

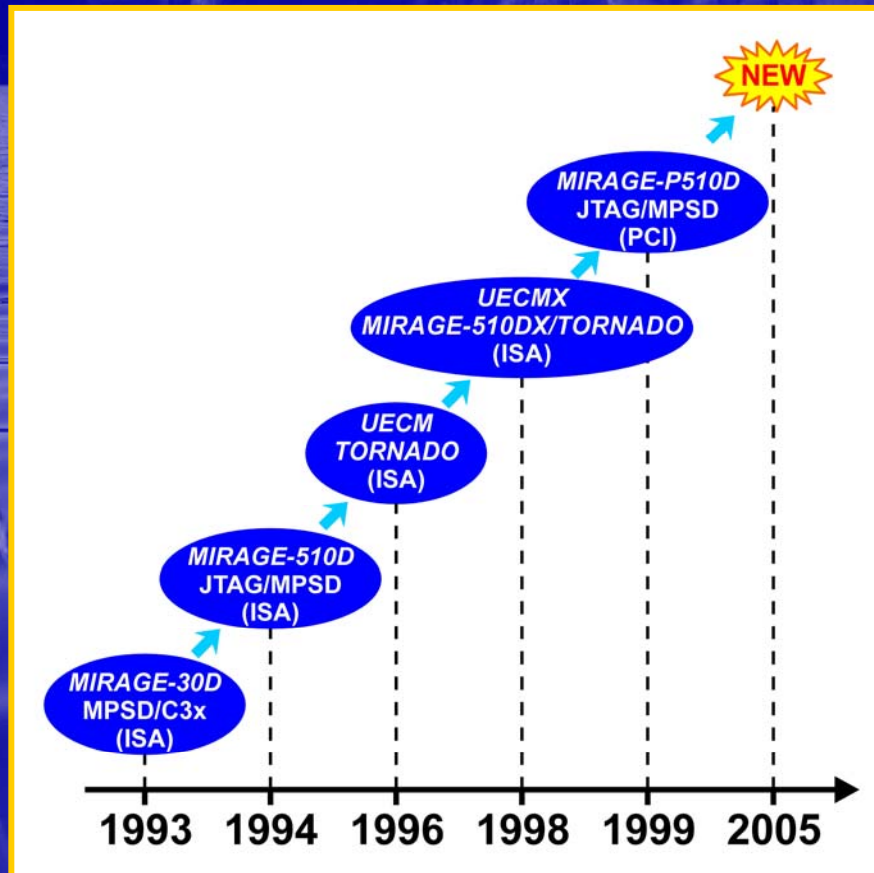


Next Generation of *MIRAGE*
Universal JTAG/MPSD Emulators
for TI TMS320 DSP

MicroLAB Systems Ltd
www.mlabsys.com

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Evolution of *MIRAGE* JTAG/MPSD Emulators from MicroLAB Systems



- 1993: world's first *MIRAGE-30D* dual-channel MPSD ('C3x) emulator (ISA-bus)
- 1994: world's first *MIRAGE-510D* dual-channel universal JTAG/MPSD emulator for 'C3x/'C4x/'C5x (ISA-bus)
- 1996: universal emulator module *UECM* for *TORNADO* (ISA-bus)
- 1998: universal emulator module *UECMX* for *TORNADO* and *MIRAGE-510DX* JTAG/MPSD emulator (ISA-bus)
- 1999: *MIRAGE-P510D* modular dual-channel universal JTAG/MPSD emulator (PCI)
- 2005: → next generation !!

Key Features of *MIRAGE* Emulators



- Modular construction and easy emulator channel expansion
- Unified JTAG and MPSD pods for all generation of emulators and easy upgrade
- Ergonomic design
- LED-indicators in pods
- High reliability
- High noise immunity
- Compatibility with TI Code Composer and HLL debuggers

Modern DSP Devices and Requirements to the Development Tools

- Modern DSP devices
 - Compact size and light weight
 - Embedding capability and sometimes the JTAG/MPSD interface is difficult to access
 - Support for JTAG and MPSD ('C3x)
 - Low supply voltage (TVCC)
 - High and low JTAG/MPSD clock frequency (TCK)
 - Low power consumption
 - Operation in high noise and 'no ground' environments
 - Operation in the 'field' and 'laboratory' environments
 - Large code size and data
- Requirements to the development tools
 - Compact size and light weight of the pod (also good for the emulator board)
 - Long pod cable (>1.5m, 5ft)
 - Support for JTAG and MPSD
 - Compatibility with TVCC = 1V..5V
 - Programmable TCK = 1MHz..30 MHz
 - JTAG/MPSD interface with low input current
 - High noise immunity
 - High reliability
 - Galvanic isolation from the main power
 - Easy transportability between mobile, desktop and industrial PC
 - Field deployable
 - High-speed host PC interface and fast code download and RTDX

