What do all of these products have in common?

All these products contain programmable devices.

From single–site engineering programmers to fine–pitch automated programming systems, EE Tools make a complete range of products to fit your needs.

In 1992, EETools, Inc. started manufacturing a line of low–cost device programmers with an emphasis on MOS programming. We broadened our focus by developing a series of bipolar memory and logic programmers to complement the earlier products. Since then, we have grown to become one of the most well–known universal device programmer manufacturers worldwide.

Headquartered in San Jose at the center of Silicon Valley, we leverage a network of distributors and representatives around the globe, to keep on top of the ever–expanding device programmer market, so that we can provide our customers with best–in–class products and support.

The EETools family of professional Universal Programming Systems provides programming solutions for the latest in programmable device technologies.

Stand–Alone & Production Programmer

PC–driven Development Programmer via hi–speed USB 3.0 Interface

In–system programmer for production environments

eMMC / UFS Analyzer

Burn–in test socket with rubber pad technology

Pick & Place Auto Programming Handler

Device Programming Services with Automated programming Handler

Stand-Alone & Production Programmer

FlashMax is the most innovative and reliable programming system that supports a variety of programmable devices with 2/4/8/16 sockets. Its state-of-art technology and high-speed programming optimizes programming throughout, reliability, and yields. It is designed specifically for reading and writing to and from the latest high density devices.

PRODUCT HIGHLIGHTS
· Stand-alone or Network (Remote) Operation
· Multiple Socket Programmer (2, 4, 8, or 16 sockets)
· Built-in Embedded PC Programmer
· Supports PC software
· Key PAD, LCD display, Status LEDs
· Support NAND Bad Block Handling

ADAPTER & SOCKET TECHNOLOGY
· Standard burn-in sockets
· Rubber pad type burn-in sockets
· POGO pin type burn-in sockets

PACKAGE SUPPORT
· DIP, SDIP, PDIP, LCC, PLCC, QFP, TQFP, PQFP, VQFP, SOIC, SOP, PSOP, SON, TSOP, TSOP2, STSOP, TTSOP, SSOP, BGA, u BGA, FBGA, EBGA, CSP, SCSP, and more

SPECIFICATIONS
Universal Device Support
· Flash Memory (NOR, MCP, Serial Flash, eMMC, SD, MoviNAND, OneNAND, iNAND, EEPROM, EPROM and more)
· Microcontrollers
· Logic Devices (CPLD,FPGA,PLD) and more

SOCKET MODULE
· Universal 48 pin ZIF sockets

Device Command	– Erase, Blank check, Program, Verify, Read, Option – Data file edit, Calculate checksum – Data file transfer
Support File Type	Binary, Intel, Hex, Tekhex, Motorola, S-record, ASCII and other file format

	FlaxMax	FlashMAX-II	FlashMAX-III
Support Device	MICOM Serial Flash NOR, NAND, OneNAND	MICOM Serial Flash NOR, NAND, OneNAND SD CARD, eMMC	MICOM Serial Flash NOR, NAND, OneNAND SD CARD, eMMC UFS
Processor	ARM S3C2410	Intel ATOM	Intel Pentium
Operation Mode	Stand Alone		
Storage Buffer	SDRAM (1.5Gbit) NAND (Option)	SSD (64GByte)	SSD (128GByte)
Communication	RS-232(For handler) USB2.0 (For GUI)	RS-232(For handler) Ethernet 1Gbps (For GUI)	RS-232(For handler) Ethernet 1Gbps (For GUI)
Gang Size	2 / 4 / 8 / 16 Site		
Pin Drivers	48 Pins		
Supply Voltage/Current	VCC : 1.0 ~ 9V, 80[mA] VPP : 2.0 ~ 22V, 80[mA]	VCC : 1.5 ~ 5V, 150[mA] VOP : 1.5 ~ 5V, 150[mA] VPP : 9 ~ 12V, 150[mA]	VCC : 0.8 ~ 6V, 500[mA] VIO : 0.8 ~ 6V, 500[mA] VPP : 1.2 ~ 12V, 500[mA]
Data Transfer Rate	1 ~ 2 [MB] /s	8 [MB] /s	25 ~ 30 [MB] /s
Input Power	110~240VAC, 86W	90~264VAC, 250W	88~264VAC, 375W
Display	40 Char X 8 lines Graphic LCD		
Input Device	KeyPAD (22 Keys)		
Operating System	Windows XP/7/8	Windows XP/7/8	Windows XP/7/8

* FlashMAX doesn't support DIP package type directly.
   If device package is DIP package type, please inquire about appropriate adapters.

