

WinPig

Version 1.4

**Communication Software for
Neutron Monitor 2222A**

Users Manual

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1 Introduction

WinPig is a Windows based software used for communication with the Studsvik Neutron Monitor 2222A *DigiPig* via RS-232.

The Neutron Monitor 2222A is a portable instrument developed for monitoring radiation in the areas surrounding reactors, accelerators and other neutron producing equipment and neutron sources.

With the WinPig software the user can set alarm levels, change the instruments date and time, perform software calibration and change the communication parameters. The dose rate and the accumulated dose under a given time period can be logged and saved to files, which can easily be imported to a spreadsheet program. These data can also be printed out.

2 System requirements

Computer: Intel processor Pentium 133 MHz or faster and Windows 95/98/NT 4. Serial port.

Disc space: 7 MB

RAM: 16 MB

Monitor: Resolution 800 x 600

3 Running WinPig

3.1 Installation

Insert the WinPig CD into the CD-ROM player. Click on the Start button and choose Run. On the command line write X:\install where X is the letter of your CD drive. Click on OK.

Note: If an older version of the program is already installed on the computer it will be removed. Then you have to start the installation again to install the new version.

3.2 Layout of the program

WinPig is built up of four windows. The Event window is always running and displays important messages from the instrument like dose alarms, dose rate alarms, low battery alarms and communication errors. In the case of an alarm the window occurs on top of any other window and a beep is heard.

