WedgeLink Lite & Standard™
Software Keyboard Wedge

User's Guide

MICRORIDGE

Measurement Collection Specialists
Connect Any Gage into Any Software

WedgeLink Keyboard Wedge

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This User's Guide has been formatted for double-sided printing.

Table of Contents

1 Quick Start

Want to quickly get started using *WedgeLink*? The steps shown below should get you moving in the proper direction. Be sure to refer to other items in this User's Guide.

This Quick Start procedure deals with serial communications and data parsing. If you are using *WedgeLink Lite*, skip the steps that reference data parsing.

In order to use *WedgeLink* to collect data from the serial ports and send this data to an application or file, you need to determine the following:

- What serial port(s) are your device(s) connected to?

- What is the baud rate and communications parameters of your serial device?

- What Windows application or file do you want to send the data to?

- How do you want the data formatted that will be sent to the application or written to the file? *WedgeLink Standard* provides a wide range of formatting options. *WedgeLink Lite* only allows adding a date and time prefix.

The general steps you should follow in setting up a *WedgeLink* configuration are given below. Depending upon your knowledge of your serial device and the amount of data parsing that must be performed, you may be able to skip some of these steps.

- Use ComTestSerial to verify the serial port, communications parameters and determine the format of data output from your serial device. ComTestSerial is available from the Test/ComTestSerial Communications Test Program [46] menu.

- Set up the serial port from the Setup/Input Serial Port [34] menu item.

- Set up the data parsing, if needed, from the Setup/Parsing [14] menu item. Full data parsing requires WedgeLink Standard.

- Test the data parsing with the data parsing test dialog. This dialog is part of the Parsing Setup dialog and is available from the Test tab and the Test/Parsing [31] menu item.

- Select the target application or file [39]. You can bring up the appropriate dialog by double clicking the Target application or Target file edit controls on the main *WedgeLink* screen. These dialogs can also be accessed from the Targets menu item.

- If you are sending data to a Windows application, you need to manually start the application. You should then set the input focus to the first location that will receive data from *WedgeLink*.

- Enable the Serial port, Send to app via Keybrd (or Send to disk file) and send data from your serial device.

- Document the purpose of the current configuration in the Label tab of the Parsing Setup dialog.

- Save the *WedgeLink* configuration for later use by pressing the save button on the toolbar or selecting the File/Save menu item.

2   Introduction

WedgeLink is a software keyboard wedge program that allows you to do the following:

- Transfer information from the serial port to applications such as Microsoft Excel.

- Use with any Windows application that accepts keyboard input.

- Make your application think that the information coming from the serial port is actually being entered through the keyboard.

- Parse the serial port data so that only the information that you need gets sent to your application (Standard Edition only).

- Add a date and time prefix to your data packet (Lite & Standard Editions).

- Send the serial port data to a disk file.

In many cases, the only setup you will have to do is to select the target application and configure the serial port. It will be necessary for you to refer to the documentation for your serial device so that you can select the baud rate and communication parameters for the serial port.

WedgeLink is available in 2 different editions: *WedgeLink Lite* and *WedgeLink Standard*. Each edition was designed to meet a specific set of user requirements. For an overview of the 2 editions, go to the <u>WedgeLink Editions</u> ⁵.

User's Guide Organization

This User's Guide covers all of the *WedgeLink* editions and has been configured for double-sided printing. If you print this document single sided, there will be several blank pages included in the printout.

If you are viewing the PDF version of this User's Guide, you will see page numbers to the right of links within the PDF document. For example the number to the right of the <u>Support & Contact Information</u> ⁵⁵ link indicates the actual page number this link is directed to.

2.1 Preview & Evaluation Modes

When you first run WedgeLink, the following dialog will be displayed.
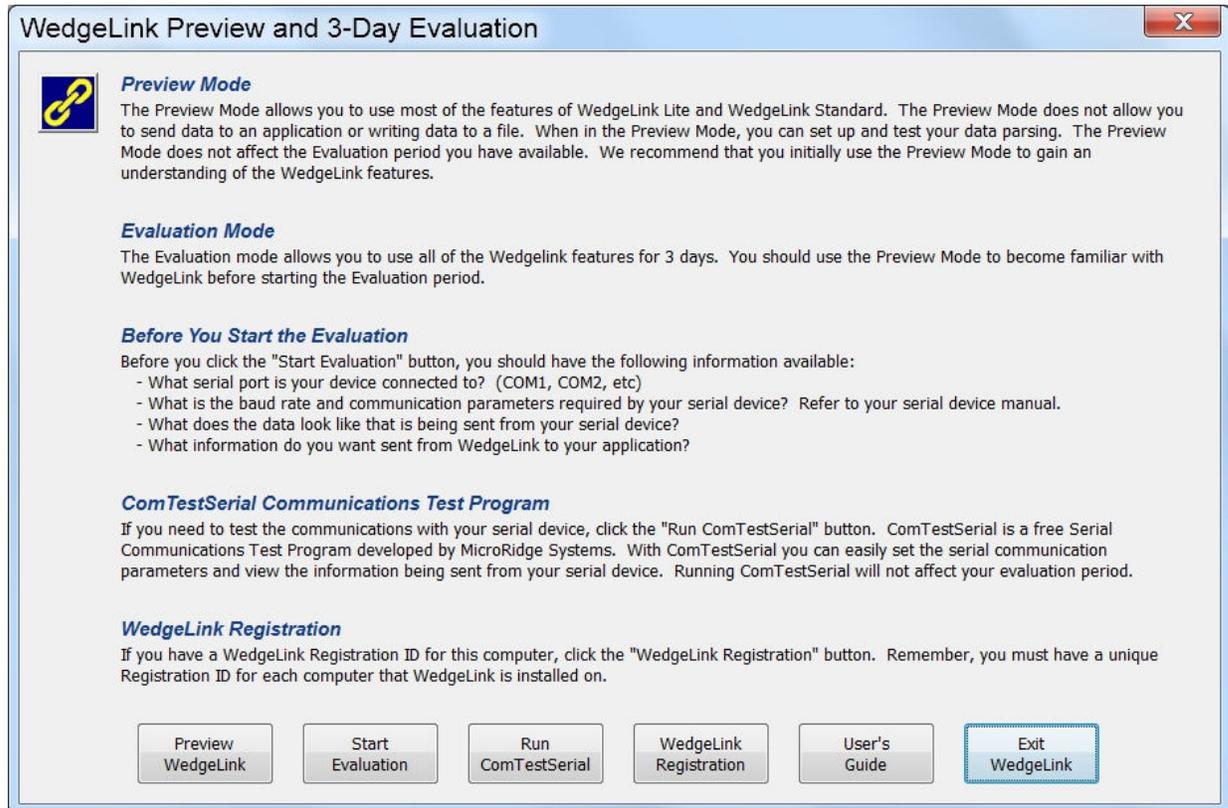
You have the ability to Preview or Evaluate WedgeLink prior to purchasing a *WedgeLink* license. If you have already purchased a *WedgeLink* Registration ID, click the "WedgeLink Registration" button to enter you Registration ID. Each computer running *WedgeLink* must have a unique Registration ID.

Preview Mode

The Preview Mode gives you access to most of the features of *WedgeLink Lite* and *WedgeLink Standard.* The Preview Mode does not allow you to do the following:

- Send data to an application.

- Write data to a file.

- Test the Packet Position feature in *WedgeLink Standard*.

You can configure the serial ports and view the data coming from your serial device(s). You can configure your data parsing and test the parsing results. There are no time limit restrictions associated with the Preview Mode.

You should use the Preview Mode to become familiar with WedgeLink before you start the Evaluation Mode. After the 3-day evaluation period expires, you can still access the Preview Mode.

Evaluation Mode

The Evaluation Mode gives you access to all of the WedgeLink feature, but only for a period of 3 days. You should not enter the Evaluation Mode until you have worked with WedgeLink in the preview Mode. Once the Evaluation period has expired, the only way to get access to all of the WedgeLink features is to purchase a Registration ID. You cannot extend the Evaluation period by uninstalling and then reinstalling *WedgeLink*.

WedgeLink Registration

You can purchase a *WedgeLink* Registration ID by [contacting MicroRidge](#) [55] or by going to the [WedgeLink Keyboard Wedge Store on the web](#). Each computer that is running *WedgeLink* must have a unique Registration ID.

2.2   WedgeLink Editions

WedgeLink is available in 2 different editions.

- *WedgeLink Lite*
- *WedgeLink Standard*

The differences between the editions of *WedgeLink* can best be summarized by comparing the input sources, data parsing and output targets.

WedgeLink Lite

WedgeLink Lite is a subset of *WedgeLink Standard*. The Lite Edition is intended for users that only need to perform minimal data parsing on the input packets.

- Input Sources: RS-232 serial port. Two input ports available.
- Data Parsing: Add date & time as a packet prefix and change commas to tabs or carriage returns.
- Output Targets: Windows application via keyboard and disk file.

WedgeLink Standard

WedgeLink Standard contains all of the of the parsing and output features.

- Input Sources: RS-232 serial port. Two input ports available.
- Data Parsing: Extensive parsing capabilities.
- Output Targets: Windows application via keyboard and disk file.

2.3 Main Window
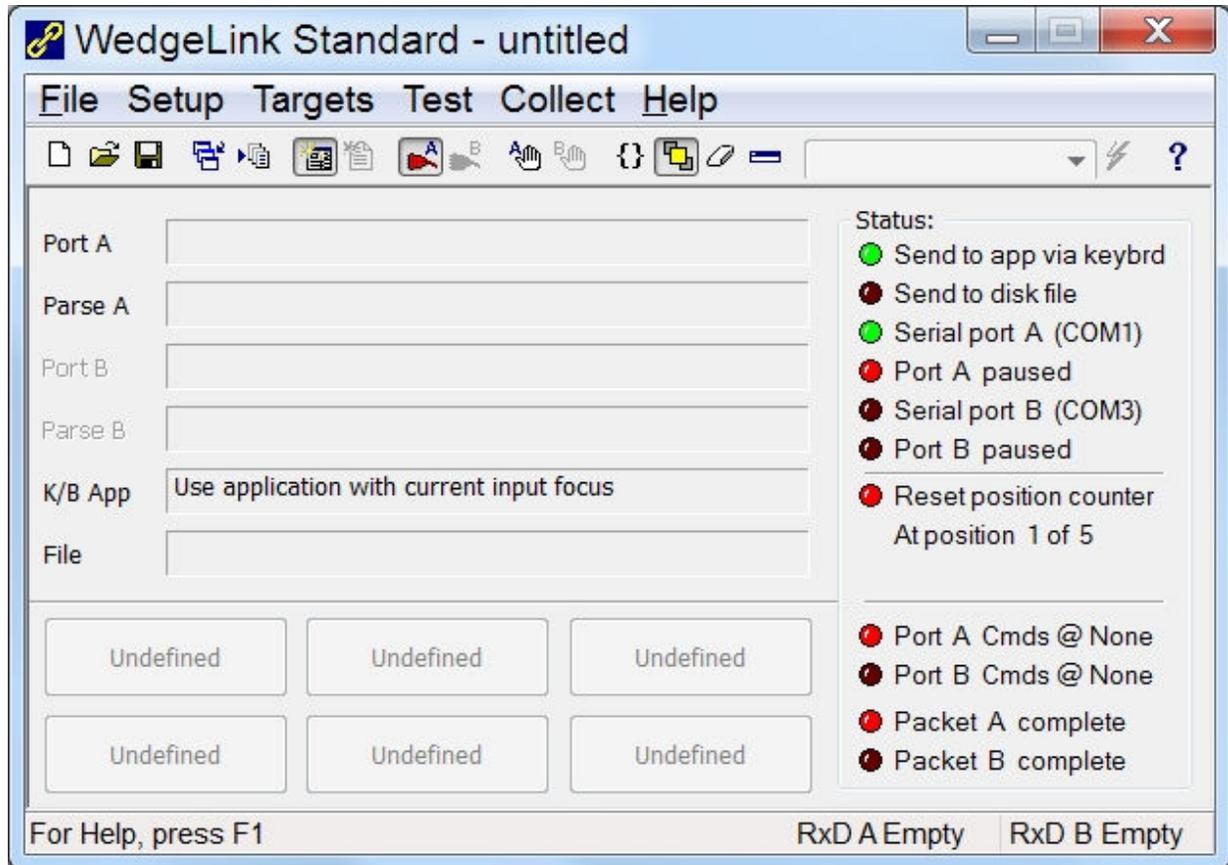
The main *WedgeLink* window is used to monitor and control data collection and data transfer to a Windows application or disk file. The main *WedgeLink* window can be displayed as shown above or in a reduced size as shown below.
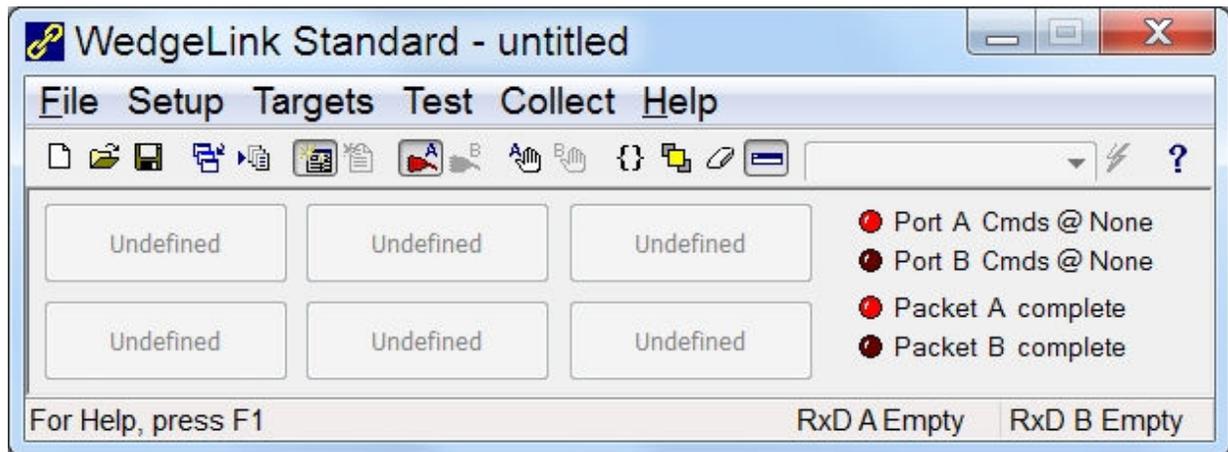
The size of the window can be controlled by the ▭ toolbar button

2.4   Program Limits

The limits list below applies to *WedgeLink Standard* and *WedgeLink Lite* where noted.

