



PH: 650.375.0409 - USA 800.68.NOHAU - FAX 650.375.8666 - Email sales@icetech.com - URL www.icetech.com

Configured Emulator Systems for Common 8051 Architecture

	Price	Part Number
ICE System with 32K Emulation RAM • 12 MHz maximum target clock emulator card • Your choice of compatible in-circuit pod with cable, • System chassis with USB I/O • Seehau debug software and manuals CD. • One Year Software & User support.		51-32-12
ICE System with 32K Emulation RAM • 12 MHz maximum target clock emulator card • Your choice of compatible in-circuit pod, • 2 trigger level real time trace to 12 MHz max capture clock and 4K-frame capture FIFO • System chassis with USB I/O • Seehau debug software and manuals CD • One Year Software & User support.		51-32-TR4-12
ICE System with 32K Emulation RAM • 16 MHz maximum target clock emulator card • Your choice of compatible in-circuit pod with cable • System chassis with USB I/O • Seehau debug software and manuals CD. • One Year Software & User support.		51-32-16
ICE System with 32K Emulation RAM • 16 MHz maximum target clock emulator card • Choice of compatible in-circuit pod, • 2 trigger level real-time trace to 16 MHz max capture clock and 4K-frame capture FIFO • System chassis with USB I/O, • Seehau debug software and manuals CD • One Year Software & User support.		51-32-TR4-16

Configured In-Circuit Emulators for Common 8051 Architecture (Continued)

ICE System with 32K Emulation RAM	51-32-TR16-16
<ul style="list-style-type: none"> • 16 MHz maximum target clock emulator card • Choice of compatible in-circuit pod • 2 trigger level real time trace to 16 MHz max capture clock and 16K-frame capture FIFO • System chassis with USB I/O, Seehau debug software and manuals CD • One Year Software & User support. 	
ICE System with 128K Emulation RAM	51-128-16
<ul style="list-style-type: none"> • 16 MHz maximum target clock emulator card • Your choice of compatible in-circuit pod with cable • System chassis with USB I/O • Seehau debug software and manuals CD • One Year Software & User support. 	
ICE System with 128K Emulation RAM	51-128-TR4-16
<ul style="list-style-type: none"> • 16 MHz maximum target clock emulator card • Your choice of compatible in-circuit pod • 2 trigger level real-time trace at 16 MHz max capture clock and 4K-frame capture FIFO • System chassis with USB I/O • Seehau debug software and manuals CD • One Year Software & User support. 	
ICE System with 128K Emulation RAM	51-128-TR16-16
<ul style="list-style-type: none"> • 16 MHz maximum target clock emulator card • Your choice of compatible in-circuit pod • 2 trigger level real time trace to 16 MHz max capture clock and 16K-frame capture FIFO • System chassis with USB I/O • Seehau debug software and manuals CD • One Year Software & User support. 	
ICE System with 128K Emulation RAM	51-128-TR64-16
<ul style="list-style-type: none"> • 16 MHz maximum target clock emulator card • Your choice of compatible in-circuit pod • 8 Trigger level real time trace to 16 MHz max capture clock and 64K-frame capture FIFO • System chassis with USB I/O • Seehau debug software and manuals • CD plus One Year Software & User support. 	

Configured In-Circuit Emulators for Common 8051 Architecture (Continued)

ICE System with 128K Emulation RAM <ul style="list-style-type: none"> • 33 MHz maximum target clock emulator card • Your choice of compatible in-circuit pod • System chassis with USB I/O • Seehau debug software and manuals CD • One Year Software & User support. 	\$2,885	51-128-33-ICE
ICE System with 128K Emulation RAM <ul style="list-style-type: none"> • 33 MHz maximum target clock emulator card • Your choice of compatible in-circuit pod • 2 Trigger level real time trace to 33 MHz max capture clock and 16K-frame capture FIFO • system chassis with USB I/O • Seehau debug software and manuals CD • One Year Software & User support. 	\$3,479	51-128-TR16-33
ICE System with 768K Banking emulation RAM <ul style="list-style-type: none"> • 50 MHz maximum target clock emulator card • Your choice of compatible in-circuit pod with cable • System chassis with USB I/O • Seehau debug software and manuals CD. • One Year Software & User support. 	\$4,785	51-768
ICE System with 768K Banking emulation RAM <ul style="list-style-type: none"> • 50 MHz maximum target clock emulator card • Your choice of in-circuit pod • 8 Trigger level triggering 64K-frame real-time trace card to 50 MHz maximum capture speed • System chassis with USB I/O • Seehau debug software and manuals CD • One Year Software & User support. 	\$6,780	51-768-TR64
ICE System with 768K banking emulation RAM <ul style="list-style-type: none"> • 50 MHz maximum target clock emulator card • Your choice of in-circuit pod • 8 Trigger level triggering 256K-frame real-time trace card to 50 MHz maximum capture speed • System chassis with USB I/O • Seehau debug software and manuals CD • One Year Software & User support. 	\$7,779	51-768-TR256

Configured In-Circuit Emulators for Common 8051 Architecture (Continued)

ICE System with **1 Megabyte Banking** emulation RAM

51-1MB

- **50 MHz** maximum target clock emulator card
- Your choice of compatible in-circuit pod with cable
- System chassis with USB I/O
- Seehau debug software and manuals CD
- One Year Software & User support.

ICE System with **1Megabyte banking** emulation RAM

51-1MB-TR256

- **50 MHz** maximum target clock emulator card
 - Your choice of in-circuit pod
 - **8 Trigger level** triggering **256K-frame** real-time trace card to **50 MHz** maximum capture speed
 - System chassis with USB I/O
 - Seehau debug software and manuals CD
 - One Year Software & User support.
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Configured In-Circuit Emulators for the ST uPSD3200

ICE System with **768K Banking** emulation RAM at **50 MHz** maximum target clock emulator **51-uPSD3000**

- **Pod-51-uPSD3000** in-circuit pod with cable
- System chassis with USB I/O
- Seehau debug software and manuals CD
- One Year Software & User support.

ICE System with **768K Banking** emulation RAM **51-uPSD3000-TR256**

- 50 MHz Maximum target clock emulator card,
 - **Pod-51-uPSD3000** in-circuit pod with cable,
 - System chassis with USB I/O,
 - **8 Level** triggering **256 K-frame** real-time trace card to **50 MHz** maximum capture speed, and the Seehau debug software and manuals CD.
 - One Year Software & User support.
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Introduction To Nohau Emulator Terms

What an emulator is and what it does	An emulator is a tool designed to assist engineers with software debugging and verification during the hardware/software integration phase of their development project. The emulator temporarily replaces the microcontroller in the customer target system. The emulator behaves exactly like the processor with the added benefit of allowing you to view data and code inside the processor and control the operation of the CPU. You can load user code, view it in machine code or C source, set breakpoints on addresses and preset variables and registers. You can view data changes in real-time with the Shadow RAM feature. The emulator can be operated in stand-alone mode so development work can begin before the target system is available or completed.
What the trace does and why people order one	You can set triggers on specified addresses and data which will stop the emulation and/or trace memory when this action occurs. This alerts you that the specified event has occurred and you may now use the information stored by the emulator to find any hardware or software errors. The trace memory records the microcontroller cycles including data reads and writes for user specified conditions. You can view the trace memory to find out what your code was actually doing at a particular time. Most people purchase the optional trace card due to its unique ability to save many hours of engineering time looking for elusive bugs.
Seehau - the Nohau debugger for the emulator	The emulator and its software is designed to be relatively intuitive to use. The Nohau debugging software is called "Seehau" and updates are available free on Nohau's website (www.icetech.com) or directly from any Nohau office or representatives anywhere in the world. Seehau is macro-based enabling automatic operation. Seehau operates under Windows 95, 98, NT, ME, XP, XPPro and 2000Pro. For more information about the benefits of Seehau, see www.icetech.com for the latest data sheets or call your Nohau representative.
Single Chip and External Modes	Nohau supports the 8051 family for both external mode (ROMless) and internal mode (internal ROM) using pods containing a special bondout or hooks mode chip for access to the internal address and data bus while leaving all ports intact and available for use. The emulator does not use any target system resources and does not steal bondout cycles. The emulator can operate stand-alone allowing debugging before your hardware is available. Adapters are available to connect to nearly any target board.
Compiler Support	Nohau supports Altium, Archimedes, ChipTools, Hi-Tech, Keil, IAR Systems and Raisonance C compilers and assemblers. Debugging formats supported are IEEE695, Intel HEX and OMF51. Nohau and its representatives are authorized distributors of Altium, Archimedes, ChipTools, Hi-Tech, Keil, IAR Systems and Raisonance and provide technical support. It is possible to make changes to your source code in Seehau and then call your compiler. The resulting object code is then loaded into the emulator for further debugging.
RTOS Support	Nohau provides RTOS support through an ActiveX mechanism. Currently CMX is supported. It is possible to support a customer developed RTOS also. See http://www.icetech.com/pd_rtos.html for details.

Emulator Boards

The emulator parts	The basic Nohau 8051 emulator consists of an emulator board, the debugger environment Seehau, an in-circuit pod with a five foot cable and a USB or parallel PC I/O chassis. The emulator board along with a pod board can be run stand-alone without any target hardware. Add a target adapter and you can run in your target board. Add an optional triggered trace card and you can trigger on up to 8 levels of events and record CPU instructions and their bus operations. The emulator board is ISA card compatible and may be used without a chassis if it is installed in an ISA card compatible PC.
The Available Emulator Boards	Both the Standard and Enhanced emulator units are available for the 8051 family. Standard Emulator - These units come with either 32K to 16 MHz, or 128K of emulation memory, and operate to 50 MHz. Enhanced Emulator - These units come with either 256K or 768K of emulation memory, and operate to 50 MHz. These units will also support both bank switching and DMA applications. Some pods <u>require</u> the Enhanced Emulator board due to bus timing, bank switching, or DMA support. (See the specific pod description)
The Emulator Board Connections	The emulator board will plug into any ISA slot. This can be either inside the PC or the more common emulator chassis with USB interface. The 5 foot in-circuit pod cable plugs into the emulator board and emerges from the back of the chassis. The other end of the cable plugs into the in-circuit pod.

