

ACCUNIQ

BP250

User Manual



The device bears the CE label in accordance with the provisions of Medical Device Directive 93/42/EEC.

THE PERSONS RESPONSIBLE FOR PLACING DEVICES ON THE EC MARKET UNDER MDD 93/42/EEC.



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INTRODUCTION

We highly appreciate that you chose our company's product. You are kindly requested to be familiar with these directions before using this product and always keep it together with the product. In case you are not sure about any directions or problems arising while using the product, please contact our service center. We will provide you with detailed instructions.

INTENDED USE

ACCUNIQ BP250 Automatic Blood Pressure Monitor is designed to measure systolic and diastolic blood pressure and pulse rate of Persons who are 18 years and older using the oscillometric method on a cuffed arm.

ACCUNIQ BP250 (Left type) measure the Left arm.

ACCUNIQ BP250 (Right type) measure the Right arm.

- Target user: Persons who are 18 years and older
- This medical device is not for home use

CONTRAINDICATIONS FOR USE

As with any non-invasive measurement device, there are clinical conditions which can influence the accuracy of the results. Also, the subject's position, physiological condition and other environmental factors can affect the measurement and/or calculation.

The ACCUNIQ BP250 Non-Invasive Blood Pressure Monitor should not be used with patients who have the following conditions:

- 1) PATIENTS with a known arrhythmia
- 2) PATIENTS with insufficient peripheral circulation, acute cases of low blood pressure or low temperature
- 3) PATIENTS who use a pacemaker
- 4) PATIENTS experiencing a seizure
- 5) Children younger than 18 years old
- 6) PATIENTS who should not have blood pressure measurements taken from their arms
- 7) PATIENTS with an artificial heart
- 8) PATIENTS whose artery cannot be found by palpation

WORD DEFINITIONS

To ensure safe operation and long term performance stability, it is essential that you fully understand the functions, operating and maintenance instructions by reading this manual before operating your unit. Particular attention must be paid to all warnings, cautions and notes incorporated herein. The following conventions are used throughout the manual to denote information of special emphasis.



Warning

Important information to indicate any possible hazard which can cause severe personal injury or death from substantial property damage when ignored.



Caution

Important information to indicate any possible hazard which will or can cause minor personal injury or property damage when ignored.



Note

Important information to notify to the user about installation, operation, or maintenance information which is important but not hazardous. Warnings against hazard are not to be included under the NOTE signal word.

CLASSIFICATION AND COMPLIANCE

- 1) This device is classified as;
 - Class 1 type-BF against electric shock
 - Ordinary equipment without protection against ingress of water
 - Equipment not suitable for use in presence of a flammable anesthetic mixture by standard of EN 60601-1: 2006(Basic safety and essential performance of Medical Electrical Equipment)
- 2) This device is complied with Class A for Noise-Emission, Level B for Noise-immunity, by standard of IEC 60601-1-2:2007(Electromagnetic Compatibility Requirements).
- 3) This device is complies with the EN 1060-1: 1995+A2:2009 Non-invasive Sphygmomanometers general requirements as well as EN 1060-3: 1997+A2:2009 supplementary requirements for electro-mechanical blood pressure measuring systems.

SAFETY PRECAUTIONS

This device is designed and manufactured with consideration of safety of the operator and subject and also to the reliability of the unit.

The following precautions must be observed for additional safety;

- 1) The unit must be operated only by, or under supervision of a qualified person with our company or our distributors.
- 2) Medical Electrical Equipment.
 - Do not touch or handle inner side of the system at any time.
 - The INTERNAL ELECTRICAL POWER SOURCE is to be used if the integrity of the PROTECTIVE EARTH CONDUCTOR or the protective earthing system in the installation is in doubt.
- 3) Do not modify the unit. If any modification is needed, ask our company or its authorized dealer for service.
- 4) The unit has previously been adjusted in the factory for optimum performance.
 - Do not attempt to adjust switches or any other things except those specified in this manual for operation.
- 5) If you have experienced any trouble with the unit, switch it off immediately, and contact our company or its authorized dealer for assistance.
- 6) If you plan to connect any device of other manufacturers electrically or mechanically to the unit, contact our company or its authorized dealer for instructions before doing so.

When you connect computer or other system to the unit (RS-232C), the attached systems should be those certified by IEC 60950 or equivalent standards for data processing equipment.

Configurations shall comply with the system standard IEC 60601-1:2005.

Everybody who connects additional equipment to the signal input part or signal output part configures a medical system standard IEC 60601-1:2005.

If in doubt, consult the A/S department of local distributor.
- 7) Avoid the following environments for storage;
 - Where the ambient temperature falls -10°C or exceeds 60°C .
 - Where the atmospheric pressure falls below 70kPa (700mbar) or exceeds 106kPa (1060mbar).
 - Where the humidity is over 95% non-condensing.
 - Where the unit is exposed to spray or splashing water.
 - Where the unit is exposed to dust.
 - Where the unit is exposed to water vapor.
 - Where the unit is exposed to salty atmosphere.
 - Where the unit is exposed to explosive gas.
 - Where the unit is exposed to excessive shocks or vibrations.
 - Where the angle of inclination of mounting surface exceeds 10 degrees.
 - Where the unit is exposed to direct sunlight.

8) This equipment has been tested and found to comply with the limits for medical devices to the IEC 60601-1-2:2007. These limits are designed to provide reasonable protection against harmful interference in a typical medical installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to other devices, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving device.
- Increase the separation between the equipment.
- Connect the equipment into an outlet on a circuit different from that to which the other device(s) are connected.
- Consult the manufacturer or field service technician for help.

- 9) Do not touch signal input, signal output or other connectors, and the patient simultaneously.
- 10) a statement that portable and mobile RF communications equipment can affect MEDICAL ELECTRICAL EQUIPMENT.
- 11) Please consult a physician or a trained health professional for interpretation of measurement results.
- 12) No phthalates are used for this product and its container.
- 13) The cuff is not made with natural rubber latex



Caution

1. Measurements may be impaired if this device is used near televisions, microwave ovens, X-ray equipment or other devices with strong electrical fields. To prevent such interference, use the meter at a sufficient distance from such devices or turn them off.
2. Incorrect operation or failure of user to maintain the unit spares the manufacturer or his agent of the responsibility for system's non-compliance with specifications or responsibility for any damage or injury.



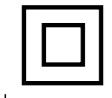
Warning

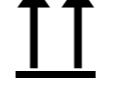
1. This manual is made for informational purpose and this manual and product are not meant to be a substitute for the advice provided by your own physician or other medical problem. You should not use the information contained in the product for diagnosis or treatment of health problem or prescription of medication by yourself.
2. If you have or suspect that you have a medical problem, consult with your physician promptly.
3. Defective unit or accessories must be packed in the replacement cartons to be shipped off from you to our company.
4. Shipping and insurance costs for return of defective unit must be prepaid by the users.

SAFETY SYMBOLS AND INFORMATION

The International Electro-technical Commission (IEC) has established a set of symbols for medical electrical equipment which classify a connection or Notice of any potential hazard.

The classifications and symbols are shown below. Save these instructions for your safety.

SYMBOL	INFORMATION
	Degree of protection against electric shock: TYPE BF
	Please observe operating instructions
	General warning sign
	General prohibition sign
	General action sign
	Caution
	Waste Electrical and Electronic Equipment (WEEE) The device could be sent back to the manufacturer for recycling or proper disposal after their useful lives. Alternatively the device shall be disposed in accordance with national laws after their useful lives.
	"OFF" (only for a part of equipment)
	"ON" (only for a part of equipment)
	This symbol is used inside system. Identifies the point where the safety ground of the system is fastened to the chassis.

