

Shown with 4 Gang Adapter (not included). Programming adapters must be purchased separately.

QuickWriter comes with power supply, serial cable and in-circuit programming cable. Adapter required when not using ICSP cable. One programmer for all of your PIC® MCU development needs: • In-circuit Serial Programming • 4 Gang Serial device programming • Single device programming (serial and parallel)

QuickWriter is a low cost programmer with these advanced features: • Over-sized drivers and power supply to properly support multiple device programming and in-circuit programming • Measures programming voltages and current to verify proper target connections or device insertions. • Flash firmware updates • Data table driven • New devices are supported with free data table downloads from the TechTools web site (www.tech-tools.com) • Programs ALL 12-bit, 14-bit and 18-bit series Microchip PIC processors. This includes all 12C, 14000, 16C, 16F, 18C and 18F families • Includes the TechTools Development Environment (TDE™), a full featured, Windows hosted IDE. TDE supports development with all popular PIC MCU compilers and assemblers. TDE includes a multi-file editor, integrated MAKE and one-click cross referencing of compiler errors. TDE also interfaces to the TechTools ClearView™ Mathias (not included) for full featured, real-time, in-circuit emulation and source level debugging. • Includes TechTools PIC™ MCU assembler, CVASM16™ which supports ALL 12-bit and 14-bit PIC MCU processors. CVASM16 assembles Parallax source files (SPASM format) and accepts Microchip mnemonics. • Compatible with existing TechTools and Parallax programming adapters • Compatible HEX files generated by all popular PIC MCU compilers and assemblers. • Supports auto-incrementing serialization • Runs under Win95 through XP as well as NT through XP Pro • Includes serial cable, in-circuit programming cable and power supply

Description	Digi-Key Part No.	Price Each	TechTools Part No.
Programmer			
PICmicro® MCU	QW1-ND	199.00	QW1
Adapters			
40-Pin ZIF	MP-ZIF40-ND†	49.00	MP-ZIF40
18/28-Pin ZIF	MP-ZIF18/28-ND	69.00	MP-ZIF18/28
14-Pin ZIF	MP-ZIF14-ND	59.00	MP-ZIF14
44-Pin PLCC	MP-PLCC44-ND	129.00	MP-PLCC44
28-Pin SOIC	MP-SOIC28-ND	129.00	MP-SOIC28
18-Pin SOIC	MP-SOIC18-ND	79.00	MP-SOIC18
8/14-Pin SOIC	MP-SOIC8/14-ND	89.00	MP-SOIC8/14
PIC14000	MP-14000-ND	59.00	MP-14000
28-Pin SSOP	MP-SSOP28-ND	99.00	MP-SSOP28
18-Pin SSOPX	MP-SSOP18-ND	79.00	MP-SSOP18
4 Gang Adapters for QuickWriter			
40-Pin ZIF	QW-4ZIF40/28-ND†	199.00	QW-4ZIF40/28
44-Pin PLCC	QW-4PLCC44-ND	199.00	QW-4PLCC44
28-SOIC	QW-4SOIC28-ND	249.00	QW-4SOIC28
18-Pin ZIF	QW-4ZIF18-ND	199.00	QW-4ZIF18
18-Pin SOIC	QW-4SOIC18-ND	249.00	QW-4SOIC18
8/14-Pin Narrow SOIC	QW-4S08/14N-ND	249.00	QW-4S08/14N
8/14-Pin Wide SOIC	QW-4S08/14W-ND	249.00	QW-4S08/14W

† Use with 28 and 40-Pin 14 bit dip parts.

PIC Emulators ClearView™ Mathias

CVM1 supports emulation for 16C5X and 16CX devices using Microsoft® Windows™ for a complete integrated design environment. "Family" modules select 5X or XX device family, while "Member" modules select specific device. Optional timing module shows execution time and number of processor cycles. Optional 16K trace buffer module additionally provides execution history and 8 external trace inputs. Provides full emulation of program and register memory and I/O activity with unlimited hardware breakpoints. Built-in PLL oscillator generates any frequencies from 32KHz to 33MHz.

