



MPT48 Concert Array Module

Full-bandwidth, Point-source, Horn-loaded



“The transcending ideology behind the MPT48 design is sonic purity.”

The **MPT48** is a singular building block array module making it a very unique concert loudspeaker. The full bandwidth basis is especially crucial; it makes the size and weight of this module far more efficient than competitors' multi-box systems. More SPL and higher quality output, per pound and per Watt are two benefits of using a **MPT48** rig. The module's point-source architecture, correct component alignment, and innovative waveguide technology provides superior coherency for every listener.

The unsurpassed audio fidelity can be attributed to three different areas of design. First, the horn technology and integration provides the foundation. Secondly, the carefully engineered components seamlessly manage the entire audio spectrum. And lastly, the crossover design ensures correct performance from the **MPT48**.

The horns are exponential birch waveguides engineered to provide wide bandwidth and precision directivity control. The mid/high section is made up of two identical horns arrayed side-by-side. These horns are 30"-long high Q precision devices to which 12" and 1" drivers are mated. The two bass sections, one below and one above the mid/high section, are both 36" long exponential waveguides driven by extremely esoteric 15" transducers. Directivity control (-6dB at 30 degrees off axis) is maintained all the way down to 80Hz. Below 80Hz excellent coupling characteristics provide powerful sub-bass response.

The best horns (waveguides) in the World can only focus the vibrations applied to them. Our transducers are highly evolved components and provide very high-fidelity vibrations. The **MPT48** component compliment has undergone years of evolution. Each sector of reproduction

(low, mid, and high) has been carefully designed for the perfect balance of output and fidelity. We have leaned towards fidelity because more clarity at a lower SPL will outperform the alternative; every day. The **MPT48**'s overall output abilities, thanks to our proprietary horn-loaded technology, are powerful enough to throw intelligible audio over two miles! This far reaching Hi-Fidelity power will astound you.

The low bass is powerful and smooth thanks to our compression horn-loaded approach and our high quality 15" transducers. The low frequency horns provide gain all the way down to 20Hz and boast excellent harmonic distortion characteristics. Our wide bandwidth horn design allows the bass section to provide smooth response up to the 500Hz range. Usually set at 200Hz-250Hz the crossover topology relieves the midrange of unneeded low-midrange stress and excursion.

The midrange transducer is a unique 12" coaxial component, with a 109 oz. magnet and a 2.5" edgewound voicecoil. Extreme efficiency is an inherent trait; even before 6dB of gain is given by the horn. This transducer is particularly crucial in the **MPT48**'s performance. The mid section reproduces the entire critical vocal range from 200Hz - 4,000Hz with a smoothness and clarity that isn't found from other concert loudspeakers. Most systems place a crossover point right in the middle of this critical 1kHz - 4kHz range; this degrades the system coherency where it is most noticeable.

Our high frequency reproduction provides reinforcement at higher frequencies and provides fidelity performance not associated with high-output concert systems. Lower distortion and greater intelligibility are some of the benefits that you'll experience thanks to our unique one inch driver. High frequency fidelity is usually neglected; why, we don't know. For us, it is needed for long throwing intelligibility and overall clarity.

An array of **MPT48** modules easily liberates the loudspeaker system from needing subwoofers and delay speakers. As the array size grows the full-bandwidth and sub-bass output increases dramatically. Even the high frequency output increases thanks to our temporal offset / line-source emulation technology. When **MPT48** modules are arrayed next to each other the high frequency output resembles a line source with an infinite number of source elements; just one of the secrets to the smooth sound that **MPT48** modules provide.





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A point source array should always begin with point source modules. However, just because the **MPT48** has been designed to work well in large arrays does not diminish their stand-alone abilities. One, two and three units per channel provide excellent coverage for audiences reaching the ten thousand person mark. Arrays three modules wide provide 105 degrees of coherent coverage with an extended intelligibility region beyond 105 degrees. This extended coverage is intelligible because the pattern control is uniform across the audio spectrum; off axis the bass and midrange power falls off along with the high frequencies, so the original audio signal is maintained.

