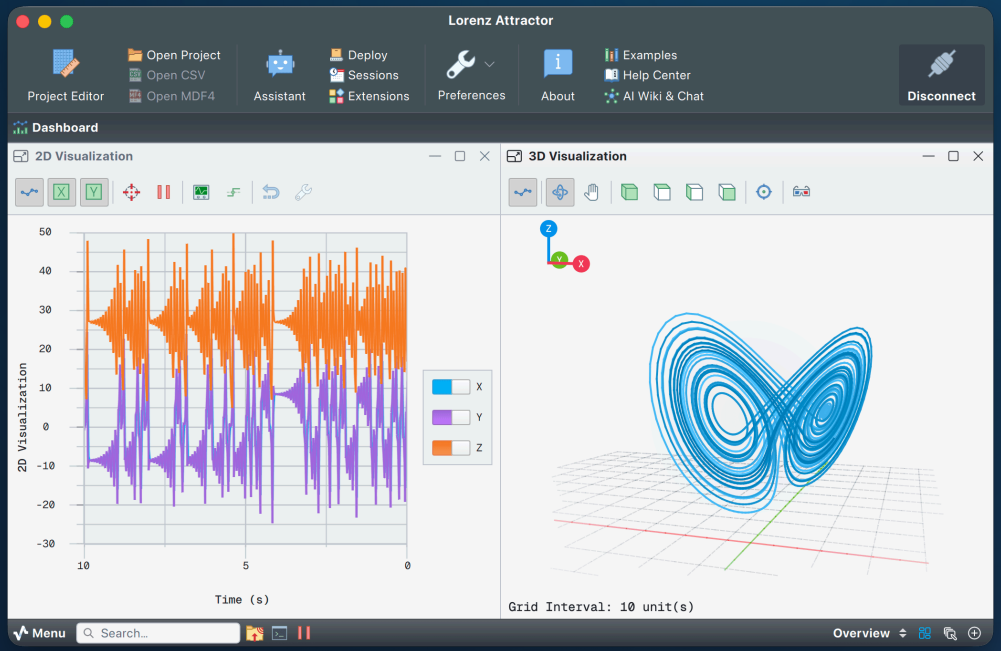
Serial Studio

PRODUCT BROCHURE · 2026

A live dashboard for any device.

Connect a microcontroller, an instrument or an industrial bus. Describe your data once. Serial Studio draws the dashboard, records every frame and sends commands back.

Windows, macOS, Linux and Raspberry Pi. Open source on GitHub.



14
BUS DRIVERS

20+
DASHBOARD WIDGETS

256,000
FRAMES PER SECOND, TESTED ON EVERY BUILD

21
INTERFACE LANGUAGES

HOW IT BEGAN

The dashboard kept taking longer than the hardware.

Serial Studio started on a ground station. During a CanSat competition, and later the NASA Human Exploration Rover Challenge, every change to the telemetry format meant another late night in the dashboard code instead of on the hardware.

The pattern repeated across teams and semesters. A microcontroller printed sensor values over a cable, and somebody had to build a custom program around them.

The general answer was a dashboard that is described, not programmed. The device keeps printing values. The layout lives in a project file on the computer.

> *Did you ever have the need to display data from a microcontroller on a dashboard, and spent more time developing (and fixing) your dashboard software, than working on your MCU project?*
>
> Alex Spataru, introducing Serial Studio, December 2020

Six promises organize everything it does today.

01 **Connect to whatever is on the bench.**
Serial, network, Bluetooth and industrial buses in one installer.

02 **See data before you write anything.**
A first plot in minutes with the firmware you already have.

03 **Build the screen the test needs.**
Widgets arranged by hand and saved with the project.

04 **Keep every frame.**
Record a session and replay it through the same dashboard.

05 **Stay ahead of the device.**
A native pipeline with a speed floor checked on every build.

06 **Stay open to your own tools.**
Scripts, an API and readable project files when you want them.

ONE

Connect to whatever is on the bench.

If it sends data, it has a place on the dashboard.

