

For The Long Run™

WOODWAY®

Treadmill Control Software



User's Manual

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Introduction

1 Introduction

1.1 About this Manual

This user manual provides information on installing and using the treadmill control software for the **WOODWAY** PPS series slat-belt treadmills.

A condition for safe operation is compliance with all safety and operating instructions.

⚠ CAUTION

Improper operation can cause accidents!

Not using the slat-belt treadmill as intended according to the manufacturer's instructions can cause accidents and equipment damage.

- ▶ The operating instructions supplied with the PPS treadmill and this user's manual must be read and fully understood before the equipment is used.

Read and observe the operating instructions and user's manual!



Read the PPS treadmill operating instructions and this user's manual carefully before beginning any activities on the device!

Observe this Manual!

WOODWAY accepts no liability for accidents, equipment damage and consequences of equipment failure that are a result of failure to follow the user's manual. In addition, the local accident prevention regulations and general safety conditions for intended use of the treadmill apply.

The manufacturer reserves the right to make technical changes in the context of improving the performance properties and further development without prior notice. Illustrations are for basic understanding and may differ from the actual design of the device.

Accessories from other suppliers have further safety regulations and guidelines. These must also be observed.

1.2 Trademarks

All brand names and trademarks possibly protected by third parties mentioned within this manual are subject without restriction to the provisions of applicable trademark laws and the ownership rights of the respective registered owners. All trademarks, trade names or brand names are or may be trademarks or registered trademarks of their respective owners. All rights which are not expressly granted herein are reserved.

The absence of an explicit labeling of registered trademarks used in this manual does not conclude that a name is free of third party rights.

- Windows®, Windows XP®, Windows 2000®, Windows Vista™, Windows 7®, Windows 8® as well as ActiveSync® are trademarks of the Microsoft® Corporation.
- Acrobat® and Acrobat® Reader® are trademarks of Adobe® Systems Incorporated.

1.3 Limitation of Liability

All information and instructions in this user's manual have been compiled in accordance with applicable standards and regulations, the current state of technology as well as our knowledge and experience.

WOODWAY GmbH accepts no responsibility for damages resulting from:

- Failure to observe the user's manual.
- Unauthorized use of the PPS treadmill, see operating instructions.
- Use by non-authorized persons.
- Use of replacement parts which were not approved by **WOODWAY GmbH**.
- Unauthorized modifications to the device or accessories.

The **WOODWAY GmbH** general terms and conditions and delivery conditions apply, as well as the legal regulations valid at the time of contract conclusion.

1.4 Copyright

The release of the user's manual to third parties without the written permission of **WOODWAY GmbH** is prohibited.

NOTE

All contents, text, drawings, images or other illustrations are copyright protected and are subject to intellectual property rights.
Any misuse is punishable by law!

Duplication in any manner and form - including excerpts - as well as use and/or communication of the content are not permitted without written permission from **WOODWAY GmbH**.

Introduction

1.5 Customer Service

For service questions, please contact the manufacturer as follows:

WOODWAY GmbH
Steinackerstr. 20
79576 Weil am Rhein
GERMANY

Contact: Tel. +49 (0) 7621-940 999-14
Fax. +49 (0) 7621-940 999-40
E-mail: service@woodway.de

Copyright: Dipl. – Ing. (FH) Torsten Naumann 1995-2010
Tel. +49 (0) 177-2490192

For faster processing of your request please have the following data and information available:

- Information on the nameplate (specific model/serial number).
- An accurate description of the circumstances.
- What action has already been taken.

2 Notices on the Software

2.1 Areas of Application

The treadmill control software serves to control the treadmill and display parameters. The treadmill control software can also be used for data analysis and documentation. The treadmill control software is not intended for medical diagnostic or medical evaluation.

The treadmill control software is used to control the following PPS series treadmills:

PPS 43 Plus	PPS 43 Med	PPS 43 Med-i	PPS 43 Ortho
PPS 55 Plus	PPS 55 Med	PPS 55 Med-i	PPS 55 Ortho
PPS 70 Plus	PPS 70 Med	PPS 70 Med-i	PPS 70 Ortho

The treadmill control software can also be used with the PPS Plus LOKO, PPS Med LOKO, PPS Med-i LOKO and PPS Ortho LOKO models.

