

Scheme

	Number of TAPs	Max TCK Frequency	Programmable Voltage	AutoWrite for Flash	ETT Technology	Built in DIOS channels	Static I/O channels	Analog channels	Detachable pod	Frequency channels
JT 3705/USB	2	6 MHZ	✓	-	-	-	-	-	-	-
JT 5705/USB	2+	15 MHZ	✓	✓	-	✓64	-	✓8 IO	-	✓16
JT 37x7/TSI	4	40 MHZ	✓	✓	✓	✓32**	✓16	✓12 In*	✓	✓16*
JT 37x7/RMI	4	40 MHZ	✓	✓	✓	✓256	✓16	✓12 In*	✓	✓16*

* Optional item when JT 2149/DAF installed
 ** Optional item when JT 2149/MPV installed

More information

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CONTROLLERS



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Product Highlights

- Wide range of highly reliable JTAG/Boundary-scan IEEE Std.1149.x controllers
- Support Board (PCBA) Testing, System Testing and Device In-System Programming
- ETT (Enhanced Throughput Technology) and AutoWrite on selected models
- Multiple synchronised Test Access Ports (TAPs)
- Choice of USB, PXI (e), Ethernet, PCI(e) or Firewire formats
- Mixed signal options feature Frequency, Digital and Analog IO channels
- Seamless integration with 3rd party vendor hardware through customized solutions

JTAG Technologies designers have been developing high-speed digital test equipment for well over 30 years. The current range of controllers ranges from the compact, stylish and reliable JT 3705/USB to the rugged, dependable DataBlaster family and variants that have been developed for industrial use. The latest addition, JT5705/USB adds analog measure and source capabilities to provide a true mixed-signal tester platform.

Price and performance/capabilities

JTAG/boundary-scan controller choice will often depend on the two factors of price and performance/capabilities. When considering the life-cycle of a design the first requirement for JTAG/boundary-scan testing is likely to be at the 'hardware validation' or 'prototype debug' phase. At this stage a bench-top unit such as the JT 3705/USB (2 TAP) or JT 3707 /TSI (4 TAP) is likely to be most practical. If mixed signal testing is needed, then the new JT 5705/USB offers both controller capability and 64 IO/frequency channels, eight of which can be used for analog measure and source.

Production volumes

When designs reach production volumes throughput will often impact the controller choice too. For small-scale production it is likely that the same controller used at the validation stage can be used again, however, if production extends into tens of thousands or even millions of units per annum then a much higher throughput system from the JT 37x7 family can best be deployed. This can either be stand-alone or integrated as a part of a structural or a functional tester.

To aid the integration process JTAG Technologies offers a breadth of options ranging from special to type interface pods for ICTs (In-Circuit Testers), FPTs (Flying Probe Testers) and MDAs (Manufacturing Defects Analyzers) through to mass-interconnect panel compatible systems built around the JT 37x7/PXI(e) or JT 37x7/RMI JTAG controllers. Below you will find a more detailed survey of available controllers and their capabilities.

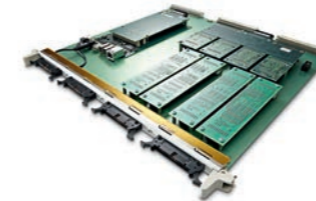
JTAG Technologies Hardware Controllers

JT 3705/USB

The introductory model in the JTAG range, the JT 3705/USB 'Explorer' offers high-level features such as multiple synchronized TAPs and programmable voltage levels. The slim-line unit, which is both powered and controlled over USB, also features a programmable TCK which boasts a top speed of 6 MHz making it ideal for bench-top testing, programmable device configuration and hardware validation.

