

# 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, 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.

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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, 1000-1900 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

**Bandwidth (nominal)** ≤ 1.5 nm, 350-1000 nm  
 ≤ 3.8 nm, 1000-1900 nm  
 ≤ 2.5 nm, 1900-2500 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

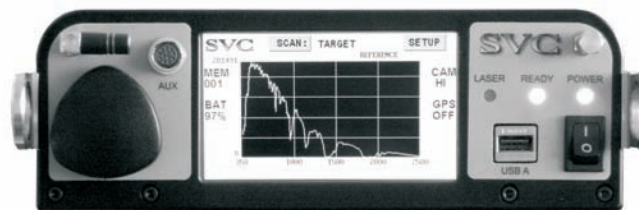
**Weight** 8.5 lbs., 3.8 kg  
**Battery Type** 7.4 V lithium ion  
**Battery Life** 3 hours approx.  
**Digitization** 16 bit  
**Wavelength Repeatability** 0.1 nm

**Noise Equivalent Radiance** ≤ 0.8 x 10<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

**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**