The WOODWAY treadmill control software is intended for the following areas of application:

- Control and display of speed for WOODWAY treadmills without display unit (WOODWAY User System or Data Monitor).
- Control of WOODWAY treadmills with user-created programs.
- Printing the parameters in the form of graphs or tables.
- Exporting the data into *.csv files for further processing in MS Excel or SPSS.

2.2 Scope of Delivery

The WOODWAY treadmill control software is included on the supplied software CD delivered with the PPS treadmill. For controlling via the software a RS-232 connection cable is required between treadmill and a medically approved computer. A suitable serial interface cable is also included to the scope of delivery.

If you are not in possession of the CD or connection cable, please contact WOODWAY customer service.

We would be happy to send you the CD or the interface cable or send you the link to download the software.

2.3 System Requirements

Before installing and using the software, the following requirements must be verified:

- Medically approved computer or notebook.
- Windows 2000 / XP / Vista / Windows 7 or Windows 8 operating system, min. 512 MB RAM, min. 50 MB free space on the hard drive, monitor with min. 1024 x 768 resolution, CD / DVD ROM drive.
- RS-232 interface wire for computer to be connected to a free serial port or a free USB interface with RS232 to USB converter. The RS232-to-USB converter can also be obtained at WOODWAY.

Safety


3 Safety

3.1 Description of Warning Notices




Warning notices indicate potential hazards or safety risks. They are indicated in this manual by a color-coded signal word panel (symbol with the appropriate signal word).

All warning notices have the same design and the same standardized content design.

Sample of a Warning Notice:

 SIGNAL WORD	
Warning Text, Type and Source of Danger Description of the consequences of ignoring the danger. ► Measures, instructions and forbidden actions to avoid the hazard, ► ...	

Classification:

NOTE	NOTE or WARNING (no danger symbol) No risk of injury, pertinent information and warning against material damage.
 CAUTION	CAUTION (with danger symbol) Slight possibility of injury.
 WARNING	WARNING (with danger symbol) In a dangerous situation a serious accident is possible with the possibility of injury or death.
 DANGER	DANGER (with danger symbol) In the event of an accident immediate danger of death or serious injury.

3.2 Safety before Use

Before operating the treadmill in conjunction with the software note the safety notices in the PPS treadmill operating instructions. Familiarize yourself with the safety instructions for the connected treadmill. For more information see the supplied operating instructions.

ATTENTION
Before using the treadmill in conjunction with the software carefully familiarize yourself with the safety instructions. Manufacturers and dealers accept no liability for personal injury and/or property damage resulting from lack of information.

4 Hardware

4.1 USB to Serial Converter

A "USB to Serial Adapter" allows the connection of devices with the serial interface (RS-232), e.g. modem, mouse etc. to a free USB port on your PC or notebook.

Various models from different manufacturers are commercially available. Full conformity with "RS-232" specifications must be ensured when in use. Not doing so can lead to communication problems between computer and treadmill.

The industrial grade "USB to Serial Adapter" from ATEN (Model UC-232A) can be obtained through the **WOODWAY** customer service.



Fig. 1 USB to Serial Adapter, Manufacturer: ATEN, Model: UC-232A

4.1.1 Technical Data

USB to Serial Adapter (USB-to-Serial Converter), brand ATEN, model UC-232A):

- USB specification v1.1.
- RS-232 connection with one DB9 plug (male).
- Plug with nuts.
- Wire length 31cm.
- Data rate up to 230 Kbps.
- No own IRQ required.

4.1.2 System Requirements:

- Windows XP / Vista / Windows 7 / Windows 8 (32/64-bit).
- Windows 98SE/ME/2000.
- Mac OS 9 (or higher).
- Notebook (medically approved) with a free USB port.

Hardware

4.1.3 Driver

WOODWAY expressly recommends using the latest driver for the adapter.

Drives for common operating systems are included on the adapter CD-ROM. Additional drivers can be downloaded directly from the manufacturer's website as needed (www.aten.com).

NOTE

Installing Drivers

Administrator rights are needed for initial driver installation. Installation under a limited user account will be terminated with an error message!

4.2 Interface Wire

To control the treadmill via PC or laptop the serial interface of the treadmill must be connected with the computer via a so-called null-modem wire with two D-SUB connectors (9-pin, female). This interface wire must be shielded and must not exceed a length of 5 meters. This wire can be obtained commercially or from **WOODWAY** customer service.

