

QuadTAP/CFM™

CORELIS
An EWA Company

High-Performance Multi-TAP Boundary-Scan
Controller for Teradyne In-Circuit-Testers

Preferred JTAG Solutions—Acclaimed Technical Support



Features

- High-performance multi-TAP JTAG controller and expander cards with I²C and SPI interfaces.
- Fully integrated JTAG controller—no additional hardware necessary.
- Custom Function Module (CFM) form factor for easy integration with a Multi-Function Application Board on the Teradyne tester.
- Supports IEEE-1149.1 and IEEE-1149.6 for advanced digital networks.
- User programmable JTAG TCK rate up to 100 MHz, SPI SCK rate up to 50 MHz, and I²C SCL rate up to 5 MHz.
- Variable output voltage and configurable input voltage threshold.
- Versatile configuration allows up to two partial TAPs with a single CFM or up to 4 full JTAG TAPs using expander modules.
- Configurable pin-out with three general purpose I/O channels per TAP.
- Pin protection prevents TAP damage from shorts to power or ground.
- High-speed bus-powered USB 2.0 interface.
- Scan Function Library software supports Windows® XP, Windows Vista®, and Windows 7 operating systems.

Applications

- **Boundary-Scan Test** - Integrate multi-TAP boundary-scan tests into Teradyne ICT systems with support for IEEE-1149.6 AC-coupled tests.
- **JTAG Embedded Test** - Add at-speed functional tests by taking control of a CPU JTAG debug port, without requiring boot code.
- **In-System Programming (ISP)** - Directly erase, program, and verify Flash, EEPROMs, CPLDs, FPGAs, and other programmable devices.

Circuit board complexity continues to increase. As physical test access recedes, non-intrusive test methods such as boundary-scan and JTAG embedded test are positioned to close the test coverage gaps, ensuring that test technology keeps pace with design advances such as multi-TAP systems.

The Corelis QuadTAP/CFM™ high-speed multi-TAP boundary-scan system makes advanced, multi-TAP boundary-scan testing within ICT systems a reality. By combining ICT and boundary-scan, test engineers gain benefits from both technologies for the highest possible test coverage, speed, and capability.

Specifically designed for integration into Teradyne TestStation™ and GR228x testers, the QuadTAP/CFM and QuadTAP/CFM Expander enable a clean, convenient multi-TAP boundary-scan solution.

Benefits

- **Save time** at test stations with high performance JTAG, SPI, and I²C features—up to 100 MHz for lightning fast test and in-system-programming speeds.
- **Add multi-TAP capability** by integrating Corelis boundary-scan hardware and software directly into the Teradyne ICT.
- **Reduce costs** associated with fixtures; adding boundary-scan test coverage reduces the amount of test points required.
- **Compatible** with the complete ScanExpress™ family of boundary-scan, ISP, and JTAG embedded test software.

Learn More: For more information about Corelis products, please visit www.corelis.com

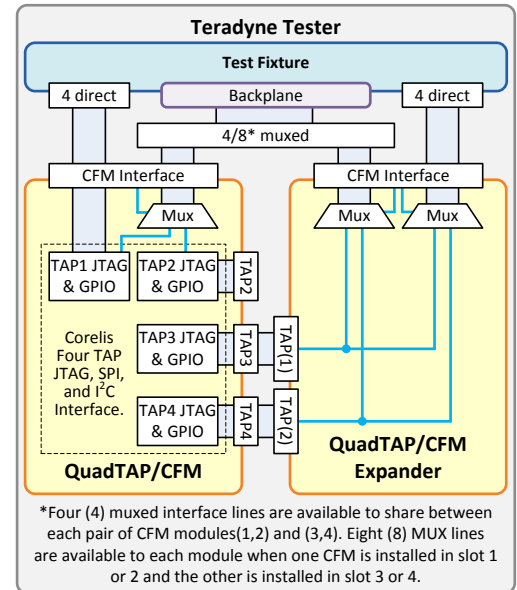
Maximum Versatility, Tight Integration

The Corelis QuadTAP/CFM JTAG controller is compliant with the IEEE Standard 1149.1 for test access and is fully capable of executing 1149.1 and 1149.6 tests. The QuadTAP/CFM provides support for up to two TAPs with a single unit or up to four TAPs using QuadTAP/CFM Expander cards. Integrated SPI and I²C programming features on each TAP make the QuadTAP/CFM an ideal and universal solution for combined boundary-scan, JTAG embedded test, and ISP.

Designed for TestStation™



The QuadTAP/CFM system was designed specifically for use with Teradyne TestStation and GR228x series Testers. Each board fits directly into one of four CFM slots on a Teradyne Multi-Function Application Board, offering versatility for up to four TAPs. The JTAG, GPIO, I²C, and SPI signals from the installed modules are available directly to test fixtures and the tester backplane.



Typical QuadTAP/CFM configuration with QuadTAP/CFM Expander for 4 TAPs.

QuadTAP/CFM (Main Card) Hardware Specifications

General

Mechanical Dimensions 3.780 x 11.468 x 0.390 (+/- 0.010) inches

USB Interface

USB Transfer Rate High-speed USB 2.0

USB Cable Includes attached 6 foot USB 2.0 cable

CFM & Expander Interface

CFM Connection Teradyne CFM interface (up to two TAPs)

Expander Connection Three expander output ports for additional TAPs using QuadTAP/CFM Expander cards

JTAG Interface

Compliance IEEE-1149.1 compliant interface

Maximum TCK Clock Rate 100 MHz

I2C Interface

Maximum SCL Clock Rate 5 MHz

SPI Interface

Maximum SCK Clock Rate 50 MHz

Chip Selects Two chip select signals per TAP

QuadTAP/CFM Expander Hardware Specifications

General

Mechanical Dimensions 3.780 x 11.468 x 0.390 (+/- 0.010) inches

CFM & Expander Interface

CFM Connection Teradyne CFM interface (up to two additional TAPs)

Expander Connection Two expander input ports from QuadTAP/CFM

Expander Cables Includes two 20-pin expander cables

Ordering Information:

- **Part Number—10411** Multi-TAP Integration Bundle for Teradyne ICTs. Includes QuadTAP/CFM and two QuadTAP/CFM Expander cards.
- **Part Number—10412** Individual QuadTAP/CFM Expander card.

For more information about this product, please contact the Corelis Sales Department:

Email: sales@corelis.com

Additional Information:

- **QuadTAP/CFM User's Manual**
- **App Note 12-0312: Using Corelis Custom Function Modules with Teradyne ICTs.**

CORELIS

13100 Alondra Blvd.
Cerritos, CA 90703, USA
Phone: +1 888-808-2380 (US & Canada)
Phone: +1 562-926-6727 (International)
Fax: +1 562-404-6196
www.corelis.com