- Maximum length of the user supplied description = 1,000 characters (*WedgeLink Lite & Standard*)

- Maximum length of the prefix string = 50 characters

- Maximum length of the suffix string = 50 characters

- Maximum length of the match string = 50 characters

- Maximum length of insert string for parsing mask = 15 characters

- Maximum number of insert strings for parsing mask = 25

- Maximum length of the mask string = 500 characters

- Maximum number of replacement strings = 5

- Maximum length of a replacement string = 50 characters

- Number of parsing groups = 5

3   Setup Menu
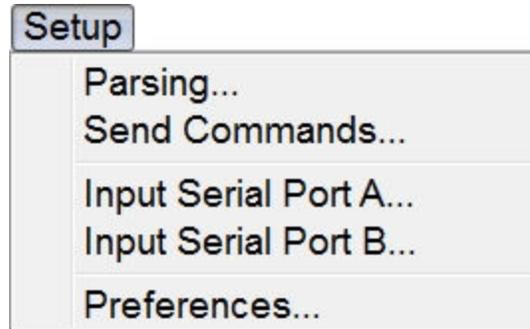
The *WedgeLink* setup is performed from the Setup menu. In many cases, the only setup required will be to select the proper <u>serial port</u> [34] , baud rate and communications parameters. After completing your setup you can save the configuration to a file for later use. If you are using multiple configurations, it is recommended that you make use of the <u>parsing description</u> [13] to help document the purpose and operation of a particular configuration.

The configuration and parsing differ for *WedgeLink Lite* and *WedgeLink Standard*. This document contains a different parsing section for *WedgeLink Lite* and *WedgeLink Standard*.

3.1 Parsing for WedgeLink Lite

The parsing functions are the primary differences between *WedgeLink Lite* and *WedgeLink Standard*. *WedgeLink Lite* parsing setup consists of 2 tabs and are described in the following sections.

3.1.1 Label Tab
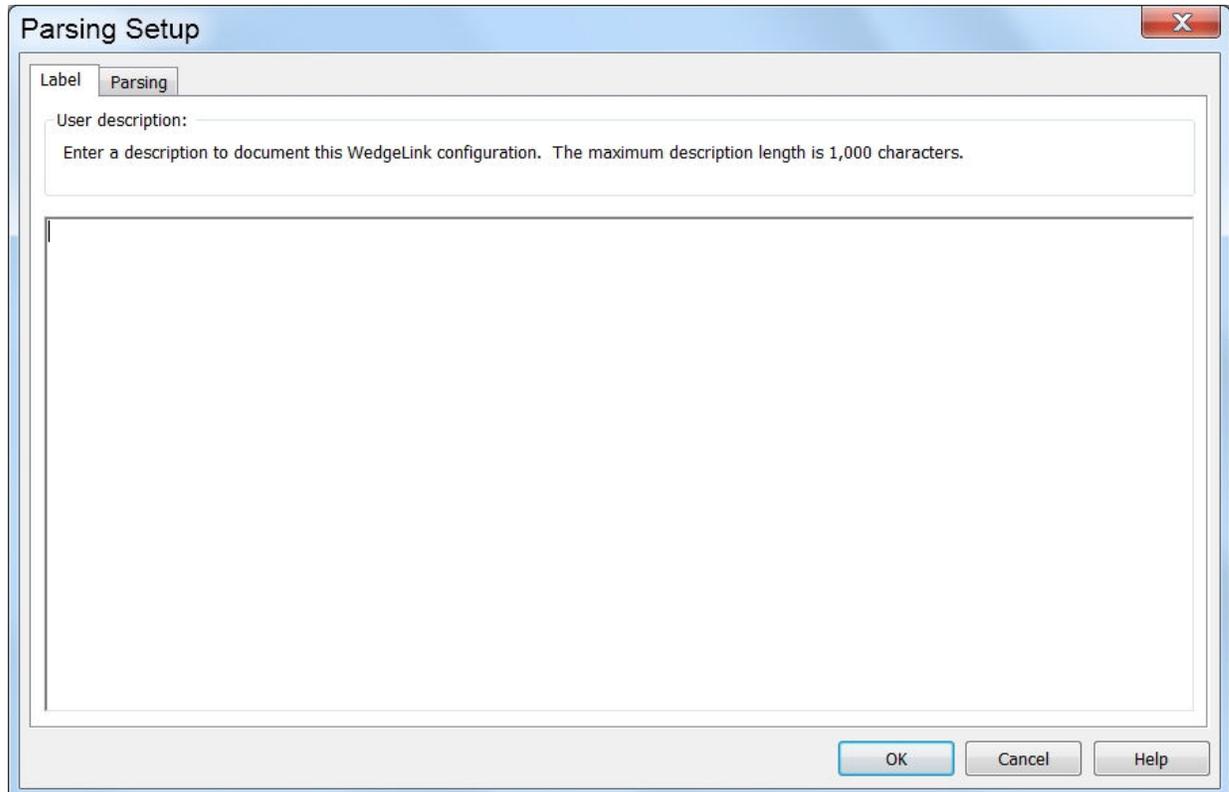
Parsing Setup

Label | Parsing

User description:
Enter a description to document this WedgeLink configuration. The maximum description length is 1,000 characters.

OK | Cancel | Help

The Label Tab allows you to document the current *WedgeLink* configuration. If you are using multiple configurations or have implemented unique parsing schemes, it is recommended that you document the purpose and operation of the configuration. The maximum number of characters that can be used in a description is 1,000.

3.1.2 Parsing Tab
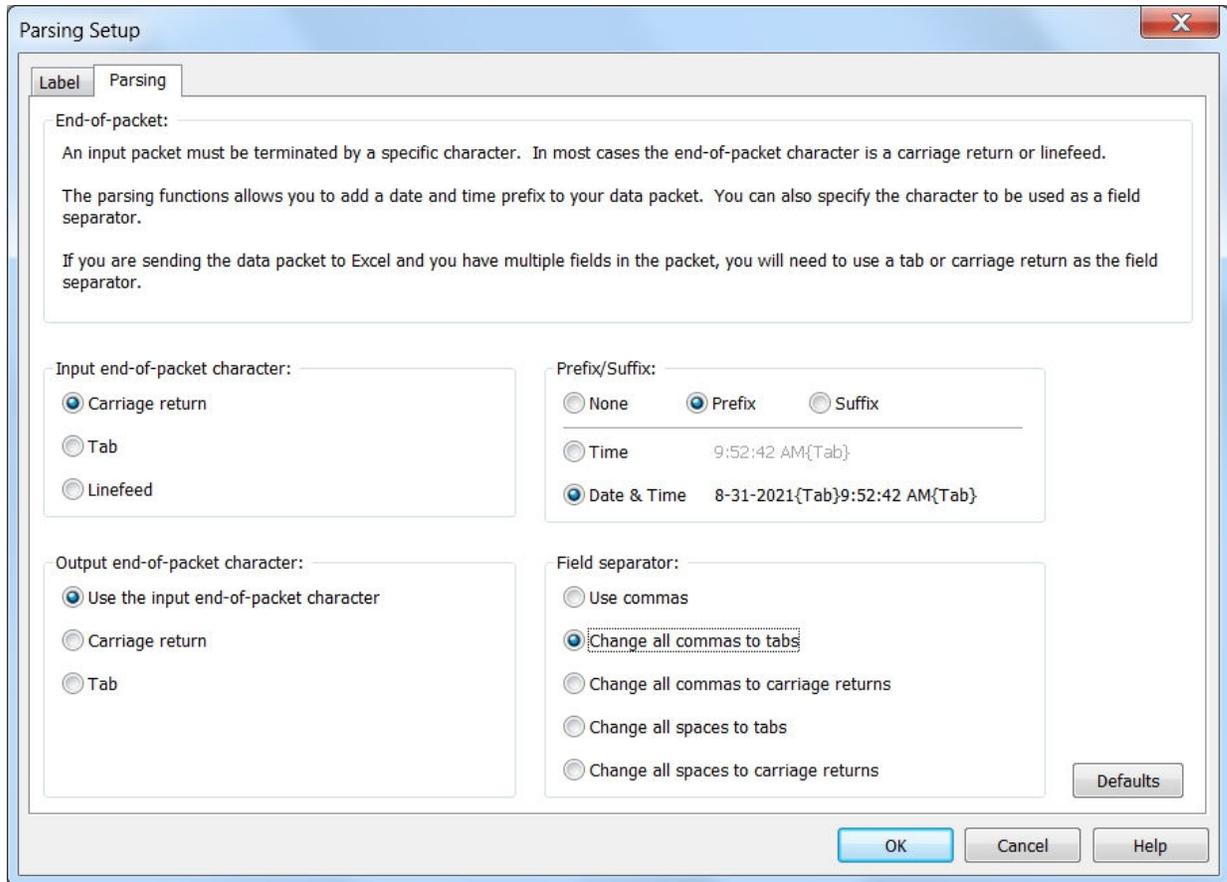
Parsing with *WedgeLink Lite* is restricted to adding a date/time stamp and changing commas or spaces to tabs or carriage returns. If you are sending data to Excel and your input packet contains measurements separated by commas or spaces, you will need to change the separators to tabs so that each measurement gets sent to a different cell.

The options contained in the Parsing Tab are very straight forward and should be easy to set up. If you need parsing functions beyond what is available in *WedgeLink Lite*, take a look at the parsing capabilities in *WedgeLink Standard*.

3.2 Parsing for WedgeLink Standard

WedgeLink Standard contains many parsing features that allow the user to extract the information they need from the input packets received from a serial port. Before you try to set up the parsing procedures, you should obtain a copy of what is being sent from you serial device and clearly identify what information you want to extract from the input data.

The parsing features allow you to remove unwanted characters or add characters to the serial port string. In many cases you will not have to do any parsing. An example of removing unwanted characters would be the removal of all blanks in the string. If you are transferring the string to a spreadsheet, you may want to add tab and/or cursor keystrokes to the string. Once you have set up your parsing, you can use the Test tab in the parsing dialog to test and fine-tune your parsing scheme.

There are 5 parsing groups that can be setup within *WedgeLink*. You can specify what group or groups should be used with the 2 input ports. You will use the Match tab to define what groups are used with each port.

The labels on the tabs, Mask through Suffix, will contain a number ranging from 1 to 5. These number indicate what parsing group data is currently displayed on that tab. For example, Mask '2' indicates that the parsing for group 2 is being displayed on the Mask tab.

3.2.1 Label Tab
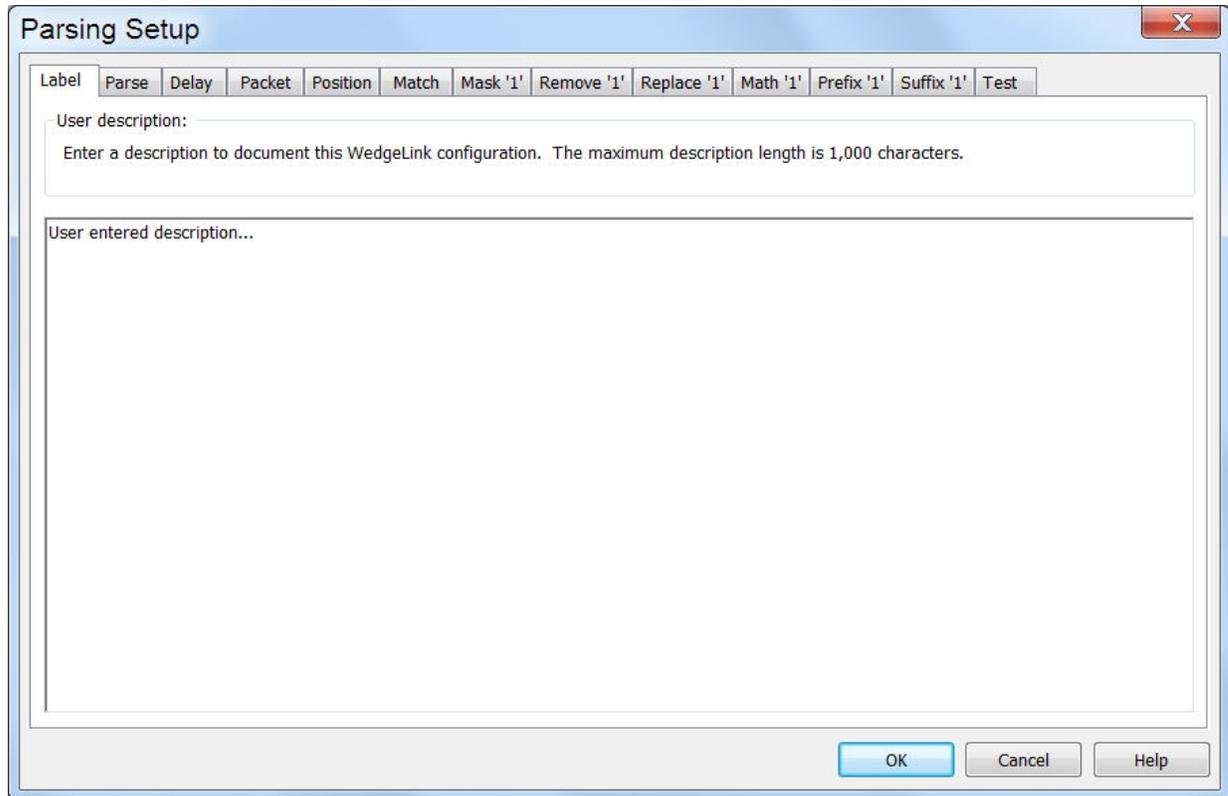
The Label Tab allows you to document the current *WedgeLink* configuration. If you are using multiple configurations or have implemented complex parsing schemes, it is recommended that you document the purpose and operation of the configuration. The maximum number of characters that can be used in a description is 1,000.

