Firmware Release Notes

1.17.1

2026-06-08 - Compatible with MotionCam-3D (Color), PhoXi 3D Scanner Gen3, PhoXi 3D Scanner Gen2 (shipped after Nov 2021), Alpha 3D Scanner

SCAN-6297 GigE Vision interface: Resolved an issue where the native camera matrix for the primary and main cameras did not correctly account for certain settings introduced in PhoXi Firmware 1.17.0.

SCAN-6198 Updated the on-device color image processing to utilize the edge-preserving demosaicing algorithm introduced in FW 1.17.0 across all resolution settings, including the lowest resolution option.

SCAN-6187 GigE Vision interface: Resolved an issue where enabling the hardware trigger (Trigger Source = "Line 1") could make the device become unresponsive during a subsequent reconnection, preventing further communication and requiring a device reboot.

SCAN-6151 Further optimized the on-device 3D data reprojection (when using Camera Space = ColorCamera or CustomCamera), resulting in an additional 30-45% speedup compared to FW 1.17.0.

1.17.0

2026-05-04 - Compatible with MotionCam-3D (Color), PhoXi 3D Scanner Gen3, PhoXi 3D Scanner Gen2 (shipped after Nov 2021), Alpha 3D Scanner

SCAN-6131 The 3D point limit for reprojection to Camera Space = ColorCamera has been further increased across all product families.

SCAN-6099 Updated Factory Profiles for sensors equipped with color camera unit. Adjustments reflect support for the newly introduced Early Transfer setting.

SCAN-6092 GigE Vision interface: Resolved an issue where the reported Camera matrix for the color camera did not accurately reflect the selected ROI Mode (Color Settings), ensuring the intrinsic parameters now correctly account for the chosen region of interest.

SCAN-6089 Marker Dot Correction: Max Marker Shift (pixel) is now limited to range [0.0, 100.0] in order to prevent extensively long search of the marker dots.

SCAN-6086 The underlying operating system (YT platform) has been updated to the latest version.

SCAN-6059 Autonomous Maintenance: Removed the temperature constraint (previously requiring the device to be within ±10°C of the internal calibration temperature), enabling the maintenance process to be performed across a much broader range of operating temperatures.

SCAN-5977 Resolved all known issues on Alpha 3D Scanners that could lead to the “ERROR(0): V4l2 grabber support preGrab failed” message.

SCAN-5953 Improved the internal logging mechanism to ensure higher robustness and reliability during sparse triggering scenarios.

SCAN-5938 Optimized the on-device color image processing pipeline by enabling parallel execution with 3D data acquisition to reduce overall capture time, and introduced a new edge-preserving demosaicing algorithm for all resolution options (except the lowest) to deliver sharper color images.

SCAN-5658 Added support for a new Early Transfer setting that significantly reduces processing latency by allowing the device to deliver texture or image data as an independent, early frame as soon as it is available, preceding the transmission of the complete 3D data; note that PhoXi Control 1.17.0 or higher is required to utilize this feature.

SCAN-5601 Resolved an issue on Alpha 3D Scanner devices where enabling Camera Only Mode resulted in a black Texture image, ensuring reliable 2D data acquisition.

SCAN-5513 Optimized the 3D data reprojection performance (when using Camera Space = ColorCamera or CustomCamera), significantly reducing processing overhead by more than 70% in standard configurations to enable faster point cloud delivery.

SCAN-5408 GigE Vision interface: Enabled runtime adjustments for the Log Level (Device Control) parameter.

1.16.5 2026-02-13 - Compatible with MotionCam-3D (Color), PhoXi 3D Scanner Gen3, PhoXi 3D Scanner Gen2 (shipped after Nov 2021), Alpha 3D Scanner

SCAN-6050 Improved synchronization between Primary and Color camera acquisitions to resolve an issue where the laser could remain active after the 3D data capture, preventing laser patterns in the Texture image and ensuring clean texture results.

SCAN-6024 Resolved an issue on PhoXi 3D Scanner Gen3 where switching to Gen2 half-resolution (1032x772) under specific settings could trigger an "Image corrupted | ERROR(0): ..." message; ensuring reliable scanning performance across all configurations.

SCAN-5745 GigE Vision interface: Implemented Marker Dot Correction control features and frame chunks with access features containing Marker Dot Correction status and data. A simple Harvesters example has also been added for Python users, with access via chunk features and directly via register
https://github.com/photoneo-3d/photoneo-python-examples/tree/main/GigE-V/harvesters
https://github.com/photoneo-3d/photoneo-python-examples/tree/main/GigE-V/harvesters

SCAN-2770 Ensured consistent scanning volume reporting when adjusting Single Pattern Exposure.

1.16.3 2025-11-21 - Compatible with MotionCam-3D (Color), PhoXi 3D Scanner Gen3, PhoXi 3D Scanner Gen2 (shipped after Nov 2021), Alpha 3D Scanner

SCAN-5994 Autonomous Maintenance: The error message for out-of-range device temperatures during acquisition now contains the exact deviation (in degrees Celsius) from the acceptable limit, providing clearer and more actionable feedback to the user.

