

resodoom user guide

resodoom is **Doom as a live Resolume source**. It runs inside Arena or Avenue as an FFGL generator: point it at a WAD and the game becomes a layer — composite it, key it, run it through other effects, and MIDI-map the controls onto whatever is already on the desk.

With nothing mapped it plays Doom's own attract demos for ever, which is usually what you want from a layer nobody is holding a controller for.

No game data is included, and none ever will be. You supply your own WAD, exactly as you would with any other source port. [Freedoom](#) is free, complete and what this was developed against.

This plugin is GPL-2.0, not MIT like the rest of the Stoatworks plugins. It ships an engine descended from id Software's own release of the Doom source, and anything linked into that binary inherits its licence. If you are here to reuse code rather than to use the plugin, the parts that are not about Doom live in [stagehand](#), which is MIT.

Before you rely on this: the macOS build is verified end to end **headlessly** — the engine against a real WAD with no graphics API, and the real plugin through the real FFGL sequence in a headless GL context, at two aspect ratios — and it has been **run in Resolume Arena 7.27.1 on macOS**: the inspector, the controls, Aspect and Auto all behave as this guide describes. What nobody has tried yet is a hardware controller mapped onto the controls. **Windows builds ship from v0.2.2.** They pass the same checks and run in Arena, but so far only in a Windows virtual machine with software OpenGL and no graphics card; nobody has run one on a Windows PC with a real GPU yet. The **Linux branch has never been built**.

This codebase was created with AI assistance, directed and reviewed by a human author.

Installing

macOS	~/Documents/Resolume Arena/Extra Effects/Resodoom.bundle
Windows	%USERPROFILE%\Documents\Resolume Arena\Extra Effects\

Avenue uses the same layout under its own folder name. Restart Resolume afterwards. The macOS downloads are signed and notarised. The Windows ones are unsigned, so SmartScreen warns once.

On Windows, keep the five DLLs together. `Resodoom.dll` is the plugin, and the four `resodoom_engine*.dll` files are its engines, one per aspect. It loads them from its own folder, and Resolume's scan skips them without complaint. From the zip, copy all five. The installer puts them in `C:\Program Files\Resodoom` unless you choose Resolume's Extra Effects folder on its folder page. That is the easier route. If you keep the default, add that folder to Resolume's plugin folders in its preferences.

Getting a WAD

A WAD is Doom's data file: the levels, the sprites, the sounds, the lot. The plugin has none and loads whatever you point it at.

- **Freedoom** is a complete free replacement, BSD-licensed, and the two phases are two full games. Download it, unzip it, and you have `freedom1.wad` and `freedom2.wad`.
- **The shareware** `doom1.wad` is the original first episode and may be redistributed intact.
- **A commercial IWAD** you own — `doom.wad`, `doom2.wad`, `tnt.wad`, `plutonia.wad` — works, and stays yours.

Put it anywhere you like. The plugin gives you a real file picker.

Running it

1. Drop **SW Resodoom** on a layer.
2. Set **WAD** to your `.wad` file.

That is the whole setup. The game starts, and with nothing mapped it runs its attract demos.

Mod WAD loads a PWAD on top, which is how community levels and total conversions work. Some need a specific IWAD; the plugin passes it straight through to the engine, so the rules are the engine's rules.

Picking a level

Episode and **Map** both default to *Title / Demos*, which boots to the title screen and its attract demos. Set both and the game warps straight into that level instead, which is what you want when you have found a map that looks good under a key.

Skill sets the difficulty. It only matters once something is actually playing the game: on Nightmare the monsters respawn, which on a layer left running is either a problem or the point.

Changing any of these reloads the game from scratch, because Doom takes them on its command line and there is no way to warp a running engine without going through its menus. **Restart** does the same thing deliberately.

Making it look right

Aspect decides the shape of the game itself, and on a widescreen composition it is the setting that matters most.

Auto	Matches the composition. The default.
4:3	The original 320×200 picture.
16:10	Wider.
16:9	Widescreen, for the usual HD and 4K outputs.
21:9	Ultrawide, for LED strips and wide screens.

Anything wider than 4:3 is true widescreen: the view keeps its height and shows more of the level to either side, rather than stretching the 4:3 picture or cropping it. Menus, the title screen and the intermissions are the original artwork, centred with black either side.

Doom's picture width is fixed when the engine is built, so the plugin carries one engine per aspect, and **changing Aspect restarts the game** — but only when it needs a different engine. Choosing the one already running does nothing, and nor does Resolume re-sending the value when a composition loads.

