

# MB QUART PWM304 12" Subwoofer REVIEW

BY GARRY SPRINGGAY



**W**hen a brand like MB Quart says, “This is the best sounding woofer we have ever built,” you sit up and take notice. The woofer it is referring to is the all-new Premium Series PWM304. This moniker means the woofer has a diameter of 30 cm (or 12 inches) and uses a selectable two- or eight-ohm voice coil configuration. The woofer is designed for music enthusiasts who have graduated from the “SPL phase” — where listening to test tones and burp tracks is the norm — and want to listen to real music. The PWM304 is available now with a MSRP of \$259.99 (USD).



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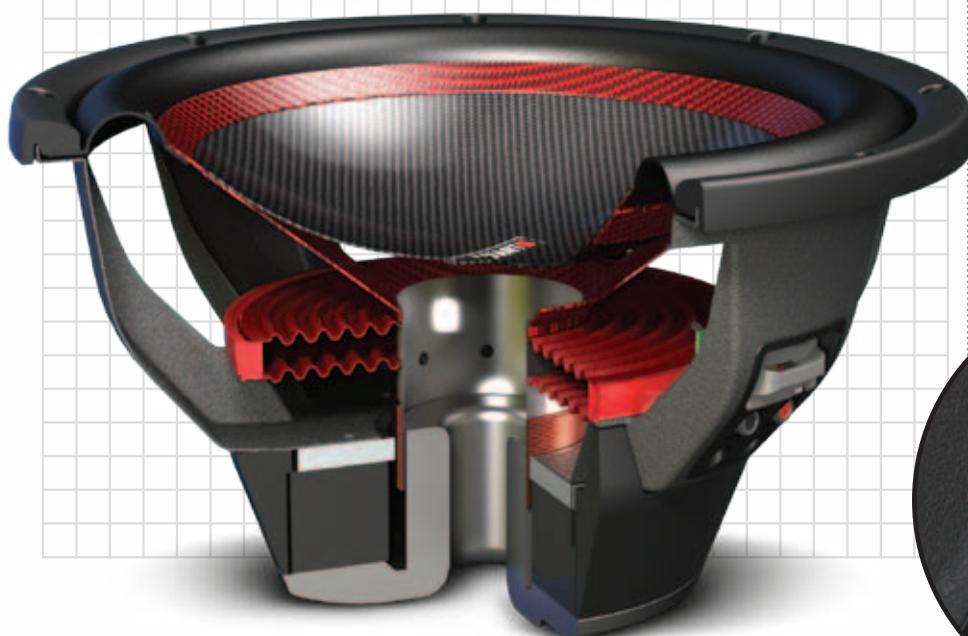
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## FEATURES

Unpacking the woofer to take a closer look, I see this as something quite different for MB Quart. Instead of the typical poly cones found at this price point, the PWM304 uses a combination of two different layers of woven glass fiber material. The main cone is formed in red fiber with a large-diameter concave dust cap in the same material in black. This provides not only a distinctive appearance, but a very strong and rigid yet lightweight cone. Built on a deep-drawn stamped steel basket finished in textured gray powdercoat [it looks like a cast piece at first glance] the outer diameter of the cone is attached to the basket lip by a wide butyl

## QUICK TECH SPECS

▶ <b>Power Handling</b>	500 Watts RMS / 1,000 Watts “Peak”
▶ <b>Frequency Range</b>	20 Hz – 300 Hz
▶ <b>Sensitivity</b>	82.5 dB/SPL @ 1.0 W (1.414 V @ 2 Ω)
▶ <b>Nominal Impedance</b>	(2) 4 Ω coils



ALTHOUGH THIS IS A SELECTABLE TWO- OR EIGHT-OHM VOICE COIL WOOFER — AND THANKS TO A BRILLIANT DESIGN IDEA — IT ONLY NEEDS A SINGLE PAIR OF TERMINALS."



rubber surround treated to withstand UV radiation.

