Instructions for use / installation of the boso profil-manager XD

Powerful software for computer-assisted blood pressure control and observation of therapy



Compatible with the following blood pressure meters:

TM-2430 SP24 ABI-system 100 ABI-system 100 PWV medicus PC2 medilife PC3 medicus system, bosogramm system (boso-App)



These instructions for use and installation of the boso profil-manager XD apply to version 5.2 and above. Please refer to the readme.txt file on the installation CD for new information.

The drive letters in these instructions for use are simply examples:

C:\ for the local hard drive

D:\ for the CD/DVD drive

The path data corresponds to a standard single-user installation under the german Windows 10 (64-bit) operating system and may be different in other operating systems or language versions.

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Contents of package

1 installation CD

1 user manual

Minimum operating requirements:

- Pentium II or higher
- 512 MB RAM
- Graphics card
- 100 MB free hard disk space
- USB 1.1 interface
- Microsoft Windows® XP

Accuracy of the displayed values:

Systole,

Diactala

Diastol	e,	
Pulse	=	accuracy of the BP monitor used
ABI	=	accuracy of the BP monitor used (2 digits behind the comma)
PWV	=	\pm 5% (1 digit behind the comma)
SPO2	=	accuracy of the SPO2 monitor used

Purpose

software, utilized for

- management of values which are generated by measuring instruments boso
- archive of measured values in a separate database
- data exchange with doctors' EDP systems via GDT interface

• programming of 24-blood pressure instruments (interval limits, interval time, maximum inflation pressure)

• control of ABI measurement systems (start and termination of a measurement)

Contraindication

The software must not be used to monitor vital physiological parameters which could cause immediate danger to the patient if they were changed.

1.1 Before installation...

You have chosen boso profil-manager XD, a software solution which gives you optimum results with minimum input time. It has been deliberately designed to be operated without the usual menu structure based on individual registries. This is why the user manual also refers to individual windows and program parts as registries.

1.1.1 Data backup

To avoid losing data, you should back up the 'profman.fdb' file from the C:\ProgramData\Boso\profmanXD\ sub-directory at regular intervals.

1.1.2 Operating the software

The program is operated by the mouse.



PC requirements

Computers used to assess data must comply with the latest version of European standard EN 60601-1.

1.2 Installing boso profil-manager XD

To install boso profil-manager XD, start file D:\ installer.exe manually or automatically via the autostart function which runs when you have inserted the CD.



Make sure that you have administrator rights when installing the program (if in doubt, start the "installer.exe" program with the right mouse button, "execute as administrator")

The following selection screen (in German) will appear as soon as the program has started:

boso profilmanager XD Installation		
	Willkommen	boso
Einzelplatzversion Installiere boso profilmanager XD		Netzwerkversion Installiere Firebird-DB-Server Installiere Datenbankdatei Installiere boso profilmanager XD
		Schließen

Choose either the single-user version or the network version.

1.2.1 Single-user version

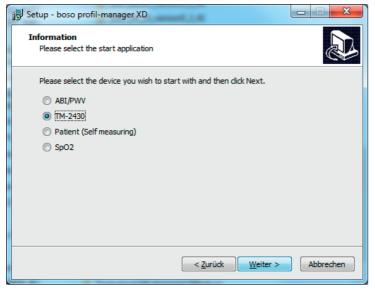
The single-user version is the correct choice if you are only going to run the program on one computer. In this case you do not need to install a separate Firebird database server (an embedded Firebird is used). Follow the installation assistant instructions:

Select your preferred language for installation (screenshot in German):

Setup-S	prache auswählen
12	Wählen Sie die Sprache aus, die während der Installation benutzt werden soll:
	English V OK Abbrechen
	OK ADDICUICI

The available languages are German, English, French, Italian, Czech, Russian, Chinese, Slovak and Finnish.

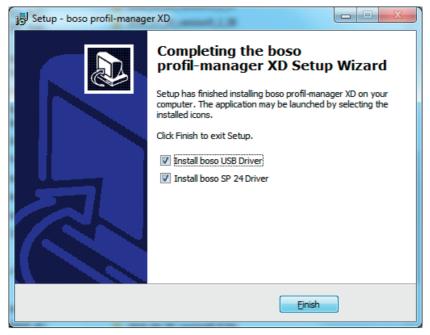
As the program can be used with all current boso PC devices, in the next mask you must select the type of device to be activated when starting the program for the first time. After installation you can switch between device types at any time while using the program.



You can change the target folder for installation individually, but in most cases the default folder is used unchanged:

😼 Setup - boso profilmanager XD	- • ×
Select Destination Location Where should boso profilmanager XD be installed?	
Setup will install boso profilmanager XD into the following folder.	
To continue, click Next. If you would like to select a different folder, click	Browse.
C:\Program Files\Boso\ProfmanXD	Browse
At least 30, 1 MB of free disk space is required.	
Actedistion, 1 Mb of free disk space is required.	
< <u>B</u> ack <u>N</u> ext >	Cancel

At the end of installation, tick the "Install boso USB Driver" checkbox to install the USB driver needed for the PC connection cable.



Once you have successfully installed the single-user version of boso profil-manager XD, click on the "Close" button to close the installation screen.

At the end of installation, tick the "Install boso USB Driver" checkbox to preinstall the USB driver needed for boso sphygmomanometers and tick the checkbox "Install boso SP 24 Driver" to preinstall the USB driver required for the SpO2 measuring device.

1.2.2 Network version (screenshot in German)

boso profilmanager XD Installation		×
	Willkommen	boso
Einzelplatzversion Installiere boso profilmanager XD		Netzwerkversion Installiere Firebird-DB-Server Installiere Datenbankdatei Installiere boso profilmanager XD
		Schließen

The network version is used if the program has to run in the IT network on several workstations. The database can be stored anywhere in the IT network.

Installation in an IT network that includes other devices can lead to previously unknown risks for patients, operators or third parties.

The organisation responsible must determine, analyse and control these risks.

The following changes to the IT network can lead to new risks and could therefore make additional analyses necessary:

- Change to the IT network configuration (e.g. updating the version of Firebird, opening a TCP port, antivirus reconfiguration...)
- Connecting additional elements to the IT network
- Removing elements from the IT network
- Updating devices connected to the IT network
- Upgrading devices connected to the IT network

1.2.2.1 Installing the Firebird database server

In order to run the network version of boso profil-manager XD, the Firebird database server must be installed on the computer where the database is to be stored.

Click on the "Install Firebird DB server" button to install the Firebird database server.



After selecting the language, follow the instructions given by the installation assistant and accept all the default settings

1.2.2.2 Installing the database file

The "profman5.fdb" database file can be stored at any location in the network.



Make sure that the computer in which the database is to be located is run ning a current Firebird server (version 2.5 or above), that the TCP port 3050 is open for access when the firewall is active, and that access to the database and the database server is not blocked by an anti-virus program.

1.2.2.3 Installing boso profil-manager XD

You can install boso profil-manager XD on any computer in the network by clicking the "Install boso profil-manager XD" button.

Follow the instructions given by the installation assistant as described for the [single-user version] in chapter 1.2.1.

1.2.2.4 Launching the network version for the first time

When you launch the network version for the first time, you will see a login window to register with the Firebird database.

Login	
Server name	Server
Database File	C:\Datenbanken\boso\profman.fdb
on data base serve	
Username	sysdba
[Default: sysdba]	
Password	*******
[Default: masterkey	1
Info	Login Cancel

The login data you enter here will be stored in the "profman.ini" file in the C:\Programme\ Boso\ProfmanXD\ directory and can be modified if necessary at any time, for instance if the database is moved to another location in the network.

Server name

Name of the server in which the database is located

Database file

Drive, path and name of the boso profil-manager XD database file from the server's perspective.

User name

Login information for the current Firebird database server. The default name is "sysdba". Login information may be different if Firebird has already been installed.

Password

Login information for the current Firebird database server. The default password is "masterkey". Login information may be different if Firebird has already been installed.

1.3 Data migration ABI / profilmanager 3 -> profil-manager XD

Use the Konverter.exe program to convert existing data from earlier Firebird databases.

Launch the program either via Windows Explorer from the directory path C:\ Programme\Boso\ProfmanXD\ or via the Windows start button, selecting the program "Datenübernahme aus Vorversionen" under the "boso profil-manager XD" program group (file path and name in German)



The databases to be converted must be on the local system. Conversion via the network is not possible.



Enter a username and password to register with the Firebird database server. The default username is "sysdba" and the default password is "masterkey".

Select the storage location for the profil-manager XD file in the "Target DB (profil-manager XD V 5.1)" field.

Select the language of the database you want to convert.

Select the

Select the storage location of the database you want to convert (ABI or profil-manager 3). Click on the "Connect" button to connect to the source database.

Data migratio	on ABI resp. profilmanager 3 ->	profilmanagerXD		↔	<u>0</u>	×
L. Server		Installation type: Local	Potocol:			
2. Username	Sysdba					
. Password	••••					
. Target DB (profi	Imanager XD V 5.0) C: Program	Data Boso profinanXD profinan 5. fdb				
i. <u>L</u> anguage (Sour	cel-DB) German ~					
5. <u>Q</u> uell-DB	ABI	~				
2000 (100 (100) 2	1					
Source DB (ABI)	C:\ProgramData\Boso\Abi\	abi.fdb				
Connect	Start migration					
Important Hint						
	o be executed on the server. All fi	es have to reside on the local file system (no network drive).				
Quit						

If you transfer data from more than one database, the separate sets of data are brought together in the new database.

Measurements for a specific patient are only brought together if the surname, first name and date of birth are the same. If the patient numbers are different, the patient number of the target database is retained.

If the surname, first name and date of birth do not match, or if these fields are empty or out of date, a new patient record will be created. The patient number is retained unless it already exists in the target database, in which case a new patient number will be created. All patients with mismatches are transferred to a list. The data can be updated before being transferred. Missing or out-of-date data will not be transferred (screenshot in German).

Liste der ni	cht übernehmbaren Patienten		- • •
	Sie, dass nur Patienten übernommen wer nd. Folgende Patienten werden daher nic		und Geburtsdatum vorhanden
Nr.	Name	Vorname	Geburtsdatum
2	Mayer	Franz	
Wahlen Sie <al< td=""><td>obruch>, wenn Sie die Daten zunächst pf ollen.</td><td>legen und die Übernahme zu ein</td><td>em späteren Zeitpunkt</td></al<>	obruch>, wenn Sie die Daten zunächst pf ollen.	legen und die Übernahme zu ein	em späteren Zeitpunkt
Drucken	Anzahl: 1	Datenübernahme dennoch sta	Abbruch

1.4 Installing the USB connection cable

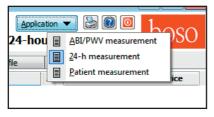
If the USB driver was pre-installed during installation (this is normally the case), you simply need to plug the USB connection cable provided into a free USB port. The cable is then automatically recognised and installed.

If the driver was not pre-installed, you must execute the file dpinst_32bit.exe (present after installation in the directory C:\Programme\Boso\profmanXD\ftdi\) as administrator and then plug the USB cable into a free USB port.