SCAN-5982 Resolved an issue on PhoXi 3D Scanner Gen2 running FW 1.16.2 where triggering a scan in half resolution (1032x772) could fail with an "Image corrupted | ERROR(0): ..." message; half-resolution scanning now operates reliably.

SCAN-5979 GigE Vision interface: Changed GevCurrentIPConfiguration* access from Read-Only to Read/Write; when assigning a static address via GigE Vision interface, first set Gev Persistent IP Address, Gev Persistent Subnet Mask, and Gev Persistent Default Gateway, then toggle the Gev Current IP Configuration flags (LLA, DHCP, Persistent IP) to prevent invalid configurations.

1.16.2 2025-11-05 - Compatible with MotionCam-3D (Color), PhoXi 3D Scanner Gen3, PhoXi 3D Scanner Gen2 (shipped after Nov 2021), Alpha 3D Scanner

SCAN-5939 Resolved an issue where, after triggering a scan with Maintenance Mode = Auto and Texture Source = Color, switching Maintenance Mode = Off could leave the PhoXi 3D Scanner Gen3 in a non-acquiring state.

SCAN-5867 Added two new resolution options for PhoXi 3D Scanner Gen3:

- 2064 × 1544 (Gen2 full resolution)
- 1032 × 772 (Gen2 half resolution)

With PhoXi Control 1.16.0 and higher, users can now choose from six resolution options in total. When connected to PhoXi Control versions lower than 1.16.0, only two resolutions (2064 × 1544, 1032 × 772) are available. Please note that previously, only the native resolution (2472 × 2064) was available.

1.16.0 2025-09-05 - Compatible with MotionCam-3D (Color), PhoXi 3D Scanner Gen3, PhoXi 3D Scanner Gen2 (shipped after Nov 2021), Alpha 3D Scanner

SCAN-5863 Enhanced internal log file management to ensure more reliable and efficient storage over time.

SCAN-5853 The 3D point limit for reprojection to Camera Space = ColorCamera has been increased across all product families.

SCAN-5822 The underlying operating system (YT platform) has been updated to the latest version.

SCAN-5803 Configuration of the Precision Time Protocol (PTP) clock server has been updated to improve time synchronisation accuracy and reliability.

SCAN-5786 GigE Vision interface: Added support for the new Texture Source options - Computed (Enhanced) and Laser (Enhanced).

SCAN-5758 Updated Factory Profiles across all product lines. Adjustments reflect support for the newly introduced Texture Source options.

SCAN-5747 Devices now report their maximal supported resolution, visible in the Configuration field in PhoXi Control and via pho::api::PhoXiDeviceInformation in the PhoXi API.

- MotionCam-3D: 2 MP
- PhoXi 3D Scanner Gen3: 5.1 MP
- PhoXi 3D Scanner Gen2: 3.2 MP
- Alpha 3D Scanner: 1.6 MP

This enhancement provides clearer hardware specification details for improved configuration and integration.

SCAN-5701 Implemented a new, highly optimised point cloud filtering method. It removes inaccurate 3D points more effectively and is enabled by default on PhoXi 3D Scanner Gen3 devices.

SCAN-5672 Support for PhoXi 3D Scanner Gen3 (including GigE Vision interface). Introducing new features for improved performance and ease of use:

- HDR Support
- Expanded Resolution options for greater flexibility and detail (from 0.7MP up to 5MP)
- New Factory Profiles tailored for PhoXi 3D Scanner Gen3
- Autonomous Maintenance - now available for all PhoXi 3D Scanner Gen3 devices (previously exclusive to MotionCam-3D Color)

SCAN-2791 Added new Texture Source options: Computed (Enhanced) and Laser (Enhanced). These operate like standard Computed/Laser options but apply additional processing to suppress projection stripes; not supported on devices with older (Powell lens based) projection unit. Note: The suppression does not work in Camera Only Mode/2D.

1.15.0 2025-05-26 - Compatible with MotionCam-3D (Color), PhoXi 3D Scanner Gen2 (shipped after Nov 2021), Alpha 3D Scanner

SCAN-5721 Added support for Marker Dot Correction, enabling the sensor to maintain the point cloud at a fixed position relative to rigid Marker Dots installed in the scene. The feature is available in Processing Settings and introduces two new parameters: “Operation Mode” (with options: Off, Passive, Active, Reference recording) and “Max Marker Shift (pixel).” The GigE Vision interface has been extended accordingly. This feature is available only on devices shipped after May 26, 2025, with firmware version 1.15.0 or higher.

SCAN-5720 A new ISO setting has been added to control the primary sensor’s light sensitivity. Higher ISO values increase brightness but may introduce noise, potentially affecting texture and point cloud quality. The setting is also available via the GigE Vision interface.

