

HF MINI READER DEMO SOFTWARE

Pico HF RFID reader series

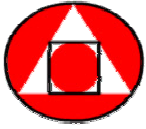
HF Mini Reader ID-HF2A-G1A

Software Guide

3rd Edition **March 2006**

For more information, please contact www.pico-mega.com

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Third edition - March 2006

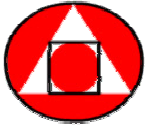
This is the third edition of the manual, it describes about

Pico High Frequency Mini Reader ID-HF2A-G1A

Software Guide

Firmware version 3.1

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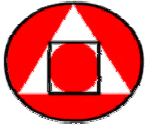
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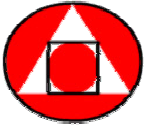
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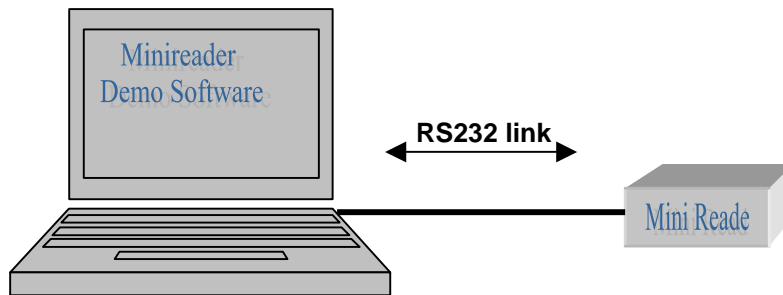
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1. Introduction

PICO HF RFID Mini Reader – Demo software is an application which lets you to send and receive the commands and data between the Mini Reader and the transponder. It allows you to monitor the communication between the transponder and the Mini Reader.



2. System Requirements

2.1. Operating system

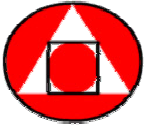
- ❖ MS Windows 98/ME/NT/2000/XP

2.2. Hardware requirements

- ❖ Pentium processor 200 MHz or faster
- ❖ Minimum 32 MB RAM
- ❖ Minimum one COM port
- ❖ Standard RS232 cables required for connecting the reader for its operation.

2.3. Initial setup Procedure

- ❖ Install the demo software file in the PC.
- ❖ Connect the Mini Reader to the COM port of host PC using RS232 link cable.
- ❖ Power ON the Mini Reader.
- ❖ Open the demo software and click **Connect** button in the communication window
- ❖ Now the Reader is ready for use

