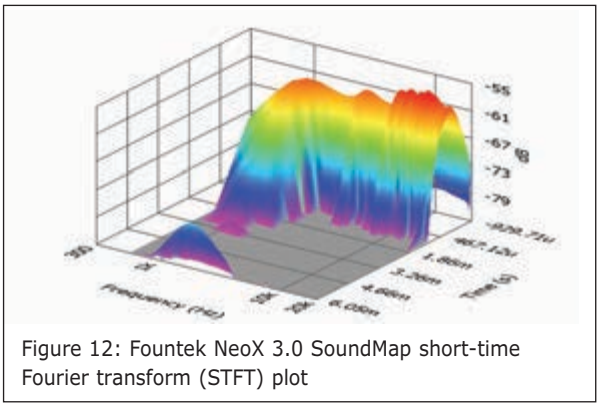

Figure 12: Fountek NeoX 3.0 SoundMap short-time Fourier transform (STFT) plot

For the last two measurements, I performed an impulse measurement, imported the data into the Listen SoundMap software, windowed out the room reflections, and created the cumulative spectral decay plot (CSD) shown in **Figure 11** and the short-term Fourier transform (STFT) shown in **Figure 12**. For more information, visit www.fountek.net.

The 25-2176S

The new TB Speaker 25-2176S 1″ dome tweeter is the latest addition to the company's tweeter lineup (see **Photo 2**). Features for the TB Speaker 25-2176S tweeter include a 25 mm wide surround coated fabric diaphragm optimized for high-frequency cutoff above 20 kHz, a unique aluminum assembly that is both self-shielding and acts as a heatsink, a unique aluminum mounting ring for screw down mounting up to 0.5″ mounting depth, ferrofluid voice coil cooling and resonance damping, plus gold-plated terminals.

Testing commenced using the LinearX LMS analyzer to produce the 300-point impedance sweep shown in **Figure 13**. The resonance for this 4 Ω device occurs at rather low (for a 1″ soft dome) 763 Hz. The DCR for the 25-2176S was 2.63 Ω, while the minimum impedance above resonance of 3.02 Ω at 2.35 kHz.

I surface mounted the 25-2176S in an enclosure that had a baffle area of 14″× 7″ and measured the on- and off-axis frequency response with a 100-point gated

Photo 2: The TB Speaker 25-2176S 1″ dome tweeter

sine wave sweep at 2.83 V/1 m. **Figure 14** shows the 25-2176S's on-axis response to be a smooth and a fairly flat ±2.4 dB from 1.96 kHz Hz to 23.2 kHz, a wide flat bandwidth for any tweeter.

Figure 15 depicts the 25-2176S's on- and off-axis response, with the off-axis curves normalized to the on-axis response shown in **Figure 16**. The associated CLIO polar plot is shown in **Figure 17**. **Figure 18** shows two-sample SPL comparison, indicating the samples were closely matched.

For the next test procedure, I again used the Listen SoundConnect and the SCM 0.25" microphone to measure the impulse response with the tweeters surface mounted on the test baffle. Importing this data into the Listen SoundMap software produced the CSD (waterfall) plot shown in **Figure 19**. **Figure 20** depicts the STFT displayed as a surface plot.

For the final test procedure, I used a pink noise stimulus to set the 1 m SPL to 94 dB (4.48 V for the 25-2176S) and measured the second- and third-harmonic distortion at 10 cm, which is shown in **Figure 21** (on a log instead of linear scale).

Based on the data, TB Speaker has brought the industry another good performing soft dome, with

