

Doctor Pro3 Lite

Blood Pressure Data Analysis Software
(Windows)

TM-9502

INSTRUCTION MANUAL

AND
A&D Medical

1WMPD4001541A

© 2008 A&D Company, Ltd. All rights reserved.

No part of this publication may be reproduced, transmitted, transcribed or translated into any language in any form by any means without the express written consent of A&D Company, Ltd.

The contents of this manual and the specifications of the instruments covered by this manual are subject to change without notice.

Windows is a registered trademark of the Microsoft Corporation.

WARNING DEFINITIONS

The warnings described in this manual have the following definitions:

■ Warning Definitions

| | |
|---|--|
|  DANGER | An imminently hazardous situation which, if not avoided, will result in death or serious injury. |
|  WARNING | A potentially hazardous situation which, if not avoided, could result in death or serious injury. |
|  CAUTION | A potentially hazardous situation which, if not avoided, may result in minor or moderate injury. This warning may also be used as an alert against unsafe practices. |

■ Symbol Examples

| | |
|---|---|
|  | <p>The symbol \triangle indicates “Caution”.</p> <p>The contents of the caution are described inside or near the symbol, using text or a picture.</p> <p>The example on the left indicates caution against electrical shock.</p> |
|  | <p>The symbol \ominus indicates “Do not.”</p> <p>The contents are described inside or near the symbol, using text or a picture.</p> <p>The example on the left indicates “Do not disassemble.”</p> |
|  | <p>The symbol \bullet indicates “Never fail to.”</p> <p>The contents are described inside or near the symbol, using text or a picture.</p> <p>The example on the left indicates “Never fail to perform what is described”.</p> |

■ Other

| | |
|-------------|---|
| NOTE | Provides information useful for the user to operate the device. |
|-------------|---|

Precautions for each operation are described in the instruction manual. Read the instruction manual before using the device.

PRECAUTIONS FOR USE

In order to use the device safely and correctly, please read the following precautions carefully before using the device. More precautions appear in the main text of the instruction manual. Read the manual thoroughly before using the device. After reading, store the manual in a readily available location for future reference.

1. Maintenance

CAUTION



- Inspect cables before use and periodically.
- When a cable is used after a long period of storage, confirm that the device is functioning correctly and safely.
- Clean the cable with a dry, soft cloth.
Do not use thinner, alcohol, benzine, or wet dusters.

2. Precautions against strong electromagnetic waves

|  CAUTION | |
|---|---|
|  | <ul style="list-style-type: none">■ If strong electromagnetic waves are present near a personal computer during communication, errors in data transmission or an unintended operation may occur. Under such conditions, check the electromagnetic status and take necessary measures. |

The following are general examples of factors that may interfere with the proper functioning of the device and recommended solutions.

■ Cellular phone use

May cause undesired operation because cell phones emit electromagnetic waves.

- In a room or building where the device is used, turn off cellular phones and other small radio units.

■ High frequency noise from other devices via an electrical outlet

- Detect the source of the noise and take measures to break the route, using a noise suppressor.
- Avoid using the noise generating device.
- Use another electrical outlet.

■ Static electricity

- Fully discharge the operator before use.
- Humidify the room.

■ Lightning strike

A nearby lightning strike may induce excessive voltage into the device. In the event of a lightning strike:

- Use an uninterruptible power supply to operate the device.

■ Using the device introduces noise into a television or radio.

- Place the affected television or radio away from the device.

PRECAUTIONS FOR SAFETY MEASUREMENTS

Obey the following precautions for safety measurements

1. Blood pressure measurement

|  CAUTION | |
|---|--|
|  | <ul style="list-style-type: none"> ▪ When the blood pressure monitor is connected to a personal computer, do not place the cuff on a patient. |

2. Terms and abbreviations

The tables below list terms and abbreviations used for the blood pressure data analysis software.

| Terms and abbreviations related to blood pressure measurements | Description |
|--|--|
| Korotkoff: Korotkoff measurement method | Blood pressure values are obtained by detecting the Korotkoff sounds. |
| Oscillometric: Oscillometric method | Blood pressure values are obtained by analyzing variations in pulse pressure detected in the cuff. |
| Systolic, SYS, SBP: Systolic Blood Pressure | Maximum blood pressure or the blood pressure when the heart is contracting |
| Diastolic, DIA, DBP: Diastolic Blood Pressure | Minimum blood pressure or the blood pressure when the heart is relaxing |
| MAP, MA: Mean Arterial Blood Pressure | Mean blood pressure obtained by the following formula: $\text{MAP}=\text{DIA}+(\text{SYS}-\text{DIA})/3$ |
| PUL: Pulse Rate | Pulse rate |
| DP: Double Product | Oxygen consumption by the heart muscle obtained by the following formula: $\text{DP}=\text{SYS}\times\text{PUL}/1000$ |
| BP: Blood Pressure | |
| BPM: Blood Pressure Measurement | |

| Terms and abbreviations related to statistical calculations | Description |
|---|---|
| AVE、 mean、 m | Arithmetic mean value |
| max | Maximum value |
| min | Minimum value |
| SD、 S': Standard Deviation | Standard deviation obtained by the following formula: $\left[\frac{\sum_{i=1}^n (X_i - \bar{X})^2}{(n-1)} \right]^{1/2}$ to sample (X_1, \dots, X_n) n: number of samples、 \bar{X} : arithmetic mean value |
| SE: Standard Error | Standard error obtained by the following formula: $(SD^2/n)^{1/2}$ to sample (X_1, \dots, X_n) |
| CV: Coefficient of Variation | Coefficient of variation obtained by the following formula: $CD=SD/mean[\%]$ |
| Correlation | |
| Correlation r: Coefficient of Correlation | |
| Reg.Line: Regression Line | |
| Histogram | |
| c.i.: Confidence Interval | Interval surrounded by the confidence limit of 95%. |

| Terms and abbreviations related to circadian rhythm | Description |
|---|---|
| Cosinor | Circadian rhythm analysis method introduced by Halberg et al (1967). |
| MESOR | A circadian rhythm-adjusted mean based on the parameters of a cosine function fitted to the raw data. |
| AMP: Amplitude | Amplitude of a cosine curve best fitted to the biological rhythm data. |
| Acrophase | Phase that represents the maximum value of a cosine curve best fitted to the biological rhythm data. |
| PR: Percent Rhythm | Rhythm compatibility Squared multiple correlation coefficient (R) between the measured value and the cosine curve best fitted to the biological rhythm data. |

| Other terms and abbreviations | Description |
|-------------------------------|---|
| HBI: Hyperbaric Index | High blood pressure index |
| Hypobaric Index | Low blood pressure index |
| Hyperbaric Area | Time integral of the blood pressure values exceeding the user-defined limits |
| Hypobaric Area | Time integral of the blood pressure values not reaching the user-defined limits |
| HBI-sys | The limits of the systolic blood pressure to HBI |
| HBI-dia | The limits of the diastolic blood pressure to HBI |
| F | Full analysis |
| P | Partial analysis |
| Approximate Curve | |
| Fourier Series Expansion | |
| Order | |
| meas.: measurement | |
| AVERAGE Trend | Average trend shows the trend of hourly average values for systolic blood pressure, diastolic blood pressure, mean arterial blood pressure and pulse. |

CONTENTS

| | |
|--|-----------|
| 1. INTRODUCTION | 3 |
| 2. FEATURES | 3 |
| 3. SPECIFICATIONS | 4 |
| 3-1 Blood Pressure Monitors for use with Doctor Pro3 Lite | 4 |
| 3-2 System Requirements | 5 |
| 3-3 Brief Description on Analysis..... | 5 |
| 4. BEFORE USE | 6 |
| 4-1 Installing the Software | 6 |
| 4-2 Connecting the Blood Pressure Monitor to a PC | 8 |
| 4-2-1 Connecting the TM-2430 to the computer..... | 8 |
| 4-2-2 Connecting the UA-767PC to the computer..... | 9 |
| 4-2-3 Connecting the UB-511USB to the computer..... | 9 |
| 5. MAIN WINDOW | 10 |
| 6. GENERAL OPERATION | 11 |
| 6-1 Starting up Doctor Pro3 Lite | 11 |
| 6-2 Receiving the Data | 11 |
| 6-3 Selecting or Adding a Patient | 13 |
| 6-4 Analyzing the Measurement Data | 14 |
| 6-5 Printing the Data..... | 16 |
| 7. NEW PATIENTS | 17 |
| 8. MANAGING DATA | 20 |
| 8-1 Editing the Group List..... | 21 |
| 8-1-1  [Add group]..... | 21 |
| 8-1-2  [Rename group] | 21 |
| 8-1-3  [Search]..... | 21 |
| 8-2 Editing the Patient List..... | 22 |
| 8-2-1  [New patient]..... | 22 |
| 8-3 Data Registration Window | 23 |
| 8-3-1 Opening the data registration window | 23 |
| 8-3-2 Selecting an analysis icon | 24 |
| 8-4 Measurement Data Window | 25 |
| 8-4-1 Switching the measurement data window | 26 |
| 8-5 Patient Information window | 27 |

| | |
|---|-----------|
| 8-6 Data Analysis Window | 29 |
| 8-6-1  Select periods..... | 29 |
| 8-6-2  Trend | 30 |
| 8-7 Printing the Analyzed Data | 33 |
| 8-7-1 Printing procedure from the print preview window..... | 33 |
| 8-7-2 Printing procedure without displaying the print preview | 34 |
| 8-7-3 Printing from each analysis window..... | 34 |
| 9. RECEIVING DATA..... | 35 |
| 10. SENDING THE SETTINGS | 38 |
| 10-1 Automatic Recognition of the Blood Pressure Monitor | 38 |
| 10-2 Device Information and Measurement Intervals | 39 |
| 10-3 Confirming the Settings and Data Transmission | 41 |
| 11. CONFIGURATION | 42 |
| 11-1 Medical Facility..... | 42 |
| 11-2 Default Settings..... | 43 |
| 11-3 Measurement Pattern Settings | 44 |
| 11-4 Changing Languages | 45 |
| 12. WINDOW MENU..... | 46 |
| 12-1 Cascade..... | 46 |
| 12-2 Horizontal..... | 47 |
| 12-3 Vertical | 48 |
| 12-4 Minimization | 49 |
| 13. MAINTENANCE | 50 |
| 13-1 Error Codes..... | 50 |
| 13-1-1 TM-2430..... | 50 |
| 13-1-2 Guidance messages | 51 |
| 13-2 Default Settings..... | 52 |
| 14. CUSTOMER SUPPORT | 53 |
| 14-1 Inquiries about the Product..... | 53 |
| 14-2 Disclaimer | 53 |

1. INTRODUCTION

This manual provides information on the operation procedures for Doctor Pro3 Lite.

Please read this manual carefully before using Doctor Pro3 Lite in order to acquire sufficient information to use the software properly.

Store the manual in a readily available location for future reference.

2. FEATURES

Doctor Pro3 Lite is a Windows-based Blood Pressure Data Analysis Software that sets the blood pressure monitor measurement parameters and saves the collected blood pressure data into a personal computer. Doctor Pro3 Lite analyzes blood pressure data for each patient. Doctor Pro3 Lite is a powerful tool for diagnosing high blood pressure and managing the blood pressure of patients with high blood pressure.

Doctor Pro3 Lite is intended for use with the following blood pressure monitors.

- TM-2430 ME (Medical Electronics) Ambulatory Blood Pressure Monitor
- UA-767PC ME (Medical Electronics) Digital Blood Pressure Monitor with communication function
- UB-511USB HHC (Home Health Care) Wrist Digital Blood Pressure Monitor with communication function

Doctor Pro3 Lite has the following features.

| | |
|-------------------------|---|
| Patient data management | The blood pressure data and patient information are saved in a personal computer database. The data is separated into groups. |
| Graphical data | Systolic/diastolic blood pressure, mean arterial blood pressure, and pulse data are displayed graphically to quickly determine patterns or data trends. |
| Printed reports | Custom data report formats are easily defined and printed. The "Print all" feature allows the user to select specific analytical results to be printed and prints a summary report of the selected items. |

To use the functions that are not available with Doctor Pro3 Lite, please purchase Doctor Pro3.

3. SPECIFICATIONS

3-1 Blood Pressure Monitors for use with Doctor Pro3 Lite

Doctor Pro3 Lite is intended for use with the following blood pressure monitors.

TM-2430

- 24-hour ambulatory blood pressure monitoring. Useful for research and treatment of high blood pressure.
- Light weight, approximately 215 g (including batteries).
- Compact size that fits in a palm.
- The monitor is powered by LR6 type (Mignon) alkaline batteries or Ni-Cd rechargeable batteries.



TM-2430

UA-767PC

- Bi-directional communication with a personal computer enables data analysis and date setting using the Data Analysis Software.
- Stores 280 sets of measurement data.
- Clock and calendar function.
- Alarm can be set up to 6 times a day.
- Useful for monitoring blood pressure treatment, and conducting various clinical trials, research on blood pressure and home-based monitoring systems.



UA-767PC

UB-511USB

- Compact and light weight design.
- Displays 280 sets of memory data and average value.
- Displays the IHB (Irregular Heart Beat).
- Displays the blood pressure and pulse at the same time.
- Fast measurement along with inflation.



UB-511USB

USB cable (AX-KO3057-200)

- To use Doctor Pro3 Lite with the TM-2430 or the UA-767PC, the dedicated USB cable is required.
For details, contact the local A&D dealer.



USB cable
(AX-KO3057-200)

3-2 System Requirements

| | |
|------------------|---|
| Computer | Personal computer with a Pentium III 1GHz or greater microprocessor |
| Memory | Minimum 256MB |
| Operation system | Windows 2000 Professional or Windows XP Professional / Home Edition .NET Framework 1.1 or greater MDAC 2.6 or greater for Windows 2000 Professional <ul style="list-style-type: none">• .NET and MDAC are included on the installation CD. |
| Graphic adapter | SVGA video card (minimum of 256 colors, 800X600 pixels or higher recommended) |
| Disk type | CD drive (depends on the media) |
| Hard disk | Minimum 1GB free space |
| Interface | USB 2.0 / 1.1 |
| Port | USB A socket |
| Printer type | Printers supported by the MS Windows™ operating system |

CAUTION



- Only a personal computer that complies with the safety requirements of IEC60950 can be used with this product. If a computer that does not comply with those requirements is used, safety will not be guaranteed.

3-3 Brief Description on Analysis

The TM-2430 Ambulatory Blood Pressure Monitor is used to record an individual's blood pressure over an extended period, normally 24-48 hours. The monitor employs the oscillometric method to record the patient's blood pressure based on predetermined periods and parameters.

The user may divide each 24-hour interval into several periods. Within each period, the monitor may be programmed to record the patient's blood pressure at intervals from OFF to 120 minutes. These measurement intervals may be timed to coincide with the patient's daily activities.

With a UA-767PC or UB-511USB, blood pressure data collected over a long period (maximum 12 months) can be managed and blood pressure trends are indicated clearly by using Doctor Pro3 Lite.

4. BEFORE USE

4-1 Installing the Software

The software can only be run from a hard disk drive.

To install the software on your hard disk drive, complete the following steps:

1. Extract the Setup file as necessary. Run the Setup file.
2. (1) The following appears when the USB driver has not been installed.



Connect the USB cable to your personal computer and click [Setup FTDI USB Device Driver].

- (2) Specify the Driver folder and install the driver.



- (3) When the driver has been installed successfully, click [Finish].

3. Install Doctor Pro3 Lite.



Follow the instructions in the display.

4. When Doctor Pro3 Lite has been installed successfully, the message "Setup succeeded" appears. Click [OK], then click [Exit] to quit the installation mode.



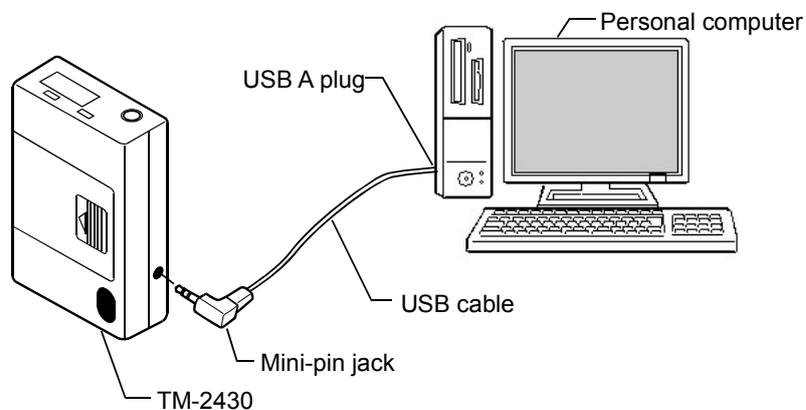
4-2 Connecting the Blood Pressure Monitor to a PC

Connect the blood pressure monitor to your personal computer.

| ⚠ CAUTION | |
|---|--|
|  | <ul style="list-style-type: none">■ When the blood pressure monitor is connected to a personal computer, do not place the cuff on a patient.■ Only a personal computer that complies with the safety requirements of IEC60950 can be used with this product. If a computer that does not comply with those requirements is used, safety will not be guaranteed. |

4-2-1 Connecting the TM-2430 to the computer

Use the USB cable AX-KO3057-200, otherwise communication errors will occur.



