

h/p/cosmos para control 4.0

software manual

Operating instruction and service manual for h/p/cosmos para control 4.0 useable with:

Running machines

h/p/cosmos mercury
h/p/cosmos quasar
h/p/cosmos pulsar
h/p/cosmos pulsar 3p
h/p/cosmos stellar
h/p/cosmos stratos
h/p/cosmos venus - all sizes
h/p/cosmos saturn - all sizes

Ladder ergometer

h/p/cosmos discovery

PC software for sports and fitness applications.

Not for medical and rehabilitation use!

Compatible with h/p/cosmos and OEM

sports running machines and

sports ladder ergometers

with MCU2, MCU3, MCU4, MCU5

Distribution, production, sales & service

h/p/cosmos sports & medical gmbh

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incl. lt. models

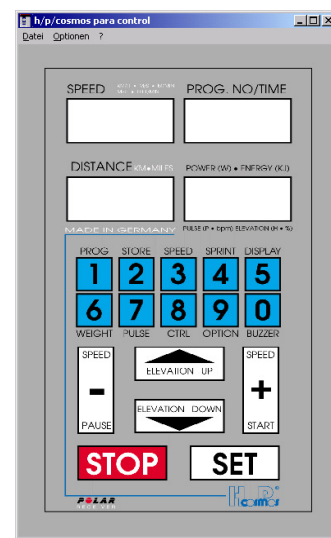
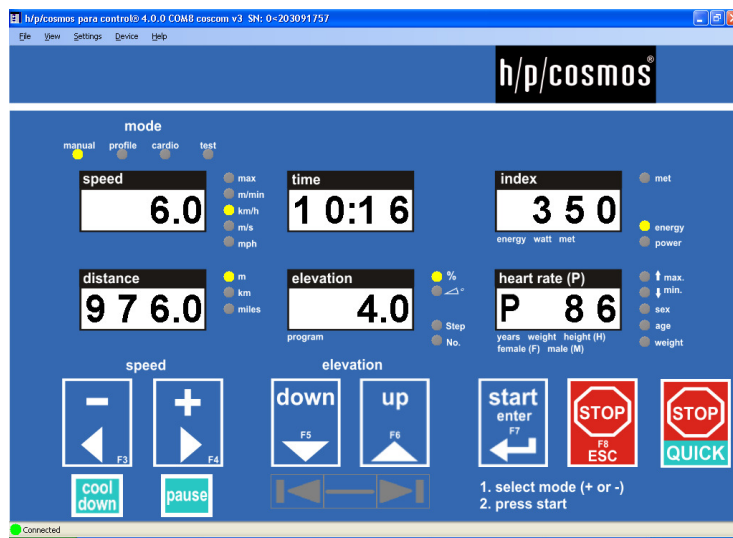
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manual revision date: 20110628

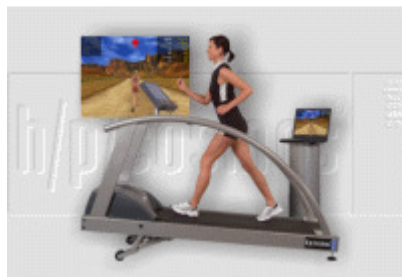
Programming & Development of Software

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Application examples for sports and fitness training and testing



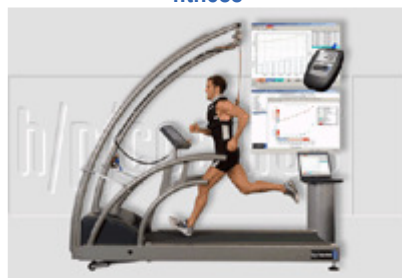
fitness



senior fitness



sports



sports performance diagnostics



motion analysis



speed training



wheelchair sports



cycling



inline skating / roller ski

[1.] Content

[1.] Content.....	3
[2.] General information	5
[2.A] System requirements.....	5
[2.B] Fields of application of h/p/cosmos para control 4.0.....	5
[2.B1] Intended Use	5
[2.B2] clinical data.....	6
[2.C] Safety precautions, safety regulations, prohibitions and warnings	8
[3.] Connection.....	9
[3.A] How to connect the PC to the running machine	9
[4.] Installation	11
[4.A] Installation of h/p/cosmos para control 4.0	11
[4.B] Program start.....	13
[5.] Operation	13
[5.A] Connection settings	13
[5.A1] Automatic search.....	13
[5.A2] Manual connecting	14
[5.A3] Storing and loading of connections	14
[5.B] General instructions for use.....	15
[5.C] General program settings	16
[5.C1] Startup action:	16
[5.C2] Buzzer	16
[5.C3] Windows.....	16
[5.D] Language settings	16
[5.E] Standard remote functions.....	17
[5.F] Parallel operation.....	18
[5.G] Advanced remote functions	18
[5.G1] Manual mode.....	18
[5.G2] Profile mode	19
[5.G3] Cardio mode.....	20
[5.G4] Test-Mode	21
[5.H] Additional keys.....	22
[5.H1] Cool down key.....	22
[5.H2] Pause key.....	22
[5.H3] Program steps keys.....	23
[5.H4] Quick stop key.....	23
[5.I] Advanced functions	23
[5.I1] Target speed settings.....	23
[5.I2] Target elevation settings	24

[5.I3]	Stop countdown.....	24
[5.I4]	Direct read out of current values over the LED's.....	24
[5.I5]	Direct LED switching	25
[5.I6]	Display reset.....	25
[5.I7]	Person data settings.....	25
[5.I8]	Device information.....	26
[5.J]	Option mode functions.....	26
[5.J1]	Read out of current option values	26
[5.J2]	Layout of the option window.....	26
[5.J3]	Administrator access to the option dialog.....	26
[5.J4]	Appliance of the view filter.....	26
[5.J5]	Save and restore backups.....	26
[5.J6]	Serial number setting	26
[5.J7]	Time and date setting.....	27
[5.J8]	Print out current option settings.....	27
[5.K]	Work steps.....	28
[5.L]	Firmware update at h/p/cosmos running machines with MCU5 control logic	30
[6.]	Deinstallation.....	32
[7.]	Connection problems	32
[7.A1]	Troubleshooting and testing of the RS232 interface	33
[8.]	Contact.....	34
[8.A]	Service department.....	34
[8.B]	Sales department.....	34
[8.C]	Headquarters	34

[2.] General information

[2.A] System requirements

- Personal Computer or laptop / notebook with Pentium IV Processor with 2.0 GHz or higher installed operating system Windows XP or Windows Vista or Windows 7 (no 64bit Versions)
min. 1 GB RAM (2 GB RAM recommended), min. 1 GB free memory on HD
VGA-Monitor min. 1280 x 1024, CD ROM or DVD drive
- Microsoft .NET Framework 3.0 incl. local language pack and Windows Installer 3.1
- free RS 232 interface port for connection of any peripheral equipment.
RS232 COM port is strongly recommended on the PC/Laptop (USB port and converter not preferred)
for control via USB interface an optional converter (not all converters work!) is available at h/p/cosmos
for control via USB interface the processor must be Pentium 2.0 GHz or higher
- Running-machine with RS 232 interface and selected coscom protocol.
If the UserTerminal is MCU2 or MCU3 type, then the EPROM firmware release must be at least V 2.31.

[2ndB] Fields of application of h/p/cosmos para control 4.0

h/p/cosmos para control 4.0 is a PC sports software which allows to remote control all h/p/cosmos running machines via the interface protocol "coscom". All functions available at the UserTerminal can be remoted from the PC.

Furthermore there are a lot of additional functions like cool down, quick stop, count-down, optional settings, firmware download and update, etc. which are turning the software to a great aid in almost all application areas of running machines.

To make the software as userfriendliness as possible it has been designed in exactly the same style as the physical user terminal of the running machine. The great advantage (beside the nice looking) is that everyone who is familiar with the running machine, is also able to control the machine with h/p/cosmos para control 4.0.

Additionally h/p/cosmos para control 4.0 basic is free of charge and comes with every h/p/cosmos running machine and h/p/cosmos ladder ergometer.

[2.B1] Intended Use

The h/p/cosmos para control 4.1 is designed for sports and fitness applications and have been released for application in medical areas only for manual control of the h/p/cosmos treadmill. You can apply this software in endurance training walking and running and in the medical field for manual treadmill control. However, no medical evaluation of parameters and data must be performed with this software.

