#### CASE STUDIES





Unite Your Audience
The Martin Audio Experience





#### CASE STUDIES - WAVEFRONT PRECISION



#### Martin Audio

At Martin Audio we believe that uniting audiences with exciting sound creates shared memories that sear into the consciousness delivering more successful tours, events and repeatedly packed venues.

We achieve this by an obsessive attention to detail on the professional sound system's acoustic performance, frequently challenging convention and involving a sophisticated mix of design, research, mathematical modelling and software engineering, to deliver dynamic, full-frequency sound right across the audience.

With over forty years of live sound and installation expertise to our name, Martin Audio offers a wide range of premium professional loudspeakers so customers can be assured of selecting the right system for their chosen application, whether it's a small scale installation or a festival for over 150,000 people.

### Wavefront Precision - with Scalable Resolution





Drawing on the research and technology behind MLA Series, the Wavefront Precision Series is a new generation of multi-purpose line arrays designed to bring Martin Audio's legendary sound, coverage consistency and control to a broader range of touring applications, installations and budgets.

With exceptional line array performance guaranteed by the acoustic design itself, scalable resolution unlocks the full potential of a Wavefront Precision array and provides an adaptable pathway into the world of advanced optimisation.

The greater the resolution of the array in terms of individually driven enclosures, the more precisely DISPLAY can fine-tune audience coverage and hold the frequency response and SPL's throughout the venue within a tight window specified by the user.

For the first time in the marketplace the decision on the level of resolution and control that is right for the install, client, event or budget is yours.

With scalable resolution, the commercial advantages are clear:

- Design systems to better suit project budget targets.
- Ability to increase resolution over time by buying more amps at later stage.
- Dynamic deployment within a venue or site where the main PA could be driven by enclosures with more dedicated amp channels than may be necessary for delays.
- Adaptable rental pricing based on event dynamics and clients' resources.



## LIVE SOUND VENUES

### Cabo Wabo Cantina Upgrades With Martin Audio WPC



Cabo San Lucas, MX—Sammy Hagar's legendary Cabo Wabo Cantina recently underwent an audio upgrade with a Martin Audio Wavefront Precision Compact system just in time for the Red Rocker's 'Red 'Till I'm Dead – Sammy Hagar's Rock-N-Roll Birthday Bash.'

Celebrating Sammy's 70th birthday, the annual fan pilgrimage was filmed for a movie simulcast in 100 U.S. theaters with a list of guest stars that included Toby Keith, James Hetfield, Dave Grohl, Jimmy Chesney, Eddie Money, Chad Kroger, Bob Weir, Jerry Cantrell and Alex Gonzalez of Mana.

Martin Audio's Wavefront Precision line array introduces a scalable approach to resolution and control of coverage functioning with external, dedicated multi-channel amplifiers in a uniquely flexible, upgradeable, and financially accessible system. The more cabinets with dedicated amplifier channels, the higher the resolution and scale of coverage control achievable.

The Wavefront system for Cabo Wabo was designed and commissioned by Jim Risgin of OSA International, Inc. working in collaboration with local contractors and Martin Audio Distributor Audio Acoustica. Initially founded in 1990, Cabo Wabo needed a new PA system after 27 years, especially given the Birthday Bash was coming up in the near future.

According to Jim, who installed and tuned the system, 'Martin Audio WPC was chosen because it was the proper form factor, right size and had a good aesthetic look for the club. They needed a substantial PA, so we flew six WPC boxes a side with four SX218 subs mounted in the front

face of the stage. The monitor complement includes four Martin Audio XE500s and four XE300s.'

The XE Series monitors feature Martin Audio's unique Coaxial Differential Dispersion technology and are designed as a complete system that maximizes the capability of the monitor while ensuring both engineer and artist will experience the same high level of consistent performance from an XE monitor anywhere in the world.

'The system will be used 365 days a year and we fully anticipate the reliability to be great,' Jim explains. 'There's a grand total of nine iKON iK42 amps installed for system control and DSP tuning is all done inside the amps. We used 2-box per channel resolution which worked out well, the coverage is spot on. All and all, the system did what we wanted it to do and more.'

Asked about reaction to the WPC system's performance, Jim responds: 'Everyone is really happy with it. The club manager and Sammy's partner Jorge Viana was ecstatic about the way it sounded and how well it worked for the venue. The house sound guys were very impressed by WPC's performance and capabilities and they're looking forward to mixing on it every day.'

On first encountering the XE Series monitors Jim recalls, 'Sammy walked up to the wedges, sang a phrase, looked over at Jim Jorgensen, his monitor engineer, and said, 'I've never heard myself like that before.' Then he looked at me and asked, 'are you the guy who's responsible for this PA?' before thanking me and saying, 'First time I've ever heard myself in here.'



## (Le) Poisson Rouge Reimagines The Possibilities of a Sound System



Celebrating its 10th Anniversary, the iconic music venue and multimedia art cabaret (Le) Poisson Rouge in the heart of Greenwich Village on the former site of the Village Gate is already legendary for its unique and eclectic synthesis of popular and creative culture in emerging music, theatre, film and fine art.

With "a mission to establish a creative asylum for both artists and audiences," LPR's performance spaces are designed to be highly adaptable in terms of seated, standing, in the round and other audience configurations depending on the artist, type of music, format, visual elements and level of immersion.