SYMBOL	INFORMATION
	Do not open. This is for factory only.
	Alternating current
	Direct current
	Date of manufacture
	Manufacturer
	Non-ionizing radiation
	CE mark
	Serial No.
	Authorized representative in the European community.
	Keep dry
	This way up
	Fragile
	Use no hooks
	MD
	RoHS2

GUIDANCE FOR ELECTROMAGNETIC COMPATIBILITY (EMC)

Details about the electromagnetic compatibility (EMC) of the ACCUNIQ BP250 are given below.

Before using the ACCUNIQ BP250, be sure to read and understand the following information.

Guidance and manufacturer's declaration – electromagnetic emissions

The ACCUNIQ BP250 is intended for use in the electromagnetic environment specified below.

The customer or the user of the ACCUNIQ BP250 should assure that it is used in such an environment.

Emissions test	Compliance	Electromagnetic environment guidance
RF emissions CISPR 11	Group 1	The ACCUNIQ BP250 uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	
Harmonic emissions IEC 61000-3-2	Class A	The ACCUNIQ BP250 is suitable for use in all establishments, including domestic establishments and those directly connected to the public low voltage power supply network that supplies buildings used for domestic purposes.
Voltage fluctuations/flicker emissions IEC 61000-3-3	Compliance	

Guidance and manufacturer's declaration–electromagnetic immunity

The ACCUNIQ BP250 is intended for use in the electromagnetic environment specified below.

The customer or the user of the ACCUNIQ BP250 should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment–guidance
Electrostatic discharge(ESD) IEC 61000-4-2	±6kV: Contact ±8kV: Air	±6kV: Contact ±8kV: Air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transition/burst IEC 61000-4-4	±2kV: Power supply lines ±1kV: Input/output lines	±2kV: Power supply lines ±1kV: Input/output lines	Mains power quality should be that of a typical commercial or hospital environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment–guidance
Surge IEC 61000-4-5	±1 kV differential mode 2 kV common mode	±1 kV differential mode ±2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage drops, dips, and fluctuations of input power supply line IEC 61000-4-11	<5 % UT (>95 % dip in UT) for 0,5 cycle 40 % UT (60 % dip in UT) for 5 cycles 70 % UT (30 % dip in UT) for 25 cycles <5 % UT (>95 % dip in UT) for 5 sec	<5 % UT (>95 % dip in UT) for 0,5 cycle 40 % UT (60 % dip in UT) for 5 cycles 70 % UT (30 % dip in UT) for 25 cycles <5 % UT (>95 % dip in UT) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the ACCUNIQ BP250 requires continued operation during power mains interruptions, it is recommended that the ACCUNIQ BP250 be powered from an uninterruptible power supply or a battery.
Magnetic field of commercial frequency (50/60Hz) IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.



Note

UT is the a.c. mains voltage prior to application of the test level.

Guidance and manufacturer's declaration – electromagnetic immunity 2

The ACCUNIQ BP250 is intended for use in the electromagnetic environment specified below.

The customer or the user of the ACCUNIQ BP250 should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment–guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms	Portable and mobile RF communications equipment should be used no closer to any part of the ACCUNIQ BP250, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2,5 GHz	3 V/m	Recommended separation distance $d = 1.2 \sqrt{P}$

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment—guidance
			<p>$d = 1.2 \sqrt{P}$ 80 MHz to 900 MHz</p> <p>$d = 2.3 \sqrt{P}$ 900 MHz to 2,5 GHz</p> <p>where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,a should be less than the compliance level in each frequency range.b</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 



Caution

1. At 80 MHz and 900 MHz, the higher frequency range applies.

2. These guidelines may not apply in all situations.

Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

a. Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered.

If the measured field strength in the location in which the ACCUNIQ BP250 is used exceeds the applicable RF compliance level above, the ACCUNIQ BP250 should be observed to verify normal operation.

If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the ACCUNIQ BP250.

b. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Recommended separation distances between portable and mobile RF communications equipment and the ACCUNIQ BP250

The ACCUNIQ BP250 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the ACCUNIQ BP250 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the ACCUNIQ BP250 as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = 1.2 \sqrt{P}$	80 MHz to 900 MHz $d = 1.2 \sqrt{P}$	900 MHz to 2,5 GHz $d = 1.2 \sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.



Caution

1. At 80 MHz and 900 MHz, the separation distance for the higher frequency range applies.

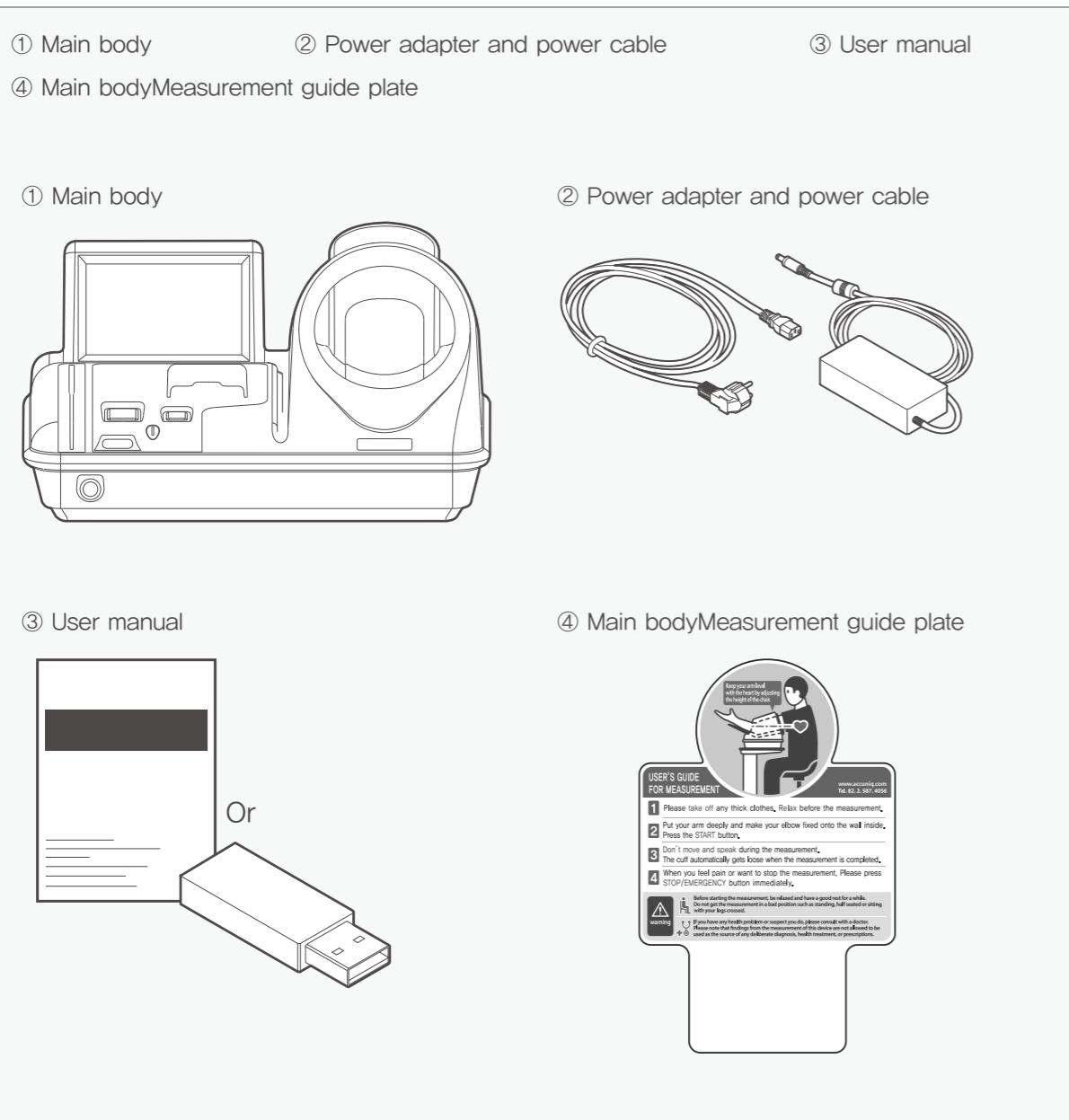
2. These guidelines may not apply in all situations.

Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

NAME AND FUNCTION OF EACH PART

BASIC PACKAGE

The package of the ACCUNIQ BP250 includes the following components.



※ Please understand that it is subject to change without notice to improve the appearance and function of the device.

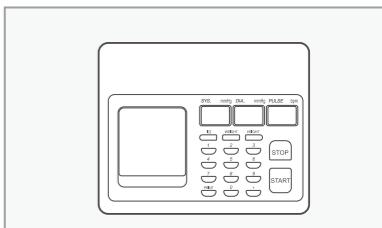
※ The user guide can be provided as a printed document or on a USB.

OPTIONS

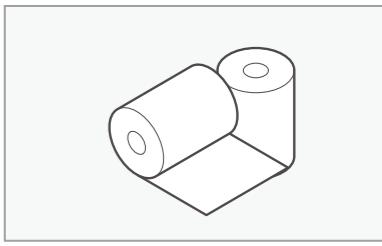
1. Dedicated cart and height adjustable chair



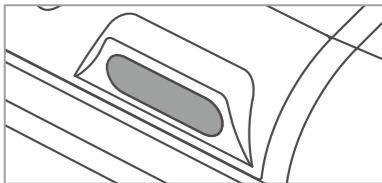
2. Rear monitor



3. Thermal printer and thermal paper



4. Human sensor



5. RFID Card/Magnetic Card



※ The accessories can be changed according to market supply and demand.

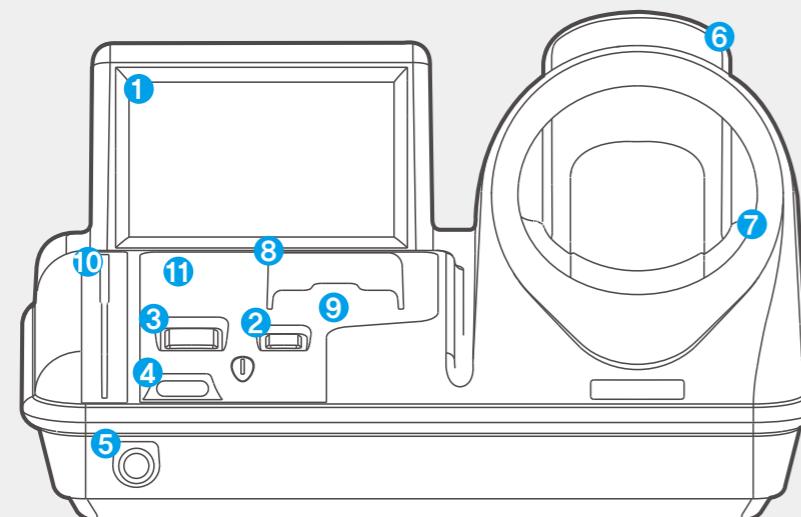


Caution

If you use commercially available thermal paper other than the thermal paper we provide, please check the 55g/m² specification before using it. We will not be responsible for any product malfunctions caused by using thermal paper that does not meet the specifications.

THE FRONT OF THE MAIN UNIT

① LCD DISPLAY	It displays letters and animations during test processes, along with the result (systolic/diastolic blood pressure, pulse, pulse wave pattern, blood pressure assessment) upon finishing examination.
② STOP BUTTON	Press STOP button if you want to stop it during measurement. Pressurizing will stop and the air will exhaust from the cuff.
③ START BUTTON	Press START button after being ready to measure, the cuff will be wrapped automatically and begins to pressurize.
④ HUMAN SENSOR (Option)	When a user approaches, power is automatically turned on and vice versa.
⑤ EMERGENCY STOP BUTTON	When your arm is oppressed due to high pressurizing or irregular operation is done, press this button then the cuff will be exhausted rapidly.
⑥ ARM REST	When the arm is placed on the cuff, the arm supporter sustains the arm and makes the right position.
⑦ CUFF	It wraps and releases the arm automatically for measurement.
⑧ PRINTER COVER	It protects the printer.
⑨ AUTOMATIC CUTTER (Printing paper let-out slot)	Printing paper is automatically cut off when it comes out through the slot.
⑩ MAGNETIC CARD-READER (Option)	When magnetic card is swiped, it reads information in it and stores the measured results.
⑪ RFID CARD-READER (Option)	When RFID card is applied, it reads information in it and stores the measured results.



PRINTING SECTION

1. PRINT button

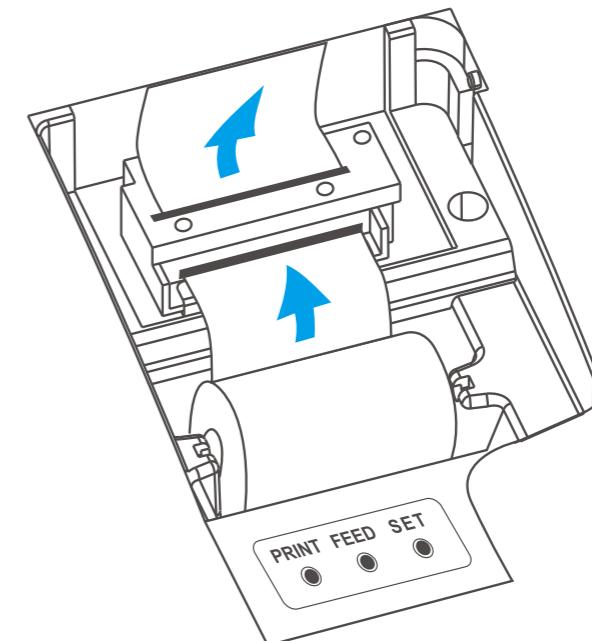
- Use it when you print out the data.
- If you set [ON] at the rear (PRINT ON/OFF switch), the data is printed automatically even when you do not press PRINT button.
- Normally, when you press this button, one previous data will be printed. (If you turn it off, all memorized data would be deleted.)
- When you set the date and time, the number goes up with this button pressed.

2. FEED button

- Use this button for setting the paper.
- When you set the date and time, the number goes down with this button pressed.

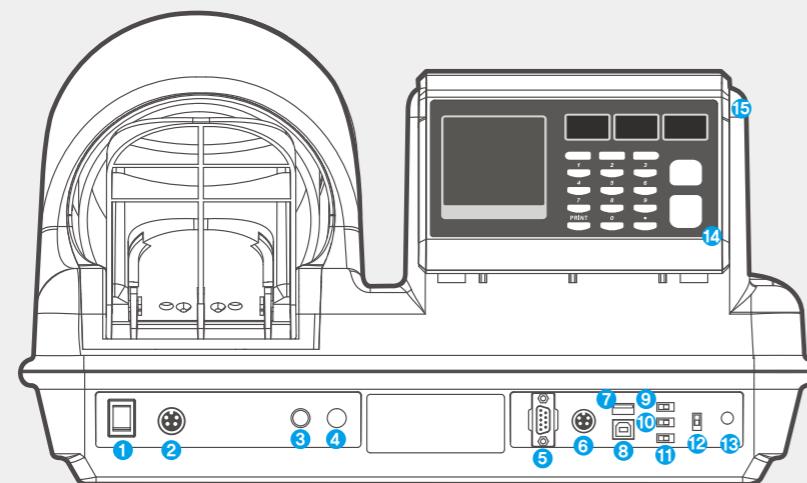
3. SET button

- Set the date and time.
- The functions are as follows when pressing this before or after measurement. (It does not work during measurement)
- Sequence is HOUR → MIN. → MON. → DAY → YEAR
- If you do not press PRINT or FEED button within 5seconds, setting of the date and time finished.