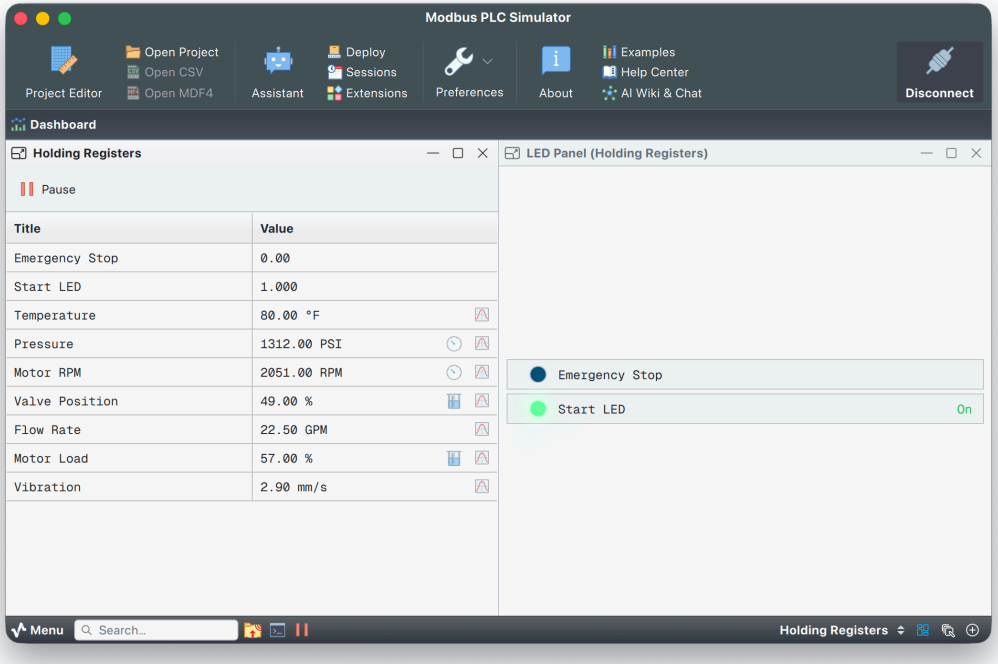
Fourteen drivers ship in one installer. Serial, network and Bluetooth LE are free. The industrial and lab buses are part of Pro.

`Serial / UART` `TCP, UDP, WebSocket, HTTP` `Bluetooth LE` `MQTT` `Modbus RTU / TCP` `CAN and CAN FD` `OPC UA` `Siemens S7` `EtherNet/IP` `IEC 60870-5-104` `Audio` `USB` `HID` `Process`