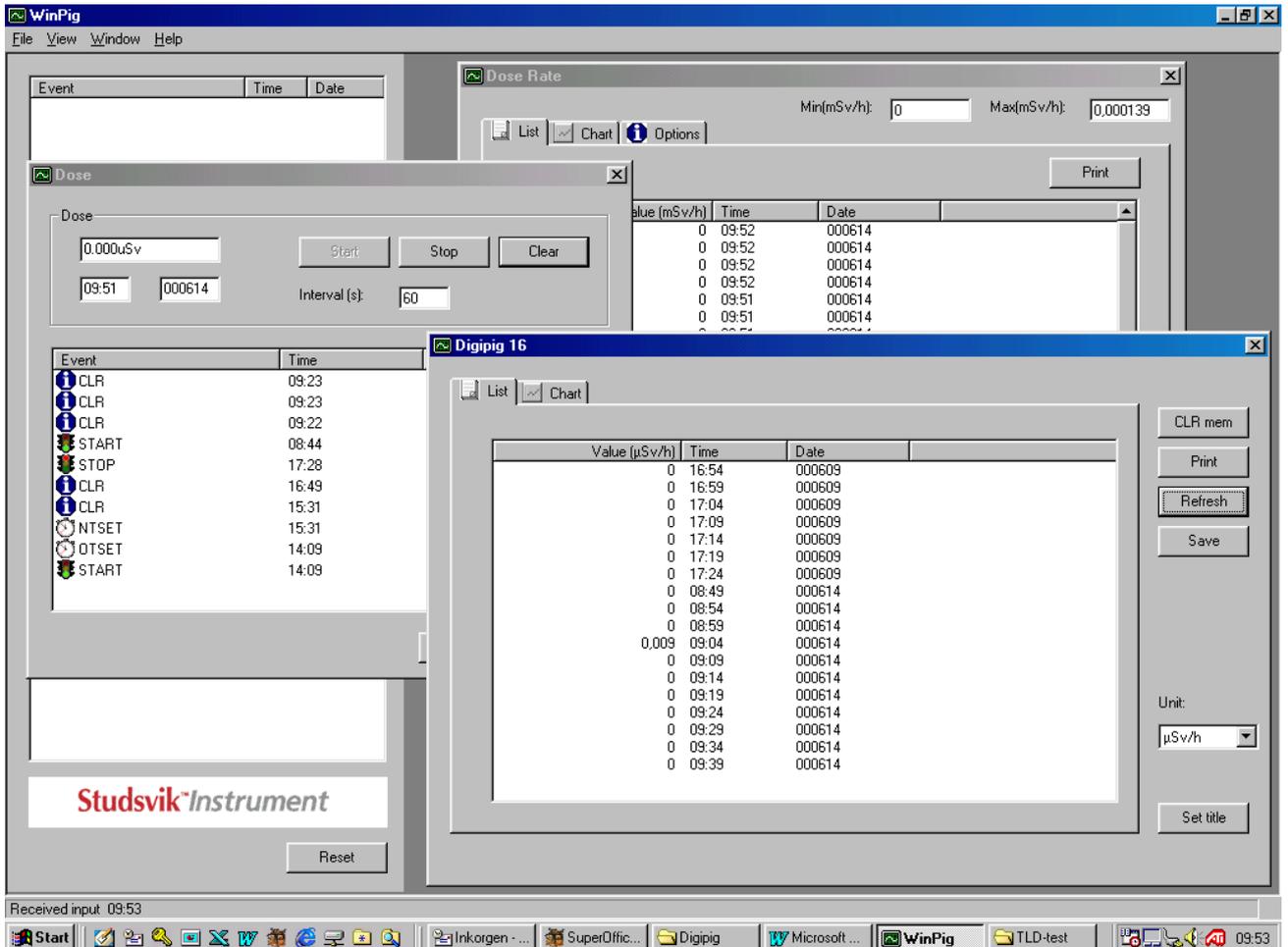


Figure 1. Layout of WinPig

The dose rate window contains a listing of dose rate values with time and date as well as a chart where the dose rate is displayed in a graphical form.

In the dose window the accumulated dose from a given start time is displayed.

In addition there is a window for display of downloaded dose rate values from the instrument memory.

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3.3 Start WinPig

Connect the Neutron Monitor to a serial port on the PC and start the instrument.

To run WinPig click on the Start button and select Program, then Studsvik and WinPig.

3.4 Dose Rate

To start logging the dose rate choose **Dose Rate** in the View menu. In the upper part of the window the minimum and the maximum dose rate values since last reset are displayed.

In order to set up the logging of the dose rate click on the *Options* tab. In this window the user can choose how often the instrument displays the dose rate. This value can be chosen between 2 and 3600 seconds.

The chart presentation as well as the list presentation can also be set up under *Options*. Here the user can choose the unit of the dose rate and how the values are displayed.

3.5 Dose

To start logging of the dose choose **Dose** in the View menu. In the upper part of the window the accumulated dose since the last reset is displayed with the time and date. Here the user can set the interval when the instrument sends the dose value to the PC. This interval can be set from 60 to 3600 seconds.

The list displays, for dose calculation, important events like start and stop of the instrument and clearing of the dose log.

3.6 Dose Rate Log

The 200 dose rate values at internal memory of the instrument can be downloaded to the computer. These values are displayed in a list or in a chart. They can also be printed out and saved on a ASCII text file.

To start download of the instruments dose rate log, choose **Dose Rate Log** in the View menu. When the window appears the dose rate values are downloaded and displayed. When the download is completed the user is asked to set the title of the downloaded values. This title is displayed on top of the chart.

The dose rate values can also be save to a text file by clicking on the Save

button. The values in the list can be printed out to a line printer by clicking on the Print button. The chart can also be sent to a printer. In this case a line printer can not be used. By clicking on the Refresh button the values are downloaded again.

The internal memory of the instrument can be cleared by clicking on the CLR mem button.

4 Settings

To change settings like alarm levels and communication parameters choose *Settings* from the View menu. In this window there are three tabs, General, Communication and Log.

