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## **Zilog Standalone Programmer Configuration Software**

*for Z8Encore! and S3 Microcontrollers*

**User Manual**

UM029304-0920



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## Revision History

Each instance in the Revision History table below reflects a change to this document from the previous version.

Date	Rev	Description
2017 Jul	01	Original Issue
2018 Nov	02	Added Z8 Encore Family support
2019 Apr	03	Added description of new Advanced view for configuring ZSP password protection and program counter (PC) features available in ZSP v2.1
2020 Sept	04	Converted the chm User Manual file to pdf

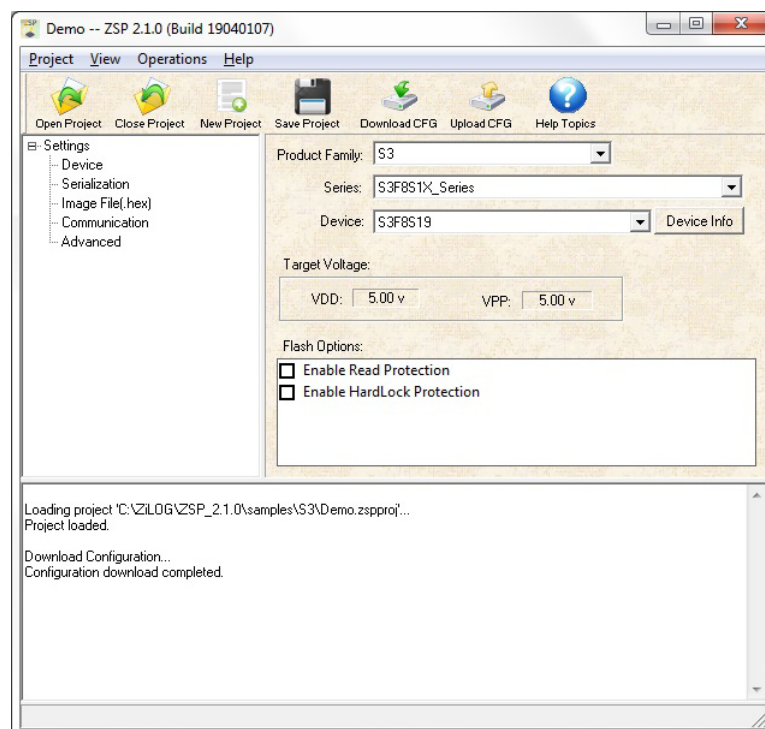


## Overview

The Zilog Standalone Programmer (ZSP) USB dongle is used for production programming or field-updating an application in Flash memory on Zilog's S3 and Z8 Encore family of microcontrollers. Target Programming can be performed manually at the touch of a button on the ZSP, or automatically by an external programmer through the ZSP external controller interface.

Prior to programming a target device, the USB ZSP dongle must be programmed with a target image (Hex) file and configuration information using the ZSP Configuration Software running on a Windows PC. This manual explains how to use the ZSP Configuration Software.

The figure below shows the Device configuration information dialog of the ZSP software.





## Getting Started

This chapter describes the ZSP configuration software prerequisites and how to install the ZSP software. For more information on setting up the ZSP USB dongle and operating the dongle when the ZSP configuration SW is not running, refer to the Zilog Standalone Programmer User Manual, UM0287.

### Hardware Requirements

Proper operation of the ZSP configuration software requires the following hardware components:

- Zilog Standalone Programmer (ZSP) USB dongle (ZUSBZSP0100ZACG) with a USB mini-B to Type-A cable.
- PC running a supported operating system with an unused full-speed (or higher) USB port that will be used by the ZSP USB dongle

### Supported Operating Systems

- Windows XP 32-bits (SP3)
- Windows 7 32 and 64-Bits
- Windows 8 32 and 64-Bits
- Windows 10 32 and 64-Bits

### Installing the ZSP Configuration Software

1. Download ZSP from the Downloadable Software category > [Free software](#) in the Zilog Store
2. Run the software installation file and follow the on-screen instructions to install the ZSP configuration software and ZSP Windows driver package.
3. Attach the ZSP USB dongle to the PC where the ZSP configuration software was installed



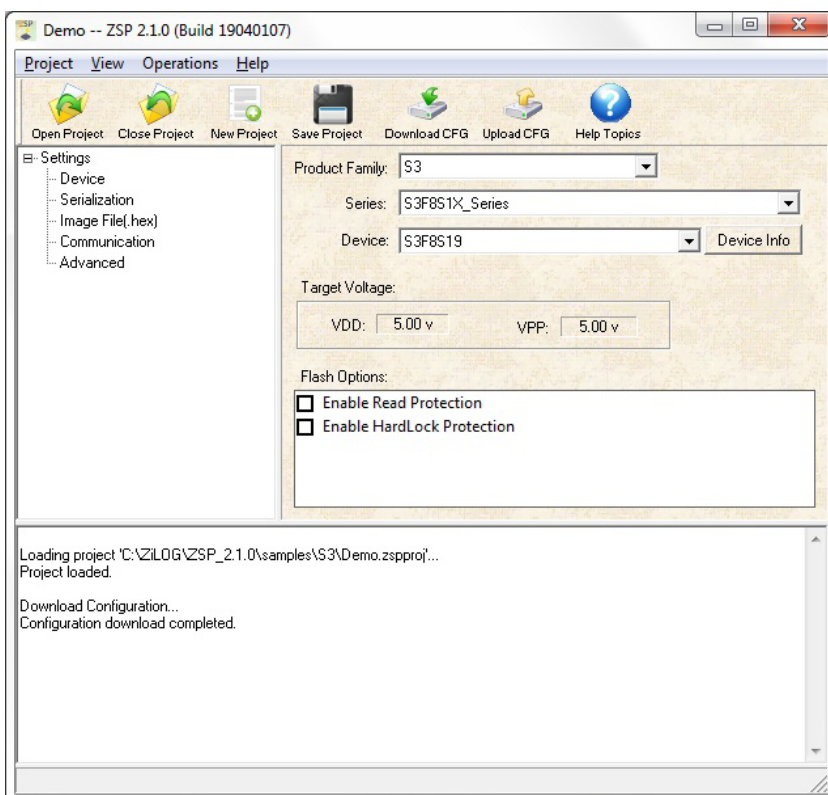
## Using the ZSP Configuration Software

This section describes the ZSP configuration software menu bar, toolbar icons and windows. The menu bar is described from left to right (Project, View, Operations, and Help). Drop-down menu options and their associated dialog boxes are described from top to bottom. Toolbar icons are a one-click shortcut to the most commonly used submenu options. For example the Open Project toolbar icon is a one-click shortcut to the Open drop-down menu option available by clicking Project on the menu bar.

The ZSP configuration software display is composed of three windows: Settings, Output and Configuration. The layout of the Settings and Output windows does not change, but the information displayed and user controls available in the Configuration window changes depending on which project view is active.

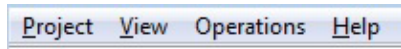
Refer to the [Tutorial](#) section to learn how to accomplish common tasks using the ZSP configuration software.

- [Menu Bar](#)
- [Toolbar Icons](#)
- [Windows](#)





## Menu Bar

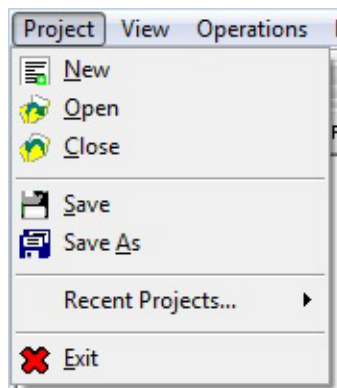


The menu bar activates one of the ZSP configuration software top-level menus. Each top-level menu consists of a drop-down list of

related options. Menu options that end with an ellipsis (...) open a dialog box requiring user input. The following drop-down menus are available through the menu bar:

- [Project menu](#)
- [View menu](#)
- [Operations menu](#)
- [Help menu](#)

## Project Menu



The ZSP Configuration software uses project files to store target configuration information such as processor type and the location the Hex file containing the actual application image to be programmed into the target in standalone mode of operation. The Project menu is used to perform project file operations such as opening and closing existing project files, creating a new project file or saving project file changes. The following menu items are available in the Project drop-down menu:



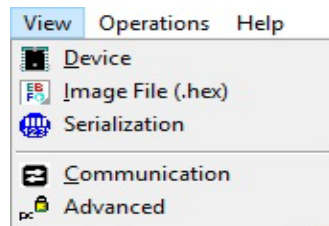
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- **New** Create a new project
- **Open** Open an existing project
- **Close** Close the current project
- **Save** Save the current project
- **Save As** Save the current project with a new name
- **Recent** Display recently opened projects and open an existing project
- **Exit** Close the ZSP Configuration Software environment

## View Menu



The View menu selects which group of settings (Device, Image File, Serialization, and Communication) is displayed in the ZSP Configuration window. Click the name of the configuration view for a description the settings that can be modified.

- [Device](#)
- [Image File \(.hex\)](#)
- [Serialization](#)
- [Communication](#)
- [Advanced](#)



## View > Device menu

The device view shows configuration settings pertaining to the target MCU that will be programmed in standalone mode. Selections made in the device configuration window allow the ZSP configuration software to properly initialize the USB programmer. For proper target programming and operation, it is important that the application was built using compatible device settings.

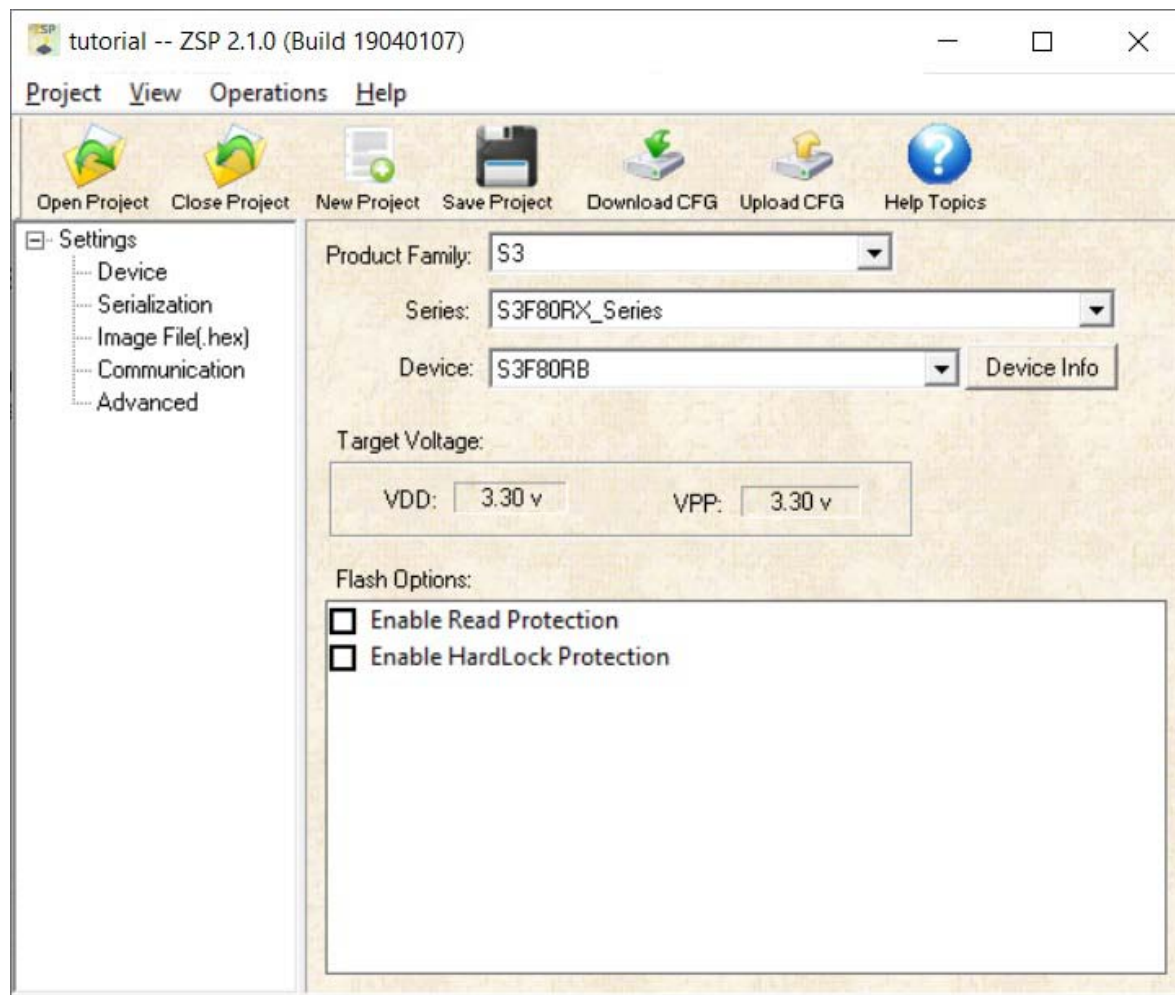
1. Launch the ZSP Configuration Software
2. Click **View** on the menu bar and then click **Device** to display the Device configuration .
3. Click on the **Product Family** drop-down list box to select the Product Family.
4. Select the **Series** from the drop-down list.
5. Select the **Device** from the drop-down list. Click the DeviceInfo button for a brief description of the Device selected.