It is important to know that the market null-modem wires are available with different configurations (depending on whether a "hardware handshake" and/or "hardware flow control" is desired). A typical configuration is shown in the following table. To control a **WOODWAY** treadmill usually only the signals GND, TxD and RxD are required. If a "minimal" null-modem wire is used, within the respective connector the pins 1, 4 and 6 as well as 7 and 8 should be connected (see illustration).

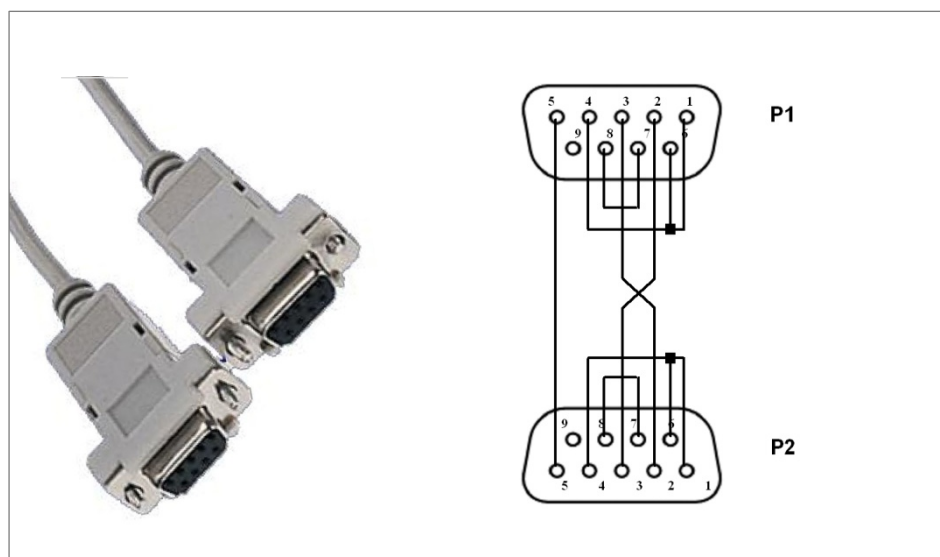


Fig. 2 RS-232C Interface Wire (2x D-SUB 9 pin) Configured

Hardware

Configuration of a "typical" null-modem wire:

Plug P1 (D-SUB, 9 pin) Pin (function)	Plug 2 (D-SUB, 9 pin) Pin
1 (DCD)	7 + 8
2 (RxD)	3
3 (TxD)	2
4 (DTR)	6
5 (GND)	5
6 (DSR)	4
7 + 8 (RTS + CTS)	1

The **WOODWAY** treadmill control software uses the following interface parameters:

- 9600 Bd (baud) / 8 bits / no parity / 1 stop bit

Software Description

5 Software Description

5.1 Installation

NOTE

Save Data!

Under some circumstances, the computer must be restarted after installing the treadmill control software. Save all documents that you are working on before installation. Close all programs before installation.

Insert the CD labeled treadmill control into the CD/DVD drive and open Windows Explorer. Open the appropriate drive and double-click the WWStandardPlus.exe file to start the installation process.

Follow the installation prompts (language, license information, destination folder) and complete the software installation.

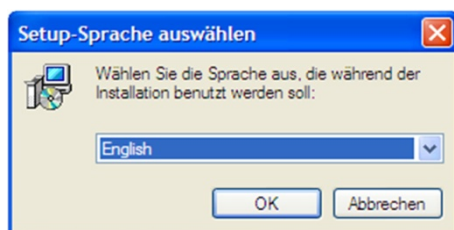


Fig. 3 Setup

Administrator rights are needed for software installation. Installation under a limited user account will be terminated with an error message! Perform the installation step-by-step.

Only use the installation path proposed by the software (e.g. C:\Programs\Woodway\StandardPLUS).

5.2 Settings

For the program to function properly the following basic settings are needed.

- Make sure that the number of the serial COM port (1-4) in the WOODWAY treadmill control software is set correctly. This information is the most important basic program setting, without which a connection to the treadmill cannot be established.
- Select the name of the interface where the treadmill is connected in the hardware folder. If the wrong number is selected, an error message appears later in the program with the option to correct the entry.

