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### EXTREME AUDIO

Four Planar Transducers combined with 4 x 1,000 Watt Amplifiers provide audible distances of at least 2,000 ft.

# Turbo Acoustic Hailing Device

## The Clear Voice™ 4MN-TURBO

The Clear Voice™ 4-TURBO acoustic hailing device combines the power of four planar transducers with a proprietary TURBO DSP, four 1,000 watt amplifiers, and a waterproof enclosure making it the perfect choice for long-range, mobile voice communications. Utilizing the legendary Clear Voice transducers, the system is capable of delivering live and pre-recorded commands with unparalleled clarity and intelligibility even in the most severe weather and harshest environmental conditions.

Designed from the ground up, the 4-TURBO powered speaker dramatically expands the performance capabilities in the planar family of speakers. The all-weather enclosure is designed to IP-67 standards that can withstand the most difficult ecosystems while fulfilling the military specification 810G requirements for marine environments.

With enhanced amplification and specialized DSP circuitry, long throw distances will conservatively exceed 2,000 feet (~600 meters). When powered by the rechargeable Turbo Pack, battery operation allows up to 20 hours in 'STANDARD Mode' and can be recharged in 5 hours.

Weighing just 70 lbs. the 4-TURBO can be quickly setup on a tripod stand or mounted on a vehicle with a magnetic Pan/Tilt assembly. With optional custom mounts the device can be attached to any street vehicle, All-Terrain-Vehicle (ATV), aircraft, or marine vessel.

The Clear Voice 4-Turbo system also comes in a 110AC/220AC version eliminating any run time issues and the need to recharge batteries. The AC version is ideal for use in permanent installations or on large vehicles and maritime vessels that have ample power sources.

Contact your PCSC Representative for more details: [sales@1pcsc.com](mailto:sales@1pcsc.com)

### Applications & Features:

- Police / Military / Tactical / Non-lethal
- Mass Notification
- Lock Downs / Stand-offs
- Campus Safety / Security
- Crowd Control / Public Safety
- Rescue Personnel
- Events, Stadiums, Arenas
- Command / Checkpoints
- Long Throw Planar Magnetic Speaker
- Magnetic Audio Device (MAD)
- Military Grade Technology
- Perfect Articulation
- Reduced Risk of Hearing Damage
- Unlike Conventional Megaphones
- All-weather Enclosure
- IP-67 Rate and MIL-STD 810G

### Specifications:

- Max Distance - varies based on ambient noise levels, wind speed and direction. Effective Distance: 500 meters
- dB Level at 1 meter: 126db
- Angle of Dispersion: 15 degrees Horizontal x 15 degrees Vertical
- Battery Life: 20 Hours continuous at full power. Time to Full Charge: Approximately 5 hours





## The 4MN-TURBO Technology:

Scientists have long known the dramatic effects that temperature, humidity, and wind have on sound as it travels long distances through air. In most of our day-to-day activities we're not aware of these changes. However if you could listen and compare the sound of someone talking at various distances (100', 500', and 1000'), you would begin to hear changes to the sound as it traveled over the long distances.

One of the changes you might perceive is the loss of vocal clarity or intelligibility as you moved farther from the source. This happens as a result of high frequency absorption caused in part from changes to air temperature (known as temperature gradients), humidity levels, and the terrain of the ground surface. Scientific studies have calculated that sound pressure levels (SPL) can be reduced by as much as 20-50 dB in conditions when temperature and humidity are fluctuating. This amount of attenuation can obviously reduce the intelligibility of a message as distance increases.

To overcome this phenomenon, Clear Voice invented a new digital signal processing (DSP) technology, dubbed 'TURBO', that counteracts the reduction in voice clarity caused by atmospheric conditions. When this DSP circuit is activated, it retunes the audio signal to cut through the atmosphere resulting in higher intelligibility at greater distances, even during severe weather events. Because the Clear Voice 4-TURBO can be operated in either 'Turbo' mode or 'Standard' mode (i.e. with Turbo DSP bypassed), it is recommended that when using the battery powered system and the weather conditions are calm, operate the system in 'Standard' mode as this will provide up to 20 hours of operation before its time to recharge the batteries. When operating the system in "TURBO" mode, the power consumption is increased and the battery run time will be approximately 2.5 hours. Whether operating the system in "Standard" or "TURBO" the batteries will recharge to full capacity in about 5 hours.

**Configurations:** Compact, highly portable, full-range Planar Magnetic Speaker with four 1000 watt amplifiers, a 2 input preamplifier/mixer, and rechargeable battery power. Also available in AC powered version.

**Driver:** 4 x MAD-1 planar magnetic transducers each mounted to a 500 Hz. waveguide

**Environmental Design:** Designed to meet IP-66 classification and MIL-STD-810F specifications.

**Active System:** Built-in high grade, D-Class power amplifiers (4 x 1,000 watts), one microphone level input on balanced 1/4" TRS phone connector, one stereo line unbalanced input on 1/4" TRS phone connector.

**Included Items:** 4-TURBO speaker, rechargeable battery pack, AC battery charger, Wired headset microphone, MP-3 player, and 1/4" stereo adapter cable.

**Available Accessories:** Tripod yoke adapter & tripod speaker stand; Pan/Tilt yoke on magnetic vehicle mount; wireless microphone system; hardshell road case; custom mounts for specific applications, i.e., vehicles, watercraft, etc.; spare headset microphone, spare MP3 player, spare battery & charger.

**Available Accessories:** 70 lbs. w/battery **Dimensions:** 17"H x 24"W x 14"D **Material:** Xenoy



## General Description:

The 4-TURBO combines planar magnetic transducers with proprietary DSP and amplification to create a powerful mobile communication system that can transmit verbal messages with maximum intelligibility over extended distances. The rear panel has all controls for operating the microphone, a stereo line source (such as an iPod, MP-3 player, etc.), the 3 built-in warning signals, the "mode" selection, battery level indicator, and battery charging.

With dual operating modes, the user can run the system in the 'Standard' mode with extended battery life or trigger the 'TURBO' mode for extending distance and Clear Voice MN™ processing

When operating in the 'TURBO' mode, the Clear-Voice™ proprietary DSP fine-tunes the audio signal extending the transmission distance and maintaining verbal clarity, which is naturally diminished when broadcasting at distances beyond 500 meters or when operating in extreme weather conditions.

Rechargeable Lithium Polymer batteries power the system for up to 20 hours when operating in the 'Standard' mode and approximately 2.5 hours in the 'TURBO' mode. The actual battery life can vary from these times since battery rate of discharge is dependent on the loudness of transmission and frequency of use. When operating the system on AC power, run time and battery charge is not an issue.