### For S3 devices:

6. Click the **Enable Read Protection** checkbox to enable read protection. Once enabled, it will no longer be possible for the ZSP to read the contents of Flash memory on the S3 target (all data read from the target will have a value of 0x00, even if the target was programmed). Consequently, when the ZSP is used to verify the contents of S3 target Flash memory, the operation will fail, the red FAIL LED is illuminated, and an error code will be displayed on the LCD panel.
7. Click the **Enable Hard Lock Protection** checkbox to enable hard lock protection. Once enabled, it will not be possible for an application programmed into Flash memory on the S3 target to erase and/ or reprogram the contents of Flash memory. Hard Lock protection does not affect the ability of the ZSP to verify the contents of S3 target Flash memory.:

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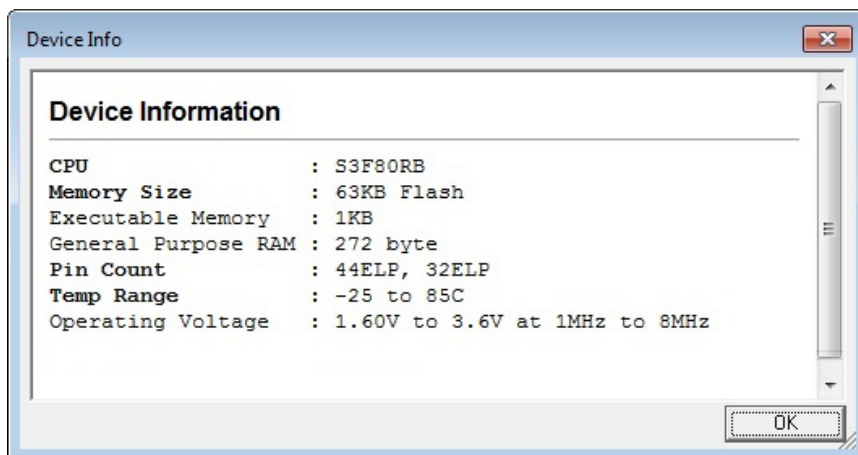


### Device Info Button

Clicking the **DeviceInfo** button displays information about the target MCU as shown in the following example:

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If you do not have the ZDS II-S3 or Z8Encore! documentation installed on your machine, perform the following procedure below:

### Download and Install the S3 Documentation

1. Download ZDS II - S3 5.3.2 (or later) from the Zilog [Software Downloads](#) page.
2. When the download is complete, unzip the file to your hard drive, then double-click the installation file named **DOCS\_S3\_<Version>.exe** and follow the on-screen instructions.

### Download and Install the Z8Encore Documentation

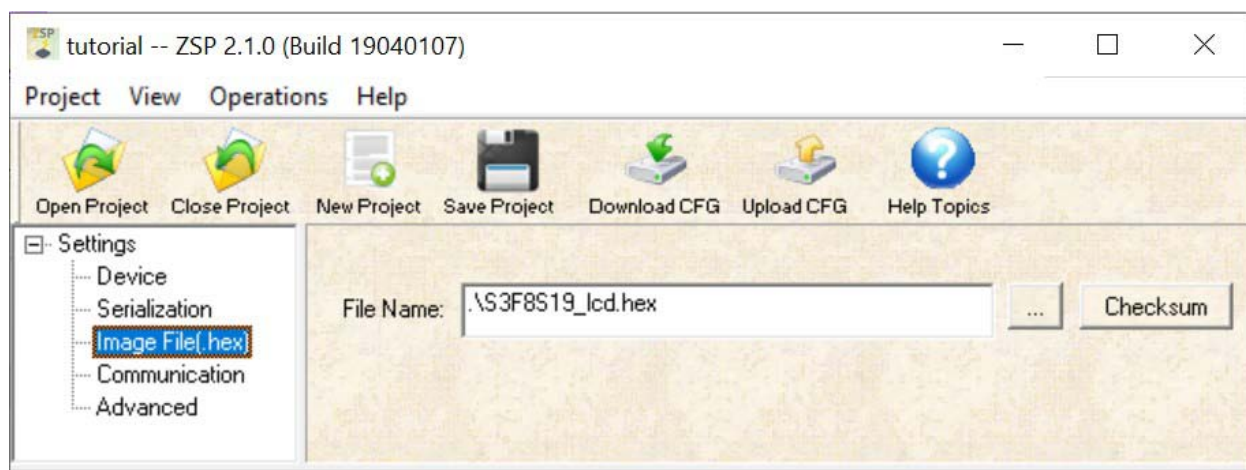
1. Download ZDS II - Z8 Encore! 5.2.2(or later) from the Zilog [Software Downloads](#) page.
2. When the download is complete, unzip the file to your hard drive, then double-click the installation file named **DOCS\_Z8Encore!\_<Version>.exe** and follow the on-screen instructions.



## View > Image File (.hex) menu

The Image File configuration window is used to select the Hex file to be programmed into Flash memory on target devices when the ZSP EXE button is pressed with the selection switch in the Program position.

1. Launch the ZSP Configuration Software
2. Click **View** on the menu bar and then click **Image File (.hex)** to open the Image File configuration window..
3. Click the **Browse button** (...) to open the **Open** dialog box.
4. Navigate to the folder containing the appropriate Hex file and then double click the filename. Alternatively click the appropriate filename and then click the **Open** button.



## Checksum

1. Click the **Checksum** button to open the Calculate Checksum dialog box.
2. Click the **Start** button to view the checksum values.

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Calculate Checksum

File Name: .\S3F8S19\_lcd.hex

ROM size: 8000

Pad value: FF

	HEX
Highest Address of the Input File:	06E4
Checksum from the Lowest Address to the Highest Address (no pad):	2C88
Checksum padded with 0xFF from 0 to the Highest Address:	7D37
Checksum padded with 0xFF from 0 to the end of flash:	1F1C

Start Close



## View > Serialization menu

The Serialization view is used to enable or disable programming a unique serial number into Flash memory on the target device when the ZSP EXE button is pressed with the selection switch in the Program position. The serial is incremented or decremented after each target is programmed based on the settings in the serialization view.

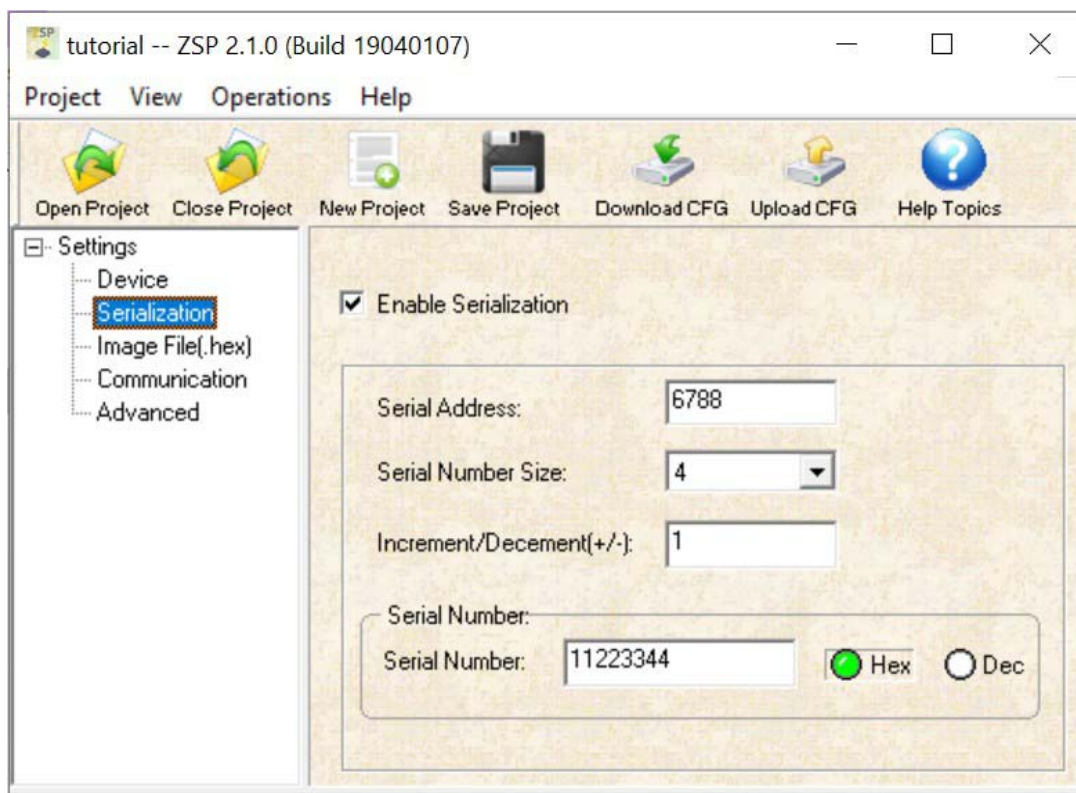
1. Launch the ZSP Configuration Software
2. Click **View** on the menu bar and then click **Serialization** to display the Serialization configuration window.
3. Click the **Enable Serialization** checkbox to enable programming a unique serial number into Flash memory on the target device. When serialization is enabled (Enable Serialization checkbox is displayed with a checkmark) additional serialization controls will be enabled as explained below. Clicking the Enable Serialization checkbox when the checkbox is checked disables serialization and all controls except the Enable Serialization checkbox.
4. In the **Serial Address** text box, enter the target memory location where the first byte of the serial number is to be programmed. Subsequent bytes in the serial number are programmed into sequential address after the starting address. For proper programming and operation of the target device, the Serial Address must be located within the Flash address space of the target and must not overlap any areas of Flash memory occupied by the target image (Hex) file.
5. Enter the length of the serial number (in bytes) in the **Serial Number Size** text box; or click the dropdown arrow to select the length of the serial number. Serial numbers must be between 1 and 8 bytes long.
6. Enter the decimal value to add to the serial number after each target device is programmed in the **Increment/Decrement(+/-)** text box. Entering a positive value causes the serial number programmed into subsequent target devices to increase while entering a negative value causes subsequent serial numbers to decrease. Entering a value of 0 results in all target devices being programmed with an identical serial number.
7. Enter the value of the serial number to be programmed into the **Serial Number** textbox. After the first target device is programmed, the serial number the ZSP uses to program the next target device is incremented (or decremented) by the value in the **Increment/Decrement(+/-)** text box. The initial serial number can be entered in hexadecimal or decimal by clicking either the **Hex** or **Dec** radio buttons. Clicking the **Hex** and **Dec** radio buttons after the serial number has been entered causes the starting serial number to be displayed according to which radio button is last selected.



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8. After completely configuring the Serialization settings (as well as the Device and Image File settings) click the Download CFG toolbar icon to load the Serialization settings into the ZSP for subsequent device programming operations. Note that when a serialized target is verified, the target's serial number is ignored. Also , note that the Serial Number value displayed after clicking the Upload CFG toolbar icon might not match the Downloaded configuration if the ZSP was used to program one or more target devices.




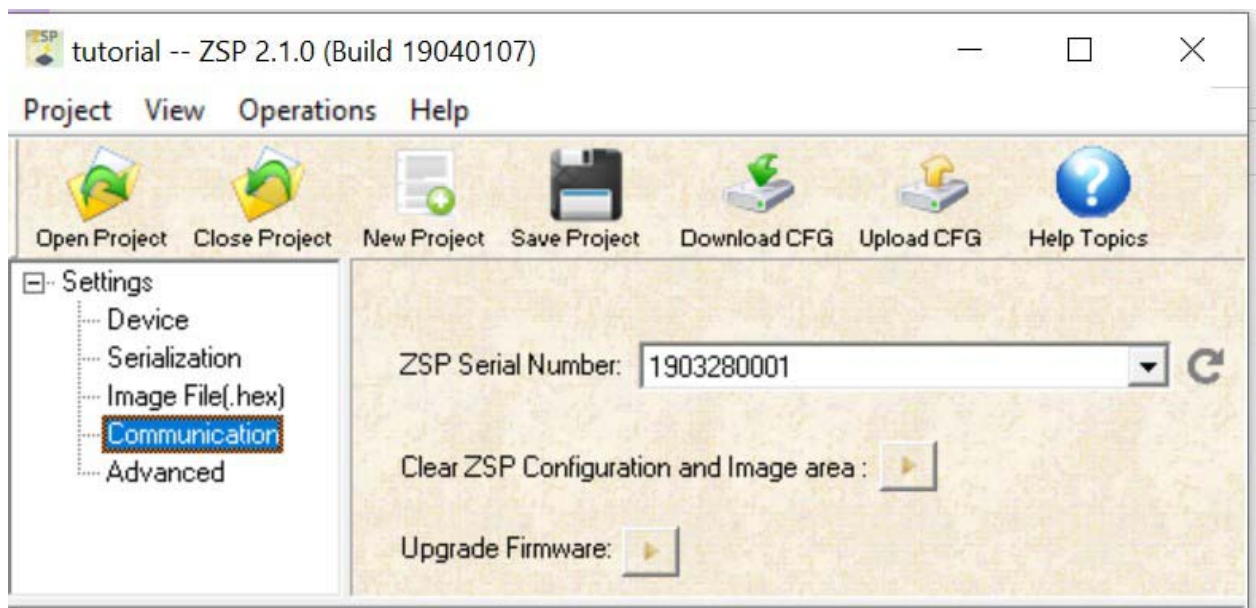





## View > Communication menu

The communication view is used to select which ZSP device is to be configured by the ZSP configuration software and optionally clear all ZSP configuration information or upgrade the ZSP firmware. Launch the ZSP Configuration Software.