2. Start

Name:		l-mar	nager XD			orename: irthdate:					↔ Application ▼		bo	×
P	atient		Measuren	nents	Svs	/dia profile	,	MAP profile	P	P profile	Statistics	ement		00
Suche	Patier	t No.	~ [515		Surname	v prone		, prome	Suche aufheben			
Patient n	10.		Surname	First na		Date	ofbirth …	Place (Posta	l code) ····	Remark				
			Mustermann Prof. Dr. Pöter	Manfred Alexand		20.02	2. 1939	76532 Bade	n-Baden				New	-
													elete	
												Export	:/Import	•
												Im	port GDT	
												Se	ettings	
												1 3	Print	
												E	Billing list	
ersion 5	.1.0.31		CRC32:	02720353			User: Sysdba		Server:	local	Pattern: 51		DB: C:\F	Progra

After starting boso profil-manager XD by clicking on the "boso profil-manager XD" icon, select the part of the program you wish to run in the light of the device application you are currently using:



Applications with data already stored are indicated by the 📃 symbol.

Applications with no data at present are indicated by the

symbol.

If you switch from one application to another for a selected patient, the "Measurements" registry is automatically selected. This means that measurements from various applications provide you with an overall view of all measurements for a particular patient.

Accessing the help function

Press the F1 key or button to call up these and other instructions for use in PDF format at any time.

2.1 Patient registry, for all applications

Click on a patient to select him or her.

Patients can be sorted by clicking on the header of the relevant column.

Use the "Restore column order" function to go back to the original sorting by patient number. To do this, right-click in the header row of the patient table.

You can search by name via the "Search" function.

2.1.1 "New ... " button

This sets up a new patient. The name and patient number fields must be completed. The system will suggest a patient number, but you can change this manually. (Consecutive number with addition "-B")



When operating in the doctors office environment, it is strongly recommended to create new patients exclusively in the doctors office software.

2.1.2 "Modify ... " button

This alters an existing patient's personal data.

2.1.3 "Delete ... " button

This deletes a patient.



This process is irreversible: all data (including measurements from all parts of the application) are deleted and cannot be recovered.

2.1.4 "Export/Import" button

2.1.4.1 "Export Excel" exports data for the currently selected patient (from the current ABI, 24-hour, patient measurement application) in Excel-readable .xls format. You can choose whatever file name and storage location you like.

2.1.4.2 "Export patient (XML)" exports data for the currently selected patient in profil-manager XD-readable .xml format.

2.1.4.3 "Import Patient (XML)" imports data for a selected patient.

The following rules apply to 2.1.4.2 and 2.1.4.3:

The transfer path from the transfer file settings is used for incorporation into the clinic's data processing system (see next chapter, "Settings..." button)

The file name is made up of the active application and the patient number. For example, "2430_10.xml" stands for patient data for the patient with patient number 10 from the 24-hour measurement application.

2430_#.xml stands for data from the 24-hour measurement ABI_#.xml stands for data from the ABI measurement medicus_#.xml stands for data from patient measurement

2.1.5 Import GDT

The GDT-import file, if available, is read and the included patient is selected or created. If a patient with the imported patient number already exists, the following screen appears.

Do you want	to select this patient?		×
-Personal Da	ata		Other
Name	Mayer		Patient No. 10
Forename	Franz		Insurance No.
Date of birt	th 04.11.1970 dd.mm.yyyyy	MaleFemale	
Address			Dimensions
Street	Musterstraße 99		Height 175,5 cm
Zip / City	12345 Musterhausen		Weight 75,5 kg
Re <u>m</u> arks			
Muster-Pati	ent		*
			Ŧ
Yes,	select this patient	No, use patient data	from GDT import Cancel

The button "Yes, select this patient" selects the indicated patient.



With the button "No, use patient data from GDT import" all existing data will be assigned to the patient from the GDT import file.

2.1.6 "Settings" button

The settings are explained in the sections dealing with particular applications (chapters 3 to 5) as they are application-specific.

2.1.7 "Print..." button

Patient data is presented on screen (preview), printed out on the printer selected under "Setup", and/or in the configured PDF file.

The Windows standard printer is the default for print-outs.

If you selected "PDF file" in the printer settings, a PDF file will be created. The name of this PDF file is pmXD_pat#.pdf

Where

pat#=patient number

2.1.8 "Billing assistance..." button

This creates a summary of the number of measurements in the currently selected application that have been performed within a given time period (not available for patient measurement).

For example, this provides a simple indication of how many 24-hour measurements were performed in the first quarter.

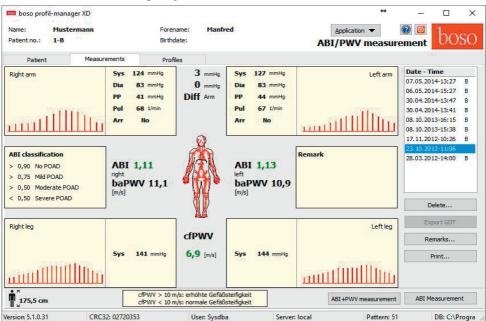
If you selected "PDF file" in the printer settings, a PDF file will be created. The name of this PDF file is pmXD_cl.pdf.

3. "ABI/PWV measurement" application

3.1 "Patient" registry

see section "2.1 Patient registry, for all applications"

See chapter 3.4 for "Settings" button



3.2 "Measurements" registry

Measurements that have been carried out can be viewed, and new measurements can be performed, in the "Measurements" registry.

To display ABI / PWV measurements that have already been carried out, select the desired ABI / PWV measurements in the "Date-Time" field.

The screen displays the following parameters (for the left and right half of the body in each case):

Sys upper arm systolic blood pressure, with measurements >140 mmHg in red

Dia upper arm diastolic blood pressure, with measurements >90 mmHg in red

 $\ensuremath{\textbf{PP}}$ pulse pressure = difference between systole and diastole, with measurements >54 mmHg in red

Pul pulse in 1/min

Arr Indication of whether a pulse irregularity of over 25% was observed during the measurement. Display in red indicates arrhythmia.

ABI Ankle-brachial index = ratio of the systolic pressure measured in the leg and the higher systolic pressure measured in the arm. Display in red indicates an ABI < 0.9 [default].

baPWV (optional) measured pulse wave velocity brachial-ankle.

Since there is no exact limit but only a gray area of 14-18 m / sec, the baPWV value is shown in neutral black only.

In some cases, the limit value is also determined individually depending on the sex, age and blood pressure of the patient.

cfPWV_calc (optional) pulse wave velocity carotid-femoral calculated from baPWV, displayed in red indicates >= 10 m/s. (No calculation if both ABI < 0.9)



The patient's height must be recorded as this information is needed to calculate PWV.

Sys systolic blood pressure in the ankle

Diff Arm Sys Difference between the systolic values in the left and right upper arms, with results > 10mmHg displayed in red

Diff Arm Dia Difference between the diastolic values in the left and right upper arms, with results > 10mmHg displayed in red

Diff Leg Sys Difference between the systolic values in the left and right ankles, with results > 10mmHg displayed in red.

Clicking on one of the oscillation profiles enlarges the selected profile. The "pulse level over time" registry shows the course of oscillation over the time axis. The "pulse level over cuff pressure" registry shows the course of oscillation over cuff pressure.

3.2.1 "Delete" button

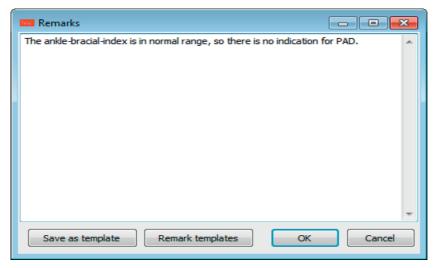
Measurements that have already been performed can be irrevocably deleted by this button.

3.2.2 "Export GDT" button

This generates the GDT export file manually. Only available if the GDT import of the active patient has already been performed.

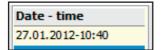
3.2.3 "Remarks..." button

Click in the "Remarks" field or the "Remarks" button to add a remark to a measurement.



Remarks that are made frequently can be stored as templates using the "Store as template" button. You can use the "Remark templates" button to easily insert stored remark templates into a remark field at any time.

Measurements with remarks are marked with an "R" in the "Date-Time" field.



3.2.4 "Print" button

This produces a print-out of the current measurement.

If you selected "PDF file" in the printer settings, a PDF file will be created. The name of this PDF file is ABI_pat#_YYYYMMDD_SSMMSS.pdf

where

```
pat#=patient number
YYYYMMDD = date of measurement
m = measurement reference letter
```

3.2.5 "ABI measurement" button

This initialises the boso ABI system 100 and starts a new measurement.

You can cancel a measurement which is being performed at any time by using the "Cancel measurement" button or pressing the STOP key on the device.

Once the measurement of a limb has been completed, the "Store measurement" key is activated.

You could store the measurement at this stage (for example, if the patient has a limb missing).

Once all measurements on four limbs have been completed, a green border appears around the active "Store measurement" button. This indicates that the measurements have been successfully completed and can be stored.

If an error occurs during a measurement, the following error message appears in the corresponding measurement window:

(82) measurement error -> retry measurement.



If this error occurs repeatedly, this can indicate that the patient has a vascular disease. Further investigation is recommended in this case once a technical defect has been ruled out. If no reading is displayed for systolic blood pressure **in the ankle**, check the cuff and tubes and then retry. If no reading is displayed the second time, this can indicate a circulation dis order or medial sclerosis. Here again further investigations are recommended.

(83) Connect cuff

(89) System error -> Device should be checked by the manufacturer's technical support service

3.2.6 "ABI+PWV measurement" button (optional)

This automatically performs a PWV measurement 10 seconds after completion of the ABI measurement described under 3.2.5.

A green border appears around the "Store measurement" button once the PWV measurement has been completed. This indicates that the PWV measurement has been successfully completed and can be stored.

3.3 "Profiles" registry



The ABI values (and PWV values if this option is selected) of all measurements are presented in the form of bar charts in the "Profiles" registry. The ABI colour display is as per the setting under "Classification" (red: ABI < 0.9).

Various parameters are available to alter the optical presentation of the profile:



Display values (standard): ABI values are displayed above the bars.

Legend: The legend for the readings is displayed in the diagram.

3D: The bars are displayed in 3D.

Grid lines: Grid lines are shown in the coordinates system.

90° title: The title of the x-axis is rotated through 90°.

3.3.1 "Print" button

This produces a print-out of the profile display.

If you selected "PDF file" in the printer settings, a PDF file will be created. The name of this PDF file is ABI_pat#_p.pdf

where pat#=patient number p = profile reference letter

3.4 "Settings..." button in "Patient" registry

3.4.1 "Doctor" sub-registry

Settings		3
Doctor Imp	ort/Export Classification Test mode Printer Settings	-
Name	Dr.med. Mustermann	
Street	Musterstraße 1	
City	12345 Musterstadt	
Telephone	01234 567 890	
Fax	01234 567 891	
	OK Cancel]

The personal details of the doctor treating the patient are entered in the "Doctor" registry and used to produce the footer in the print-out.

3.4.2 "Import/Export" sub-registry

ctor Impo	rt/Export	Classification	Test mode	Printer S	ettings		
GDT							
Import File	DT port File C:\temp\import.gdt port File C:\temp\export.gdt Produce PDF file during GDT export GDT export permanently active - including variable file names (yyyymmdd_hhmmss Verwende UTF-8 Zeichensatz						
Export File	ort File C:\temp\import.gdt ort File C:\temp\export.gdt Produce PDF file during GDT export GDT export permanently active - including variable file names (yyyymmdd_hhmms						
				-LI- CI		11 LL	
GDT ex	oort perma	anently active		iable <mark>fi</mark> le na	ames (yyyymm	dd_hhmmss)	1
GDT ex	oort perma	anently active		iable file na	ames (yyyymm	dd_hhmmss)	1
	oort perma	anently active		iable file na	ames (yyyymn	dd_hhmmss))

If you are using a clinic data processing system that supports the GDT interface, this is where the path and file names for export and import files are set.

