

PC Watchdog™

BPI_WDog_Configuration Program User's Guide

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Table of Contents

1. INTRODUCTION	1
2. INSTALLATION	2
3. PROGRAM OPERATION	4
3.1 DEVICE OPEN SCREEN	6
4. VIEW MENU	8
4.1 VIEW MENU – TIMERS	8
4.2 VIEW MENU – TEMP / TICKLE	10
4.3 VIEW MENU – TEMP / TICKLE (USB ONLY)	11
4.4 VIEW MENU – USER NV CODE	12
4.5 VIEW MENU – IO OPTIONS	13
4.6 VIEW MENU – CHECK IO	14
4.7 VIEW MENU – ETHERNET	15

1. Introduction

This program allows you to configure and test the PC Watchdogs. It can also setup the non-volatile memory options and save them in the board's memory for future use.

The program is called BPI_WDog_Config. The installation file (.MSI) for this program can be found in the directory on the CD of the same name. Double click the .msi file or the setup.exe program to install. The program will install a shortcut in your program menu and on the desktop.

NOTE: This program requires that you have .NET Framework 2.0 (or higher) installed.

NOTE: This program will not run properly if you have the BPI_WDog_Tickler running at the same time. Only one program can access a watchdog at a time. You can tell it is running if there is a feather icon in the lower right taskbar area of your screen.

The latest versions of all manuals and sample code can be found on our site at:

<http://www.berkprod.com/>

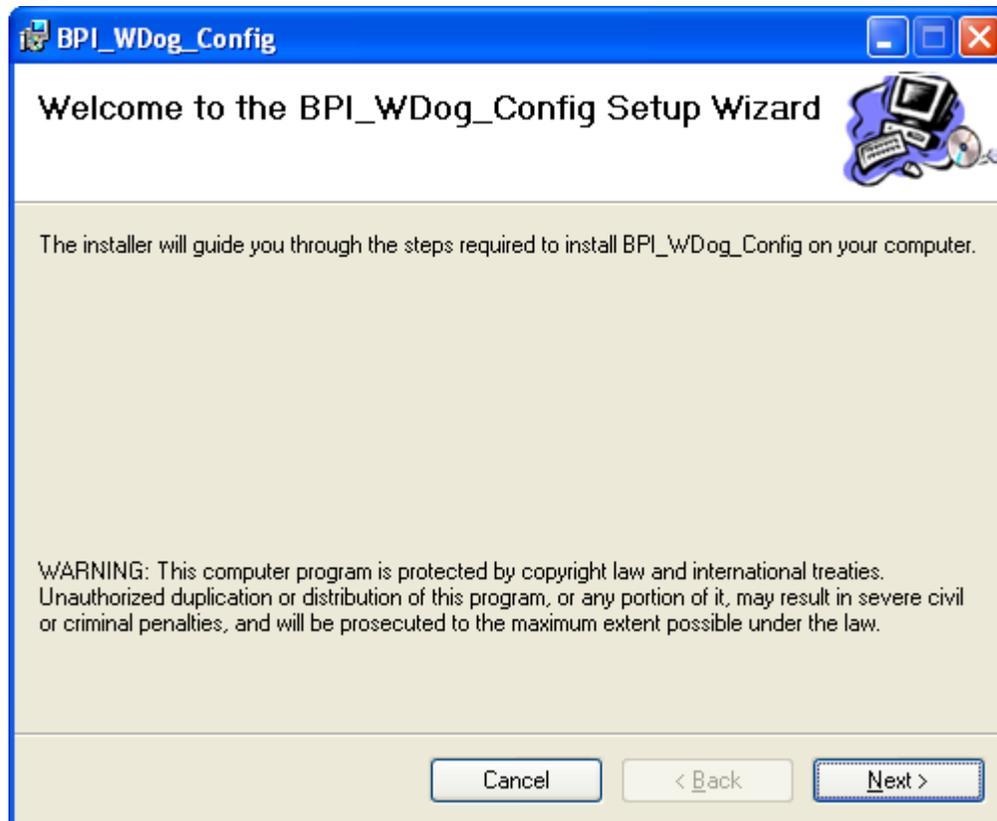
If you have any questions, corrections, or feedback about this manual please contact us at:

