

# **USB MULTI** Multi-Protocol Interfaces

These pocket-sized USB adapters are the easy and portable way to interface your computer to multiple avionics databuses including: MIL-STD-1553, EBR 1553, ARINC 429, ARINC 708, ARINC 717, Serial, and Discrete I/O. They enable computers to communicate with simulate, test, and monitor avionics equipment and systems.

## One Tool Does it All!

These rugged USB 2.0 peripherals feature a combination of different protocols in a single device, providing greater convenience and cost savings when interfacing to multiple databus types. They are compatible with virtually all modern PC laptop, desktop, and tablet computers, and all power necessary for operation is provided via the single USB port. Plug and Play and Hot Swap features make them easy to install and move between computers.

## **Full-Featured Software**

CoPilot software, available as an option with special bundled pricing, provides easy-to-use, interactive tools for databus test, analysis, and simulation. CoPilot simplifies project development and provides added productivity through virtual instrument displays, flexible monitoring and analysis tools, and a powerful scripting engine.





USB Multi-Protocol Interface Block Diagram



Multiple databus Protocols

USB Bus / Powered

Flight Test Orange Case Color Option

#### **KEY FEATURES**

- Interface USB to multiple avionics databus protocols with a single unit
- Small, portable, and rugged
- Easy Plug and Play installation
- No external power supply needed
- Available Protocols
- MIL-STD-1553
- EBR 1553
- ARINC 429
- ARINC 708
- ARINC 717
- RS-422/485/232 Serial
- Discrete I/O
- 8 Avionics Discrete I/O
- IRIG A/B PWM and AM
- USB 2.0 Bus Powered
- 32 MB Data Memory
- FCC, CE and RoHS compliant
- 3-year limited warranty standard

## Astronics Ballard Technology USB MULTI – Multi-Protocol Interfaces

# **Available Interfaces**

## **MIL-STD 1553**

Up to 1 dual-redundant channel BC/RT/MON (Single- or Multi-Function) Hardware controlled transmit scheduling CH/TA/SA filtering Sequential monitor

## **ARINC 429**

Up to 6 channels (4R2T) Periodic and asynchronous messages Hardware controlled transmit scheduling Receive message filtering (Label/SDI) Sequential monitor

## **ARINC 708**

Up to 2 channels (1R1T) Hardware controlled transmit scheduling Receive message filtering Sequential monitor

## **ARINC 717**

Up to 4 channels (2R2T) Biphase/Bipolar Transmit and receive Sub-frame and super-frame support 64,128,256,512,1024,2048,4096,8192wps Sequential monitor

## **Differential Discrete I/O**

Up to 4 programmable inputs/outputs

#### EBR 1553 (SAE AS5652)

Up to 4 ports (1 channel) BC/RT/MON (Multi-Function) Hardware controlled transmit scheduling CH/TA/SA filtering Sequential monitor

#### RS-422/485/232 Serial

Up to 4 ports Selectable baud rates

## **Higher Channel Counts**

Single-protocol USB interfaces are available with higher individual channel counts. Visit:

astronics.com/USB-Interfaces

## **Other Features**

#### **Standard Features**

Model dependent protocol capability USB 2.0 interface 8 avionics discrete I/O Up to 4 differential discrete I/O IRIG A/B input and output 32 MB on-board memory

#### Avionics Discrete I/O

8 programmable inputs/outputs Can be used as syncs and triggers Output: Open/Gnd, 200 mA (max), self monitoring, inductive load protected Log transitions to sequential record

## Time-tag/IRIG

48-bit hardware time-tag (1µs resolution) IRIG A or B, AM, PWM, and PPS modes Generate or synchronize (AM input only) Synchronize hardware time-tags

## **Specifications**

Component temp: -40 to +85 deg C Storage temp: -55 to +100 deg C I/O Connector: HD44F D-Sub Dimensions: 3.0 x 4.45 x 0.97 in (76 x 113 x 25 mm) Weight: under 5 oz (140 g) Power: Single USB port MTBF: 1,400,000 hours

## Software

Universal BTIDriver API for C/C++, C#, VB, VB.Net, and LabVIEW<sup>™</sup> Windows<sup>®</sup> and Linux<sup>®</sup> OS drivers Translation DLLs for older Ballard devices CoPilot analysis & test software (opt) *Call for latest language and OS support* 

## **Ordering Information**

## **Protocol Key**

- A = MIL-STD-1553 (B: Bus Monitor,
  S: Single-function, M: Multi-function)
- **B** = **ARINC 429** (4R2T)
- C = ARINC 708 (1R1T)
- D = ARINC 717 (2R2T)
- E = EBR 1553 (4 ports)
- F = Serial (4 ports)

Hardware	Hardware		Protocols				
& CoPilot*	Only	Α	В	С	D	Е	F
CP-UA1503	UA1503	-	Х	-	-	-	Х
CP-UA1505	UA1505	-	-	-	-	Х	-
CP-UA1511	UA1511	В	Х	-	-	-	-
CP-UA1512	UA1512	В	Х	-	Х	-	-
CP-UA1513	UA1513	В	Х	-	-	-	Х
CP-UA1514	UA1514	В	-	-	-	-	Х
CP-UA1515	UA1515	В	-	-	-	Х	-
CP-UA1521	UA1521	S	Х	-	-	-	-
CP-UA1522	UA1522	S	Х	-	Х	-	-
CP-UA1523	UA1523	S	Х	-	-	-	Х
CP-UA1524	UA1524	S	-	-	-	-	Х
CP-UA1525	UA1525	S	-	-	-	Х	-
CP-UA1531	UA1531	Μ	Х	-	-	-	-
CP-UA1532	UA1532	Μ	Х	-	Х	-	-
CP-UA1533	UA1533	Μ	Х	-	-	-	Х
CP-UA1534	UA1534	Μ	-	-	-	-	Х
CP-UA1535	UA1535	Μ	-	-	-	Х	-
CP-UA1571	UA1571	-	Х	Х	-	-	-
CP-UA1572	UA1572	-	Х	Х	Х	-	-
CP-UA1573	UA1573	-	Х	Х	-	-	Х
CP-UA1574	UA1574	-	-	Х	-	-	Х

\*Includes CoPilot analysis & test software

#### Options

To order, add the appropriate suffix to the above part number. Example: UA1532/NE

- /FTO Flight Test Orange case (black case is standard)
- /NE No Enclosure, Printed Circuit Board Assembly only, for embedded use

/FXY Conformal coating (Parylene)

## CONTACT INFO

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