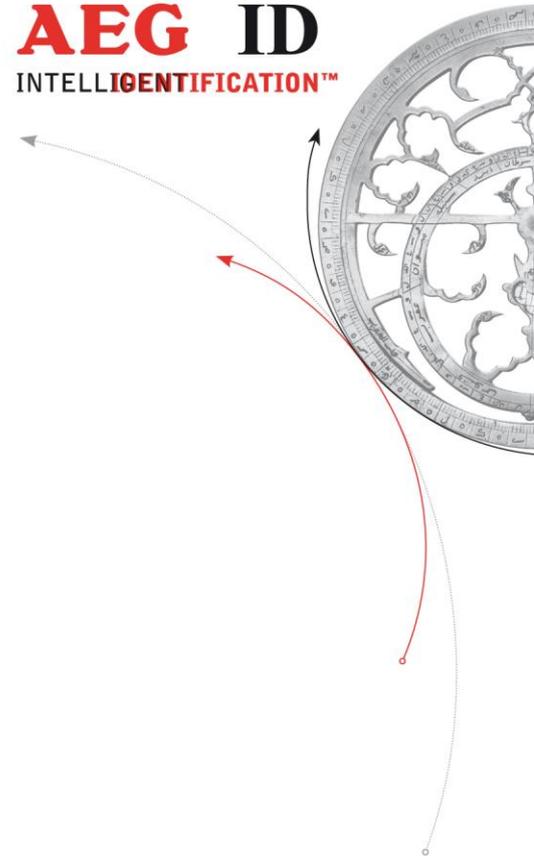
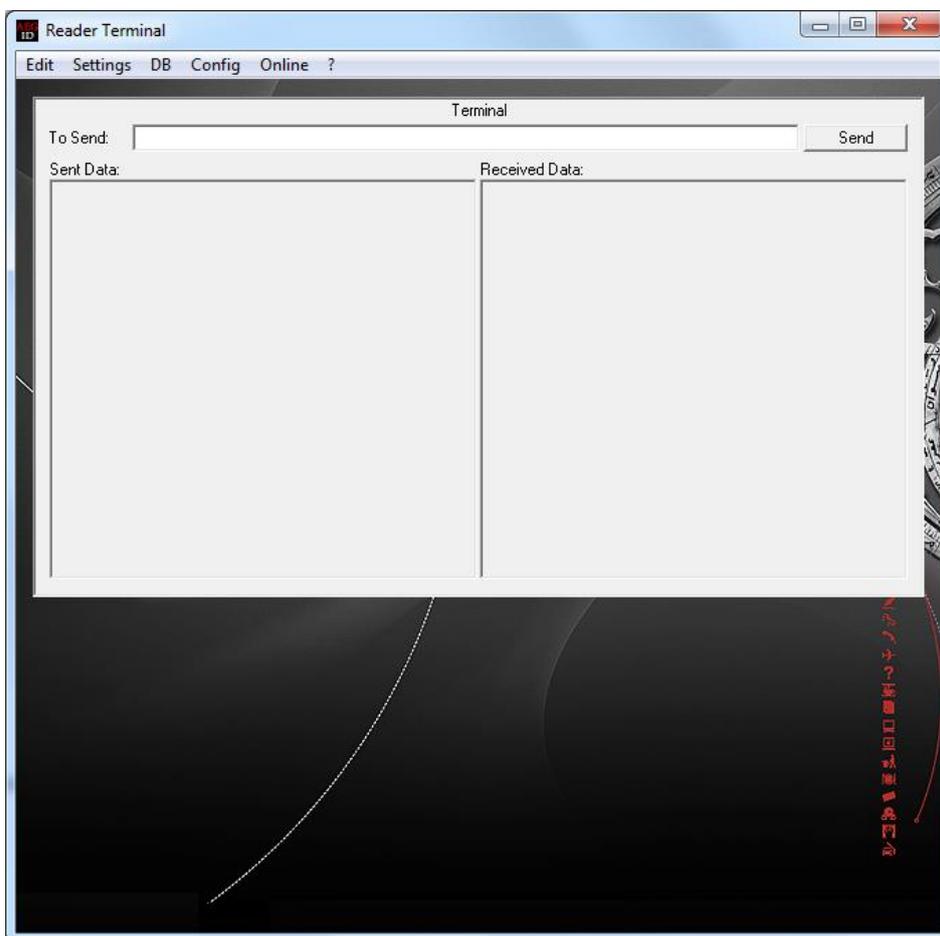


Operating instruction for the Reader Terminal program



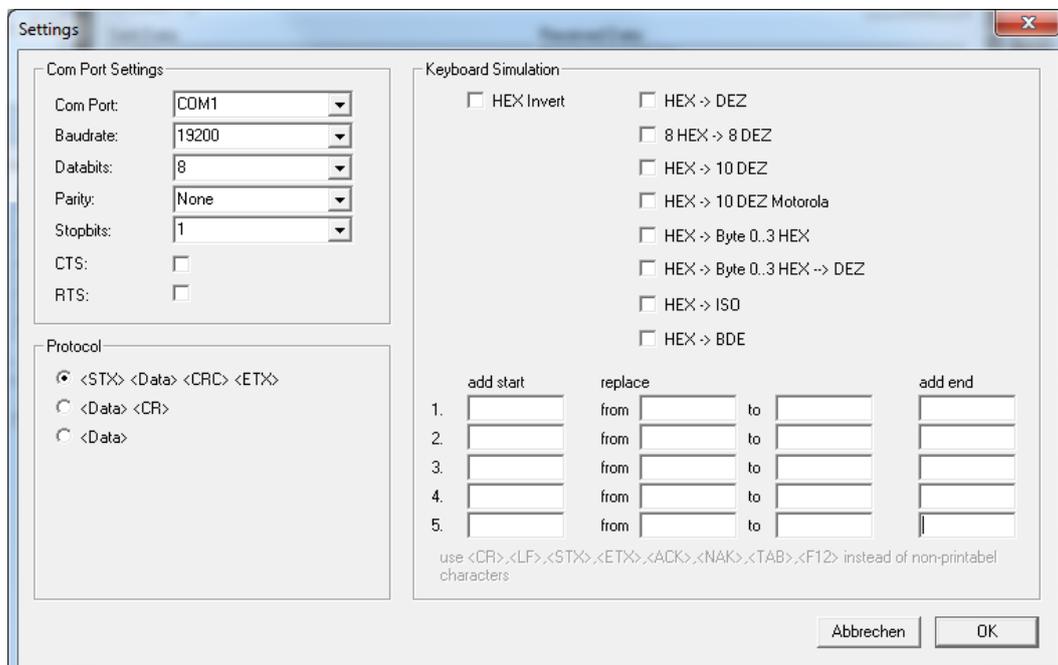
1 Installation, System

- System: Made for Windows 10, 8, 7, Vista, XP, 2000, NT or 9x.
- Installation: Not necessary.
- Start: Program can be started directly from the CD, or can be copied to the hard disk of your PC (Please copy the whole application folder).