SCAN-5683 Added support for the new “Auto” Maintenance Mode, enabling the Autonomous Maintenance feature (also via GigE Vision interface). This mode can be used to check and improve the consistency of device calibration. This feature is available only on MotionCam-3D Color units shipped after May 26, 2025, with firmware version 1.15.0 or higher.

SCAN-5654 All Factory Profiles for all product families have been updated to include new settings.

SCAN-5649 When “Calibration Volume Only” is disabled, we now keep 3D points also outside of the calibrated _elevation range_ known to contain the full projection strength. The vertical field of view has thus been slightly increased. Note that these additional points may have lower quality due to reduced projection contrast.

SCAN-5529 The device now serves its Verification Report, confirming successful completion of the final quality check. The report can be accessed via PhoXi Control (version 1.15.0 or higher) from the Maintain menu within Network Discovery, or through a direct HTTP access point. Available for devices shipped after May 2025 with firmware version 1.15.0 or higher.

SCAN-4921 Added support for Projection Offset Left/Right settings also for the MotionCam-3D (Color) product family. These parameters, available also via GigE Vision interface, control how many projection columns are cut off from respective side (total width: 512 columns), helping to reduce ambient light interference and improve performance in complex lighting conditions.

SCAN-4583 Firmware update for the projection unit, laying the groundwork for future enhancements and improving system reliability.

1.14.0 2025-03-17 - Compatible with MotionCam-3D (Color), PhoXi 3D Scanner Gen2 (shipped after Nov 2021), Alpha 3D Scanner

SCAN-4963 The underlying operating system (YT platform) has been updated to the latest version. This ensures compatibility with upcoming hardware revisions of the processing unit, scheduled for production deployment later this year.

SCAN-5073 GigE Vision interface: Added support for Precision Time Protocol (PTP) control features, in accordance with GenICam SFNC v2.7.4.

SCAN-5102 Fixed an issue where using Scanner mode with a Shutter Multiplier greater than 1 and a large Exposure could cause a loss of synchronization between the projector and the COMPIS sensor, resulting in missing points in the generated point cloud, for the MotionCam-3D product line.

SCAN-5121 Enhanced Color Settings: Added support for cropping the full ColorCameraImage through new settings: "ROI Mode" (Standard, Extended, Custom) and "ROI" (Xmin, Ymin, Xmax, Ymax). This enables reduced computation, faster transfer times, and optimized reprojection to Camera Space = ColorCamera within the 3D point limit. The default "ROI Mode" is now Standard, which provides an optimal ColorCameraImage crop aligned with the calibrated scanning volume. To restore the previous behavior, set "ROI Mode" to Extended.

SCAN-5288 Precision Time Protocol (PTP) Clock: The PTP master priority has been lowered to improve compatibility in multi-device environments. As a result, the device is now more likely to operate as a slave device, expecting a local system clock to act as the master clock.

SCAN-5316 Firmware update for the projection unit with an enhanced thermal and power management. The projector automatically disables itself when power throttling, improving device protection and reliability.

SCAN-5330 Added two new modes to CameraSpace - “MarkerOrthoCamera”, which reprojects the 3D data (including the depth map) as if it were captured by an orthogonal (i.e., telecentric) camera positioned perpendicular to a marker board, and “Custom Camera”, which reprojects the 3D data into the perspective of a custom external camera. This external camera can be, for instance, a high-quality color camera, a special multi-spectral camera, or an infrared camera. Such a setup is demonstrated in the new _ReprojectionToExternalCamera_ API example.

SCAN-5372 GigE Vision interface: Expanded General, Color, and Coordinates Settings with new options.

SCAN-5379 All Factory Profiles for all product families have been updated to include new settings.

SCAN-5528 Fixed an issue where switching to a higher Coding Quality setting (e.g., Fast → High or High → Ultra) resulted in missing points in the generated point cloud when Ambient Light Suppression was enabled and the Shutter Multiplier was set above 1.

SCAN-4805 Introduced a new "Log Level" setting in General Settings across all product families, enabling precise control over device logging, from minimal logs to detailed traces for diagnostics. The updated logging mechanism enhances support for real-time applications while maintaining flexibility for troubleshooting. Additionally, optimizations in the logging mechanism contribute to more stable FPS performance and lower jitter, ensuring smoother operation in time-sensitive applications.

SCAN-4858 All Photoneo sensors now report their hardware specifications, offering easier access to key device details. Users can retrieve information such as Laser Color (Red/Blue), Laser Class (LC2/LC3), device model (Color/Alpha), and the current Laser Interlock activation status. This data is available in Network Discovery within PhoXi Control's GUI and is also exposed via the PhoXi API.

SCAN-4333 A new "Maintenance Mode" setting has been added under General Settings (available only for MotionCam-3D Color), designed to help check and improve device calibration consistency. At present, only the default "Off" option is available for all devices. However, future MotionCam-3D Color devices will include an additional "Stereo" mode.

SCAN-1096 Enhanced marker pattern recognition algorithm for greater robustness and improved detection of incorrectly scaled marker patterns. The image segmentation and edge detection algorithms have been refined to achieve higher accuracy and to better handle small patterns.

