



## Prog-Express User Manual

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## System Requirements

This chapter contains the system requirements for Prog-Express and Microsoft® .NET Framework 2.0.

Prog-Express requires Microsoft® .NET Framework 2.0. This is included on the manual CD and is going to be installed automatically if it is necessary.

### 32-Bit Operating Systems

- Supported Operating Systems: Windows 7, Windows Vista, Windows XP Service Pack 2 or higher, Windows Server 2003, Windows 2000 Service Pack 3, Windows ME, Windows 98 Second Edition
- Prerequisites: Windows Installer 3.0 (with the exception of Windows 98/ME which require Windows Installer 2.0 or higher). Windows Installer 3.1 or higher is recommended. IE 5.01 or higher: For any installation of .NET Framework Microsoft Internet Explorer 5.01 or higher is required.
- Minimum Hard Disk Space: 300 MB (x86)

### 64-Bit Operating Systems

- Supported Operating Systems: Windows 7 - 64 Bit, Windows Vista 64 Bit, Windows XP 64-bit, Windows Server 2003 x64 Edition
- Prerequisites: Windows Installer 3.0 (with the exception of Windows 98/ME which require Windows Installer 2.0 or higher). Windows Installer 3.1 is recommended. IE 5.01 or higher: For any installation of .NET Framework Microsoft Internet Explorer 5.01 or higher is required.
- 64-Bit Support: To support 64-Bit CPU's the current 64-Bit version of Windows XP Professional or Windows Server 2003 is required.
- Minimum Hard Disk Space: 630 MB (64-Bit)

# Licensing Information for Prog-Express

## Freeware License Conditions

### Limitation of Warranty

The software and documentation is made available for your use as is. Since the possibility of malfunctions can never be excluded even with thoroughly tested software due to the multitude of computer configurations, the author does not accept any liability for any damages that may result through the direct or indirect use of the software or documentation. Under no circumstances shall the author be held liable for any damages due to lost profits, interruption of business operations, loss of information or data and damages to other software, even if the underlying issue is known to the author. The user accepts full liability for any consequences arising out of the use of this software.

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If these terms are not met the author has the right to cancel the user's license for the software.

All product names and trademarks used are hereby recognized as belonging to their owners, regardless of whether or not they are identified as such.

The law of the Federal Republic of Germany shall apply.

# Installation

First, please install the Prog-Express software. You can find the software on the supplied CD or at [www.batronix.com](http://www.batronix.com) in the download area.

After installing the software, you can connect the USB Chip Programmer for the first time.

## Software Installation

This chapter contains all information that is required for the installation of Prog-Express.

To initiate setup double-click on the Setup file or use the CD-ROM auto play function.

Please follow the instructions on the screen.

The installation of Microsoft® .NET Framework 2.0 may be required as this is a prerequisite for the software. If an internet connection is available your computer will download the required files if needed, otherwise they are also available on the CD.

### .NET Version X64, x86 Or IA64

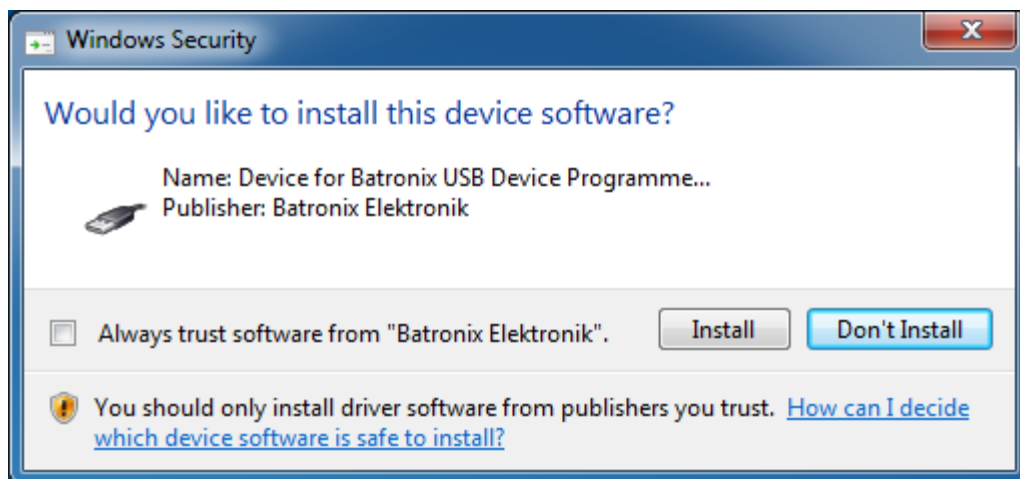
If you are using a 32-bit operating system please download the x86 version, the x64 version is only compatible with 64-bit operating systems. IA64 is only required for 64-bit Intel processors running a 64-Bit operating system.

## Device Driver Installation

### Automatic Installation

During Prog-Express setup the drivers for the Batronix USB programmers are installed automatically, which you can see on the images. Windows will start the USB installation and display the following information on the Monitor.

If the programmer will not be displayed in the Prog-Express software, a restart of the computer could be necessary.

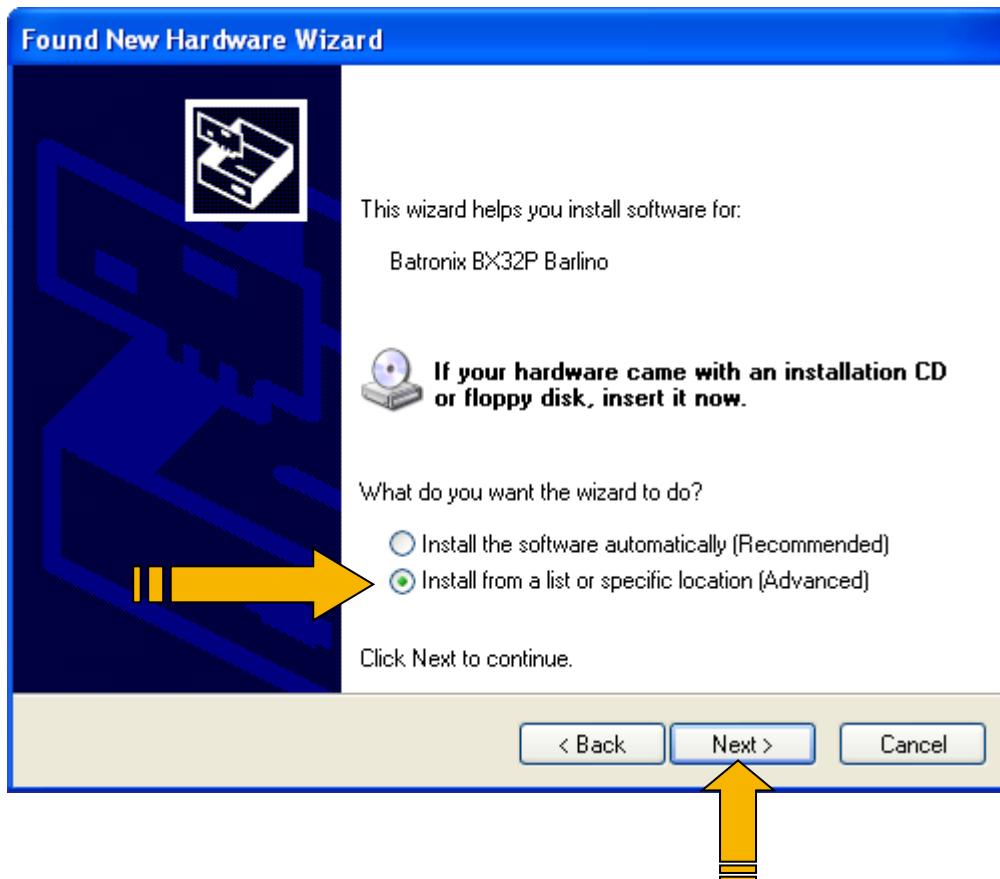




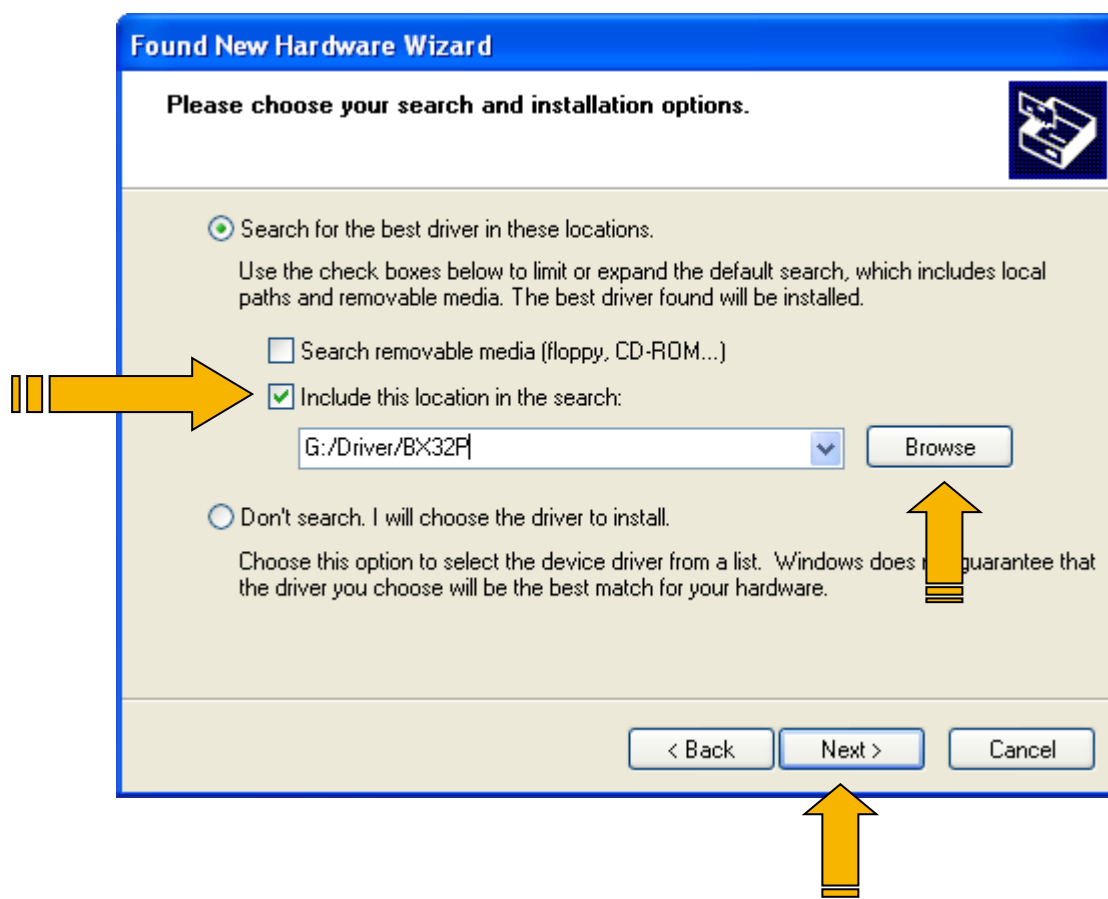
## Manual Installation

The Prog-Express Setup will install all Batronix USB device programmer drivers automatically. However if you need to install them manually, you can follow the steps below.

After installing the software, you can connect the Batronix USB Programmer for the first time. Windows will immediately detect the device as a new USB device and display the following message on the screen:



Please select the second item “install from a list or specific location”. Confirm this window with “Next”.