3.2.2 Parse Tab
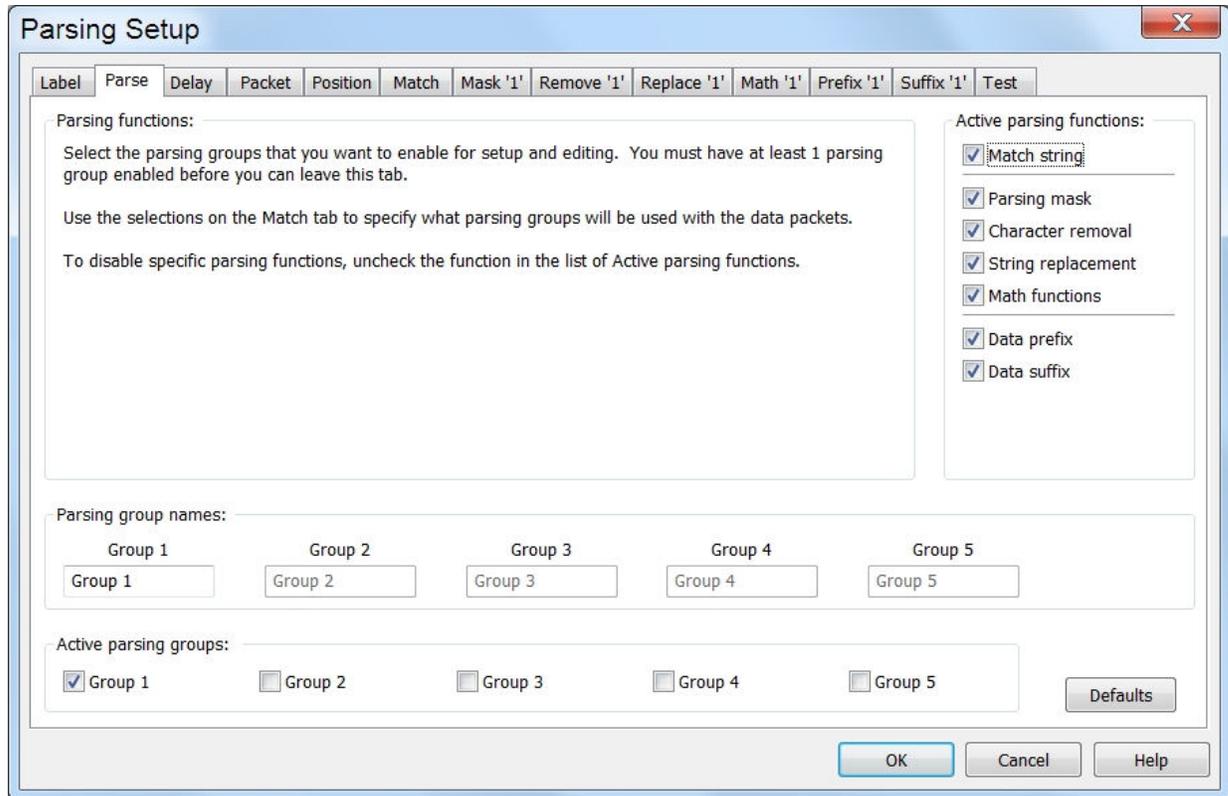
The Parse tab allows you to enable and disable parsing functions, select what parsing groups are active and define unique parsing group names. The default settings for a new configuration file are all parsing functions active and only parsing Group 1 active.

By having 5 parsing groups, you actually have 5 different prefixes, suffixes, etc. that can be defined. The multiple parsing groups in conjunction with the setup on the Match tab [19], gives you a lot of control when parsing complex packets and provides the ability to use different parsing schemes for each input serial port.

Active Parsing Functions

This group of check boxes in the upper right-hand corner controls which parsing functions are enabled. If a parsing function is not checked, that function will not be used on the serial port data. If a parsing function is disabled, you will not be able to modify any of the parsing features for that particular function. Please refer to the Important Rules paragraph on the Match tab [19] for information about how parsing Group 1 is applied under certain situations. The parsing functions that are available are:

- Match string [19]
- Parsing mask [22]
- Character removal [25]

- [String replacement](#) [26]
- [Math functions](#) [27]
- [Data prefix](#) [29]
- [Data suffix](#) [30]

The process that *WedgeLink* follows when parsing an input packet is as follows.

- The input packet is checked against the selections on the Match tab. If it is determined that parsing needs to be preformed, the following steps will be applied to the packet.

- The instructions defined in the Mask tab are applied.

- The instructions defined in the Remove tab are applied.

- The instructions defined in the Replace tab are applied.

- The instructions defined in the Math applied.

- If a prefix is defined, it is added to the front the packet.

- If a suffix is defined, it is added to the end of the packet.

- The resulting packet is sent to the application or the file.

Parsing Group Names

The default parsing group names are Group 1, Group 2, etc. The user can change these names to something that may be more meaningful. For example, assume that you are using Group 1 to parse data from input port A and Group 2 to parse data from port B. You may want to rename Group 1 and 2 to Port A and Port B.

Active Parsing Groups

The active parsing group checkboxes allow you to enable and disable individual parsing groups. If a parsing group is not check, it will not be used in the parsing, even if it is selected on the Match tab.

3.2.3 Delay Tab
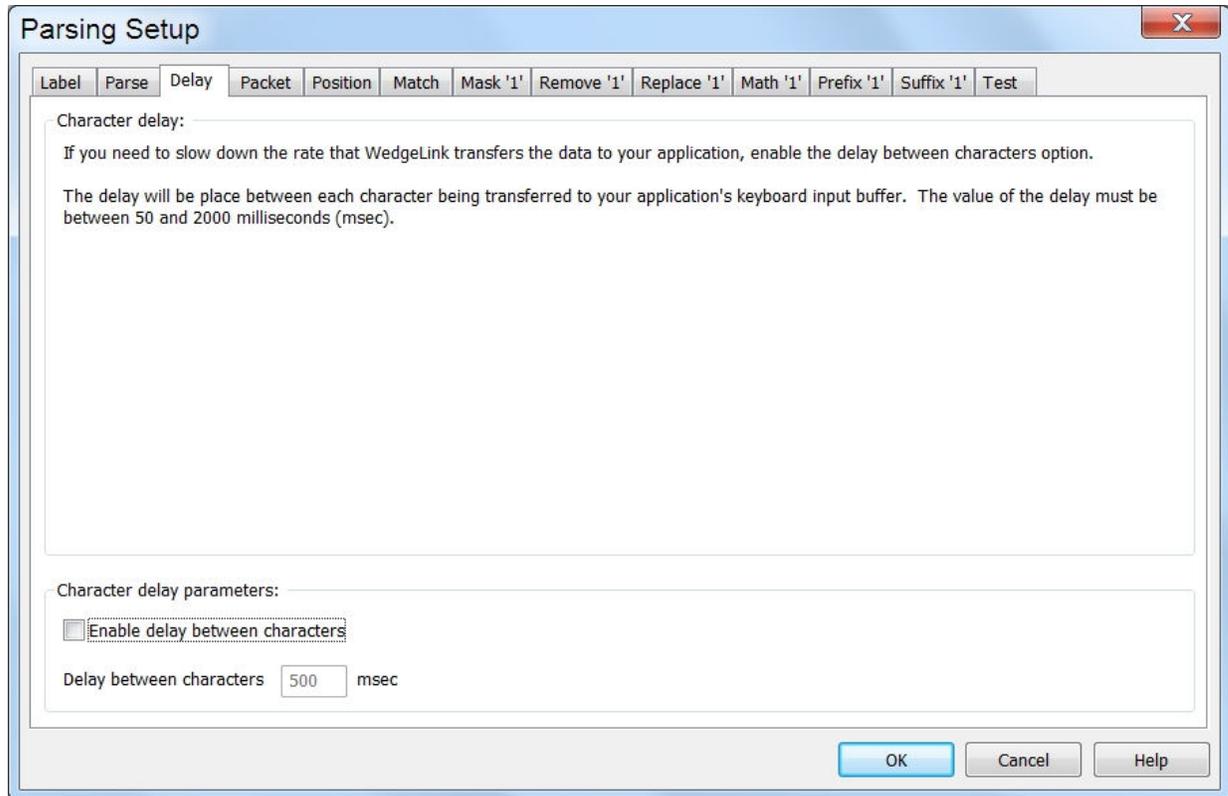
If you need to slow down the rate that *WedgeLink* transfers the data to your application, check the "Enable delay between characters" option. This delay will be place between each character being transferred to your application's keyboard input buffer. The value of the delay must be between 50 and 2000 milliseconds (msec).

3.2.4 Packet Tab
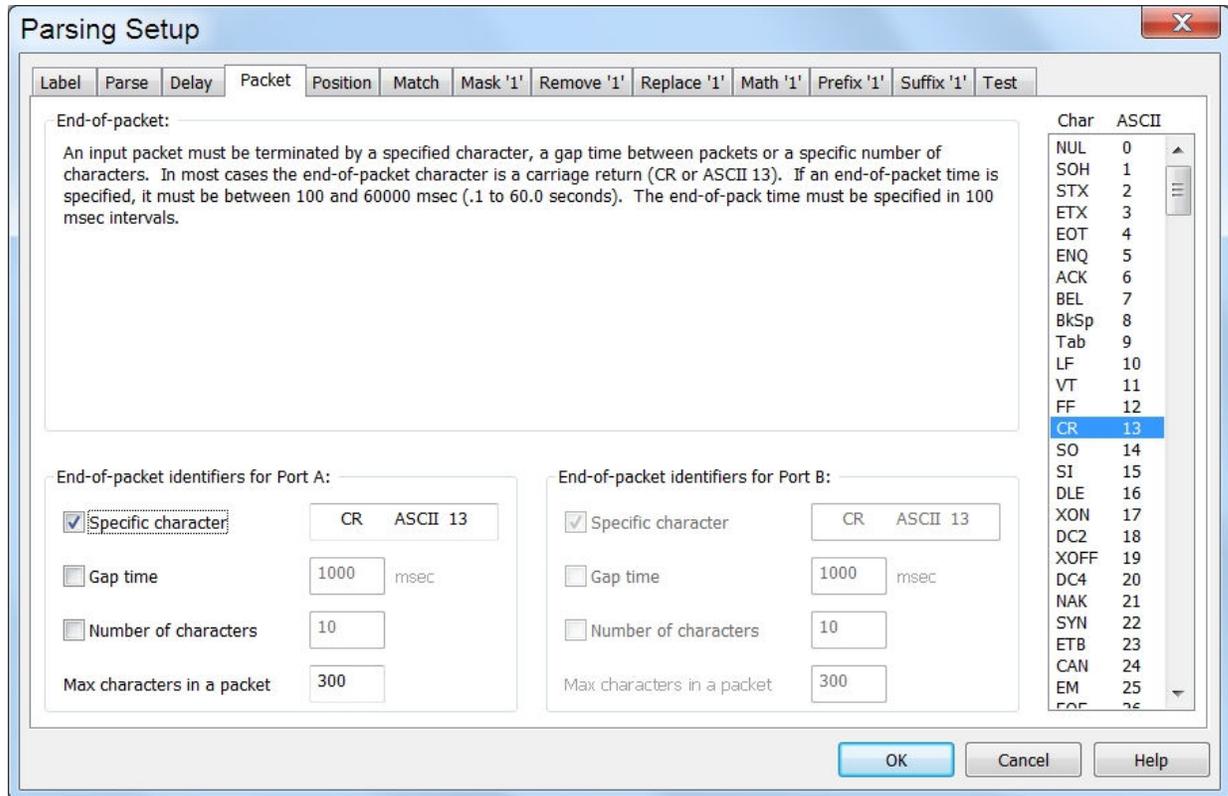
WedgeLink collects information from the serial port and does not process it until the end of the data packet is encountered. The end-of-packet identifier can be a specific character, specific number of characters or a time gap. You need to specify an end-of-packet for both Ports A and B. Port B will be disabled if the port is disabled in the Serial Port Setup dialog ³⁴ .

Specific Character

For most serial devices, the end-of-packet character will be a carriage return (CR or ASCII 13). In some cases the serial device will end its output packet with a carriage return and linefeed combination (CR/LR). In this case, you should select the LF (ASCII 10) character as the end-of-packet character. Select the end-of-packet character by dragging it from the list box on the right-hand side of the dialog box.

Gap Time

If your serial device does not place a specific character at the end of the packet, you can use a gap time to detect a packet. When using the gap time, *WedgeLink* waits for a period of time when no data is received from the serial port. Once this gap time period exceeds the specified gap time, *WedgeLink* will consider the information received as a packet and process it per the parsing setup.

Number of Characters

The number of characters can also be used to identify a packet. An example could be that your serial device sends out a string of 30 characters and this string is actually made up of 3 10 character packets with no unique character at the end of each packet. In this case you would set the number of characters to 10. The maximum number of characters is 4,000.

Maximum Characters in a Packet

The maximum number of characters in a packet must also be specified. If *WedgeLink* receives more characters than are allowed in a packet, the characters are discarded and *WedgeLink* saves the next character as the first character in a new packet. Normally this value can be set to the default value of 300. The acceptable range is from 5 to 4,000.

