JTAGjet™ - ARM / Cortex
JTAGjet™ - Trace
In-Circuit Debuggers

JTAGjet is a small, palm-sized In-Circuit Debugger for the JTAG boundary scan ports. It is equipped with USB 2.0 port that runs at 480Mb/sec. JTAGjet-Trace has the same features as JTAGjet but contains the ARM ETM real-time trace buffer.

Complete ARM Core Support

JTAGjet supports all **ARM7, ARM9, ARM11, MPcore, Cortex-M/R/A** and **XScale** based devices from all manufacturers. JTAGjet can be upgraded to support the Texas Instruments **TSM320C6000, C5000, C2000, VC33, OMAP, OMAP2, OMAP3, DaVinci** and **Sitara** devices.

Embedded Linux Support

JTAGjet with Chameleon debugger allows debugging of embedded Linux boot codes, kernels, kernel drivers as well as other RTOS based applications.

Multi-Core Debugging

One of the unique JTAGjet features is that it may be used concurrently with other debuggers (like TI Code Composer Studio or eSOL eBinder), offering a complete multi-core debug environment.

Compatible with All Major ARM Debuggers

- ❑ **ARM Ltd ADS**
- ❑ **CodeSourcery G++**
- ❑ **Eclipse with CDT**
- ❑ **eSOL eBinder**
- ❑ **GNU GDB**
- ❑ **GHS Multi**
- ❑ **IAR EWARM**
- ❑ **Keil RealView uVision**
- ❑ **Mentor Graphics EDGE**
- ❑ **MetroWerks Code Warrior**
- ❑ **TI Code Composer Studio**
- ❑ **Monta Vista DevRocket**
- ❑ **Signum Chameleon Debugger**

Smart Flash Programmer

JTAGjet comes with a Flash Programmer that can recognize the type and geometry of the device and automatically configure the proper algorithm. Both NOR and NAND external devices are supported as well as on-chip internal Flash.

JTAG Chain Device Detection

JTAGjet automatically detects all devices on the JTAG chain to properly configure the debugger. It also detects target power and target resets. That is why it is perfect for debugging the power-on/off and reset conditions, informing user about the state of target at all times.

Variable and Adaptive JTAG Clock

JTAGjet supports ARM cores with Adaptive Clock and can vary the JTAG clock frequency from 1kHz (for slow FPGA prototypes) to 30MHz for faster downloads and quicker Flash programming.

Auto-sensing JTAG voltage

JTAGjet supports detachable target headers to accommodate various JTAG pinout standards and voltages between 1V and 5V.

JTAGjet-Trace Features

- ❑ Up to 400Msamples/sec trace acquisition (400MHz CPU speed)
- ❑ Supports ARM cores equipped with Embedded Trace Macrocell (ETM) logic that allows PC and variable tracing in real-time.
- ❑ Auto adjusting timing eliminates problems with data and clock skew
- ❑ Available with up to 18 MBytes of trace buffer
- ❑ 56-bit time stamp with CPU cycle accuracy down to 5ns
- ❑ Easy access to all ETM modes, triggers and trace filtering
- ❑ Small form factor - fits in the palm of your hand
- ❑ Quiet operation – no fans, no external heat sinks
- ❑ Only one connection to target – both JTAG and trace are taken from the 38-pin ETM Mictor, or 20-pin Cortex SWD header.
- ❑ Includes ETM to JTAG adapter for targets with plain JTAG port

Chameleon Debugger™

Each JTAGjet-ARM, Cortex, OMAP, DaVinci and XScale emulator is bundled with a Chameleon Debugger™, a high-end, full-featured, **multi-core debugger** that handles single and multi-CPU debugging. Chameleon Debugger features macros for automated board initialization and testing, fly-over variable pop-ups in source window, drag-and-drop between windows, Graphical Event Triggering and hundreds of other time saving debug features.

Our RTOS awareness API is available and can be used to add awareness to any commercial or custom RTOS.

Chameleon Debugger™ Features:

- ❑ Non-intrusive **ETM & ETB trace** display and debugging
- ❑ Support for all on-chip breakpoints, triggers and filtering
- ❑ Super fast code downloads
- ❑ Supports **GSM, GPRS** and **CDMA** cell phones based on ARM cores (NXP, Broadcom, Qualcomm, TI, Samsung, ST, etc.)
- ❑ Automatic **processor initialization** on power-up or reset (memory mapping, peripheral setting, MMU, WD disable etc.)
- ❑ **Virtual-to-physical address mapping** support for ARM cores with MMU
- ❑ **Embedded Linux debugging** without the need for Ethernet or serial ports
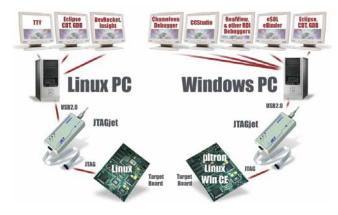- ❑ Windows 7, XP & Vista (32 & 64-bit compatible)