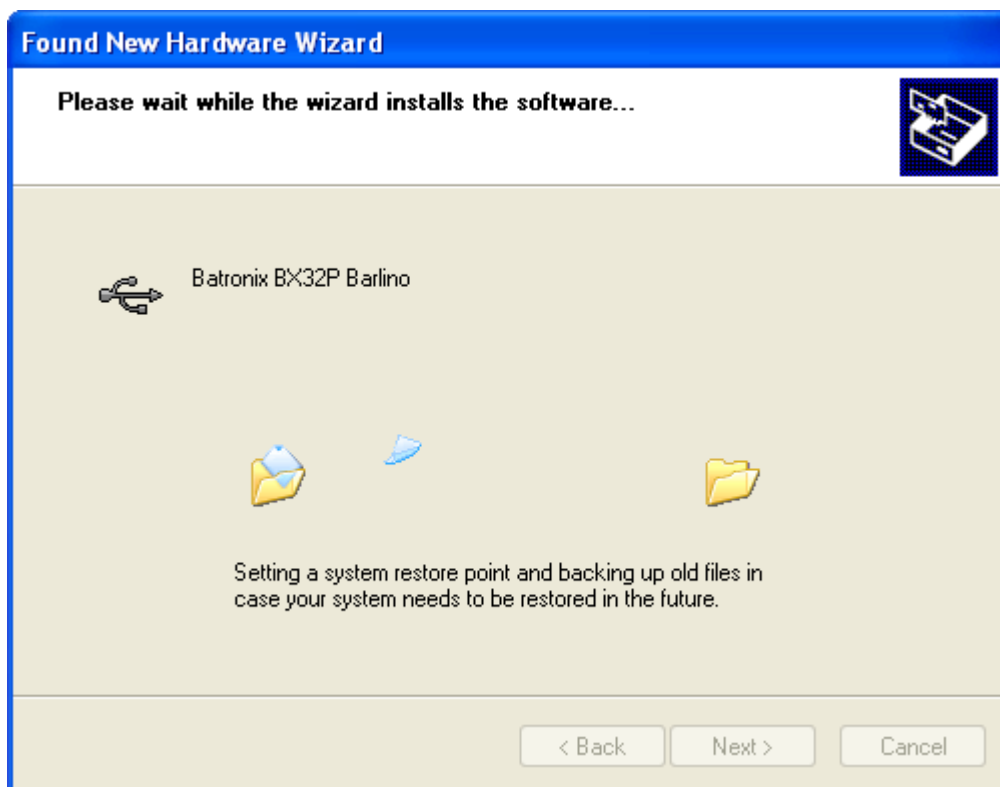


Activate “Include this location in the search” and indicate the directory belonging to your programmer within the “driver” directory of your Prog-Studio installation or the “driver” directory of the CD. For example: C:\Program Files\Batronix\Prog-Express\driver\BX32P

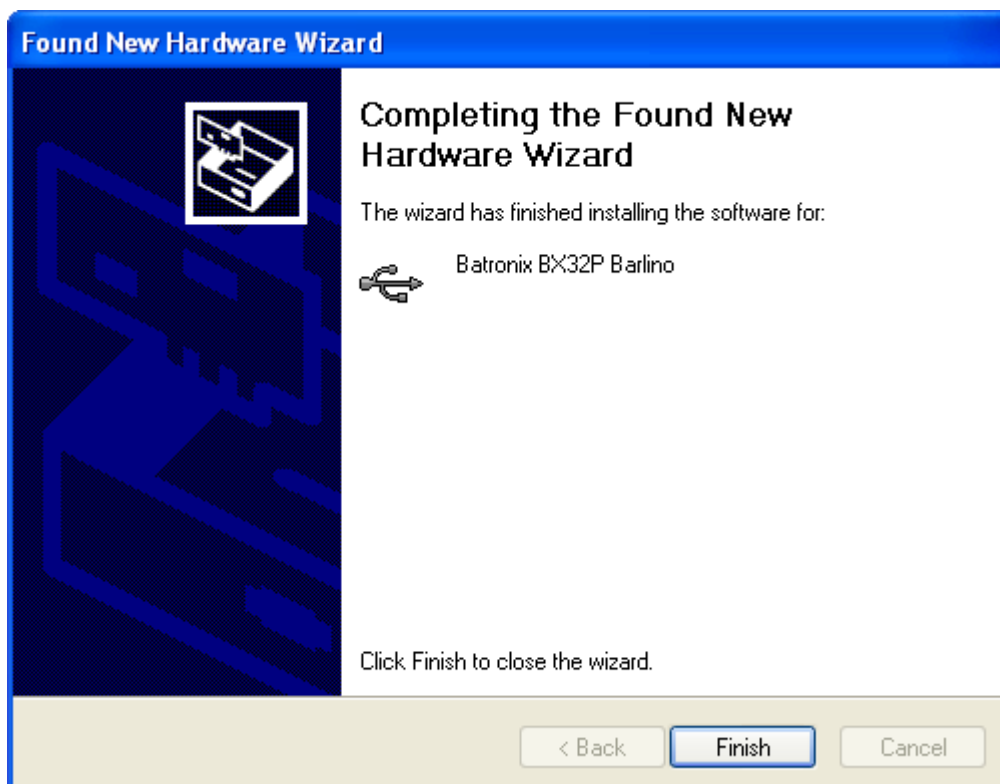
Confirm this window with “Next”.



If you get the message “Device has not passed Windows Logo testing” simply click on “Continue Anyway”.



Your PC is now searching for the indicated sources and will find the programmer. The driver will be installed.



The wizard finishes with the message "The wizard has finished installing the software for...". Confirm the message by clicking on the "Finish" button.

The driver was installed successfully, and you can now use the device.

# Software Modes

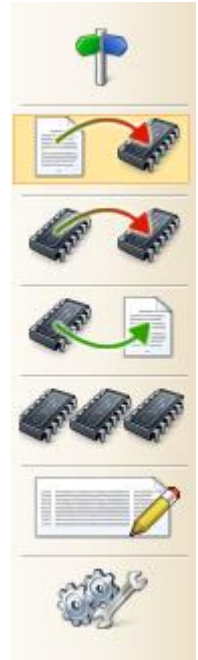
This chapter contains information about the various software modes for Prog-Express.

## Summary

Prog-Express has five different basic modes and an options dialog which can be picked from the selection menu. With these modes you can select the optimal interface for your application.

Following modes are available:

- Program Chip: Program one or more chips
- Copy Chip: Copy one or more chips
- Read Chip: Read data from a chip
- Production Mode: Program chips using multiple devices
- Buffer Hex-Editor: Edit data in the hex-editor
- Software Options: Edit the software options



## Program Chip

The “Program Chip” mode offers an interface optimized for programming data from a source such as a hard disk or CD to one or more chips.



### Program Chip

**BX32 Batupo II**  
Serial number: CC2308163  
Firmware version: 02.31

Refresh

**Winbond W29EE011P-90**  
Adapter: PLCC32-DIP32  
128 KByte ( 1 MBit )

Chip Auto-Identify

**ProgramData1MBit.bin**  
Path: Y:\Files\  
Last change: Thursday, May 05, 2011 10:21:51 AM

Browse

**Chip options (optionally)**  
No special options used

Adjust options

**Serial numbers (optionally)**  
Don't insert serial numbers

Adjust options

**Start program process**

Copes

The interface is composed of an upper section with data entry fields and process control functions in the lower section.

If you have connected several programming devices, select the device you want to use in the first field. Then select the chip you want to use in the second field. Then select the file you want to program in the third field. The chip options and serial number settings are only required in special cases and usually don't need to be turned on. Click on the blue play button to start the programming process.

The data entry fields in the upper section are described in detail in the chapter “Data Entry Fields”. General indications for process control are covered in the chapter “Process Control”.

## Chip Copy

The “Copy Chip” mode offers an interface optimized for programming data from a single chip to one or more chips.



### Copy Chip

**BX32 Batupo II**  
Serial number: CC2308163  
Firmware version: 02.31

**Source chip: Winbond W29EE011P-90**  
Adapter: PLCC32-DIP32  
128 KByte ( 1 MBit )

**Destination chip: Winbond W29EE011P-90**  
Adapter: PLCC32-DIP32  
128 KByte ( 1 MBit )

Copes

The interface is composed of an upper section with data entry fields and process control functions in the lower section.

If you have connected several programming devices, select the device you want to use in the first field. Then select the chip you want to copy in the second field, and select the target chip in the third field. It is possible to select different source and target chips. For the copy to work the same way in the device as the original, both chips should have the same amount of memory, the same pin assignments and use the same control algorithms. Click on the blue play button to start the copying process.

The data entry fields in the upper section are described in detail in the chapter “Data Entry Fields”. General indications for process control are covered in the chapter “Process Control”.

Before the step “Verify dest. chip signature” the user is prompted to insert the destination chip (regardless whether or not the "Verify dest. chip signature" function is activated or not).

## Read Chip

The “Read Chip” mode offers an interface optimized for reading data from a chip and storing it to a file or viewing it in the hex-editor.

The screenshot shows the 'Read Chip' window of the Batronix software. It has a light beige background. On the left, there are four rows of information, each with a small icon: a chip icon for 'BX32 Batupo II' (Serial number: CC2308163, Firmware version: 02.31), a chip icon for 'Source chip: Winbond W29EE011P-90' (Adapter: PLCC32-DIP32, 128 KByte (1 MBit)), a floppy disk icon for 'ReadData.bin' (Path: Y:\Files\), and a wrench icon for 'Chip options (optionally)' (No special options used). On the right, there are four blue buttons: 'Refresh', 'Chip Auto-Identify', 'Browse', and 'Adjust options', each with a small downward arrow. At the bottom, there is a large blue button with a play icon and the text 'Start read process', followed by a small green button with a downward arrow.

The interface is composed of an upper section with data entry fields and process control functions in the lower section.

If you have connected several programming devices, select the device you want to use in the first field. Then select the chip you want to read in the second field.

If the process option “Save buffer data” is activated, the data is stored to a file as soon as it is read. If this option is activated a third field is available where you can specify the file path and filename.

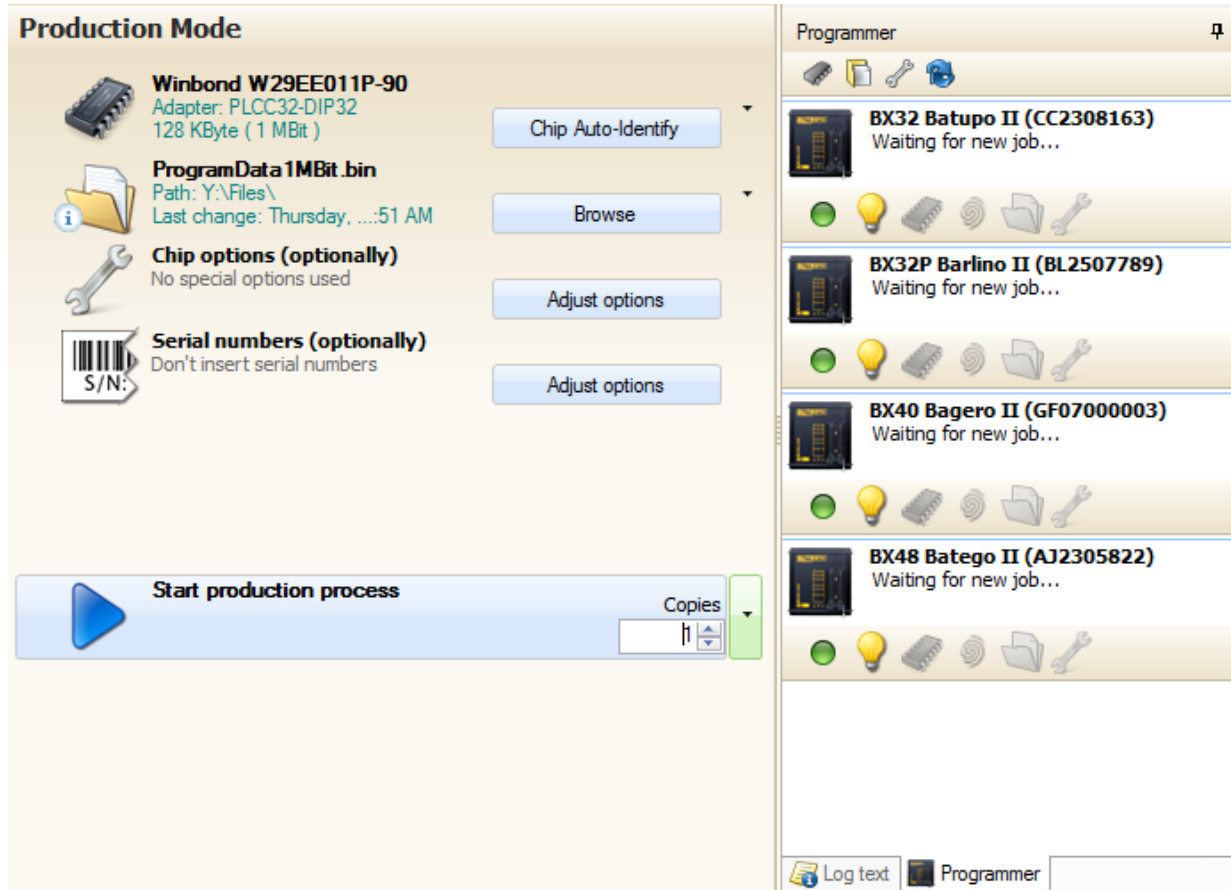
If the process option “Show hex editor” is activated, the data is displayed in the hex editor as soon as it is read.

