

## Introduction

This document provides a methodology for loading the configuration file into a Zilker Labs Digital-DC™ device via the SMBus using the ConfigZL™ GUI in conjunction with a custom receiver board. See AN30 for details on configuring a device via the I<sup>2</sup>C protocol.

## Procedure for ConfigZL

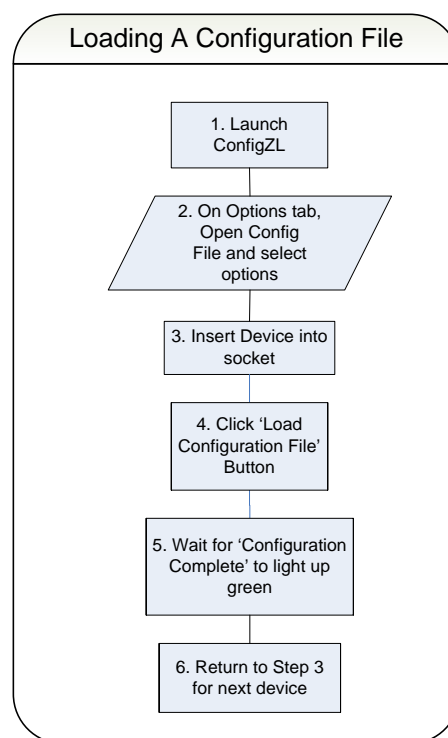
Figure 1 outlines the procedure for manual insertion of a Digital-DC device into the Receiver Board and the use of simple software to load a configuration file onto the target device. The user is required to provide a configuration file, a Windows based PC, and a power supply.

The following software and hardware tools are provided by Zilker Labs:

1. *The ConfigZL software GUI.* This software tool provides the user the following options for loading of the configuration file:

- ☐ Select the device type and address
- ☐ Point to the configuration file
- ☐ Select optional inclusion of a serial number
- ☐ Select option inclusion of automatic incrementing of the serial number
- ☐ Set the starting serial number if automatic incrementing is enabled
- ☐ Set optional private password
- ☐ Set optional public password
- ☐ Verify configuration in memory
- ☐ Enable or disable the output during configuration file loading
- ☐ Monitor loading progress and status
- ☐ Display the device ID as configured at the factory firmware load

2. *The USB-to-SMBus Adapter.* The adapter is needed to connect the Windows based PC running the ConfigZL software to the Receiver Board. The adapter converts the USB signal coming from the PC and to SMBus signals. A USB cable is also required.
3. *The Receiver Board* has a socket for manual insertion of the device. This board has a SMBus interface that connects the output of the adapter to the device being configured. This board also has connectors for providing power the device.



**Figure 1. Loading a Configuration File**

## ConfigZL

The ConfigZL tool allows the user to load their configuration files in a single step. There are two tabs in this application: one for configuring the options and loading the configuration file, and one as the control and monitoring page.

### Step 1: ConfigZL Loading and Configuring

Load the configuration file via the Options Tab. See Figure 2.

If the devices need to be serialized or if passwords need to be set and locked, please select the appropriate options. It is recommended that passwords are set using ConfigZL instead of using the Configuration File, especially when using ConfigZL to write serial numbers into devices. This is to allow ConfigZL to write serial numbers before setting any password protection mechanisms. When setting passwords, consult AN13 *PMBus Command Set* for proper usage of the UNPROTECT command as well a description of the device security levels to prevent passwords and other commands from being overwritten.

