Artec Leo: Getting Started with Scanning

This guide explains how to operate Artec Leo 3D scanner.

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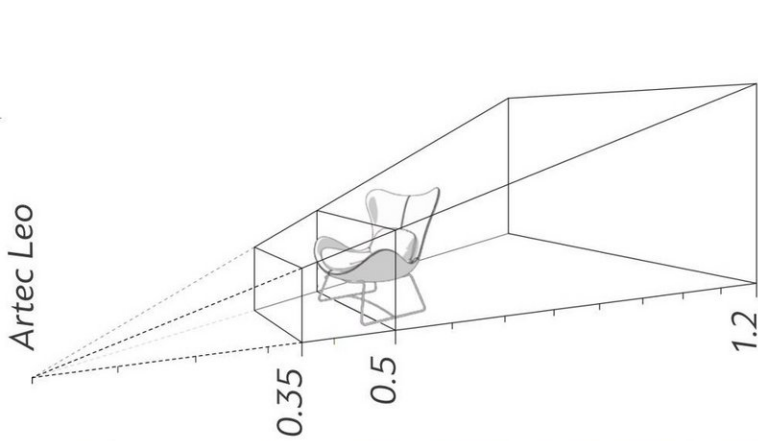

Source: https://hawkridgesys.com/store/3d-scanning/artec-leo-3d-scanner

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Introduction

The Artec Leo 3D scanner captures a large area at less detail than many other scanners, so is typically used to scan large objects.
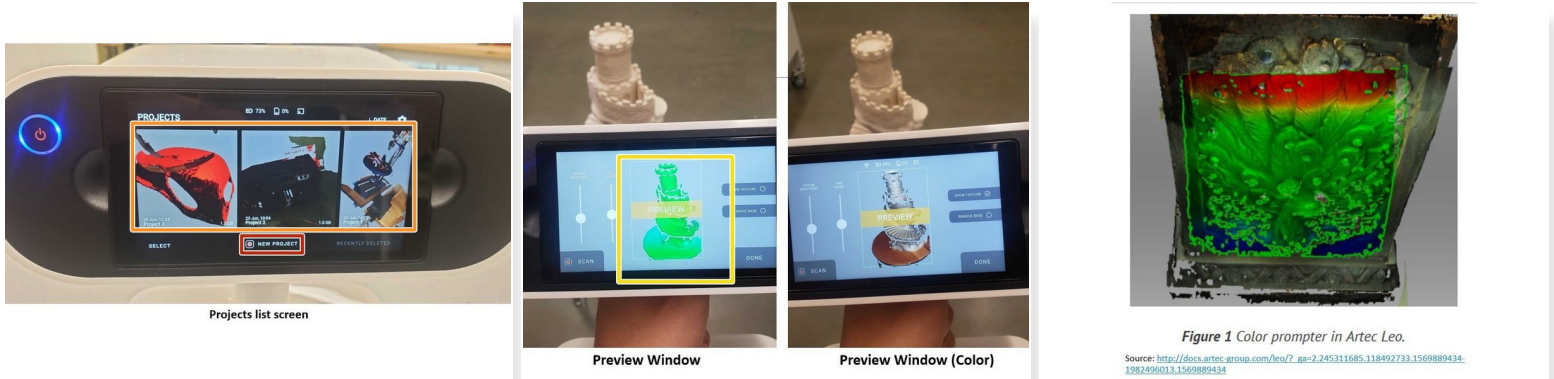
Step 1 — Scanning Distance

Source: http://docs.artec-group.com/leo/?_ga=2.245311685.118492733.1569889434-1982496013.1569889434

- Default scanning range is from 0.35 to 1.2 meters from the scanner to the target object

- Optimal scanning distance for most objects is about 0.5 – 0.7 meters

- ⓘ *It is recommended to place the scanned object in a position that allows 360 degree access*

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Step 2 — Starting a Scan

Projects list screen

Preview Window

Preview Window (Color)

Figure 1 Color prompter in Artec Leo.
Source: http://docs.artec-group.com/leo/?_ga=2.245311685.118492733.1569889434-1982496013.1569889434

- Tap the New Project button on the touch screen to start a new project

- Tap on an existing project tile to resume a project

- The colors of the preview window provide information about the relative proximity of the scanner to the object

