

PC Watchdog™

BPI_WDog_Tickler Program User's Guide

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Table of Contents

1. INTRODUCTION	1
2. INSTALLATION	3
3. PROGRAM OPERATION	5
3.1 PASSWORD ENTRY	5
3.2 CONFIGURATION SCREEN	6
3.2.1 TICKLE INTERVAL SLIDER	6
3.2.2 PROGRAM NAME TEXT BOX	7
3.2.3 SAVE UPDATES BUTTON	7
3.2.4 CLOSE WINDOW BUTTON	7
3.2.5 SHUTDOWN & EXIT TICKLE AP	7
4. CONFIGURATION FILE	8
4.1 FILE CONTENTS	8
4.1.1 VERSION KEY	8
4.1.2 TICS KEY	8
4.1.3 COMPORT KEY	8
4.1.4 WDOGTYPE KEY	9
4.1.5 EXEFILENAME KEY	9
4.1.6 OPENPASSWORD	9

1. Introduction

There are three ways that a PC can fail and be restarted by the watchdog board:

1. The PC hardware freezes or locks up typically as a result of a power glitch.
2. The operating system (OS) freezes and kills all applications running on the PC – typically this is called: Blue Screen Of Death (BSOD).
3. Your application dies or is terminated by the OS.

In all these cases, if your application was doing the “tickling” of the watchdog, the tickles would stop and the watchdog would countdown to zero and reboot the PC. This is by far the best option.

It is possible to have a separate program tickle the watchdog and that solution would cover the first two scenarios, but not the last one where the OS terminates your application, since the separate program would continue to run and keep tickling the watchdog.

There is an application on the CD that will tickle the watchdog if you are unable to get your primary application program to perform the tickles. It will work for the first two scenarios listed above. It can also cover the third scenario most of the time.

The program is called BPI_WDog_Tickler. 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. After the program has been installed restart the PC. The installation process sets up this program to start automatically each time the PC reboots.

If the installation was successful, you should see a feather icon in the lower right taskbar notification area of the screen. You can right click this icon and select the option to open the configuration window or to force a tickle of the watchdog.

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

NOTE: As long as the program can “talk” to the board OK it will show the feather icon in the taskbar notification area. If the board fails the icon will change to a yellow triangle with an exclamation symbol.

NOTE: This program will not run if you have the BPI_WDog_Config program running at the same time. Only one program can access a watchdog at a time.

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

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

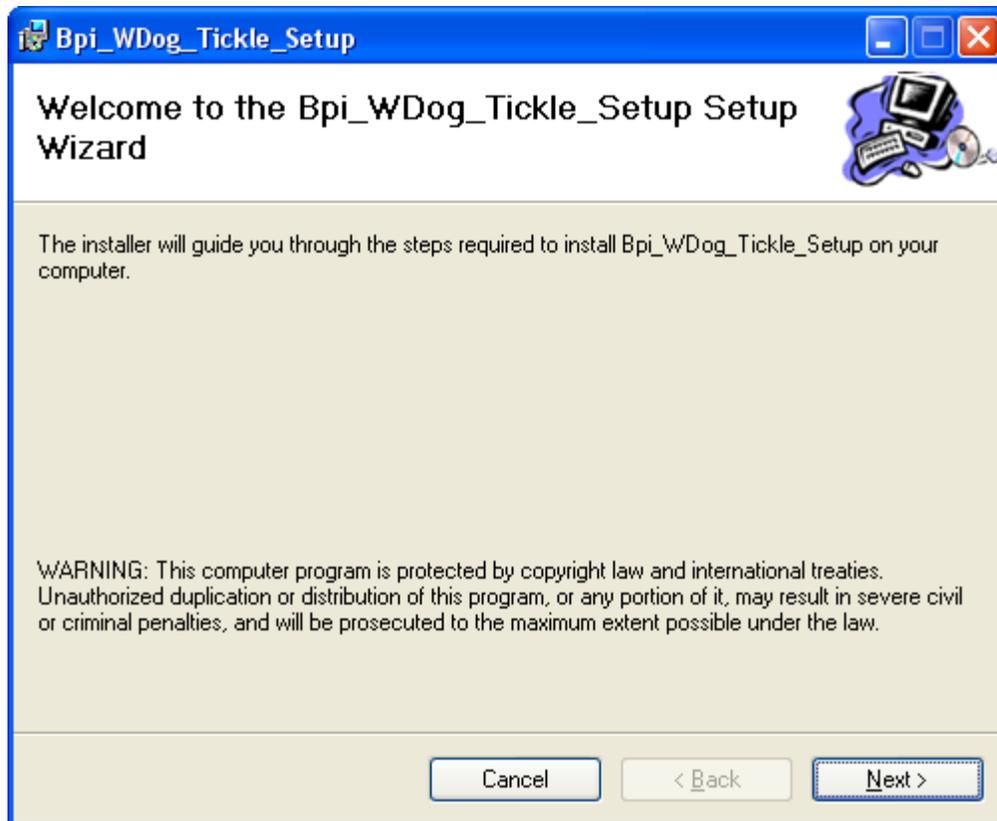
If you have any questions, corrections, or feedback about this manual please contact us at:

