Brendes

embe*tt*er tools

BICEPS

embe*tt*er 80C51 emulators

€ 498,-

The real-time in-circuit-emulator **BICEPS-V** from Brendes is a complete and professional debugging solution for all microcontrollers of the 80C51 family. The **BICEPS-V** is the most universal emulator in the 80C51 market. Features and prices are very attractive for beginners and professional users.

embe*tt*er user interfaces
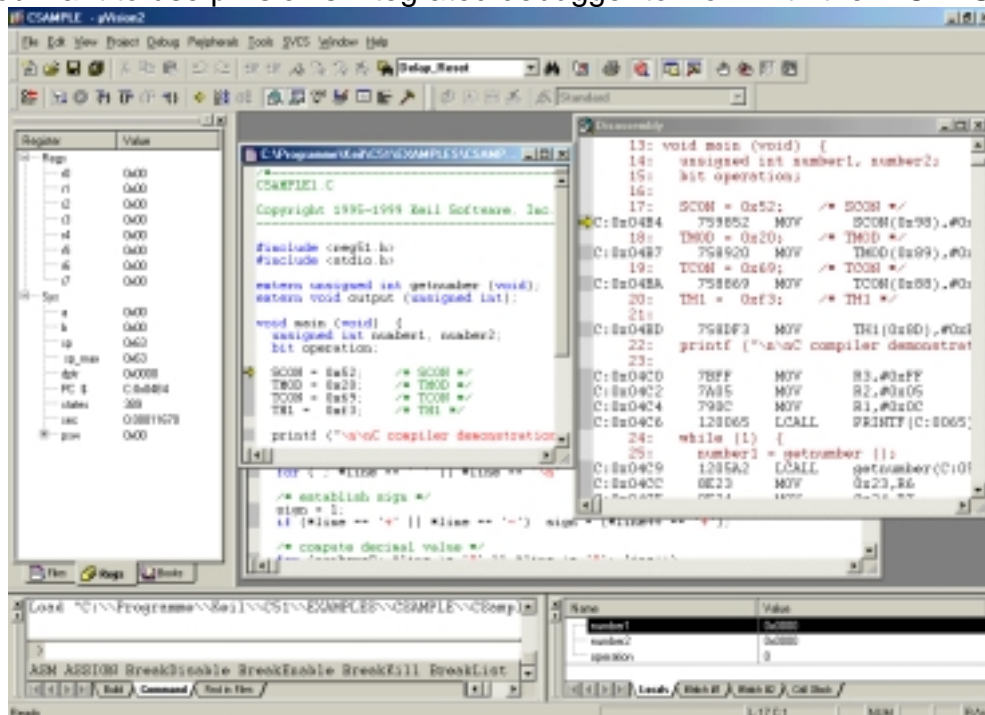
BicWin debugger   or   Keil µVision IDE

1.   BicWin: the Brendes Sourcelevel Debugger
if you prefer an independent debugging software
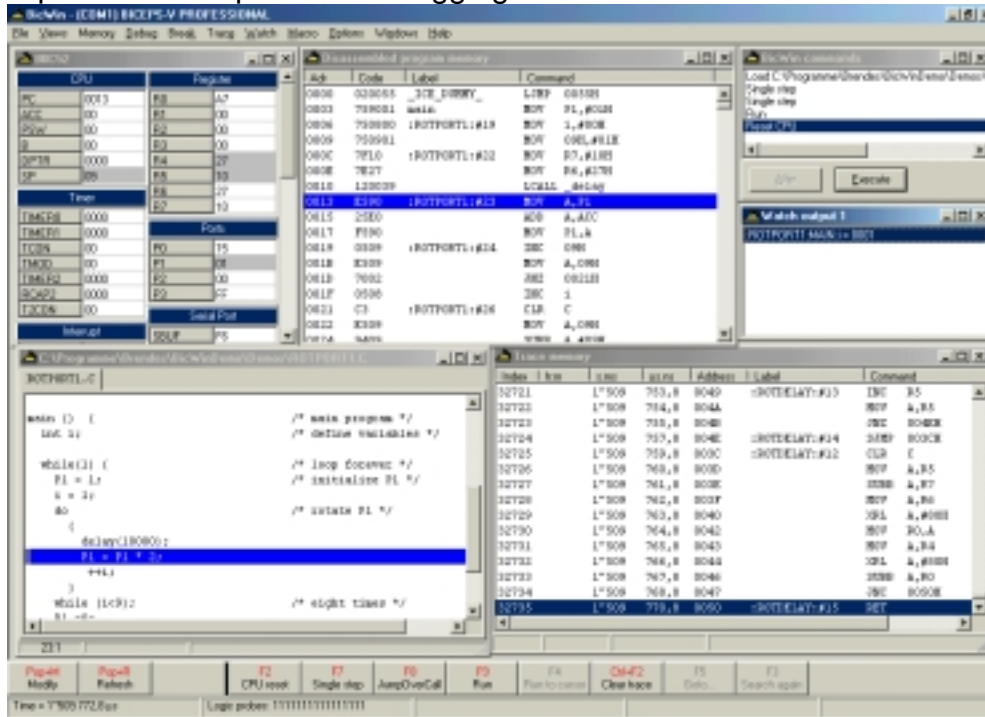
2.   Keil µVision: the Integrated Development Environment
if you want to use µVision's integrated debugger to work with the BICEPS emulator

