

INSTRUCTION MANUAL

Deluxe SmartRead® Plus Automatic Digital Blood Pressure Monitor with Memory and Alarm

04-278-001 (Adult size cuff)

04-278-006 (Large adult size cuff)

Please read this instruction manual
completely before operating this unit.



Lifetime Limited Warranty

This Blood Pressure Monitor is guaranteed to be free from manufacturing defects for the life of the original registered purchaser under normal use. This limited warranty does not apply to use in any clinical or commercial applications. If the unit fails to operate during the lifetime of the original registered purchaser, return it postage prepaid along with \$5.00 for return shipping and insurance to: Repair Department, 1931 Norman Drive, Waukegan, IL 60085. If the warrantor determines that the unit failed to operate due to a manufacturing defect, the unit will be repaired or replaced at the option of the warrantor. Repair or replacement of the unit is the sole remedy under this limited warranty. This warranty gives you specific legal rights which vary from state to state. As a condition of this warranty, the enclosed warranty registration card must be completed and sent to us within 10 days of the purchase date. This Limited Warranty constitutes the warrantor's only responsibility and obligation to repair and/or replace materials or components. We make no other express or implied warranties, arising by operation of law or otherwise, or any warranty of merchantability or fitness for a particular use or purpose whether or not the use or purpose has been disclosed to the warrantor in specifications, drawings or otherwise, and whether or not the warrantor's products are specifically designed and/or manufactured by the warrantor for the buyer's use or purposes, except for the limited warranty stated above. The warrantor will not be responsible for any indirect, incidental, special, consequential, or punitive damages or other loss, including, but not limited to, damage to or loss of other property or equipment and personal injuries, whether to purchaser or others. The warrantor shall in no event be liable to the purchaser for any amount in excess of the cost of repair and/or replacement of the unit.

Toll-Free Information Line:
1-800-622-4714



Manufactured by:
MABIS Healthcare Inc.

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Introduction

To achieve the maximum benefit from your blood pressure monitor, we recommend that you first consult with your physician or trained health care professional.

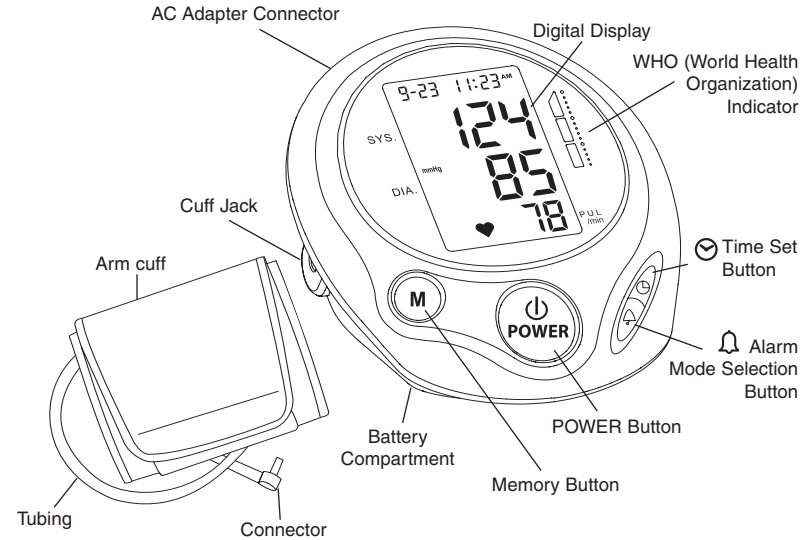
Thank you for purchasing an Automatic Blood Pressure Monitor. With proper care and use, your monitor will provide you with many years of reliable readings.

The method of measurement that your Automatic Monitor uses is called the oscillometric method. The monitor detects your blood's movement through the artery in your arm and converts the movements into a digital reading. The oscillometric method does not require a stethoscope, making the monitor easy-to-use.

Your Automatic Monitor is specially enhanced with Fuzzy Logic technology. The unit will inflate to the optimum level and deflate at a constant rate, based on your individual pressure oscillations. Your blood pressure and pulse readings will be clearly displayed on the large digital panel.