In-Circuit Emulator Pods

The 8051 Series Controllers Nohau supports a wide range of processors within the 8051 family. There are many pods available which will allow you to more accurately emulate your designs. The in-circuit pods generally fall into two types, **single-chip** and **external mode pods**. The single-chip pods are implemented using bondouts, hooks or enhanced hooks mode devices. Some basic knowledge of your hardware design will be required when selecting a pod. This will include the part number of the processor you are using, clock frequency, the mode you are using it in, and your memory configuration.

External Mode pods External mode pods have several advantages. They are the least expensive type of pods. They have easily replaceable standard microcontrollers. Your program runs on the real production part, with most of the lines directly connected to your target. These pods can be used where your microcontroller has external program or external read/write memory only. To use an external mode pod, Port 0 and Port 2 must be used exclusively as address and data lines (no bits can be configured as input/output I/O). Also Ports 3.6 and 3.7 are usually used as read and write lines. If either Port 3.6 or 3.7 is needed for I/O pins a special 31S pod is available. Any of these pods may have bank switching capability added to them.

Bondout and Hooks mode pods Bondout and hooks mode pods contain a special processors that provide the ability to better emulate the features within the part allowing greater flexibility in how you use the CPU ports. Both type pods provide means so that Port 0 and Port 2 can be used for I/O or Address/Data.

A bondout pod uses a special chip with an emulation bus bonded out so that the emulator can fetch program instructions without affecting user ports. This allows full emulation of internal, external and mixed modes of bus or port input/output.

A hooks mode pod is a bondout type pod equivalent. The hardware is different using an emulation-ready chip in a special hooks emulation mode for single-chip or external memory CPU modes. Logic circuitry on the hooks mode pod emulates some ports in single-chip mode.

Pod speeds indicated in the description are maximum clock frequencies. Each pod higher step frequency rating covers all lower frequency steps.

Real-Time Triggered Trace Cards

General Trace Information Trace boards are optional for the 8051 family, and they can be purchased and added at any time. Trace boards add multiple condition triggering of the execution trace memory that stores the data. The trace display includes address, data, timestamp, processor status, program flow, source code and labels.

A separate Shadow RAM provides unobtrusive user real-time target data update displays. The real-time shadow RAM displays data writes without stealing emulation cycles. The recorded data can be viewed and trigger conditions changed without stopping target program execution, or stealing CPU cycles. Multiple level conditional triggers can be set in anywhere within the code or external data memory ranges .

Real-Time Triggered Trace Cards (Continued)

Trace Boards Available There are 2 trace board options which are available for the 8051 systems. The Standard Trace, and the Enhanced Trace.

Standard Trace Option: The standard trace boards are available with either a 4K or 16K CPU clock trace memory. This trace board includes all the trace features including two-level triggers, loop counter, filter, trigger on code or external read and write addresses or values or both. This board is available up to 50 MHz.

Enhanced Trace Option: The enhanced trace boards include all the features of the standard trace plus 16-bit time stamping, eight-level triggers, state and counter functions, filter delay, search, and up to 64 levels of trigger conditions. Available with 64K CPU clocks, or 256K or trace recording buffer. This board works up to 50 MHz. This trace board includes all the features of the Advanced trace board plus shadow RAM, 1M code coverage memory, and a 32-bit timestamp.

In-Circuit Pod to Target Site Adapters

Target adapters are used to connect the emulator to your target system. There are many methods used to connect Nohau 8051 emulators to the target boards and each application requires a different solution. Once the pod is selected, note the number of pins and the package to which that specific pod terminates. The adapters section of this price list will then help you select the proper adapter to mate with the package you are using on your target.

What parts do I need to order?

An 8051 emulator system consists of the emulator board, the pod board, chassis and the optional trace card. A target adapter will normally be needed to connect the emulator to the target system. There are various types of these components that you will select to configure your desired system.

Your local representative or technical support team are able to assist you with selecting the appropriate components. The Seehau debugging software, technical support, warranty, accessories and manuals are automatically included and need not be specified in your order.

Minimum PC Requirements

- Pentium 200 or higher
- 2x or better CD ROM
- 40 MB Free Hard Disk Space
- Windows 95, 98, ME, NT, 2000Pro or XP/XPPro
- RAM for Windows 95/98/Me: 64MB
- RAM for Windows NT/2000Pro/XP/XPPro: 128MB

It is possible to run Seehau on slower and smaller machines such as laptops. Nohau technical support reports that Seehau, as any large Windows based program, runs more reliably on larger and faster machines.

www.icetech.com - On-Line Detailed Specifications and Application Notes

Go to www.icetech.com/documents and then select either the Technical Publications link, the Technical Application Notes link or the Nohau Manual link. There are also data sheets available on our website for the emulator and the Seehau software.

Basic Emulator Cards

Emulator Cards are ISA-bus PC-compatible hardware. They are commonly installed in a PC external chassis with a USB or PC parallel port interface. The emulator board includes five-foot in-circuit pod cable to connect to the pod.

Except as noted, frequency rating covers all lower CPU operating frequencies. To operate, the emulator must be connected to an optional in-circuit pod that is ordered separately.

The emulator includes Seehau debugger software. Seehau supports 95 OSR2, 98, 98 SE, ME, NT4, 2000Pro, XPPro, XP and Win 7. DOS software operates PC plug-in emulators, pods, optional trace units, and discontinued serial box options, and has high-level debug capability for supported compilers. DOS OS compatibility is an optional accessory that is available on request.

The older Windows 3.x/95/98/NT software operates emulators, pods, external chassis, optional trace units, and has high-level debug capability for supported compilers. Seehau supports configurations using the PC plug-in or the external chassis. Optional third-party user interfaces such as ChipView. All common assemblers, compilers, and simulators, are fully compatible with this in-circuit emulator system.

Basic Emulator - 32K Emulation RAM

32K (kilobyte) units—If read-write (MOVX) data is mapped to the 32K emulator, it is overlaid with (not separate from) emulator code memory. Both code and data memory wrap at 8000 if mapped to emulator. The emulator can access 64K read-write target data and 64K target code, mappable in 4K segments.

32K emulator 16-MHz emulator, 32K emulation memory.

EMUL51-PC/ E32-16

Basic Emulator -128K Emulation RAM

128K Basic emulators have a 64K code space and another 64K read-write (MOVX) data space.

128K 12-MHz emulator, 128K emulation memory.

EMUL51-PC/ E128

128K 16-MHz emulator, 128K emulation memory.

EMUL51-PC/ E128-16

128K 33-MHz emulator, 128K emulation memory.

EMUL51-PC/ E128-33

Enhanced Emulator Boards

The enhanced advanced (EA) emulator boards offer many additional features over basic emulator boards. They are available in 256K or 768K emulation RAM memory sizes.

The 256K version offers ten user-selectable bank switch modes, and the 768K unit offer eleven bank switch modes. Both sizes support normal 64K code + 64K Xdata non-banked applications.

The user can configure them for conventional 8051 pods and the Dallas DS80C320/520 series pods by changing jumpers and installing the appropriate "COM" EPROM.

Rated frequencies for Dallas units are different from ratings for conventional 8051 processors, so the rated frequency is effected. If using bank switching, a compiler with a linker that produces banked code in a single output file is highly recommended. The plug-in board compatible with the PC ISA-bus and also works with the optional emulator chassis with USB or parallel port PC interface. To operate, the emulator must be connected to an in-circuit pod that is ordered separately.

The emulator includes the Seehau debug software. Seehau supports configurations using the PC plug-in or the external chassis. Optional third-party user interfaces such as ChipView. All common assemblers, compilers, and simulators, are fully compatible with this in-circuit emulator system.

Note: Any bank switch application must be, by definition, external. Nohau therefore recommends only external mode pods for bank switch applications. Contact Nohau for further information.

These emulators work with all the 8051/31 series in-circuit pods. (Pods for DS80C320/323 or DS8XC520/530 require a COM PROM change.) For bank switching applications, use a bank switch pod or a 31A type pod. Includes an EPROM-COM1.4-EA51 personality PROM.

These units can emulate the Intel 80C152 and 80C452 in DMA modes with pods for those chips.

768K EA	50-MHz enhanced advanced bank switching emulator, 768K emulation memory.	\$2,995	EMUL51-PC/ EA768-BSW-50
Dallas DS80C320	Emulator board configured for 33-MHz Dallas DS80C320 or C520/530 series CPU. 768K emulation memory includes EPROM-COM1.46-EA320 or		EMUL51-PC/EA768-C320-BSW-33
Dallas DS8xC520 DS8x530	Emulator board configured for Dallas 80C520/530 series CPU. 33-MHz. 768K Emulation memory. Includes configuration EPROM-COM1.47-EAC530		EMUL51-PC/ EA768-C530-BSW-33
ST uPSD3000	Emulator board configured for the ST uPSD3000		EMUL51-PC/ EA768-uPSD-BSW-50

Emulator Card Configuration EPROM's

Convert to EA-BSW-50 from EA-C320-BSW-25 or from EA-C530-BSW-33, or EA-uPSD3000.

EPROM-COM1.4-EA51

To convert to EA-C320-BSW-33 from EA-BSW-50 or from EA-C530-BSW-33.

EPROM-COM 1.46-EAC320

To convert to EA-C530-BSW-33 from EA-BSW-50 or from EA-C320-BSW-33.

EPROM-COM 1.47-EAC530

To convert to an EA-uPSD-BSW-50 from an EA-BSW-50.

