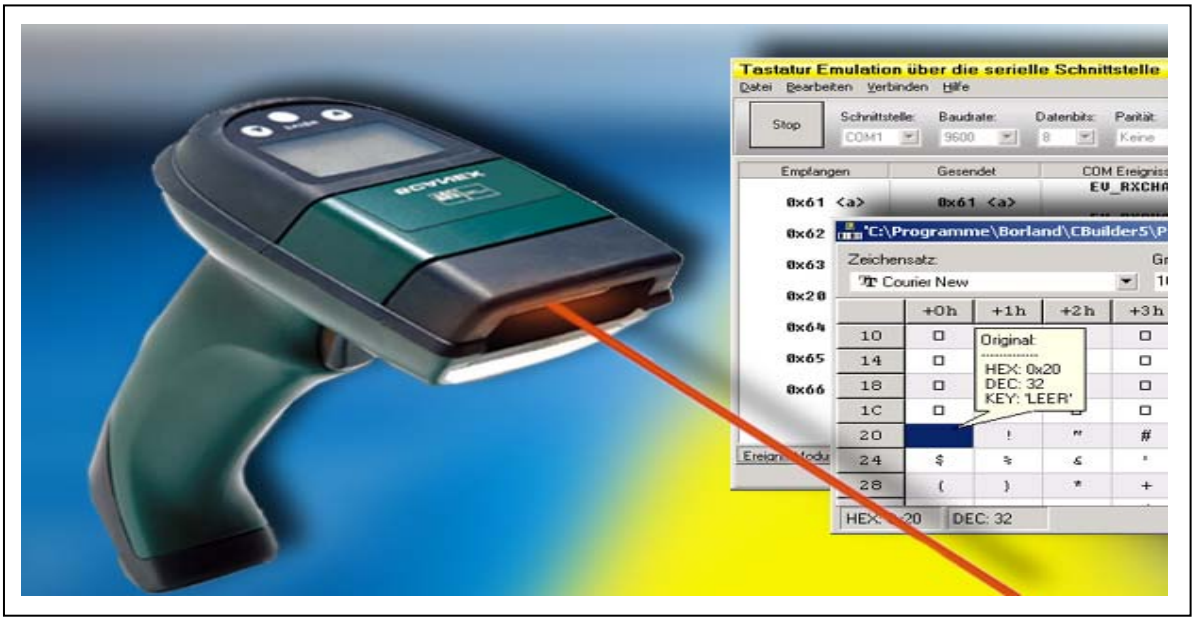
PEPPERL+FUCHS
PROTECTING YOUR PROCESS



S2K-Wedge

How to start...

Preamble, Installation, Support, Getting Started

PEPPERL+FUCHS

Table of contents

1 Important information

1.1 General information

The publisher reserves the right to alter the information and data contained in this manual without prior notice. Unless otherwise indicated, the company names as well as other names and data used in the examples are purely fictitious.

The publisher may have registered patents or pending patent applications for subject matter covered in the manual. This manual does not give you license to these patents.

Limited warranty:

No warranty is provided for the accuracy of the information contained in this manual. As mistakes cannot be entirely avoided despite taking the greatest of care, we would be grateful to receive information about any errors you may discover. The publisher disclaims all legal responsibility or liability for errors as well as for subsequent damages and claims.

Microsoft, MS, MS-DOS, Windows 2000, Windows XP Professional Windows Vista and Windows 7 are registered trademarks of the Microsoft Corporation.

