Technical Datasheet

TS 717 ARINC 717 Test Set

The Easy Tool for Test and Maintenance of Aircraft Systems

Portable USB-powered test set enables Windows computers to display ARINC 717/573 data from a Digital Flight Data Recorder (DFDR) or Digital Flight Data Acquisition Unit (DFDAU).

Features

- **Easy to use**
- **Receives, displays and transmits ARINC 573 and 717 data**
- **Displays data in multiple radices**
- **Shows bus speed and position status**
- **Auto speed and sync detection**
- **Selectable word, subframe, and superframe**

Description

The TS 717 Test Set for ARINC 717 is a convenient, easy-to-use tool for test and maintenance of aircraft systems that are tied to the Digital Flight Data Recorder (DFDR). The compact interface/cable hardware is conveniently stored in a rugged carrying case for easy transport and quick deployment. To use, simply connect one end to the aircraft test plug, the other to the USB port on any Windows® computer, and the accompanying CoPilot software displays the user-specified data received from a Digital Flight Data Acquisition Unit (DFDAU) or DFDR output databus.

In an aircraft, the DFDAU samples, conditions, and digitizes or reformats the analog and digital signals representing flight data. This data passes from the DFDAU to the DFDR and back on special ARINC 573 or 717 Harvard biphase encoded serial databuses. The TS 717 provides access to the flight data by reading these Harvard biphase databuses or the bipolar auxiliary output from a Quick Access Recorder (QAR).

Operation

When connected to an ARINC 573 or 717 databus, the test set automatically senses and adjusts to the bit rate (from 64 to 8192 words per second). It then synchronizes to the sync words in the serial data stream. Status is continuously reported including the bus speed, state of the sync, and current subframe and superframe. To display a particular flight data parameter, the operator specifies the word by entering the desired word number, subframe, and superframe. The display is updated each time the specified word is received. Subframes may be specified uniquely or as odd, even, or all. Specify superframes uniquely or all.

Software

The included CoPilot® software is an intuitive, interactive, graphical application that enables you to easily monitor, record, replay, analyze, and simulate ARINC 573/717 avionics bus data on your PC. In its simplest form CoPilot emulates an easy-to-use flightline tester by displaying 12-bit ARINC 717 words and subframes in binary, octal, and/or hexadecimal, with superframe capability. Reversed and non-standard sync values may be selected to allow testing of non-standard and older 573 equipment. In its advanced form, CoPilot provides engineering units, virtual displays, recording, playback, simulation capability, and more for ARINC 717 and other avionics protocols.

What's Included

- ARINC 717 databus to USB interface (also available with ARINC 429)
- ARINC 717 aircraft cable
- USB cable
- CoPilot test & analysis software
- Rugged carrying case

Applications

- 717 (and optional ARINC 429) analysis, test, and simulation
- Flightline and AOG support
- Data recording
- Avionics validation/testing

Benefits

- Single solution for many applications
- Portable, versatile, and durable
- USB 2.0 bus powered—no external power supply needed
- Compatible with virtually all Windows-based computers
- Intuitive graphical software display
- Rugged case allows unit to be stored with cables connected for quick setup
- Use in the lab or in the field
- FCC and CE compliant

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TS 717 ARINC 717 Test Set

Ordering Information

TS-UA1401-01

Test Set for ARINC 717. Includes ARINC 717 USB interface, 717 aircraft cable, USB cable, CoPilot software, rugged case, and manuals. A 44-pin mating connector is included to aid in building a custom cable.

TS-UA1431-01

Test Set for ARINC 717 and 429. Same as above, but interface also supports ARINC 429 (8R4T).

Specifications

Number of Channels

- ARINC 717: 2R2T
- ARINC 429: 8R4T (TS-UA1431-01 only)
- Discrete I/O: 8 channels

ARINC 717

- Software selectable biphase/bipolar
- Subframe and superframe support
- Data rates: 64, 128, 256, 512, 1024, 2048, 4096, 8192 words per second

Computer Interface

- USB 2.0

Aircraft Cable

- Connects to Boeing System Test Plug for flight data recorder.
- Length: 10 feet.

Power

- Single USB port

Temperature Range

- Component: -40 to +85 deg C
- Storage: -55 to +100 deg C

Dimensions

- USB Interface: 3.0 x 4.45 x 0.97 in (76 x 113 x 25 mm)
- Case: 16.0 x 13.0 x 6.9 in (407 x 330 x 175 mm)

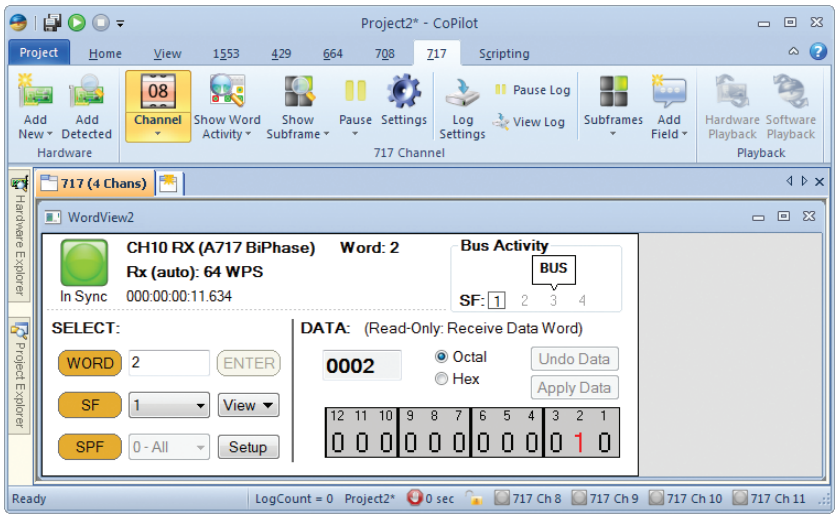
I/O Connector

- HD44F D-Sub

More information on USB 429/717 interfaces and CoPilot is available at www.ballardtech.com.

ARINC 717 Display

The intuitive CoPilot 717 display provides easy access to important data displays and parameters for easy analysis.



System Requirements

CoPilot requires the Microsoft® Windows® XP Operating System or above (including Windows XP, Windows Server 2003, Windows Vista, Windows Server 2008, Windows 7, and Windows 8).

Suggested Hardware

- Intel® Core™2 Duo, 2 GHz (multi-core) processor or higher
- 4 GB RAM
- 2 GB of available hard disk space (additional free disk space required for data logging)

Minimum Hardware

- 1 GHz 32-bit (x86) or 64-bit (x64) processor
- 2 GB RAM
- 1 GB of available hard disk space

Software Licensing Overview

The CoPilot license was designed to be easy on your business. There are no dongles to lose or expensive site licenses to manage, just a simple software "key" embedded in the Ballard databus interface hardware. You can freely install CoPilot on as many computers as you need for pre-run setup, scripting, or post analysis. When you need to access the live databus, just connect any of these computers to hardware containing a license key.

Ballard Technology is committed to quality and is AS9100 and ISO 9001 registered.

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