

# MANUAL FOR THE BUFFER LINK SOFTWARE

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## 2 INTRODUCTION

The Buffer Link utility is a simple program, which allows you to shut down a computer system that is triggered by the buffer relay contact through the serial port connection.

## 3 SYSTEM REQUIREMENTS

The Buffer Link is designed to run on Windows 7 systems with Microsoft.NET Framework 4 installed. Microsoft.NET Framework 4 is a free update and can be downloaded from [www.microsoft.com](http://www.microsoft.com).

The Buffer Link should also run on Windows Vista and Windows 8.x with Microsoft.NET Framework 4 installed but this was not tested by PULS.

## 4 INSTALLATION

### 4.1 COMMON DIRECTORY

Create a common directory.

Example: `C:\Programme(x86)\BufferLink`

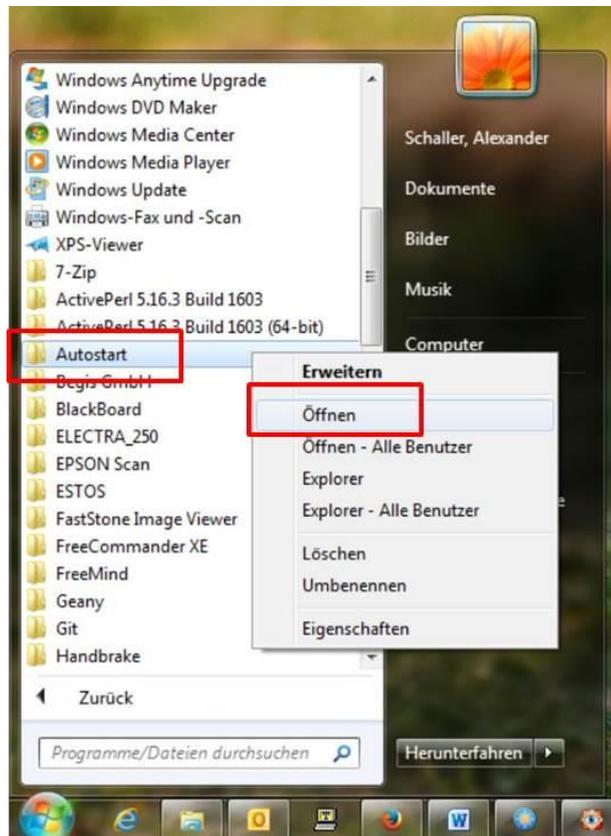
### 4.2 UNZIP ZIP-FILE

Unzip the content `BufferLink_V1.12_2017.zip` of the ZIP-file into this directory.

**Note:** The file (`BufferLink.exe`) can be copied to any folder. Buffer Link will then save its XML configuration files in this folder. Only a shortcut to Buffer Link, not the exe-file, may be copied to the Autostart folder, otherwise the configuration files will not work.

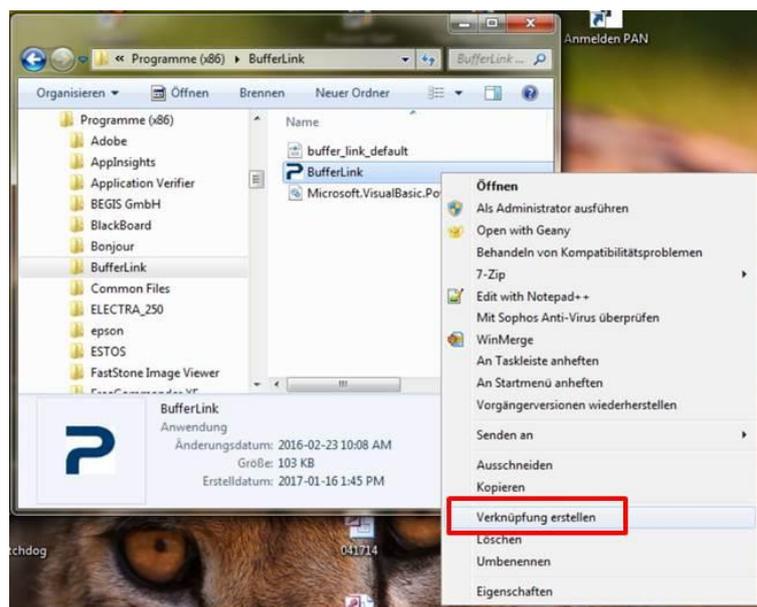
### 4.3 OPEN AUTOSTART FOLDER

Open the Autostart folder in the context menu using a right-click.