Connection between the TM-2430 and the computer
(The illustration above is not to scale.)

Connect the blood pressure monitor to a personal computer as follows.

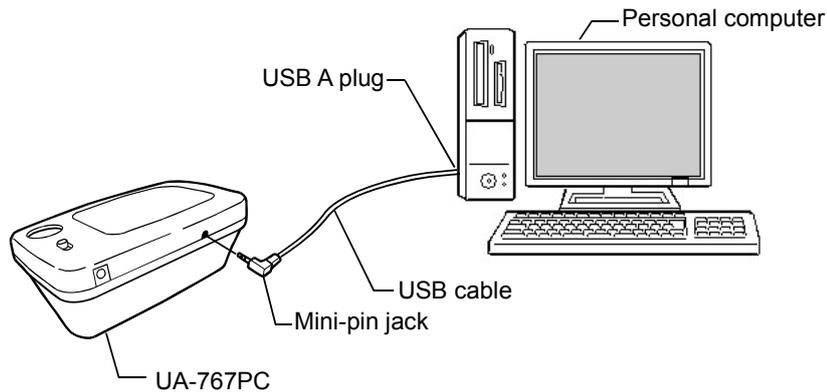
1. Insert the male end (mini-pin jack) of the USB cable into the monitor.
2. Insert the male end (USB A plug) of the USB cable into the computer's USB port.

Note: *Keep the cable connected to the computer unless the port is needed for other functions.*

3. Start up Doctor Pro3 Lite.

4-2-2 Connecting the UA-767PC to the computer

Use the USB cable AX-KO3057-200, otherwise communication errors will occur.



Connection between the UA-767PC and the computer
(The illustration above is not to scale.)

Connect the blood pressure monitor to a personal computer as follows.

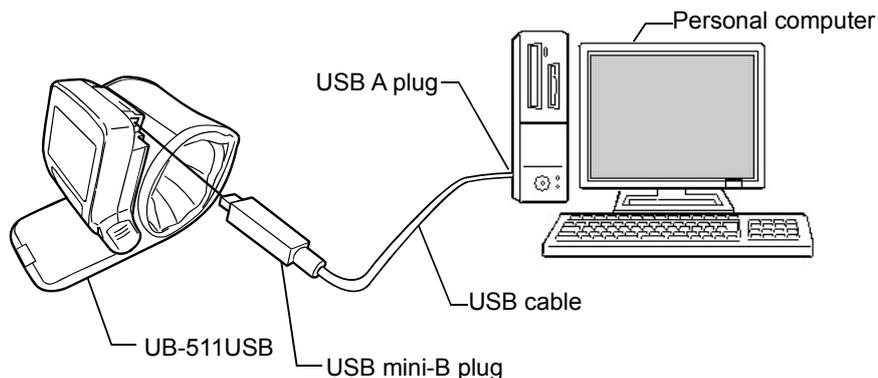
1. Insert the male end (mini-pin jack) of the USB cable into the monitor.
2. Insert the male end (USB A plug) of the USB cable into the computer's USB port.

Note: Keep the cable connected to the computer unless the port is needed for other functions.

3. Start up Doctor Pro3 Lite.

4-2-3 Connecting the UB-511USB to the computer

Use the USB mini-B plug – USB A plug USB cable, otherwise communication errors will occur.



Connection between the UB-511USB and the computer
(The illustration above is not to scale.)

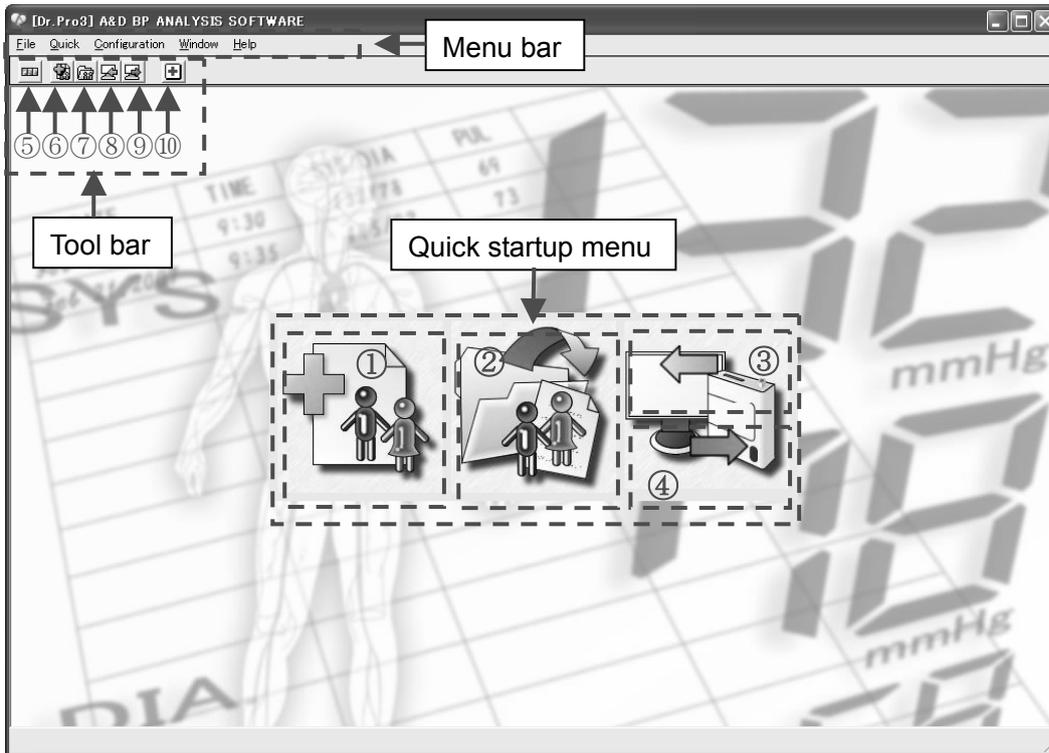
Connect the blood pressure monitor to a personal computer as follows.

1. Insert the male end (USB mini-B plug) of the USB cable into the monitor.
2. Insert the male end (USB A plug) of the USB cable into the computer's USB port.

Note: Keep the cable connected to the computer unless the port is needed for other functions.

3. Start up Doctor Pro3 Lite.

5. MAIN WINDOW



Quick startup menu

| No. | Name | Description |
|-----|-------------------|---|
| 1 | New patient | Opens the New Patient window to register patient information. |
| 2 | Open database | Opens the Patients Database window to manage blood pressure data. |
| 3 | Receive data | Opens the Receive Data window to receive blood pressure data from the blood pressure monitor. |
| 4 | Send setting data | Opens the Send Setting Data window to send the data to the blood pressure monitor. |

Menu bar

| Name | Description |
|---------------|--|
| File | "Exit" submenu is available. |
| Quick | Same with the quick startup menu. |
| Configuration | Select from "Medical facility," "Default settings," "Measurement pattern settings" or "Change language." |
| Window | Select the window displaying method. |
| Help | Displays the software version information. |

Tool bar

| No. | Name | Description |
|-----|-------------------|---|
| 5 | Quick menu | Turns ON or OFF the quick startup menu. |
| 6 | New patient | Same with 1. |
| 7 | Open database | Same with 2. |
| 8 | Receive data | Same with 3. |
| 9 | Send setting data | Same with 4. |
| 10 | Medical facility | Opens the Medical Facility window. Similar to the Configuration menu's Medical Facility menu. |

6. GENERAL OPERATION

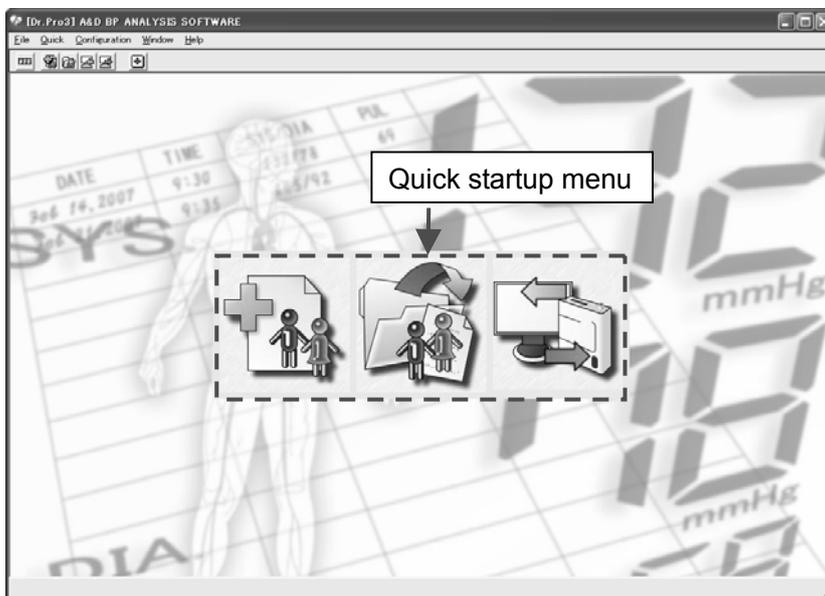
6-1 Starting up Doctor Pro3 Lite

Startup procedure

1. To startup Doctor Pro3 Lite:
 - Click “DrPro3 Lite” from the START menu.
 - or
 - Click the [DrPro3 Lite] icon located on the desk top.



2. The Main window opens.

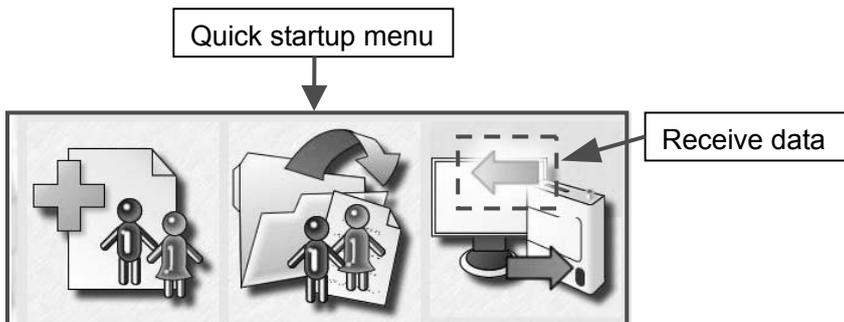


6-2 Receiving the Data

Receives the measurement data from the blood pressure monitor.

For details, refer to Section 9 “RECEIVING DATA.”

1. Click [Receive data] at the quick startup menu.



- Click [Next].



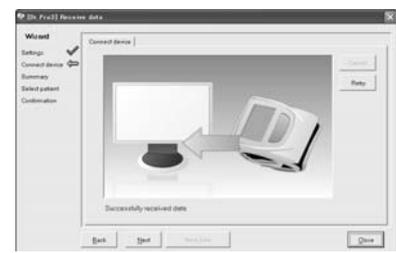
- When the connection is complete, the message “Successfully received data” appears in the Connect Device window.
Click [Next].



TM-2430 recognition

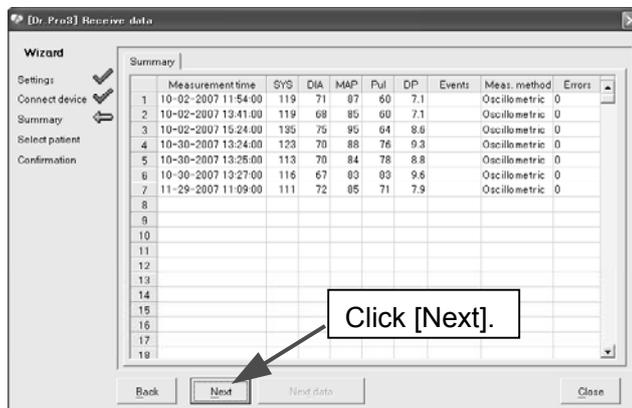


UA-767PC recognition



UB-511USB recognition

- The data received is displayed. Click [Next].



- The Select Patient window opens.

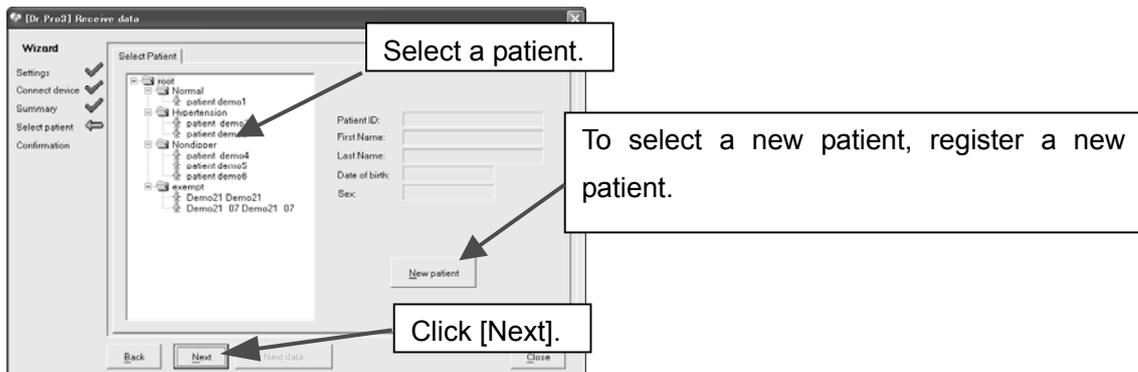
6-3 Selecting or Adding a Patient

Saves the measurement data received. For details, refer to Section 9 “RECEIVING DATA.”

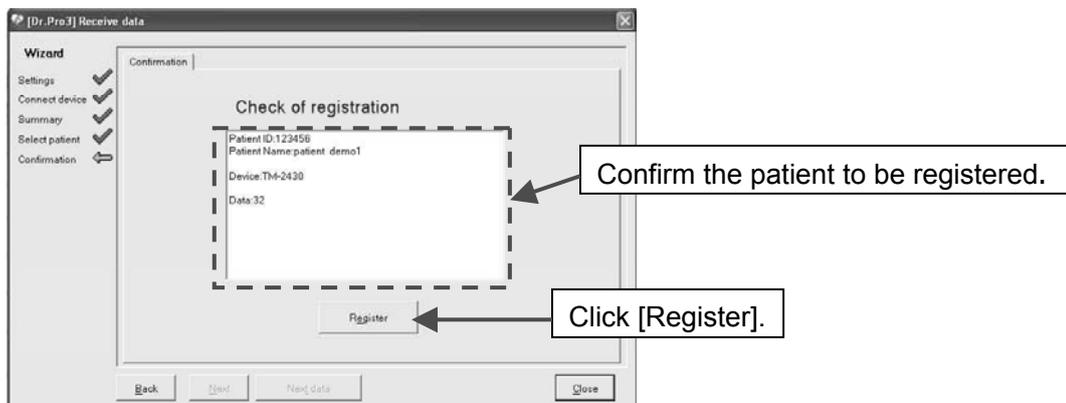
1. Select from the list of registered patients the patient under whose name you would like to save data.

To select a new patient, click [New patient] to register a new patient.

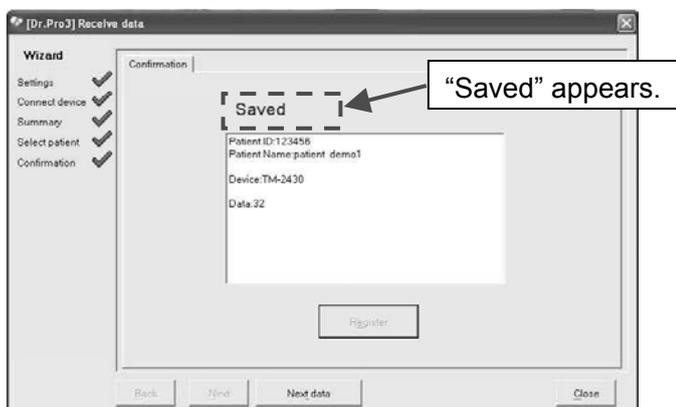
When the patient selection is completed, click [Next].



2. Confirm the patient to be registered. Click [Register] and then click [OK] in the Confirm window.



3. When the display shown below appears, the patient has been registered.



To complete the operation, click [Close].

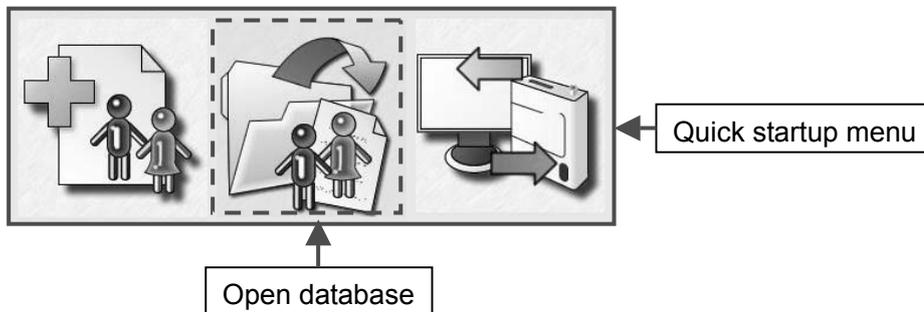
To continue receiving data, click [Next data].