EPROM-COM 1.51-EA51-uPSD

Basic Real-Time Triggered Trace

The emulator board has no trace memory or recording trigger capability. The real-time triggered trace is an optional emulator ISA compatible plug-in board. It features two trigger levels with a loop counter, data filter and triggers on code or external read and write addresses or values or both. Each CPU clock frequency step covers all lower operating frequencies.

Basic 4 Kiloframe 2 Level Trigger Trace Recording

Maximum 12 MHz CPU clock - 4-kiloframe real-time trace with two level triggering

EMUL51-PC/ TR4-16

Maximum 16 MHz CPU clock 16-MHz 4-kiloframe real-time trace with two level triggering

EMUL51-PC/ TR4-16

Basic 16 Kiloframe 2 Level Trigger Trace Recording

Maximum 16MHz CPU clock - 16-kiloframe real-time trace with two level triggering

EMUL51-PC/ TR16-16

Maximum 33 MHz CPU clock - 16-kiloframe real-time trace with two level triggering

EMUL51-PC/ TR16-33

Maximum 50 MHz CPU clock - 16-kiloframe real-time trace with two level triggering. Compatible with Standard, EA, and all Dallas CPU emulator boards

EMUL51-PC/ TR16-50

Enhanced Advanced Real-Time Triggered Trace

The emulator board has no trace memory or recording trigger capability. Features include all features of basic trace plus eight conditional triggers that can be linked or sequenced using Boolean operators, shadow RAM real-time display, 1 Megabit code coverage capability, and a 32-bit time stamp with a 16-bit prescaler. Plus triggered start-stop code area recording with filters.

Enhanced Advanced 64K-Frame Real-Time Trace

16-MHz 64-kiloframe enhanced trace memory board.

EMUL51-PC/ ETR64-16

Enhanced Advanced 256 K-Frame Real-Time Trace

16-MHz 256-kiloframe enhanced trace memory board.

EMUL51-PC/ ETR256-16

50-MHz 256-kiloframe enhanced trace memory board.

EMUL51-PC/ ETR256-50

In-Circuit Emulation Pods

Bank Switched Memory Emulation Pods

Many 8051/31 series external memory in-circuit pods may be easily modified to add bank switching input signal leads. However, bank switching is not recommended for any bondout or hooks emulation mode pod. The POD-C32HF-42 and POD-C323-33 are always built with bank switching input connections.

If you would like the in-circuit pod to be factory wired for your bank switching application, simply add "-BSW" to the pod part number.

8031	12-MHz 8031 bank switch pod.	POD-31-<u>BSW</u>
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40 Pin 12 MHz DIP External Mode In-Circuit Pods

In these pods - Port 2 is upper address bus only. Port 0 is the address/data bus. P3.6 is WRITE, P3.7 is READ. The on-board pod crystal is 12 MHz always 12 MHz. Jumpers are set to select the target clock for other emulation frequencies. Specified frequencies are the upper limit CPU clock frequency for that in-circuit pod.

The pod to target site is a standard 40-pin DIP plug. For 40 pin PLCC target sockets use an optional DIP40-PLCC44 adapter.

These four pods share identical circuit cards. The only difference is the CPU plugged into the board.

80C31	12-MHz 80C31 pod.	POD-C31
8032	12-MHz 8032 pod.	POD-32
80C32	12-MHz 80C32 pod.	POD-C32
80C51FA	12-MHz 80C51FA pod.	POD-C252/C51FA

40 Pin DIP 16 MHz External Mode In-Circuit Pods

These four pods share identical circuit cards. The only difference is the CPU plugged into the board.

80C31	16-MHz 80C31-16 pod.	POD-C31-16
80C32	16-MHz 80C32 pod.	POD-C32-16
80C51FA	16-MHz 80C51FA-1 pod.	POD-C252/ C51FA-16

40 Pin DIP 20 MHz External Mode In-Circuit Pods

8031	20-MHz 8031 pod.	POD-31-20
80C31	20-MHz 80C31 pod .	POD-C31-20
80C32	20-MHz 80C32 pod.	POD-C32-20

40 Pin DIP 24 MHz External Mode In-Circuit Pods

80C31	24-MHz 80C31 pod.	POD-C31-24
80C32	24-MHz 80C32 pod.	POD-C32-24

40 Pin DIP 30 MHz External Mode In-Circuit Pods

80C31	30-MHz 80C31 pod.	POD-C31-30
80C32	30-MHz 80C32 pod.	POD-C32-30

40 Pin DIP 33 MHz External Mode In-Circuit Pods

80C31	33-MHz 80C31 pod. Contact Nohau for availability.	POD-C31-33
80C32	33-MHz 80C32 pod.	POD-C32-33

40 Pin Single Chip CPU Mode In-Circuit Pods

12-MHz hooks-mode pod for 8XC51/ 52 / 54 / 58, 8X51/ 52, 80C31/ 32, 8031/ 32. 40pin DIP.

\$895 **POD-C52**

16-MHz version of POD-C52 above

\$995 **POD-C52-16**

ATMEL - Temic In-Circuit Pods

Device	Single-Chip Pod and Expanded Mode Pod (External Memory)	Pod Footprint	EA Emulator Required
TS83C51X2, TS87C51X2	POD-51T-8xC52X2, POD-51T-8xC54X2, POD-51T-8xC58X2	44-pin PGA see page 33	X
TS83C51Rx2, TS87C51Rx2	POD-51T-8x51RB2 / RC2 / RD2-SP	44-pin PGA see page 33	X
TS89C51Rx2, AT89C51, AT89C52, AT89LV51, AT89LV52, AT89C55	POD-51T-89C51RB2 / RC2 / RD2-SP	44-pin PGA see page 33	X
T89C51AC2	POD51T-89C51AC2-S44	44-pin PGA see page 33	X
T89C51CC01 / CC02	POD-51T89C51CC01-S44/ CC02-S44	44-pin PGA see page 33	X
T89C51IB2 / IC2	POD-51T-89C51IB2 / IC2	44-pin PGA see page 33	X
T89C51RD2-68	POD-51T-89C51RD2-68	68-pin PGA see page 34	X
TS83C51U2, TS87C51U2	POD-51T-8xC51U2	44-pin PGA see page 33	X
80C32	POD-C32HF-42	40-pin Dip see page 33	Note ¹
TS80C31X2	POD-TS80C31X2	40-pin Dip see page 33	Note ¹
TS80C32X2	POD-TS80C32X2	40-pin Dip see page 33	Note ¹
TS80C51RA2	POD-51T-8x51RB2 / RC2 / RD2-SP	44-pin PGA see page 33	X
TS80C51RD2	POD-51T-8x51RB2 / RC2 / RD2-SP	44-pin PGA see page 33	X
TS80C51U2	POD-51T-8xC51U2	44-pin PGA see page 33	X
AT89C1051	POD-51T-8xC51RD2	See "Special Adapter Note" below	X
AT89C2051	POD-51T-8xC51RD2	See "Special Adapter Note" below	X

In the chart above the "-SP" stands for the speed of the device. Please refer to the descriptions below for more detail.

ATMEL - Temic In-Circuit Pods (Continued)

If you are emulating the '89 series microcontroller, you will need to use the EA emulator board so that you will be able to simulate the IAP system calls regardless of the crystal rate you plan to operate at.

Note: *If the external frequency in the X2 mode is greater than 23 MHz, or if the external frequency in the X1 mode is greater than 46 MHz, you need to use the 18 inch cable, part # EMUL-PC/CBL18.*

Note¹: When using the microcontroller above 18 MHz in the X2 enabled mode or above 36 MHz in the X1 mode, you will require both the EA emulator board and the CBL-18. If you are using the microcontroller at 12 MHz in the X2 mode or 24 MHz in the X1 mode, you can use the E128-33 emulator board.

Note²: *Support for the following Atmel parts is provided with POD51T-8xC51RD2-44 and has certain limitations due to Atmel-specific features: AT89C1051 and AT89C2051. Requires a special adapter set using both EDI/PG44-40D-8051 & EMUL51-PC/ATMEL-2051.*

Note³: There are two different fab types for the Atmel pods; one is **POD-51T-44** and the other is **POD-51T-S44**. Parts that work on the 51T fab will **not** work on the 51TS fab and the same applies for the reverse.

Special Adapter Note: These pods require two adapters; the PGA44 to Dip40 and the appropriate 1051 or 2051 Atmel adapter.

X2 Series Processors

32-MHz pod for Atmel TS83C51X2 and TS87C51X2. This pod supports a 32-MHz x1 clock or a 16-MHz x2 clock.

POD-51T-8xC52X2

Note: old part #'s were POD-51EH-TS52X2-32, POD-51EH-TS54X2-32 and POD-51EH-TS58X2-32.

POD-51T-8xC54X2

POD-51T-8xC58X2

For the PLCC44 pin package, order the PGA to PLCC44 adapter part # PGA44-PLCC44. For the QFP44 pin package, order adapter part # EDI/44PG/QFS31-SD. For the PDIL40 (DIP) package order part # EDI/44PG/40D-S-8051.

Note: The 89 series is not supported.

RX Series Processors

T51RB/C/D2-32 pod 32-MHz pod for Atmel TS83C51Rx2 and TS87C51Rx2. This pod supports a 32-MHz x1 clock or a 16-MHz x2 clock. **Note:** old part #'s were POD-51EH-TS51RB2-32, POD-51EH-TS51RC2-32 and POD-51EH-TS51RD2-32.

POD-51T-8xC51RB2

POD-51T-8xC51RC2

POD-51T-8xC51RD2-44

T51RD2-32 Same description as above but with a 68-pin version.

POD-51T-8xC51RD2-68

For the PLCC44 pin package, order the PGA to PLCC44 adapter part # EMUL51-PC/PGA44-PLCC44. For the QFP44 pin package, order adapter part # EDI/44PG/QFS31-SD. For the PDIL40 (DIP) package order part # EDI/44PG/40D-S-8051.

Note: The FLASH memory is simulated on the 89 series parts. For more information, visit www.icetech.com/bootloaders.html. The (EE) memory has limited support you can read this memory, the users code and write to this memory, but you can not change this memory through the Seehau users interface.