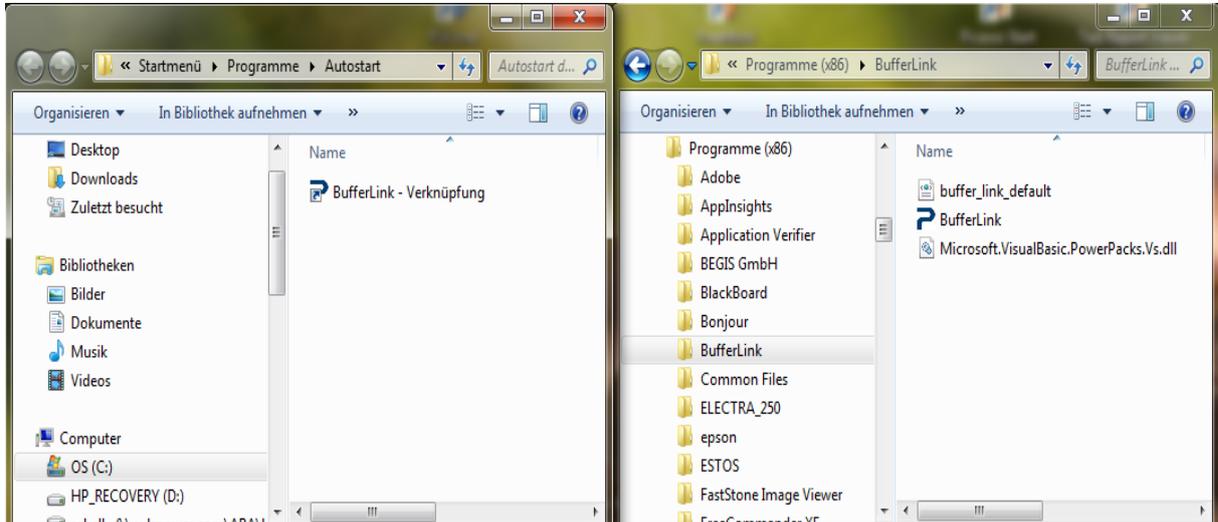
### 4.4 CREATE SHORTCUT IN BUFFER LINK FOLDER

Open the Buffer Link folder and create a shortcut to the Buffer Link application by right-clicking on the application in the context menu.



#### 4.5 MOVE SHORTCUT TO AUTOSTART FOLDER

Move the newly created shortcut to the Autostart folder.

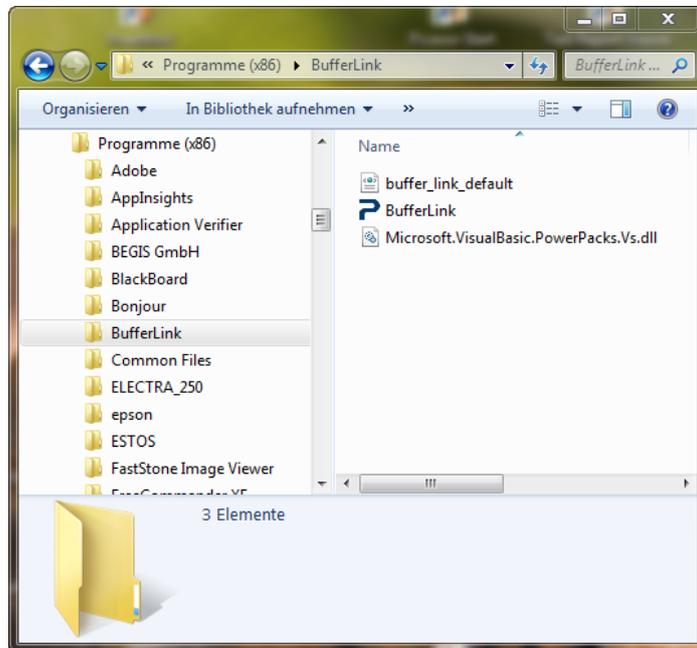


#### 5 MAIN FEATURES AT A GLANCE

- Adjustable system shutdown time in 3 phases
- Advanced program shutdown sequence
- Storable setup
- Immediate monitoring after program start option

## 6 FIRST START

Start Buffer Link for the first time by double-clicking the application in the Buffer Link folder. This will execute the basic settings.