You have direct access to the Windows directory structure via the buttons next to the input fields for import and export files.

For example: c:\prax_edv\import.gdt Import file = clinic DP system export file Export file = clinic DP system import file

GDT import takes place automatically when you start the program, or manually by clicking the "Export/Import -> Import GDT" button if a valid GDT import file is present in the relevant directory.

GDT export takes place only if the patient being imported from the clinic DP system is active. Export takes place automatically when the program is closed down (if measurements have been read in from the device during the current program session) or can be performed manually at any time by clicking the "Export GDT" button in the "Measurements" registry.



Data export is deactivated if another patient has been selected after automa tic import. It is reactivated when the first patient is reselected. Data export is also deactivated if no import has first taken place.

For certain applications (e.g. HL7 in hospital), it may be necessary to activate GDT-export permantly and name the export file variable (Export.gdt -> yyyymmdd_hhmmss.gdt). For this, activate the option "GDT export is permanently active - including variable file name".



If this option is selected, precautions must be taken (check patient number) to avoid incorrect allocation of readings.

With the active option "produce PDF file during GDT export" a PDF-file is created with the GDT export.

3.4.3 "Classification" sub-registry

S	etting	s								×
ļ	Docto	or Import,	/Export	Classificatio	on Test mod	le Printer Set	tings			
	>	0,90	No PA	OD						
	>	0,75	Mild P/	AOD						
	>	0,50	Moder	ate POAD						
	<	0,50	Severe	PAOD						
								or	C	
								ОК	Cance	21

Limits for ABI value classification can be amended here.



Modifications do not take effect until the program is restarted.

3.4.4 "Test mode" sub-registry

Settings	x
Doctor Import/Export Classification Test mode Printer Settings	_
Pressure sensors A Pressure sensors B	
OK Cancel	

Clicking on the "pressure sensors A" or "pressure sensors B" button switches the ABI system 100 into test mode. Clicking on the "End test" button ends test mode. This function is needed for various purposes, for example testing pressure during metrology tests.

(optional)

Special simulators are needed to perform functional tests of the device with the "PWV" option, and these tests must be carried out on the manufacturer's premises.



The activation of the "presure sensors B" is only possible for devices with a serial number upper 466 20000.

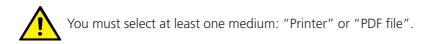
3.4.5 "Printer settings" sub-registry

ttings							
Doctor	Import/Exp	ort Classifi	ication	Test mode	Printer Settings		
Targ					110		
2067250	rinter			Druckvorsch			
P	DF file			Monochrom	26		
	PDF path	c:\temp\					
					1.2		
						OK	 Cancel

In the "Printer settings" registry you decide whether the print-out should be produced in paper form, as a screen print and/or as a PDF document, once the relevant [Print...] buttons have been clicked while the program is running.

If you select "Printer", then the "Output Options" dialogue appears when you click on the [Print...] buttons while the program is running. You can choose either a print output ("Printer") or a screen view ("Preview").

If you select "PDF file", a PDF file is produced. The name of this PDF file is created in different ways depending on the application, and this process is described in more detail in the individual applications.



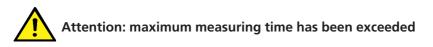
If you select the "monochrome" option, the print will be in black and white.

3.4.6 Error codes

(82) Measurement error / no values displayed -> repeat measurement.

If no measurement result is displayed for the blood pressure, check cuff and tubings, then start a repeat-measurement. If the repeat-measurement does not show any result, this may be due to a circulatory disorder or medial sclerosis. Here further investigations are recommended.

- (83) Connect the cuff
- (89) System error -> Device should be checked by the manufacturer's service



boso boso	profilmanager XD X	
\otimes	WARNING: Maximum measurement time was exceeded	
	The maximum measurement time was exceeded; please check the correct fit of the cuffs; the leg cuffs in particular must be fitted tightly. Then disconnect the device from the mains for 5 seconds and repeat the measurement.	
	ОК	

This message appears after an excessively long measurement duration, the maximum duration allowed is 150 seconds.

A wrong and/or too loose adopted cuff can extend the measurement time and/or lead to repumping.

It is also important to ensure that the cuff does not touch directly the lounger. This can lead to jerky slipping of the cuffs on the lounger, which in turn leads to repumping. A protective underlay can help here.

Disconnect the device from the mains for 5 seconds to solve the problem. Should this problem immediately re-occur after the start of a new measurement, please send the device for check to the manufacturer.

4. "24-hour measurement" application

4.1 "Patient" registry

see section "2.1 Patient registry, for all applications"

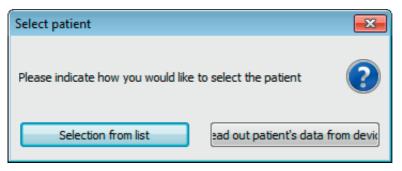
See chapter 4.7 for "Settings" button.

4.2 "Measurements" registry

Patient Measurements Sys/dia profile MAP profile PP profile Statistics Date SYS DIA PUL MAP PP Arr. Exclude Remark Period Device 1 ML 06.04.2005 18:26 144 75 65 98 69 Test 06:04.2005 08:32 159 88 68 12 71 0 06:04.2005 08:32 159 82 67 112 61 06:04.2005 08:34 164 76 72 105 88 0 05:04.2005 08:44 164 76 72 105 88 0 05:04.2005 08:54 169 65 0 65 0 65 0 65 0 65 0 06:04.2005 08:54 176 87 117 89 0 0 05:04.2005 08:54 16 113 65 0 108 11:04.2005 08:05 113 113 65<	lame: Mayer atient no.: 10				ename hdate		Frai 04.1	nz 11.19	70			plication ient	measurer	- $ -$
1 141, 06.04.2005 - 18:26 144 75 65 98 63 Test 2 Do, 07.04.2005 - 08:32 159 88 66 112 71	Patient	Measurements		Sys/d	ia prof	île		MA	P profile		PP profile		Statistics	
2 Do., 07.04.2005 - 08:32 159 88 68 112 71 3 Do., 07.04.2005 - 18:37 153 92 67 112 61 5 Fr., 08.04.2005 - 08:44 164 76 72 105 88 5 Fr., 08.04.2005 - 08:44 164 76 71 78 7 Sa., 09.04.2005 - 08:54 176 87 67 117 89 7 Sa., 09.04.2005 - 08:04 146 80 69 102 66 9 So., 11.04.2005 - 18:09 158 82 66 106 71 11 Mo, 11.04.2005 - 08:16 156 91 61 113 65 Delete Period Delete Period Delete Period Delete Period Delete Period Delete Other Period Delete Other Period Delete Other Period <th>Date</th> <th></th> <th>SYS</th> <th>DIA</th> <th>PUL</th> <th>MAP</th> <th>PP</th> <th>Arr.</th> <th>Exclude</th> <th>Remark</th> <th></th> <th></th> <th>Period</th> <th>Device</th>	Date		SYS	DIA	PUL	MAP	PP	Arr.	Exclude	Remark			Period	Device
3 Do, 07.04.2005 - 18:37 153 92 67 112 61 4 Fr, 08.04.2005 - 08:44 164 76 72 105 88 5 Fr, 08.04.2005 - 08:44 164 76 72 105 88 5 Fr, 08.04.2005 - 08:54 176 87 67 117 89 7 Sa, 09.04.2005 - 08:54 176 87 67 117 89 7 Sa, 09.04.2005 - 08:04 146 80 68 102 66 9 So, 10.04.2005 - 08:16 156 91 61 113 66 10 Mo, 11.04.2005 - 08:12 160 84 65 109 76 12 Di, 12.04.2005 - 18:34 152 81 64 105 71 15 Mi, 13.04.2005 - 08:39 152 81 65 105 71 16 Do, 14.04.2005 - 18:44 177 86 62 118 Export GDT </td <td>1 Mi, 06.04.2005</td> <td>- 18:26</td> <td>144</td> <td>75</td> <td>65</td> <td>98</td> <td>69</td> <td></td> <td></td> <td>Test</td> <td></td> <td></td> <td>06.04.2005 -</td> <td>27.06.2005 medilife PC</td>	1 Mi, 06.04.2005	- 18:26	144	75	65	98	69			Test			06.04.2005 -	27.06.2005 medilife PC
4 Fr. 08.04.2005 - 08:44 164 76 72 105 88 5 Fr. 08.04.2005 - 18:49 152 87 68 09 65 6 6 Sa. 09.04.2005 - 08:54 176 87 67 117 89 0 7 Sa. 09.04.2005 - 08:54 176 87 67 117 89 0 8 So. 10.04.2005 - 08:04 146 80 68 102 66 0 9 So. 10.04.2005 - 08:04 146 80 68 102 66 0 9 So. 10.04.2005 - 08:04 146 80 68 103 66 0 10 Mo, 11.04.2005 - 08:16 156 91 11 85 0 0 12 Di, 12.04.2005 - 08:39 152 81 64 105 71 0 14 M1, 13.04.2005 - 08:51 161 89 0 113 72 0 15 Mi, 13.04.2005 - 08:157 168 67 112 77 0 0 16 D	2 Do, 07.04.2005	- 08:32	159	88	68		71					=		
S Fr. 08.04.2005 - 18:49 152 87 68 109 65 S Sa. 09.04.2005 - 08:54 176 87 67 117 89 7 Sa. 09.04.2005 - 08:54 176 87 67 117 89 7 Sa. 09.04.2005 - 08:04 146 80 68 102 66 9 So. 10.04.2005 - 08:04 146 80 68 102 66 10 Mo. 11.04.2005 - 18:09 153 82 66 107 11 Mo. 11.04.2005 - 08:120 168 45 109 76 12 Di. 12.04.2005 - 08:34 152 81 64 105 71 14 Mi. 13.04.2005 - 08:39 152 81 65 105 71 15 Mi. 13.04.2005 - 08:31 163 96 113 72 16 Do. 14.04.2005 - 08:02 174 92 67 119 82 Manual Data <td></td>														
6 Sa., 09.04.2005 - 08:54 176 87 67 117 89 Image: Sa., 09.04.2005 - 18:59 160 99 67 119 61 Image: Sa., 09.04.2005 - 08:04 146 80 68 102 66 Image: Sa., 09.04.2005 - 08:04 146 80 68 102 66 Image: Sa., 09.04.2005 - 08:04 146 80 68 102 66 Image: Sa., 09.04.2005 - 08:04 146 80 68 102 66 Image: Sa., 09.04.2005 - 08:109 153 82 66 106 71 Image: Sa., 09.04.2005 - 08:109 161 113 66 Image: Sa., 10.04.2005 - 08:28 151 88 60 109 63 Image: Sa., 10.04.2005 - 08:28 151 88 60 109 63 Image: Sa., 10.04.2005 - 08:28 151 88 60 109 63 Image: Sa., 10.04.2005 - 08:39 152 81 65 105 71 Image: Sa., 10.04.2005 - 08:51 161 89 60 113 72 Image: Sa., 10.04.2005 - 08:51 161 86 70 112 77 Image: Sa., 16.04.2005 - 08:12 174 92 71 19 <td></td>														
7 Sa. 09.04.2005 - 18:59 160 99 67 119 61 8 So. 10.04.2005 - 08:04 146 80 68 102 66 9 So. 10.04.2005 - 08:09 153 82 66 102 66 9 So. 10.04.2005 - 08:10 154 82 66 109 67 11 Mo, 11.04.2005 - 08:12 160 84 65 109 76 12 D1, 12.04.2005 - 08:28 151 88 60 109 63 11 12 D1, 12.04.2005 - 08:39 152 81 64 105 71 1 14 Mi, 13.04.2005 - 08:39 152 81 65 105 71 1 15 Do, 14.04.2005 - 08:51 161 89 60 113 72 1 Export GDT 16 Do, 14.04.2005 - 08:02 174 92 67 119 82 1 Manual Data 19 Fr., 15.04.2005 - 08:02 174 92 67 119 82 1 Manual Data														
8 So., 10.04.2005 - 08:04 146 80 68 102 66 9 So., 10.04.2005 - 18:09 153 82 66 106 71 10 Mo, 11.04.2005 - 08:16 156 91 61 113 65 12 Di, 12.04.2005 - 08:28 151 88 60 109 63 13 Di, 12.04.2005 - 08:39 152 81 64 105 71 15 Mi, 13.04.2005 - 08:39 152 81 64 105 71 15 Mi, 13.04.2005 - 08:39 152 81 65 101 77 15 Mi, 13.04.2005 - 08:157 168 60 113 77 100 18 Fr, 15.04.2005 - 08:02 174 92 67 119 82 100 20 Sa, 16.04.2005 - 18:17 164 91 64 115 73 100 21 Sa, 16.04.2005 - 08:12 164 91 64 157 100 100 77 100 22 So, 17.04.2005 - 08:12 164 91 <td></td>														
9 So., 10.04.2005 - 18:09 153 82 66 106 71 10 Mo, 11.04.2005 - 08:16 156 91 61 113 65 11 Mo, 11.04.2005 - 08:20 160 84 65 109 76 12 Di, 12.04.2005 - 08:28 151 88 60 109 63 13 Di, 12.04.2005 - 08:28 152 81 64 105 71 15 Mi, 13.04.2005 - 08:39 152 81 65 105 71 15 Mo, 2005 - 08:51 168 90 113 72 1 16 Do, 14.04.2005 - 08:51 168 67 112 77 1 17 Do, 14.04.2005 - 08:02 174 92 67 119 82 1 19 Fr., 15.04.2005 - 08:12 164 115 73 1 1 Manual Data 20 Sa., 16.04.2005 - 08:12 164 115 73 1 1 1 1 1 1 1 1 1 1 1 1	· · · ·													
10 Mo, 11.04.2005 - 08:16 156 91 61 113 65 Image: Constraint of the state of	- /													
11 Mo, 11.04.2005 - 18:20 160 84 65 109 76 Image: Constraint of the state of														
12 Di, 12.04.2005 - 08:28 151 88 60 109 63 Image: Constraint of the state of	,													
13 Di, 12.04.2005 - 18:34 152 81 64 105 71 Image: Constraint of the state of														
14 Mi, 13.04.2005 - 08:39 152 81 65 105 71 Image: Constraint of the state of														
15 Mi, 13.04.2005 - 18:46 177 86 62 116 91 Delete Period 16 Do, 14.04.2005 - 08:51 161 89 60 113 72 Delete Period 17 Do, 14.04.2005 - 08:51 163 86 70 112 77 Delete Period 18 Fr, 15.04.2005 - 08:02 174 92 67 119 82 Delete Period Export GDT 19 Fr, 15.04.2005 - 18:07 166 96 71 119 70 Delete Period Manual Data 20 Sa, 16.04.2005 - 08:12 164 91 64 157 Delete Period 21 Sa, 16.04.2005 - 08:12 164 91 64 157 Delete Period 22 So, 17.04.2005 - 08:22 138 91 70 105 Transfer Data														
15 MJ, 13.04.2005 - 18:46 177 86 62 118 91 Image: Constraint of the second													D	elete Period
17 Do, 14.04.2005 - 18:57 163 86 70 112 77 Image: Constraint of the state of														elete Period
17 Do, 14.04.2005 - 18:57 163 86 70 112 77 □ 18 Fr, 15.04.2005 - 08:02 174 92 67 119 82 □ 19 Fr, 15.04.2005 - 08:107 166 96 71 119 70 □ 20 Sa, 16.04.2005 - 08:12 164 91 64 115 73 □ Print 21 Sa, 16.04.2005 - 08:22 138 91 70 100 57 □ 22 So, 17.04.2005 - 08:22 138 91 70 107 47 ✓														Export GDT
19 Fr, 15.04.2005 - 18:07 166 96 71 119 70 Image: Constraint of the state of														
20 Sa, 16.04.2005 - 08:12 164 91 64 115 73 Image: Constraint of the state of													N	Ianual Data
21 Sa, 16.04.2005 - 18:17 148 91 70 110 57 Image: Solution of the second sec														
22 So, 17.04.2005 - 08:22 138 91 70 107 47 V Transfer Data	,													Print
Interval limits														
	22 50, 17.04.2005	- 08:22	138	91	70	107	47		v			-	Tr	ansfer Data
	● All ◎ Morr	ning <u>A</u> fterno	00	Pe	riod	01.01	.2012	2 -	- 31,12	2012 -			Ir	nterval limits