System requirements: IBM PC or compatible, VGA monitor, serial port, 3.5" disk drive, and Windows™ 3.1, Win95, Win98 or NT

Description	Digi-Key Part No.	Price Each	TechTools Part No.
Family Module			
Advanced 14 Bit Family Module w/Data Breakpoints	CVM04F-ND	200.00	CVM04F
PIC16C5X Family Module	CVM5XF-ND	150.00	CVM5XF
Member Module			
PIC16C55X/62X/CE62X	CVM001M-ND	200.00	CVM001M
PIC12C508/509	CVM50XM-ND	75.00	CVM50XM
PIC16C50X/CE51X/16C505	CVM55XM-ND	100.00	CVM55XM
PIC12C671/672	CVM67XM-ND†	100.00	CVM67XM
PIC16C5X	CVM5XM-ND	50.00	CVM5XM
PIC16C55A/556/558	CVM55XM-ND	100.00	CVM55XM
PIC16C61	CVM61M-ND	100.00	CVM61M
PIC16C62X	CVM62XM-ND	100.00	CVM62XM
PIC16C62X/61/71/84	CVM6/8M-ND	200.00	CVM6/8M
PIC16C641/642/661/662	CVM66XM-ND	200.00	CVM66XM
PIC16C715	CVM715M-ND	100.00	CVM715M
PIC16C70,71,710,711	CVM711M-ND	100.00	CVM711M
PIC16C62-65/72-74	CVM7XM-ND	100.00	CVM7XM
PIC16C66/67/76/77	CVM77M-ND	200.00	CVM77M
PIC16C773,774	CVM77XM-ND	200.00	CVM77XM
PIC16F627/628	CVMF628M-ND	200.00	CVMF628M
PIC16F83,84,88,89,90,91,92,93,94,95,96,97,98,99	CVMF84M-ND	100.00	CVMF84M
PIC16F873,874,876,877	CVMF87XM-ND	200.00	CVMF87XM
PIC16F73/F74/F76/F77	CVMF77M-ND	200.00	CVMF77M
PIC16F870/F871	CVMF871M-ND	200.00	CVMF871M
Trace Buffer and Timing Module			
Mathias Timing Module	CVMT1-ND	130.00	CVMT1

Description	Digi-Key Part No.	Price Each	TechTools Part No.
Mathias Trace Buffer and Timing Module	CVMT2-ND	270.00	CVMT2
Kit Module			
Firmware/Logic Field Upgrade Kit	CVM1-FWL-ND*	55.00	CVM1-FWL
Adapter			
PIC16C712C716	ADP716-ND§	35.00	ADP716

† Requires the CVM03F Family Module § Requires Member Module CVM77M
* For use with TDE 4.0 software features of: Stack Viewing, Variable Trace Size, faster Step-out function and faster Register Window Updates. Contains firmware V2.2 and UC13 Ver C.

DigiKey™ Logic Analyzer

Features: • 18 Channels @ 100MHz (10ns) • USB interface and power source for portability • Real-time hardware compression • Eliminates resolution vs. depth trade-offs • Compression ratio up to 256,000:1 depending on activity • Trigger on rising, falling or transition of any channel • Multi-channel high, low and don't care trigger qualifier • Pre-trigger and post-trigger data capture

DVI-100-ND Logic Analyzer \$499.00

Features: • 36 Channels @ 200MHz (5ns) • 18 Channels @ 400MHz (2.5ns) • Multiple, Automatic Compression techniques • Advanced Universal Match Circuits (8) • Selectable Match Types (9) • ±6 volt Adjustable Threshold (2) • Flexible, Cascadable Sequencers (4x4) • Sequencer Counters (16 @ 1M count each) • Graphical Trigger Layout(s) • New Software (version 4.0) • Continues operation even if PC powers off • Trigger-Out BNC connection • External Power Supply • USB 2.0 with USB 1.1 compatibility • All Cables, Clips and software included

DV3400-ND Logic Analyzer \$1499.00
CBL-DV3-ND Cable Replacement \$35.00
CLIP3-10-ND Clip Replacement \$35.00

