

## **Enhanced Resolution Field Portable Spectroradiometer**

Spectra Vista Corporation proudly offers the SVC XHR-1024i. This instrument combines the latest technology required to produce exceptional spectral data while capturing digital photographic, GPS and external sensor data. All data streams are gathered coincidentally and written to a single measurement file, to provide important spectral, positional and visual data for analysis. The included metadata saves time and improves the research.

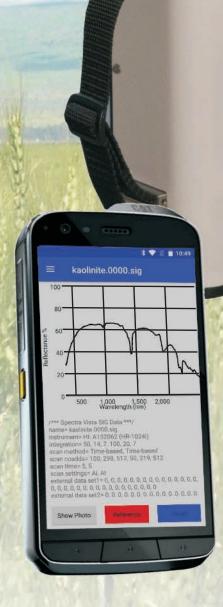
The 32-bit instrument processor and internal memory allow operation without the use of an external computer, while displaying the data graphically on the QVGA sunlight readable touch screen for immediate confirmation.

Measurements are easily acquired by one person by first setting the instrument parameters via the touch screen display and then initiating a measurement.

The SVC XHR-1024i builds on the SVC HR-1024i, which has proven itself to be the most portable and reliable full range spectroradiometer on the market. The exceptional spectral resolution and low noise ensure that the collected data is of the highest quality. Now this high quality data can be stored internally along with scene photos and GPS coordinates while operating in stand alone mode.

The SVC XHR-1024i includes a second Bluetooth device, allowing the instrument to receive data from an external sensor suite containing up to 16 separate sensors. The sensor suite can include downwelling sensors, supplying instantaneous broad or narrow band solar response. This sensor data, stored with the spectral data file, allows the researcher to understand changes in solar irradiance and assists in corrections. Other environmental sensors are available.

The use of 100% linear array detectors ensures excellent wavelength stability, while the cooled InGaAs and extended InGaAs detectors provide superior radiometric stability. Fixed foreoptics and hard-mounted internal spectrometer elements provide a robust optical path. Every design element of the SVC XHR-1024i reflects a complete understanding of the demands of field data collection.



**Rugged Smartphone** 

The SVC XHR-1024i is furnished with two versions of SVC's proprietary software. One operates with standard PCs or laptop computers running Windows operating systems. The second supports phones and tablets running the industry-standard Android operating system. The CAT S61 phone, or equivalent, is provided with the XHR-1024i. This device is an extremely rugged, waterproof, and lightweight computer that operates up to 12 hours on a single charge. The phone's clean design and compact size contribute to ease of operation. Spectral data may be viewed in real time on the sunlight readable color display.

The non-volatile flash memory guards against the loss of valuable field data. Wireless Bluetooth and a USB port provide optimum connectivity in the field or in the lab. SVC can optionally supply alternate ruggedized phones, tablets, or computers upon request.



Spectra Vista Corporation

## XHR-1024i

**Spectral Range Internal Memory** Channels **Linear Array** 

350-2500 nm 1000 scans 1024, 2000+ resampled (1) 512 Si, 350-1000 nm

(1) 256 InGaAs, 1000-1900 nm

(1) 256 Extended InGaAs, 1900-2500 nm

Spectral Resolution (FWHM)

2.8 nm, 700 nm 8.0 nm, 1500 nm 6.0 nm, 2100 nm

1 millisecond

**Bandwidth (nominal)** 

1.5 nm, 350-1000 nm 3.8 nm, 1000-1900 nm 2.5 nm, 1900-2500 nm

**Minimum Integration** 

**FOV** 

4° standard, 8° or 14° optional 25° optional armored fiber optic

**Head Size** 

Weight **Battery Type Battery Life** Digitization Wavelength Repeatability

Noise Equivalent Radiance

**Radiometric Calibration** Accuracy (NIST Traceable)

**Dark Current Correction Spectrum Averaging** 

**Operating Environment** Humidity **Temperature** Sighting

8.75" x 11.5" x 3.0" 22 cm x 29 cm x 8 cm 8.5 lbs., 3.8 kg 7.4 V lithium ion 3 hours approx.

16 bit 0.1 nm

> 0.8 x 10<sup>-9</sup> W/cm<sup>2</sup>/nm/sr @ 700 nm 1.2 x 10<sup>-9</sup> W/cm<sup>2</sup>/nm/sr @ 1500 nm 1.8 x 10<sup>-9</sup> W/cm<sup>2</sup>/nm/sr @ 2100 nm

± 5% @ 400 nm ± 4% @ 700 nm ± 7% @ 2200 nm

automatic automatic / selectable

to 90% RH, non-condensing -10° to +40° C diode laser





## STAND-ALONE INSTRUMENT CONTROL PANEL

## Features

Provides enhanced high spectral resolution operating across the full spectral region
Fixed foreoptics ensure a reliable optical path
Internal digital camera captures scene of target area
Internal GPS provides time and location coordinates for each data file
QVGA sunlight readable touch screen provides graphic data display
Dedicated Bluetooth receives data from 16 channel optional sensor suite
One half the size and weight of other field spectroradiometers
Critical optical components are hard mounted to the spectrometer platform
Full spectral measurements can be acquired in 1 second
Incorporates 100% linear array technology and cooled InGaAs detectors thus providing superior wavelength and radiometric stability
State of the art linear arrays provide low noise (improved data) across the 350 nm to 2500 nm range
Provides fast, full spectral measurements with no moving gratings
Internal 32- bit CPU allows measurements to be made without an external computer
Designed for minimal set-up & warm-up time
Internal memory stores a full day's data
Supplied with rugged PDA / Bluetooth for wireless operation
Field-changeable fiber optic light guide options available
Integral, removable Lithium Ion battery enhances mobility (no power cord)
Optional Foreoptics, Fiber Optic Light Guides, Reflectance Probe, Cosine Receptors, Back Pack, Reflectance Panels, Spheres, and Computers are available
Applications
Vegetative Stress Analysis Forestry Analysis Land and Crop Management Marine and Wetland Studies Environmental Monitoring

Geological Studies

Mineral Identification
<b>Drilling Core Analysis</b>

**Ground Truthing** Industrial QC and Process Control **Surface Color Measurements**