embe*tt*er features

No other 80C51 emulator offers this benefits:

1. embe*tt*er controller spectrum
Support of all actual 80C51 flash derivates in true single chip mode

Allready the basic equipment can emulate all 80C51 compatible microcontrollers in true single chip applications without external bus –very important for the modern flash devices. Using the new **Softhook**™ emulation technique (patented by Brendes), which needs no bondout CPUs or debug licenses, nearly all 80C51 compatible controllers of all silicon vendors can be emulated. For some 80C51 derivates the **BICEPS-V** emulator is the only emulator supporting this devices (see list of supported controllers).

2. embe*tt*er prices
Low price beginners version
Professional version can be activated immediately when needed

The **BICEPS-V** emulator comes completely equipped with all features at a very attractive low price. The *Basic Features* are available allways and include all standard debugging features like download, real-time program execution, sourcelevel debugging. For more complex problems the *Professional Features* (like real-time-trace, performance analysis etc.) can be activtated by software code when needed – unlimited or for a 3 month period.

And note as additional benefit: the first 8 weeks after delivery all *Professional Features* can be used without restrictions. This is enough time to realize a project or to get familiar with professional real-time debugging.

3. embe*tt*er connections

Besides the classic POD method, which replaces the CPU on the target board by an adapter, the **BICEPS-V** emulator offers debug connector and universal adapter connection:
- **POD**: connection via CPU socket
- **Universal adapter**: connection via socket of an external program memory if available, EPROM or PSD
- **Debug connector**: connection via pin header and flat ribbon cable

More technical information can be found at www.brendes.de !

embe*tt*er options, it's your choice:
Basic Features or *Professional Features*

embe*tt*er *Basic Features*:

Basic equipment for comfortable microcontroller debugging
offers more and better features than monitor programs or on-chip debuggers

- Complete emulator with 64k emulation memory
- state of the art FPGA technology, e.g.
  - the hardware is configured by download
  - new features and changes by update
- true single-chip emulation by Brendes-**Softhooks**™
- real-time program execution
- Access to all internal and external memories and registers
- no restrictions using memories, interrupts, UART etc.
- Program download
- Breakpoints on program and ExtData memory
- Software included:
  - o Source level debugger **BicWin**

embe*tt*er *Professional Features*:

Allways available, when needed for your project
Activation possible every time by software code

- 32k x 96 Bit real-time-trace, 32 bit real-time clock, time stamp
- performance analysis
- real-time trace filter
- 32 bit real-time clock for time measurements, range 100ns .. 12h
- conditional and complex break events
- external inputs for break and trace purposes
- mapping
- 128k/512k emulation memory with banking support
- watchdog support
- Dallas80C390/80C400 paged/contiguous support
- activation by software code immediately when needed
- Software included:
  - o Source level debugger **BicWin**
  - o driver (DLL) for **Keil µVision-IDE**

