

# AUDIOMOBILE GTS 2110 10" Subwoofer REVIEW

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**O**ne of the biggest problems when installing a subwoofer system is the amount of cargo space we have to give up for the enclosure. Sure there are special shallow-mount subwoofers available, but more often than not they also have shallow performance. There is also a plethora of shallow-mount subwoofers out there that mount in four inches of depth, but most still need plenty of enclosure volume to work well. This results in a shallow, long and tall enclosure, still requiring quite a bit of cargo space.



[audiomobile.net](http://audiomobile.net)

This fact has not escaped the product development folks over at Audiomobile. In an effort to create a subwoofer that not only works in a very small enclosure, but also provides the sound quality and power handling you'd expect from a full-size woofer, it has introduced the GTS series. These subwoofers represent a different approach to solve the small box problem. Rather than simply create a subwoofer that will physically mount in a minimum amount of depth, they have focused on a building

a subwoofer that truly works in a small volume enclosure. To get an idea of how successful they have been in accomplishing the goal, Matt Overpeck, Audiomobile VP of Sales and Marketing, graciously provided a couple of 10-inch GTS 2110 subwoofers and two different types of enclosures for me to evaluate.

The GTS 2110 subwoofers are available in either four- or two-ohm impedances rated for 400 watts of continuous power, with a MSRP of \$249.95 [USD].





## MEASURED SPECIFICATIONS

- ▶  $R_{vc} = 1.950 \text{ ohms}$
- ▶  $F_o = 23.590 \text{ Hz}$
- ▶  $S_d = 0.035 \text{ M}^2$
- ▶  $V_{as} = 32.6 \text{ L or } 1.150 \text{ Ft}^3$
- ▶  $C_{ms} = 0.187 \text{ mm/N}$
- ▶  $M_{md} = 239.338 \text{ g}$
- ▶  $M_{ms} = 243.103 \text{ g}$
- ▶  $BL = 10.135 \text{ T-M}$
- ▶  $Q_{ms} = 4.777$
- ▶  $Q_{es} = 0.684$
- ▶  $Q_{ts} = 0.598$
- ▶  $L_{vc} = 1.901 \text{ mH}$
- ▶  $N_o = 0.060\%$
- ▶  $SPL_o = 79.831 \text{ dB}$
- ▶  $EBP = 34.49$



## FEATURES

At first glance the custom-tooled, six-spoke, fully-vented steel basket does not appear to be the typical shallow-mount subwoofer with a squashed frame. Rather, the basket design of the GTS appears to be closely related to a conventional subwoofer. But with its 4.5-inch mounting depth, it's obvious that fitment in small, shallow enclosures was intended.

The GTS subwoofer is driven by a large 150 mm [5.9-inch] magnet assembly that is connected to the basket by machined, low carbon steel top and bottom plates. The bottom plate is non-vented using a solid T-yoke to allow tight fitment to the interior wall of the enclosure. Cooling for the subwoofer is handled by what Audiomobile refers to as "FAB-RAC," or "Forced Air Bi-Radial Asymmetric Convection." This means the subwoofer frame and its six "Delta" vents are designed so the motion of the moving assembly causes airflow past the coil, with the venting allowing cool air to enter and heated air to escape.

The voice coil in the GTS 2110 subwoofer is a full two-inch, six-layer, pure

copper coil, wound on a Kapton former. Using a high-mass coil allows the subwoofer to handle higher power levels and reduce the Vas, which helps reduce the required box volume. The loss of efficiency as a result of the higher mass is compensated by the additional power handling — and we all know power is pretty cheap these days.

The subwoofer spider moves the coil to a critical location in the magnetic gap as well as compliance for excursion control. To that end, Audiomobile designers chose a large eight-inch diameter progressive design made of a Nomex/poly-cotton hybrid material. The spider also locates the integrated tinsel leads, which get electrical signals from a pair of spring-loaded terminals that accept eight-gauge wire. Because of their continuous focus on sound quality, a special aluminum "shorting-ring" that the company calls a "Flux Stabilization Device" reduces the effects of voice coil inductance modulation, based on voice coil position. The result is improved transient response and reduced distortion.

The cone shape and material used in the GTS series come directly from the higher-end Elite series woofers we had the pleasure of reviewing several months ago. These cones are made from a special material referred to as "CLS" or "Composite Laminated Sandwich" that features no fewer than six layers of synthetic fiber, Kevlar and natural fibers that are pressed into a rigid parabolic shape, and secured by a one-piece dust cap on top to increase overall strength and stiffness. Another design cue from the Elite series is the use of a nitrile butadiene rubber surround.