`Free` `Pro`

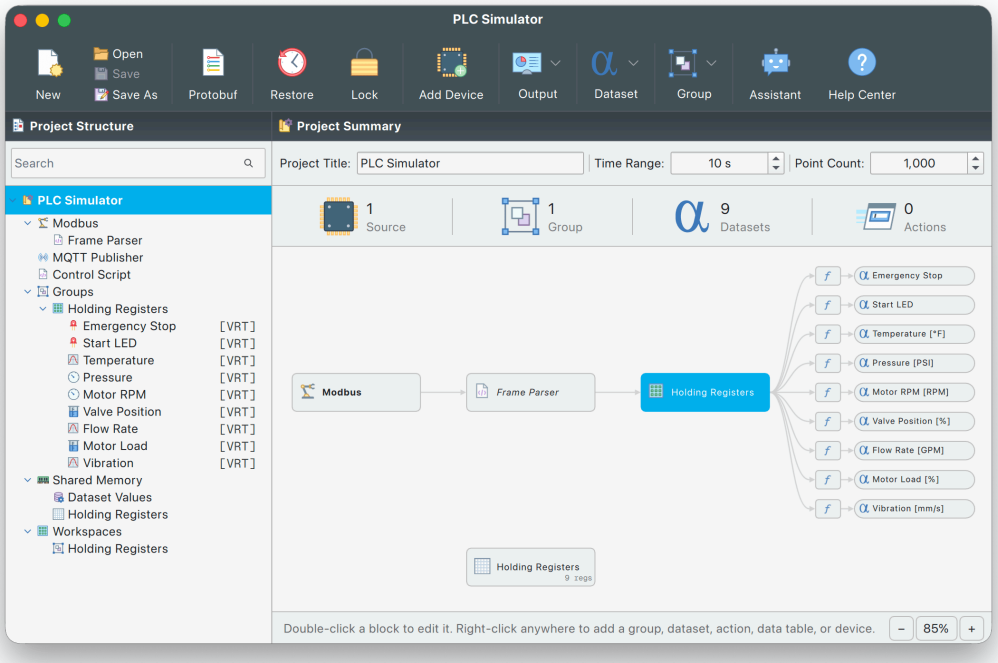
NOTES

- A CAN project can start from a DBC file, and a Modbus project from a register map.
- The OPC UA, S7, EtherNet/IP and IEC 104 drivers only read. They never write to the machine.
- Several devices can feed one project at the same time.
- No PLC on your desk? Bundled simulators let you evaluate the industrial drivers on a laptop.



TWO

See data before you write anything.



A first plot in minutes, with the firmware you already have.

Quick Plot. Print comma-separated values and they are plotted. It also reads `name:value` pairs, units and one-line JSON, with no project file.

Project Editor. When you want a real dashboard, you fill in forms: groups, datasets, widgets, alarm bands and actions. Save as Project turns a Quick Plot session into the starting point.

Parsers. 28 built-in templates decode text and binary frames with no code. When a protocol needs logic, write the parser in JavaScript or Lua.

NOTES

- A device can declare its own dashboard with one line of output.
- Checksums and hex, Base64 and binary decoding are built in.
- A Protobuf `.proto` file imports as a ready project.

THREE

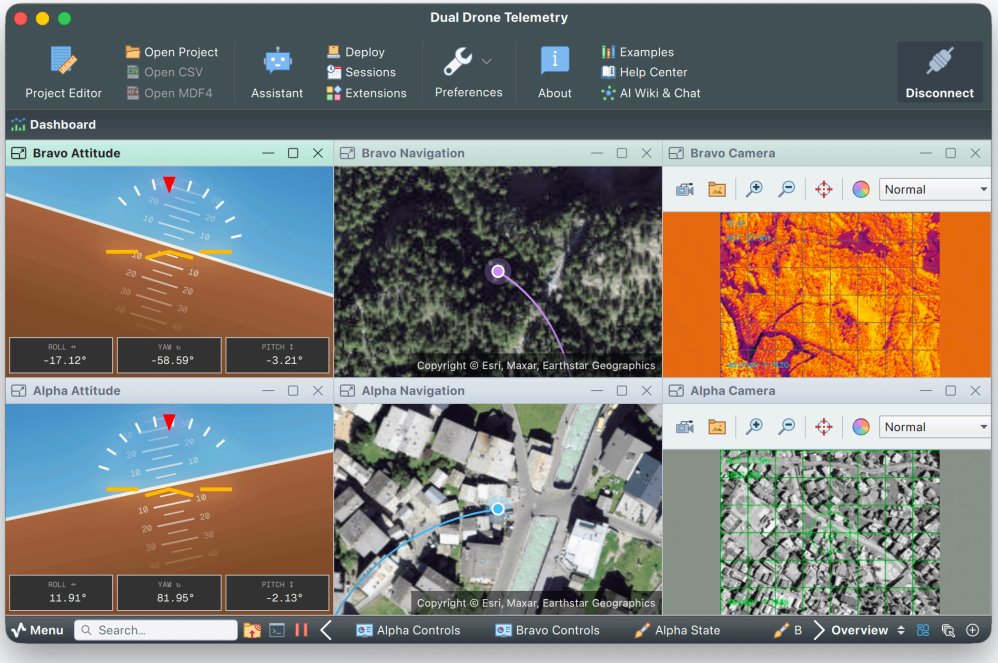
Build the screen the test needs.

Arrange it once. It is saved with the project.

Widgets. Plots, multi-plots, FFT, bars, gauges, meters, a compass, accelerometer and gyroscope views, a GPS map, data grids, LED panels and a terminal. Pro adds 3D plots, a waterfall, an image view and a canvas you draw with a script.

Alarm bands. A gauge or bar changes color as a value moves from normal to warning to critical, and an audible alert can follow it.

