PhotoForge 3D Studio

## User's Guide 1.4

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software that connects

Welcome to PhotoForge 3D Studio

PhotoForge 3D Studio™ is your personal desktop workspace for transforming everyday photos into high-quality, ready-to-use 3D models.

Whether you're importing image sets from the PhotoForge 3D Capture™ companion app or another photo source, PhotoForge 3D Studio gives you full control on your Mac, with no cloud uploads or internet connection required. Crop, rotate, scale, and preview your 3D models in real time, then export them in industry-standard formats like OBJ, STL, and USDZ for use in your favorite slicer app, ARKit, or a full-featured 3D modeling app such as Blender.

With advanced features such as direct peer-to-peer connectivity, use of LIDAR depth data (if available), instant AR previews, flexible editing capabilities, and secure, cloud-free processing, PhotoForge 3D Studio sets a new standard for ease of use, and privacy for photogrammetry applications.

This guide walks you through the entire workflow: from opening the app and importing photos, to fine-tuning your model and choosing the right export format for augmented reality, 3D printing, and beyond, ensuring you have everything you need to turn 2D images into 3D reality.
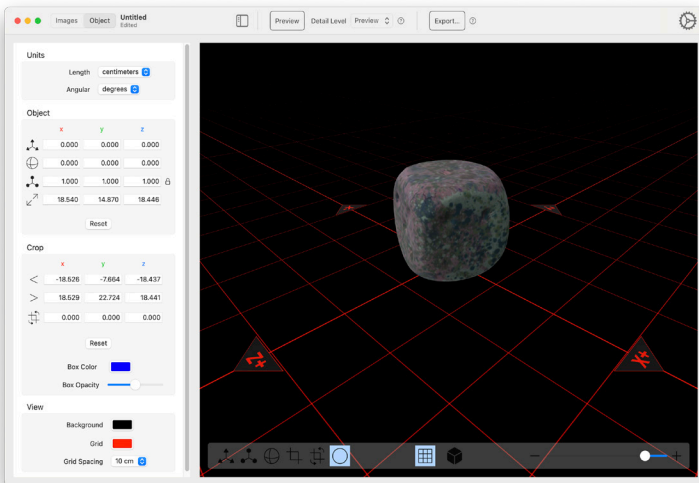
PhotoForge 3D Studio

Getting Started

PhotoForge 3D Studio lets you to make the leap from a simple series of photographs to a fully realized 3D model quickly and easily. Whether you're importing images from your iPhone, the PhotoForge 3D Capture companion app, or an image collection, getting set up takes just a few steps.

Launching the App

Once installed, you can open PhotoForge 3D Studio like any other Mac application:

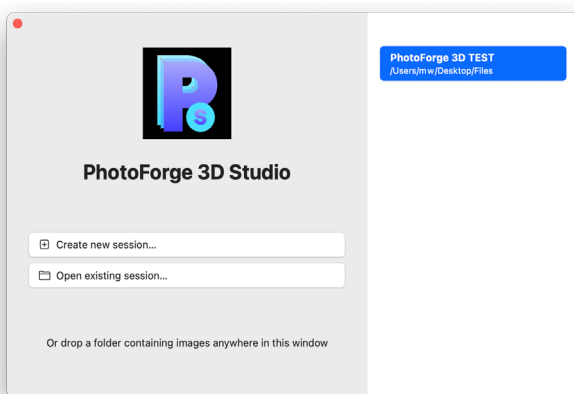1. Click the Launchpad icon in your Dock and select *PhotoForge 3D Studio*,

— or —

2. Use Spotlight Search by pressing Command + Space, typing "Photo-Forge 3D Studio," and hitting Return.

You can drag the app icon into your Dock for quicker access later.

When the app opens, you'll see the Home Screen, your central hub for opening recent projects or importing new photos.
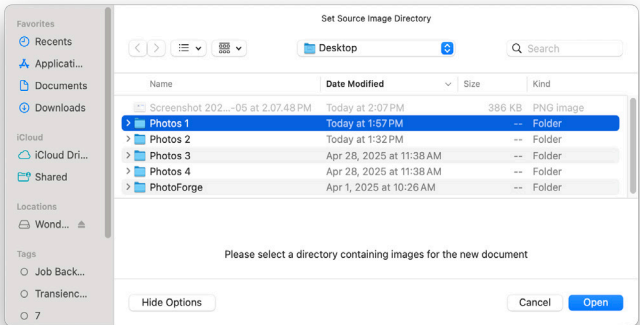

PhotoForge 3D Studio

Importing Photos

Before you can generate a 3D model, you'll need to import your photos into a session. PhotoForge 3D Studio imports folders containing structured photo sets, either captured using the companion PhotoForge 3D Capture app or other device, and begins building your 3D model from there.