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

2. Installation

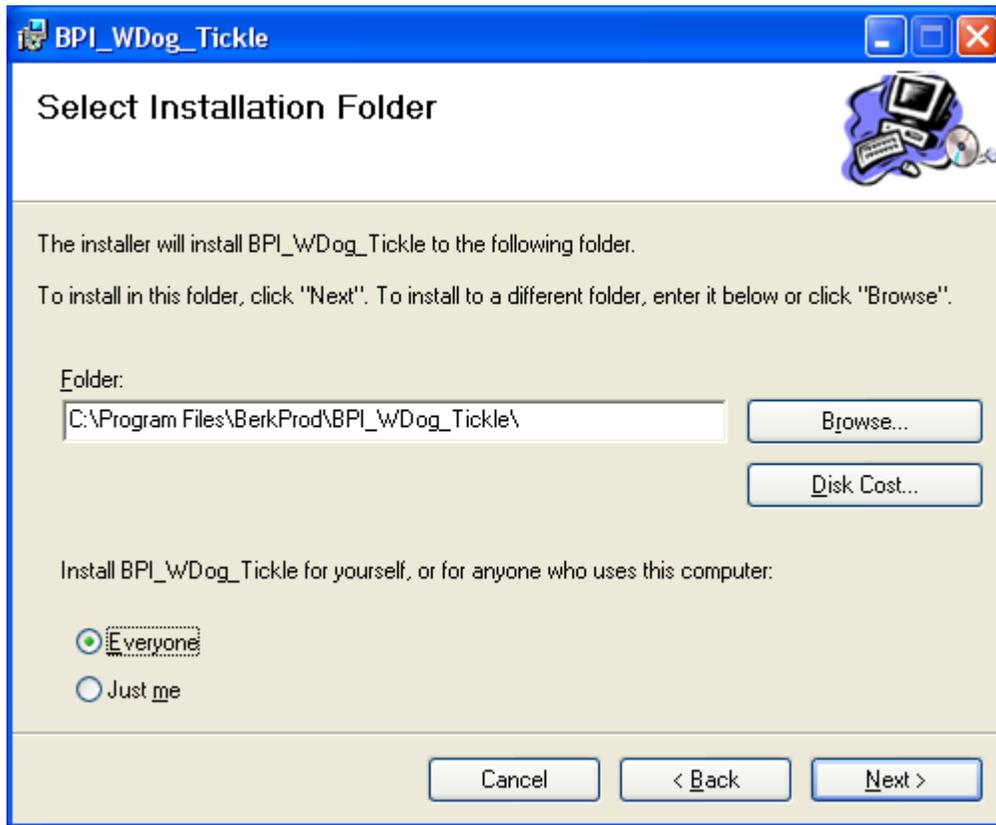
The screens shown in this section were done with Windows XP Professional. Other Windows will look slightly different. To install the program, go to the BPI_Dog_Tickle directory on the CD and double click the “ BPI_Dog_Tickle_Setup.msi” file or the Setup.exe file.

You should get a screen like this:



Click the Next button to continue.

On this page make sure that you select the **Everyone** radio button. This will make sure that the startup shortcut will always start the tickle program each time the PC reboots. The default Folder should be fine.