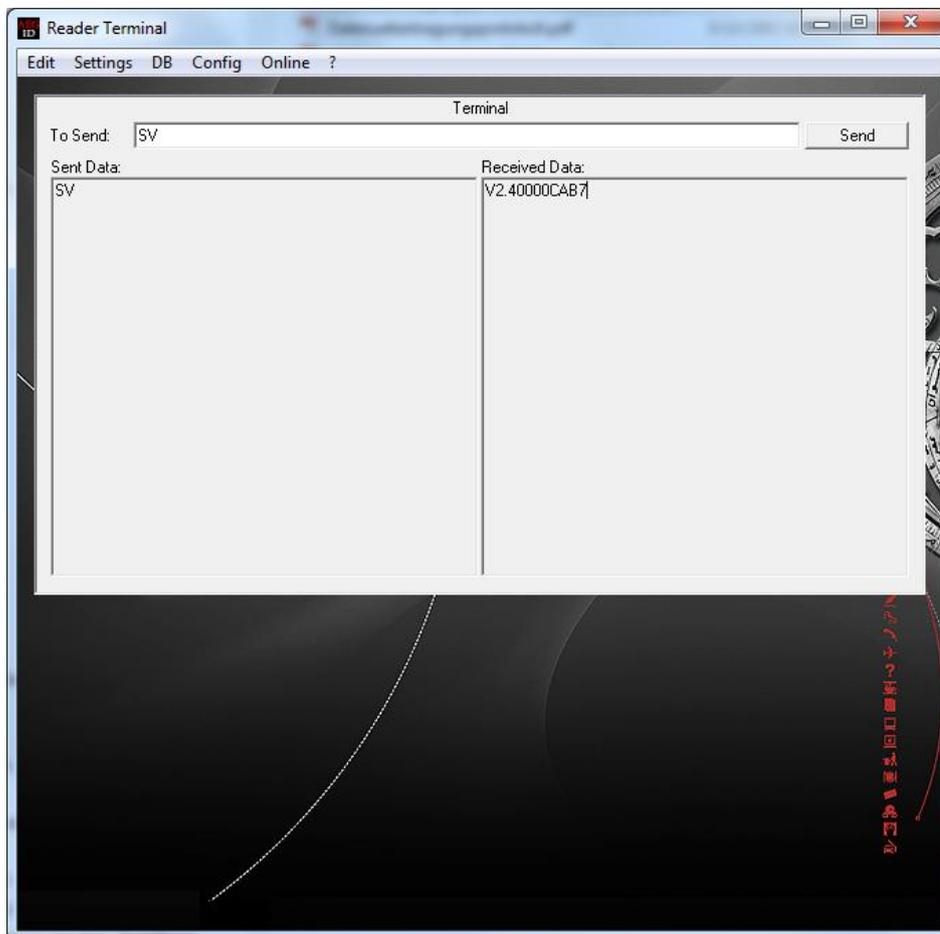
2 Connection

- Turn on the reader you want to communicate with.
Choose the operation mode that supports communication.
These are for ARE H5 readers operation modes "Online", "Online H" (handshake), "Read/Transf." and "Database/PC". For ARE H9 these are "Online/USB", "Online/USB H", "Database/USB", "Online/BT", "Online/BT H" und "Database/BT".
- Connect the reader with the PC. Plug in the communication cable or pair the devices via Bluetooth interface.
- Start the PC program "Reader Terminal".
- Open the "Settings" dialog by choosing the menu point "Settings" → "Port".
- Choose the right COM port reader and PC are connected with. For help to find the right COM port you can start the device manager directly with "Settings" → "Device Manager". Of course you can take the way via the control panel as well. There the COM port has to be listed in "Ports (COM & LPT)". That applies to RS232 ports that are listed since installation on your PC. USB devices get listed after plugged in. Bluetooth devices are listed after pairing.
- The communication parameters are 19200/8/1/None: Baud rate 19200, 8 data bits, 1 stop bit, no parity (Exceptions can be special reader versions. Please check this in the reader documentation. Old ARE H5 readers communicate via the IRDA interface with 9600 baud.).



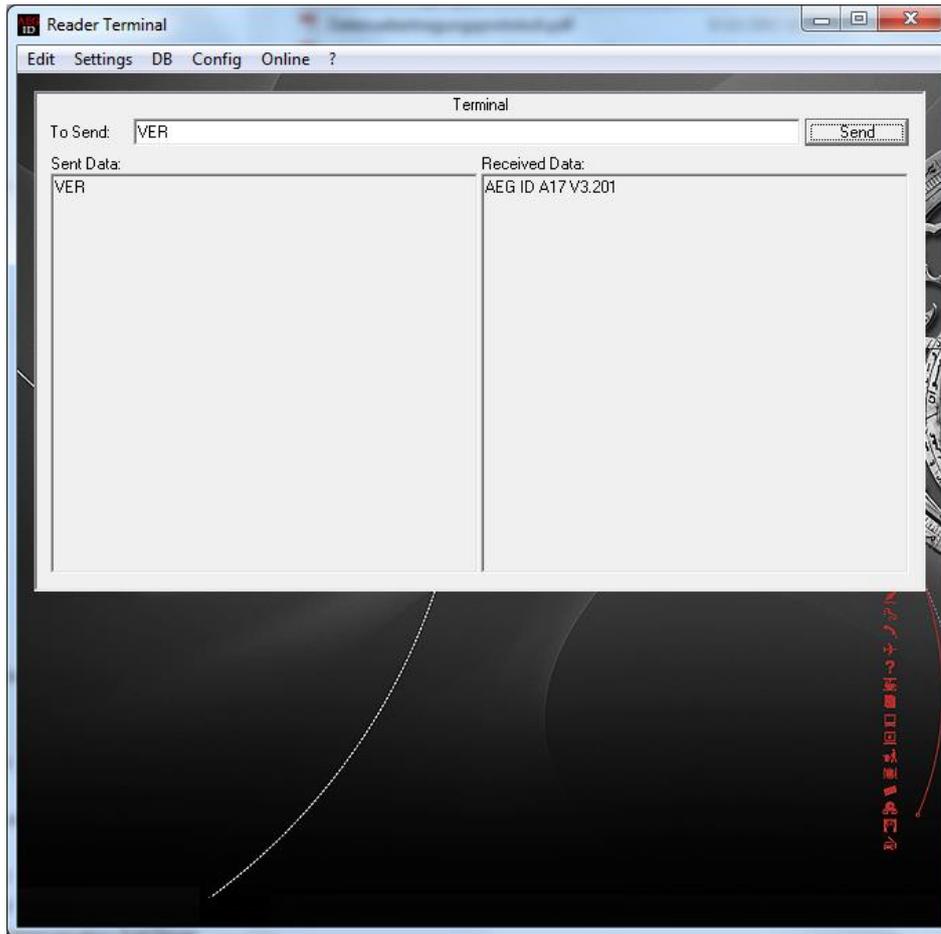
- Depending on the reader the suitable protocol can be selected. The "Protocol" refers to the "To Send:" line in the main view of the Reader Terminal program. <Data> describes the string from the edit field. With the button "Send" <Data> is completed as described in the protocol and sent via the selected interface.