1.13.3 2024-08-20 - Compatible with MotionCam-3D (Color), PhoXi 3D Scanner Gen2 (shipped after Nov 2021), Alpha 3D Scanner

SCAN-5290 Resolved an issue, where the device occasionally produces non-monotonic Frame's timestamp.

SCAN-5222 Firmware update for the projection unit

1.13.2 2024-07-08 - Compatible with MotionCam-3D (Color), PhoXi 3D Scanner Gen2 (shipped after Nov 2021), Alpha 3D Scanner

SCAN-5236 Improved dynamic range for MotionCam-3D product line's image sensor in Scanner mode. Note: This improvement is applicable only to MotionCam-3D devices in production since June 2024.

SCAN-5233 Improved texture filtering on MotionCam-3D devices to reduce noise in Scanner mode. Note: This improvement is applicable only to MotionCam-3D devices in production since June 2024.

SCAN-5231 Fixed an issue where changes to the "Shutter Multiplier" (in Scanner Mode section) were not applied correctly; "Shutter Multiplier" is now fully functional in both 2D and Scanner modes on the MotionCam-3D product line.

SCAN-5230 Resolved an issue with startup user set ("UserSetDefault") not being properly loaded .

SCAN-5229 Texture images in 2D mode (for "Texture Source" options other than Color) are now treated the same as in Scanner and Camera modes.

SCAN-5220 Fixed a crash on MotionCam-3D product line devices. It occurred when scanning with DEFAULT profile settings, changing the Texture Source for Scanner Mode to Computed, setting the source, and then switching the Operation Mode to Scanner and triggering a scan.

SCAN-5216 Precision Time Protocol (PTP) Clock: Resolved a network driver issue that would occasionally cause the timestamp to be incorrectly reported as 1970-01-01 00:00:00.

SCAN-5210 Firmware update for the 2D camera unit in the Alpha 3D Scanner product line.

SCAN-5199 The "Interreflection filter" is now applied only when "Coding Strategy" is set to "Interreflections". Choosing this filter while having a different setting in "Coding Strategy" does no longer change the "Coding Strategy" to "Interreflections".

SCAN-5194 Firmware update for the projection unit.

SCAN-5146 The enhanced algorithm of computation of normals is now robust to the coordinate space origin (controlled via the "Camera space" setting) and eliminates diagonal artifacts. "Normals Estimation Radius" is uniformly set to 1 by default across all factory profiles and product lines.

SCAN-5143 Introduced support for new hardware revisions of the processing unit, which is set for production deployment later this year.

SCAN-5039 Extended thermal calibration model for even more stable and reliable scanning performance in varying temperature conditions. Applicable to devices built and calibrated after July 8th, 2024.

1.13.1 2024-05-30 - Compatible with MotionCam-3D (Color), PhoXi 3D Scanner Gen2 (shipped after Nov 2021), Alpha 3D Scanner

SCAN-5179 GigE Vision interface: Exposed GevSCPD feature. GevSCPD controls the delay (in the GEV timestamp counter unit) between each packet for the stream channel. This increases the transmission time of the data and can be used as a flow-control mechanism if the application or the network infrastructure cannot keep up with the packets coming from the device.

SCAN-5178 Resolved issue with "Coding Strategy" = *Sparse* on MotionCam-3D devices equipped with the bulkier camera unit.

SCAN-5168 Enhanced treatment of defective pixels in the MotionCam-3D product family's image sensor, resulting in artifact-free scans in both Scanner and Camera mode.

SCAN-5163 Improved marker pattern recognition for "Texture Source" = *Color*, reducing pose estimation uncertainty by approximately 10x with our new algorithm.

SCAN-5139 Added a new option *2576x1460* for the Resolution (Color Settings) of the ColorCameraImage used as Texture (Color in the 2D image tab).

1.13.0 2024-05-02 - Compatible with MotionCam-3D (Color), PhoXi 3D Scanner Gen2 (shipped after Nov 2021), Alpha 3D Scanner

SCAN-5165 Implemented a new point cloud filtering method that removes inaccurate 3D points more accurately and faster. This method is now enabled by default on all Photoneo 3D sensors.

SCAN-5162 Introduced a new "Coding strategy" *High-frequency* suitable for scenes containing reflective surfaces. Available across all Photoneo 3D Sensors. On MotionCam-3D product line it is available for both *Scanner* and *Camera* mode.

SCAN-5154 Detailed internal logging of settings changes for easier troubleshooting and faster problem resolution.

SCAN-5103 GigE Vision interface: Fixed behavior: When the Normal component is enabled and "Normals Estimation Radius" = 0, all zeros are now reported as expected.

SCAN-5083 Implemented enhanced normals computation algorithm. Delivering faster processing, improved quality, and crispier point clouds. On MotionCam-3D product family, "Normals Estimation Radius" is set to 1 by default in all factory profiles.

