# BSL Scripter Usage Guide

BSL Scripter Version: 1.06
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The BSL Scripting tool is a command line application designed to read in text files containing BSL commands, and send these commands to a BSL connected to the PC. This application can therefore serve as a device programmer, a starting point for custom application creation (as source code is included), and a reference for correct protocol usage (as data TX/RX can be observed via the verbose mode).

**Please note: Currently the BSL Scripter Application does not support BSLs on 1/2/4xx devices. For communication with these older devices, please use the BSLDEMO2.exe tool, found in the "Deprecated" folder.**

**Text File format:**
The BSL Scripting Language will be in the form of text files. Each line must have a single command with no preceding spaces. Each command can accept either optional or required parameters, described below. Parameters in brackets are meant to be substituted with a value; otherwise they indicate a value to be typed literally. Lines can be commented out using "//" as the first characters.

**Usage:**
The BSL Scripter can be started from the command line by typing the application name then typing the name of the file to read. Note: the file and any other used files must be in the same directory as the scripter application:

BSL_Scripter.exe <file_name>

# Command Descriptions

| Command | **MODE** {*FAMILY}{COM}* |
|---|---|
| Description | Initializes the selected communication channel for a BSL session and invokes the BSL (if required). This command also tells the PC side engine which communication protocol should be used, according to the FAMILY parameter. |
| Parameters | **FAMILY** [Required] Acceptable Parameters:<br>• **543x_family**: Indicates communication with a BSL on the following devices:<br>o MSP430F5418 / MSP4305419<br>o MSP430F5435 / MSP4305436<br>o MSP430F5437 / MSP4305438<br>o **Note:** the 5438A and all other 54xxA devices are not included, they are handled by "5xx"<br>• **5xx**: Indicates communication with all other 5xx<br>• **6xx**: Currently identical to '5xx' and can be used interchangeably<br>**COM** [Required] Acceptable Parameters<br>• **COM**{x**}**: Indicates the PC COM port to use for UART |

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| | communication, i.e. COM1<br>• **USB:** Indicates that communication will take place via USB |
| Examples | MODE 543x_family COM1<br><br>MODE 5xx COM1<br><br>MODE 5xx USB |

| Command | **DELAY** {*MS}* |
|---|---|
| Description | Causes a delay of {MS} number of milliseconds |
| Parameters | **MS** [Required] The number of milliseconds to wait before proceeding |
| Example | DELAY 1000 |

| Command | **RX_DATA_BLOCK** {*FILENAME}* |
|---|---|
| Description | Causes the BSL to read the supplied TI TXT file and download all data contained in this file to the MSP430 |
| Parameters | **FILENAME** [Required] The name of the TI TXT file to read |
| Example | RX_DATA_BLOCK Big_File.txt |

| Command | **RX_DATA_BLOCK_FAST** {*FILENAME}* |
|---|---|
| Description | Identical to RX_DATA_BLOCK except no verification of programming is returned by BSL. This is useful for USB programming only, as it dramatically increases programming speed.<br>**Note:** As there is no confirmation of correct programming, the BSL scripter can only confirm that the file was sent. |
| Parameters | **FILENAME** [Required] The name of the TI TXT file to read |
| Example | RX_DATA_BLOCK_FAST RAM_BSL.00.05.04.34.txt |

| Command | **RX_PASSWORD** {*FILENAME}* |
|---|---|
| Description | Causes the BSL to read the supplied TI TXT file and submit this data to the BSL as a password to unlock the device<br><br>**Note:** Although the same command is used to supply the password for the 543x family and other 5xx devices, the password file needs to be handled differently for these devices due to the smaller password size in the 543x family. For more details, please see the Bootstrap Loader User's Guide.<br><br>**Note:** For USB BSLs, without a built in MASS ERASE command, this command can be used in conjunction with a known incorrect password in order to trigger a mass erase. |
| Parameters | **FILENAME** [optional] The name of the TI TXT file to read. If not supplied, the default password will be used. |

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| Examples | RX_PASSWORD<br><br>RX_PASSWORD app_pass.txt |

| Command | **ERASE_SEGMENT** {*ADDRESS}* |
|---|---|
| Description | Causes the BSL to erase the segment containing the supplied address |
| Parameters | **ADDRESS** [Required] hex number. An address within MSP430 flash, the segment which contains this address will be erased |
| Examples | ERASE_SEGMENT 0x10000<br><br>ERASE_SEGMENT 0x8000 |

| Command | **MASS_ERASE** |
|---|---|
| Description | Causes the BSL to perform a Mass Erase |
| Parameters | **None** |
| Example | MASS_ERASE |

| Command | **CHANGE_BAUD_RATE** *{SPEED}* |
|---|---|
| Description | Changes the communication rate to the given speed |
| Parameters | **SPEED** [Required] A new baud rate, one of the following strings<br>• 9600<br>• 19200<br>• 38400<br>• 57600<br>• 115200<br><br>**Note:** please see individual BSL descriptions in the User's Guide for information on which baud rates are supported. |
| Examples | CHANGE_BAUD_RATE 115200<br><br>CHANGE_BAUD_RATE 9600 |

| Command | **SET_PC** *{ADDR}* |
|---|---|
| Description | Sets the program counter to supplied address.<br><br>**Note:** This function performs a function call to this address, so it can be returned from if required. |
| Parameters | **ADDR** [Required] An address to which the MSP430's Program Counter will be set and begin program execution |
| Example | SET_PC 0x2504 |

| Command | **TX_DATA_BLOCK** *{ADDR}{LENGTH}{FILENAME}* |
|---|---|
| Description | Writes a block of data in TI TXT format to given file |
| Parameters | **ADDR** [Required] The Address at which the read should begin<br>**LENGTH** [Required] The number of bytes to read<br>**FILENAME** [Required] The file to which the read bytes will be written. |
| Example | TX_DATA_BLOCK 0x8000 0x100 Data_Read.txt |

| Command | **TX_BSL_VERSION** |
|---|---|
| Description | Queries the BSL for version string |
| Parameters | **none** |
| Example | TX_BSL_VERSION |

| Command | **CRC_CHECK** *{ADDR}{LENGTH}{EXPECTED}* |
|---|---|
| Description | Performs a CRC check starting at the given Address over length number of bytes. This command will simply output the result of the CRC operation, or compare the result to a supplied value and report whether there is a match or not |
| Parameters | **ADDR** [Required] The Address at which to begin the CRC<br>**LENGTH** [Required] The number of bytes to include in the CRC<br>**EXPECTED** [Optional] The value to compare with the CRC result |
| Example | CRC_CHECK 0x8000 0x10 0xCFB8<br><br>CRC_CHECK 0x8000 0x10 |

| Command | **VERBOSE** |
|---|---|
| Description | Causes the PC application to toggle output for all transmitted and received bytes on or off |
| Parameters | **none** |
| Example | VERBOSE |