"<STX> <Data> <CRC> <ETX>" is the telegram format ARE H5 and ARE H9 use in database mode ("Database/PC", "Database/USB", "Database/BT"). If there is edited the text "SV" (version request) in the "To Send:" line, the telegram <STX> SV <CRC> <ETX> is sent when pressing the "Send" button. The <CRC> is a 4-digit cyclic redundancy check. Its calculation is described in the document for data transmission attached to the reader. The reader is answering with <STX> <Version text> <CRC> <ETX>.



<STX> V2.40000 CAB7 <ETX> in this example. "CAB7" is the CRC of the version text "V2.40000".

<Data> <CR> is the adequate protocol for our command controlled readers as the ARE i2 or the ARE DT1. If there is edited the text "VER" (version request) in the "To Send:" line, the telegram VER <CR> is sent when pressing the "Send" button. <CR> is the carriage return character. The reader is answering with <Version text> <CR>.

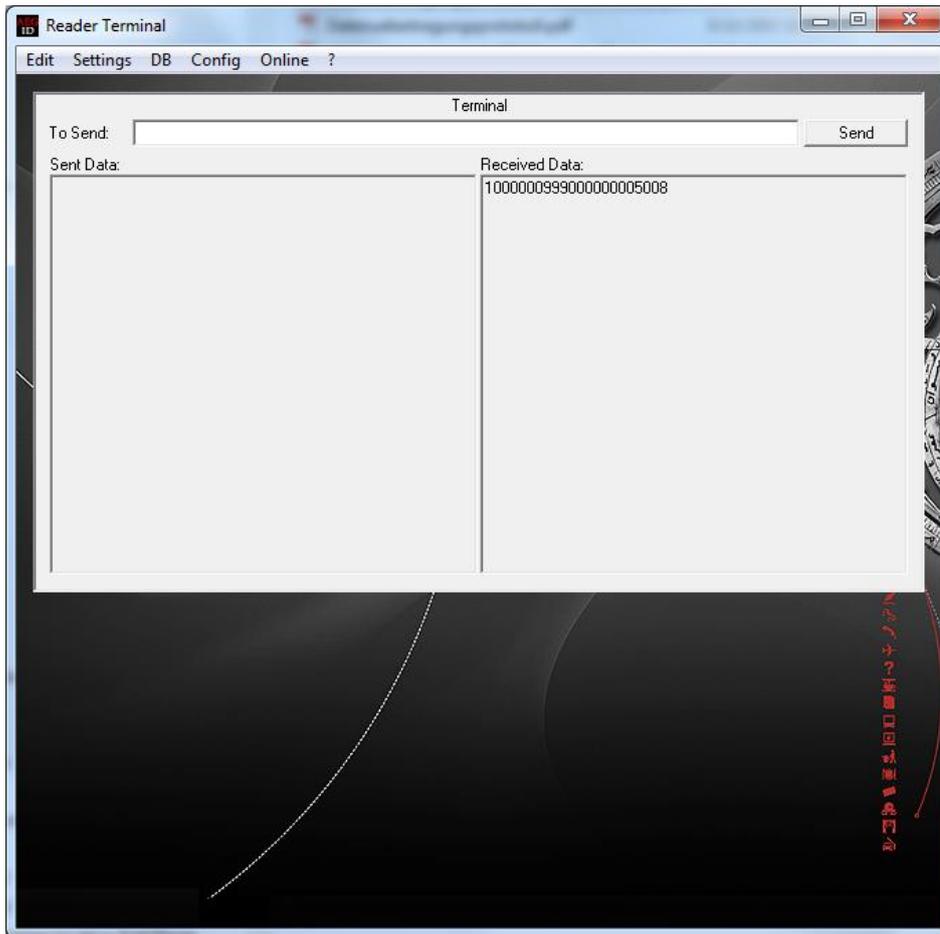


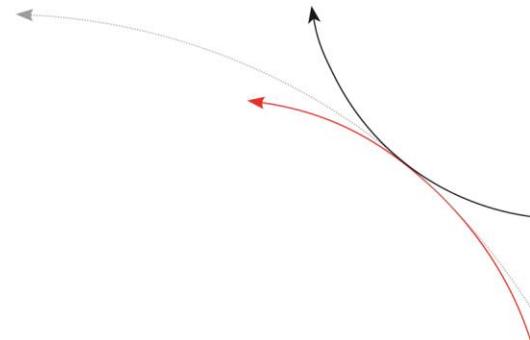
AEG ID A17 V3.201 <CR> in this example. In this case "AEG ID A17 V3.201" is the version text.

- The part "Keyboard Simulation" affects the "Online" menu point of the Reader Terminal. It is described in chapter "Menu" → "Online".

- With "OK" input is confirmed. The "Settings" mask is closed. The COM port is opened. We are ready to communicate.