Publisher:

Pepperl-Fuchs GmbH
Lilienthalstr. 200
68307 Mannheim Germany

www.pepperl-fuchs.com

Tel. 0621-776-0
Fax 0621-776-1000

E-Mail: info@de.pepperl-fuchs.com

2 S2K-Wedge

S2K-Wedge is a keyboard emulation program that reads character strings from the serial port and “simulates” the corresponding keystrokes on your PC.
It is specially designed for connecting Pepperl+Fuchs scanners. It allows a scanner connected to the serial port to be used as an input device in a variety of applications.
S2K-Wedge exists of the following 2 programs:

1. a Windows service which provides the real functionality
2. a program which configures the Windows service mentioned above (user interface)

2.1 Installation

S2K-Wedge is easy to install with the help of the installation routine. Simply start <setup.exe> on the Pepperl + Fuchs CD-ROM and follow the instructions provided on the screen.

- **Important:** We advise you to keep the default settings offered by the installation routine unless you have good reason to change them. Especially when you are uncertain about what to do, the best strategy is always to click <*Next*>.

Before you begin, however, please make sure your system meets the following requirements, which are recommended to get the best performance out of S2K-Wedge.
The following software and hardware is required to install S2K-Wedge:

- PC with an Pentium or higher processor (or another compatible processor) > 200 MHz
- Windows 95b/98/ME, Windows NT 4.0 (SP3), Windows 2000(SP2) or Windows XP
- Hard disk with 5 MB available memory
- VGA graphics card with at least 16 colors 640 x 480
- Minimum of 64 MB memory (RAM)
- Free serial port

2.2 Short description of the user interface

The S2KWedge service will be configured with help of the program file ‚S2KServicePanel.exe’. Here you can change the COM port, the baud rate, the number of data bits , the parity and the flow-control. The communication can also be started and stopped with this interface.

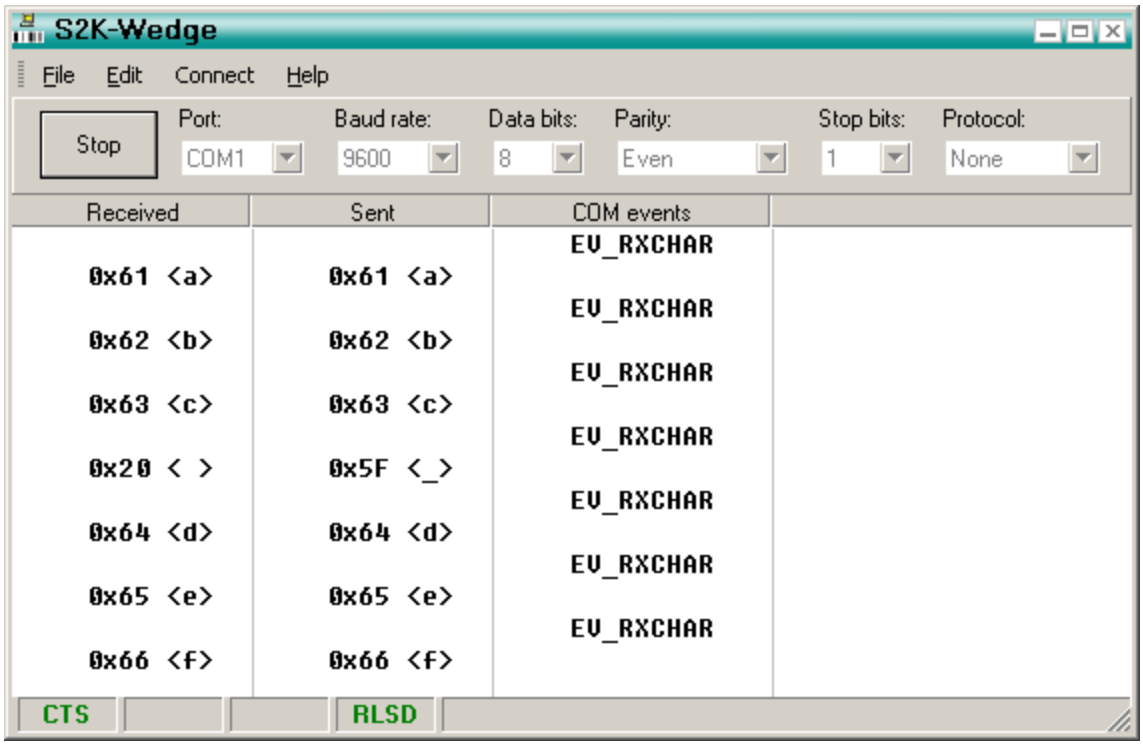


Figure 1: User Interface

2.2.1 Configuring the serial port

You cannot change the settings if the serial port is open.