embe*tt*er
Supported controllers

Vendor	Controller	Mode	POD	Debug Connector	Universal Adapter
All	80C31/32	Bus	B51	✓	✓
	8xC51/52/54/55/58	Port (SH)	B51	✓	
Waferscale ST	8xC5xx + PSD3xx	Bus			UPSD44
	8xC5xx + PSD8xx 8xC5xx + PSD9xx	Bus			UPSD52
Winbond	77C32 77x58 77x516 77x532	Bus	B51	✓	✓
		Port (SH)	B51	✓	
	77x468	Bus		✓	✓
		Port (SH)		✓	
	78x32/33 78x51/52/54/58 78x516 78x365 78x858	Bus	B51	✓	✓
		Port (SH)	B51	✓	
	78x438	Bus		✓	✓
		Port (SH)		✓	
Analog Devices	ADuC812/816/824	Bus	BuC8xx	✓	✓
		Port (SH)	BuC8xx	✓	
Dallas	80C320, 80C323 87C520	Bus	B51	✓	✓
	80C390 standard, paged, contiguous	Bus	B390	✓	✓
	80C400	Bus			✓
	87C520, 87C530	Port (BO)	B520		
Atmel	89C5131	Bus	B5131USB	✓	✓
		Port(SH)	B5131USB	✓	
	89C51CC01 89C51CC03	Bus	B51CC	✓	✓
		Port (SH)	B51CC	✓	
	89C51AC2	Bus	B51CC	✓	✓
		Port (SH)	B51CC	✓	
	89C51CC02 89C5115	Port (SH)	B51CC + CP4428		
	8xC51RA2/RB2/IB2 8xC51RC2/IC2 8XC51RD2 8xC51U2 8xC51/52/54/58X2	Bus	B51	✓	✓
		Port (SH)	B51	✓	
	89C1051/2051/4051	Port (BO)	B51		
	AT89S8252 AT89LS8252	Bus	B51	✓	✓
		Port (SH)	B51	✓	

Vendor	Controller	Mode	POD	Debug Connector	Universal Adapter
Philips	8xC5x 8xC51/52/54/58/31/32X2 89C6xX2 8xC591 89C66x, 8966xX2	Bus	B51	✓	✓
		Port (HO)	B51		
		Port (SH)	B51	✓	
	8xC552 8xC554 8xC562	Bus	B552	✓	✓
		Port (HO)	B552		
		Port (SH)	B552	✓	
	8xC592	Bus	B592	✓	✓
		Port (HO)	B592		
		Port (SH)	B592	✓	
	87LPC762/764 87LPC767/768/769	Port (BO)	B51LPC		
	89C51RA+/RB+ 89C51RC+/RD+ 89C51RA2/RB2 89C51RC2/RD2	Bus	B51	✓	✓
		Port (HO)	B51		
		Port (SH)	B51	✓	
Infineon (Siemens)	C501, C502, C504 C505C, C505CA C541	Bus	B51	✓	✓
		Port (SH)	B51	✓	
	C515, C515C, 80C515A, 80C535	Bus	B517 +CP8468	✓	✓
		Port (SH)		✓	
	C517, C517A 80C537, 80C517A	Bus	B517	✓	✓
		Port (SH)	B517	✓	
	C509	Bus		✓	✓
		Port (SH)		✓	
SST	89x554 89x564	Bus	B51	✓	✓
		Port(SH)	B51	✓	

Single chip emulation: SH = Softhook, BO = Bondout, HO = Hardware Hook

embe*tt*er

Prices

All prices are netto prices in Euro without taxes and shipping costs.

embe*tt*er Emulator BICEPS-V Basic:

Real-time in-circuit-emulator **BICEPS-V** for the microcontroller families 80C51/C500:
- 64k emulation memory
- True-single-chip emulation with Brendes-**Softhooks**™
- Breakpoints on program and extData memory
- **BicWin** Source-level-debugger for all Windows®-versions
- Serial and parallel interface, cables, power supply, online manual
- Includes **8 weeks** license for **Professional Features** (see Professional version)

  .... **€ 498,-**

embe*tt*er Emulator BICEPS-V Professional:

Real-time in-circuit-emulator **BICEPS-V** for the microcontroller families 80C51/C500:
like BASIC version, but additional
- 128k/512k emulation memory with **banking support**
- conditional break events
- **32k x 96 Bit real-time-trace memory**, 32 bit real-time clock for time measurements, performance analysis
- **16 external inputs** for break and trace purposes
- mapping, watchdog support
- Emulation Dallas 80C390 in paged/contiguous mode
- **DLL for Keil-µVision-IDE**

  .... **€1.998,-**

embe*tt*er Professional license 3 months:

BICEPS-V Basic + 4 x Professional license = BICEPS-V Professional
- Activation of the **Professional Features** for a period of **13 weeks**
- Software code for activation by email
- The 4. Professional license includes the final activation of the Professional features, i.e. the result is the property of an emulator **BICEPS-V PROFESSIONAL**

  .... **€ 420,-**

embe*tt*er CPU adapters (PODs):

POD B51 (for all controllers in standard 40/44 pin package)	€	100,-
POD B51-68 (Atmel 89C51RD2, 68 Pins)	€	150,-
POD B390 (Dallas 80C390)	€	300,-
POD B51CC (Atmel 89C51CC01/02/03, 89C51AC2, 89C5115)	€	150,-
POD B5131USB (Atmel 89C5131) **inkc. PLCC52-Converter**	€	200,-
POD B51LPC (Philips 87LPC76x)	€	200,-
POD B517 (Infineon C517A, 80C537/517A)	€	200,-
POD B520 (Dallas 87C520/530 Bondout)	€	250,-
POD B552 (Philips 8xC552)	€	150,-
POD B592 (Philips 8xC592)	€	150,-
POD BuC8xx (Analog Devices ADuC812/16/24; includes QFP-Adapter and QFP-basis socket to solder on target board)	€	400,-

embe*tt*er Options

Keil-µVision-DLL for **BICEPS-V-Basic**	€	100,-
Keil-µVision-DLL for older **BICEPS** emulators **(BICEPS-IV, BICEPS-V)**	€	300,-
Additional price for **Emulation memory expansion** to 512k (for banking applications)	€	200,-

embe*tt*er adapters and converters:

U32 (**BICEPS-V** universal adapter)	€	**100,-**
Debug connector	€	**100,-**
Adapter cable **A0A3** (passive, P0/P2 in Hardware-Hook-, Softhook- or Bus-Mode)	€	**100,-**
Adapterkabel **A1** (active, P0/P2 in bus mode only)	€	**150,-**
Converter DIL40 (**CD40**), PLCC44 (**CP44**), PLCC32 (**CP2832, CP3232**)	€	**70,-**
Converter POD B51CC to 89C51CC02 or 89C5115 PLCC28 (**CP4428**)	€	**80,-**
Converter PLCC68 (**CP68**), PLCC84 (**CP84**)	€	**90,-**
Converter QFP44 (includes base socket for soldering on target board)	€	**300,-**

Other adapters and converters: please ask

embe*tt*er Compilers:

Keil PK51 V7 C51 Professional Developer's Kit:
DK51 + Support for 80C51MX & 80C390, Extended Linker, TR51	€	**2600,-**

Keil DK51 V7 C51 Developer's Kit Windows Version:
CA51 + µVision2 simulator and target debugger	€	**2300,-**

Keil CA51 V7 C51 Compiler Kit:
A51 + C51 Compiler	€	**1600,-**

Keil A51 V7 A51 Assembler Kit:
A51 Assembler, 8051 Utilities, uVision2 IDE	€	**350,-**

All Keil products at original prices, other Keil products available, please ask

embe*tt*er

Distributors

embe*tt*er Europe

BRENDES DATENTECHNIK GMBH
Dresdener Str. 10
D-26160 Bad Zwischenahn
Tel.: +49 (0) 4403 816838
FAX: +49 (0) 4403 816839
eMail: info@brendes.de
Web: http://www.brendes.de

embe*tt*er America

RM MICHAELIDES SOFTWARE & ELECTRONIC CORPORATION
709 Conant Street
Maumee, Ohio 43537, USA
Tel.:   (419) 893-6905
FAX: (419) 893-6947
eMail: info@rmcan.com
Web: http://www.rmcan.com

embe*tt*er Korea

ZEUS EMTEK CO., LTD
RM 605, Goryu-Guro Bldg.
#81 Guro 2 Dong, Guro-Gu, Seoul, Korea
Tel.:   +82 2 856-8246
FAX: +82 2 867-8246
eMail: zeus@emulator.co.kr
Web: http://www.emulator.co.kr

embe*tt*er China

BOL Systems
The 10th/F, Quantum Plaza, No.27, Zhichun Road,
Haidian District,Beijing, 100083, P.R. China
Tel.:   +86-10-82357576, 82357579, 82357580
FAX: +86-10-82357574
eMail: info@mcu-world.com
Web: http://www.mcu-world.com

embe*tt*er World

Farnell Ltd.
eMail: info@farnell.com
Web: http://www.farnell.com