Click next and finish the installation. When the installation is finished you will have two shortcuts installed. One will be in the Startup folder and the other will be in the BerkProd folder under Start – All Program that is useful for testing or reloading if you accidentally end the copy that is running. Every time the PC restarts it will reload the Tickle program automatically as long as the shortcut is in the Startup folder.

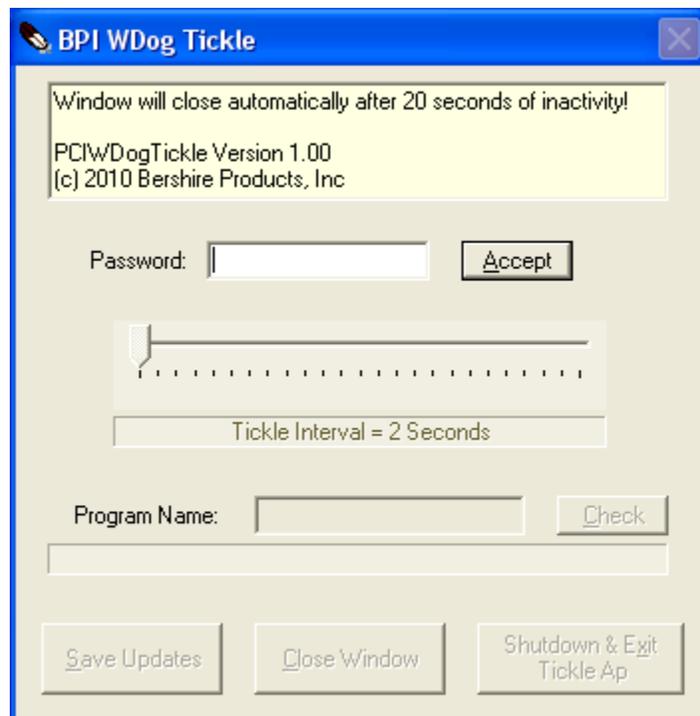
3. Program Operation

When you right click the feather icon in the lower right taskbar notification area one option is Open which will open the main window for the tickle application. In order to stop users from shutting down this application by accident it has a password required to access.

NOTE: The program will automatically minimize back to the taskbar notification area if there is no activity for more than 20 seconds.

3.1 Password Entry

The first screen you get looks like:



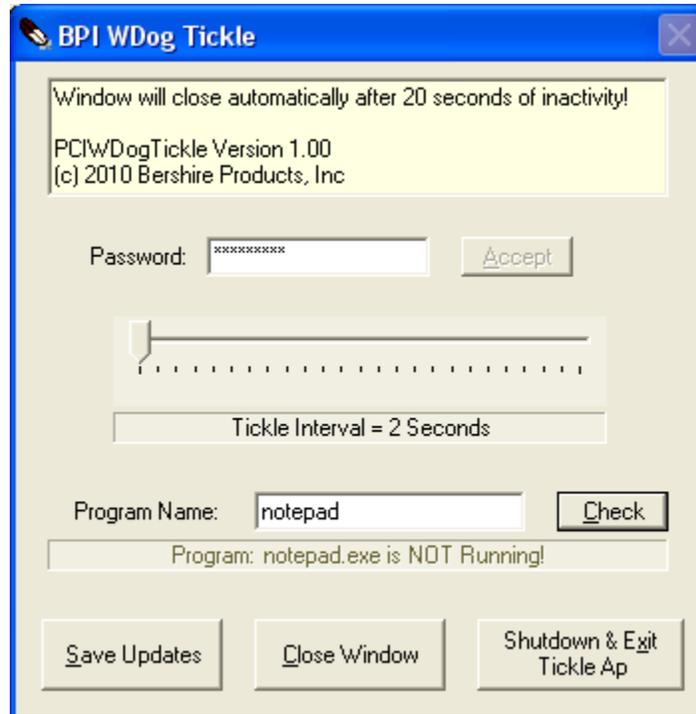
All the options will be grayed out and inaccessible until the password is entered.

The password is: **BpiWDog99** (It is case sensitive)

Enter the password and click the Accept button or press enter.