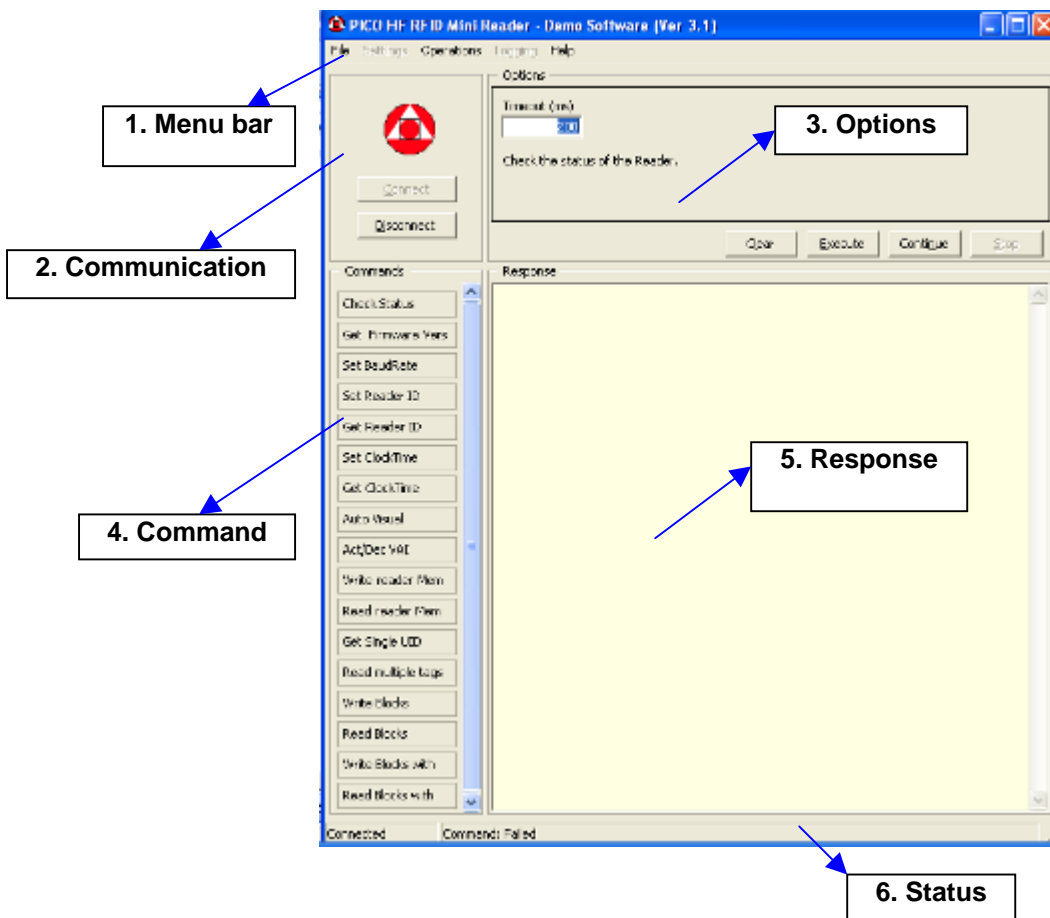


3. User Interface

3.1. The Main Window

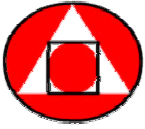
The main window is divided into six sections as shown in the fig. 3.1.a

Fig 3.1.a Demo software Main Window



3.1.1. Menu bar

All main functions of Mini Reader can be selected from the Menu bar.



3.1.2. Communication window

The communication status selection is shown in the status section.

- Connect** : Starts the communication of the reader.
On click the Command section become active.
- Disconnect:** Ends the communication of the reader.
On click Command section becomes inactive.

3.1.3. Option Window

Option Window shows the respective fields to be entered by the user for the respective command selected in the command window.

- Execute** : One time execution of the selected command.
- Continue** : Continuous execution of the selected command.
- Stop** : Stop the execution.
- Clear** : Clear the Response window.

3.1.4. Command section

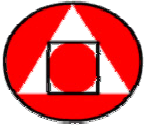
The command window is used to select the commands to the connected Mini Reader. When anyone of the command button get selected the control moves to option window.

3.1.5. Response Window

The result of the execution of various commands by the Reader is shown in the response window.

3.1.6. Status window

The 'status window' indicates the communication status of the reader whether it is connected or disconnected.



4. Working with the Demo Software

Click the **Connect** button to connect the Demo software with the Mini reader. To **Disconnect** the reader click the disconnect button.

4.1. Sending Commands to the Reader

In the Command menu click any one of the command and look at the option menu. All Command button on click shows **Timeout field**. This field is used to set the time interval of the software at which the software will send the same command consequently in continuous mode operation. It does not make any difference in normal 'execute' mode. For 'Read multiple tags' command the minimum can be set is 350ms for all other commands the minimum time can be 5ms.

4.1.1. Check status

The 'Check status' command makes the reader to check the reader is in working condition or not.

On Click, this command goes to the option menu. Select Execute to carry on the command and the response is shown on response window.

4.1.2. Get Firmware

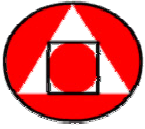
The 'Get Firmware' command gives the firmware version of the reader. This command on click goes to option menu and select 'execute' to carry on the command to get the response.

4.1.3. Set Baud Rate

The 'Set Baud Rate' command on click goes to option menu and shows Baud rate field to select the transmission rate from 300 bps to 57600 except 38400 bps. Execute the command to set the baud rate. After the command has been executed the software will automatically changes its baud rate to the newly set baud value.

4.1.4. Set Reader ID

The 'Set Reader ID' command on click goes to option menu and shows the Reader ID field to enter the Id of the connected reader and then execute it. To set a new ID to the connected Reader always set '0' in the Reader ID field at first and then set the new ID by executing the command again. The reader ID can be from 0 to 255.



4.1.5. Get Reader ID

The 'Get Reader ID' command on click goes to option menu and Execute the command to get the ID of the connected Reader.

4.1.6. Set Clock time

The 'Set Clock time' command on click goes to the option menu shows the clock time field. By default PC time is set in the software. Suppose you want to change the time of the clock, change the system time and the software time changes accordingly.