MIRAGE-NP2

Next Generation of Universal JTAG/MPSD Emulators for TI TMS320 DSP for Notebooks and all Types of PC

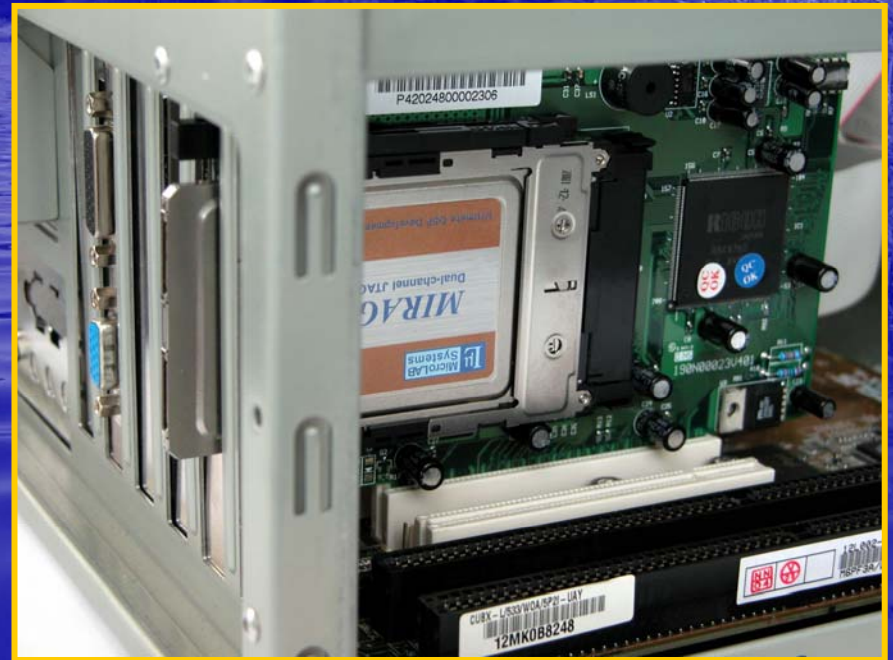


- Direct installation into notebooks and all types of PC
- **NEW** PCMCIA Type II PC Card (CardBus) with built-in dual-channel emulator (85x54x5mm, 3.3x2.1x0.2")
- **NEW** Two universal JTAG/MPSD *UniPods* (53x33x14mm, 2.1x1.4x0.6"; weight with cable 79g, 0.17lb)
- **NEW** 2m (6.6ft) ultra-long and light weight pod cable
- **NEW** Compatibility with TVCC = 0.5V..5V
- Programmable JTAG TCLK = 0.5MHz..30MHz
- **NEW** JTAG/MPSD TVCC measurement ($\pm 10\text{mV}$)
- **NEW** JTAG/MPSD TCK frequency measurement ($\pm 0.01\text{MHz}$)
- High noise immunity and overload capability
- Support for TI 'C2xxx/'C5xxx/'C6xxx, OMAP/ARM, 'VC33/'C30/'C31/'C32, 'C4x/'C5x DSP @ TI CCS
- Fast code download and RTDX
- x2..5 times faster than USB2 emulators
- Unlimited emulator channel expansion
- "no competitor" at the DSP emulator market
- Termination of previous generations of **MIRAGE** emulators