Click on the blue play button to start the copying process.

The data entry fields in the upper section are described in detail in the chapter “Data Entry Fields”. General indications for process control are covered in the chapter “Process Control”.

## Production Mode

The “Production” mode offers an interface optimized for programming chips simultaneously on multiple programming devices.



In this mode up to eight USB Chip Programmers and eight of the Professional Programmer Series (BX-Programming Device) can be controlled at one time. All recognized devices are displayed in the device selection list (right part of the picture).

The individual programming devices are controlled independently so that a high level of productivity can be attained. The programming speed for each individual programming device is almost as quick as it is when using only a single device.

If a hub is used the USB connection of the PC and the hub must support the USB 2.0 High Speed mode so that the data transfer rates are not limited unnecessarily.

The data entry fields in the upper section are described in detail in the chapter “Data Entry Fields”. General indications for process control are covered in the chapter “Process Control”.



In production mode the right side of the screen shows the programming device summary. A toolbar is displayed at the top of the screen. This allows you to activate settings for chips, files, and options individually for each programming device. If a setting which is specific to a particular programming device is activated the corresponding button is highlighted in orange.



Use the refresh button to refresh the list of programming devices which are currently connected.

Information about the device and an additional five or six buttons are displayed for each connected programming device.



Click on this button to add or remove a programming device from the production process. If the button is highlighted in orange the programming device is included in the production process.



To find a particular programming device on the workbench among several other programming devices, all it takes is clicking on this button. The green operation light on the respective device will flash briefly.



Use this button to select a separate chip for each individual programming device. In this way you can, for example, use four programming devices to program four different chips within one production process.



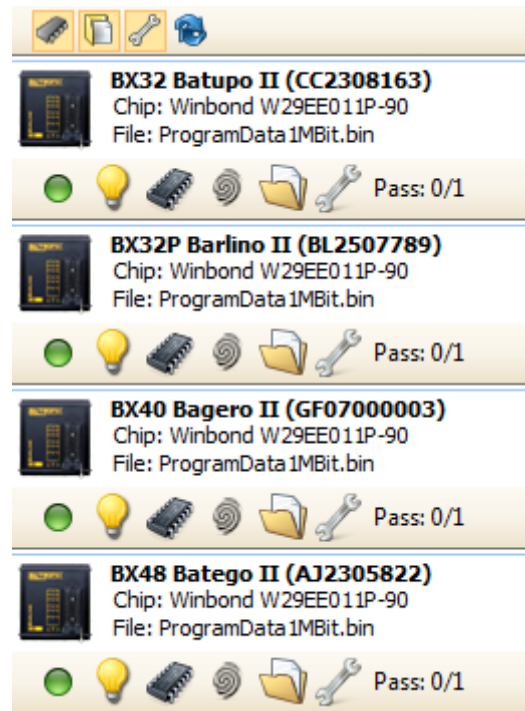
Use this button to select a separate file for each individual programming device. In this way you can, for example, use four programming devices to program four different files within one production process.



With this button you can select different options (offset, split, etc.) for each individual programming device. In this way you can, for example, use two programming devices with different split settings (odd, even) within one production process.



If the desired chips don't contain a signature, the insertion and removal of these chips cannot be detected automatically. The process step "Wait for chip" can not be activated for these chips. Therefore, the process sequence for the respective device must be started using the device's start button after inserting the chip.



A symbol indicating the corresponding status for each programming devices is shown in the upper right-hand corner.



File is being loaded into buffer.



The device is waiting for a chip to be inserted.



Chip signature is being tested.



Protection bits are being removed.



The inserted chip is being erased.



The chip is being checked to see if it is blank.



The chip is being programmed.



The programmed data is being verified.



The chip is being write-protected.



The chip options are being compared.

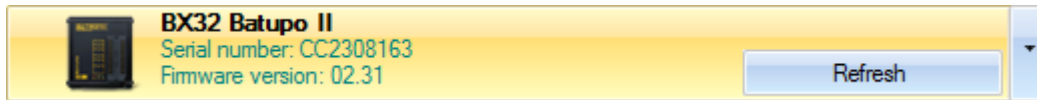


The device is waiting for a chip to be removed.

## Data Entry Fields

In the modes “Program Chip”, “Chip Copy”, “Read Chip”, and “Production Mode” a number of data entry fields are available in the upper section of the screen.

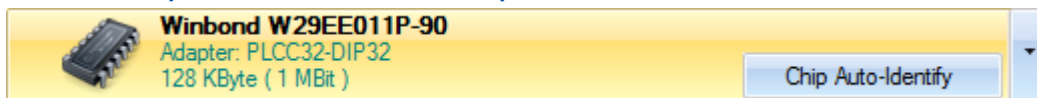
### Programmer



The serial number and firmware version of the selected programming device is displayed below the device name in this field. Clicking on the left area of this button makes the green LED on the selected programming device blink several times. This function is useful when several programming devices are connected if you need to identify a particular device.

Clicking on the arrow on the right-hand side opens a list which shows all connected programming devices. When you open the selection list the currently connected programming devices are detected and the list is refreshed. The desired device is selected by clicking on it in the selection list.

### Source Chip and Destination Chip

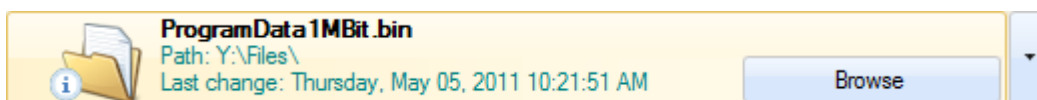


In this screen the name of the chip and the size of its memory are displayed, as well as the name of the suitable adapter if one is required. Clicking on the left area of the button opens the Chipbrowser which allows you to select a chip.

Using the “Chip Auto-Identify” button allows a chip to be selected automatically using its signature (see chapter “Chip Auto Identify”).

Clicking on the arrow on the right-hand side opens a list which shows the last 10 chips which were used. The desired chip is selected by clicking on it in the selection list.

### Source File



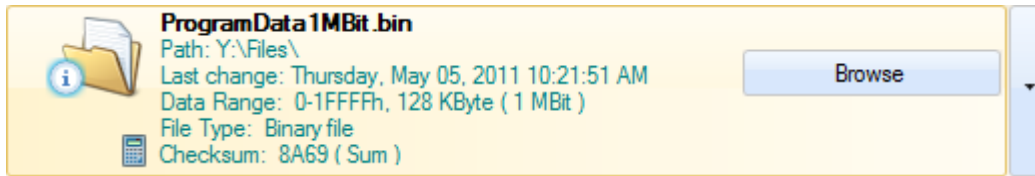
Use the “Open file” data entry field to select the file to be loaded. The path of the file and the last time the file was changed are displayed below the filename. Clicking on the left area of the button opens the file browser which allows you to select a file.

Clicking on the arrow on the right-hand side opens a list which shows the last 10 files which were used. The desired file is selected by clicking on it in the selection list.

### Selection List of the last used files

With a click on the arrow on the right side, a list of the last used ten files can be opened. With one click on this selection list the wanted file can be opened.

## Further information to the File

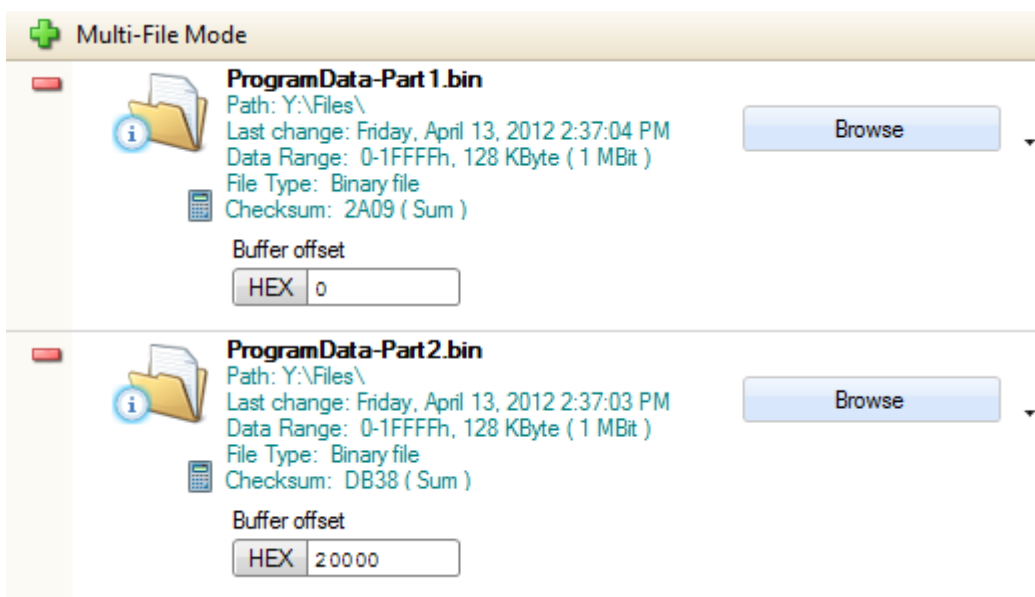


By clicking the small i-symbol, which is left at the folder icon, further information can be shown. The checksum algorithm can be chosen by a click on the calculator symbol.

## Context Menu

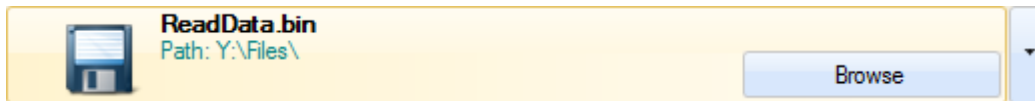
A context menu can be opened with the right mouse key at the “Open File” button. In this context menu are further functions for example the opening of folders in the explorer, activation/deactivation of the multi file mode and the display of several information about the chosen file.

## Multi File Modus



The multi file mode can be turned on or off through the context menu. In the multi file mode several files can be chosen, which are programmed one after another. The position of each file can be adjusted with the entry box “Buffer Offset”.

## Save File



In the “Save file” data entry field you can specify where and with what filename the chip data should be saved after it is read. The current contents of the buffer are saved using the “Save buffer data” process step.

Clicking on the arrow on the right-hand side opens a list which shows the last 10 files which were used. The desired file is selected by clicking on it in the selection list.

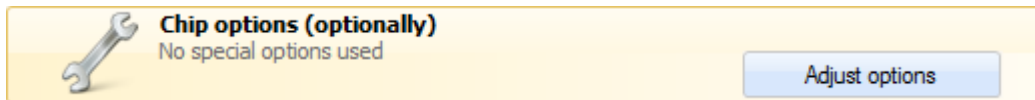
In the “Save File” field you can use the following special characters which will be dynamically replaced:

! The exclamation mark will be replaced by the name of the selected chip.

# The lozenge will be replaced by the number 1 or higher. If there is a file with this name already, the number will be increased by one until there is no file with this name.

Example: You read the data from an AT27C010 and enter the filename “File-!-#.bin” in the “Save File” dialog. The data will be saved with the filename „File-AT27C010-1.bin“. If you read and save the same chip again the data will be saved with the filename “File-AT27C010-2.bin”.