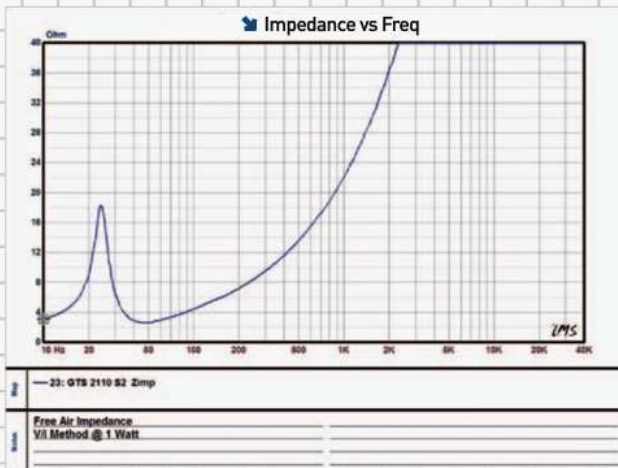
## LISTENING

The subwoofers come to me with a one-half cubic-foot sealed enclosure and a fourth-order bandpass enclosure that measures about 1.1 cubic feet. This allows me to set up the subwoofers side-by-side and switch between them to hear the differences between the two enclosures. My listening begins with a couple of old favorites for subwoofer evaluation: Rickie Lee Jones's "Danny's All Star Joint" and Wayne Pedzwaters fantastic solo on Thom Rotella's "Friends." The bass from the GTS 2110 in the sealed box is smooth

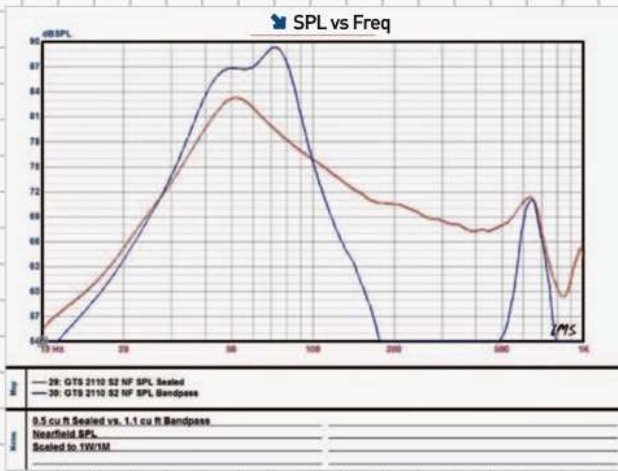


# REVIEW

## Audiomobile GTS 2110 10" Subwoofer



Free air impedance — note the low resonant frequency



Acoustical output differences between the two enclosure types.

### TECHNICAL DATA

▶ Power Handling	400 W RMS
▶ Frequency Range	20 Hz – 300 Hz
▶ Sensitivity	79.8 dB/SPL @ 1.0 W (1.414 V @ 2 ohms)
▶ Nominal Impedance	(1) 2 ohms coil



with exceptional detail in the plucked bass notes, while the kick drum is full of life.

Switching to the bandpass enclosure provides significantly greater output, but as you'd expect the detail is reduced — the sound loses some of the natural timbre I hear with the sealed version. With either enclosure, Frankie Goes to Hollywood's "Relax" sounds deep and strong and the subwoofer easily handles the power as I turn things up. I put well over 400 watts of peak power into the subwoofer with no complaints. Billy Idol's "Prodigal Son," which has some continuous low frequency synthesizers and a well-recorded kick drum, is reproduced with authority and clarity. For this track I prefer the bandpass enclosure.

The bottom line on enclosure selection is simple, if you prefer uncompromised sound quality and critical listening, the sealed enclosure is your best choice. On the other hand, if your personal tastes are more oriented to bass output, the bandpass enclosure will make you a happy camper. Audiomobile has managed to develop a subwoofer that will not only work well in small enclosures, but by changing enclosure type, it can also be used to satisfy a wide variety of user preferences.

### ON THE BENCH

The subwoofers cool and normalize overnight following my listening session. The next morning I measure the Thiele-Small parameters. As I had expected from Audiomobile, the published numbers are very accurate and can be used for modeling without reservation. As expected, the 10-inch subwoofer has high Mms, low Vas and a low resonant frequency, which is needed for proper operation in a very small enclosure. The GTS 2110 series is available in both four- and two-ohm voice coil versions, ideal for use with monoblock amplifiers.

### CONCLUSION

I have to give credit where it's due and this subwoofer rates as "mission accomplished." It sounds better than I expected in a very small box and, unlike many of the shallow subwoofers available, it isn't shy when it comes to applying some real power. It's well engineered and rugged, so it should provide years of enjoyment without taking up all of your cargo space. If you are looking for a subwoofer that will work in tight spaces, but have been unwilling to compromise on sound quality and power handling, the GTS series may be exactly what you've been waiting for. **PAS**



For additional photos, visit [pasmag.com/AudiomobileGTSsub](http://pasmag.com/AudiomobileGTSsub)