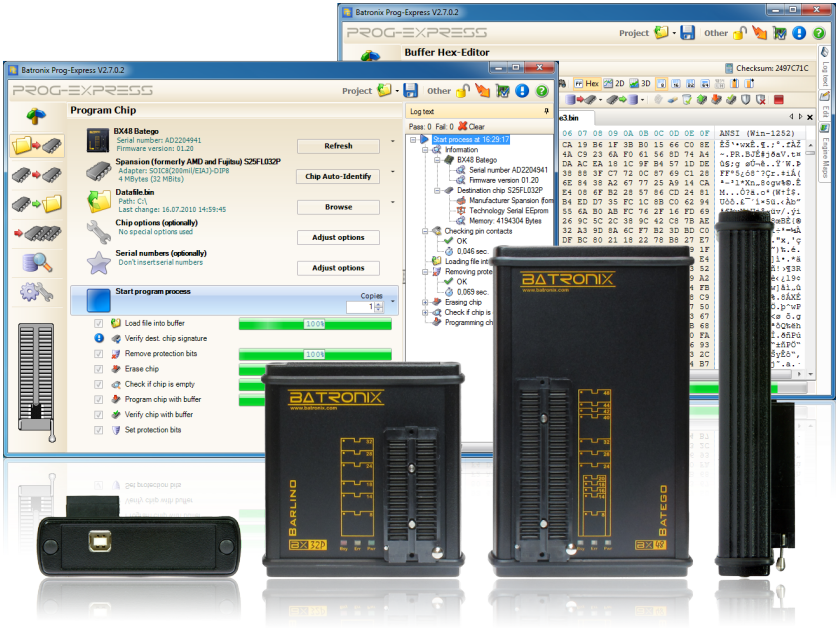
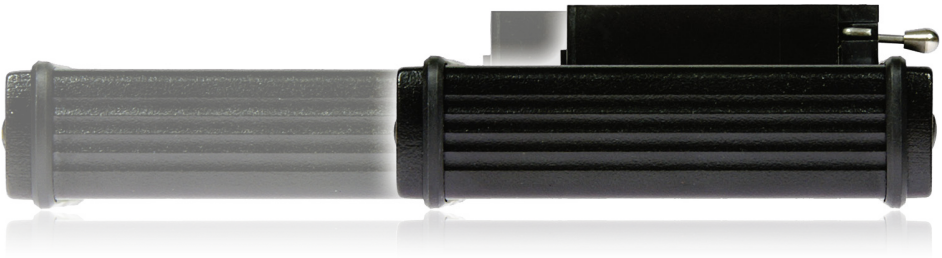


Batronix Professional Programmer Series

The Batronix Professional Programmer Series offers an exceptionally flexible, simple to use and fast set of programmers that support a broad range of chips. With a height of only 2.5 cm the enclosures are very practical and are noted for their design and anodized die-cast aluminum construction. These programming devices are your first choice even in a harsh usage environment.

The exceptional flexibility is attained by providing all power requirements via the USB port. A power adapter or batteries are not required, since all programming voltages are provided internally by a voltage generator from the USB supply voltage. The chips are programmed at a high level of quality and reproducibility through the use of optimized algorithms and microcontroller managed programming times. All supported chips can be programmed directly in DIP/DIL packages and suitable adapters are available for specialized packages such as PLCC, SOIC, SOP, TSOP, QFP and BGA.



SPECIAL FEATURES	BX32(P), BX40	BX48
USB POWERED The device is powered through the USB port and doesn't need a power adapter or batteries.	✓	✓
CHIP AUTO IDENTIFICATION The programmer identifies chips automatically on their chip signature.	✓	✓
MULTI PROGRAMMER CONTROL For volume production of chips up to eight BX32, BX32P, BX40 or BX48 devices can be controlled simultaneously from one PC using the Prog-Express software.	✓	✓
AUTOMATIC PROGRAMMING START In production mode, the programmer detects newly inserted chips automatically and can automatically start the programming process.	✓	✓
ULTRA HIGH SPEED TECHNOLOGY Due to the specially developed Batronix pindriver ICs the BX48 is the fastest available programmer.		✓
ULTRA LOW VOLTAGE SUPPORT Due to state-of-the-art technology the BX48 supports as first programmer in the world supply voltages down to 0.9 Volt and therefore already the coming 1.0 Volt chip technologies according to JEDEC standard JESD8-14A.01.		✓
MULTI PLATFORM SUPPORT The Batronix programmers can be used on all popular Windows, Linux and Mac operating systems.	✓	✓

