TELEDYNE LECROY
Everywhereyoulook™

# Mercury™ T2C & T2P

## USB 2.0 Type-C™ Power Delivery Protocol Analyzer




## Key Features

- **Supports USB Power Delivery 2.0 and 3.0**
  Captures all CC and PD events and displays them in the easy-to-understand CATC Trace view
- **Supports USB 2.0**
  Capable of capturing all USB 2.0 speeds (LS, FS, HS) over Type-A, B, & C devices
- **Portable and Affordable**
  Compact bus-powered system weighs under 8 oz.
- **256/512 MB Recording Memory**
  Extend capture time with spool-to-disk recording (512 MB for T2P)
- **High Impedance probe**
  Non-intrusive probe preserves real world signal and timing conditions
- **Advanced Triggering**
  Isolates important traffic, specific errors or patterns
- **Extensive Decodes**
  Mass storage, Bluetooth HCI, Hub, PTP/ Still Image, Printer, Human Interface Device (HID), Audio, Video, Communication and more
- **Hardware Filtering**
  Automatically exclude non-essential traffic
- **Event Reporting**
  Quickly identify and track error rates, abnormal bus activity or timing conditions
- **Power Tracker™**
  VBUS, VCONN, & CC power analysis (T2P only)
- **SBU Capture Option**
  Mercury T2P can decode SBU back-channel messages for Thunderbolt-3™ (LSTX) and DisplayPort™ (AUX)

**The Teledyne LeCroy Mercury T2C and T2P add USB Type-C and Power Delivery 3.0 support (SPR voltages only) to the industry's smallest and most affordable hardware-based USB 2.0 protocol analyzers. The Mercury combines the de-facto standard CATC Trace™ display, USB class decoding and Power Delivery 3.0 support in an analyzer that fits in a shirt pocket.**

### View and Understand USB Protocol

Featuring the industry-leading CATC Trace™ expert analysis software, the Mercury system provides an easy-to-use display that graphically decodes Power Delivery 3.0 protocol, in addition to USB 2.0 protocol traffic. With the Standard or Advanced edition, all protocol layers can be expanded to show the underlying transactions and packets. Tooltips help explain protocol events making it easier for non-experts to identify errors.

### Real Time Triggering

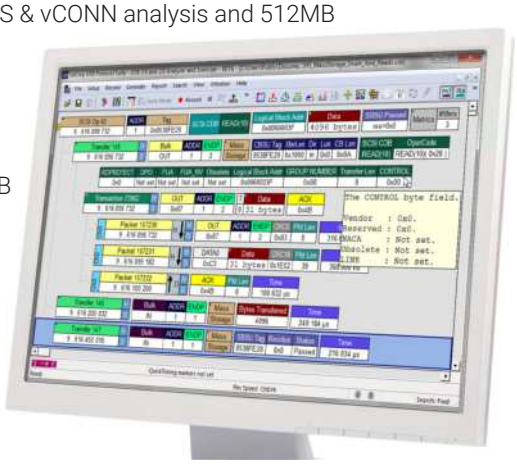
Isolating specific protocol events with real time triggering is essential to capturing intermittent problems. The Mercury system provides sophisticated triggering with drag-and-drop selections for PID type, data patterns, standard requests, errors and bus events. The Mercury features up to 512 MB of on-board memory and supports spool-to-disk capture for extended recording.

### USB Power Delivery Support

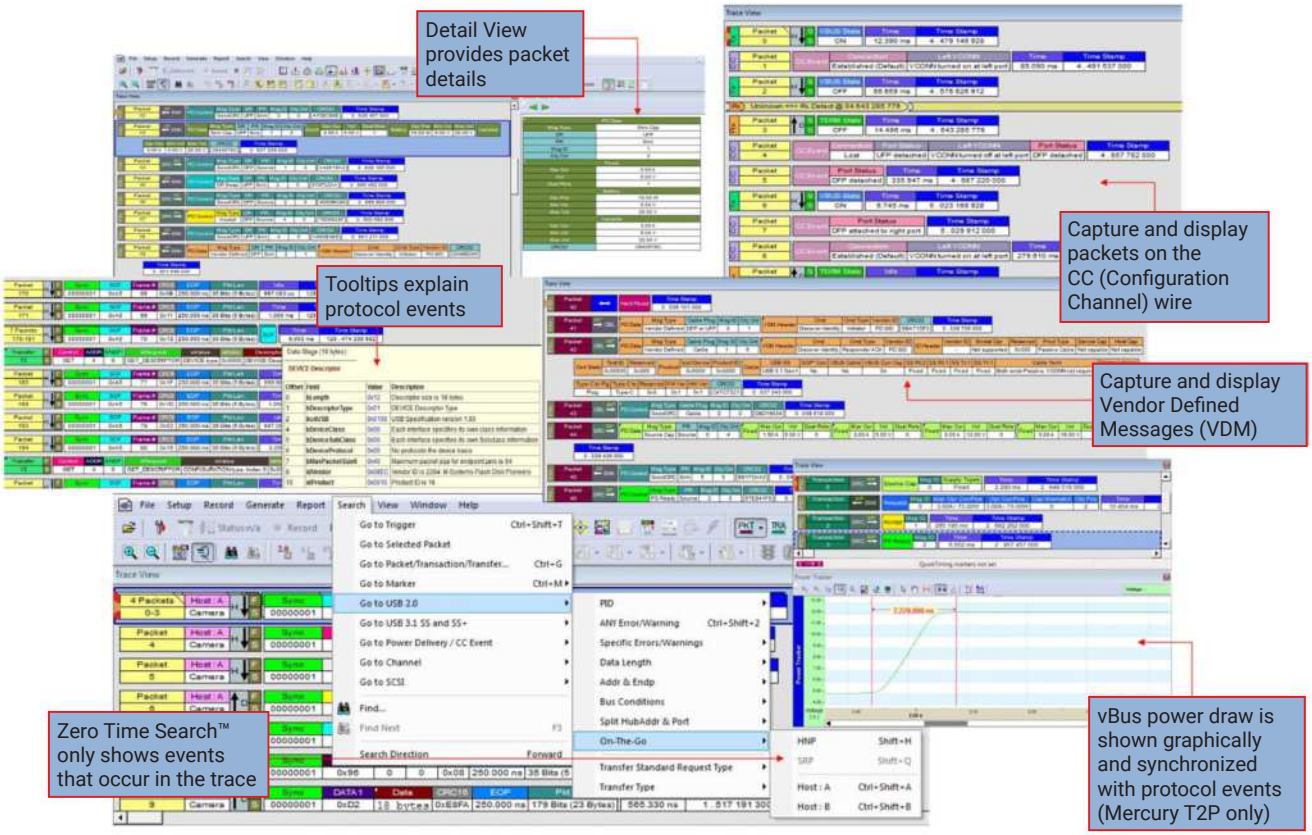
The Mercury system supports USB Type-C and BMC Power Delivery 3.0 with capture and decode of all Power Delivery packets. View all PD negotiations over the CC wire including VDM's, role swaps, and entry/exit from alternate modes. The Mercury T2P provides all the PD support plus Power Tracker for vBUS & vCONN analysis and 512MB recording memory.