JT 5705/USB

As part of the Mixed-Signal I/O (MIOS) range of controller & I/O hardware, this unit includes both a JTAG/boundary-scan controller and mixed signal I/O system capabilities as standard. Housed in an impact resistant 'crescent-moon' enclosure the stylish JT 5705/USB features two 15MHz TAPs plus 64 I/O channels as standard. Eight of the 64 channels are also capable of analog measure and source up to 30V. One channel can be used as programmable clock generator to 62.5 MHz and a pulse width measurement capability is available for another channel. On a selection of sixteen digital channels also frequency measurements to 200 MHz can be made. Thanks to the FPGA technology at the core of its I/O system the JT 5705/USB may also be re-configured for custom applications. The JT 5705/USB module can easily be built into test fixtures through special carrier boards for those fixtures.



JT 37x7 Family

JT 37x7

Also known as DataBlasters this family of controllers offers the highest speed and fastest throughput of the JTAG range. The JT 37x7s are both scalable (in terms of local memory) and are configured for a variety of interfaces i.e. TSI (3-in-1 USB, FireWire and Ethernet), PCI, PCIe, PXI and PXIe. All units are supplied complete with a bench-top signal conditioning module known as 'QuadPod' that connects to the main unit via a high density 50-way cable assembly. The DataBlasters run code in an optimized file format known as BSX which allows sustained high-speed execution of up to 40 MHz TCK – faster than most of the current IC designs can handle.

JT 37x7 / RMI

This version of the JT 37x7 series known as 'Rack Mountable Instrument' integrates full DataBlaster capabilities with 256 channels of digital I/O into a single 1U high 19" instrument.

JT 37x7 for ICTs / FPTs

For many ICT or FPT integration applications JTAG Technologies supplies customized versions of its JT 37x7 controllers. Either a single "slot card" is used onto which the entire instrument and pod assembly along with isolation relays are designed, or a customized version of the signal condition system QuadPod (see below) is used together with a JT 37x7 unit in one of the standard formats. The JT37x7/APC is a single slot card solution for the Agilent (Keysight) ICT. For integration with testers from Digital Test the JT 37x7/DPC single slot card is supplied. The customized versions of the QuadPod for integration with other testers are detailed below.

JT 37x7 Pods and Accessories

QuadPod Standard versions (JT 2147/10, JT 2147/13)

The QuadPod assembly comprises of a JT 2148 transceiver module plus 4 removable JT 2149 TAP pods as standard. Each JT 2149 features a 20-way TAP connector that also includes ports for flash memory AutoWrite, Ready/Busy and other application specific signals. A further 8 pin connector provides 4 static IO lines per pod – suitable for PSU switching or device mode selection (eg EMU/JTAG). JT 2149s can also be remotely sited using a supplied 1meter extender cable without affecting the peak performance of the system. Optional QuadPod modules include JT 2149/DAF that allows Digital, Analog and Frequency measure capabilities and the JT 2149/MPV (TAP synchronized DIO only). A further range of SCIL (scan configured interface logic) modules offers support for other bus interfaces such as Freescale's BDM or MicroChip ICSP etc.. Further SCIL functions can be developed on request.

QuadPod Customized

(for ICT: JT 2147/CFM, JT 2147/AGP, JT 2147/SAM; for functional test: JT 2147/DAK, JT 2147/VPC, JT 2147/ABex) Custom QuadPod variants have been designed to simplify integration of JTAG Technologies boundary-scan and in-system programming solutions within 3rd party vendor hardware. The current range of custom pod interfaces support ICT / FPT hardware such as Teradyne's TestStation/228x and TS12x (JT 2147/CFM), Aeroflex 42xx (JT 2147/AGP), Spea 3030 and 40xx (JT 2147/SAM) and 3rd party interfaces such as Mac Panel Scout (JT 2147/DAK), Virginia Panel QuadraPaddle (JT 2147/VPC), Konrad ABex (JT2147/ABex), etc.. The latest series of custom QuadPods that utilize the 'pod on a card' system also benefit from an additional 64 channels of DIOS (TAP synchronous digital I/O).

Classic Pod (JT 2137/12, JT 2137/13)

Compact pods that were supplied with the JT 3710 series of DataBlaster are also applicable to the JT 37x7 range of controllers. They offer a low-cost small footprint interface option but are restricted to 5V/3.3V operation and a maximum TCK of 25 MHz.