

ABI-40-Full Waveform Acoustic Televiwer

The next generation to the televiwer field was the ABI-40, a new generation Acoustic Televiwer. Originally designed to log faster and with additional operating selections than the Fac-40 the ABI-40 was designed with faster micro processors and digital downhole processing but with a smaller focused transducer head. This allows the operator to get better images in smaller holes and run at faster baud rates. During the testing and development additional information was acquired which lead to a multifunctional tool. This tool not only acquires open-hole ATV data but has also been used to measure fractures behind PVC pipe and measure the thickness of steel casing and identify casing cracks and breaks when brushed. Technical specifications are as follows:

Length	63” (160cm)
Diameter	1.6” (40 mm)
Weight	13.6 lbs (6.2 Kg)
Pressure Rating	2940 Psi (200 bar)
Use	44 mm to 40 mm holes sizes 2” to 16”
Operating temps	32 –158 Deg F(0-70 Deg C)
Measurement range	Very high resolution borehole acoustic televiwer.

Orientation	With APS Sensor – 3 axis mag/inclinometer package
Accuracy	
Inclination	0.5 deg
Azimuth	1.0 deg
Resolution	< 2mm. Fractures to 0.05
Head Focal Length	6”
Rotational speed	11 RPS

The ABI-40 televiewer is a centralized acoustic televiewer redesigned to log more efficiently with higher baud rate communications. It is a full waveform televiewer which allows the operator to acquire data faster and selectively acquire based on time fracture data behind PVC pipe and measure steel casing thickness.

The comparisons done by Southwest show a data quality of equal value to the ATV in holes greater than 6” for which it was designed.

One of the large benefits to the using the ABI-40 is its ability to measure the casing thickness and measure open fractures behind PVC due to its Full Waveform data acquisition. This waveform is analyzed, timing gates are set in the field and then the data is post processed in a number of steps to complete the analysis. For field output some of this data can be processed on site for a “1st look” so operators will be able to provide clients this data on site relatively quickly in PDF formats.