

New generation of OBI40 Optical Borehole Imager - OBI40-2G

01.01.2015

New design, higher digital image resolution, faster logging speed to record unsurpassed borehole image quality!



Dear Customer,

Driven by our goal to improve the quality and performance of our products, ALT and Mount Sopris Instruments are pleased to announce the release of the **second generation** of their **40mm optical televiewer** – rated **70°C (158°F) / 200 bar (2900 PSI)** - the **OBI40-2G**.

This new generation instrument is the result of our high level of experience in developing and manufacturing borehole logging tools. The OBI40-2G incorporates the latest generation of CMOS digital image sensor with an active pixel array of 1.2 Mp and matching fisheye optics. It produces an extraordinarily clear, sharp, 360° continuous, oriented digital picture of the borehole wall which makes it the perfect tool for lithological, mineralogical and structural analyses.

A new software interface is also delivered with the equipment to assist the operator in optimizing the tool parameters for the borehole logging. New WellCad image processes will also be released soon in order to provide new innovative methods for image interpretation.

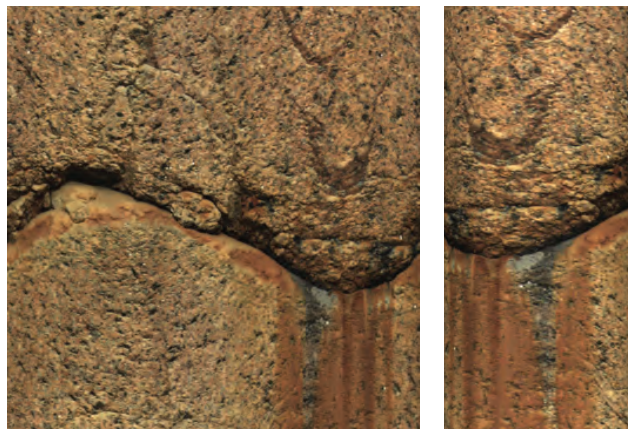


Figure 1 : unwrapped image and 3D view of a fracture in granite (azimuthal resolution : 900 pixels - vertical resolution : 1mm)

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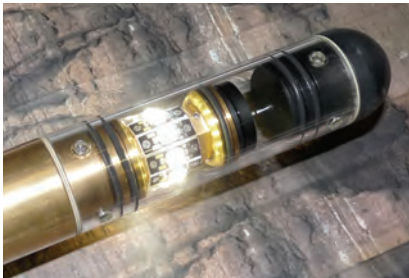
OBI40-2G . Minimum Software – Firmware requirements

Software

- LoggerSuite 11.2
- Wellcad 5.0 build 1103

Firmware

- Matrix: 113-118-100
- Jazzlogger: 108



OBI40-2G - Quick review

1. New optical assembly and electronics design
2. Slim hole 40mm diameter tool
3. High sensitivity CMOS digital image sensor
4. Fisheye lens
5. High efficiency LED light source
6. Higher image resolution - up to 1800 pixels over the borehole circumference
7. Faster logging speed
8. Software interface reviewed for optimizing the tool settings
9. Higher temperature and pressure rating : 70°C (158°F) / 200 bar (2900 PSI)
10. lifetime factory color calibration

OBI40-2G - New features in details

Image sensor and light source

Sensor.....	1/3" high sensitivity CMOS digital image sensor
Color resolution	24 bits RGB true colors
Light source.....	High efficiency LEDs
Optics.....	Fisheye lens

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Tool settings and commands - New software interface

- The system offers multiple options for the display of the azimuthal resolution: points (PPT), millimeters (mm), inches (in) or pixels per inch (PPI).
Resolution values are automatically calculated for the selected borehole size and for each display option.
- The system suggests a recommended vertical depth sampling rate for the selected azimuthal resolution. A link can be activated to apply automatically the recommended vertical sampling rate in the “acquisition” panel of the dashboard.

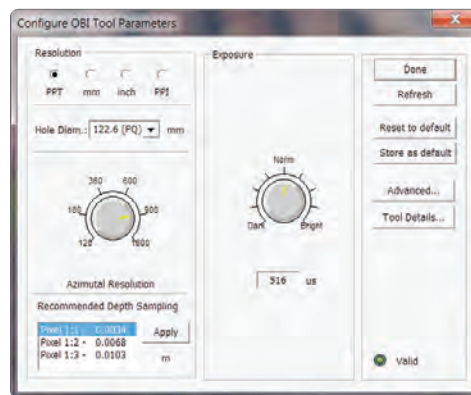


Figure 2: Tool settings dialog box

- The choice of azimuthal resolution values is extended. 120, 180, 360, 600, 900 and 1800 pixels over the borehole circumference are now possible.
- Control of the image sensor exposure is user defined
- An histogram view is available to visualize the luminance and RGB colors distribution during the acquisition. The histogram view helps the user to set the adequate exposure level for the borehole conditions.

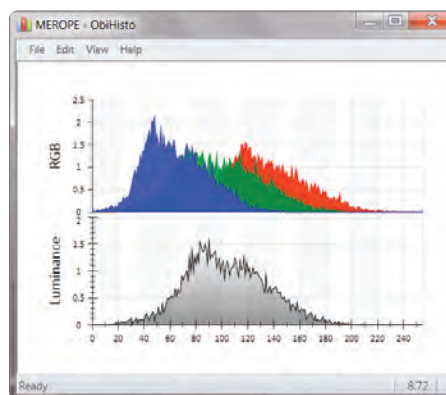


Figure 3: Tool settings dialog box

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Image resolution and quality

The new OBI40-2G produces an extraordinarily clear, sharp, 360° continuous, oriented digital picture of the borehole wall that makes it the perfect choice for lithological, mineralogical and structural analyses.



Figure 4: Image comparison OBI40-2G vs OBI40-1G

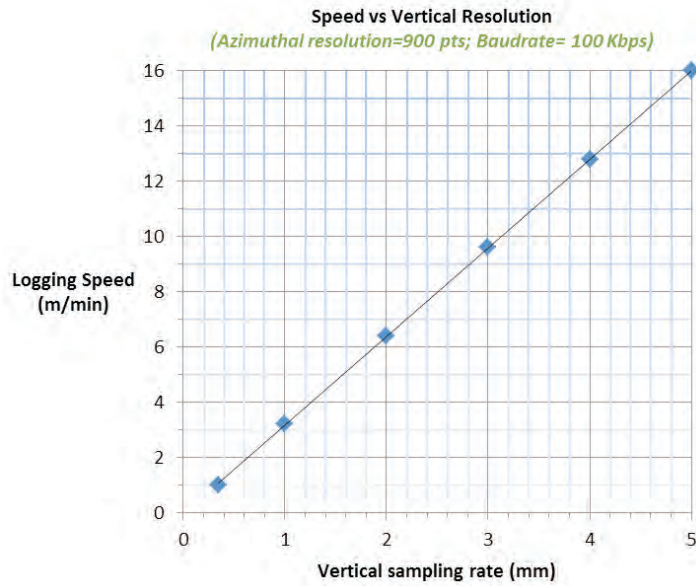
Logging speed

The combination of a powerful processor performing real-time compression of the digital image and the high frame rate of the image sensor allows the tool to record higher image resolution at faster logging speeds on conventional wirelines. As an example, a logging speed of 6 m/min can be achieved with the following tool configuration:

- Baudrate set at **100 kbps**
- Azimuthal resolution : **900 pixels**
- Vertical resolution : **2mm**

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Field data

