

CANsub FW 02.05.00: Precision Time Protocol (PTP) support, webCAN updates and more

CSS Electronics newsletter - September 2026

Firmware updates

CANsub **FW 02.05.00** adds **Precision Time Protocol (PTP)** support for **< 10 µs** cross-device sync



CANsub now supports PTP: <10 µs cross-device time sync

Need to stream CAN FD data from multiple CAN interfaces - with timestamps you can compare perfectly across devices?

With FW 02.05.00, the CANsub now supports the [Precision Time Protocol \(PTP\)](#) via both Ethernet and USB.

Every CANsub already timestamps RX/TX frames in hardware with 1 µs resolution - but each device clock drifts over time.

As a result, multi-device setups (e.g. 8 x CAN across 2 x [CANsub.4](#)) suffer from drifting timestamps - and at best you may keep them within ~2 ms (i.e. ~2000 µs) of each other.

However, PTP solves this by syncing all CANsub devices to one shared network clock:

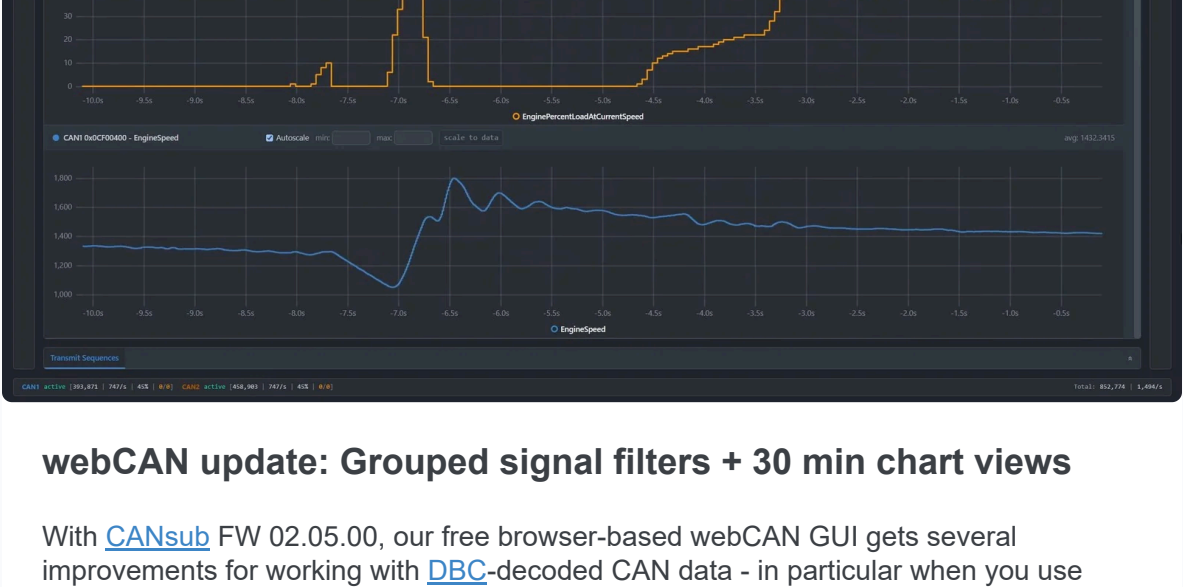
- **Plug & play:** PTP is enabled by default. The CANsub detects a compatible PTP master on the network and starts tracking it within 10-20s - no configuration needed
- **Ethernet + USB:** Sync works over Ethernet/USB, so you can use it on a LAN with an Ethernet switch - or with multiple CANsubs via USB to a single PC
- **<10 µs via software:** Use a Linux PC or Pi running the free ptp4l tool as your PTP master to go from a cross-device time delta of ~1000-2000 µs to <10 µs (99%+ less)
- **~1-10 µs via hardware:** Add a standalone hardware PTP master to simplify your setup - and reach ~1-10 µs cross-device sync plus near perfect absolute sync
- **Standard IEEE 1588:** The CANsub supports the default IEEE 1588 profile via IPv4 UDP multicast - sharing a common time base with other PTP-synced data sources
- **Status via REST + display:** The PTP sync status can be polled via REST - and the CANsub LCD and webCAN show a time sync icon while tracking the master

PTP support makes the CANsub perfect for test benches, labs and end-of-line testing where CAN data from many channels must align perfectly.

Further, it can be useful in field deployments like large vessels or wind mill parks where perfectly synced data across 'fleets' of CAN buses is critical.

[Update your firmware](#) to get started!

Learn more



webCAN update: Grouped signal filters + 30 min chart views

With [CANsub](#) FW 02.05.00, our free browser-based webCAN GUI gets several improvements for working with [DBC](#)-decoded CAN data - in particular when you use large DBC files or review longer periods of data.