Software Description

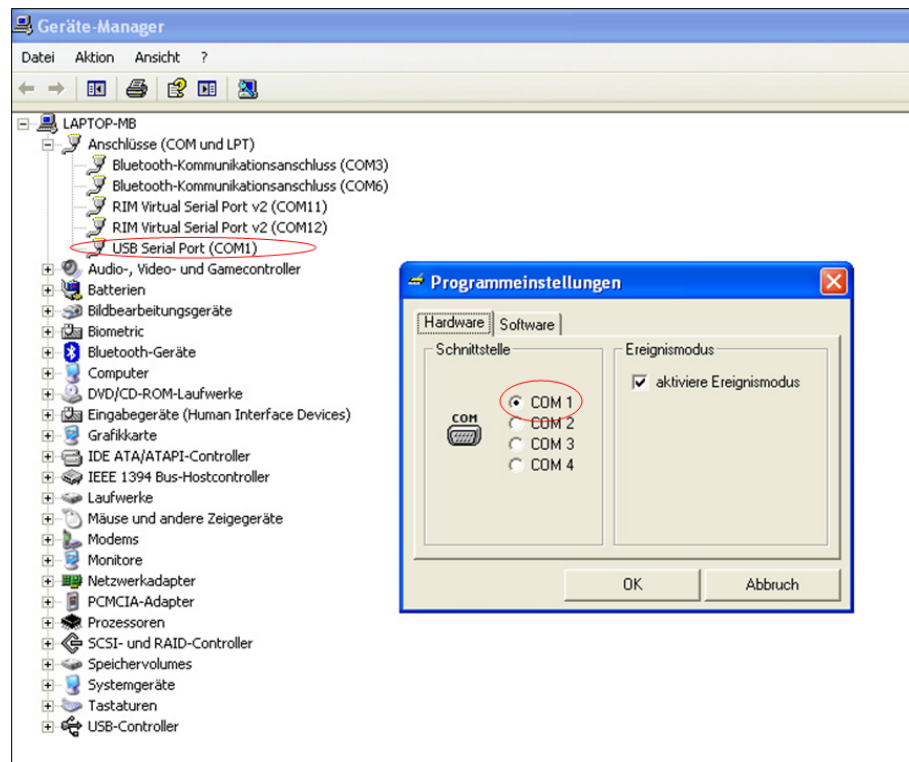


Fig. 4 Interface in the Device Manager [due to operating system figure in German]

- Check in advance which port Windows assigned to the COM port. If the computer is equipped with a physical serial port, this is normally COM 1.
- If a USB-to-serial adapter is used on a USB port, select an appropriate COM port number (1-4) in the operating system device manager (Right click on the selected interface -> Properties -> Port Settings -> Advanced -> Select the COM port number).
- Ensure that Windows assigns a new COM port number to a USB-to-serial adapter, if it was removed and a different USB port was used.

Further Settings

- Unit of measure for speed: This information is needed to represent the speed in the program.
- Language, Event mode active, unit of measure for load



Fig. 5 Program Settings

Software Description

5.3 Main Screen

On the main screen the current treadmill values are displayed and the various program functions can be selected. After the software is started, lists for measurement data and programs can also be selected.

If the treadmill has event control, an additional directory for events appears.