All measurements that have been read in to date for the selected patient are displayed here.

This is where the TM-2430 is initialised and data is read out from the device. A patient must be selected before you can switch to this registry. When the program starts, no patient is selected. If you have not selected a patient manually, or imported a patient automatically via the GDT interface, you will see this help mask:

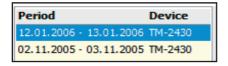


The "Select from list" button shows you a list of all available patients so that you can select the appropriate patient manually.

The "Read out patient from device" button identifies the patient you want to select via the patient number stored in the device.

Both the period and the blood pressure meter with which the series of measurements was carried out are displayed.

Select the appropriate period.



	Date		SYS	DIA	PUL	MAP	PP	Arr.	Exclude	Remark	
1	Mi,	06.04.2005 - 18:26	144	75	65	98	69			Test	
2	Do,	07.04.2005 - 08:32	159	88	68	112	71				
з	Do,	07.04.2005 - 18:37	153	92	67	112	61				
4	Fr,	08.04.2005 - 08:44	164	76	72	105	88				
5	Fr,	08.04.2005 - 18:49	152	87	68	109	65				
6	Sa,	09.04.2005 - 08:54	176	87	67	117	89				
7	Sa,	09.04.2005 - 18:59	160	99	67	119	61				
8	So,	10.04.2005 - 08:04	146	80	68	102	66				
9	So,	10.04.2005 - 18:09	153	82	66	106	71				
10	Mo,	11.04.2005 - 08:16	156	91	61	113	65				
11	Mo,	11.04.2005 - 18:20	160	84	65	109	76				
12	Di,	12.04.2005 - 08:28	151	88	60	109	63				
13	Di,	12.04.2005 - 18:34	152	81	64	105	71				
14	Mi,	13.04.2005 - 08:39	152	81	65	105	71				
15	Mi,	13.04.2005 - 18:46	177	86	62	116	91				
16	Do,	14.04.2005 - 08:51	161	89	60	113	72				
17	Do,	14.04.2005 - 18:57	163	86	70	112	77				
18	Fr,	15.04.2005 - 08:02	174	92	67	119	82				
19	Fr,	15.04.2005 - 18:07	166	96	71	119	70				
20	Sa,	16.04.2005 - 08:12	164	91	64	115	73				
21	Sa,	16.04.2005 - 18:17	148	91	70	110	57				
22	So,	17.04.2005 - 08:22	138	91	70	107	47		V		
1		2	3	4	5	6	7	8	9	10	

The column content is as follows:

- 1: serial numbers of measurements
- 2: date and time of measurement
- 3: SYS = systolic blood pressure
- 4: DIA = diastolic blood pressure
- 5: PUL = pulse
- 6: MAP = mean arterial blood pressure, calculated as DIA + 1/3 pulse pressure
- 7: PP = pulse pressure (SYS DIA)

8: Exclude = if you highlight this, the measurement will not be taken into account for assessment in the profile and statistics

9: S = measurement performed at night

10: Remark. Double-click in the measurement line to add a remark to a measurement. This opens the remark input field:

Process	remark				—
Date	06.04.2005		Time 18:26		
Sys	144	<u>R</u> emark			
Dia	75	Test			*
Puls	65				
MAP	98				
PP	69				-
				ОК	Cancel

4.2.1 "Delete period" button

This irrevocably deletes a complete set of readings.

4.2.2 "Remarks..." button.

Remark for the selected period

4.2.3 "Export GDT" button

This generates the GDT export file manually. Only available if the GDT import of the active patient has already been performed.

4.2.4 "Manual data" button

This allows you to add new readings to the active set of readings, or process or delete them.

4.2.5 "Print..." button

This prints out the list of readings. If you selected "PDF file" in the printer settings (chapter 4.7.3), a PDF file will be created. The name of this PDF file is tm_pat#_YYYYMMDD_m.pdf

where pat#=patient number YYYYMMDD = date of measurement m = measurement reference letter

4.2.6 "Initialise" button

TM-2430 Settings	
Patient Mayer, Franz	
Mode Standard Settings (Periods/Intervals) Sleep Button User Settings (Periods/Intervals)	Date/Time Current System Time 11.07.2012 15:41 TM-2430 Time 11.07.2012 15:40
Periods/Intervals Day Night Start of Period 7:00 22:00 Interval 15 ▼ 30 ▼	Actions Apply System Time 🔽 Display on 🔽
Miscellaneous Max. inflation Press. 300 mmHg	OK Cancel

The TM-2430 device can be initialised with a unique patient number up to 10 characters in length. The benefit of this is that measurements can be immediately assigned to the correct patient when they are read out.

The current patient is automatically transferred to the programming window, and the patient number is assigned to the device (the software generates a numerical identifier, which means that alphanumerical patient numbers can also be used in profil-manager XD).

You can specify a maximum inflation pressure in the "Max. infl. press." field. The blood pressure meter will then not inflate beyond the figure you have set here.



If the patient's systolic blood pressure is close to or above this figure, it will not be possible to measure blood pressure. The device then produces an error message.



The patient number programming and pressure restriction features are not available on TM-2430 devices with serial numbers below SN M 0713550.

Three different modes can be programmed.

Standard periods / intervals

When this mode is selected, the device takes a reading every 15 minutes between 7 a.m. and 10 p.m., and every 30 minutes between 10 p.m. and 7 a.m.

Sleep button

In this mode the patient can decide when the night and day intervals should begin, by pressing the black butto 🕷 🌔 on the TM-2430 blood pressure meter. The benefit of this programming feature is that it allows measurement intervals to be tailored to the patient. For example, for patients with irregular sleep patterns.

The interval durations are 15 minutes (day interval) and 30 minutes (night interval).

Programmable periods / intervals

Two intervals and periods can be programmed according to individual preference in this mode. The interval duration can be set as 5, 10, 20, 30, 60 or 120 minutes.

Display reading

Activating or deactivating this command determines whether or not the reading is displayed after the measurement has been performed.

Set system time

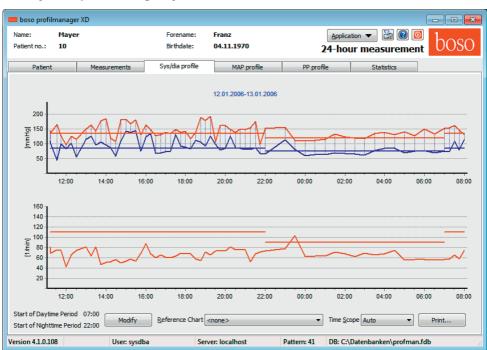
Activating this command transfers the date and time settings on your PC.