[2.B2] **clinical data**

- All medical diagnostics in terms of clinical data evaluation or similar use are not allowed with this treadmill control software.
- All prohibitions in the chapter "safety precautions, safety regulations, prohibition and warnings"
- The h/p/cosmos para control 4.0 and the running machine must not be used without being carefully instructed by specialist staff and without having received notes on the safety regulations.
- Interrupt the training immediately if you start feeling sick or dizzy and see your doctor.
- Subject with a cardiac pacemaker or who suffers from any kind of physical restriction must see a doctor before using the h/p/cosmos para control 4.0 and the running machine and ask for allowance.
- Children and animals are not allowed to use the h/p/cosmos para control 4.0 and the running machine and must not get near (4m safety area) to it.
- Other use, then explicitly listed directed use at the point field of application.
- In case of any detected and/or assumed malfunctions and/or defects or unreadable safety warning labels on the controlled device and/or on the software, the software and the device has to be taken out of operation, the device has to be marked and secured against operation and the supplier and authorized service personnel has to be informed in writing.
- Every kind of overload of test person / subject is forbidden.
- Every kind of use with increased risk, e.g. sprint and increased risk of falling, is forbidden without using additional safety precautions and safety equipment, such as e.g. safety-arch with fall-stop.
- In case of existence of one or more of the following contraindications we strongly suggests to see a medical doctor or a specialist before using the running machine: pregnancy, acute thrombosis, heart- and/or arteries disease, fresh wounds e.g. after surgery, artificial joints and limbs, acute fracture, damaged disc or traumatic caused disease of the spine, diabetes, epilepsy, inflammations, acute migraine and any kind of tumors. Please contact the manufacturer h/p/cosmos, if your doctor or specialist needs further information about the software h/p/cosmos para control® and / or the running machine.
- The automatic operation (modes profile, cardio, test, remote control via PC and peripheral devices) is forbidden, if the health and condition of the test person / subject does not allow it and if a doctor has not authorized it. Disregard may cause injuries and dangerous health problems and even death.
- In environmental conditions, others than specified in the chapter „technical specifications“ and “environmental conditions“, h/p/cosmos devices must not be used (e.g. in wet and humid areas, swimming pools, sauna, environmental chambers, high-pressure-, low-pressure, altitude- and oxygen-chambers, etc.).
- Recording, controlling and / or program sequence can be interrupted and there may be stops or other complications if the power of the CPU is not sufficiently large, if the physical memory is not high enough dimensions (minimum 1 GB), and / or if when using a USB - RS232 adapter, the CPU performance is at least 2,0 GHz.
- During the control of treadmills or other ergometer via a PC / laptop with the h / p / cosmos para graphics ® no connection to the network (LAN, etc.) and / or taken from a network browser are allowed. This is due also for the automatic software update, Messenger etc. Guarantee Turn these options OFF at the PC / laptop.
- The program may not be operated from a desktop remote control (RPC) services / PC remote connection (such as VNC, PC Anywhere, Laplink, etc.), otherwise the recording, controlling and / or program sequence can be interrupted, and it stops or other complications may occur.
- When you insert a CD during the control of treadmills or other ergometer via a PC / laptop recording, controlling and / or program sequence can be interrupted and there may be other stops or complications. Disable the autorun feature of your CD-ROM drive for safety. Avoid access during the control of treadmills or other ergometer on the CD-ROM drive or to another floppy disk drive.

- With external USB keyboard / mouse, and long press or repeatedly press off the Shift key to recording, controlling and / or program, the sequence can be interrupted and there may be stops or other complications.
Remedied by disabling the keyboard shortcuts and the delay time in the Windows Control Panel:
Control Panel-> Accessibility-> snap-> Settings-> shortcut-> deselect "key combination"
Control Panel-> Accessibility-> snap-> Settings-> Filter Keys-> deselect "key combination"
- At longer test with no keyboard or mouse activity the recording, controlling and / or program sequence can be interrupted and there may be stops or other complications. (especially with laptops / notebooks)
Remedy: Turn off the power saving features in the Control Panel
Workaround: Disable the screen saver.

If the system requirements and / or instructions are not complied, any recording, controlling and / or program sequence can be interrupted and there may cause stops, accidents with serious injury, loss of data or other complications.

These safety precautions must be within visual range of the system. Each user must be pointed out with this dangers and safety notes . The manufacturer assumes no liability for personal injury or property damage.



At the suspicion of unauthorized access or other reasons to lock the running machine, it has to be locked for starting: See „option 40“ in chapter „option settings“. With option 41 ... 44 you can lock also separate modes (manual, profile, cardio, test).

[2ndC] Safety precautions, safety regulations, prohibitions and warnings

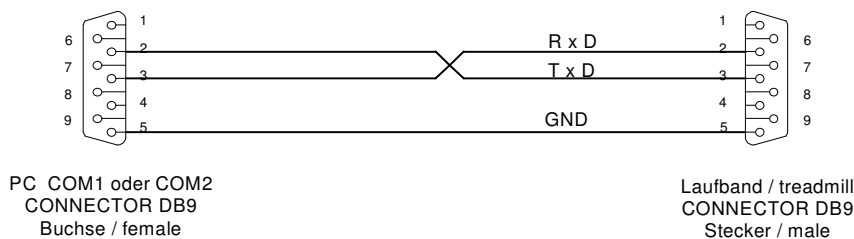
- Follow the safety notes according to the operation instructions of the equipment. Read through the operation instructions carefully.
- In case of nausea or dizziness of the athlete, the training has to be interrupted and a doctor has to be consulted immediately.
- At troubles (or at suspicion on troubles) of wireless transmitting of the heart frequency the automatic load control may not be used.
- The system may only be used by authorized and trained personal.
- Read through all sections of danger notes, warnings and precautions of the software as well as the running-machine or ergometer carefully.
- No other PC software or program than h/p/cosmos para control must run on the same computer at the same time due to possible conflicts or interference of other software.
- No update process of any PC software and/or no update process of Windows® and/or no network search and/or no automatic screensaver must run while operating a motorized running machine with h/p/cosmos para control.
- Use the running machine and accessories only under supervision of your doctor or/and trainer. Using the software h/p/cosmos para control® and the running machine and the accessories without supervisory staff and introduction is forbidden.
- Before using the software h/p/cosmos para control® and the running machine, read the operation manuals, safety precautions and safety regulations carefully.
- Start with slow walking. After some minutes increase the speed slowly according to your fitness level.
- Do not jump onto the rotating running belt. Do not jump off the rotating running belt (not even towards the front). Do not stop moving on the rotating running belt. Do not turn around on the rotating running belt. Do never run sideways or backwards. Do nothing, which could interfere with your balance. Do not set too high loads (speed, elevation).
- Always train with sports or running shoes (no spikes) - never run barefoot - and sports clothing.
- At the time of use the emergency-stop has to be in reach for the subject and the supervisory staff at any time.
- Use emergency-stop only if in danger or in danger of falling.
- When stopping the drive motor at set elevation (e.g. by pressing the stop-button or the emergency-off-button, power failure, etc.), the bodyweight of the subject and the force of gravity may cause an acceleration of the running belt. Do not step on the slant of roller when getting on or off the running surface; the gravity force might cause a movement of the running belt.
- Dangerous capture areas/gaps at the elevation system as well as at the rear end and the sides of the running belt. (At reverse belt rotation: danger as well at the motor hood and the front area).
- Please make sure that, in case of a fall, subjects with long hair, wide clothes, jewellery, etc. do not get caught in the capture area at the rear end of the running belt. Possibly use a hairnet and make the subject aware of the danger or secure the person with a safety harness against fall. Do not deposit any clothes, towels, jewellery, etc. at the running machine – because of danger of tripping over and danger of capturing.
- Children and animals are not allowed to use the running machine and must not get near (4 m distance) to it.
- Using the running machine under the influence of alcohol, drugs and/or anesthetic is prohibited.
- Interrupt the training immediately if you start feeling sick, dizzy or pain and see your doctor.
- Improper or excessive training or strain by tests may cause serious health injury or even death.
- Subjects with a cardiac pacemaker or who suffers from any kind of physical restriction must see a doctor and get a permission before using the running machine.
- The subject has to be secured by chest-belt and fall-stop at the ceiling or the safety arch while performing sprints, max. endurance test and while training on wide running surfaces and/or other higher dangers in any application.
- Please keep a safety area of at least 2 m in length and 1 m width directly behind the running machine. At running machines equipped with reverse-belt-rotation keep a safety area of 2 m in length and 1 m width in the front and the back of the running machine and always use the pull-rope emergency-stop or better the chest belt with fall-stop.
- Explicit warning of improper and forbidden use.
- Ensure that all cables (power connection, interface, potential equalization, etc.) and accessories are installed proper and safely and that nobody can stumble or fall over the cables and/or accessories.
- Pay attention to further safety regulations and operation instructions in the appendix of this instruction manual. Pay special attention to all maintenance and service instructions (also in manuals of accessories).

- In case of any detected and/or assumed malfunctions and/or defects of the device and/or the PC or unreadable safety warning labels the device has to be taken out of operation, the device has to be marked and secured against operation and the supplier and authorized service personnel has to be informed in writing.
- Disregard of warnings, disregard of intended and forbidden use, safety precautions and also unauthorized or lack of maintenance and/or regular safety checks may lead to injuries or death and/or can damage the device and will result in loss of any liability and warranty.
- Do not drink and eat any lubrication material and no other material or parts of this device, and keep all lubrication material and all other parts away from children and animals.
- These safety precautions and regulations are to be displayed within sight of the running machine. The warnings, safety regulations and dangers have to be pointed out to every user and operator. The manufacturer does not undertake any liability for any injury to persons or damage to property.

