

PALMiCE2H

JTAG emulator PALMiCE2H ARM



ETM 383model

PALMiCE2H ARM is a JTAG emulator that supports a range of ARM cores including ARM7/9/11. Its greatest feature realizes by-second tracing by ETM with a 1G-byte large capacity trace memory installed. In addition, implemented with traceback feature^{*1}, which allows back execution and back step not possible in ordinary debugging by retrieving the register/memory from the traced contents, efficiency of complicated process analysis can be improved remarkably. Furthermore, also prepared with transition display by function and module measurement feature for grasping the traced contents overall, in debugging under Linux environment, it allows by-process transition display and module measurement, and with that even the kernel and process activities can be understood easily.

*1 : Trace-back feature is optional.

- By-second tracing with ETM
- Flash memory debugging feature
- Palm-sized, compact body
- Supports high-speed downloading
- Supports multi-core CPU

- CPU break feature
- Supports USB2.0(High-speed), allowing high-speed processing
- Low voltage support (automatically follows target voltage between 1.0V and 3.6V) and voltage measuring feature
- Supports debugging of a range of RTOSs and embedded Linux (Optional)

Main Specifications

		ETM383 model
Supported CPUs		ARM7Core(ARM7TDMI, ARM7TDMI-S, ARM720T, ARM720T(Rev4)) ARM9Core(ARM920T, ARM922T, ARM925T, ARM946E-S, ARM966E-S, ARM926EJ-S) ARM11Core(ARM1136J(F)-S, ARM1156T2(F)-S, ARM1176JZ(F)-S, ARM11 MPCore)
Target I/F	Voltage	JTAG I/F 1.2V-3.6V, ETM I/F 1.0V-3.6V (Each of them follows target)
	Current onsumption	50µA or lower
	Voltage measurement	Measures by sampling and shows the results with accuracy of 50mV and precision showing 2 decimal places.
	Connector	38-pin Mictor connector, 30cm (Can be parted to be also used as 20-pin connector)
JTAG clock		Can be set freely within a range between 1KHz and 60MHz. Supports automatic adaptation with RTCK.
Operation mode		ARM/Thumb/Thumb2/ThumbEE mode support, Sleep mode support (Only when RTCK is used.)
Register, memory operation		Supports referencing/editing of register and memory and downloading to memory during break.
Flash memory support		In addition to downloading to a range of flash memories, it also supports debugging features such as software break settings and ordinary memory rewriting feature. Also, new device support can be added easily by using CSIDE.
Software break feature		256 points
CPU break feature	ARM7/9	2points. Note that 1 point only can be specified when software breakpoints are set (Only ARM926EJ-S accepts 2 points).
	ARM11	8 points (Instruction matching break: 6 points; Data matching break: 2 points)
Hardware break feature		External force break: 1 point
ETM features	Break, etc.	2points (address, data, CPU status(Fetch/Read/Write/Read and Write) can be specified. For address and data, options can be specified by range.), trace end break, etc..
	Data mode	4/8/16-bit port support
	Tracing frequency	200MHz (Can be switched between Single-edge and Dual-edge) ^{*1}
	Tracing cycle	256M cycles. In addition, 40-bit time stamp will be added for each cycle (Clock can be switched between 50ns/1µs)
	Traced contents display	Shows: Execution history, source, data access, switching, Linux processes, and time between 2 points of your choice
	Trace capturing modes (ARM7, 9)	Normal/Multiplex/Half-rate/Demultiplex (single connector)
	Triggering mode	Free/Before or After trigger/Area support/Stop/Break mode support
	Other	Module measurement feature and concurrent tracing of multiple cores
Execution time measurement		Measures execution time of the user program (32-bit counter, measurement unit=1ms)
Debugger included as standard		CSIDE for PALMiCE2H ARM-E
Support System		Yes

*1: In the case of ARM11, ETM tracing frequency at 200MHz is equivalent to CPU clock at 800MHz.

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		ETM383 model
General specifications	Extended I/F	Computex original I/F
	Current consumption	DC5V Max. approx. 3A
	Dedicated AC adapter	Input: AC100V-240V, Output: 5V, 3.5A
	Outside dimensions (Exclusive of connector)	106mm(W)×78mm(D)×42mm(H)
	Host I/F	USB mini-B (5-pinned) connector
Operating environment	Host computer	The computers running on the supported OSs
	CD drive	Required at the time of installation
	USB	USB2.0
	OS	Windows 2000 (Service Pack 4 onward) / Windows XP 32-bit version (Service Pack 1 onward) / Windows Vista 32-bit version / Windows 7 32-bit version, 64-bit version

Supported languages

Supported C compiler	ARM ADS/RVCT, TI C, GNU C, GreenHills C, EW
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*: For details on supported languages, please contact us.


Optional software

Product name	Description
TB-DBGLIB-ARM/P2H-E	Trace-back feature (Retrieves the contents of register and memory from ETM trace memory and to allow pseudo replication of CPU execution thereon.) (Specifically for ETM383 model)
ETBLIB-ARM/P2-E	ETB-enabled library for ARM9 and ARM11 cores.
Cente-NANDLIB-i.MX21/P2	Library with Cente NAND driver support specifically for i.MX21.
STM-FLASHLIB-ARM/P2-E	Library for STMicroelectronics-made STR710/STR730/STR750/STR910 series on-chip flash memories.
uITRON-DBGLIB-ARM/P2	Debug library specifically for μC3 and NORTI. It allows to display Status Window, Task Trace Window, etc.
OSE-DBGLIB-ARM/P2-E	Debug library specifically for OSE. It allows to display Status Window, Task Trace Window, etc.
T-Kernel-DBGLIB-ARM/P2-E	Debug library specifically for T-Kernel. It allows to display Status Window, Task Trace Window, etc.
T-Kernel/SE-DBGLIB-ARM/P2-E	Debug library specifically for T-Kernel/Standard Extension. It supports debugging of load module and application.
Linux-APDLIB-ARM/P2-E	Debug library specifically for Linux. It supports loadable-module and application debugging.

*: For details on supported RTOSs and supported Linux, please contact us.

Optional hardware

Product name	Description
ADP ETM-JTAG14	Adapter for conversion from 38-pin connector into 14-pin connector (Specifically for ETM383 model)
ADP ETM-JTAG20	Adapter for conversion from 38-pin connector into 20-pin connector (Specifically for ETM383 model)
ADP ARM-TI-E	Adapter for conversion from 20-pin connector into TI-customized 14-pin connector
P2-DWNLD16-PRB-E	High-speed download probe 16-bit edition. It supports high-speed (20MB/S maximum) downloading to the target memory with the dedicated probe.

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