REAR OF THE MAIN UNIT

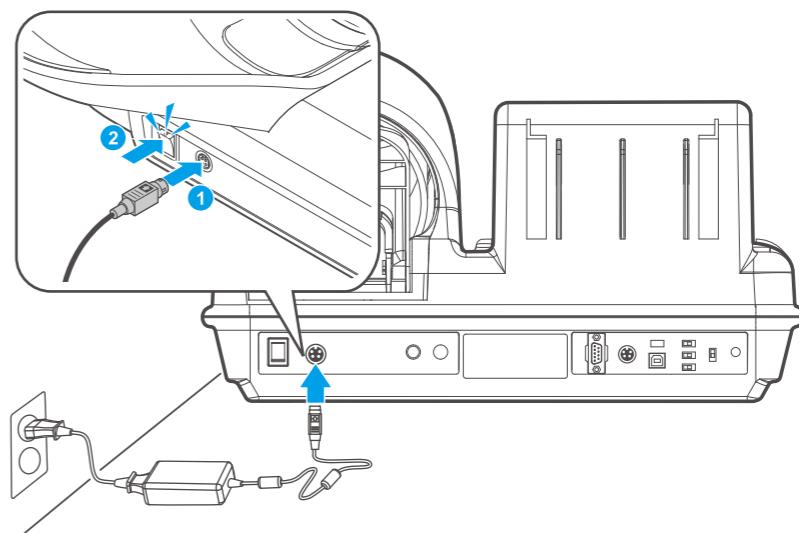
① Power switch	It is used to turn the power 'ON' and 'OFF'.
② Power ports	It is used to connect with the adapter.
③ CAL	This is only for inspection. Never open it.
④ EARTH	Please make sure for safety.
⑤ Communication port	Connect between the main body and a computer or other equipment with cable (RS-232C) to transfer the data collected or measured. Or connect between the main body and the coin slot with RS-232C cable to transfer the data.
⑥ Rear monitor port	Connect the main body to the reverse monitor cable.
⑦ USB port (A TYPE)	Connect the main body and USB A type.
⑧ USB port (B TYPE)	Connect the main body and USB B type.
⑨ Human sensor	Set the ON and OFF of the human sensor.
⑩ Voice prompt switch	Sets the voice guidance to "ON" or "OFF".
⑪ RFID card/Magnetic card	Sets "ON" or "OFF" of RFID card/Magnetic card.
⑫ Printer switch	Sets [ON], [OFF] for thermal paper printing.
⑬ Volume switch	Adjusts the sound output. Use the switch to adjust the sound volume.
⑭ Rear monitor	You can attach a rear monitor.
⑮ Information board fixer	Fix the information board here.



INSTALLATION

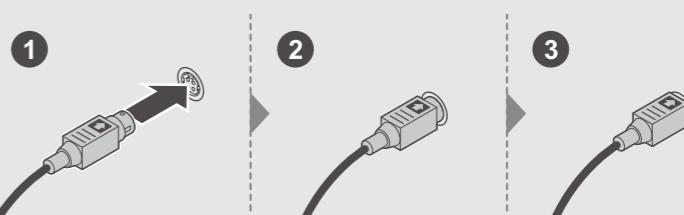
CONNECTION ADAPTER

Just connect the power cable to the adapter on the rear and turn the POWER ON/OFF switch on the lower part of the rear (See the picture).



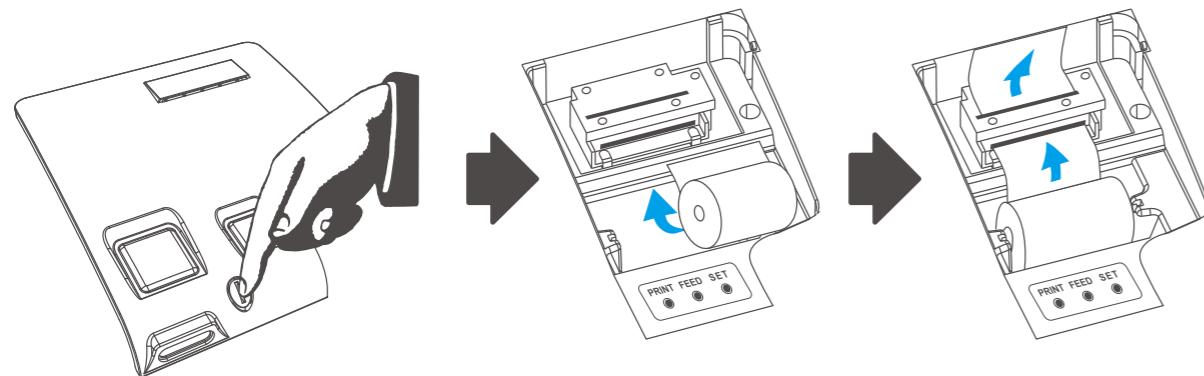
Note

1. Make sure to use the enclosed adapter and cable to supply power to the device.
2. When connecting the adapter, connect it to the power input section on the back of the main unit accurately in such a way that the arrow on the adapter connection section faces upwards as shown in the right figure.
If connected incorrectly, problems can arise in the product.



LOADING THE PRINT PAPER

1. Check and see if power is turned on.
2. Turn the nut (with a driver on the groove in the middle) on the lower printer cover clockwise to 90 degrees and open the cover.
- 3 Load the print paper as shown in the picture.
- 4 Insert the paper edge deep under the black roll, then it comes out above the CUTTER.
- 5 Balance the paper in the right place.
- 6 Cut the paper by pressing the FEED button.
- 7 Close the cover and turn the nut counterclockwise back.

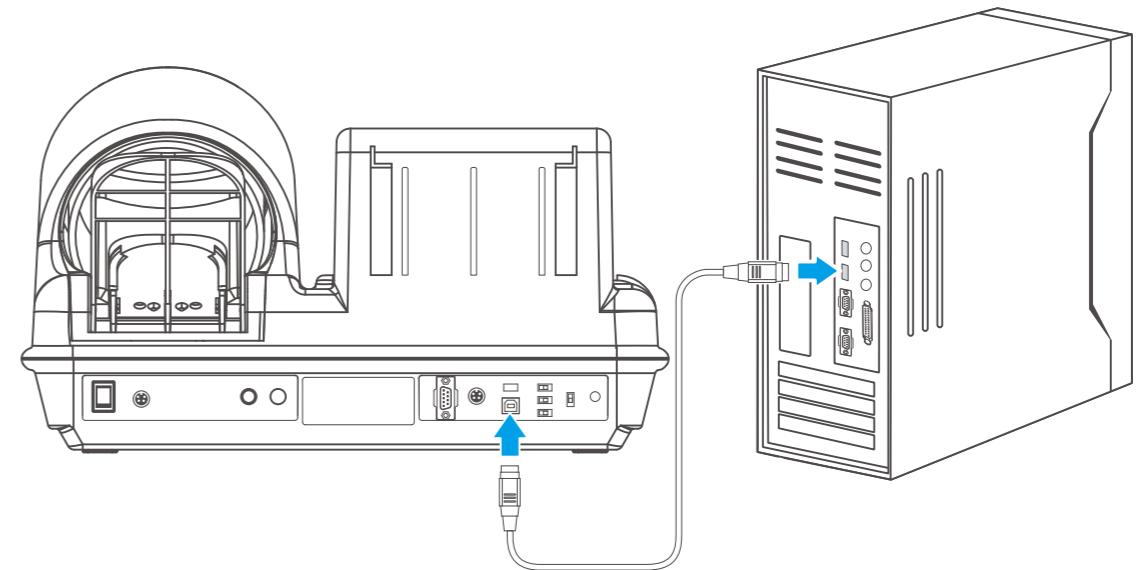


Note

- Being thermal type, printing is photocopied on one side of the paper (slippery side), without using printing ink.
- Please check remainder of the paper always and then replace it.
- Please use exclusive paper (57mm).
- Keep paper rolls in a dark and ventilated place.
- Avoid any dust on the paper.
- Do not pull the paper during printing. It could cause jam.
- When printing paper is not loaded in correct place, it may cause the malfunction of the printer or paper will be shoved out.
- After the exchange of paper to the printer cover does not close properly, the alarm sounds, LED on the 'Err' is displayed. Please check the status of the printer cover.

