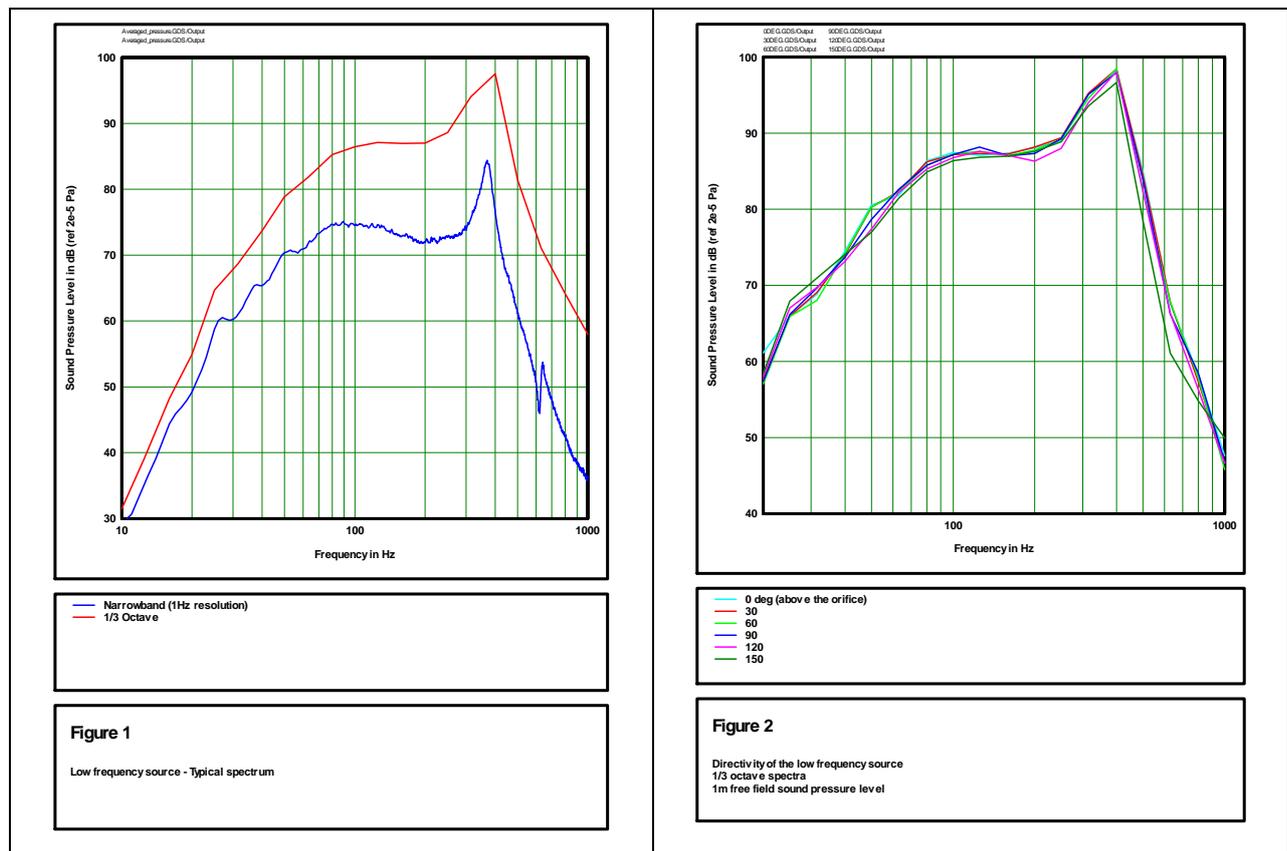


Specification for the Mk.II Low Frequency Omni-Directional Sound Source

The Low-Frequency Sound Source consists of a driver unit which is usually driven by the Noise Source Power Unit – an amplifier with integrated signal generator.

The driver unit orifice contains a small microphone that is connected to a preamplifier in the base of the unit. The output from this is available on a BNC socket on the base of the sound source. The microphone system produces an approximation to the free-field sound pressure level at 1 metre and this fulfils two roles: it allows integrity checking of the system, as well as real time measurement of acoustic transfer functions.



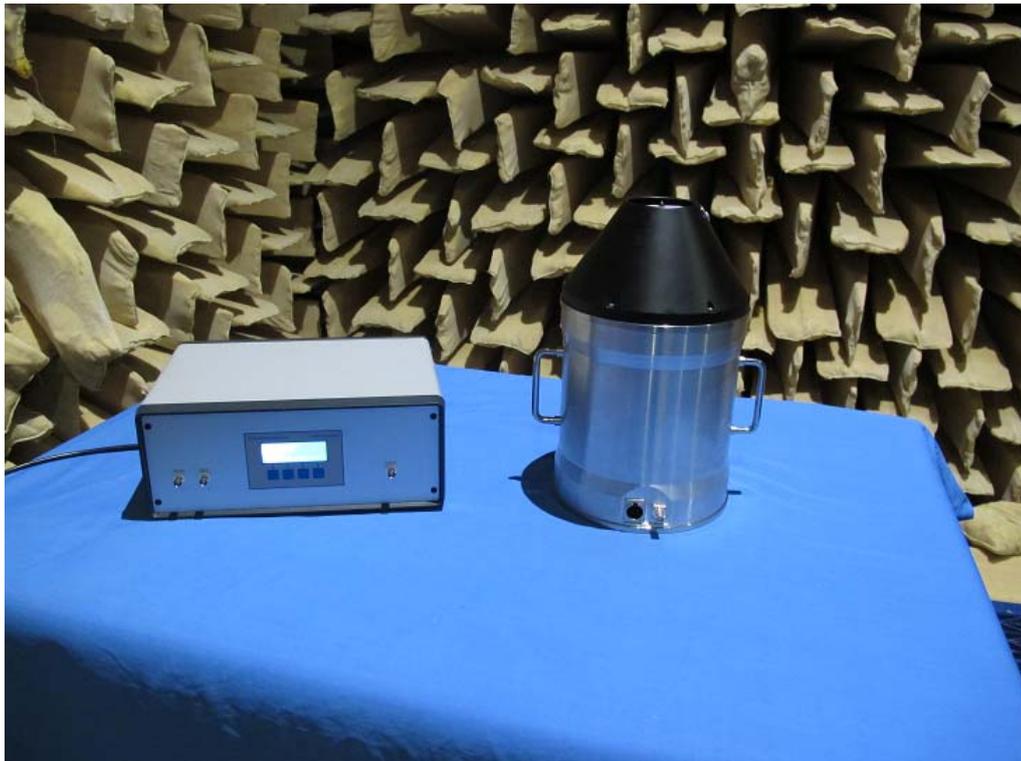


Figure 3. Low frequency source and the noise source power unit

The Noise Source Power Unit is a combined signal generator and power amplifier designed to drive a number of different Sound Sources.

The Noise Source Power Unit can drive the Low-Frequency Omni-directional Sound Source that covers the range 20 Hz to 500 Hz and the High-Frequency Omni-directional Sound Source that covers the range 200 Hz to 10 kHz. The unit will also drive the Tailpipe and Intake Noise Simulator (TINS).

The Noise Source Power Unit is a stable and calibrated device that produces a consistent and repeatable acoustic output from the various Sound Sources.

The Noise Source Power Unit provides filters that are selected automatically when a Sound Source is connected. Each Source has its own connecting cable with a connector unique to the Source. The Power Unit contains a digital signal processor, a Class D audio amplifier and a power supply. The processor produces white noise, pink noise or a swept sine wave, and can accept and process an external input signal.