4.2.7 "Transfer data" button

Connect the meter to the PC connection cable before activating the "data transfer" button. Measurements are transferred from the meter which is connected. Once data has been transferred, the interval limits can be adapted individually to the patient's actual daily routine by clicking the "Modify" button.

Measurement successfully transferred						
TM-2	2430					
Interval limits Start of Daytime Period07:00 Start of Nighttime Perioa2:00 Modify	Clear device's data memory?					

Clicking the "Yes" button clears the device's data memory.



4.3 "Sys/dia profile" registry

This displays the blood pressure trend.

The pulse trend can be displayed or hidden by the Ctrl+P key combination.

Move the cursor over the measurement to obtain more information about individual readings. The date, time and reading are displayed in the top left-hand corner of the diagram.

A zoom function is available to display areas of the curve in more detail.

To select the zoom area, press the left mouse button and drag the mouse within the diagram from the bottom left-hand corner to the top right-hand corner.

To cancel the zoom function, press the left mouse button and drag the mouse within the diagram from the top right-hand corner to the bottom left-hand corner.

4.3.1 "Modify" button

Interval limits can be adapted individually to the patient's actual daily routine by clicking the "Modify" button.

4.3.2 "Reference Chart" button

Clicking this reads in data from an additional 24-hour measurement into the current graph, so that the two sets of measurements can be compared directly.

4.3.3 "Time scope" selection field

This allows you to select the period for which measurements are displayed. You have the choice of Auto or Day.

"Auto" is the default setting. In this setting, the time scope is scaled from the first measurement to the last.

In the "Day" setting, exactly 24 hours are displayed.

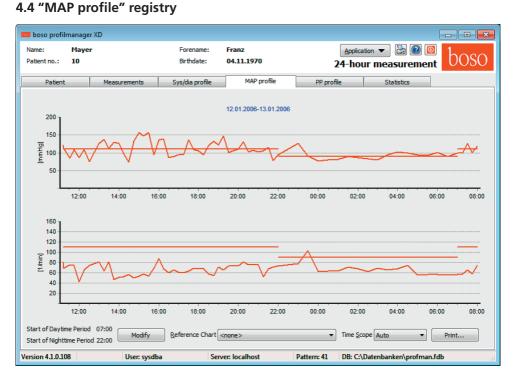
Right-clicking in the diagram allows you to shift the graph horizontally with the mouse.

4.3.4 "Print..." button

This produces a print-out of the SYS/DIA profile, pulse profile and statistics.

If you selected "PDF file" in the printer settings (chapter 4.7.3), a PDF file will be created. The name of this PDF file is tm_pat#_YYYYMMDD_sys.pdf

where pat#=patient number YYYYMMDD = date of measurement SYS/DIA reference letter



This displays the trend for the calculated mean arterial blood pressure. (MAP = diastole DIA + 1/3 pulse pressure PP)

The pulse trend can be hidden or displayed by the Ctrl+P key combination.

Move the cursor over the measurement to obtain more information about individual readings. The date, time and reading are displayed in the top left-hand corner of the diagram.

A zoom function is available to display areas of the curve in more detail.

To select the zoom area, press the left mouse button and drag the mouse within the diagram from the bottom left-hand corner to the top right-hand corner.

To cancel the zoom function, press the left mouse button and drag the mouse within the diagram from the top right-hand corner to the bottom left-hand corner.

4.4.1 "Modify" button

Interval limits can be adapted individually to the patient's actual daily routine by clicking the "Modify" button.

4.4.2 "Reference Chart" selection field

Clicking this reads in data from an additional 24-hour measurement into the current graph, so that the two sets of measurements can be compared directly.

4.4.3 "Time scope" selection field

This allows you to select the period for which measurements are displayed. You have the choice of Auto or Day.

"Auto" is the default setting. In this setting, the time scope is scaled from the first measurement to the last.

In the "Day" setting, exactly 24 hours are displayed.

Right-clicking in the diagram allows you to shift the graph horizontally with the mouse.

4.4.4 "Print..." button

This produces a print-out of the MAP profile, pulse profile and statistics.

If you selected "PDF file" in the printer settings (chapter 4.7.3), a PDF file will be created. The name of this PDF file is tm_pat#_YYYYMMDD_map.pdf

where pat#=patient number YYYYMMDD = date of measurement map = MAP reference letter



4.5 "PP profile" registry

This displays the trend for the calculated pulse pressure. (PP = SYS-DIA)

The pulse trend can be hidden or displayed by the Ctrl+P key combination.

Move the cursor over the measurement to obtain more information about individual readings. The date, time and reading are displayed in the top left-hand corner of the diagram.

A zoom function is available to display areas of the curve in more detail.

To select the zoom area, press the left mouse button and drag the mouse within the diagram from the bottom left-hand corner to the top right-hand corner.

To cancel the zoom function, press the left mouse button and drag the mouse within the diagram from the top right-hand corner to the bottom left-hand corner.

4.5.1 "Modify" button

Interval limits can be adapted individually to the patient's actual daily routine by clicking the "Modify" button.

4.5.2 "Reference Chart" selection field

Clicking this reads in data from an additional 24-hour measurement into the current graph, so that the two sets of measurements can be compared directly.

4.5.3 "Time scope" selection field

This allows you to select the period for which measurements are displayed. You have the choice of Auto or Day.

"Auto" is the default setting. In this setting, the time scope is scaled from the first measurement to the last.

```
In the "Day" setting, exactly 24 hours are displayed.
```

Right-clicking in the diagram allows you to shift the graph horizontally with the mouse.

4.5.4 "Print..." button

This produces a print-out of the pulse pressure profile, pulse profile and statistics. If you selected "PDF file" in the printer settings (chapter 4.7.3), a PDF file will be created.

The name of this PDF file is tm_pat#_YYYYMMDD_pp.pdf

where pat#=patient number YYYYMMDD = date of measurement pp = pulse pressure reference letter

4.6 "Statistics" registry

e: May ntno.: 10	er			rename: thdate:	Franz 04.11.19	970		Application -hour m		🔊 🔯 ment	bo
Patient	Measu	rements	Sys/c	lia profile	MA	AP profile	PP profile		Statistics		
			24	-hour	measu	rement statis	tics				
otal (12.01.	2006-13.0	1.2006)				Day					
eadings: 65						Readings: 48					
	Min A	verage	Max	SD	> Limit		Min	Average	Max	SD	> Limit
ivs [mmHq]	96	142,4	192	23,2	67,7%	Sys [mmHg]	96	147,1	192	24,0	70,8%
Dia [mmHg]	44	89,5	144	23.5	60,0%	Dia [mmHg]	44	95,3	144	23,9	60,4%
Puls [1/min]	42	66,1	103	10,6	1,5%	Puls [1/min]	42		88	10,4	0,0%
1AP [mmHg]	74	107,1	156	20,8	56,9%	MAP [mmHg]	74	112,5	156	20,8	45,8%
PP [mmHg]	10	52,9	122	22,4	58,5%	PP [mmHg]	10	51,8	122	24,9	45,8%
)ifference da	ay/night					Night					
18PS: 37,9 mmHg	9					Readings: 17					
							Min	Average	Max	SD	> Limit
γs	12,2% Fall a	t night				Sys [mmHg]	109	129,2	155	14,4	64,7%
Dia	23,1% Fall a					Dia [mmHg]	59	73,3	113	12,8	35,3%
Puls	2,8% Rise a					Puls [1/min]	56	67,5	103	11,3	5,9%
1AP	18,3% Fall a					MAP [mmHg]	76	91,9	127	11,9	52,9%
P	7,9% Rise a	atnight				PP [mmHg]	30	55,9	85	12,7	82,4%
of Daytime Peri of Nighttime Pe		Modify									Print

Measurements for the total period, daytime and nighttime periods are assessed separately.

The total value of the readings are displayed in the individual periods.

The following values are shown in the individual columns:

Min: smallest value in the interval in question
Mean: arithmetic mean in the interval in question
Max: largest value in the interval in question
SD: standard deviation in the interval in question
> Limit: percentage above the limits that have been set
MBPS: morning blood pressure surge
The MBPS indicates the rise in blood pressure after getting up.
MBPS = MwSysDay - MwSysNight

where

MwSysDay = average of systolic values in the first two hours of the daytime interval

MwSysNight = average of the three systolic values surrounding the lowest systolic value in the nighttime interval (one value before the lowest value, the lowest value itself and one value after the lowest value).

The percentage increase/decrease during the night is displayed.

4.6.1 "Modify" button

Interval limits can be adapted individually to the patient's actual daily routine by clicking the "Modify" button.

4.6.2 "Print..." button

This produces a print-out of the SYS/DIA profile, pulse profile and statistics.

If you selected "PDF file" in the printer settings (chapter 4.7.3), a PDF file will be created. The name of this PDF file is tm_pat#_YYYYMMDD_sys.pdf

where pat#=patient number YYYYMMDD = date of measurement sys = SYS/DIA reference letter

4.7 "Settings..." button in "Patient" registry

4.7.1 "Doctor" sub-registry

Settings							— ×-
Doctor Imp	ort/Export	Printer Settings	Interface	Limits	Profile		
Name	Dr.med. M	ustermann					
Street	Musterstra	iße 1					
City	12345 Mus	sterstadt					
Telephone	01234 567	890					
Fax	01234 567	891					
						ОК	Cancel
						U.	

The personal details of the doctor treating the patient are entered in the "Doctor" registry and used to produce the footer in the print-out.

4.7.2 "Import/Export" sub-registry

Settings		×
Doctor Import	t/Export Printer Settings Interface Limits Profile]
Import File	C:\temp\import.gdt	
Export File	C:\temp\export.gdt	
	PDF file during GDT export ort permanently active - including variable file names (yyyymmdd_hhnnss)	
	ОК	Cancel

If you are using a clinic data processing system that supports the GDT interface, this is where the path and file names for export and import files are set.

You have direct access to the Windows directory structure via the buttons next to the input fields for import and export files.

For example: c:\prax_edv\import.gdt Import file = clinic DP system export file Export file = clinic DP system import file

GDT import takes place automatically when you start the program, or manually by clicking the "Export/Import -> Import GDT" button if a valid GDT import file is present in the relevant directory.

GDT export takes place only if the patient being imported from the clinic DP system is active. Export takes place automatically when the program is closed down (if measurements have been read in from the device during the current program session) or can be performed manually at any time by clicking the "Export GDT" button in the "Measurements" registry.



Data export is deactivated if another patient has been selected after automa tic import. It is reactivated when the first patient is reselected. Data export is also deactivated if no import has first taken place.

Further informations to the available options "Produce PDF file during GDT-export" and "GDT export permanently active" see 3.4.2 .

4.7.3 "Printer settings" sub-registry

Settings		×
Doctor Import/Export	Printer Settings Interface Limits Profile	
Target	Monochrome	
PDF file	temp\]
Formats for configur	ed printing	
Komplett	TYCYTT:	PP Readings
	ОК	Cancel

In the "Printer settings" registry you decide whether the print-out should be produced in paper form, as a screen print and/or as a PDF document, once the relevant [Print...] buttons have been clicked while the program is running.

If you select "Printer", then the "Output Options" dialogue appears when you click on the [Print...] buttons while the program is running. You can choose either a print output ("Printer") or a screen view ("Preview"). The "File" function has no significance here.

If you select "PDF file", a PDF file is produced. The name of this PDF file is created in different ways depending on the application, and this process is described in more detail in the individual applications.