http://www.berkprod.com/Other_Pages/Contact_Us.aspx

2. Installation

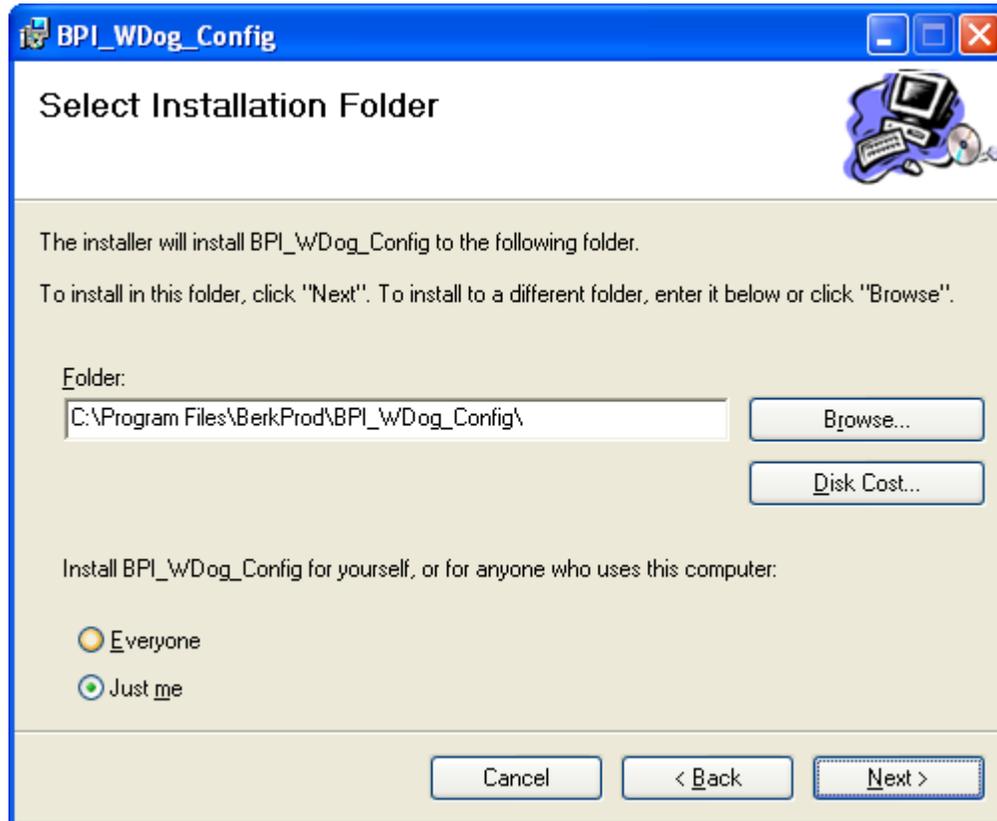
The screens shown in this section were done with Windows XP Professional. Other Windows version will look slightly different. To install the program, go to the BPI_WDog_Config directory on the CD and double click the “BPI_WDog_Config_Setup.msi” file or the Setup.exe file.

You should get a screen like this:



Click the Next button to continue.

