

THREE onTAP TAP CONNECT JTAG CONTROLLERS

Adjustable TCK Rate: 280KHz - 28.8MHz, Two self-adjusting JTAG Taps, Internal Vref Voltage Sources from 1.8V - 5.5V with the standard controller and .99V - 3.6V with the low voltage controller and the low impedance controller, External Vref 1.8V - 5.5V and .99V - 3.6V, respectively.

Speed up boundary scan test and programming

The onTAP TAP CONNECT JTAG Controllers are flexible, PC-based, high speed test and programming tools. These versatile HighSpeed controllers offer dual-channel JTAG ports, with each port capable of test and programming speeds up to 28.8MHz. A low voltage controller version, as well as a low impedance version, supports voltages from .99V to 4.5V and a higher voltage version supports voltages from 1.8V to 5.5V. All three versions operate from either external voltage references or from an internal voltage source. These features, along with a new USB driver, bring increased speed to multiple JTAG chain testing and substantially reduces Flash programming times. The three Controller options are:

1. **Standard** (P/N FS-9165): Internal Voltage Adjust 1.8V - 5.5V for standard controller
2. **Low Voltage** (P/N FS-9162): Internal Voltage Adjust .99V - 3.6V for
3. **Low Impedance** (P/N FS-9161): TAP circuit and low voltage controller supports Intel's Core i7 and Atom applications

All TAP CONNECT Controllers run at 30 MHz (nominal) TCK rate - 280KHz- 15MHz + 28.8MHz and have two self-adjusting JTAG ports.

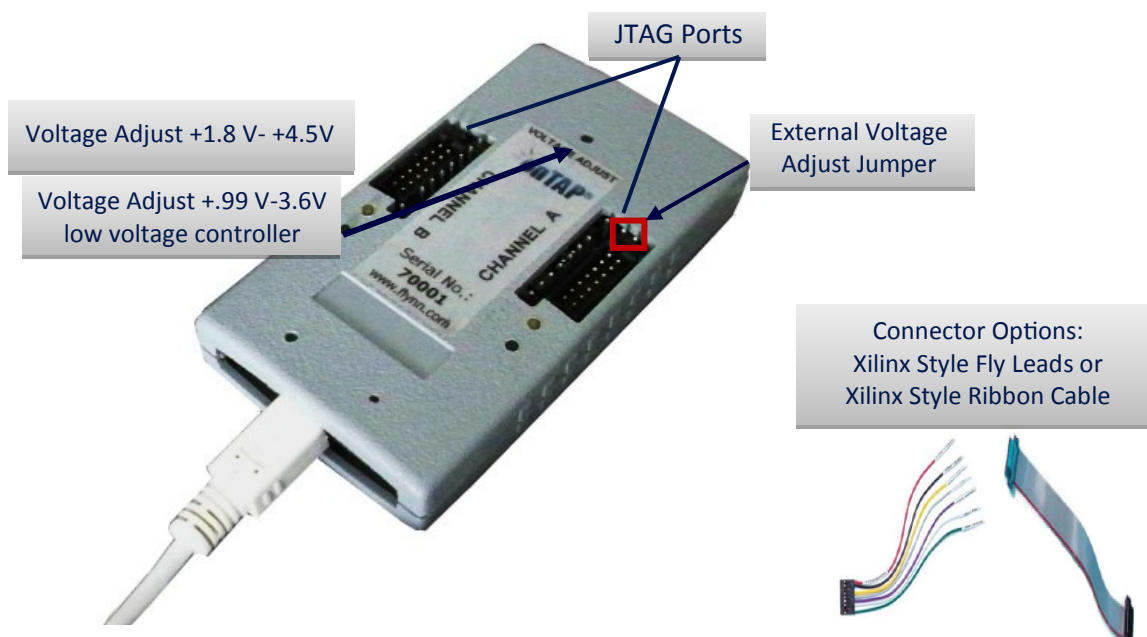
The onTAP TAP CONNECT JTAG Controller comes with:

- **User's Guide**
- **A to Mini USB Cable**
- **2 IDC Ribbon Cable OR**
- **2 Fly Lead Adaptors**
- **2 Two Pin Shunts**

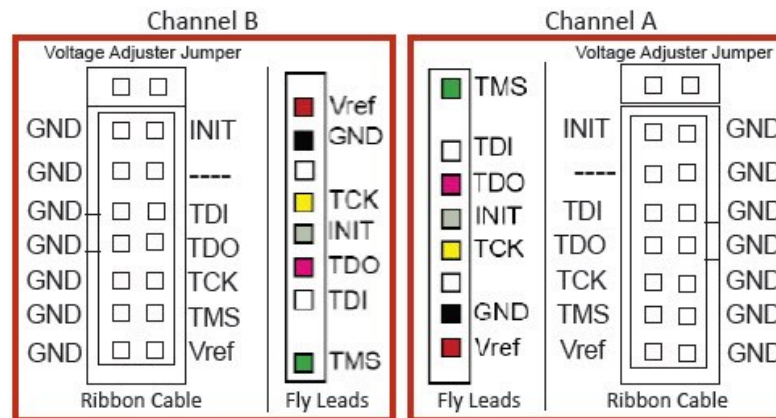
Highlights:

onTAP TAP CONNECT JTAG CONTROLLER

- Adjustable TCK rate 280KHz to 28.8 MHz
- Adjustable internal voltage 1.8V - 5.5V (standard Controller)
- Adjustable internal voltage .99V - 3.6V (low voltage controller)
- Two self adjusting JTAG taps
- Test and program two JTAG Chains
- Cut test and programming times by half
- Auto sensing voltage through Vref for devices operating from 1.8V to 5.5V OR .99V—3.6V
- Hot plug and play USB device
- All Controllers internally powered at 3.3V from USB ports and hubs.



Xilinx-Style Fly Leads and Ribbon Cable Pin-out Assignments



Pin Name (JTAG)	Flying Lead Wire	Ribbon Cable	Description
TDI		10	Test Data In is the serial input data stream for JTAG operations and is connected to the TDI pin on the first
TDO		8	Test Data Out is the target serial output data stream for JTAG operations and is connected to the TDO pin on the
TCK		6	Test Clock is the clock signal for JTAG operations and it is connected to the TCK pin on all devices that share the
TMS		4	Test Mode Select is the JTAG mode signal that establishes appropriate TAP state transition for the target device-
INIT		14	Initialize: This pin is available for general purpose I/O, such as TRST (Test Reset) control or WE (Write-Enable) for FLASH memory.
Vref		2	Target Reference Voltage: This pin should be connected to a voltage bus on the target system that supplies
GND		1,3,5,7,9,11,13	Digital Ground: All odd-numbered pins on the ribbon cable should be connected to digital ground, reducing crosstalk to a minimum.