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## TECHNOMAD OSLO REVIEW

Oct 19, 2010 12:00 PM, By John McJunkin

**A tough, weatherproof subwoofer for harsh environments.**

   comment

Plenty of manufacturers tout loudspeakers that are "weather-resistant" for use in outdoor applications, but there is only one of which this author is aware that offers "completely weatherproof" speakers: **Technomad**. Technomad offers military-grade audio solutions that are intended to keep the sound coming in the harshest of harsh environments. This type of speaker is useful for applications in which a high amount of humidity or even splashing water is present. A good example is the use of Technomad speakers (14 of them) in Scene 12 of the *Jurassic Park* attraction at Universal Studios Hollywood. Approximately 1.5 billion gallons of water are recirculated over or around them each year, and the loudspeakers have operated continuously since October 1996. These speakers are typically going to be used in outdoor applications where reliable, high-SPL sound is necessary—for instance mass transit, train yard, airport, or boat terminal sound. And according to Technomad, they're also appropriate for military applications.



So what does "completely weatherproof" mean? In this particular case, the term means that this product meets the **National Electrical Manufacturers Association (NEMA) IP56** rating. According to this rating, "Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, rain, sleet, snow, windblown dust, splashing water, and hose-directed water; and that will be undamaged by the external formation of ice on the enclosure." Additionally, the Technomad Oslo is "protected against dust," and "protected against strong jets of water from all directions." The only higher rating would make this speaker completely "dust-tight" and protected from immersion in liquid, so these are just about as close as you can get to completely impervious. Technomad introduced its **Oslo** subwoofer at **InfoComm 2010**, and I evaluated one and discovered that it is incredibly tough, and sounds quite good as well.

To dig in just a little further on the "100 percent weatherproof" claim made by Technomad, the speaker's driver is treated with a special proprietary substance to protect it from liquids (and is protected by a multilayer grille that's intended to keep liquids away from the driver altogether). The speaker's exterior cabinet is rotomolded from a plastic that is much thicker (more than 1/2in. thick in the case of the Oslo) than the injection-molded plastics that are usually incorporated in speakers (and is impervious to shotgun blasts and burning in direct gasoline flame). Technomad makes the plastic available in 14 different colors to integrate with the application's environment. The cabinet also incorporates draining holes. Technomad acknowledges that liquids can and will get inside the cabinet, so the company wants to ensure that the liquids have a direct way to get back out. This also facilitates the incorporation of a ported cabinet design to enhance the efficiency of the speaker in the low end. The cabinet is also internally braced, front to back, with stainless steel, imparting additional resilience.

The cabinet of the Oslo is 28.5in. tall, 22in. wide, and 19in. deep, and it is surprisingly hefty, although nowhere near as heavy as if it were made of Baltic birch like most other such speakers. It incorporates two flared ports to enhance bass response. Its external metal grille is small-diameter perforated stainless steel to keep out larger chunks of flying debris. Under that is a nylon mesh, followed by an acoustically transparent foam layer, which is treated with a proprietary hydrophobic coating that repels water. Within the cabinet is polyurethane foam, which acts like a massive dust filter to keep dust completely away from the driver. I'm aware of speakers made by other manufacturers to resist weather and liquids, but these speakers go way beyond anything I've ever seen before. I had a bit of a chuckle when I unpacked the speaker from its shipping box. There were no Styrofoam corner pieces or packing peanuts—the speaker was just wrapped in a plastic bag and placed in the box. There was no need for packing materials because of the toughness of the cabinet. This speaks volumes.

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Technomad doesn't provide a lot of detail about the driver, other than that it's an 18in. ferro-fluided unit with a custom cone. And as I said before, the cone is very much custom: based on paper, but after treatment, more resembling plastic. The published frequency response is 32Hz to 300Hz,  $\pm 2$ dB, so the output is pretty flat. The maximum continuous output is published at 126dB, and the maximum peak output is published as 129dB. Speaker impedance is  $8\Omega$ . The speaker's sensitivity is rated at 96dB SPL/1W/1M, so it's not hyper-efficient, but it can handle 1250W continuous power, and peaks of 2500W. The signal is introduced via two Neutrik Speakon connectors in a recessed area of the rear panel. Technomad produces the **PowerChiton** weatherproof connector which fits nicely into that recessed area in the rear of the speaker. Amazingly, the PowerChiton sports a gasketed design, which means it's completely dust-tight and can take powerful jets of water from all directions. It's not quite rated for submersion, but it's pretty close. It's available in 130W, 300W, 525W, and 1500W configurations, all at  $8\Omega$  impedance. It is optionally pole-mountable; has an integrated two-line mixer; and offers Ethernet, wireless, and twisted-pair interface options to receive streamed MP3 audio.

As to the quality of the sound from the speaker, it starts with a structural advantage, in that the various weatherproofing measures have no audible effect on the low-frequency range like they would on full-range speakers. Technomad does have several full-range loudspeakers available, and I'm not sure how it gets around this problem with those models, but that's another conversation. Certainly, all the polyurethane foam incorporated into the cabinet reduces the efficiency of the system, but to an extent, that can be overcome by sheer force. These woofers want to see 1250W with peaks of 2500W—and that does the trick. With appropriate amplification, these woofers provide very solid, full low end. I integrated them with upper-range PA speakers and found that they did precisely what they were meant to do: fill in the low end that smaller 10in. or 12in. woofers simply cannot. As to the quality of the signal, it is very good. Ported designs can suffer the "one-note bass" disadvantage, but these speakers are well-designed and do not have that disadvantage. They're not studio-monitor-quality speakers, but that's not the intention or goal of the manufacturer here. The goal is to provide substantial, decent-quality low end in extreme environments, and these speakers easily meet that requirement. If you have any applications that demand such a product, I can strongly recommend you consider the Technomad Oslo.

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## Product Summary

- **Company:** Technomad  
[www.technomad.com](http://www.technomad.com)
- **Pros:** Good-quality low-end audio for extreme environments.
- **Cons:** None to speak of.
- **Applications:** Low-frequency enhancement in harsh environments.
- **Price:** \$1,647

## Specifications

- **Dimensions:** 28.5"x22.0"x19.0"(HxWxD)
- **Weight:** 75lbs.
- **Frequency response:** 32Hz-300Hz ( $\pm 2$ dB)
- **Maximum output (continuous):** 126dB
- **Maximum output (peak):** 129dB
- **Sensitivity:** 96dB SPL (1W/1M, swept sine)
- **Continuous power:** 1250W (based on EIA test 426B)
- **Peak power:** 2500W
- **Dispersion:** Omnidirectional
- **Impedance:**  $8\Omega$  (nominal)
- **Connector:** 2x Neutrik Speakon
- **LF driver:** 18in. custom cone driver, ferro-fluided

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