You must select at least one medium: "Printer" or "PDF file".

If you select the "monochrome" option, the print will be in black and white. If you press the "Configured print-out" printer symbol, the print-out format configured here will be used and only the selected pages will be printed.



4.7.4 "Interface" sub-registry

Settings	X
Doctor Import/Export Printer Settings Interface Limits Profile	
Port USB (GB0001A4) Automatic USB selection SN < 0713551	
OK	el

This is where you determine how the connection between the blood pressure meter TM-2430 and the PC is established.

If the "Automatic USB selection" is active, the software always checks which USB port a TM-2430 device is connected to before data transfer. If more than one device is connected at the same time, please disconnect all devices apart from the one that you want to use. You will see a warning telling you to do this.

If the "Automatic USB selection" option is not active, the serial (COM) or USB port selected in the port list will be used for data transfer.

Older models have a more limited set of instructions (no programmable patient number or maximum inflation pressure). Select the appropriate option for devices with serial numbers below SN M0713551.

4.7.5 "Limits" sub-registry

ttings						
Doctor	Import/Export	Printer Setting	s Interface	Limits Pro	file	
Total		Day		Night		
Systole	130	Systole	135	Systole	120	
Diastole	e 80	Diastole	85	Diastole	75	
Pulse	100	Pulse	110	Pulse	90	
MAP	100	MAP	110	MAP	90	
PP	50	PP	55	PP	45	
					OK Can	cel
					ОК	Can

The limits for the individual periods can be set in order to allow customised assessment. The day and night limit settings relate to the interval periods that have been set.

4.7.6 "Profile" sub-registry

Settings	x
Doctor Import/Export Printer Settings Interface Limits Profile	
Display Draw envelope curve Mark limits	
ОК Сапсе	:

In the profile displays ("Sys/Dia, MAP, PP profile" registry), an envelope curve (line connecting the individual measurements) is normally drawn, with the limits shown as horizontal lines.

Both the envelope curve and the limit lines can be hidden.

5. "SPO2 measurement" application

5.1 "Patient" registry

see section "2.1 Patient registry, for all applications"

See chapter 5.7 for "Settings" button.

5.2 "Events" sub-registry

me: ient no.: urance No	Mustern 1-B	nann	Manfred	Forename: Birthdate:	Application - Bar Bar Bosso Sp02 measurement
atient	Events	Profiles	Statistics		
tart	End	Duratio	on Avg. [%]	Min. [%] Remark	Period Device
0:26:52	00:27:09	00:00:1	L7 94,4	88	10.03.2011 11.03.2011 SP 24
	00:28:25	00:00:5		90	
	00:59:48 01:32:56	00:00:1		90 89	
					s
					Deleting period Remarks
					Export GDT
					Print
					Programming
					Read data

All SPO2 measurement ranges recognised as events are presented here.

An event exists if the SPO2 value falls by at least 4 points from the current average for at least 10 seconds.

🚥 boso profil-	manager XD						- 0 ×
Name: Patient no.: Insurance N	Musterm 1-B	iann M	lanfred	Forename: Birthdate:		Application + 🔤 🖷 SpO2 measuremen	0030
Patient	Events	Profiles	Statistics				
Start	End		Avg. [%]	Min. [%] Rer	nark		Period Device
00:26:52		00:00:17		88			10.03.2011 11.03.2011 SP 24
00:27:30 00:59:35		00:00:55		90 90			
01:32:41		00:00:13		90			
01.32.41	01.32.30	00.00.15	55,5	0.9			
1	2	3	4	5	6		
							<
							Deleting period
							Remarks
							Export GDT
							Print
							Programming
							Read data
Version 5.3.0.46	CRC32: 6199	1A93 User:	Sysdba	Server: local	Pattern: 53	DB: C:\ProgramData\Boso\profmanXD\profman5.fdb	

- 1: Event start time
- 2: Event end time
- 3: Duration of the event
- 4: Average of the event
- 5: Smallest SPO2 value of the event
- 6: Remark. To add a remark to an event, double-click in the event line. This opens the remark input field.

Edit remark						×
Start Average	00:26:52 94,4%	End Minimum	00:27:09 88%	Duration	00:00:17	
Remark						
						^
					ОК	Cancel

5.2.1 "Delete period" button

This irrevocably deletes a complete set of readings

5.2.2 "Remarks" button

Remark on a complete set of readings

5.2.3 "Export GDT" button

This generates the GDT export file manually. Only available if the GDT import of the active patient has already been performed.

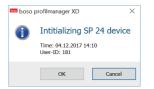
5.2.4 "Print" button

Prints out the events list.

If you selected "PDF file" in the printer settings (chapter 5.5.3), a PDF file will be created. The name of this PDF file is o2_pat#_YYYYMMDD_e.pdf

```
Where
Pat# = patient number
YYYYMMDD = date of SPO2 measurement
```

5.2.5 "Program" button

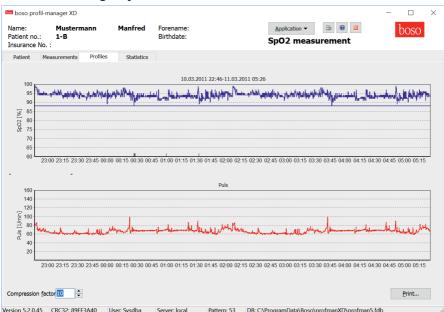


The SP 24 device must be programmed with the date, time and patient number before being used. This is the only way in which long-term blood pressure readings and SPO2 readings can later be displayed synchronously.

5.2.6 "Read out readings" button

Before pressing the "Read out readings" button, end data recording (RECORDING) on the meter and connect the meter to the PC connection cable. Readings are transferred from the meter which is connected.

The readings memory is automatically deleted when a new measurement starts.



5.3 "Profiles" registry

Move the cursor over the diagram to obtain more information about individual readings. The date, time and reading are displayed in the top left-hand corner of the diagram.

A zoom function is available to display areas of the curve in more detail.

To select the zoom area, press the left mouse button and drag the mouse within the diagram from the bottom left-hand corner to the top right-hand corner.

To cancel the zoom function, press the left mouse button and drag the mouse within the diagram from the top right-hand corner to the bottom left-hand corner.

5.3.1 Compression factor

The "compression factor" switch can be used to smooth out the curve. At compression factor 1, each measurement is displayed (accurate to a second). At compression factor 10, the average of sets of 10 measurements is displayed.

5.3.2 "Print" button

This produces a print-out of the SPO2 profile and the pulse profile and statistics.

If you selected "PDF file" in the printer settings (chapter 5.7.3), a PDF file will also be created. The name of this PDF file is o2_pat#_YYYYMMDD_stat.pdf

Where Pat# = patient number YYYYMMDD = date of SPO2 measurement

5.4 "Statistics" registry

ame: atient no.: nsurance No.	Mustermann 1-B :	Manfred	Forename: Birthdate:	Application - 🗟 🛛 🧕	boso
Patient	Events Profiles	Statistics			
			SpO2 Measurement Statistics		
		Period: 10.03	.2011 22:46 - 11.03.2011 05:26		
		Duration (total)		06:39:19	
		Average		93,9%	
		Minimum Number Ev	ents	88% 4	
		Avg. Event Duration		00:00:25	
		Duration		00:00:00	
		(<88%) Artefact Ra	te	0,0%	
			boso profilmanager XD		
			boso promimanager XD		

The following measurement parameters are displayed:

- Total duration of the measurement
- SPO2 average of the measurement
- Smallest SPO2 value of the measurement
- Number of events
- Average event duration
- Total duration of SPO2 readings below 88%

- Artefact rate = percentage of measurements with no plausible value (= 0%, e.g. if the finger sensor became disconnected)

5.4.1 "Print" button

This produces a print-out of the SPO2 profile and the pulse profile and statistics.

If you selected "PDF file" in the printer settings (chapter 5.7.3), a PDF file will also be created. The name of this PDF file is o2_pat#_YYYYMMDD.pdf

Where Pat# = patient number YYYYMMDD = date of SPO2 measurement

5.5 "Settings..." button in "Patient" registry

Settings				\times
Doctor Impo	rt/Export Printer settings Interface			
Surname	Dr. med. Mustermann			
Street	Musterstraße 1			
Postal code,	/ 12345 Musterstadt			
Telephone	01234 567 890			
Fax/email	01234 567 891			
			Logger aktivier	en
		ОК	Cance	

5.5.1 "Doctor" sub-registry

The personal details of the doctor treating the patient are entered in the "Doctor" subregistry and used to produce the footer in the print-out.

5.5.2 "Import/Export" sub-registry

Settings		×
GDT Import File Export File	/Export Printer settings Interface C:\temp\import.gdt C:\temp\export.gdt PDF file during GFT export ort permanently active - including variable file names (yyyymmdd_hhmmss) 8 character set (not compatible with GDT standard)	
	ОК Са	ncel

If you are using a clinic data processing system that supports the GDT interface, this is where the path and file names for export and import files are set.

You have direct access to the Windows directory structure via the buttons next to the input fields for import and export files.

Example: c:\prax_edv\import.gdt Import file = clinic DP system export file Export file = clinic DP system import file

GDT import takes place automatically when you start the program, or manually by clicking the "Export/Import -> Import GDT" button if a valid GDT import file is present in the relevant directory.

GDT export takes place only if the patient being imported from the clinic DP system is active.

Export takes place automatically when the program is closed down (if measurements have been read in from the device during the current program session) or can be performed manually at any time by clicking the "Export GDT" button in the "Measurements" registry.

Data export is deactivated if another patient has been selected after automatic import. It is reactivated when this patient is reselected. Data export is also deactivated if no import has first taken place.

See 3.4.2 for more information about the options available "Produce PDF file during GDT export", "GDT export permanently active" and "Use UTF-8 character set".

5.5.3 "Printer settings" sub-registry

Settings								×
Target ✓ Print	er file	Printer settings	Interface Print preview Monochrome					
Formats	for configur ett (SpO2)	ed printing	New Delete	 ✓ Patient data ✓ Events (SpO2) ✓ Profile (SpO2) 				
					Oł	(Ca	ncel

In the "Printer settings" registry you decide whether the print-out should be produced in paper form, as a screen print and/or as a PDF document, once the relevant [Print...] buttons have been clicked while the program is running.

If you select "Printer", then the Windows print dialogue appears when you click on the [Print...] buttons while the program is running.

If you also select "Print preview", the print preview is displayed before printing.

If you selected "PDF file", a PDF file will be created. The name of this PDF file is constructed for the specific application in question, and is described in more detail in the individual applications.



You must select at least one medium: "Printer" or "PDF file".

If you select the "monochrome" option, the print will be in black and white. If you press the "Configured print-out" printer symbol, the print-out format configured here will be used and only the pages selected here will be printed.



5.5.4 "Interface" sub-registry

Settings		×
Doctor Import/Export	Printer settings Interface	
Port (SP 24) COM6	 Autodetect (SP 24 must be connected and switched on))
	Test	
	ОК	Cancel

This is where you determine how the connection between the SPO2 meter and the PC is established.

If you have activated the option "Autodetect (SP 24 must be connected and switched on)", the software always checks which connection an SP 24 device is connected to before transferring data.

If you have not activated the option "Autodetect (SP 24 must be connected and switched on)", the serial connection selected in the port list is selected for data transfer.

6. "Patient measurement" application

6.1 "Patient" registry

see section "2.1 Patient registry, for all applications"

See chapter 4.7 for "Settings" button.