ATMEL - Temic RX Series Processors (Continued)

T51RB/C/D2-32 pod	32-MHz pod for Atmel TS89C51Rx2, AT89C51, AT89C52, AT89LV51, AT89LV52 and AT89C55. This pod supports a 32-MHz x1 clock or a 16-MHz x2 clock.	POD-51T-89C51RB2
	There is a flash PAL for the emulator to enable flash programming emulation. Uses POD-51T-44 pin.	POD-51T-89C51RC2
T51RD2-32	Same description as above but with a 68-pin version.	POD-51T-89C51RD2-44
T51ED2-32	32-MHz pod for Atmel AT89C51ED2.	POD-51T-89C51RD2-68
T51ED2-32	Same description as above but with a 68-pin version.	POD-51T-89C51ED2
		POD-51T-89C51ED2-68

ACx Series Processors

TS89C51AC2	32-MHz pod for Atmel T89C5AC2. This pod supports a 32-MHz x1 clock or a 16-MHz x2 clock. There is a flash PAL for the emulator to enable flash programming emulation. Uses POD-51T-S44 pin.	POD-51T-89C51AC2-S44
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CC0x Series Processors

TS89C51CC02	32-MHz pod for Atmel T89C51CC01 and T89C51CC02. This pod supports a 32-MHz x1 clock or a 16-MHz x2 clock. There is a flash PAL for the emulator to enable flash programming emulation. Uses POD-51T-S44 pin.	POD-51T-89C51CC01-S44
		POD-51T-89C51CC02-S44

89C51x2 Series Processors

T89C51IB2, T89C51IC2 &	32-MHz pod for Atmel T89C51IB2, T89C51IC2, and T89C51ID2. This pod supports a 32-MHz x1 clock or a 16-MHz x2 clock. There is a flash PAL for the emulator to enable flash programming emulation. Uses POD-51T-44 pin.	POD-51T-89C51IB2
		POD-51T-89C51IC2
		POD-51T-89C51ID2

ATMEL - Temic 89C5110x Series Processors (Continued)

T89C51RD2-68	32-MHz pod for Atmel 89C5110x-68. This pod supports a 32-MHz x1 clock or a 16-MHz x2 clock. Uses POD-51T-68 pin.	POD-51T-89C51101
		POD-51T-89C51102

U2 Series Processors

TS51U2-32	32-MHz pod for Atmel TS83C51U2 and TS87C51U2. This pod supports a 32-MHz x1 clock or a 16-MHz x2 clock. Note: old part # was originally POD-51EH-TS51U2-32 and then POD-TS80C51U2 .	POD-51T-8xC51U2
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For the PLCC44 pin package, order the PGA to PLCC44 adapter part # EMUL51-PC/PGA44-PLCC44. For the QFP44 pin package, order adapter part # EDI/44PG/QFS31-SD. For the PDIL40 (DIP) package order part # EDI/44PG/40D-S-8051.

ATMEL - Temic 31A Series Processors

Note: If the external frequency in the X2 mode is greater than 23 MHz, or if the external frequency in the X1 mode is greater than 46 MHz you need to use the short 18 inch emulator to pod cable, part # EMUL-PC/CBL18.

The pod crystal is 16 MHz. The emulator must be at least 16 MHz to run with the on-board pod crystal, but a 12-MHz emulator can run with a 12-MHz or slower external crystal or oscillator. No -BSW option is available nor is it required for this pod, since bank switching support is built into the pod.

A 31A pod is a superset of the Generic pods. The pod can operate down to 3-V with a user-installed 3-V 40-pin DIP microcontroller.

The following pods have the same circuit board:

80C32	42-MHz 80C32 high frequency pod. Requires EA or (discontinued) HF emulator for 42 MHz. This pod is capable of bank switching up to the emulator frequency with EA256/768-BSW-50 and E128/256-BSW emulators.	POD-C32HF-42
TS80C31X2	50-MHz pod for Atmel TS80C31X2. The pod needs an EMUL51-PC EA256-BSW-50 or EMUL51-PC EA768-BSW-50 emulator board. This pod is a 31A pod and may require a DIP to PLCC44 adapter.	POD-TS80C31X2
TS80C32X2	50-MHz pod for Atmel TS80C32X2. The pod needs an EMUL51-PC EA256-BSW-50 or EMUL51-PC EA768-BSW-50 emulator board. This pod is a 31A pod and may require a DIP to PLCC44 adapter.	POD-TS80C32X2

Dallas Semiconductor Series Processors In-Circuit Pods

Device	Single-Chip Pod	Expanded Mode Pod (External Memory)	Pod Footprint	EA Emulator Required
DS80C310	POD-C520-PGA-33	POD-C520-PGA-33	52-pin PGA see page 34	X
DS80C320	POD-C520-PGA-33	POD-C320-33	40-pin DIP see page 33	X
DS80C323		POD-C323-33	40-pin DIP see page 33	X
DS8xC520	POD-C520-PGA-33	POD-C520-PGA-33	52-pin PGA see page 34	X
DS8xC530	POD-C520-PGA-33	POD-C520-PGA-33	52-pin PGA see page 34	X

33-MHz bondout pod for DS80C310, DS8XC520, DS8XC530, and DS80C320, single-chip or external mode. Pod operates only with EA256-C530-BSW-33 or EA768-C530-BSW-33 emulator. 52-pin PGA from pod. To plug into a 40-pin DIP 'C520 or 'C320-target socket, use optional EDI/52PG/40D-530/520-S adapter. To plug into a 44-pin PLCC 'C520 socket, use optional EDI/52PG/44PL-530/520. To plug into a 52-pin LCC 'C530 socket, use optional PGA52-PLCC52. Optional trace board must be EMUL51-C/TR16-50, EMUL51-PC/ETR64-50 or EMUL51-PC/ETR256-50. When using the POD-C520-PGA-33 to emulate a DS80C310, special software precautions must be observed in the user's application software (call or email ICE Technology for details). \$1,295 **POD-C520-PGA-33**

33-MHz special pod for Dallas DS80C320. Works only with EA256-C320-BSW-33, EA768-C320-BSW-33, E128-DS320-33, or E128-DS320-BSW-33 \$995 **POD-C320-33**

A 16-MHz crystal is on the pod. Uses special Dallas emulation microcontroller. This pod is capable of bankswitching without modification with the 320-BSW boards (not with E128-DS320-33). No -BSW option is available nor is it required for this pod, since bankswitching support is built into the pod. (**Note:** Does not support DS310; use POD-C520-PGA with adapter.)

Special Trace Frequency Requirement: Due to the 80C320 chip timing, if an optional trace is used, trace frequency rating must be at least 1.5x target frequency. Examples: An 8-MHz operation requires a 12-MHz trace; a 20-MHz operation requires a 30-MHz trace; a 25-MHz operation requires a 37.5-MHz trace, so select the 50-MHz trace (next higher available step). Advanced Trace (ATR) is not supported. The Enhanced Trace (ETR), which is an enhancement over the advanced trace board, is supported.

Infineon Series Processors In-Circuit Pods

Device	Single-Chip Pod	Expanded Mode Pod (External Memory)	Pod Footprint	EA Emulator Required
8031		POD-31	40-pin DIP see page 33	
8051	POD-C52	POD-C52	40-pin DIP see page 33	
8xC52	POD-C52	POD-C52	40-pin DIP see page 33	
C513AO / -R / -2R / -2E	POD-51EH-C513AO-16	POD-51EH-C513AO-16	44-Pin PGA see page 33	X
C504 / -2R / -2E / -L	POD-51EH-C504-40	POD-51EH-C504-40	44-Pin PGA see page 33	X
C505 / -2R / -LM	POD-51EH-C505C-20	POD-51EH-C505C-20	44-Pin PGA see page 33	X
C505A / -4E / -L	POD-51EH-C505CA-20	POD-51EH-C505CA-20	44-Pin PGA see page 33	X
C505C / -2R	POD-51EH-C505C-20	POD-51EH-C505C-20	44-Pin PGA see page 33	X
C505CA / -4E / -L	POD-51EH-C505CA-20	POD-51EH-C505CA-20	44-Pin PGA see page 33	X
C505L / -4EM	POD-51EH-C505L-20	POD-51EH-C505L-20	See page 34	X
C508 / -4E / -4RM	POD-51EH-C508-10	POD-51EH-C508-10	See page 34	X
C515 / -1R / -L	POD-51EH-C515-24	POD-51EH-C515-24	See page 35	X
C515A		POD-C515A-PGA-18	See page 35	
C515A / -4R / -L	POD-C515A-24	POD-C515A-24	See page 35	
C515C / -8RM / -LM / -8EM	POD-51EH-C515C-10	POD-51EH-C515C-10	See page 35	X (recommended)
C517A / -4RM / -4RN / -LM / -LN	POD-51EH-C517A-24	POD-51EH-C517A-24	See page 35	X

Infineon Series Processors In-Circuit Pods (Continued)