[3.] Connection

[3rdA] How to connect the PC to the running machine

The connection between pc and running machine must be made with an 9-pole Sub-D interface cable with crossed transmission- receive-wires (PIN 2 and PIN 3). It is recommended to select com1 of the running machine to connect to para control 4.0.






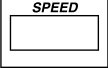


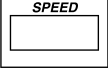

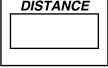


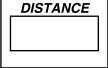

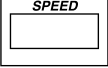

If your pc is not equipped with a serial interface, you can use also an USB/RS232 converter which can be connected to the USB port of your PC. Please note that not all USB/RS232 converters are working properly. It is strongly recommended to order a tested converter from h/p/cosmos.



- To be able to connect para control 4.0 to the running machine, the com-port 1 of the running machine needs to be set to coscom-protocol. Usually on RS 232 / COM1 of the running machine the coscom protocol is active (standard factory setting OPTION 20 1). In order to check if the com-port is set to coscom or to make the correct setting, proceed as described in the instruction below.
- At devices WITHOUT UserTerminal the code for access to the user options can only be entered with para control 4.0. To press 3 buttons at the same time with para control 4.0, use the F-keys on your pc-keyboard. If it is not possible to connect para control 4.0 to running machines WITHOUT UserTerminal, the cause should be that no com-port is set to coscom. If this is the case, please contact h/p/cosmos.
- Some PCs do not allow to press 3 function keys on the PC keyboard simultaneously (some accept max. 2 function keys) and so it would not be possible to enter the optional functions. In this case press F3 and F4 at the same time, keep the buttons pressed and then use the mouse and click on STOP button on the screen and also keep the mouse pressed for more than three seconds. This is the way how to enter the optional functions also with such PCs.
- For detailed description of all parameters in the option mode, please check the manual of the running machine.
- There must be a sufficient potential isolation between PC and running machine.

In the chart below is described how you can set com-1 of the running machine to coscom-protocol.

Initial state: Device is switched on. One of the mode displays (manual, profile, cardio, test) is flashing.

step #	Action	Keystroke	Response / Display
[01]	Select option mode	 and simultaneously  and simultaneously  keep pressed minimum 3 seconds	Display  reports flashing OP 01.
[02]	Select option number OP20	 or 	Display  reports flashing OP 20.
[03]	Confirm option number OP20		Display  reports actual value / protocol for COM1.
[04]	Set option 20 to value "1" for standard coscom	 or 	Display  reports flashing following values: 0 = RS 232 not active / no protocol / interface deactivated 1 = coscom by h/p/cosmos 3 = Printer protocol (serial printer or converter required) 10 = Loop Back Test (special test plug required). 12 = Remote-Control Hardware, ext. Terminal MCU 4 20 = coscom v3 speed 115.200 bps
[05]	Save modified value		Display  reports flashing OP 20.
[06]	Quit option settings		Device stands in standby mode. One of the mode displays is flashing.




If you have connected the running machine to com-port 2, the required option is OP21.

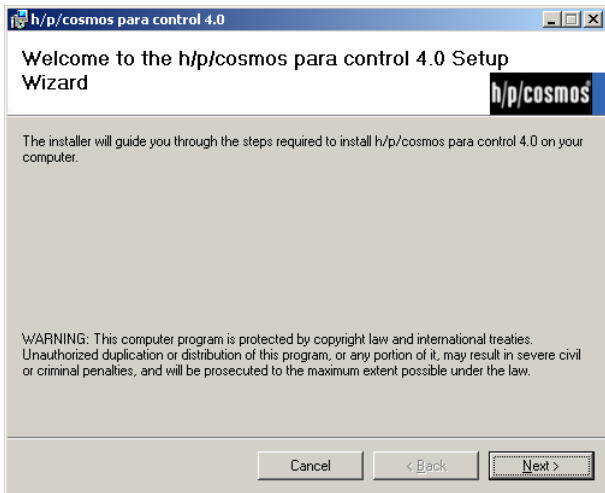
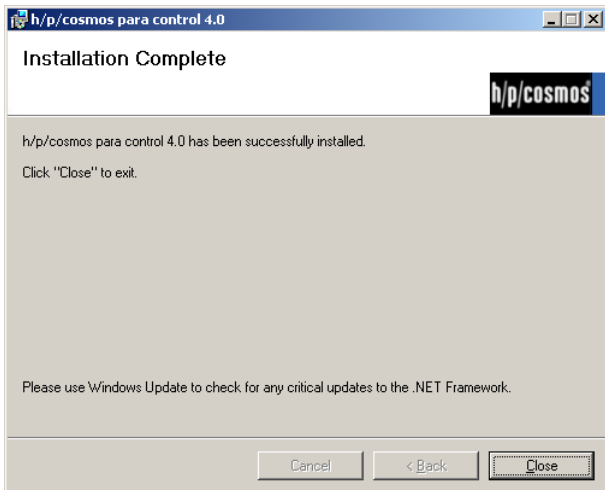
[4.] Installation

[4thA] Installation of h/p/cosmos para control 4.0

	<ul style="list-style-type: none"> To install h/p/cosmos para control 4.0 „Microsoft .net Framework 2.0“ incl. local language pack and „Microsoft Windows Installer 3.0“ is required. Administrator rights are required for the installation of h/p/cosmos para control 4.0. Use the pathes which are recommended in the installation process. When completed the first installation a small h/p/cosmos para control 4.0 icon will be added to the desktop of the PC.
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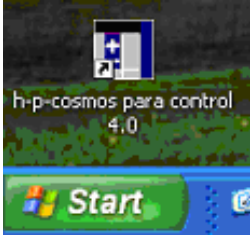
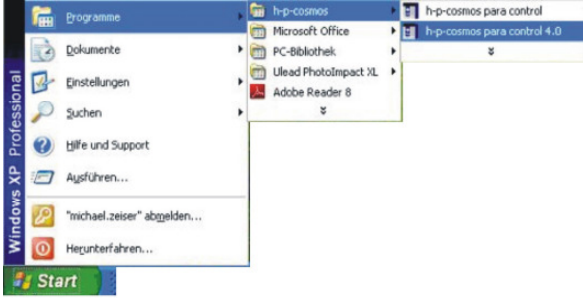
Installation process...

step #	Screenshot	Activity
[01]	<p>Insert the h/p/cosmos DVD into your DVD-Rom drive to enter the screen of point 2 of this chart.</p> <p>When h/p/cosmos para control 4.0 has been downloaded from the h/p/cosmos website, double-click on the .exe file (for example file name: 20071127_cos10071-v4.0.0_h-p-cosmos_para_control_setup_en_full.exe) and you will enter the screen of point 4 in this chart.</p> <div data-bbox="347 1012 1337 1417">  <p>To install h/p/cosmos para control 4.0 the runtime environment „Microsoft .net Framework 2.0“ incl. local language pack and „Microsoft Windows Installer 3.0“ is required.</p> <p>The exe-file of para control 4.0 on the h/p/cosmos DVD has already included „Microsoft .net Framework 2.0“ and „Microsoft Windows Installer 3.0“. The installation will start automatically and you just need to follow the instructions of the installation guide.</p> <p>If you download h/p/cosmos para control 4.0 from www.h-p-cosmos.com you can select between a version which has included „Microsoft .net Framework 2.0“ and „Microsoft Windows Installer 3.0“ and one which has not (smaller file size).</p> </div>	
[02]		Select your language in the start screen.
[03]		Click on installation.

	<p>[04] </p>	<p>Click next and follow the instructions of the Wizard.</p>
	<p>[05] From now on the installer will guide you through the steps required for the installation of h/p/cosmos para control 4.0 on your computer.</p>	
	<p>[06] </p>	<p>When this window appears on your screen the installation was successful. Click on „close“ to exit from the installation routine.</p>

[4.B] Program start

After a successful installation you have 2 standard possibilities to start h/p/cosmos para control 4.0.

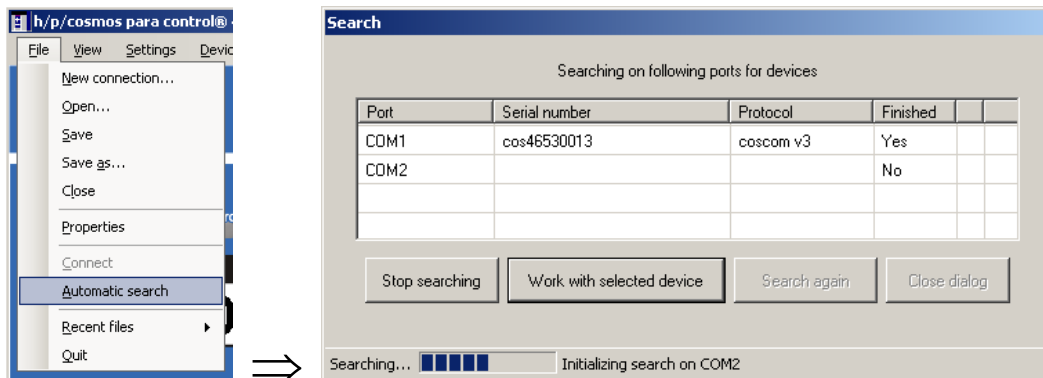
step #	Screenshot	Activity
[01]		Double click on the desktop-icon „h/p/cosmos para control 4.0“
[02]		OR select: start ⇒ programs ⇒ h/p/cosmos ⇒ h/p/cosmos para control 4.0

At the first program start the software will ask you if you want to start the automatic search. When you click on “Yes” the software will enter the automatic search (see chapter [Automatic search](#)).

