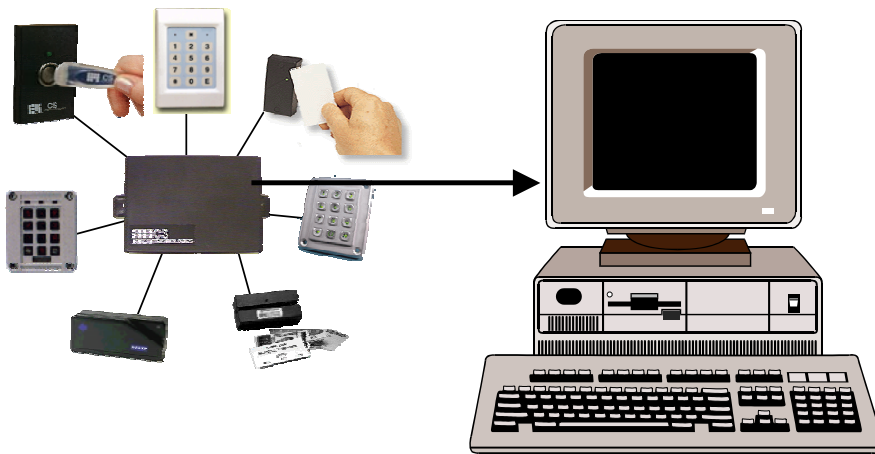




# Wedge



## Software manual



**CS Technologies specialises in the design, manufacture and marketing of electronic access control equipment.**

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Revision	Date	Person	Details
1.0	29/6/2000	Bruce Piper	Initial writing

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# 1 Introduction

## 1.1 Description

CS Technologies Wedge software is used to allow an access control reader to interface directly with a PC. The interface is via the PC com port; some readers will have a direct RS232 port which can be connected directly to the PC; others will require some hardware to allow the interfacing, such as the CS Technologies Reader to RS232 converter.

The Wedge software captures the data from the com port and allows it to be decoded and manipulated in various ways so that parts of the information can be extracted, and other information can also be inserted into the processed data. The processed information is then interfaced with the PC so that it is as though the information has been typed on the PC keyboard.

Using the software allows access control cards or keys to be used with other programs so that the access control credential identifies that person to the other software. Applications include point of sale, reader testing, credential registration and many others.

## 1.2 Installation

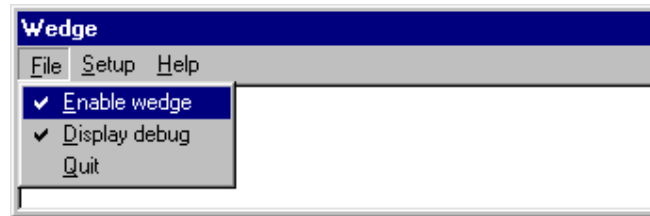
The program is supplied as a single file executable called SETUPEX.EXE. Simply run this program in the normal fashion and it will be installed. To run the program, click on the Wedge icon which can be found in the start menu. The program is compatible with Windows 95, Windows 98, Windows NT or Windows 2000 operating systems. It requires a dedicated com port for the connection of the reader hardware.

If using the CS Technologies reader to RS232 converter see its associated documentation for information on the hardware configuration.

If the wedge software is to be permanently used it should be placed in the Startup folder (start/programs/startup) so that it will always be active as soon as the computer is started up. It can be set to start up minimised so that it doesn't appear in the main window.

# 2 Configuration

## 2.1 The File menu



The file menu has three options.

### 2.1.1 Enable wedge

When this is ticked the wedge is enabled i.e. the information which is processed as the reader is used will be placed into the keyboard buffer of the PC, meaning that card numbers will be 'typed' into whatever program you have running.

If it is not ticked the information will be available for debugging within the wedge program itself but will not be passed onto any other programs.

### 2.1.2 Display debug

When this is ticked debug information will be displayed in the wedge window. The window itself can be resized by clicking and dragging on the right hand bottom corner, so that more extensive information can be viewed.

When 'Display Debug' is not ticked only the processed output information (which is subsequently placed in the keyboard buffer) is displayed in the wedge window. When it is ticked however much more extensive diagnostic information is displayed. This diagnostic information is shown for each credential presentation and includes:

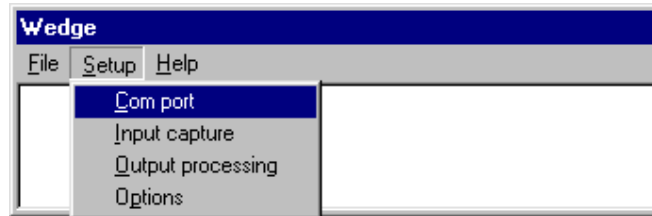
- the raw data received from the com port of the PC
- the ascii values of the characters in the raw data
- the 'captured data' received as the raw data is processed
- the ascii values of the captured data
- the output data to be placed into the keyboard buffer
- the ascii values of the output data

Using this feature it is quick and easy to debug the information being received from the reader and to set the appropriate parameters so that the right information is sent through to the keyboard buffer for processing by other programs.