Blood pressure readings determined with this device are equivalent to measurements obtained by a trained observer using the cuff/stethoscope auscultation method, within the limits prescribed by the American National Standard for Electronic or Automated Sphygmomanometers.

Product Identification and Caution



Caution

While taking a measurement, you can stop the inflation or deflation process of the cuff at any time by pressing the POWER Button.

General Blood Pressure Information

What is Blood Pressure?

Blood pressure is the pressure that is exerted by blood flowing against the walls of the blood vessels throughout your body.

Your heart, which is the center of the circulatory system, provides the force for the blood to flow or circulate. When your heart contracts or beats, the blood is forced through the blood vessels increasing the pressure. This is the highest pressure in the cycle or what is referred to as **SYSTOLIC BLOOD PRESSURE**. In between beats, your heart relaxes and your blood pressure decreases. This is referred to as **DIASTOLIC BLOOD PRESSURE**.

This complete series of events which occurs in a single heartbeat is known as the **CARDIAC CYCLE**.

Your Digital Blood Pressure Monitor will automatically read your blood pressure and display both systolic and diastolic readings on the screen. Your systolic will be positioned as the upper number and the diastolic reading will be the lower number.

(systolic) **120/80** (diastolic)

Blood pressure is measured in millimeters (mm) of Mercury (Hg) and is generally recorded with the systolic pressure (120) listed first and the diastolic pressure (80) listed second. The numbers are typically separated by a slash mark (/) as shown above.

Both pressure readings, the SYSTOLIC and the DIASTOLIC, are necessary for a physician to evaluate the status of a patient's blood pressure.

Please contact your physician for specific information regarding your own blood pressure.

What Influences Blood Pressure?

Many factors such as genetics, age, sex, altitude, physical activity, anxiety, muscular development, certain medications or even the time of day can influence blood pressure. Influences such as sleep or relaxation decreases blood pressure, while anxiety or exercise increases blood pressure.

Why Monitor Your Blood Pressure at Home?

A visit to a physician's office can be a stressful situation for a patient. And, anxiety is a known factor in raising blood pressure. This temporary occurrence of elevated blood pressure at the physician's office is commonly referred to as "white coat syndrome".

Whether or not you experience "white coat syndrome", home blood pressure monitoring provides you with the opportunity to supplement your physician's office measurements. These home readings, when taken over a period of time, can show an accurate indication of change. Furthermore, your records can assist your physician in evaluating your health and in making important decisions in the diagnosis and treatment of your condition. Because of this, it is important to take consistent, daily measurements of your blood pressure.

The variations in your individual readings should only be interpreted by your physician or a trained health care professional.

WHO Blood Pressure Classifications

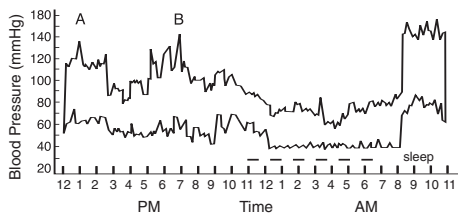
Standards for assessment of high or low blood pressure, regardless of age, have been established by the World Health Organization (WHO) as shown in the chart on the following page.

CATEGORY	SYSTOLIC (mmHg)	DIASTOLIC (mmHg)
Optimal	<120	<80
Normal	<130	<85
High - Normal	130-139	85-89
Mild Hypertension	140-159	90-99
Borderline	140-149	90-94
Moderate Hypertension	160-179	100-109
Severe Hypertension	≥180	≥110
Isolated Systolic Hypertension	≥140	<90
Borderline	140-149	<90

*This chart is only a general guideline. Please contact your physician to determine your **NORMAL BLOOD PRESSURE**.*

Variations in Blood Pressure

Blood pressure can be influenced by many factors. This change can occur from moment to moment. Normally, blood pressure is lowest during the sleeping period and rises during the day. The graph below represents the variations in blood pressure shown over a day with measurements taken every 5 minutes.