If there is connected a handheld reader in online mode (ARE H5 in operation mode "Online", "Online H", "Read/Transf." or ARE H9 in operation mode "Online/USB", "Online/USB H", "Online/BT", "Online/BT H") a transponder is read by pressing the main button of the reader. The transponder code is transferred to the PC and to the Reader Terminal:

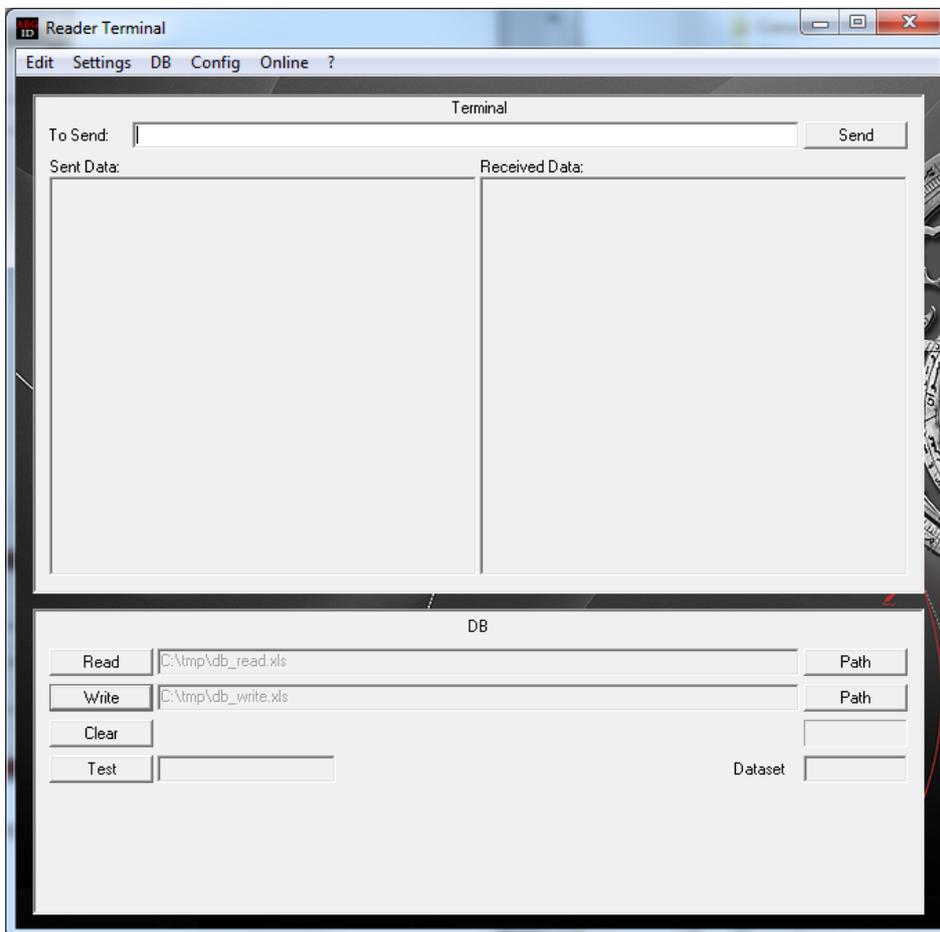




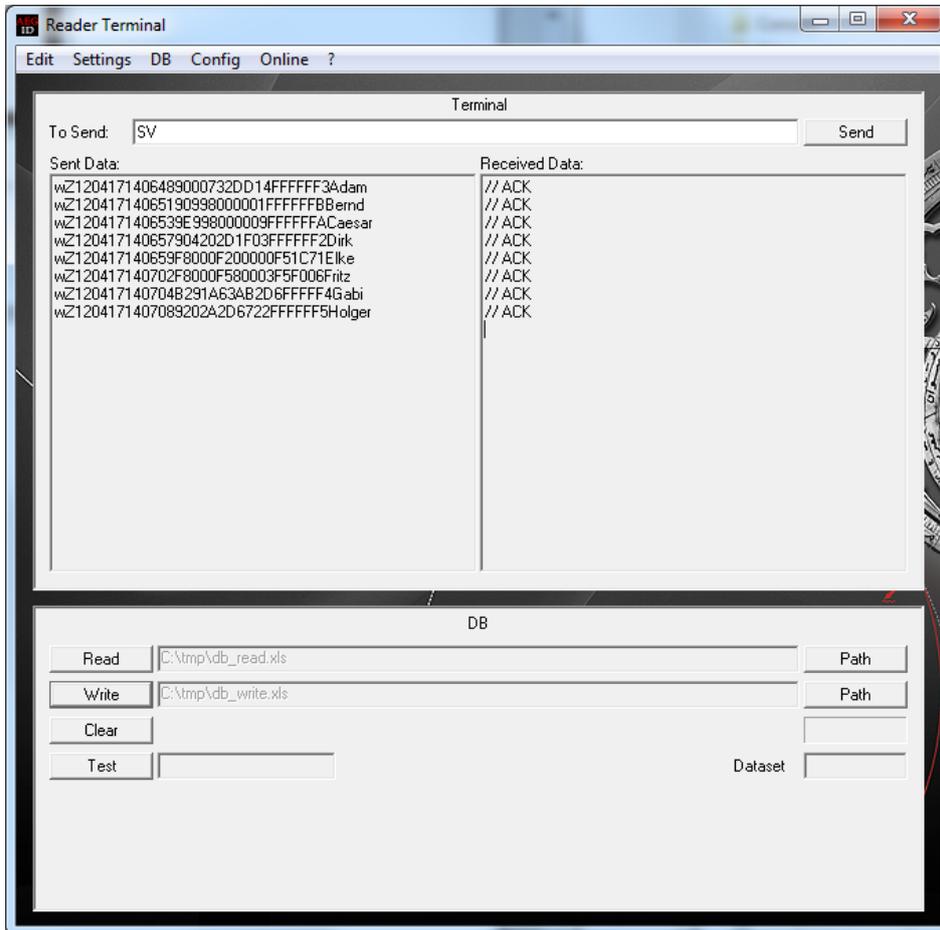
3 Menu

3.1 DB – read and write Data Base of the reader

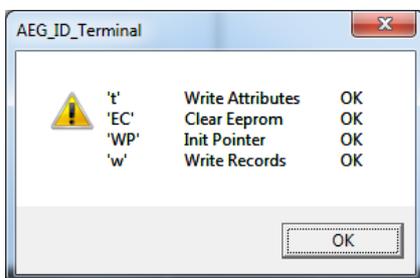
With the menu "DB" the data base of the reader can be read or overwritten.
Attribute text or text associated to the transponder code can be written to the reader.



With the "Write" button the data base from the corresponding path is sent to the reader.