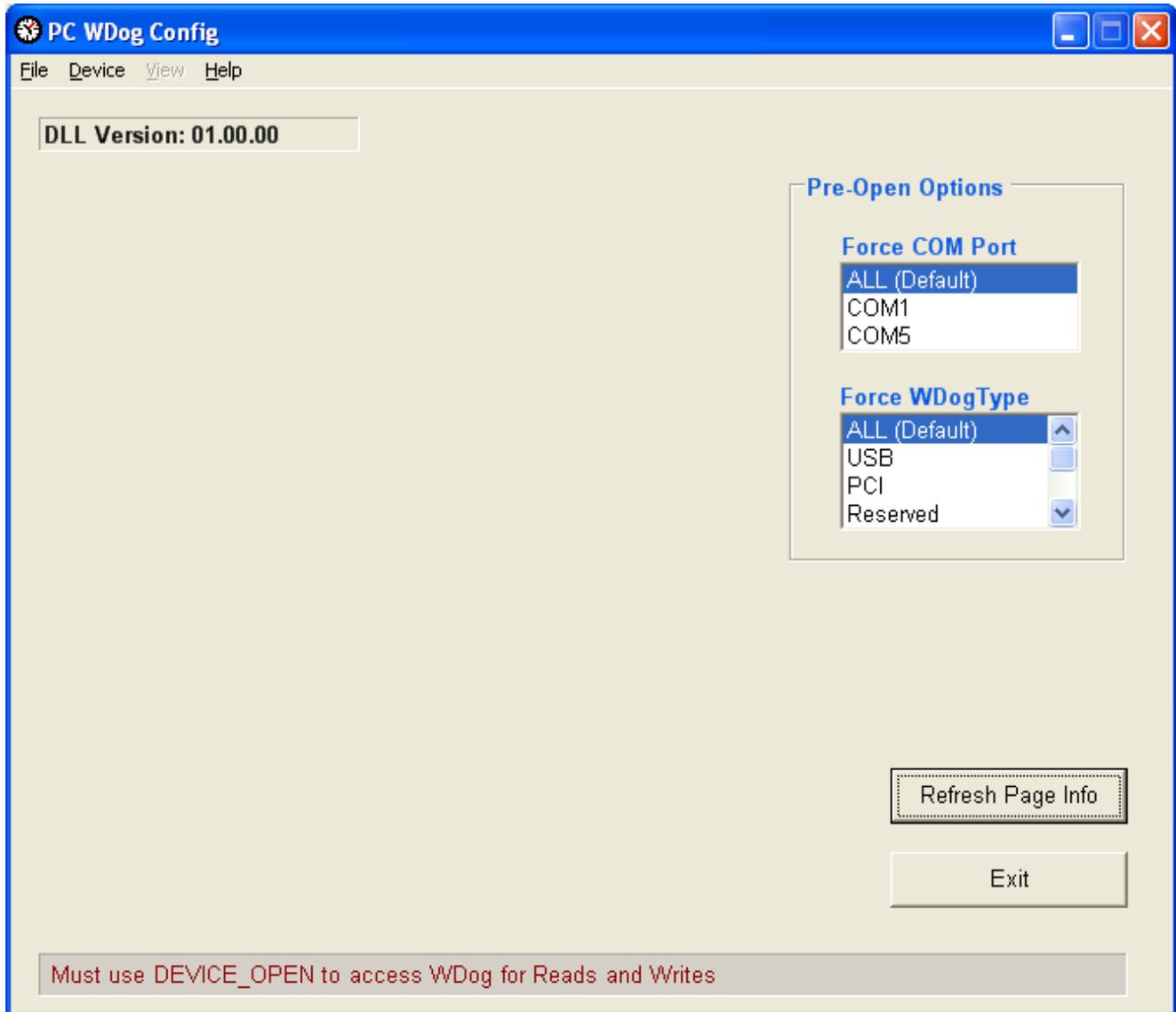
On this page select the **Everyone** radio button if you want all users to have access to the configuration program. The default Folder should be fine.



Click next and finish the installation. When the installation is finished you will have two shortcuts installed. One for system startup and the other on the Desktop that is useful for testing. Once you have finished testing you can delete the Desktop shortcut.

3. Program Operation

When you start the program you will get an intro screen similar to below:



At this point no PC Watchdog has been opened. You can use the selection lists on the right to force the program to open a specific type of watchdog and use a specific port. If no selection are made here the program will search until it finds the first one in you system.

