



Extreme Definition

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Extreme Definition Technology - XD Tech

After years of experience in capturing fingerprints and palm prints with 1000 ppi resolution, Cross Match has pioneered the entire livescan industry. With the increased use of 1000 ppi images, law enforcement agencies are asking for more compact, faster and more convenient 1000 ppi palm scanners. Other livescan suppliers compromised in developing 1000 ppi palm scanners that still are bulky and may require long image capturing times.

Cross Match engineers didn't stop here. Instead they continued to search for a solution that would provide both: a technology that meets today's needs of law enforcement officers and the quality, reliability and robustness Cross Match customers have always expected. The answer is: XD™ Technology.

The Extreme Definition Technology is a combination of new image sensor and image processing technology. XD Technology will not only elevate the use of 1000 ppi to a new level, but also establish building blocks for attaining tomorrow's more stringent standards.



- ! **No excuse for missing a detail! Highest scanning resolution on the livescan market** by a novel proprietary sensor technology.
- ! **No more waiting. Fastest capturing time for palms at 1000 ppi** due to advanced image processing technology.
- ! **What you see is what you get. Instantly!** Real-time live on-screen feedback for more convenience and safety during capturing.
- ! **Flat fingers capture everywhere.** Thanks to our patented FlexFlat™ windowing technology there is no need to adhere to a restricted position for capturing flat fingers and thumbs.
- ! **The first portable 1000 ppi palm scanner.** Thanks to our patented optical design this unit is the smallest 1000 ppi scanner ever.

Extreme sensor resolution

The new extreme resolution images sensor enables a 1950 ppi x 1350 ppi scanning resolution. That means images are scanned with 95 percent more resolution than required by the FBI IQS standard. Even downscaled to 1000 ppi, due to oversampling and improved signal-to-noise ratio, these images provide much more detail than those scanned with 1000 ppi only.

Enhanced dynamic range

Images are scanned with 12 bit grayscale (or 4096 gray levels). Compared to the typically used 8 bit grayscale (or 256 gray levels), these are 16 times more gray levels than FBI image quality requirements. The high dynamic range increases the contrast significantly and generates sharp images for visualization of every detail.

Extremely fast capturing time

Thanks to our new image processing technology the capturing time has been reduced to a minimum. For capturing palm images in full resolution less than 0.5 seconds are required. Flat fingers are captured even faster.

True real-time capturing preview

Using 20 frames per second for preview images provide instant feedback during placing of flat and rolled fingers, as well as palms. This real-time feedback simplifies and facilitates a trouble free capturing process for generating high quality images.

FlexFlat™ capturing window

Our patented FlexFlat™ windowing technology allows capturing flat fingers and thumbs at every position of the prism. As soon as fingers are placed at the prism, the capturing window is defined automatically. Hence, the user does not need to pay attention to the correct positioning of flat fingers. Capturing at a single prism has never been this simple.

Most compact design and lowest weight

Combining our extreme resolution image sensor and patented optical design avoids the need for expensive optical correction elements (e.g. field lenses), even with a single prism and 1000 ppi resolution. In addition the use of magnesium as housing material, makes the L SCAN 1000PX not only the most compact and lightest, but also the most robust 1000 ppi palm scanner on the market.

Specifications of the L SCAN 1000PX

Capture resolution	1950 ppi x 1350 ppi	Exceeds FBI requirement by 95%
Dynamic range	12 bit	Exceeds FBI requirement by 50%
Signal-to-noise	70 dB	Exceeds FBI requirement by 70%
Frame rate for preview images	20 fps	Fastest preview for 1000 ppi palm scanner
Capturing time for palms	< 0.5 s	Fastest capturing time for 1000 ppi palm scanner
Dimensions	12.0" x 12.1" x 5.2" (306 mm x 308 mm x 133 mm)	Most compact 1000 ppi palm scanner
Weight	14.9 lbs (6.8 kg)	Lightest 1000 ppi palm scanner

Best ergonomics

The L SCAN 1000PX has been developed under strict ergonomic considerations. The results are pretty impressive: integrated local display, FlexFlat™ capturing mode, super fast preview and Auto Capture™ are features that will make the use of 1000 ppi palm scanners much more convenient for law enforcement officers.

No problems with dry skin and scratches on the prism

Our patented silicone membrane can be used without any adjustments to the L SCAN 1000PX. Just place the membrane at the platen and images from dry skin will be captured with brilliant quality. Replacement of the silicone membrane can be done easily in the field. And at the same time, the prism is well protected against damages.

Capturing as simple as with ink-on-paper

Capturing fingers and palms with livescan devices has to be as intuitive, reliable and simple as with the ink-on-paper approach. With our patented Auto Capture™ we provide a method that allows capturing flat fingers, rolled fingers and palms automatically with the L SCAN 1000PX— independent of speed or roll direction.

Extreme Definition: Based on groundbreaking inventions by Cross Match Technologies

Patent number	Title
US 7,277,562	Biometric Imaging Capture System And Method
US 7,613,334	Method And Arrangement For Electronic Recording Of Rolled Fingerprints
US 7,130,456	Method And Arrangement For Low Distortion Recording Of Intensity Patterns Occurring On A Contact Surface Through Frustrated Total Reflection
US 6,795,570	Process And Apparatus For The Electronic Recording Of An Image
US 7,319,565	Silicone Rubber Surface For Biometric Print TIR Prisms

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