[5.] Operation

[5.A] Connection settings

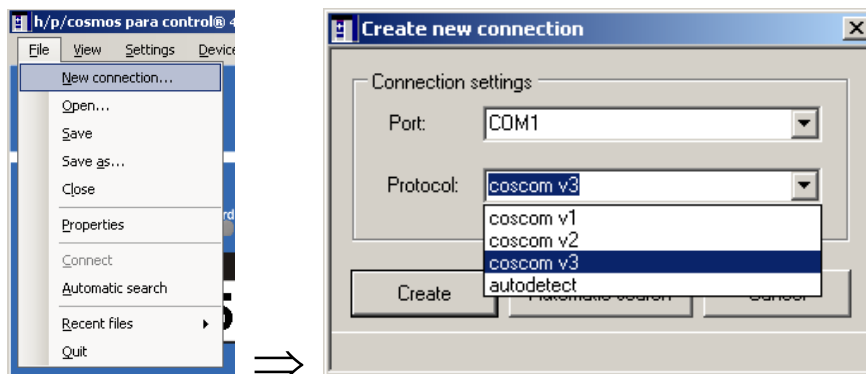
[5.A1] Automatic search



The „automatic search“ scans all com-ports which are available at the pc in order to find connected h/p/cosmos running machines. After the search is finished, all found running machines are displayed in the „search-window“.

Select the device you want to connect and click on „Work with selected device“. After that the main screen of h/p/cosmos para control 4.0 will open.

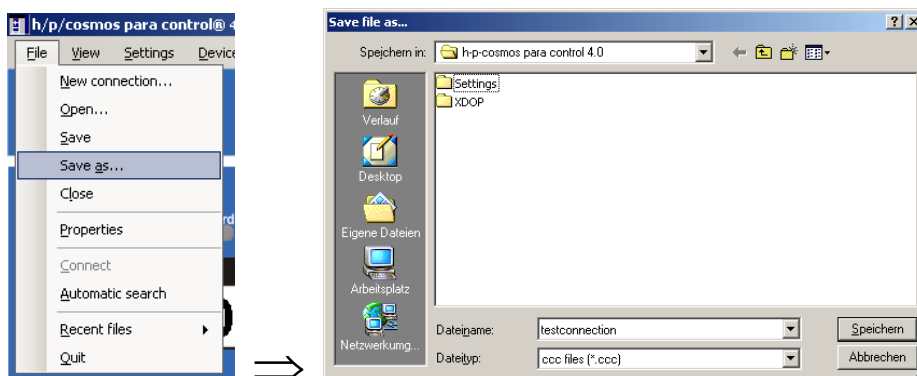
[5.A2] Manual connecting



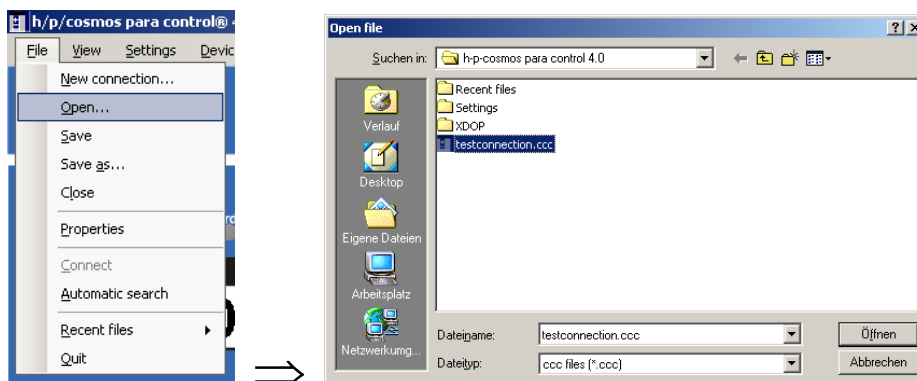
If you know at which com-port the running machine is connected you can setup the connection manually. The protocol-version can be set manually or you use the autodetect function.

[5.A3] Storing and loading of connections

h/p/cosmos para control 4.0 offers the possibility to store and load connection files. This option is very reasonable when you have more than 1 running machine connected to the PC. To store a connection just enter „File ⇒ Save as...” and you can store the connection-file to the according directory. When storing a connection file you should take care that you choose a file-name with which you can easily identify the running machine later (example: h-p-cosmos_quasar_diagnostics.ccc).

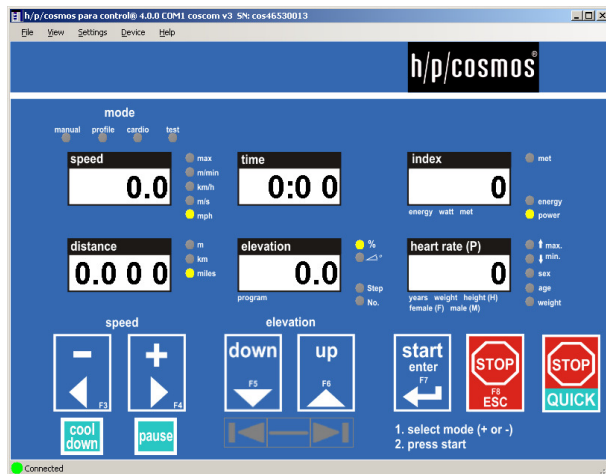


To open a connection file, enter „File ⇒ Open...” and select the according connection-file (ccc-file). After that h/p/cosmos para control 4.0 will connect to this running machine.



[5.B] General instructions for use

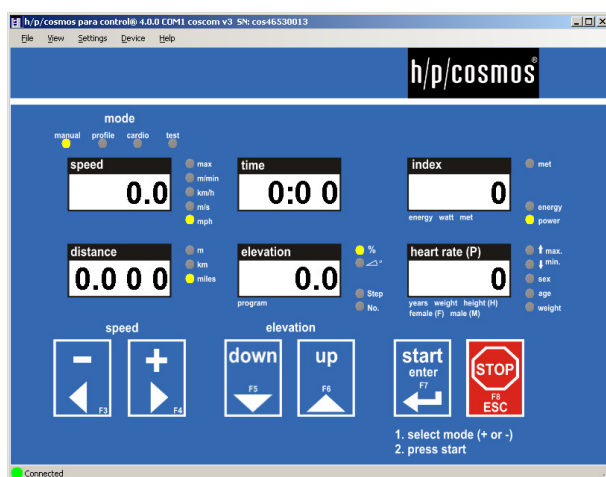
h/p/cosmos para control 4.0 is compatible to every h/p/cosmos running machine and ladder ergometer with MCU2, MCU3, MCU4 and MCU5. Depending on the connected running machine / ladder ergometer one of the following displays appear on the screen:

**User Terminal MCU4/MCU5 (coscom V3):**

h/p/cosmos para control 4.0 display for running machines equipped with MCU5 (all running machines delivered as of October 2007) or MCU4 with Firmware-Version higher than V4.03.1.

All functions and additional options of h/p/cosmos para control 4.0 are available!

The flash-firmware-update option is only available at running machines equipped with MCU5.

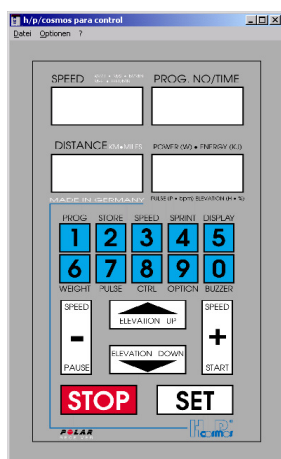
**User Terminal MCU4 (coscom V2):**

h/p/cosmos para control 4.0 display for running machines equipped with MCU4 with Firmware-Version lower or similar than V4.03.1.

The use of h/p/cosmos para control 4.0 is limited.

In short you can use only the standard remote functions by clicking with the mouse on the buttons or by using the keyboard.

The option mode functions are not available at coscom V2.