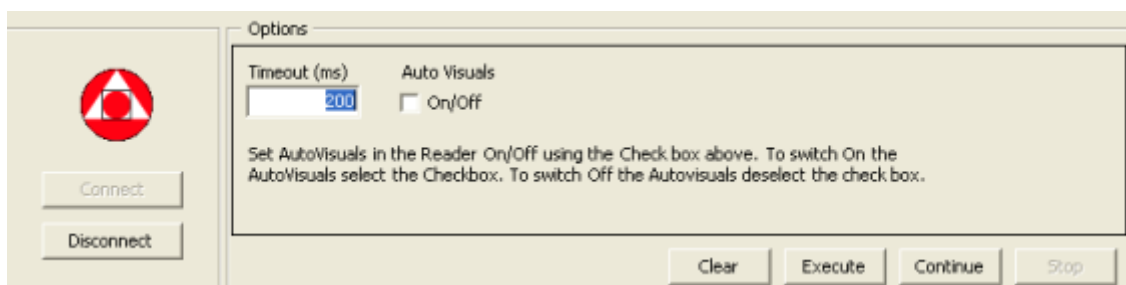
4.1.7. Get Clock time

The 'Get Clock time' command on click goes to option menu and on Execute click gives the Clock time of the Reader.

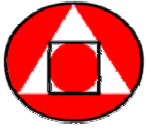
4.1.8. Auto Visual

The 'Audio Visual' command on click goes to the option menu and an Auto Visual On/Off check box shown to select Auto visual. On selecting this checkbox makes the Reader to indicate visually by blinking the LED on valid RF command execution which will slightly reduce the execution time.

Fig 4.1.8 a Option window on 'Auto Visual' command



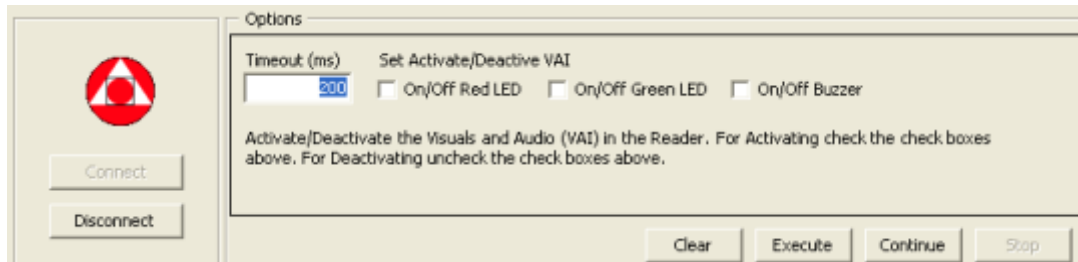
Deselecting the check box and executing the command will disable the auto visual setting which in turn will enhance the speed of the function.



4.1.9. Act/Dec VAI

The 'Act/Dec VAI' command on click goes to option menu and shows three checkboxes to On/Off the Red LED, Green LED and Buzzer for valid RF commands.

Fig 4.1.9 a Option window on 'Act/Dec VAI' command

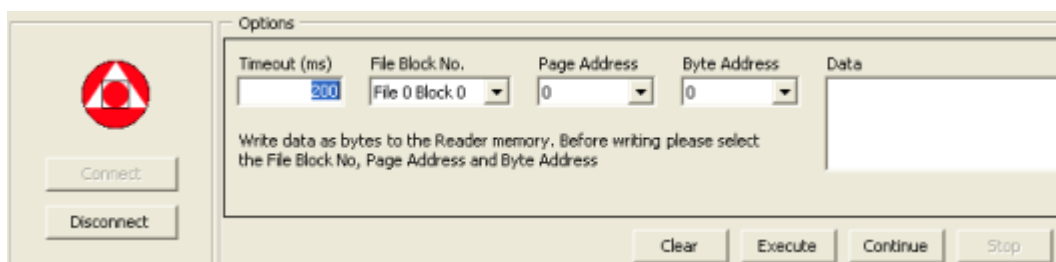


To activate the above devices check the appropriate boxes and to deactivate it uncheck the boxes.

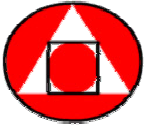
4.1.10. Write reader Memory

The 'Write reader Memory' command on click goes to option menu and shows the following fields such as File Block No, Page Address, Byte Address and Data. Entering the values to the first three fields selects the block, page and address of memory to write the given data to the reader.