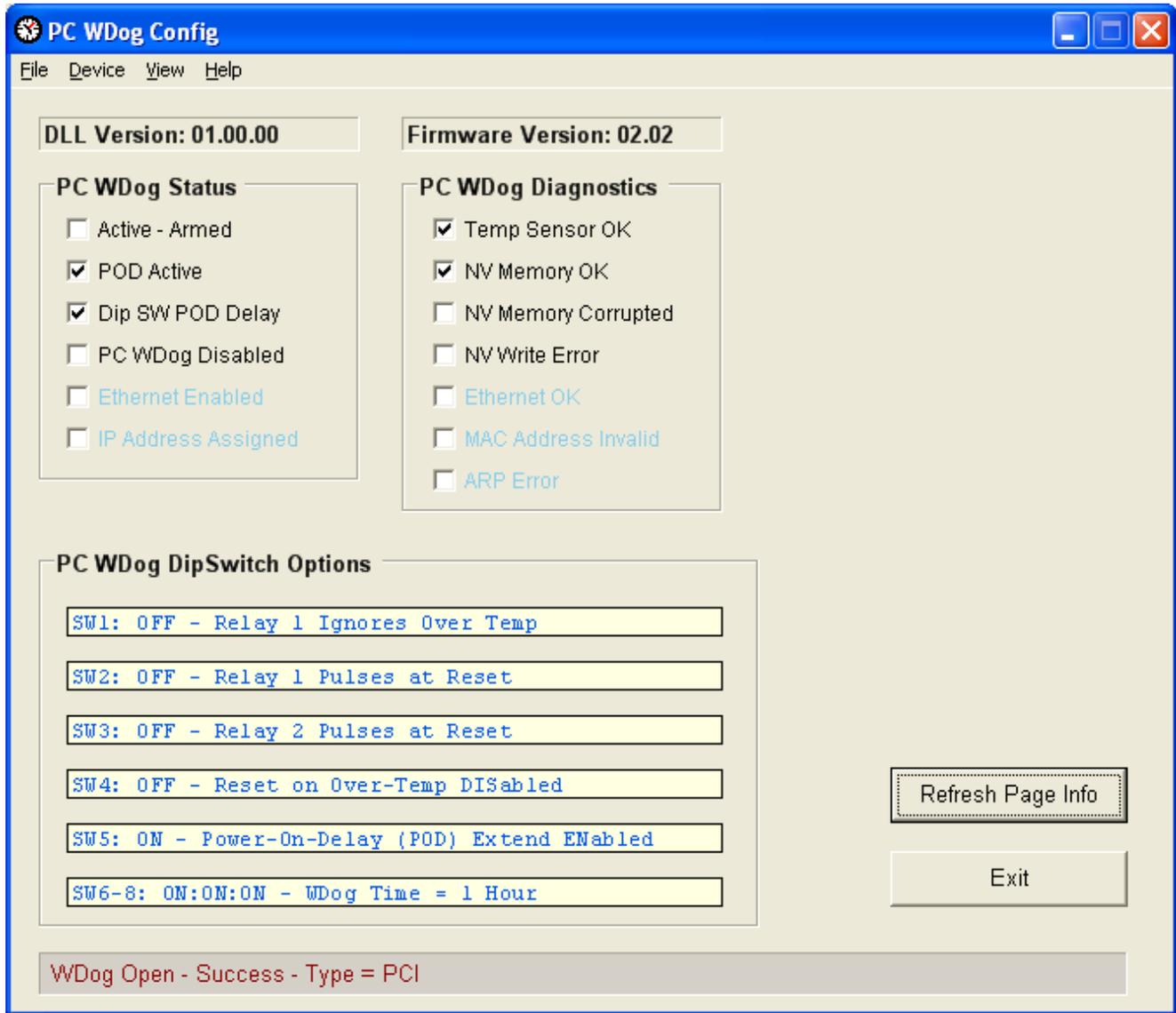
Use the top menu Device → Open BPI_WDog menu to get access to the board. Once you have finished working with the board you can use File → Exit to end the program or you can use Device → Close BPI_WDog to stop program access to the device.

If you are working with the USB or Serial versions of the PC Watchdog you can use the Device → Close BPI_WDog option to close open connections. Then you can swap boards and reopen the new one.

The File → Open, Save and Save As are not implemented in this version of the configure program. They will be implemented in a future version.

3.1 Device Open Screen

When the Device → Open BPI_WDog is selected you will get a screen similar to the following:



This example is for a PCI PC Watchdog.

This page shows you the version of the Universal Interface DLL and the Firmware revision of the software running on the board.

The Status, Diagnostics, and DipSwitch sections will be different based on the board installed and its current state. You can use the Refresh Page Info button to update the page and see a change like the board going from the Power-On-Delay (**POD**) to armed.

NOTE: Once the device has been opened you will have a new top menu selection: **View**.

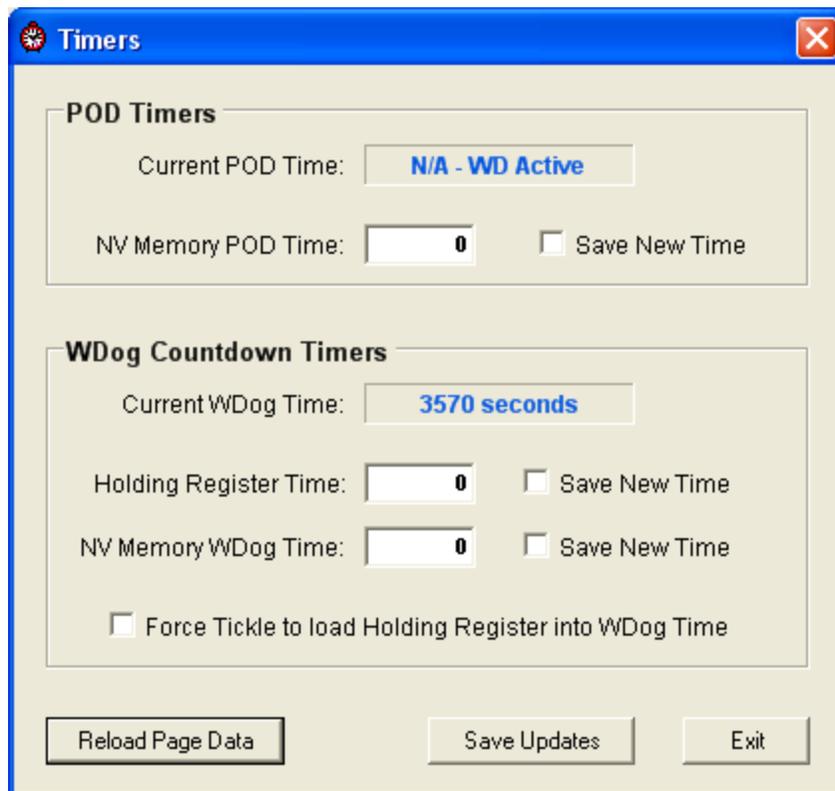
NOTE: Options that are not valid are shown in light blue.

