

Specifications	oreXpress
Spectral Range	350-2500nm
Spectral Resolution	3nm (350-1000nm) 8nm @ 1500nm 6nm @2100nm
Spectral Sampling Bandwidth	Data output reported in 1nm increments; 2151 channels reported
Si Detectors	512 element Si array (350-1000nm)
InGaAs Detectors	256 element extended wavelength array (970-1910nm) 256 element extended wavelength array (1900-2500nm)
FOV Options	Fiber mount only 1,2,3,4,5,8,10°
Stray light	0.10%
Minimum Scan Speed	100 milliseconds
Wavelength Reproducibility	0.1nm
Wavelength Accuracy	±0.5 bandwidth
Communications Interface	USB, Bluetooth
Size	8.5" x 12" x 3.5"
Weight	7.3 lbs
Battery	External Lithium ion; 7.4V
Battery Operation	Minimum 2 hour operation

About SPECTRAL EVOLUTION

Established in 2004, SPECTRAL EVOLUTION is a leading manufacturer of laboratory and handheld portable spectrometers, spectroradiometers and spectrophotometers for lab and field applications in mining, remote sensing, materials identification and QC, satellite calibrations, and more. Visit us at: www.spectralevolution.com

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Complete Mining Package

- oreXpress field spectrometer
- DARWin SP Data Acquisition software
- 1.2 meter, metal clad fiber optic cable with SMA-905 quick disconnect
- Two Li-ion rechargeable batteries with universal 100-240 VAC chargers
- Universal 100-240 VAC wall power supply
- Pelican watertight protective hard case with high density foam padding
- Lightweight and sturdy backpack
- GETAC PS336 rugged handheld microcomputer (add GPS, photos, and voice notes to scans)
- Mineral contact probe with 10mm spot and 5 watt built-in tungsten halogen light source
- Optional Miniprobe with 3mm spot and 5 watt built-in tungsten halogen light source
- Optional benchtop reflectance probe (for core shack) with built-in 5 watt tungsten halogen source
- 2x2 inch reflectance panel with convenient carrying case
- Optional EZ-ID mineral identification software and Library Builder module with USGS mineral library and the optional SpecMIN library
- ASCII files can be used with 3rd party software without pre-processing



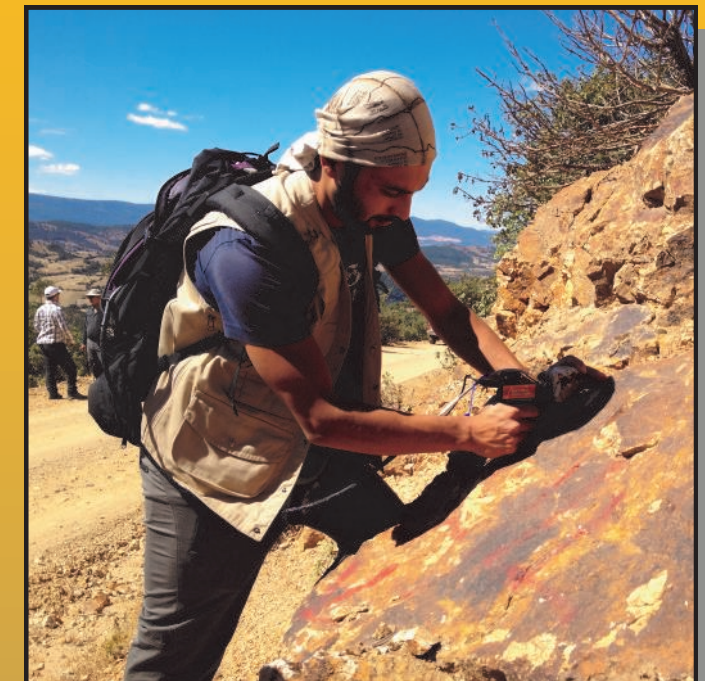
1 Canal Street ♦ Unit B1
Lawrence, MA 01840 USA
Tel: 978 687-1833 ♦ Fax: 978 945-0372
Email: sales@spectralevolution.com

www.spectralevolution.com

Accurate mineral identification and analysis for mining exploration and production

SPECTRAL EVOLUTION oreXpress™ Spectrometers for Mineral Identification And Analysis

Real-time mineral ID. In the field. In seconds.



An essential tool for accurate mineral identification and analysis

oreXpress™ spectrometers deliver the benefits of a full range NIR spectrometer to the geologist in the field. With oreXpress, geologists can get an accurate idea of what they are looking at, quickly scan samples, and cover more ground in less time and at less expense than using traditional field methods. They can identify different mineral phases, work up forensics on an area, and understand more clearly what's there.

With EZ-ID™ real-time mineral identification software, oreXpress facilitates identification of critical alteration minerals for better interpretation and a more profitable approach to drilling. Targeting the most promising areas before drilling begins can eliminate unnecessary drilling costs and quickly pay back the investment on the oreXpress.

Used in a core shack, the oreXpress can eliminate unnecessary assays on cores that show no potential and reduce the time logging takes—in one application it cut logging time from six to two hours.