Writing the database to the reader is acknowledged by the dialogue on the bottom. Success or failure of every single work step is commented.



Our transponder database has the following typical format:

	Attribute Token	Attribute Deposited Text	Attribute Token	Attribute Deposited Text	Date	Time	Code HEX	Code Retagging Counter	Code User Information	Code Animal ISO	Code Industry ISO	Code BDE	Transponder Type	Text
2			Z	zimt	12.04.17	14.06.48	000732DD14						Trovan	Adam
3	#		Z	zimt	12.04.17	14.06.51	0998000001						PSK 1	Bernd
4	A	alge	Z	zimt	12.04.17	14.06.53	E998000009						PSK 2	Caesar
5	B	blau	Z	zimt	12.04.17	14.06.57	04202D1FD3						ASK 64Bit	Dirk
6	C	cyan	Z	zimt	12.04.17	14.06.59	8000F200000F51C7	00	00	968 000001003975			ISO FDX	Elke
7	D	dunkel	Z	zimt	12.04.17	14.07.02	8000F580003F5F00	00	00	982 000004153088			ISO HDX	Fritz
8	E	ei	Z	zimt	12.04.17	14.07.04	231A63A82D6F						Datamars	Gabi
9	F	fleisch	Z	zimt	12.04.17	14.07.08	202A2D6722						Destron	Holger
10	G	gelb												
11	H	himbeere												
12	I	ingver												
13	J	jade												
14	K	kirschrot												
15	L	lachs												
16	M	moos												
17	N	nachtblau												
18	O	ocker												
19	P	pink												
20	Q	quitte												
21	R	rot												
22	S	silber												
23	T	tuerkis												
24	U	ultramann												
25	V	violett												
26	W	weiss												
27	X	xenon												
28	Y	yellow												
29	Z	zimt												

Older reader versions probably don't support the attribute column.

The best way to create your own database you want to write to the reader is to read a database from the reader first. Keep the format and add data sets, attribute- and transponder-textes.

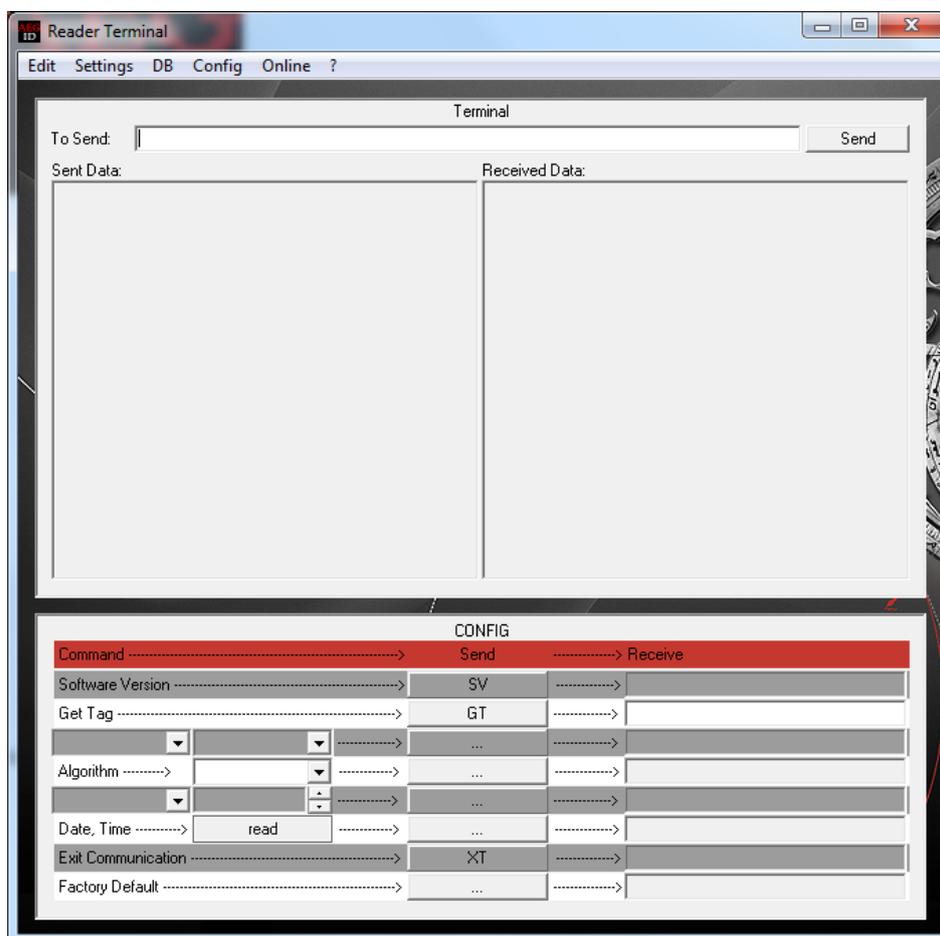
With the "Clear" button, the data base on the reader is deleted.

With the "Test" button it is checked if the reader database is empty, or if it contains transponder data.

3.2 Config – Reader configuration

With the menu "Config" the reader can be configured. Internal and menu parameters of the reader can be read and written.

For this purpose the connected reader has to be in database operation mode (ARE H5 "Database/PC", ARE H9 "Database/USB" or "Database/BT").