- **Important:** Make sure that the settings you select here match those for the connected device.

`Port`

You can select a serial port for communication on the PC in this box. All ports known to the operating system, including those already occupied by other programs, are offered. Standard PCs normally have two ports: COM1 and COM2.

`Baud rate`

Specify the data transfer speed here. The default setting for Scanner is 9600 baud for Termex 2xx/3xx is 19200 baud and for Termex 750 38400 baud.

`Data bits`

Specify the number of data bits here. 5, 6, 7 and 8 are permissible values. There are usually 8 data bits.

`Parity`

This box specifies whether or not the parity check bit should be computed, and if so how. The parity is normally <*Even*>.

`Stop bits`

Specify the number of stop bits here. There is usually one stop bit.

`Protocol`

This box determines the protocol that is used to transfer data. Both software and hardware handshakes are supported.

2.2.2 Setting up a connection

After you have entered the settings for the serial port, you can set up a connection by clicking on the red Start button. The serial port has been opened successfully if the color of the button changes to grey.

2.2.3 COM events

The Events window shows the chronological sequence of incoming data at the serial port as well as its line states.
Incoming characters appear in the left column and port events in the right column. The middle column lists all emulated keystrokes that have been sent to the operating system. The received characters are normally identical to the emulated keystrokes.
By editing the ASCII transformation table (see 2.3.1), however, it is possible to redefine characters received at the serial port and keyboard layouts in order to emulate other keyboard events.

Example 1:
In Picture 1, the following characters are received at COM1 in the indicated order: `<a, b, c, blank, d, e, f>`. . The emulated keys are as follows, however: `<a, b, c, _, d, e, f>`.

2.2.4 Port states

The current line state of the serial port is shown in the status bar.

`Control signals`

A green text means that the control signal concerned is present.

CTS	The CTS (clear to send) signal is on.
DSR	The DSR (data set ready) signal is on.
RING	The ring indicator signal is on.
RLSD	The RLSD (receive line signal detect) signal is on.

2.2.5 Command line parameter

The user interface 'S2KServicePanel.exe' can be started with the following parameters in the command line:

- /start: the S2KWedge service will be started
- /stop: the S2KWedge service will be stopped / paused
- /update: the S2KWedge service will be stopped and afterwards be started again

2.2.6 Functions in the menus

The functions listed below can be selected in the main menu.

2.2.6.1 File

Save	Saves the current settings.
Exit	Closes S2K-Wedge. You are advised to save any settings that are not yet saved.

2.2.6.2 Edit

Cut	Copies the current selection into the clipboard and deletes the selection.
Copy	Copies the current selection into the clipboard.
Delete	Deletes the current selection
Select all	Selects all characters in the view
Delete all	Deletes all characters in the view
Open ASCII-Table...	Opens the ASCII-Transformationtable were incomming characters can be redefined.
Blocksynchronisation...	Opens a window for setting the block length and the character timeout.

2.2.6.3 Connect

Start	Opens the serial port and connects to the serial device. All incomming ASCII-characters are transfomed by the ASCII-Transformationtable and were send to the keyboard driver.
Stop	Closes the serial port and disconnects the serial device.
Send characters to COM port	Send characters to the COM port. This can be useful to configure a barcode reader.

2.2.6.4 Help

S2K-Wedge Help	Opens the online documentation.
About	Opens a dialog box containing additional information about S2K-Wedge.