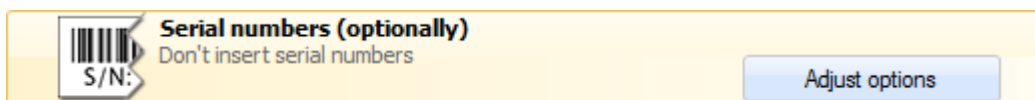
## Chip Options



Special chip options can be used to modify the data to be burned or to use special functions in the chips. If you are not sure what these settings are used for or if you simply want to write data to a chip, do not turn the chip options on.

Clicking on this button brings up a screen with chip option settings. More information can be found in the chapter “Chip Options”.

## Serial Number

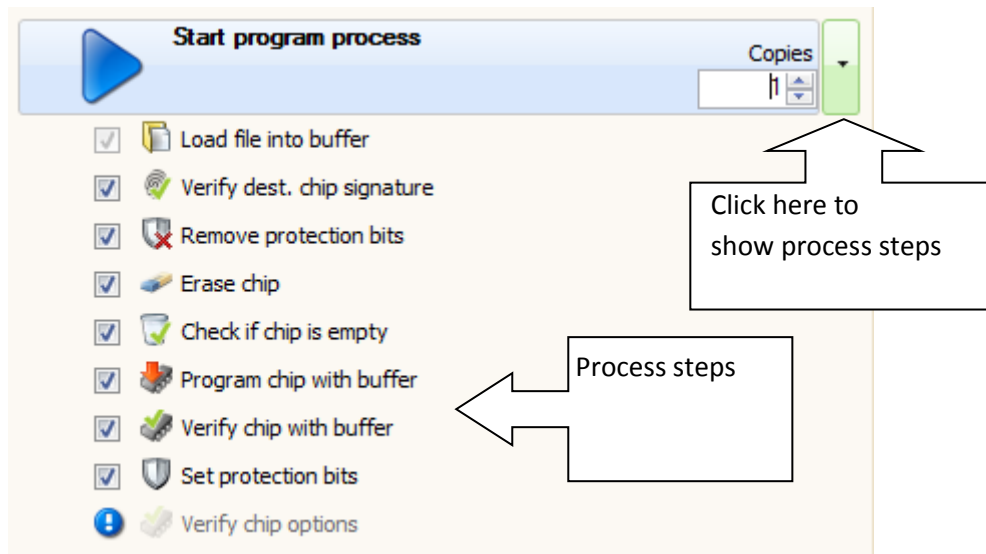


For production purposes serial numbers can be added to the data before it is written.

Clicking on this button brings up a screen with serial number settings. More information can be found in the chapter “Serial Numbers”.

## Process Control

The process control is similar for the software modes “Program Chip”, “Chip Copy”, “Read Chip” and “Production” and it is described in this chapter. Each of these modes has a blue bar with a “Play” symbol (blue triangle).



Clicking on the arrow on the right-hand side opens a list which shows all steps of a process. When a process is started this list is opened automatically.

Every process is composed out of individual process steps. These process steps can be activated or deactivated using the respective checkbox. A process step can be executed individually and independent of the overall process by clicking on the button for that process step.

The data entry field “Copies” can be used to specify how many times the process should be executed. That is, for the “Programming” mode this specifies how many chips should be programmed, and in the “Copying” mode it specifies how many copies of the source chip should be made.

## Controls



The selected process steps are carried out in order from top to bottom after the process is started by clicking on this button.



Clicking on this symbol (only shown while a process is running) stops the process and no further chips are programmed.

## Special Controls (Only In “Production-Mode”)



Clicking on this symbol (only shown while a process is running) stops the process and no further chips are programmed. However the currently active process step will be completed.



This symbol will appear after clicking on the stop button and only in the production mode. It indicates that the normal process sequence was stopped and only the currently active process step is being completed. Clicking on this button will terminate all currently running processes immediately.

## Process Steps

### Load file into buffer

The file specified in the "Open file" field is loaded into the buffer during this process step.

### Save buffer to file

Data from the buffer is saved to a file. Non-existing files are automatically created and existing files are overwritten.

### Verify source / dest. chip signature

The signature of the inserted chip is compared to the setting specified for the "Source Chip" / "Destination Chip". If a discrepancy is found, a dialog with the options "Cancel Process", "Re-Check Signature", and "Ignore discrepancy and continue process" is displayed.

### Erase chip

This process erases the chip in the programming device. Typically erasing a chip means that all bits are set to 1. Therefore all bytes in an erased chip are at FFh (Byte FFh = 11111111).

Not all chips can be erased using a programming device. For example, the 27c EPROM's with glass window can only be erased using intense UV-C light in a special EPROM eraser. 27c EPROM's without a glass window cannot be erased and therefore cannot be programmed with new data. These chips are often marked as OTP = One Time Programmable.

### Check if chip is empty

This checks if the chip is erased, i.e. if all bits are set to 1. During this process the entire chip contents are read and all bits are checked.

### Read chip data into buffer

The source chip is read and its data are loaded into the buffer. Data in the buffer can be viewed and edited using the Hex-Editor (see chapter "The Hex-Editor").

### Program chip with buffer

The data in the buffer is written to the chip, using any "Programming Options" and "Serial Number Settings" that have been set.

### Verify chip with buffer

The complete chip contents are read and all bytes are compared with those in the buffer.



### Set protection bits

This sets so-called “Protection Bits” which prevent the chip from being accidentally overwritten at a later date. This function is not supported by all chips.



### Show Hex-Editor buffer

This will switch the software to the Hex-Editor Mode.



### Auto wait for chip inserted

The corresponding programming device waits until a new chip is inserted. When this occurs the chip signature is checked. If the desired chips don't contain a signature the removal and insertion of these chips can not be detected automatically. The process function “Auto-Wait for Chip inserted” can not be activated for these chips. In this case the process is started via the start button on the corresponding device.



### Auto wait for chip removed

The corresponding programming device waits until the programmed chip is removed.

When the process is completed the operating light on the devices blinks to indicate that the chip can be removed. The corresponding programming device waits until the chip is removed. If the green operating LED blinks after the chip is removed this indicates that the device is waiting for the next chip to program. If the green operating light does not blink this indicates that no further chips are set to be programmed by this device.

If the desired chips don't contain a signature the removal and insertion of these chips can not be detected automatically. The process function “Auto-Wait for Chip inserted” can not be activated for these chips.

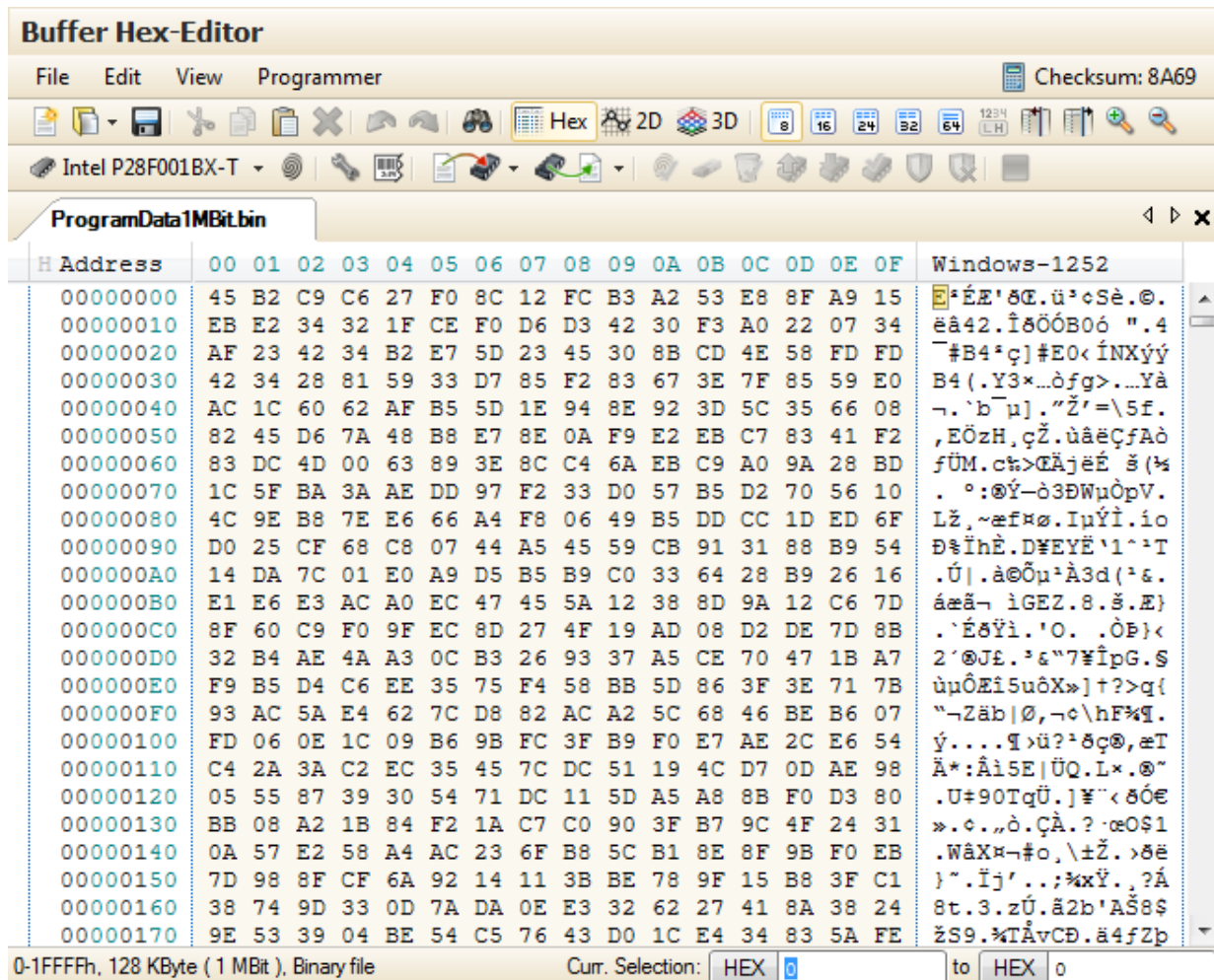


This symbol is shown beside the process step if this step is not supported by the selected chip or programming device.



## Hex-Editor

The Hex-Editor is used to view and edit binary data. It includes comprehensive display functions as well as many easy-to-use data editing functions.



The editing functions can be selected via toolbar buttons or from the context menu. The context menu can be accessed via the right mouse button.







The statusbar shows the data size, the file type and the current selection. The start and end address of the current selection can be edited there.

When the programming device functions are used the statusbar shows the current process step information and a progressbar.





## Hex-Editor Menu and Toolbar













This toolbar contains functions for navigating and manipulating the data in the Hex-Editor.

### Menu and Toolbar „File“











	New	Opens a new blank Hex Editor window.
	Open File	Opens an existing file. A list of the last 10 files used can be opened by clicking on the arrow to the right of this button.
	Close	Closes the current document.
	Close all Documents	Closes all opened documents.
	Close all Other	Closes all opened documents except the current one.
	Save	Saves the current buffer contents.
	Save As	Saves the data under a new filename.
		File format: The file format can be detected automatically (preset) or specified manually. The setting is used for all Hex Editor opening and saving functions.
	Print	Prints the current document.
	Import File	Imports an existing file with offset and/or additionally to Hex-Editor data.
	Compare Hex-Editor Data with File Data	Compares Hex-Editor data to data from an existing file.
	File Format	Select between automatic file format detection or specify a fixed file format for opening files.
	Recent Files	The last recent files can be opened with this dialogue.

### Menu and Toolbar „Edit“

	Undo	Rolls back the last operation (undo).
	Redo	Rolls forward the last operation that was rolled back (redo).
	Cut	Cuts the selected data.
	Copy	Copies the selected data.