  - **No color:** The object is out of the scanner working range

  - **Red:** The scanner is too close to the object

  - **Orange:** The scanner is at the almost optimal distance

  - **Green:** The scanner is at the optimal distance from the object

  - **Blue:** The scanner is too far away from the object

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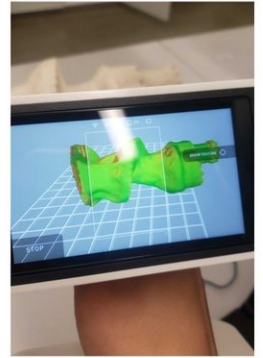
Step 3 — Running a Scan

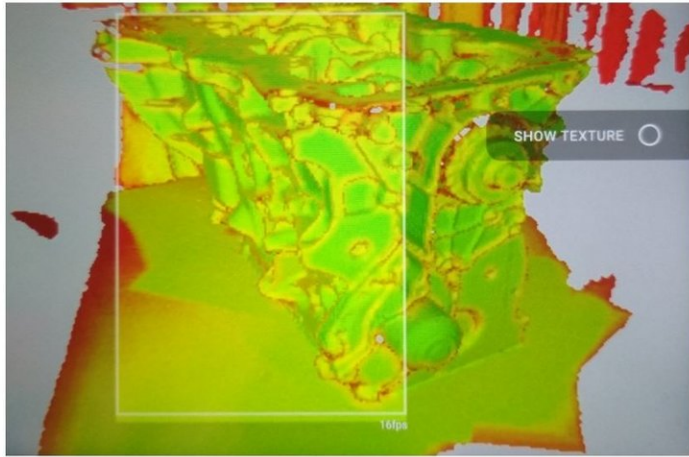Scanning process (Scan from different angle)
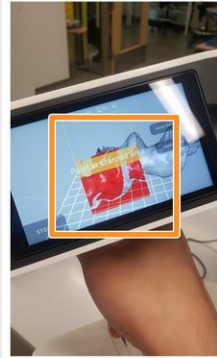
Re-align the scan data | The scan button will appear when the scans are aligned | Re-start the scanning

- Tap the **scan** button on the screen

- Move the scanner slowly to scan the object from different angles

- 📌 Try to get a 360 degree scan of the subject

- ⓘ *Unlike Artec Spider, Leo has a build in gyroscope to track its location → As long as you don't move the scanner too fast, the scanner will not lose alignment*

- If the scanner loses alignment, follow these steps to restart it successfully:
  - Point the scanner at the scanned area to align the new scan with the old scan
  - When both scans are aligned, the scan can be restarted by push the **scan** button on the screen

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Step 4 — Analyzing a Scan Result

Surface quality color

Source: http://docs.artec-group.com/leo/?_ga=2.245311685.118492733.1569889434-1982496013.1569889434

Scan Result

Scan Result (Color)

ⓘ The color of the scanned surface determine the scan quality

- **Red:** Insufficiently scanned area, distant object, fast movements

- **Orange:** Satisfactory scanned area

- **Green:** Well-scanned area

ⓘ *Holes and thin edges may remain red and orange even if thoroughly scanned because these regions are likely to have smaller resolution than the other parts of the subject*

- Tap the **stop** button on the screen to end the scanning

- Rotate the scan result to inspect all sides of the scan data

- Tap the **show texture** option to show the color texture of the subject
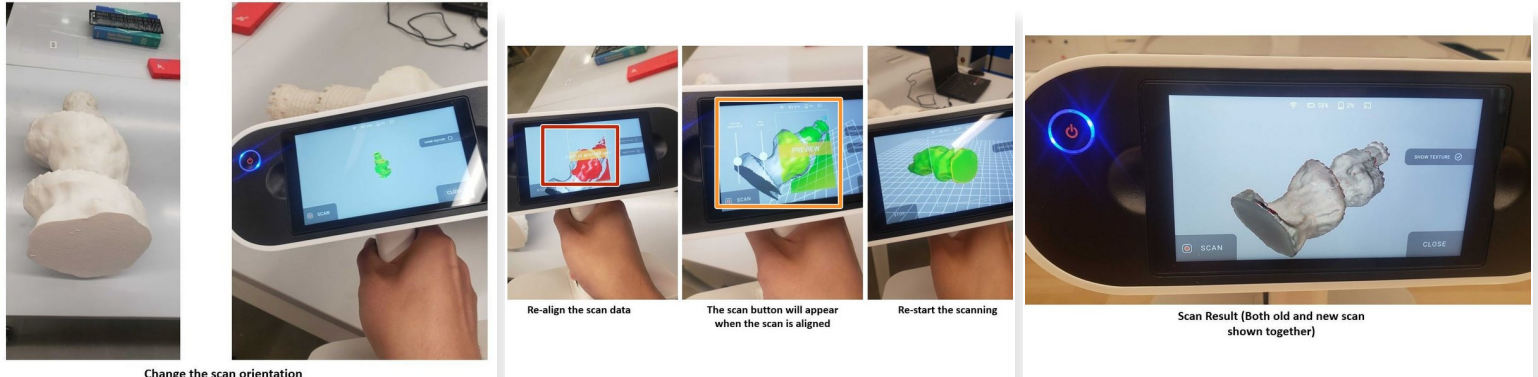
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Step 5 — Using Automatic Base Removal