### Find the Issues Fast

The Mercury system provides many mechanisms to measure and report on USB traffic. The Bus Utilization display shows data, packet length and bus usage by device. Using the Traffic Summary window, users can evaluate statistical reports at a glance or navigate to individual fields. Real time statistics show throughput by endpoint.



*The CATC Trace display uses collapsible headers to group all packets that are part of a single transfer*




| Feature Comparison | Mercury T2C USB Power Delivery | Mercury T2C Standard USB 2.0 | Mercury T2C Advanced USB 2.0 | Mercury T2P Advanced USB 2.0 |
|---|---|---|---|---|
| | USB-TMPD-M02-X | USB-TMS2-M02-X | USB-TMA2-M02-X | USB-TMAP2-M03-X |
| USB2.0 / USB1.1 Recording | ☑ | ✓ | ✓ | ✓ |
| Spool-to-Disk Recording | ✓ | ✓ | ✓ | ✓ |
| Recording Memory | 256 MB | 256 MB | 256 MB | 512MB |
| USB 2.0 Event Triggering | ☑ | ✓ | ✓ | ✓ |
| PID Type and Dev Address | ☑ | ✓ | ✓ | ✓ |
| Data Pattern | ☑ | ✓ | ✓ | ✓ |
| Max States per Sequence | ☑ | 4 | 7 | 7 |
| Max Number of Sequences | ☑ | 2 | 2 | 2 |
| Power Delivery 3.0 | ✓ | ☑ | ☑ | ☑ |
| Type-C Connectors, Cables, Adapters | ✓ | ✓ | ✓ | ✓ |
| USB Real-time Statistics (RTS) | ☑ | ✓ | ✓ | ✓ |
| Export to .CSV (Packet Layer) | ☑ | ☑ | ✓ | ✓ |
| Automation API | ☑ | ☑ | ✓ | ✓ |
| Verification Script Engine (VSE) | ☑ | ☑ | ✓ | ✓ |
| Power Tracker | | | | ✓ |
| DisplayPort™ AUX capture (SBU) | | | | ☑ |
| Thunderbolt-3™ (LSTX) Decoding | | | | ☑ |

☑ Can be added with upgrade

| Specifications | |
|---|---|
| Host Requirements | 64-bit (x64) versions of Microsoft® Windows 11, Windows 10, Windows Server 2016, and Windows Server 2019 |
| Standard Trigger Events | Packet Identifier, Token Pattern, Frame Pattern, Device Request, Data Pattern, Bus Conditions, Errors, Transactions, Data Length, Splits, PD Messages, Type-C logical states |
| Reporting & Statistics | Packet Level, Transaction Level, Transfer Level, Error Reports |
| Recording Memory Size | Mercury T2C: 256 MB<br>Mercury T2P: 512 MB |
| Power Consumption | Idle: 460 mA (typical); Active: 500 mA (typical)<br>(Note: assumes Vconn current required is < 50 uA) |
| Connectors | USB Type-C |
| Temperature | Operating: 0°C to 55°C (32°F to 131°F)<br>Non-Operating: -20°C to 80°C (-4°F to 176°F) |
| Humidity | Operating: 10% to 90% non-condensing |
| Dimensions | Mercury T2C: 80 x 90 x 24 mm (3.0" x 3.6" x 1")<br>Mercury T2P: 80 x 123 x 24 mm (3.0" x 4.8" x 1") |
| Net Weight | Mercury T2C: 158g (5.8 oz)<br>Mercury T2P: 220g (7.7 oz) |

**Local sales offices are located throughout the world.**
**Visit our website to find the most convenient location.**

**1-800-5-LeCroy • teledynelecroy.com**

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