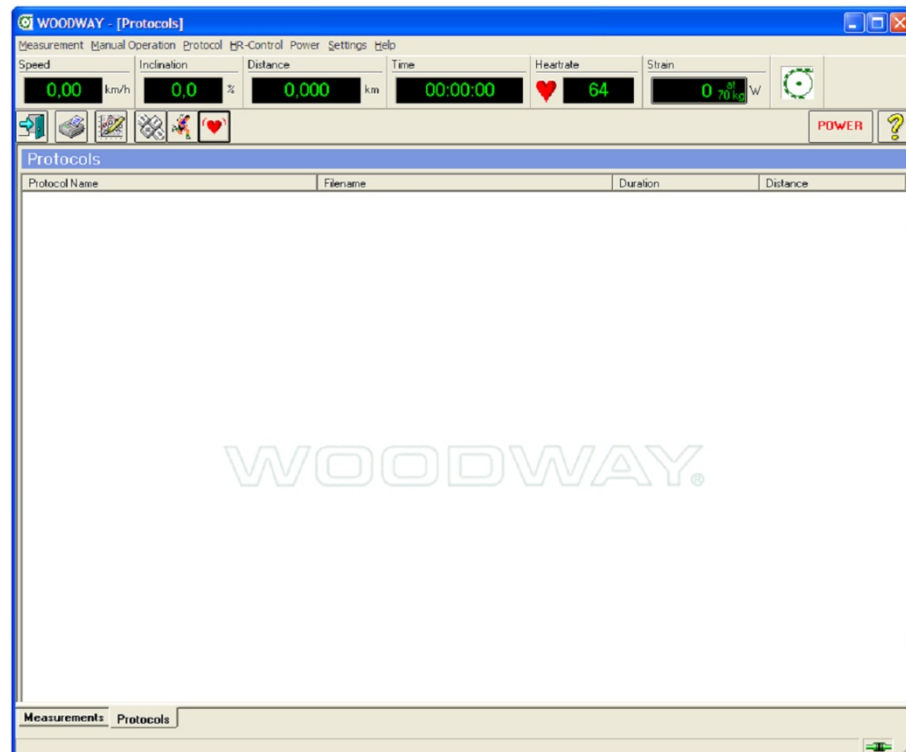


Fig. 6 Main Screen

5.4 Operating Keys

The function key is located in the toolbar. The function is started by pressing the respective key. With some keys additional occupancy is possible by list entry (drag and drop). The function is then executed in combination with the data from the list entry.



Ends the WOODWAY treadmill control program



Print measured values or a running program
Icon-Drop: Print measured values or the running program shown as an Icon



Start the program editor for creating programs
Icon-Drop: Start the program editor to edit a running program shown as an Icon



Start the event editor for creating events
Icon-Drop: Start the event editor to edit an event shown as an Icon



Upload an event
Icon-Drop: Upload the event shown as an Icon



Start manual mode

Software Description



Start a running program
Icon-Drop: Start a running program shown as an Icon



Start the pulse auto mode



Switch the treadmill on and off



Start the help program

5.5 Measurement Data

Each time the running time is reset, a new measurement series is started. It is not necessary to process the measurement data immediately. They are temporarily stored for the duration of program use and displayed in the list in the measurement data folder.

The following properties are visible:

- Start of measurement.
- End of measurement.
- Last name and first name of runner (if a name was entered).
- File name (if the data has been exported).

Possible functions can be selected using the right mouse button. The selected list entries can also be used by "drag and drop".

Measurements				
Begin	End	Name	First Name	Filename
09:55:38	09:56:12	Mustermann	Max	not saved
09:54:36	09:55:15			not saved

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Measurements Protocols

Fig. 7 Measurement Data List

Already run or edited programs are saved in a list in the program directory and cached for the duration of program use.

The following properties are visible:

- Program name.
- File name.
- Program duration.
- Program distance.

Possible functions can be selected using the right mouse button. The selected list entries can also be used by "drag and drop".

Protocols			
Protocol Name	Filename	Duration	Distance
Conconi II	CONCONI2.PRG	21:17.0	3.9

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Measurements Protocols Run Protocol

Fig. 8 Program List

Operation

6 Operation

6.1 Manual Operation



Turn the treadmill on using the software with the POWER button and wait until the device is ready for operation.



If the treadmill is to be operated in manual mode, select this function using the manual operation key in the toolbar. "Manual Operation" appears on the main screen.



Fig. 9 Manual Operation

The treadmill speed and incline keys are displayed on the screen. Speed and incline values can be entered directly using the keys. The stop key is used to stop the treadmill. Use the exit key to return to the starting state, in which e.g. a program can be started.

6.2 Program Sequence

When a running program is loaded a program sequence file is activated.

After the program has been completely loaded the start key can be selected in this file. The start time can be set using the horizontal scroll bar, or can be changed directly in the input field. It is also possible to enter a pulse limit by entering or changing the maximum allowable pulse in the "maximum pulse" input field.

While the program is running the speed and incline of the running program can be changed manually if necessary (e.g. using the railing keyboard). A modified running program, which can be used separately, is then created in the program file.