18-MHz expanded mode C515A	18-MHz 80C515A (ROM-less) pod. For enhanced 80C515A. 80C515A chip might have to be supplied by user. Expanded on-chip RAM is not supported. Use a 20-MHz or faster emulator for 18-MHz operation. 68-pin PGA from pod. Use optional EMUL51-PC/PGA68-PLCC68 adapter for PLCC target. Port 2 is upper address bus only. Port 0 is address/data bus. P3.6 is WRITE, P3.7 is READ. Unless noted, on-board pod crystal is 12 MHz on all pods of any frequency specification. Frequency rating covers all lower frequency steps.	POD-C515A-PGA-18
40-MHz single-chip C504	40-MHz enhanced hooks mode pod for the Infineon C504 (call or email ICE Technology for availability). Consists of an add-on processor module for C504 (PM51-EH-SAB-C504) and an enhanced hooks port replacement unit (EMUL51-PC/PRU-EH). Interchangeable add-on processor modules for other derivatives can be used with the enhanced hooks port replacement unit. Requires 50-MHz trace and emulator boards. This pod is designed to plug into a 44-pin PGA to 44-pin QFP solder-down adapter, such as the EDI/44PG/QFS31-SD. This requires the SAMTEC/MPAT-044-A-G-80; a 44-pin male-to-male PGA adapter for use with the POD-C51EH series. (See the “Miscellaneous Options: Adapters, Cables, and Extenders” section.) Supports both external and internal modes.	POD-51EH-C504-40
20-MHz single-chip C505C	<p>This pod supports the following sub-derivatives of the C504 sub-family: C504-2R (16K mask-ROM version) C504-2F (16K OTP version) C504-I (ROM-less version)</p> <p>20-MHz enhanced hooks mode pod for the Infineon C505C (call or email ICE Technology for availability). Requires 50-MHz trace and emulator boards for 20-MHz operation. (Note: The 20 MHz for this derivative corresponds to 40 MHz for a regular 8031.) Consists of an add-on processor module for C505C (PM51-EH-SAB-C505C) and enhanced hooks port replacement unit (EMUL51-PC/PRU-EH). Interchangeable add-on processor modules for other derivatives can be used with the enhanced hooks port replacement unit. This pod is designed to plug into a 44-pin PGA to 44-pin QFP solder-down adapter, such as the EDI/44PG/QFS31-SD (see the “Miscellaneous Options: Adapters, Cables, and Extenders” section). Supports both external and internal modes.</p> <p>This pod supports the following four sub-derivatives of the C505C sub-family: C505C-2R (16K mask-ROM version of the C505C), C505-2R (16K mask-ROM version of the C505) and C505-LM (ROM-less version of the C505). This pod does not support other C505C sub family members.</p>	POD-51EH-C505C-20

Infineon Series Processors In-Circuit Pods (Continued)

20-MHz single-chip C505CA	20-MHz enhanced hooks mode pod for the Infineon C505CA (call or email ICE Technology for availability). Requires 50-MHz trace and emulator boards for 20-MHz operation. (Note: The 20 MHz for this derivative corresponds to 40 MHz for a regular 8031.) Consists of an add-on processor module for C505CA (PM51-EH-SAB-C505CA) and an enhanced hooks port replacement unit (EMUL51-PC/PRU-EH). Interchangeable add-on processor modules for other derivatives can be used with the enhanced hooks port replacement unit. This pod is designed to plug into a 44-pin PGA to 44-pin QFP solder-down adapter, such as the EDI/44PG/QFS31-SD (see the “Miscellaneous Options: Adapters, Cables, and Extenders” section). Supports both external and internal modes.	POD-51EH-C505CA-20
<p>This pod supports the following four sub-derivatives of the C505A sub-family: C505CA-4E (32K OTP version of the C505CA), C505CA-L (ROM-less version of the C505CA), C505A-4E (32K OTP version of the C505A) and C505A-L (ROM-less version of the C505A). This pod does not support other C505 sub family members.</p>		
10-MHz single-chip C508	10-MHz enhanced hooks mode pod for the Infineon C508 (Note: The 10 MHz for this derivative corresponds to 40 MHz for a regular 8031.) Consists of an add-on processor module for C508 (PM51-EH-C508) and the enhanced hooks port replacement unit (EMUL51-PC/PRU-EH). Interchangeable add-on processor modules for other derivatives can be used with the enhanced hooks port replacement unit. Requires 50-MHz trace and emulator boards. Adapters for the PMQFP package are available (see ES/180-5545-00 under the "Miscellaneous Options: Adapters, Cables, and Extenders" section). Supports both external and internal modes.	POD-51EH-C508-10
<p>This pod supports the following derivatives of C508: C508-4EM (MQFP 32K OTP version of the C508) and C508-4RM (MQFP 32K mask-ROM version of the C508)</p>		
24-MHz single-chip C515	24-MHz enhanced hooks mode pod for the Infineon C515. Consists of an add-on processor module for C515 (PM51-EH-SAB-C515) and an enhanced hooks port replacement unit (EMUL51-PC/PRU-EH). Interchangeable add-on processor modules for other derivatives can be used with the enhanced hooks port replacement unit (call or email ICE Technology for availability). Requires 24-MHz trace and emulator boards. Adapters for the PMQFP package are available (see ES/180-5550-40 and ES/180-5550-45 under the “Miscellaneous Options: Adapters, Cables, and Extenders” section). Supports both external and internal modes.	POD-51EH-C515-24
<p>This pod supports the following sub-derivatives of the C515 sub-family: C515-1R (8K Mask-ROM version) and C515-L (ROM-less version)</p>		

Infineon Series Processors In-Circuit Pods (Continued)

10-MHz single-chip C515C	<p>10-MHz enhanced hooks mode pod for the Infineon C515C (call or email ICE Technology for availability). (Note: The 10 MHz for this derivative corresponds to 20 MHz for a regular 8031.) Consists of an add-on processor module for C515C (PM51-EH-SAB-C515C) and the enhanced hooks port replacement unit (EMUL51-PC/PRU-EH). Interchangeable add-on processor modules for other derivatives can be used with the enhanced hooks port replacement unit. Requires 24-MHz trace and emulator boards. Adapters for the PMQFP package are available (see ES/180-5550-50 and ES/180-5550-55 under the “Miscellaneous Options: Adapters, Cables, and Extenders” section). Supports both external and internal modes.</p> <p>This pod supports only the following sub-derivatives of the C515C: C515C-8RM (64K mask-ROM version of the C515C), C515C-LM (ROM-less version of the C515C), C515C-8EM (64K OTP version of the C515C). This pod does not support other C515 sub-family members such as the C515A.</p>	\$995	POD-51EH-C515C-10
24-MHz single-chip C517A	<p>24-MHz enhanced hooks mode pod for the Infineon C517A consists of an add-on processor module for C517A (PM51-EH-C517A) and an enhanced hooks port replacement unit (EMUL51-PC/PRU-EH). Interchangeable add-on processor modules for other derivatives can be used with the enhanced hooks port replacement unit. (Contact Nohau for availability.) Requires 24-MHz trace and emulator boards. Adapters for the P-MQFP and P-LCC packages are available. (Refer to ES/180-5690-10, ES/180-5690-20, and ES/180-3975-10 in the “Miscellaneous Options: Adapters, Cables, and Extenders” section.) Supports both external and internal modes.</p> <p>This pod supports the following four sub-derivatives of the C517A sub-family: C517A-4RM (32K Mask-ROM version with P-MQFP-100 package), C517A-4RN (32K Mask-ROM version with P-LCC-84 package), C517A-LM (ROMless version with P-MQFP-100 package), C517A-LN (ROM-less version with P-LCC-84 package)</p>		POD-51EH-C517A-24
20-MHz single-chip C505L	<p>20-MHz enhanced hooks mode pod for the Infineon C505L consists of an add-on processor module for C505L (PM51-EH-C505L) and an enhanced hooks port replacement unit (EMUL51-PC/PRU-EH). Interchangeable add-on processor modules for other derivatives can be used with the enhanced hooks port replacement unit. (Contact Nohau for availability.) Requires 50-MHz trace and emulator boards for 20-MHz operation. Adapters for the P-MQFP package are available. (Refer to ES/180-5550-65 in the “Miscellaneous Options: Adapters, Cables, and Extenders” section.) Supports both external and internal modes.</p> <p>This pod supports the following sub-derivatives of the C505L sub-family: C505L-4EM (32K OTP version with P-MQFP-80 package)</p>		POD-51EH-C505L-20
16-MHz single-chip C513AO	<p>16-MHz enhanced hooks mode pod for the Infineon C513AO consists of an add-on processor module for C513AO (PM51-EH-C513AO) and an enhanced hooks port replacement unit (EMUL51-PC/PRU-EH). Interchangeable add-on processor modules for other derivatives can be used with the enhanced hooks PRU. Requires 50-MHz trace and emulator boards For the P-MQFP package order adapter Part # EDI44PG44QFS31S2. For the PLCC44 package order adapter Part # EMUL51-PC/PGA44-PLCC44. call or email ICE Technology for availability. Supports both external and internal modes.</p> <p>This pod supports the following derivatives of C513AO: C513AO-R (12K mask-ROM version of the C513), C513AO-2R (16K mask-ROM version of the C513), C513AO-2E (32K OTP version of the C513)</p>		POD-51EH-C513AO-16

Configuraiont Modules for Infineon Series In-Circuit Pods

Note: *Processor Modules for Infineon C500 Derivatives. An emulator pod for a C500 derivative consists of two sub-assemblies: a generic port replacement unit (PRU), and a processor-specific module (or processor module [PM]).* **If you already have a pod for one of the C500 derivatives, you can modify it to target a different derivative just by replacing the PM on your pod.**

Hooks	Enhanced hooks port replacement unit for use with add-on processor modules.	EMUL51-PC/PRU-EH
C504	Infineon C504 configuration module - call or email ICE Technology for availability.	PM51-EH-C504
C505C	Infineon C505C configuration module - call or email ICE Technology for availability.	PM51-EH-C505C
C505CA	Infineon C505CA configuration module - call or email ICE Technology for availability.	PM51-EH-C505CA
C505L	Infineon C505L configuration module	PM51-EH-C505L
C508	Infineon C508 configuration module	PM51-EH-C508
C513AO	Infineon C513AO configuration module	PM51-EH-C513AO
C515	Infineon C515 configuration module	PM51-EH-C515
C515A	C515A configuration module - call or email ICE Technology for availability.	PM51-EH-C515A
C515C	C515C configuration module - call or email ICE Technology for availability.	PM51-EH-C515C
C517A	C517A configuration module - call or email ICE Technology for availability.	PM51-EH-C517A