4. View Menu

The View menu is used to select the different subsections to configure and check the PC Watchdog. You should use the UNIV_WDog_DLL-ProgrammersGuide.pdf manual on the CD to understand what some of these menu options do.

4.1 View Menu – Timers

The View → Timers menu will show a screen like this



In the POD Timers section you can see how much Power-On-Delay (**POD**) time is left. If the POD time is still active then you can click the Reload Page Data button to see the time update. In the case above the board is already armed so the POD is done.

In the case above the NV Memory POD Time is set to zero so the board will default to the standard 2.5 minute delay. You can change the time in this window, click the check box to save the new time, and then click the Save Updates button at the bottom.

In the Wdog Countdown Timers section you can see how much time is left if the watchdog is armed. If the watchdog is armed and a time is displayed, then you click the Reload Page Data button to see the time update.

The Holding Register Time allows you to change the countdown time the board will use as long as it is powered on. Check the Save New Time box and click the Save Updates button to accept. Note that the Current Time displayed will not change until you click the Force Tickle to load box before you click the Save Updates button.

NOTE: Earlier versions of board firmware do not allow you to view or read back the Holding register from the board.

In the window above the NV Memory Wdog Time is set to zero so the board defaults to using the DIP Switch time option each time it powers up. You can change the time in this window, click the check box to save the new time, and then click the Save Updates button at the bottom.

You can use the Force Tickle to load check box and the Save Updates button by themselves to simulate “tickling” the watchdog.

4.2 View Menu – Temp / Tickle

The View → Temp / Tickle menu will show a screen like this for all boards:

Temp / Tickle

Current Temperature: C F

Total Ticks:

Total Reset Count: Clear Reset Count

NV Memory High Temp Offset: Save New NV Offset

Low Temp Option Settings

Enable / Clear Low Temp Options: No Change Enable Clear Option

Low Temp1 Aux Relay Buzzer

Low Temp2 Reset Relay Buzzer

Hysteresis Temp Option is: **DISabled**

Note: Each Load / Reload of this page causes the board to get "TICKLED" when the temperature is read.

The top line shows the current temperature the board is measuring and the radio buttons give you the option to display in Fahrenheit or Celsius. Each time you click the Reload Page Date the programs re-reads the temperature which also “tickles” the board so the Total Ticks will increment as well.

The Total Reset Count shows how many times the board has counted down and reset the PC. You can clear this count with the Clear Reset Count check box and the Save Updates button. This will also turn of the bottom LED on the Dual LED at the back of the board.

The last field allows you change the two temperature trip points to higher values and save them in the non-volatile memory. The maximum offset is +31° C. You must click the Save New NV Offset box before hitting the Save Updates button the the value to be saved.

4.3 View Menu – Temp / Tickle (USB Only)

The View → Temp / Tickle menu will show a screen like this for USB boards with firmware of 3.10 or higher:

Set the values in the two low temp boxes for the trip points. The values for the two temperatures must be 30°C (86°F) or lower and negative values are allowed down to -40°C (-40°F). The two trip points can be set to equal temperatures but the second trip point can not be higher than the first one. The Hysteresis temp is added to the two temps to set the turn off points when the temperature starts going up. It must be in the range of 2 – 15. (default is three)