SUPPORTED DEVICES	BX32	BX32P	BX40	BX48
Very old NMOS EPROM (VPP > 15 V)	✓	✓	✓	
NMOS EPROM (VPP <= 15 V)	✓	✓	✓	✓
CMOS EPROM, EEPROM, LPC, Flash, other	✓	✓	✓	✓
LPC, FWH, Firmware Hubs		✓	✓	✓
SEEPROM		✓	✓	✓
16 Bit EPROM and FLASH			✓	✓
Microcontroller				✓
PLD, SPLD, EPLD, GAL, PALCE				✓
NAND FLASH				✓
Ultra Low Voltage Chips (1.0 V)				✓
Chip updates on customer request	✓	✓	✓	✓
Complete chip support list	PDF	PDF	PDF	PDF

SECURITY- AND TEST FUNCTIONS	BX32	BX32P	BX40	BX48
DEVICE SELF TEST AND CALIBRATION The programmer verifies its power supply and programming voltage regulation on each pin and can calibrate them.				✓
PIN CONTACT TEST The programmer checks if a chip was inserted correctly and every pin is connected.				✓
CHIP ID TEST The chip signature (if available) is verified before accessing the chip.	✓	✓	✓	✓
VOLTAGE MONITORING The supply and programming voltages at the connected chip are checked.				✓
CURRENT MONITORING During any chip action the current is checked continuously and all connections will be disconnected if it exceeds the maximum values.				✓
DATA VERIFY UNDER DEVIANT VOLTAGES After the programming process the chip data can be verified several times using minimum, nominal and maximum supply voltage. Therewith a durable data integrity is guaranteed.			✓	✓
CHECKSUM CALCULATION (CHECKSUM, EPT-1 CRC16, CRC-32) The software is able to calculate and compare many different types of checksums.	✓	✓	✓	✓

HARDWARE DETAILS	BX32	BX32P	BX40	BX48
Interface	USB 2.0 Full Speed (12 Mb/s)			USB 2.0 High Speed (480 Mb/s)
ZIF-socket	32 Pins "Low Cost"	32 Pins "High Quality"	40 Pins "High Quality"	48 Pins "High Quality"
Pin driver	Specialized for memory chips			Universal
Chip Data Transfer Rate 1. Parallel Flash chip 2. Serial SPI chip	up to 6.2 Mb/s -	up to 6.2 Mb/s 0.6 Mb/s	up to 6.2 Mb/s 0.6 Mb/s	up to 50.0 Mb/s 10.7 Mb/s
Low voltage support	-	downto 3.0 V	downto 3.0 V	downto 0.9 V
Dimensions	9x8.5x2.5 cm (3.5"x3.3"x1")	9x8.5x2.5 cm (3.5"x3.3"x1")	15.3x8.5x2.5 cm (6.0"x3.3"x1")	13.7x8.5x2.5 cm (5.4"x3.3"x1")
Weight without accessories and packaging	155 g (0.34 lb)	162 g (0.36 lb)	241 g (0.53 lb)	257 g (0.57 lb)
Weight with accessories	349 g (0.77 lb)	356 g (0.78 lb)	435 g (0.96 lb)	451 g (1.00 lb)
Warranty	5 Years	5 Years	5 Years	5 Years

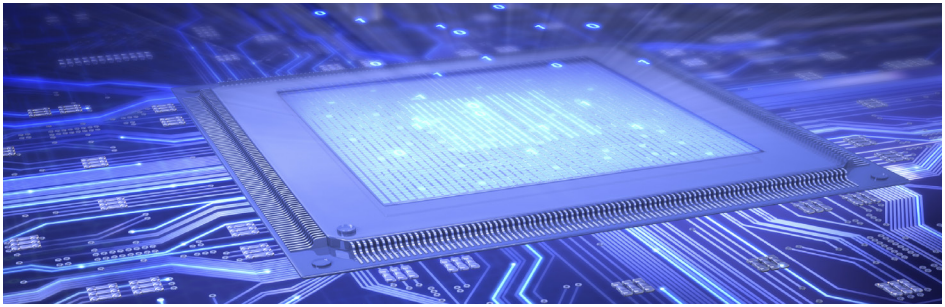
BX48 Batego Pin Drivers

A completely new chip was developed specifically for the pin control functions of the BX48. This new pin driver ASIC provides previously inconceivable performance and flexibility.

The BX48 is the first programmer in the world which supports extremely low power supply ICs according to JEDEC Norm JESD8-14A.01. Chips which meet this standard have to be powered with a supply voltage of 1.0 Volt with a maximum tolerance of 100 mV.