ER3 EconoROM III Economical EPROM Emulator



EconoROM III is designed for quick, in-circuit firmware test cycles. Eliminate the "burn/insert/test/remove/erase" cycle. The ER3 will speed up your firmware development by eliminating the need to remove-erase-program and re-install EPROMs each time you test a code change. These devices plug into the EPROM socket on your target board and emulate the EPROM throughout the development process. **Features:** • Integrated Low-Voltage Support • Target Voltage Sense and Measurement • External Power Option • Jumper-less Address Configuration • Up to 8Mbit Emulation in a single unit • Fast Downloads (up to 2.5 Mbit per second) • Replaces standard EPROM device during development • Connects to any Parallel Port • Auto/Manual Target Reset on download • Read-back, Verify and Self-test functions • Daisy-chain cable included • LPT cable (8 wire Modular Cable and DB25 adapter) included • Target cables (standard IDC to DIP Ribbon Cable) included • Includes 2 versions of software: 16 bit DOS version and 32 bit Win9X/NT/2000 version • QuickLoader with Full-screen editor included • Batchable loader and utilities included • Accepts Intel HEX, Tektronix HEX, Motorola 'S' records and binary files • Free software updates via WEB downloads

Capacity	Cables Supplied	Speed	Digi-Key Part No.	Price Each
256Kbit/ 32K x 8	28-Pin Dip	45ns	ER3-256-ND	179.00
512Kbit/ 64K x 8	28-Pin Dip	45ns	ER3-512-ND	239.00
1Mbit/ 128K x 8	28 and 32-Pin Dip	45ns	ER3-1M-ND	299.00
4Mbit/ 512K x 8	28 and 32-Pin Dip	45ns	ER3-4M-ND	399.00
8Mbit/ 1M x 8	28 and 32-Pin Dip	45ns	ER3-8M-ND	499.00

FR3 FlexROM III FLASH, EPROM and SRAM Emulator

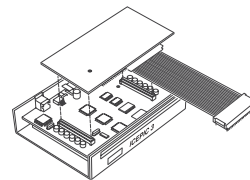
FlexROM III emulators provide engineers with a fast flexible development tool for any Embedded project that uses an external FLASH, EPROM or SRAM device. The FR3 increases productivity by elimination of the "burn/insert/test/erase" cycle and by downloading firmware code or data into the emulator at a fast 2.5 Mbits per second. **Features:** • Active Cable Modules (ACM™) contain Target interface and Control Logic • Provides adaptability to new Target Technologies • Hard-ware Instrumentation: Target Voltage Measurement, Address Snap-Shot Circuit, Address Match and Trigger Circuit • Reverse Voltage Protection • Adjustable Timing Parameters • Read-back, Verify and Self-test functions • Connects to any Parallel Port • All sizes and speeds can be Daisy-chained together • Daisy-chain cable included • Mini-clip cable included for Reset connection • LPT cable included • Target cable(s) included • Includes 2 versions of software: 16 bit DOS version and 32 bit Win9X/NT/2000 version • QuickLoader with Full-screen editor included • Batchable loader and utilities included • Accepts Intel HEX, Tektronix HEX, Motorola 'S' records and binary files • Free software updates via WEB downloads

Description	Digi-Key Part No.	Price Each
Active Cable Module (ACM™)		
8 Bit Interface with/DIP28 and DIP32 Cable	ACM-8-ND	120.00
16 Bit Interface with/DIP40 Cable	ACM-16-ND	120.00

Size	Organization	Speed	Digi-Key Part No.	Price Each
Base Unit*				
1 Mbit	128Kx8/64Kx16	45ns	FR3-1M-ND	279.00
4 Mbit	512Kx8/256Kx16	45ns	FR3-4M-ND	379.00
8 Mbit	1Mx8/512Kx16	45ns	FR3-8M-ND	529.00
16 Mbit	2Mx8/1Mx16	45ns	FR3-16M-ND	679.00

*Base Unit requires at least one ACM™ target interface

ICEPIC, ICEPIC2 and ICEPIC3 PIC Emulators



ICEPIC, ICEPIC2, and the ICEPIC3 emulators are fully modular, full speed, real time, in-circuit emulator systems, for use with Microchip PIC processors, using interchangeable "personality daughterboards" which connect directly to the users target board and are sold separately.

The ICEPIC3 Emulator is compact, portable, lightweight and offers exceptional performance and value. It uses a quick "hot" connection to the host computer via USB Port, with the system firmware being upgraded at any time from the internet giving total upgrade ability. The ICEPIC3 has additional real-time analysis when using the plug-in trace board which is sold separately.