	Copy Formated	Copies the selected data and its format.
	Paste	Pastes copied data at the cursor position.
	Delete	Erases the selected data.
	Select all	Selects all data in the editor.
	Manual select	Selects a certain part of the data.
	Search and Replace	Opens the search and replace dialog.
	Show first byte...	Jumps to the first byte in the data that is not FFh.
	Show next byte...	Jumps to the next byte in the data that is not FFh.
	Show last byte...	Jumps to the last byte in the data that is not FFh.
	Calculate checksum	Calculates the checksum in the selected area.
	Insert Into	Insert of a certain number of a selectable data word.
	Fill selection	The selected area will be filled with a selectable value, with random numbers or with an adjustable sequence of numbers.
	Increase/Decrease values	The values of the selected area can be increased / decreased with a selected or percent value.
	Copy selection	The selection can be copied to a selectable address.
	Swap data	The words which are next to each other in the selected area will be swapped.
	Swap data blocks	The selected area can be swapped with another one.

## Menu and Toolbar „View“

Editor View	Display of the data in the Hex-Editor view. This point of menu is only viewable in the activated Chip-Tuner Module!
2D View	Display of the data in 2D view. This point of menu is only viewable in the activated Chip-Tuner Module!
3D View	Display of the data in 3D view. This point of menu is only viewable in the activated Chip-Tuner Module!
Word view	Adjustment of the word length.
	Shows the data in byte view (8 bit).
	Shows the data in word view (16 bit).
	Shows the data in word view (24 bit).
	Shows the data in double word view (32 bit).
	Shows the data in quad word view (64 bit).
Endian	Adjustment of the byte order. Depending on the target system can the first byte be the lowest one (LSB) or the highest one (MSB).
Display width	The width of the editor can be increased or decreased.
	Reduces the number of bytes displayed in one row of the editor.
	Increases the number of bytes displayed in one row of the editor.
Offset	
Increase	Move the position of the first byte in the display to the right.
Decrease	Move the position of the first byte in the display to the left.
	To choose the display in the left part of the editor.
	To choose the display in the right part of the editor.
 Synchronize scrolling...	The scrolling of all viewable editors will be synchronized. With this action can the data manually compared.

## Menu and Toolbar "Programmer"

All basic functions required to program a chip are also available in the Hex-Editor. Use the left drop-down box to select a chip to work with. Here you can also access the Chip Browser to simplify chip selection.



Connected Programmers Programmer selection

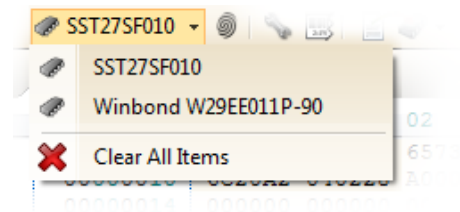


Show Programmer

Makes the operation light on the selected device flash so the device can be identified.



(Toolbar) Selection of the Chip Browser. With one click on the triangle symbol on the right side can be opened a list of the last used chips.



Chip Browser

Opens the Chip Browser.



Auto-Identify

Chip Auto-Identify (see chapter "Chip Auto Identify").

Last 10 used chips

Starts a selection of the last 10 used chips for a direct choosing.



Chip options

Here you can adjust chip specific options.



Serial numbers










Here you can set serial numbers for the chips.



Starts a complete programming process. The process default settings contains the process steps "Verify chip signature", "Remove protection bits", "Erase chip", "Check if chip is empty", "Program chip with buffer", "Verify chip with buffer" and "Set protection bits". Process steps which are not supported by the chip will be automatically deactivated. With a click on the black arrow you can open the process step list and activate or deactivate process steps.



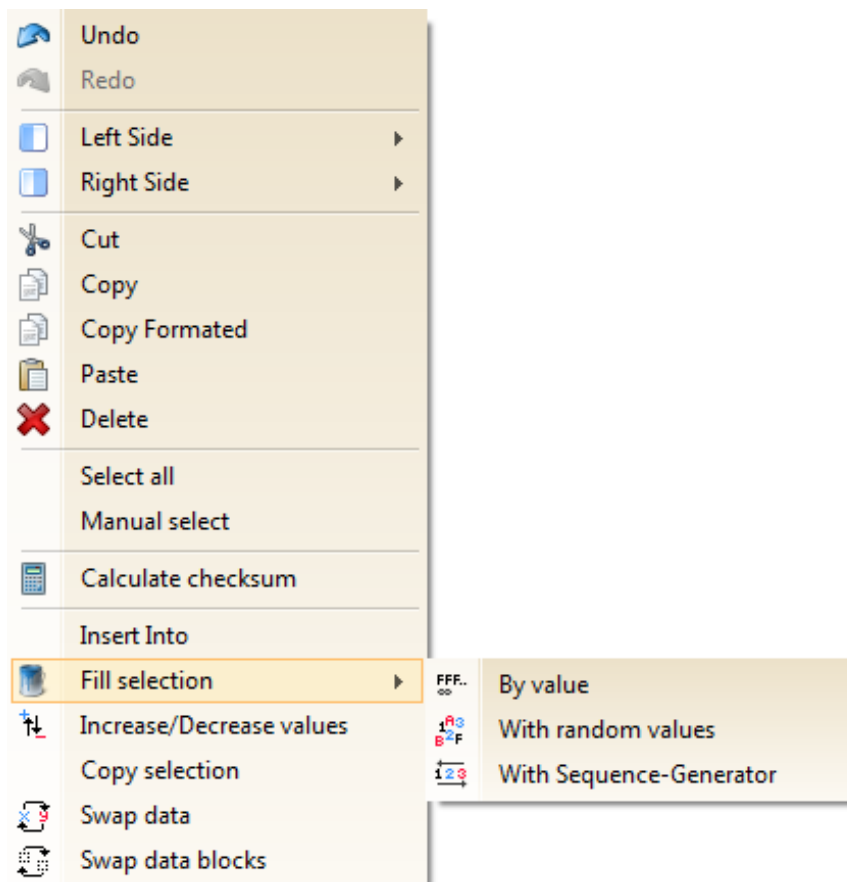
Starts a complete reading process. The process default settings contains the process steps "Verify chip signature", "Read chip data into buffer" and "Verify chip with buffer". With a click on the black arrow you can open the process step list and activate or deactivate process steps.

	Verify chip signature	Verifies the chip signature.
	Erase chip	Erases the chip.
	Check if chip is empty	Verifies that the chip is erased.
	Read chip data...	Reads the chip data into the buffer.
	Program chip...	Programs the buffer data to the chip.
	Verify chip data...	Compares the buffer data to the chip data.
	Set protection bits	Set protection bits.
	Remove protection bits	Clear protection bits.
	Stop the current process	Stops the current programming process (does not apply to running processes in other modules!).

## Hex-Editor Context Menu

You can open the context menu by clicking with your right mouse button onto the Hex-Editor.

The available functions were described in the chapter “Hex-Editor Menu and Toolbar”.

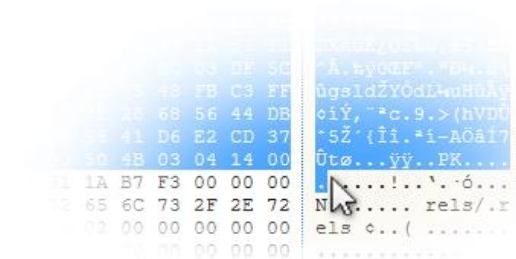


## Working with Selected Data

These options can also be selected via the selection box in the toolbar of the Hex-Editor as well as within the context menu.

### Choose Areas

#### Selection with Mouse



Within the Hex-Editor a certain area of the hexadecimal code can be chosen and edit as well. This selected part gets a blue markup.

#### Detailed Selection over Input



You can select an area by inputting at the entry fields at the bottom of the screen, the initial and ending position of the desired block. This procedure will let you handle much larger areas.

### Edit Areas

This option is reachable with the menu "Edit", the toolbar and over the contextual menu as well.

#### Manual Select

Here you can specify exactly what data should be selected.

#### Calc Selection Checksum

Calculates a checksum value for the selected range using a selectable algorithm (sum, MD5, SHA-1, EPT1 CRC16 or CRC32).

#### Fill Selection - By Value

Fills the selected area with a specified value

#### Fill Selection – With Random Values

Fills the selected area with random values

#### Fill Selection – With Sequence-Generator

Fills the selected area with a specified range of values

#### Increase/Decrease Values

Increases or decreases all values in the selected area by a specified amount or percentage value.



## Copy Selection

Copies the selected data to a specified address. You can select whether the target range should be expanded or overwritten.

## Swap Data

Depending on the setting, switches the first and second byte/word/double word or quad word values with each other. If more than one pair is selected the switching is continued by the same method (for example, byte 1 is switched with byte 2, byte 3 with byte 4, etc.).

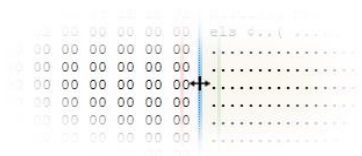
## Swap Data Blocks

Switches the selected data with data starting at a specified offset address.

## Modify View per Mouse

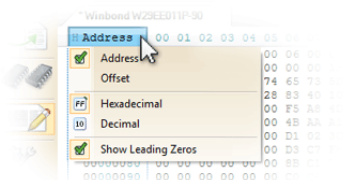
Additional to the adjustment options in the menu "View" several settings can be done directly with the mouse in the Hex-Editor.

### Adjust of Display Width



With the mouse you have the option to change the display width. Click on the separating line between the left and right area within the Hex-Editor. The same function offers the line rightmost as well.

### Adjust of Address Display



A click on the column heading "Address" displays a selection dialogue which allows you to select between "address" (word address) or "offset" (byte address). In the case of word length of one byte, both are identical. Addresses can also be displayed in decimal or hexadecimal format, with or without leading zeroes.

## Hex Editor Shortcut keys

The Hex Editor supports the following shortcut keys:

- <CTRL+Z>: Undo
- <CTRL+Y>: Redo
- <Page Up>: Moves to the first line of the currently displayed page. If the cursor is already on the first line the display moves up by one whole page.
- <Page Down>: Moves to the last line of the currently displayed page. If the cursor is already on the last line the display moves down by one whole page.
- <Home>: Jumps to the first byte in the current line.
- <CTRL+Home>: Jumps to the first byte in the Hex Editor.
- <End>: Jumps to the last byte in the current line.
- <CTRL+End>: Jumps to the last byte in the Hex Editor.
- <Insert>: Switches back and forth between overwrite and insert modes. In overwrite mode (standard setting) the data at the current cursor position is overwritten when new data is entered. In insert mode new data is inserted without overwriting existing data.
- <CTRL+A>: Selects all data.
- <Shift+Cursor key>: Expands the selection.
- <CTRL+X>: Cuts the selected data and copies it to the clipboard.
- <CTRL+C>: Copies the selected data to the clipboard.
- <CTRL+V>: Pastes data from the clipboard.
- <Delete>: Deletes the selected data.
- <Tab>: Switches back and forth between HEX and ANSI modes.
- <CTRL+H>: Hexadecimal view
- <CTRL+D>: Decimal view
- <CTRL+T>: Text view
- <CTRL+Cursor key right/left>: Expands / reduces the display width
- <CTRL+Alt+ Cursor key right/left>: Expands / reduces the display offset
- <CTRL+1>: Display of word length 1 byte (8 Bit)

- <CTRL+2>: Display of word length 2 byte (16 Bit)
- <CTRL+3>: Display of word length 4 byte (32 Bit)
- <CTRL+4>: Display of word length 8 byte (64 Bit)

## Software Options

The software options can be used to configure the behavior when Prog-Express is opened and closed, the display of messages, the playback of audio files, special programming device options, the operator mode and the language settings.



The software options are displayed on the separate pages, "General", "Project", "Security", "File Associations", "Language" and "Add Ons".

### General Options

#### Software Options

General
Project
Security
File Associations
Language
Add Ons

##### Prog-Express start options

☒ Auto load last settings
☐ Auto load last used project
☐ Auto load the following project:

☐ Batronix Window Decoration

##### Prog-Express exit options

☒ Auto save project file

##### Working directory

☐ Open file dialogs in working directory

##### Automatic software updates

☐ Search for online software updates at start up

##### Messages

☒ Show warning if the buffer data is bigger as chip size at programming
☐ Show warning if the chip must be placed in an uncommon socket position.

