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TERRASPEC HALO

Fast, Precise Mineral Exploration



PANalytical Boulder (formerly ASD Inc.), the leading manufacturer of near-infrared (NIR) mineral analyzers, introduces the next generation of mineral analysis products for the mining and geologic communities: the PANalytical TerraSpec® Halo. The TerraSpec Halo mineral identifier is the lightest and fastest NIR instrument available for the exploration geology market - an all-in-one handheld full range NIR device.

Point + Click = Mineral!

Never again battle with cables or cumbersome third party devices! With one pull of a trigger, this revolutionary instrument delivers mineralogy results in seconds. These near immediate results significantly speed exploration efforts, increase efficiencies, improve analysis and decision making, and ultimately save mine operators valuable time and money. The handheld TerraSpec Halo is the latest introduction to the well-known and trusted TerraSpec line of mining instrumentation from PANalytical.

Throw it in a backpack, throw it in the truck!

The rugged TerraSpec Halo produces immediate on-instrument results for the field or mine geologist using a non-destructive contact measurement. Easy to use with settings for non-geologists, the TerraSpec Halo provides mineralogy information to direct field or drilling programs on the fly, or for quick confirmation sampling at the mine.

Spectral analysis of minerals has never been so simple! The TerraSpec Halo is a full-range NIR spectrometer measuring the visible and short wave infrared regions (350-2500 nm) and includes on board GPS, audio recorder and internal references to allow for easy operation and data management. It also features proprietary, state-of-the-art mineral identification software for fast data capture in the field, and easy data management back in the lab or core shack. The extensive reference library can be customized for your deposit or deposit type to further improve measurement accuracy and speed. A custom-designed holster comes with the instrument for easy use in the field.

Unique applications:

Mineral/Energy Exploration
Alteration Mapping
Greenfields/Brownfields Exploration
Outcrop
Hand Samples
Drill Cuttings
Core Logging
Clay Species Analysis
Excavation Wall Confirmation

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TerraSpec Halo Benefits

- **Handheld:** Lightweight design and ruggedness allow for unprecedented portability. The fully integrated, full-range spectrometer with on-board mineral identification software eliminates the need for cumbersome cables or third party devices.
- **Fast and Accurate:** Powerful on-board software allows for mineral results in seconds, including confidence rating and spectral scalars that give you even more information about your deposit.
- **No Cables:** Don't get tangled up in fragile cables from your spectrometer to your contact probe. And don't worry about putting down your third party PDA and losing it. The TerraSpec Halo is an all-in-one device – one hand, one click.
- **Simple Mineral Data Capture and Handling:** Data can be automatically saved on the instrument and later exported to any Windows computer. Use the intuitive Halo Manager software for easy file naming, clear graphical spectrum and results review, and unprecedented spectrum management and export tools.
- **No More Lost Notes or Locations:** GPS and voice memo features allow you to geotag and record audio notes with every measurement.
- **Extensive Spectral Library:** Comprehensive multi-continent, ever-expanding mineral spectral library. Or utilize the USGS library or customize your own!
- **Immediate Multi-Mineral Results and Scalars:** TerraSpec Halo doesn't give you just one mineral prediction. It gives you multi-mineral predictions, confidence levels and spectral scalars that allow you to monitor crystallinity changes, subtle shifts in alteration patterns and compositional changes associated within geochemical gradients.
- **User-Friendly Features:** Highly portable, the TerraSpec Halo is designed with audio and visual tools for easy operation, fast data collection and superb workflow. With a few clicks, optimize performance for both light or dark rocks.
- **No Third Party Hardware:** Everything you need for the field is on the device. Download your spectral data from the TerraSpec Halo to your own laptop where you can export the data to The Spectral Geologist (TSG®), Leapfrog or other third party software tools of your choice.
- **Spectrum Management:** Review spectra on the device or on your laptop. Laptop software allows for easy spectrum management with user-friendly file naming, spectrum review and tagging, and easy import/export capability.

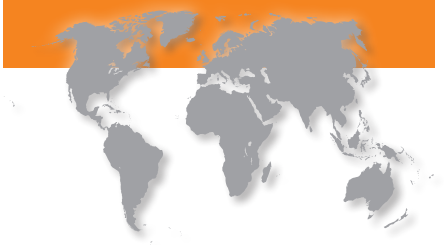
TerraSpec Halo Specifications

Spectral Range (nm)	350 - 2500
Spectral Resolution	3 nm @ 700 nm 9.8 nm @ 1400 nm 8.1 nm @ 2100 nm
Height x Width x Depth	cm: 31 x 10 x 30 in: 12.3 x 4.0 x 11.7
Weight with battery	2.5 kg 5.5 lbs
Weight without battery	2.0 kg 4.3 lbs
Languages	English, Spanish, Chinese



Ultimate Portability. Ultimate Utility. The TerraSpec Halo is THE mineral identifier tool for the modern geologist.

Global and near



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