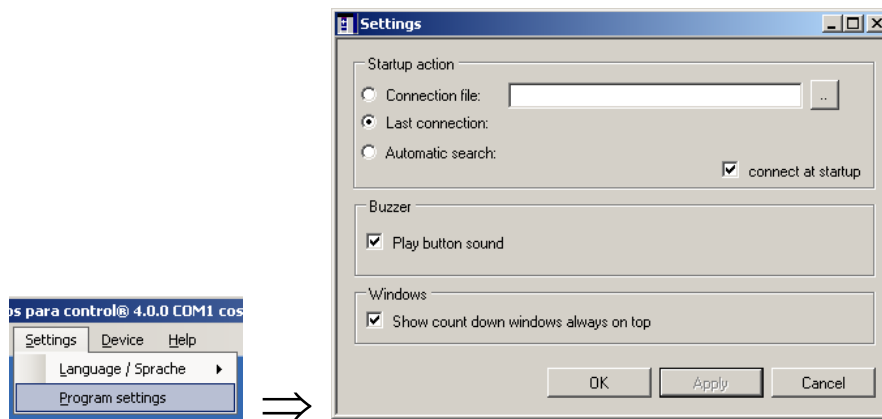
**User Terminal MCU2 and / or MCU3:**

h/p/cosmos para control 4.0 display for running machines equipped with MCU2 and / or MCU3. The Firmware-Version must be V2.31 or higher.

The use of h/p/cosmos para control 4.0 is limited.

In short you can use only the standard remote functions by clicking with the mouse on the buttons.

[5.C] General program settings



[5.C1] Startup action:

At the first program start after the installation, h/p/cosmos para control 4.0 will always ask if the automatic search shall be started. At every further program start, there can be selected between 3 possibilities what h/p/cosmos para control 4.0 will do after starting the software.

- Connection file: You can select a connection file to which h/p/cosmos para control 4.0 will connect after the start.
- Last connection: h/p/cosmos para control 4.0 will memorise the last connection before the shutdown and connect again to the same. This is recommended when using only one running machine with h/p/cosmos para control 4.0.
- Automatic search: h/p/cosmos para control 4.0 will start the automatic search function at every start of the software. The automatic search will also be activated automatically at the first start after the installation.

[5.C2] Buzzer

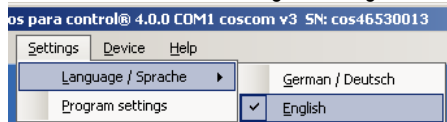
When the tick is activated you can hear the button sound over the soundcard of your pc (if available).

[5.C3] Windows

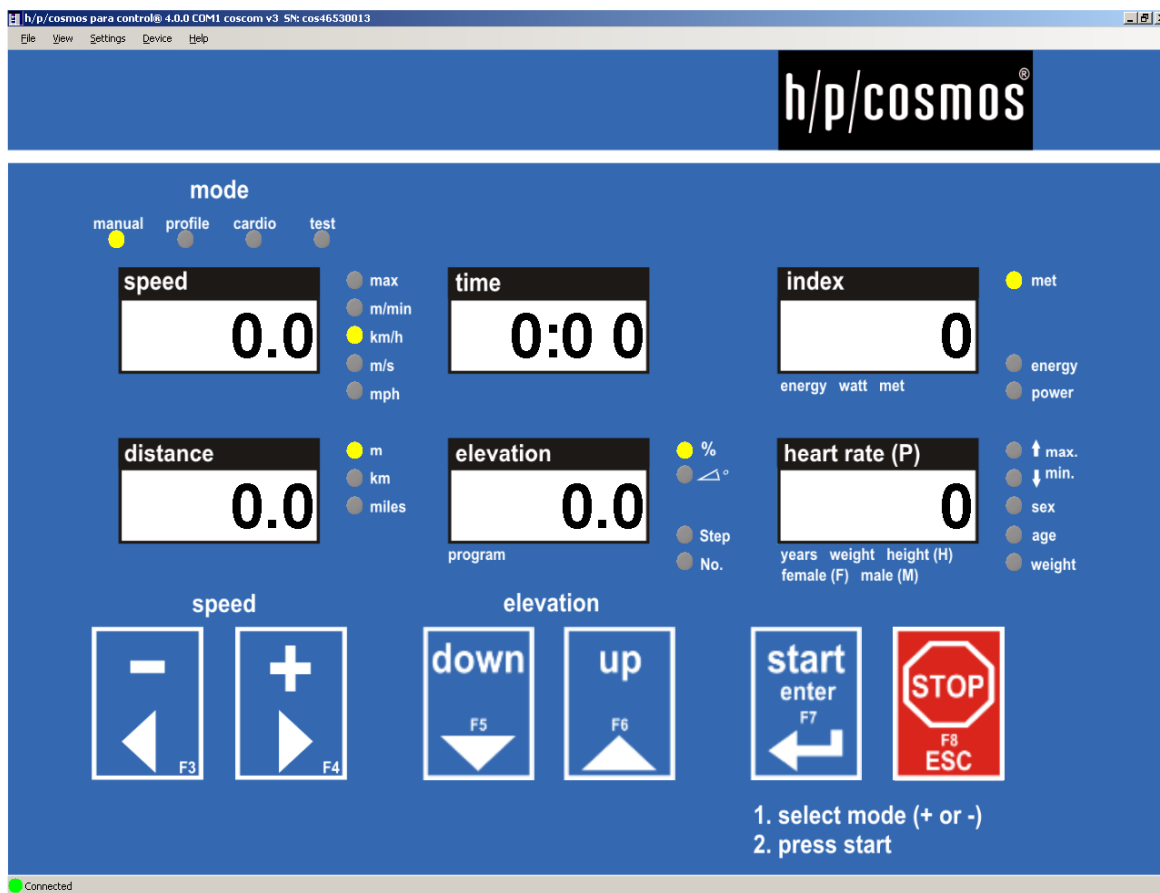
When the tick is activated, count-down windows will always be shown in the foreground of you screen.

[5.D] Language settings

You can select between english and german.



[5.E] Standard remote functions



The standard remote functions of h/p/cosmos para control 4.0 are applicable with all h/p/cosmos running machines. Please note that ALL OTHER functions which are described in this manual are only applicable when the running machine is equipped with the coscom V3 interface protocol. Coscom V3 is integrated in all running machines with MCU5 control logic (all h/p/cosmos running machines as of the year 2008) and with MCU4 control logic with firmware-version higher than V4.03.1.

There are 3 ways to press the buttons of h/p/cosmos para control 4.0 software and to control the running-machine:

- use mouse of PC and click on virtual buttons START / STOP / Speed + / - Elevation UP / DOWN
- use PC keyboard: Enter (for START), ESC (for STOP), cursor arrow keys ← → (for Speed - / +) and ↓ ↑ (for Elevation DOWN / UP)
- use the functions keys of the PC keyboard (not MCU2 and MCU3):
F3(-) F4(+) F5(DOWN) F6(UP) F7(START) F8(STOP).

The function keys allow also to press 2 or 3 buttons to enter the optional functions (see running-machine manual)

With the above described methods you are able to control the running machine and use any function of it. There can be made exactly the same settings as you can enter in the hardware UserTerminal.

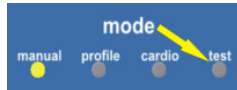
[5.F] **Parallel operation**

h/p/cosmos para control 4.0 has the function to remote up to 8 running machines from one PC. Please consider that every running machine needs to be connected to it's own com-port at the pc. To use this function you can start h/p/cosmos para control 4.0 as often as you want and connect to different running machines. To keep an overview to which running machine you are connected, it is recommended to save the connection file (see chapter [Storing and loading of connections](#)) of each running machine. Use a filename for the connection file with which you can later identify the running machine properly. In order to connect to the required running machine you just need to open the according connection file then (see chapter [Storing and loading of connections](#)).

[5.G] **Advanced remote functions**

Please note the below mentioned functions are only applicable when the running machine is equipped with the coscom V3 interface protocol. Coscom V3 is integrated in all running machines with MCU5 control logic (all h/p/cosmos running machines as of the year 2008) and with MCU4 control logic with firmware-version higher than V4.03.1.

All modes can be selected by a direct click with the left mouse button on the according LED.



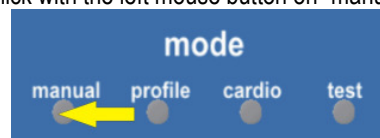
Example: click directly on the test LED to get access to the test mode.

[5.G1] **Manual mode**

For detailed information about the manual mode please check the h/p/cosmos running machines manual.

To start the manual-mode proceed as following:

Click with the left mouse button on "manual".



Running machine starts...

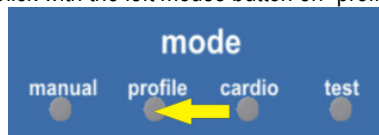
[5.G2] Profile mode



For detailed information about the profile mode please check the h/p/cosmos running machines manual.

To start the profile-mode proceed as following:

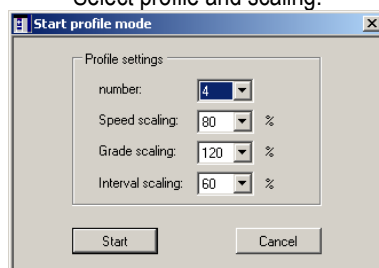
Click with the left mouse button on "profile".



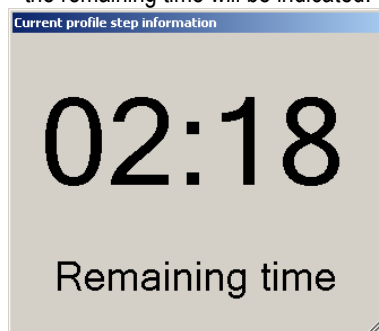
Following window opens



Select profile and scaling.



