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MIL-STD-1553 Software-Related Document Links

Official Specifications

- **MIL-STD-1553A** (30 April 1975) – *Aircraft Internal Time Division Command/Response Multiplex Data Bus (original standard issued by USAF)* – PDF
- **MIL-STD-1553B** (21 September 1978, with Notices 1–4 through 1996) – *Digital Time Division Command/Response Multiplex Data Bus (superseding 1553A; includes all official change notices)* – PDF
- **MIL-STD-1553C** (28 February 2018) – *Digital Time Division Command/Response Multiplex Data Bus, Revision C (latest revision, functionally same as 1553B with updated formatting and references)* – PDF

Handbooks & Rationale Guides

- **MIL-HDBK-1553A** (1 November 1988) – *"Multiplex Applications Handbook"* – A Department of Defense handbook providing detailed rationale and guidance for requirements in MIL-STD-1553B. (Useful for design insights and interpretation of the standard.) – PDF
- **MIL-STD-1553 Designer's Guide** (Data Device Corporation, 6th Edition) – A comprehensive 367-page reference that includes an overview of MIL-STD-1553 (including differences between 1553A and 1553B), the full text of MIL-STD-1553B with section-by-section rationale notes, plus related test plans and application notes. – PDF

Tutorials & Reference Overviews

- **AIM MIL-STD-1553 Tutorial** – An in-depth tutorial and overview of the MIL-STD-1553B bus, including its history, technical concepts, and an annotated interpretation of the 1553B specification. (AIM GmbH, Version 1.3, December 2002.) – PDF
- **Alta Data MIL-STD-1553 Tutorial & Reference** – A concise MIL-STD-1553 reference guide summarizing bus protocol fundamentals, design considerations, and programming tips. (Alta Data Technologies, Rev. A4, January 2018.) – PDF
- **UEI MIL-STD-1553 Tutorial and Reference Guide** – A web-based tutorial that introduces MIL-STD-1553 bus basics, including physical layer, protocol operation, and common usage scenarios, with additional videos and FAQs. (United Electronic Industries online guide.) – HTML

Software Interface & API Guides

- **AIM MIL-STD-1553 Programmer's Guide** – C/C++ API guide for developing software with AIM's MIL-STD-1553 interface modules. Includes function calls, usage examples, and library details. (AIM, Version 24.16.0, June 2022.) – PDF
- **Sital MIL-STD-1553 IP Core Software API Reference** – Reference manual for the software API and drivers supporting Sital's MIL-STD-1553 IP cores and board products. Describes over 150 functions for bus controller (BC), remote terminal (RT), and bus monitor operations, with examples. (Sital Technology, April 2020.) – PDF

- **AltaAPI SDK Documentation** – (See Alta Data's **AltaAPI** library in the "Software" section of their downloads) A comprehensive API for MIL-STD-1553 and ARINC-429 interfaces, supporting Windows, Linux, VxWorks, etc. *(Note: Registration may be required on Alta's site for full SDK manuals.)* – Overview

Application Notes & Implementation Examples

- **Microchip App Note – Designing a MIL-STD-1553 System Using Core1553 & Core8051** – An application note detailing how to integrate a MIL-STD-1553B bus core (Actel/Microchip Core1553) with an 8051 microcontroller core. Discusses memory sharing, bus controller vs. remote terminal configurations, arbitration, and implementation options. – PDF
- **Xilinx XAPP369 – Handheld 1553 Bus Analyzer** – A Xilinx application note (XAPP369 v1.0, 2001) describing the design of a portable MIL-STD-1553 bus data analyzer using a CoolRunner CPLD and a Handspring PDA. Includes the hardware architecture, CPLD logic for 1553 signal decoding, and software for data display, as well as an overview of MIL-STD-1553/1773 basics. – PDF
- **DDC White Paper – Simplifying MIL-STD-1553 Implementation with SPI** – A brief article exploring the use of a MIL-STD-1553 terminal controller with a Serial Peripheral Interface (SPI) to interface with system-on-chip processors. Discusses pros and cons of using a 1553 ASIC (like DDC's Nano-ACE) with SPI versus implementing the protocol entirely in FPGA logic. (Data Device Corp., circa 2020.) – PDF
- **Holt Application Note AN-576 – 1553 Bus Controller Software Examples** – (Rev. B, 2025) Guidance for developing MIL-STD-1553 **Bus Controller** software using Holt Integrated Circuits HI-613x family 1553 terminals. Provides example BC schedule implementation, message structures, and interrupt handling for Holt's API. – *Public download available via Holt support site.* (No direct link – search "Holt AN-576 Bus Controller Examples" for PDF.)