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The Pattern control is precise enough to skim the system along walls and avoid reflections from ceilings and floors. Even large arenas are easily tamed by the inherent properties of the **MPT48**. You'll find a level of directivity control that you may only have dreamed of, right in your face: imaging, clarity, and power for you and your audience.

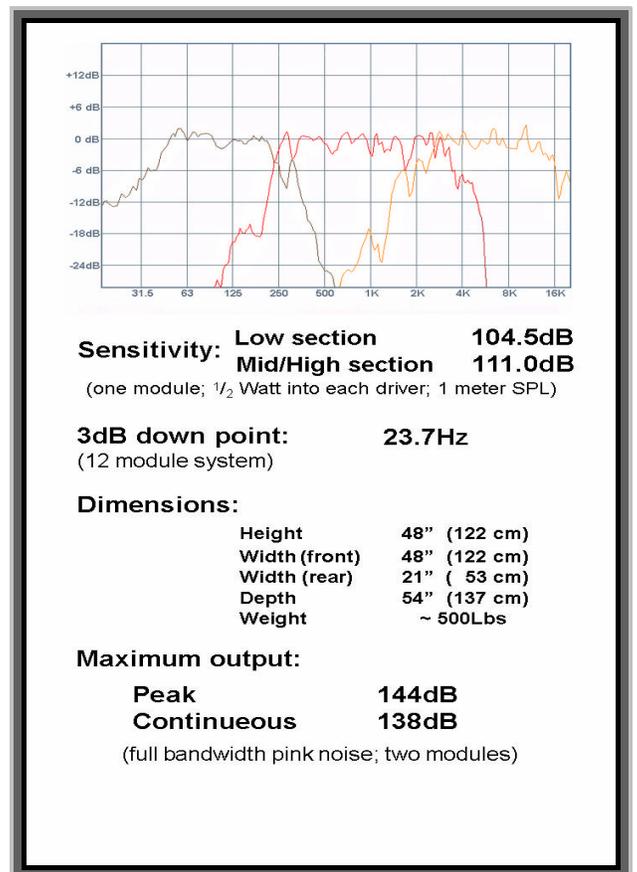
A singular wavefront is possible because of the mid-high component arrangement and precision horn technology. This wavefront is further benefited by our 12dB per octave crossover and its additive overlap. This crossover allows the high frequency drivers to combine with the midrange drivers and provide a hybrid response from 1.5kHz through 6kHz. This gives a level of vocal-range cut-through performance that typical 2" driver systems provide but with dramatically lower distortion, greatly increased fidelity, and smoother response. The summation of the British paper cone and titanium driver through this range has produced a number of reactions from FOH engineers; all positive.

Besides needing a full-bandwidth precision directivity control device we also wanted it to handle crossover points that are conducive to fidelity. We wanted a sound that was different and smooth, but powerful. Our 200 and 4,000 Hertz crossover is a crucial aspect to the

performance of the **MPT48**. Each driver is being driven well within range; in fact, each driver has powerful output abilities more than an octave away from its applied crossover points.

An array of **MPT48** concert loudspeakers will benefit you and your show in many ways. The sound quality has been our main focus; however, overall coverage abilities, reliability, and economy are all built into our package as an added value for you and your customers. Pricing is competitive and becomes more and more competitive as your system size increases. At \$6,200 per module a system of eight per channel costs \$99,200; around half that of other equivalent systems. You'll also find that less amplifier power, less cabling, less AC power, and less people power are needed with our systems. All of which will increase your sound reinforcement business's marketability and profitability.

Contact us to arrange a demonstration or consultation. We have an extended family of products currently available. With three different monitors to choose from and numerous installation products we are your complete source for high-end audio reinforcement products.





REXROAT *sound*

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