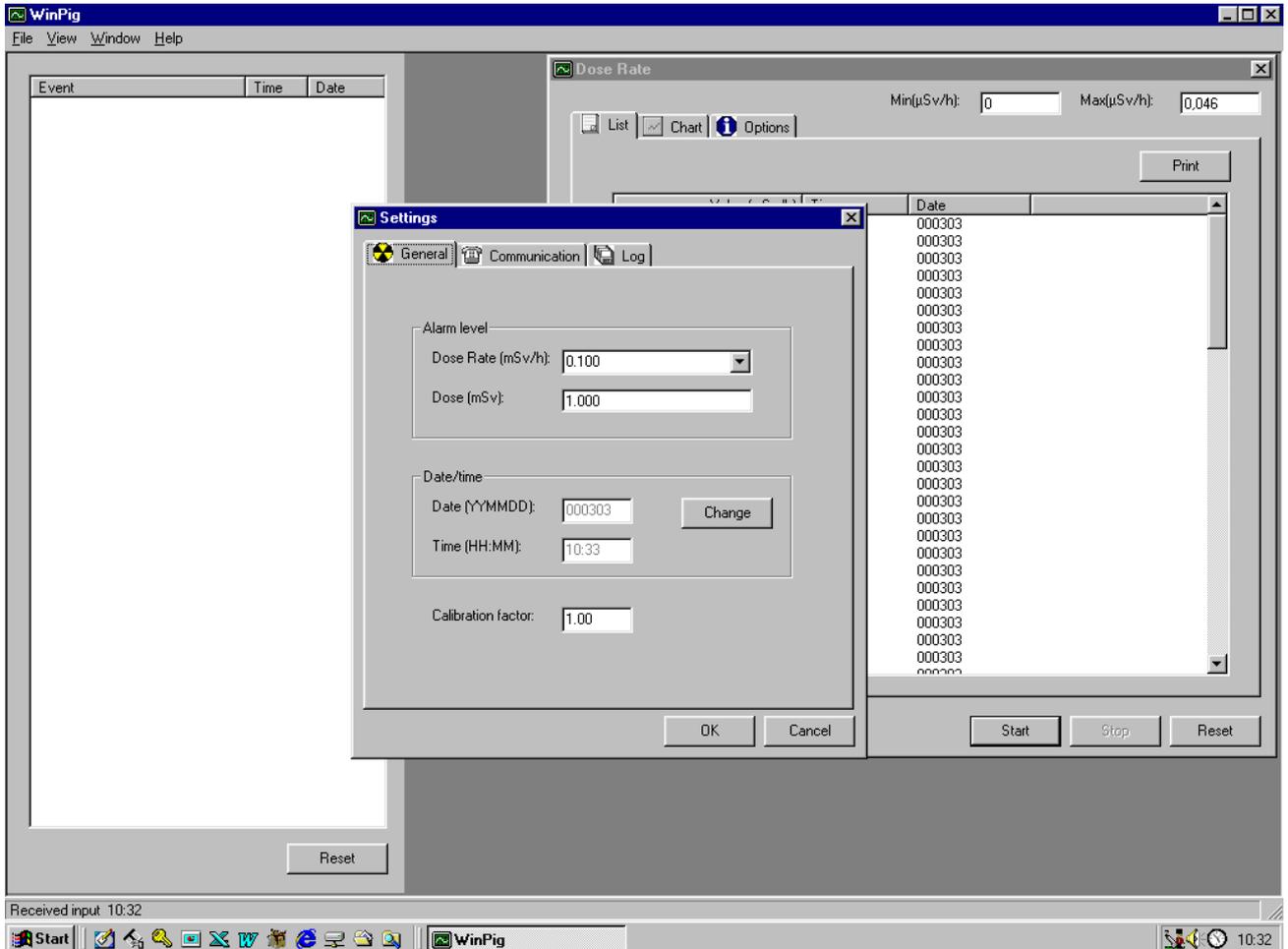


Figure 2. The Settings window

4.1 General

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Under *General* the alarm levels for dose rate and dose can be set. The value 0.000 means that no alarm level is set.

To change the time and date in the instrument click on the change button. Write the correct time and date and click on Set.

Software calibration of the instrument can also be performed here. When the instrument has been calibrated with known pulses and a measurement with a known neutron source shows a certain deviation a software factor can be added. The default software factor is 1.00.

Note: **Any changes of the software calibration factor must be done with great caution.**

4.2 **Communication**

Under *Communication* the communication settings can be changed. These parameters are baud rate, Start and Stop bits, number of data bits and which serial port is used on the PC. Default values are:

Bits per second:	9600
Start:	1
Stop	1
Data bits:	8
Port:	1

4.3 **Log**

Here the user can choose to send the dose, dose rate and the Event log to a text file and/or to a line printer. The information is saved in three files named DoseYYMMDD.log, DoseYYMMDD.log and EventYYMMDD.log.

These files are stored in a default directory. To change the target directory, click on the button to the right of the path, browse to the desired directory and click on OK.

The format of the files makes it easy to import them to a spreadsheet software like Excel.

Note: If the option **Print to line printer** is selected the dose rate graph or the dose rate log cannot be printed out