SCAN-5070 GigE Vision interface: Removed custom Reprojection component together with "Scan 3d Output Mode" = *Calibrated C*. Fully replaced by the new standard components Coordinate Map (A & B) and corresponding "Scan 3D Output Mode" = *Projected C*.

SCAN-5069 GigE Vision interface: Removed custom Coordinate Transformation component. Access coordinate transformation data directly through Chunk data selection. The full list of chunk data available:

- Timestamp
- Timestamp Latch Value
- Primary Camera To Coordinate Space Transformation
- Current Camera To Coordinate Space Transformation
- Main Camera Calibration Data
- Color Camera Calibration Data
- Temperature

SCAN-5065 GigE Vision interface: Removed Irregular grid from "Output Topology" options. It remains a PhoXi Control-only feature. When using the GigE Vision interface for communication with devices from the MotionCam-3D product family, the default "Output Topology" is set to *Raw*.

SCAN-5059 Fixed Current camera frustum reporting when using “Output Topology” = *Irregular* on MotionCam-3D product family.

SCAN-5058 GigE Vision interface: Added support for “Scan3dCoordinateMapValueAll” and “CoordinateMapSelector” features; both available only with “Scan 3d Output Mode” = Projected C and “CoordinateMapEnable” = *True*.

SCAN-5056 Introduced a new processing setting “Hole filling”. If enabled, this filter interpolates missing 3D points based on values from neighboring points, resulting in a more complete and continuous surface representation. Default value: False.

SCAN-5044 GigE Vision interface: Added <pMin> and <pMax> nodes for Exposure setting allowing seamless Exposure setup in 3rd party software (e.g. HALCON or Aurora Design Assistant™)

SCAN-5038 GigE Vision interface: Normal component is now by default reported with “Pixel Format” = *Coord3D_ABC_32f*. For faster transfer of data and time-demanding applications, “Pixel Format” = *Coord3D_AC8* is still available.

SCAN-5037 GigE Vision interface: All available intrinsic parameters can now be retrieved via corresponding Coordinate settings for:

- CurrentCamera: Current (effective) camera settings; depends on the “CameraSpace” setting selector.
- CurrentPrimaryCamera: Parameters of the color camera with which the color texture was created.
- CurrentColorCamera: Parameters of the camera which the original depth map (before reprojection) was created with.

SCAN-5035 Introducing new factory profiles for MotionCam-3D Color: STATIC_SCENE_TRANSPARENT, DYNAMIC_SCENE_DARK_GLOSSY, and STATIC_SCENE_DARK_GLOSSY, showcasing the enhanced capabilities of scanning scenes with transparent, translucent, glossy or dark objects with challenging interreflections. Additionally, adjusted “Noise filtering for the shiny material” profile for the PhoXi 3D Scanner and Alpha 3D Scanner product lines.

SCAN-5014 GigE Vision interface: The Confidence component is now correctly reported in “Pixel Format” = *Confidence8* with values in the range 0-255.

SCAN-5003 GigE Vision interface: The Range component is now by default reported with “Pixel Format” = *Coord3D_ABC32f* and “Scan 3D Output Mode” = *Calibrated_ABC_Grid*. For faster transfer of data and time-demanding applications, “Pixel Format” = *Coord3D_C32f* is still available as an option when “Scan 3d Output Mode” = *ProjectedC*. The (obsolete) option “Scan 3d Output Mode” = *CalibratedC* is no longer available.

SCAN-4991 Resolved issues with Custom White Balance computation on MotionCam-3D Color

SCAN-4978 GigE Vision interface: Intensity component now reports the appropriate Pixel Format (Mono16/Mono12/Mono10/RGB8) based on the “TextureSource”/”CameraTextureSource” selection.

SCAN-4973 Added missing settings descriptions across all product families.

SCAN-4940 GigE Vision interface: Added support for the new standard components *Coordinate Map A*, and *Coordinate Map B*, aligned with GenICam SFNC v2.7.4 for “Scan 3D Output Mode” = *Projected C*, replacing obsolete Reprojection component from FW 1.12 and lower. The use of the maps is further illustrated in the public examples available at github.com/photoneo-3d

SCAN-4925 All factory profiles for the Alpha 3D Scanner product line now use the “Calibration Volume Only” = *True* by default.

SCAN-4806 Added support for a Precision Time Protocol (PTP) clock server, enabling the device to serve as an accurate time source. This feature ensures precise synchronization of clocks between multiple Photoneo sensors across the network. This is critical for applications requiring exact time alignment when using, for example, encoders or conveyor belts.

SCAN-4767 Introduced a new processing setting “Glare Compensation” to mitigate wavy point cloud artifacts stemming from super-direct reflections, particularly on challenging reflective surfaces, with additional runtime impact (e.g. 6 ms per frame for MotionCam-3D using “Output Topology” = *Raw*). Default value: *False*.

SCAN-4744 GigE Vision interface: Added support for User-Sets functionality.

SCAN-4743 GigE Vision interface: Added support for user-defined device identifier “DeviceUserID“.