After 5 beeps the running machine starts and the remaining time will be indicated.



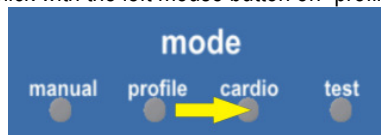
[5.G3] Cardio mode



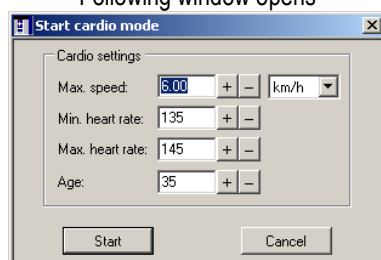
For detailed information about the cardio mode please check the h/p/cosmos running machines manual.

To start the cardio-mode proceed as following:

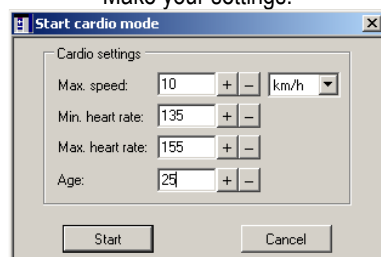
Click with the left mouse button on "profile".



Following window opens



Make your settings.



Running machine starts...

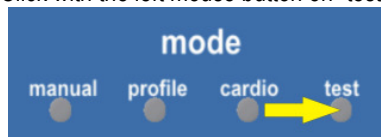
[5.G4] Test-Mode



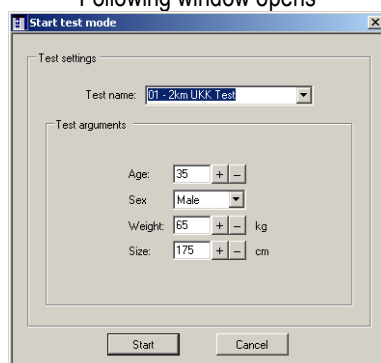
For detailed information about the test mode please check the h/p/cosmos running machines manual.

To start the test-mode proceed as following:

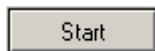
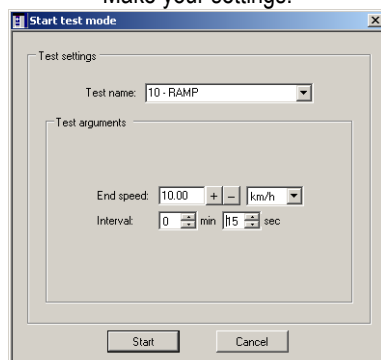
Click with the left mouse button on "test".



Following window opens



Make your settings.



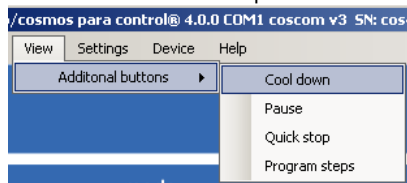
After 5 beeps the running machine starts...

[5.H] Additional keys

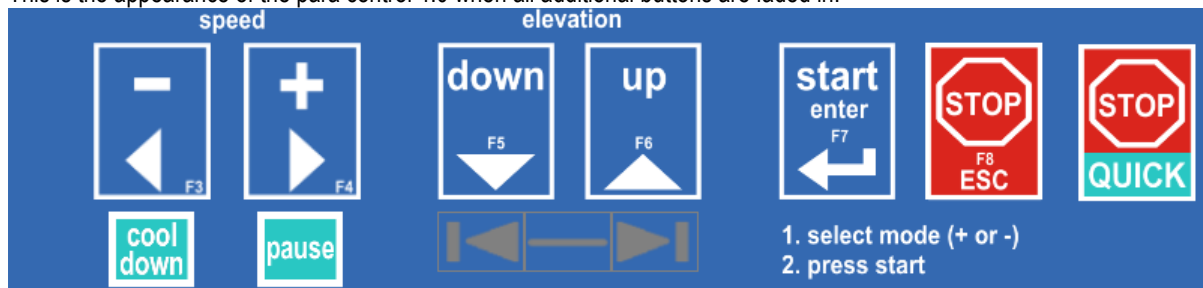


Please note the below mentioned functions are only applicable when the running machine is equipped with the coscom V3 interface protocol. Coscom V3 is integrated in all running machines with MCU5 control logic (all h/p/cosmos running machines as of the year 2008) and with MCU4 control logic with firmware-version higher than V4.03.1.

The additional buttons of para control 4.0 can be faded in at „view→additional buttons“.



This is the appearance of the para control 4.0 when all additional buttons are faded in.

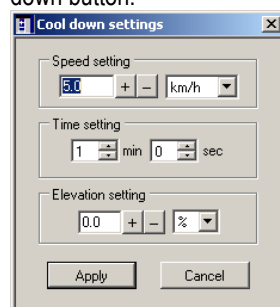


[5.H1] Cool down key



The „cool down“ function is available as soon as the running machine is in action. When activating „cool down“ all running automatic programs (profile, cardio, test) will be aborted.

Following settings can be made when pressing the right mouse key on the cool down button:



[5.H2] Pause key



The „pause“ function can be used, when the exercise shall be continued after a short break. Displays like TIME, INDEX and DISTANCE will continue with their last values after restarting the machine. PROFILES, TESTS will start also from the point where they have been stopped.

[5.H3] Program steps keys



The „program steps“ button is available when using the PROFILE or the TEST mode. With its help it is possible to jump between the steps of profiles or tests. The minus button in the middle works as FREEZE function. After pressing this button a profile step is freezed and the running machine does not switch to the next profile step until the freeze function has been deactivated.

[5.H4] Quick stop key



When pressing the QUICK STOP button the running machine performs it's quickest possible stop.

Caution / Warning!

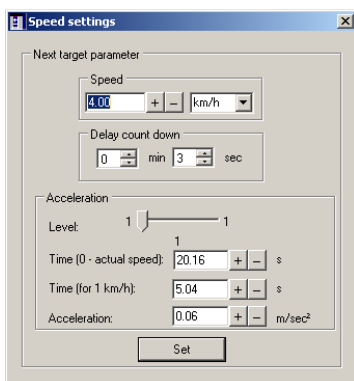
Quick Stop can be dangerous and lead to accidents and serious injuries in case if it was triggered without warning the subject in time to prepare for the quick stop.

[5.I] Advanced functions



Please note the below mentioned functions are only applicable when the running machine is equipped with the coscom V3 interface protocol. Coscom V3 is integrated in all running machines with MCU5 control logic (all h/p/cosmos running machines as of the year 2008) and with MCU4 control logic with firmware-version higher than V4.03.1.

[5.I1] Target speed settings

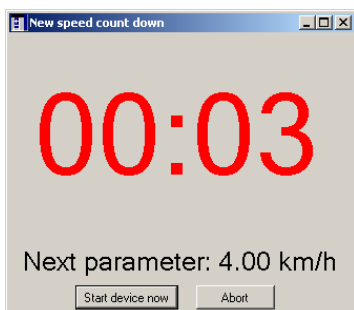


When clicking with the left mouse button at the speed display the window „speed settings“ is opening.

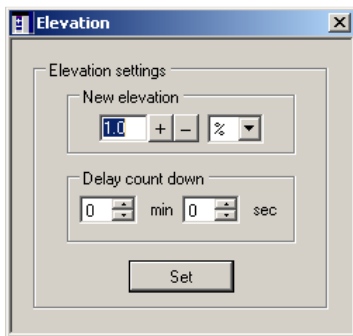
Following adjustments can be made:

- target speed
- delay count down
- acceleration setting

After confirming the settings the „speed countdown“ window is opening which indicates the remaining time of the count down and the target speed.



[5.12] Target elevation settings



By clicking with the left mouse button at the elevation display the window "elevation" is opening.

Following adjustments can be made:

- target elevation
- delay count down

After confirming the settings the "elevation countdown" window is opening which indicates the remaining time of the count down and the target elevation.

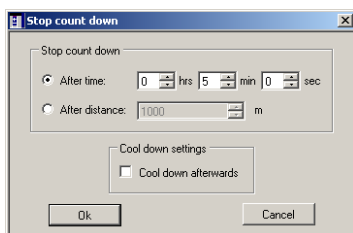


[5.13] Stop countdown



To use the „stop countdown“ function, click with the right mouse button at the stop key and select „stop count down“. After that the „stop count down“ window is opening.

You can select either a stop after a specific time or after a specific distance.



It can also be set that the cool down function shall be activated after the count down.

[5th14] Direct read out of current values over the LED's

Following values can be read out by moving with the mouse over the according LED.



