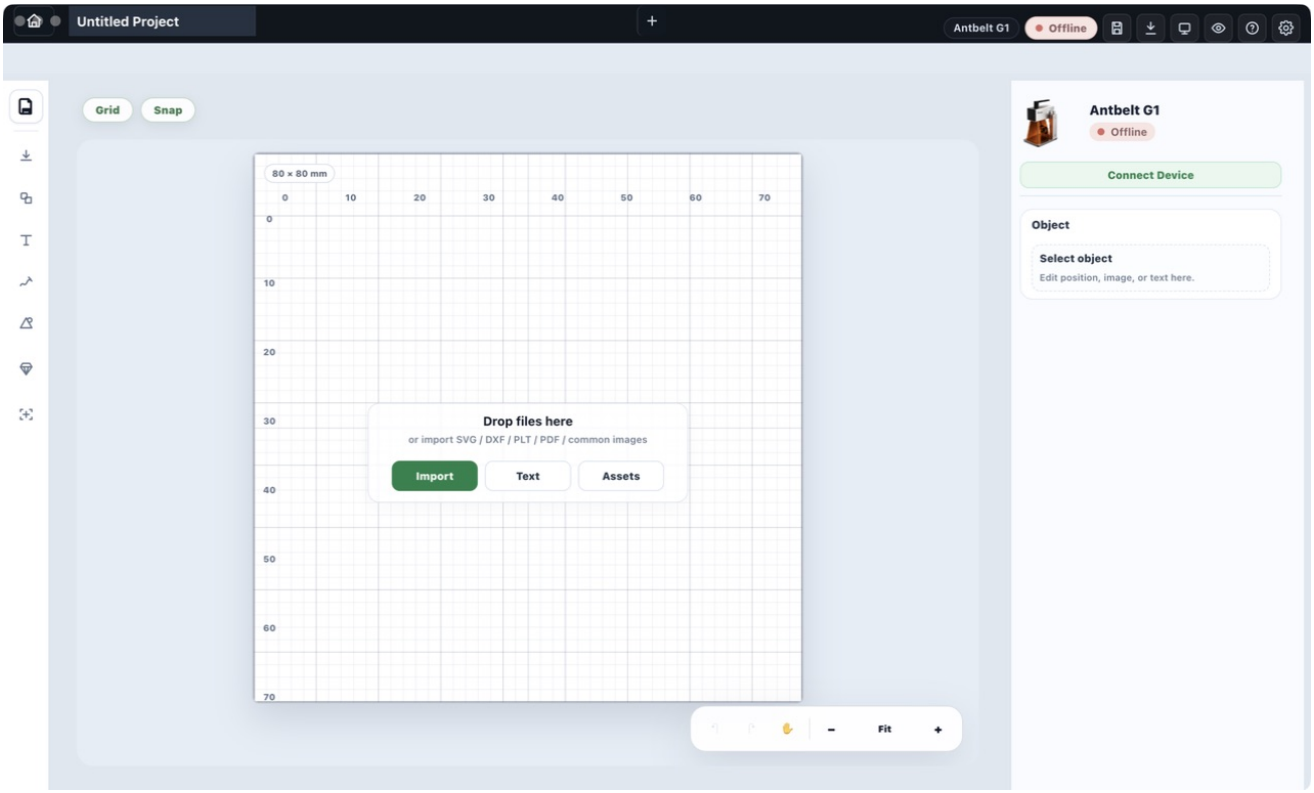
Antbelt G1 Studio

User Guide

Version 0.1.43 | Windows and Mac | English

Import artwork, set its size and parameters, frame the job, engrave, and save your work. These steps cover G1 Studio 0.1.43 on Windows and Mac. Screenshots show the Mac edition; window controls and file dialogs differ on Windows.



The 0.1.43 Mac workspace with the machine offline.