### 2.1.3 Quit

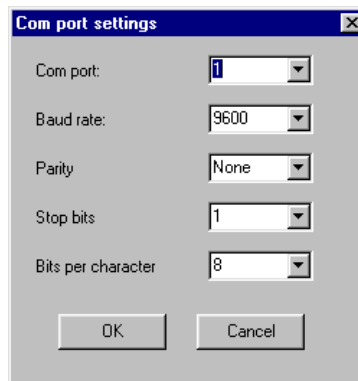
Selecting this menu option quits the program.

## 2.2 The setup menu



### 2.2.1 Com port

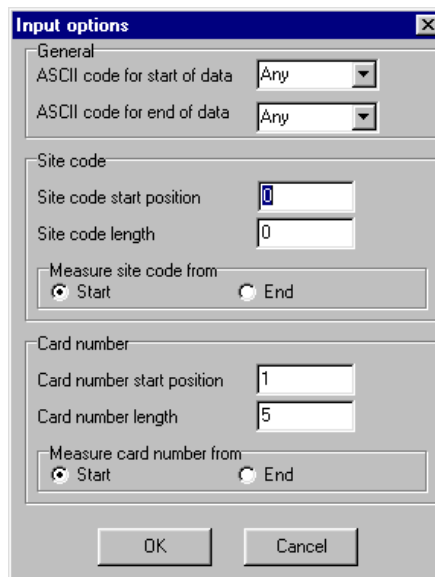
Selecting this menu option displays the com port settings used for the capture of the data.



Select the appropriate com port, baud rate and other settings for the reader you wish to use. For the CS Technologies Reader to RS232 converter the settings are baud rate 9600, parity none, stop bits 1 and bits per character 8.

### 2.2.2 Input capture

Selecting the input capture menu displays the screen below.



This allows setting of the parameters which define what happens to the data received from the reader.

### 2.2.2.1 ASCII code for start of data

The default setting for this field is 'Any'. When set to Any, the first character received from the reader is used to start the capture of the data. However it is possible to make the capture start at a particular character by entering the decimal ASCII value of the character here. For example, if your reader always sends a string of data starting with a space character (ASCII 32) you could enter 32 in this field, and characters prior to the space would be ignored.

If Debug is turned on (File/Debug) the window displays both the raw data and the captured data which can give an idea of how this field works.

In most cases it is expected that leaving this to the default 'Any' will give the best results.

### 2.2.2.2 ASCII code for end of data

The default setting for this field is 'Any'. When set to Any, the last character received from the reader is used to finish the capture of data. Actually each time a character is received an internal timer is set, and when no characters are received for about 1 second this signals the end of the received data.

However it is possible to make the capture finish at a particular character by entering the decimal ASCII value of the character here. For example, if your reader always sends a string of data terminated by a carriage return (ASCII 13) you could enter 13 in this field, and characters after the carriage return would be ignored.

In most cases it is expected that leaving this to the default 'Any' will give the best results.

### 2.2.2.3 Site code start position

The information from the access control credential (card, key, PIN etc) can be split into two separate fields, known for convenience as the 'site code' and the 'card number'. Different parts of the string of data can be selected, and put together as the output or processed number.

The first character in the captured data (i.e. the first character captured as the 'ASCII code for start of data') is defined as position 1. By observing the output from the system in debug mode it is possible to watch the data and figure out which parts of it are required for processing.

An example may be helpful. The raw output from a CS Technologies Reader to RS232 converter with a Wiegand proximity card reader attached is as follows:

```
;660010=<CR><LF>
```

In this case we want to extract the first two digits of the number '66' as the site code. We would accordingly set the site code start position to 2 because the first '6' is the second character in the captured data.

### 2.2.2.4 Site code length

This parameter sets the length of the site code. In the example above we would set the length to 2 because we want to read two characters from the start of the site code, resulting in our site code of '66' being selected.

### 2.2.2.5 Measure site code from start/end

This allows selection of where the site code is measured from. Normally this is the default setting of start, meaning that the start position of the site code is measured from the beginning of the captured data. However sometimes you will have a variable length card where the last 4 digits say are always the site code. Having the ability to measure the site code from the end allows cards of this type to be processed.

### 2.2.2.6 Card number start

This parameter sets where the second data field, known as the card number, is selected from. Again it is possible to set the start position; in the example above where we want to get the card number as 0010 we would set the card number start position to 4, because the first '0' is the fourth character in the raw data.

### 2.2.2.7 Card number length

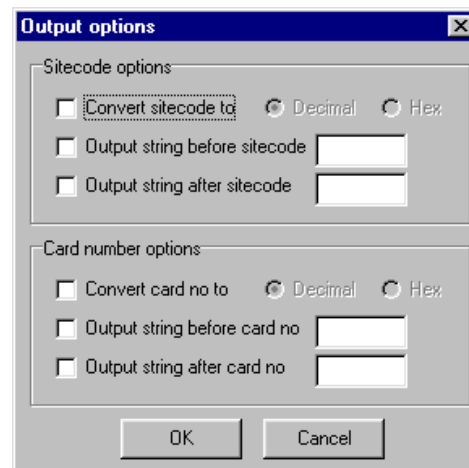
This parameter selects the length of the card number. In the example we would set the length to 4 because we wish to select four characters from the start of the card number, making the card number '0010'.