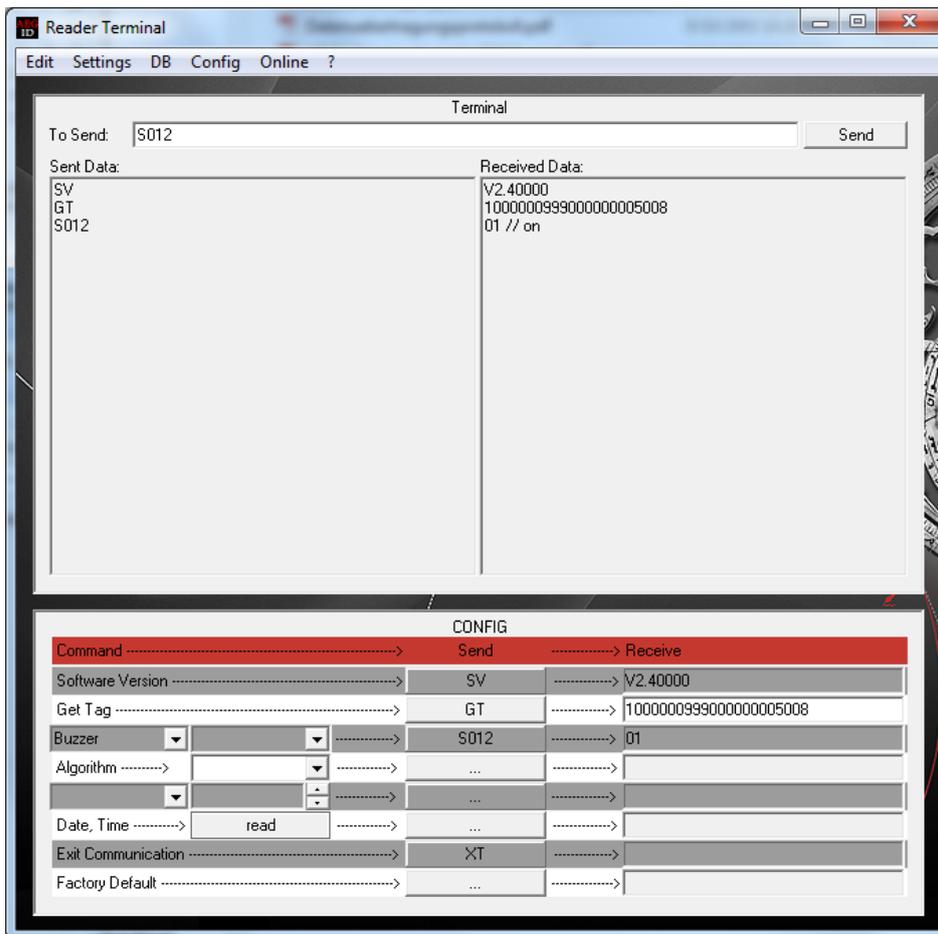


Each line from the "CONFIG" block represents one command. On the left side the meaning in plain text. The button in the middle names the command. In the text field on the right side the received answer is shown.

With the first line software version is read.

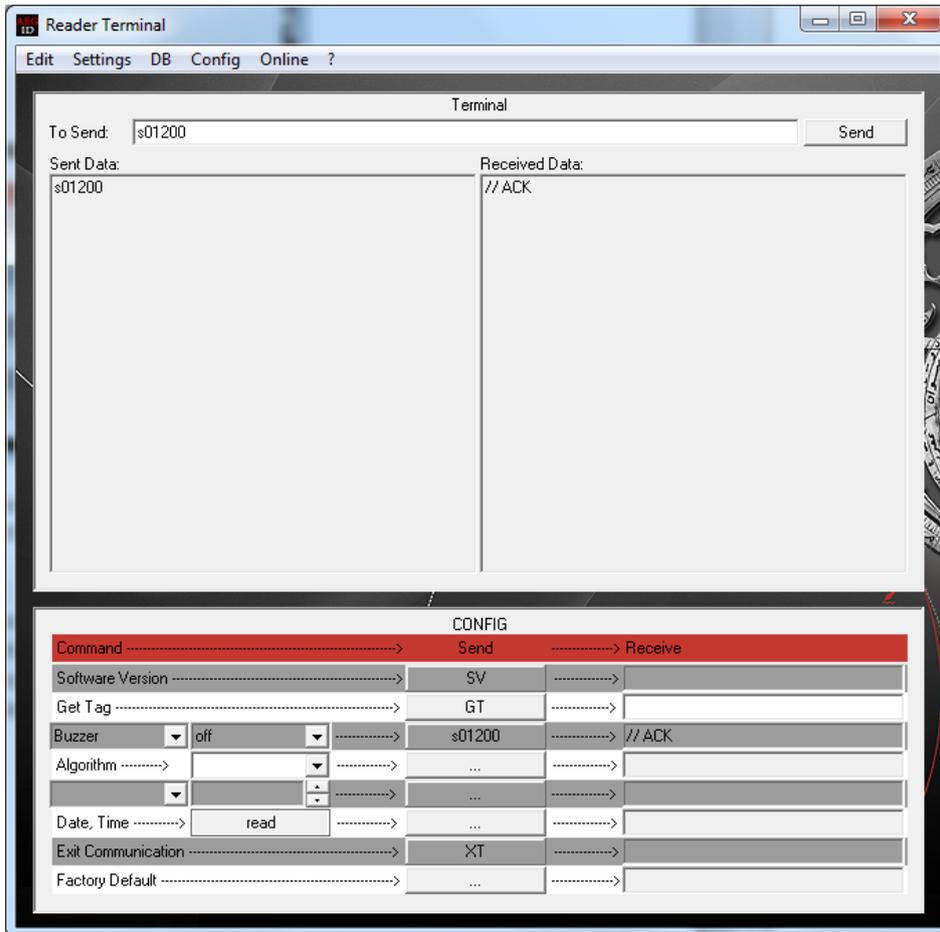
With the 2. line a transponder can be read remote controlled by the PC.

In the 3. line reader specific parameters can be read or written. In the left combo box parameters of the connected reader are listed. Choose the parameter you are interested in. If the 2. combo box is left empty, and the button in this line is pushed, the chosen parameter is read. The value of the parameter is shown rightmost in this line. In the "Received Data: " field the from the reader received telegram is commented with its meaning.



In this example the value of the buzzer function is requested (command <STX> S012 <CRC> <ETX>). The ARE H5 answers <STX> 01 <CRC> <ETX>. "01" means buzzer function is on.

If in the second combo box a value for the selected parameter is chosen the button sends a write command. If the reader has successfully changed the parameter it is sending an acknowledge.



In this example the buzzer function is disabled (command <STX> s01200 <CRC> <ETX>). The ARE H5 answers <STX> <ACK> <ETX>. The value change of the parameter was successful.

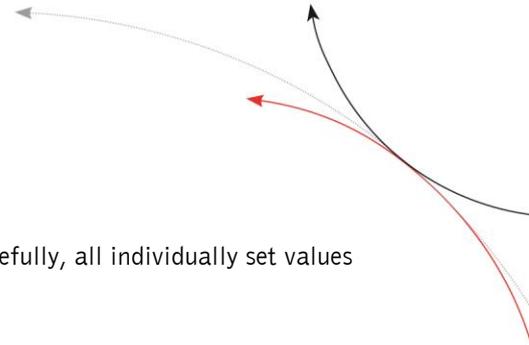
The same principle is valid for the following lines. If the 2. argument stays empty a request telegram is created. If a value is selected it is written to the reader.

With the next line the supported algorithms of the reader / the transponder types the reader can read can be requested or changed. By default all algorithms are active. Single algorithms can be masked out or even only one can be used.

