CoPilot 1553 and CoPilot 1553 Plus

Simulation & Analysis Software for MIL-STD-1553

MIL-STD-1553

Features

- For MIL-STD-1553 testing, simulation, and analysis
- Simulate BC, RTs, and Monitor
- View data in engineering units
- Save and reuse data fields and RTs in the 1553 database
- Monitor, record, filter, and export MIL-STD-1553 bus activity
- View data through virtual instruments, strip charts, and moving map displays
- Customize CoPilot with scripts
- Reexamine bus activity with software playback
- Test external terminals with hardware playback
- For Ballard's 1553 boards

The CoPilot System

CoPilot 1553 is part of the CoPilot System—a complete line of software and hardware interfaces to MIL-STD-1553, ARINC 429, and ARINC 708. Multiple boards and protocols may be hosted in a single CoPilot project. A CoPilot 1553 System consists of CoPilot 1553 and a Ballard 1553 interface board. CoPilot 1553 can be ordered in two version: Standard and Plus.

CoPilot 1553 Overview

The automation and auto-detect features in CoPilot 1553 allow the user to set up and run Bus Controller schedules, simulate Remote Terminals, or engage the Bus Monitor with a few clicks of the mouse. CoPilot's extensive use of engineering units and data interpreters allows the user to enter and modify data in a meaningful form. Monitor features include filtering of data before and after capture, powerful analysis tools, and customizable display modes.

With CoPilot 1553 Plus, users can view and edit data through strip charts, moving map displays, and virtual controls. Plus users can analyze with software playback, test with hardware playback, or customize CoPilot with scripting.

Flexible BC Scheduling

The BC Schedule simplifies the tasks associated with defining, viewing, and modifying complex Bus Controller schedules. Drag and drop messages into the schedule and easily insert frames, gaps,

branches, and retries. Quickly create messages, insert data fields, edit data, and tag messages for error injection.

Engineering Units

Individual bit strings within messages can be defined as data fields, associated with an interpreter, and
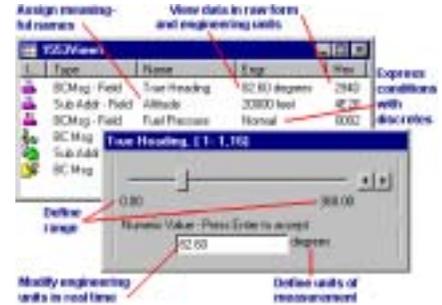
viewed and modified in "engineering units." Once defined, this information can be saved in CoPilot's customizable 1553 database.

RT Simulation

CoPilot allows the user to simulate up to 32 RTs, including Broadcast RT 31. CoPilot can auto-detect RTs and subaddresses and add

Ballard Technology

them to the hardware tree. Users may enable or disable transmit and receive SAs, configure/legalize mode codes, and create a unique status mask for each RT. Complete RT profiles can be saved to and loaded from the 1553 database.

Powerful Databus Monitor

CoPilot users can save a time-tagged history of 100% of bus activity or use filters to create a highly selective record. Monitor recording can be controlled with programmable triggers (via scripting).
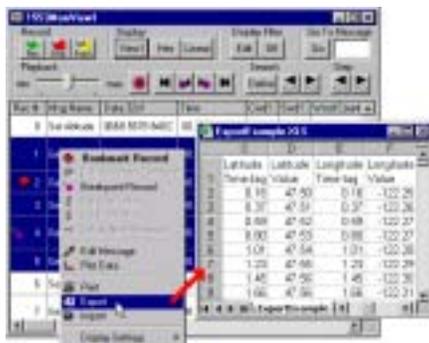
The display of captured bus activity can be customized, filtered, tagged, sorted, formatted, and searched. Data may be viewed in several radixes and plotted to strip charts. The monitor file may be saved, printed, and exported to Excel® or other applications.

CoPilot OLE Automation

Using OLE Automation technology, users can control CoPilot from third-party applications and host Automation-compliant documents directly in CoPilot. Plus users can control third-party applications via Automation with CoPilot scripts.

CoPilot 1553 Plus

CoPilot 1553 Plus contains all the features of CoPilot 1553 Standard, plus powerful graphical displays, software and hardware playback modes, and scripting.

Graphical Displays

CoPilot 1553 Plus includes powerful graphical displays:

Virtual Instruments—Automatically generate pre-configured controls from data fields or import from a library of virtual aircraft instruments and other controls.

Strip Charts—Create dynamic, two-dimensional strip charts. Configure the display during simulation, and quickly review the dataset to analyze data trends in depth.
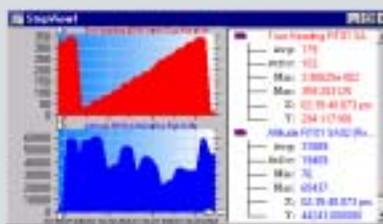
Moving Map—Display aircraft position by linking positional data to a moving map display. Import a map background or generate a photographic or topographical map using the built-in TerraServer® engine.

Scripting Routines

Scripts can be used to respond to bus events, create programmable triggers, or transfer information between CoPilot and other applications. Modify one of the example VBScripts or write your own.

Software Playback

Software playback allows previously recorded data to be replayed through CoPilot as if being received from the bus. Consequently, monitored data can be reexamined through engineering unit displays and instruments.

Hardware Playback

Use hardware playback to retransmit monitored data onto the bus to test the response of external RTs (for Ballard's LP/LC1553-3, CM1553-3, and PC1553-3 boards).

Specifications

CoPilot 1553 supports Ballard's PCI, cPCI, PCMCIA, ISA, BUSBox (USB), and OmniBus (PCI/cPCI/ Ethernet/USB) families of MIL-STD-1553 boards.

CoPilot 1553 runs under Windows® 95/98/NT/2000/Me/XP. Internet Explorer® 5 or higher is required.

Ordering Information

Buying a CoPilot System (hardware and software together) provides significant savings over purchasing these components separately. To order, contact Ballard Technology.

If you already have a Ballard 1553 board, you can add CoPilot 1553 to create a CoPilot System (use the order numbers below):

SW-1553-CS (Standard) or **SW-1553-CP** (Plus)—CoPilot 1553 software only. Includes CD with software, reference manual, tutorial guide, online help, and example projects and scripts.

Windows®, Excel®, Internet Explorer®, and TerraServer® are registered trademarks of Microsoft Corporation.

BR121-032404