Controls. With Pro, buttons, sliders, knobs and toggles sit next to the data, so the dashboard sends commands back to the device.

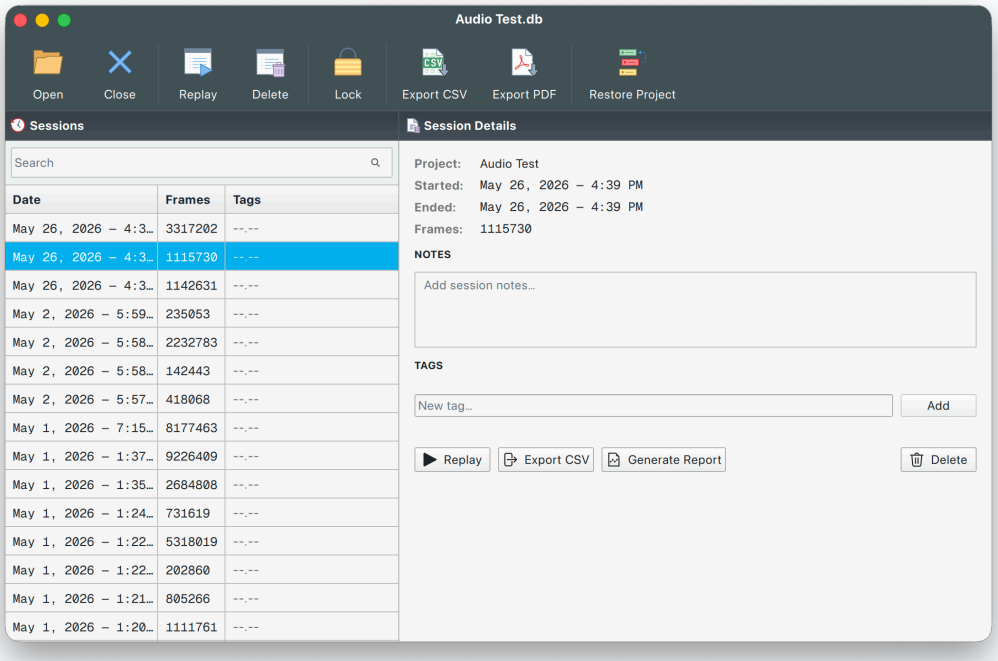


NOTES

- Widgets can move to their own windows on other monitors.
- Workspaces (Pro) split a large project into separate screens.
- The interface is available in 21 languages.

FOUR

Keep every frame.



Record the session. Replay it through the same dashboard.

CSV, free. Export while you measure. Open the file later and the dashboard replays it as if the device were still connected.

MDF4, Pro. Read and write the format automotive tools already use.

Historian, Pro. One database file per project keeps the values, the raw bytes and the project itself. Tag a session, add notes, replay it, or restore the project it was recorded with.

Reports, Pro. Turn a recorded session into a PDF.

NOTES

- InfluxDB 2 and MQTT publishing (Pro) send live data to systems you already run.
- A password can lock recorded sessions against deletion.

Fast by default. Open when you want it.

Stay ahead of the device.