##### Sound

☒ Play sound file when process finished successfully:
☒ Play sound file when process failed:

### Prog-Express Start Options

The software can load the last used project or a specified project directly at start up. A project contains the selected mode, the selected chips, programming options, serial number options and the activated process steps.

### Batronic Window Decoration

The user can change the decoration of the standard window frame of Windows to the program specific frame design.

### Prog-Express Exit Options

When exiting Prog-Express the software can automatically save the actual settings into the last loaded project file (default).

### Working Directory

The software can start the project browser always in a specific directory. If this option is not used, the browser starts in the last used directory.

### Automatic Software Updates

The software can check for updates online when you run it. If an update is available it can be downloaded and installed automatically.

### Messages

The display of separate messages can be switched in or out here.

### Sound

After a process finished or after a programming error the software can play a sound file. Some files come with the Prog-Express software in the sub folder "Sounds". You can also select your own .wav sound files from your PC.

## Project

### Software Options

General

Project

Security

File Associations

Language

Add Ons

#### Data handling

Fill unused bytes with:

hex

Mirror buffer data on higher free chip address areas:

☐ Activate this option if you want to program the data from a chip onto a larger replacement chip.

Byte order at 16 bit chips:

☒ Program lower byte before higher byte (LSB-MSB, standard)

☐ Program higher byte before lower byte (MSB-LSB)

#### Multi-Pass verification (BX32-II, BX32P-II, BX40-I/II, BX48-I/II, BX448 & BX848 only)

☐ Verify at minimal voltage

☒ Verify at nominal voltage

☐ Verify at maximum voltage

#### Security- and test functions

☒ Test pin contacts (BX48, BX448 & BX848 only)

☒ Overcurrent monitoring enabled (BX48, BX448 & BX848 only)

### Data Handling

Several special settings can be specified in this area.

Unused bytes are bytes for which no data is defined. This can happen when, for example, a smaller file is programmed into a larger chip.

The byte sequence is only applicable to programming of 16-bit chips. Here you can specify in which order the bytes from the file are used.

### Multi-Pass Comparison

The BX40 supports a multi-pass comparison. During this process the chip data are read and compared several times with different supply voltages. If the process finds differences in the data the comparison is aborted and an error is displayed.

The voltages used are dependent on the allowable operating voltage range of the chip. For example, many chips allow for a voltage range of  $\pm 10\%$ . In this case if, for example, the nominal voltage is 5 volts, the comparison can be carried out at 4.5, 5.0, and 5.5 volts. The repeated comparison of the programmed chips provides a higher level of program data assurance. This eliminates chips which are not 100% programmed and could thus fail in the end device under strongly fluctuating voltage conditions.

### Security- and Test Functions

Some programmers can test the pin contacts before starting the process and monitor the chip current while the process runs. These functions increase the security and should regularly be activated.

However in some special cases it can be helpful to disable these functions. For example if the current input of a potentially damaged chip is much higher than the specified by the manufacturer, the overcurrent monitoring can be turned off. So can the chip be used, although it needs more current than specified by the manufacturer.

## Security


**Software Options**


General
Project
**Security**
File Associations
Language
Add Ons

Operator mode

Setting	Software	Project
Activate operator mode when application starts	<input type="checkbox"/>	<input type="checkbox"/>
Lock mode selection also	<input type="checkbox"/>	<input type="checkbox"/>
Lock options dialog and operator mode by password	<input type="checkbox"/>	<input type="checkbox"/>

Password

 Click onto the lock symbol at the Prog-Express title bar to activate the operator mode.

 If an operator mode option is available in a software or project context, then Prog-Express uses always the more restrictive one.



## Operator Mode

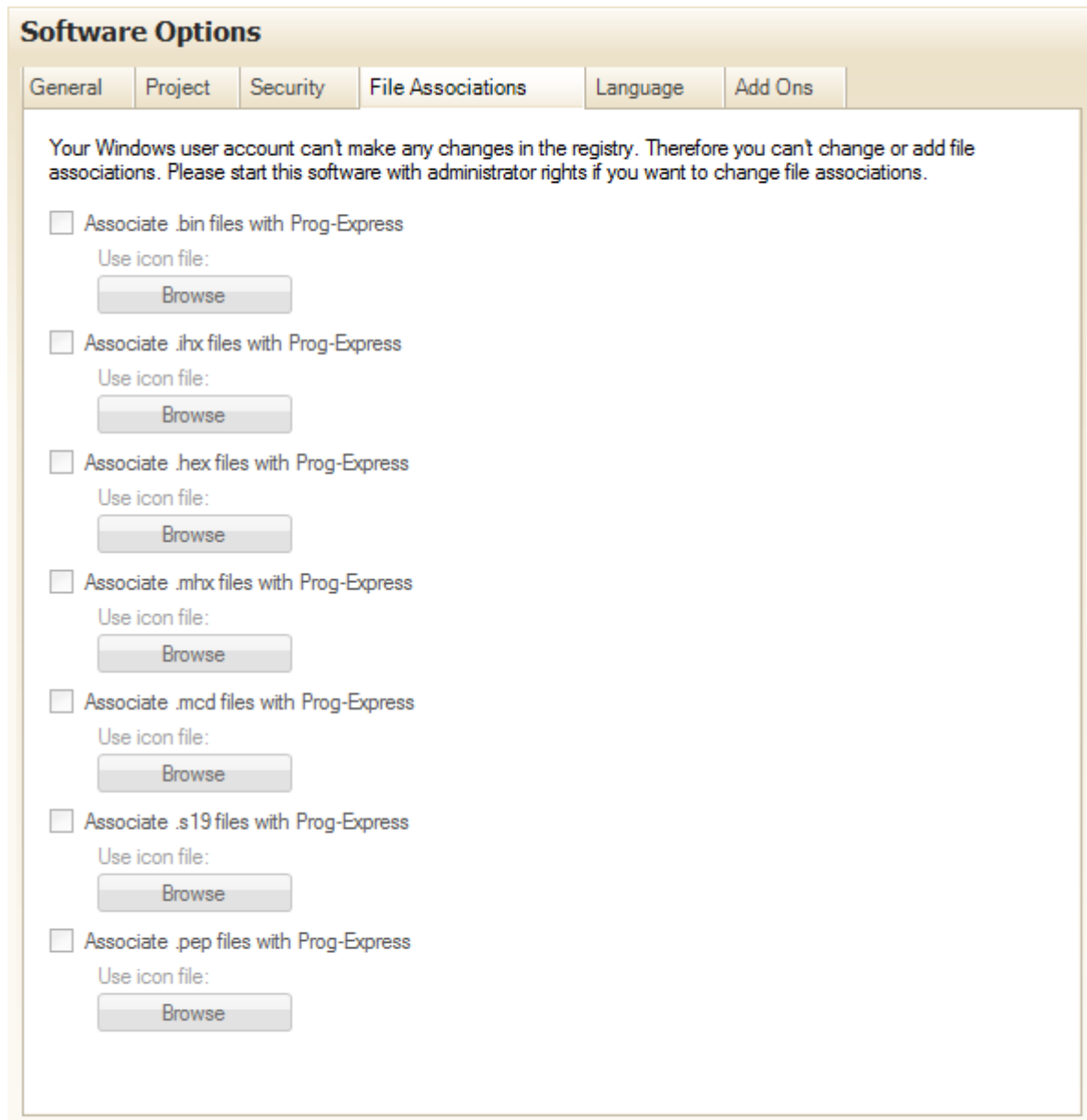
With activating the operator mode the software is protected against inadvertent or wanted changes. This operator mode is recommended in productions environments, where a software engineer adjusts all settings and an operator uses it to run the series production.

While the operator mode is activated, the file, the selected chips, programming options, serial number settings and the activated process steps are protected against changes. In the software options the mode change can also be disabled.

The operator mode can be activated and deactivated with a click onto the lock symbol on the Prog-Express title bar. If there the password protection is enabled, the software asks for the password before it activates or deactivates the operator mode.

The settings can be used for a project and for the software as well. When an operator mode option exists in the software or project settings, uses Prog-Express always the more restrictive one.

## File Associations



**Software Options**

General Project Security **File Associations** Language Add Ons

Your Windows user account can't make any changes in the registry. Therefore you can't change or add file associations. Please start this software with administrator rights if you want to change file associations.

- ☐ Associate .bin files with Prog-Express  
Use icon file:
- ☐ Associate .ihx files with Prog-Express  
Use icon file:
- ☐ Associate .hex files with Prog-Express  
Use icon file:
- ☐ Associate .mhx files with Prog-Express  
Use icon file:
- ☐ Associate .mcd files with Prog-Express  
Use icon file:
- ☐ Associate .s19 files with Prog-Express  
Use icon file:
- ☐ Associate .pep files with Prog-Express  
Use icon file:

In this section file extensions can be associated with Prog-Express. By the use of a double click on such an associated file starts Prog-Express automatically. To make settings in this section are administrator privileges necessary.

## Language Options



The desired language can easily be selected by clicking on it. If applicable, download the latest version of Prog-Express from our website [www.batronix.com](http://www.batronix.com) so that you can select all currently supported languages.

The first entry “Automatic” uses the language settings of your operation system. The following languages are sorted alphabetically depending from the English spelling of all languages.

## Add Ons

The screenshot shows the 'Software Options' dialog box with the 'Add Ons' tab selected. The 'Active' section contains four buttons: 'Add', 'Remove', 'Refresh', and 'Activate now'. Below these buttons is a table with the following headers: 'License', 'Licensee', 'Company', 'Activated', and an empty column. The table body is currently empty.

License	Licensee	Company	Activated	
---------	----------	---------	-----------	--

With the menu section “Add Ons” it is possible to add or activate extension modules to get further functions.

## Log Text

Within the log text all details for already finished and running process will be recorded

With a mouse click on a plus or minus character, the nodes can be expanded and reduced. After a new process started, the software will reduce the last process node.

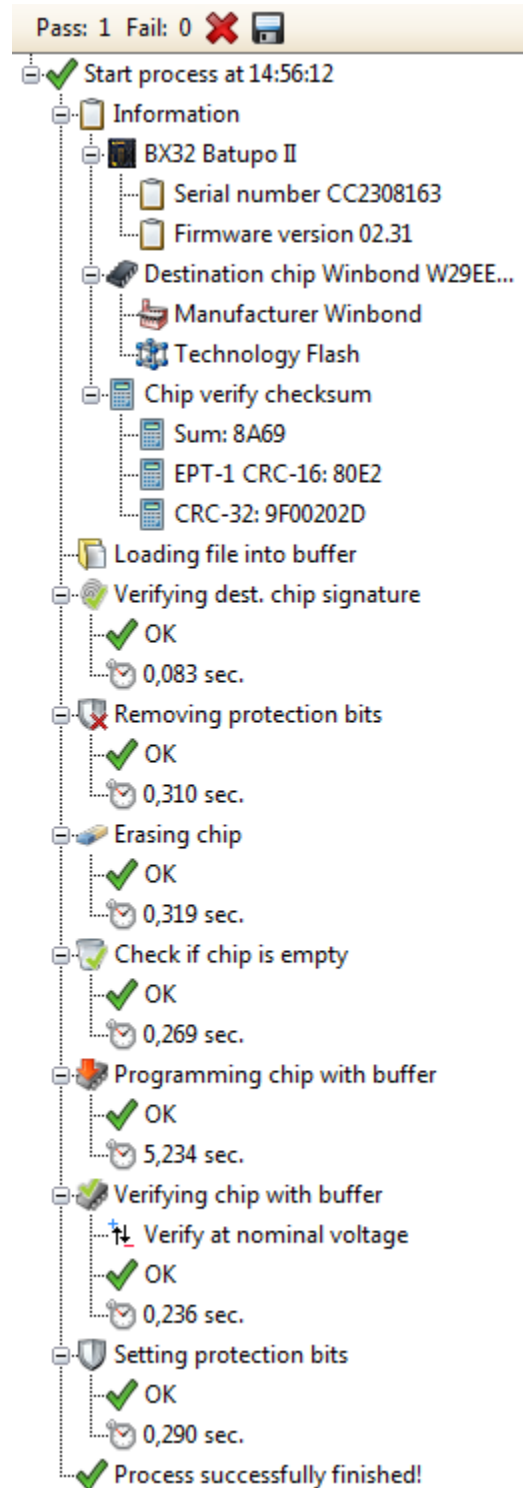
For each process there is an information node and one node for each used process step in the process. The information node contains general information about the process like the used programmer, the chip and file and chip checksums.