Considering the eclectic lineup of musicians, writers and composers who've appeared at LPR in recent years includes everyone from Lady Gaga, Yo-Yo Ma, Philip Glass, Iggy & The Stooges, Mumford & Sons, Kings of Leon, Norah Jones, Beck, Lorde, Salman Rushdie, The Shins, Sufjan Stevens, Laurie Anderson, Anthony Braxton, They Might Be Giants, the Kronos Quartet, Don DeLillo, Panic! at the Disco, and more, unlimited flexibility had to be an integral part of the genetic code of (Le) Poisson Rouge's sound system.

Which explains why a recent re-design and upgrade of the sound system by Martin Audio's partner, Frost Productions, led and engineered by Frost's Installation Project Manager Jose Lima in collaboration with LPR's Production Director Jay Eigenmann, has achieved an unimaginable level of flexibility for what is a complex, changing space in every sense. Audio quality first and foremost was a given – in this

▲ ■ ENGINEERS WHO'VE MIXED ON THE NEW MARTIN AUDIO SYSTEM HAVE HAD VERY POSITIVE REACTIONS ABOUT ITS FIDELITY, FIREPOWER, CONTROL AND EVEN COVERAGE.

regard, Martin Audio was unanimously handpicked by Jay, Bernie Girman, LPR's Production Coordinator, and David Handler, co-founder, after auditioning a host of products at Infocomm 2017.

The new system employs a full complement of Martin Audio that includes a Wavefront Precision Compact array, CDD, CDD-LIVE, CSX-LIVE and SX218/SX118 subwoofers, XE300 monitors and iKON power amplifiers, networked via a Dante system in a design creative enough to match the demands of any artist or performance.

Describing the venue, Jay explains, "LPR has two areas in the venue, the main space which is the principal performance room and a smaller satellite room—the 130-capacity Gallery Bar— that can also be combined with the main space for larger events. The main space is a 700-capacity flexible performance area standing (350 capacity seated with standing room at the bar and around the perimeter) for corner stage configurations. When we do in the round, it's a 600-standing room capacity, 300 seated and standing capacity with tables on the corner stage as well."



#### CASE STUDIES - WAVEFRONT PRECISION

Asked to specify the challenges implicit in LPR's layout, Jose points out: "The main space is an asymmetric shape with the corner stage diagonal to the room and low ceilings. There's an irregular ceiling with HVAC conduits running across the room with one in front of the House Right hang and one behind the House Left hang. There's also a hollow circular dancefloor, and a stage made of steel deck modules. That, plus we had a very short turnover time, with the installation completed in 4 days, from taking down the old system to the first show. This required the crew to work around the clock to get it done in time."

In the main room, the system starts with a PA hang for the corner stage with four Martin Audio WPC a side in 2-box resolution and a CDD-LIVE 15 as center hang/downfill with five SX218 subs across the underside of the stage. For in the round performances, the system used to consist of four multi-purpose speakers that had to be hung manually every time out and, according to Jay, "didn't provide the firepower or coverage to do more aggressive shows. They were ok for quiet jazz shows and acoustic performances, but LPR does everything from spoken word or solo piano recitals all the way up to death metal, EDM and everything in between. Basically, anything you can imagine we've probably had and we wanted our in the round PA to be able to handle the same breadth and scope as our main PA.

"Now the system has evolved to feature a permanently flown ring of six CDD-LIVE 15's in a 360° configuration around the 16-ft. diameter center stage that not only eliminates having to hang the speakers every time we go in the round, but also provides much more power and impact. The CDD-

LIVE waveguide technology allows us to get even coverage throughout the room. With the additional horsepower to do those more aggressive shows, we're able to take on almost any sonic challenge in the round.

"For the new design, we came up with four SX118 single 18" subs that could either be used as utility subs for corner stage shows, side fill subs, DJ subs and whenever we do center stage shows, they can be placed strategically under the in-the-round stage and face outward to cover the entire room while emanating from the center of the stage to have it sound coherent."

The smaller Gallery Bar performance space is equipped with Martin Audio CDD's, all powered by a single iK81 power amp. The main left/right hangs are a pair of CDD12's in front of the modular stage (which is made up of three 4 x 8 decks) at the northwest corner of the room but can be moved based on the artist or type of performance.

A delay pair of CDD10's can be either turned in-line with the mains as true delays or turned inwards for an immersive dance party experience. Also, two CDD10's flown by the stage can be used as sidefills, or left-right when the stage is removed as reinforcement for dance parties or all-immersive events. There are also three CSX112 subwoofers to support the CDD's built into the soffits under the tables with banquettes along the wall across from the bar.

A pair of self-powered CSX-LIVE 118's can be put on the ground directly under the mains and patched into the wall via Dante as full-range mains for concerts. They can also be stacked for dance parties to additional low-end support







or taken into the main space for use as utility subs with subs in conjunction with the four SX118's, for something like an electronic in the round show with six single 18s under the stage to match the flown CDD-LIVE 15s.

Underscoring some of the new system design's high points, Jose points out that "with the Dante network, all areas are connected and we have the capability of routing audio from and to anywhere in the building while each speaker can be individually sourced for limitless zoning/grouping. Basically, there are three high-output, premium systems for three distinct areas: Mainspace corner stage; Mainspace in-the-round stage and the Gallery Bar. Delay speakers can be easily rotated for an immersive/surround experience, for effects or movie screenings while the monitoring system features 10 active biamp mixes of world-class Martin Audio XE Series monitors all powered by iK42 amplifiers, as well as two CDD-LIVE 15's for side fills."