In production, an oreXpress spectrometer can be used with 3rd party analysis software to:

- ◆ Determine mineralogy and metallurgical parameters for ore processing in real-time
- ◆ Identify potential problem minerals in abundance for leach heaps and other extraction processes
- ◆ Create proactive process strategies based on quantitative chemometrics data



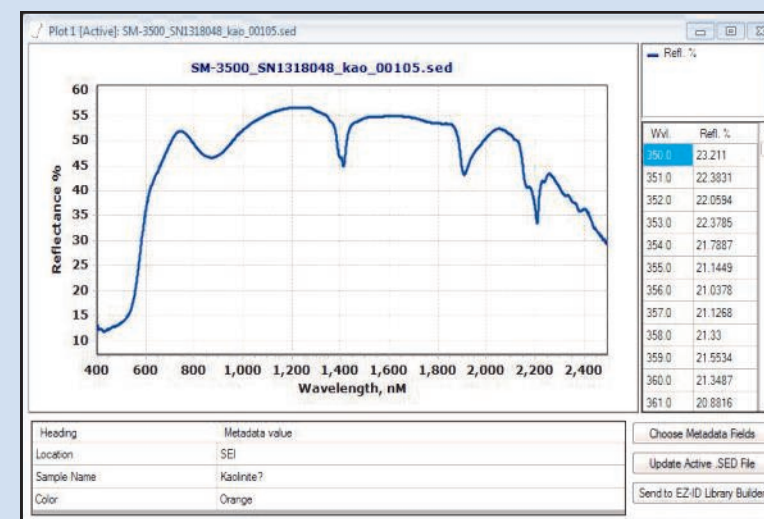
Library Builder Module—Build A Custom Spectral Library
In addition to matching unknown samples to known minerals in a commercial library, a geologist can quickly and easily build a custom library of spectra for minerals. A geologist can create a custom library for a class of minerals, a specific location, each project—whatever makes the most sense. With our Library Builder, you can:

- ◆ Scan your sample with the oreXpress spectrometer
- ◆ Select the appropriate metadata associated with this scan
- ◆ Define your own metadata
- ◆ Add new scans to your library quickly and easily
- ◆ Run new target scans against your library immediately

With EZ-ID and the Library Builder module, users have the ability to collect the best scans in the least amount of time, quickly identify minerals, save them, and add them to an existing library or create a new one.

EZ-ID Real Time Mineral Identification
oreXpress spectrometer packages can include optional SPECTRAL EVOLUTION EZ-ID mineral identification software that allows a geologist to compare a target scan against a spectral library (USGS or optional SpecMIN), or build a custom, special purpose library. With EZ-ID, you can compare unknown mineral samples to a library, using various algorithms to provide more accurate matches. You can select different spectral regions depending on the absorption features of interest and view multiple match region score columns. To the left is a sample of illite from a copper deposit matched against the SpecMIN library. With EZ-ID, a geologist can scan and identify samples very rapidly—this is an exceptional tool for core shack logging as well as field measurements. EZ-ID is available with the following libraries:

- ◆ USGS: 466 spectra for 226 minerals
- ◆ SpecMIN: 1528 spectra for 494 minerals



What are you looking for?

Use the oreXpress with EZ-ID to identify minerals across a range of deposit types including epithermals, porphyries, kimberlites, carbonate hosted base metals, shear veins, skarns, and disseminated systems.



Gold

Low sulfidation deposits: illite, kaolinite, chlorite, illite/smectite, buddingtonite, epidote, montmorillonite, zeolite, quartz, calcite, hematite

For high sulfidation: alunite, opal, dickite, pyrophyllite, diaspora, zunyite, topaz, illite, kaolinite, epidote, quartz, montmorillonite, goethite, jarosite, hematite

For orogenic gold: muscovite, paragonite, muscovite, roscoelite, illite, kaolinite, quartz, siderite, ankerite, calcite, dolomite, carbonates

Copper

Porphyry copper: tourmaline, muscovite, alunite, kaolinite, jarosite, goethite, hematite, chalcantinite

Oxidized BXA (leach cap): mica, jarosite, alunite, kaolinite

Oxidized phyllic: alunite, kaolinite, jarosite, copper sulfate overprinting muscovite

Potassic: muscovite, tourmaline, some alunite

Nickel

Nickel in lateritic ore deposits: nickeliferous limonite, goethite, smectite, nontronite, garnierite

Uranium

Uraninite, sericite, dickite, chlorite, kaolinite, illite, pyrite, chalcocopyrite

The oreXpress and oreXpress Platinum save your scans as ASCII files for use with 3rd party software such as:

GRAMS is a software suite for visualizing, processing, and managing spectroscopic data. It offers tools to capture, store, process, and report data, plus a graphical multivariate analysis tool for qualitative and quantitative analysis.

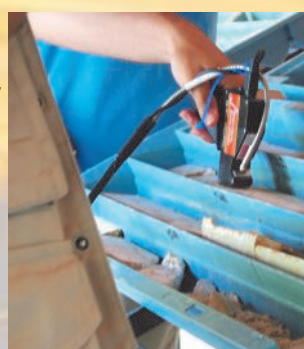
TSG™ is a tool for geological analysis of spectral reflectance data of minerals, rocks, and soils, including drill cores and chips. With this software you can organize all your data as part of a project data set for more effective analysis.



GETAC microcomputer with voice notes, GPS, altimeter, digital camera, sunlight readable display



With the GETAC PS336 microcomputer and backpack, an oreXpress spectrometer is easy for one person to carry and operate in the field for rapidly collecting spectra on outcrops, blast hole chips, and hand samples.



The oreXpress is also the instrument of choice for fast and accurate core logging. Spectra can be collected and minerals identified in real-time with EZ-ID or stored for later chemometric analysis using 3rd party software.



The oreXpress system includes our mineral contact probe with a 10mm spot size. Also available is an optional Miniprobe with a 3mm spot size. Both probes are rugged and reliable with built-in 5W halogen light sources and ergonomic design for comfortable field use.



Many accessories are available including the benchtop lab reflectance probe with a scratch-resistant sapphire window and a sample compactor for working with chips and powders.