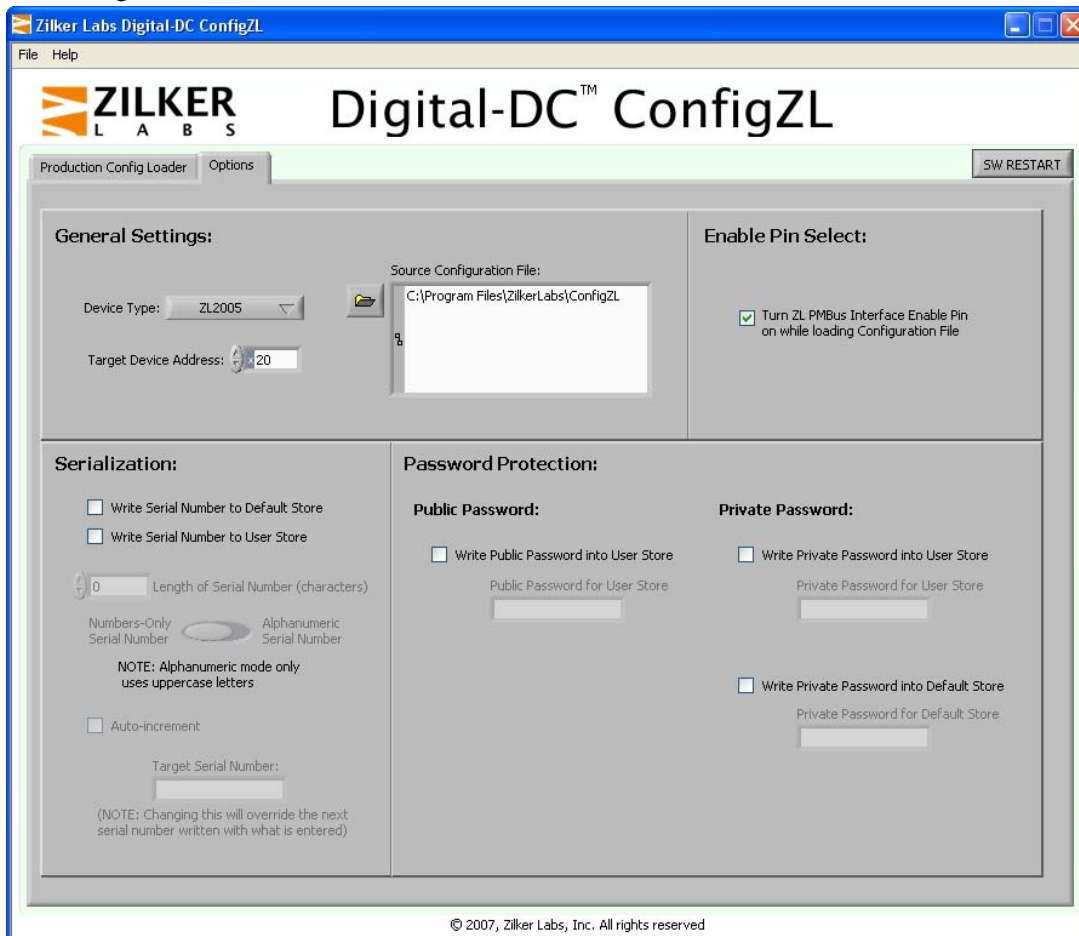


Figure 2. ConfigZL Options Tab

## Step 2: The Receiver Board

The ZL2005 Receiver Board is shown in Figure 3. The board connects to the SMBus port on the USB-to-SMBus Adapter and provides a test socket for device insertion and loading the configuration file. The board also provides two power ports for connecting power to the target device: a pair of banana jacks or a 2.1 mm DC barrel jack. The socket accepts the 36 pin 6x6 mm QFN package used for the ZL2005 family of devices and is available in an open top, dual latching format. The socket is rated for 15,000 insertions.

Setup the Receiver Board by connecting the USB cable from the PC with the ConfigZL application to the Received Board.

Connect Power (+5V) to the sockets indicated on the board (VIN+ and VIN-).

Insert Device into socket the per orientation indicator.

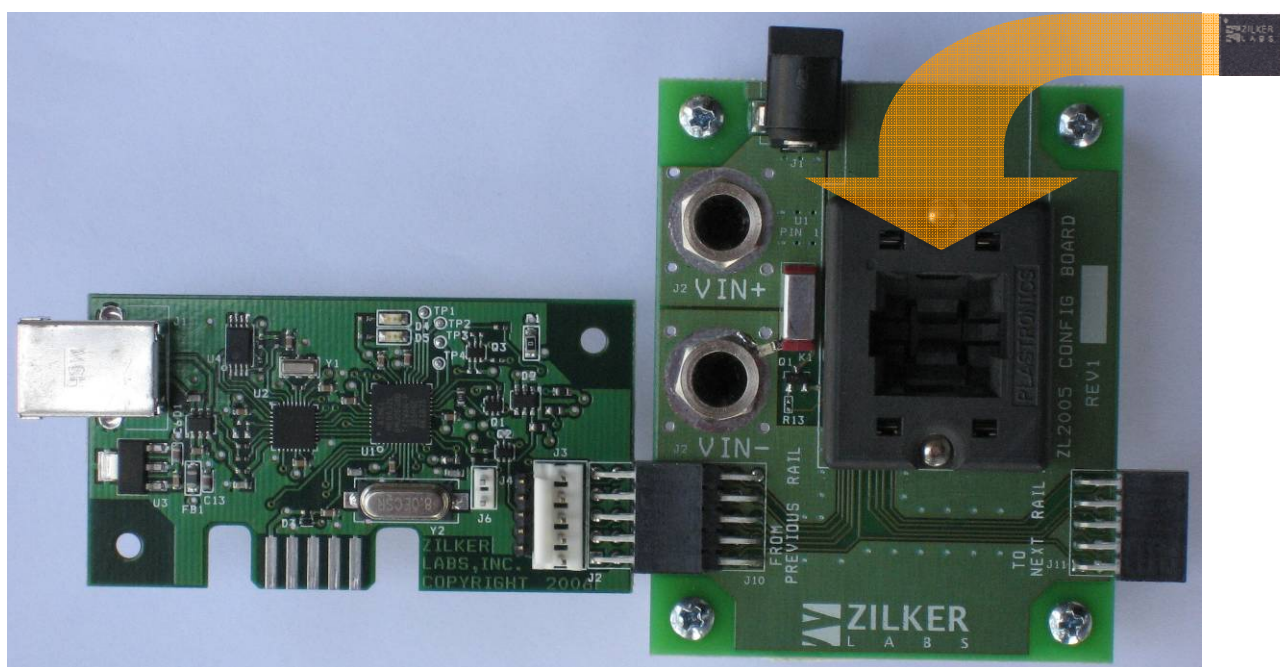


Figure 3. ZL2005 Receiver Board with USB-to-SMBus Adapter

## Step 3: ConfigZL Operations

Switch to the Production Config Loader tab in ConfigZL as shown in Figure 4.

Click on the “Load Configuration File” button to load the configuration file into the target device.

If the configuration file has been successfully loaded into the target device, the system will respond with a “Configuration Complete” green OK light.

If there was a problem with the load operation, the system will respond with a “Fail” and an error description. First verify that the device is seated in the socket properly. If the error still exists, please contact Zilker Labs with the error description.

Repeat Step 3 for additional devices, as required.



**Figure 4. ConfigZL Production Configuration Loader Tab**

## **Revision History**

<b>Date</b>	<b>Rev. #</b>	<b>Description</b>
September 2007	0.5	Initial Release
May 2009	AN2029.0	Assigned file number AN2029 to app note as this will be the first release with an Intersil file number. Replaced header and footer with Intersil header and footer. Updated disclaimer information to read "Intersil and it's subsidiaries including Zilker Labs, Inc." No changes to application note content.



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