1. Click the **View** menu bar item and then click **Communication** to display the ZSP communications settings.
2. Select the serial number of the ZSP device to be configured by clicking in the ZSP Serial Number list box (or clicking the drop-down arrow) and then click the appropriate entry. If there is only one ZSP device attached to the PC, then only one serial number is displayed. If the serial number of the ZSP device to be configured is not displayed in the drop-down list, then click the Refresh button (  ).



### Clear ZSP Configuration and Image area Start Button

Click the Clear ZSP Configuration and Image area **Start** button (  ) to clear all target configuration information (including the target image file). It can take up to approx. 60 seconds to completely clear all configuration information and image file(s) from the ZSP.

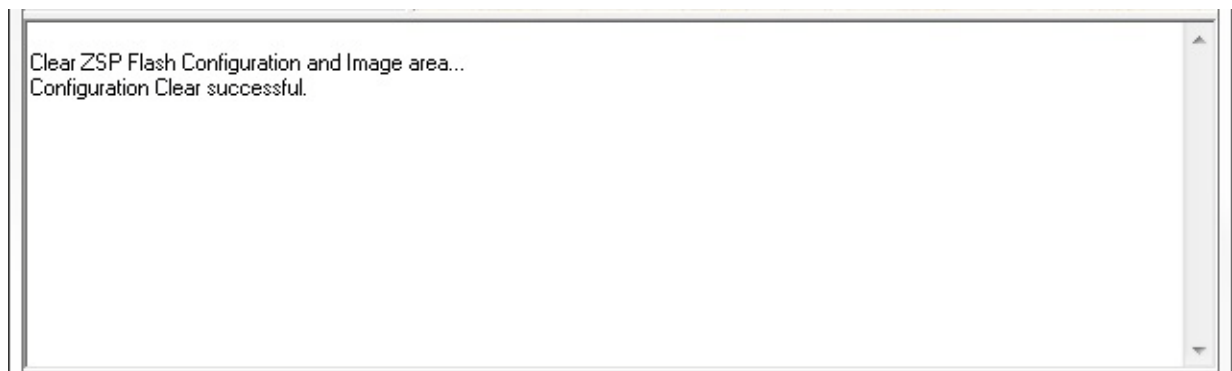
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During this time, the Windows mouse pointer will change to the busy icon and the ZSP configuration software title bar may show “Not Responding”. Once all ZSP configuration information has been cleared, the Output window will display a message indicating whether the operation succeeds, and the mouse pointer icon returns to normal. If the “NOT Responding” message was displayed in the application title bar, that message is removed once all configuration data has been cleared.

Typically there is no need to clear the target configuration information using the Clear ZSP Configuration and Image area Start button. However, if the red FAIL LED is illuminated and error code -127 is displayed on the LCD panel, then it may be necessary to clear all target configuration information before new configuration information can be downloaded into the ZSP. Typically, this only becomes necessary if power is lost while downloading new configuration information to the ZSP.

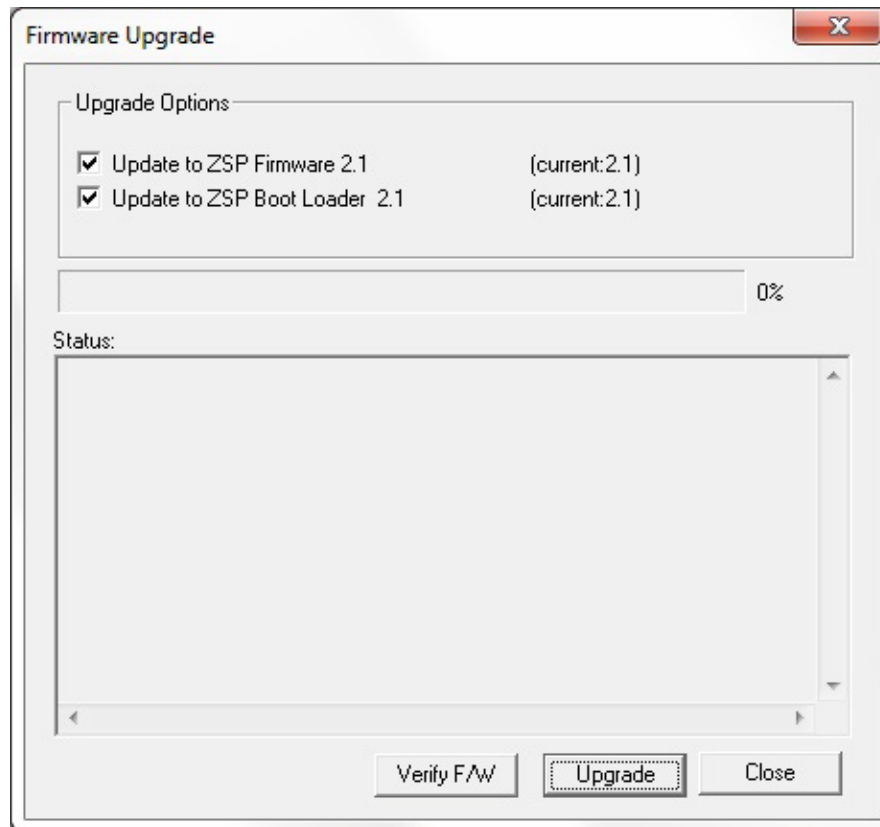


## Upgrade Firmware Start Button

1. Click the **Upgrade Firmware** Start button to open the Firmware Upgrade dialog box as shown below:

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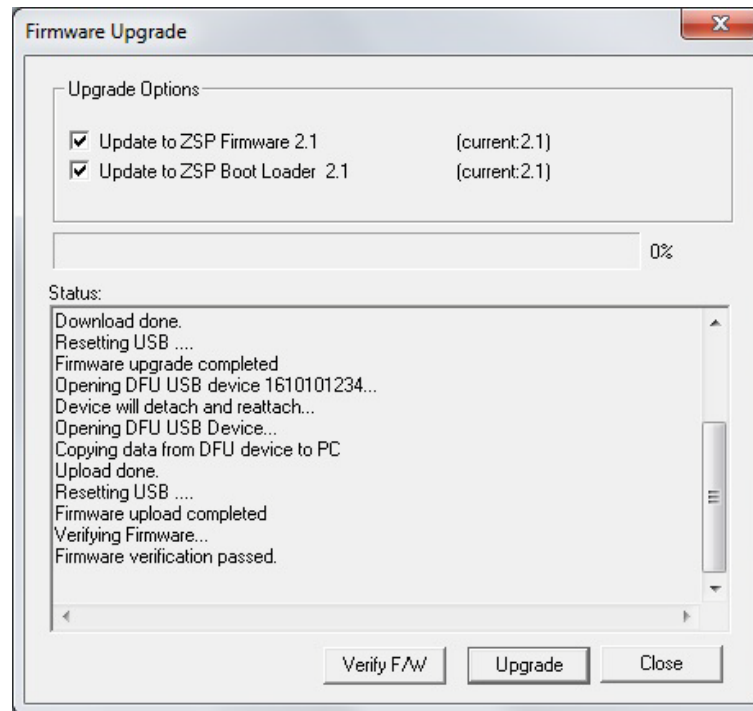
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2. In the **Upgrade Options** area, select whether ZSP firmware and/or Boot Loader module should be upgraded or verified by clicking the associated checkbox. By default, both the ZSP firmware and Boot loader checkboxes are selected (checked) indicating that both modules will be upgraded or verified.
3. Click the **Upgrade** button to update the selected firmware module(s). Status messages are displayed in the Status window in the lower portion of the Firmware Upgrade dialog box during the upgrade or verify operation. Messages displayed during a successful ZSP FW upgrade will be similar to the messages shown in the following figure:

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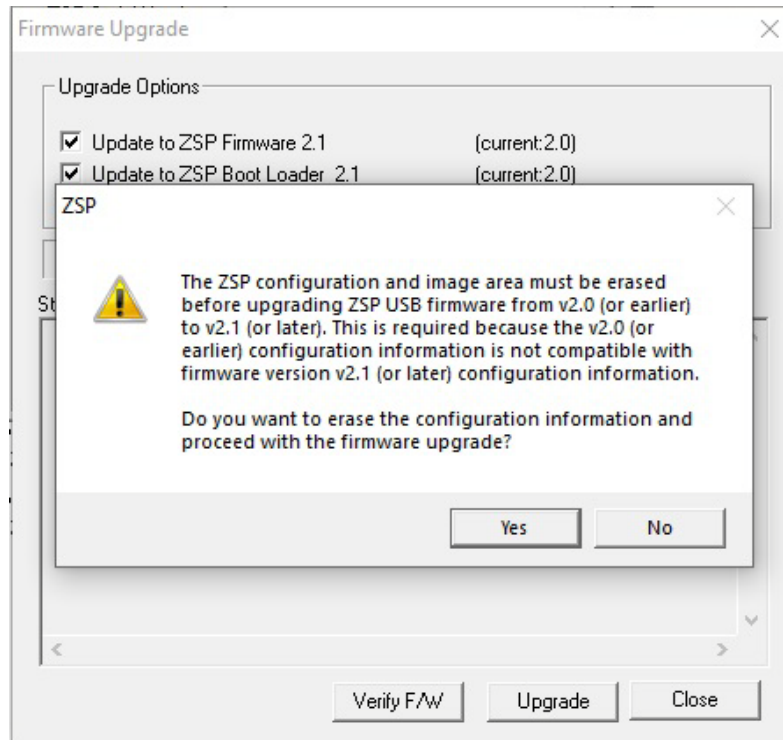
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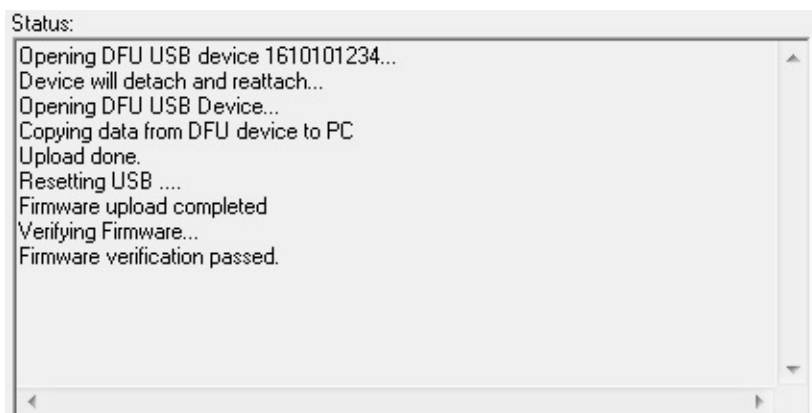
The ZSP Configuration and Image Area must be erased prior to upgrading the firmware if the configuration information format of the new firmware is not compatible with the configuration information format used by the current ZSP firmware. In this instance, after clicking the **Upgrade** button, the user will be prompted to confirm whether the ZSP Configuration and Image Area can be erased before proceeding with the firmware, as shown below

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4. Click the **Verify F/W** button to verify whether the ZSP firmware and/ or Boot Loader firmware modules are the latest version. Messages displayed during a successful verification of the ZSP firmware will be similar to the messages shown in the following figure:



5. Click the **Close** button to exit the Firmware Upgrade dialog box.



## View > Advanced

The advanced view is used to enable password protection of select ZSP operations and to optionally limit the number of target devices that can be programmed through the use of a Program Counter (PC).

### Password Protection

When password protection is enabled, the following ZSP operations will be blocked (ZSP in a Locked state) until the user enters the correct password (ZSP in an Unlocked state):

- Download configuration
- Upload configuration
- Change the current ZSP password
- Disable password-protection
- Enable program counter
- Modify current value of the program counter
- Disable program counter

**Please Note:** *Once the user enters the correct password to unlock a password-protected ZSP, the ZSP remains in an unlocked state until it is reset (typically accomplished by disconnecting and then reconnecting the ZSP USB cable). While the ZSP is unlocked, users who don't know the current ZSP password can reconfigure the ZSP to use a different image file, program counter, or disable password protection. Users are cautioned against leaving an unlocked ZSP unattended for long periods of time to prevent misconfiguration.*

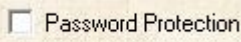
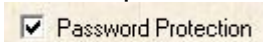
ZSP password protection does not cause the ZSP to encrypt the target image file or encrypt data sent over USB. Password protection only prevents users who do not know the current ZSP password from being able to perform the ZSP operations listed above. A password protected ZSP (even in the locked state) can be used to verify, erase, and program target devices. However, programming operations will fail if the program counter is enabled and has reached zero.

The configuration window of the Advanced view indicates whether ZSP password protection is enabled or disabled and, if enabled, whether the ZSP is in a **Locked** state

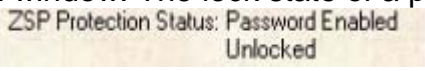


(user must enter correct password before password-protected operations can be performed) or an **Unlocked** state (password-protected operations may be performed).

When password protection is disabled the **Password Protection** checkbox is

unchecked  and when password protection is enabled the **Password Protection** checkbox is checked .

The 'lock state' of a password protected ZSP is displayed in the **ZSP Protection Status** area of the Advanced view's configuration window. The lock state of a password protected ZSP will either be locked

or unlocked .