Operation

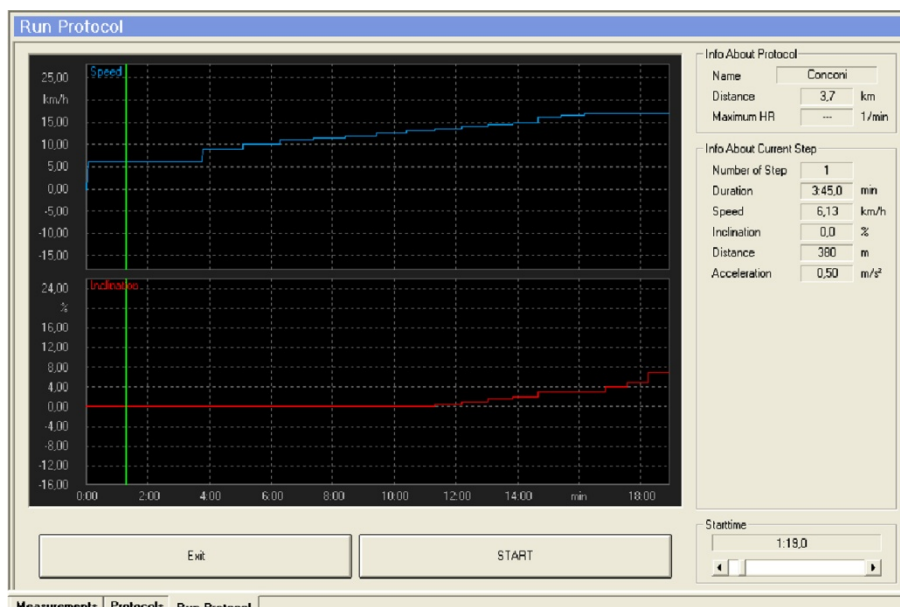


Fig. 10 Program Sequence

6.3 Program Editor

The program editor for running programs is accessed through the toolbar in the main screen. It is divided into a graphic display, a programming section and an input table.

The program steps can be sequentially entered and changed in the input table. Graphic programming allows well-defined speed curves and acceleration sequences, which are difficult to enter into the table. The entered programs can be stored and loaded again later. Stored programs are available for use in the Programs file.

Running programs consist of:

- Program data: Program name, start time and maximum pulse.
- Program sequence data: Speed, acceleration, running surface incline and step duration.

These parameters can be entered and changed in the Program Editor (except start time). The maximum pulse and the start time can be selected in the program sequence file before starting the program.

Operation

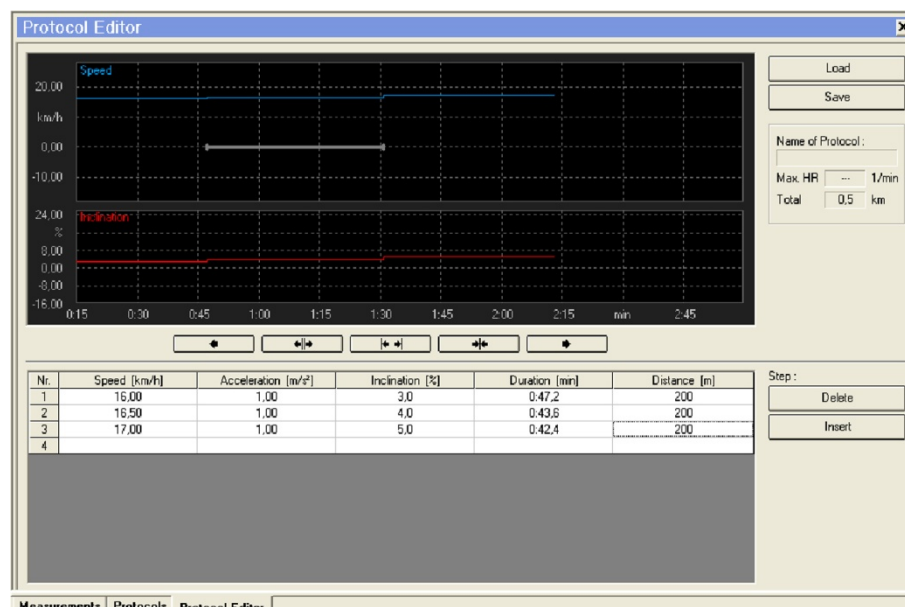







Fig. 11 Program Editor

6.3.1 Graphic Programming

A click on the graphic speed display activates program input. By changing the mouse position after a program step a subsequent step is displayed. Only attainable parameters can be created (speed, sequence duration and acceleration are limited). The current sequence parameters can be read in the program sequence table. After the next mouse click the program prompts you to enter the corresponding incline value. Then the displayed program step is accepted.

The display area can be changed using the 5 selection keys below the incline curve display screen:

-  Scrolls the display screen to the left
-  Enlarges the display area in the display screen
-  The display area is selected so that the complete program is visible in the display screen
-  Reduces the display area in the display screen
-  Scrolls the display screen to the right

6.3.2 Tabular Programming

In addition to graphic program input, values can also be entered through tabular programming. Consecutive program steps can be entered in the step input table. The tab key, the cursor keys or the mouse can be used to navigate through the individual lines and columns.