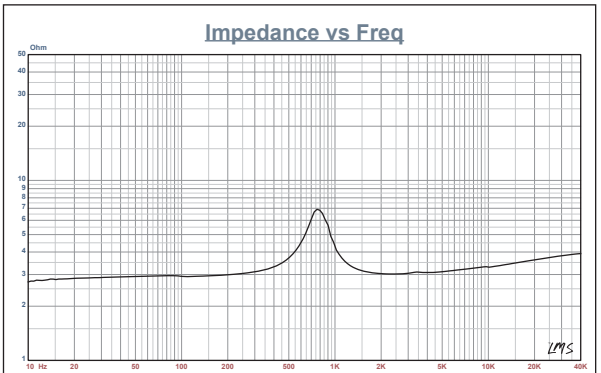

Figure 13: TB Speaker 25-2176S free-air impedance plot

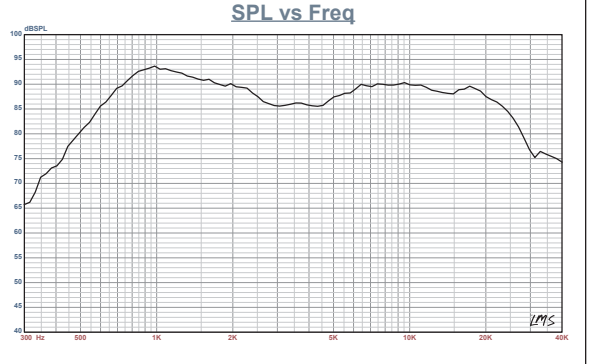

Figure 14: TB Speaker 25-2176S on-axis response

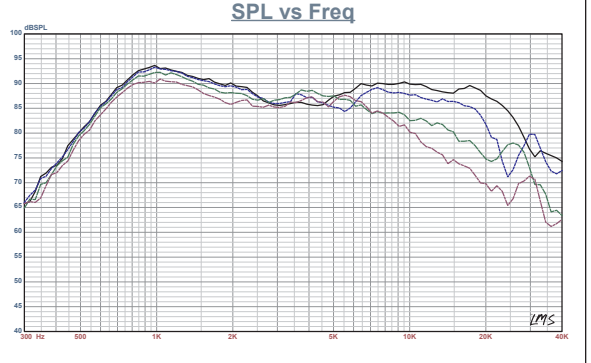

Figure 15: TB Speaker 25-2176S horizontal on- and off-axis frequency response (0° = solid; 15° = dot; 30° = dash; 45° = dash/dot)

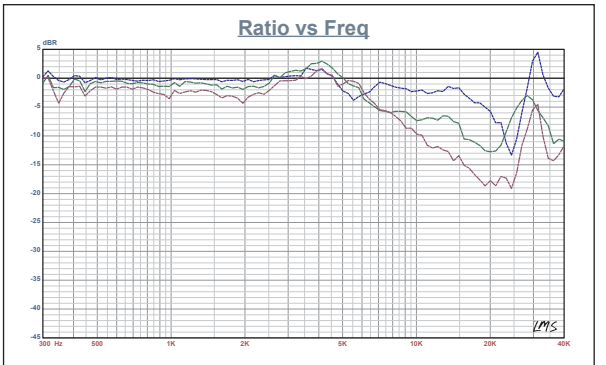

Figure 16: TB Speaker 25-2176S normalized on- and off-axis frequency response (0° = solid; 15° = dot; 30° = dash; 45° = dash/dot)

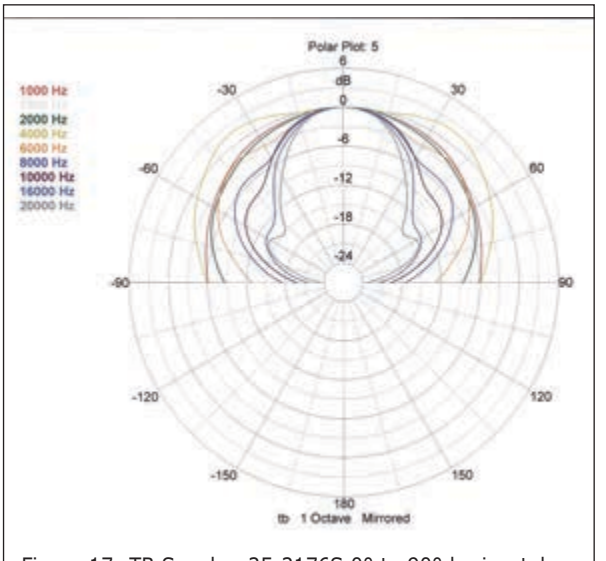

Figure 17: TB Speaker 25-2176S 0° to 90° horizontal plane CLIO polar plot (in 10° increments)