SCAN-4672 GigE Vision interface: All intrinsic parameters of the main and the color camera are exposed via Chunk Data Control.

SCAN-4620 Introduced a new laser projection mode, leveraging Photoneo’s unique COMPIS (Computational Image Sensor) and the Parallel Structured Light technology to enhance signal readouts on transparent, translucent, and glossy surfaces. Accessible through “Coding Strategy” = *Sparse* (for Camera mode) across all MotionCam-3D product family devices. Recommended for static scenes only.

SCAN-4551 Introduced a new processing setting “Pattern Code Correction” leading to a more complete point cloud. Available for all products on three levels:

- Off: suitable for time-demanding applications (no smoothing is applied)
- Medium: smoothing with little runtime cost (default),
- Strong: significant smoothing with additional runtime cost (e.g. 6 ms per frame for MotionCam-3D using “Output Topology” = *Raw*). Recommended in combination with “Coding Strategy” = *High-frequency*.

SCAN-2799 Resolved Texture source switch from *Focus* to *Computed* on PhoXi 3D Scanner devices.

1.12.2 2023-12-6 - Compatible with MotionCam-3D (Color), PhoXi 3D Scanner Gen2 (shipped after Nov 2021), Alpha 3D Scanner

SCAN-4938 Firmware update for the projection unit.

1.12.0 2023-11-20 - Compatible with MotionCam-3D (Color), PhoXi 3D Scanner Gen2 (shipped after Nov 2021), Alpha 3D Scanner

SCAN-4924 Introduced the “Remove False Colors“ parameter in the Color Settings section of MotionCam-3D Color, providing a solution to address falsely colored points caused by occlusions in the perspective of the color camera unit.

SCAN-4842 Introducing new factory profiles for MotionCam-3D Color: DYNAMIC_SCENE_COLOR_REPROJECTION and STATIC_SCENE_COLOR_REPROJECTION, showcasing the new capabilities of reprojecting the DepthMap into the internal 2D RGB camera unit perspective.

SCAN-4835 Added support for “Full grid” Output Topology applicable in Camera Mode on all products from MotionCam-3D product family. Leveraging the native (2 Mpix) resolution of the proprietary image sensor (as in Scanner Mode), the enhanced point cloud reconstruction algorithm delivers improved completeness and accuracy in the resulting point cloud.

SCAN-4795 Enhanced communication with the internal camera unit for improved reliability.

SCAN-4790 General point cloud reconstruction quality improvements across all Output Topologies in the Camera Mode for MotionCam-3D product line.

SCAN-4778 Enhanced Coordinate Settings: Introduced new “Camera Space” setting, set by default to “PrimaryCamera”. For MotionCam-3D Color, the “ColorCamera“ option enables reprojecting the DepthMap into the internal 2D RGB camera unit perspective, hence obtaining the direct relationship between Texture and DepthMap also when Texture Source is set to “Color”. This enhancement streamlines operations, such as segmenting the object of interest in the RGB texture and selectively accessing the corresponding 3D points.

SCAN-4751 GigE Vision interface: Addressed DiscoveryAckDelay issues, resolved default behavior inconsistencies, and implemented register persistency.

SCAN-4746 GigE Vision interface: Added support for standard TLParamsLocked feature used by the Transport Layer to prevent critical features from changing during acquisition.

SCAN-4740 GigE Vision interface: Added support for standard Scan 3D Control features: Scan3dDistanceUnit, Scan3dCoordinateSystem, Scan3dOutputMode, Scan3dCoordinateSelector, Scan3dCoordinateScale, Scan3dCoordinateOffset, Scan3dInvalidDataFlag, Scan3dInvalidDataValue.

SCAN-4696 Resolved minor initialization issues for the PhoXi 3D Scanner product line in cases when Resolution =”(1032x772)” in the startup profile.

SCAN-4488 Redefined sampling topologies of the resulting point cloud in Camera Mode defined by the Output Topology for MotionCam-3D product family:
Raw - points are now organized into a checkerboard grid,
Irregular grid - complements the missing checkerboard grid through interpolation in PhoXi Control,
Regular grid - shares the same sampling locations as Irregular grid, however, all 3D points of this topology are properly estimated (i.e. no interpolation is involved)

SCAN-4425 Fixed occasional misconfiguration of Laser power when transitioning between Scanner and Camera modes on MotionCam-3D product family.

SCAN-4304 Enhanced internal logging mechanism allowing seamless troubleshooting.

SCAN-4158 GigE Vision interface: Revamped streaming protocol using scatter-gather buffers, with support for multipart chunks, packet delay, and batching.

1.11.0 2023-09-06 - Compatible with MotionCam-3D (Color), PhoXi 3D Scanner Gen2 (shipped after Nov 2021), Alpha 3D Scanner

SCAN-4718 GigE Vision interface: Fixed resolution reporting with different Output Topologies on MotionCam-3D product family. Note that Output Topology = Irregular grid is a PhoXi Control-only feature. For GigE Vision, it behaves the same as Output Topology = Raw.