The dotted line represents the sleep period. The rise in blood pressure at 1 PM (*A in the graph*) corresponds to a stressful occurrence and at 7 PM (*B in the graph*) a period of exercise.

Important Information Before Use

1. Blood pressure measurements should only be interpreted by a physician or a trained health care professional who is familiar with your medical history. Through regular use of this device and recording of your measurements, you can keep your physician informed of the changes in your blood pressure.
2. Perform your measurement in a quiet place. You should be seated in a relaxed position.
3. Avoid smoking, eating, taking medication, alcohol consumption or physical activity 30 minutes prior to taking a reading. If you are exhibiting signs of stress, avoid taking your measurement until the feeling subsides.
4. Rest 15 minutes prior to taking a reading.
5. Remove any constrictive clothing or jewelry that may interfere with the cuff placement.
6. Keep the monitor stable during measurements. Remain still; do not talk during measurements.
7. Record your daily blood pressure and pulse readings on a chart.
8. Take your readings at the same time, each day (or as recommended by your physician) to get an accurate indication of change in your true blood pressure.
9. Wait a minimum of 15 minutes between readings to allow for the blood vessels to return to normal. The wait time may vary depending on your individual physiological characteristics.
10. This device is intended for adult use.

*While taking a measurement, you can stop the inflation or deflation process of the cuff at any time by pressing the **POWER** Button.*

Battery Installation/Replacement

Replace the batteries when the Low Battery symbol appears on the display, *Fig. 1*, or when the display remains blank when the POWER Button is pressed.

To change the batteries:

1. Open the battery cover, *Fig. 2*.
2. Making sure the battery polarity is correct, install four AA alkaline batteries, *Fig. 3*.
3. Close the battery cover, *Fig. 4*.

NOTE: It is recommended to remove the batteries if the unit will not be used for an extended period of time.

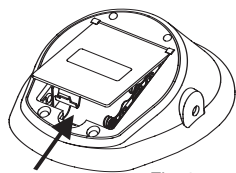


Fig. 2

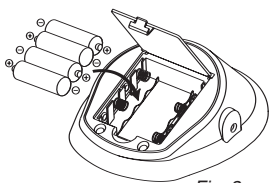


Fig. 3

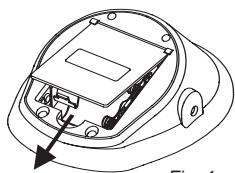


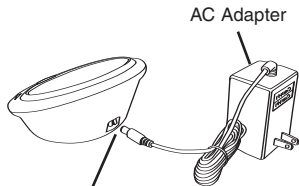
Fig. 4

AC Power Adapter

An AC adapter is included for battery-free operation. The AC adapter plugs into the side of the unit as shown. Please remember to practice electrical safety precautions while using the adapter.

AC Adapter

Output: 6V DC 1A (5.5Ø/2.1Ø)



AC Adapter Connection

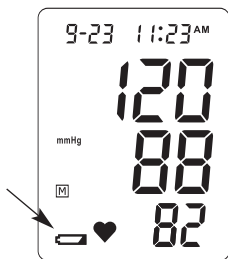




Fig. 1

Setting the Date/Time

1. Press the Time Set Button  to enter into the Time Adjustment mode. The blinking Month will display, *Fig. 1*.
2. Press the 'M' Button to change.
3. Press the Time Set Button  to confirm entry, *Fig. 2*.
4. The blinking Date, *Fig. 2*, followed by Year, Hour and Minutes will display. Repeat steps 2 and 3 to adjust the date/time setting.
5. Your unit is now ready to take a reading, or press the POWER Button to turn the unit off, *Fig. 3*.