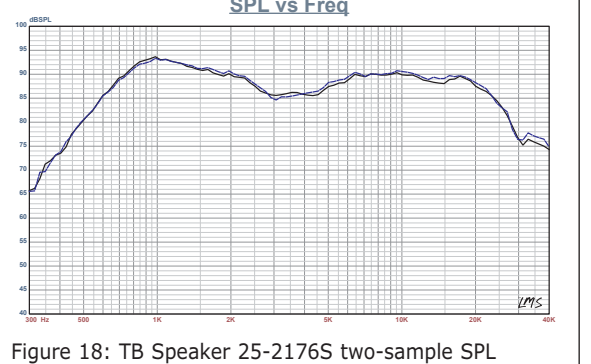

Figure 18: TB Speaker 25-2176S two-sample SPL comparison

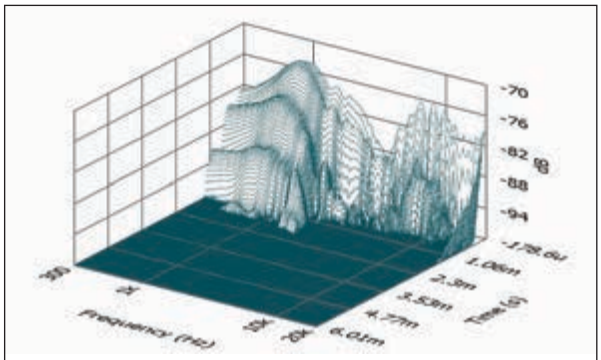

Figure 19: TB Speaker 25-2176S SoundCheck CSD waterfall plot

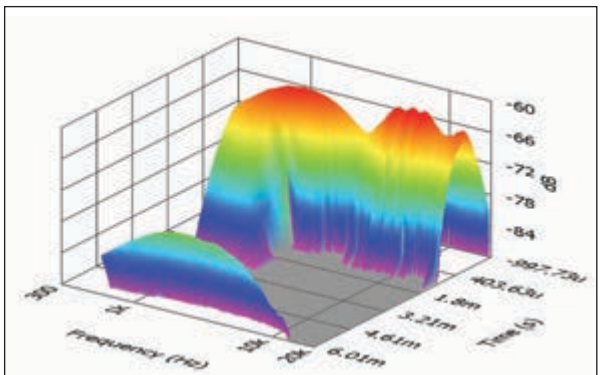

Figure 20: TB Speaker 25-2176S SoundCheck STFT surface intensity plot

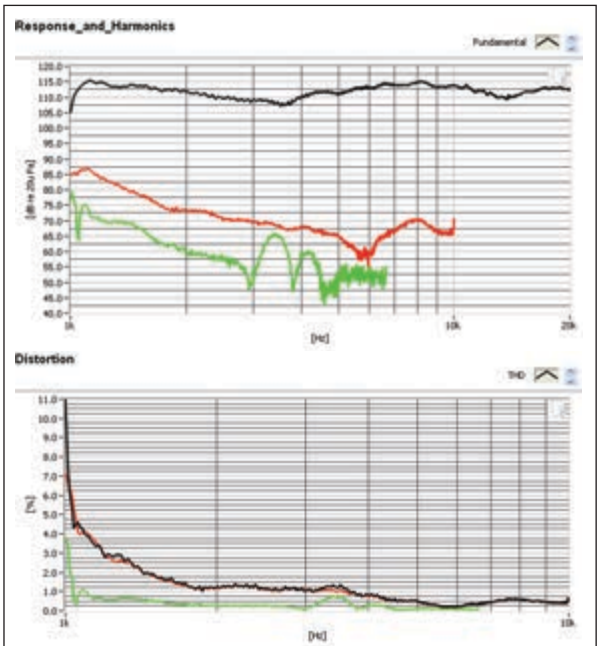

Figure 21: TB Speaker 25-2176S SoundCheck distortion plots

possible applications in car audio OEM systems. For more information, visit www.tb-speaker.com.

The 8NSM64

The 8" 8NSM64 is a rather unique new pro sound