SCAN-4706 Firmware update for the projection unit.

SCAN-4665 GigE Vision interface: Implemented discovery acknowledge packet broadcast if the client allows discovery acknowledge broadcast and the client subnet is different than the device subnet.

SCAN-4650 GigE Vision interface: Fixed incorrect payload size and ColorCameraImage resolution caching.

SCAN-4631 Pattern Decomposition Reach parameter added to the set of Processing settings for MotionCam-3D product family.

SCAN-4540 Resolved minor initialization issues for MotionCam-3D product family in cases when Operation Mode = Scanner in the startup profile.

SCAN-4472 GigE Vision interface: Marker space transformation (matrix) is now available as a selectable frame component CoordinateTransformation.

SCAN-4462 Fixed Scan Multiplier functionality in Scanner Mode for MotionCam-3D product family.

1.10.1 2023-06-01 - Compatible with MotionCam-3D (Color), PhoXi 3D Scanner Gen2 (shipped after Nov 2021), Alpha 3D Scanner

SCAN-4588 Experimental setting Ambient Light Suppression Compatibility Mode was removed.

SCAN-4481 Minor improvements of GigE Vision interface. Added support for the standard feature DeviceFirmwareVersion. Enhanced DeviceManufacturerInfo now mirrors the information available via PhoXi API in PhoXiDeviceInformation, including attributes such as “Color“, and “Alpha“.

1.10.0 2023-05-10 - Compatible with MotionCam-3D (Color), PhoXi 3D Scanner Gen2 (shipped after Nov 2021), Alpha 3D Scanner

SCAN-4500 All factory profiles for the MotionCam-3D product family now use the enhanced Interreflections coding strategy by default.

SCAN-4480 The Computed texture is now returned in 16-bit unsigned ints, the same as any other texture variant.

SCAN-4466 The image sensor of the MotionCam-3D product family now offers an increased dynamic range in Scanner mode resulting in significantly improved performance in challenging lighting conditions.

SCAN-4534 Fixed a bug affecting the Pattern Decomposition Reach algorithm. The quality of point-filtering has been enhanced for both Small and Large presets.

SCAN-4449 Enhanced Ambient Light Suppression algorithm on PhoXi 3D Scanner bringing extreme performance boost in challenging lighting conditions. With the addition of a new maximal value of the Shutter Multiplier parameter (50), the algorithm delivers an unprecedented performance even in the most challenging conditions.

SCAN-4431 Fixed a missing texture bug on MotionCam-3D in Scanner mode that sporadically occurred when the setting Texture Source was set to Computed.

SCAN-4403 Fixed a rare bug that occurred when trying to recognize marker patterns and caused the device to go into an infinite loop.

SCAN-4398 The Exposure (Color Settings) of the RGB camera unit of MotionCam-3D Color can now be set to values lower than 10ms (independently from the 3D data acquisition).

SCAN-4371 Improved marker recognition algorithm now supports Regular topology of Camera mode on MotionCam-3D product family. Please note that for the Camera mode, markers should be 1.5x larger than in the Scanner mode to accommodate the reduced resolution of 1120x800. To ensure optimal performance, we recommend using the REV-23A version of Photoneo marker patterns which are available in PhoXi Control 1.10.0.

SCAN-4358 Introducing five new factory profiles for MotionCam-3D Color: DYNAMIC_SCENE_COLOR, DYNAMIC_SCENE_GRAYSCALE, DYNAMIC_SCENE_2D, STATIC_SCENE_COLOR, STATIC_SCENE_MARKER_SPACE. These new profiles are designed to showcase the different capabilities of the device, providing a seamless customer experience tailored to specific use cases.

SCAN-4318 Regular topology outputs on MotionCam-3D in Camera mode are now fully consistent, with each output being computed directly in the desired resolution of 1120x800.

SCAN-4317 MotionCam-3D product family now supports LED as Texture Source also in Camera mode. Similarly to the Color option, an additional image illuminated with the LED flash is captured by the image sensor.

SCAN-4256 Improved depth accuracy and robustness against artifacts when using Coding Quality = Ultra.

SCAN-4225 The projection unit's firmware has been updated to allow for a more advanced error-reporting mechanism.

SCAN-4192 Support for Alpha 3D Scanner.

SCAN-4155 Added support for GigE Vision 2.1 standard, providing a more streamlined and efficient experience with third-party software.

SCAN-3972 MotionCam-3D Color freerun stability was improved.

SCAN-3914 Scan timestamp creation was unified across all Photoneo 3D Sensors.

SCAN-3859 Improved robustness of temperature readout from the projection unit control board.

SCAN-3241 For the MotionCam-3D product family, we have introduced a new error message “Inconsistent laser interlock configuration“ which notifies the user about any wrong Laser Interlock feature configuration of the device. In this case, contact our support team at the Help Center.

SCAN-3240 Hardware trigger feature is now available on the PhoXi 3D Scanner.

SCAN-2807 The Texture on the MotionCam-3D in the Regular topology option is now consistent with the mesh used for the point cloud.