PC−driven Programmer via Hi−speed USB Driver

The TopMaxII and ChipMax2 are reliable and cost effective universal device programmers for laboratory / engineering instruments. ProMax−4G allows programming of up to 4 sites in a concurrent programming system. Its state−of−the−art technology and high−speed programming algorithms optimize throughput, reliability and yields. Its unique hardware / software architecture enables the latest device support simply by downloading the latest algorithms from the website (www.eetools.com).

KEY FEATURES
· On−board FPGA for extremely fast communication.
· Supports very low−voltage: 5, 3.3, 2.7, 1.8, 1.5 volt for programming power.
· Hardware diagnostic program exams all socket−pin derivers before using programmer.
· Device insertion test identifies and warns improperly inserted devices before programming.
· Device Operations: Read, Blank check, Program, Verify, Checksum, Data compare, Security, Auto
  (blank check−program−verify), Option Bit program.
· Display programming parameters and optional bit information on screen.
· Set device / buffer address ranges before programming devices.
· User−changeable programming parameters.
· Built−in editor for both buffer data and test vectors.
· Support Binary and all hex files (POF and JEDEC, Intel Hex, Motorola S Records, Tekhex, straight hex, hex−space,
  Extended Tekhex, and others; automatic file type recognition) with Load, Edit, and Save commands.

Programmers for PC / USB Interface

| FEATURES	TopMaxII	ChipMax2	Promax−4G
Product Focus	Enhanced Universal	Low Cost Universal	Universal, Low cost Production
No. of socket / Type	1 / 48 − ZIF	1 / 48 − ZIF	4 / 48 − ZIF
Host PC Interface	USB 1.1 / 2.0	USB 1.1 / 2.0	USB 1.1 / 2.0
OS Support	WIN 98, 98, 2000, XP, 7, 8, 8.1,10	WIN 98, 98, 2000, XP, 7, 8, 8.1,10	WIN 98, 98, 2000, XP, 7, 8, 8.1,10
Devices Programmed	EPROM, EEPROM, Flash, Serial PROM, Micorontroller, PROM, Bipolar, PAL, GAL, CPLD, FPGA	EPROM, EEPROM, Flash, Serial PROM, Micorontroller, GAL, CPLD, FPGA	EPROM, EEPROM, Flash, Serial PROM, Micorocontroller, GAL, CPLD, FPGA
Devices Tested	TTL/CMOS Series Dynamic / Static Memory	N/A	N/A
Programming speed	42 s.(29DL640)	42 s.(29DL640)	42 s.(29DL640)
Software Update	eetools.com(free)	eetools.com(free)	eetools.com(free)
Power Supply	Built−in AC	External AC	Built−in AC
VCC	0.8V ~ 23V, 1[A]	0.8V ~ 23V, 500[mA]	0.8V ~ 23V, 500[mA]
VPP	4.4V ~ 23V, 1[A]	1.4V ~ 23V, 500[mA]	1.4V ~ 23V, 500[mA]
Since	2006	2006	2008
Product Made	USA	USA	USA

In-system programmer for production environments

This in-system programmer provides fast, reliable programming of flash microcontrollers and serial memory devices already mounted on the circuit Board.

FlashMAX ISP is an ISP Programmer designed for high-speed In-System Programming (ISP) of Flash, Microcontroller and Serial memory devices in a production environment.