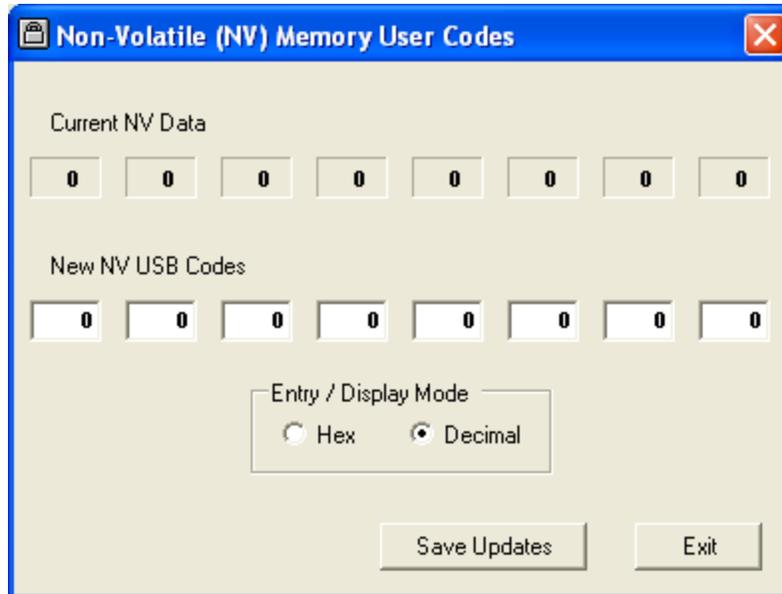
Click the Aux relay box if you want the Aux relay to turn on at Low Temp1. It will stay on even after Low Temp 2. It will not turn off until the temperature rises above Low Temp1+Hysteresis Temp. Click the Reset relay box if you want the Reset relay to turn on (PC held in reset) at Low Temp2. It will not turn off until the temperature rises above Low Temp2+Hysteresis Temp.

Click the Buzzer boxes to turn on the buzzer at each trip point. It is possible to turn on the buzzer at Low Temp1 and then back off at Low Temp2.

To save these options in non-volatile memory click the Enable radio button before clicking the Save Updates button. Click the Clear Option radio button to erase the option from non-volatile memory.

4.4 View Menu – User NV Code

The View → User NV Code menu will show a screen like this:

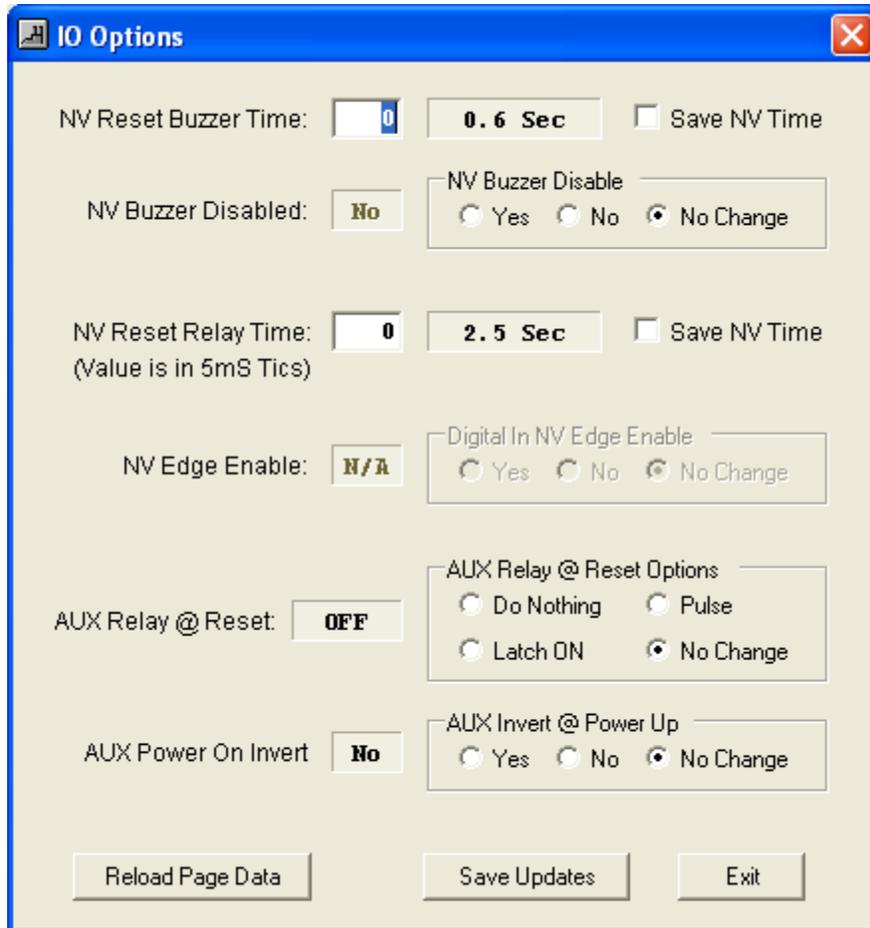


This menu allows you to enter your own unique user code in the non-volatile memory. You have the option of entering the data bytes in decimal (0 – 255) or hex (0x00 – 0xff) via the radio buttons.