"The main room has three CDD-LIVE 12's used as outfills," Jay concludes, "one is for the raised VIP opera box section, and two are used as bar fills. And there's a CDD10 above the house right rig to cover an area off the stage where a lot of folks stand which had never been covered until now, so that's exciting. We also have a pair of CDD-LIVE 8's as stereo nearfields at FOH for our staff and guest engineers as it's traditionally been different up top at the mix position than on the ground in the house.

"Engineers who've mixed on the new Martin Audio system have had very positive reactions about its fidelity, firepower, control and even coverage. I had one engineer dim the nearfields, turn to me and say it was one of the most pleasurable mixing experiences he's ever had! Jose and the Frost team did an awesome job especially with all the challenges and were fantastic to work with – the results speak for themselves."

Jose adds, "Jay cameto us with all these great ideas.I think we were very thorough in adapting them to a working design, and making sure we could achieve the ultimate goal of building a consistent system throughout the venue, eliminating any bad seats in the house. With Martin Audio's sonic excellence on our side, it was translated into a system that is truly remarkable, and an absolute upgrade that is already raising attention in the NYC music scene. It was a joy to work closely with Jay and the rest of the LPR team on this one."

Justin Kantor, co-founder, director of operations and classical music director of (Le) Poisson Rouge also weighs in: "You don't need audiophile ears to recognize a tremendous improvement with the new system right away."

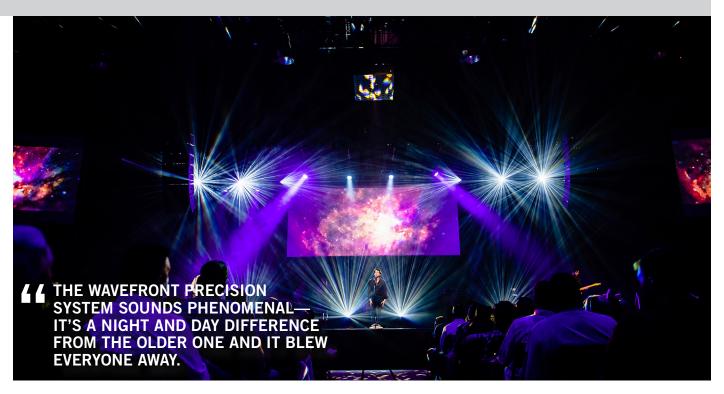
David Handler, (Le) Poisson Rouge's other co-founder concludes: "As musician-founders we know there is no more important thing to an artist and an audience than the sound of a performance. When I went down to Florida (for Infocomm 2017) to hear the system, I was struck by the warmth and natural breadth of the Martin sound signature. The system we chose gives us the audio versatility to match our eclectic programming, the integration we were looking for, and of course a sonic result that we feel is second to none in our space."





## **HOUSES OF WORSHIP**

## Wavefront Precision Installed at Hope Community Church



Apex, NC—When the Hope Community Church decided to replace their recently installed sound system because of severe reverberation issues, David Price of DP Design in Milwaukee, WI proposed a Martin Audio Wavefront Precision system based on its control and coverage capability.

Hope Community is housed in what was a large warehouse and distribution facility that was completely renovated to convert the building into a church. According to David, "they ripped out everything except the concrete pad and the ceiling.

"The main worship area is a multi-purpose space with a recessed gym floor the size of two basketball courts laid side to side surrounded by seating and a raised six-foot wide track area that runs around the room. The proscenium stage is off center and the recessed floor creates a nice little bass trap that can be an issue for a PA.

"That said, the main problem with the original system—which was only a year and a half old—was the fact the space is so mammoth and echo-ey," David explains. "They did treat the walls well acoustically but nothing was applied to the ceiling where there was a ridiculously long five second reverb time that muddied everything up. The original PA didn't have the directivity control to avoid the ceiling and was too small and underpowered for that big a room. There were constant sound issues, coverage was poor and too many people were complaining about not being able to hear anything."

To cover the worship area that seats approximately 1500, David recommended a Martin Audio Wavefront Precision Compact system "as the optimum solution because it didn't require additional ceiling treatment based on its exceptional control capability, which made it much more cost-effective

from the start. It also offered even coverage throughout the space and the exceptional clarity and audio quality required for both speech and the electric music in the contemporary worship service the church likes to run loud."

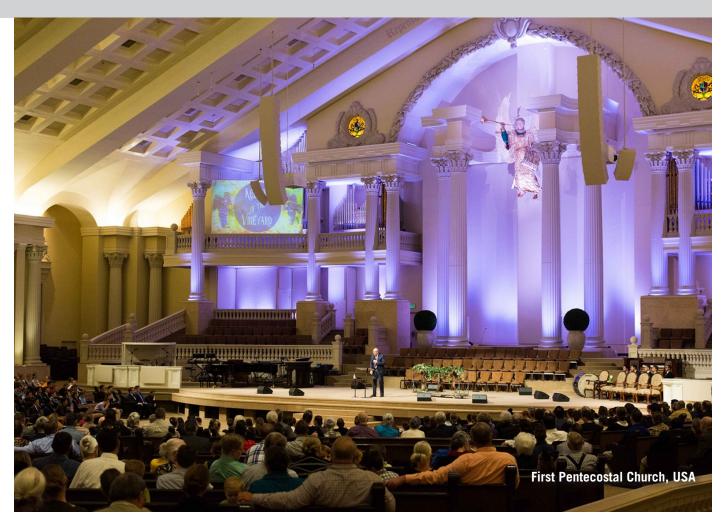
The system consists of nine flown WPC enclosures a side as the main array with four WPM in the center for some additional fill and two flown DSX subs a side between the side and center arrays to avoid the recessed ground area in front of the stage. All cabinets are powered by iKON amplifiers on one box resolution (one amplifier channel per enclosure) providing the ultimate in control capabilities for the system. As David adds, "the boxes are bi-amplified with the iK42 powering two enclosures so we could ensure maximize avoidance of the ceiling. It works incredibly well and it's truly remarkable how low the reverb time is now."