When the ZSP Configuration and Image Area is cleared (see [Communication](#) view) password protection is disabled. This is the factory default state of the ZSP. If the user forgets the current ZSP password, clearing the Configuration and Image area will return the ZSP to the factory default state disabling password protection (and the program counter).

For more information about ZSP password protection, click one of the following links:

- [How to enable ZSP password protection](#)
- [How to unlock password protected ZSP operations](#)
- [How to change the current ZSP password](#)
- [How to disable ZSP password protection](#)

## Program Counter (PC)

Once a password protected ZSP is in an unlocked state, the Program Counter (PC) can optionally be enabled to limit the number of target devices that can be programmed by the ZSP. When the PC is enabled, the configuration window in the advanced view displays two PC value as shown below:

A screenshot of the 'Enable Program Counter (PC)' configuration window. It features a checked checkbox labeled 'Enable Program Counter (PC)'. Below this, there are two input fields: 'PC to ZSP:' with the value '500' and 'PC from ZSP:' with the value '497'. To the right of the 'PC to ZSP' field is an 'Apply' button, and to the right of the 'PC from ZSP' field is a 'Refresh' button.



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The **PC to ZSP** value represents the 'new' PC value that will be stored in the ZSP Configuration and Image Area once the **Apply** button is clicked. The **PC to ZSP ZSP** value must be between 0 and 4294967296. The **PC from ZSP** value represents the maximum number of devices that can still be programmed with the current image file. Every time a target device is successfully programmed, the **PC from ZSP** value decrements. Once the **PC from ZSP** value reaches 0, it will no longer be possible for the ZSP to be program any more target devices until one of the following events occurs:

The **PC to ZSP** value is changed to a non-zero value and the **Apply** button is clicked

The program counter is disabled

ZSP password protection is disabled

ZSP Configuration and Image area is cleared

If the user presses the EXE button to Program a target while the **PC from ZSP** is enabled and has a value of 0, then the ZSP LCD will display -21 indicating that the maximum number of programming operations has been reached and the buzzer will sound the fail tone.

For more information about the ZSP program counter, click one of the following links:

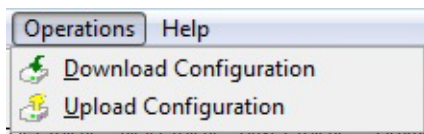
- [How to enable the ZSP program counter](#)
- [How to change the current program counter value](#)
- [How to disable the ZSP program counter](#)





## Operations Menu

The **Operations** menu provides access to the two main functions of the ZSP configuration software: Downloading and Uploading target configuration information (including application image file) as shown in the figure below. Note that the Operations menu options are inactive (greyed out) until a project is opened (or created) that contains valid device configuration settings and an image file. The operations menu options will fail to operate as expected unless the Zilog Standalone Programmer USB dongle is attached to the PC running the ZSP configuration software



Click the [Download Configuration](#) menu option to download configuration settings entered into the View > Device and View > Serialization dialog boxes into the ZSP as well as the application image file referenced from the View > Image File dialog.

Click the [Upload Configuration](#) menu option to see the configuration settings currently used by the ZSP programmer.

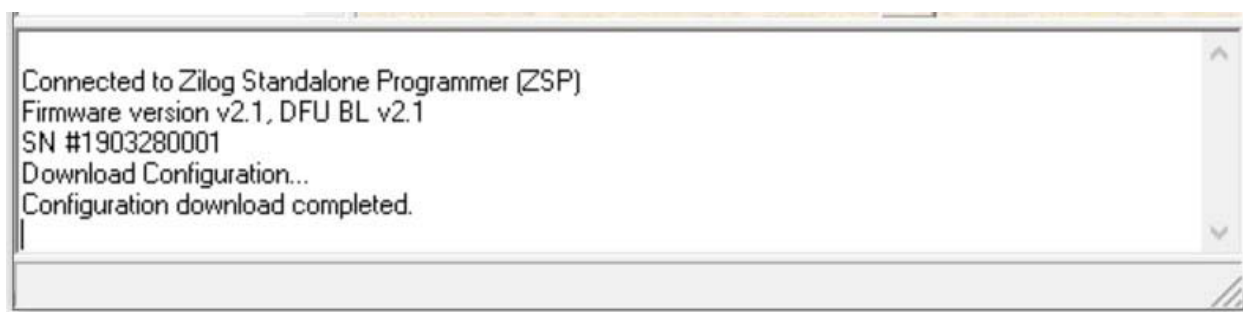


## Download Configuration



Click the **Download CFG** toolbar icon (or **Operations** on the menu bar, and then click **Download Configuration**) to download configuration settings and the application image (Hex) file into the ZSP for subsequent programming of target devices. Status messages are displayed in the Output window as configuration information is downloaded into the ZSP.

A sample of the output is shown below.



## Upload Configuration



Click the **Upload CFG** toolbar icon (or **Operations** on the menu bar, and then click **Upload Configuration**) to view ZSP configuration settings and, optionally, upload a copy of the application image file to the PC file system. The following figure shows an example of the configuration information uploaded from the ZSP (in the Uploaded Configuration column) and the current ZSP project file configuration (in the Current Configuration column):

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Upload Configuration

### ZSP Configurations

Description	Current Configuration	Uploaded Configuration
Family	S3F8S1X_Series	S3F8S1X_Series
Device	S3F8S19	S3F8S19
Device Size	32K	32K
End of Flash	7FFFH	7FFFH
Image		
Lowest Address	0001H	0001H
Highest Address	06E4H	06E4H
Used Data Bytes	0694H	0694H
Checksum padded with 0xFF from 0 to the Highest Address	7D37H	7D37H
Checksum padded with 0xFF from 0 to the end of Flash	1F1CH	1F1CH
Serialization	Enabled	Enabled
Serial Address	6678H	6678H
Serial Number Size	4	4
Serial Number	11223344H	11223344H
Serial Number Increment/Decrement	2	2
FlashOptions		
Read Protection	Disabled	Disabled
HardLock Protection	Disabled	Disabled
Smart Options	Disabled	Disabled

Uploaded Image FileName: C:\ZILOG\ZSP\_2.1.0\samples\S3\Demo\_Upload Upload Image

☐ Update the Current with the Uploaded Configuration on Close Refresh Close

Differences between the configuration information read from the ZSP versus the configuration information contained within the current ZSP project are highlighted in red as shown below:



Upload Configuration

### ZSP Configurations

Description	Current Configuration	Uploaded Configuration
Family	S3F8S1X_Series	S3F8S1X_Series
Device	S3F8S19	S3F8S19
Device Size	32K	32K
End of Flash	7FFFH	7FFFH
Image		
Lowest Address	0001H	0001H
Highest Address	06E4H	06E4H
Used Data Bytes	0694H	0694H
Checksum padded with 0xFF from 0 to the Highest Address	7D37H	7D37H
Checksum padded with 0xFF from 0 to the end of Flash	1F1CH	1F1CH
Serialization	Enabled	Enabled
Serial Address	6678H	6678H
Serial Number Size	4	4
Serial Number	11223344H	11223344H
Serial Number Increment/Decrement	2	2
FlashOptions		
Read Protection	Disabled	Disabled
HardLock Protection	Disabled	Disabled
Smart Options	Disabled	Disabled

Uploaded Image FileName:

Upload Image

...

☐ Update the Current with the Uploaded Configuration on Close

Refresh

Close

- To upload a copy of the target image file from the ZSP and save it in the PC file system, use the following procedure:
  - Click the browse (...) button next to the Upload Image near the bottom of the Upload Configuration dialog box. This causes the Open dialog box to appear.
  - Navigate to the PC folder where the uploaded image file is to be stored and then enter the name of the file to be created that will contain the uploaded image file in the File name: text box. Alternatively, if an existing file is to be overwritten using the upload image, just click the name of the file displayed in the Open dialog box
  - Once the appropriate file name has been entered or selected, click the Open button to return to the Upload Configuration dialog box.
  - Click the Upload Image button to upload the application image and store it in the PC file system using the specified file name
- Click the **Refresh** button to upload the ZSP configuration information again.

# Zilog Standalone Programmer Configuration Software

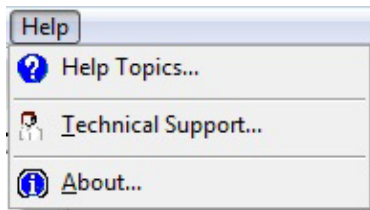
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- Select **Update the Current with the Uploaded Configuration on Close** to update the current project. Please note that the unused or don't care bits for the Smart Options are updated to the erased value of "1" and may not match the Uploaded Configuration after Close.
- Click the **Close** button or the "**X**" icon in the upper right corner of the dialog box to exit from the Upload Configuration dialog box again.



## Help Menu



The help menu is used to display information about the operation of the ZSP configuration software, the version of the ZSP configuration SW and how to contact technical support to resolve issues with the operation of the ZSP software or USB programmer.

- **Help Topics ...** - Opens this online help/user manual
- **Technical Support** - Displays the Zilog Technical Support page in the default web browser.
- **About ...** - Displays the current ZSP Configuration Software version number.



## Toolbars

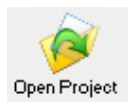


Toolbar icons are a one-click shortcut to the most commonly used drop-down menu options available through the menu bar. Click the name of one of the toolbar icons for more information.

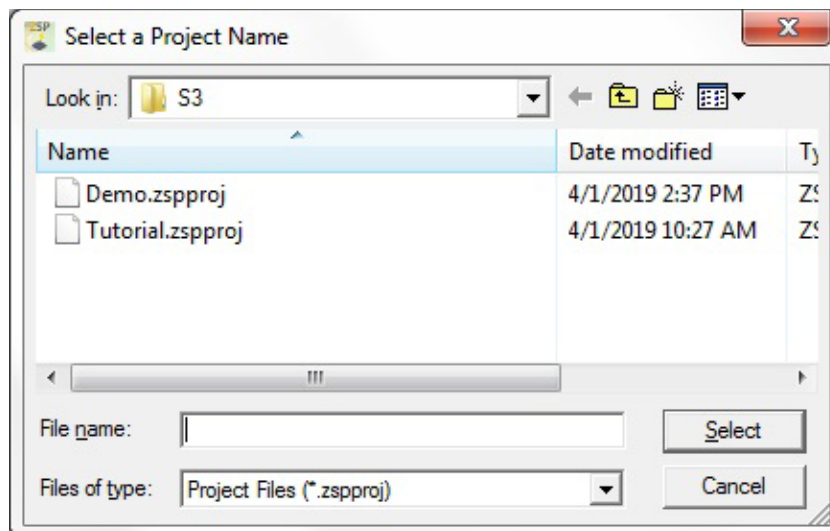


- Open Project
- Close Project
- New Project
- Save Project
- Download CFG
- Upload CFG

## Toolbars > Open Project



Click the **Open Project** toolbar icon (or **Project** on the menu bar, and then click **Open**) to open the **Select a Project Name** dialog box as shown below:



To open an existing project, navigate to the folder containing the ZSP project file (with an extension of zspproj) of interest and double-click the name of the file. Alternatively, single click the project filename and then click the **Select** button.



## Toolbars > Close Project

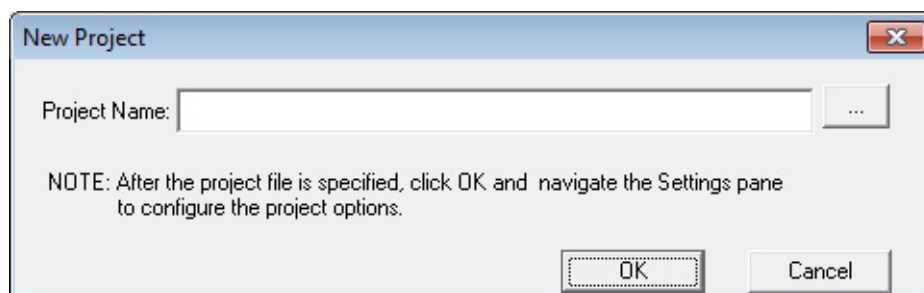


Click the **Close** project toolbar icon (or **Project** on the menu bar, and then click **Close**) to close the current ZSP project. This disables the Close Project, Save Project, Download CFG, and Upload CFG toolbar icons (icons greyed out). Similarly the Close, Save, and Save As options in the Project drop-down menu are disabled.