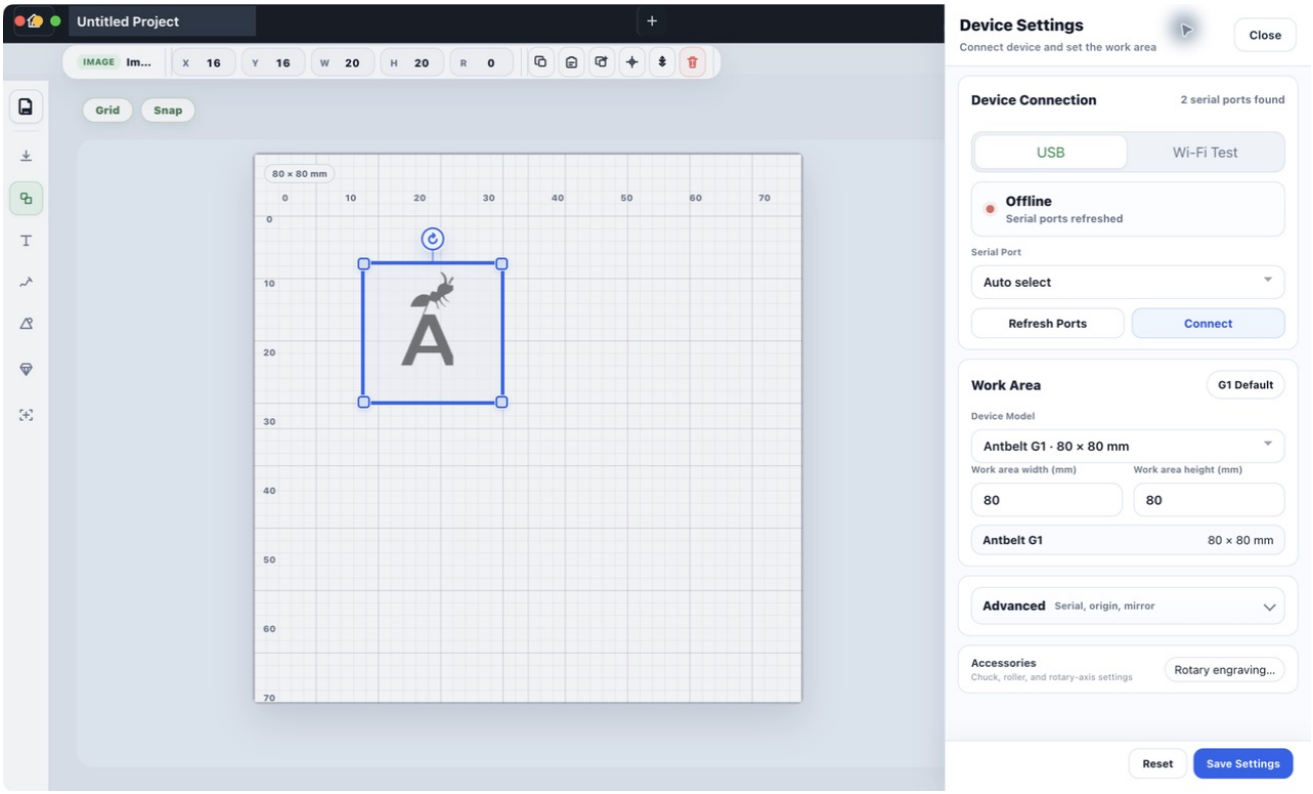
Install and open

1. Windows: run the supplied Windows x64 Setup.exe and follow the installer. Open Antbelt G1 Studio from the Start menu. Use the original installer from your supplier.
2. Mac: open the DMG, drag Antbelt G1 Studio into Applications, then open it there. This package is for Apple silicon, not Intel. Keep it separate from the newer Antbelt Studio. For installation warnings, see page 7.
3. For English labels, open Settings using the gear icon and choose English under Interface language. About Antbelt G1 Studio should show version 0.1.43.

Before using the laser

Follow the G1 hardware manual for material suitability, focusing, ventilation, enclosure use, and eye protection. Never leave an operating laser unattended. Stop immediately if laser output or motion behaves unexpectedly. The sample artwork and values pictured here are not approved material settings.