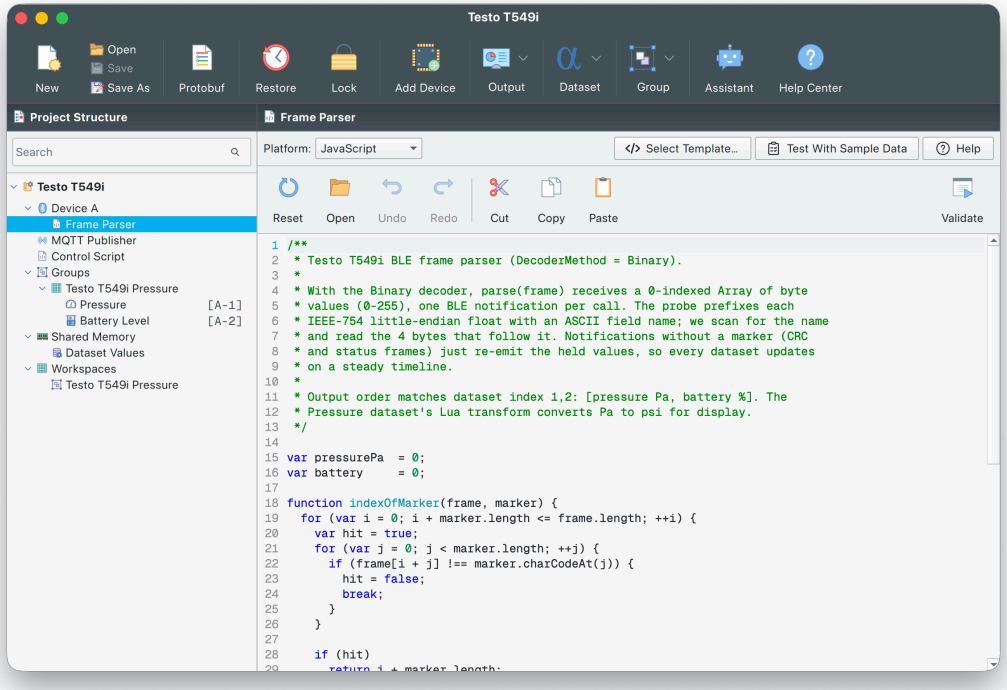
Serial Studio is a native C++ application, not a browser tab. Its parsing pipeline is tested at 256,000 frames per second on every build, on Windows, macOS and Linux, and a build that falls below that fails. Real throughput depends on your computer.

The display refreshes at 60 Hz by default. Every frame is still processed and recorded.

Stay open to your own tools.

You never have to program. If you want to, the API server answers more than 440 commands over TCP, gRPC and MCP, parsers run JavaScript or Lua, and extensions add widgets, themes and parsers.

The AI Assistant (Pro) builds and edits projects with your own API key or a local model, and asks before it changes anything.



NOTES

- The source is on GitHub under GPLv3.
- Projects are plain JSON files you can read and keep in version control.

WHERE IT IS USED

One application across the bench, the vehicle and the plant.

Robotics and automation

- IMU, encoder and motor data on one screen
- Sliders and buttons to tune a controller live
- Bluetooth LE and UDP for untethered robots

Automotive and motorsport

- CAN and CAN FD with DBC import
- OBD-II through a serial adapter
- MDF4 recordings for the tools you already use

Aerospace, drones and rocketry

- A ground station with map, attitude and plots
- Several vehicles in one project
- A session report after each flight

Research and labs

- A new sensor plotted in minutes
- FFT and waterfall for vibration and audio
- CSV for analysis in your own tools

Industrial and test equipment

- Modbus, OPC UA, S7, EtherNet/IP and IEC 104 with no gateway
- A locked, full-screen dashboard for operators
- Offline activation for air-gapped stands

TRUSTED BY

Teledyne · NXP Semiconductors · Harvard University · Windracers · Kemper · Spectrum Medical · Critical Software · University of Bath · Aether Space · Terranova · Bonnel · Newbury Innovation · Sorcerer · Spherie · Redlite · NJIT Baja Racing · Marco Beverage Systems · Grinn Global · Spectra Ingenuity · ThoraTech · CUNY · Wolffsohn Research · White River Technologies

EDITIONS

Free to start. Pro when the work is commercial.

FREE

$0

Serial, network and Bluetooth LE. The standard widgets, Quick Plot, the Project Editor, JavaScript and Lua parsers, CSV and the API server.

Build it from the GPLv3 source, or use the official installer for personal, educational and open-source work.

PRO

$179 a year

Everything, for commercial use: all 14 drivers, 3D, waterfall and canvas widgets, controls, MDF4, the Historian, reports, the AI Assistant and email support.

Also $19 a month, or $699 once for a lifetime license. 3 activations.

TEAMS AND TEST STANDS

$349 a year

Small Business covers a team with 10 activations, also at $39 a month.

Test Stand is $1,900 once: 20 offline activations with no renewals, for machines that never go online.

Try every Pro feature free for 14 days.

No card required. When the trial ends, the free features keep working.

Download Serial Studio | Compare plans

serial-studio.com alex@serial-studio.com github.com/Serial-Studio