"We needed some additional side fills so we flew two Martin Audio CDD15's on the left and right for that far outside area where they do some table seating on the upper raised area which runs almost 170 degrees horizontal in front of the stage. There are also eight CDD5's as lip fills mounted to the front of the stage."

Asked about reactions to the system, David enthuses, "Everybody who walked in immediately noticed how much better the new system sounds, even if they weren't a tech person. It was fun to watch people's amazement when they walked the room. They couldn't find a place that wasn't covered with sound or a bad seat in the house. They loved it. The Wavefront Precision system sounds phenomenal—it's a night and day difference from the older one and it blew everyone away."



#### World's First Installation of Wavefront Precision at First Pentecostal



The recent audio upgrade by Clark at the First Pentecostal Church in North Little Rock, Arkansas featured the world's first installation of both Martin Audio's new Wavefront Precision Compact and Mini optimized arrays with iKON® amps along with CSX218 subs and the new LE100 monitors.

As described by Clark Project Manager Brandon Byrd, 'the Church had to replace an old, worn-out PA that didn't cover the room or provide the audio quality and clarity they needed. Martin Audio had just come out with the new WPC system and it was a perfect choice for this installation because it offered great Martin Audio sonic performance and optimized coverage and control for the price.

'The actual system includes 16 WPC a side for the main array with a side fill array of six WPM a side covering the extreme outside corners because they can really pack people into this place, especially for special events. The stage was modified to accommodate the five CSX218 subs per side that are recessed into the front with everything powered by the iKON amps. All the hangs are covered with white acoustical fabric to be more visually integrated.'

First Pentecostal's sanctuary is an acoustically challenging space with large domed ceilings, a balcony, stained glass windows and hard marble surfaces. 'They didn't want to add acoustical treatments,' says Brandon, 'but with the WPC system you can get additional resolution and coverage

## THE OVERALL REACTION TO THE SYSTEM HAS BEEN OVERWHELMINGLY POSITIVE.

by adding more boxes with a channel dedicated to a single amp. We went for the highest resolution which allowed the system to create interference that significantly reduces the audio level hitting the hard surfaces we wanted to avoid. That, plus the coverage is consistent throughout the space.'

Asked about the system, First Pentecostal Technical Manager Nick McKinnon explains, 'We were looking for speech intelligibility first and foremost. Conveying the message whether it was song or speech is our absolute priority. Keeping the vocals over the music and the preacher's sermon clear and present in what is a very reverberant space is critically important for us.

'So, the optimization capability of Martin Audio WPC was very attractive on paper and if it did what it said it was going to do that was the choice we had to make. Getting the sound off where it didn't need to be and focused on the audience where it belonged was crucial for us, and it did exactly that.

'I can tell you how we know it works. At our 35th annual Camp Meeting there were 4500 people in our 2800-seat



sanctuary and a lot of crowd volume. In our balcony, the Hard Avoid area starts at the top of the mezzanine and there's a walkway before the coverage starts at the seating area about six feet above the actual balcony rail. An usher who was in the walkway commented that it just didn't sound that clear where he was standing. So, I asked him to walk up into the seating area of the balcony and he came back a few minutes to tell us the sound was perfect up there.'

According to Nick, 'the Church has two services on Sunday and one on Tuesday night with electric bands-we pretty much go full out for all three services. There's a smaller chorale on Sunday mornings and a 100-voice choir on Sunday nights with more of a gospel feel.

'When it comes to music reproduction, WPC is like sitting in front of a great set of studio monitors. We have a Midas Pro X console and we've gone from making 9dB changes in the EQ to 2 and 3 dB changes and really noticing the difference. The changes are very audible-we're even hearing the compressors now if there's too much reduction.

'The coverage is truly exceptional. We have seating in alcoves and they were just getting reflected sound before. Now with the WPMs on the side, every seat in the house has even coverage, top to bottom, side to side.

'We've also solved problems onstage with the new LE100 monitors. They combine compact, low-profile enclosures that give us expanded individual coverage for performers and speakers and they sound really good.

'In terms of the subs, we brought the Pastor in to hear some symphonic music and he mentioned that when you close your eyes, it's more of an experience than just listening when



you can hear the full spectrum of sound. And the overall reaction to the system has been overwhelmingly positive. The only thing the staff asked is why we didn't do it sooner.'





## Edenton Street UMC Adds To Complement With WPC Array



Raleigh, NC—RMB Audio recently installed a Wavefront Precision Compact array in the Edenton Street United Methodist Church complex, adding to Martin Audio systems that already exist including MLA Mini, CDD and Ceiling Series speakers.

Working closely with Edenton's Technical Consultant Dave Clemmer, Matt Johnson, Wayne Sowder, Rick Null and Tobias Cannady of RMB installed WPC enclosures and SX212 subs powered by iKON amplifiers in Kerr Hall, a new 500-seat worship area on the second floor of the block long structure in downtown Raleigh.