2.3 Fine tuning

2.3.1 ASCII-Transformationtable

As mentioned above, you can redefine received characters with the help of the ASCII transformation table. This table can be edited by selecting *<Edit/Open ASCII Table...>*.

The font and the font size can be selected in the title bar. By clicking <Clear All Assignments>, you restore the original table assignments and all received characters are emulated 1:1 (untransformed) with the corresponding keystrokes.

By clicking <Deactivate Character>, you deactivate the character selected on the right. If this character is received, in other words, it is simply ignored and no keystrokes are emulated.

By clicking <Clear Assignment>, you restore the original definition of the selected character. From now on, this character is converted using the default assignment again (see left-hand table).

The left half of the window shows the original ASCII assignment for the active font. The right window half contains the redefined substitution table.

Redefining characters is very easy: simply drag the character you want to reassign from the left window half and drop it onto the character you want to redefine it as in the right window half. All redefined characters appear in the right window half in a different color.

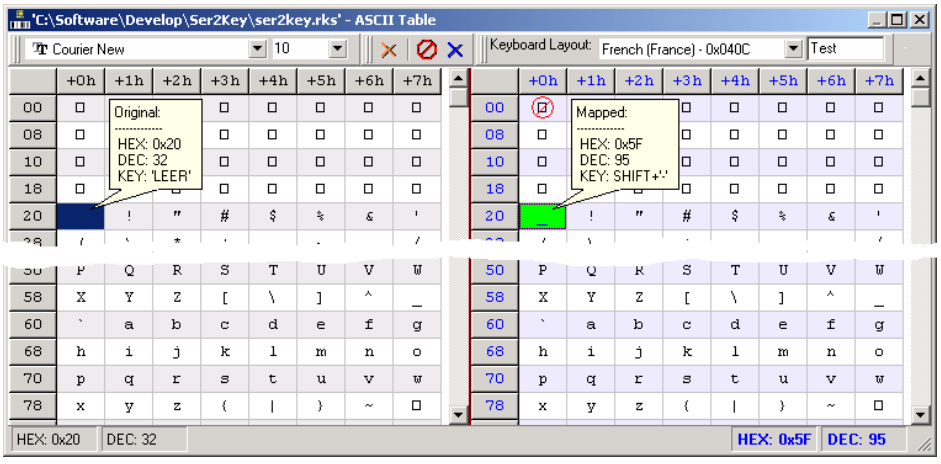


Figure 2: ASCII-Transformationtable

Example 2:
Let us assume you want an incoming blank (hex: 0x20) to be emulated as a keyboard input by the underscore character (hex: 0x5F). In Figure 2 you can see the redefined ASCII-Transformationtable.

Remark: To simulate the ENTER-key the character 0x0D must be read.

2.3.2 Keyboard Layout

Introduction: this paragraph describes the selection of two WEDGE output format options that might be necessary to support different host PC Operation System requirements (e.g. '[ALT]+[numeric keypad numbers ####]' for code page independent use with Windows® or '[make] and [break]' codes for Unix /Linux systems and low performance Windows® systems).

The desired keyboard layout can be selected on the list set (Figure 2, top right). In addition to the layouts installed in Windows® (see ControlPanel /Regions- and Language Options /Languages /Details), two further options are offered:

- **<Language independent>**
  The incoming serial data (ASCII, hex code) are interpreted as ANSI characters and translated into codes using the [ALT]+[numeric keypad numbers ####] key emulation usable in e.g. Windows based Operating Systems. This works independently of any selected keyboard layout on the Host PC.

  Warning: If Terminal Services protocols are used (RDP, VNC, ICA, ..) to connect to a host system (e.g. by VisuNet Remote Monitors), the method <Language independent> may cause problems, since the emulated keycode sequence is very quick.

  Warning: It must be ensured by settings on the system where the WEDGE is installed that an emulated ALT key input can be interpreted or, e.g. at Remote Monitor systems, the ALT key is transmitted to the host system.

