Bag End TA6000-R Portable PA Speakers

by Bruce Bartlett

Need a small PA speaker that's easy to set up and sounds good? Check out the Bag End TA6000-R. It's a two-way, ported, compact loudspeaker for portable PA, AV presentations, home theater, foreground music systems, under-balcony reinforcement and church sound reinforcement. Affordable and efficient, it features time-aligned drivers.

Features

Although the TA6000-R ($660 each without mounting hardware) is a speech-range system, it can be used with an ELF subwoofer to cover the bass end. I was impressed with the sturdy, well-constructed cabinet made of birch plywood. The finish is black, textured, catalyzed urethane. Protected by a thick perforated-steel grille, the drivers are two 6.5" vertically aligned cone woofers, with a biradial horn tweeter in the center, between the woofers. The narrow cabinet has a trapezoidal cross section.

Built into the cabinet is a 35mm stand adapter and rigging attachment points for popular mounting hardware, as well as Bag End's BRKT-1 mounting bracket and YOKE-1 yoke. The speaker's time-align design lets the listener receive the sound from the woofers and tweeter simultaneously in the crossover region.

The claimed result is improved transient response. Bag End thoughtfully provided several ways to hook up the system. On the back are two Neutrik Speakon connectors wired in parallel, two phone jacks in parallel and a single pair of dual-banana jacks. Claimed specs look good: frequency response is 95 Hz to 20 kHz (+/-3 dB), sensitivity is 95 dB SPL (1 W at 1 m), and impedance is 8 ohms.

Dispersion is said to be 80 degrees horizontal and 60 degrees vertical (6 dB down points). The horn can be rotated 90 degrees. Power handling is 150 W continuous sine wave and 600 W instantaneous peak. The system measures 22.5" high by 9" wide by 11" deep and weighs only 27 lb.

The Bag End TA6000-R is a two-way, ported, compact loudspeaker for a portable PA.

In use

I auditioned a pair of TA6000-R speakers standing free in a large room. The program material consisted of several CDs as well as a speech into a microphone. Here's how the TA6000-R reproduced various instruments:

- **Bass:** Tight or well-defined in time, but puffy in sound due to a midbass emphasis. Deep notes are weak, not weighty, but this is a speech-range speaker.
- **Drums:** Natural, good impact.
- **Cymbals:** Crisp, extended highs on axis, but dull off-axis vertically. (This is normal for a 60-degree horn.)
- **Percussion:** Sweet and crisp.
- **Piano:** Warm, slightly boomy bass and slightly hard in the mids.
- **Acoustic guitar:** Warm, smooth.
- **Voice:** Slightly tubby, but otherwise natural.
- **Sax:** Nice balance between fullness and breathy edge.
- **Electric guitar:** Plenty of aggressive edge or bite.

Overall, the TA6000-R sounds pleasant and easy on the ears, not harsh. It's pretty much uncolored on music except for the puffy midbass. But this bass bump might be a way to compensate for the lack of lows below 100 Hz. If the low-frequency response were flatter, the system might sound thin. Of course, it can always be EQ'd to taste.

I also compared the TA6000-R to a $200 studio monitor speaker, using my own voice as the test signal. I first spoke into a Shure SM-58 then into a Crown CM-200A. Compared to the studio monitor, the TA6000-R sounded a little colored and PA-like because of its midbass bump and emphasis around 2 kHz. Again, a graphic equalizer can take care of these problems.

At a Glance

Applications:
Portable PA; AV presentations; home theater; foreground music systems; under-balcony reinforcement; houses of worship

Key Features:
Black urethane finish; perforated-steel grille; 6.5" vertically aligned cone woofers; 95 Hz to 20 kHz frequency response; 95 dB SPL (1 W at 1 m) sensitivity

Price:
$660 each without mounting hardware.