As described by RMB President Cooper Cannady, "the system was designed for a site called The Gathering that measures 80 ft. deep by 80 ft. wide and holds a variety of events for the millennial audience, which required a very aggressive sound system for the electric 'praise' bands.

"The church opted for WPC because the control and directivity to avoid splash off the walls and other undue reflections with a system that definitely fit in their budget. So, we installed four WPC cabinets per side focused on the audience area to avoid the rear wall. The two SX218 subs per side are ground-stacked under the WPCs that are out of foot traffic while close to the front. The iK42 amps are remarkably efficient and sound very good. Resolution is 2 boxes per channel with two iK42's on the hang and one dedicated to the subs.

"The downward sound trajectory hits the rear wall at standing

## THE SOUND QUALITY IS JUST AMAZING—THE CLARITY, SEPARATION AND SOUND PRESSURE.

height," he continues, "which works out because the wall is 20 ft. tall so we avoided 14 ft. of reflection surface and the ceiling, a problem with the original system. The room sounds really good from the first seat to the last, even to those standing at the main doors. Once you go out those doors, the sound dies down very quickly which is important because we didn't want to leak into the main sanctuary even though it's a very robust system.

"In addition to accurate and powerful music reproduction, Cooper concludes, "speech is so smooth you don't even think you're listening to a sound system and noise rejection on stage is really good. Best of all, the staff is tremendously happy with Martin Audio speakers in general and now more excited with WPC. They all love the Martin Audio signature sound."

Asked about the system, Dave Clemmer explains, "In addition to the WPC boxes, SX212 subs and iK42 amps, the setup includes a Midas M32 FOH mixer with a DL32 16-channel digital stage box in a house right position about 75 ft. out from the stage.





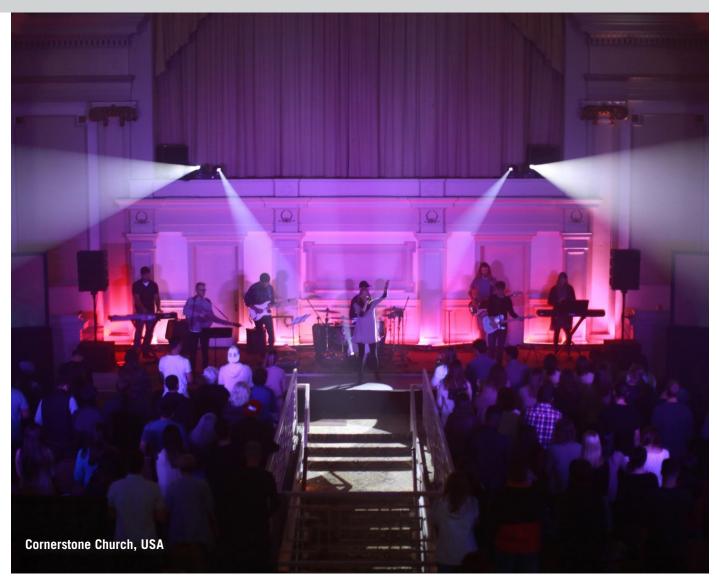
"In terms of the room itself, the WPC system eliminated most of the problems like splash, reverberation and excess noise. We just had to shoot the room and, by controlling the amount of output, we could direct it so that every box goes to every part of the room and covers the space from 10 ft. off downstage edge all the way back to a small balcony in the rear of the room.

"And the sound quality is just amazing—the clarity, separation and sound pressure," Dave sums up. "Also, the ability to direct the audio so you can get nice clear reproduction for the band without the volume getting too loud. The aesthetics are appealing, it's a nice clean fly. And key staff members and congregants are really happy. They keep congratulating us on the sound quality. WPC has been very well received all around."





#### Cornerstone Church on the Move with Martin Audio WPM



Milwaukee, WI—A portable church that goes into a large banquet hall and wedding venue on Sundays, Cornerstone Church recently upgraded to a Martin Audio Wavefront Precision Mini line array system.

Compact and efficient, Wavefront Precision introduces a scalable approach to resolution and control of coverage that functions in tandem with external, dedicated multichannel amplifiers in a uniquely flexible, upgradeable, and price-conscious system. The more cabinets with dedicated amplifier channels, the higher the resolution and scale of coverage control achievable.

According to system designer and integrator David Price, 'the hall is in a historic building and has several acoustic challenges which explains why we chose the WPM system. The room has a mammoth 35ft. tall x 30 ft. wide curved center channel area where tons of acoustic energy can get trapped. WPM gives us control over directivity of the system so we can avoid that area and put the energy on the audience where it needs to be.

'There are marble columns spread throughout and the ceiling is all plaster with no acoustical paneling and all these cavities.

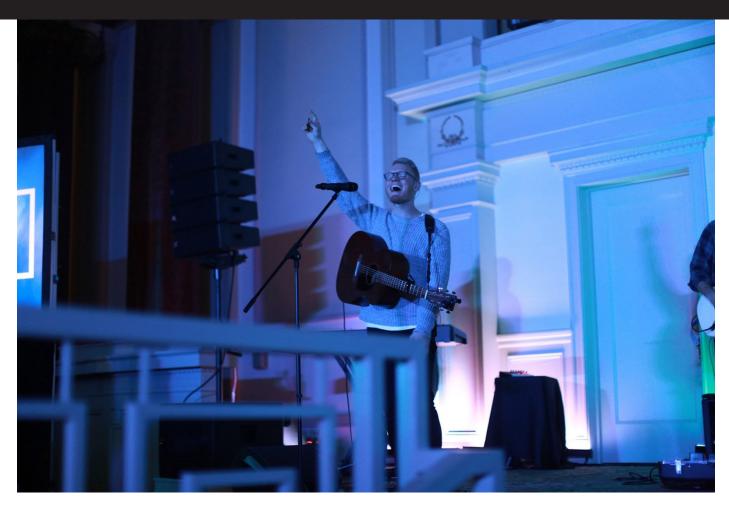
## KNOWING EVERYONE IS HAVING THE SAME AUDIO EXPERIENCE IS HUGE FOR US.