Auto matches the composition as it was when you added the clip. Resolume keeps every clip at the size it was made at, so changing the composition's size later does not reach a clip that is already there: Resolume fits the old picture into the new frame itself, cropping it by default. To have Auto choose again, add the clip afresh. A copy of the old one keeps the old size.

Scaling decides how the picture then meets your composition.

Fit	The whole picture, letterboxed or pillarboxed if its shape differs. The default. With Aspect on Auto there is usually nothing to box.
Fill	Covers the frame, cropping the overhang.
Stretch	Ignores the aspect entirely.
Integer	Whole-number pixel multiples, so one Doom pixel is an exact square block. Falls back to Fit if the frame is too small.

Pixel Aspect is on by default and should usually stay on. Doom's 320×200 was always displayed at 4:3, so its pixels are 1.2 times taller than they are wide. Turn it off and you get the raw buffer, with every face in the game noticeably squashed.

Smoothing is off by default and should usually stay off. Linear filtering on a 320-pixel-wide picture blown up to a 4K output is a blurred mess, and large hard-edged pixels are the entire reason this content looks like itself.

Speed, pause and the clock

Speed is exponential and centred: mid-travel is exactly 1.0x, and the bottom of the fader is a hard stop rather than a very slow game.

Run off parks the game exactly where it stands, and costs nothing while it is off — the engine blocks rather than spinning.

Both work because the plugin hands Doom its clock rather than letting it read a real one. A practical consequence: if the composition stalls or the layer is not drawn for a while, the game does not bank that time and then fast-forward through it. It simply missed it, which is what you want in a show.

The controls

FFGL gives a plugin **no keyboard access at all**. There is no key path in the API, so the twelve controls are plain boolean parameters — which turns out to be the more useful shape anyway: Resolume MIDI-maps them, keyboard-maps them and automates them off the timeline exactly like any other parameter.

So a controller becomes a Doom pad with no special support, and a playthrough can be keyframed as a visual.

Control	What it does
Forward, Back	Walk
Turn Left, Turn Right	Turn
Strafe Left, Strafe Right	Sidestep
Fire	Fire
Use	Open doors, press switches
Sprint	Hold to move faster
Menu	Escape — opens Doom's own menu
Confirm	Enter — chooses in that menu
Automap	Tab

Sprint was called **Run** in 0.2.0, the same as the switch at the top that pauses the game. Resolume tells parameters apart by name, so the two were one to it: a mapping could not reach Sprint on its own, and a reopened composition put both saved values on the pause switch. A 0.2.0 mapping or composition that meant Sprint needs setting again.

Menu and **Confirm** are how you reach everything this plugin does not expose: saving, loading, changing a weapon binding, and so on. Doom's own menus are still in there.

Two layers, two games

Each instance loads its own private copy of the engine, so two layers are two independent games rather than two views of one. Different WADs, different levels, different players.

What it deliberately does not do

- **No sound.** FFGL has no audio path — a Resolume plugin returns a texture and nothing else. The game is launched with sound and music off rather than rendering samples nobody can hear.
- **No mouse look**, and no save-state buttons. Doom's own menus handle saving.
- **No bundled WAD**, including Freedoom, which legally could be bundled. A link to the project beats a stale copy of it, and 27 MB per IWAD inside a plugin bundle is not a kindness.

If the layer stays black

Every interesting failure here looks the same from outside, so there is a log:

```
macOS    ~/Library/Logs/Resodoom/resodoom.YYYY-MM-DD.log
Windows  %LOCALAPPDATA%\Resodoom\Logs\resodoom.YYYY-MM-DD.log
```

It carries the plugin's own account **and the engine's**, which is usually the one that names the real problem — a line like `IWAD file '...' not found!` comes straight from Doom.

The common causes, in order:

1. **No WAD selected**, or the file moved since the composition was saved.
2. **The WAD is not one Doom accepts.** A PWAD selected as the main **WAD** will not work; it goes in **Mod WAD** with a real IWAD above it.
3. **A Mod WAD that needs a different IWAD.** The log carries the engine's complaint.
4. **The game is paused** — check **Run**, and check **Speed** is not at the bottom of its travel.

Licensing

This plugin is **GPL-2.0**. The source is at github.com/stoatworks-labs/resodoom, and the licence obliges us to keep it that way.

DOOM is a trademark of id Software LLC. This is an unaffiliated front end for a free source port and ships no id Software content. What you play, you supply.