## Toolbars > New Project



1. Click the **New Project** toolbar icon (or **Project** on the menu bar, and then click **New**) to create a new ZSP project file. This causes the **New Project** dialog box to open as shown below:

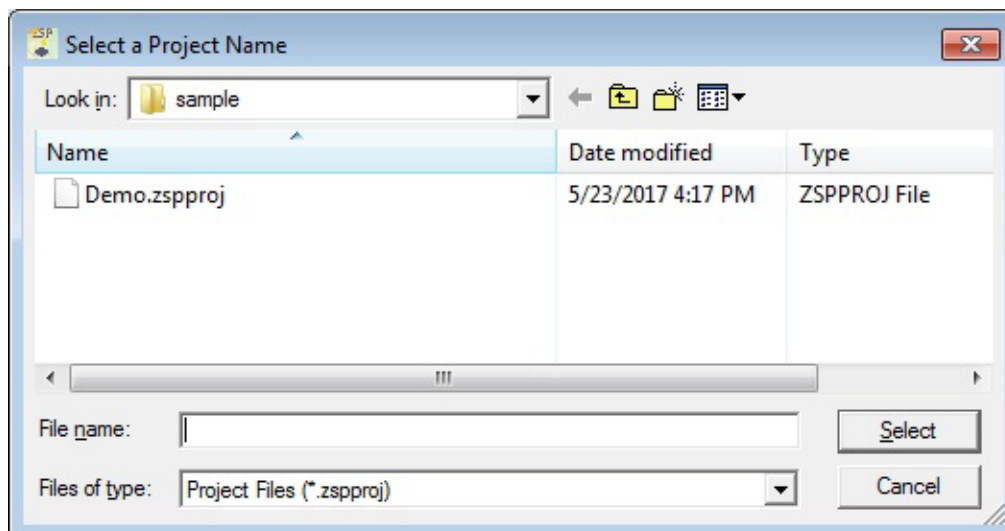


2. Click the **Browse** button (  ) to open the **Select a Project Name** dialog box.

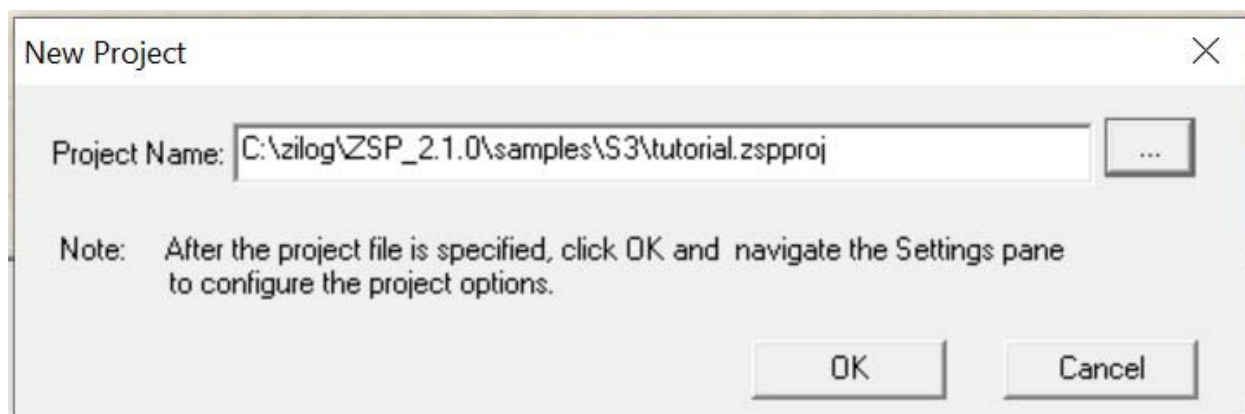


# Zilog Standalone Programmer Configuration Software

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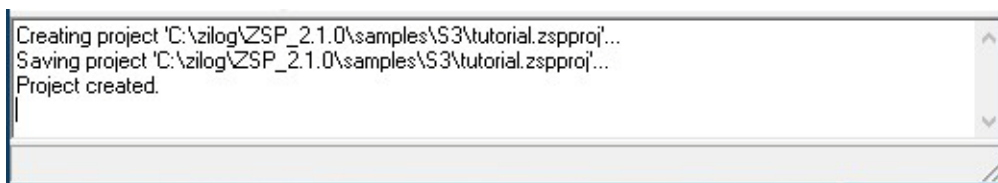
3. Navigate to the directory folder where the project file is to be saved by clicking the **Look In** drop-down list, double-clicking folder names, or clicking the Previous, Up, and Create Folder icons.
4. In the **File name:** text box, type the name of the project file to be created. Then click the **Select** button or press the <Enter> key. This causes the Select a Project Name dialog box to close and the full path and filename of the project file to be created will be displayed in the **New Project** dialog. In the sample screen shot below, a project named "tutorial" is being created in the default ZSP sample folder <ZDS Installation Directory>sample.





Do not specify an extension when typing the name of the ZSP project file to be created. The ZSP configuration software will automatically append the correct extension (zspproj) when the project file is actually created if (and only if) the user does not specify an extension. However, if the user specifies a non-default extension when creating the project, then by default the ZSP configuration software will not show the name of the project in the Open Project dialog box making it difficult to locate the project in the future.

5. Once the project file name and location are correct, click **OK** to exit the New Project dialog box. This causes the ZSP Configuration Software to create an empty ZSP project file. The ZSP Output window will display progress messages as the new project file is created and saved as shown below:



## Toolbars > Save Project



Click the **Save Project** toolbar icon (or Project on the menu bar, and then click Save) to save any changes made to the current ZSP project. The project will remain open in the ZSP Configuration Software after changes have been saved allowing the user to make additional modifications and/or upload/download configuration information.



## Toolbars > Download CFG



Click the **Download CFG** toolbar icon (or **Operations** on the menu bar, and then click **Download Configuration**) to download configuration settings and the application image (Hex) file into the ZSP for subsequent programming of target devices. Status messages are displayed in the Output window as configuration information is downloaded into the ZSP.

A sample of the output is shown below.





## Toolbars > Upload CFG



Click the **Upload CFG** toolbar icon (or **Operations** on the menu bar, and then click **Upload Configuration**) to view ZSP configuration settings and, optionally, upload a copy of the application image file to the PC file system. The following figure shows an example of the configuration information uploaded from the ZSP (in the Uploaded Configuration column) and the current ZSP project file configuration (in the Current Configuration column):

Upload Configuration

### ZSP Configurations

Description	Current Configuration	Uploaded Configuration
Family	S3F8S1X_Series	S3F8S1X_Series
Device	S3F8S19	S3F8S19
Device Size	32K	32K
End of Flash	7FFFH	7FFFH
Image		
Lowest Address	0001H	0001H
Highest Address	06E4H	06E4H
Used Data Bytes	0694H	0694H
Checksum padded with 0xFF from 0 to the Highest Address	7D37H	7D37H
Checksum padded with 0xFF from 0 to the end of Flash	1F1CH	1F1CH
Serialization	Enabled	Enabled
Serial Address	6678H	6678H
Serial Number Size	4	4
Serial Number	11223344H	11223344H
Serial Number Increment/Decrement	2	2
FlashOptions		
Read Protection	Disabled	Disabled
HardLock Protection	Disabled	Disabled
Smart Options	Disabled	Disabled

Uploaded Image FileName: C:\ZILOG\ZSP\_2.1.0\samples\S3\Demo\_Upload    Upload Image   

☐ Update the Current with the Uploaded Configuration on Close    Refresh    Close

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Differences between the configuration information read from the ZSP versus the configuration information contained within the current ZSP project are highlighted in red as shown below:

The screenshot shows the "Upload Configuration" dialog box. It features a table titled "ZSP Configurations" with three columns: "Description", "Current Configuration", and "Uploaded Configuration". The table lists various configuration parameters. The "Serial Number" row is highlighted in red, indicating a difference between the current and uploaded configurations. At the bottom of the dialog, there is a text field for "Uploaded Image FileName:", an "Upload Image" button with a browse (...) button, a checkbox for "Update the Current with the Uploaded Configuration on Close", and "Refresh" and "Close" buttons.

Description	Current Configuration	Uploaded Configuration
Family	S3F8S1X_Series	S3F8S1X_Series
Device	S3F8S19	S3F8S19
Device Size	32K	32K
End of Flash	7FFFH	7FFFH
Image		
Lowest Address	0001H	0001H
Highest Address	06E4H	06E4H
Used Data Bytes	0694H	0694H
Checksum padded with 0xFF from 0 to the Highest Address	7D37H	7D37H
Checksum padded with 0xFF from 0 to the end of Flash	1F1CH	1F1CH
Serialization	Enabled	Enabled
Serial Address	6678H	6678H
Serial Number Size	4	4
Serial Number	11223344H	11223344H
Serial Number Increment/Decrement	2	2
FlashOptions		
Read Protection	Disabled	Disabled
HardLock Protection	Disabled	Disabled
Smart Options	Disabled	Disabled

- To upload a copy of the target image file from the ZSP and save it in the PC file system, use the following procedure:
  1. Click the browse (...) button next to the Upload Image near the bottom of the Upload Configuration dialog box. This causes the Open dialog box to appear.
  2. Navigate to the PC folder where the uploaded image file is to be stored and then enter the name of the file to be created that will contain the uploaded image file in the File name: text box. Alternatively, if an existing file is to be overwritten using the upload image, just click the name of the file displayed in the Open dialog box

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3. Once the appropriate file name has been entered or selected, click the Open button to return to the Upload Configuration dialog box.
  4. Click the Upload Image button to upload the application image and store it in the PC file system using the specified file name
- Click the **Refresh** button to upload the ZSP configuration information again.
  - **Select** Update the Current with the Uploaded Configuration on Close **to update the current project. Please note that the unused or don't care bits for the Smart Options are updated to the erased value of "1" and may not match the Uploaded Configuration after Close.**
  - Click the **Close** button or the "**X**" icon in the upper right corner of the dialog box to exit from the Upload Configuration dialog box again.

## Windows

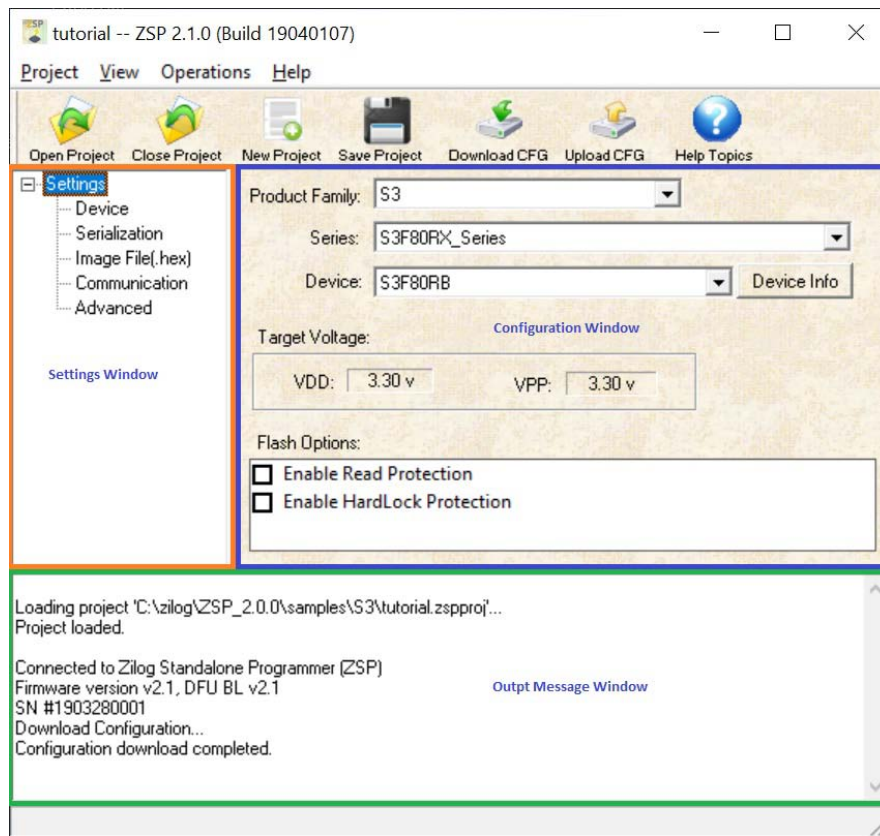
This section describes the function of the three windows that comprise the ZSP configuration software display. Click the name of a window to see more information.

- [Settings window](#)
- [Configuration window](#)
- [Output window](#)



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## Settings window

The settings window lists the set of all configuration panels (views) that can be activated in the configuration window. Each configuration panel contains settings that can be viewed and/or modified to control the operation of the Zilog Standalone Programmer when erasing, programming, and verifying the contents of Flash memory on target devices.

To activate a particular view, click the corresponding view name listed under the Settings accordion when it is in the expanded state as shown below. For example, clicking the Device view will open the Device configuration panel in the configuration window on the right side of the ZSP configuration software display.

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If the Settings accordion is collapsed (shown below), then click the + sign to the left of Settings to expand the list of configuration panels and then click the view of interest. To collapse the settings accordion, click the – sign to the left of Settings when it is in the expanded state.



The configuration panels available through the Settings window can also be activated by clicking **View** on the menu bar and then clicking the configuration panel view of interest.

For more information about a particular configuration panel view, click one of the following links:

- [Device](#)
- [Serialization](#)
- [Image File \(.hex\)](#)
- [Communication](#)
- [Advanced](#)





## Configuration window

The ZSP configuration settings that can be modified by the user are displayed in the Configuration window. The layout of the configuration window changes based upon which project view (i.e. configuration panel) is currently active. To change views, click **View** on the menu bar and then select one of the views listed in the drop-down menu. Alternatively, click on one of the configuration panel views listed under the **Settings** accordion on the **Settings Window**.

The figure below shows some of the configuration settings available when the Device view is active. The settings displayed in the Configuration window will change when the Image File, Serialization, or Communication views become active.

A screenshot of the ZSP Configuration window. The window has a light beige background. At the top, there are three dropdown menus: "Product Family:" with "S3" selected, "Series:" with "S3F80RX\_Series" selected, and "Device:" with "S3F80RB" selected. To the right of the "Device:" dropdown is a button labeled "Device Info". Below these is a section labeled "Target Voltage:" containing two input fields: "VDD:" with "3.30 v" and "VPP:" with "3.30 v". At the bottom is a section labeled "Flash Options:" containing two checkboxes: "Enable Read Protection" and "Enable HardLock Protection", both of which are currently unchecked.