The next line is about parameters with numerical values. Parameter and no value = request. Is a numerical value is specified the parameter value is overwritten.

With the line "Date, Time" - "read" the realtime clock of the reader can be read. If "read" is switched to "write", the realtime clock of the reader is set to PC system time.

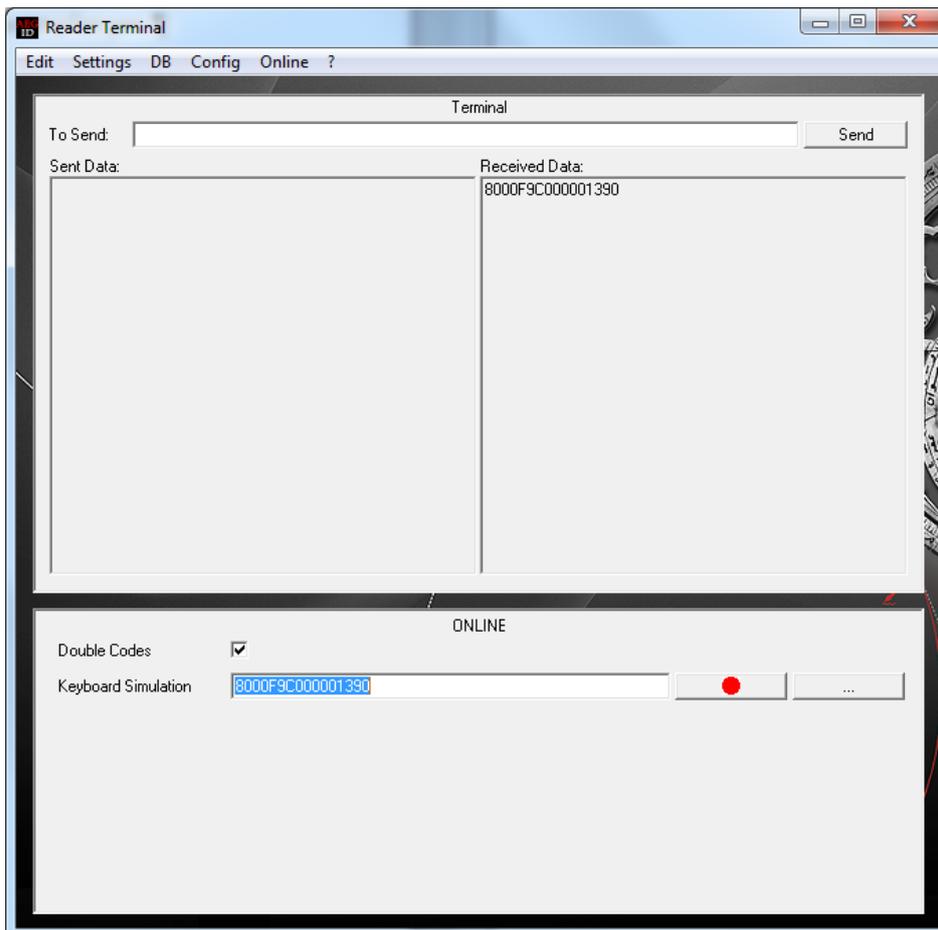
With the command "Exit Communication" the reader is leaving database mode.



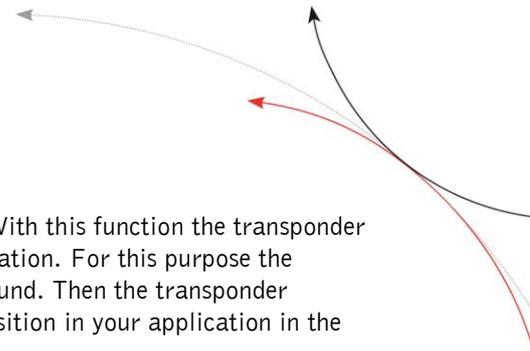
"Factory Default" is setting all parameter back to the default values. Be carefully, all individually set values get lost.

3.3 Online

With the menu "Online" the program can be used to receive transponder data.



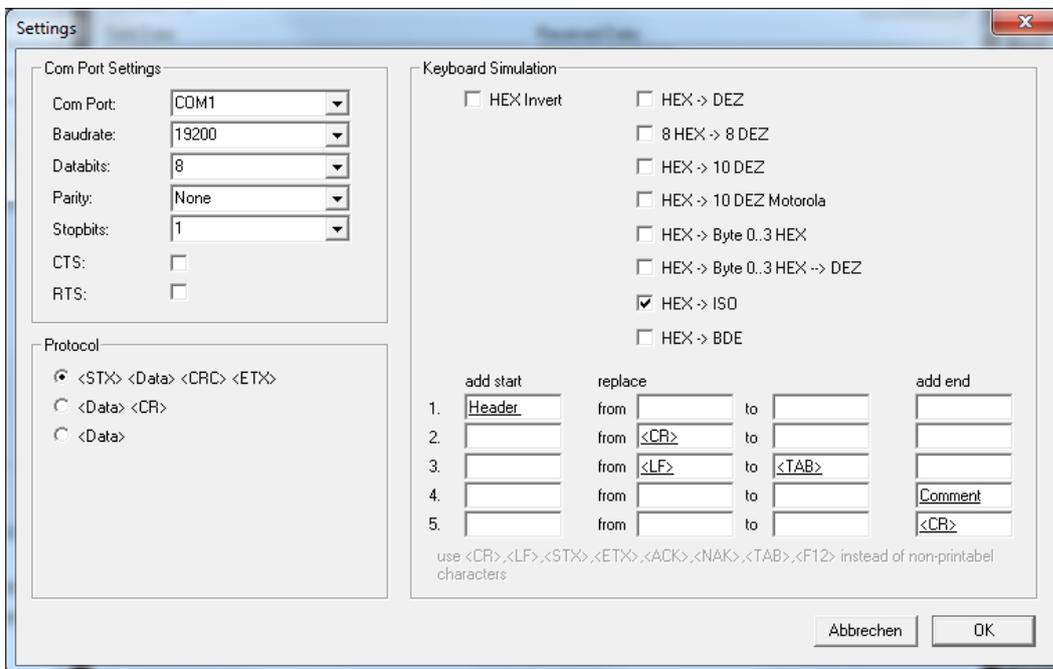
In this view the Reader Terminal supports a handshake communication to the reader. The reader can expect an acknowledgement for a successfully transferred transponder code. This is the case when ARE H5 is in operation mode "Online H" and ARE H9 is in operation mode "Online/USB H" or "Online/BT H". If the reader has read a transponder it is first of all sending empty telegrams (<STX> <ETX>) until they are acknowledged (<STX> <ACK> <ETX>) by the communication partner (in this case the Reader Terminal). Not until then the data telegram (<STX> <transponder number> <ETX>) is sent. This as well has to be answered with the acknowledgement telegram otherwise the reader starts again with empty telegrams.