All ICEPIC emulators operate within Microchip's MPLAB 32bit IDE giving the user easy control to perform efficient fast emulation. ICEPIC emulators are supplied as complete systems with power supply, cables, manual and a copy of Microchip's MPASM assembler.

Features	ICEPIC	ICEPIC2	ICEPIC3
Real-Time Emulation	32kHz - 20MHz	32kHz - 33MHz	1kHz - 50MHz
Device Emulated	12C, 16C	12C, 16C, 17C	PIC12, 16, 18
Runs Under MPLAB	Yes	Yes	Yes
Source Level Debug	Yes	Yes	Yes
"C" Source Level Debug	Yes	Yes	Yes
Real Time Trace	No	Yes	Yes†
Time Stamp	Yes	Yes	Yes†
Freeze Mode	Yes	Yes	Yes
Break Points	Unlimited	Unlimited	Unlimited
Stack Breaks	Yes	Yes	Yes
WDT Breaks	Yes	Yes	Yes
Stack View	Yes	Yes	Yes
Custom Watch	Yes	Yes	Yes
Assembler Support	MPASM	MPASM	MPASM
Communications	RS-232"C"	RS-232"C"	USB

† Using optional Modular Trace Board I3-TRACER1-ND

Description	Digi-Key Part No.	Price Each
ICSP Adaptor		
In-Circuit Serial Programming Adaptor	ISPICR1-ND	60.00
ICEPIC Emulators		
ICEPIC Emulator System	ICEPIC-ND	542.77
ICEPIC2 Emulator System	ICEPIC2-ND	820.00
ICEPIC3 Emulator System	ICEPIC3-US-ND	900.00
ICEPIC Daughter Boards		
12C671, 16C672	DB12C67X-ND	375.00
16C55A, 16C556, 16C558	DB55X-ND	375.00
16C620, 16C621, 16C622	DB62X-ND	375.00
16C641/642/661/662	DB66X-ND	450.00
16C61, 16C71, 16C710, 16C711	DB711-ND	375.00
16C715	DB715-ND	375.00
16C62/63/64/65/72/73/74	DB74A-ND	450.00
16C66, 16C67, 16C76, 16C77	DB77-ND	450.00
16C72, 16C73, 16C74	DB77X-ND	375.00
16C84, 16F83, 16F84	DB84A-ND	375.00
17C42/43/44, 17C752/756 (ICEPIC2 Only)	DB756-ND	375.00
16F628	DBF628-ND	375.00
16F73, 16F74, 16F76, 16F77	DBF77-ND	450.00
16F870/71	DBF871-ND	335.00
Accessories		
44-Pin PLCC Adapter (For emulation of 16Cxx In PLCC Only)	PLCC44-RF-ND	125.00
ICEPIC3 Daughter Boards		
12F675, 12F629	I3DB12F675-ND	500.00
12F683	I3-DB12F683-ND	500.00
16F684A	I3-DB16F684A-ND	500.00
16F716	I3-DB16F716-ND	500.00
16F871, 16F870	I3-DB16F871-ND	500.00
18C452/442/252/242	I3DB18C452-ND	500.00
18F2220/2320/4220/4320	I3DB18F4320-ND	500.00
18F452/442/252/242	I3DB18F452-ND	500.00
18F1320, 18F1220	I3-DB18F1320-ND	500.00
18F4431/4331/2431/2331	I3-DB18F4431-ND	500.00
18F4550/2455/2550/4445	I3-DB18F4550-ND	500.00
18F4620/4525/2620/2525	I3DB18F4620-ND	500.00
18F4680/2680/2585/4685	I3-DB18F4680-ND	500.00
16F872A/873A/874A/876A/877A	I3DB877A-ND	500.00
16F827A, 16F828A, 16F848A	I3DBF648-ND	500.00
16F676, 16F630	I3DBF676-ND	500.00
16F72, 16F73, 16F74, 16F76, 16F77	I3DBF77-ND	500.00
16F737, 16F767, 16F747, 16F777	I3DBF777-ND	500.00
16F818, 16F819	I3DBF819-ND	500.00
16F87, 16F88	I3DBF88-ND	500.00
Trace Boards		
ICEPIC3 Trace Board	I3-TRACER1-ND	1025.00