Intel In-circuit Emulator pods

Device	Single-Chip Pod	Expanded Mode Pod (External Memory)	Pod Footprint	Requires EA EMUL (If speeds above 33 MHz)
8031		POD-31-20	40-pin DIP see page 33	X
80C31		POD-C31-SP	40-pin DIP see page 33	X
8032		POD-32-SP	40-pin DIP see page 33	X
8XC32		POD-C32-SP	40-pin DIP see page 33	X
8051	POD-C51FX-SP	POD-C51FX-SP	40-pin DIP see page 33	X
80C51	POD-C51FX-SP	POD-C51FX-SP	40-pin DIP see page 33	X
8X51/52	POD-C51FX-SP	POD-C51FX-SP	40-pin DIP see page 33	X
8XC51/52/54/58	POD-C51FX-SP	POD-C51FX-SP	40-pin DIP see page 33	X
8xC51FA/FB/FC	POD-C51FX-SP	POD-C51FX-SP	40-pin DIP see page 33	X
8xC51RA/RB/RC	POD-C51RX-SP	POD-C51RX-SP	40-pin DIP see page 33	X
87C51	POD-C51FX-SP	POD-C51FX-SP	40-pin DIP see page 33	X
8752	POD-C51FX-SP	POD-C51FX-SP	40-pin DIP see page 33	X
8052	POD-C51FX-SP	POD-C51FX-SP	40-pin DIP see page 33	X
8xC54	POD-C51FX-SP	POD-C51FX-SP	40-pin DIP see page 33	X
8xC58	POD-C51FX-SP	POD-C51FX-SP	40-pin DIP see page 33	X
8751	POD-C51FX-SP	POD-C51FX-SP	40-pin DIP see page 33	X

In the chart above the "-SP" stands for the speed of the device. Please refer to the descriptions below for more detail.

12-MHz	12-Mhz bondout pod for Intel 80C517	POD-C517B-PGA
18-MHz	18-Mhz bondout pod for Intel 80C517	POD-C517B-PGA
16-MHz	16-MHz hooks-mode pod for 8XC51FA/ FB/ FC, 8XC51/ 52/ 54/ 58, 8X51/ 52, 80C31/ 32, 8031/ 32. 40-pin DIP. Uses Intel special emulation technology chip.	POD-C51FX-16
24-MHz	24-MHz version of POD-C51FX. Requires at least an EMUL51-PC/EA256-BSW-24 emulator board and optional 16-kiloframe, 50-MHz standard trace or at least a 33-MHz enhanced trace board. Uses Intel special emulation technology chip.	POD-C51FX-24
16-MHz	16-MHz version of POD-C51RX. Uses Intel special emulation technology chip. Contact Nohau for availability.	POD-C51RX-16

Philips Semiconductor In-Circuit Emulator Pods

Device	Single-Chip Pod	Expanded Mode Pod (External Memory)	Pod Footprint	EA Emulator Required
80C51MX, 89C669	POD-51MX-MC2		44-pin PGA see page 33	X
8031 / 32	POD-51HB-C52-SP& POD-51HB-C51FX-33	POD-51HB-C52-SP& POD-51HB-C51FX-33	44-pin PGA see page 33	X
80C31 / C32	POD-51HB-C52-SP & POD-51HB-C51FX-33	POD-51HB-C52-SP & POD-51HB-C51FX-33	44-pin PGA see page 33	X
8xC51 / 52 / 54 / 58	POD-51HB-C52-SP& POD-51HB-C51FX-33	POD-51HB-C52-SP & POD-51HB-C51FX-33	44-pin PGA see page 33	X
8xC51RA / RB / RC / RD+	POD-51HB-C51RX-SP		44-pin PGA see page 33	
80C51Rx2	POD-51HB-C51RX2-20		44-pin PGA see page 33	X
80CL31 / 51	POD-51HB-L51FX-16	POD-51HB-L51FX-16	44-pin PGA see page 33	
80CL32 / 52	POD-51HB-L51FX-16	POD-51HB-L51FX-16	44-pin PGA see page 33	
80C32 / 8xC52	POD-51HB-C52-SP & POD-51HB-C51FX-33	POD-51HB-C52-SP & POD-51HB-C51FX-33	44-pin PGA see page 33	X
C591	POD-51HB-C591-16		44-pin PGA see page 33	
C660, 662, 664, 668	POD-51HB-C66x-20		44-pin PGA see page 33	X
8051, 8X52	POD-51HB-C52-SP & POD-51HB-C51FX-33	POD-51HB-C52-SP& POD-51HB-C51FX-33	44-pin PGA see page 33	X
8xC51FA / FB / FC	POD-51HB-C51FX-33	POD-51HB-C51FX-33	44-pin PGA see page 33	X
8xL51FA / FB / FC	POD-51HB-L51FX-16	POD-51HB-L51FX-16	44-pin PGA see page 33	
8xL51RA / RB / RC	POD-51HB-L51RX-16	POD-51HB-L51RX-16	44-pin PGA see page 33	
8xC524	POD-51HB-C52-SP& POD-C528	POD-51HB-C52-SP & POD-C528	44-pin PGA see page 33	X
8xC528	POD-51HB-C52-SP & POD-C528	POD-51HB-C52-SP & POD-C528	44-pin PGA see page 33	X
8xC550	POD-C550-PGA	POD-C550-PGA	44-pin PGA see page 33	
8xC552		POD-C552-PGA	68-pin PGA see page 34	
8xC554	POD-C554-PGA-33	POD-C554-PGA-33	68-pin PGA see page 34	X
8xC652	POD-51HB-C652-SP	POD-51HB-C652-SP	44-pin PGA see page 33	
8xC654	POD-51HB-C654-SP	POD-51HB-C654-SP	44-pin PGA see page 33	
89V51RD2	POD-89LV51RD2		44-pin PGA see page 33	X
89LV51RD2	POD-89V51RD2		44-pin PGA see page 33	X

In the chart above the "-SP" stands for the maximum clock speed of the device. When using the microcontroller above 18 MHz in the 6-clock mode or above 36 MHz in the 12-clock mode, you will require both the EA emulator board and the CBL-18. If you are using the microcontroller at 12 MHz in 6-clock mode or 24 MHz in 12-clock mode, you can use the E128-33 emulator board.

All Other Philips 80C51 and 80C31 Series In-Circuit Emulator Pods

33-MHz 8XC51/52, 8X51/52, 80C31/32, 8031/32	33-MHz hooks mode pod for 8XC51/52, 8X51/52, 80C31/32, 8031/32, and Philips 8XC51FB and 8XC51FC, 40-pin DIP. You must use the EMUL51-PC/EA256-BSW-50 emulator board and optional 16-kiloframe, 50-MHz standard trace or at least a 33-MHz enhanced trace board. Note: old part # was POD-C51FC-P-33.	POD-51HB-C51FX-33
33-MHz 8XC51RA/ RB/ RC/ RD+	33-MHz hooks-mode pod for the Philips 8XC51RA/ RB/ RC/ RD+. Requires the EMUL51-PC/EA256-BSW-50 emulator board and optional 16K, 50-MHz standard trace or at least a 33-MHz enhanced trace board. This pod terminates to a 44-pin PGA. For the 44-pin PLCC package order part #EMUL51-PC/PGA44-PLCC44. For the QFP package order part # EDI/44PG/QFS31-SD. For a 40-pin DIP package order adapter EDI/44PG/40D-S-8051. Note: old part # was POD-C51RX-P-33.	POD-51HB-C51RX-33
16-MHz 80CRx2	16-MHz hooks-mode pod for the 6-clock Philips 80CRx2. This pod requires 50-MHz trace and emulator boards. For the 44-pin PLCC package order adapter part # EMUL51-PC/PGA44-PLCC44. For the QFP package order adapter part # EDI/44PG/QFS31-SD. (Note: To support 40-pin DIP, contact Nohau for adapter availability.) This pod supports the following Philips derivatives; 8xC51RB2, 8xC51RC2 and 8xC51RC2RD2. Note: old part # was POD-C51RX2-P-PGA-16.	POD-51HB-C51RX2-20
16-MHz 8XL51FA/ FB/ FC	16-MHz low voltage hooks-mode pod for the Philips 8XL51FA/ FB/ FC. 3.0 to 3.3 volts. The pod contains a 16-MHz crystal. The emulator must be at least 16 MHz to run with an on-board pod crystal, but a 12-MHz emulator can be used with a 12 MHz or slower external crystal or oscillator. Pod terminates to a 44-pin PGA. Note: old part # was POD-L51P-16.	POD-51HB-L51FX-16
16-MHz 8XL51RA/RB/ RC	16-MHz low voltage hooks-mode pod for the Philips 8XL51RA/ RB/ RC. 3.0 to 5 volts. The pod contains a 16-MHz crystal. The emulator must be at least 16 MHz to run with an on-board pod crystal, but a 12-MHz emulator can be used with a 12 MHz or slower external crystal or oscillator. This pod terminates to a 44-pin PGA. Requires at least a 24-MHz EA emulator board.	POD-51HB-L51RX-16
24-MHz 8XC51/ 52/54/ 58, 8X51/ 52, 80C31/ 32, 8031/ 32	24-MHz hooks-mode pod for 8XC51/ 52/54 /58, 8X51/ 52, 80C31/ 32, 8031/ 32. Requires at least a 24-MHz EA emulator board. This pod terminates to a 44-pin PGA. Note: old part # was POD-C52-24.	POD-51HB-C52-24

Philips Semiconductor In-Circuit Emulator Pods (Continued)