- -🔤 boso profilmanager XD Application 🔻 😓 🔞 🧕 Name: Mayer Forename: Franz DOSO Patient no.: 10 Birthdate: 04.11.1970 Patient measurement Measurements PP profile Patient Sys/dia profile MAP profile Statistics SYS DIA PUL MAP PP Arr. Exclude Remark Date . Period Device 1 2 Do, 07.04.2005 - 08:32 159 88 68 112 71 3 Do. 07.04.2005 - 18:37 67 112 153 92 61 4 Fr, 08.04.2005 - 08:44 164 76 72 105 88 5 Fr, 08.04.2005 - 18:49 152 87 68 109 65 6 Sa, 09.04.2005 - 08:54 176 87 67 117 89 7 Sa, 09.04.2005 - 18:59 160 99 67 119 61 8 So, 10.04.2005 - 08:04 146 80 68 102 66 9 So, 10.04.2005 - 18:09 153 82 66 106 71 10 Mo, 11.04.2005 - 08:16 156 91 61 113 65 11 Mo, 11.04.2005 - 18:20 160 84 65 109 76 12 Di, 12.04.2005 - 08:28 151 88 60 109 63 13 Di, 12.04.2005 - 18:34 152 81 64 105 71 14 Mi, 13.04.2005 - 08:39 152 81 65 105 71 Delete Period... 15 Mi. 13.04.2005 - 18:46 177 86 62 116 91 16 Do, 14.04.2005 - 08:51 161 89 60 113 72 Export GDT 17 Do, 14.04.2005 - 18:57 163 86 70 112 77 18 Fr. 15.04.2005 - 08:02 67 119 82 174 92 Manual Data... 19 Fr, 15.04.2005 - 18:07 71 119 166 96 70 20 Sa, 16.04.2005 - 08:12 164 91 64 115 73 Print... 21 Sa, 16.04.2005 - 18:17 148 91 70 110 57 22 So, 17.04.2005 - 08:22 70 107 47 1 138 91 Transfer Data. Interval limits Period 01.01.2012 - 31.12.2012 -All Morning Afternoon Version 4.1.0.108 User: sysdba Server: localhost Pattern: 41 DB: C:\Datenbanken\profman.fdb

6.2 "Measurements" sub-registry

All measurements that have been read in to date for the selected patient are displayed here. Both the period and the blood pressure meter with which the series of measurements was carried out are displayed.

	Date	SYS	DIA	PUL	MAP	PP	Arr.	Exclude	Remark
1 1	Mi, 06.04.2005 - 18:26	144	75	65	98	69			Test
2 1	Do, 07.04.2005 - 08:32	159	88	68	112	71			
3 1	Do, 07.04.2005 - 18:37	153	92	67	112	61			
4 I	Fr, 08.04.2005 - 08:44	164	76	72	105	88			
5 I	Fr, 08.04.2005 - 18:49	152	87	68	109	65			
6 5	Sa, 09.04.2005 - 08:54	176	87	67	117	89			
7 5	Sa, 09.04.2005 - 18:59	160	99	67	119	61			
8 5	So, 10.04.2005 - 08:04	146	80	68	102	66			
9 5	So, 10.04.2005 - 18:09	153	82	66	106	71			
10 1	Mo, 11.04.2005 - 08:16	156	91	61	113	65			
11 1	Mo, 11.04.2005 - 18:20	160	84	65	109	76			
12 I	Di, 12.04.2005 - 08:28	151	88	60	109	63			
13 T	Di 12 04 2005 - 18-34	152	81	64	105	71			
1	1 2	3	4	5	6	7 8	B	9	10

The column content is as follows:

- 1: serial numbers of measurements
- 2: date and time of measurement
- 3: SYS = systolic blood pressure
- 4: DIA = diastolic blood pressure
- 5: PUL = pulse

6: MAP = mean arterial blood pressure, calculated as DIA + 1/3 pulse pressure

- 7: PP = pulse pressure (SYS DIA)
- 8: Arr. = indication of arrhythmia

9: Exclude = if you highlight this, the measurement will not be taken into account for assessment in the profile and statistics

10: Remark. Double-click in the measurement line to add a remark to a measurement. This opens the remark input field:

Process	remark		
Date	06.04.2005		Time 18:26
Sys	144	<u>R</u> emark	
Dia	75	Test	
Puls	65		
MAP	98		
PP	69		-
			OK Cancel

6.2.1 "Delete period" button

This irrevocably deletes a complete set of readings.

6.2.2 "Export GDT" button

This generates the GDT export file manually. Only available if the GDT import of the active patient has already been performed.

6.2.3 "Manual data" button

Additional readings can be added to the active set of readings here.

6.2.4 "Print..." button

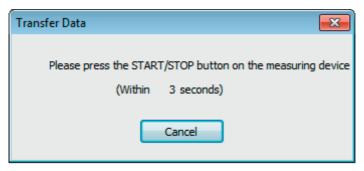
This prints out the list of readings.

If you selected "PDF file" in the printer settings (chapter 5.7.3), a PDF file will be created. The name of this PDF file is medi_pat#_YYYYMMDD_m.pdf

where pat#=patient number YYYYMMDD = date of measurement m = measurement reference letter

6.2.5 "Transfer data" button

Connect the meter to the PC.



Once you have clicked on the "Transfer data" button, the START/STOP button on the blood pressure meter must be pressed within 6 seconds in order to transfer data from the blood pressure meter. Measurements will be transferred from the meter which is connected.

Transfer Data
Please press the START/STOP button on the measuring device
Reading data
Cancel

Once data has been successfully transferred, you can set up a new period or assign the data to an existing period.

Save readings					
New Period					
Add new row / generate new period					
06.04.2005 - 27.06.2005 medilife PC3 🔻					
OK Cancel					

6.2.6 "Interval limits" button

The limits for morning and afternoon measurements can be defined here. The default setting is midnight to 11.59 a.m. for morning and noon to 11.59 p.m. for afternoon.

6.2.7 "All, Morning, Afternoon" selection

You can restrict the reading selection to only morning measurements or only afternoon measurements here.

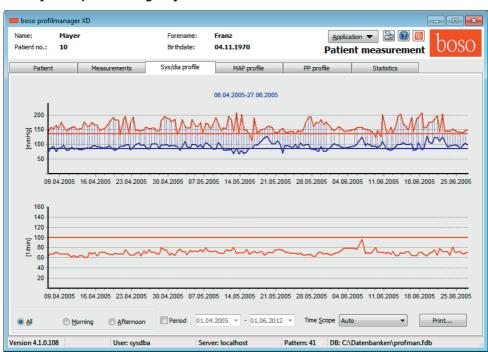
5.2.8 "Period" selection

You can select a specific period for assessment among all the readings by selecting a period.

Click on the arrow symbol in the data fields to open a calendar, making selection easier.

Click on the month or year to change it immediately.

4		×				
Мо	Di	Mi	Do	Fr	Sa	So
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	1
2	3	4	5	6	7	8



6.3 "Sys/dia profile" registry

This displays the blood pressure trend.

The pulse trend can be hidden or displayed by the Ctrl+P key combination.

Move the cursor over the measurement to obtain more information about individual readings. The date, time and reading are displayed in the top left-hand corner of the diagram.

A zoom function is available to display areas of the curve in more detail.

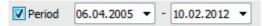
To select the zoom area, press the left mouse button and drag the mouse within the diagram from the bottom left-hand corner to the top right-hand corner.

To cancel the zoom function, press the left mouse button and drag the mouse within the diagram from the top right-hand corner to the bottom left-hand corner.

6.3.1 "All, Morning, Afternoon" selection

You can restrict the reading selection to only morning measurements or only afternoon measurements here.

6.3.2 "Period" selection



You can select a specific period for assessment among all the readings by selecting a period.

Click on the arrow symbol in the data fields to open a calendar, making selection easier.

Click on the month or year to change it immediately.

4	►					
Мо	Di	Mi	Do	Fr	Sa	So
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	1
2	3	4	5	6	7	8
18	19 26	20 27	21 28	22 29	23 30	24

6.3.3 "Time scope" selection field

This allows you to select the period for which measurements are displayed. You have the choice of Auto, Day, Week, Month, Quarter or Year.

"Auto" is the default setting. In this setting, the time scope is scaled from the first measurement to the last.

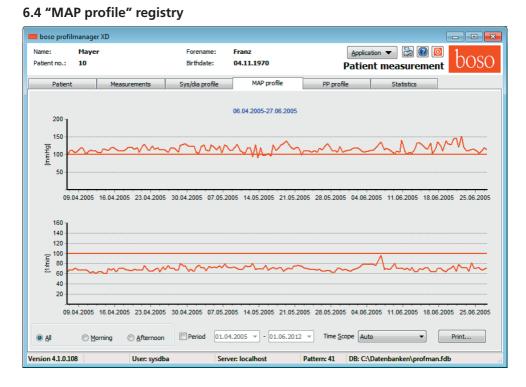
Right-clicking in the diagram allows you to shift the graph horizontally with the mouse.

6.3.4 "Print..." button

This produces a print-out of the SYS/DIA profile, pulse profile and statistics.

If you selected "PDF file" in the printer settings (chapter 5.7.3), a PDF file will be created. The name of this PDF file is medi_pat#_YYYYMMDD_sys.pdf

where pat#=patient number YYYYMMDD = date of measurement sys = SYS/DIA reference letter



This displays the trend for the calculated mean arterial blood pressure. (MAP = diastole DIA + 1/3 pulse pressure PP).

The pulse trend can be hidden or displayed by the Ctrl+P key combination.

Move the cursor over the measurement to obtain more information about individual readings. The date, time and reading are displayed in the top left-hand corner of the diagram.

A zoom function is available to display areas of the curve in more detail.

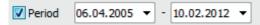
To select the zoom area, press the left mouse button and drag the mouse within the diagram from the bottom left-hand corner to the top right-hand corner.

To cancel the zoom function, press the left mouse button and drag the mouse within the diagram from the top right-hand corner to the bottom left-hand corner.

6.4.1 "All, Morning, Afternoon" selection

You can restrict the reading selection to only morning measurements or only afternoon measurements here.

6.4.2 "Period" selection



You can select a specific period for assessment among all the readings by selecting a period.

Click on the arrow symbol in the data fields to open a calendar, making selection easier.

Click on the month or year to change it immediately.

•	Juni 2012					►
Мо	Di	Mi	Do	Fr	Sa	So
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	1
2	3	4	5	6	7	8
					_	

6.4.3 "Time scope" selection field

This allows you to select the period for which measurements are displayed. You have the choice of Auto, Day, Week, Month, Quarter or Year.

"Auto" is the default setting. In this setting, the time scope is scaled from the first measurement to the last.

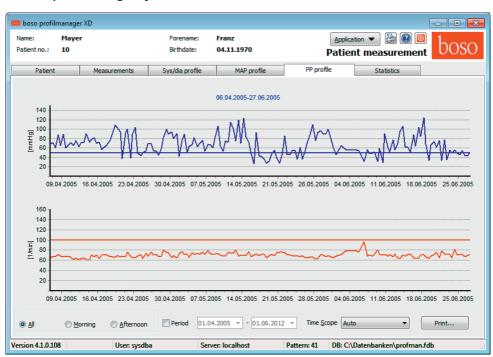
Right-clicking in the diagram allows you to shift the graph horizontally with the mouse.

6.4.4 "Print..." button

This produces a print-out of the MAP profile, pulse profile and statistics.

