

JT 5705/USB - Mixed signal JTAG Controller

2-TAP USB controller integrated with mixed signal IO functionality



Key features

- 2 TAP ports (15 MHz)
- 64 I/O channels
- 56 digital
 - 16 with frequency counter;
 - 1 with programmable clock generator;
 - 1 with pulse width measurement
- 8 digital or analog, programmable per channel
- custom programmable FPGA
- capability to synchronize multiple controllers

The JT 5705/USB is a powerful self-contained JTAG instrument. It combines a 15 MHz JTAG/Boundary-scan controller with 64 mixed signal I/O channels plus custom programmable functions. This compact unit was designed for desktop use in hardware validation, (small-scale) production testing as well as (field) service and repair.

Through the I/O channels both digital and analog signals on the connectors and/or test points of a Unit Under Test (UUT) can be measured and driven as part of a JTAG/Boundary-scan test. Thanks to the mixed signal I/O channels of the JT 5705 the test coverage is increased for both the digital and the analog parts of a UUT.

From the total of 64 I/O channels, 8 can be selected as digital or analog channels that can measure or source voltages up to 30 Volts (unipolar) or ± 15 Volts (bipolar). The other 56 channels are digital only. Of these digital channels 16 have a frequency counter, 1 can be used as a programmable clock generator and 1 can be used for pulse width measurements.

In addition to their usage as boundary-scan I/O signals, the I/O channels can also be controlled via application specific digital functions that can be programmed in the reconfigurable FPGA (Altera Cyclone type) of the JT 5705.

Examples of such functions include CAN bus (excl Phy), E-net(excl Phy), SPI, DDR memory interfaces etc.

Multiple units can be "linked and sync'd" to provide higher I/O and TAP port counts. The unit is fully supported by JTAG Technologies application development tools (ProVision and JTAG Live) plus the full suite of run-time software options such as PIP/LV (drivers for NI LabView), PIP/TS (drivers for TestStand), etc.

Voltage levels

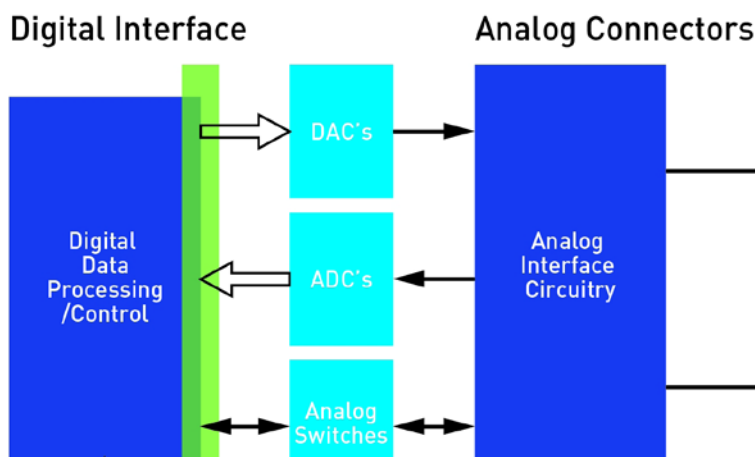
TAPs:	1.05 to 3.6 V; 5 V tolerant
Digital I/O:	1.05 to 3.6 V; 5 V tolerant
Analog I/O:	0 to 30 V or -15 to +15 V

JT 5705/USB - MIXED SIGNAL JTAG CONTROLLER

2-TAP USB controller integrated with mixed signal IO functionality

ELECTRICAL		Over Voltage Protection	
Power		Isolation threshold	VCC + 0.6 V
From USB		Isolation voltage protection	- 0.5 V to +15 V
External	9-15 V, 0,8 A	Overshoot rejection	Overshoots less than 400 ns will not result in OVP isolation
TAP		Pull-up resistor	20 – 50 Kohm
TCK	40 MHz max (single box configuration)	Other	
	30 MHz max (dual box configuration)	Frequency counter	0 to 200 MHz
Voltage range	Standard 3.3V	Clock generator	0 to 62.5 MHz; step 0.0582 Hz
	Programmable 1.05 V to 3.6V (5V tolerant)	Pulse width measurement	4-8192 ns; accuracy 4 ns, resolution 1ns
Threshold	@ 50% of selected voltage	ENVIRONMENTAL MIL-T-28800E Class5 Style E	
Digital I/O		Temperature	
Voltage range	1.05 V to 3.6 V	Rated range of use	0 °C to 60 °C (boxed); 0 °C to 70 °C (unboxed)
Output current	max ±8 mA @ 3.3 V	Storage and transport	-5 °C to 60 °C (boxed); -40 °C to 70 °C (unboxed)
Analog I/O		Relative Humidity	
Voltage range	0 V to 30 V or -15 V to +15 V @ 5 mA max	Operating	15% to 90% non-condensing
Resolution	16 bit (0.5 mV)	Storage and transport	5% to 95% non-condensing
Relative fault	± 0,7% full scale	Vibration	
Input impedance	1 Mohm parallel with 100 pF	Swept sine resonance search	
Output impedance	100 Ohm.	t5 – 55 Hz, 2 g (0.33 mm p-p), 15 min per axis 10 min resonance dwell	

Increasing test coverage



Region or Country	Telephone	E-mail
• North America	Toll free - 877 FOR JTAG Western US - 949 454 9040	info@jtag.com
• Europe and Rest of World	+31 (0)40 295 0870	info@jtag.nl
• Finland	+358 (0)9 4730 2670	finland@jtag.com
• Germany	+49 (0)971 6991064	germany@jtag.com
• Sweden	+46 (0)8 754 6200	sweden@jtag.com
• United Kingdom & Ireland	+44 (0)1234 831212	sales@jtag.co.uk
• China, Malaysia, Singapore, Thailand, Taiwan	+86 (021) 5831 1577	info@jtag.com.cn

2103-JT5705 USB-E
 © The JTAG Technologies logo and other trademarks designed with the symbol "®" are trademarks of JTAG Technologies registered in Europe and/or other countries. JTAG Technologies reserves the right to change design and specifications without notice.