33-MHz 8XC51/ 52 / 54 / 58, 8X51/ 52, 80C31/ 32, 8031/ 32	33-MHz hooks-mode pod for 8XC51/ 52 / 54 / 58, 8X51/ 52, 80C31/ 32, 8031/ 32. Requires an EMUL51-PC/EA256-BSW-50 and an optional 16-kiloframe, 50-MHz standard trace or at least a 33-MHz advanced trace board or a 50-MHz enhanced trace board. This pod terminates to a 44-pin PGA. Note: old part # was POD-C52-33.	POD-51HB-C52-33	
33-MHz 8xC554, 2.7 V to 5.5 V	33-MHz hooks mode pod for the Philips 8xC554, 2.7 V to 5.5 V (maximum 16 MHz at 5 V) Contact Nohau for availability. Requires the EMUL51-PC/EA256-BSW-50 emulator board and optional 16K 50-MHz standard or enhanced trace or at least a 33-MHz advanced trace board. The EMUL51-PC/PGA68-PLCC68 adapter is required to mate to target.	POD-C554-PGA-33	
16-MHz C591	16-MHz hooks-mode pod for the 6-clock Philips C591. This pod requires 50-MHz trace and emulator boards. For the 44-pin PLCC package order adapter part # EMUL51-PC/PGA44-PLCC44. For the QFP package order adapter part # EDI/44PG/QFS31-SD. Note: old part # was POD-C591-PGA-16.	POD-51HB-C591-16	
20-MHz C66x	20-MHz hooks-mode pod for the 6-clock Philips C66x. This pod requires 50-MHz trace and emulator boards. For the 44-pin PLCC package order adapter part # EMUL51-PC/PGA44-PLCC44. For the QFP package order adapter part # EDI/44PG/QFS31-SD. This pod terminates to a 44-pin PGA. If this pod is to be operated above 18 MHz, please contact Nohau for a special cable. Supports the 8xC660, 8xC662, 8xC664 and 8xC668.	POD-51HB-C66x-20	1195
33-MHz 89LV51RD2	33-MHz low voltage hooks-mode pod for the Philips 89LV51RD2 supporting 3.0 volts operation. The pod contains a 16-MHz crystal. The emulator must be at least 16 MHz to run with an on-board pod crystal, but a user can select a different frequency using external crystal or oscillator. This pod terminates to a 44-pin PGA. Requires at least a 50-MHz EA emulator board.	POD-89LV51RD2	
33-MHz 89LV51RD2	33-MHz low voltage hooks-mode pod for the Philips 89LV51RD2 supporting 5.0 volts operation with low power consumption. The pod contains a 16-MHz crystal. The emulator must be at least 16 MHz to run with an on-board pod crystal, but a user can select a different frequency using external crystal or oscillator. This pod terminates to a 44-pin PGA. Requires at least a 50-MHz EA emulator board.	POD-89V51RD2	
16-MHz 8XC52x,	16-MHz hooks-mode pod for 8XC528, 8XC524. 40-pin DIP.	POD-C528-16	
12-MHz 8XC550	12-MHz hooks-mode pod for 8XC550. 44-pin PGA from pod. For PLCC target use optional PGA44-PLCC44 adapter. For DIP target use optional PGA44-DIP40-C550 adapter.	POD-C550-PGA	
16-MHz 8xC557, 8xC558, 8xC559 and 8xC560	16-MHz hooks-mode pod for 8xC557, 83CE558, 89CE558, 8xC559 and 8xC560. Contact Nohau for availability. Use ET/EPP-080-QF08-LG adapter to solder to user target board. The pod contains a 16-MHz crystal. The emulator must be at least 16 MHz to run with an on-board pod crystal, but a 12-MHz emulator can be used with a 12-MHz or slower external crystal or oscillator.	POD-C558-16	

Philips Semiconductor In-Circuit Emulator Pods (Continued)

For the following **80C552 pods**, port 2 is upper address bus only. Port 0 is address/data bus. P3.6 is WRITE, P3.7 is READ. Unless noted, the on-board pod crystal is 12 MHz on all pods of any frequency specification. Frequency rating covers all lower frequency steps.

12-MHz	12-MHz 80C552 pod. 68-pin PGA from pod. Use optional EMUL51-PC/PGA68-PLCC68 adapter for PLCC target.	POD-C552-PGA
16-MHz	16-MHz 80C552 pod. 68-pin PGA from pod.	POD-C552-PGA-16
24-MHz	24-MHz version of POD-C552-PGA.	POD-C552-PGA-24
30-MHz	30-MHz version of POD-C552-PGA.	POD-C552-PGA-30

ST Microelectronics In-Circuit Emulator Pods

Pod Board	The 40-MHz pod uses a bondout to support the uPSD3200 architecture. The pod contains a bondout chip, a socketed PSD device that can be changed to your target device and a JTAG programming connector. The pod terminates to four male headers. The headers mate with the ST Microelectronics DK3000 evaluation board, or the 52- or 80-pin target adapter sets.	POD-51-uPSD3000
Pod Board 3V	3V version of the POD-51-uPSD3000 listed above.	POD-51-uPSD3000-3V

Note: To use either of these pods with an existing EA emulator board, you will need to purchase a new COM PROM part number EPROM-COM1.51-EA51-uPSD.

Note: If you purchase POD-51-uPSD3000 and want to buy the 3V chip, please see the Target Adapters section of this price list for ordering information.

Emulator Chassis

The High Speed Parallel Box connects to the PC's parallel printer port and lets you use the in-circuit emulator and optional trace board where no ISA slots are available.

Emulator chassis with PC parallel port interface. Includes latest version Seehau CD	BOX-HSP
Parallel interface kit for an existing RS-232 serial interface chassis.	SET-HSP
Emulator chassis with PC USB port interface	BOX-USB
USB interface kit for an existing RS-232 serial interface chassis. Includes latest version Seehau CD	SET-USB

Emulator to CPU Site Adapters

uSPD3000 Adapters

52-pin NQ adapter set	An 52-pin adapter set for the uPSD3000 emulator. This set consists of a Tokyo Eletech 52-pin NQ adapter base part # ES/000-2085, an emulator cover (YQ) part # ES/000-2087, a microcontroller cover (HQ) part # ES/000-2086, a spacer part # ES/000-3588 and the EMUL-51/ADP-uPSD3000-52 adapter mezzanine board.	EMUL51-PSD/ ADP-52-NQ-Set
52-pin TQ adapter set	An 52-pin adapter set for the uPSD3000 emulator. This set consists of a Tokyo Eletech 52-pin TQ adapter base part # ES-000-4472, a spacer part # ES/000-2755 and the EMUL-51/ADP-uPSD3000-52 adapter mezzanine board.	EMUL51-PSD/ ADP-52-TQ-Set
80-pin NQ adapter set	An 80-pin adapter set for the uPSD3000 emulator. This set consists of a Tokyo Eletech 80-pin NQ adapter base part # ES/000-2174, an emulator cover (YQ) part # ES/000-2176, a microcontroller cover (HQ) part # ES/000-2175, a spacer part # ES/000-3658 and the EMUL-51/ADP-uPSD3000-80 adapter mezzanine board.	EMUL51-PSD/ ADP-80-NQ-Set
80-pin TQ adapter set	An 80-pin adapter set for the uPSD3000 emulator. This set consists of a Tokyo Eletech 80-pin TQ adapter base part # ES-000-4532, a spacer part # ES/000-2865 and the EMUL-51/ADP-uPSD3000-80 adapter mezzanine board.	EMUL51-PSD/ ADP-80-TQ-Set
 Note: The emulator will connect directly to the ST uPSD3200 evaluation board. No target adapter is needed. The uPSD3000 chip must be removed from the target to use		
	52-pin solder-down adapter NQ base	ES/000-2085
	52-pin NQ microcontroller cover (HQ).	ES/000-2086
	52-pin NQ emulator cover (YQ).	ES/000-2087
	52-pin NQ spacer between the solder-down base and the adapter.	ES/000-3588
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	52-pin TQ solder-down adapter base.	ES/000-4472
	52-pin TQ spacer between the solder-down base and the adapter.	ES/000-2755
	52-pin solder-down adapter NQ base.	ES/000-2174
	52-pin NQ microcontroller cover (HQ).	ES/000-2175
	52-pin NQ emulator cover (YQ).	ES/000-2176
	52-pin NQ spacer between the solder-down base and the adapter.	ES/000-3658
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	52-pin TQ solder-down adapter base.	ES/000-4532
	52-pin TQ spacer between the solder-down base and the adapter.	ES/000-2865
3V chip	3V version of the chip for POD-51-uPSD3000.	ST/PSD834F2V-70

40 Pin In-Circuit Pod Adapters

40-pin DIP to 44-pin PLCC	EDI/40D/44PL-8051-L adapter, 40-pin DIP socket to 44-pin PLCC plug.	EMUL51-PC/ DIP40-PLCC44
Extender cable	Six inch extender cable for 40-pin DIP pod to DIP socket.	EDI/EXT40D-2/6R
40-pin DIP isolator	Additional 40-pin DIP isolator.	EMUL51-PC/ DIP40-ISO
40-pin DIP to 44-pin QFP	Adapter assembly, 40-pin DIP socket to 44-pin QFP Square 0.031-inch pitch, Solder-Down, 8051 family. Includes one top and one 44QFS31-SD base to solder to user target board.	EDI/ 40D/ 44QFS31-SD-8051
44-pin PLCC into a 40-pin DIP	Adapter for the top side of some Nohau 40-pin pods to allow you to place a 44-pin PLCC part into a 40-pin DIP socket on your Nohau pod. (This adapter is not for the target connection side.)	EDI/44PL/40D-S-8051
Replacement base	Additional base only: 44-pin QFP Square 0.031-inch pitch Solder-Down base for EDI/40D/44QFS31-8051. To solder to an additional target board.	EDI/44QFS31-SD

Atmel 40 Pin In-Circuit Pod Adapters

40-pin DIP pod to 20-pin	Adapts 40-pin DIP pod to 20-pin Small Outline .300-inch solder down pattern for 8051 family pods to 2051 and 1051 targets. Does not emulate on-chip comparator.	EDI/40D/20S030-SD-8051/2051
40-pin DIP socket	Adapter to emulate Atmel AT89C2051, AT89C1051 using POD-C52. 40-pin DIP socket accepts either pod. 20-pin DIP plug to target system.	EMUL51-PC/ ATMEL2051

