### **PROBES**

## HIGH RESOLUTION ACOUSTIC TELEVIEWER (HRAT)





The High Resolution Acoustic Televiewer (HRAT)® provides a continuous high-resolution oriented ultrasound image of the borehole wall.

The probe uses a fixed acoustic transducer and a rotating acoustic mirror to scan the borehole walls with a focussed ultrasound beam. The amplitude and travel time of the reflected acoustic signal are recorded as separate image logs.

Features such as fractures reduce the reflected amplitude and appear as dark sinusoidal traces on the log. The traveltime log is equivalent to a 360-arm caliper and shows diameter changes within open fractures and 'break-outs'. Directional information is also recorded and used to orient the images in real time.

**GeoCAD® Televiewer Module:** is a Windows-based package for processing, interpreting and displaying acoustic and optical televiewer image logs. Standard log presentations include tadpole and stick plots, stereographic projections of poles to planes and azimuth frequency diagrams. The synthetic core display allows convenient comparison of log and field data for orientation of fractured or incomplete core sections.

#### **SPECIFICATION:**

# **Applications**

Fracture identification and orientation
Stratigraphic studies
Local stress studies (break-out)

Core orientation
Cased-hole studies

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#### Operating Conditions

Borehole Type: Fluid filled

Recommended Logging Speed: 2.5m/min

# **Specifications**

1.99m (78")

	Diameter:	42mm
ĺ	Length:	1.99m
ĺ	Weight:	5kg
Ī	Temperature (max):	70°C
	Transducer type:	1.5MHz piezo-composite
Ī	Rotation rate:	5 – 20rev/s
	Sample rate:	up to 360/rev

## Part Numbers

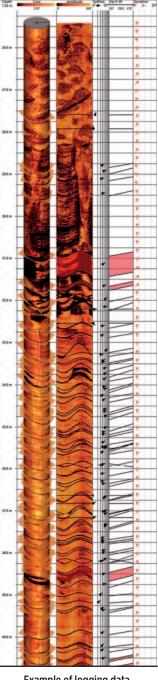
 1002184
 HRAT® probe

 1002192
 HRAT® including natural-gamma

GeoCAD® Televiewer Module

I020248 GeoCAD® Televiewer Module





Example of logging data



High Resolution Acoustic Televiewer (HRAT)® Probe

Acoustic Mirror

Acoustic Transducer