Installation of *MIRAGE-NP2* Emulator into the Host PC

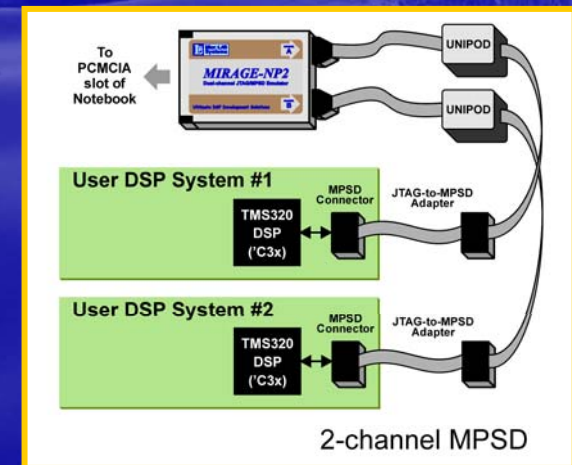
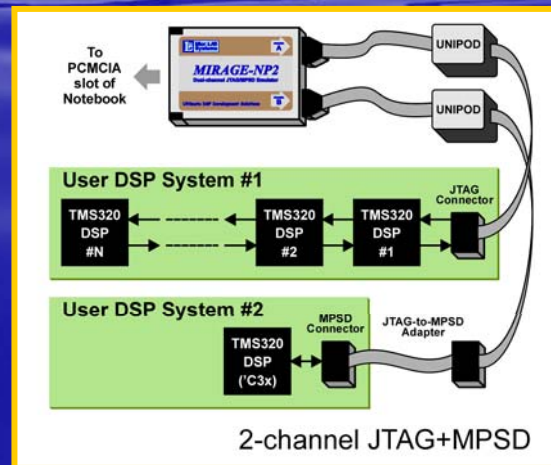
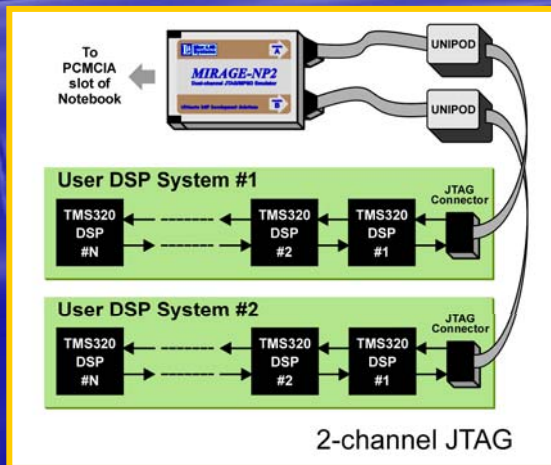
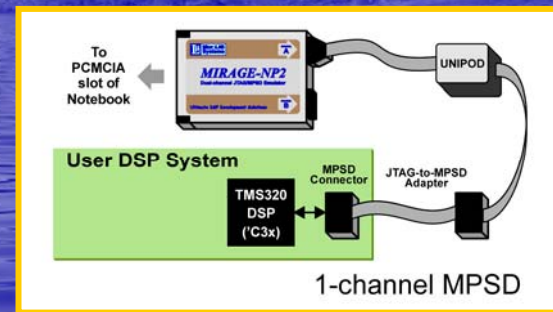
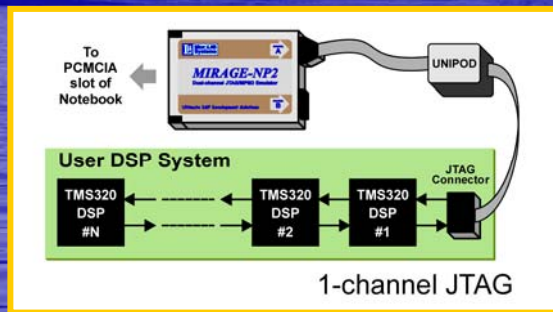


Installation into the PCMCIA PC Card
(CardBus) slot of the Notebook PC



Installation into the Desktop PC using
PCI-to-PCMCIA Adapter Board

MIRAGE-NP2 Emulator Configurations for Debugging Target TMS320 DSP Devices



Application Features for *MIRAGE-NP2* Emulator

- Development/testing of standard DSP devices (all TMS320 DSP platforms)
- Development/testing of compact and light-weight DSP devices (all TMS320 DSP platforms)
- Development/testing of multi-processor and mixed-platform DSP devices (all TMS320 DSP platforms in any combination)
- Development/testing of compact and low-power and low-voltage DSP devices (all TMS320 DSP platforms)
- Simple Plug-and-Play installation and transportability between mobile, desktop and industrial PC
- Development/testing in the field and mobile environments
- Development/testing of embedded DSP devices with "difficult access" to JTAG/MPSD interface
- Development/testing of DSP devices within high noise, 'no ground', 'no main power isolation', and 'high offset potential' environments

JTAG/MPSD Emulators for TMS320 DSP

Parameter\Emulator	DSPR <i>FlexDS-PCMCIA</i> KC <i>Predator</i>	TI XDS560	MicroLAB Systems <i>MIRAGE-NP2</i>
Host interface	PCMCIA Type II PC Card	PCI	PCMCIA Type II PC Card
Channels/pods per board	1/1	1/1	1/1, 2/1, 2/2
Pod cable length, weight, dimensions, LEDs	1m, 120g/all, 66x66x28mm, -	1.5m, 110g, 73x38x10mm, -	2 m, 79 g, 53x33x14mm, +
Supported scan-paths	JTAG	JTAG	JTAG & MPSD ('C3x)
TVCC, progr. JTAG TCK	3.3v/5v, 30MHz	0.5..5v , 30MHz	0.5v..5v , 30MHz
Measurement of TVCC/TCK	-	-	+
Download/RTDX speed	FAST/FAST	FAST/ FAST-HS	FAST/FAST
Installation into notebook	+	-	+
price	DSPR: \$1,995 (USA) KC: £1,350 UKP (UK)	\$3,995 (USA)	1/1: \$1,895 (INTL) 2/2: \$3,295

Special Pricing for *MIRAGE-NP2* Emulator until July-15-2005

- Russia
 - -20% discount for all configuration:
 - 1/1: \$1,888 → \$1,510
 - 2/1: \$2,065 → \$1,652
 - 2/2: \$3,245 → \$2,596
 - *UniPod*: \$1,180 → \$944
- USA/Canada:
 - -20% discount for configurations:
 - 1/1: \$2,045 → \$1,636
 - 2/1: \$2,245 → \$1,796

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