44 Pin In-Circuit Pod Adapters

44-pin PGA to 44-pin PLCC	Adapter, 44-pin PGA socket to 44-pin PLCC plug.	EDI/44PG/PL-L
44-pin PGA to 44-pin PLCC	Extender-adapter, 44-pin PGA socket to 44-pin PLCC plug rigid 2-inch elevator or tower.	EDI/2E44PG/PL
DIP adapter	Adapter to use POD-C550-PGA in a target with a DIP socket.	EDI/44PG/40D-550-S
44-pin PGA to 44-pin PLCC	Adapter assembly, 44-pin PGA socket to 44-pin PLCC, to solder to user target board. Includes one top and one EDI/44LC-SD base.	EDI/ 44PG/LC-SD
Replacement base	Additional base only. 44-pin PLCC solder down base for EDI/44G/LC-SD.	EDI/ 44LC-SD
44-pin PGA to 44-pin QFP	Adapter assembly, 44-pin PGA socket to 44-pin QFP Square 0.031-inch pitch, Solder-Down, 8051 family. Includes one top and one EDI/44QFS31-SD base to solder to user target board.	EDI/44PG/QFS31-SD
44-pin PGA to 40-pin DIP	Adapter for 44-pin PGA to a 40-pin DIP	EDI/44PG/40D-S-8051
Replacement 44-pin PLCC	Replacement 44-pin PLCC adapter for the discontinued POD-51EH-C541U. Plugs into a 44-pin PLCC socket.	ES/180-3900-00

52 Pin In-Circuit Pod Adapters

52-pin PGA to 52-pin PLCC	Adapter, 52-pin PGA socket to 52-pin PLCC plug.	EDI/52PG/PL-L
52-pin PGA to 40-pin DIP	Adapter, 52-pin PGA socket to 40-pin DIP, to plug into 80C320 or 8XC520 DIP target with POD-C520-PGA. (530/520 family).	EDI/52PG/40D-530/520-S
52-pin PGA to 44-pin PLCC	Adapter, 52-pin PGA socket to 44-pin PLCC, to plug into 8XC520 PLCC target with POD-C520-PGA.	EDI/52PG/44PL-530/520
52-pin PGA to 44-pin Quad Flat Square	Adapter, 52-pin PGA socket to 44-pin Quad Flat Square 0.031-inch pitch, solder-down, for 8XC520 target with POD-C520-PGA.	EDI/52PG/44QFS31-SD-530/520

68 Pin In-Circuit Pod Adapters

68-pin PGA to 68-pin PLCC	Adapter, 68-pin PGA socket to 68-pin PLCC plug.	EDI/68PG/PL
68-pin PGA	Isolator, 68-pin PGA.	EDI/ISV68PG/PG
68-pin PGA to 68-pin PLCC	Adapter-isolator, 68-pin PGA to 68-pin PLCC.	EDI/ISV68PG/PL
68-pin PGA socket to 80-pin QFP	Adapter assembly, 68-pin PGA socket to 80-pin QFP Rectangular 0.031-inch pitch, solder-down, 8XC552. Includes one top and one 80QFR31-SD base to solder to user target board.	EDI/68PG/80QFR31-SD-552
68-pin PGA socket to 80-pin QFP	Adapter, same as 68PG/80QFR31-SD-552, but for 8XC592.	EDI/68PG/80QFR31-SD-592
Replacement base	Additional base only: 80-pin QFP Rectangular 0.031-inch pitch solder-down base for 68PG/80QFR31-552. To solder to an additional target board.	EDI/80QFR31-SD
Clip over adapter	Adapter for 8XC51GB PLCC microcontroller. Clips over target DIP microcontroller. Disables target micro to allow emulation without removing target chip. Uses on-chip emulation (ONCE) disable feature.	EDI/ONCE68PG/PL-CLP-51GB
68-pin PLCC adapter	Emulation Solutions 68-pin PLCC adapter for POD-51EH-C515 and POD-51EH-C515A.	ES/180-3960-10

QFP 80 Pin In-Circuit Pod Adapters

80-pin QFP	Adapter for 80-pin QFP. Solders to user target board. For POD-C558-16 and POD-598-KIT. Optional for POD-5001.	ET/ EPP-080-QF08-LG
80-pin QFP	Emulation Solutions 80-pin QFP adapter for POD-51EH-C505L. Solders to user target board.	ES/180-5550-65
64-pin MQFP	Emulation Solutions 64-pin MQFP adapter for POD-51EH-C508.	ES/180-5545-00
80-pin QFP	Emulation Solutions 80-pin QFP adapter for POD-51EH-C515. Solders to user target board. This adapter has a socket that accepts a regular chip when the pod is not plugged into an adapter.	ES/180-5550-40
80-pin QFP	Emulation Solutions 80-pin QFP adapter for POD-51EH-C515. Solders to user target board.	ES/180-5550-45
80-pin QFP	Emulation Solutions 80-pin QFP adapter for POD-51EH-C515C. Solders to user target board. This adapter has a socket that accepts a regular chip when the pod is not plugged into an adapter.	ES/180-5550-50
80-pin QFP	Emulation Solutions 80-pin QFP adapter for POD-51EH-C515C. Solders to user target board. Includes one ES/000-4534 base. Additional bases are available separately.	ES/180-5550-55
Add. solder-down base	Additional surface mount base for the 80-pin QFP.	ES/000-4534

84 Pin In-Circuit Pod Adapters

84-pin PLCC	Emulation Solutions 84-pin PLCC adapter for POD-51EH-C517A. Plugs into an 84-pin PLCC socket.	ES/180-3975-10
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100 Pin In-Circuit Pod Adapters

100-pin QFP	Emulation Solutions 100-pin QFP adapter for POD-51EH-C517A. Solders to user target board.	ES/180-5690-10
100-pin QFP	Emulation Solutions 100-pin QFP adapter for POD-51EH-C517A. Solders to user target board. This adapter has a socket that accepts a regular chip when the pod is not plugged into an adapter.	ES/180-5690-20

931xx In-Circuit Pod Adapters

Replacement 64-pin PQFP	Replacement adapter for the discontinued POD-931xX-12 pods, solder-down, for 64-pin PQFP package.	ES/180-1400-00
Replacement 64-pin SDIP	Replacement adapter for the discontinued POD-931xX-12 pods, solder-down, for 64-pin SDIP package.	ES/180-1400-01
Replacement 68-pin PLCC	Replacement adapter for the discontinued POD-931xX-12 pods, plugs into 68-pin PLCC socket.	ES/180-3950-10

Special Emulator Cables and Accessories

Wires	E-Z-Hook 203XM-12-GRN wires for trace. E-Z-Hook is a registered trademark of Tektest, Inc.	EMUL51-PC/ EZ
18 inch cable	For Pods 51HB, 51T and 51TS running above 18 MHz in X2 mode or above 33 MHz in X1 mode. 18-inch substitute for 5-foot pod cable as part of an emulator order. Part number is CBL-18. If ordered in addition to the normal system. <i>If you Substitute the normal 5-foot cable for the 18-inch cable there will be no cost.</i>	EMUL-PC/CBL18
10 foot substitute cable	10-foot substitute for 5-foot pod cable as part of an emulator order. Augat SF250-122A0-B2. Recommended only for External Mode pods 20 MHz or lower. Not recommended for special emulation pods, hooks mode pods, 80C320, EA, HF, or 24 MHz or faster systems.	EMUL-PC/CBL10-S
additional 10 foot cable	Additional 10-foot pod cable. Augat SF250-122A0-B2. Recommended only for external mode pods 20 MHz or lower. Not recommended for special emulation pods, hooks mode pods, 80C320, EA, HF, or 24-MHz or faster systems.	EMUL-PC/CBL10-A
Replacement 5 foot cable	Replacement 5-foot pod cable. Augat SF250-062A0-162.	EMUL-PC/CBL5-A

Compilers Compatible With This Emulator

Altium C-Compiler, PL/M Compiler

TASKING 8051 Family C-Compiler, Assembler, Linker, Simulator and EDE Package. Includes editor (Tasking P/N TK008-002).

Archimedes Software, Inc. C-Compilers, Simulators

HI-TECH C-Compiler

IAR Systems Software, Inc. C-Compilers, Development Kits

Keil Software, Inc. C-Compiler, Assembler, RTOS, Development Kits

Raisonance C-Compiler, Assembler, Development Kits

ChipTools, Inc. Debugger Interface, Simulators

ChipView is a High-Level Debugger, Keypress-compatible with Borland's Turbo Debugger. ChipView supports C-compilers from Archimedes, BSO/Tasking, Franklin, IAR, and Keil and supports PL/M-51. The Emulator interface supports Standard and Advanced Emulator Units, Bank switching, Standard and Advanced Trace Options, and Nohau HSP box configurations. (Not implemented: Performance Profiling.)

For help in configuring your system, choosing an emulator, a pod board, adapters, a trace card or any other items please contact ICE Technology.

Telephone: 800.686.6428 or 650.375.0409

Main Fax: 650.375.8666

Sales: sales@icetech.com

Support: support@icetech.com

Website: www.icetech.com

Prices are subject to change without notice. Depending on stock availability, orders placed before 12 noon Pacific Time according to ICE Technology's terms and conditions are shipped the same day. Orders placed after noon are shipped the following business day. Unless otherwise noted, the EMUL51-PC emulator, trace, pod, emulator cable, and HSP chassis hardware are sold with **a one-year warranty**, except for special emulation pods. Special emulation pods are warranted for one replacement if ICE Technology engineering determines that the failure was not due to damage caused by the user's action. Optional adapters, cables, and extenders are sold with a 90-day warranty, except that such parts might be subject to a repair charge if damage was caused by the user's actions. ICE Technology makes no warranties, express or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. In no event will ICE Technology be liable for consequential damages. Third-party software and programmers sold by ICE Technology carry manufacturers' warranties. Technical support to be provided by local ICE Technology where applicable.