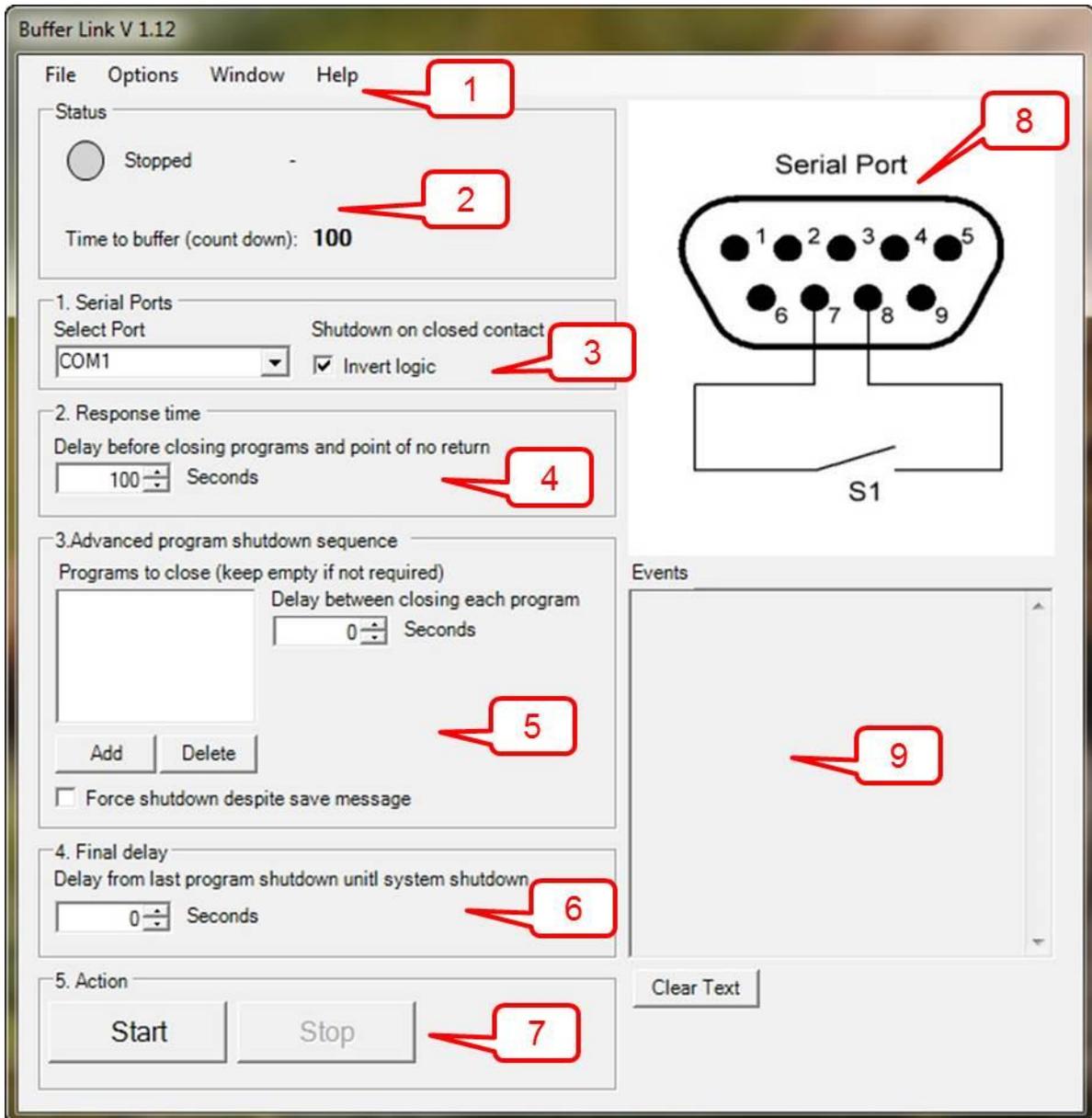


As Buffer Link is started, it will appear as a tray icon (see image below).



Double-click on the tray icon now in order to open the Buffer Link status and setup window.

7 PANEL OVERVIEW



1. Menu bar
2. Status information: shows mode and total delay time until Windows receives the system shutdown order
3. Port settings
4. Delay time (phase 1)
5. Program list for explicit advanced program shutdown (phase 2)
6. Delay from last program shutdown to system shutdown (phase 3)
7. *Start* and *stop* of monitoring
8. General port and wiring information
9. Event log screen

## 8 GETTING STARTED STEP BY STEP

### 8.1 SELECT PORT

Select the connected port from the port select box (see panel overview on page 6, number 3). The port select box shows all serial ports available on your system.

