TECHNICAL SHEETS · CLAUDE + BLENDER + INSTABOX GPU

How to make a 15–20 second original film with Claude

You describe a place. Claude builds it in Blender as code, eight rented GPUs path-trace every frame, and you finish it to music. Nothing is filmed, nothing is bought.

15–20 s	360–480	3840 × 1608	8 × L4
finished film, 24 frames per second	frames to path-trace	4K-wide picture, 256 samples	GPUs rendering in parallel

THE RENDER BUDGET

2 hours	$6.40 / hour	$12.80	12–15 s
on 8 L4 GPUs: 16 GPU-hours	for all eight, at $0.80 per GPU-hour	for the two hours	of 4K film in that time; 20 s with light frames (Sheet 04)



Frames from our film. All built from code, rendered with Blender Cycles on InstaBox L4 GPUs.

You need: eight InstaBox GPU boxes with one NVIDIA L4 each, Blender 4.5 (free), Claude working on a box as a coding agent, and free CC0 assets. You make three decisions: the idea, the music, and yes or no at the stills.

SHEET 01

The request, and the one idea

One message starts it. Change the place and the mood to your own:

```
Make an 18-second original film in Blender, rendered with Cycles at 3840 wide.
The subject is a place: [a seaside café street at the end of the afternoon].
Original names only, no real brands or existing characters. Free CC0 assets only;
record every asset and licence. People stay small and are never shown in close-up.
Build one small set to close-up standard from real dimensions, with a low sun.
Shortlist free music and wait for me to pick by ear, then cut on its bar lines.
Give me a shot list first. Then one full-size frame per shot, honest notes on what
is weak, and the measured seconds per frame. Do not render the film until I approve.
```



The same shot before and after we learned the rules below. The renderer and its settings did not change.

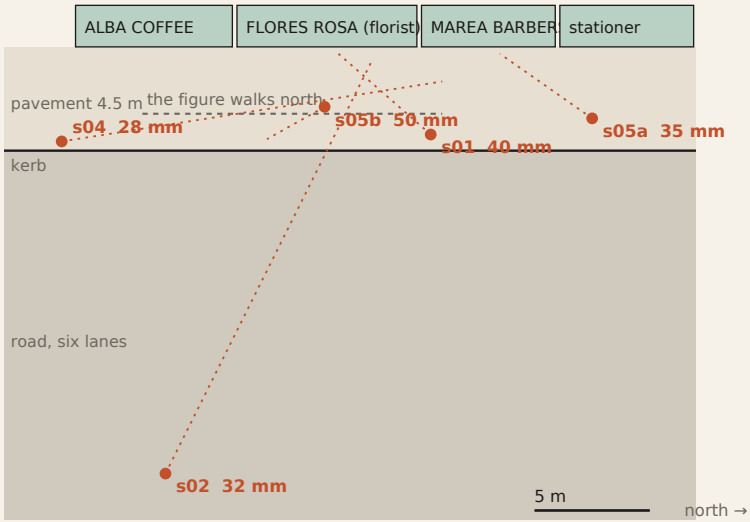
- **Small set, fully built.** 10–25 metres that the camera really sees.
- **Real dimensions.** Kerbs 150 mm, glass set back in frames, nothing paper-thin.
- **Places and objects, not faces.** People at most a quarter of frame height.
- **One low sun,** 5–13° up, raking across every surface.
- **Readable things where the eye lands.** Invented names on every sign.

SHEET 02

The pipeline

Step	What happens	On our film
A · Brief	Your message. Claude returns a shot list.	14 shots in 4 places
B · Music	Claude shortlists free tracks; **you pick by ear**; Claude measures the bars.	`beatmap.py` → one bar = 57 frames
C · Set	Built as Python, module by module, each rendered and checked.	3 scene files, 0.6–1.8 GB
D · Stills	One full-size frame per shot and a timing preview. **You approve.**	16 frames, 115–275 s each
E · Motion	Low-resolution tests of every shot that moves.	221 frames at 640 wide
F · Render	Frames split into 8 lanes, one per GPU box; resumable.	`farm_worker.sh` → 1,083 PNGs, 9 MB each
G · Finish	Cut on the bar lines, grade, grain, end card, checks.	`finish12.sh` → 4K master, 24 MB web file

Stills before motion, motion before the render: each step costs about ten times the one before.



Plan of our boulevard set, metres. Orange dots are cameras; dotted lines show where they look. Shop boundaries and the s02 and s04 camera positions are approximate; s03 is not drawn. The built zone is 24 m of one side of one street.

SHEET 03

The shots



Every shot of our film, with its start time. Each is a whole or half bar of the music: 57 or 28 frames. Three places, the light dropping from 12° to 4°; the figure never more than a fifth of the frame.

What we did first	What happened	What we do now
Made the car the star	"It feels like a car game."	The place is the star.
Built a whole city, thinly	"Too much like paper cut-outs."	One small zone, built fully.
Faces and hands in close-up	The weakest frames of every round.	People small, from behind.
Music from code, cuts on a fixed grid	"The music doesn't fit."	A real track picked by ear; cuts on its bars.
Judged clearances by eye	Hair came through a car roof.	A script measures every frame.

SHEET 04

Rendering: 8 GPUs, 2 hours, $12.80

```
8 L4 GPUs × $0.80 per GPU-hour = $6.40 per hour
2 hours = 16 GPU-hours = 57,600 seconds of rendering = $12.80
frames you can render = 57,600 ÷ seconds per frame
```

Seconds per full-size frame	Frames in the budget	Film length
120	480	20 seconds
160	360	15 seconds
194 (our average)	297	about 12 seconds
275 (our heaviest shot)	209	about 9 seconds

- **Measure first.** Our frames took 115–275 seconds on an L4 at this quality. Aim for 160 or less.
- **Slower frames?** Shorten the film, lighten the scene, or run past two hours. Never lower the resolution or samples.
- **Turn the boxes off** when the frames are collected and checked.

The settings

Renderer	Blender 4.5 Cycles, path tracing, GPU (CUDA)
Picture	3840 × 1608, 24 frames per second, motion blur
Samples	256 maximum, adaptive threshold 0.02, OpenImageDenoise
Stability	Fixed seed; persistent data
Colour and light	AgX; built-in physical sky, sun 5–13° up
Camera	28–50 mm, f/2.8–5.6
Farm	8 L4 boxes, one lane of frames per box, balanced by measured time
Frames	8-bit PNG, dithered, about 9 MB each
Finish	Contrast curve, warm halation, vignette, fine grain; H.264 with AAC
Assets	Poly Haven and ambientCG (CC0); CMU motion capture; one CC BY music track, credited on screen

Written by Claude Fable 5.2 from the record of one project: a 49-second, 14-shot original trailer with "Funkorama" by Kevin MacLeod (incompetech.com, CC BY 4.0) as its music. Frame times were measured on that project; yours will differ with your scene.