middleton SPECTRAL VISION

Product Sheet
MRC-923-020 MRC-920-031-II
MRC-923-021 MRC-920-036
MRC-923-031

RevealScan™ -M Spectral Camera System

for Art, Cultural Heritage and Art Restoration

Middleton Spectral Vision is introducing the Reveal Scan™-M, a state-of-the-art visible and infrared imaging system*, crafted specifically for museum conservators, curators, and art scientists. This innovative system is tailored to meet the specialized needs of the art and cultural heritage sectors, offering an accessible and affordable solution to automatically capture pixel matched visible and infrared wavelength ranges. The comprehensive system features a camera equipped with a wide wavelength range and automated wavelength selection, a built-in high performance lens, and dedicated light sources optimized for camera performance. This system is uniquely capable of revealing underpaintings, underdrawings, and intricate details that are often hidden beneath the surface of historical works. With its advanced imaging capabilities, the Reveal Scan™-M gathers information about fine compositional differences by sampling select wavelength bands, including multiple visible and infrared bands that are all perfectly aligned down to the pixel level. The accompanying user-friendly analysis software enhances the underpainting further by enabling users to mathematically combine results from different imaging modes and wavelengths.

* Patent Pending

Spectral Cameras simulaneously detect visible and infrared light

Valuable wavelength information for art is contained in both the visible and near-infrared wavelength range. Visible light from 400-700 nm is the range that humans can see, and only detecting visible light corresponds to what people see when they look at a painting. The VNIR and the near infrared (NIR) region from 700-1700 nm is very useful in detecting underpaintings and information from paint layers below the surface due to less light scatter and better light penetration.

The Reveal Scan™ -M is capable of sensing overlaying visible and NIR images, from 400-1700 nm, eliminating the need for complex image registration steps to align images from separate cameras. Furthermore, the Reveal Scan™-M detects images that select discrete narrow regions of interest in the visible range and in the NIR range, inviting the possibility of material discrimination as well as producing a color image of the painting with the same number of overlapping pixels.

Dual light source with independent switches and intensity control

Properly illuminating a painting is just as important as the camera detecting the light. Too much intensity can potentially heat and damage the painting and certain sources are limited in the wavelength range they output. The purpose-built light sources included in the Reveal Scan™-M system contains both LED lights that emit in the visible range and halogen lights that emit both visible and infrared light. Each source is connected to its own set of controls, so the intensity of the light of the LED and the halogen lights can be independently adjusted as needed for best measurement results. The high sensitivity of the system allows very low light levels that do not change the temperature of the painting or other objects examined.

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Powerful software tools for seamless data collection

RevealScan™ Acquisition takes the hassle out of spectral imaging of artwork. Initiate a live feed to focus with precision, and capture detailed images of your artwork in a few effortless clicks. This software doesn't just store single images; it automatically captures and saves a series of images focusing on specific wavelength regions.

Images are saved in common file formats such as TIF, PNG, or JPG. This compatibility ensures seamless integration with the RevealScan™ Analysis Software and leading image editing software like Adobe Photoshop® and Illustrator®, allowing for further refinement and analysis. Whatever the application, employ the RevealScan™ -M Spectral Camera System that integrates cutting-edge technology with user simplicity, shifting your focus from using or developing complex tools to exploring the art.

Product Numbers

MRC-923-020: RevealScan™-M spectral imaging system, including spectral camera, lens, illumination, and software
MRC-923-021: Spectral Camera
MRC-923-031: Data Collection Software
MRC-920-031-II: Dual halogen illumination system
MRC-920-036: Visible range booster illumination system