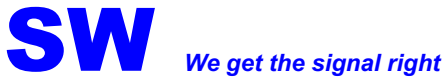


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## Sound Viewer Base Module

Part No.	Software Functionalities	Hardware
1. Sound Viewer Base Module	<ol style="list-style-type: none"> <li>1. Capable of locating multiple sound sources in 3D space simultaneously over the frequency range of 20 – 20,000 Hz</li> <li>2. Capable of providing high accuracy in source localization (e.g., &lt; 0.01 m @ 30 dB SNR over 20 – 20,000 Hz) within the effective working range<sup>1</sup></li> <li>3. Capable of providing high spatial resolutions in source localization (e.g., &lt; 0.01 m @ 30 dB SNR over 20 – 20,000 Hz) within the effective working range<sup>1</sup></li> <li>4. Capable of providing high repeatability in source location (e.g., &lt; 0.01 m @ 30 dB SNR over 20 – 20,000 Hz) within the effective working range<sup>1</sup></li> <li>5. Capable of providing high accuracy in sound pressure reconstruction (e.g., &lt; 1 dB @ 30 dB SNR over 20 – 20,000 Hz) within the effective working range<sup>1</sup></li> <li>6. Capable of providing the same dynamic range as microphone (e.g. 147 dB re 20 <math>\mu</math>Pa)</li> <li>7. Capable of revealing time-space-frequency-visual-audio interrelationships of the sound fields and sound sources</li> <li>8. Capable of handling both incoherent and coherent sound sources</li> <li>9. Capable of handling both stationary and non-stationary sound sources</li> </ol>	<ol style="list-style-type: none"> <li>1. One 3D Six-Channel Microphone Array</li> <li>2. One 8-channel simultaneous data acquisition system, 24-bit, 100 kHz sampling frequency, six channels for six microphones, two channels for reference signals</li> <li>3. Six ½” prepolarized free-field condenser microphone, with 50 mV/Pa (+/-1.5 dB) sensitivity over 3.15 Hz - 20 kHz (+/-2 dB) range, and ½” ICP® preamplifier (426E01) and TEDS</li> <li>4. Six low-noise coaxial cable, blue TFE jacket, 10-ft, SMB female to BNC plugs</li> <li>5. One Power Cord, AC, U.S., 120 VAC, 2.3 meters</li> <li>6. One GERI Mini Face Detection Security USB Camera, with 1600 × 1200 pixels</li> <li>7. One Bouch 62-inch Professional Digital Camera tripod</li> </ol>

<sup>1</sup> The effective working range is defined as the conical region as seen in the camera view with its radius ranging from  $L$  to  $3L$ , where  $L$  is the overall length of the microphone rod.



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	<ol style="list-style-type: none"> <li>10. Capable of handling both narrow- and broadband sound signals</li> <li>11. Capable of displaying SPL over the entire space covered by the camera</li> <li>12. Capable of providing Sound Pressure Level (SPL) and sound pressure spectra at sources locations in linear and A-weighting scales</li> <li>13. Capable of providing SPL and spectrum in 3D space in linear and A-weighting scales</li> <li>14. Capable of providing Sound Intensity Level (SIL) and sound intensity spectra in linear and A-weighting scales</li> <li>15. Capable of providing Sound Power Levels and sound power spectra at any user-defined surface area in linear and A-weighting scales</li> <li>16. Capable of performing CAT scan to pinpoint the source location with a super resolution</li> <li>17. Capable of functioning at negative signal to noise ratio</li> <li>18. Capable of automatically suppressing the impacts of random background noise and reverberation effects in a non-ideal working environment</li> <li>19. Capable of extracting SPL values of target sources in a highly non-ideal environment where the signal to noise ratio is negative</li> <li>20. Capable of extracting and playing back the target source signals in a highly non-ideal environment where the signal to noise ratio is negative</li> </ol>	<ol style="list-style-type: none"> <li>8. One professional carrying case</li> </ol>
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**Microphone Array Specifications**

**Overall Weight:** 2.2 kg (Microphone array plus data acquisition unit)  
**Overall Height:** 0.59 m (From the base to highest point of the array)  
**Overall Width:** 0.60 m (Maximum microphone array span distance)  
**Overall Depth:** 0.38 m (From the front tip to the back of the array)