The file checksum can be different from the chip checksum for several reasons. The file can be bigger and contain more data than the chip if you choose to program only a part from the chip. It can also be different if you use special programming options or serial numbers. The "Verify chip with buffer" function ensures the correct programming. Generally we can say that the Prog-Express "Verify chip with buffer" function is much more secure than comparing the file checksum with the chip checksum as the verify function compares all bytes exactly and not only compares the checksums of the data.

Within the information node there is also the complete process time including the user time for confirming messages / etc... The time for each process step is listed in the process step nodes.

Aborted processes are marked with a red stop sign, failed processes are marked with a red X, and processes which completed successfully are marked with a green checkmark.

With a click on the red X the whole Log text can be cleared.



## Chip Browser

The chip browser can be activated from many locations in the program, for example the chip selection for the target chip in the software mode "Program Chip".

The chip browser has various functions to help find and select the correct chip among all the different possible chips.

The chips are organized in a tree structure and it is possible to determine the depth of this structure using the following options:



Group chips according to technology.

If this option is activated all chips are grouped according to technology and it is easy to differentiate between, for example, flash chips and EPROM's.



Group chips according to manufacturer.

If this option is activated all chips are grouped according to manufacturer.

Both of these options can be activated at the same time. Chips are grouped first by technology and then by manufacturer.



### The Filter Option

Search criteria can be entered in the text field, and then by activating the filter option only chips that contain the search criteria in the name are shown.

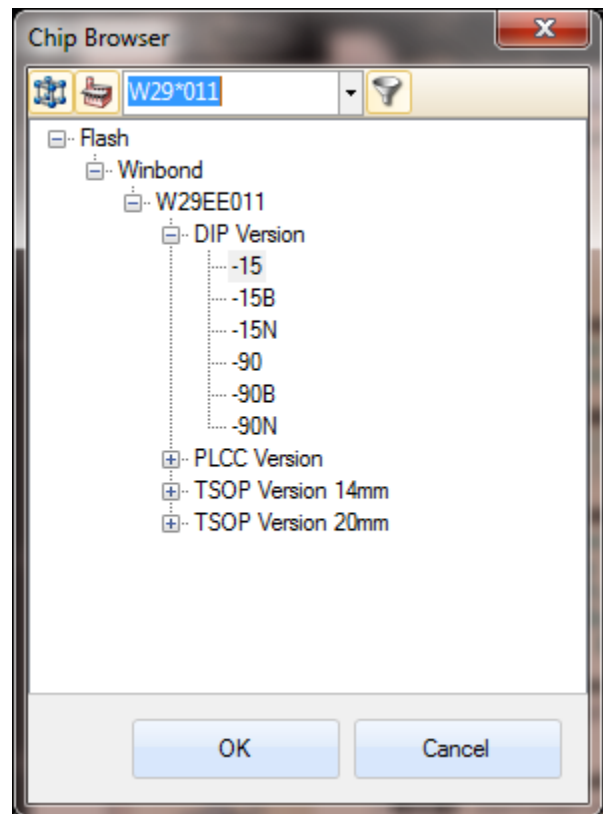
Four different wildcards can be used for filtering.

% This symbol can represent any type and number of characters. For example, filtering for "27%512" returns results like „27512“ / „27c512“ / „27SF512“.

\* The star has the same functionality as the % symbol.

\_ An underscore can replace a single character. For example, filtering for "27\_512" returns results like „27C512“ and „27E512“ but no results like „27512“ or „27SF512“.

? The question mark has the same functionality as the underscore.



## Chip Auto Identify

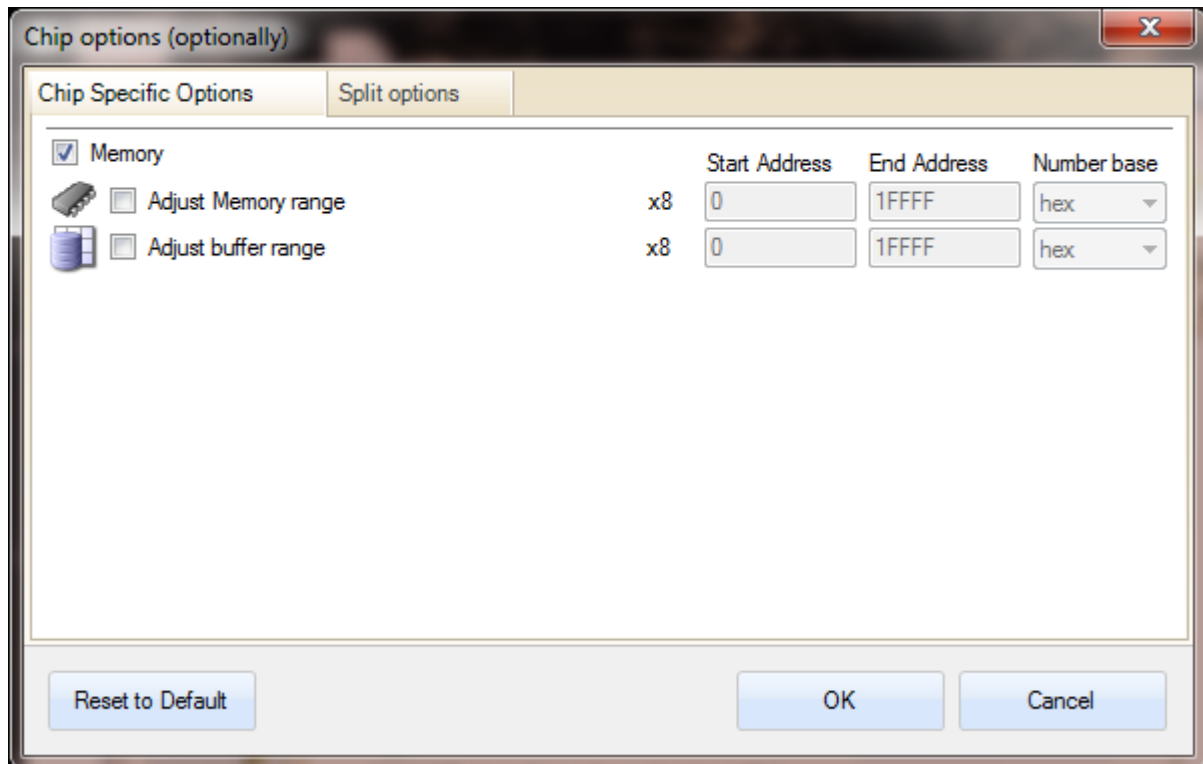
Most chips contain a signature that can be read via special functions. This signature is usually composed of both a manufacturer and a chip identifier combined, with which a chip type can be clearly identified. There are also some chips that don't contain a signature and can therefore not be automatically identified by the software.

Please note that many chips require a relatively high voltage (12.5V) on address line A9 to read this signature. This voltage is sufficient to damage other chips that cannot handle this voltage at the respective pins.

Prog-Express uses the auto-identify feature automatically depending on process settings.

## Chip Options

### Chip Specific Options



#### Memory

Some ICs have more than one memory area. For example several microcontrollers have a separate program memory, a data memory and a configuration memory. For each memory you will find separate adjustment controls in this tab.

#### Adjust Memory range

In default setting, the whole range of the memory will be used. If you want to specify a partial range, please check the “Adjust Memory range”. The used range can be set with the “Start Address” and “End Address”. Only memory addresses within this range will be programmed, read and verified.

#### Adjust buffer range

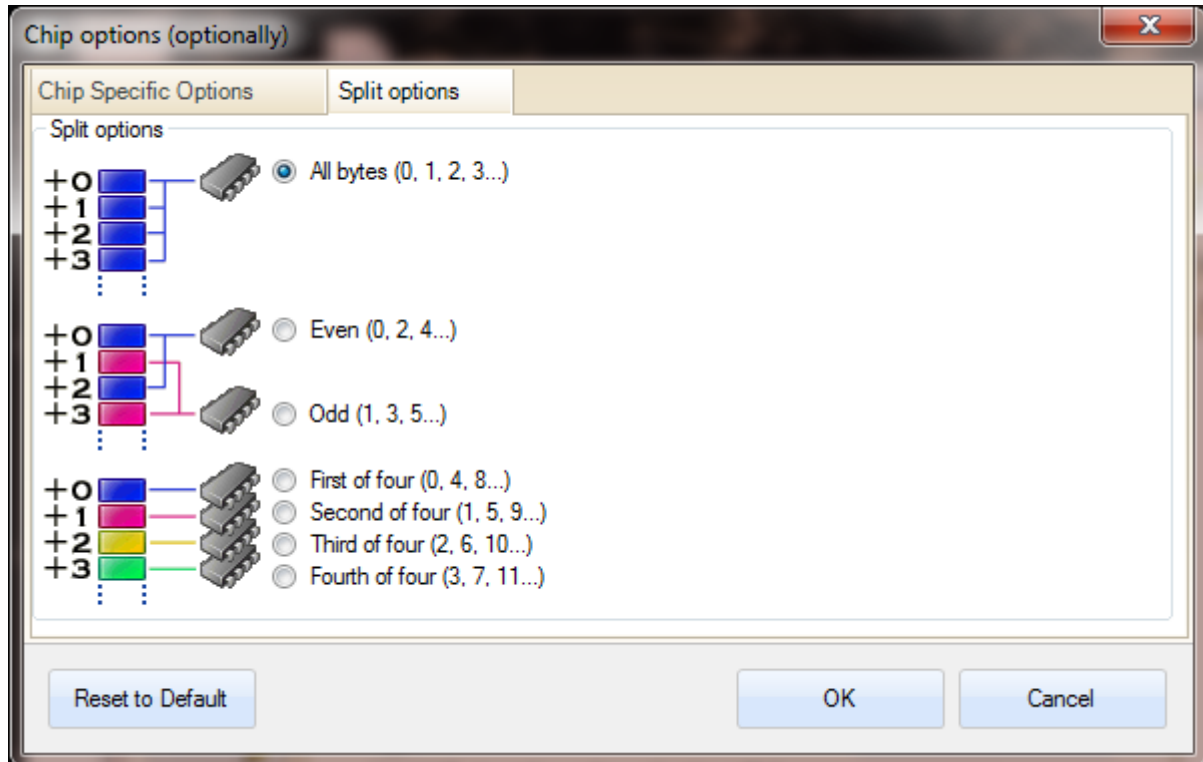
Usually the data will be used starting from the first file (buffer) address. If required you can specify a “Start Address” as offset here. The offset information is based on the data width of the chip. For a 16-bit chip (2 bytes of data per address) the first 4 bytes are skipped if you use an offset address of 2.

#### Special chip options

If the chip has special chip options like a EEPROM serial address or configuration settings, they will be displayed here also.



## Split Options



Three different split-functions are possible:

1. No Split Function: All data is programmed in the chip in the normal manner.
2. Split according to even/odd address: When using the setting “Even” all buffer data with even addresses are programmed into the chip, using the setting “Odd” all data with odd addresses is programmed.
3. Split into four address sections: Here you can select which address locations in each block of four is to be programmed. Each first, second, third, or fourth address out of every four sequential addresses can be selected.

## Serial Numbers

For chip production it is often necessary for each chip to have a unique serial number or address. For this purpose the following settings are available.

**Serial numbers**

☐ Don't insert serial numbers

☐ Load serial numbers from file

...