3.2.5 Position Tab
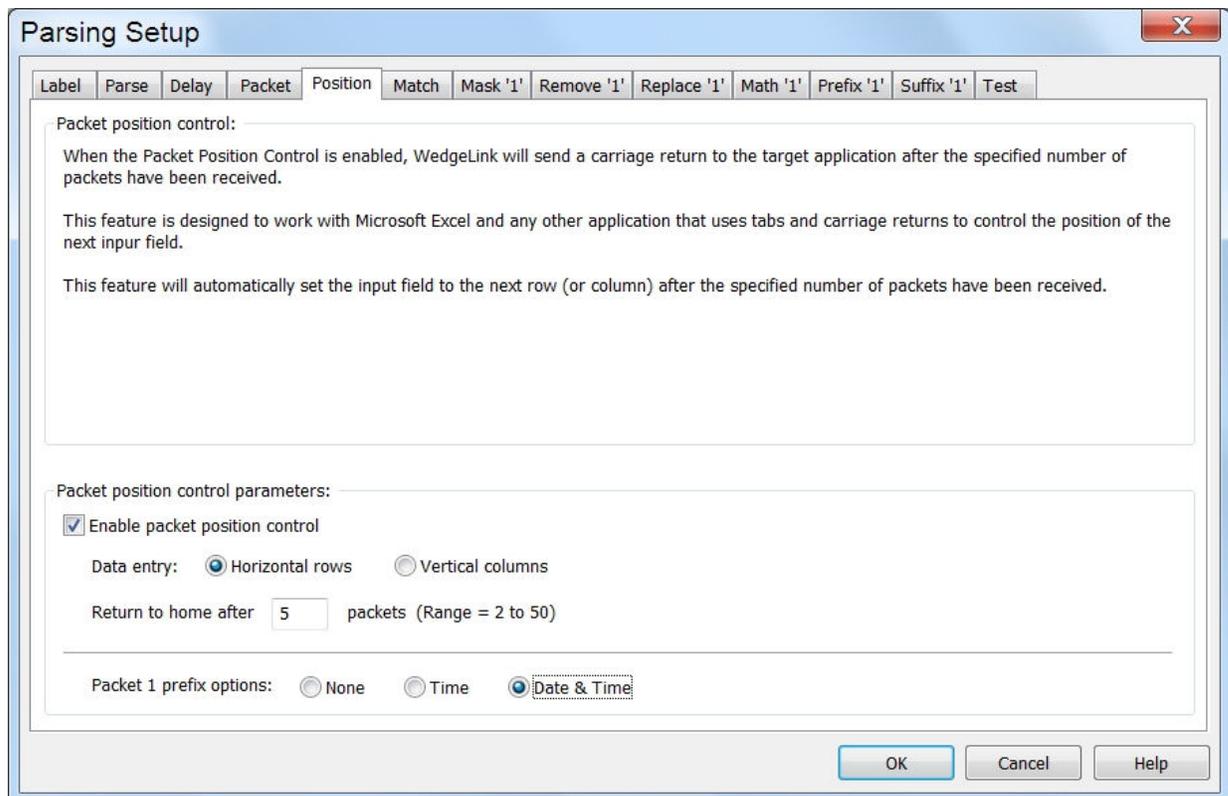
The Packet Position Control feature allows you to control how many packets are displayed on a row (or column) before the input focus is moved to the starting position in the next row (or column). You also have the option of adding a date or time stamp as a prefix to the first measurement packet.

An example of what the data display would look like with the Packet Position Parameters shown above:

| 1-15-2014 | 12:38:44 PM | 3.675 | 3.681 | 3.689 | 3.672 |
| 3.669 |
| 1-15-2104 | 12:41:52 PM | 3.678 | 3.678 | 3.681 | 3.675 |
| 3.674 |

The above example is the result of receiving 2 sets of 5 data packets. Each packet must be terminated by a carriage return or tab.

3.2.6 Match Tab
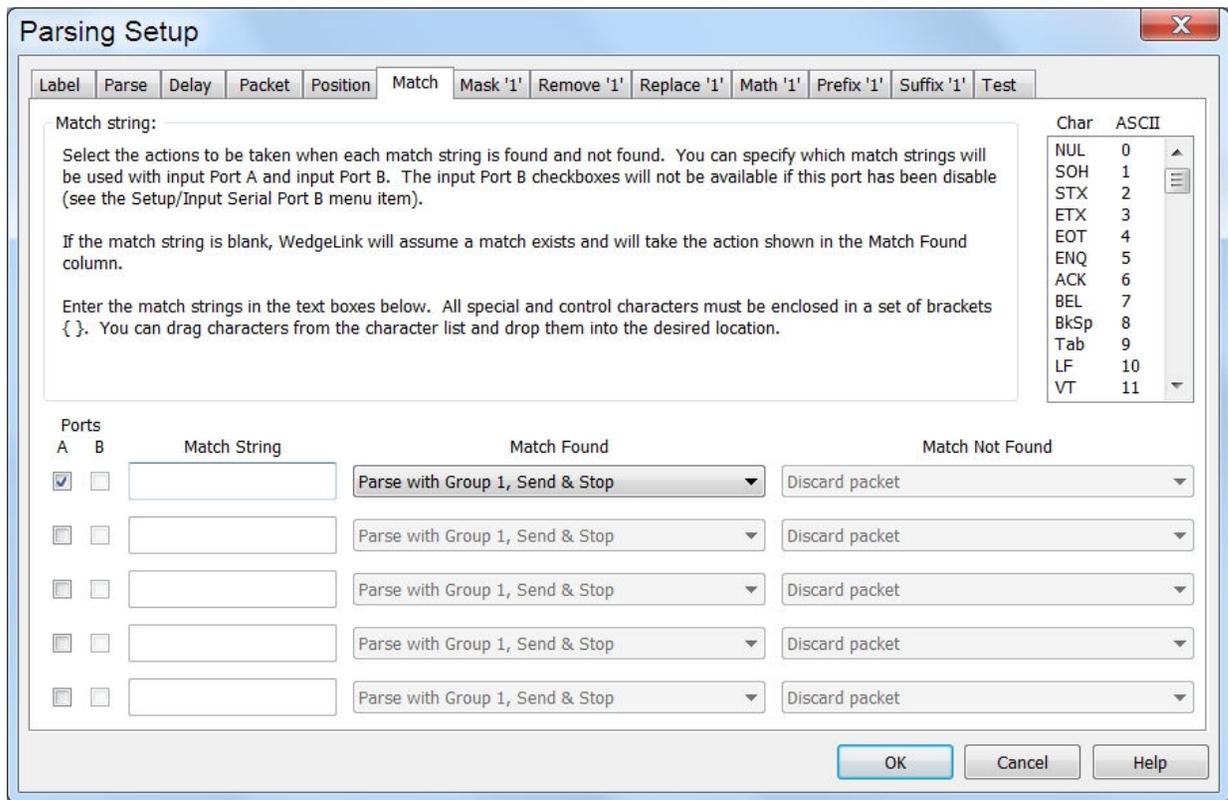
The Match Tab controls when the parsing groups are applied and to what ports the parsing groups are applied. If a parsing group is not checked as active on the Parse tab, the parsing group will not be used in the parsing, even if it is specified in the Match Found or Match Not found columns.

Important Rules

There are a couple of important rules that are applied to determine what parsing groups are applied to an input packet. It is important that you understand these rules when configuring parsing Group 1 and the Match tab.

- If the Match tab is disabled on the [Parse tab](#) [14], parsing Group 1 will be used for all input packets.

- If the Match tab is enabled on the [Parse tab](#) [14], but no ports are selected on the Match tab, parsing Group 1 will be used for all input packets.

Ports A & B

Use the first 2 columns of check boxes to specify what ports should be used with a parsing match row. If you are receiving data form a port and that port is not checked on any of the parsing rows, the match processing will not be applied to the data packet.

Match String

Enter the match string that you want to search for in a data packet from a port. If a match is found, the instructions indicated in the Match Found column will be preformed. If no match is found, the instructions indicated in the Match Not Found column will be preformed. If you do not enter a match string, it will always be assumed that a match has been found and the instructions indicated in the Match Found column will be preformed. The match string is case sensitive, therefore the string "Chan A" is not the same as "chan A".

Match Found

If a match is found, the instructions in this column will be preformed.

Match Not Found

If a match is not found, the instructions in this column will be preformed.

Example

To help you understand how you might set up the match options, let's consider the example shown below. In this example we are using 2 input ports and we want to use different parsing schemes for each port.

Ports A	B	Match String	Match Found	Match Not Found
☑	☐	Weight	Parse with Group 1, Send & Stop ▼	Go to next match ▼
☑	☐	Tare	Parse with Group 2, Send & Stop ▼	Discard packet ▼
☐	☑	Chan A	Parse with Group 3, Send & Stop ▼	Go to next match ▼
☐	☑	Chan B	Parse with Group 4, Send & Stop ▼	Discard packet ▼
☐	☐		Parse with Group 1, Send & Stop ▼	Discard packet ▼

The packets we receive from Ports A & B could be as follows:

Port A

```
Weight, 134.56 oz

Tare, 1.34 oz

Reset complete
```

Port B

```
1.2455, Chan A

23.45, Chan B
```

The following would happen when the above data packets were received.

- The first packet from Port A contains the string Weight and would find a match with the first row in the match string table. This packet would be parsed with Group 1.

- The second packet from Port A contains the string Tare. Since this packet came from Port A it would be checked against the match string Weight. Since Tare does not match Weight, the instructions in the Match Not Found column would be followed. The instructions say "Go to next match" and WedgeLink would find a match with the match string on the next row (row 2). This packet would be parsed with Group 2.

- The third packet from Port A does not match any of the match stings for Port A and would be discarded.

- The first packet for Port B would be tested against the match string in row 3 of the table. A match would be found and the packet parsed per the instructions in Group 3.

3.2.7 Mask Tab
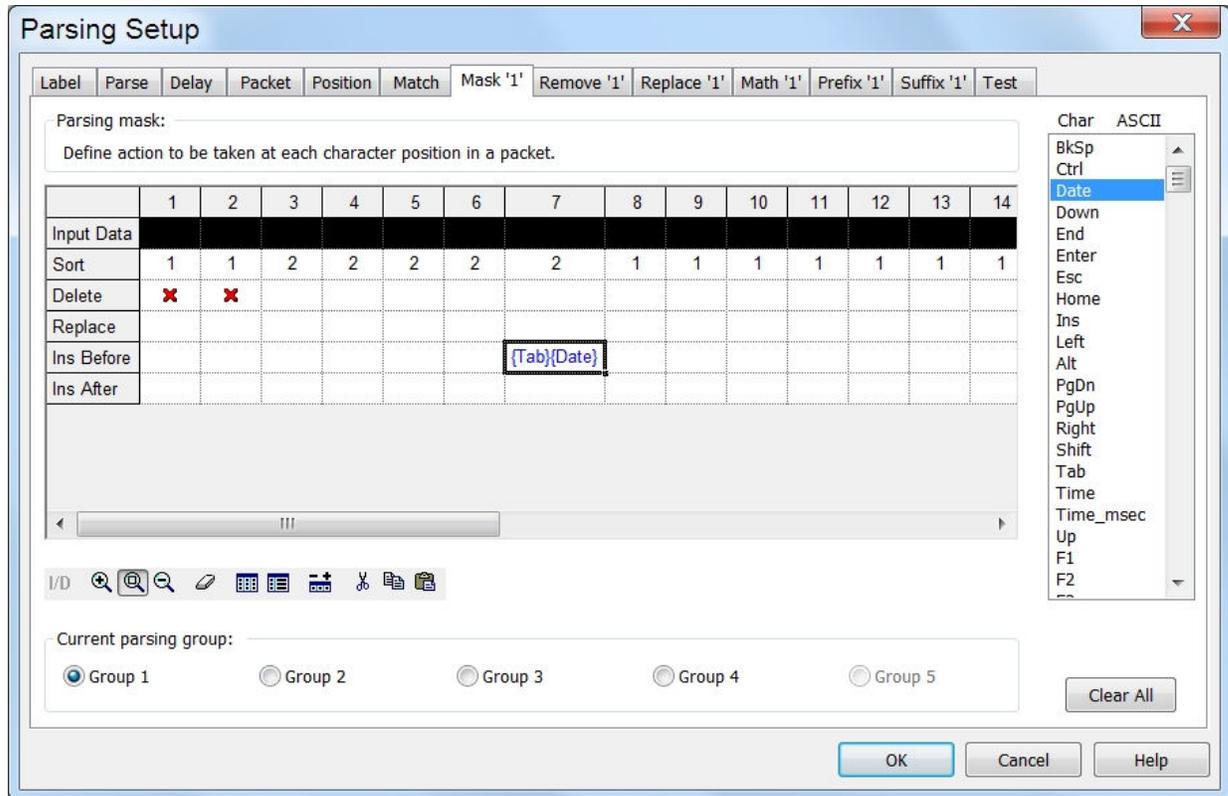
The parsing mask allows you to define a set of actions to be taken at each character position. The parsing mask is limited to 500 characters. It is rare that you will run into data packets from the serial port that exceeds this 500-character limit. The functions that can be performed at each character position are as follows:

- Sort or move the character

- Delete the character

- Replace the character with a string

- Insert a string before the character

- Insert a string after the character

The grid will not respond to the mouse or user input if the Parsing mask has not been selected on the Parse Tab[14]. The list box can only be used if the input cell is on the Input Data, Replace, Insert Before or Insert After rows.

Limits

There are limits that you should be aware of before starting to set up the parsing mask.

- Maximum number of character positions in the mask = 500

- Sort codes = 1 to 9

- Total number of strings that can be used (Replace + Insert Before + Insert After) = 25

- Maximum length of a string = 15 characters

Toolbar

The toolbar provides zoom, erase, display and edit functions. Some of these functions are not available when the input cell is on the Sort or Delete rows. Tool tips are displayed when the mouse pointer is placed on a button.

I/D   Transfer the data from the Input data section on the Test tab to row 1 of the grid

    Show fewer grid cells (Zoom in and make cells larger)

    Set grid cells to the default size

    Show more grid cells (Zoom out and make cells smaller)

    Clear grid data. When this button is pressed, a dialog box appears and allows you to reset any of the rows to the default values.

    Set the grid columns to the default width

    Set grid column widths to show all data in the cells

    Change the number of columns in the grid

    Cut the contents from the marked area in a cell to the clipboard

    Copy the contents from the marked area in a cell to the clipboard

    Paste the clipboard to the marked area in a cell

Input Data Row

The input data row allows you to display a sample of your input packet. It may be much easier to set up the parsing mask with a reference copy of the input packet. You can enter characters into the cells by typing or dragging the items from the list box. If the Test tab [31] Input data window contains data, you can also copy this Test data into this row by pressing the I/D toolbar button.

Sort Row

Characters in the input string can be sorted or moved to a different position. Do not confuse an alphanumeric sort with the sorting that can be performed here. What is provided here is the ability to move blocks of information to specified positions. This is easiest to explain through an example. Assume you have the following serial port input string with the sort row set to the default value of 1.

Sort row   `1111111111111111111`

Input String   `12,  1.8725, 13.678`

If you change the sort row to the following values, the output string will be as shown.

Sort row   `2221111111113333333`

Input String   `12,  1.8725, 13.678`

Output String   `1.8725,12, 13.678`

What the sort numbers indicate is what is the first block of characters to send, what is the second block, what is the third, etc. The sort values can range from 1 to 9. If all of the sort numbers are set to the same value, no sorting will occur.

Delete Row

The character in a character position will be deleted if an ✖ appears in the delete row. The ✖ can be toggled by double clicking the cell or pressing the space bar or X key.