There are three ways to begin:

Option 1: Use the "Create New Session" Button

1. From the Home Screen, click *Create New Session*. A file browser window will open.

2. Navigate to the folder that contains your image set. (You should see it as a standard Finder directory with your photos inside.)

3. Click the folder once to select it, then click *Open*.

PhotoForge 3D Studio will begin processing your photos immediately.

Creating New Session

Option 2: Drag and Drop

- Simply drag a folder containing your images directly into the main PhotoForge 3D Studio window.

Processing will begin automatically, just as with the menu-based import.

Option 3: Open an Existing Session

If you're revisiting a previous project:

1. From the Home Screen, click *Open Existing Session*…

2. Navigate to the saved session file and click *Open* to resume work where you left off.

— or —

3. Click one of the previously created sessions in the file list at the right of the Home window.

Generating and Refining a 3D Model

Once your photo set is loaded, PhotoForge 3D Studio automatically constructs a detailed 3D object based on image alignment, surface geometry, and depth cues.

You'll see a progress panel tracking each phase of the process:

- *Create Model*: Aligns the imported photos and begins generating the model.

- *Calculate Cropping Box*: Defines a 3D boundary based on the bounding edges of your object. (In order to view this you'll need to enable the *Edit Object Cropping* tool in the toolbar at the bottom of the view-port.)
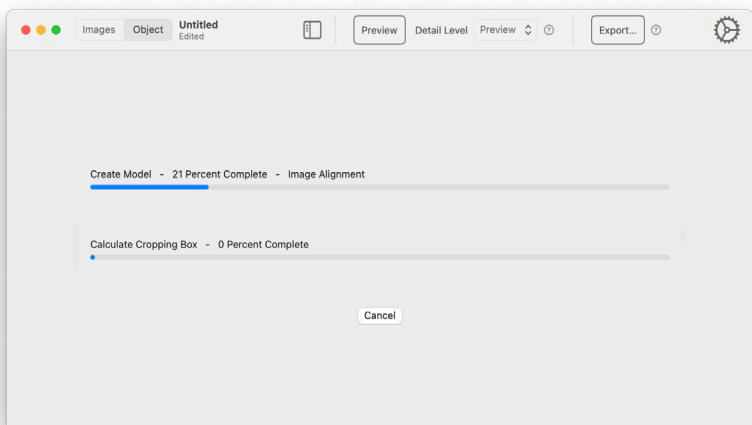
Beginning a Session

When processing is complete, your model appears in the 3D viewport, ready for editing.
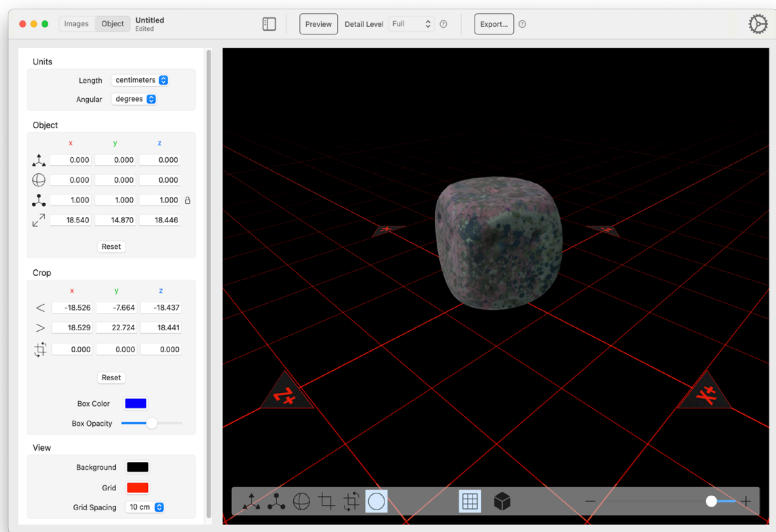
PhotoForge 3D Studio workspace and 3D viewport

Navigating the Workspace

The PhotoForge 3D Studio workspace is divided into two main panels:

- Left Panel: Displays numeric controls for units, scaling, rotation, cropping, and object position.

- Right Panel: Shows a live 3D view of your model, complete with grid overlays and position, scale, rotation, and crop tools.

