SVC HR-1024i™

High Resolution Field Portable Spectroradiometer

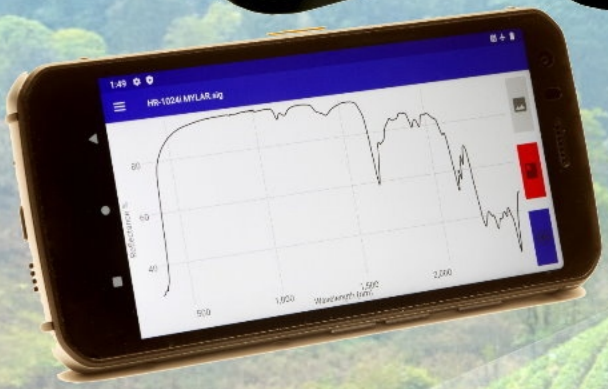
Spectra Vista Corporation proudly offers the SVC HR-1024i. This instrument combines the latest technology required to produce exceptional spectral data while capturing digital photographic, GPS and external sensor data. All data streams are gathered coincidentally and written to a single measurement file in order to provide the important spectral, positional and visual data for analysis. The included metadata saves time and improves your 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 HR-1024i builds on the SVC HR-1024, which has proven itself in the past 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 HR-1024i includes a second Bluetooth device, allowing the instrument to receive data from an external sensor suite containing up to 4 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 HR-1024i reflects a complete understanding of the demands of field data collection.



The Android Rugged Smartphone
Each SVC HR-1024i is supplied with a rugged smartphone with Bluetooth radio, enabling wireless remote measurements at distances of up to 70 meters from the instrument. Real time data can be quickly reviewed on the sunlight readable touchscreen display, enabling the operator to make quick data assessments.
The rugged smartphone will survive a 1.8-meter drop onto a hard surface and a 35-minute water immersion up to 1.5 meters, ensuring that a mishap in the field will not put this method of data collection on the sideline. Temperatures as low as -30°C or as high as 50°C do not hamper the rugged smartphone operation.
This Bluetooth functioality greatly adds to the efficiency of field collection and is another example of Spectra Vista's decades of experience in providing researchers the best equipment available researchers the best equipment available.

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SVC HR-1024i™

STAND-ALONE INSTRUMENT CONTROL PANEL

Spectral Range	350-2500 nm
Internal Memory	1000 scans
Channels	1024
Linear Array	(1) 512 Si, 350-1000 nm (1) 256 InGaAs, 1000-1890 nm (1) 256 Extended InGaAs, 1890-2500 nm
Spectral Resolution (FWHM)	3.3 nm, 700 nm 9.5 nm, 1500 nm 6.5 nm, 2100 nm
Bandwidth (nominal)	1.5 nm, 350-1000 nm 3.8 nm, 1000-1885 nm 2.5 nm, 1885-2500 nm
Minimum Integration	1 millisecond
FOV	4º standard, 8º or 14º 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 (1.0 sec scan)	0.8 x 10^{-9} W/cm^2/nm/sr @ 700 nm 1.2 x 10^{-9} W/cm^2/nm/sr @ 1500 nm 1.2x 10^{-9} W/cm^2/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

WATERTIGHT FIELD CASE

CE

Features

- ☐ One half the size and weight of other field spectroradiometers
- ☐ 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 8 channel optional sensor suite
- ☐ Provides exceptionally high spectral resolution operating across the full spectral region
- ☐ 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
- ☐ Fixed foreoptics ensure a reliable optical path
- ☐ Critical optical components are hard mounted to the spectrometer platform
- ☐ Provides fast, full spectral measurements with no moving gratings
- ☐ Internal 32- bit CPU allows measurements to be made without an external computer
- ☐ Full spectral measurements can be acquired in 1 second
- ☐ 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