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eMotion LV1 Mixer

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Knoxville, TN, August 3, 2021 — Church on the Rock in St. Peters, Missouri, has chosen the Waves [eMotion LV1 Live Mixer](#) to mix and stream the church's services.

Church on the Rock has a community service-oriented culture in its DNA. Under Pastor David Blunt's leadership, the church considers its online community a distinct campus, with its own unique needs that go beyond the church's physical space. Due to its emphasis on high-quality streamed services, the church places a high priority on the right digital tools and has chosen the Waves eMotion LV1 live mixer as a backbone of its audio infrastructure.

Mixer, producer and audio consultant Yamil Martinez, who has served as FOH engineer for Luis Fonsi, Alex Campos and more, consulted Church on the Rock on this project. His recommendation to adopt the eMotion LV1 was based, first and foremost, on the LV1's ability to deliver pristine and polished precision sound for live events and streams: "LV1 is based on integrated Waves plugins," he says, "so it helps me tailor the sound to any requirement in ways that most regular consoles can't. Because Waves' precision plugins are so accessible from within the mixer, eMotion LV1 enables us to achieve an extremely polished studio sound in a live situation. We've been able to accomplish processing chains that make miracles happen, especially when dealing with unwanted noise. To me, the LV1 is a chameleon-like console that I can personalize to achieve any coloring palette needed."

"Our decision to adopt the LV1 was driven, first of all, by our need to improve the church's online experience," Yamil says. "Before the LV1, the church's broadcast system was quite convoluted. It was based on a combination of groups and direct outputs from the AVID Venue D-Show console at FOH, plus a few direct analog splits that fed an analog Midas Heritage mixer. Drums were fed from a premix, as were the brass and half of the vocals. Lead vocals were received individually from a processed direct-out feed. Secondary sources, or less frequent sources that aren't used day-to-day, derived from a split of a split, out of the main splitter. But the biggest drawback prior to adopting the LV1 was that not all the decisions made for the FOH mix translated properly in broadcast. This was both because of the physical sound of instruments in the auditorium, and because each of the church's mix engineers or mix volunteers had different criteria. Just imagine all the inconsistencies that the former system had... This is why our big LV1 project was born."

"Our initial idea," Yamil explains, "was to extract unprocessed individual audio channels from the FOH console to a dedicated TV mix in a single eMotion LV1 mixer. But we quickly discovered that interfacing with the existing consoles just wasn't cost-effective, nor did it provide the flexibility needed or the necessary channel counts. Neither did we want to replace the analog splitter with another one with a third output, or to invest in connectivity for outdated consoles; these were not viable solutions. So, in the end, we simply replaced our Midas Pro digital console at monitors with an eMotion LV1 mixer and shared its inputs with broadcast. But that was just the start! Eventually, three high-end consoles got replaced with eMotion LV1 mixers: two Midas consoles, one analog and one digital, which reached their limits; and a Yamaha PM1D that was stuck in outdated technology. Those consoles had to be replaced because they couldn't adapt to our new circumstances and needs."

"With the Waves eMotion LV1," Yamil says, "we are able to have full console control from different locations at the same time. This has been absolutely crucial to the church's TV broadcast, 2D streaming and 360 VR operations. To provide a better online experience, Church on the Rock has content variations that include online hosts who interact with the online campus community and inform them of COTR's wide variety of activities. Those hosts move around the facilities, depending on where the activities are being held. No matter where you are within Church on the Rock's facilities, if there is a network connection, all you have to do is assign the specific port to the proper subnet to send and receive audio."

"One huge advantage of the Waves LV1," Yamil explains, "is that it's based on Waves [SoundGrid](#)® technology, which is an Ethernet network-based system with minimum operator interaction. It does away with all the messy networking challenges, and it eliminates the hassle out of the crew hands. You just assign the network ports and then select, update and enable the devices, assign the clock master – and you're done, your network is ready. Church on the Rock already had in place a solid Ethernet network infrastructure that allowed a dedicated network for SoundGrid; this made it easy to implement SoundGrid as the central hub for all the audio connections from anywhere in the buildings. All this has been a big plus for COTR's Creative Arts team. Now they can generate content without boundaries within the buildings, or anywhere an Ethernet cable can reach. Our network covers two physical campuses across a street, with ten audio working areas. Any corner can be a creative spot!"