6-4 Analyzing the Measurement Data

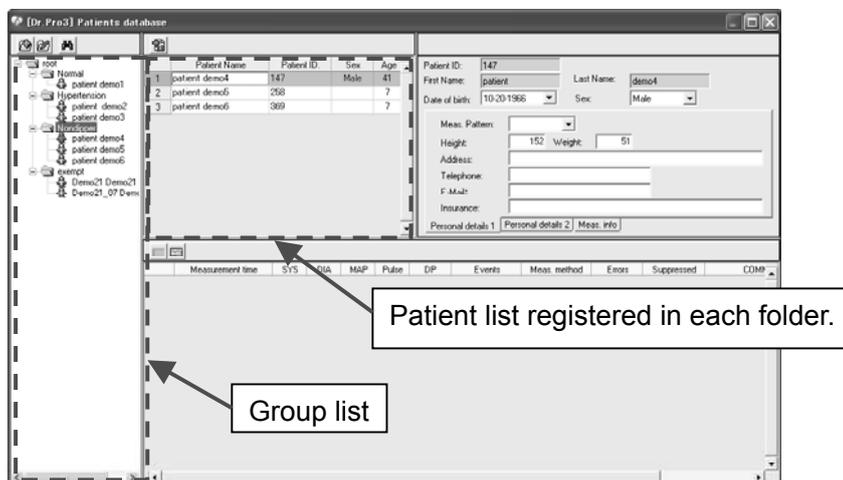
Analyzes the measurement data.

For details, refer to Section 8 “MANAGING DATA.”

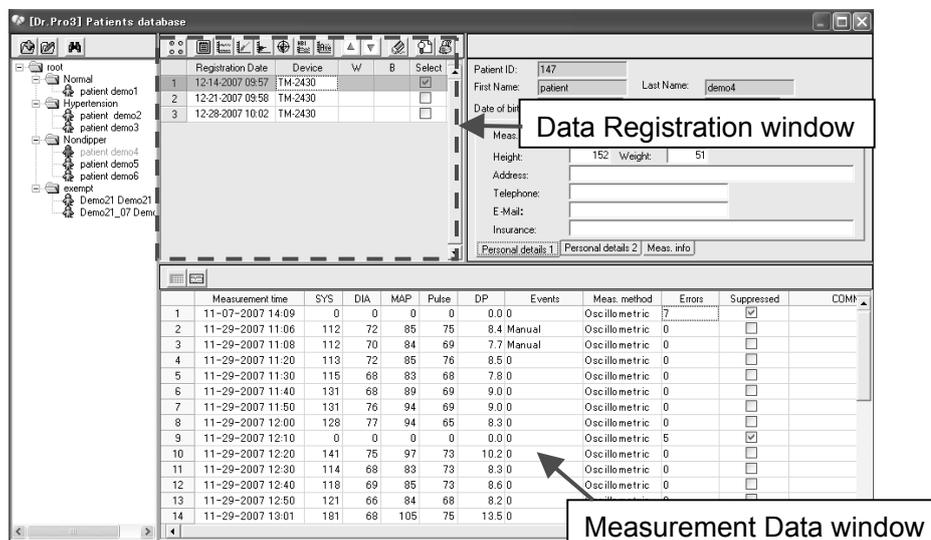
1. Click [Open database] at the quick startup menu.



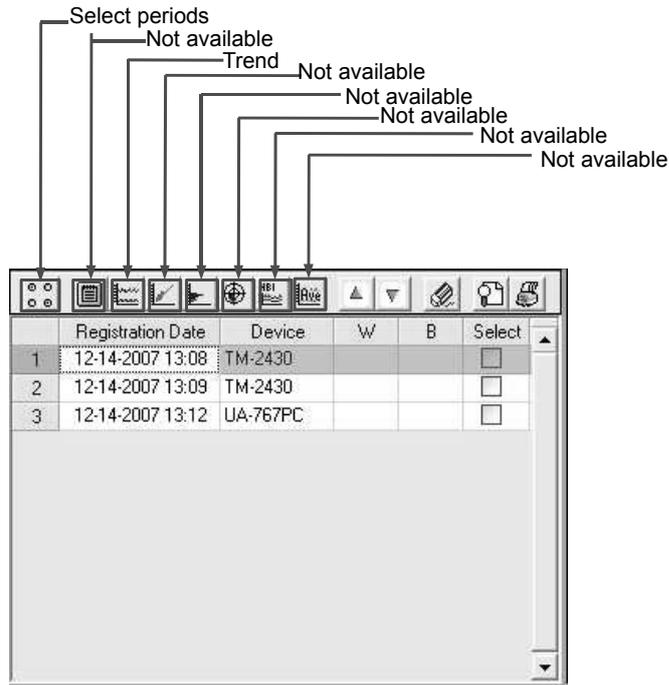
2. Select the patient data from the group list.



3. Click the registration date to be analyzed from the Data Registration window. The list of measurement data will be displayed in the Measurement Data window.



- Click the registration dates to be analyzed from the Data Registration window and click the Select box.



The following items can be analyzed. For details, refer to “8-6 Data Analysis Window.”

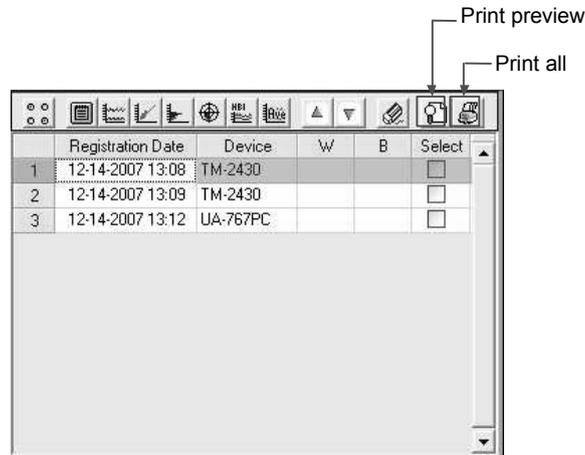
| Menu | Refer to |
|----------------|----------|
| Select periods | 8-6-1 |
| Trend | 8-6-2 |

6-5 Printing the Data

Prints the analyzed data.

For details, refer to “8-7 Printing the Analyzed Data.”

1. Print preview is available in the Data Registration window. Click [Print all] to print all the printable items.

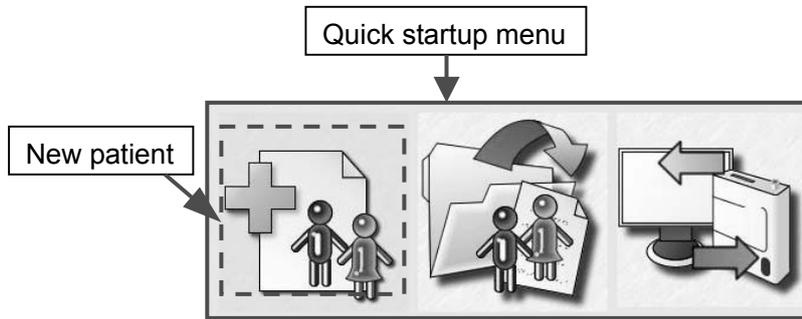


2.  Printing in the Trend window

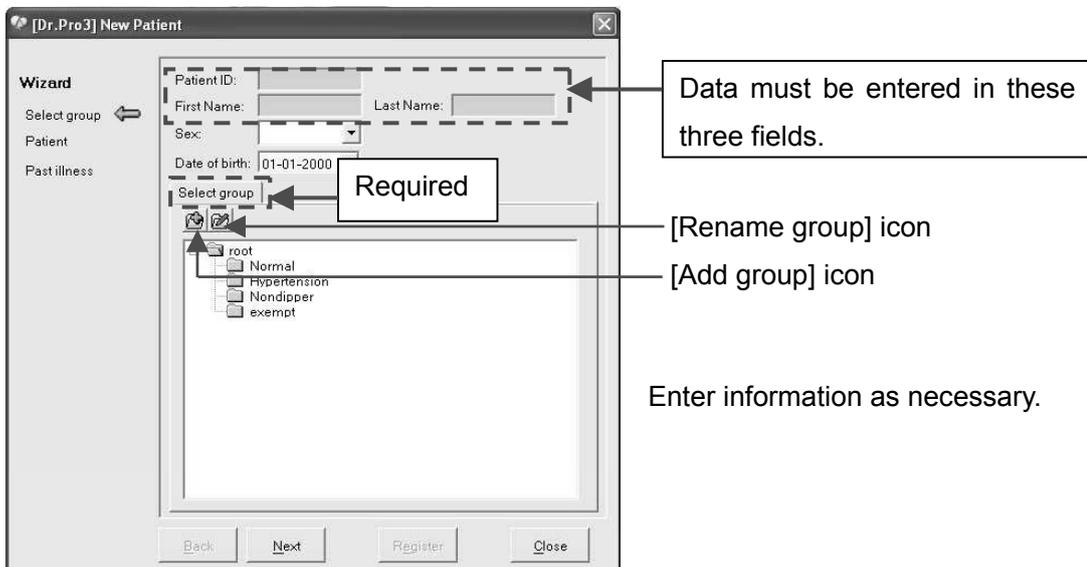
-  [Individual printing] → Prints a trend graph.
-  [Print all] → Click boxes as necessary in “Graph option” to print, and select the printing parameters from the pulldown menu.

7. NEW PATIENTS

1. Click [New patient] at the quick startup menu.



2. Select Group window



| Item | Description |
|-------------------------|--|
| Patient ID (Required) | Enter the patient ID using a maximum of 20 characters. |
| First name (Required) | Enter the patient's first name using a maximum of 30 characters. |
| Last name (Required) | Enter the patient's last name using a maximum of 30 characters. |
| Sex | Select from the pulldown menu. |
| Date of birth | Enter in the MM-DD-YYYY format or select from the pulldown menu. |
| Select group (Required) | Point the mouse to the group folder. To add a group or rename the group, click the [Add group] or [Rename group] icon, or right-click to display "Add group" and "Rename group." |

When all the necessary items have been entered, click [Next].

3. Patient's Personal Information window

| Item | Description |
|--|--|
| Height | Enter the patient's height in 0-99999. (Place a decimal point as necessary.) |
| Weight | Enter the patient's weight in 0-99999. (Place a decimal point as necessary.) |
| Address | Enter the patient's address using a maximum of 50 characters. |
| Telephone | Enter the patient's telephone number using a maximum of 20 characters between 0 to 9 and a hyphen (-). |
| E-Mail | Enter the patient's e-mail address using a maximum of 50 characters. |
| Insurance | Enter the patient's insurance carrier. |
| Referring physician | Enter the doctor's name using a maximum of 30 characters. |
| Medications | Enter the patient's medications using a maximum of 60 characters. |
| Comment 1 | Enter comments using a maximum of 200 characters. |
| Comment 2 | Enter comments using a maximum of 200 characters. |
| Pattern of meas. (Pattern of measurement) | Select from the pulldown menu. |

When all the necessary items have been entered, click [Next].

4. Past Illness window

| Item | Description |
|----------------|--|
| Diabetes | Select from "No," "Yes" and "Unknown." |
| Hypertension | Select from "No," "Yes" and "Unknown." |
| Hyperlipidemia | Select from "No," "Yes" and "Unknown." |
| Obesity | Select from "No," "Yes" and "Unknown." |

When all the necessary items have been entered, click [Next].

Then, click [Register]. The Confirm window opens.

5. Confirm window

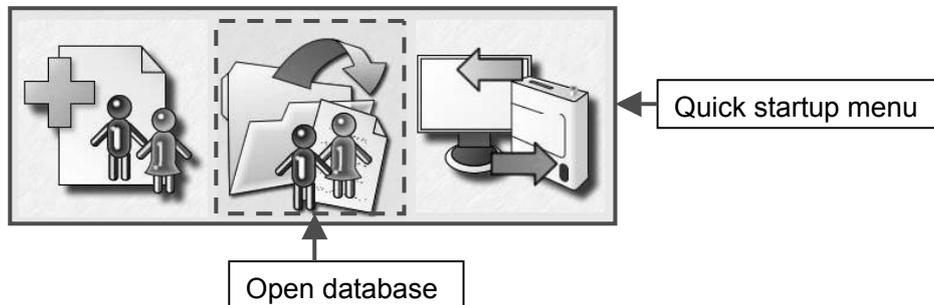


Click [OK] to register the new patient.

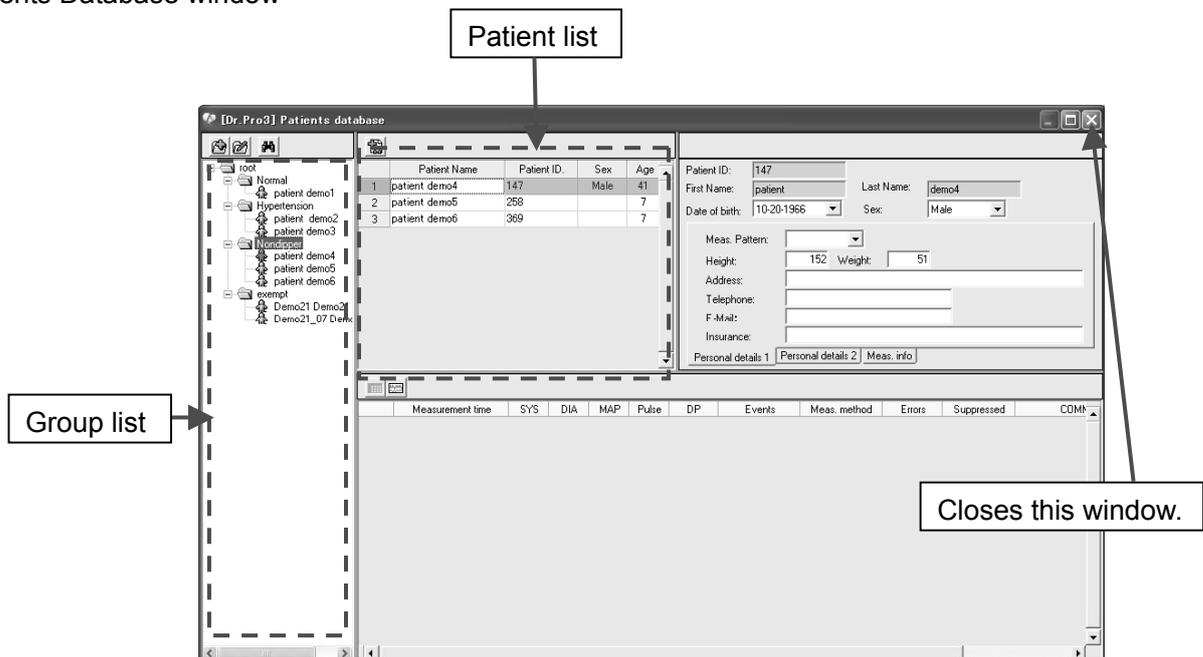
8. MANAGING DATA

Manages the group and patient database.

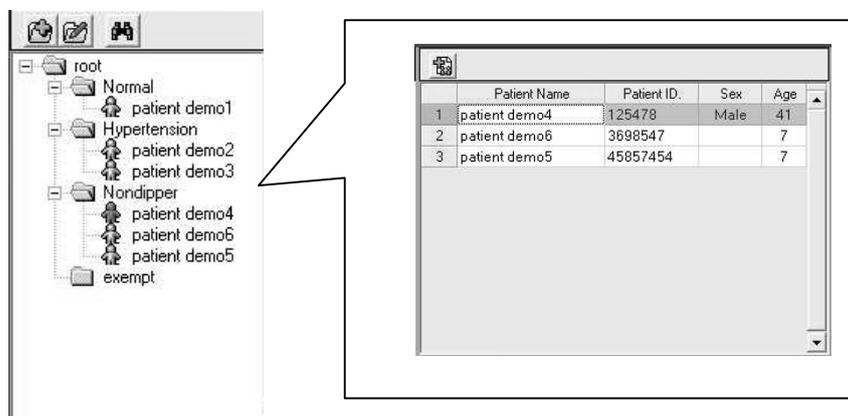
Click [Open database] at the quick startup menu.



Patients Database window



Click a folder in the group list. The relevant data is displayed in the patient list.



8-1 Editing the Group List

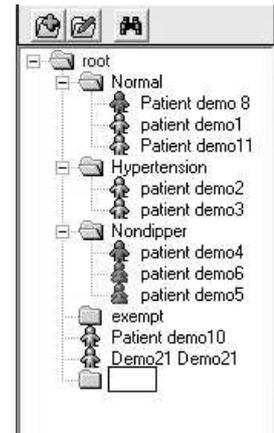
Adds or renames a group, and performs a search.

NOTE

Adding and renaming a group can be performed either by clicking on each icon or by right-clicking the group folder.

8-1-1 [Add group]

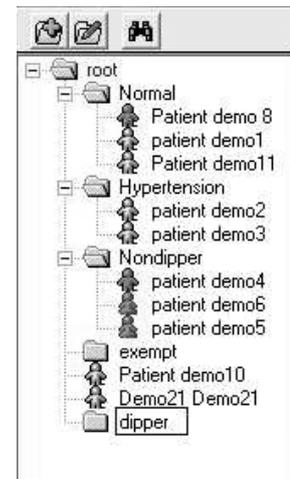
- (1) Click the folder into which a group will be added.
- (2) Click the [Add group] icon.
- (3) A new folder is added.
- (4) Enter the group name.



