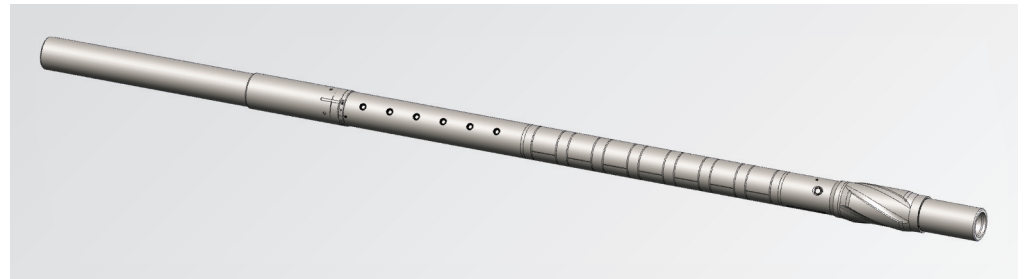
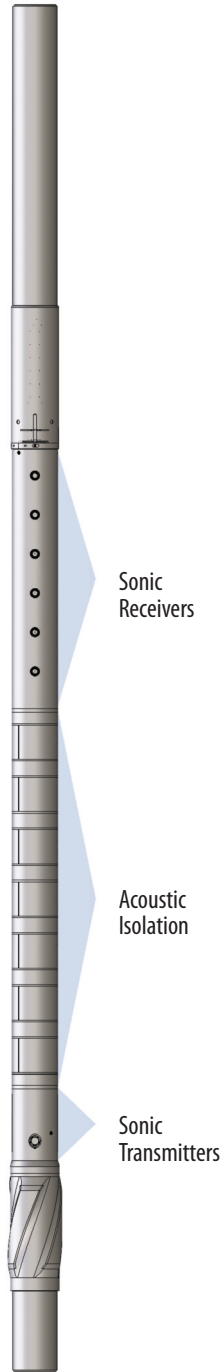


# Full-Wave Sonic (FWS™) Tool

APS Technology's Sonic is a formation slowness measurement tool designed for wireline-equivalent Logging-While-Drilling (LWD) and Measurements-After-Drilling (MAD) services. High-resolution data is stored in downhole memory for retrieval and processing during trips. Sonic's features include:

- > Real-time telemetry values:
  - »  $\Delta t_c$  @ 1  $\mu\text{sec}/\text{ft}$  resolution
  - »  $\Delta t_s$  @ 1  $\mu\text{sec}/\text{ft}$  resolution
  - » 1st and 2nd coherence peaks "strength" @ 4, 6 or 8 bits (compressed VDL)
  - » Magnetic toolface
  - » Transmitter and receiver health indicators
- > Waveform stacking mode: 2 - 8 accumulated waveforms per receiver; 100 msec to 1 sec measurement intervals
- > Double-redundant (dual) 10 - 12 kHz transmitters
- > Six receivers located 6.0, 6.5, 7.0, 7.5, 8.0 and 8.5 ft from transmitters
- > Full waveform recording in memory
- > Hatch cover for easy access via cable for tool programming and memory dump
- > Full SureShot™ Control Center (SSCC™) and APSPlot™ support
- > Compatible with 3rd-party petrophysics and geophysics packages via DLIS, LAS, ASCII and WITS



## Product Specifications

General Specifications	
<b>Diameter</b>	4.75 in. (121 mm), 6.75 in. (172 mm) and 8.0 in. (204 mm)
<b>Measurement Range</b>	40-189 $\mu\text{sec}/\text{ft}$
<b>Accuracy</b>	$\pm 1 \mu\text{sec}/\text{ft}$
<b>Precision</b>	1/2 $\mu\text{sec}/\text{ft}$
<b>Vertical Resolution</b>	3 ft
<b>Recording Time</b>	200 hours
Environmental	
<b>Operating Temperature</b>	32° to 302°F (0° to 150°C); 347°F (175°C) option
<b>Maximum Pressure</b>	20,000 psi (137.9 MPa)

**Headquarters ♦ Wallingford ♦ USA**  
7 Laser Lane, Wallingford, CT 06492 USA  
Phone: 860.613.4450 ♦ Fax: 203.284.7428  
contact@aps-tech.com

Rev. 151028-vA.01  
Specifications subject to change without notice.  
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