HOW TO CONNECT THE COMMUNICATION PORT

Connect the main unit and a computer or other device using a USB cable (optional) and transfer the measured data to the computer or other device. Connect a USB cable to the USB port at the rear side of the device and to the computer's communication port. (See the figure.)

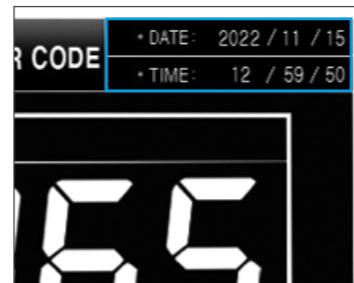


SETTING TIME AND DATE

- 1) Turn **[Power]** **[ON]**.
- 2) Turn the centre (groove) of the screw under the print cover approximately 90 degrees clockwise to lift it up, at which point you can open the cover.
- 3) The order of setting is HOUR → MINUTE → MONTH → DAY → YEAR.

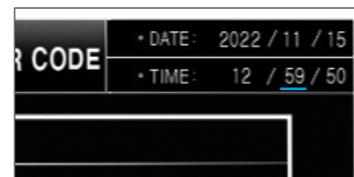
HOUR Settings

Press SET button, then DATE and TIME will blink. At that time, press PRINT button. Its counts that have been measured since keeping button ON will be printed. Press the SET button, DATE and TIME will appear up and down with the line between them at the right upper corner. At the same time, another line appears above the first two numbers in TIME column, and these numbers indicate the hour.



MINUTE Settings

After setting the hour, press the SET button again. The line appears above the second two numbers, and they indicate the minute. Adjust the minute as you did for the hour.



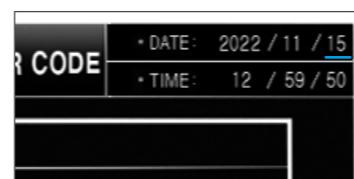
MONTH Settings

After setting the minute, press the SET button again to see two numbers with the line above them in the DATE space, which indicates the month.



DAY Settings

After setting the month, press the SET button again and there appears the number in the second column of DATE space with the line above the number.



YEAR Settings

After the day is set, press the SET button once more for the year appearing in the third column of the DATE space with the line above the number. The number gains when PRINT button is pressed and it reduces as FEED button is pressed.



Note

- If you want to measure blood pressure during setting the date and time, press STOP button. Then you can measure again immediately. Note You should set all data at once (hour, minute, month, day and year). In case of stopping setting, the values return to previous ones which you have done before.
- The calendar and time functions work without plugging power cord in.
- Calendar program is inputted for 100 years, and it would be adjusted automatically even at a leap year.

SYSTEM SETUP

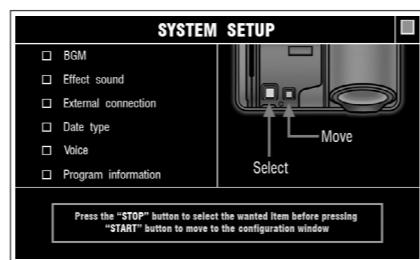
Set the Operating Conditions for the device.

Entering SYSTEM SETUP

If press the 'STOP' button for 3~5seconds, there is chime bell as 'PPI~~' three times. At that time, press the 'START' button as pressing the 'STOP' button at the same time then enter the system setup mode

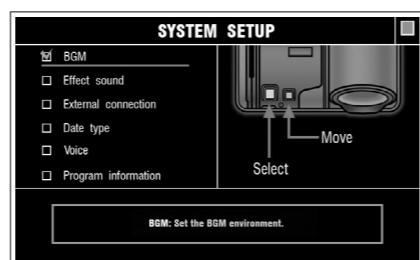
Menu

- 1) BGM
- 2) Effect sound
- 3) External connection
- 4) Date type
- 5) Voice
- 6) Program information
- 7) System



Entering 'MENU' view

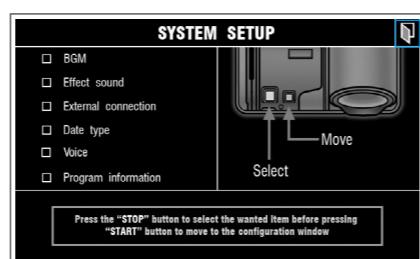
Press the "STOP" button to select the desired items and press "START" button to move to the configuration window.



How to escape from SYSTEM SETUP

Press "STOP" button on the 'SYSTEM SETUP' view, then the view of right picture appears on LCD.

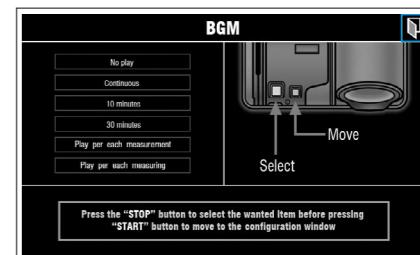
And press "START" button, then back to initial view.



How to move into SYSTEM SETUP

Press "STOP" button on the menu view, then the view of right picture appears on LCD.

And press "START" button, then back to 'SYSTEM SETUP'.

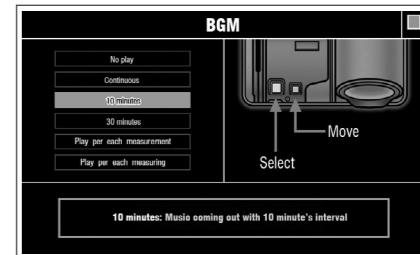


Setup

⟨BGM⟩

Set the BGM environment.

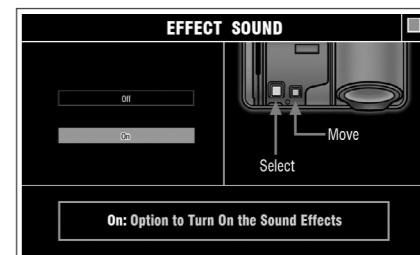
- Pre-set: 10minutes (Music coming out with 10 minute's interval)
- Select 'BGM' with "STOP" button and press "START" button to move to the configuration window.
- Select desired items with "STOP" button.
- Save it to the unit by pressing "START" button.
- Press "STOP" button and then press "START" button to return to the 'SYSTEM SETUP'.



⟨Effect sound⟩

Set the sound effects to be turned on during the operation.

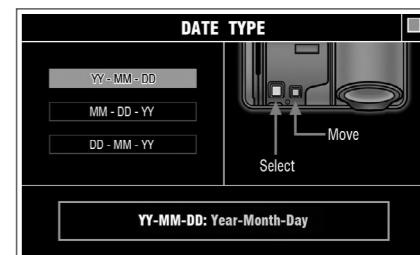
- Pre-set: On
- Select 'Effect sound' with "STOP" button and press "START" button to move to the configuration window.
- Select desired items with "STOP" button.
- Save it to the unit by pressing "START" button.
- Press "STOP" button and then press "START" button to return to the 'SYSTEM SETUP'.



⟨Date type⟩

Set the Date Format to be displayed.

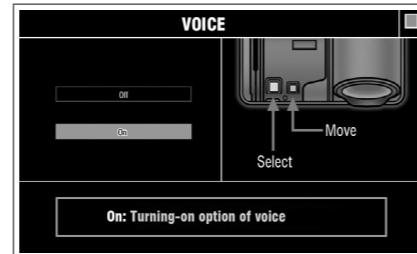
- Pre-set: YY-MM-DD (Year-Month-Day)
- Select 'Date type' with "STOP" button and press "START" button to move to the configuration window.
- Select desired items with "STOP" button.
- Save it to the unit by pressing "START" button.
- Press "STOP" button and then press "START" button to return to the 'SYSTEM SETUP'.



