



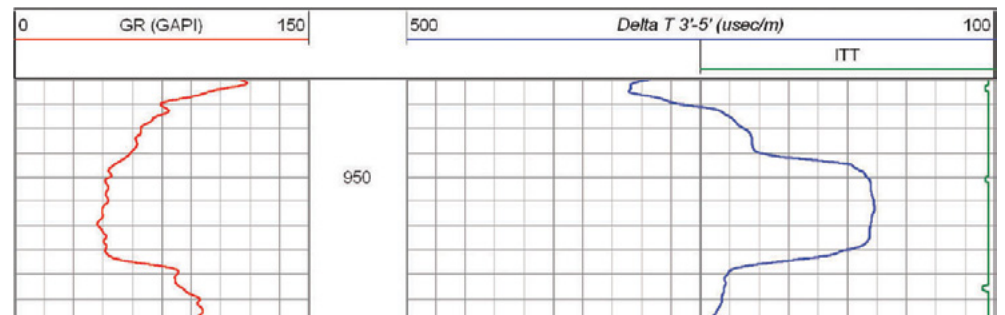
The Multi Array Sonic (MAS) tool provides quality broadband compressional measurements of both hard and soft rock formations. The MAS tool helps to assess/confirm formation porosity. Shear information may be obtained allowing assessment of formation mechanical strength and integrity.

The MAS tool provides a set of eight acoustic waveforms, at 6 in. intervals, which are located between 10 and 13.5 ft away from a variable frequency acoustic source. Acoustic waveforms are generated simultaneously in short-spaced and/or long-spaced arrangements to provide real-time compressional measurements in both open and cased hole environments. This yields real-time, borehole-compensated formation Δt or porosity information. In addition, full waveforms are also recorded for post processing to determine formation slowness and rock properties.

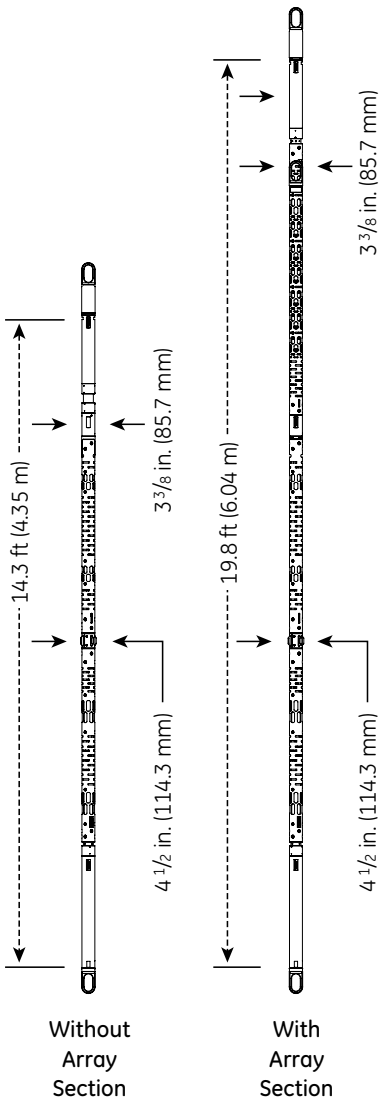
Acoustic data acquired by the MAS tool may be post processed using MASWare to obtain compressional Δt , shear Δt and formation rock properties (under certain borehole conditions). MASWare includes both semblance and instantaneous frequency slowness processing for difficult data sets and array waveform data sets.

Features

- User-selectable frequency transmitters fire alternately to provide compressional wave travel time; frequency can be selected from 6, 8, 10, 12, and 18 kHz
- Any combination of the five modes can be run simultaneously to obtain required information in one pass
- Proprietary (patent-pending) Sondex design provides strength, rigidity, and acoustic isolation
- Records four simultaneous real-time measurements, as well as recorded full waveforms
- Can be run with or without the array section
- Can be run as a CBL
- Can be run in both open- and cased-hole environments
- Fully compatible with Sondex Ultrawire* tools
- Compact design puts sensors closer to bottom requiring less rat hole



Multi Array Sonic (MAS) tool



Specifications	
Maximum OD	3.375 in. (85.7 mm)
Makeup Length (w/array)	19.8 ft. (6.04 m)
Makeup Length (w/o array)	14.3 ft (4.35 m)
Weight (w/array)	340 lb. (154 kg)
Weight (w/o array)	240 lb. (109 kg)
Maximum Temperature	302° F (150° C)
Maximum Pressure	20,000 psi (137.9 Mpa)
Minimum Hole	6 in. (152 mm)
Maximum Hole	16 in. (406 mm)
Tensile Strength	50,000 lb. (22,700 kg)
Compressive Strength	1,200 lb. (544 kg)
Sensor Offsets	
Near Receiver	67.0 in. (2.6 m)
Far Receiver	127.0 in. (3.2 m)
Array 1	163.0 in. (4.1 m)
Array 2	169.0 in. (4.3 m)
Array 3	175.0 in. (4.4 m)
Array 4	181.0 in. (4.6 m)
Array 5	187.0 in. (4.7 m)
Array 6	193.0 in. (4.9 m)
Array 7	199.0 in. (5.1 m)
Array 8	205.0 in. (5.2 m)

Borehole Conditions	
Borehole Fluids	Fresh, Salt, Oil
Maximum Logging Speed	75 ft/min (23 m/min)
Tool Position	Centralized
Measurements	
Accuracy	2 μs
Vertical Resolution	0.5 ft. (0.15 m)
Depth of Investigation	3-5 ft. spacing 6.0 in. (0.15 m)
	10-12 ft. spacing 1ft. (0.30 m)
Measurement Range	43-300 μs/ft (141 - 984 μs/m)
Primary Curves	Formation slowness, porosity, integrated travel time
Hardware & Power Requirements	
Tool Bus	Ultrawire*
Power	930 mA (18V DC)

Specifications courtesy of GE Oil & Gas



alliedhorizontal.com