3.2 Configuration Screen

Once the password is entered successfully the screen will look similar to this:



3.2.1 Tickle Interval Slider

The slider allows you to select a “tickle” interval between 2 seconds and 50 seconds. A longer interval means more CPU time for the PC to perform other tasks, although this program requires very little overhead.

Use the Save Updates button to update the configuration file with the new time for the next reboot of the PC.

NOTE: Make sure that the “tickle” interval is less than the timeout you have selected on the DIP switches or through software. A good rule of thumb is $\frac{1}{2}$ to $\frac{1}{3}$ of the timeout value.

3.2.2 Program Name Text Box

This box allows you to set a program name to check before each tickle of the watchdog. Only use the program name and not the **.exe** extension.

Example: you could type in *notepad* in this field and click the Check button and a message in the lower box should come back and show that notepad.exe is not running if it isn't loaded. Then load notepad and click the Check button again. This time you should get a message that notepad.exe is running. This provides a way to test and make sure the selected application can be found.

Using a named program allows you to make sure the application is still running before the watchdog tickles the board at each “tickle” interval. If the application dies or if Windows shuts down the program, then the tickle program will stop tickling the watchdog and the PC will get rebooted.

NOTE: If this text box is clear then this program will always “tickle” the board at the selected interval.

Use the Save Updates button to update the configuration file with the new program name for the next reboot of the PC.

3.2.3 Save Updates Button

When you click this button it saves the current configuration (tickle time and program name) in a configuration file called:WD_Tickles.wdc. The next time the PC reboots and the tickle program starts it will read this file for the configuration to use. The program is shipped with a file having a default tickle time interval of 2 seconds and no program to check. If the file gets corrupted then the tickle program will create a new one with the default parameters.

3.2.4 Close Window Button

This button just minimizes the application back to the Task Bar.

3.2.5 Shutdown & Exit Tickle AP

This button stops the tickle program. Use it carefully since the “tickles” will stop if you select this button. It is useful for testing reboots.

4. Configuration File

There is an ini file installed that allows you to tweak the operation of the program before it is used for the first time. Most user's will not need to make any changes to this file. The file can be edited with notepad.exe or any other ASCII file editor.

If you make changes to this file that corrupt the contents, then the next time the program starts it may delete and recreate a default ini file like the one below or it may set invalid values back to their default values.

4.1 File Contents

This is what the file looks like:

```
[PARAMS]
Version=1.0
Tics=2
COMPort=0
WdogType=0
ExeFileName=NULL
OpenPassWord=NULL
```

The **[PARAMS]** text must not be changed. If it is not found the file is considered corrupted. The keys are described in the following sections.

4.1.1 Version Key

This will be set to the current version of the ini file structure. Currently it is "1.0".

4.1.2 Tics Key

The default value is 2. The valid ranges are 2 to 50. If this is invalid at startup, it will get reset to 2. This key value can also be updated from the Configuration screen.

4.1.3 COMPort Key

Some PC Watchdogs use serial ports for access. This key allows you to force a COM port to use when the tickle program starts. A value of zero (0) means to search all installed COM ports until a watchdog is found. The valid range for this key is 0 to 24. If it is found to be invalid, the key will be reset to the default value is zero (0).

4.1.4 WdogType Key

When the tickle program starts it normally does an automatic search for a PC Watchdog. A value of zero means use the automatic method. The count can be set to a range of 1 to 7 to force the tickle program to open a single type of board. If it is found to be invalid, the key will be reset to the default value is zero (0).

4.1.5 ExeFileName Key

When the tickle program starts it will use this key for the name of an .exe program to check. See the Configuration Screen section for more information. Only use the program name here – do not add the .exe extension to the name. If you do not want to specify a program to check, then just leave the line blank after the equal (=) sign or use the text: NULL like the example.

4.1.6 OpenPassWord

When you right click the feather icon in the lower right taskbar notification area and select Open, you need to enter a password to get access to the program to make changes. If this key is set when the program starts it will use your access code rather than the default password.

The allowed range for the string is 1 to 16 characters. Anything more than 16 will be truncated at startup. If you do not want to specify a password and just use the default, then just leave the line blank after the equal (=) sign or use the text: NULL like the example.