1.9.4 2022-11-15 - Compatible with MotionCam-3D (Color)

SCAN-4203 Adjusted default values of Red, Green, and Blue factors of White Balance (Color Settings).

SCAN-4083 Firmware updates for the projection unit.

1.9.3 2022-09-12 - Compatible with MotionCam-3D (Color)

SCAN-3854 Profiles saved on MotionCam-3D Color can be applied to MotionCam-3D.

1.9.2 2022-08-12 - Compatible with MotionCam-3D (Color)

SCAN-3646 Improved scan timestamp mechanism on MotionCam-3D taking into account the possible clock shift stemming from the internal 2D camera unit.

SCAN-3491 Support for MotionCam-3D Color

1.8.1 2022-04-29 - Compatible with MotionCam-3D

SCAN-3621 Added a new setting LED Shutter Multiplier allowing the user to control separately the exposure time used for Texture image acquisition.

SCAN-3575 Fixed startup profile retention after the restart of the device for all devices built upon the new operating system platform (YT) supporting A/B partition scheme updates.

SCAN-3553 Laser Safety Interlock configuration was modified to persist after a factory reset of the device.

SCAN-3481 Optimized 3D reconstruction algorithm leading to 3.6 times faster 3D data computation.

1.7.4 2021-12-21 - Compatible with MotionCam-3D

SCAN-3416 Fixed a bug causing a crash on MotionCam-3D after hitting Trigger Scan in 2D mode.

SCAN-3344 The hardware trigger mode on MotionCam-3D was modified to not send an output trigger signal on disconnect.

SCAN-3332 Improvements implemented to not compromise FPS (the scanning speed) of MotionCam-3D

SCAN-3326 Implemented enhanced 3D reconstruction algorithm to avoid possible numerical issues leading to wavy point clouds.

SCAN-3306 The Daisy chain can now be activated in three ways: through the Software Trigger button in PhoXi Control (GUI), by calling TriggerFrame from API, or by GPIO input signal.

1.5.7 2021-12-03 - Compatible with MotionCam-3D

SCAN-3305 Fixed internal setting that was causing problems with trigger output readout for hardware trigger on MotionCam-3D

1.5.6 2021-10-21 - Compatible with MotionCam-3D

SCAN-3251 Fixed problem with multiple acquisitions caused by one signal on daisy-chained devices.

1.5.5 2021-10-01 - Compatible with MotionCam-3D

SCAN-2838 Introduced Hardware trigger feature on MotionCam-3D with an option to switch between falling and rising edges for the hardware trigger signal.

1.5.4 2021-08-31 - Compatible with MotionCam-3D

SCAN-3100 Fixed ShutterMultiplier behavior on MotionCam-3D in Scanner mode

SCAN-2974 Fixed a bug related to laser pattern projection that was causing "wavy" regions within a point cloud.

SCAN-2507 Added Laser Interlock Safety feature support for MotionCam-3D.

1.5.3 2021-05-29 - Compatible with MotionCam-3D

SCAN-3029 Firmware update for the internal 2D camera unit.

1.4.3 2021-03-03 - Compatible with MotionCam-3D

SCAN-2801 Fixed an occasional bug causing patterns to be projected in the wrong order on MotionCam-3D in Scanner mode.

SCAN-2654 Extended set of Exposure times in Camera mode for MotionCam-3D.

1.4.2 2021-01-15 - Compatible with MotionCam-3D

SCAN-1822 Support for MotionCam-3D

1.2.39 2024-08-20 - Compatible with PhoXi 3D Scanner (Gen2)

SCAN-5276 Enhanced communication with internal camera unit, eliminating occasional issues for improved reliability.

SCAN-5222 Firmware update for the projection unit.

1.2.38 2023-09-06 - Compatible with PhoXi 3D Scanner (Gen1, Gen2)

SCAN-4719 Information about the OS platform (LT) for PhoXi 3D Scanners is now reported in the device's description.

SCAN-4706 Firmware update for the projection unit.

1.2.37 2022-11-15 - Compatible with Photoneo 3D Scanner (Gen1, Gen2)

SCAN-4083 Firmware update for the projection unit.

SCAN-4064 Improved quality of temperature readout from the projection unit control board.

1.2.36 2022-03-30 - Compatible with PhoXi 3D Scanner (Gen1, Gen2)

SCAN-3575 The imported startup profile selection remains the same after the restart of the device.

SCAN-3553 The laser safety interlock configuration persists after a factory reset of the device.

SCAN-2589 More robust handling of errors related to the internal camera unit.

1.2.34 2021-12-08 - Compatible with PhoXi 3D Scanner (Gen1, Gen2)

SCAN-3326 Implemented an enhanced 3D reconstruction algorithm to avoid possible numerical issues leading to wavy point clouds.

1.2.33 2021-11-10 - Compatible with PhoXi 3D Scanner (Gen1, Gen2)

SCAN-3150 Introduced support for the new processing units with the new underlying platform.