Connect the G1



Device Settings showing USB connection controls. Port detection is not a successful machine connection.

1. Connect the G1 using a USB data cable and power the machine according to its hardware instructions. Close other software that may be using the same serial port.
2. Click Device in the top toolbar, or press D when no text field is active. Select USB.
3. Click Refresh Ports. Select the G1 serial port, or use Auto select, then click Connect. Confirm the application reports a connected, idle device before continuing.
4. Keep the Antbelt G1 preset and its 80 × 80 mm work area. Do not enlarge the work area or change origin, mirror, or offset settings merely to bypass a warning.
5. Use Save Settings when you intentionally change device settings. Return to the workspace with Close.

If no port appears

With no active job, check power and use a USB data cable, then refresh the list. Windows ports usually appear as COM numbers; Mac ports use device paths. Choose the G1 port, not Bluetooth or another device. If a driver is needed, obtain the correct one from your supplier.

Wi Fi and accessories

Wi-Fi is labelled Wi-Fi Test in this version. Use USB for your first setup. Leave rotary engraving and advanced serial settings unchanged unless your hardware configuration has been verified.

Import and prepare an image

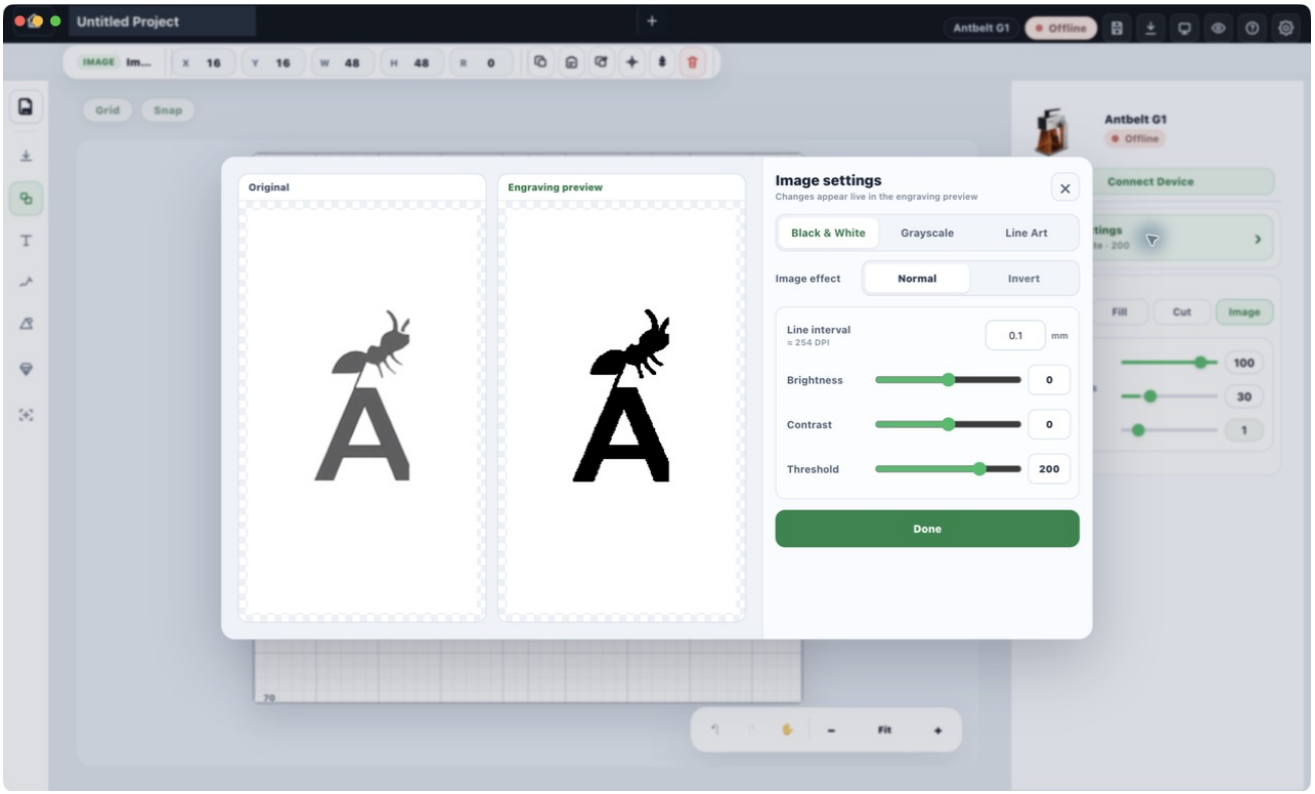


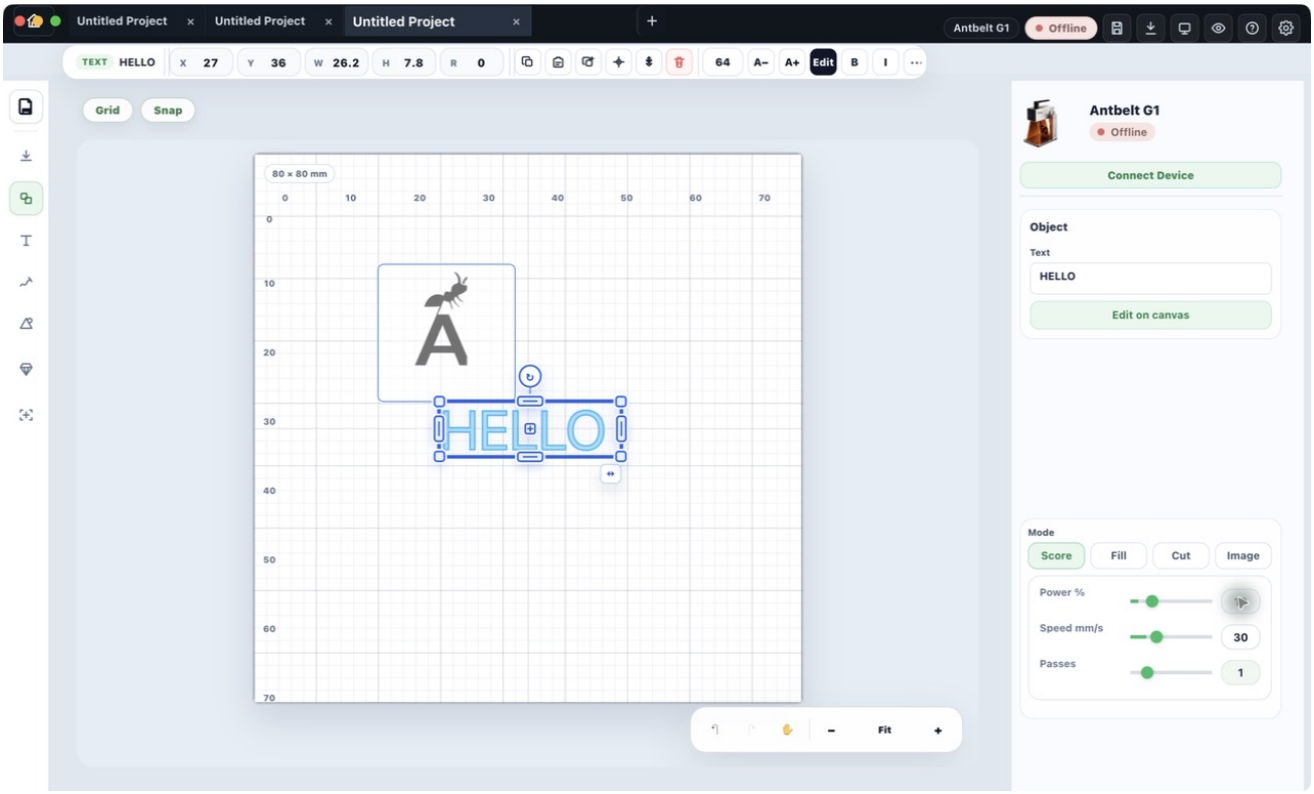
Image settings compares the original image with the engraving preview.