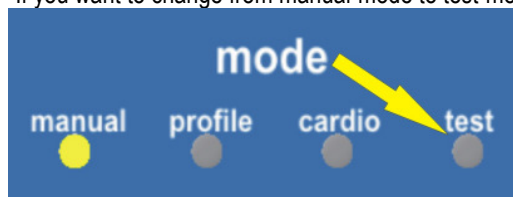
[5.15] Direct LED switching

Following LED's can be switched direct by a click with the left mouse button:

- | | |
|-----------|-----------|
| ■ manual | ■ mph |
| ■ profile | ■ m |
| ■ cardio | ■ km |
| ■ test | ■ miles |
| ■ m/min | ■ % |
| ■ km/h | ■ degrees |
| ■ m/s | |

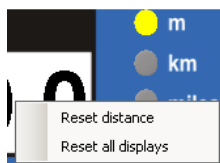
Example:

- If you want to change from manual-mode to test-mode, just click on the test-LED.



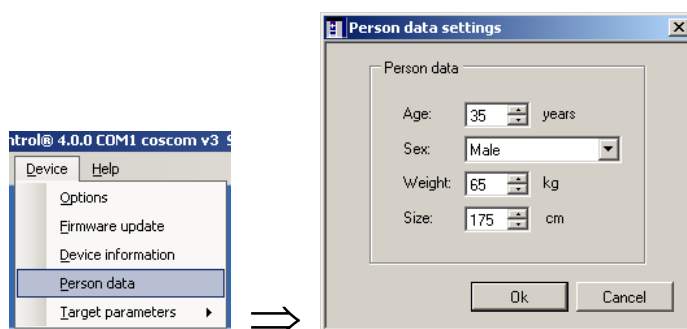
- If you would like to indicate the speed in m/s during the operation, change it by clicking on the m/s-LED.
- ...
- ...

[5.16] Display reset

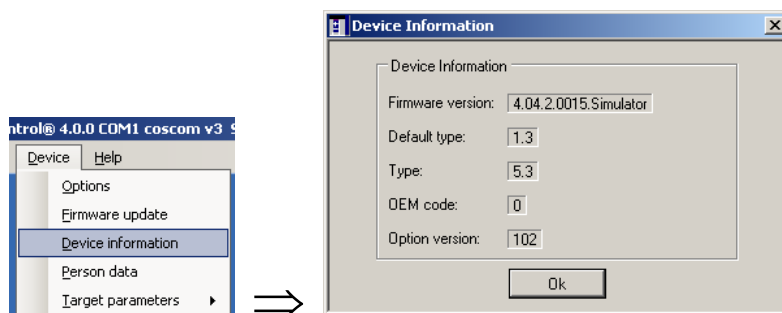


By clicking the right mouse button on the time, distance or index display you have the possibility to select between a reset of this single display or all displays (instead of speed and elevation).

[5.17] Person data settings



For all modes where person data needs to be entered (for example cardio mode, UKK-walk-test) default values can be set in para control 4.0.

[5.18] **Device information**

For information about the firmware of the connected device.

[5.J] **Option mode functions**

h/p/cosmos para control 4.0 is already equipped with this function. A detailed explanation will be available in the next version of this manual...

[5thJ1] **Read out of current option values**

h/p/cosmos para control 4.0 is already equipped with this function. A detailed explanation will be available in the next version of this manual...

[5.J2] **Layout of the option window**

h/p/cosmos para control 4.0 is already equipped with this function. A detailed explanation will be available in the next version of this manual...

[5thJ3] **Administrator access to the option dialog**

h/p/cosmos para control 4.0 is already equipped with this function. A detailed explanation will be available in the next version of this manual...

[5.J4] **Appliance of the view filter**

h/p/cosmos para control 4.0 is already equipped with this function. A detailed explanation will be available in the next version of this manual...

[5.J5] **Save and restore backups**

h/p/cosmos para control 4.0 is already equipped with this function. A detailed explanation will be available in the next version of this manual...

[5.J6] **Serial number setting**

h/p/cosmos para control 4.0 is already equipped with this function. A detailed explanation will be available in the next version of this manual...


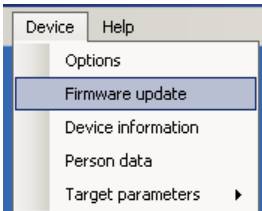
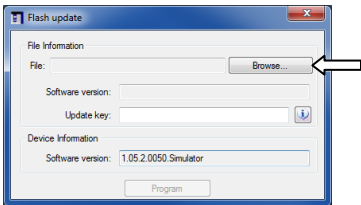
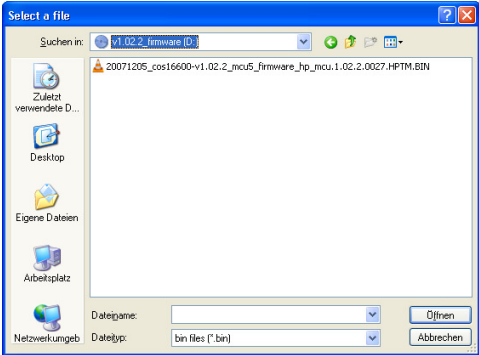
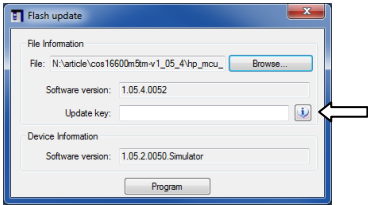
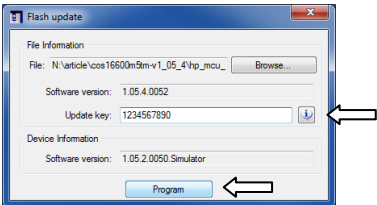
[5.J7] **Time and date setting**





h/p/cosmos para control 4.0 is already equipped with this function. A detailed explanation will be available in the next version of this manual...

[5.J8] **Print out current option settings**

h/p/cosmos para control 4.0 is already equipped with this function. A detailed explanation will be available in the next version of this manual...


[5.K] Work steps

Item	Illustration	Work step
[01]		Please connect the treadmill with PC and start the Software h/p/cosmos para control 4.1. Please assure the connection to the treadmill. You can check it at the green LED.
[02]		Please start the firmware-update with Device \Rightarrow Firmware update.
[03]		The Window Flash update opens automatically. Please press Browse...
[04]		Next please search for the firmware data (*.bin) for Update. Sample: On a CD or a DVD. 20071205_cos16600v1.02.2_mcu5_firmware_hp_mcu.1.04.05.0054.HPTM.BIN Please select the firmware data with double mouse click.
[05]		For Update you need the update key supported by h/p/cosmos. Please send the serial number of your running machine together with the firmware version to which should be updated to h/p/cosmos. There you will receive the update key.
[06]		Please insert the update key and press Program to start the update.


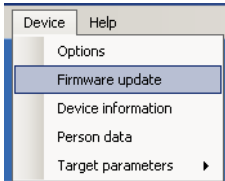
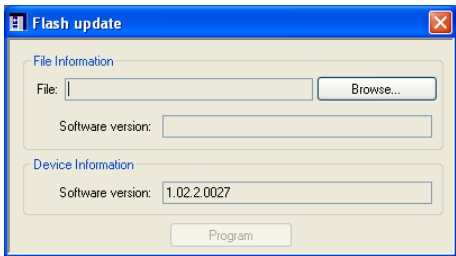
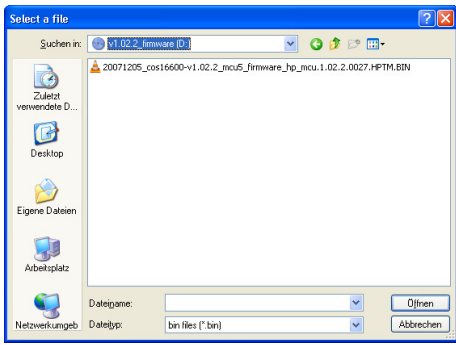
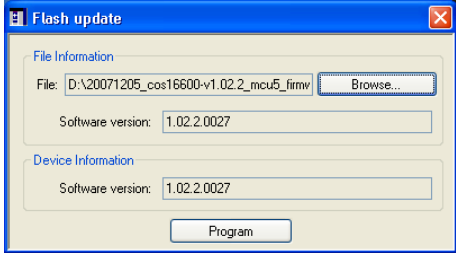
[07]		<p>h/p/cosmos para control 4.1 starts with programming the device buffer.</p> <p>Warning!!! Please assure, that nobody switch off the treadmill or disconnect the interface cable. It could be generated a problem with the MCU5 control board!</p>
[08]		<p>After some minutes h/p/cosmos para control starts with programming the flash.</p> <p>Warning!!! Please assure, that nobody switch off the treadmill or disconnect the interface cable. It could be generated a problem with the MCU5 control board!</p>
[09]		<p>After the complete update you can see the message Successful. Then please press the button Finish and reconnect.</p> <p>h/p/cosmos para control 4.1 will reconnect to the treadmill.</p>
[10]		<p>After the update the display or the h/p/cosmos para control screen shows following error code. E 51 FU b1 HELP HELP HELP</p> <p>As with every firmware (software) update you have to restart the treadmill and the h/p/cosmos para control. Please switch off the treadmill and wait for 30sec.</p> <p>After this time, switch on the treadmill. The treadmill now shows the start screen.</p> <p>You can use the treadmill normally.</p>

[5thL] Firmware update at h/p/cosmos running machines with MCU5 control logic

All h/p/cosmos running machines with delivery date > October 2007 are equipped with MCU5 control logic whose firmware can be updated in a flash-eprom writing process. The update process must be started with h/p/cosmos para control 4.0.