They also needed the system to be loud for the contemporary worship service without killing people in the first couple of rows which happened with the previous PA because they had to push it so hard.

'With the Martin Audio WPM system, we could control the sound coverage from front to back and use the internal DSP to figure out the smoothness of coverage in terms of SPL they preferred. And now they're incredibly happy with the system. Everybody gets the same quality of sound from front row to back row and we're avoiding most of the acoustic issues in the room.'

The actual setup includes four WPM enclosures a side, pole mounted on top of two SX118 subs on stage, all driven by a single iKON iK81 amplifier with two channels per box resolution. Four channels out of the 81 drive the mains and the remaining four channels drive the subs.





Asked about the WPM's performance, David responds, 'Obviously, it's a night and day difference for the church in terms of audio quality. They're much happier with the bass response, smoothness of the coverage and lack of resonance n the room. They're not hearing the room as much, it's much more controlled and precise. And they really appreciate the system's portability, simplicity and ease of setup.'

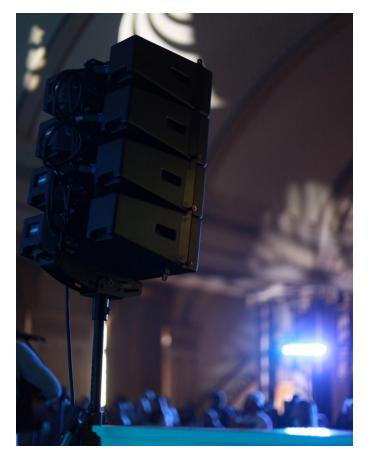
Pastor Jonathan Strohbusch also recalls the previous system 'was being pushed beyond its limits. Even though we were only seating 250 people in that big a room, we couldn't get sound to the back row without deafening levels in the front.

'So, when we looked at options for creating even coverage and maintaining portability, the Martin Audio Wavefront Precision system made total sense for a church like ours where the system has to be carried up a flight of stairs.

'It's lightweight and compact, which simplified setup and tear down and relatively straightforward for our volunteers to operate. That, plus the price point for what is exceptional sound quality made it a no-brainer, especially once we heard the system integrated for our space.

'We have a contemporary worship service with electric bands playing very loud and it's crazy how quiet it is onstage. In terms of my sermons, it sounds like I'm having a conversation with my church. And now the music reproduction lets us hear the full spectrum of the band. You can focus on any part of the mix with no problem because of the spacious sound quality. It's real pleasing and smooth to hear, even at the highest decibel levels.

'Bottom line, we're extremely happy with the WPM system, Jonathan concludes. 'Knowing everyone is having the same audio experience is huge for us.'





### Preston Trail McKinney Church on the Move with WPM



McKinney, TX—A portable church setup designed to go in and out of a middle school gym every weekend, Preston Trail McKinney obviously required streamlined equipment for its audio, video, lighting, staging and furniture setups. Given the venue's limitations, it turned out to be an ideal setting for Martin Audio Wavefront Precision Mini (WPM), the first of many installations for the popular new system in the U.S.

As described by Clark Senior Design Consultant Peter Fitton, 'The church is transported into a middle school gymnasium with a 16-ft. x 32-ft. stage, a 40-ft. rear lighting truss upstage and lighting trusses on both sides of the auditorium about midway through the house that provide front light for the stage and house lighting for the audience area. The video system includes a video playback server, a switcher, an 11-ft. tall x 14-ft. wide screen in the center and a 13,000-lumen projector in the back of the room. The school provides seating for 300-350 congregants.

'For the audio, there are eight Martin Audio WPM cabinets a side powered by iKON® amps and five CSX-LIVE 218 subs in a horizontal array in front of the stage on the floor. In terms of the WPM system's scalable resolution, we opted for one amplifier channel per box to ensure the most accurate coverage and control for the space. 'Another company provides transportation, trailers and cases for the church setup and we handle the auditorium. The entire church fits into five 24-ft. trailers with video, audio, staging and lighting in two of them.'

According to Peter, Clark chose WPM because it 'provided an ideal solution for the gym—basically a big cinderblock room without acoustical treatments—that could provide excellent coverage for the space and control unwanted reverberation. We've always had great success with Martin Audio systems, and WPM offers similar advanced technologies in a more cost-effective, passive format.'

Describing the system's performance, he adds 'the results have been fantastic. When Brad Stephens of Martin Audio and I were there for the initial setup and commissioning, we both knew what to expect from the WPM speakers, but were still surprised at how well they behaved in the space.