Contact:
Bag End Loudspeakers at 847-382-4550

Summary

The Bag End TA6000-R loudspeaker is great for people who desire a compact, lightweight system that is easy to install. It is well-built with a smooth and pleasant sound. Bag End has made this speaker adaptable to a wide range of mounting hardware and connectors. I heard some midbass coloration from the TA6000-R when it was used with a live mic. Some competitive PA speakers have a flatter response. Still, the TA6000-R is a good value considering its small size and weight, its adaptability and its low cost. The midbass bump can be EQ'd out during the installation, resulting in a speaker that is a great buy.

Bruce Bartlett, a regular ***Pro Audio Review*** *contributor, is a senior microphone design engineer and technical writer for Crown International.*

Product Points

Bag End TA6000-R Portable PA Speakers

Plus

- Compact and lightweight
- Sturdy
- Easy to mount
- Easy to connect
- Pleasant sound with good highs, low THD
- Time-aligned

Minus

- Midbass emphasis
- Slight 2 kHz emphasis

The Score

A great sounding and versatile system — a bargain at the price.

On The Bench

Bag End TA6000-R Portable PA Speaker Bench Measurement

The TA6000-R measurements agreed well with the listening tests. **Figure 1** (please see graphs) shows the speaker's anechoic frequency response at 1 meter. on axis to the tweeter. the response is 100 Hz to 20 kHz +/-5dB — good for a speech-range loudspeaker. There's a bump at 200 Hz that contributes to the puffy bass heard in the listening tests, and a smaller bump at 1,900 Hz, which I heard when speaking into a mic.

The low end rolls off below 100 Hz. not shown is the response at 30 degrees off axis. It is down 5dB from 5 kHz to 12 kHz, which would be excessive for a studio monitor but is acceptable for an 80 degree by 60 degree horn speaker.

In **Figure 2** we see the Energy Time Curve (ETC), which correlates with the transient response and transparency. The ETC is not as good as in most studio monitors, but is good for a PA speaker. There's some delayed 5dB down from the main spike and some more about 15 dB down.

Figure 3 displays the Total Harmonic Distortion (THD) vs. frequency at 95 dB SPL, 1 meter. Looking only at the voice frequencies from 80 Hz up, the THD is very low except at 100 Hz, where it reaches 5%

—Bruce Bartlett

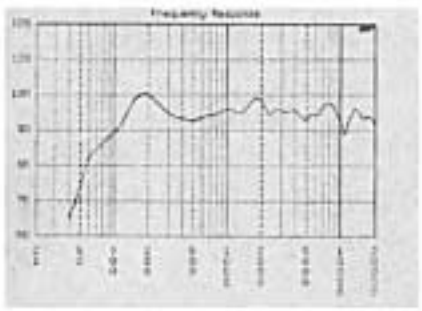

Figure 1*: Frequency response at 1 meter*

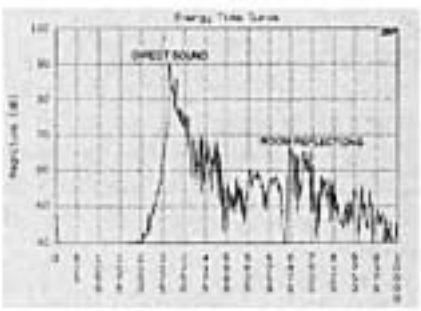

Figure 2*: Energy Time Curve*

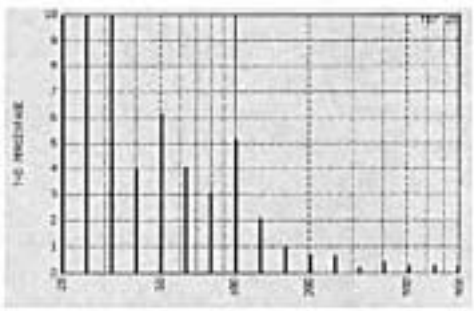

Figure 3*: THD vs. frequency at 90 dB SPL, 1 meter*