(i) *The Artec Leo has an option to automatically identify and remove the base*

- Tap **Remove base** for automatic base removal

- The base will be identified as the rectangular mesh in the screen

- The base removal option will automatically remove the indicated surface during the scanning

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Step 6 — Scanning from Different Angles

Change the scan orientation

Re-align the scan data   The scan button will appear   Re-start the scanning
                                when the scan is aligned

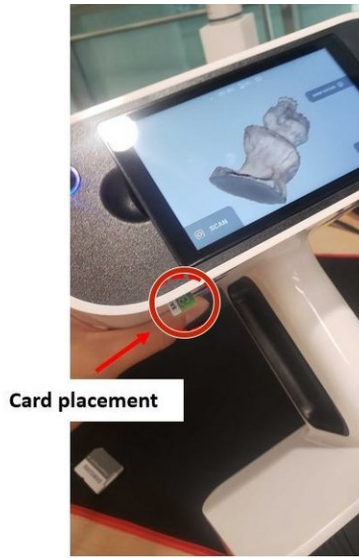Scan Result (Both old and new scan
shown together)

ⓘ Often, objects require scans from multiple orientations to capture all surfaces. In this example, previous scans missed the bottom of the statue.

- Open a prior scan and point the scanner at the scanned area to align the new scan with the old scan

- When both scans are aligned (You will see green color part instead of red color), the scan can be restarted by push the **scan** button on the screen

- Continue scanning the object

- When desired areas have been scanned, the scan will combine into one set of scan data
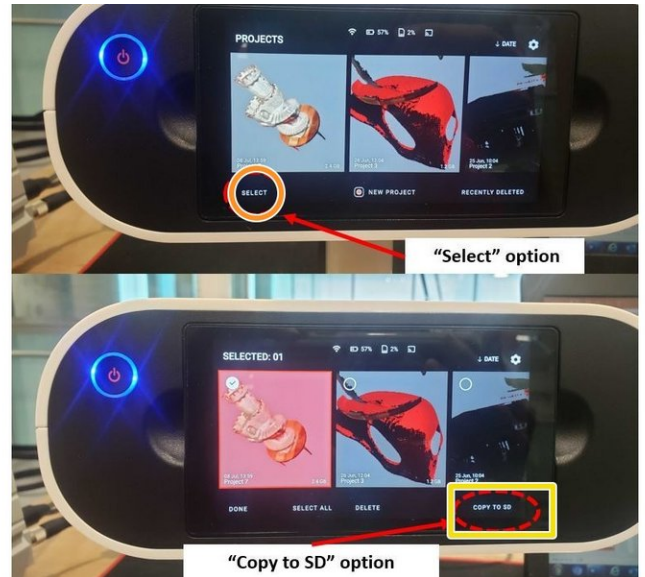
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Step 7 — Importing Scan Result to a Computer