'If you walk upstage of the arrays, there's almost no leakage at all. You can actually hear people in the audience singing toward you who sound louder than anything coming off the back of the

PA. The soundfield was tuned in such a way that it hit the back wall about eight feet off the floor, just above head height, and we had none of the reverberation or flutter that you'd expect to hear in this kind of a room. Part of the design from the other company is pipe and drape all the way around the room that runs about 12 feet from the floor level up so we could keep the PA on that and keep it off the cinder block wall altogether and it just created a great sounding room in terms of audio quality and coverage in a challenging space.'

Chris Briley, Technical Director at Preston Trail oversees all live production and IT at the church explains the addition of the McKinney campus: 'It's Preston Trail's first multi-site campuswe still have the main building with a 1500–1600-seat room but we wanted the opportunity to tell more stories in more spaces. In McKinney's main auditorium adult space, we have a live video broadcast recorded the night before at the main campus. There is also a full contemporary worship service with an electric band and vocals along with spoken word.

'So, because of the space, we have to keep stage volume down, which is always an issue at our services. We chose the smaller gym at the school because it sounds better. The pipe and drape works to improve acoustics by taming reflections in a square box, plus it also looks better aesthetically.

'One of the surprising things when the line array went up was how well it kept the energy off the walls in that space. We're very pleased we chose the WPM system. The coverage is fantastic front to back and left to right and it's not overly exciting the room. First time I mixed on it, the system was so true I realized I'd need effects on the vocals because you could really hear the difference. That was a nice surprise. 'Now I can get the band locked in and we're on cruise control with plenty of headroom and gain. Another surprise is how flat and quiet it is off the back of the speakers, especially given how wide the dispersion is.'

Summing up, Chris concludes: 'The one thing we didn't want to compromise on was the audio and we chose WPM in close collaboration with Clark and we're very pleased with it. Everyone has been telling us how great it sounds. Our main campus has fantastic sound quality and we needed to match that with this space. Some of our engineers have even asked to bring the subs back to the main campus!'



## **LIVE SOUND**

#### TéDé Invests in Martin Audio's New Wavefront Precision



Hungarian based TéDé Rendezvények has invested in a Martin Audio Wavefront Precision Series (WPC) system. The order, which included iKON iK42 amplifiers, was placed with the manufacturer's territorial distributor, BG Event Kft.

The new PA debuted at the two-day Bosi Motoros Találkozó (Bosi Motorcycle Meeting), with 10 bands appearing in front of 2,000 people where it proved extremely popular. "We received a lot of positive feedback from visiting technicians, many of them amazed by the sound of the system. It not only delivered power but pure, highly intelligible sound in every way."

According to Balázs Szentiványi, Purchasing Manager, BG Event Kft., the idea of upgrading the rental company's inventory came about as soon as Martin Audio announced the Wavefront Precision family.

"TéDé already owned a W8LM Mini system and since they are on a healthy growth path they were in need of a larger PA," he said.

Tamás Dávid takes up the story, recalling that he and members of his technical team had accompanied Balázs to Martin Audio's open day last September. "I heard the WPC system there for the first time and decided immediately to change my old system to this new series," he said.

He was no stranger to the Martin Audio signature sound, having purchased a W8VDQ and WS218X subwoofers

## THE SOUND IS IMPRESSIVE, CONVINCING AND CLEAR — YOU CAN HEAR EVERY LITTLE DETAIL.

back in 2011 which, with the addition of the W8LM, had given him a festival system. He also has MA12K amplifiers presently driving his subwoofers, which will eventually be upgraded to iK42's.

Tamás is also aware of the enormous profile Martin Audio has built at major Hungarian festivals such as Sziget, which has made it an in-demand brand for promoters. "Many technicians now view Martin Audio as the best example of quality," he says.

As such, he is confident that the Martin Audio WPC system will give him a competitive edge over other brands. "It delivers enormous sound pressure level for the money, and a more precise sound experience for those in the audience area. The main advantage is the controllable resolution of the speakers, while the Display software is easy to use and fast. The sound is impressive, convincing and clear — you can hear every little detail.

"We now hope the new WPC will help us to win more work during the festival season."

Summing up the investment, Balázs Szentiványi concluded, "From the price / performance viewpoint there was really no other option for TéDé."



## **LIVE SOUND**

### OSA Acquires Record Amount of Wavefront Precision



OSA International of Chicago, Nashville and Las Vegas recently purchased 248 Wavefront Precision Compact and Mini line array cabinets, and in doing so, attained the status as the world's largest rental company of Martin Audio.

Commenting on the purchase OSA President Mario Educate said, "We've used these speaker cabinets on several shows already this quarter, and the sound quality out of the Wavefront Precision arrays is unbelievable. They bring out the subtleties of the score better than any other line array we've used, so the audience can really immerse themselves in the meeting experience through the audio.

OSA already has a significant inventory of Martin Audio's MLA Series, but Educate sees no conflict of interest, quite the opposite: "Our engineers are already proud of the work they've done with Martin Audio's MLA series—the multicellular array technology has been a game changer in our industry and allowed us to deliver the most precise sound coverage time and time again. The Wavefront Precision series will allow our engineers to take advantage of the multi-cellular array technology but with scalable resolution, so we can reach a much broader client base. We're excited to see how the new cabinets can complement our MLA inventory, especially by offering different resolution for delay systems."

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The purchase of Wavefront Precision was complemented by system iKON amplifiers, iK42 and iK81, as well as the new SXH218 high performance double 18" subwoofers, the first purchase by a rental house anywhere in the world.

The BMI Latin Music Awards at the Beverly Wilshire Hotel in Beverly Hills, CA was one of the first events OSA used Wavefront Precision, including 14 WPC, 14 WPM and six SXH218 subwoofers. The audio crew included Brian Daily (A1), Bobby Vidales (A2) and Orlando Calzada (Monitor Engineer).