If you selected "PDF file" in the printer settings (chapter 5.7.3), a PDF file will be created. The name of this PDF file is medi_pat#_YYYYMMDD_map.pdf

where pat#=patient number YYYYMMDD = date of measurement map = MAP reference letter



6.5 "PP profile" registry

This displays the trend for the calculated pulse pressure. (PP = SYS-DIA).

The pulse trend can be hidden or displayed by the Ctrl+P key combination.

Move the cursor over the measurement to obtain more information about individual readings. The date, time and reading are displayed in the top left-hand corner of the diagram.

A zoom function is available to display areas of the curve in more detail.

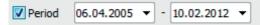
To select the zoom area, press the left mouse button and drag the mouse within the diagram from the bottom left-hand corner to the top right-hand corner.

To cancel the zoom function, press the left mouse button and drag the mouse within the diagram from the top right-hand corner to the bottom left-hand corner.

6.5.1 "All, Morning, Afternoon" selection

You can restrict the reading selection to only morning measurements or only afternoon measurements here.

6.5.2 "Period" selection



You can select a specific period for assessment among all the readings by selecting a period.

Click on the arrow symbol in the data fields to open a calendar, making selection easier.

Click on the month or year to change it immediately.

Mo Di Mi Do Fr Sa 28 29 30 31 1 2	•
	So
	3
4 5 6 7 8 9	10
11 12 13 14 15 16	17
18 19 20 21 22 23	24
25 26 27 28 29 30	1
2 3 4 5 6 7	8

6.5.3 "Time scope" selection field

This allows you to select the period for which measurements are displayed. You have the choice of Auto, Day, Week, Month, Quarter or Year.

"Auto" is the default setting. In this setting, the time scope is scaled from the first measurement to the last.

Right-clicking in the diagram allows you to shift the graph horizontally with the mouse.

6.5.4 "Print..." button

This produces a print-out of the pulse pressure profile, pulse profile and statistics.

If you selected "PDF file" in the printer settings (chapter 5.7.3), a PDF file will be created. The name of this PDF file is medi_pat#_YYYYMMDD_pp.pdf

where pat#=patient number YYYYMMDD = date of measurement pp = pulse pressure reference letter

	anager XL Mayer 10)			ename: hdate:	Franz 04.11.1	970		Application		0	h
circino					noore.	0.11.1		Pa	ntient m	easure	nent	
Patient	_	Measu	rements	Sys/d	ia profile	M	AP profile	PP profile		Statistics		
				Pa	tient	measur	ement statis	tics				
Total (06.	04.2005	5-27.0	6.2005)				Morning					
Readings: 15	6 - Arrhyt	hmias re	ecognized: 1				Readings: 78 - Arr	hythmias re	cognized: 1			
		Min	Average	Max	SD	> Limit		Min	Average	Max	SD	> Lin
Sys [mmHo	յ	113	160,9	208	19,5	96,2%	Sys [mmHg]	113	162,3	208	20,8	96,2
Dia [mmHg	i	67	93,5	127	11,6	77,6%	Dia [mmHg]	69	93,1	127	11,6	76,9
Puls [1/mir	1	60	70,1	96	4,8	0,0%	Puls [1/min]	60	69,9	82	4,7	0,0
MAP [mmH	[g]	90	116,0	152	10,5	95,5%	MAP [mmHg]	95	116,1	152	10,6	96,2
PP [mmHg]	1	27	67,5	125	21,8	76,3%	PP [mmHg]	27	69,3	125	23,2	79,5
Difference	e mornii	ng/af	ternoon				Afternoon					
							Readings: 78 - Ari	1 - C	Average	Max	SD	> Lin
Sys	1,7%	Fall in	n the afterno	on			Sys [mmHg]	131	159,6	201	18,2	96,2
Dia	0,9%		in the aftern				Dia [mmHg]	67	93,9	125	11,6	78,2
Puls	0,4%		in the aftern				Puls [1/min]	62	70,2	96	4,9	0,0
MAP	0,3%		n the afterno				MAP [mmHg]	90	115,8	144	10,5	94,9
PP	5,3%		n the afterno				PP [mmHg]	28	65,6	115	20,2	73,
											_	

OSO

42.42 6.6

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Measurements for the complete period, morning and afternoon periods are assessed separately.

Pattern: 41

DB: C:\Datenbanken\profman.fdb

Server: localhost

The total number of readings in the individual periods, and the number of arrhythmias recognised, are displayed.

The following values are displayed in the individual columns:

Min: smallest value in the interval in guestion

User: sysdba

Mean: arithmetic mean in the interval in question

Max: largest value in the interval in guestion

SD: standard deviation in the interval in guestion

> Limit: percentage above the limits that have been set

The percentage increase/decrease in the afternoon is displayed.

6.6.1 "Print..." button

This produces a print-out of the SYS/DIA profile, pulse profile and statistics.

If you selected "PDF file" in the printer settings (chapter 5.7.3), a PDF file will be created. The name of this PDF file is medi_pat#_YYYYMMDD_sys.pdf

where pat#=patient number YYYYMMDD = date of measurement sys = SYS/DIA reference letter

6.7 "Settings..." button in "Patient" registry

6.7.1 "Doctor" sub-registry

Settings		x
Doctor Imp	port/Export Printer Settings Interface Limits Profile	
Name	Dr.med. Mustermann	
Street	Musterstraße 1	
City	12345 Musterstadt	
Telephone	01234 567 890	
Fax	01234 567 891	
	OK Cancel	
	OK	

The personal details of the doctor treating the patient are entered in the "Doctor" registry and used to produce the footer in the print-out.

6.7.2 "Import/Export" sub-registry

Settings		- ×-
Doctor Import	/Export Printer Settings Interface Limits Profile]
Import File	C:\temp\import.gdt	
Export File	C:\temp\export.gdt	
	PDF file during GDT export ort permanently active - including variable file names (yyyymmdd_hhnnss)	
	ок	Cancel

If you are using a clinic data processing system that supports the GDT interface, this is where the path and file names for export and import files are set.

You have direct access to the Windows directory structure via the buttons next to the input fields for import and export files.

For example: c:\prax_edv\import.gdt Import file = clinic DP system export file Export file = clinic DP system import file

GDT import takes place automatically when you start the program, or manually by clicking the "Export/Import -> Import GDT" button if a valid GDT import file is present in the relevant directory.

GDT export takes place only if the patient being imported from the clinic DP system is active. Export takes place automatically when the program is closed down (if measurements have been read in from the device during the current program session) or can be performed manually at any time by clicking the "Export GDT" button in the "Measurements" registry.



Data export is deactivated if another patient has been selected after automatic import. It is reactivated when the first patient is reselected. Data export is also deactivated if no import has first taken place.

Further informations to the available options "Produce PDF file during GDT-export" and "GDT export permanently active" see 3.4.2 .

6.7.3 "Printer settings" sub-registry

Settings		×
Doctor Import/Export	Printer Settings Interface Limits Profile	
Target		
Printer	Monochrome	
PDF file		
PDF path c:\te	mp\	
Formats for configure	d printing	
Komplett	New Patient data V PP	
	Sys/Dia Readings	
	Delete MAP	
	ОК	ncel

In the "Printer settings" registry you decide whether the print-out should be produced in paper form, as a screen print and/or as a PDF document, once the relevant [Print...] buttons have been clicked while the program is running.

If you select "Printer", then the "Output Options" dialogue appears when you click on the [Print...] buttons while the program is running. You can choose either a print output ("Printer") or a screen view ("Preview"). The "File" function has no significance here.

If you select "PDF file", a PDF file is produced. The name of this PDF file is created in different ways depending on the application, and this process is described in more detail in the individual applications.



If you select the "monochrome" option, the print will be in black and white. If you press the "Configured print-out" printer symbol, the print-out format configured here will be used and only the selected pages will be printed.



6.7.4 "Interface" sub-registry

Settings						— ×
Doctor	Import/Export	Printer Settings	Interface	Limits Pro	ofile	
Port		▼	🔽 First avail	able USB con	nection	
					ОК	Cancel

If the "First available USB port" option is active, the first FTDI USB port under Windows will be used to transfer data. If more than one FTDI USB port is installed, disconnect the ports that are not needed from the computer, or deactivate the option.

If the "First available USB port" option is not active, the serial (COM) interface or USB port selected in the port list will be used for data transfer.

6.7.5 "Limits" sub-registry

ttings					
Doctor I	Import/Export	Printer Setting	s Interface	Limits Pro	file
Total		Day		Night	
Systole	130	Systole	135	Systole	120
Diastole	80	Diastole	85	Diastole	75
Pulse	100	Pulse	110	Pulse	90
MAP	100	MAP	110	MAP	90
PP	50	PP	55	PP	45
] [
					OK Can

The limits for the individual periods can be set in order to allow customised assessment. The limit settings for morning and afternoon are based on the morning and afternoon interval periods.

6.7.6 "Profile" sub-registry

Settings			×
Doctor Import/Export	 Interface Limit	s Profile	
		ОК	Cancel

In the profile displays ("Sys/Dia, MAP, PP profile" registry), an envelope curve (line connecting the individual measurements) is normally drawn, with the limits shown as a horizontal line.

Both the envelope curve and the limit lines can be hidden.

7. Warranty provisions

Irrespective of statutory warranty rights, boso guarantees the software data carrier to be free from material and processing defects for 90 days from the date of purchase.

In the light of the warranty undertaking given above, boso is obliged to replace the data carrier and the software it contains under the following conditions:

- the customer/purchaser notifies boso of the defect in writing within 90 days of the date of purchase

or

- the customer/purchaser returns the defective data carrier to the dealer, or direct to boso at the address below, within 90 days:

boso BOSCH + SOHN GmbH u. Co. KG Bahnhofstr. 64 D-72417 Jungingen Germany

boso does not offer any warranty, either explicitly or tacitly, beyond the warranty undertaking given above.

8. Limitation of liability

a) The software is supplied to you on the basis of the current state of development.

b) Irrespective of the provision set out in chapter 6, boso and its dealers accept no liability for risks with regard to the results and performance of the software. We bear no liability for indirect losses, consequential losses, loss of earnings, losses due to lost or damaged data or other commercial or financial losses.

c) The aforementioned exclusion of liability does not apply to liability under product liability legislation or to cases of deliberate action or gross negligence on our part or on the part of our agents.

8. Explanation of symbols



Read the user instructions



Year of manufacture

Manufacturer



The CE mark documents compliance with the Medical Devices Directive 93/42/EEC, Notified body: DEKRA, 0124



Important notice

Appendix A - Extract from GDT record description

The record types and their field identifiers needed to create the GDT interface of this software are described below:

Record type 6302 "Request new examination"

Field 8000: record identification 8100: record length 8315: GDT ID of recipient 8316: GDT ID of sender 8410: Testident (BDM00: shortcut patient measurement BDM01: shortcut 24-hour measurement BDM02: shortcut ABI/PWV measurement) 9218: GDT version number 3000: patient number 3101: patient's surname 3102: patient's first name 3103: patient's date of birth 3105: insurance number 3106: patient's address (town) 3107: patient's address (street) 3110: patient's gender (1 = male, 2 = female)3622: patient's height (cm) 3623: patient's weight (kg)

Record type 6310 "Transmit data from examination"

Field 8000: record identification 8100: record length 8315: GDT ID of recipient 8316: GDT ID of sender 9218: GDT version number 3000: patient number / patient identification 8402: Map for a particular device and process 6200: Date of examination 6228: Results table text, formatted 6302: File archiving identifier 6303: File format 6304: File content 6305: File reference Your notes:

Your notes:

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