Replace, Insert Before & Insert After Strings

The strings for these rows can be constructed by dragging items from the list box or by typing the strings directly into the cell. If an invalid string is entered into a cell, the string will turn red when the cell loses the focus. You must correct all invalid strings before leaving the mask tab. To edit a cell start typing when the cell has the focus, double click the cell or press key F2.

3.2.8 Remove Tab
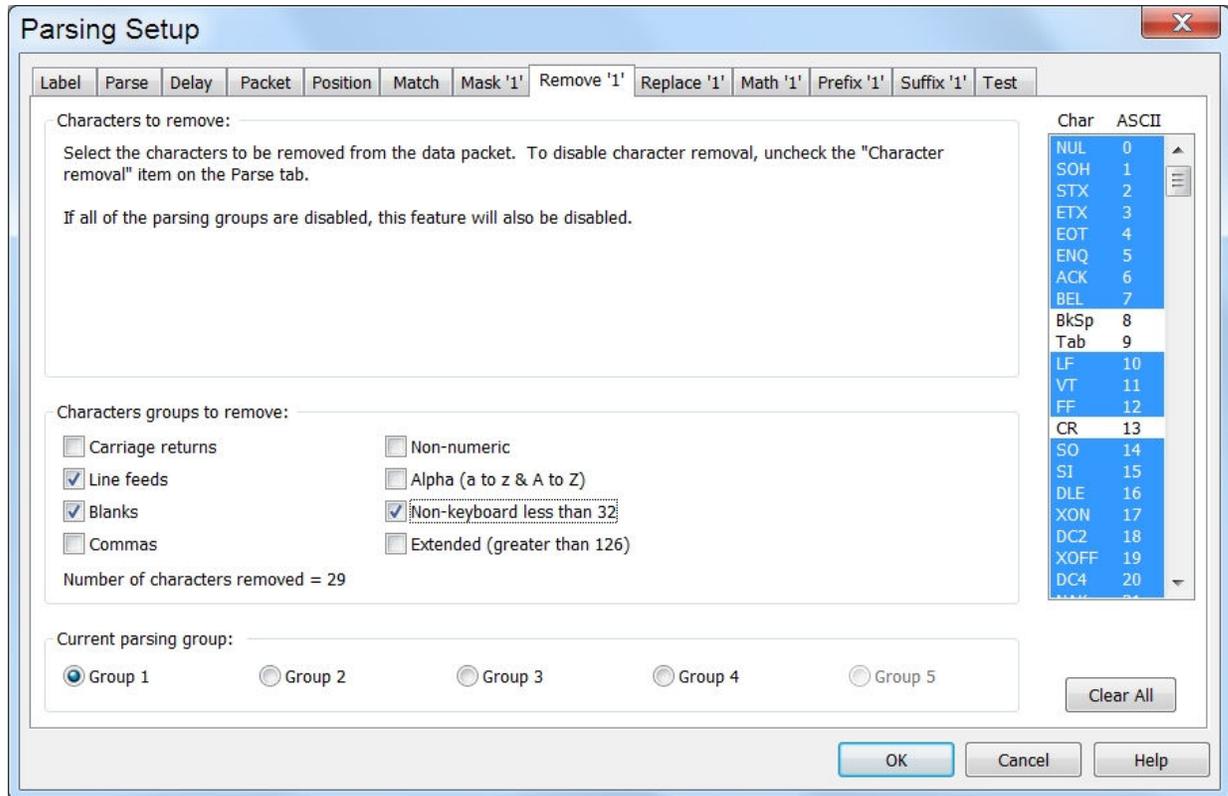
This tab specifies what characters from the input string should be removed. The Mask tab [22] allows you to specify a character at a particular position to be removed or deleted. This function is applied globally to the string and will remove all occurrences of a character. For example, you may need to remove all the blanks from the input string before sending it to your application.

If you are sending the data to an application, certain characters are always automatically removed. The only characters that can be sent to an application are those characters that appear on the standard keyboard. The following characters will always be removed if the data is going to an application.

- Control characters from ASCII 0 to ASCII 31 except BkSp (ASCII 8), Tab (ASCII 9), CR (ASCII 13) and Esc (ASCII 27)

- Extended characters from ASCII 127 to ASCII 255

If you are sending the data to a disk file, no characters are automatically removed. If you want specific characters removed, you must specify them.

3.2.9 Replace Tab
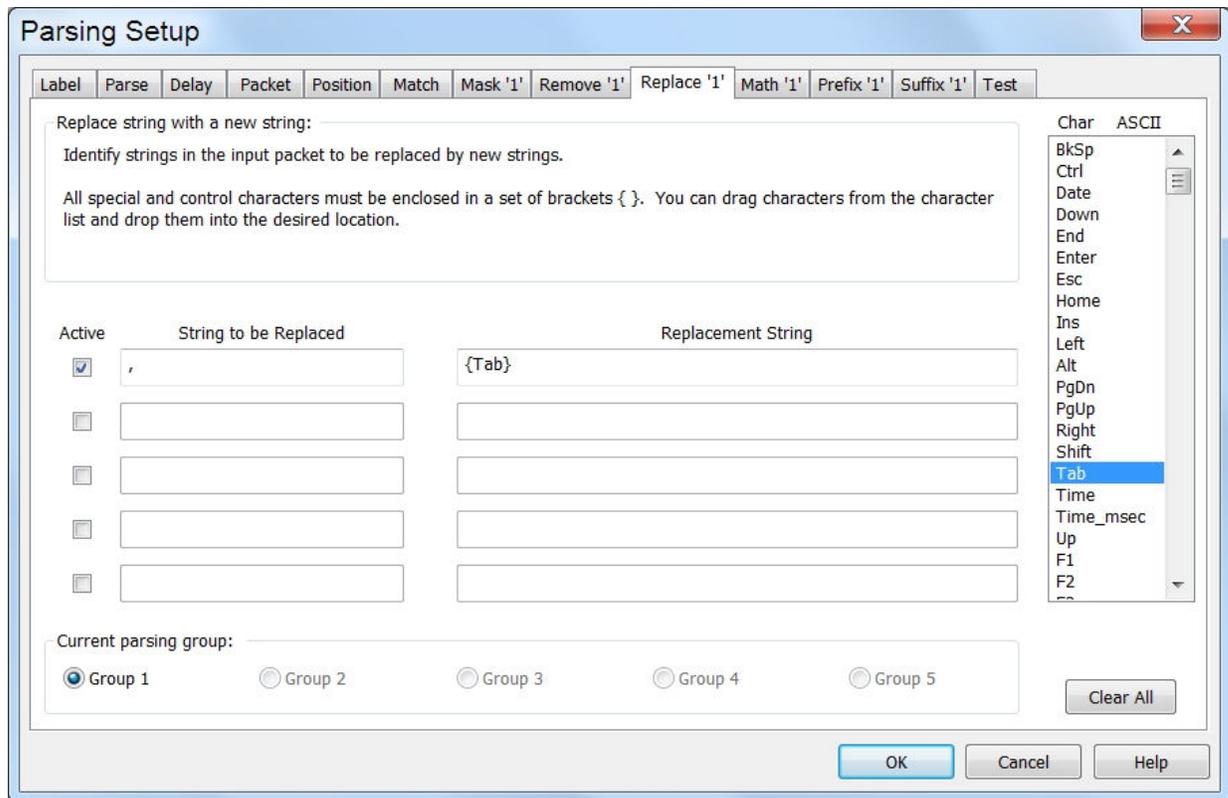
The replace tab allows you to replace all occurrences of a string with another string. Each string can be up to 50 characters in length. You can specify up to 5 replacement sets.

A typical example might be that your input string has commas separating the data fields and you want to transfer the data to Microsoft Excel. You could replace each occurrence of a comma with a tab.

3.2.10 Math Tab

The functions in the Math tab allow you to perform some basic manipulations on numeric values. The process of extracting a number value from the input packet is the last step in the parsing process. Remember that this step is performed before the prefix or suffix is added to the output string.

Find Numeric Field

This first step in the process is to find a numeric value. You can have *WedgeLink* look for the first numeric field or you can specify the position within the input string where the numeric value is located. If you have *WedgeLink* find the first numeric field the following rules will be applied.

- A number field must contain at least 3 characters.
- The first character can be a space, minus sign or plus sign
- The field must contain a decimal point
- The rest of the field must be numbers from 0 to 9
- When a numeric field is found, it only contains a number. You will probably need to use the suffix tab to add a carriage return or tab to the number.

Examples:

Input string = 01MUX 1.3485INCH{CR}

Output string = 1.3485   (Note: Normally you will need to add a carriage return {CR} as a Suffix)

Input string = A, 1-9-2014, 12:23:51, 165.3 grams{CR}

Output string = 165.3   (Note: Normally you will need to add a carriage return {CR} as a Suffix)

If you use the "Find in positions" option, the value does not have to contain a decimal point.

Minimum Acceptable Value

You can specify a minimum acceptable value. If the value determined in the above process is less than this minimum value, the packet will not be sent to the designated targets. If a low value is identified, you can have *WedgeLink* send a predefined string to the targets.

Maximum Acceptable Value

The maximum value function operates the same as the minimum value function.

Absolute Value

The absolute value function will convert a negative value to a positive value. If the value is already positive, no changes to the value will be made.

Equation

The numeric value can be modified with an equation in the form of $y = a + bx + cx^{**}2$.

Decimal Places

You can specify the number of places to the right of the decimal to be from none to 20.

3.2.11 Prefix Tab
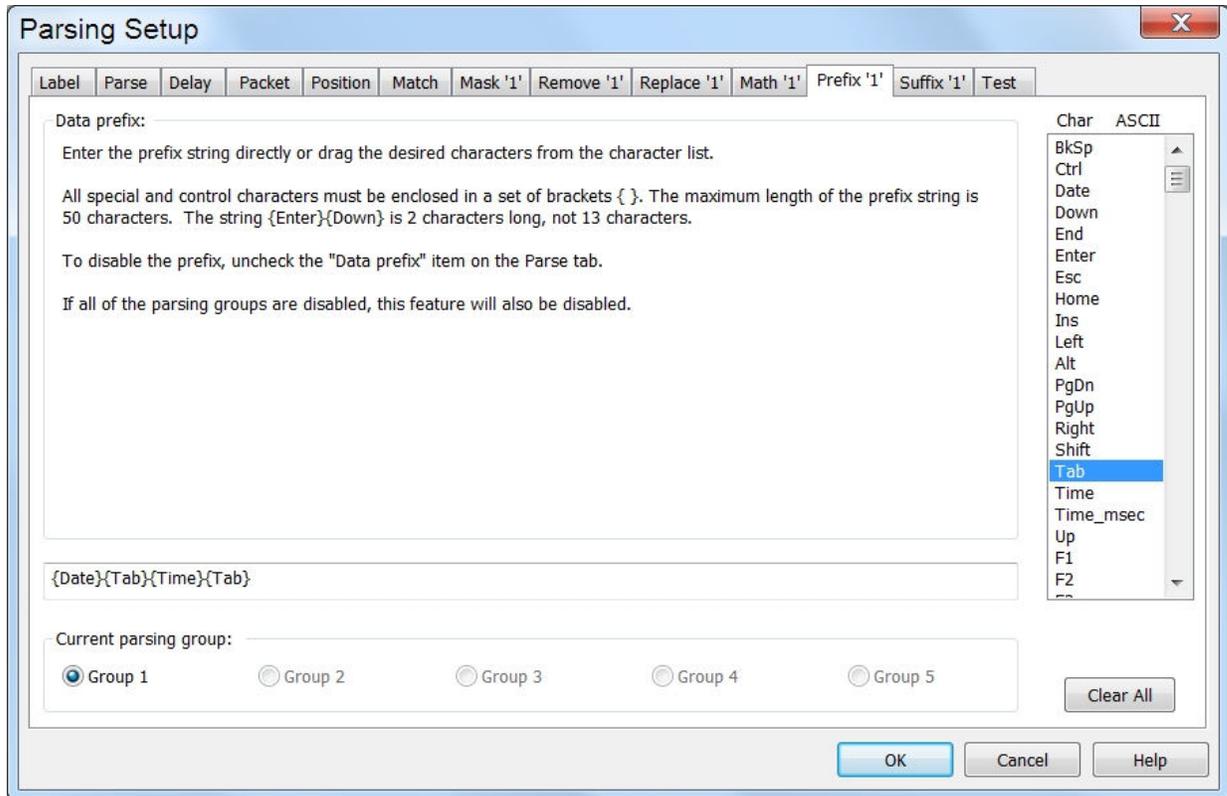
The data prefix allows you to add a string to the beginning of the data that will be sent to an application or written to a file.

Example

If you are sending your data to Microsoft Excel and you want to precede the data with the current date and time you could use the following prefix string.

> **{Date}{Tab}{Time}{Tab}**

This prefix will put the current date in the first cell and the time in the next cell to the right. The tab character moves the input cell 1 position to the right.