The entered values are checked after exiting the input position and changed if necessary. If the input step data is complete, the program step is checked again and tested to see if it is compatible with the preceding and subsequent program steps. After that, the program step is displayed in the graphic displays for speed and incline.

It is possible to insert steps before the current program step or to delete current program step. For this, the Insert and Delete keys to the right of the step table are used.

6.3.3 Maximum Pulse

It is possible to enter a maximum pulse limit. If the pulse limit is exceeded the treadmill control stops the running program.

6.4 Pulse Control

The treadmill is equipped with a function with which the device is controlled based on the entered pulse value.



This function is started by pressing the "Automatic Pulse Mode" in the toolbar. It is necessary to enter some pulse control parameters in advance.

The parameters can be changed at any time.

Settings of HR Control		
Desired HR	100	1/min
Maximum HR	130	1/min
Self-Assessment	3	
Maximum Speed	27,00	km/h
Minimum Speed	0.00	km/h
Maximum Inclination	25,0	%
Minimum Inclination	0.0	%
<div> <div>Cancel</div> <div>START</div> </div>		

Fig. 12 Parameter Automatic Pulse Mode

Set Pulse	The control will try to maintain the heart frequency value.
Maximum Pulse	If this value is exceeded the treadmill will stop. It should not be set too close to the target pulse but in the health-safe pulse rate range.
Training Condition	This assessment is responsible for the rate of change for speed and incline. Possible values are between 1 (poor condition) and 9 (excellent condition). Under extreme fluctuating pulse rate a lower value should be set.

Operation

Maximum Speed This speed represents the upper control limit. It can change during pulse regulation due to changes made by the operator.

Minimum Speed This speed is the lower control limit. It behaves similarly to the maximum speed.

Maximum Incline This incline represents the upper control limit. It can be changed during pulse control due to manual operation.

Minimum Incline This incline is the lower control limit. It behaves similarly to the maximum incline. After the treadmill automatic pulse mode starts "Pulse control" appears on the main screen.

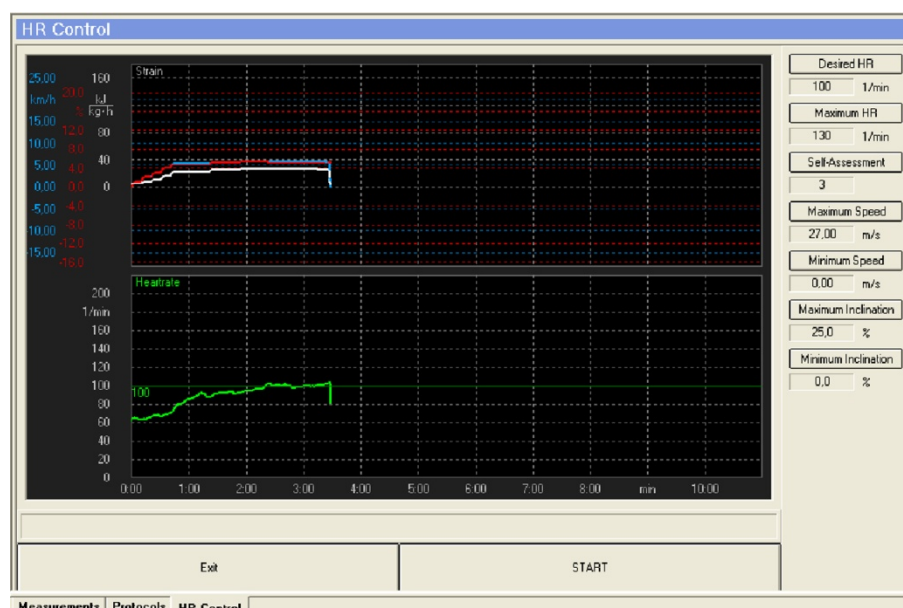


Fig. 13 Pulse Control

In this screen the pulse rate, speed, incline and load are displayed graphically. The current pulse parameters appear on the right side of the screen. These can be changed at any time. In the button part of the screen there are keys to start or stop pulse control mode. If pulse control has already been started, a manual control appears in this location for manually adjusting the speed and incline.

After the start button has been pressed, the treadmill automatically changes the speed and incline to reach the predetermined target pulse. It is still possible to adjust the speed and incline manually.

6.5 Data Export

The program makes it possible to export the measured data in a variable ASCII format or in the POLAR company format (HRM0 and HRM1).