8-1-2 [Rename group]

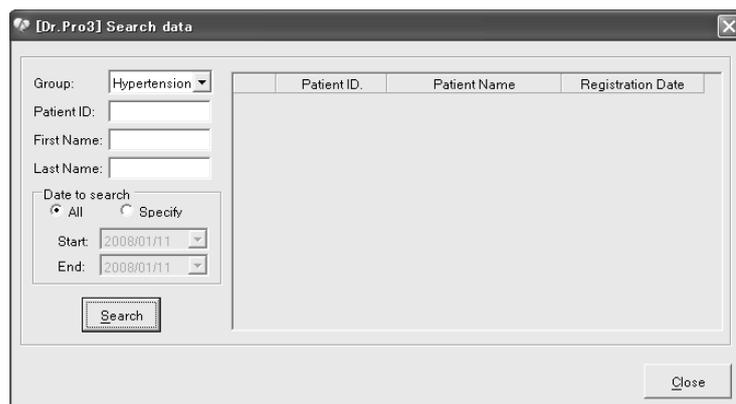
Note: Patient names can not be changed.

- (1) Click a folder to rename.
- (2) Click the [Rename group] icon.
- (3) Enter a group name.



8-1-3 [Search]

- (1) Click the [Search] icon to open the Search Data window.
- (2) Enter search items.
- (3) Click [Search].
- (4) The search results will be displayed.

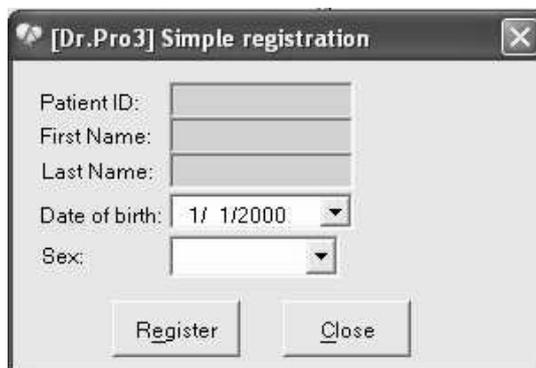


8-2 Editing the Patient List

Adds a patient.

8-2-1 [New patient]

- (1) Click a folder from the group list into which a patient will be added.
- (2) Click the [New patient] icon to open the Simple Registration window.



Enter the following items.

- Patient ID (Required)
- First name (Required)
- Last name (Required)
- Date of birth
- Sex

When all the necessary items have been entered, click [Register].

- (3) The Confirm window opens.



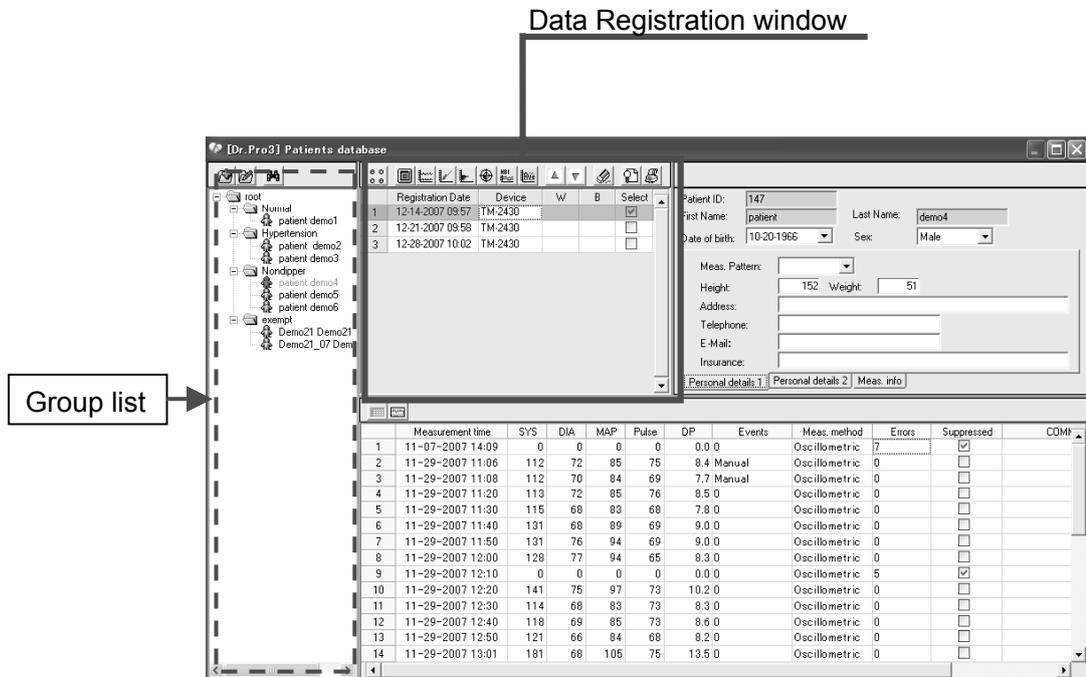
- (4) Click [OK] to add the patient.
Click [Close] to complete the operation.

8-3 Data Registration Window

Displays and prints the analyzed results of measurement data.

8-3-1 Opening the data registration window

Click a patient name from the group list to open the Data Registration window.



Items in the Data Registration window

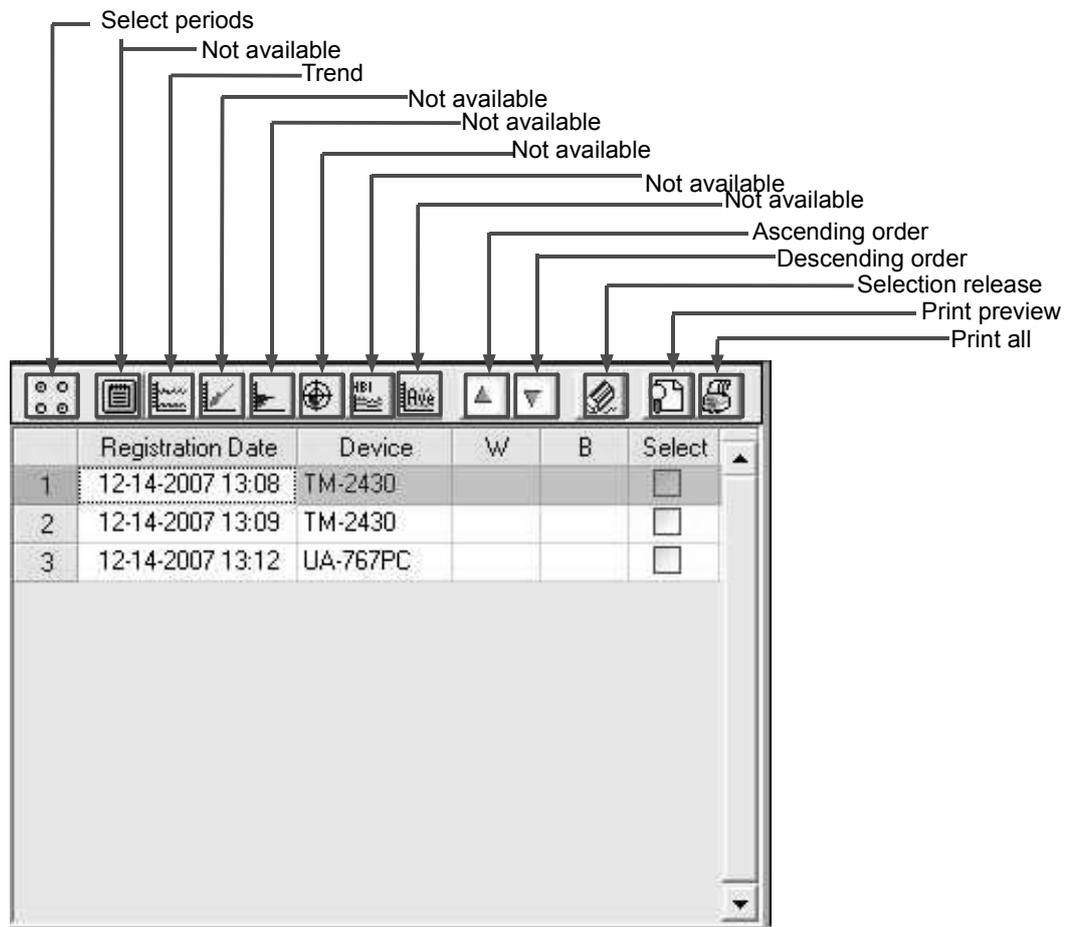
| Item | Description |
|-------------------|--|
| Registration date | Displays the date when the data is uploaded (received). |
| Device | Displays the model of the blood pressure monitor that was used. |
| W (Wake time) | Displays the wake time. |
| B (Bedtime) | Displays the bedtime. |
| Select | Click the box to include in data analysis. |
| CSV | Displays a data format. 2C: CSV-imported data format of Doctor Pro2 2D: DAT-imported data format of Doctor Pro2 3C: CSV-imported data format of Doctor Pro3 Blank: Standard measurement data |

NOTE

The CSV column is usually not displayed. To display the column, adjust the column widths of the Data Registration window.

8-3-2 Selecting an analysis icon

Click on an icon in the Data Registration window to perform various analyses.



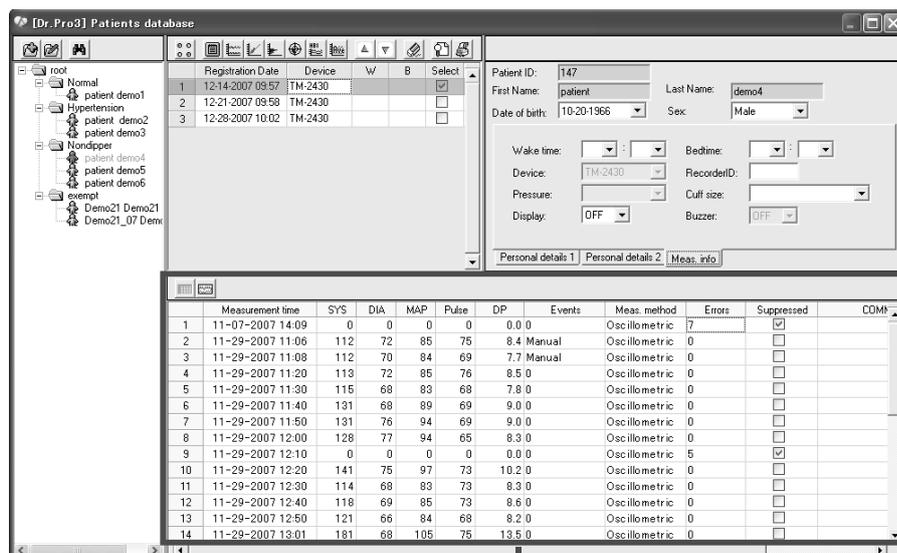
Note: Click the Select box from the registration date to perform various analyses.
When the TM-2430 is used, select a maximum of two data.

Analysis menu

| Menu | Refer to | Description |
|-------------------|----------|--|
| Select periods | 8-6-1 | Defines specific periods of time within an opened data file for custom data analysis. Two periods, full analysis and partial analysis may be defined for each data file. |
| Trend | 8-6-2 | Displays systolic blood pressure, diastolic blood pressure, mean arterial blood pressure, pulse (heart rate) and double product trends. |
| Ascending order | | Sorts the registration date in the ascending order. |
| Descending order | | Sorts the registration date in the descending order. |
| Selection release | | Removes the check mark from the select box. |
| Print preview | 8-7-1 | Displays a print preview of the data selected from the registration date. |
| Print all | 8-7-2 | Select graph options, set printing parameters and print. |

8-4 Measurement Data Window

Displays measurement data in detail.



Measurement Data window

Items in the Measurement Data window

| Item | Description |
|--------------------------------------|---|
| No. | Measurement No. |
| Measurement time | Date and time when the measurement is performed. |
| SYS | Systolic blood pressure |
| DIA | Diastolic blood pressure |
| MAP | Mean arterial blood pressure, obtained by $MAP = DIA + (SYS - DIA) / 3$. |
| Pulse | Pulse rate |
| DP | Double Product, obtained by $DP = SYS \times Pulse / 1000$. |
| Events | Only for the TM-2430. Displays the measurement during sleep or manual measurement. (Always "0" for the UA-767PC/UB-511USB.) |
| Meas. method (Measurement method) | Displays the measurement method, Korotkoff or oscillometric. |
| Errors | Displays individual errors. (Displays error codes for the TM-2430.) (Always "0" for the UA-767PC/UB-511USB.) |
| Suppressed | Click the data to exclude from data analysis. |
| Comments | Enter comments using a maximum of 20 characters. |
| Scroll bars | Located at the bottom and right of the screen to scroll the data. Data can also be scrolled using the arrow keys or the mouse. |

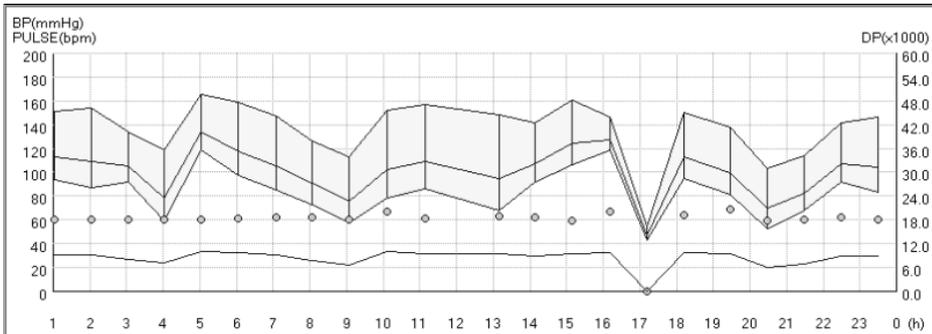
8-4-1 Switching the measurement data window

Clicking the icon in the Measurement Data window switches the window as follows.

 BP Data List window

| | Measurement time | SYS | DIA | MAP | Pulse | DP | Events | Meas. method | Errors | Suppressed | COMT |
|----|------------------|-----|-----|-----|-------|-------|--------|---------------|--------|-------------------------------------|------|
| 1 | 11-07-2007 14:09 | 0 | 0 | 0 | 0 | 0.0 0 | | Oscillometric | 7 | <input checked="" type="checkbox"/> | |
| 2 | 11-29-2007 11:06 | 112 | 72 | 85 | 75 | 8.4 | Manual | Oscillometric | 0 | <input type="checkbox"/> | |
| 3 | 11-29-2007 11:08 | 112 | 70 | 84 | 69 | 7.7 | Manual | Oscillometric | 0 | <input type="checkbox"/> | |
| 4 | 11-29-2007 11:20 | 113 | 72 | 85 | 76 | 8.5 | 0 | Oscillometric | 0 | <input type="checkbox"/> | |
| 5 | 11-29-2007 11:30 | 115 | 68 | 83 | 68 | 7.8 | 0 | Oscillometric | 0 | <input type="checkbox"/> | |
| 6 | 11-29-2007 11:40 | 131 | 68 | 89 | 69 | 9.0 | 0 | Oscillometric | 0 | <input type="checkbox"/> | |
| 7 | 11-29-2007 11:50 | 131 | 76 | 94 | 69 | 9.0 | 0 | Oscillometric | 0 | <input type="checkbox"/> | |
| 8 | 11-29-2007 12:00 | 128 | 77 | 94 | 65 | 8.3 | 0 | Oscillometric | 0 | <input type="checkbox"/> | |
| 9 | 11-29-2007 12:10 | 0 | 0 | 0 | 0 | 0.0 | 0 | Oscillometric | 5 | <input checked="" type="checkbox"/> | |
| 10 | 11-29-2007 12:20 | 141 | 75 | 97 | 73 | 10.2 | 0 | Oscillometric | 0 | <input type="checkbox"/> | |
| 11 | 11-29-2007 12:30 | 114 | 68 | 83 | 73 | 8.3 | 0 | Oscillometric | 0 | <input type="checkbox"/> | |
| 12 | 11-29-2007 12:40 | 118 | 69 | 85 | 73 | 8.6 | 0 | Oscillometric | 0 | <input type="checkbox"/> | |
| 13 | 11-29-2007 12:50 | 121 | 66 | 84 | 68 | 8.2 | 0 | Oscillometric | 0 | <input type="checkbox"/> | |
| 14 | 11-29-2007 13:01 | 181 | 68 | 105 | 75 | 13.5 | 0 | Oscillometric | 0 | <input type="checkbox"/> | |

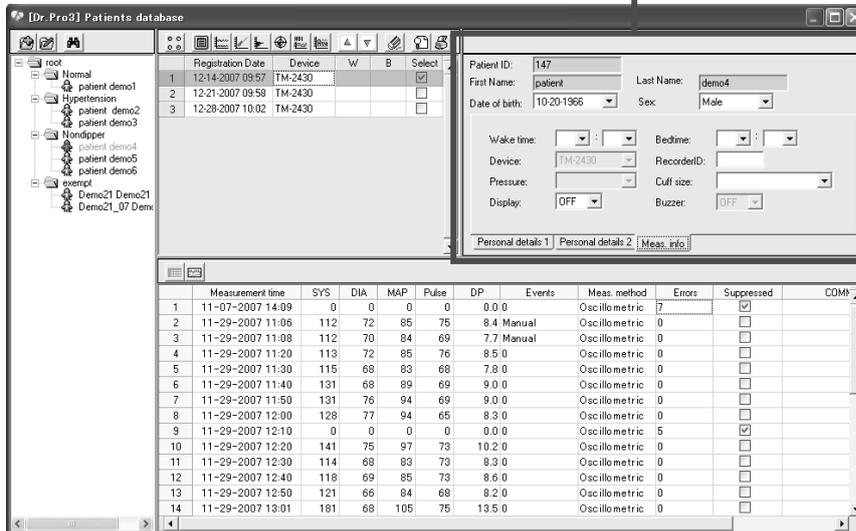
 Simple Trend window



8-5 Patient Information window

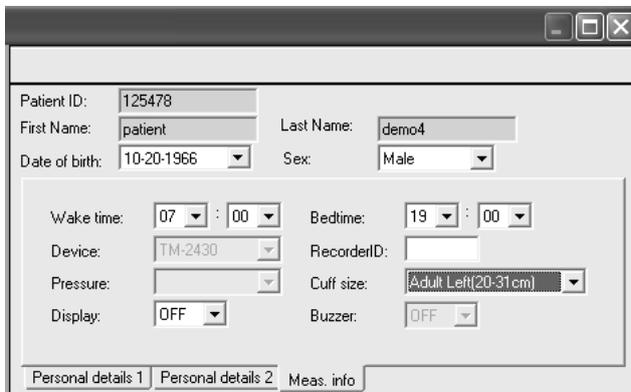
Edits the patient's personal information and device information.