3.2.12 Suffix Tab
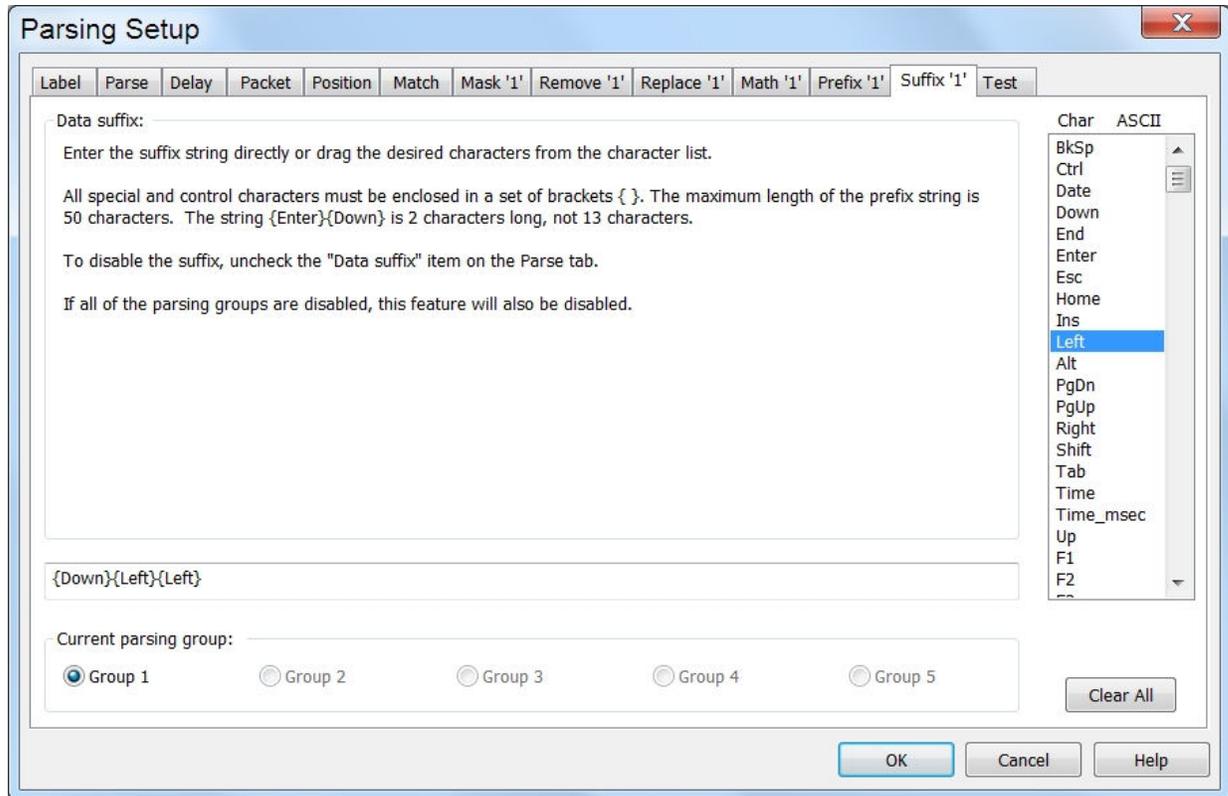
The data suffix allows you to add a string to the end of the data that will be sent to an application or written to a file.

Example

If you are sending your data to Microsoft Excel and you used the following prefix string:

```
{Date}{Tab}{Time}{Tab}
```

If your data consisted of a single field without a carriage return, you may want to add the following string to position the input cursor on the next row.

```
{Down}{Left}{Left}
```

The complete string sent to Microsoft Excel might appear as follows:

```
{Date}{Tab}{Time}{Tab}1.3850{Down}{Left}{Left}
```

3.2.13 Test Tab
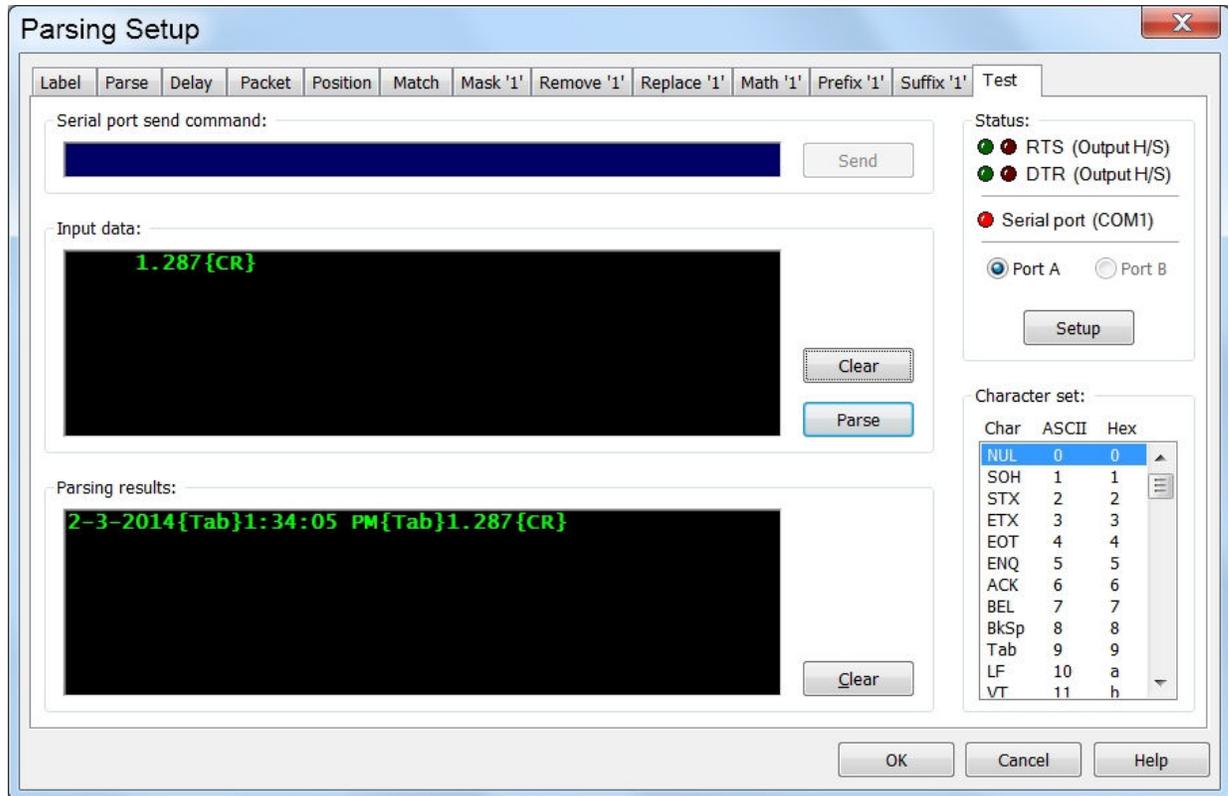
After you have developed your data parsing, you can use the parsing test functions to see how the parsing will modify your data. When performing the parsing tests, you can manually enter the data that will come from your input device or you can have your input device send data to the Test tab.

Serial Port Send Command

You can enter a command here to be sent to your input device. If the background color of this box is dark blue, the send feature is disabled. To enable the Serial port send command, click on the ⬤ Serial port (COM1) button. When the LED displays green on the ⬤ Serial port (COM1) button, the serial port is enabled.

Input Data

The input data from your device or manually entered data is displayed in this box. If you press the parse button, this data will be parsed based upon your current parsing setup. The data displayed in this box can be transferred to row 1 of the Mask tab [22] to assist you in setting up the mask functions.

Parsing Results

The results of parsing the input data are shown here.

3.3   Send Commands
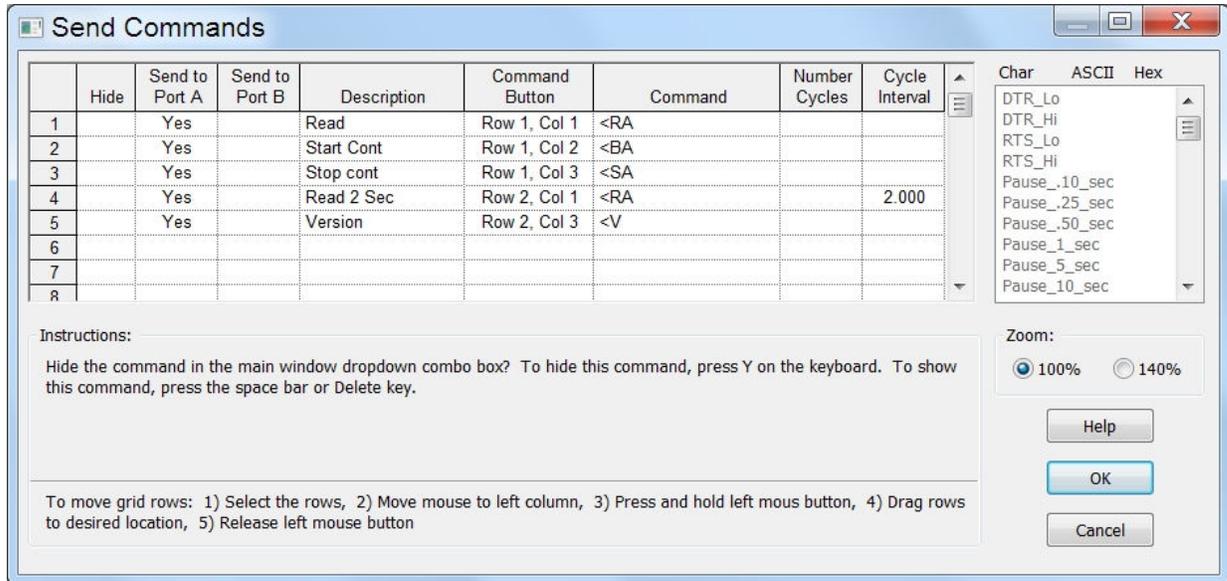
This dialog box allows you to set up commands to be sent to the devices connected to your serial ports. The descriptions for the commands that have been entered can be shown in the drop-down combo box on the toolbar or placed on the 6 command buttons on the main window. You can send a command by pressing a command button or by pressing the toolbar button to the right of the command list.

Send Commands Grid Columns

Hide	Do not show the command in the command combo box. To hide the command, press Y (Yes). To unhide the command (remove the Yes), press the delete key or the space bar.
Send to Port A	Do you want this command sent to serial port A? Press Y (Yes) to have this command sent to port A.
Send to Port B	Do you want this command sent to serial port B? Press Y (Yes) to have this command sent to port B.
Description	Description of the command to be sent. This description is used in the command combo box and on the control buttons.

Cmd Button   Do you want this command displayed on a command button? Enter a number from 1 to 6 to select the button position. See the instructions at the bottom of the Send Commands Dialog for more detail.

Command   Command to be sent. Each command can be up to 100 characters in length. Commands within { } such as {Esc} or {CR}, use a single character position. If you enter an invalid command string, the string will be shown in red when you leave the cell. All invalid command strings must be corrected before the commands can be saved. To transfer a command from the list box to the command column, drag and drop the command to the desired location. It is suggested you set the zoom lever to 140% when using the command drag and drop.

Number Cycles   A command can be repeated or continuously sent a specified number of times. In order for this value to be used the "Cycle Interval" field must also be defined. If this field is blank and the "Cycle Interval" field is defined, the command will be repeated continuously.   The maximum value for this field is 60,000.

Cycle Interval   The interval between each command cycle. This value can range from 0.01 seconds to 86,400 seconds. A single day is equal to 86,400 seconds.

3.4   Serial Port Overview
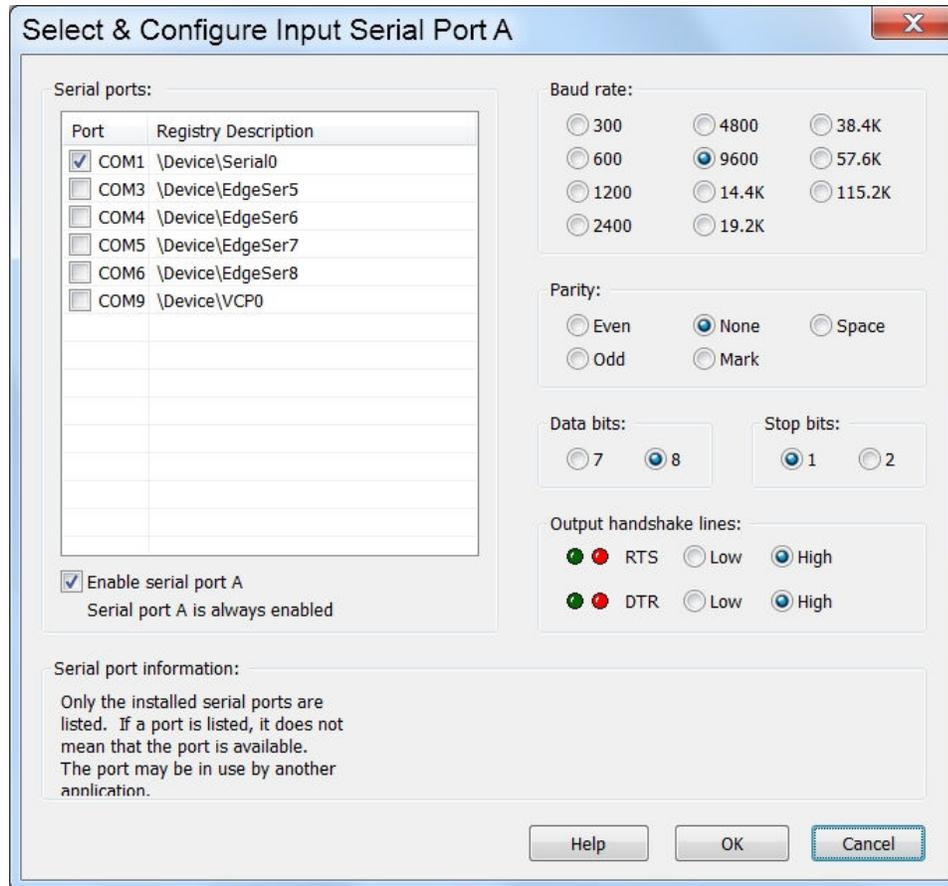
In order to use serial port communications with *WedgeLink*, you must properly configure the serial ports. If you need to use serial port B, you must enable this port in the Select & Configure Serial Port B dialog. Serial devices communicate at a variety of baud rates (9600, 4800, etc.) and can use several different sets of communications parameters (N-8-1, E-7-2, etc.). You will need to refer to the operations manual for your serial device in order to determine the proper baud and communication parameters settings. If you have trouble getting *WedgeLink* to communicate with your serial device, refer to the Troubleshooting [51] section for some tips.

9-Pin Serial Port Connector on a PC

The pin outs for a standard 9-pin serial port on a PC are listed below. The standard 9-pin serial port uses a male D-Sub connector on the PC. Please note, these pins are what you would find on the standard PC serial port. The pins on some serial devices may be somewhat different.

1	Carrier detect	CD	Input to PC
2	Receive data	RxD	Input to PC
3	Transmit data	TxD	Output from PC

4	Data terminal ready	DTR	Output from PC
5	Ground	GND	
6	Data set ready	DSRI	Input to PC
7	Request to send	RTS	Output from PC
8	Clear to send	CTS	Input to PC
9	Ring indicator	RI	Input to PC

Serial Ports

The serial ports detected on your PC are listed in the Serial Ports group. If a port is shown in the list, it does not mean that the port is available to use. The port may currently be in use by a modem or some other serial device. The Registry Description shown to the right of the port number can be useful in determining the type of port and what equipment is using the port. A sample of what might be seen for installed ports is shown below.