- **PTP support:** webCAN supports PTP by allowing a PTP master to specify the absolute time reference - thus enabling you to stream data in perfect sync vs. the absolute time and other CANsubs on your network
- **Grouped signal filters:** The filter panel now groups signals under their message, with expand/collapse and a per-message checkbox. Show/hide all signals of a message with one click - and keep an overview with large DBC files like [J1939](#)
- **30 min chart views:** When browsing historical data, the chart view now supports time windows of up to 30 min. Combined with the 2M frame buffer, you can review long-term trends (e.g. temperatures or SoC) - and zoom in on the details
- **DBC comments on hover:** Hover a message or signal in the decoded Trace and Summary views to see its DBC comment - useful when working with large DBC files
- **Dark mode:** Switch between light and dark mode via the new toggle in the header
- **Device status + control:** Reboot the CANsub via a new button, see a green lock icon when mTLS is enabled - and get a reload prompt if a device reset is detected. The status bar also blanks stale values and reflects bus disconnects

To get the new webCAN simply update your CANsub firmware. Check it out - and [let us know](#) if you have any feedback/suggestions!

Learn more

New products



New: GPS-based PTP master for your CANsubs

Need to sync multiple CANsub devices to one shared clock - with <10 µs absolute sync via PTP ([Precision Time Protocol](#))?

We have now added the TM2000B GPS-based PTP grandmaster clock to our range of CANsub accessories. Connect it to your Ethernet switch and every [CANsub](#) on the network syncs to it - aligning all CAN frame timestamps to true absolute time.

In our recent PTP post, we explained how a Linux PC or Raspberry Pi running a software PTP master can bring multiple CANsubs within 10 µs of each other. The TM2000B is a plug & play, standalone and pro specs alternative - offering GPS-based absolute time and PTP messages timestamped in hardware - with no host to maintain.

In our tests with the TM2000B, multiple CANsubs reach a cross-device sync of +/- 1 µs!

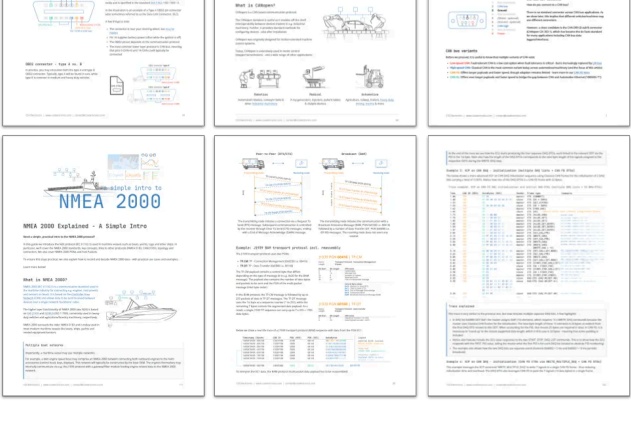
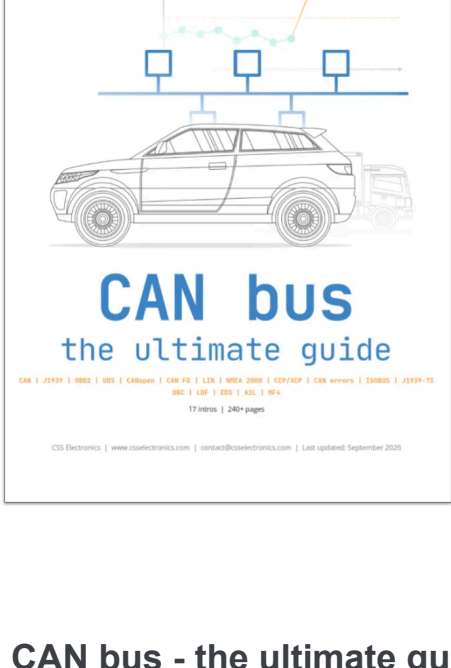
Key features include:

- **<10 µs sync:** Sync all CANsub devices on your network to one clock - below 10 µs
- **GPS based:** GPS reference enables true UTC timestamps, not a drifting PC time
- **2 min setup:** Deploy + configure via your browser. Optional Power-over-Ethernet
- **Standalone:** Runs offline with no internet, host software or scripts to maintain
- **Holdover:** OCXO oscillator keeps serving stable time if the GPS signal is lost
- **Scalable:** One unit serves any number of CANsub devices across your LAN

Get yours today - and [let us know](#) if you have questions!

Learn more

Other updates



17 intros | 240+ pages | 1 PDF

CAN bus - the ultimate guide PDF [2026]

Our popular free 'ultimate guide' PDF just got its first update since 2023 - and it has grown and improved a lot!

The guide bundles our '[simple intros](#)' into one PDF that you can read offline, print or share with new colleagues and students.

This is a must-have for any automotive/industrial engineer!

- **17 intros:** All 100% up-to-date - including 5 new intros!
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