Patient Information window

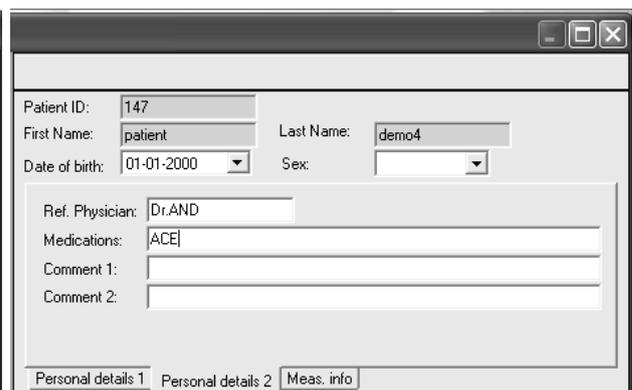
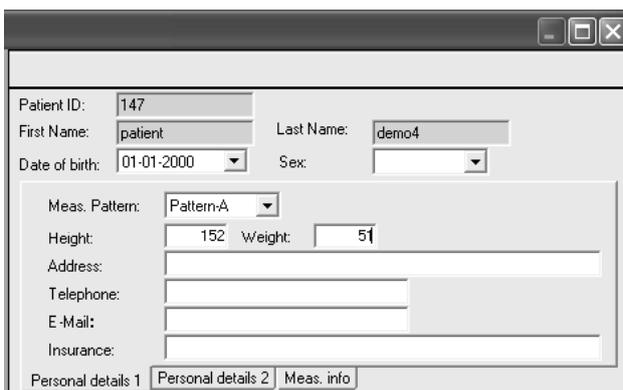


The Patient Information window has three tabs.

- [Meas. info.] tab to edit the device information.



- [Personal details] tabs to edit the patient's personal information.

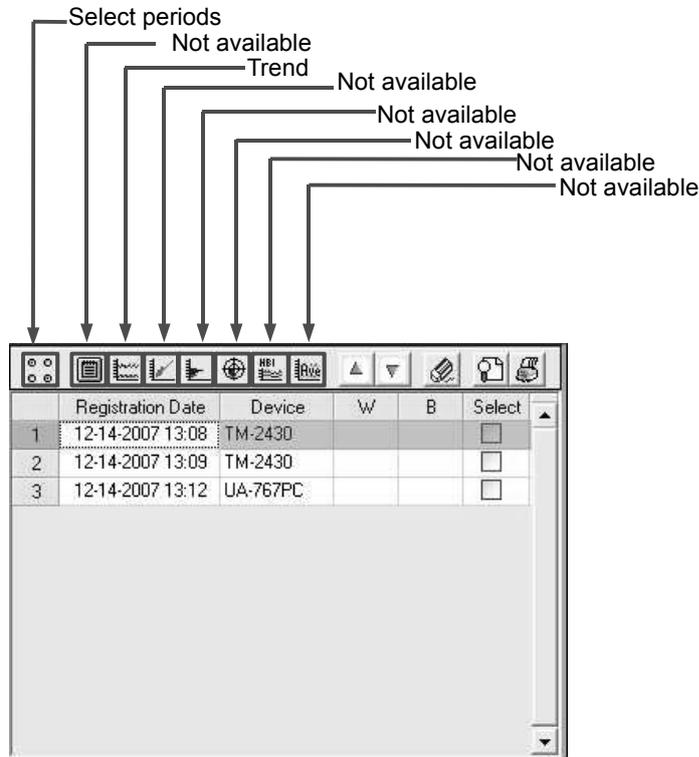


| Item | Description |
|--|--|
| Patient ID (Required) | Enter the Patient ID using a maximum of 20 characters. |
| First name (Required) | Enter the patient's first name using a maximum of 30 characters. |
| Last name (Required) | Enter the patient's last name using a maximum of 30 characters. |
| Date of birth | Enter in the MM-DD-YYYY format or select from the pulldown menu. |
| Sex | Select from the pulldown menu. |
| Wake time | Enter in the 24-hour format. |
| Bedtime | Enter in the 24-hour format. |
| Device | Select from the pulldown menu. |
| Recorder ID | Enter the recorder ID using a maximum of 2 characters between 0 to 9. |
| Pressure | Select from the pulldown menu. |
| Cuff size | Select from the pulldown menu. |
| Display | Select from the pulldown menu. |
| Buzzer | Select from the pulldown menu. |
| Meas. pattern (Pattern of measurement) | Select from the pulldown menu. |
| Height | Enter the patient's height in 0-99999. (Place a decimal point as necessary.) |
| Weight | Enter the patient's weight in 0-99999. (Place a decimal point as necessary.) |
| Address | Enter the patient's address using a maximum of 50 characters. |
| Telephone | Enter the patient's telephone number using a maximum of 20 characters between 0 to 9 and a hyphen (-). |
| E-Mail | Enter the patient's e-mail address using a maximum of 50 characters. |
| Insurance | Enter the patient's insurance carrier.. |
| Referring physician | Enter the doctor's name using a maximum of 30 characters. |
| Medications | Enter the patient's medications using a maximum of 60 characters. |
| Comment 1 | Enter comments using a maximum of 200 characters. |
| Comment 2 | Enter comments using a maximum of 200 characters. |

8-6 Data Analysis Window

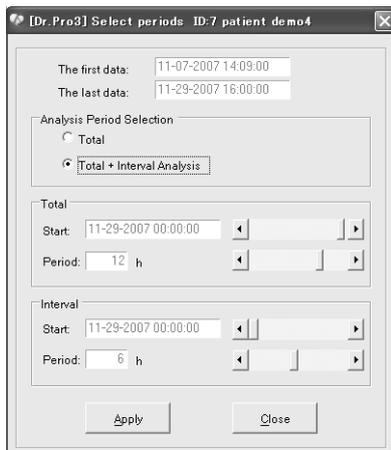
The Data Registration window has data analysis icons.

Select data in the Data Registration window, set the analysis period and click each analysis icon to analyze data.



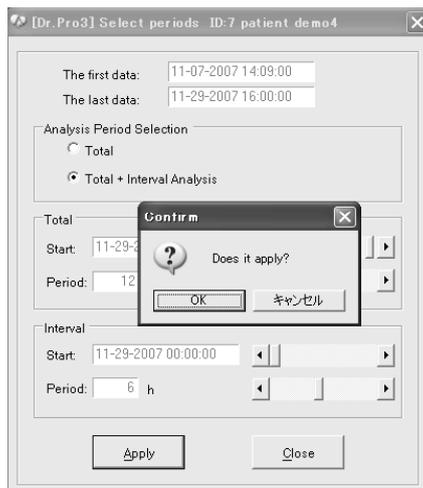
8-6-1 Select periods

Sets the analysis period of the data selected in the Data Registration window. Without selecting periods, analysis will not be performed.



- (1) Select "Total" or "Total + Interval Analysis" for the analysis period.
- (2) Set the starting date and time and the period, using the scroll bars.

(3) Click [Apply].



(4) The Confirm window opens. Click [OK].

(5) Click [Close] to complete the operation.

8-6-2 Trend

Displays trends in a patient's blood pressure, pulse, MAP and DP calculation over time. The Trend window is a useful tool to observe the patient's circadian rhythm.

The Trend function is dependent on the following parameters:

1. Analysis period
2. Measurement Method
3. Sleep section
4. Blood pressure limits

(1) TM-2430

When the TM-2430 is used, the following four trends can be displayed in the Trend window:

◆ **Systolic/Diastolic Blood Pressure (BP Trend)**

The vertical axis represents millimeters of mercury (mmHg) and the horizontal axis represents time. A vertical solid line connects the measurement's systolic and diastolic pressures. This line may be used to estimate the pulse pressure.

◆ **Pulse (Pulse Trend)**

The vertical axis represents beats per minute (bpm) and the horizontal axis represents time. The pulse trend is represented by yellow dots.

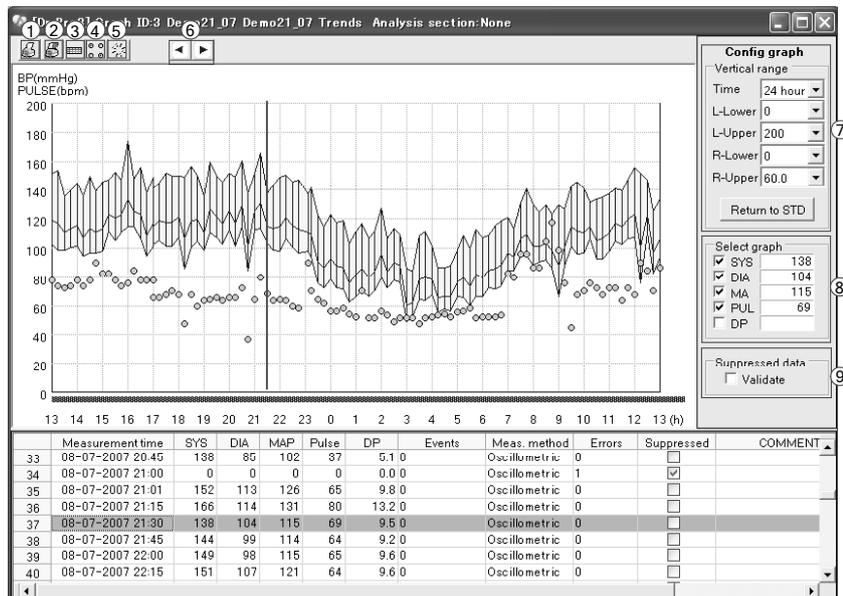
◆ **Mean Arterial Blood Pressure (MAP Trend)**

The vertical axis represents millimeters of mercury (mmHg) and the horizontal axis represents time. The MAP Trend may be displayed on its own or in combination with the BP Trend. If the MAP Trend is combined with the BP Trend, it will appear between the Systolic and Diastolic Trend lines.

◆ **Double Product**

The vertical axis represents mmHg·bpm/1000 and the horizontal axis represents time.

Icons in the Trend window



| No. | Icon | Description |
|-----|---------------------|--|
| 1 | Individual printing | Prints a trend graph. |
| 2 | Print all | Opens the Conclusion Printing window. Select graph options, set printing parameters and click [Print]. |
| 3 | List Disp/Not-Disp | Selects whether or not to display the list of measurement data below the trend graphs. |
| 4 | Select periods | Defines specific periods of time within an opened data file for custom data analysis. Two periods, full analysis and partial analysis may be defined for each data file. |
| 5 | Close | Closes the Trend window. |
| 6 | Left/right arrows | Moves the cursor to the left or right. |
| 7 | Config graph | Changes the graph axes settings. |
| 8 | Select graph | Click the box to display the graph, or if there is a check mark in the box and no graph is needed, click the box to remove the check mark. |
| 9 | Suppressed data | Selects whether or not to display the data excluded in the list of measurement data in a graph. |

Click the [Close] icon or [X] in the upper right corner to close the Trend window.

(2) UA-767PC/UB-511USB

When the UA-767PC/UB-511USB is used, the following four trends can be displayed in the Trend window:

- ◆ **Systolic/Diastolic Blood Pressure (BP Trend)**

The vertical axis represents millimeters of mercury (mmHg) and the horizontal axis represents time. The systolic pressure is represented by a solid red line; the diastolic pressure by a solid green line.

- ◆ **Pulse (Pulse Trend)**

The vertical axis represents beats per minute (bpm) and the horizontal axis represents time. The pulse trend is represented by yellow dots.

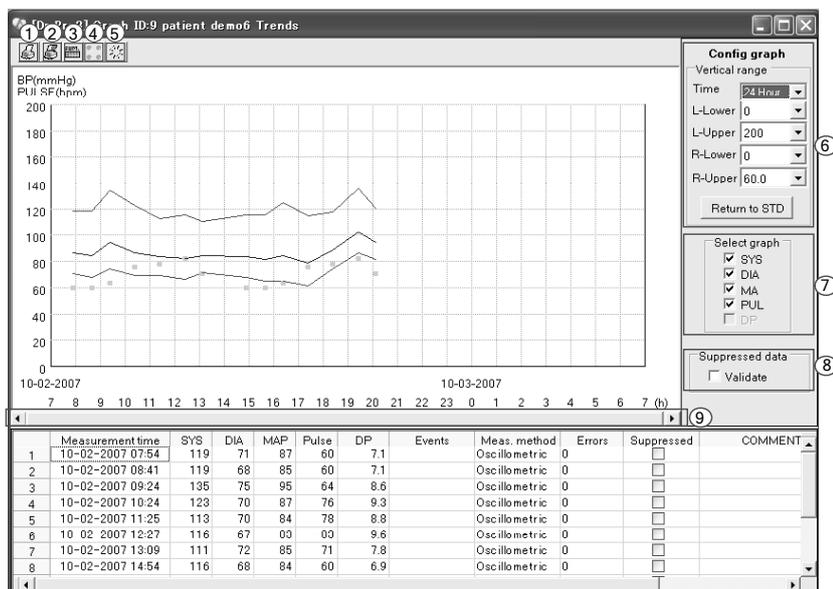
- ◆ **Mean Arterial Blood Pressure (MAP Trend)**

The vertical axis represents millimeters of mercury (mmHg) and the horizontal axis represents time. The MAP Trend may be displayed on its own or in combination with the BP Trend. If the MAP Trend is combined with the BP Trend, it will appear between the Systolic and Diastolic Trend lines as a solid blue line.

- ◆ **Double Product**

The vertical axis represents mmHg · bpm/1000 and the horizontal axis represents time.

Icons in the Trend window

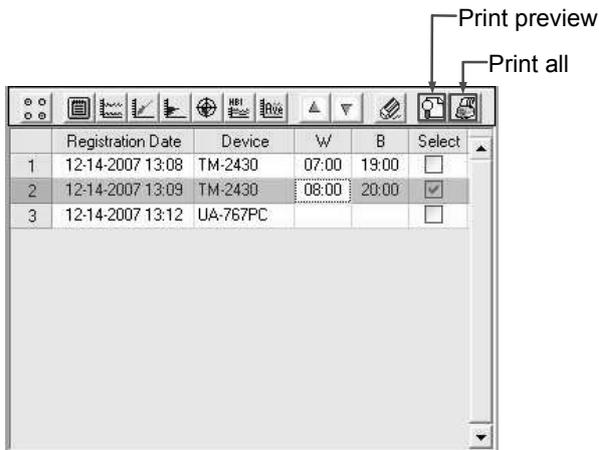


| No. | Icon | Description |
|-----|---------------------|--|
| 1 | Individual printing | Prints a trend graph. |
| 2 | Print all | Opens the Conclusion Printing window. Select graph options, set printing parameters and click [Print]. |
| 3 | List Disp/Not-Disp | Selects whether or not to display the list of measurement data below the trend graphs. |
| 4 | Select periods | Defines specific periods of time within an opened data file for custom data analysis. Two periods, full analysis and partial analysis may be defined for each data file. |
| 5 | Close | Closes the Trend window. |
| 6 | Config graph | Changes the graph axes settings. |
| 7 | Select graph | Click the box to display the graph, or if there is a check mark in the box and no graph is needed, click the box to remove the check mark. |
| 8 | Suppressed data | Selects whether or not to display the data excluded in the list of measurement data in a graph. |
| 9 | Slider bar | Moves the range of the displaying date and time back and forth. |

Click the [Close] icon or [X] in the upper right corner to close the Trend window.

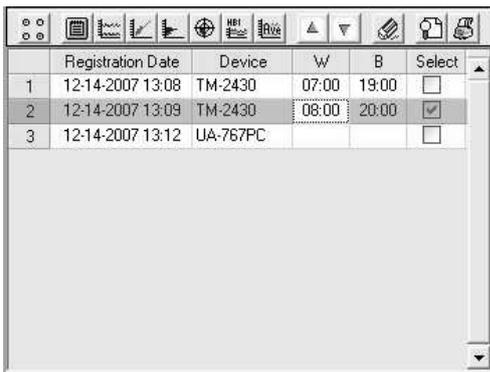
8-7 Printing the Analyzed Data

The analyzed data can be printed in the Data Registration window.