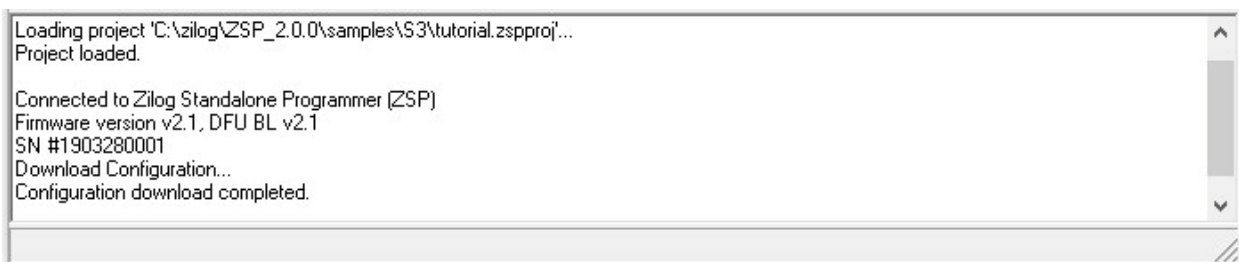
Product Family:	S3	
Series:	S3F80RX_Series	
Device:	S3F80RB	Device Info
Target Voltage:		
VDD:	3.30 v	VPP: 3.30 v
Flash Options:		
<input type="checkbox"/> Enable Read Protection		
<input type="checkbox"/> Enable HardLock Protection		

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## Output window

The output window displays information messages as the ZSP configuration software processes user inputs as shown below:



Use the slider on the right side of the output window to display older (at the top of the output window) or newer messages (at the bottom of the output window). To clear all messages displayed in the output window, right-click anywhere in the output window and click the Clear pop-up menu option.

## Tutorial

This tutorial shows you how to use the basic features of Zilog Standalone Programmer Configuration Software.

In this tour, you will do the following

- [Create a New Project](#)
- [Configure Project for Downloading](#)
- [Uploading Project Configuration](#)
- [Saving the Project](#)

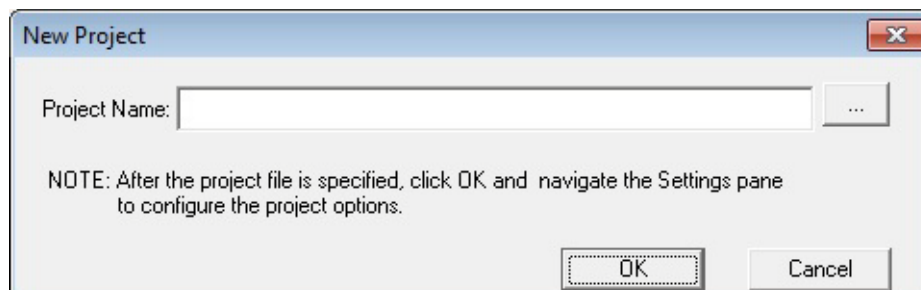
When you complete the tutorial, you will be able to program your target MCU in standalone operation.



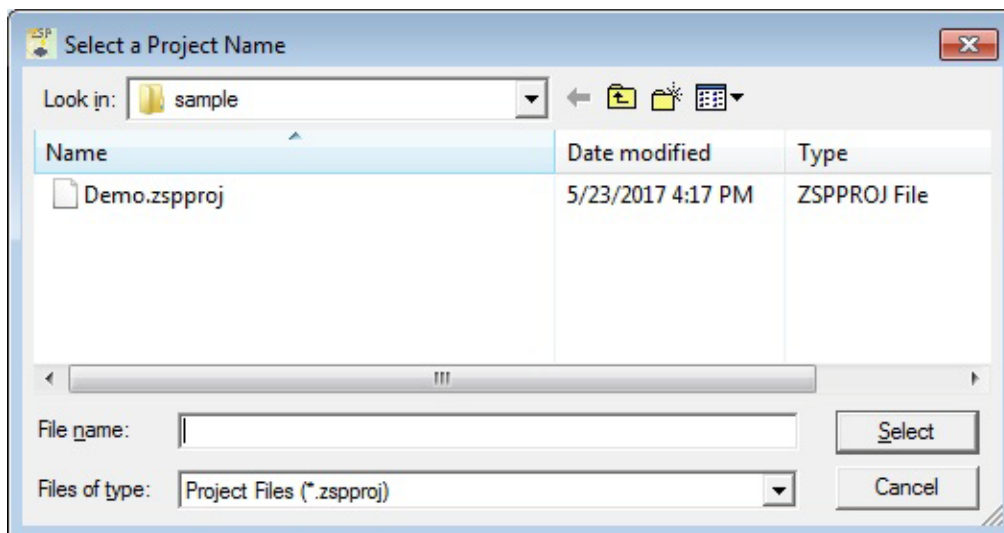
## Create a New Project



1. Click the **New Project** toolbar icon (or **Project** on the menu bar, and then click **New**) to create a new ZSP project file. This causes the **New Project** dialog box to open as shown below:

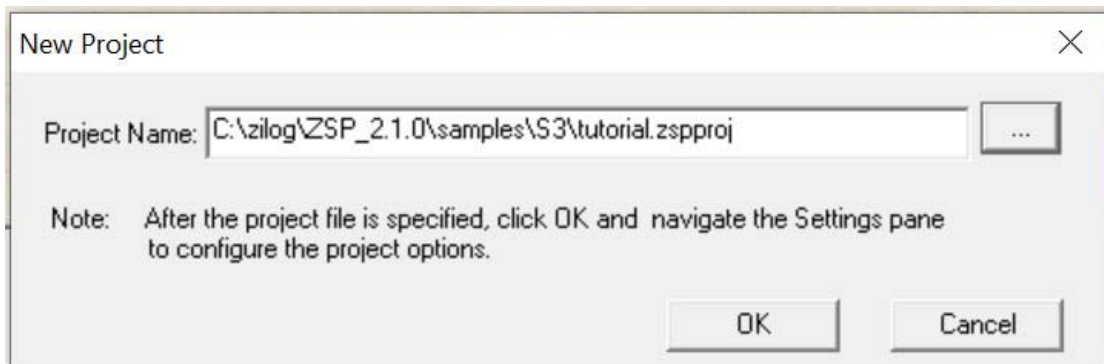


2. Click the **Browse** button (  ) to open the **Select a Project Name** dialog box.



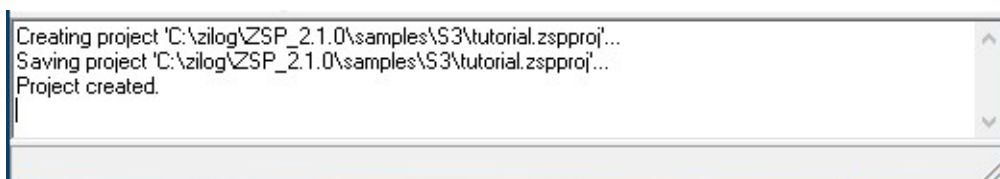


3. Navigate to the directory folder where the project file is to be saved by clicking the **Look In** drop-down list, double-clicking folder names, or clicking the Previous, Up, and Create Folder icons.
4. In the **File name**: text box, type the name of the project file to be created. Then click the **Select** button or press the <Enter> key. This causes the Select a Project Name dialog box to close and the full path and filename of the project file to be created will be displayed in the **New Project** dialog. In the sample screen shot below, a project named "tutorial" is being created in the default ZSP sample folder <ZDS Installation Directory>\sample.



Do not specify an extension when typing the name of the ZSP project file to be created. The ZSP configuration software will automatically append the correct extension (zsproj) when the project file is actually created if (and only if) the user does not specify an extension. However, if the user specifies a non-default extension when creating the project, then by default the ZSP configuration software will not show the name of the project in the Open Project dialog box making it difficult to locate the project in the future.

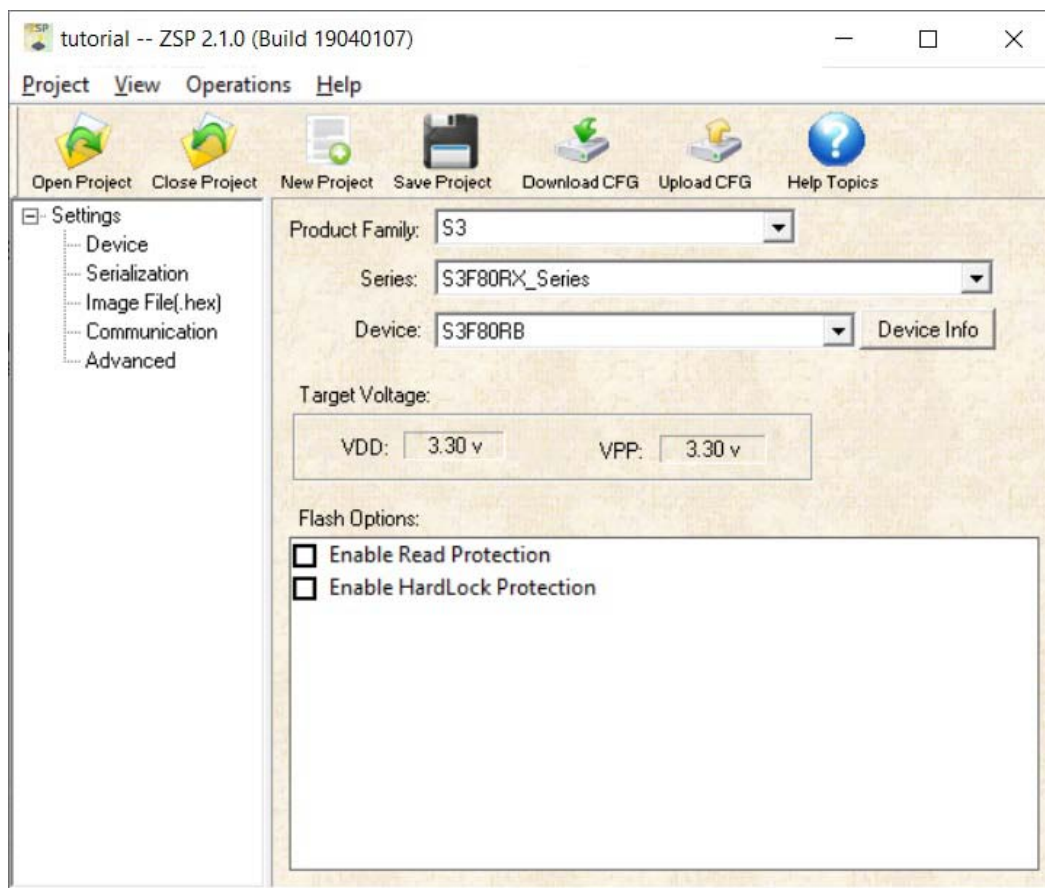
5. Once the project file name and location are correct, click **OK** to exit the New Project dialog box. This causes the ZSP Configuration Software to create an empty ZSP project file. The ZSP Output window will display progress messages as the new project file is created and saved as shown below:





## Configure Project for Downloading

1. From the ZSP Configuration Software environment, select **Settings > Device** from the Settings window.
2. Click on the **Product Family** drop-down list box to select the **Product Family**.
3. Select the **Series** from the drop-down list.
4. Select the **Devices** from the drop-down list. Click on the DeviceInfo button for a brief description of the Device selected.
5. Select the **Flash Options** in the **Flash Options** window. See an example **Device Settings** below:



6. Select **Settings > Serialization** from the Settings window.

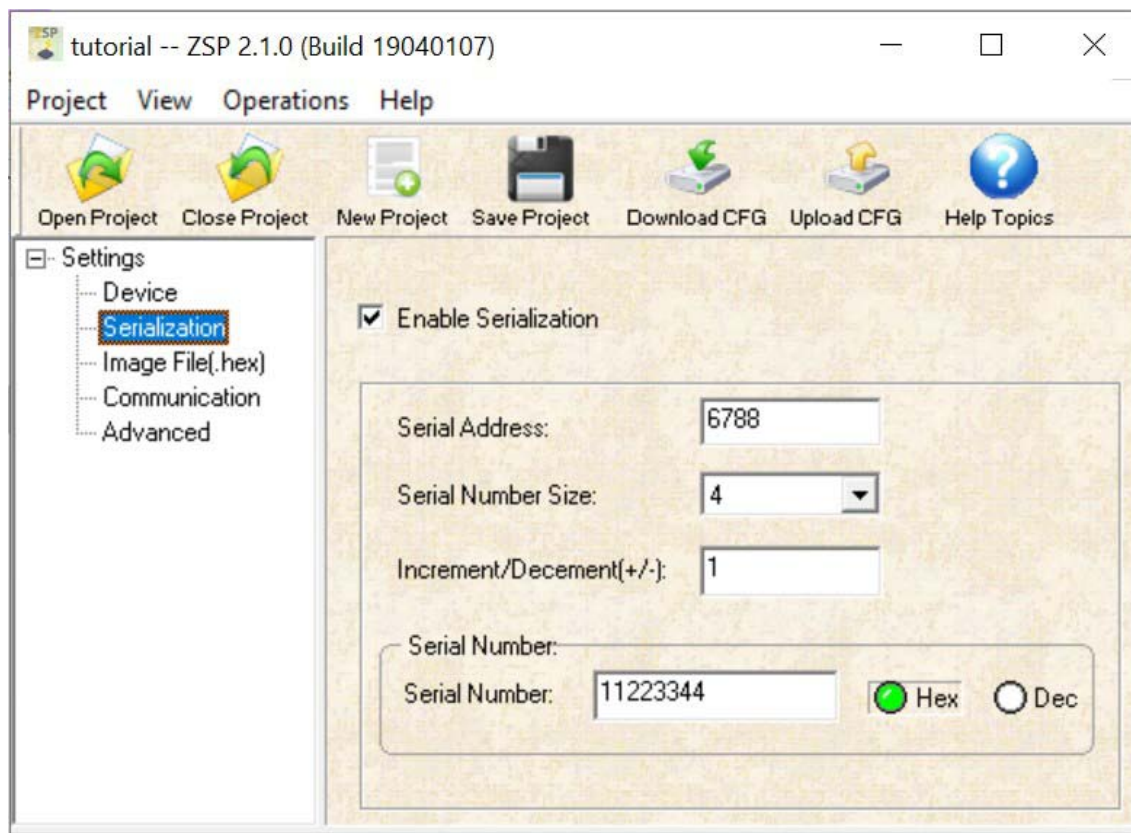


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7. Click **Enable** Serialization if desired. **Deselect** if not.
8. If Enabled, enter the **Serial Address** where it will be written. This location must be written to a location that is not written to by the hex file.
9. **Enter the** Serial Number Size. This is the number of HEX bytes that the Serial Number will occupy.
10. Type the decimal interval that you want the serial number incremented by in the **Increment Dec (+/-)** field. If you want the serial number to be decremented, type in a negative number. After the current serial number is programmed, the serial number is then incremented or decremented by the amount in the Increment Dec (+/-) field.
11. Type the start value for the serial number in the **Serial Number** field and select the **Hex** button for a hexadecimal serial number or **Dec** button for a decimal serial number.