When you click the Save button the Current NV Data will change to match your new values.

4.5 View Menu – IO Options

The View → IO Options menu will show a screen like this:



The screenshot shows a window titled "IO Options" with a blue title bar and a close button. The window contains several configuration sections:

- NV Reset Buzzer Time:** A numeric input field with "0" and a "0.6 Sec" display, followed by a "Save NV Time" checkbox.
- NV Buzzer Disabled:** A dropdown menu showing "No".
- NV Buzzer Disable:** Radio buttons for "Yes", "No", and "No Change" (selected).
- NV Reset Relay Time:** A numeric input field with "0" and a "2.5 Sec" display, followed by a "Save NV Time" checkbox. A note below says "(Value is in 5mS Tics)".
- NV Edge Enable:** A dropdown menu showing "N/A".
- Digital In NV Edge Enable:** Radio buttons for "Yes", "No", and "No Change" (selected).
- AUX Relay @ Reset:** A dropdown menu showing "OFF".
- AUX Relay @ Reset Options:** Radio buttons for "Do Nothing", "Pulse", "Latch ON", and "No Change" (selected).
- AUX Power On Invert:** A dropdown menu showing "No".
- AUX Invert @ Power Up:** Radio buttons for "Yes", "No", and "No Change" (selected).

At the bottom of the window are three buttons: "Reload Page Data", "Save Updates", and "Exit".

This particular example is from a USB board. Options that are not applicable to a board will be disabled. This menu allows you to set the non-volatile (NV) memory option for IO.

The top lines shows the buzzer time at reset. In this case the NV option is zero so the board defaults to 0.6 seconds.

The next line indicates the buzzer is enabled. You can use the radio buttons to change the option.

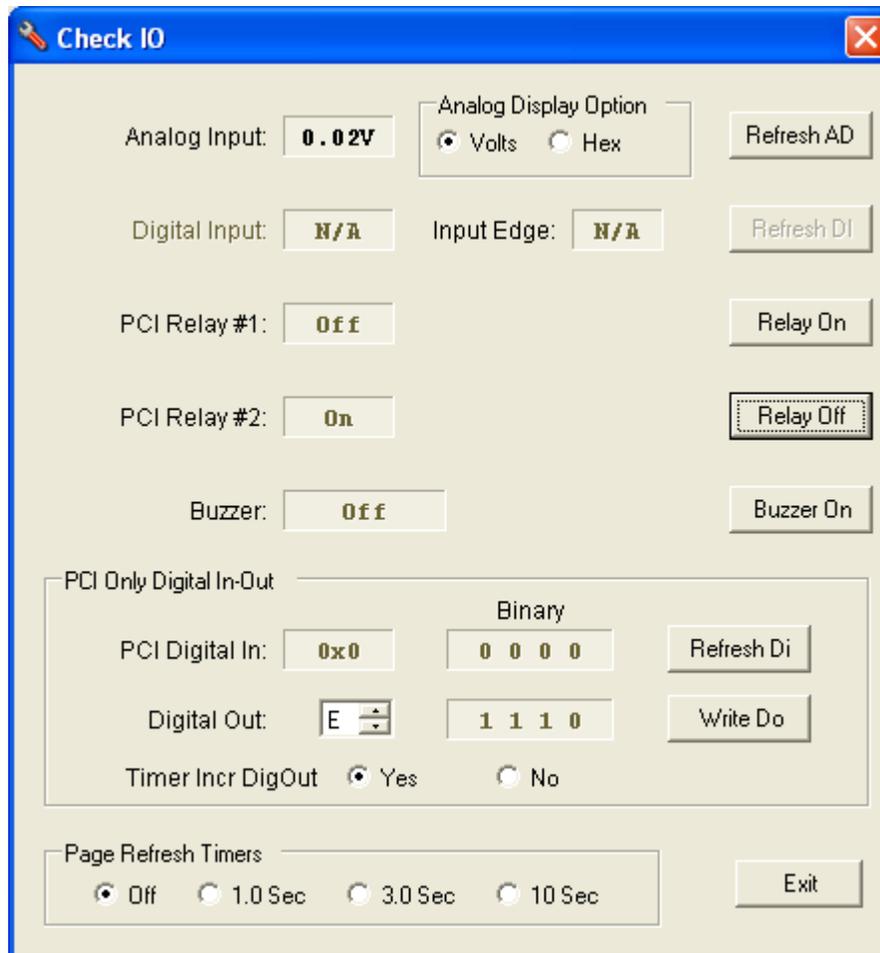
The NV Edge Enable is disabled because the USB board does not have an external digital input that can be used an external watchdog “tickle”

The last two sections configure the Aux relay.