Use your trackpad or mouse to orbit, zoom, and pan around the model:

- Click and drag to rotate.
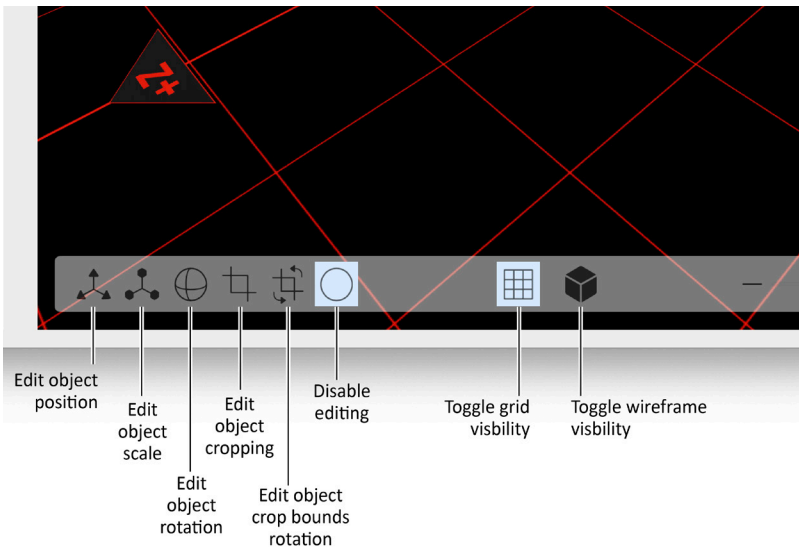
- Scroll or pinch to zoom.
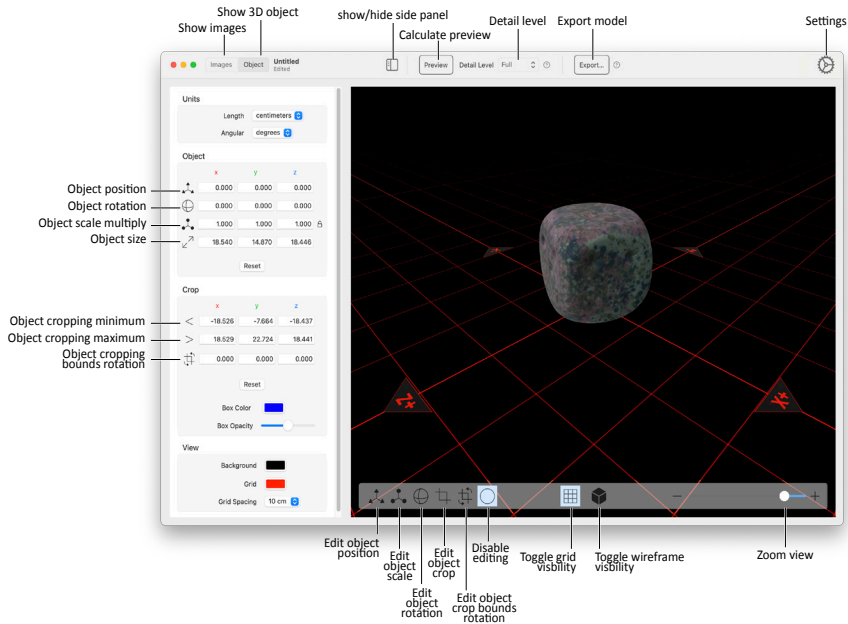
PhotoForge 3D workspace and tools

Fine-Tuning with Model Cleanup Tools

Even with a great photo set and a clean capture, your model may need a little fine-tuning before exporting your model for 3D printing, augmented reality, or use in a third-party 3D tool like Blender. Photo-Forge 3D Studio provides tools to crop, scale, rotate, and reposition your model, ensuring that it is properly framed and ready for export.

While you can enter exact values using the fields on the left side of the workspace, the toolbar directly beneath the 3D viewport offers a fast, intuitive alternative. You can manipulate these tools using a mouse or trackpad for quick visual adjustments.

Edit object position
Edit object scale
Edit object rotation
Edit object cropping
Edit object crop bounds rotation
Disable editing
Toggle grid visbility
Toggle wireframe visbility

Units and Grid Settings

Before you begin you may want to set the Units to your preferred measurement standard. For reference, most slicer applications for 3D printing display units in millimeters.

Units

At the top of the left-hand panel, you'll find the Units settings. These affect how transformations and bounding dimensions are displayed.
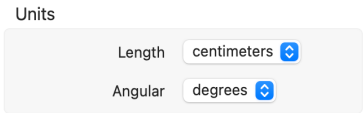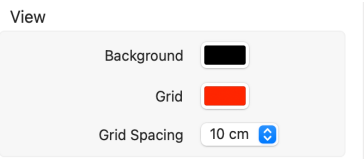

Units settings

- Length: Choose between inches, feet, millimeters, centimeters or meters

- Angular: Choose degrees or radians for angular adjustments

View

The View section lets you set the background color, grid color, and grid spacing, helping you stay oriented in the 3D environment.
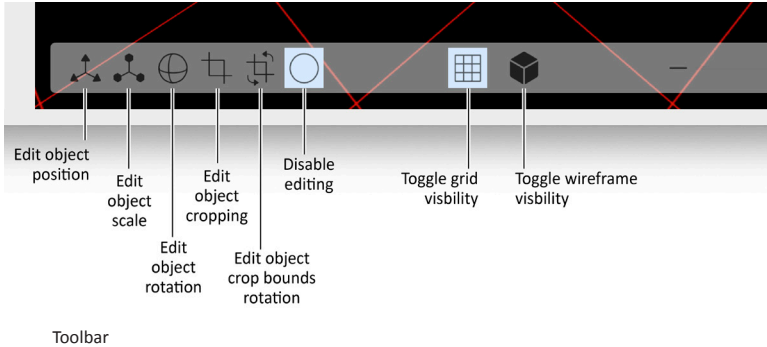