In online view received telegrams are transcribed to keyboard simulation. With this function the transponder code read by the connected reader can be written directly to your PC application. For this purpose the Reader Terminal has to be in online view and has to be open in the background. Then the transponder number is typed just like a manual input with the keyboard to the cursor position in your application in the foreground.

The check box "Double Codes" allows or prevents to transcribe received identical codes to keyboard simulation.

The by the Reader Terminal received data via the selected interface can be transcribed one-to-one to keyboard simulation or they can be manipulated first. Such changes can be made with the "Settings" mask in the frame "Keyboard Simulation".

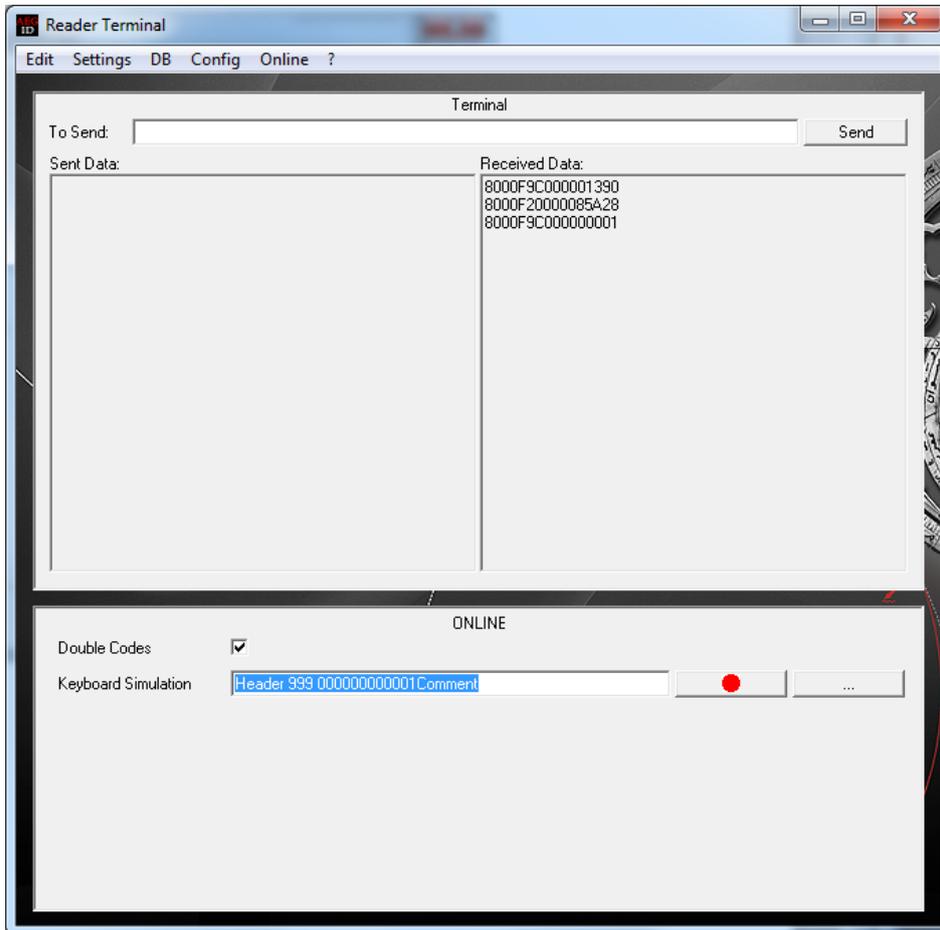


There can be added characters at the start and at the end of the received telegram. Characters can be deleted or replaced. Additionally there are diverse conversion methods available.

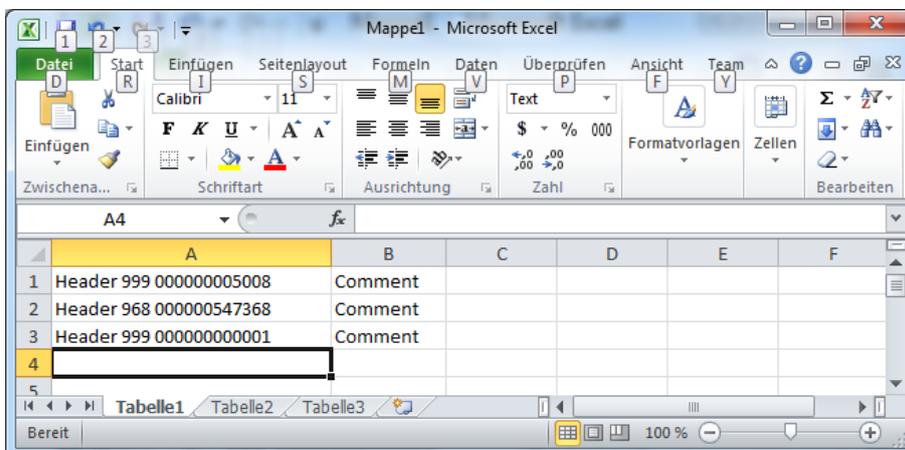
In this example the ARE H5 is reading ISO transponders in hexadecimal format. The telegram sent from the reader to the Reader Terminal consists of the transponder code (16 hexadecimal characters) followed by a carriage return (<CR>) and a line feed (<LF>).

With the settings in this example the hex data are converted to ISO decimal data. The text "Header " is added in front. The <CR> at the end of the telegram is deleted. The <LF> at the end of the telegram is replaced by a tabulator <TAB>. The text "Comment" and a carriage return <CR> is added at the end.

In the Reader Terminal this looks this way:



If Excel is in the foreground you get the following result:



4 Notification of changes

Date	Description of Change	Version	Author
04/23/01	First edition	01	MK
01/21/04	Change of Protection Class	03	MK

5 Contacts

To improve our products, as well as its documentation is our permanent effort.
For any questions, feedback or comments please call:

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Fax: ++49 (0)731-140088-9000

e-mail: sales@aegid.de

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