

# Trimble Forensics X7

## 3D LASER SCANNING SYSTEM

**High-speed 3D laser scanning system with new innovations to simplify adoption, increase efficiency and provide full confidence in scene data capture with reduced office processing time.**

### Simple

- ▶ Compact and lightweight to make the most challenging scene reachable
- ▶ Low learning curve with reliable field workflows
- ▶ Intuitive Trimble Forensics Capture software to operate, manage, view and validate scan data
- ▶ Fast image capture

### Smart

- ▶ No service downtime or annual costs with its automatic calibration feature.
- ▶ Full confidence in every scan with the unique Trimble X-Drive deflection system.
- ▶ Complete point cloud capture and automatic registration whilst scanning.
- ▶ Instrument re-adjusts down to millimeter accuracy with its self leveling feature.

### Professional

- ▶ Industry leading 2 year standard warranty
- ▶ Effectively capture dark and reflective objects with no need for surface preparation.
- ▶ Flexible operation with tablet or one-button workflow

**Learn more: [forensics.trimble.com/X7](https://forensics.trimble.com/X7)**



| SYSTEM OVERVIEW                  |                  |  |                        |                        |                            |                       |
|----------------------------------|------------------|--|------------------------|------------------------|----------------------------|-----------------------|
| Trimble X7                       |                  | High-speed 3D laser scanner with combined servo drive/scanning mirror, integrated imaging, automatic calibration, automated registration technologies and survey-grade self-leveling |                        |                        |                            |                       |
| Trimble Forensics Capture        |                  | Easy to use software for scanner control, 3D data visualization and processing. Capabilities include automated infield registration, annotations and measurements                    |                        |                        |                            |                       |
| SCANNING PERFORMANCE             |                  |  |                        |                        |                            |                       |
| GENERAL                          |                  |  |                        |                        |                            |                       |
| Scanning EDM Laser Class         |                  | Laser class 1, eye safe in accordance with IEC EN60825-1   |                        |                        |                            |                       |
| Laser Wavelength                 |                  | 1550nm, invisible  |                        |                        |                            |                       |
| Field of View                    |                  | 360° x 282°  |                        |                        |                            |                       |
| Scan Duration                    |                  | Fastest 2 min 34 sec with images, 1 min 34 sec without   |                        |                        |                            |                       |
| Scan Speed                       |                  | Up to 500kHz   |                        |                        |                            |                       |
| RANGE MEASUREMENT                |                  |  |                        |                        |                            |                       |
| Range Principle                  |                  | High speed, digital time-of-flight distance measurement  |                        |                        |                            |                       |
| Range Noise <sup>1</sup>         |                  | <3 mm @ 60 m on 80% albedo <sup>2</sup>  |                        |                        |                            |                       |
| Range <sup>3</sup>               |                  | 0.6 m - 80 m   |                        |                        |                            |                       |
| High Sensitivity Mode            |                  | Dark (asphalt) and reflective (stainless steel) surfaces   |                        |                        |                            |                       |
| SCANNING ACCURACY                |                  |  |                        |                        |                            |                       |
| Validation                       |                  | Guaranteed over lifetime with auto-calibration   |                        |                        |                            |                       |
| Range Accuracy <sup>1</sup>      |                  | 2 mm   |                        |                        |                            |                       |
| Angular Accuracy <sup>1,5</sup>  |                  | 21"  |                        |                        |                            |                       |
| 3D Point Accuracy <sup>1,5</sup> |                  | 2.4 mm @ 10 m, 3.5 mm @ 20 m, 6.0 mm @ 40 m  |                        |                        |                            |                       |
| SCANNING PARAMETERS              |                  |  |                        |                        |                            |                       |
| DURATION <sup>4</sup><br>(MIN)   | SCAN<br>MODE     | SPACING<br>(MM) @ 10 M   | SPACING<br>(MM) @ 35 M | SPACING<br>(MM) @ 50 M | NUMBER OF<br>POINTS (MPTS) | MAX FILE<br>SIZE (MB) |
| 2                                | Standard         | 11   | 40                     | 57                     | 12                         | 160                   |
| 4                                | Standard         | 5  | 18                     | 26                     | 58                         | 420                   |
|                                  | High Sensitivity | 9  | 33                     | 47                     | 17                         | 190                   |
| 7                                | Standard         | 4  | 12                     | 18                     | 125                        | 760                   |
|                                  | High Sensitivity | 6  | 21                     | 30                     | 42                         | 330                   |
| 15                               | High Sensitivity | 4  | 13                     | 19                     | 109                        | 710                   |
| IMAGING PERFORMANCE              |                  |  |                        |                        |                            |                       |
| Sensors                          |                  | 3 coaxial, calibrated 10MP cameras   |                        |                        |                            |                       |
| Resolution                       |                  | 3840 x 2746 pixels for each image  |                        |                        |                            |                       |
| Raw Image Capture                |                  | Fast 1 minute - 15 images - 158MP<br>Quality 2 minutes - 30 images - 316MP   |                        |                        |                            |                       |
| Settings                         |                  | Auto Exposure<br>Auto White Balance correction and indoor/outdoor presets  |                        |                        |                            |                       |
| AUTOMATIC LEVEL COMPENSATION     |                  |  |                        |                        |                            |                       |
| Type                             |                  | Automatic Self-leveling, Selectable on/off   |                        |                        |                            |                       |
| Range                            |                  | ± 5° (Survey Grade), ± 45° (Coarse)  |                        |                        |                            |                       |
| Upside Down                      |                  | ± 5° (Survey Grade)  |                        |                        |                            |                       |
| Survey Grade Accuracy            |                  | < 3" = 0.3 mm @ 20 m   |                        |                        |                            |                       |

