

The BSL Scripting Language will be in the form of text files. Each line will be a single command. Each command can accept either optional or required parameters, described below. Parameters in brackets are meant to be substituted with a parameter, otherwise they indicate a value to be typed literally.

Command	INIT_COMM { <i>MODE</i> }{ <i>COM</i> }
Mode valid	ROM, 5438, FLASH
Description	Initializes the PC COM port for communication with the BSL, does not invoke the BSL. This command also tells the PC side engine which communication protocol should be used.
Parameters	MODE Required. Acceptable Parameters: • ROM Indicates the ROM based BSL • 5438 Indicates the 5438 BSL • FLASH Indicates all future Flash based BSLs using UART COM Optional. The PC COM port to initialize, in the form of “COMx” where x is a positive number with no leading zeros. Default is COM1
Output	“Initializing COM Port {COM} “ followed by “done” or “fail” if error

Command	CLOSE_COMM
Mode valid	ROM, 5438, FLASH
Description	Closes PC side COM Port
Parameters	none
Output	“Closing COM Port “ followed by “done” or “fail” if error

Command	DELAY { <i>MS</i> }
Mode valid	ROM, 5438, FLASH
Description	Causes a delay of {MS} number of milliseconds
Parameters	MS The number of milliseconds to wait before proceeding
Output	“Delay of {MS} milliseconds”

Command	INVOKE_BSL
Mode valid	ROM, 5438, FLASH
Description	Invokes the BSL

Parameters	none
Output	“Invoking BSL “ followed by “done” or “fail” if error

Command	RX_DATA_BLOCK { <i>FILENAME</i> }
Mode valid	ROM, 5438, FLASH
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
Output	Status report for each block downloaded to each address, along with a Done/Fail indication

Command	RX_PASSWORD { <i>FILENAME</i> }
Mode valid	ROM, 5438, FLASH
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
Parameters	FILENAME optional. The name of the TI TXT file to read. If not supplied, the default password will be used.
Output	“supplying password from { <i>FILENAME</i> }” or “supplying default password” followed by “done” or “fail” if error

Command	ERASE_SEGMENT { <i>ADDRESS</i> }
Mode valid	ROM, 5438, FLASH
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
Output	“Erasing segment containing { <i>ADDRESS</i> }” followed by “done” or “fail” if error

Command	ERASE_MAIN_OR_INFO { <i>ADDRESS</i> }
Mode valid	ROM
Description	Causes the BSL to erase either the main memory, or info memory, depending on the address supplied
Parameters	ADDRESS Required, hex number. An address within MSP430 flash. If the address is within info memory, the info memory will be erased. If it is within main memory, the main memory will be erased.
Output	“Erasing main memory or info at { <i>ADDRESS</i> }” followed by “done” or “fail” if error

Command	MASS_ERASE { <i>CYCLES</i> }
Mode valid	ROM, 5438, FLASH
Description	Causes the BSL to perform a Mass Erase
Parameters	CYCLES Optional decimal number [ROM]. Instructs the BSL to perform additional number of mass erase cycles
Output	“Mass Erase” followed by “done” or “fail” if error

Command	ERASE_CHECK { <i>ADDR</i> } { <i>LENGTH</i> }
Mode valid	ROM
Description	Checks to see there are all 0xFF values starting at { <i>ADDR</i> } for { <i>LENGTH</i> } bytes
Parameters	ADDR Required hex number. The address of the first byte to check for proper erasure LENGTH Required hex number. The number of bytes to check
Output	“Erase Check starting at { <i>ADDR</i> } for { <i>LENGTH</i> } bytes” followed by “done” or “fail” if error

Command	CHANGE_BAUD_RATE { <i>SPEED</i> }
Mode valid	ROM, 5438, FLASH
Description	Changes the communication rate to the given speed
Parameters	SPEED Required. A new baud rate, one of the following strings • 4800 • 9600 • 19200 • 38400 • 57600 • 115200
Output	“Changing baud rate to { <i>SPEED</i> }” followed by “done” or “fail” if error

Command	SET_MEMORY_OFFSET { <i>OFFSET</i> }
Mode valid	ROM
Description	Sets the memory offset for CPU X devices
Parameters	OFFSET Required. A value that will be appended above the 16 bits of any subsequent 16 bit addresses. Acceptable values:

	• 1 • 0
Output	“Changing memory offset to high memory” or “Changing memory offset to low memory” followed by “done” or “fail” if error

Command	SET_PC {ADDR}
Mode valid	ROM, 5438, FLASH
Description	Sets the memory offset for CPU X devices
Parameters	ADDR Required. An address to which the MSP430’s Program Counter will be set and begin program execution
Output	“Setting Program Counter to {ADDR}”

Command	TX_DATA_BLOCK {ADDR}{LENGTH}{FILENAME}
Mode valid	ROM, 5438, FLASH
Description	Writes a block of data in TI TXT format to given file
Parameters	ADDR Required. The Address at which the read should begin LENGTH Required. The number of bytes to read FILENAME Required. The file to which the read bytes will be written.
Output	Status report for each block read from each address, along with a Done/Fail indication

Command	TX_BSL_VERSION
Mode valid	ROM, 5438, FLASH
Description	Queries the BSL for version string
Parameters	none
Output	“Getting BSL Version” and detailed description of current BSL, or “fail” if error

Command	TX_BUFFER_SIZE
Mode valid	ROM, 5438, FLASH
Description	Queries the BSL for it’s buffer size, adjusts all communication appropriately
Parameters	none
Output	“Getting Buffer Size” followed by “done” or “fail” if error

Command	CRC_CHECK {ADDR}{LENGTH}
Mode valid	5438, FLASH
Description	Performs a CRC check starting at the given Address over length number of bytes
Parameters	ADDR The Address at which to begin the CRC LENGTH The number of bytes to include in the CRC
Output	“Performing CRC:” followed by a 16 bit CRC value or “fail” if error

Command	VERBOSE
Mode valid	ROM, 5438, FLASH
Description	Causes the PC application to toggle output for all transmitted and received bytes on or off
Parameters	none
Output	“Verbose mode on” or “Verbose mode off” Note: Bytes sent by PC are in square brackets [0x80] Bytes received by PC are in braces {0x80}

Example Script to invoke BSL, upload RAM BSL, download data faster:

```
INIT_COMM 5438 COM1
INVOKE_BSL
TX_BUFFER_SIZE
RX_PASSWORD Pass.txt
RX_DATA_BLOCK RAM_BSL.txt
SET_PC 0x220
CHANGE_BAUD_RATE 153600
TX_DATA_BLOCK 0xC000 0x100 output.txt
CLOSE_COMM
```