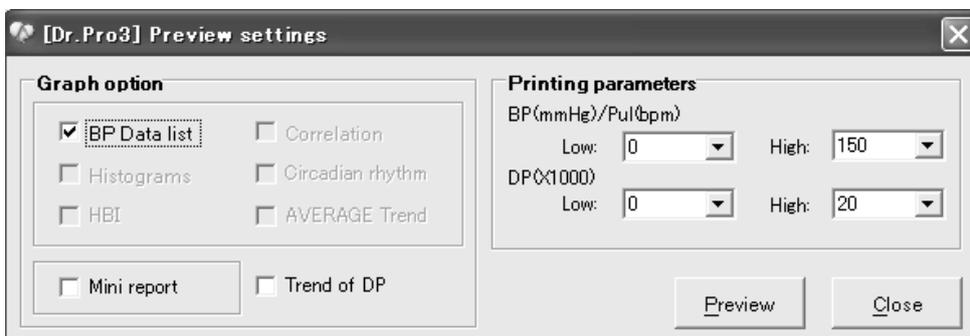


8-7-1 Printing procedure from the print preview window

(1) Select the registration date and click the [Print preview] icon ().



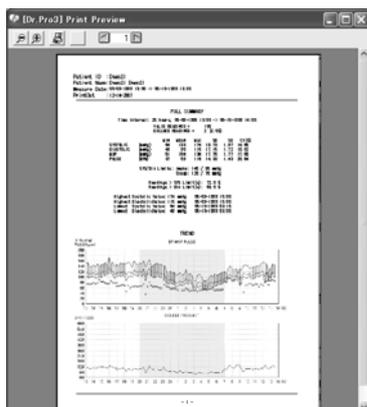
(2) Click boxes as necessary in “Graph option” to print, and select the printing parameters from the pulldown menu.



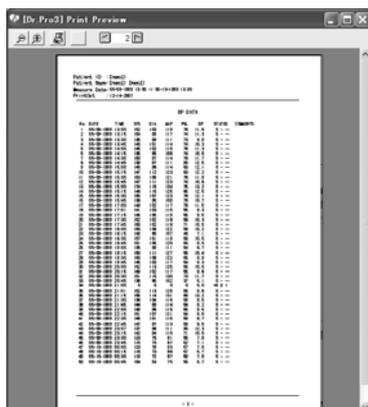
(3) Click [Preview].

(4) The Print Preview window opens. (The number of pages depends on the data selected.)

Page 1 (Summary+Trend)



Page 2 (List)



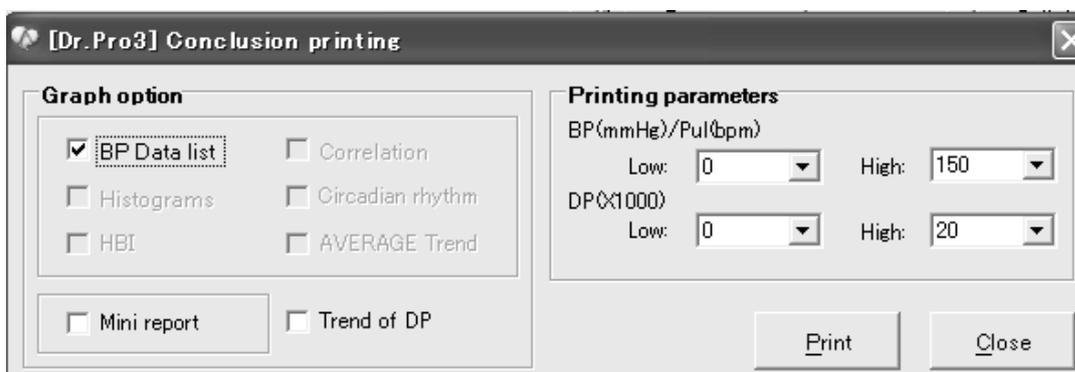
(5) Click the [Print all] icon (). The Conclusion Printing window opens.

(6) Change the settings in the Conclusion Printing window, if necessary.

(7) Click [Print].

8-7-2 Printing procedure without displaying the print preview

(1) Click the [Print all] icon.



(2) Click boxes as necessary in “Graph option” to print, and select the printing parameters from the pulldown menu.

(3) Click [Print].

8-7-3 Printing from each analysis window

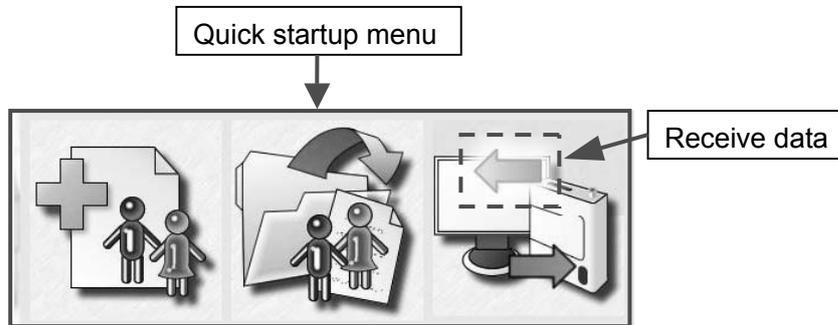
 Printing in the Trend window

-  [Individual printing] → Prints a trend graph.
-  [Print all] → Click boxes as necessary in “Graph option” to print, and select the printing parameters from the pulldown menu.

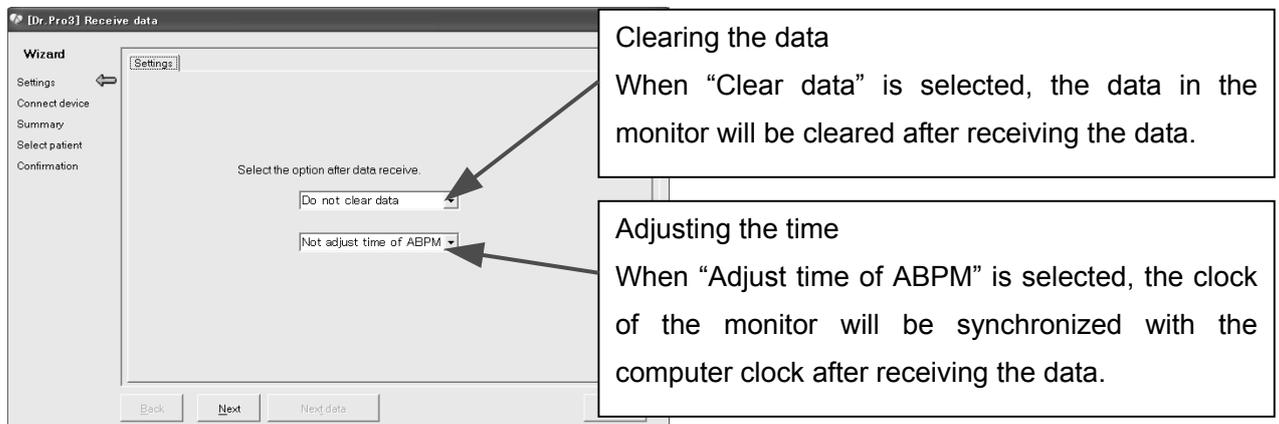
9. RECEIVING DATA

Receives the measurement data from the blood pressure monitor.

1. Click [Receive data] at the quick startup menu.

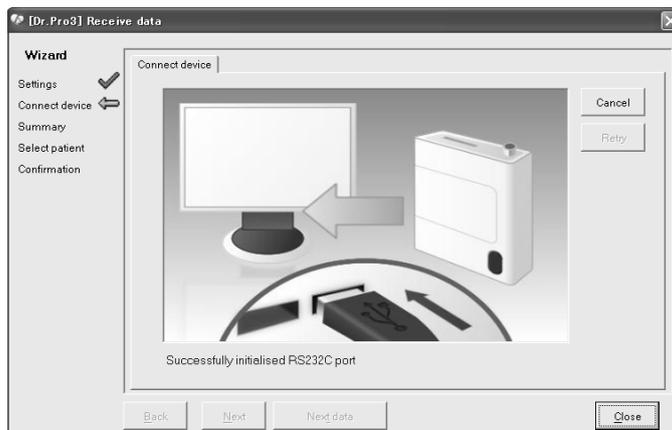


2. In the Settings window, select the option to perform after receiving the data.



Click [Next].

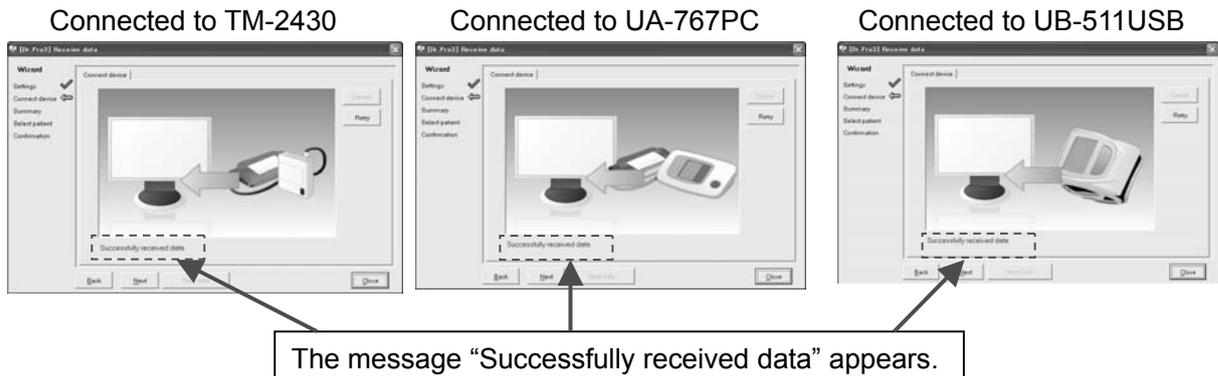
3. Receiving the data from the blood pressure monitor has begun.



NOTE (Only for the UA-767PC/UB-511USB)

While the PC is in communication with the blood pressure monitor, " ---" appears in the blood pressure monitor display. For details, refer to the blood pressure monitor instruction manual.

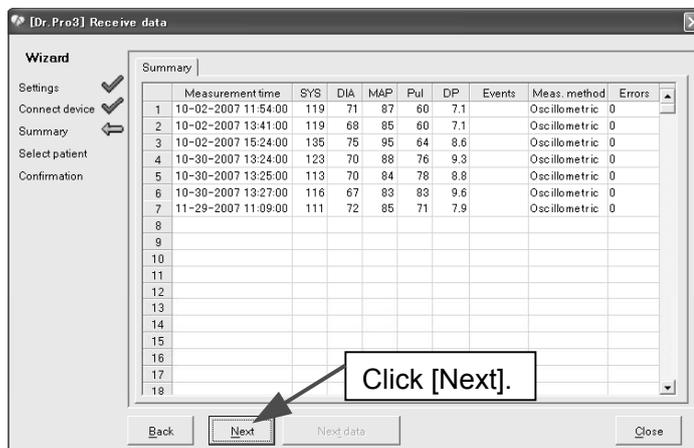
- When data receiving has been completed, a message appears in the Connect Device window.



Click [Next].

If an error occurs, click [Retry] to make a connection again.

- The data received is displayed.

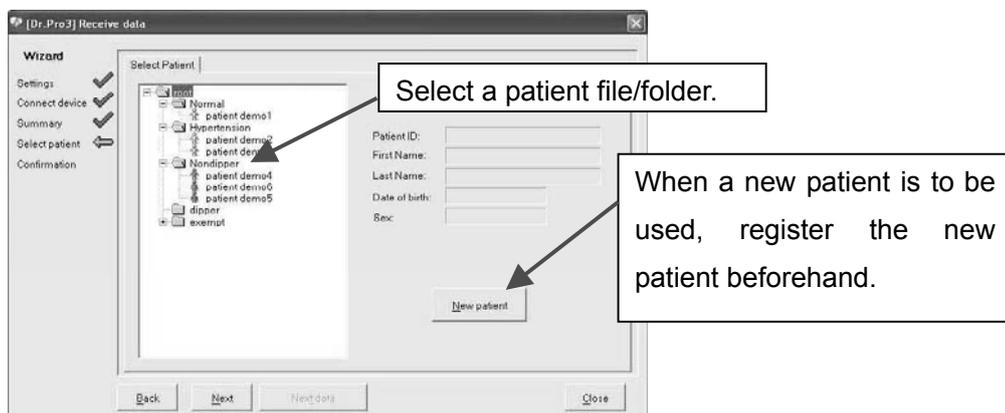


Click [Next].

- Specify a file/folder to save the data.

Select from the list of registered patients the patient under whose name you would like to save data.

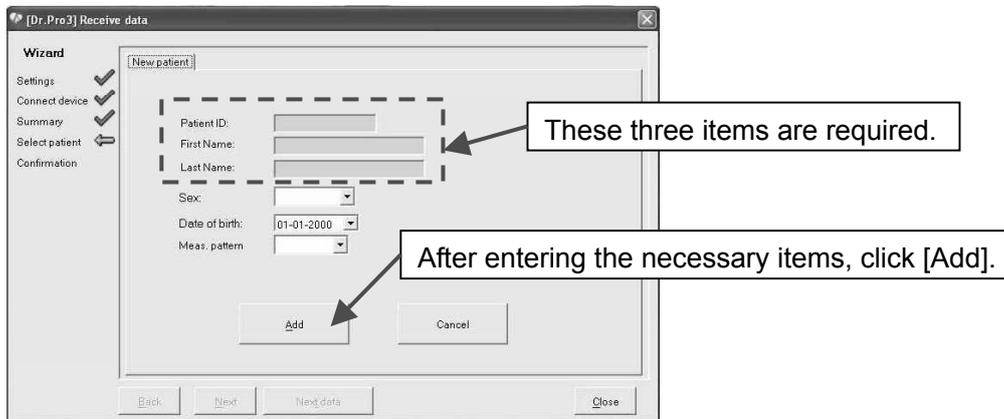
When a new patient is to be used, register the new patient beforehand.



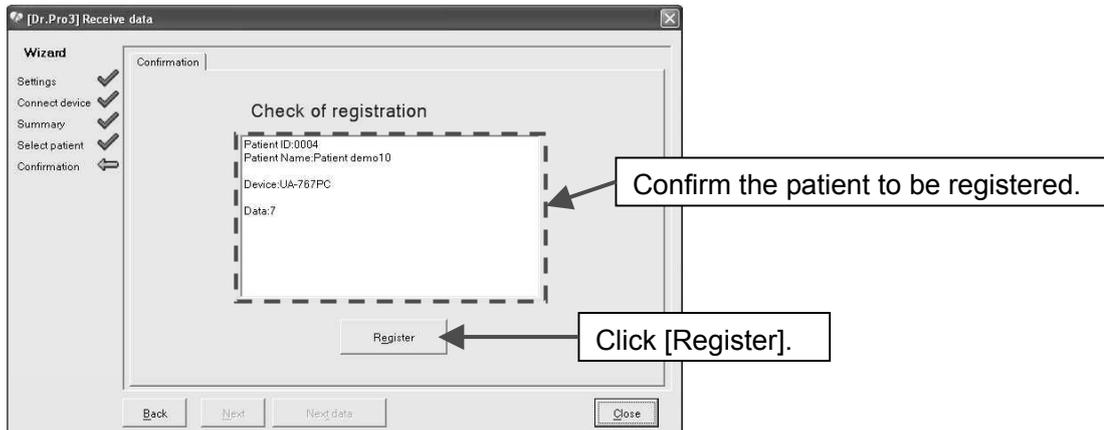
Click [Next].

- Click [New patient] to open the New Patient window and register a new patient.

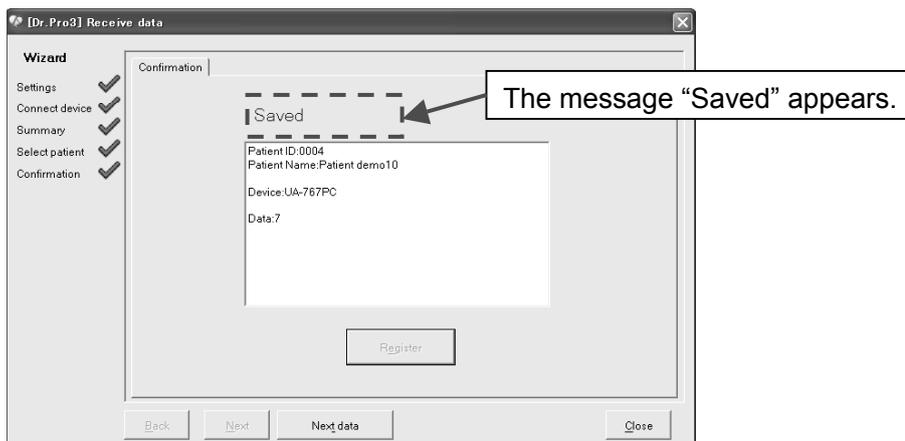
New Patient window



7. Confirm the patient to be registered and click [Register].



8. The message "Saved" appears and data registration has been completed.



To continue receiving data, click [Next data].