# Trimble Forensics X7 3D LASER SCANNING SYSTEM

| AUTOMATIC CALIBRATION          |   |
|--------------------------------|---|
| Integrated Calibration System  | Full auto-calibration of range and angular systems in 25 seconds with no user interaction or targets  |
| Angular Calibration            | Applies a correction to the collimation error, i.e., the deviation of the horizontal, vertical or sight axis  |
| Range Calibration              | Applies a distance correction in the albedo and the distance measurement  |
| Smart Calibration              | Monitors environmental temperature, ambient light, vibration, instrument temperature and vertical speed for optimum performance   |
| TRIMBLE REGISTRATION ASSIST    |   |
| Inertial Navigation System     | IMU tracks instrument position, orientation and movement  |
| Auto-Registration              | Automatic scan orientation and alignment with last or pre-selected scan   |
| Manual Registration            | Manual alignment or split screen cloud to cloud   |
| Visual Checks                  | Dynamic 2D and 3D viewing for QA  |
| Refinement                     | Automatic registration refinement   |
| Registration Report            | Report with project and station average error, overlap and consistency results  |
| GENERAL SPECIFICATIONS         |   |
| WEIGHT AND DIMENSIONS          |   |
| Instrument (including battery) | 5.8 kg (12.78 lbs)  |
| Internal Battery               | 0.35 kg   |
| Dimensions                     | 178 mm (W) x 353 mm (H) x 170 mm (D)  |
| POWER SUPPLY                   |   |
| Battery Type                   | Rechargeable Li-Ion battery 11.1V, 6.5Ah (Standard for Trimble Optical Instruments)   |
| Typical Duration               | 4 hours per battery   |
| ENVIRONMENTAL                  |   |
| Operating Temperature          | -20 °C to 50 °C (-4 °F to 122 °F)   |
| Storage Temperature            | -40 °C to 70 °C (-40 °F to 158 °F)  |
| Ingress Protection Rating      | IP55 (dust protected and water jet)   |
| OTHERS                         |   |
| Remote Control                 | Trimble T10 tablet or comparable Windows® 10 tablet or laptop via WLAN or USB cable   |
| Push Button                    | One-button scan operation   |
| Communications / Data Transfer | WLAN 802.11 A/B/G/N/AC or USB Cable   |
| Data Storage                   | Standard SD Card (32GB SDHC included)   |
| Accessories                    | <ul style="list-style-type: none"> <li>• Backpack for easy transport and airline carry-on</li> <li>• Lightweight carbon fiber tripod with bell connector</li> <li>• Quick release adapter for X7 and carbon fiber tripod</li> </ul> |
| Warranty                       | 2 year standard   |





# Trimble Forensics X7 3D LASER SCANNING SYSTEM

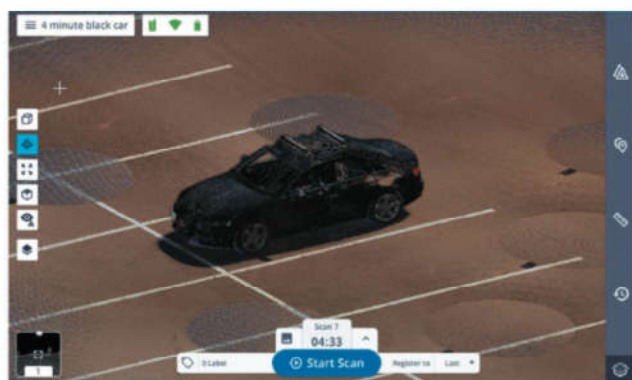
## TRIMBLE FORENSICS CAPTURE SOFTWARE

### SYSTEM REQUIREMENTS

|                  |  |
|------------------|--|
| Operating System | Microsoft® Windows® 10   |
| Processor        | Intel® 6th Generation Core™ i7 2.5 GHz processor or better           |
| RAM              | 8GB or better  |
| VGA Card         | Intel HD Graphics 520 or better                                      |
|                  | 256 GB Solid State Drive (SSD), (512GB or more for best performance) |

### FEATURES

|                             |   |
|-----------------------------|---|
| Scanner Operation           | Remote control or cable   |
| Trimble Registration Assist | Automatic and manual registration, refinement and reporting.                                      |
| Data Interaction            | 2D, 3D and Station View   |
| In-field Documentation      | Scan labels, annotations, pictures and measurements   |
| Auto Sync                   | Automatic data sync from one-button operation   |
| Data Redundancy             | Data stored on SD Card and tablet   |
| Data Integration            | Export format to support Trimble Forensics RealWorks and Reveal software<br>File format: .Capture |



1. Specification given as 1 sigma.
2. Albedo given @ 1550 nm.
3. On matte surface with normal angle of incidence.
4. Durations are rounded up to the nearest minute and include auto-calibration.
5. When instrument leveled within ± 5.

Specifications subject to change without notice.

Contact your local Trimble Authorized Distribution Partner for more information

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