View settings

Adjusting Position, Scale, Rotation, and Cropping

A well-positioned and properly scaled model doesn't just look better, it performs better, too:

- **For 3D printing,** your object needs to be level, centered, and appropriately sized to avoid export errors or awkward support structures.

- **In AR**, misaligned models can float oddly or appear upside-down in real-world previews.

- **When exporting to Blender or other 3D tools**, a clean basic model setup reduces rework and makes editing easier.

Taking a minute to adjust your model with these tools ensures your output is polished, usable, and ready for whatever comes next.
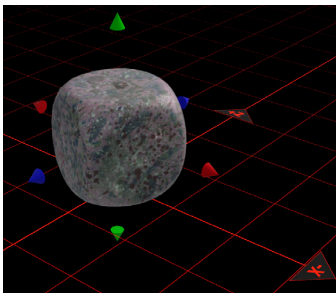

Edit object position
Edit object scale
Edit object cropping
Edit object rotation
Edit object crop bounds rotation
Disable editing
Toggle grid visbility
Toggle wireframe visbility

Toolbar

Position Tool

What it does: Moves the entire model along the X, Y, and Z axes.

How to use it: To reposition your object manually, select the Edit Object Position tool from the toolbar. Then click and drag the cone-shaped handles in the 3D viewport to move the object along the X, Y, or Z axis. This is a quick way to nudge the model into place without typing exact coordinates.

When to use it: If your model appears off-center, hovers oddly above the floor, or includes extra geometry from the surrounding environment, repositioning it here can help you align things more cleanly.


Position controls

Scale Tool

What it does: Changes the size of your model, uniformly or by individual axis.

How to use it: Select the Edit Object Scale tool from the toolbar. Then drag the cube-shaped handles on the object to resize it. By default, scaling is proportional. To scale each axis independently, unlock the padlock icon next to the Scale Multiplier fields in the left-hand panel. Once unlocked, you can drag any handle to resize along that specific axis.

When to use it: If the object needs to match a specific real-world scale, whether you're printing a miniature or prepping a model for AR, it's smart to dial this in. (LiDAR data helps get close, but refinement may still be needed.)
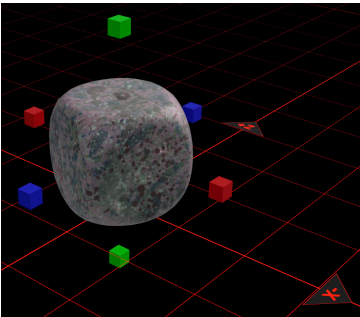
Scale controls

To reset all transformations, click the Reset button at the bottom of the Object panel.

Object

|	x	y	z
	0.000	0.000	0.000
	0.000	0.000	0.000
	1.000	1.000	1.000
	18.522	14.851	18.430

Reset

Object settings

Rotation Tool ⊕

What it does: Rotates the model around its central pivot point.

How to use it: Select the Rotation tool, then drag the star-shaped handles on the object to rotate it. Each axis has a corresponding color on the handles: red is X, green is Y, blue is Z.

When to use it: After photo 3D reconstruction, models sometimes come in sideways or upside-down. This tool helps you straighten things out for a clean export and easier downstream editing.
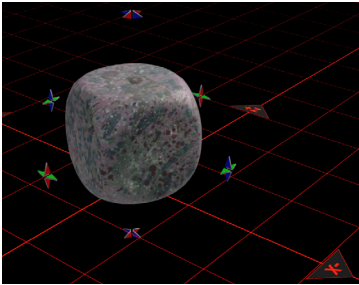
Rotation controls

Crop Tool ⌐

What it does: Defines a bounding box to include only the part of the model you want to keep.

How to use it: Select the Crop tool, then drag the green triangle-shaped handles one the sides of the crop box to tighten or expand the visible area around your object.