STANDALONE PROGRAMMING

PRODUCTION PROGRAMMING

FIRMWARE UPGRADEABLE
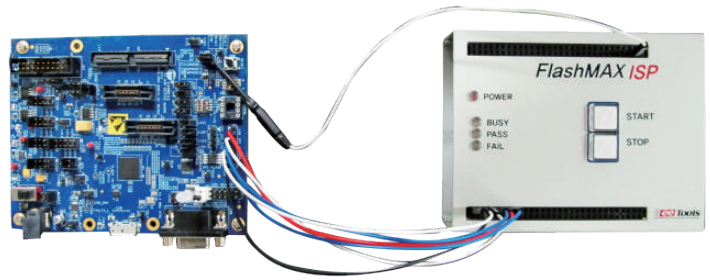
■ High-speed In-System Programming (ISP) designed for high-throughput production environments
■ Wide ranging Device Support capability
  – microcontrollers / serial memory devices, etc
■ Compact physical size ideal for integration into ATE / TEST Fixtures

Features

– Standalone operations (projects and code images stored on a SD memory card)
– Controllable by any host system through a terminal utility and simple ASCII protocol (RS232)
– Supports hardware-selectable projects (script)
– Supports software-selectable projects (script)
– Compact and robust design for production environments
– Individually configurable programmer I/O pins
– Single-button auto-program operation allows easily repeated execution of the selected project
– Supports single operation (Erase, Blank Check, Program, Verify, Read, etc.)

Programming Interfaces

– SPI
– I2C
– MICROWIRE
– BDM
– JTAG
– SWIM
– UART
– Single-Wire UART
– ICSP

Device Support

– Serial EEPROM memories (SPI and I2C)
– Serial FLASH memories (SPI)
– Selected 8051 FLASH microcontrollers
– ST STM8, STM32 microcontrollers
– RENESAS 78 series microcontrollers
– FREESCALE RS08 HCS08 HCS12 microcontrollers
– ATMEL AVR – ATtiny, ATMEGA, ATXMEGA microcontrollers
– Microchip PIC microcontrollers

eMMC/UFS Analyzer

The compact, self-contained analyzing system was specifically designed as an enhanced eMMC and UFS analyzing solution for lab applications. The eMMC / UFS Analyzer provides debug and analysis of eMMC/UFS devices including read / write physical sectors/registers, single command execution , variable voltage control , waveform measuring, etc.
The eMMC/UFS Analyzer is controlled by a Microsoft Windows PC and includes user friendly GUI interface on the PC. The eMMC/UFS Analyzer comes with high-speed, high-reliability socket adapters that connect eMMC/UFS devices and the eMMC/UFS Analyzer. The socket adapters can be easily swapped by customers.

KEY FEATURES

– Stand-Alone operation
– Built-in PC and logic analyzer
– Built-in eMMC Reader (via USB 3.0)
– Support standard eMMC/UFS packages
– Support high-density eMMC/UFS devices
– User friendly GUI software
– Variable operating voltage (VDD/VDDQ : 1.7 ~ 3.6V)
– Physical sector read/write (Boot1/2, user data area)
– Support Extended CSD Register Check
– Support script file operation
– Multi-cycle read/write for aging/stress test
– Support CLK, CMD, DAT bus signal measuring with Logic Analyzer
– Support UFS Descriptor/Attribute/Flag check
– Support UFS Provision
– Support UFS Logical Unit read/write (LUN0 ~ LUN7)

SOFTWARE FUNCTION

– Erase, Blank check, Program, Compare(Verify), Read
– Data file open/save/edit
– Data file calculate checksum & CRC
– Supply power control
– Aging control
– eMMC single command execution
– eMMC command execution with script file
– eMMC read/write/compare
– Check eMMC Extended CSD Register
– Check UFS Descriptor/Attribute/Flag

SUPPORTED DATA FILE TYPES
– Binary, Intel Hex, Tekhex, Motorola S-record, ASCII, and more

Automatic Device Programming Handler

AutoPRO3204VTL

– By replacing conventional manual workflow of DEVICE COPY with automated system and process, it maximizes productivity and minimizes defective rate

· Auto Tray System
· Z Robot System (4 Pickers)
· Vision System
· FlashPRO Ⅲ Romwriter Installation
· GANG Pusher System (8GANGx4EA=Total32GANG)
· Marking System
· Graphical User Interface