Commenting on the PA, Brian said, "The clarity and definition of the high end out of the box was phenomenal." Orlando added, "The artists' engineers really enjoyed the Wavefront Precision. They walked away wanting to use it on tour after hearing how it sounded at the BMI Latin Awards."





OSA has received other positive reports, such as one from an engineer after doing back to back shows with WPC arrays: "Two completely different shows, same PA! Life was made easy with Martin Audio's new WPC's—from the rigging to the quality out of the box, I was extremely impressed."

Comments echoed by Educate: "On a practical level, the compact size and light weight of the WPC enclosures will allow our engineers to design the PA more effortlessly getting the coverage and sound quality they need without worrying about the weight restrictions many venues hold. Combined with the fast flying systems, these cabinets are already in high demand."

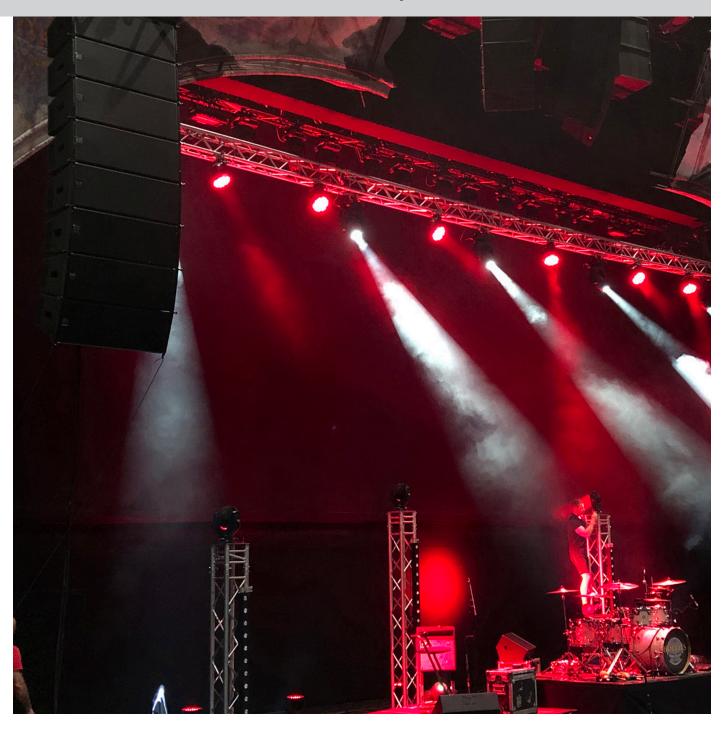
Dom Harter, Managing Director of Martin Audio, was quick to return the compliments: "The trust and investment made by Mario with the support from Jim Risgin and whole OSA team means a lot to Martin Audio. Our team is focused on using the Wavefront Precision systems to bring true patented optimization technology to the wider market. To hear these systems are immediately delivering jaw dropping shows is all the ratification we need."







## E.V.E. Finds Fast Success in Germany with New WPC



The success of Martin Audio's new Wavefront Precision series on a global scale shows little sign of abating.

Back in March, German rental company Event & Veranstaltungstechnik Enchelmaier (E.V.E.) boosted its inventory with the acquisition of a complete WPC system, along with SX218 and SX118 subwoofers — all powered by Martin Audio's new iKON iK42 amplifiers.

Already a major user of Martin Audio's premiere line array systems since 2003, E.V.E. owner Michael Enchelmaier said, "I wanted a newer, more modern system to complement my W8LC, W8LM and WS218X, and meet the demand for new systems. With the WPC we can cover audiences of up to 3,500 people, and with a combination of W8LC and W8LM I can extend that to 8,000-10,000 people."

# I'M THRILLED WITH THE NEW WPC; IT SOUNDS MUCH MORE MODERN WITHOUT LOSING ITS TYPICAL MARTIN AUDIO SOUND.

The system has already been out on a number of shows, including The Hollies, where E.V.E. flew two 8-element hangs of WPC — supported by a pair of SX218 subs, left and right — at both the Gewandhaus, Leipzig and Friedrichstadt Palast, Berlin. They also deployed Martin Audio's popular Differential Dispersion DD6's for front fills, CDD8 LIVE for near fills, and their stalwart LE12JB stage monitors for foldback.



#### CASE STUDIES - WAVEFRONT PRECISION

Enchelmaier confirmed that the PA certainly met the approval of the band's production manager. "He was thrilled with the sound, the coverage and the way the system was set up in what were very complicated venues."

Reviewing the new system, Michael Enchelmaier said, "Once the room has been accurately designed in the software, the setup of the system itself is much easier [than previous systems], and the result is perfect.

"In fact I'm thrilled with the new WPC; it sounds much more modern without losing its typical Martin Audio sound, which I like."

He anticipates that his company will now be able to pitch for larger events as the system starts to find its way onto touring riders. "We are using the WPC system now for the more, higher quality gigs," he says. "For instance we are about to supply Bruce Springsteen's guitarist Steve van Zandt (Little Steven and the Disciples of Soul) in Cologne.

"We will continue to use the W8LC and W8LM as they still work well, and in all the years we have had them there has never been any problems. But I imagine we will invest further in WPC in due course.









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This is just a small selection from a wealth of examples from around the world that you can find out more about by visiting www.martin-audio.com

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