When to use it: Useful for trimming away clutter such as parts of the floor, background furniture, or stray geometry that snuck in during scanning. (Note: Cropping doesn't delete mesh data, it just hides what falls outside the bounds.)
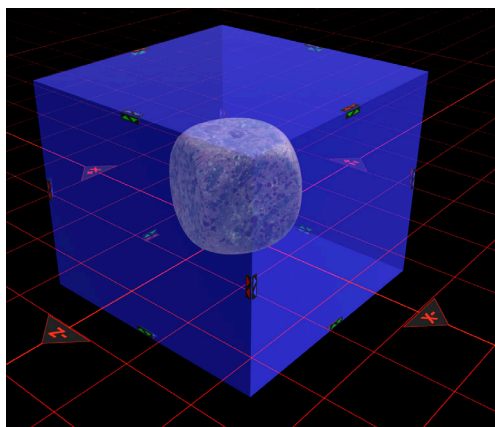
Crop controls

Crop Bounds Rotation Tool

What it does: Rotates the crop box independently of the object.

How to use it: Select the Crop Bounds Rotation tool active, then drag the star-shaped handles on the object to tilt the bounding box itself. Each axis has a corresponding color on the handles: red is X green is Y blue is Z

When to use it: Ideal when an object is angled or off-axis, and you want to create a clean, tightly fitted export without rotating the actual model.
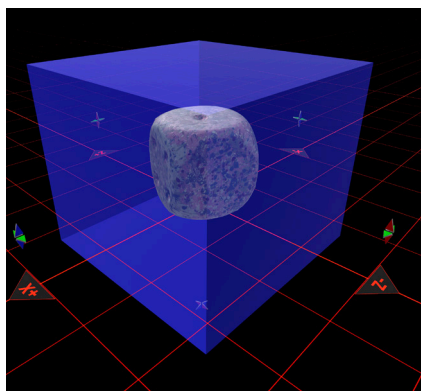
Crop bounds rotation controls

Numeric Controls

If you need to refine your model with greater precision, you can enter exact values using the fields on the left side of the workspace.

Object Controls

These fields let you manually adjust model parameters:

- Object Position (X / Y / Z) - Shift your object in 3D space to center or reorient it.

- Object Rotation Angle (X / Y / Z) - Useful for realigning models that imported sideways or upside down.

- Object Scale Multipliers (X / Y / Z) - Resizes a model along each axis. Use the padlock icon to preserve proportions when scaling uniformly. To scale non-uniformly, click the padlock icon to unlock it.

- Object Size (X / Y / Z) - Resizes a model along each axis. Use the padlock icon to preserve proportions when scaling uniformly. To resize non-uniformly, click the padlock icon to unlock it.

To reset all transformations, click the Reset button at the bottom of the Object panel.

Object

	x	y	z	
	0.000	0.000	0.000	
	0.000	0.000	0.000	
	1.000	1.000	1.000	🔓
	18.522	14.851	18.430	

Reset

Object settings

Crop Controls

The Crop panel lets you define a 3D bounding box to trim away excess background, stray geometry, or unwanted parts of your model.

- Min/Max (X / Y / Z) fields define the exact edges of the cropping box.

- Crop Bounds Rotation (X / Y / Z) fields rotate the crop box independently of the object.

To undo crop settings and view the full model again, click Reset.

	x	y	z
<	-18.526	-7.664	-18.437
>	18.529	22.724	18.441
	0.000	0.000	0.000

Reset

Box Color

Box Opacity

Crop settings

Customize the crop box color or opacity to improve visibility:

- Box Color (for better contrast)
- Opacity slider (to better understand what is included or excluded))

Exporting Your Model

Once your model is cropped, scaled, and positioned to your liking, you're ready to preview it or export it in the format that best suits your workflow for use in 3D printing, augmented reality, or external modeling applications.

To export the 3D model:

- Click the *Export* button in the top right corner of the workspace to open the export window.

Export Window Overview

Here's what you'll see:

- A text field to name your exported file (or leave it as the default project name).

- A list of export format options (OBJ, USDZ, STL).

- A Detail Level setting for each format you choose. (See page 20 for details on how to append the detail level to the file name.)

You can enable one or multiple formats by toggling the switches beside each file type.
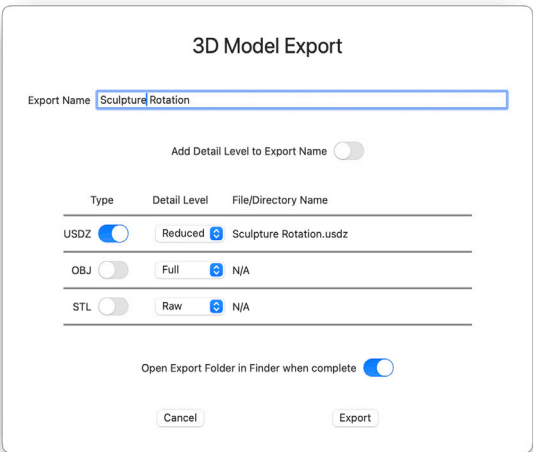
Exporting a 3D model

Recommended Format Settings

Each format is suited for a different kind of project. Here's how to choose what's best:

For AR/VR or General 3D App Use

Use this when: You're importing the model into apps like Blender, Unity, Unreal, or Cinema 4D.