Option
1. AutoPRO3204VTL-RI : REEL TO TRAY(Reel In)
2. AutoPRO3204VTL-RO : TRAY TO REEL(Reel Out)

TT-100M

– Single Socket Semi-Automatic Device Programming Handler that feeds, programs, and sorts devices directly from stick tubes

· Tube Loader System
· Programming System
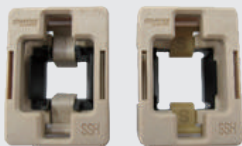· Tube Unloader System
· Graphical User Interface

TR-100V

– By automatically loading devices from trays to carrier tapes, it maximizes productivity and minimizes defection rate

· Auto Tray System
· Reel Taping System
· Vision System
· Graphical User Interface

# Burn-in Test Socket & Programming Socket Adapter

RUBBER PAD TYPE SOCKET

– Contact method with PCB using a RUBBER PAD rather than conventional soldering method.
– No more accidentally scratching the BGA BALL when using a RUBBER PAD instead of conventional PIN TYPE sockets.
– No damage to devices by placing non-conductive RUBBER PAD between device and PCB.

LEVER TYPE SOCKET (CUSTOM SOCKET)

– Development and production is possible for over 1000 BGA BALL and under 0.4 PITCH.
– Suitable for research and development test boards.
– Suitable for application of AP material and BGA BALL in large quantities.

POGO PIN TYPE BURN IN SOCKET (CUSTOM SOCKET)
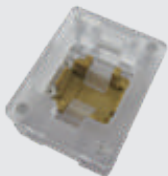
– Suitable for research and development test boards.
– Suitable for application of AP material and BGA BALL in large quantities.

RUBBER PAD TYPE, POGO TYPE CLAMSHELL SOCKET(CUSTOM SOCKET)
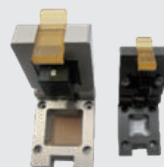
– Suitable for research and development test boards

BGA RUBBER TYPE SOCKET ADAPTER

BGA POGO TYPE SOCKET ADAPTER

QFP, QFN, SOIC, SON TYPE CLAMSHELL SOCKET ADAPTER

MODULE TYPE SOCKET ADAPTER

BGA SILICON TYPE SOCKET ADAPTER

BGA PIN TYPE SOCKET ADAPTER

Device Programming Services

Service Overview

– We provide a comprehensive programming service including writing programs onto flash memories such as memory IC and MCU.

Supported Devices and Packages

NOR, NAND Flash, Flash Media (ESD, EMMC, moviNAND, INAND), EPROM, EEPROM, SOIC, MCU, MPUM PLD, CPLD, FPGA

Benefits of using our Service

– Reduced spending on equipment investment, periodic supplies purchasing, and human resources
– Higher yields and shortened delivery deadlines
– Analysis of defective samples and support on correction
– New device support and compatible socket adapters
– Access to our exclusive database with over 70,000 devices already supported
– Offering programming solutions and maintenance support to over 7,000 leading companies domestic and overseas

Programming Floor Status

– Programmers: FlashMAX–II 16G (2units)
　　　　　　　　 FlashMAX–III 16G (2units)
– Automation Handlers: AutoPRO3204, AutoPRO1203TL, TT–100M, TR–110V
– Vacuum Packaging Machine
– Tray Vending Machine
– Pusher System: Semi–automatic multi–gang insertion system
– Humidity–Controlled Storage Cabinet for devices (with humidity of 1~60% RH)
– Hot Air Circulation Dryer (40℃~250℃ / Capacity of 600 x 500 x 500)
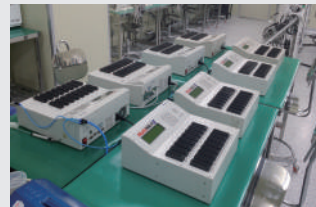
Service Process

Customer's 3 –Step Process

01 Initial Inquiry

02 Confirmation of a First Article

03 Shipping of Bulk Material

WE ARE LOOKING FOR DISTRIBUTORS WORLDWIDE