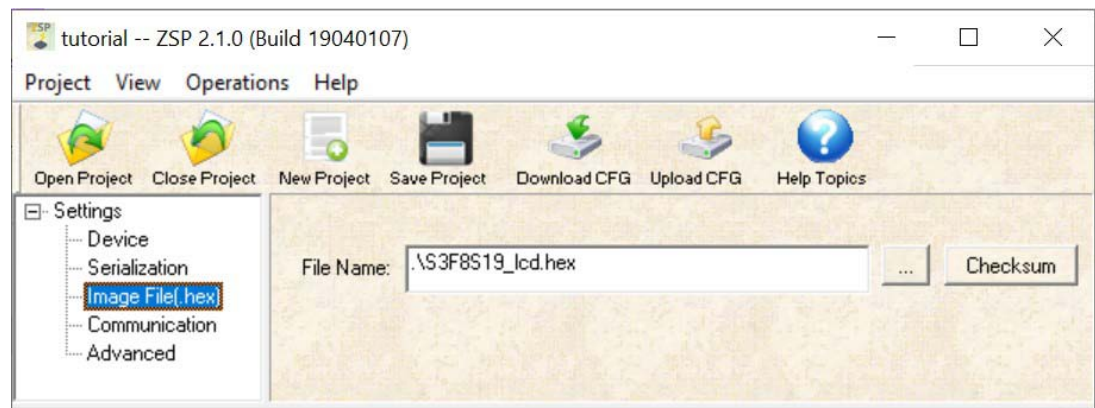


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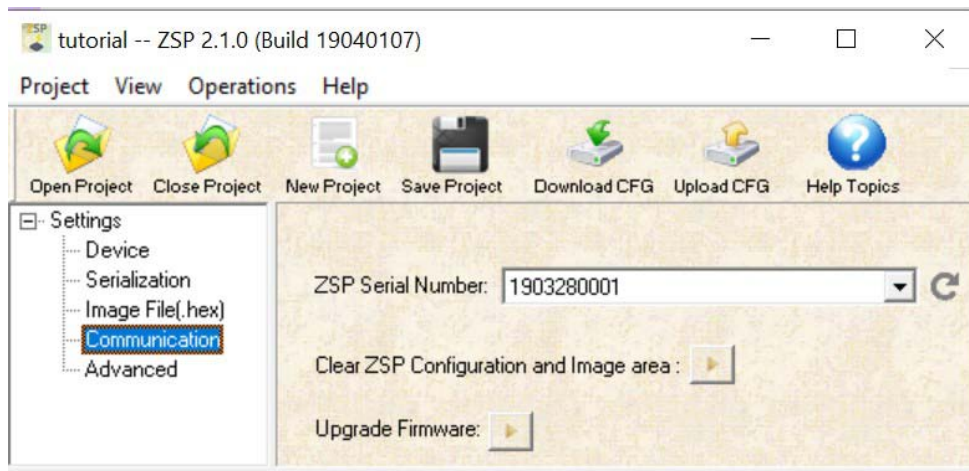


12. Select **Image File(hex)** from the Settings window.
13. From the **File Name** dialog box, click on the **Browse button** (...) to navigate to the directory where the file is located.
14. Select the hex file (in this tutorial, select the demo.hex) and click on the **Open** button.



**Note:** You can click on the **Checksum** button on the right to display the checksum values.

15. Select **Communication** from the Settings window to configure the ZSP connection to the host PC.
16. Select the ZSP **USB Serial Number** from the drop-down list. Click on **Refresh** button if you do not see the ZSP connected to your host PC.



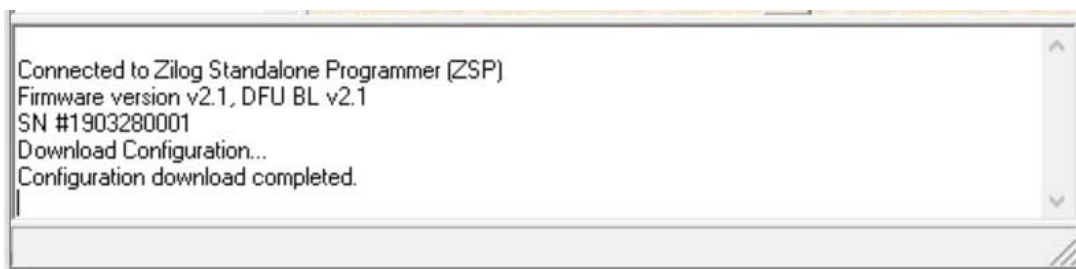


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17. Configuration is done and is now ready for downloading to the ZSP. Selecting Operations and then Download Configuration will connect and download the configuration to the Zilog Standalone Programmer. Alternatively you can click on the Download CFG toolbar icon to perform the same operation. A successful Download
18. Configuration operation will show the following message to the Output window:



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## Uploading the Configuration



Click the **Upload CFG** toolbar icon (or **Operations** on the menu bar, and then click **Upload Configuration**) to view ZSP configuration settings and, optionally, upload a copy of the application image file to the PC file system. The following figure shows an example of the configuration information uploaded from the ZSP (in the Uploaded Configuration column) and the current ZSP project file configuration (in the Current Configuration column):

ZSP Configurations		
Description	Current Configuration	Uploaded Configuration
Family	S3F8S1X_Series	S3F8S1X_Series
Device	S3F8S19	S3F8S19
Device Size	32K	32K
End of Flash	7FFFH	7FFFH
Image		
Lowest Address	0001H	0001H
Highest Address	06E4H	06E4H
Used Data Bytes	0694H	0694H
Checksum padded with 0xFF from 0 to the Highest Address	7D37H	7D37H
Checksum padded with 0xFF from 0 to the end of Flash	1F1CH	1F1CH
Serialization	Enabled	Enabled
Serial Address	6678H	6678H
Serial Number Size	4	4
Serial Number	11223344H	11223344H
Serial Number Increment/Decrement	2	2
FlashOptions		
Read Protection	Disabled	Disabled
HardLock Protection	Disabled	Disabled
Smart Options	Disabled	Disabled

Uploaded Image FileName: C:\ZILOG\ZSP\_2.1.0\samples\S3\Demo\_Upload    Upload Image   

☐ Update the Current with the Uploaded Configuration on Close    Refresh    Close

Differences between the configuration information read from the ZSP versus

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the configuration information contained within the current ZSP project are highlighted in red as shown below:

The screenshot shows the "Upload Configuration" dialog box. It contains a table titled "ZSP Configurations" with three columns: "Description", "Current Configuration", and "Uploaded Configuration". The table lists various configuration parameters. The "Serial Number" row is highlighted in red, indicating it is the current configuration. Below the table, there is a text box for "Uploaded Image FileName:", an "Upload Image" button with a browse (...) button, a checkbox for "Update the Current with the Uploaded Configuration on Close", and "Refresh" and "Close" buttons.

Description	Current Configuration	Uploaded Configuration
Family	S3F8S1X_Series	S3F8S1X_Series
Device	S3F8S19	S3F8S19
Device Size	32K	32K
End of Flash	7FFFH	7FFFH
Image		
Lowest Address	0001H	0001H
Highest Address	06E4H	06E4H
Used Data Bytes	0694H	0694H
Checksum padded with 0xFF from 0 to the Highest Address	7D37H	7D37H
Checksum padded with 0xFF from 0 to the end of Flash	1F1CH	1F1CH
Serialization	Enabled	Enabled
Serial Address	6678H	6678H
Serial Number Size	4	4
Serial Number	11223344H	11223344H
Serial Number Increment/Decrement	2	2
FlashOptions		
Read Protection	Disabled	Disabled
HardLock Protection	Disabled	Disabled
Smart Options	Disabled	Disabled

- To upload a copy of the target image file from the ZSP and save it in the PC file system, use the following procedure:
  1. Click the browse (...) button next to the Upload Image near the bottom of the Upload Configuration dialog box. This causes the Open dialog box to appear.
  2. Navigate to the PC folder where the uploaded image file is to be stored and then enter the name of the file to be created that will contain the uploaded image file in the File name: text box. Alternatively, if an existing file is to be overwritten using the upload image, just click the name of the file displayed in the Open dialog box
  3. Once the appropriate file name has been entered or selected, click the Open button to return to the Upload Configuration dialog box.
  4. Click the Upload Image button to upload the application image and store it in the PC file system using the specified file name

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- Click the **Refresh** button to upload the ZSP configuration information again.
- Select **Update the Current with the Uploaded Configuration on Close** to update the current project. Please note that the unused or don't care bits for the Smart Options are updated to the erased value of "1" and may not match the Uploaded Configuration after Close.
- Click the **Close** button or the "X" icon in the upper right corner of the dialog box to exit from the Upload Configuration dialog box again.

## Saving the Project

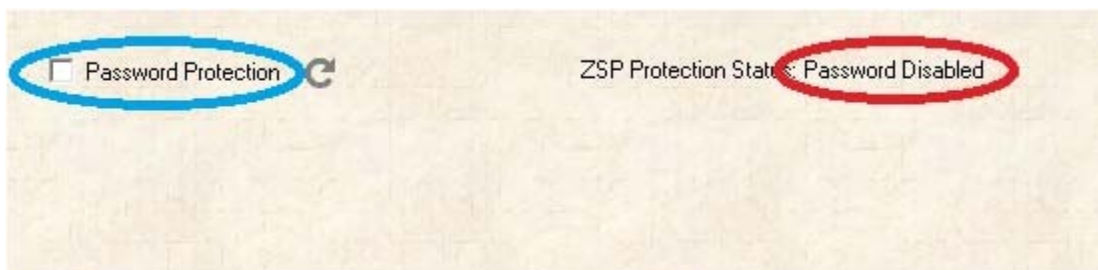


Click the **Save Project** toolbar icon (or Project on the menu bar, and then click Save) to save any changes made to the current ZSP project. The project will remain open in the ZSP Configuration Software after changes have been saved allowing the user to make additional modifications and/or upload/download configuration information.

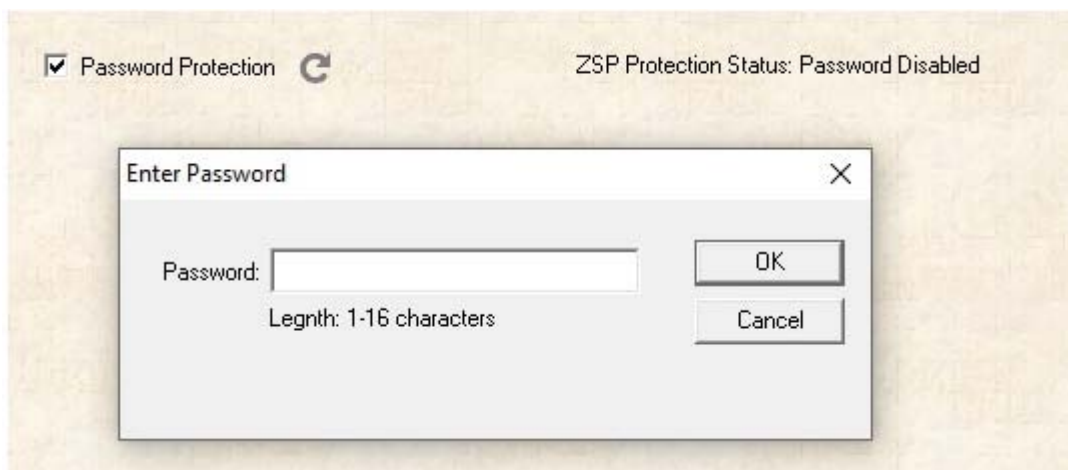


## How to Enable ZSP Password Protection

When ZSP password protection is disabled, the **Password Protection** check-box displayed in the configuration window of the Advanced view will be unchecked (blue circle) and the **ZSP Protection Status** will be marked disabled (red circle):



To enable password protection, click the **Password Protection** check-box. This causes the **Enter Password** text-box to open where the user can set the ZSP password. ZSP passwords must be between 1 and 16 characters long. Any combination of letters, numbers, and symbols may be used. ZSP passwords are case sensitive. Note that while the user is specifying the initial ZSP password the **ZSP Protection Status** remains in the **Disabled** state. after entering the password click **OK** to store the password within ZSP non-volatile memory.