- Format: OBJ (widely supported) or USDZ (ideal for Apple ecosystem and AR Quick Look)

Detail Level:

- Use Reduced or Medium for faster performance and lower file sizes

- Use Full for high-res visuals when performance isn't a concern

For 3D Printing

Use this when: You're sending your model to slicing toola such as Multi-maker Cura, Bambu Studio, or PrusaSlicer for 3D printing.

- Format: STL or OBJ. STL is good for basic geometry. OBJ includes texture mapping

Detail Level:

- Use Full or Raw to retain all geometric detail

- Raw gives you the maximum polygon count (useful for finely detailed prints)

To Export Your Model

1. Click *Export* from the main workspace.

2. Select one or more formats (OBJ, USDZ, STL).

3. Choose a Detail Level from the dropdown for each format.

4. Enable the *Open Export Folder in Finder When Complete* option to reveal the exported model in the Finder.

5. Click *Export*.

Your is 3D object is now ready for the next phase of your project.

Session Settings

Click the gear icon in the top-right corner of the main app window to open the Settings panel. Here you can fine-tune how PhotoForge 3D Studio processes and names your models in a session. These settings are session specific and can be customized for each session.
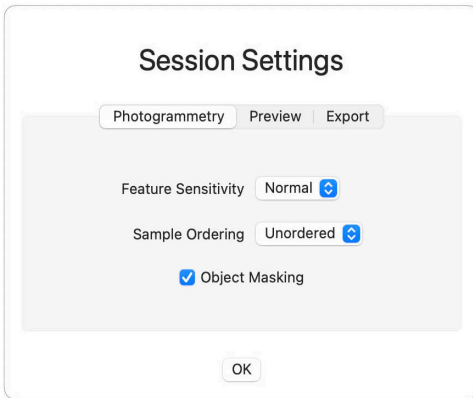
Session settings - Photogrammetry Tab

Photogrammetry Settings

Feature Sensitivity - Adjusts how finely PhotoForge detects visual features in your image set.

- Normal: Best for general use.

- High: May improve results for low-contrast surfaces, but takes longer.

Sample Ordering - Tells the app whether your images are meant to be used in the order they were captured.

- Unordered (default): Best for handheld captures or out-of-order sets.

- Sequential: Use when shooting on a turntable or in consistent 360° arcs.

Object Masking - Automatically detects and prioritizes the foreground subject. Recommended for cluttered or busy backgrounds.

Preview Settings

- Automatically Create Preview - When enabled, PhotoForge will generate a quick visualization of your model after the initial build. You can disable this for faster performance on large projects or slower machines.
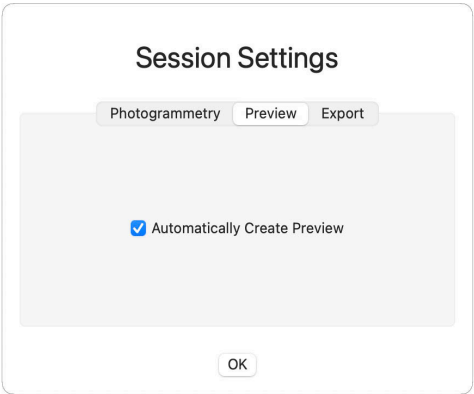
Preview settings

Export Settings

- Export Directory - Click to select the desired folder for exported models.

- Show in Finder: Click to display the folder containing exported model(s).
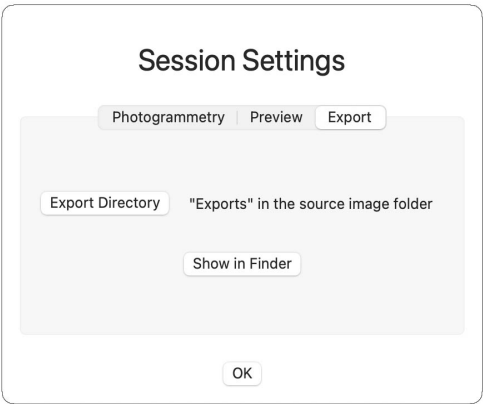
Export settings

App Preferences

In addition to per-session settings, PhotoForge 3D Studio includes app-wide preferences that define how new sessions behave by default. These preferences apply globally across all sessions unless manually overridden. To adjust them, go to the PhotoForge 3D menu and choose Settings.