Current position

DEC 1

☒ Use serial number generator

Chip address for the first serial number byte

HEX 0

Number of serial number bytes

DEC 8

Next serial number

DEC 1

Increment each step by:

HEX 1

Endian

Big endian (H-L)

Number base

Decimal

Number format

Text

Hexcode

30 30 30 30 30 30 30 31

ASCII

00000001

OK Abort

## Serial Number File

Under “Load Serial Numbers from File:” a serial number file can be specified, from which the desired serial numbers are then read. After each successful burn process the next line is read from the file and used for the next burn process.

The serial number file must have the following format:

Lines starting with “#” are comment lines and will be skipped. No comments are allowed in lines with serial numbers.

Spaces and tabs are allowed between the individual values.

Serial number lines must be formatted as follows: The line must start with a hexadecimal address followed by a colon and then a list of comma-separated hex values.

### Example:

The hexadecimal values can be entered in various formats.

```
#Testdata....
#This comment is allowed
1A0h:1, 2, 3, 4, 5, 6, 7, 8, 9
1A0h:11,12,13,14,15,16,17,18,19          #This comment is not allowed
1A0h:21h, 0x22, 23 , &H24 ,25, 26, 27 , 28 , 29
1A0h:*Line with errors*...
```

4E,10,F2 : simple hexadecimal without additions

4Eh,10h,F2h : simple hexadecimal with h as suffix

0x4E,0x10,0xF2 : hexadecimal number with 0x as prefix

&h4E, &h10, &hF2 : hexadecimal number with &h as prefix

It is also possible to enter ASCII data, however these have to be converted to their hexadecimal equivalents. For example if a list of MAC addresses (hardware addresses of computer network cards) is listed this would look as follows:

The Address is: 7F-3C-01-47-FF-04 and should be stored in the chip starting at 05A2h :

```
      7  F  -  3  C  -  0  1  -  4  7  -  F  F  -  0  4
05A2h: 37,46,2D,33,43,2D,30,31,2D,34,37,2D,46,46,2D,30,34
```

Each serial number is written to the chip starting at the specified address for the length of its values.

## Serial Number Generator

The generator produces serial numbers according to its settings. Following settings are possible:

Chip address for the first serial number byte: The first byte of the serial number is stored at this address. Following bytes in the serial number are stored to sequential locations from this address.

Number of serial number bytes: The length of the serial number in bytes. The setting 8 results in 8-digit serial numbers.

Next serial number: The serial number that will be used for the next programming cycle. After each successful programming cycle this is incremented by the "Increment each step by" value.

Increment each step by: After each successful programming cycle the serial number is incremented by this value.

Endian: The Endian specifies whether the LSB (Least Significant Byte) or the MSB (Most Significant Byte) of the serial number is stored to the first location "Chip address for the first serial number byte".

Number Base: The generated serial number can be based on the decimal or hexadecimal number system.

Number Format: The generated serial numbers can be generated as ASCII-Text or binary values.

Hex code / ASCII: These two fields show a preview of the next serial number to be generated (Next Serial Number) according to the specified settings.

## Projects

Projects allow all settings related to the "Programming", "Copying", "Reading", and "Series Production" software modes to be saved and recalled.

The chip selection, file selection, chip options, serial number settings, the number of copies and activated/deactivated process steps are saved for each software mode. In addition, the chip, file, and chip option settings specific to every connected programming device are also saved for the production mode.

The project files use the "pep" extension. This is the abbreviation for "Prog-Express Project". The files are saved as standard text files which can also be opened with a standard text editor. For automation and remote control purposes the project files can also be created in another application and loaded into Prog-Express.

### Saving



The save button opens a file browser. Here the location of the project file and its name can be entered and then saved. If the file exists it can either be overwritten or the process can be aborted.

All settings from all dialogues and all software modes are stored.

### Loading



When loading all stored settings are restored after the desired project file is selected using the file browser.


**Warning!** All previous settings are erased when loading a project, only the buffer data is kept.

## Other

Top right in the software are some further functions: These are “Operator Mode”, “Firmware Update”, “Calibrating”, “Info about Prog-Express” and “Prog-Express Help”.




### Operator Mode

 Here you can save settings against wrong use or readjusting.


### Firmware Update

 With this function the current firmware can be transferred into the programmer.


### Calibrating

 With the help of the test and calibrating tool programmers can be tested and their voltage regulation can be calibrated. This function is not supported by all programmer devices.

### Info about Prog-Express

 Shows an information window about the Software.

### Prog-Express Help

 Opens the software manual.

## Remote Control Of The Prog-Express Software

For special applications you can also control the Prog-Express software remotely from an external program. This can be used to, for example, perform fully automated programming of device-specific adjustment or measurement values.

Commands can be sent to the Prog-Express software when it is run using either a control file or command line parameters.

### Remote Control Using Command Line Parameters

One or more commands can be passed using command line parameters. Every command begins with a slash. Some commands require parameter values such as the name of the file to be loaded. The parameters are separated by spaces, and file paths must be in quotes.

Examples:

```
Prog-Express.exe /open „C:\Directory\FileName.bin”
```

```
Prog-Express.exe /mode program /run 2 /exit
```

Prog-Express is a single-instance application. This means that you can send new commands to the software using command line parameters while the software is running without starting a new instance of the software every time.

### Remote Control Using Script Files

If Prog-Express is started with the command line parameter “/remotefile filename”, then all commands in the file are executed. Using the additional “poll” command the file can be checked continuously for changes. As soon as the file is changed all commands in the file are executed.

Script files can also contain comments which are marked with a semicolon.

Example:

```
; Sample script  
open "C:\Directory\FileName.bin"  
mode program  
run 2  
exit
```

### Remotefile Command

The “remotefile” command can be used to read commands from a file and execute them.

Example:

- Sample: `remotefile „C:\Directory\Remote.txt”` Loads the commands from the specified file and executes them.

## Poll On and Poll Off Commands

Once the “poll on” command has been executed the file previously specified with the "remote file" command is continuously checked for changes. As soon as the file is modified by an external program the commands contained in the file are executed by Prog-Express.

Monitoring is turned off using the “poll off” command. The “poll on” command has an additional parameter with which the interval in which the file is checked for changes can be specified in milliseconds.

Example:

- `Poll on` Turns on monitoring of the remote control file.
- `Poll off` Turns off monitoring of the remote control file.
- `Poll on 2000` Turns on monitoring of the remote control file. The file is checked every 2 seconds (2000 milliseconds) for changes.

## Open Command

With the “open” command a project file (.pep) or a data file (.bin, .hex, .mhx,...) can be opened. All files which do not have the ".pep" extension are loaded into the Hex Editor. All .pep files are recognized as project files and opened as such.

Examples:

- `open "C:\Directory\FileName.bin"` Loads the specified file into the Hex Editor.
- `open "C:\Directory\ProjectSettings.pep"` Loads the file with the stored Prog-Express settings.

## Mode Command

The software mode can be set using the “mode” command. Valid parameters are “program”, “copy”, “read”, “production”, “hexeditor”, and “options”. Example: “Prog-Express.exe /mode program” puts the software into “programming” mode.

Examples:

- `mode program` Puts the software into “programming” mode.
- `mode production` Puts the software into “series production” mode.

## Selectfile Command

The “selectfile” command sets a data source file for the “program chip” or “production” mode or a data target file for the “read chip” mode. Example:

- `selectfile "C:\Directory\FileName.bin"` Sets the specified file as data source/target in the currently selected “programming”, “reading” or “production” mode.



## Processstep Command

Individual process steps can be turned on or off using the “processstep” command, the number of the process step, and the “on” or “off” parameter.

Examples:

- `processstep 3 on` Turns process step number 3 of the current software mode on.
- `processstep 5 off` Turns process step number 5 of the current software mode off.

## Selectprogrammerbyindex Command

The command „selectprogrammerbyindex” selects the programmer by its index number in the current mode.

The programmer index number must be specified as parameter. If only one programmer is connected, you can simply use 0 as index. To get a list of the connected programmers, you can use the “savedeviceinfo” command (see below).

Example:

- `selectprogrammerbyindex 0` Selects the programmer 0 in the current mode.

## Selectprogrammerbyserial Command

The command „selectprogrammerbyserial” selects the programmer by its serial number in the current mode.

The programmer serial number must be specified as parameter. To get a list of the connected programmers, you can use the “savedeviceinfo” command (see below).

Example:

- `selectprogrammerbyindex FD12345678` Selects the programmer with the serial number FD12345678 in the current mode.

## Selectchipvariant Command

With the command „selectchipvariant” the chip in the current mode can be set.

The unique "Chip Variant ID" must be specified as parameter. You can find the correct chip variant id in the chip list which can be created with the “savechiplist” command (see below).

Example:

- `selectchipvariant 697` Sets the chip with the “chip variant ID” 697 in the current mode.

## Autoidentify Command

The chip can be automatically identified using the “autoidentify” command.

A filename can be specified as an additional parameter. If this is specified, Prog-Express saves the chip variant ID and the chip name into this file.

Examples:

- `autoidentify` Performs the auto chip identify function in the active Prog-Express mode.
- `autoidentify "C:\Directory\chip.txt"` Saves the chip variant ID and name into the specified file.

## Run Command

The process of the active software mode can be started using the "run" command. The number of process cycles can be specified as an optional parameter.

If another command is sent after the "run" command, this command is only executed after the process is finished. In this manner several processes can be run one after the other.

Examples:

- `run` Starts the process.
- `run 10` Starts the process for 10 copies.

## Savelog Command

The contents of the log screen can be saved to a file using the “savelog” command.

A filename can be specified as an additional parameter. If this is not specified, Prog-Express saves the log data to the file “log.txt” onto the desktop.

Examples:

- `savelog` Saves the log data to the file log.txt.
- `savelog "C:\Directory\mylog.txt"` Saves the log data to the specified file.

## Savedeviceinfo Command

Information about all connected Batronix USB devices can be saved to a file using the “savedeviceinfo” command.

This command saves the device number, name, serial number, firmware version, actual job, progress percentage and other information about the connected devices.

A filename can be specified as an additional parameter. If this is not specified, Prog-Express saves the device data to the file “deviceinfo.txt” onto the desktop.

Examples:

- `savedeviceinfo` Saves the device data to the deviceinfo.txt file.
- `savedeviceinfo "C:\Directory\devices.txt"` Saves the device data to the specified file.

## Clearlog Command

The contents of the log screen can be cleared using the “clearlog” command.

## Savechiplist Command

The command "savechiplist" creates a text file with all supported chip variants of a programmer. As first parameter the programmer short name needs to be specified (BX32, BX32P, BX40 or BX48). As second parameter the hardware version of the programmer needs to be specified (1, 2).

As third parameter a file name can be specified. If this is not specified, the Prog-Express stores the chip list into the file "chiplist.csv" on the desktop.

Examples:

- `savechiplist BX48 2` Saves the chip list of the „BX48 Batego II“ as chiplist.csv onto the desktop.
- `savechiplist BX48 2 „C:\Directory\chip.csv“` Saves the chip list with the specified name and directory.

## Additional Commands

- `hide` Hides the Prog-Express software.
- `show` Shows the Prog-Express software after a “hide” command.
- `exit` Closes Prog-Express.

## Sample Applications: Programming of Specific Data

Case study: In a production environment special software captures measurement data from specific devices and corresponding adjustment values then need to be programmed to a memory chip.

First all desired special settings such as chip options or serial numbers as well as the chip and the file to be programmed are set during normal Prog-Express operation and saved as a project.pep file.

Then the special software starts Prog-Express with the command line call:

Prog-Express.exe /remotefile "C:\Directory\Remote.txt" /poll on

This starts Prog-Express which then continues to monitor the file remote.txt for changes. The special software first tests the device, then saves the adjustment data to the file adjustments.bin and then saves the remote.txt file with the following contents:

;Sample application	
open "C:\Directory\Project.pep"	;Loads the program settings
mode program	;Switches to "Programming" mode
run	;Starts the process
savelog	;Saves the log data to the file log.txt

Then the special software monitors the log.txt file, evaluates it and then continues on to the next device.