ChromaMapper

PyrOptik Instruments ChromaMapper is a groundbreaking and affordable hyperspectral imaging system. Weighing 650 grams, it is easy to use and carry, offering instantaneous imaging revealing details invisible to the naked eye. Measuring both visible and near-infrared spectral data, it is ideal for on-site use in locations as varied as crop fields, libraries, glaciers, quarries, jungles or museums. The systems' large touchscreen and intuitive user interface ensure ease-of-use, allowing users to gather data without requiring specialised knowledge. The collected data is processed and analysed using our ChromaCube desktop hyperspectral data cube analysis software.

Key Benefits

- **Portable, Compact & Lightweight**: Weighing 650 g and fitting into a small ruggedised case means it can easily be carried in hand luggage for transport and fits in a rucksack for field deployment.

- **Real-time Image Check**: Reconstructed visual image of captured data displayed after each image capture giving instant feedback.

- **Battery Powered**: Can be used all day for measurement acquisition.

- **Large Storage Capacity**: 256 GB memory, allows numerous measurements to be taken during a day in the field.

- **Data Wealth**: Significantly more measurements can be made at non-fixed viewing angles allowing for flexible approach to data collection.

Front View

Back View

- **Non-Invasive**: Measurements can be taken with samples in the natural environment.

Pyr☉ptik

Key Features

- **User-Friendly Interface:** Enables technicians and non-experts to operate with minimal training.

- **High Performance:** Equivalent spatial and spectral resolution to traditional systems.

- **Weight/Size:** Lightweight (650 g) and small enough to put in a backpack. Ideal for field work and "walk-in" rapid data collection.

- **Battery Powered:** No fixed power requirements, can charge on-the-go with a power bank. Maximum portability for all day field measurements.

- **Fast Data Capture:** < 30s to acquire a new measurement.

ChromaMapper (CM-IR-256-v1) Specifications	
Spectral Properties	
Spectral Range	400-950 nm [1]
Spectral Resolution (FWHM)	10 nm [2]
Spectral Sampling (px^{-1})	2 nm
Spectral Channels	275
Hyperspectral Imaging Camera	
Image Resolution	12 MP camera resulting in 2000×1000 px (typical) [3]
Pixel Size	1.4 µm
Spatial Resolution	0.6 mm [4]
Vertical Field of View (VFOV)	210 mm height at 200 mm working distance
Horizontal Field of View (HFOV)	200 mm for 20 s scan @ 28 fps
Measurement method	Pushbroom / Line scanning
Imaging Speed	Typical 20 s for 200 mm scan
Saved Format	.tiff (Tagged Image File Format)
System Properties	
Weight	650 g
Size	210 mm × 105 mm × 100 mm
Laser alignment measurement guide	Green 45º Laser Line
Connections	USB-C, Wi-Fi
Mounting options	¼" UNC
Storage	256 GB

Battery size	3900 mAh
Ingress Protection Class	IP64

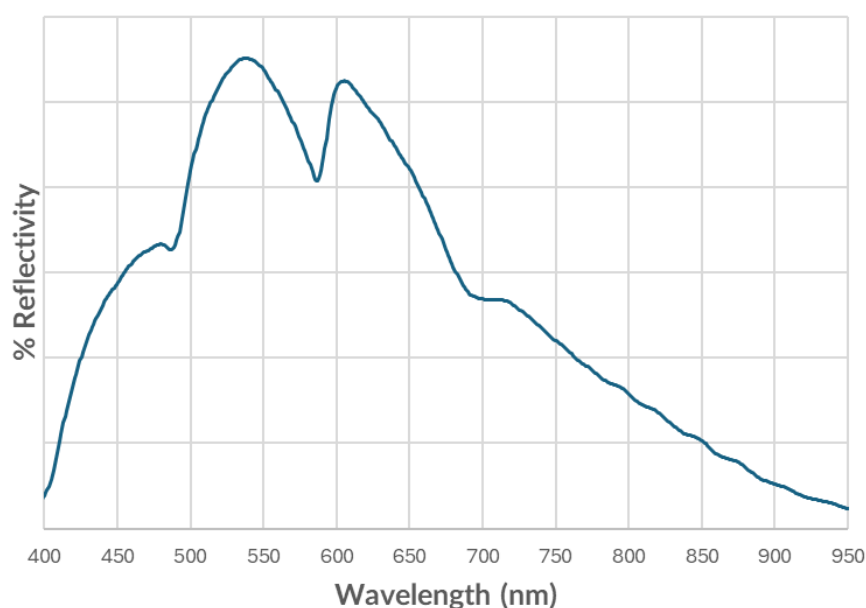[1] Measured at 300 & 600 lux of sunlight

[2] Measured at 435.83 nm, 546.96 nm and 912.30 nm

[3] Horizontal resolution varies with scan duration

[4] Based on MTF test

Continuous product development may make it necessary to change these details without notice.

Spectral Sensitivity

ChromaMapper Standard Contents List:

- ChromaMapper Instrument CM-IR-256-v1
- ChromaCapture App
- ChromaCube Hyperspectral Data Cube Analysis Software
- IP67 Waterproof Plastic Case, 318 x 257 x 152 mm
- USB-C to USB-C Charging Cable, 1 m Black
- 25 W Super-Fast USB-C Mains Charger, Black
- USB-C Male to USB Micro-B Male USB 2.0 Cable, 1 m Black
- Datacolor® Spyder Checkr 24 Calibration Card
- ChromaMapper Alignment and Reference Card
- Microfibre Lens Cleaning Cloth
- Lens Cap

Talk to us at enquiry@pyroptik.com to discuss your application, our customisation options and range of accessories including translation stages, linear rails and lighting solutions.