If you later make changes using the Session settings panel (accessible via the gear icon in the upper-right corner of the main window), those changes will only apply to the current session.
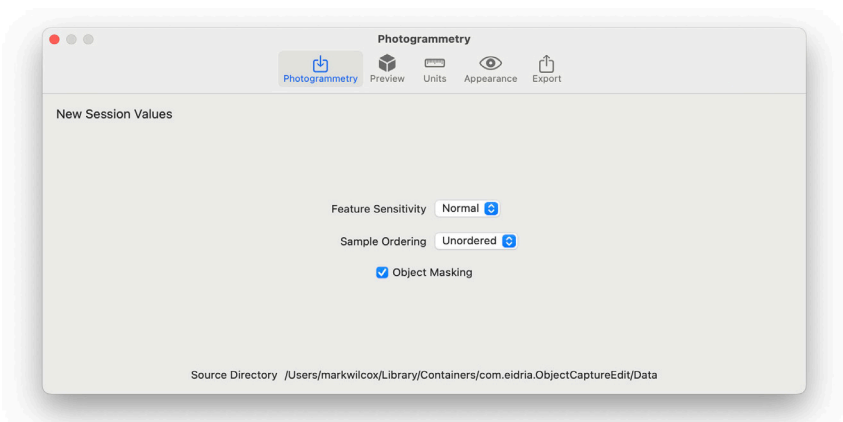
Photogrammetry Tab

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Object Masking - Automatically detects and prioritizes the foreground subject. Recommended for cluttered or busy backgrounds.


App Preferences - Photogrammetry tab

Preview Tab

Automatically Create Preview - When enabled, PhotoForge 3D Studio will automatically generate a preview model as soon as image data is loaded into a new session.

Detail Level - Sets the default resolution level for previews. Options may include:

- Preview (default): Balanced for performance and visual accuracy.
- Other options: Reduced, Medium, Full, Raw. These improve visual resolution in increasing order.

Edit Mode - Chooses the editing tool that is active by default when a new session begins.
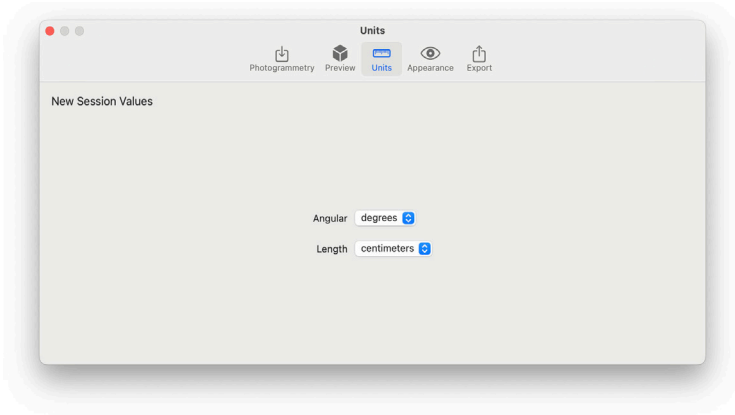
Grid Visible - Toggles whether a 3D grid is shown in the viewport by default. This is helpful for spatial orientation and alignment.
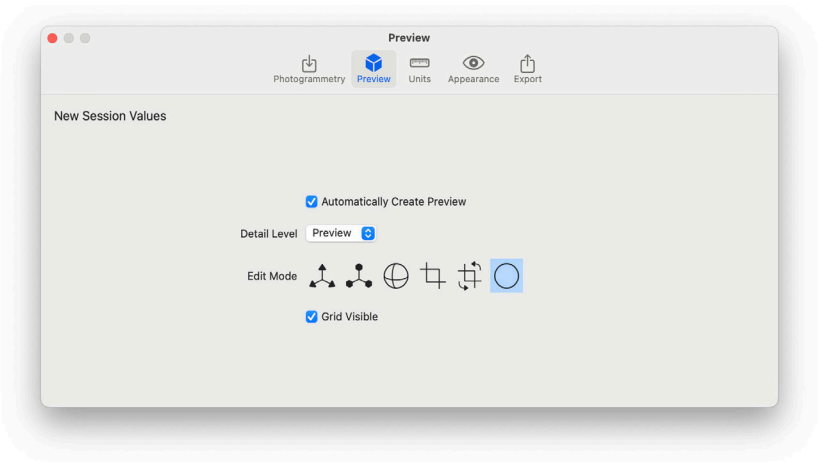
Preview tab

Units Tab

These affect how transformations and bounding dimensions are displayed.