	<p>Caution / Warning!</p> <p>Please take care that you never switch off the running machine or the PC during the update process. Also the RS232 interface cable must not be disconnected during the update process. Otherwise an irreversible damage of the MCU control board could be caused. Please use COM3 (service port) of the running machine for the firmware update!</p>
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To update the running machine's firmware please proceed as described in the following chart:

[5.K]	Step no.	Screenshot	Activity
	[01]		Start para control 4.0 and connect to the running machine. You need to have the green connected LED on the bottom left side of para control 4.0 screen.
	[02]		To start the firmware update enter „Device⇒Firmware update“
	[03]		The „Flash update“ window opens. Click on „Browse“.
	[04]		Navigate to the directory of the „bin-file“ of the firmware. Example: your CD / DVD drive Double-click on the “.bin-file“. Example: your CD / DVD drive: 20071205_cos16600- v1.02.2_mcu5_firmware_hp_mcu.1.02.2.0027.HPTM.BIN
	[05]		To start the update process click on „Program“

	<p>[06] Programming flash</p> <p>Step 1: Update master flash Writing to device buffer</p> <p>Step 2: Programming master data flash Programming flash</p> <p>Caution: Device may be damaged when switching off</p> <p>Step 3: Check new version master flash</p> <p>Finish and reconnect</p> <p>Abort</p>	<p>h/p/cosmos para control 4.0 starts to write the device buffer.</p> <p>Depening on the speed of the interface and coscom this may take between 3 to 8 minutes</p> <p>Caution / Warning !</p> <p>The treadmill MCU5 electronic device may be damaged when disconnecting interface cable or when switching off the running machine or the PC during the firmware update procedure! Make sure that this process will be completed without any interruption and do not operate any other program on this computer during update process.</p>
	<p>[07] Programming flash</p> <p>Step 1: Update master flash Writing to device buffer</p> <p>Step 2: Programming master data flash Programming flash</p> <p>Caution: Device may be damaged when switching off</p> <p>Step 3: Check new version master flash</p> <p>Finish and reconnect</p> <p>Abort</p>	<p>After approximately 3 to 8 minutes h/p/cosmos para control 4.0 starts to program the flash storage.</p>
	<p>[08] Programming flash</p> <p>Step 1: Update master flash Writing to device buffer</p> <p>Step 2: Programming master data flash Programming flash</p> <p>Caution: Device may be damaged when switching off</p> <p>Step 3: Check new version master flash</p> <p>Successful</p> <p>Finish and reconnect</p> <p>Abort</p>	<p>When the update was sucessful the left screen appears.</p> <p>Click on „Finish and reconnect“ to get back to the normal para control 4.0 screen.</p> <p>Update process of the running machine's firmware has been completed successfully. Congratulations!</p>

[6.] Deinstallation

h/p/cosmos para control 4.0 is already equipped with this function. A detailed explanation will be available in the next version of this manual...

[7.] Connection problems

The most common causes for problem with the RS232 interface are

- The serial interface cable RS232 of your PC is defective or wrong. Check order number on the cable and compare with wiring diagram on page 4 contact your supplier of the PC. Use original h/p/cosmos interface cable with h/p/cosmos label only.
- The interface cable is not connected properly to COM1 (or the selected COM port) of the PC. Connect properly
- Technical defects of the connection cable or male / female connector
- Another PC program is using the COM-port of the PC (e.g. COM1). Exit all other programs on the PC and start only h/p/cosmos para control 4.0
- The running-machine setup for the interface protocol is wrong: It must be OPTION 20 1 for coscom protocol (see chapter [How to connect the PC to the running machine](#))
- False setting of protocols / driver at Running-Machine or periphery (ECG, PC, Ergospirometry)
- False setting of COM port at periphery (ECG, PC, Ergospirometry)
- The serial interface port RS 232 of your running machine MCU is defective. Please contact your h/p/cosmos dealer.

We suggest **not** to change the physical connection to the interface port of the computer any more after the first installation.

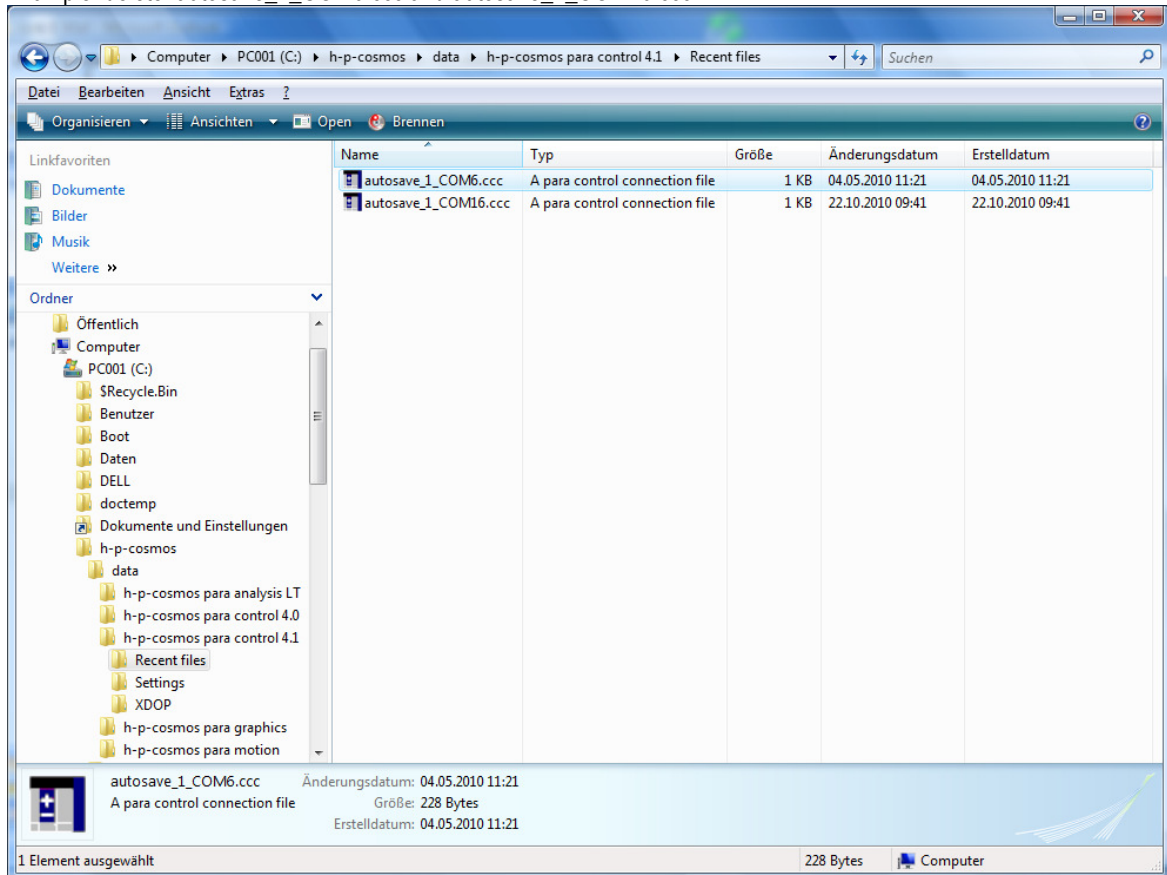
In case the USB port has been changed (physically through plug in to another interface port or automatically through Windows, for example after power safe mode or restart) or in case of a software crash or a crash of the computer's operating system (Windows) it may occur that the assignment in the h/p/cosmos para control software for the USB is not correct any more.

If the manual search for the treadmill and the manual assignment of the interface port in the software menu of h/p/cosmos para control also fails, then proceed as following:

- a) close h/p/cosmos para control software
- b) delete all autosave files from the folder:

C:\h-p-cosmos\data\h-p-cosmos para control 4.1\Recent files\

Example: delete: autosave_1_COM6.ccc and autosave_1_COM16.ccc



After deleting all the autosave files re-start h/p/cosmos para control and re-establish the interface connection to the treadmill with the autosearch function.

After successful connection one new autosave file will be generated automatically by h/p/cosmos para control software in this folder.

[7thA1] Troubleshooting and testing of the RS232 interface

- Loop-Back Test: For testing the RS232 of the running machine a special RS232 test plug including testing instruction is available from the manufacturer. Connect the plug to the RS232 port and adjust OPTION 20 10
- A blinking code and the instruction will tell you if input and output of the RS232 are working well.

[8.] **Contact**

For additional orders and technical enquiries please have the model type, the serial number, the date of installation of your running machine and the software-version of h/p/cosmos para control 4.0 ready. In case of any further questions about delivery dates, service or maintenance, orders for consumables etc., please contact the corresponding phone, fax or email for qualified help.

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Organisation type: Manufacturer
Code: DE/0000012774
UMDNS-Code: 14-141 Running Machine
Registration date first notice: June 2, 1999