SD Card

Card placement

Inserting the SD Card

"Select" option

"Copy to SD" option
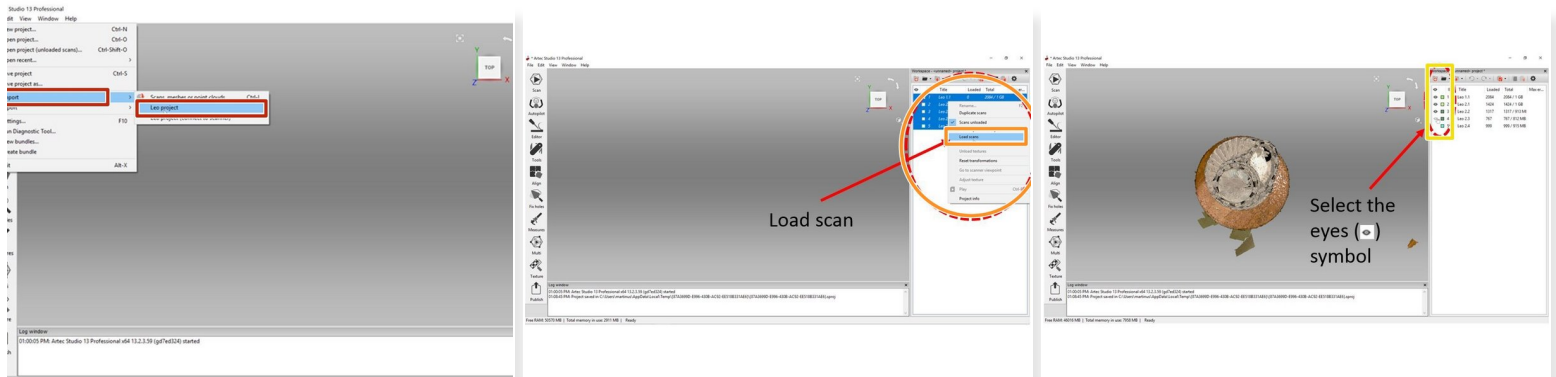
(i) For post-processing, the scan result needs to be imported to Artec Studio

- Insert the SD card to the lower section of the scanner

- Tap **Select** to select which projects need to be copied to the SD card

- Tap **Copy to SD** to copy the selected projects to the SD card

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Step 8 — Loading the Scan Data into Artec Studio

ℹ️ *For processing Artec Leo scan result, Artec studio 13 or newer is needed*

● Go to: File > Import > Leo project

● Select the file you want to import from the SD card

● Once imported, right click on the scan results and select **Load scan**

● To make the scan results viewable, select the **eyes symbol** next to the scan results

Step 9 — Analyzing the Scan Results and Post Processing
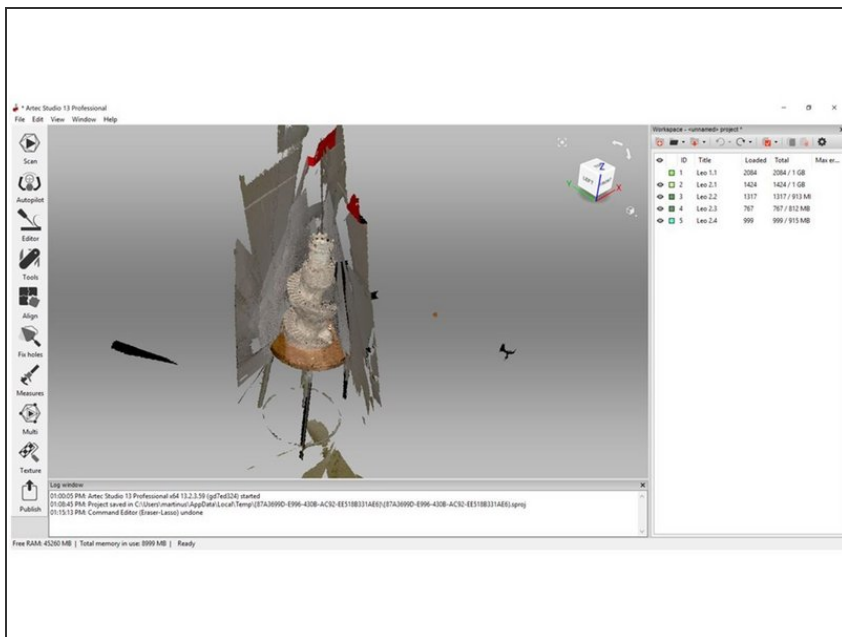
● Scan results can be viewed in Artec Studio and further analyzed

● See the guide Post-Processing in Artec Studio for an introduction to post processing the scan and extracting a usable mesh

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Further information about how to operate the Artec Leo can be found on [the main category page](#).