AT800 Ultrasonic Transmitter

Product description:

The AT800 is a portable ultrasonic transmitter that is designed for field research. It employs eight wide bandwidth ultrasonic elements along with a multi-element horn enclosure to produce ultrasonic transmissions over a full 360 degree field of view in azimuth and 30 degrees in elevation.

The AT800 is designed to be operated by a Windows based lap-top computer. It connects a lap-top through a high speed USB 2.0 interface. The bundled GTools$_{tm}$ playback software allows the user to select prerecorded files and play them through the AT800. The software supports the industry standard WAV file format and works with files generated by SPECT'R as well as time expanded detectors recorded by SonoBat (www.sonobat.com). Optionally, a Flash memory capability can be incorporated to allow the device to operate as a stand-alone transmitter.

Figure 1: AT800

The AT800 requires less than 20 Watts of operating power. It is designed to be powered using 115V AC power, which can be supplied by a 12V battery along with a suitable power inverter.

Specifications:

Frequency Range : 20 to 120 KHz (see graph)

Maximum Transmit Power : 100 dB SPL @ 50KHz

Dynamic Range : > 70 dB

Interface: USB 2.0 (High-Speed)
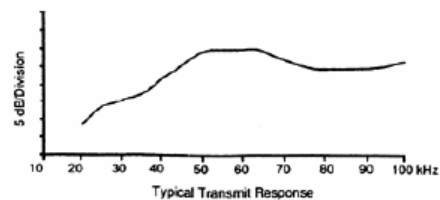
Power Requirements : < 20 Watts

Figure 2: Frequency Response

Contact information:
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Easy To Use:

       Plug the AT800 power cord into a 115V socket. This can either be supplied by a wall outlet or a 12V battery with a power inverter. Next, plug the AT800 USB cable into either a desktop or notebook computer and run one of the GTools$_{tm}$ applications (see the GTools$_{tm}$ manual or product brochure for further information and installation details).

Elevation Beam Pattern Considerations:

       The elements of the AT800 are tipped slightly to bias the beam pattern downward by 15 degrees. This optimizes the overall pattern such that the AT800 can be employed from either an elevated position that is near a ceiling or from a position near the floor. The AT800 includes 1/4-20 mounting thread on both the bottom and the top to allow mounting the AT800 in either an upright or inverted orientation. When operated from an elevated position or near a ceiling, the AT800 should be operated in an upright orientation (figure 3). When operated in non-elevated position or near a floor, the AT800 should be operated in an inverted orientation (figure 4). This optimizes the pattern to cover the widest possible area.
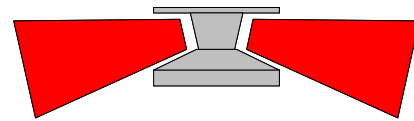

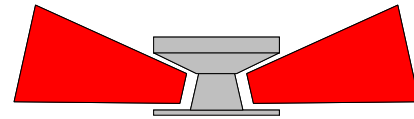Figure 3: Upright response
(for use elevated or near ceiling)

Figure 4: Inverted response
(for use non-elevated or near floor)

Minimum System Requirement (required by GTools$_{tm}$)

1.2GHz Pentium M processor or equivalent
256Mbytes RAM
Windows 98SE/ME/2000/XP