



JTAG emulator

J-STICK Cortex-M3

specifically for ARM Cortex-M3

J-STICK is a series of JTAG emulators that support MCUs with ARM Cortex-M3 core which are made by semiconductor manufacturers. Although being equipped with features required of emulators, it is easy-to-handle with simple connection and realizes comprehensive debugging environment. For connection to the host computer, it supports USB2.0 and requires no power supply with VBus support. To the target system, it is to be connected with 20-pin MIL connector cable. Also, in support of CoreSight technology, J-STICK allows SWD (Serial Wire Debug) interface connection by 2 signal lines. Furthermore, it supports SWV (Serial Wire Viewer) by 1 signal line. Besides being capable of variable and exception information referencing without break during execution, with time stamp feature, it can measure relative time between informations, which will allow further improvement in debugging efficiency. As for the debugger software, it incorporates CSIDE, a user-friendly debugging software. It supports high-level language debugging of C languages. For RTOS support, debug library for eForce-made μ TRON-compliant μ C3 can be used.



- Supports CoreSight technology
- CPU break feature and software break feature
- Supports JTAG chained devices
- Supports USB2.0 (Full-speed)
- Supports debugging of multiple CPUs with 1 unit of hardware if CPU library is additionally purchased
- Supports on-chip/external flash memory debugging
- Program execution control (Go/Break)
- Supports RTOS (Optional)
- Requires no power supply with VBus support

Product lineup

Product name	Supported CPU
J-STICK Stellaris for Texas Instruments-made Stellaris® family	LM3S800 Series
J-STICK STM32 for STMicroelectronics-made STM32 Family	STM32xxx6, STM32xxx8, STM32xxxB, STM32xxxE*1
J-STICK TX03 for Toshiba Semiconductor Company-made TX03 Series	TMPM330FDFG

*1 : The digits at the end of CPU name corresponds to the capacity of on-chip flash memory of STM32 family CPUs (xxx6 = 32KB, xxx8 = 64KB, xxxB = 128KB, xxxE = 512KB).

Main specifications

Specifications are common for each product.

Target interface	Voltage	1.1V~3.45V	
	Current consumption	50 μ A or lower	
	Voltage measurement	Measures by sampling and shows the results. Reading will be 50mV accurate with precision showing 1 decimal place.	
	Connector	20-pin MIL connector, 20cm cable	
JTAG clock	2KHz/4KHz/8KHz/10KHz/20KHz/40KHz/80KHz/100KHz/200KHz/400KHz/700KHz/ 1MHz/5MHz/10MHz/20MHz to choose from		
Execution control	Go, Break, Step over, Trace into, Come		
Register, memory operation	Allows referencing/editing of memory whether while in break or execution. Allows referencing/editing of register and downloading to memory only while in break.		
Flash memory support	In addition to downloading, it also supports software break settings and ordinary memory rewriting feature. Furthermore, new device can be supported by adding definition file format to external flash memory or by adding the CPU to on-chip flash memory.		
Software break feature	Supports up to 256 points with instruction replacement method.		
CPU break feature	Before instruction execution break: 6points Data access break: 4 points (1 of which can be specified even by access data)		
Execution time measurement	Measures execution time of the user program (64-bit counter, measurement unit=1ms)		
SWV feature	Real-time data watch: 4 points		
	CPU cycle measurement(Instruction cycle, PC, exception cycle, etc.)		
	Execution time measurement between the specified data access addresses		
	Simple profiler feature that shows by-function execution rate.		
	Easy Printf debugging (Allows easy output of string from the user program to the debugger.)		
	Exception information transition viewing functionality		
Operating mode	Relative time measurement between SWV information outputs (Allows measurement of gap between Printf executions, etc.)		
	Thumb2 mode support		
Debugger included as standard			
General specifications	Power specification	DC5V Max. approx. 250mA (Vbus support for USB)	
	Outside dimensions	102mm(W) \times 49mm(D) \times 22mm(H)	
	Host I/F	USB mini-B connector	
	Operating environment	Host computer	The computers running on the supported OSs
		CD drive	Required at the time of installation
		USB	USB2.0
OS		Windows2000 / Windows XP / Windows Vista / Windows 7	
Support System			
Yes			

Supported languages

Support is provided for each product.

Product name	Product Summary
Supported C compiler	ARM RVCT, IAR EW*2

*2 : For details on supported languages, please contact us.

Optional software**■ RTOS debug library**

Product name	Product Summary
uITRON-DBGLIB-Cortex-M3/JS-E	Debug library specifically for eForce-made µC3/Compact. It allows to display Status Window.

■ CPU libraries

If you could additionally purchase CPU library, debugging of multiple CPUs can be performed with 1 unit of hardware.

Product name	Product Summary	J-STICK Stellaris	J-STICK STM32	J-STICK TX03
Stellaris-CPULIB/JS-E	Library for Texas Instruments-made Stellaris® Family: Allows CPU debugging.	×	○	○
STM32-CPULIB/JS-E	Library for STMicroelectronics-made STM32 Family: Allows CPU debugging.	○	×	○
TX03-CPULIB/JS-E	Library for Toshiba Semiconductor Company-made TX03 Series: Allows CPU debugging.	○	○	×

O: Supported ×: Not supported

Optional hardware

Support is provided for each product.

Product name	Product Summary
SWJ-PRB-MIL20-20HP-E	Probe with SWJ-DP *3 by CoreSight. It allows connection to 20-pin (half-pitch 1.27mm) connector on the target.
SWJ-PRB-MIL20-10HP-E	Probe with SWJ-DP *3 by CoreSight. It allows connection to 10-pin (half-pitch 1.27mm) connector on the target.

*3 : Serial Wire JTAG Debug Port

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