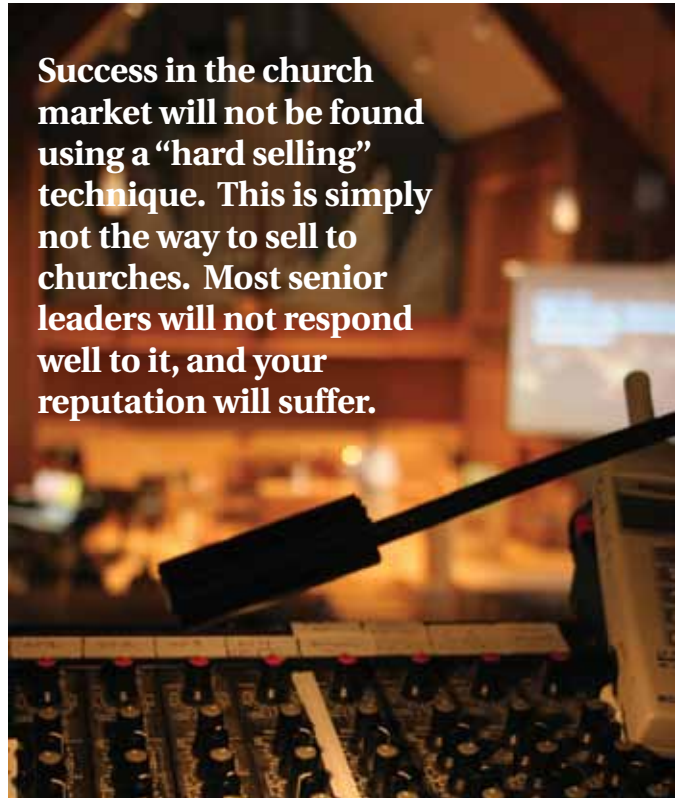
### CI WHITE PAPER: How to Succeed in the HOW Market

Despite an average job size of \$250,000, according to 16 percent of surveyed commercial integrators, the HOW market is not for everybody. The market has a lot of challenges that need to be overcome, including marketing, selling service contracts and dealing with old churches.

This *CommercialIntegrator.com* Business Series White Paper looks at the opportunities and challenges provided by the HOW market. Many churches are looking to update their old A/V system, but is the market right for your business?

**Find it at [commercialintegrator.com/whitepaper](http://commercialintegrator.com/whitepaper)**

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Even though Menlo Park is located in affluent Silicone Valley it doesn't mean it wasn't hit by the recession. The Presbyterian church once had a plan for a renovation of its furnishings and systems specified at close to \$6 million, but scaled that back to about \$1 million when economic realities hit home. The systems challenge fell in the hands of Paul Wonsek Associates (PWA) of Marietta, Ga. for stage layout and sightline design; Michael Garrison Associates (MGA) of Fresno for A/V and Vivid Illumination of Nashville for lighting design.

**Audio Solutions**

A line array wasn't in the budgetary cards, but MGA made that a non-issue by introducing church facility manager Ron Fulton to Tannoy's VG Series. The high-efficiency speakers made great use of limited electrical power and rack space, says MGA owner Michael Garrison. "This resulted in significant cost savings." The small-footprint speakers also mitigated the speakers' impact on church aesthetics. In addition to several Tannoy solutions, MGA used Lab.gruppen C Series amps and BSS Soundweb London processors.

**Want More?**

Find Jim Kumorek's full story on Menlo Park Presbyterian Church's renovation, "Capitalizing Amid Cutbacks," in the September 2011 edition of *Church Production* magazine.



## Video Solutions

One of the more eye-popping aspects of the Menlo Park Presbyterian Church project is the trio of retractable Stewart Filmscreen Ultramatte screens coupled with Digital Projection Titan 1080p-700 projectors. Meanwhile, dual 58-inch Panasonic plasma monitors flank the platform, since large columns impede some congregants' sight lines. To capture content, Menlo Park media director Dan Baer opted not to use PTZ cameras instead choosing an Hitachi SK-HD1000-ST6 operated by a hands-on human operator.



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For products purchased between October 1, 2011 and December 31, 2011.

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