The Imaging Technology Behind the eXact™ 2

Measure the Right Spot, Every Time

Inspect Patches with Confidence

The eXact 2 handheld spectrophotometer enables printers, ink rooms, and packaging converters to reproduce accurate CMYK and spot colors with seamless software integration, Wi-Fi-enabled quality control, and built-in process control tools to support G7, PSO, and Japan Color.

eXact 2 also offers non-contact imaging capabilities to capture the precise measurement spot. This whitepaper explains the technology and benefits behind Mantis™ video targeting and Digital Loupe technology.

Mantis Video Targeting: What You See is What You Measure

eXact 2 uses patented Mantis high resolution imaging technology to capture a visual of the precise measurement area. Measuring with Mantis is more accurate than traditional targeting because it offers a virtual preview of the precise point where the spectrophotometer will capture the spectral reflectance of the sample, without limiting the physical target size or over-illuminating the surface of the patch.

In competing instruments, the operator must visually center the device over the correct patch. Since the targeting mechanism covers the patch, it is difficult for the operator to see what will be measured. In addition, the targeting area is larger than the aperture size to allow over-illumination of the measurement spot. Some competitor devices use side targeting on a press console, creating a shadow which can skew measurement results.

In addition, eXact 2 uses virtual targeting to illuminate the entire surface and capture the exact spot and size of measurement. This provides an extremely precise measurement spot without overshadows.

Mantis can be used in both spot and scan modes. The ability to read a series of color patches in a single pass using integrated scanning with internal pattern recognition increases the speed of patch-by-patch measurement.

Figure 1: Mantis video targeting is especially useful for capturing small areas on busy artwork.
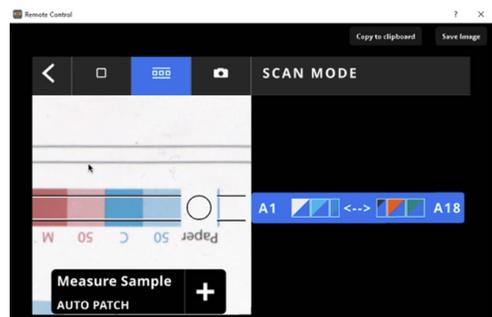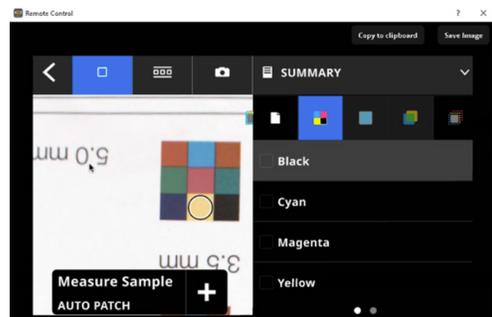

Figure 2: These images show a video preview of the exact point of measurement for spot (left) and scan (right) modes. The circle shows the measurement area to help visualize and target the correct measurement spot.

Digital Loupe: Precisely Identify and Inspect Patches

eXact 2's high-resolution camera also provides Digital Loupe dynamic zoom capabilities for patch inspection. With up to 10x zoom, operators can zoom in times on the device screenduring or after measurement to identify artifacts, dirt, etc. and capture an image as part of audit trail to prove measurement quality.

Using Digital Loupe on the registration target enables operators to verify the cyan, magenta, yellow and black plates are aligned. The zoom feature provides a more accurate way to verify colors are not bleeding over the black lines.
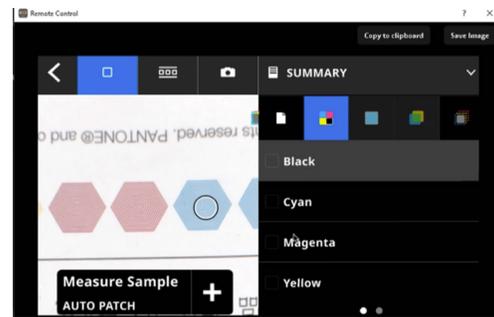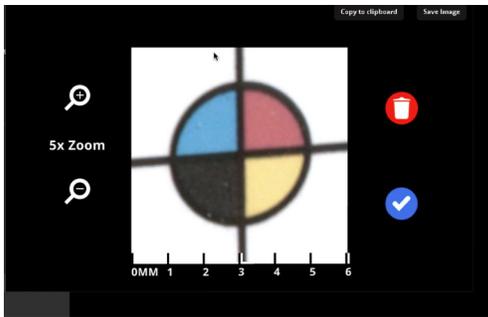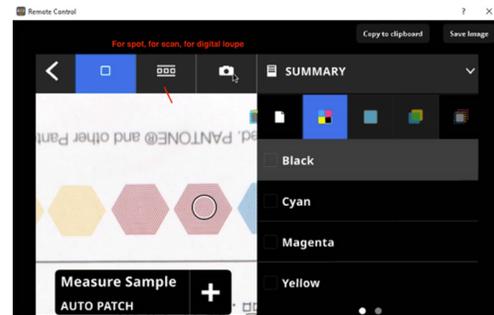

Figure 3: A 5x zoom on this registration target shows an issue with yellow bleeding outside the registration circle that may not have been visible without Digital Loupe.

Learn More

eXact 2 is available in three models, all featuring video imaging technology with Mantis and Digital Loupe.

eXact 2 can measure color on paper, corrugated, and carton board substrates. eXact 2 Xp and eXact 2 Plus can measure polarized substrates like film, poly, plastic, foil with white opaque, and other unique substrates. eXact 2 Plus offers additional control over paper and flexible film with the ability to measure metamerism, opacity, paper indices, and absolute and relative color strength.

For more information, **visit xrite.com/exact-family**