Each of all 48 pins can be used independent and flexible:

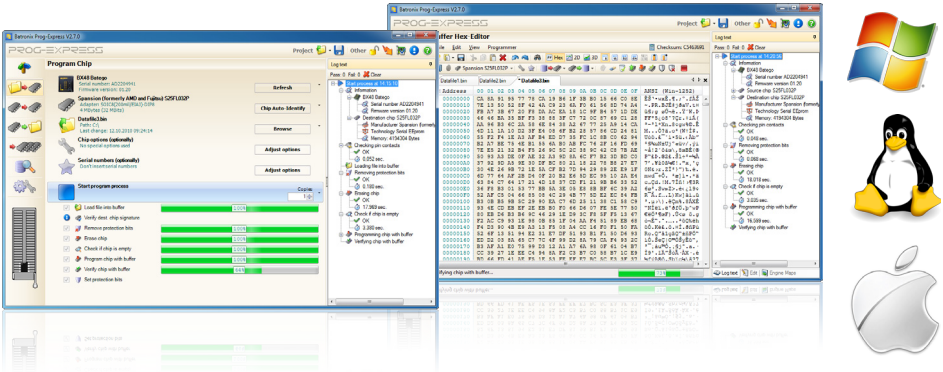
- Four supply and programming voltages from 0.9 V up with 10 mV resolution!
- Logic-Output
- Logic-Input
- High speed serial interface
- Analog Input (A/D measurements with 10 mV resolution!)
- Analog Output (D/A voltage output with 10 mV resolution!)
- Six switchable pullup+pulldown resistors on VPP, VCC and GND
- Adjustable clock frequencies up to 24.5 MHz
- Ground



Prog-Express Software

All Batronix BX-programmers can be easily controlled using the modern and intuitive Prog-Express software. Chips inserted in the programmer can be detected automatically by the software and programming a chip from a file or copying an existing chip is done with a few mouse-clicks. Despite the easy to use interface, professional protection, split, auto-identify, auto-start and serial-number functions as well as a convenient hex-editor are available in addition to the basic functions like read, program, verify and erase.

The software and all updates and further versions are free, and the current version can be downloaded from www.batronix.com at any time and used without an activation key. This allows the Batronix programmers to remain current even after several years. Support for further chips is added quickly and free of charge based on customer requests, as long as these chips can be supported by the hardware.



SOFTWARE DETAILS	PROG-EXPRESS
Process control	✔
Project management	✔
File formats	Binary, Intel Hex, Motorola S-Records, Straight Hex, Tektronix, Extended Tektronix and Jedec files
File format auto detection	✔
Offset	Data and chip offsets
Splitting	Complete 16 and 32 Bit splitting functions
Serial number generator	Very comfortable serial number generator with support for external serial number files.
Checksum calculation	Checksum, MD5, SHA-1, EPT1 CRC16 and CRC32
Hex-Editor	Very comfortable and feature rich
Software remote control	Prog-Express can be remote controlled by other software with command line parameters and script files
Software updates	~2 weekly, free via download
Supported operation systems	Windows 7 (32 + 64 Bit), Vista (32 + 64 Bit), XP (32 + 64 Bit) Linux (32 + 64 Bit), MAC OS X (32 + 64 Bit) Additionally for BX32-BX40: Windows 2003, 2000, ME, 98SE
Languages (Complete software and manual translations by native speakers.)	English, Arabic, Chinese, Dutch, Finnish, French, German, Greek, Hungarian, Italian, Norwegian, Portuguese, Russian (software only), Slovenian, Spanish, Swedish, Turkish

Universal Gang Programmer

BX448 Baplexo I and BX848 Baplexo II

The Batronix BX448 and BX848 are extremely fast, reliable, convenient and easy to use universal gang programmers. They are based on the latest BX48 Batego technology and offering chip data transfer rates up to 50 Mb/s per socket. Asynchronous and concurrent operation allows beginning programming immediately upon insertion of a chip.

The BX448 and BX848 are real stand alone programmers. They include an embedded PC and a 19" TFT display. On the embedded PC Windows 7 and Prog-Express are preinstalled and ready to use.

The 1 Gbit Ethernet interface makes updating of project and data files within a company network easy. The build-in 256 GB HDD allows the storage of many projects and data files on the gang programmer.

The new Batronix Batego pin driver technology allows supporting future chips with an extremely low power supply according to JEDEC Norm JESD8-14A.01. Chips which meet this standard have to be powered with a supply voltage of 1.0 Volt with a maximum tolerance of 100 mV.

Delivery includes gang programmer, 19" TFT, Mouse, Keyboard, Windows 7 DVD and license. Windows 7 and Prog-Express are already installed.

- Available with 4 and 8 sockets
- Based on latest Batego technology
- World record: 50 Mb/s chip data rate
- Leading: Ultra low VCC support down to 0.9 V
- Stand alone: Embedded PC with 256 GB HDD, 1 Gbit Ethernet, DVI, USB, 19" TFT, Windows 7
- Safe and reliable: Pin contact test, over current protection, self test and calibration