Fig 4.1.10.a Option window on 'Write reader Memory' command



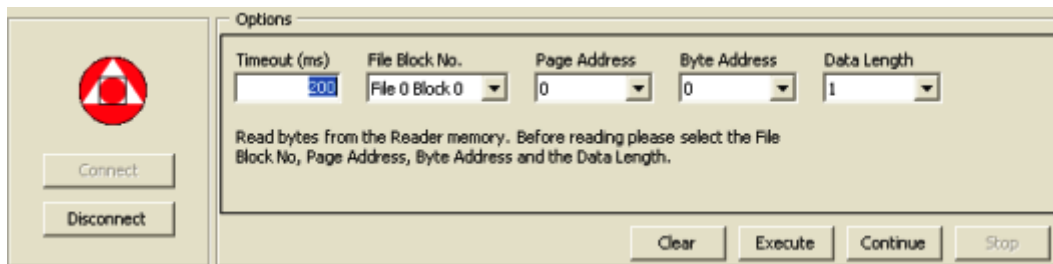
The reader memory is divided into two files. Each file contains two blocks and each block contains 256 pages. The size of each page is 256 bytes. The software allows only one page to be written at a time.



4.1.11. Read reader Memory

The 'Read reader memory' command on click goes to option menu and shows the following fields such as File Block No, Page Address, Byte Address and Data length. Entering the values to these fields selects the block, page, address of memory and the length of data written in the Reader.

Fig 4.1.11.a Option window on 'Read reader Memory' command



The software allows only one page to be read at a time.

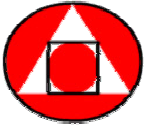
4.1.12. Get Single UID

The 'Get Single UID' command on click goes to the option menu and shows the 'Antenna no' field to specify the antenna and on execution reads the UID of the transponder existing in the field. In continuous mode the 'time out' can be set the minimum of 5ms for fast operation.

4.1.13. Read multiple tags

The 'Read multiple tags' command on click goes to option menu and shows the 'Antenna no' field to specify the antenna and on execution reads the UID's of all the transponders existing in the field.

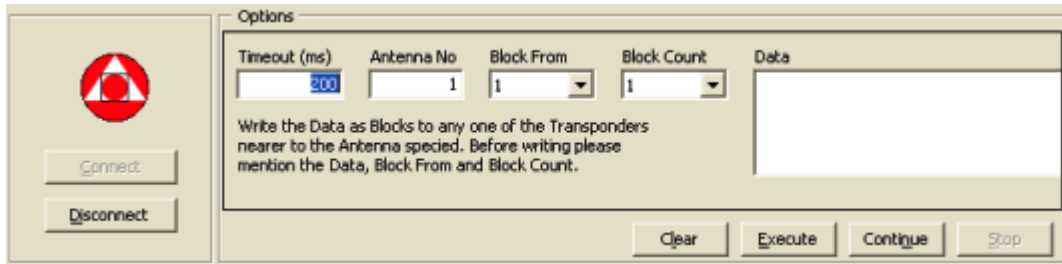
In continuous mode the 'time out' can be set the minimum of 350 ms for fast operation



4.1.14. Write Blocks

The 'Write Blocks' command on click goes to option menu shows the following fields such as Antenna No, Block From, Block Count and Data. Entering and executing the values to these fields selects the existing transponder memory and writes the data in the specified location.

Fig 4.1.14.a Option window on 'Write Blocks' command

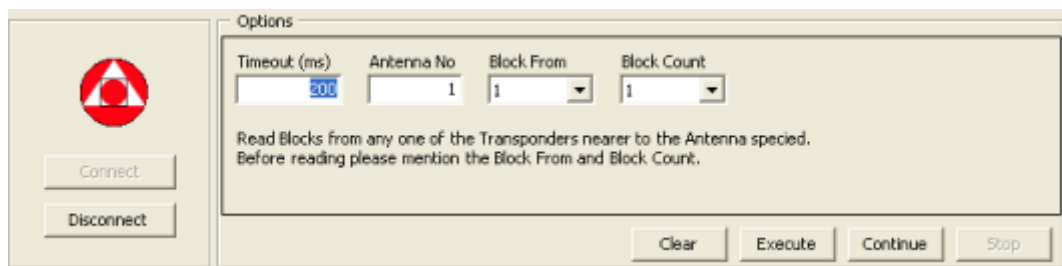


The tag contains 64 block of memory in which each block can store 4 characters. It should be noted that the block number starts from 1 not from 0. In continuous mode the 'time out' can be set the minimum of 5ms for fast operation.