1. Click Import, or press I outside a text field. Choose a PNG or JPG for your first image. Use a simple logo for offline practice; if supplied, Sample-Logo.png is suitable.
2. Select the image. Use X and Y in the top bar to position it and W and H to set its size. Use mm for this guide. For proportional resizing, use the example on page 4. Keep the whole image inside the 80 × 80 mm work area.
3. Click Image settings on the right. Choose Black & White for a two-tone image, Grayscale for tonal shading, or Line Art for an outline-style result.
4. Adjust Brightness, Contrast, and, for Black & White, Threshold while watching Engraving preview. Invert reverses the light and dark treatment. The preview is on-screen only; it does not move the laser.
5. Set Line interval to an appropriate value for your tested process. Smaller spacing usually adds scan lines and increases processing time. Click Done to keep changes; the close control discards the current adjustments.

Choose parameters deliberately

Select Image mode in the right panel for raster engraving. Set Power %, Speed mm/s, and Passes, then review the other objects as described on page 4. A new object may use 100% power. Obtain a tested recipe for your exact G1 laser module and material from your supplier; the pictured values are not a recipe.

Add text and arrange artwork



Selected text exposes position, size, rotation, font controls, and processing parameters.

1. Click Text in the left toolbar. Enter your words in Quick Text and click Add text.
2. Select the text to change its content in the right-hand Text field, or use Edit on canvas. Font size and formatting controls appear above the canvas.
3. Drag selected artwork to position it, or enter X and Y in the top bar. Use W and H for dimensions and R for rotation.
4. Choose Score for vector line marking, Fill for filled artwork, or Cut for vector cutting. These choices do not determine suitable material parameters by themselves.
5. Click Objects on the left to inspect the artwork list. Select the image and review its mode and parameters, then select the text and review those values. Repeat this check after changing shared layer settings; selecting an object does not guarantee that only it will run.

Keep the image proportions

Read both W and H before resizing. A 40 × 60 mm image reduced to half size needs W = 20 and H = 30. Enter both target values and check both final fields. This method does not depend on an automatic ratio lock. Fit changes only the canvas view, not the physical size.

Choose what will run

In the connected job controls, Process offers All or Selected with an object count. For a first test, select one intended object and choose Selected 1. Use All only after reviewing every object. Recheck the scope before both Frame and Start. Save before closing a project tab.

Frame and run a job

Use a suitable test piece and supervise the connected G1 throughout the job. Complete the hardware setup and protection steps before starting. See page 7 for platform validation limits.

Check the job

1. Confirm material suitability, focus, protection, ventilation, and the intended location on the workpiece. Check dimensions, processing mode, power, speed, and passes for all output artwork.
2. Confirm the machine is connected and idle. Keep all intended artwork within the supported work area. Resolve any warning before proceeding.

Use Frame for placement

3. Choose Frame in the toolbar or press P outside a text field. Frame is a physical boundary check, not the on-screen image preview. Keep hands clear and follow the G1 protection requirements even when checking the boundary.
4. Observe the actual boundary on the workpiece. If it is wrong, stop and correct the artwork placement or machine setup. Repeat Frame after changing the job or moving the material.

Start and supervise

5. Look in the right-hand panel for Frame and Start. If it shows Connect Device instead, connect first (page 2). Select the artwork and scroll the right panel if necessary. Confirm Process is All or Selected as intended. Click Start only after the physical frame and settings are correct; review any confirmation shown.
6. Use Pause when a temporary interruption is needed, and confirm the laser has stopped emitting before approaching the work area. Resume only if the application offers it and the machine state is safe. Stop ends the job; do not assume a stopped job can resume from the same point.
7. Stay with the machine. Do not change USB connections, quit the app, or let the computer sleep. After completion, confirm motion and laser output have stopped. Press Escape to leave an editing tool, click the artwork and drag it or edit X and Y. Save the revised project and frame again before another job.

