VISUALANT™

Product Sheet

ChromaID™ Scanner

Almost every material has a unique machine-readable identifier based on color. Visualant has invested more than five years of research in developing a patented technique, ChromaID, to sample and confirm this chromatic “fingerprint”.

In traditional spectrophotometry, broadband light is directed onto a sample. Reflected light is separated into its constituent wavelengths and measured using a linear array. Spectrophotometers are powerful but tend to be bulky, fragile, complex, and expensive.

In contrast, ChromaID technology pairs a set of light emitting diodes (LEDs) and matching detectors (photodiodes). Each LED is activated using a stepped array of input current to generate a specific pattern of light wavelengths. The photodiodes measure the intensity of the reflected light.

The resulting spectral pattern is called a ChromaID Profile. The ChromaID Profile of the tested material is matched against a database of spectral patterns from previously tested materials. A “hit” definitively identifies the material.

ChromaID offers a disruptive alternative to traditional spectrophotometry. Devices built around ChromaID are more portable, more robust in different operating environments, easier to use, and less expensive than existing solutions.

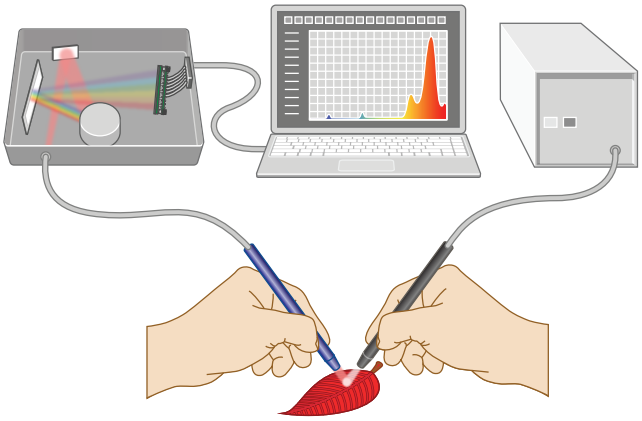
Our technology can be used in a wide range of applications, from identifying counterfeit currency to spotting illegal drugs. Potential customers include paint manufacturers, pharmaceutical equipment manufacturers, currency makers, security card companies, and food processors. Visualant is seeking partners to help deploy currently identified applications and develop new ones.

The ChromaID Scanner combines twelve distinct LEDs, all focused on a small sampling area. It’s optimized for use on flat surfaces. With ChromaID Lab Software running on a laptop, the scanner provides a simple field scanning solution.

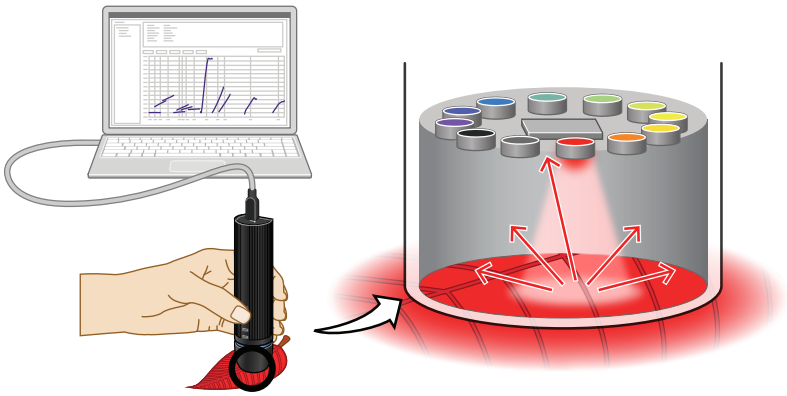
THE ChromaID SCANNER is a handheld device designed specifically for scanning flat surfaces.

WITH ChromaID LAB SOFTWARE on a laptop, the ChromaID Scanner provides a simple field scanning solution.

Traditional Spectrophotometer



Simple ChromaID Approach



ChromaID Scanner

The ChromaID Scanner is designed to be handheld (35mm diameter x 140mm long, about 1" by 6") and is optimized for scanning flat surfaces. The scanner incorporates twelve LEDs that are used to cover parts of the spectrum from ultraviolet (355nm) to near infra-red (1450nm). The LEDS are focused onto a 6mm sampling area and are matched by photodiodes attuned to these specific wavelengths of sample light.

In use, each emitter is fired up to twenty-five times over a range of current levels. This creates 300 sample points (25 sample points per emitter times 12 emitters), which are read by the built-in detectors.

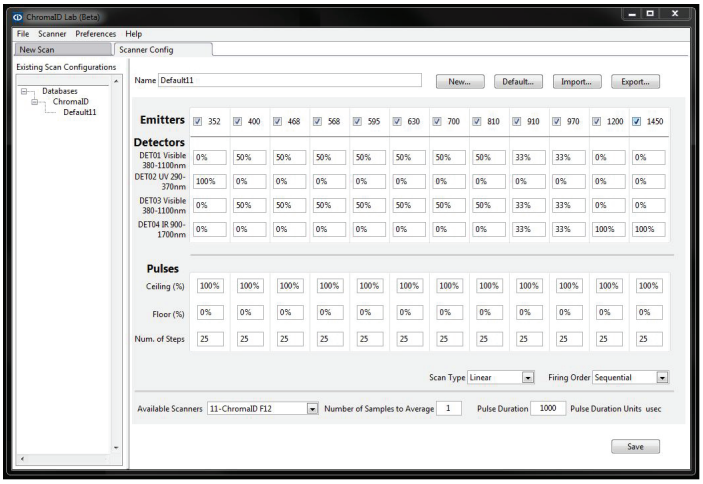
The entire scan is completed in less than one second and the data is captured as a unique ChromaID Profile. Comparing the ChromaID to a database of known ChromaIDs makes it possible to identify the scanned material. The scanner is powered and controlled by a USB connection to a host PC running ChromaID Lab software.

ChromaID SCANNER uses 12 LEDs ranging from 355nm (UV-A) to 1450nm (NIR) to capture a ChromaID.

ChromaID Lab Software

ChromaID Lab is a software application for Windows PCs. It configures and controls the scanner over USB, displays the captured ChromaID Profile for each sample, and compares it to known ChromaID Profiles.

Every aspect of the scanning process can be controlled, from which emitters are fired to which detectors capture the data. The software includes a ChromaID SQL Server 2012 Express LocalDB Database for managing collections of ChromaIDs.



ChromaID LAB SOFTWARE controls every aspect of your scan, so you can optimize the scanner for your application.

What's Included

The ChromaID Scanner is provided in a hard case with ChromaID Lab Software, SQL database, fixed location mount, and USB cables (with trigger connection).

Additional ChromaID Developer Tools are available, providing LabVIEW VIs, file format, and API information for developers wishing to build their own applications with ChromaID technology.

THE ChromaID SCANNER provides everything needed to control and mount the handheld ChromaID Scanner.

Specifications

Spectral range (nm) 355 – 1450

Peak frequencies (nm) 355, 395, 470, 568, 598, 630, 700, 810, 910, 970, 1200, 1450

Spot size 6mm (1/4")

Connection Mini-USB 2.0

Cycle time Depends on scan configuration, less than one second

Dimensions 35mm x 140mm (1 1/4" x 5 1/2")

Weight 100g (4oz)

Carry case (L x W x H) 295mm x 212mm x 96mm (12" x 8" x 4") IPX67 (water and dust proof)

Trigger Trigger from PC, scanner button, or external trigger connection

Software requirements ChromaID Lab software requires Windows 7

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