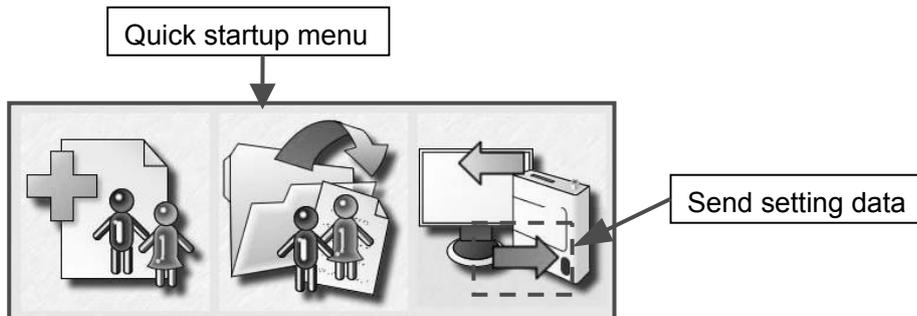
To complete the operation, click [Close].

10. SENDING THE SETTINGS

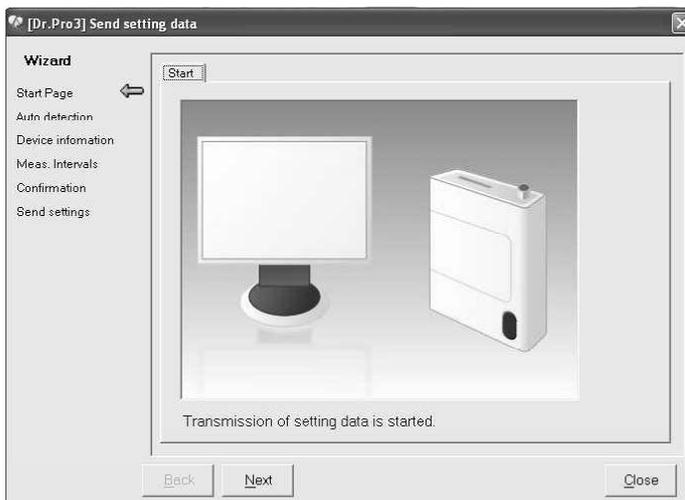
Using Doctor Pro3 Lite, the settings of the blood pressure monitor can be changed.

10-1 Automatic Recognition of the Blood Pressure Monitor

1. Click [Send setting data] at the quick startup menu. The Send Setting Data window opens.

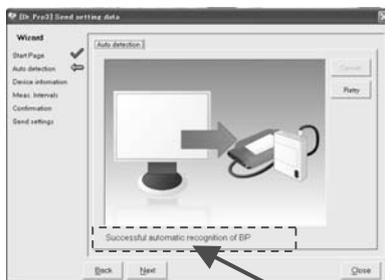


2. Click [Next]. The connected blood pressure monitor is automatically recognized.



3. When a connection has been completed, a message appears.

Auto detection of TM-2430



Auto detection of UA-767PC



Auto detection of UB-511USB



The message "Successful automatic recognition of the BP" appears.

Confirm that the monitor model is correct.

Click [Next].

10-2 Device Information and Measurement Intervals

NOTE

Three modes available in the Measurement Intervals window are as follows:

Mode 1: 07:00-21:59 The measurement is performed every 15 minutes.

22:00-06:59 The measurement is performed every 30 minutes.

Mode 2: The AUTO ON/OFF key is pressed at wake time and bedtime so that the measurement intervals are changed and the time during sleep can be distinguished on the data.

When the Sleep button is off, the measurement is performed every 15 minutes.

When the Sleep button is displayed, the measurement is performed every 30 minutes.

Mode 3: The measurement intervals can be set within a maximum of 24 hours.

Select from different measurement patterns.

◆TM-2430

Device Information window

Wizard

Start Page ✓

Auto detection ✓

Device information ←

Meas. Intervals

Confirmation

Send settings

Device information

ABPM: TM-2430

RecorderID:

Pressure: Not Selected

Cuff size: Not Selected

Display: ON

Buzzer: ON

Clear data: Prohibit

Adjust time: Prohibit

Back Next Close

1. Enter Recorder ID.
2. Select the items below from the pulldown menu.
 - Cuff size
 - Display
 - Clear data
 - Adjust time

Click [Next].

Measurement Intervals window

Wizard

Start Page ✓

Auto detection ✓

Device information

Meas. Intervals ←

Confirmation

Send settings

Meas. Intervals

Mode 1 7:00 -> 22:00 15min, 22:000 -> 7:00 30min

Mode 2 15min(Sleep button turn ON), 30min(turn OFF)

Mode 3 configurable patterns

Interval for free settings

Select pattern []

| | Start(h) | Interval |
|---|----------|----------|
| 1 | 06 | 10 |
| 2 | 18 | 60 |
| 3 | | |
| 4 | | |
| 5 | | |

Back Next Close

Select a mode from Modes 1-3.

When Mode 3 is selected, set Interval for free settings. Select a starting time in hours and the interval from the pulldown menu. Select "OFF" for the interval when no partial analysis is performed. When a measurement pattern, which is set in "Measurement pattern settings," is to be used, click the Select Pattern box and select a pattern from the pulldown menu.

Click [Next].

◆UA-767PC

Device Information window

The screenshot shows the 'Device information' window of the 'Dr. Pro3 Send setting data' wizard. The 'ABPM' field is set to 'UA-767PC'. Other fields include RecorderID (empty), Pressure (Not Selected), Cuff size (Not Selected), Display (ON), Buzzer (ON), Clear data (Prohibit), and Adjust time (Prohibit). The 'Next' button is highlighted.

Click [Next].

Select the items below from the pulldown menu.

- Buzzer
- Clear data
- Adjust time

Measurement Intervals window

The screenshot shows the 'Meas. Intervals' window. It lists three modes: Mode 1 (7:00 -> 22:00 15min, 22:00 -> 7:00 30min), Mode 2 (15min(Sleep button turn ON), 30min(turn OFF)), and Mode 3 (configurable patterns). The 'Interval for free settings' section includes a 'Select pattern' dropdown and a table with columns for Start(h), Start(m), and valid.

| | Start(h) | Start(m) | valid |
|---|----------|----------|-------------------------------------|
| 1 | 06 | 00 | <input checked="" type="checkbox"/> |
| 2 | 22 | 00 | <input checked="" type="checkbox"/> |
| 3 | | | <input type="checkbox"/> |
| 4 | | | <input type="checkbox"/> |
| 5 | | | <input type="checkbox"/> |
| 6 | | | <input type="checkbox"/> |

Click [Next].

Set Interval for free settings. Select a starting time in hours and the starting time in minutes from the pulldown menu and click the Valid box to use. When a measurement pattern, which is set in “Measurement pattern settings,” is to be used, click the Select Pattern box and select a pattern from the pulldown menu.

◆UB-511USB

Device Information window

The screenshot shows the 'Device information' window of the 'Dr. Pro3 Send setting data' wizard. The 'ABPM' field is set to 'UB-511USB'. Other fields include RecorderID (empty), Pressure (Not Selected), Cuff size (Not Selected), Display (ON), Buzzer (ON), Clear data (Prohibit), and Adjust time (Prohibit). The 'Next' button is highlighted.

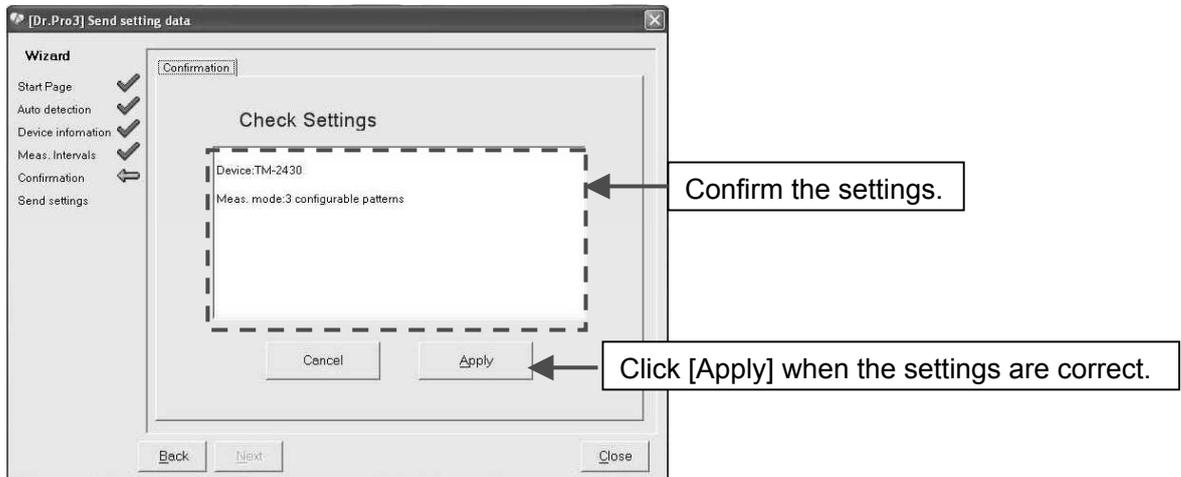
Click [Next].

Select the items below from the pulldown menu.

- Clear data
- Adjust time

10-3 Confirming the Settings and Data Transmission

1. Confirm the settings and click [Apply].



Click [Next].

2. Data transmission has started.

A message appears when the transmission has been completed.

Sent to TM-2430

Sent to UA-767PC

Sent to UB-511USB



To continue sending data, click [Next].

To complete the operation, click [Close].

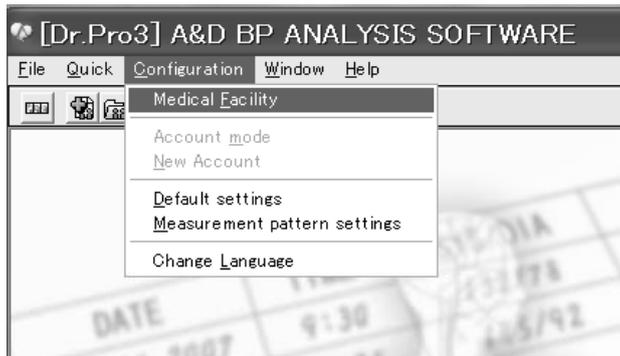
11. CONFIGURATION

The Configuration menu has the following sub menus.

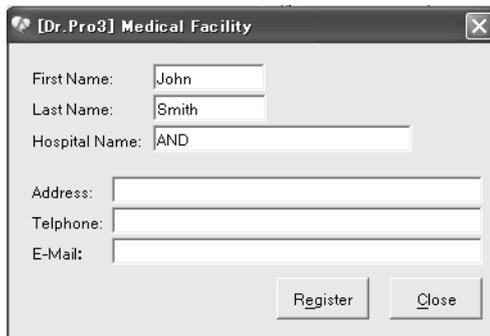
- Medical Facility
- Default Settings
- Measurement Pattern Settings
- Change Language

11-1 Medical Facility

1. Click “Medical Facility” from the Configuration menu of the Main window.



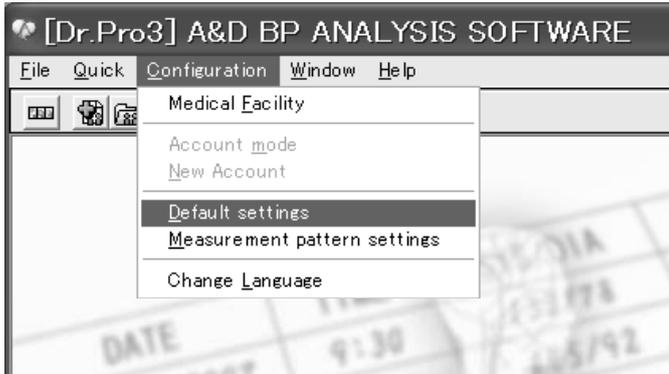
2. Enter each item and click [Register]. The Confirm window opens. Click [OK] to register the medical facility.



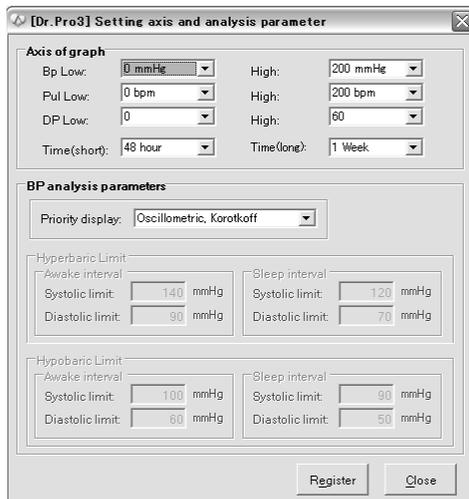
| Item | Description |
|---------------|---|
| First name | Enter the first name using a maximum of 30 characters. |
| Last name | Enter the last name using a maximum of 30 characters. |
| Hospital name | Enter the hospital name using a maximum of 50 characters. |
| Address | Enter the hospital address using a maximum of 50 characters. |
| Telephone | Enter the hospital telephone number using a maximum of 20 characters between 0 to 9 and a hyphen (-). |
| E-mail | Enter the hospital e-mail address using a maximum of 50 characters. |

11-2 Default Settings

1. Click "Default Settings" from the Configuration menu of the Main window.



2. Enter each item and click [Register]. The Confirm window opens. Click [OK] to register the default settings.



| Item | Description |
|------------------|---|
| BP Low | Select the lowest value for the BP axis from the pulldown menu. |
| BP High | Select the highest value for the BP axis from the pulldown menu. |
| Pul Low | Select the lowest value for the pulse axis from the pulldown menu. |
| Pul High | Select the highest value for the pulse axis from the pulldown menu. |
| DP Low | Select the lowest value for the DP axis from the pulldown menu. |
| DP High | Select the highest value for the DP axis from the pulldown menu. |
| Time (short) | Select the value for the time axis from the pulldown menu. (For TM-2430) |
| Time (long) | Select the value for the time axis from the pulldown menu. (For UA-767PC and UB-511USB) |
| Priority display | Select from the pulldown menu. |

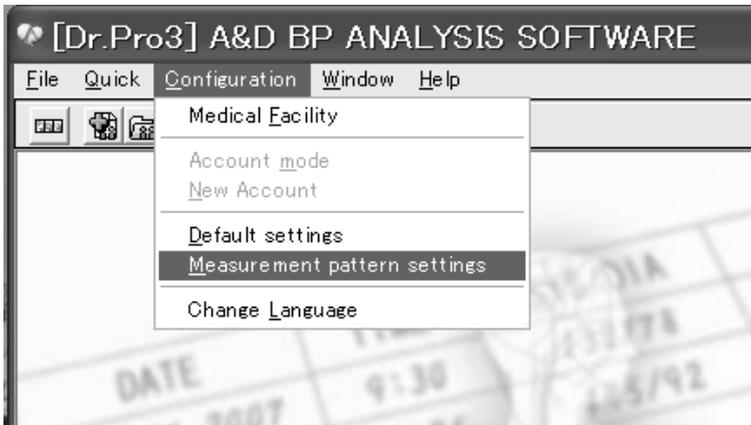
| | |
|---|---------------|
| Hyperbaric limit for systolic in awake section | Not available |
| Hyperbaric limit for diastolic in awake section | |
| Hyperbaric limit for systolic in sleep section | |
| Hyperbaric limit for diastolic in sleep section | |
| Hypobaric limit for systolic in awake section | |
| Hypobaric limit for diastolic in awake section | |
| Hypobaric limit for systolic in sleep section | |
| Hypobaric limit for diastolic in sleep section | |

- Hyperbaric limit:
 - The percentage of readings exceeding the specified Systolic and Diastolic limits for the Awake and Sleep sections will be calculated and noted both in the summary data and printed reports.
 - The values are used as “limits” for HBI analysis. (Not available)

- Hypobaric limit:
 - The percentage of readings not reaching the specified Systolic and Diastolic limits for the Awake and Sleep sections will be • The values are used as “limits” for HBI analysis. (Not available)

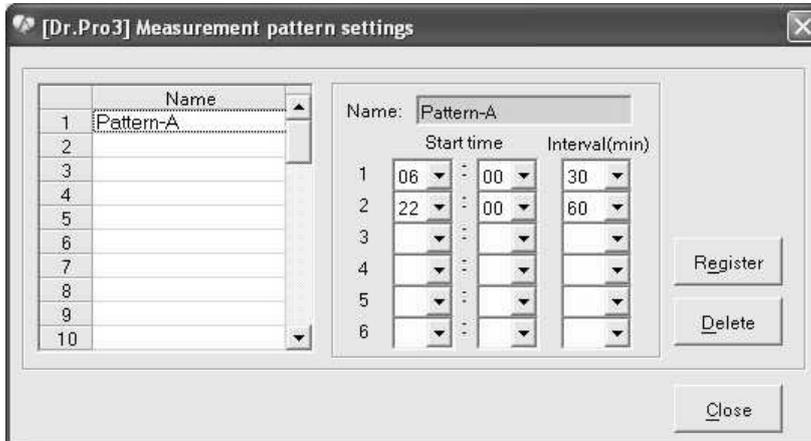
11-3 Measurement Pattern Settings

1. Click “Measurement Pattern Settings” from the Configuration menu of the Main window.



- Set measurement patterns for Mode 3. Enter each item and click [Register]. The Confirm window opens. Click [OK] to set the measurement pattern.