Looking under the cone reveals more tricks and features not normally found at this price point. Dual mirror-image spiders in MB Quart red are used to provide linear control of the moving assembly in both directions of travel, and are sandwiched in a special raised spider landing made of red ABS. Another excellent feature is the ultra-simple and elegantly-implemented wire terminal impedance jumper. Although this is a selectable two- or eight-ohm voice coil woofer — and thanks to a brilliant design idea — it only needs a single pair of terminals. Located just above the spring-loaded terminals is a removable jumper terminal. Pulling it out of the socket on the woofer frame reveals four electrical contacts that connect the selectable voice coil configuration — either in series or parallel — depending on the orientation of the jumper. To make things super easy, the jumper is built in such a way that, when installed, the woofer impedance is printed out right below the jumper. Whether you are wiring a single woofer or a bunch of these together, it doesn't get easier than this.

Maybe best of all, you never have to worry about accidentally wiring the woofer coils out of phase and burning it up to get sound out of it [don't laugh it happens all the time!]. Additionally, the wiring configuration jumper serves as over-current protection, with a pair of 10 A mini fuses completing the connections.

Driving the whole unit is a 2.5-inch [65.5 mm] four layer, high-temperature aluminum voice coil formed from premium imported wire. The coil has a winding length of almost 40 mm for plenty of linear excursion, and is wound on a vented black anodized aluminum former with a spunlace Nomex collar for maximum heat dissipation. Magnetic energy to drive the coil comes from a 100-ounce magnet, sandwiched between a 10 mm-thick top plate and a cold-forged monolithic vented yoke. A smooth, molded rubber magnet bumper trims the motor nicely for a well-integrated look.

#### LISTENING

After a six hour break-in and taking my time through the physical features of the PWM304, I'm looking forward to giving it a serious listen. Ac-

cording to the owner's manual, the woofer works well in a sealed enclosure of approximately 1.25 cubic feet. Since I have one handy, I mount the PWM304 in my enclosure with the wiring jumper configured for a two-ohm load. I set my subwoofer amplifier low pass filter for 100 Hz at -24 dB per octave and begin what turned into three solid hours of fun. I start with a really cool bass track from Bachman-Turner Overdrive called "Not Fragile." Produced in the early 1970s, this is one of the first recordings I ever heard that featured very well-recorded low-end bass. In the beginning of the track, bassist Fred Turner lays down a deep groove that continues through most of the song. Between Turner's bass and Bachman's kick drum and floor tom work, the track is pretty telling of a woofer's ability to reproduce rapid changes in deep bass notes. The PWM304 is easily up to the task with very good attack and decay and a nice natural-sounding timbre.

As I often do when I want to put a woofer system to the test, I dig out one of my all-time favorite bass test tracks, "Oh Yeah" by Yello. The MB Quart handles the track in stride, pro-

ducing deep, loud bass with no complaints. A few more tracks from 50 Cent, The Pussycat Dolls and Nine Inch Nails quickly prove this system will play loud and low if that's your thing — but it is so much better than that.

A truly musical woofer needs to be articulate — not just to boom, but also to reproduce the intricate details that can be found in the bass portion of music. In this area, the MB Quart woofer really rises to the occasion. Using a bunch of different tracks, including Rickie Lee Jones' "Danny's All Star Joint," Thom Rotella's "Friends" and The Barenaked Ladies with expertly-plucked stand-up bass, the sonic capabilities of the woofer impress.

Just for fun, I switch to a 1.5-cubic foot vented box to see what the difference would be. Immediately I note more output, but a distinct lack of the tight, controlled bass I enjoyed in the sealed enclosure. The woofer now has a "peaky" sound to it and seems boomy. By simply changing from a sealed to a ported enclosure, the subwoofer now favors an



# REVIEW

## MB Quart PWM304 12" Subwoofer

### MEASURED SPECIFICATIONS

- ▶ Revc = 1.990 Ω
- ▶ Fo = 24.294 Hz
- ▶ Sd = 0.0491 M<sup>2</sup>
- ▶ Vas = 55.4L or 1.958 Ft<sup>3</sup>
- ▶ Cms = 0.162 mm/N
- ▶ Mmd = 258.719 g
- ▶ Mms = 264.975 g
- ▶ BL = 10.843 T-M
- ▶ Qms = 3.673
- ▶ Qes = 0.685
- ▶ Qts = 0.577
- ▶ Levcs = 0.910 mH
- ▶ No = 0.112%
- ▶ SPLo = 82.522 dB
- ▶ EBP = 35.46

entirely different customer.