Name	Registry Description	Comments
COM1	\Device\Serial0	Serial port installed on the motherboard
COM3	\Device\EdgeSer5	USB Virtual serial port on a USB hub
COM11 port	\Device\VCP0	USB Virtual serial port on a computer USB
COM15	\Device\GTWModem5	Modem installed in expansion slot

If the serial port dialog being displayed is for Port B, you have the option of enabling or disabling the port. Port A cannot be disabled.

Baud Rate, Parity, Data Bits & Stop Bits

The communication parameters must be set to match the requirements of your serial device. The default settings for WedgeLink are 9600-N-8-1. You should refer to your serial device operations manual for the proper settings.

Output Handshake Lines

A serial port contains 2 output handshake lines: DTR and RTS. These handshake lines can be set to high (🔴) or low (🟢). When a serial port is opened, these handshake lines are normally set high (🔴). However, there are some serial devices that require certain handshake lines to be low before the device will send data to the PC. You can manually select the state of the DTR and RTS handshake lines to be high or low. The LEDs displayed in this group mimic the LEDs that are displayed in the Parsing Test tab and the Serial Communications Test Program.

3.5   Preferences
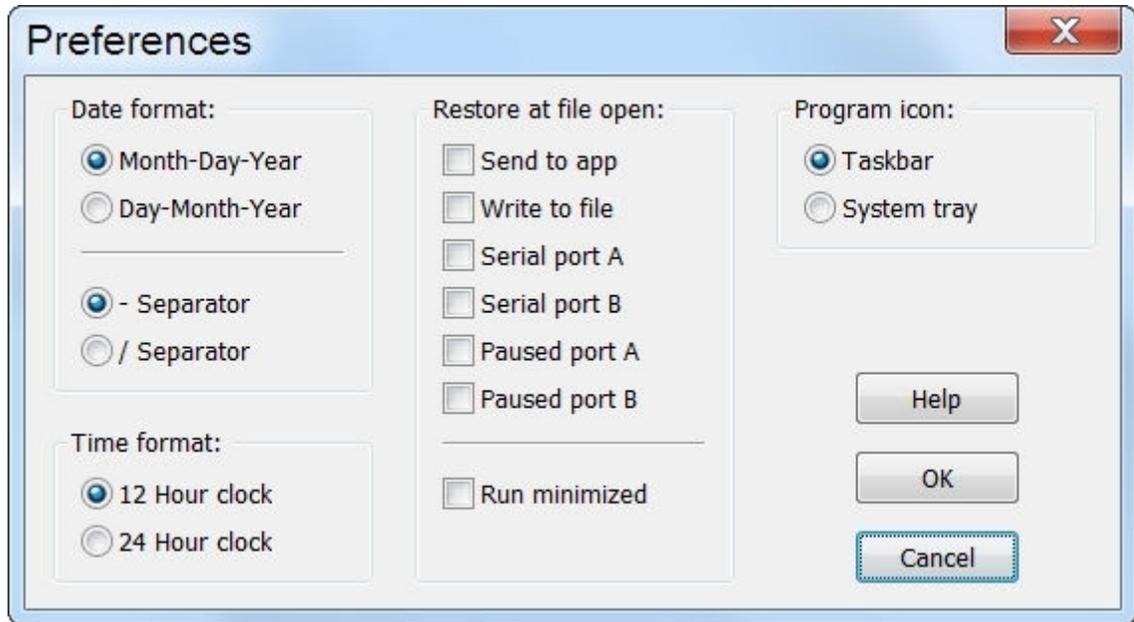
The preferences dialog allows you to set the format for the date and the time, what *WedgeLink* should restore at file open and where to place the program icon. After you change any of these parameters be sure to save your configuration file. If you do not save the configuration file, your selected parameters will not be set when you reopen the file.

Date Format

The date format can be Month-Day-Year (12-4-2013) or Day-Month-Year (4-12-3013). A date separator of a dash (-) or slash (/) can also be specified.

Time Format

The time can be specified in a 12 (2:48:14 PM) or 24 (14:48:14) hour format.

Restore at File Open

The state of most functions (Characters in { }, Always on top, etc.) are set to the values defined in the .WLC configuration file. However, there are several functions that the user may not want to set to their previous state. These functions are as follows:

- Send to app
- Write to file
- Serial port A
- Serial port B

- Paused port A

- Paused port B

If any of the above items are checked, they will be restored to the state that existed when the configuration file was last saved. Any items not checked will be set to the off (🔴) state. After you have specified the items to be restored at file open, go to the main display and be sure that the proper state is currently set for these items. For example, if you have checked "Send to app", be sure that "Send to app via keybrd" is enabled. Next, you should save the configuration file.

You can also specify that *WedgeLink* automatically minimize (show as icon) itself when a configuration file is opened. To automatically minimize *WedgeLink* check the *Run minimized* box in the *Restore at File Open* group.

Program Icon

The program icon can be place in the task bar (default location) or the system tray. If the icon is in the system tray and you try to close *WedgeLink*, you will be required to acknowledge that you really want to close the program.

4   Targets Menu
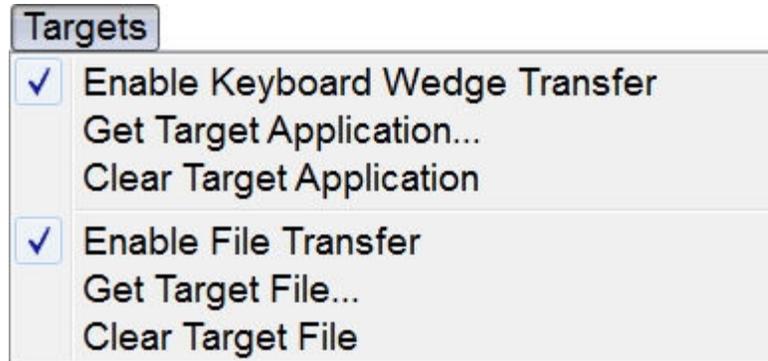
Data from the input serial ports can be sent to an application and/or written to a disk file. Data parsing can be applied to the data whether it is going to an application or a file. However, there are a couple of differences that you should be aware of:

- The end-of-packet characters for a disk file are typically a carriage return (ASCII 13) and a linefeed (ASCII 10). The end-of-packet characters for an application are typically a carriage return (ASCII 13) or a tab (ASCII 9).

- All ASCII characters (0 to 255) can be used when writing to a disk file. Only those characters found on the standard keyboard can be used when sending data to an application. The valid characters for an application are as follows:

  ✓ Backspace (ASCII 8)

  ✓ Tab (ASCII 9)

  ✓ Enter or carriage return (ASCII 13)

  ✓ Esc (ASCII 27)

  ✓ Standard characters in center portion of keyboard (ASCII 32 to ASCII 126)

4.1   Keyboard Wedge Transfer

You can enable the Keyboard Wedge Transfer by one of the following procedures.

- Select the Enable Keyboard Wedge Transfer in the Targets menu. A check mark will appear by this item when it is enabled.

- Click the 🔲 toolbar button.
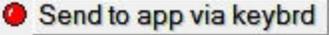
- Click the 🔴 Send to app via keybrd status item.

When sending keystrokes to an application you can use the application that currently has the input focus or you can specify the application to receive the keystrokes.

4.1.1 Get Target Application
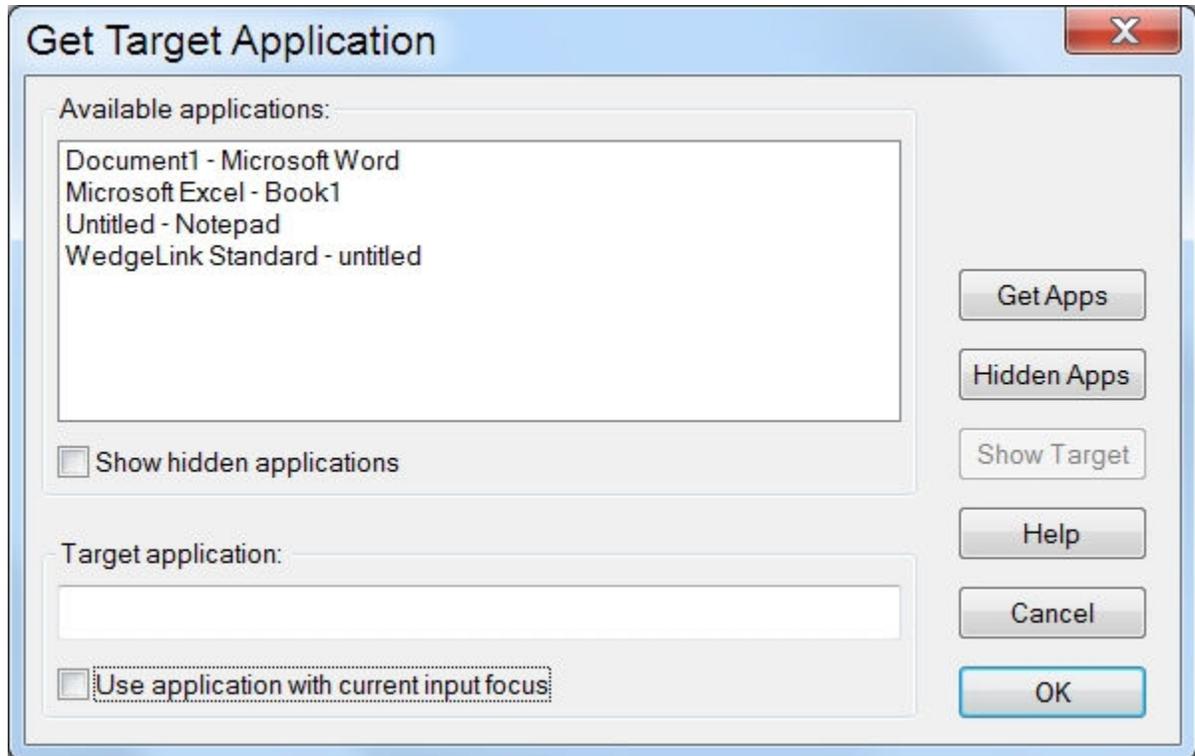
The Get Target Application dialog box is used to identify the application to receive the parsed data packet when you are using the keyboard wedge mode to transfer the data. The Get Target Applications dialog can be accessed from the Targets menu or by double-clicking K/B App edit control.

In order to send keystrokes to a specific application, you must first identify the application that is to receive the input data. The data will always be sent to the active window in the application. The target application can be selected from the list of *Available applications* or the application name can be entered into the *Target application* edit box.

To refresh the list of *Available applications*, press the *Get Apps* button.

Available Applications

The list of available applications shows the applications currently running on your PC. The list does not show the list of all applications installed on your PC. Certain currently running applications can be hidden from this list. If the *Show hidden applications* check box is not checked, some of the applications will not be shown. The reason for hiding some of the applications is that there are applications that you will never send data to and it is easier for the user to work with the list of applications that may receive serial port data. To transfer an application to the *Target application* edit box, double click the application name. After transferring the application name to the edit box, you may want to edit the application name as described below.

Target Application

The application that will receive the data from the serial port must be entered here. You must be careful how you identify the application. *WedgeLink* takes the text string that you have entered and attempts to locate that string in the list of available applications. It is normally better to use only a portion of the application name.

Example

You have started Microsoft Excel and it has a blank sheet as the active window. The name shown in the *Active applications* list is Microsoft Excel – Book 1. If you enter Microsoft Excel – Book 1 into the *Target application*, *WedgeLink* will only find this application if Book 1 is the active window. If you change the active window or spreadsheet to gage_data.xls, *WedgeLink* will not be able to locate the target application. Therefore, it is usually better to only use the application name without any filename or active window name. In this example, any of the following *Target applications* names would be recommended.

- Microsoft Excel

- microsoft excel

- Excel

- excel

If you used just the word Microsoft, *WedgeLink* might find Microsoft Excel or perhaps Microsoft Word. The application name is not case sensitive so there is no difference between Excel and excel.

Use Application with Current Input Focus

Rather than selecting a specific application to use as the target application, you can tell *WedgeLink* to use the active window of the current application as the target. This allows you to move from window to window or application to application and still get the data from *WedgeLink* into the application. When this option is selected, most of the selection options in the *Get Target Application* dialog are disabled.

Where Do I Put the Cursor

You should place the cursor on the target sheet in the location you want the data entry to start. *WedgeLink* will reposition the cursor after each data packet is transferred to the application.

4.1.1.1 Hidden Applications

Application names can be hidden from the *Get Target Application* dialog box. There are certain applications that you will never send data to, and you can identify those applications in this dialog box. For example, you would not send data to instances of Windows Explorer, Microsoft Office Shortcut Bar, start, etc.

To enter a new application name, press the *New* button. To edit or delete an existing application name, double click the name in the list box.

5   File Transfer

You can enable the File Transfer by one of the following procedures.

- ▪ Select the Enable File Transfer in the Targets menu. A check mark will appear by this item when it is enabled.

- ▪ Click the toolbar button. This toolbar button will only be enabled if a Target File has been specified.

- ▪ Click the status item. This status button will only be enabled if a Target File has been specified.

To specify a target file, select the Targets/Get Target File menu item or double click the File edit control on the main window.

6 Test Menu

Test

Parsing...
ComTestSerial Communications Test Program
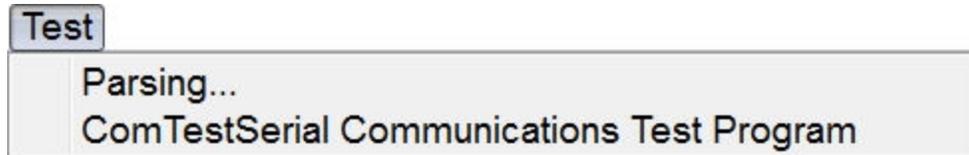
Testing functions are accessible from or built into *WedgeLink* that allow you to test the serial communications and parsing setup. In setting up *WedgeLink*, the first step is to understand what serial ports you have available on your PC and what information is really coming from your serial device. After understanding the output of your serial device, you will be ready to setup any parsing that may be needed for your data.

6.1 Parsing Test

The parsing test is included as one of the tabs on the Parsing Setup dialog and can be found on the Test Data Parsing [31] page. The parsing test functions are only available with WedgeLink Standard.