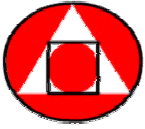
4.1.15. Read Blocks

The 'Read Blocks' command on click goes to option menu shows the following fields such as Antenna No, Block From, Block Count. Entering and executing the values to these fields selects the existing transponder memory and reads the data from the specified location.

Fig 4.1.15.a Option window on 'Read Blocks' command



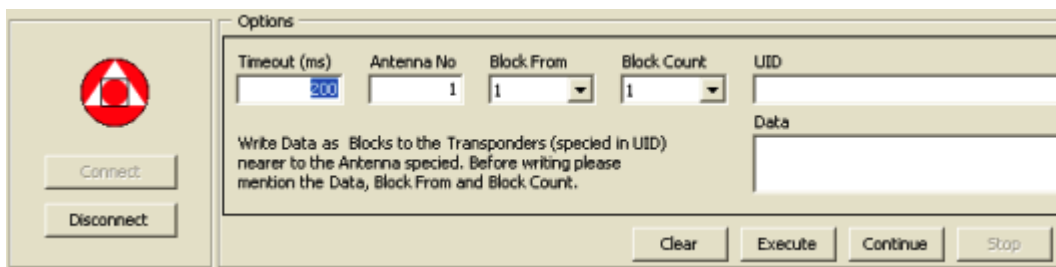
It should be noted that the block number starts from 1 not from 0. In continuous mode the 'time out' can be set the minimum of 5ms for fast operation.



4.1.16. Write Blocks with UID

The 'Write Blocks with UID' command on click goes to option menu shows the following fields such as Antenna No, Block From, Block Count, UID and Data. Entering and executing the values to these fields selects the UID specified transponder and writes the data in the selected location of memory of transponder.

Fig 4.1.16.a Option window on 'Write Blocks with UID' command

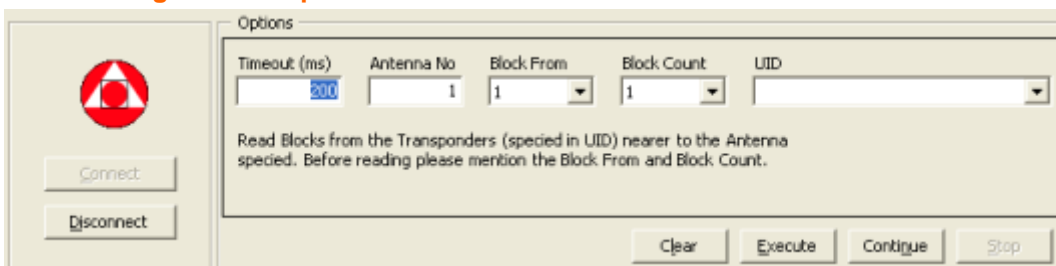


It should be noted that the block number starts from 1 not from 0. In continuous mode the 'time out' can be set the minimum of 5ms for fast operation.

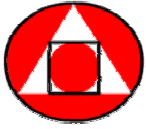
4.1.17. Read Blocks with UID

The 'Read Blocks with UID' command on click goes to option menu shows the following fields such as Antenna No, Block From, Block Count and UID. Entering and executing the values to these fields selects the specified UID transponder and writes the data in the selected location of the transponder memory.

Fig 4.1.17.a Option window on 'Read Blocks with UID' command



It should be noted that the block number starts from 1 not from 0. In continuous mode the 'time out' can be set the minimum of 5ms for fast operation.



5. Reference

5.1. Menu and Toolbar

5.1.1. File menu

Exit **Ctrl+X** : Exit the application.

5.1.2. Settings menu

Port : Select the communication port for transmission.
Baud Rate : To select the baud rate for communication.
Reader ID : To set the ID of connected Reader
Connection Preferences : Make your changes regarding the data format.
Flow control : Select the necessary flow control.

Click OK to execute the above communication settings.

5.1.3. Operations menu

Connect **Ctrl+C** : Starts the communication of the reader.
Disconnect **Ctrl+D** : Ends the communication of the reader.
Execute **Ctrl+E** : One time execution of the selected command.
Continue **Ctrl+N** : Continuous execution of the selected command.
Stop **Ctrl+S** : Stop the execution.
Clear **Ctrl+L** : Clear the Response window.

5.1.4. Logging Menu

On : Clicking this option the software will store all the commands and it's responses in a text file in C:\Program Files\PICO Reader\PICO Mini Reader Demo (Ver 3.1)

Off : Clicking this option will disable the option to store the commands and it's responses.

5.1.5. Help Menu

About : Shows the details of the Software.