JTAGjet™ - ARM
JTAGjet™ - Cortex
JTAGjet™ - Trace

Product Details

NOTE: Each JTAGjet can be customized to include support for any ARM, Cortex, DSP and XScale cores listed below as well as for Windows and Linux hosts. Below are some of the most popular models:

Specifications	JTAGjet-ARM	JTAGjet-ARM11	JTAGjet-DaVinci	JTAGjet-XScale	JTAGjet-Cortex	JTAGjet-Trace
Comm. Port / Speed	USB2.0 / 480Mbps	USB2.0 / 480Mbps	USB2.0 / 480Mbps	USB2.0 / 480Mbps	USB2.0 / 480Mbps	USB2.0 / 480Mbps
Current Draw (typ.)	0.3 A	0.3 A	0.3 A	0.3 A	0.3 A	0.8 A
Dimensions (in.)	5.6L-2.6W-1.2H	5.6L-2.6W-1.2H	5.6L-2.6W-1.2H	5.6L-2.6W-1.2H	5.6L-2.6W-1.2H	5.6L-2.6W-1.2H
Max. JTAG Clock	30 MHz	30 MHz	30 MHz	30 MHz	30 MHz	30 MHz
Probe Length / type	8 in./ Active	8 in./ Active	8 in./ Active	8 in./ Active	8 in./ Active	6 in. / Passive
JTAG I/O Voltage	3.3V – 5V	1.8V – 3.3V	1.8V – 3.3V	3.3V – 5V	1.8V – 3.3V	1.8V – 3.3V
Cores Supported	ARM7, ARM9	ARM7, ARM9, ARM11	ARM7, ARM9, DaVinci	PXA25x, 270 IXP4xx	ARM7, 9, 11 Cortex-M/R/A	ARM7, 9, 11 Cortex-M/R/A

ARM Cores Supported

ARM7EJ-S	ARM1136
ARM7TDMI	ARM1156
ARM7TDMI-S	ARM1176
ARM710T	ARM11 MPCore
ARM720T	Faraday FA526
ARM740T	Faraday FA626
ARM9TDMI	Intel XScale PXA
ARM920T	Intel XScale IXP
ARM922T	TI OMAP, OMAP2
ARM926EJ-S	TI DaVinci,OMAP3
ARM940T	TI Sitara, OMAP4
ARM946E-S	Cortex-M0, M1,M3,M4
ARM966E-S	Cortex-R4
ARM968E-S	Cortex-A8, A9

IDE & Debuggers Supported

Vendor	Debugger
ARM Ltd.	ADS/AXD/RealView
CodeSourcery	Sourcery G++
DiabData	C compiler only
Eclipse Foundation	Eclipse 3.2 / CDT
eSOL	eBinder
Green Hills Software	Multi-2000
GNU	CDT, GDB, DevRocket, etc.
IAR	EWARM
Keil (ARM Ltd.)	uVision3
Mentor Graphics	EDGE
MetroWerks	CodeWarrior
Signum Systems	Chameleon Debugger
Texas Instruments	Code Composer Studio

ARM Manufacturers Supported

Altera	Net Silicon
Ambarella	Nintendo
Analog Devices	NXP (Philips)
Atmel	OKI
Broadcom	Qualcomm
Cirrus Logic	Samsung
Faraday	Sony
Freescale	Sharp
Fujitsu	ST Micro
Intel	Texas Instruments
LSI Logic (Agere)	Toshiba
Luminary Micro	Zilog
NEC	… and all others
Marvell	

Ordering Information

Part Number	Description	
JTAGjet-ARM	JTAGjet for ARM7 and ARM9 with Chameleon Debugger and Keil uVision driver	
JTAGjet-ARM7CM	JTAGjet for ARM7 & Cortex-M devices with Chameleon Debugger and Keil uVision driver	
JTAGjet-OMAP3	JTAGjet for OMAP3 with Chameleon Debugger for ARM7/911/Cortex-M/R/A and drivers for CCS and eBinder	
JTAGjet-Cortex	JTAGjet for all Cortex-M/R/A devices with Chameleon Debugger and Keil uVision driver	
JTAGjet-DaVinci	JTAGjet for TI DaVinci devices with Chameleon Debugger for ARM7/9 and drivers for CCS and eBinder	
JTAGjet-ARM11	JTAGjet for ARM7, ARM9 & ARM11 devices with Chameleon Debugger & Keil uVision driver	
JTAGjet-XScale	JTAGjet for XScale with Chameleon Debugger for XScale only	
JTAGjet-Trace-CM	JTAGjet for Cortex-M devices with 1M deep ETM trace memory, Chameleon Debugger & Keil uVision driver	
JTAGjet-Trace-1M	JTAGjet for ARM7/9/11/Cortex-M/R/A with 1M deep ETM trace memory, Chameleon Debugger & Keil uVision driver	
JTAGjet-Trace-2M	JTAGjet for ARM7/9/11/Cortex-M/R/A with 2M deep ETM trace memory, Chameleon Debugger & Keil uVision driver	
JTAGjet-Trace-4M	JTAGjet for ARM7/9/11/Cortex-M/R/A with 4M deep ETM trace memory, Chameleon Debugger & Keil uVision driver	

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