6.2   ComTestSerial

ComTestSerial is the standalone serial communications test program that is accessed from the *WedgeLink* Test Menu. To view the User's Guide for ComTestSerial, run ComTestSerial and select the User's Guide from the Help menu.

ComTestSerial is a free test program developed by MicroRidge Systems. ComTestSerial can be downloaded from the MicroRidge web site at www.microridge.com/comtestserial.htm.
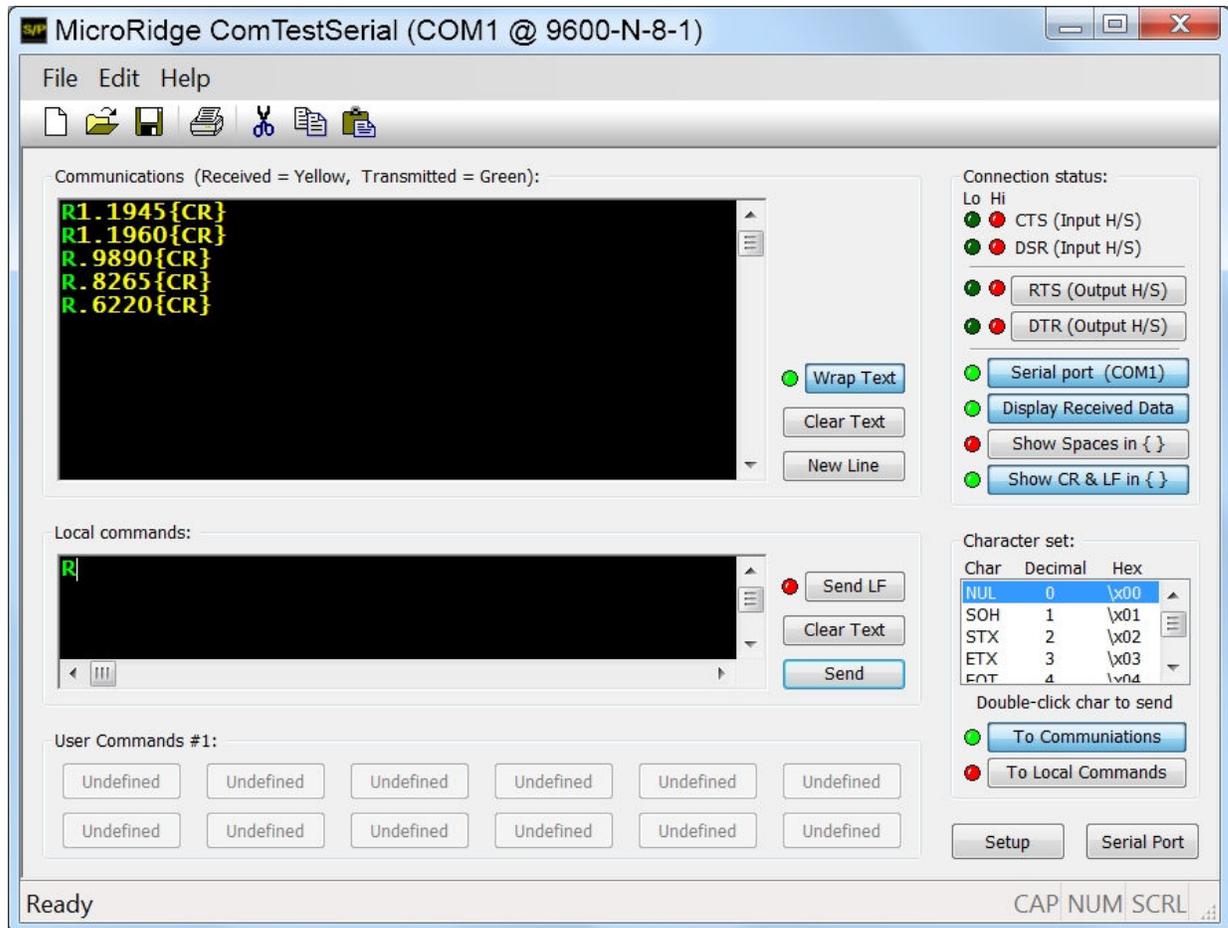
7   Data Collection
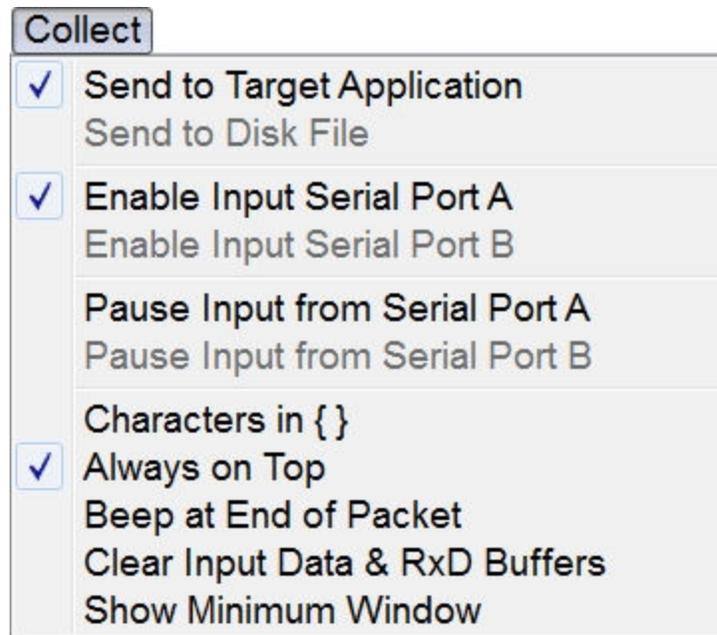
The collecting of the serial port data and sending it to an application or writing it to a file is controlled by the Collect menu, toolbar and Status Indicators. Many of the collection control functions are duplicated in these 3 areas.

In order to collect and save data to an application or a file there are certain steps you must perform. This process is fairly simple and in most cases you should be able to start your data collection after configuring a few basic setup parameters.

- Be sure you understand what information is being sent by your serial device. Use the Communications Test Program [46] if necessary.

- Set up the data parsing (if any) that will be required for your data.

- Select the keyboard transfer and/or specify the target application parameters.

- Select a target file if you are writing to a file.

- Configure the serial port.

- Enable your target (Send to app and/or Send to file).

- Enable the serial port.

- Start collecting you data.

- If you are sending the data to an application, start the application and position the cursor where you want the data to be sent.

- Use the features on the toolbar and status controls to control the data collection process.

7.1 Toolbar

Most of the collection process can be controlled from the toolbar. You may find it useful to keep the *WedgeLink* on top and show the window at a minimum height. Using these 2 features, keeps *WedgeLink* visible and keeps its size to a minimum.

The function of each toolbar button is described below.

Create a new *WedgeLink* configuration. If you have not save the current configuration, you will be asked if you want to save it.

Open an existing *WedgeLink* configuration. If you have not saved the current configuration, you will be asked if you want to save it.

Save the current *WedgeLink* configuration

Select a target application

Select a target file

Send keystrokes to the target application

Write data to the target file.

Enable input Port A

Enable input Port B

Pause Port A inputs and outputs

Pause Port B inputs and outputs

Show certain characters in { }. These { } strings are not sent to the application or written to the file, only the actual character is sent or written.

Keep *WedgeLink* on top of all other windows

   ✏️   Clear the serial port input buffer, and the input and output strings shown on the main *WedgeLink* window.

   ▬   Show the main *WedgeLink* at a minimum height. This button will hide all but the title bar, menu items, toolbar and control buttons.

| Read All Chan A ▼ | Commands that can be sent to the serial port. These commands are configured in the Setup/Send Commands menu item |

   ⚡   Send command string to the serial port

   ❓   Help

7.2   Status Indicators

The status controls allow you to quickly see the state of various *WedgeLink* control items and to set the state of several of the items. The items that can be set in the status controls will respond to the mouse being moved over the item. If the text becomes grayed when the mouse is over an item, this item is currently disabled and canned be changed. An example of a disabled item will occur for the *Send to app* if no target application has been identified.

Status Indicators

Status:	Status:	Status:	Status:
🟢 Send to app via keybrd	🟢 Send to app via keybrd	🟢 Send to app via keybrd	🟢 Send to app via keybrd
🟢 Send to disk file	🟢 Send to disk file	🟢 Send to disk file	🟢 Send to disk file
🟢 Serial port A (COM1)	🟢 Serial port A (COM1)	🟡 Serial port A (COM1)	🟢 Serial port A (COM1)
🔴 Port A paused	🔴 Port A paused	🟢 Port A paused	🔴 Port A paused
⚫ Serial port B (COM3)	⚫ Serial port B (COM3)	⚫ Serial port B (COM3)	⚫ Serial port B (COM3)
⚫ Port B paused	⚫ Port B paused	⚫ Port B paused	⚫ Port B paused
	🔴 Reset position counter At position 1 of 5		
🔴 Port A Cmds @ None	🔴 Port A Cmds @ None	🔴 Port A Cmds @ None	🔴 Port A Cmds @ None
⚫ Port B Cmds @ None	⚫ Port B Cmds @ None	⚫ Port B Cmds @ None	⚫ Port B Cmds @ None
🟢 Packet A complete	🔴 Packet A complete	🔴 Packet A complete	🟡 Packet A complete
⚫ Packet B complete	⚫ Packet B complete	⚫ Packet B complete	⚫ Packet B complete
Typical Status for Normal Operation	**Typical Status with Position Control**	**Serial Port A is Paused**	**No End-of-Packet Character Received**

Indicator Colors

The indicators can be green, yellow or red.

● The function is active or a complete data packet has been received.

○ This color is associated with the *Paused* function being active and *Packet complete*. When *Paused* is active, the green indicators for *Port x* will turn yellow. If *Packet complete* is yellow, characters have been received for the current packet, however the end-of-packet character has not been received.

● The function is inactive. In the case of *Packet complete*, this means that nothing has been received since enabling or clearing the serial port.

● The function is disabled.

8   Troubleshooting Tips

Troubleshooting *WedgeLink* usually falls into 1 of the 3 following areas.

- Serial communications

- Data parsing

- Sending data to an application

Most of the time that people experience difficulties, it is with serial communications. The other two areas listed generally do not present problems that are difficult to solve.

Serial Communications

One of the biggest problems in troubleshooting serial communications problems is due to the difficulty in seeing what is actually happening on the serial lines. This problem of determining the state of the serial lines can be eliminated with a device known as a line status indicator or breakout box. We have known people spending hours (and in some cases days) trying to figure why they could not get serial communications to work. Typically if they had invested less than $20.00 for a data line monitor, they could have solved their problem in a matter of minutes. These data line monitors can be obtained from a variety of sources.

A data line monitor will contain a red and green LED for each signal line. When the monitor is connected to a serial line, a high signal (+ voltage) will be shown with the red LED and a low signal (- voltage) will be shown with the green LED (some monitors may reverse these colors). With the monitor connected, you will be able to determine the following:

- Is your serial device sending any data? If it is sending data, you will see the LED's for the PC received pin changing from red to green.

- Are the handshake lines properly set?

- Can your PC send commands to your serial device? If your PC can send commands, you will see the PC transmit LED's change colors. You should try to send commands to your serial device even if your serial device does not need a command to send data. If you do not see the PC transmit line changing state, you may have selected the wrong serial port, have an improperly configured serial port or have a defective serial port.

Data line monitors are available in both 9 and 25 pin configurations. Some monitors use a dual color single LED rather than 2 separate LED's for each line. We have tried some of these single LED models and feel they are of a lower quality than the dual LED models.

The following is a checklist of things to do when troubleshooting serial communications:

- Purchase a data line monitor.

- Is your serial cable wired correctly? Check the [Serial Port Setup](#)[34] for the standard pin outs on a 9-pin serial port.

- Does your serial port work with other devices or other applications?

- Have you enabled the serial port in WedgeLink?

- Can you open the serial port with ComTestSerial?

▪ Do you have the proper baud rate and communications parameters set?

Data Parsing

If you are having problems with the data parsing, try using the procedures described below:

▪ Do you really know what your serial port input packets look like? Have you used [ComTestSerial](#) [46] to verify the serial input?

▪ If you are having problems with the data parsing, you should go to the [Test tab](#) [31] on the data parsing dialog (Test/Parsing menu item). With the parsing test functions available, you should be able to determine how your input data is being modified by the parsing functions.

▪ It may be useful to turn off some of the parsing functions so that you can see how each parsing function is modifying your input data. The parsing functions can be turned on and off on the [Parse](#) [14] tab in the *Parsing Setup & Test* dialog (Setup/Parsing menu item)

Sending Data to an Application

The following tips may help with problems associated with sending the data to an application:

▪ Have you started the application? Have you activated the proper display in the application and have you placed the cursor where you want the data to be transferred to?

▪ Do you know the correct name for the application? Are you looking for Microsoft Excel – Book 1, when you really should be looking for Microsoft Excel?

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10   Support & Contact Information

The *WedgeLink* license is a single machine license. If you are calling for support for multiple installations, you must have purchased a license for each machine. To make your support assistance call the most productive for both you and the technical support team, please perform the following steps before calling:

Troubleshooting You Can Do Before Calling for Support Assistance

- Check the documentation:

  - ✓ Check online Help or User's Guide.

  - ✓ Review [Troubleshooting Tips](#) [51].

- Get the version number for the WedgeLink program.

- If the problem appears to be a serial communications problem:

  - ✓ Determine if any recent changes have been made to your computer.

  - ✓ Use a breakout box to determine if data is being transmitted or received on the serial port lines. A breakout box is a tool that can save you hours of frustration. The breakout box provides a visual indication of what is happening on the serial port lines.

- If you are having problems with the data parsing, you should try to use the [testing function](#) [31].

- Have a phone by your computer.

10.1   Contact MicroRidge

Email:

Support:	support@microridge.com
Sales:	sales@microridge.com
Information:	info@microridge.com

Phone:

Support:	541.593.1656
Sales:	541.593.3500
Main office:	541.593.1656
Fax:	541.593.5652

Mailing Address:

MicroRidge Systems, Inc.

PO Box 3249
Sunriver, OR 97707-0249

Shipping Address:

MicroRidge Systems, Inc.
56888 Enterprise Drive
Sunriver, OR 97707

Note: There is no mail delivery to this address. This address should only be used for package delivery services such as UPS, FedEx, etc.

Web: www.microridge.com

Index