⟨Voice⟩

Set the announcement voice to On or Off.

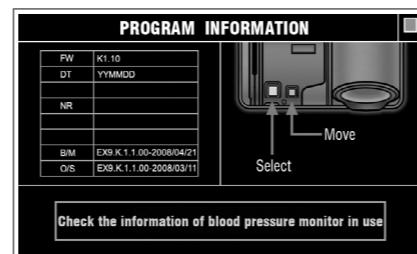
- Pre-set: On
- Select ‘Voice’ with “STOP” button and press “START” button to move to the configuration window.
- Select desired items with “STOP” button.
- Save it to the unit by pressing “START” button.
- Press “STOP” button and then press “START” button to return to the ‘SYSTEM SETUP’.



⟨Program information⟩

You can check the program version.

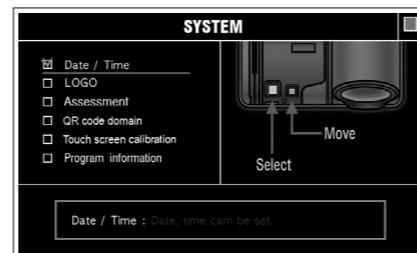
After checking the version, press the [STOP] button to select the exit door on the top right and press the [START] button to exit to the ‘SYSTEM SETUP’ screen.



⟨SYSTEM⟩

Change the setting of the device environment.

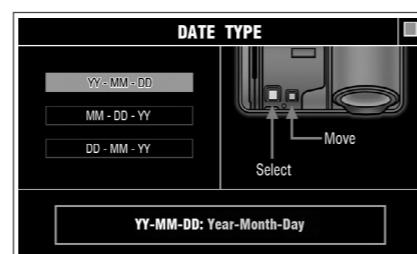
- Select the ‘SYSTEM’ on main screen ‘SYSTEM SETUP’, and then enter the Menu.
- Display by ‘Date/Time’, ‘LOGO’, ‘Product initialization’ of menu.



1) Date / Time

Set the date display format.

- Default: YY-MM-DD (Year–Month–Day)
- Select ‘Date type’ to enter the menu.
- Use the [STOP] button to select the desired date format.
- Press the [START] button to complete the setting.
- Press the [STOP] button to select the exit door on the top right and press the [START] button to exit to the ‘SYSTEM SETUP’ screen.



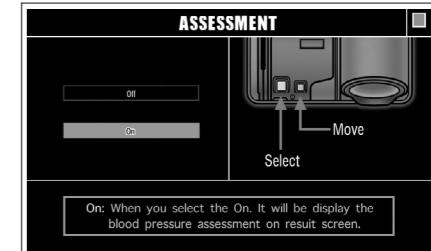
2) LOGO

When print thermal paper, you can indicate the logo such as hospital name, telephone etc. on the top. The logo used by only our program, and please ring to our business partners about logo’s transport or changing.

3) ASSESSMENT

Set the blood pressure assessment mode.

- Setting on basic: ON
- Select ‘Assessment’ to enter the menu.
- Use the [STOP] button to select whether or not to take a blood pressure reading.
- Selecting ‘On’ will display the blood pressure reading at the bottom of the results screen, while selecting ‘Off’ will not.
- Press the [START] button to complete the setup.
- Press the [STOP] button to select the exit door on the top right and press the [START] button to exit to the ‘SYSTEM SETUP’ screen.



4) QR code Domain

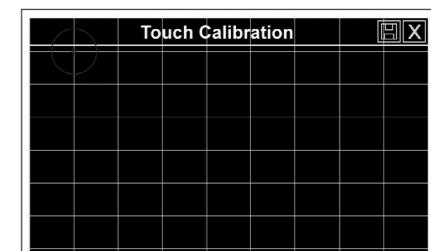
When the QR code is recognized, the measurement data is stored on the server. Enter the address or IP number of the server where you want to store the data.

- Setting on basic: qr.accuniq.com
- Once entered, press the “Save” button to save it.
- Tap the ‘Initial View’ button to get to the initial screen.



5) Touch calibration

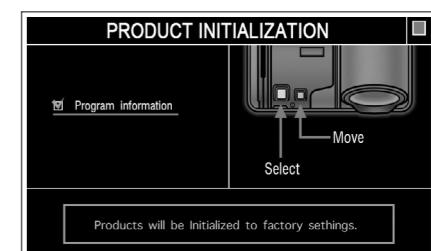
- Use to adjust the touch position of the touchscreen.
- Press the center of the + shape you see on the screen with a tool or your fingertip.
- Tap 6 times along the + where it moves, then tap the save icon to save and tap the ‘X’ to exit the settings screen.



6) Product Initialization

Initialize the product to the factory state.

- Please be aware that initialization will not allow recovery.
- Press the [STOP] button to select the exit door on the top right and press the [START] button to exit to the ‘SYSTEM SETUP’ screen.



MEASUREMENT

CAUTIONS FOR MEASUREMENT

- Please remove thick coats or sweaters before taking a measurement.
- Take a rest before taking a measurements and measure in a stable state.
- Do not move or speak during measurement.
- Do not take a measurement if you're standing, sitting down incompletely, or sitting with your legs crossed.
- Do not take a measurement if you're sweating heavily.
- If you've rolled up your sleeve, your sleeve should not put pressure on the brachial section.
- Measurement can fail if it is difficult to hear artery sounds using a stethoscope.
- If you flex your arm, the measured value may not be correct.
Therefore, relax your arm and straighten your back to take a measurement in a correct posture.
- Do not measure while holding a beverage that can spill, such as water or coffee.
It can get into the Product and cause problems.

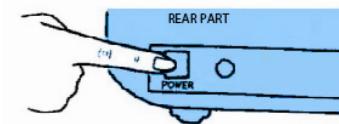


Note

- When the air hose is clogged and the pressure rises too high
The message 'Poor Pressure' prints out.
If the same message is repeated, contact service.
- If the cuff is leaking air, has a bad connection, and the pressure is not rising
The message 'Poor pressurisation' prints out.
If the same message is repeated, contact service.
- When you move or speak during measurement
The message 'Bad measurement' prints out.
Allow some time to settle and then re-measure with the correct measurement method.
If you still get the same message, contact us for service.
- In case of an error, the buzzer beeps once and then returns to the measurement standby state.

METHOD OF MEASUREMENT

- 1) After checking the voltage, plug it in and turn the power "ON".



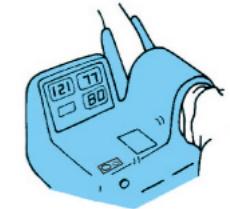
Note

If the device is equipped with a human body sensor, it automatically detects when a person approaches and turns on the LCD screen. However, SENSOR ON/OFF on the back of the device must be set to "ON".

- 2) When powered on, the LCD screen is in the measurement standby state.



- 3) Put your right arm into the cuff.



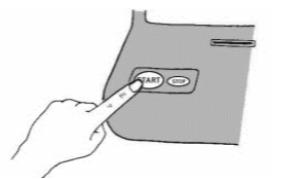
Note

When inserting your arms, place them palm up and deep into the base, and adjust the height of the chair so that the height of your arms is the same as the height of your heart. If your arms are lower than your heart, your blood pressure will be higher, and conversely, if your arms are higher than your heart, your blood pressure will be lower.



4) Press the Start button.

The cuff is automatically pressurized and the measurement begins.



Warning

When the measurement is started, the voice message is announced as "Starting measurement, don't move or speak please." When you feel painful and want to stop the measurement, press EMERGENCY BUTTON.



5) When the measurement is finished, the LCD displays the measurement result.

At the same time, you will hear the voice message "The measurement is over" and the cuff will automatically return to its original state.

6) Voice will guide the blood pressure measurement results.

"Your blood pressure is systolic 000, diastolic 000 and pulse 000."

