

SVC XHR-1024i™

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 in order to provide the 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 over the past 4 years to be the most portable 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. The sensor data is stored with the spectral data file, allowing the researcher to understand changes in solar irradiance and assist 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 PDA

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 PDAs running the industry-standard Windows Mobile operating system.

The Trimble Juno T-41 PDA, or equal, is provided with the XHR-1024i and is an extremely rugged, waterproof and drop resistant, lightweight computer that operates up to 10 hours on a single charge. The ergonomic keypad 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 USB port provide optimum connectivity in the field or in the lab. SVC can supply optional, ruggedized tablet and laptop computers upon request.

SVC Spectra Vista Corporation

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SVC XHR-1024i™

Spectral Range 350-2500 nm
Internal Memory 1000 scans
Channels 1024, 2000+ resampled
Linear Array (1) 512 Si, 350-1000 nm
 (1) 256 InGaAs, 1000-1890 nm
 (1) 256 Extended InGaAs, 1890-2500 nm

Spectral Resolution (FWHM) ≤ 2.8 nm, 700 nm
 ≤ 8.0 nm, 1500 nm
 ≤ 6.0 nm, 2100 nm

Bandwidth (nominal) ≤ 1.5 nm, 350-1000 nm
 ≤ 3.8 nm, 1000-1890 nm
 ≤ 2.5 nm, 1890-2500 nm

Minimum Integration 1 millisecond

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

Head Size 8.75" x 11.5" x 3.0"
 22 cm x 29 cm x 8 cm

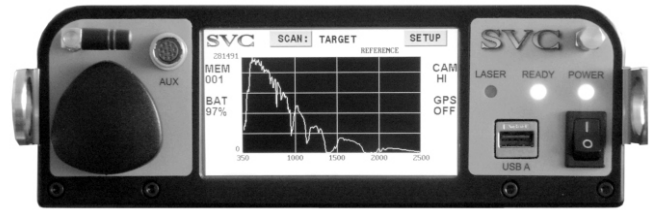
Weight 8.5 lbs., 3.8 kg
Battery Type 7.4 V lithium ion
Battery Life 3 hours approx.
Digitization 16 bit
Wavelength Repeatability 0.1 nm

Noise Equivalent Radiance ≤ 0.8 x 10⁻⁹ W/cm²/nm/sr @ 700 nm
 ≤ 1.2 x 10⁻⁹ W/cm²/nm/sr @ 1500 nm
 ≤ 1.6 x 10⁻⁹ W/cm²/nm/sr @ 2100 nm

Radiometric Calibration Accuracy (NIST Traceable) ± 5% @ 400 nm
 ± 4% @ 700 nm
 ± 7% @ 2200 nm

Dark Current Correction automatic
Spectrum Averaging automatic / selectable

Operating Environment
Humidity to 90% RH, non-condensing
Temperature -10° to +40° C
Sighting 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
- Drilling Core Analysis
- Ground Truthing
- Industrial QC and Process Control
- Surface Color Measurements



**WATERTIGHT
FIELD CASE**