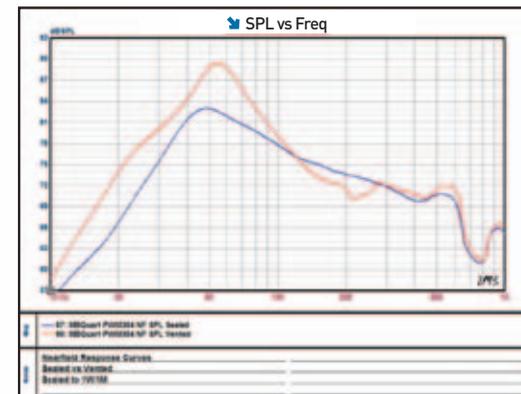
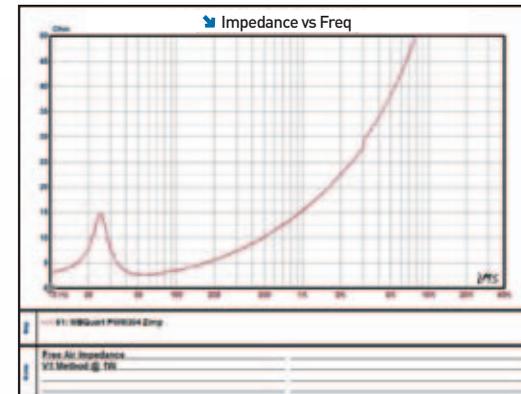
I could go on about how the MB Quart PWM304 performs impressively with very good articulation of the bass notes, well-defined chord changes and good detail, even on subtle things like the impact of the

kick pedal on the drum head. But, what it really does well is simply play music. In the right sealed box, this is a musical woofer designed for someone who appreciates sound, not just SPL. Switch to a ported enclosure and you get deep and loud bass, which is ideal for the SPL junkies.

### ON THE BENCH

Bringing the woofer into the lab, I measure its parameters. My measurements are somewhat different from those in the manual, which inexplicably only provides Thiele-Small data for the eight-ohm configuration. I also note that, with an efficiency bandwidth product of 35, this is much more of a sealed enclosure woofer. Granted it can be used in a vented application, but the sound quality will cater to a different type or music and listener.

**THIS IS A MUSICAL WOOFER DESIGNED FOR SOMEONE WHO APPRECIATES SOUND, NOT JUST SPL."**



Free air impedance

Acoustical output differences between the two enclosure types. Note the narrow peak of the vented design between 40 and 75 Hz.



### CONCLUSION

After my listening evaluation I have a better understanding of the "best sounding MB Quart woofer ever" comment I heard. While I can't say if it actually is the best sounding woofer they've ever built, I agree it does sound very good indeed. This is a woofer for a serious listener, someone who knows music and what it should sound like. Make no mistake, there are plenty of woofers that will play louder, so if you are more inclined to buy a woofer to impress the people on the sidewalk, there are better choices. But if you simply love well-produced music and don't mind giving up some output level and boom, the PWM304 should be high on your list of woofers to audition. *PAS*



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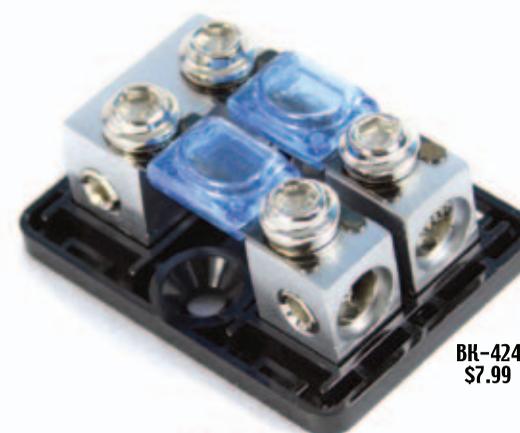
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