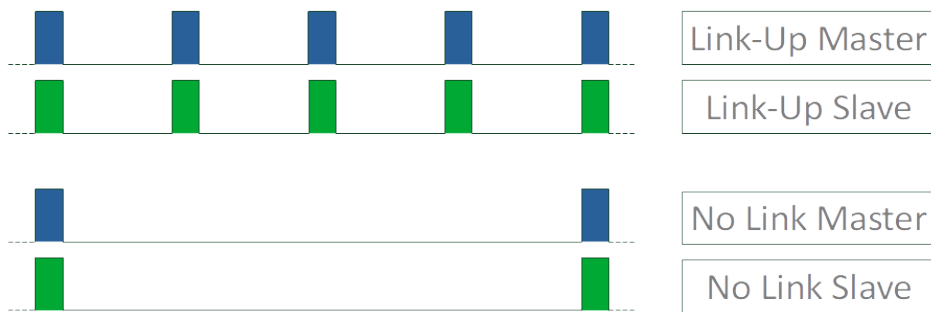
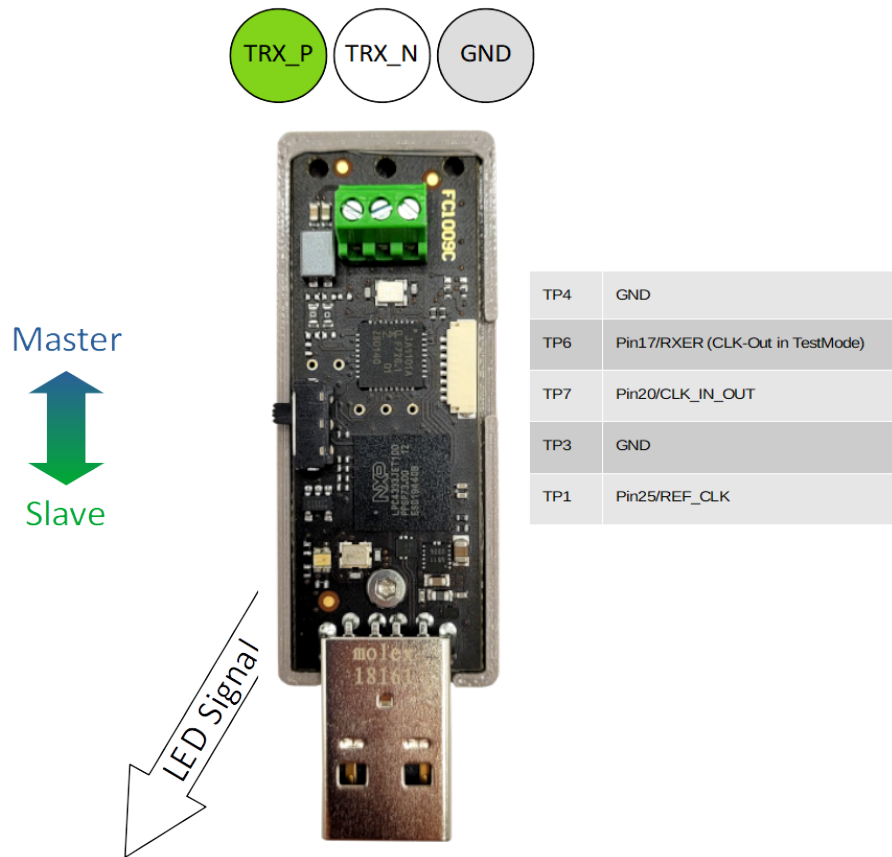


# User Manual

*FC612 USB 100BASE-T1 Stick Raw*  
*Version 1.1.0*

*August 3, 2021*  
*Build 6*  
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# 1 Usage



## 2 Overview

The FC612 is a compact, powerful and flexible USB to 100Base-T1 adapter. In comparison to network-adapter FC602, the FC612 supports raw-ethernet frames communication including precise timestamp and sequence counter for each received message.

The software package is improved and supports still USB2 high-speed connectivity to Windows 7/10 and Linux without additional kernel drivers.

**Please note:**

To behave like a standard USB device, FC612 includes 2 classes:

- USB BULK
- USB BULK RAW

Using USB Control, all properties and functions of FC612 are accessible. In extension to these base functions, Raw-Ethernet Rx/Tx interfaces enables the usage of sending/receiving of Layer2 frames on 100BASE-T1 networks.

So, this variant fits perfect for analyze and test Automotive Ethernet node and switch designs. It speeds up development time and is ideal suited to verify all kind of MAC-level data including VLANs, double-tagged VLANs, gPTP-traffic, TSN related Layer2 protocols, ...

### 2.1 Deliverables

- FC612 USB 100BASE-T1 Stick
- UTP-Cable 2m
- Software
  - Broadway2 API for Windows/Linux
  - Python3 Broadway2 package and source examples

## 3 Software

Starting with next generation of USB-100BASE-T1 Adapters, like FC602, FC611 and FC612, there is now one common software installation which supports all of these new variants.

For FC601, the existing software stays on Broadway, but latest CDC-ECM driver supports all adapters including FC601.

Details can be found in new Broadway2 documentation, delivered together with Broadway2 download package.

In addition, USB Raw-Adapters are supported by command-line tool steamto which can be downloaded separately and is supported on Windows 10, Linux and Raspberry Pi.

## 4 Firmware Update

For each variant, FibreCode supports easy USB update package which is always found in latest WFP\_XXXX.zip file under Firmware.

**Important:** Update is NOT supported on Linux

For update of FC612, follow next steps:

1. Login to Windows 7 or Windows 10 PC
2. Unzip WFP\_FC612\_XXXX.zip to local folder like tmp
3. Connect exactly one FC612 to Windows
4. Open console in extracted firmware folder and enter:  
`update_app_stick_FC612.cmd FC300106_V_xx_yy_zz-n.bin`