When using a thermal printer (optional), measurement results are printed automatically.



Note

If PRINT is set to 'OFF' in the instrument settings, no printout will be printed after measurement.

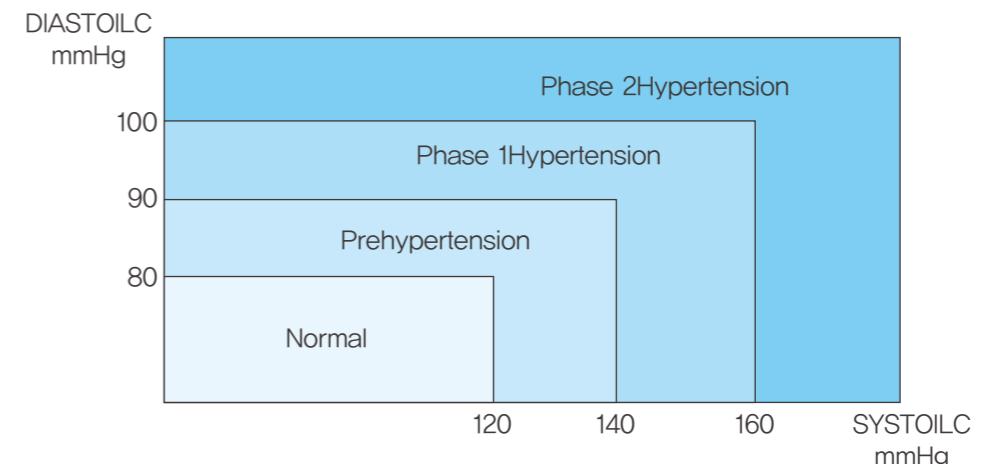


7) Pull your arm out of the arm opening.

8) To re-measure, press the STOP button, assume the measurement position, and re-measure.

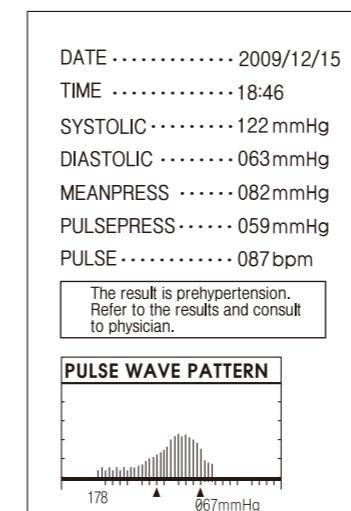
Measurement result

The classification of blood pressure set by the Joint National Committee (JNC7, 2003) has been adopted and Korean guidelines have been revised as follows.

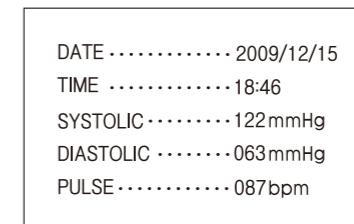


The measurement results are output as a result sheet as follows

1) Result output form



Pattern output



Simple output



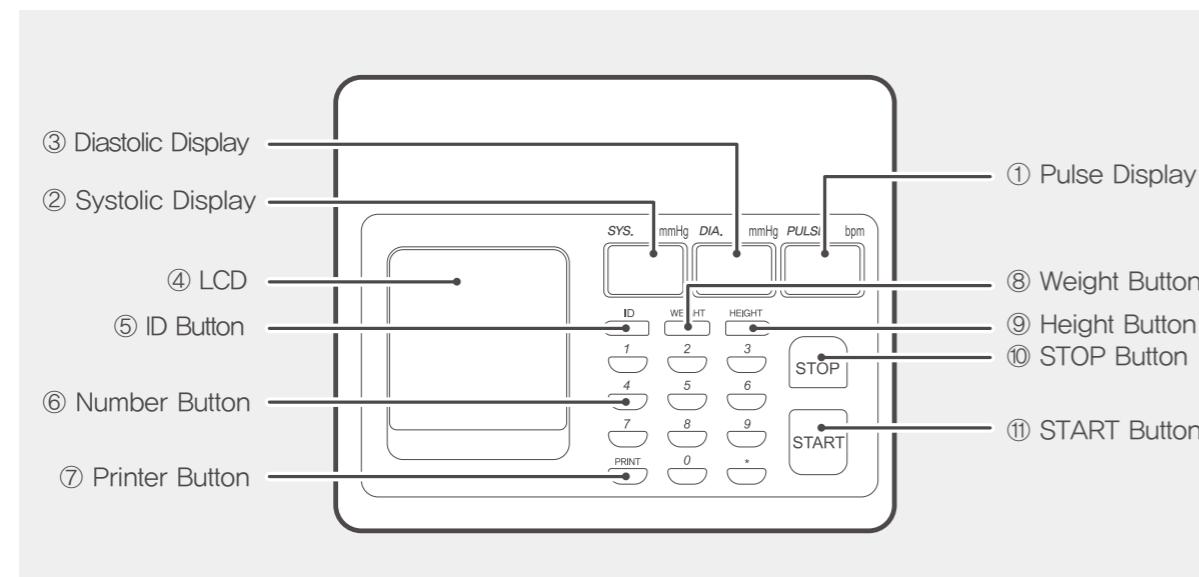
Note

Mean blood pressure and pulse pressure measurements are not shown on the display, but are printed on a printout.

REAR MONITOR

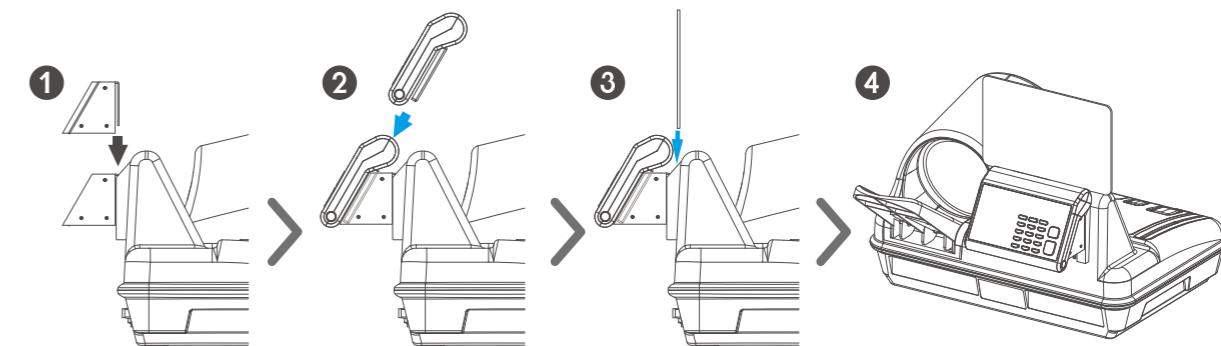
COMPOSITION AND DESCRIPTION

① Pulse display	Displays the measured pulse.
② Systolic Pressure display	Displays measured systolic.
③ Diastolic Pressure display	Displays measured diastolic.
④ LCD	Displays the entered information and the progress.
⑤ ID button	Used to input the ID number of the user.
⑥ Number and dot (•) button	Used to input numbers such as the ID, weight, and height. Use the dot (•) button to input a decimal point for weight and height. e.g., If weight is 68.9 kg, input in the order of "Weight button → 6 → 8 → • → 9."
⑦ Print button	Press this button on the results screen to print the measurement results.
⑧ Weight button	Used to input the weight of the user.
⑨ Height button	Used to input the height of the user.
⑩ STOP button	If pressed while entering the information, the input information will be reset. If you press the button, measurement will stop and the cuff will return to its original state.
⑪ START button	Measurement will start if pressed after entering the ID, weight, and height.