Yamil remarks, "Our designed system consists of an audio network that covers two different buildings across a street. It includes three LV1's, one Avid VENUE D-Show, one Pro Tools HDX, two Behringer X32 mixers, one Zilla 3D ambience microphone, and 14 Waves SoundGrid devices (excluding various DAW computers), including four [DSPRO StageGrid 4000](#) stageboxes, three [DiGiGrid IOC](#) audio interfaces, one [DiGiGrid IOX](#) high-count interface, two [DiGiGrid DL1](#) interfaces, two [DN32-WSG cards](#) for Behringer, one Waves [DMI](#) interface and one [DiGiGrid D](#) portable desktop interface. The compact DiGiGrid D interface moves all over both buildings, depending on where the TV hosts are placed. The latest addition to the system is a 3D Immersive audio mixing system that complements a 360-video content destined to COTR VR campus. Virtual Reality is the best way to remotely be part of the COTR experience."

"This setup is wonderfully modular and expandable," Yamil says. "As your audio needs evolve, the system can grow too. Our project is proof: we started with a single LV1 as a simple broadcast mixer, and evolved to an entire audio network that covers two multi-story buildings."

Yamil remarks, about their monitor system, "At Church on the Rock, we don't have a dedicated person for monitor mixing. Each musician controls their own mix wirelessly with an iPad running the Waves [MyMon](#) personal mixing app, which 'communicates' with the LV1. Having the MyMon app was indispensable in the selection of the LV1. The monitor LV1 can be fully mixed and cued from the stage, FOH and broadcast positions, with the latter two having absolute control over the monitor console. The more experienced FOH and broadcast engineers can assist musicians from their own position."

He adds, "The LV1/SoundGrid system allows us to have an elaborated internal communication system through a dedicated matrixing system that receives fifteen talkback/communication inputs and distributes to seven destinations throughout both buildings. Before the LV1, there was no way of getting completely rid of the sinful mono IEM mix. Now, every IEM mix is stereo. Any instrument can have its own stereo reverb without complicated routing or mixing procedures. Having the reverb as part of the channel signal flow keeps the proper relation between dry and wet at every monitor mix."

About using Waves plugins, "Church of the Rock has always invested in top-notch gear since the analog days," Yamil reports. "But the results achieved with the LV1 are unprecedented. The wide selection of plugins from the Waves [Mercury](#), [Abbey Road](#), [SSL](#), [Dugan Automixer](#) and [DTS Neural™ Surround](#) bundles gives us precise solutions for every need. We use many plugins; however, there are what I like to call 'MVPs' – 'Most Valuable Plugins' – that make an especially huge impact on the final result. First, the Waves [Playlist Rider](#) plugin is great for content that alternates between music and speech and has a broad dynamic range. We don't want people constantly adjusting their volume and getting bothered by level inconsistency. Playlist Rider stabilizes all pre-recorded material, speech microphones and broadcast master output, providing smooth transitions without distraction."

He continues, "Another situation where Waves plugins are life savers is stage mic bleed. Having many instruments and numerous vocal mics open at the same time can result in a lot of stage bleed that clutters the mix and compromises intelligibility. Waves' [Primary Source Expander](#) (PSE) plugin eliminates stage bleed, especially when using automatic pitch correction for broadcast. With its sidechaining capabilities, PSE can be placed after a few layers of EQ, saturation and compression and still track properly. We replaced all the filters and EQ that we used to use with the extremely flexible and low-latency [F6 Floating-Band Dynamic EQ](#). With its different slopes, the F6 filters are more adaptable. The dynamic low- and high-shelf bands allow you to expand those frequencies as needed instead of using fixed gain, reducing bleed when a direct source is not present enough. The narrow parametric bands, with a Q of 60, make the F6 perfect for surgical needs. It's like a crossbreed between a Swiss Army Knife and a scalpel."

He adds, "When it comes to reverbs, the [OneKnob Wetter](#) and [GTR Reverb](#) plugins are great for mixing with simplicity and consistency. We need good-sounding, low-latency and CPU-friendly reverbs to insert on a great deal of individual channels. With these two plugins, we cover all our bases for channel-inserted reverbs on instruments, and even on vocals in monitoring duties. Another plugin that deserves special mention is the [eMo D5 Dynamics](#), which is part of the eMotion LV1's channel strip. It's a wonderful-sounding dynamics plugin with extensive side chain capacity – the only plugin inserted on every single input and output of all three LV1 consoles. It handles beautifully all the heavy lifting in terms of dynamics. The church's latest plugin addition has been the Waves [Dugan Automixer](#) for auto-balancing multiple talkback mics. We throw at it constantly changing combinations of 15 possible inputs, and it keeps them all totally balanced, automatically. Talkback screamers are welcome since the Dugan will take care of them – easy."



Waves eMotion LV1 setup at Church on the Rock.

"The consistently great sound quality we've achieved with the LV1 exceeded our expectations," Yamil sums up. "With Waves' eMotion LV1 mixer, Waves plugins and Waves SoundGrid real-time processing and networking technology, we've been able to achieve more polished results, faster and more easily, delivering better broadcast services to Church on the Rock's online campus community."