- **<System language>**
  The incoming serial data (ASCII, hex code) are interpreted as ASCII characters. The current ‘System language’ keyboard layout adjusted on the local system (e.g. VisuNet Remote Monitor) is used to create the appropriate keystrokes ([make] and [break] codes)

- **<Language ABCD - 0x1234>**
  Like <System language>, but the selected Keyboard layout of the WEDGE is used (see Figure 2, top right).

  Note: If the incoming serial data (ASCII, hex code) cannot be translated with the current keyboard layout selected in the WEDGE, it will be interpreted as ANSI characters and transferred with the <Language independent> method (eg: an incoming German ä with selected English keyboard layout

  will also generate an ä, if the host computer supports the '[ALT]+[numeric keypad numbers ####]' method).

2.3.3 Blocksynchronisation

You can select <*Edit/Block Synchronization...*>. This command opens a dialog (see Figure 3), in which you can edit the “Telegram length” and “Character timeout” parameters.

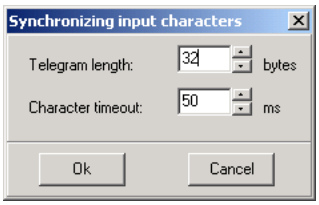


Figure 3: Block synchronization

These settings control the construction of blocks of simulated keyboard inputs. This is necessary to prevent local user inputs from interrupting continuous input sequences.

Telegram length: Number of characters that must be buffered. The buffer is sent when this number is reached.

Character timeout: Timeout per character. The buffer is sent if this timeout elapses.

Remark: The buffer is sent if one of the events has occurred. In this case the counting of the telegram length begins at zero again.

3 Possible causes of errors

☑ **The connection to the device is not correct:**

- Wrong serial port selected: Check whether your device is connected to the right serial port on the PC.
- Problems with the connecting cable: Check whether the cable is connected correctly. Check the connector label on the cable.

☑ **The configuration of S2K-Wedge is not correct:**

Wrong transfer parameters: compare the settings of the serial device with those in the S2K-Wedge. Check above all whether the parity is set correctly.

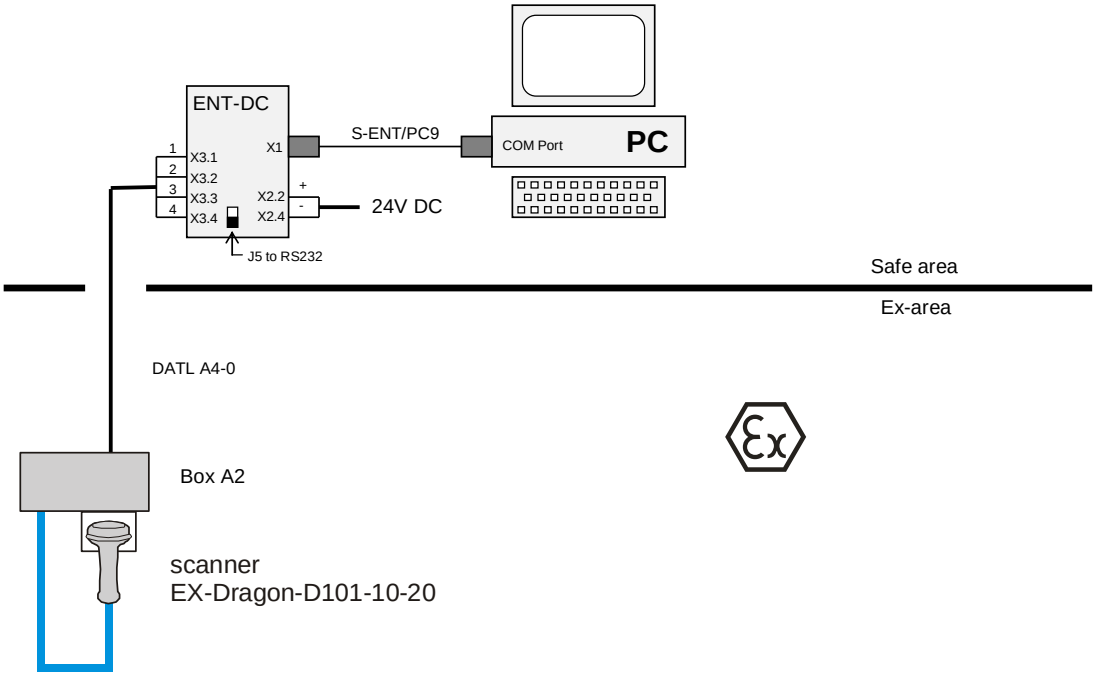
Characters are not show correctly: Check the internal ASCII-Transformation table.