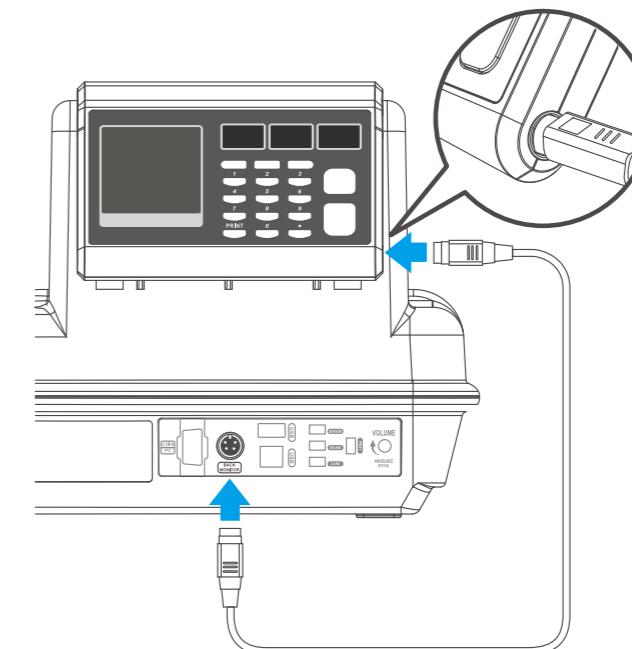
ATTACHMENT OF THE REAR MONITOR

- 1) Insert the rear monitor support in the direction of the arrow.
- 2) Attach the rear monitor to the rear monitor support as shown.
- 3) Insert the information board in the direction of the arrow to complete.



CONNECT

Connect the back monitor and sphygmomanometer to the BACK MONITOR PORT on the back of the main unit with a dedicated cable.



MEASUREMENT METHOD

Data input

• Information •
I D 000012345
Weight 000.0kg
Height 000.0cm

Press the “ID” button on the initial screen and input the ID using the number buttons (0 ~ 9).

- The ID range that can be entered is 000000000 to 999999999.

• Information •
I D 000012345
Weight 74.8kg
Height 000.0cm

Press the “Weight” button after entering the ID and input weight using the number buttons (0 ~ 9) and the dot (•) button.

- The weight range that can be entered is 10.0 ~ 248.0kg.

• Information •
I D 000012345
Weight 74.8kg
Height 176.0cm

Press the “Height” button after entering the weight and input height using the number buttons (0 ~ 9) and the dot (•) button.

- The height range that can be entered is 80.0 ~ 238.0 cm.

Measurement

Measuring...


When all necessary information is entered, press the “START” button to start measurement.

- When measurement is in progress, an animation is displayed indicating that measurement is in progress.



Note

If you input data on the rear monitor, you should press the “START” button on the rear monitor screen to print or display height, weight, and BMI on the rear monitor screen. Input the weight and height correctly because the data is reflected in the BMI.

Result

••• Result •••
I D 000012345
B.M.I. 24.1kg/m ²
Fatness 109%

When measurement is complete, the BMI based on the entered weight and height is displayed on the LCD.

Section	thin	normal	overweight	obese
	18.5kg/m ²	18.5~<23.0kg/m ²	23.0~<25.0kg/m ²	25.0kg/m ² and over

SAFETY PRECAUTIONS

- 1) Give attention to the allowable current of the power supply.
- 2) Be sure to connect the ground wire securely to prevent electric shock.
- 3) Never connect to a gas pipe, water pipe, lightning rod, or telephone line connection when grounding.
- 4) Be sure to hold the plug when unplugging the power cord.
- 5) Do not spill liquid on or insert foreign objects into this device.
- 6) Do not install in direct sunlight, rain, or somewhere with extreme temperature changes.
- 7) Do not place anything on top of this device.
- 8) When cleaning, wipe with a soft cloth, do not use volatile liquids such as benzene or alcohol or a wet rag.
- 9) Frequently check whether there are any problems with the entire machine when using the device.
- 10) Do not use this device in an unstable place or somewhere where it will be subjected to vibration or shock.
- 11) Do not install or store in a place where chemicals are stored or gas is produced.
- 12) Check the normal operation of the device first before use if it has not been used for a long period of time.
- 13) If any problem is found, indicate the problem properly and contact our service center.
- 14) Do not disassemble the main unit at your discretion.
- 15) Do not install the device in a dusty place such as a construction site.

AFTER SERVICE

APPLYING FOR A/S

If there is any problem with the unit, please follow the steps below;

- 1) If an error code appears on the display, please remember and inform the service department.
- 2) Contact our company's International Service Department immediately.
- 3) After gathering the model name, Serial Number, date of purchase and description of the problem, contact our company with information shown below.
- 4) Try to solve the problem over the phone with the personnel of local service department.
- 5) If the problem cannot be solved over the phone, just return to service department directly.
- 6) Our company or local distributor will make available on-request circuit diagrams, component part list, descriptions, calibration or other information which will assist your appropriately qualified technical personnel to repair those parts of unit which are designated by our company as repairable.

How to contact our company (manufacturer)

Write us at:

SELVAS Healthcare, Inc.

155, Sinseong-ro, Yuseong-gu, Daejeon, 34109, Republic of Korea

TEL: +82 42 879 3000 , FAX: +82 42 864 4462

(You can also contact the following representative or your local distributor)

PACKING AND TRANSPORT

Our company follows his packing ways to protect any impact during transporting etc.

So please do not transport or move the unit without our company's packing condition as your wishes.

The normal storage environment: Temperature -20~60°C, Humidity Less than 95%

SPECIFICATION

This medical device complies with IEC 80601-2-30.

DIVISION	SPECIFICATION
Model	ACCUNIQ BP250
Measuring method	Oscillometric
Display mode	LCD display (7" wide)
Result Contents	Systolic/Diastolic/Mean blood pressure, Pulse pressure, Pulse, Blood pressure assessment, Pulse wave pattern Reverse Monitor(Option): Systolic/Diastolic blood pressure, Pulse, ID No, B.M.I., and Fatness
Measuring ranges	Blood pressure : 30–300mmHg, Pulse : 30–240bpm
Accuracy	Pressure ± 3 mmHg or $\pm 3\%$, Pulse $\pm 3\%$
Pressurizing method	DC Motor
Resolving Power	1mmHg
Printer	Thermal printer (Option)
Power supply	ADAPTER Input: AC 100~240V, Output: DC 12V
Power consumption	60VA
Ambience for operation	Temperature 10~40°C, Humidity Less than 30~75%
Ambience for storage	Temperature -20~60°C, Humidity Less than 95%
Data transmission	RS-232C (Option), USB cable(Option)
Dimension	463(W) \times 324(D) \times 275.9mm (± 20 mm)
Weight	Approx. 11kg

※ Appearance and specifications are subject to change without notice for improvement.

※ This product is a medical diagnostic device.

Please read the 'Precautions for Use' and 'Instructions for Use' carefully before use.

WARRANTY

Item	Automatic Blood Pressure Monitor		Warranty period
Model	ACCUNIQ BP250		1 year (main unit only)
Serial NO.			
Date of purchase	Month	Day	Year
Dealer	Name		Tel.
	Address:		
Customer	Name		Tel.
	Address:		
Date	Defection	Confirmation	



Note

1. When you receive this warranty, make sure that the name of the dealer and the month, day and year of purchase are all completed.
2. This warranty will not be reissued, please keep it in a safe place.



SELVAS Healthcare, Inc.

HEADQUARTERS 155, Sinseong-ro, Yuseong-gu, Daejeon, 34109 Republic of Korea
Tel +82 42 879 3000 Fax +82 42 864 4462 Website www.accuniq.com

EUROPEAN REPRESENTATIVE OBELIS S.A Blvd General Wahis 53, 1030 Brussels Belgium
+32.2.732.59.54

If the problems continue, call the service center. When you ask for service, the manufacturer's label, serial number, date of original purchase and explanation of malfunction will be required.

※Please understand that it is subject to change without notice to improve the appearance and function of the device.

Service Center

Tel +82 42 879 3000