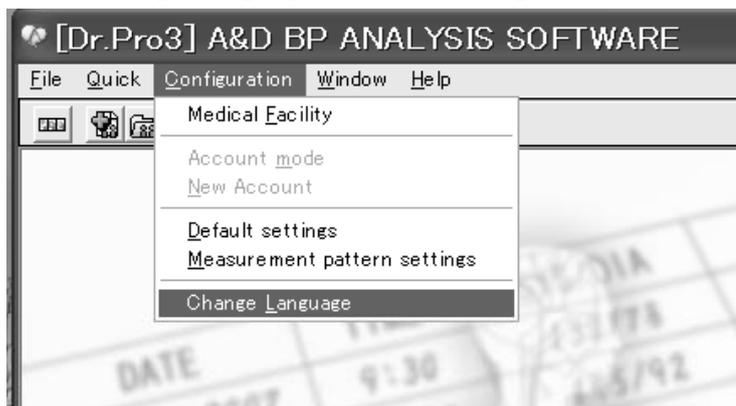
To delete a setting, click [Delete], and click [OK] for the message “Delete?”.



| Item | Description |
|-------------------|---|
| Name | Name the measurement pattern. |
| Start time Hour | Select a measurement starting time in hours from the pulldown menu. |
| Start time Minute | Select a measurement starting time in minutes from the pulldown menu. |
| Interval (min.) | Select an interval from the pulldown menu. |

11-4 Changing Languages

- Click “Change Language” from the Configuration menu of the Main window.



- In the Change Language window, select the language to be used and click [OK]. Changing languages has been completed.

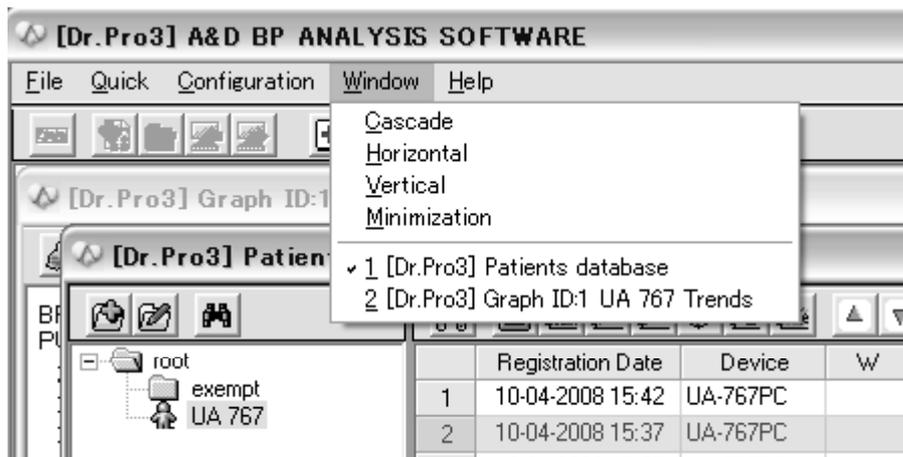
12. WINDOW MENU

The Window menu has the following sub menus.

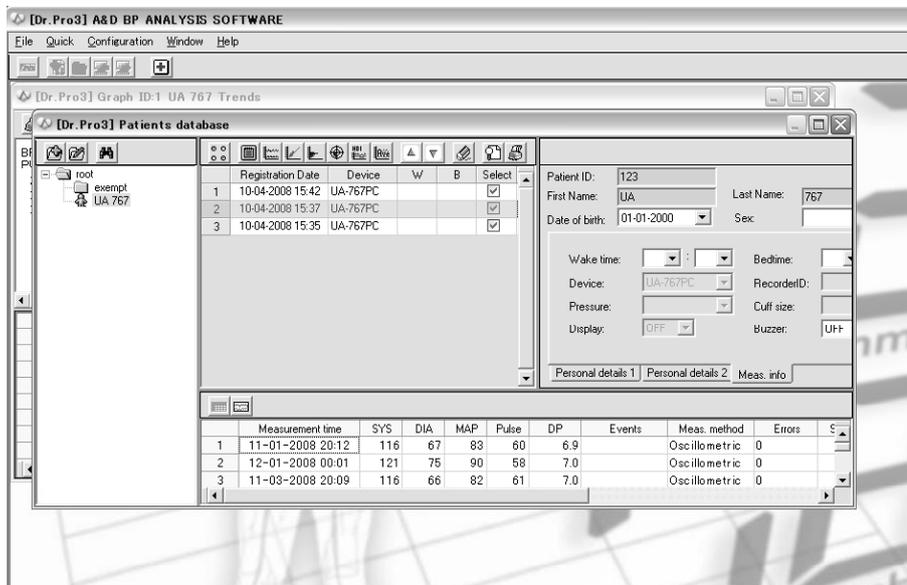
- Cascade
- Vertical
- Minimization

12-1 Cascade

1. Click "Cascade" from the Window menu of the Main window.

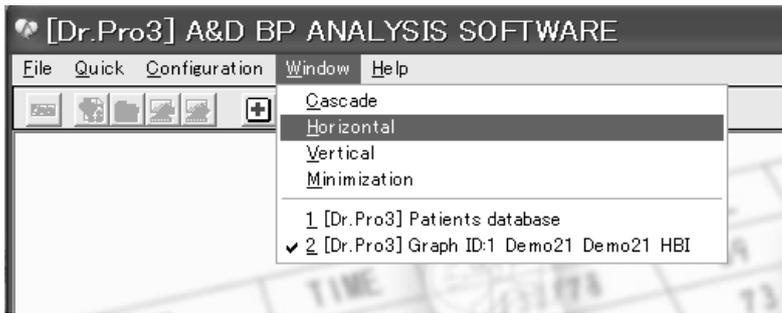


The opened windows will be cascaded.

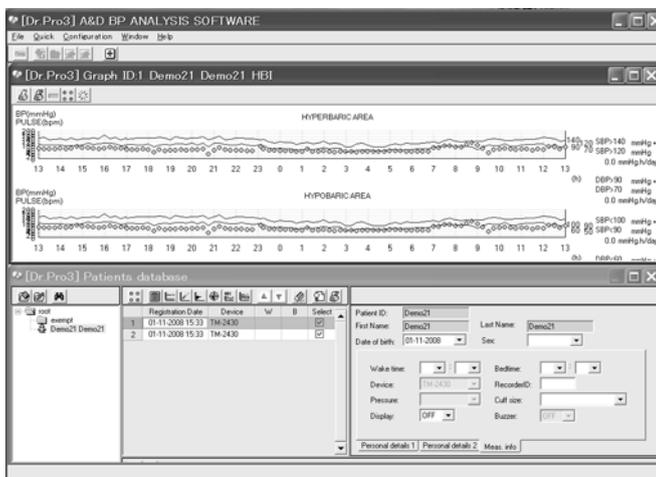


12-2 Horizontal

1. Click “Horizontal” from the Window menu of the Main window.



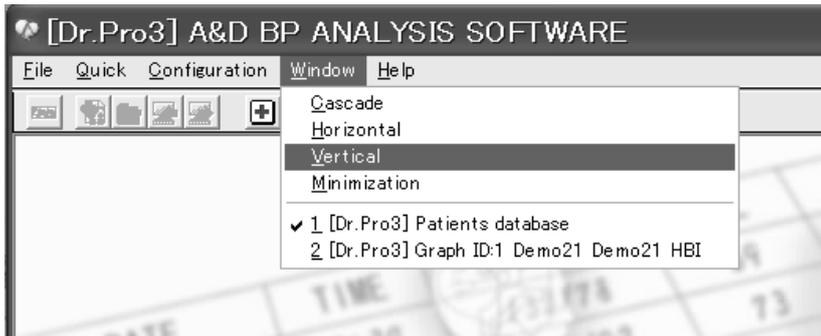
The opened windows will be arranged horizontally.



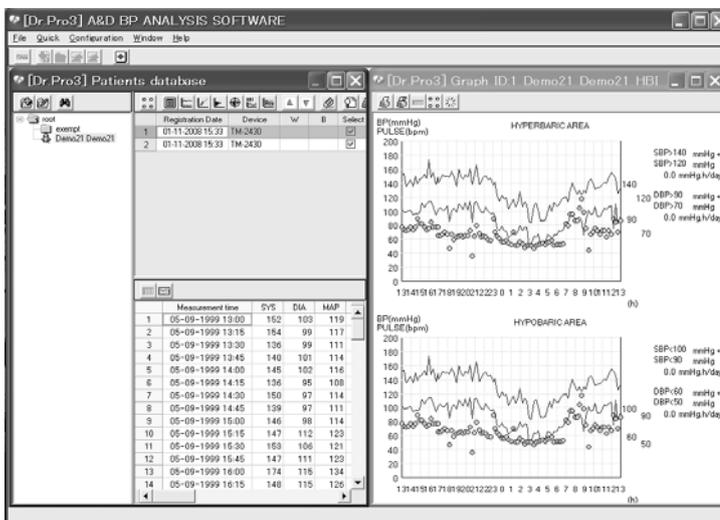
Note: When more than three windows are opened, the “Horizontal” and “Vertical” functions arrange the opened windows in the same way.

12-3 Vertical

1. Click "Vertical" from the Window menu of the Main window.



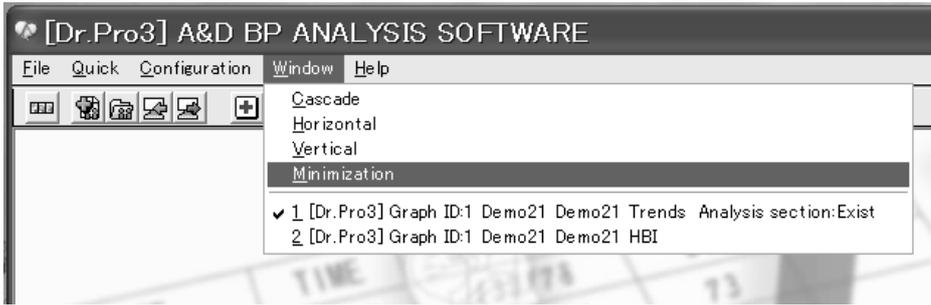
The opened windows will be arranged vertically.



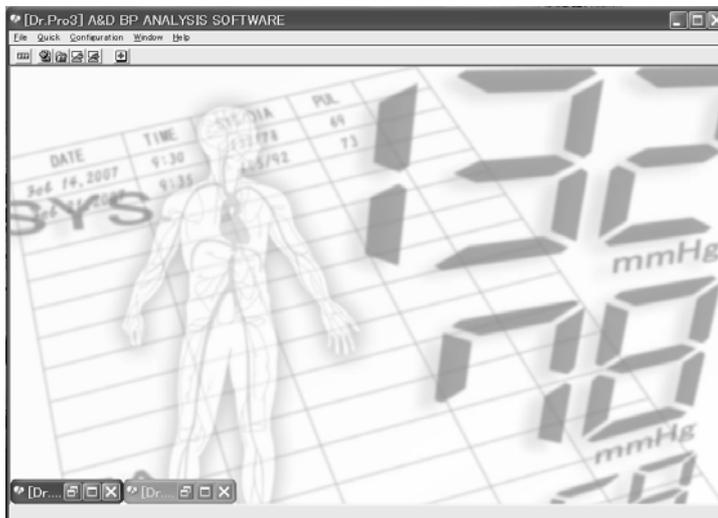
Note: When more than three windows are opened, the "Horizontal" and "Vertical" functions arrange the opened windows in the same way.

12-4 Minimization

1. Click “Minimization” from the Window menu of the Main window.



An opened window will be reduced to an icon.



To restore the window to the original size, double-click on the reduced icon. Or click the icon and select “Restore to the original size” or “Maximize.”

13. MAINTENANCE

13-1 Error Codes

13-1-1 TM-2430

The table below lists the errors that may occur during a monitoring session and offer information on probable causes and corrections.

Measurement errors may be shown on the list of measurement data or the blood pressure monitor.

| Error code | Probable cause | Correction |
|------------|--|--|
| E00 | Clock parameters have not been set. | Enter the clock parameters. |
| E03 | The cuff does not inflate. | Exhaust the air from the cuff completely. |
| E04 | Measurement is stopped due to a low battery. | Replace the batteries with new ones. Restart the Auto mode if you use it. |
| E05 | Inflation pressure does not reach the target pressure. | Rewrap the cuff and reconnect it to the blood pressure monitor. If the error persists, there may be an air leak and repair is necessary. |
| E06 | Pressurization is greater than 320 mmHg. | Do not move and try to relax during the measurement. If the error persists, repair is necessary. |
| E07 | Forced stop using STOP key | Do not press the STOP key unless necessary. |
| E08, E10 | Pulse can not be detected. | Do not move and try to relax during the measurement. |
| E20 | Pulse is less than 35 beats or more than 200 beats per minute. | Measure the blood pressure by other methods. |
| E21 | Diastolic is greater than 160 mmHg or less than 40 mmHg. | Measure the blood pressure by other methods. |
| E22 | Systolic is greater than 280 mmHg or less than 60 mmHg. | Measure the blood pressure by other methods. |
| E23 | The difference between systolic and diastolic is greater than 150 mmHg or less than 10 mmHg. | Measure the blood pressure by other methods. |
| E30, E31 | Air leaks in the cuff assembly. | Repair is necessary. |
| E32 | Clock error | If the error persists, repair is necessary. |
| E50 | Pressure offset error | Repair is necessary. |
| E52 | Memory error | Repair is necessary. |
| E53 | Defective battery contact | Replace batteries correctly. If the error persists, repair is necessary. |

| Error code | Probable cause | Correction |
|-----------------|--|---|
| E55、E56、E57 | Exhaust error | Relax and do not move during the measurement. If this error occurs frequently, repair is necessary. |
| E60 | Interval setting error | Enter the interval parameters correctly. |
| E70、E71、E72、E73 | RS-232C error | Reconnect the communication cable. If the error persists, repair is necessary. |
| E74 | Voltage decreases during communication. | Replace the batteries with new ones and restart communication. |
| E75 | Protocol error due to external equipment | Reconnect the communication cable. If the error persists, repair is necessary. |

13-1-2 Guidance messages

The table below lists the guidance messages that may appear in the Receive Data/Send Setting Data windows.

- Messages when data is received:

| Message | Correction |
|---------------------------------------|---|
| Failed to initialize RS233C port | <ul style="list-style-type: none"> • Confirm that the communication cable is connected to the blood pressure monitor. • Confirm that the USB driver is functioning correctly. • Disconnect all the cables. Restart Doctor Pro3 Lite. |
| Automatic recognition of ABPM failed. | |
| Failed to receive data | |
| Failed to read measurement settings | |
| Failed to read measurement data | |
| Failed to erase measurement data | |
| Failed to setup the clock | |

- Messages when data is sent:

| Message | Correction |
|---|---|
| Failed to initialize RS233C port | <ul style="list-style-type: none"> • Confirm that the communication cable is connected to the blood pressure monitor. • Confirm that the USB driver is functioning correctly. • Disconnect all the cables. Restart Doctor Pro3 Lite. |
| Automatic recognition of ABPM failed. | |
| Failed to send data | |
| Failed to erase measurement data | |
| Failed to erase measurement settings | |
| Failed to set measurement parameters. | |
| Failed to setup the clock | |
| The device connected differs from the one at the time of automatic recognition. | <ul style="list-style-type: none"> • Use the blood pressure monitor that was automatically recognized. • Click [Cancel] or restart Doctor Pro3 Lite. |

13-2 Default Settings

The window below shows the default settings.

The screenshot shows a dialog box titled "[Dr.Pro3] Setting axis and analysis parameter" with a close button (X) in the top right corner. The dialog is divided into two main sections: "Axis of graph" and "BP analysis parameters".

Axis of graph

| | | | |
|--------------|---------|-------------|----------|
| Bp Low: | 0 mmHg | High: | 200 mmHg |
| Pul Low: | 0 bpm | High: | 200 bpm |
| DP Low: | 0 | High: | 60 |
| Time(short): | 48 hour | Time(long): | 1 Week |

BP analysis parameters

Priority display: Oscillometric, Korotkoff

Hyperbaric Limit

| | | | |
|----------------|--------------------------|----------------|--------------------------|
| Awake interval | Systolic limit: 140 mmHg | Sleep interval | Systolic limit: 120 mmHg |
| | Diastolic limit: 90 mmHg | | Diastolic limit: 70 mmHg |

Hypobaric Limit

| | | | |
|----------------|--------------------------|----------------|--------------------------|
| Awake interval | Systolic limit: 100 mmHg | Sleep interval | Systolic limit: 90 mmHg |
| | Diastolic limit: 60 mmHg | | Diastolic limit: 50 mmHg |

At the bottom right of the dialog are two buttons: "Register" and "Close".

14. CUSTOMER SUPPORT

14-1 Inquiries about the Product

Contact the local A&D dealer you purchased the product from.

14-2 Disclaimer

A&D Company Limited makes no warranty of any kind with regard to, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. A&D believes the technical information contained in this document is accurate, however, in no event will A&D be liable for errors contained herein. A&D is not responsible for any direct, indirect, special, incidental or consequential damages or losses which occur in connection with the furnishing, performance, or use of this product.

Further, A&D Company Limited does not accept liability in any of the following circumstances:

Damage caused by maintenance or repair by an unauthorized dealer.

Damage caused by not obeying the precautions described in the instruction manual.

Damage caused by not using the measurement conditions described in the instruction manual.

Replacement of the accessories or consumables.

Damage caused by using products other than those supplied by A&D.

Damage caused by modifying or disassembling the product.

Damage caused by the user's mishandling.

Damage caused by a natural disaster such as fire, earthquake, flood or a lightning strike.