The following describes the ASCII format.

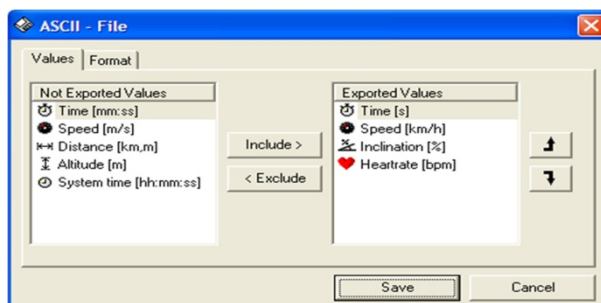


Fig. 14 Data Export ASCII Format

Sequence of Actions:

1. When the treadmill stops, the obtained values are saved in the measurement data file. Select the desired measurement line from this file. The data can be exported by right clicking the entry.
2. Select the data name and data type (here the ASCII must be selected).
3. The values to be exported must be chosen from the available measurement data (speed, incline, load, etc.) from the values folder on ASCII file format screen. This is done by pasting these values in the "Exported values" list. Through the sequence (as viewed from top to bottom) it is possible to arrange the order of the output value columns in the exported file.

NOTE

The selected settings remain available for new data exports and must only be changed if a different export format should be generated.

The following additional data format adjustments can be made under the "Format" tab:

- Separator between the output columns: Tab or space.
- Decimal separator: Comma or decimal point.
- Runner data include: Storage including runner data (difficult data import in other programs) or sole data export of measurement data.
- Export interval: Here the time interval between the exported data sets can be selected. Possible intervals are 100Hz, 50Hz, 25Hz, 10Hz, 250ms, 500ms, 1s, 5s, 10s, 15s, 30s, 60s.

These settings also remain available for new data exports and must only be changed if a different export format should be generated.

Operation

6.6 Printing Options

Before printing begins the printing options window appears. Here the printing options can be selected. A graphic or tabular representation is shown.

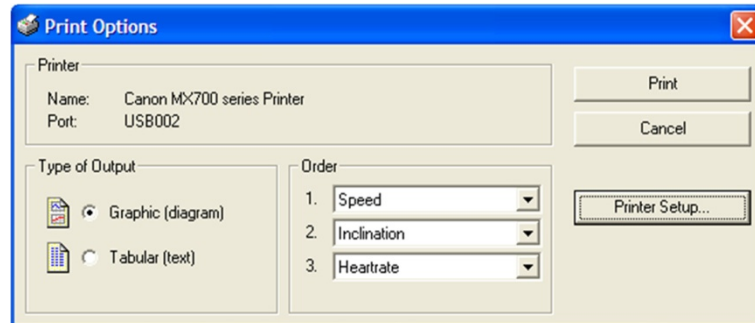


Fig. 15 Printing Options Screen

Printing Measurement Data

The measured values (e.g. speed, incline, pulse rate, ...) can be sent to the printer in edited form. Before printing, additional information (runner's name, date of birth) can be added to the measured data. In the print options window, the desired measurement parameters (maximum 3) and their printing order can be selected. If more curves or value tables are needed, they can be printed by selecting the print function again.

Printing Running Programs

When printing a running program, the selection options limited to the representation of speed and incline with relation to time.

7 Troubleshooting

ATTENTION

With the exception of the malfunctions described in this section, the treadmill and the treadmill software can only be checked and repaired by qualified personnel.

If necessary the WOODWAY dealer or service center is to be contacted!

Check that all requirements in "System Requirements" section on page 7, "USB to Serial Converter" (if applicable) on page 9, "Interface Wire" on page 10 and "Settings" on page 12 are met when using the Software with your WOODWAY treadmill.

Possible Malfunctions:

Description of Malfunction	Trouble Shooting
Connection between PC and treadmill not possible	Check Device Manager Control Panel for which COM port is used by Windows for the selected connection and set that port (COM 1-4) in the control software.
The USB to Serial Converter was removed from the USB port and plugged into a different port	Check Device Manager Control Panel for which COM port is used by Windows for the selected connection and set that port (COM 1-4) in the control software. The select the identical connection in the WOODWAY control software options.
Interface wire damaged	Replace interface wire; if necessary, contact WOODWAY customer service and order interface wire.

If other malfunctions occur or the malfunction is not corrected, contact WOODWAY customer service as follows:

- Tel. +49-7621-940 999-14
- E-mail: service@woodway.de

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