The serial port cannot be opened: Please make sure that
i) it is not already opened by another program (may be reboot),
ii) the serial port settings are supported by the operating system (use standard settings)
iii) the serial port is physically present, activated in the BIOS and not damaged.

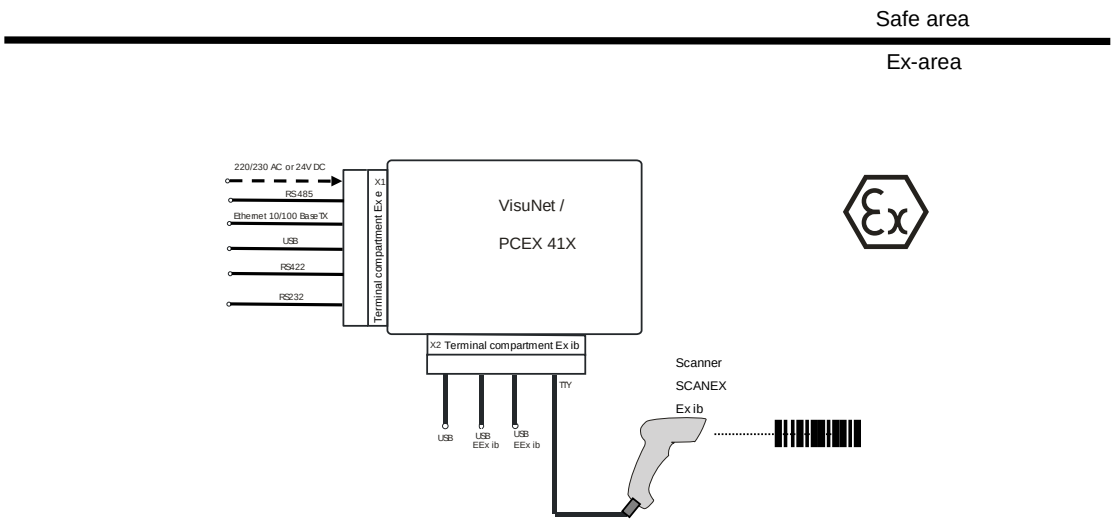
4 How to connect...

4.1 Connection to a scanner

4.1.1 Connection between Scanner and PC in safe area



4.1.2 Connection between Scanner and VisuNet / PCEX



PROCESS AUTOMATION – PROTECTING YOUR PROCESS

Worldwide Headquarters
Pepperl+Fuchs GmbH
68307 Mannheim · Germany
Tel. +49 621 776-0
E-mail: info@de.pepperl-fuchs.com

USA Headquarters
Pepperl+Fuchs Inc.
Twinsburg, Ohio 44087 · USA
Tel. +1 330 4253555
E-mail: sales@us.pepperl-fuchs.com

Asia Pacific Headquarters
Pepperl+Fuchs Pte Ltd.
Company Registration No. 199003130E
Singapore 139942
Tel. +65 67799091
E-mail: sales@sg.pepperl-fuchs.com

www.pepperl-fuchs.com

PEPPERL+FUCHS
PROTECTING YOUR PROCESS