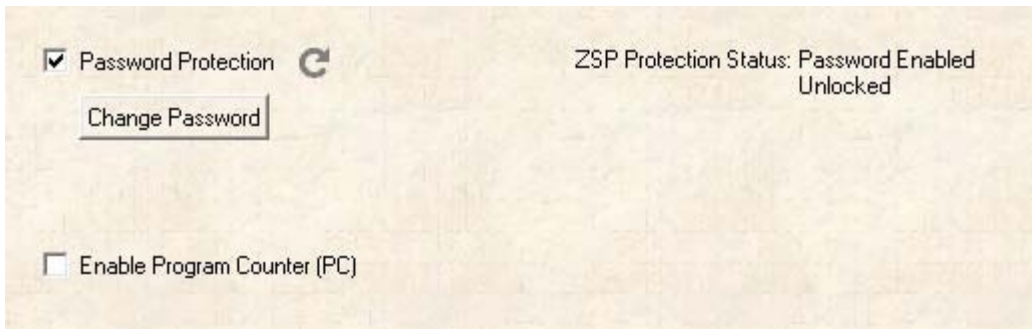


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After the ZSP password has been configured, the **Password Protection** check-box is displayed in the checked (active) state and **ZSP Protection Status:** is now **Enabled, Unlocked**. In addition a **Change Password** check-box is displayed and the user may optionally enable the program counter.



## How to Unlock a Password Protected ZSP

Password-protected operations initiated while the ZSP is in a locked state (password protection enabled and the ZSP password has not been entered since the last time the ZSP was reset) cause an error message to be displayed in the output window indicating that a password is required to unlock the protected ZSP operation.



Password-protected operations initiated while the ZSP is in a locked state (password protection enabled and the ZSP password has not been entered since the last time the ZSP was reset) cause an error message to be displayed in the output window indicating that a password is required to unlock the protected ZSP operation.

\*\*\* Driver Error: Password required to unlock protected ZSP operation

To unlock the ZSP, click the **Enter Password** button which opens the Enter Password window.



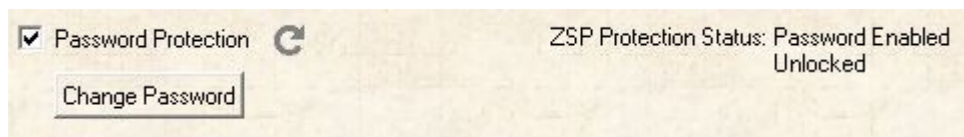
# Zilog Standalone Programmer Configuration Software

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A dialog box titled "Enter Password" with a close button (X) in the top right corner. It contains a text input field labeled "Password:" with a hint "Length: 1-16 characters" below it. To the right of the input field are two buttons: "OK" and "Cancel".

After typing the ZSP password click the **OK** button, or press the **Enter** key. If the password does not match the password entered when password protection was enabled (see [How to Enable ZSP Password Protection](#)) or when the password was last changed (see [How to Change the ZSP Password](#)) then error code -21 (ZSP locked) is displayed on the ZSP LCD and the buzzer sounds the fail tone. In this instance, it is necessary to re-enter the ZSP password and click the **OK** button (or press the **Enter** key) again.

After the correct ZSP password has been entered, the **Password Protection** check-box will be in the checked (active) state and **ZSP Protection Status:** will be **Enabled, Unlocked**.



## How to Change the ZSP Password

The current ZSP password can only be changed when the ZSP is in an Unlocked state (correct ZSP password typed into the **Enter Password** textbox since the last time a password-protected ZSP was reset). If the ZSP is unlocked, then the configuration window of the **Advanced** view indicates that **Password Protection** is enabled (blue circle) and that the ZSP is in an unlocked state (red circle).







If the **ZSP Protection Status** is shown in an **Enabled, Locked** state, then it will first be necessary to unlock the ZSP as described in the [How to Unlock a Password Protected ZSP](#) before it will be possible to change the ZSP password.

To change the current ZSP password, click the **Change Password** button which opens the Enter Password window.

A dialog box titled "Enter Password" with a close button (X) in the top right corner. It contains a text input field labeled "Password:" with a hint "Length: 1-16 characters" below it. To the right of the input field are two buttons: "OK" and "Cancel".

After typing the new ZSP password click the **OK** button, or press the **Enter** key to store the password in ZSP non-volatile memory. The next time the ZSP is power-cycled (typically accomplished by disconnected and the reconnecting the ZSP USB cable), use the new ZSP password to enable password-protected operations.

## How to Disable ZSP Password Protection

ZSP password protection can only be disabled when the ZSP is in an Unlocked state (correct ZSP password typed into the **Enter Password** textbox since the last time a password-protected ZSP was reset). If the ZSP is unlocked, then the configuration window of the **Advanced** view indicates that **Password Protection** is enabled (blue circle) and that the ZSP is in an unlocked state (red circle).



If the **ZSP Protection Status** is shown in an **Enabled, Locked** state, then it will first be necessary to unlock the ZSP as described in the [How to Unlock a Password Protected ZSP](#) before it will be possible to disable ZSP password protection.

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There are two methods of disabling ZSP password protection. The first is to simply click the **Password Protection** checkbox when the **ZSP Protection Status** is Enabled, Unlocked (as shown above). The second method is to click the **Change Password** button which opens the Enter Password window.

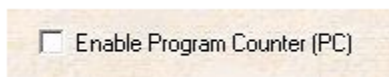
A screenshot of the 'Enter Password' dialog box. It has a title bar with 'Enter Password' and a close button (X). Inside, there is a label 'Password:' followed by a text input field. Below the input field, it says 'Length: 1-16 characters'. To the right of the input field are two buttons: 'OK' and 'Cancel'.

Instead of typing a new ZSP password, just click the **OK** button, or press the **Enter** key to store a NULL password in ZSP non-volatile memory. This has the effect of disabling ZSP password protection.

**Note:** *When ZSP password protection is disabled, the Program Counter (PC) is also automatically disabled.*

## How to Enable the Program Counter

After ZSP password protection has been enabled (as described in [How to Enable ZSP Password Protection](#)) the configuration window in the **Advanced** view displays the **Enable Program Counter (PC)** checkbox in an unchecked state.



Click the **Enable Program Counter (PC)** checkbox to enable the use of the program counter and cause the **PC to ZSP** and **PC from ZSP** values to be displayed.

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A screenshot of a software dialog box titled "Enable Program Counter (PC)". The checkbox is checked. Below the title, there are two input fields: "PC to ZSP:" with a value of "0" and "PC from ZSP:" with a value of "0". To the right of the "PC to ZSP:" field is an "Apply" button, and to the right of the "PC from ZSP:" field is a "Refresh" button.

When the ZSP project file is first created, and the program counter is first enabled, the **PC to ZSP** value defaults to 0 and is stored in the ZSP Configuration and Image area. Otherwise the value in the **PC to ZSP** textbox shows the **PC to ZSP** value when the ZSP project was last saved. The **PC from ZSP** value was the value of the ZSP program counter at the time the PC was last disabled. In instances where the PC is being enabled on a ZSP device with a cleared Configuration and Image area, the **PC to ZSP** value will be 0.

**Please Note:** *If a programming operation is initiated while the **Enable Program Counter (PC)** checkbox is checked and the **PC from ZSP** value is 0, then the programming operation will fail. In this instance error code -21 is displayed on the ZSP LCD and the buzzer sounds the fail tone indicating that the maximum programming count has been reached*

To configure a new/ initial PC value click in the **PC to ZSP** textbox and enter the desired maximum number of target devices that the ZSP can program using the current project settings. Then click the **Apply** button to store the new PC value in the ZSP Configuration and Image Area. The ZSP Configuration Software will then read back the PC value from ZSP non-volatile memory and update the value displayed in the **PC to ZSP** textbox as shown below.

A screenshot of the same "Enable Program Counter (PC)" dialog box. The checkbox is checked. The "PC to ZSP:" field now contains the value "500" and the "PC from ZSP:" field also contains the value "500". The "Apply" and "Refresh" buttons are still present.

**Please Note:** *The ZSP password protection and the program counter are independent of the current ZSP project settings and target image file. The user can change the target image file and click the **Download CFG** button to update the ZSP configuration information; but the current ZSP password state and password value (as well as the ZSP lock state) will remain the same. The ZSP protection state and PC configuration*



will also be maintained even if the user switches to a different ZSP project file (even when switching between S3 and Z8 Encore! devices).

## How to Change the Program Counter

The current value of the ZSP program counter (PC) can only be changed if ZSP password protection is enabled, the ZSP is in an unlocked state, and the use of the program counter has been enabled. In this instance, the configuration window in the **Advanced** view will look similar to the following:

A screenshot of the ZSP Configuration Software Advanced view. The window has a light beige background. At the top left, there is a checkbox labeled "Password Protection" which is checked, with a "Change Password" button below it. To the right of this, the text "ZSP Protection Status: Password Enabled Unlocked" is displayed. Below the "Password Protection" section, there is another checkbox labeled "Enable Program Counter (PC)" which is also checked. Underneath this checkbox, there are two text boxes: "PC to ZSP:" containing the value "500" and "PC from ZSP:" containing the value "498". To the right of the "PC to ZSP:" box is an "Apply" button, and to the right of the "PC from ZSP:" box is a "Refresh" button. Red circles are drawn around the "Password Protection" checkbox, the "ZSP Protection Status" text, and the "Enable Program Counter (PC)" checkbox.

In this example, the initial PC value that the user specified when password protection and the Program Counter were enabled was 500. Since that time, two programming operations were successfully performed and therefore the **PC from ZSP** textbox contains the value 498.

To modify the ZSP program counter, click in the **PC to ZSP** textbox and enter the new value. It doesn't matter if the new PC value is smaller than, larger than, or equal to the displayed **PC to ZSP** or **PC from ZSP** values. After typing the new PC value, click the **Apply** button to store the new PC value in the ZSP Configuration and Image Area. The ZSP Configuration Software will then read back the PC value from ZSP non-volatile memory and update the value displayed in the **PC to ZSP** textbox as shown below.

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This screenshot shows a configuration window titled "Enable Program Counter (PC)". The checkbox is checked. Below it are two input fields: "PC to ZSP:" with the value "100" and "PC from ZSP:" with the value "100". To the right of the first field is an "Apply" button, and to the right of the second field is a "Refresh" button.

## How to Disable the Program Counter

The ZSP program counter (PC) can only be disabled if ZSP password protection is enabled, the ZSP is in an unlocked state, and the use of the program counter has been enabled. In this instance, the configuration window in the **Advanced** view will look similar to the following:

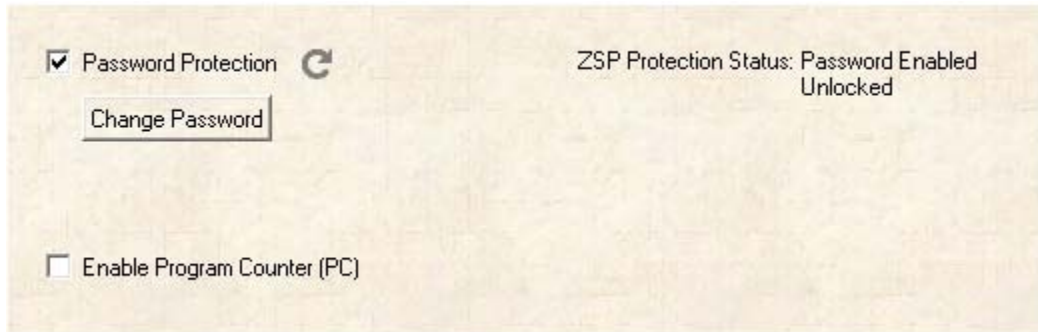
This screenshot shows the "Advanced" view configuration window. It features a "Password Protection" section with a checked checkbox, a "Change Password" button, and a "ZSP Protection Status: Password Enabled Unlocked" label. Below this is the "Enable Program Counter (PC)" section, also with a checked checkbox. The "PC to ZSP:" field contains "500" and the "PC from ZSP:" field contains "498". "Apply" and "Refresh" buttons are present next to the respective fields.

In this example, the initial PC value that the user specified when password protection and the Program Counter were enabled was 500. Since that time, two programming operations were successfully performed and therefore the **PC from ZSP** textbox contains the value 498.

To disable the ZSP program counter, click in the **Enable Program Counter (PC)** checkbox. This will disable the use of the ZSP program counter and the Advanced view configuration window will look similar to the following image:

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Refer to Zilog Standalone Programmer User Manual, [UM0287](#).







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