### 2.2.2.8 Measure card number from start/end

This parameter allows selection of whether the card number is measured from the start or end of the captured data.

## 2.2.3 Output processing

Selecting the output processing menu displays the screen below.



This allows processing of both of the data fields separately, which provides a great deal of flexibility with directing the output of the system. For each data field it is possible to optionally

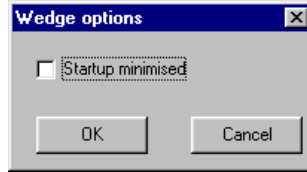
- convert to decimal or hex
- output a string before the data field
- output a string after the data field

This provides a means of for example selecting a particular menu or data field automatically before typing the processed data into the field.

In the example described above, of a wiegand card via the CS Technologies reader to RS232 converter, the information is received in hex format. Assuming the program requires the information in decimal, the 'convert sitecode to' and the 'decimal' button would be selected. Similarly the card number would also be processed in this fashion.

## 2.2.4 Options

Selecting this menu option displays the following window.

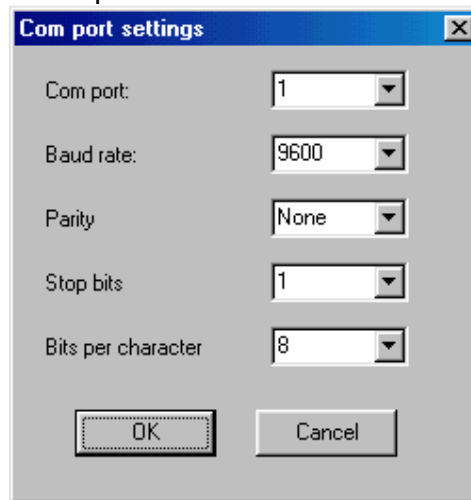


If the 'startup minimised' box is checked then when the program starts it will automatically minimise. Once configured, and loaded into the startup menu, this is probably the best way to run the program because it will then be unobtrusive.

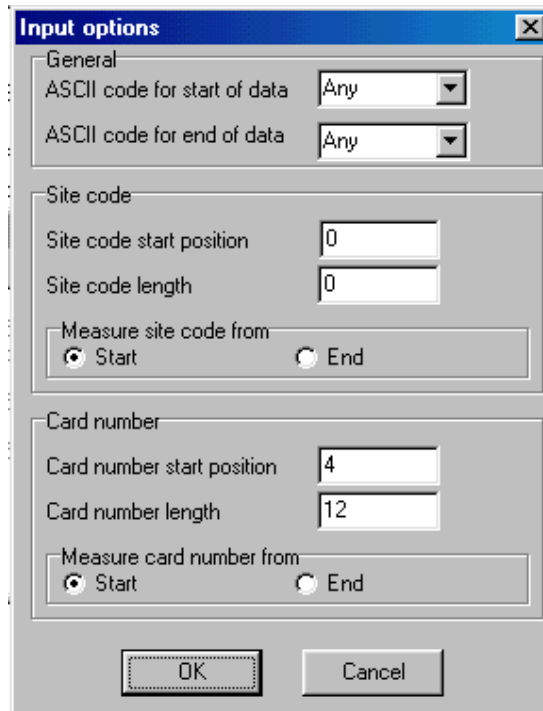
## **WEDGE SOFTWARE WITH SILICON KEY:**

Install the keywedge software on the PC from the installation disk.

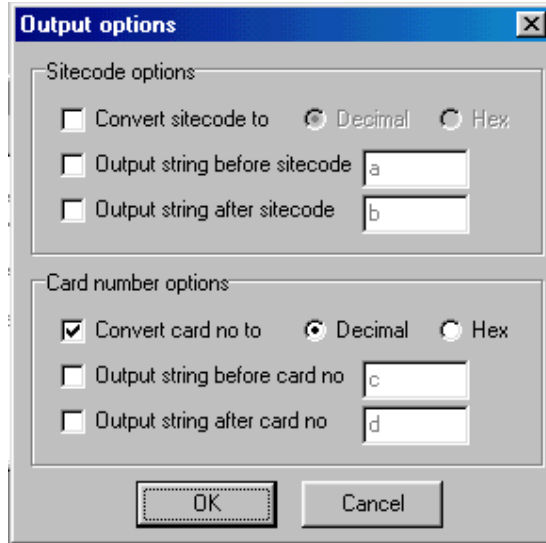
1. Set the appropriate comm. port



2. Set the input options as shown below



3. Set the output options as below:



The Keywedge software must be running in the background. When the silkey is badged it will place the key number in the current cursor location.

It is recommended to make the keywedge software run on startup.