Under normal conditions the invert checkbox should not be checked.

### 8.2 SET RESPONSE TIME

The response time selector (see panel overview on page 6, number 4) defines the response time from the occurrence of the buffer mode signal to the shutdown sequence in seconds.

Once the response time is elapsed, there is no return and the shutdown sequence will be initiated even when the port signal returns to normal mode.

### 8.3 SET ADVANCED PROGRAM SHUTDOWN SEQUENCE (OPTIONAL)

You can set up a list of programs which have to be terminated in the order of the list. You can also set a defined delay between each termination (see panel overview on page 6, number 5).

If you want to add a program to the list you have to know the path of its executable file and select it by following the open file dialog.

If this feature is not needed then the list can be kept empty.

The force shutdown checkbox allows you to force the termination of the program even if it shows a save file dialog. Otherwise a save dialog prevents a program abort at that time but the program will be closed anyway when the system shutdown starts.

### 8.4 SET FINAL DELAY

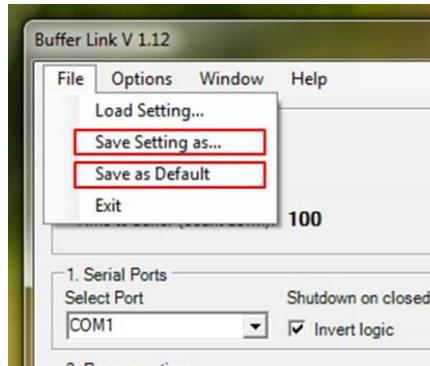
The final delay selector (see panel overview on page 6, number 6) allows you to set a delay between the abort of the last program in the program shutdown list and the final system shutdown.

### 8.5 START AND STOP MONITORING

The monitoring of the port starts and stops by clicking the Start or Stop button (see panel overview on page 6, number 7).

## 8.6 LOAD AND SAVE SETTINGS

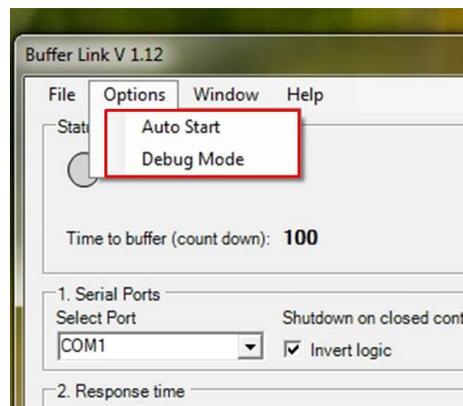
The setting of all checkboxes, selectors and the program list can be saved as a XML-File.



You can save a file as default "Save as Default...". Once you have saved a default setting, it will be loaded right after starting the Buffer Link program. The default setup file is named "buffer\_link\_default.xml" and is stored in the same directory as where the Buffer Link application is located.

## 8.7 SET AUTO START OR DEBUG MODE

The Options menu allows you to choose *Auto Start* or *Debug Mode*:



### *Auto Start:*

Using the option *Auto Start*, it is possible to start the monitoring right after the program start without pressing the start button. Choose *Auto Start* in the *Options* menu and save this setting as default in order to activate this option. The next program start will then automatically start monitoring.

### *Debug Mode:*

Activating the *Debug Mode* in the *Options* menu lets you avoid a real shut down of the computer. This comes in handy if you want to test the shutdown sequence without getting a real shutdown. Please keep in mind that the debug mode is the only item which can't be saved. After the next start up, the debug option will be reset.

## 9 ADDENDUM

### 9.1 WINDOWS SHUTDOWN TIME

The Buffer Link does not display the remaining time that Windows needs to shut down after it received the order to do so. It can take several additional seconds until the computer is really off. You should do some tests to determine how much additional time the buffer module has to buffer.

### 9.2 NO SERIAL PORT! WHAT IF YOU ONLY HAVE A USB?

In case your system (PC, Laptop) is only featured with USB ports and no serial interfaces, use USB to serial converter. If it is installed correctly it should be listed in the port select box.

One producer of USB to serial converters can be found under the following link:

<http://www.ftdichip.com/Products/Cables/USBRS232.htm>