Units settings

- Length: Choose between inches, feet, millimeters, centimeters or meters

- Angular: Choose degrees or radians for angular adjustments

Appearance Tab

Crop - Customize the crop box color or opacity to improve visibility:

- Box Color (for better contrast)

- Box Opacity (to make it easier to see through the box during edits)

View - Set the background color, grid color, and grid spacing, helping you stay oriented in the 3D environment.:

- Background Color (for better contrast)

- Grid Color (for better contrast)

- Grid Spacing in inches, feet, centimeters, or meters for adjusting spatial reference
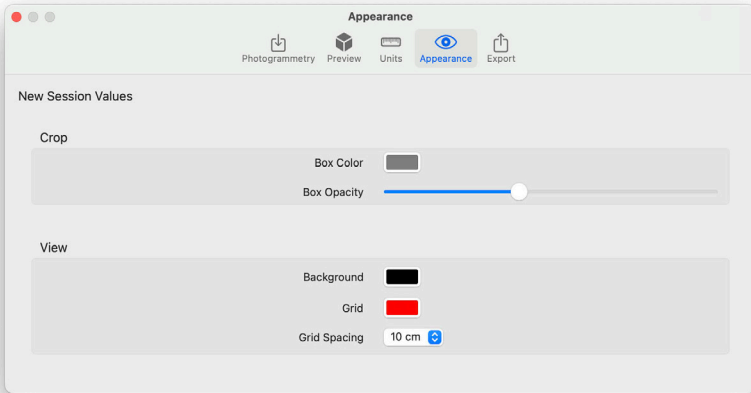

Appearance tab

Export Tab

Add Detail Level to Export Name - If enabled, the file name will automatically include the selected export resolution (e.g., Model-Name_FULL.obj). Helpful for keeping track of versions across formats or applications.

Open Export Folder in Finder When Complete - Enable this to display the folder containing exported model(s) after export is complete.

Export Format - A list of export format options (OBJ, USDZ, STL) along with a Detail Level setting for each format you choose. You can enable one or multiple formats by toggling the switches beside each file type.

Export Directory - Click to set the location for exported models.
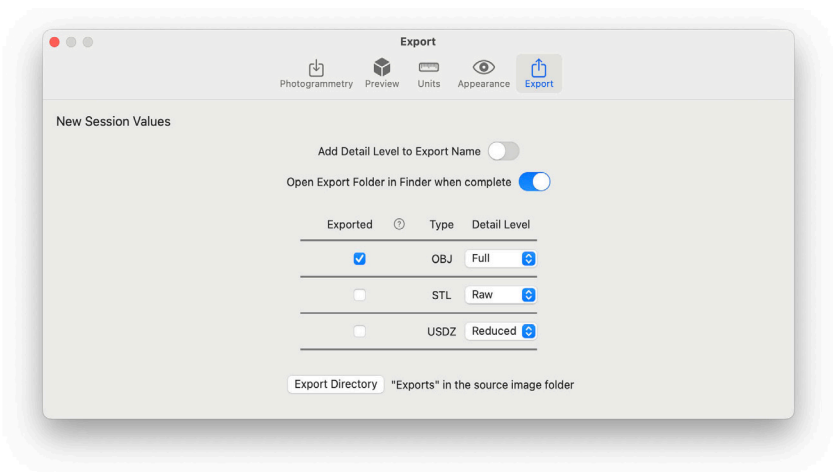
Export tab

FAQ & Troubleshooting

Here are a few common questions and quick fixes.

Q: Why does my model look distorted?

This happens when:

- Your photo set had too few images, or

- The lighting was too uneven, or

- The subject was too reflective, too transparent or had too many voids.

Fix: Try reshooting with more images (at least 30+), diffuse lighting, and minimal background clutter. Matte, textured surfaces work best.

Q: The model preview is blank. What happened?

Check the following:

- Did you accidentally crop out the entire object?

Fix: Reset the crop box using the Reset button in the Crop panel.

- Are you zoomed too far out or inside the model?

Fix: Use the mouse/trackpad to zoom and rotate the view, or hit Reset View from the view controls.

Q: How do I improve alignment if parts of my model are warped?

- Make sure your photo set has consistent spacing and full 360° coverage.

- Avoid moving the subject between shots.

- Use clean, non-repeating backgrounds to reduce confusion during alignment.

Q: Can I pause the model generation process?

Not currently. The process must run uninterrupted once started. However:

- You can cancel and restart the process with new images or settings.

- PhotoForge Studio is optimized to finish quickly on M-series Macs.

Q: Where are my project files saved?

By default, you choose the location when creating a new session.

If you're unsure:

1. Reopen PhotoForge 3D Studio.

2. Look at the Recent Sessions list on the right side of the Home Screen.

3. Right-click a session to Show in Finder.
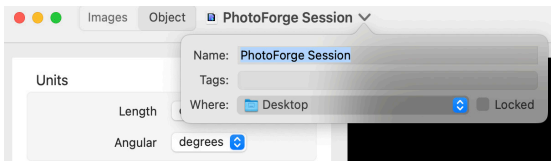
Naming/Renaming a Session

If All Else Fails

Quit and restart the app.

Still stuck? Contact our support team at *www.eidria.com.* Include a screenshot of your screen and your macOS version. This helps us diagnose potential issues faster.

Separately, check for app updates that may resolve rare issues.