Once you have set new times and radio button options, use the Save Updates button to write the option data to the NV memory.

4.6 View Menu – Check IO

The View → Check IO menu will show a screen like this:



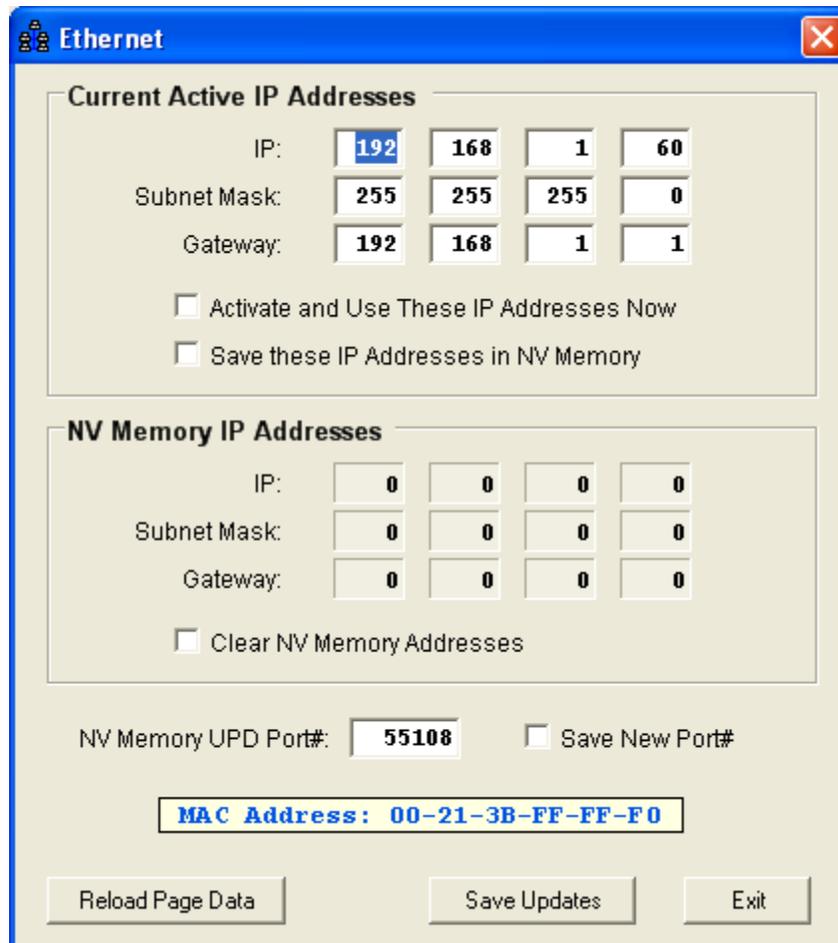
This example is from a PCI PC Watchdog. This menu allows you to check the IO functions.

Some buttons are Refresh *XX* and will update the input value. The Relay button text will toggle between On & Off as you toggle the relays.

At the bottom of the page are radio buttons that allow you to put the test into a loop mode to refresh the whole page at a set rate. On the PCI boards you can also select an increment option to cycle the digital outputs through the 16 possible values.

4.7 View Menu – Ethernet

The View → Ethernet menu will show a screen like this:



The screenshot shows a window titled "Ethernet" with a blue header and a close button. The window is divided into two main sections: "Current Active IP Addresses" and "NV Memory IP Addresses".

Current Active IP Addresses

IP:	192	168	1	60
Subnet Mask:	255	255	255	0
Gateway:	192	168	1	1

Activate and Use These IP Addresses Now
 Save these IP Addresses in NV Memory

NV Memory IP Addresses

IP:	0	0	0	0
Subnet Mask:	0	0	0	0
Gateway:	0	0	0	0

Clear NV Memory Addresses

NV Memory UPD Port#: Save New Port#

MAC Address: 00-21-3B-FF-FF-F0

Buttons: Reload Page Data, Save Updates, Exit

This option only work for the Ethernet-USB PC Watchdog. It allows you to view and change the Ethernet settings and view the MAC address.