



MultiWriter Control Module (-74)
Made in U.S.A.

The MultiWriter⁺ on-board gang programming system uses patented simultaneous programming technology to program up to 384 chips at one time with up to 16 different types, in seconds instead of the minutes required by conventional programmers.

Compared to other part programming solutions, MultiWriter delivers significant speed and cost advantages

over conventional in-circuit tester-based programmers when parts already mounted on circuit boards must be programmed in a single pass, making it especially effective for multi-board panels.

The MultiWriter control module provides the interface between the system software and the buffer modules to insure device programming meets the required critical timing and voltage device specifications.

The MultiWriter Control Module features:

- **Simultaneous programming for multiple devices, 1 part or 384 parts all at the same time**
- **Non-multiplexed, parallel programming at the maximum rated device speed**
- **Up to 16 control modules can be addressed from a USB hub**
- **Each module can provide programming signals to up to 24 programmable devices**
- **Controls the buffer module relay-switched isolation for signals and power to the programmed device**
- **Supports PCB panels with selective power and programming signals**
- **Daisy-chain control signal design for expansion to additional buffer modules**
- **Designed for twisted-pair wiring for all critical signals**
- **Designed to work with ICT (In-Circuit Test) applications**
- **28 Differential signals pairs for SCLK, DATA0 to devices, MODE and 25 DATA1 from devices, with series impedance for protection and to eliminate ringing**
- **24 relay drive control outputs**
- **On board +5V power input regulator to 3.3V and 1.8V for stable control module power**
- **FPGA design to soft load the programming algorithm and transfer data in parallel to/from all buffer modules**
- **Comprehensive device and bus algorithm library; bus algorithms include I2C, SPI, Microwire, JTAG, and PIC, with more under development.**
- **Smart ISP™ ensures failed boards are not programmed—even when part of a multi-up assembly**
- **Unique data may be programmed on a per-device basis—even on panelized boards**
- **Fixture-mounted buffer boards ensure the highest signal quality.**
- **User Data Protection Encryption Option**

Checksum MultiWriter™ Device Support

- Universal, In-System (ISP) and Standalone Stations
- Simultaneous Device Programming



Actel Nonvolatile FPGA iGLOO ProASIC Programmable System Chip Fusion	Altera EPC Series - FPGA configuration MAX 3000A CPLD Family MAX 7000 CPLD Family MAX 7000A CPLD Family MAX 7000B CPLD Family MAX 9000 CPLD Family	Analog Devices ADE71XX (UART)	Atmel AT24 Series (I2C) AT25 Series (SPI) AT26 Series (SPI) AT45 Family AT91 Family AT93 Series (Microwire) AT90 (AVR8) ATMEGA (AVR8 SPI / JTAG) Attiny (AVR8)	Catalyst CAT24 Series (I2C) CAT25 Series (SPI) CAT93 Series (Microwire) CAT5xxx Series Digital Pots (SPI)	Cypress Delta39K Ultra37000 Series PSI CPLDs PSoC
Fairchild NM24 Series (I2C) NM93 Series (Microwire)	Freescale HC908 Series (UART) HLC908 HC9508 Series (BDMI) HC9512 Series (BDMI) HC9512XD HC9512XE HC9512XS HC912	Fujitsu MB90387 Family (USART)	Infineon XC86X Series XC16X Family	Integrated Silicon Solution IS24 Series (I2C) IS25 Series (SPI) IS34 Series (I2C) IS93 Series (Microwire)	Lattice MachXO Family LatticeXP2 Family LA4000 (JTAG)
Macronix MX25LX Family					
Maxim DS1086L					
Microchip 24 Series (I2C) 25 Series (SPI) 93 Series (Microwire) PIC10F PIC12F PIC16F PIC18F PIC24F MCP4xxxxx Digital Pots (SPI) dsPIC30F dsPIC33F	Micron IP5Q PCM Series (SPI)	NEC 70F Series (SPI+UART) 78F Series (SPI) v850 Series (SPI+UART) 78K0S	NXP PCA24 Series LPC ARM7 Series (UART+JTAG) PCF79xx Series 89LPC9XX Series LPC ARM9	Ramtron Serial Flash/EEPROM/FRAM FM24 Series (I2C) FM25 Series (SPI)	Renesas H8S Family M16C Family R8C Family
	ROHM BR24 Series (I2C) BR25 Series (SPI) BR93 Series (Microwire)	Seiko S-24 Series (I2C) S-25 Series (SPI)	Silicon Storage Technology SST25 Series (SPI)	Spansion S25FL Series (SPI)	STMicroelectronics M24 Series (I2C) M25 Series (SPI) M34 Series (I2C) M45 Series (SPI) M93 Series (Microwire) M95 Series (SPI) ST7 Family STM8 Family STM32 (CORTEX M3) STR7 Family STR10 Family
Texas Instruments TMS470 MSP430	Winbond W25 Family SpiFlash	Xilinx XC18V00 ISP PROM XCF Series Platform Flash XC9500 Series CPLD Family CoolRunner II CPLD Family CoolRunner XPLA3 CPLD Family	ZILOG Z8 Family		

Note: Devices not listed can normally be supported upon request. Please contact CheckSum for more information:

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Available
Planned

MultiWriter Control Module Specifications

- Controller board is connected to computer via USB 2.0, which also powers the board. Requires "high power" USB 2.0 rated hub. Board draws approximately 150 mA unloaded.
- 66.66MHz FPGA clock rate
- Input Voltage from buffer modules 5.5V (max.)
- Nominal output impedance: 200 Ohms (to buffer modules)
- Nominal sensor input impedance >100K Ohms (buffer to control module)
- Twisted pair wiring recommended between control module and buffer modules
- Designed for CheckSum buffer boards typically mounted in a bed-of-nails test fixture
- ESD Protection Exceeds JESD 22
- Control board dimensions: Approximately 3" x 5.5" / 8 cm x 14 cm, can be mounted in bed-of-nails test fixture

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† MultiWriter Technology is protected under U.S. Patent No. 7,802,021.

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