Progress and faults

The right panel shows Pause and Stop while running, and Resume and Stop when paused. Treat progress as an estimate, not proof of completion. For an alarm, disconnect, or control that does not respond, follow page 7.

Save reopen and continue editing

Save an editable project

1. Click Save Project or press Ctrl+S on Windows / Command+S on Mac. Choose a location and recognizable filename. Preserve the .abg1.json project extension.

2. To reopen, click Import and select the saved .abg1.json file. The project opens in the workspace; check its artwork, dimensions, modes, and parameters before running it.

3. Keep both the saved project and original artwork files. Save another copy before making changes you may need to undo later.

Practice without moving the machine

4. With the device offline, import a square PNG such as the supplied Sample-Logo.png, select it and set W and H to 20 mm. Save it as a new .abg1.json project. This is a file-handling exercise, not a material test.

5. Create a new project with the plus button, then use Import to reopen your saved file. Confirm the image appears and W and H still read 20 mm. Check that the mode, power, speed and passes match what you saved.

6. Change X slightly and save to a new filename. Reopen that copy to check the edit. Keep the original until you have confirmed the new file. Do not engrave a restored project without reviewing its parameters and position.

If artwork will not move

First confirm no job is running or paused. Press Escape, then click the artwork or its entry under Objects. Try editing X or Y. If it remains uneditable, save a separate copy and reopen it through Import. Do not quit or restart during a machine task. If saving fails, keep the app open and contact support before discarding anything.

Quick keys

Both systems: I Import | T Text | A Assets | D Device | P Frame
Windows: Ctrl+S Save | Ctrl+Z Undo | Ctrl+Shift+Z Redo
Mac: Command+S Save | Command+Z Undo | Command+Shift+Z Redo
Arrow keys: Nudge selection | Escape: Close a panel or clear selection

Shortcuts apply when focus is not inside a text or numeric input. Use the question-mark control for the application shortcut list.

Installation help and troubleshooting

Choose the correct installer

Use the Windows x64 installer or Apple silicon Mac DMG for your computer. The Mac package is not Apple notarized. Its offline checks were on macOS 26.3.1; other Mac versions and physical Mac-to-G1 operation remain unvalidated. Windows test results do not establish Mac hardware compatibility.

Mac: for an unidentified-developer alert, verify the supplied copy first. If trusted, open System Settings > Privacy & Security after attempting to launch it, then use Open Anyway if offered. Do not override malware warnings or disable security. If the app is reported damaged or cannot be opened, request a verified replacement.

Windows: if installation is blocked or the publisher is unfamiliar, verify the file with your supplier or administrator. Do not turn off antivirus protection. A missing COM port may require the driver for your exact G1 USB interface; avoid generic driver download sites.

Apple installation guidance: https://support.apple.com/en-us/102445

Connection and job problems

No serial port: while no job is active, check power, use a USB data cable, reconnect it and click Device > Refresh Ports. Close other laser software. Never refresh or reconnect during an active job.

Port listed but connection fails: note the selected port and exact error. Check that it belongs to the G1 and is not occupied by another application. If it still fails, send the details to support rather than changing baud rate or controller settings at random.

Start unavailable: check the connection, wait for an idle device, select the intended artwork, check Process scope and clear the reported job warning. Repeat Frame if required. Selecting a material preset is optional when using appropriate manual parameters.

Alarm or USB disconnect during a job: do not assume the laser has stopped. Follow the hardware manual to stop the machine safely. Record the error and job position. Do not use Resume or restart a partial job until its position and safe recovery have been checked; a restart may engrave the same area again.

Pause or Stop does not respond: use the hardware stopping procedure immediately. Do not rely on the software progress bar or reconnect USB to stop the laser. Keep clear until motion and output have stopped.

Request help

Contact the seller or order support channel that supplied your G1 and installer. Send app version 0.1.43, Windows or macOS version, computer architecture, G1 laser module, port name, exact error screenshot, and the action that failed. Request the hardware manual and a tested material recipe before your first physical job.