

SVC HR-1024

High Resolution Field Portable Spectroradiometer

Building on more than 20 years of experience in the remote sensing field, Spectra Vista Corporation has once again advanced the state of the art in full range field-portable spectroradiometers. The new SVC HR-1024 achieves the highest level of spectral resolution in the full VIS-NIR-SWIR region.

The use of 100% linear array detectors ensures excellent wavelength stability, while the thermoelectrically cooled InGaAs and extended InGaAs detectors provide superior radiometric stability.

Every design element of the SVC HR-1024 reflects an understanding of the demands of field data collection.

Fixed foreoptics and hard-mounted internal spectrometer elements provide a robust optical path. This ensures the SVC HR-1024 will deliver reliable data under the most demanding field campaigns for years to come.

An internal CPU enables a full day's data to be taken without an external computer, allowing the operator to concentrate on the subject and produce full spectral acquisitions in less than 5 seconds.

The rugged, lightweight PDA (provided) enables users to view data in real time via wireless Bluetooth technology.

The SVC HR-1024 software automatically records the longitude, latitude and time of day, from the PDA's GPS receiver, for each spectral measurement. This greatly eases record keeping in the field while providing positive, coded identification during data analysis.

The SVC HR-1024, weighing less than 8 pounds, is the lightest and the most portable field spectroradiometer in its class.

The system is available with many optional optics and fiber optic bundles that are easily changed in the field. All system components are furnished in a durable, waterproof field case.

Rugged PDA

The HR-1024 is furnished with two versions of SVC's proprietary software. One operates with common IBM-compatible PCs or laptop computers using Windows XP.

The second supports PDAs running the industry-standard Windows Mobile software for pocket PC. The DAP Technologies Microflex 2240X PDA provided with the HR-1024 is an extremely rugged, reliable, and lightweight unit. It is waterproof and drop resistant to IP67 and MIL-STD-810F ratings. 10+ hour battery life, light weight, easy to use keypad and compact size all contribute to ease of operation. Spectral data may be viewed in real time on the sunlight readable color display.

Non-volatile flash memory guards against the loss of valuable field data. RS-232 and USB ports provide optimum connectivity in the field or in the lab.

Bluetooth wireless communication and embedded GPS streamline and enhance your SVC HR-1024 data collections.

SVC can also supply optional, ruggedized laptop computers upon request.

SVC Spectra Vista Corporation

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SVC HR-1024

Spectral Range 350-2500 nm
Internal Memory 500 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) ≤ 3.5 nm, 700 nm
 ≤ 9.5 nm, 1500 nm
 ≤ 6.5 nm, 2100 nm

Bandwidth (nominal) ≤ 1.5 nm, 350-1000 nm
 ≤ 3.8 nm, 1000-1890 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 8.5" x 11.5" x 3.25"
 22 cm x 29 cm x 8 cm

Weight 7.3 lbs., 3.3 kg
Battery Type 7.4 V lithium ion
Battery Life 3 hours
Digitization 16 bit
Wavelength Repeatability 0.1 nm

Maximum Radiance 1.3×10^{-4} W/cm²/nm/sr @ 700 nm

Noise Equivalent Radiance (1.0 sec scan) $\leq 8.0 \times 10^{-10}$ W/cm²/nm/sr @ 700 nm
 $\leq 1.5 \times 10^{-9}$ W/cm²/nm/sr @ 1500 nm
 $\leq 3.0 \times 10^{-9}$ W/cm²/nm/sr @ 2100 nm

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

Dark Current Correction automatic /selectable
Spectrum Averaging selectable

Operating Environment
Humidity to 90% RH, non-condensing
Temperature -10° to +40° C
Sighting diode laser

Specifications are subject to change without notice



STAND-ALONE INSTRUMENT CONTROL PANEL

Features

- One half the size and weight of other field spectroradiometers
- Provides the highest 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 the best NER (lowest noise) 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 CPU allows measurements to be made without an external computer
- Full spectral measurements can be acquired in 1 second
- Designed for minimal set-up & warmup time
- Internal memory stores a full day's data
- Supplied with rugged PDA / Bluetooth for wireless operation, GPS and data display
- Field-changeable fiber optic light guide options
- Integral, removable Lithium Ion battery enhances mobility (no power cord)
- Optional Reflectance Probe, Cosine Receptors, Back Pack etc. 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



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FIELD CASE**



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