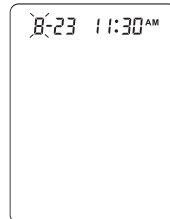


Fig. 1

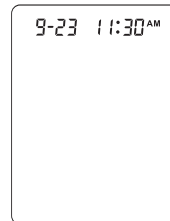
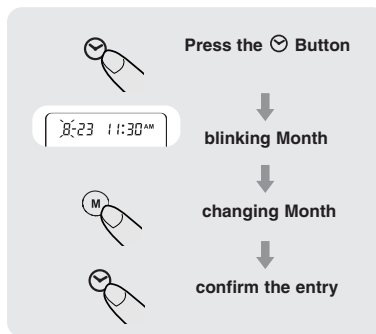


Fig. 2



Fig. 3



Setting the Alarm Clock

Your automatic digital blood pressure monitor features an alarm clock. The alarm can be set to ring at three different times in the day. The alarm is especially helpful if you are required to measure your blood pressure at specific times (for example: 7:00 a.m., 12:00 p.m. and 10:00 p.m.).

To set the alarm clock:

1. Press the Alarm Button Ω to enter into the alarm setting mode.
2. Continue to press the Alarm Button Ω to select the alarm to adjust, Figs. 1-3.

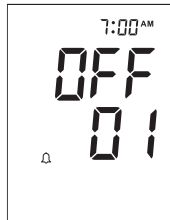


Fig. 1



Fig. 2

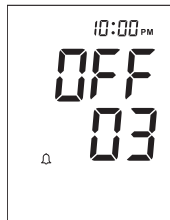


Fig. 3

3. With the chosen alarm screen displayed, the hour will begin to flash at the top of the screen, Fig. 4. Press the 'M' Button to change the hour. Once the correct hour is displayed, press the Time Set \odot Button to confirm.

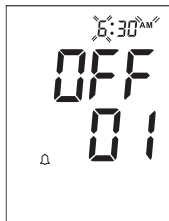


Fig. 4

4. After the hour is confirmed, the minutes will begin to flash, Fig. 5. Press the 'M' Button to change the minutes. Once the correct minutes are displayed, press the Time Set \odot Button to confirm.

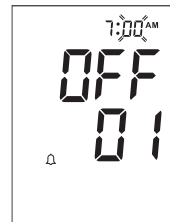


Fig. 5

5. The alarm feature must be turned on immediately after setting the time for the alarm. Press the 'M' Button to turn the alarm on, Fig. 6. Press the 'M' Button a second time to turn the alarm off, Fig. 7.



Fig. 6

6. Press the POWER Button to turn the unit off.

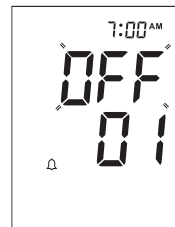


Fig. 7

Applying Your Blood Pressure Cuff

Avoid smoking, eating, taking medication, alcohol consumption or physical activity 30 minutes prior to taking a reading. If you are exhibiting signs of stress, avoid taking your measurement until the feeling subsides. Rest 15 minutes prior to taking a reading.

NOTE: If for any reason you are unable to or should not use your left arm, please modify the following instructions and apply the cuff to your right arm. Your physician can tell you which arm is best for you to use.

1. Remove any constrictive clothing or jewelry that may interfere with the cuff placement.
2. Be seated with your feet flat on the floor.
3. Position the cuff on a solid surface with the tubing facing UP and AWAY from you. The metal bar on the cuff should be to the left of the tubing.
4. Widen or open the cuff by pulling or rolling the bottom of the cuff towards the right, *Fig. 1*. This should open the cuff, creating a cylinder. Do not extend the cuff beyond the metal bar.

5. Insert your left arm into the cuff (cylinder). Position the (Ψ) mark over the main artery (on the inside of your arm), *Fig. 2*.

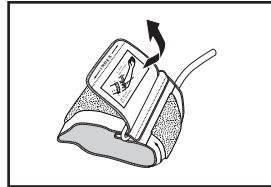


Fig. 1

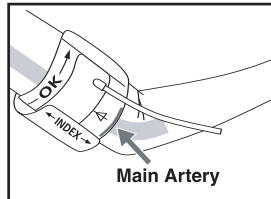


Fig. 2

6. The bottom edge of the cuff should be positioned approximately one inch ABOVE the elbow joint, *Fig. 3*.

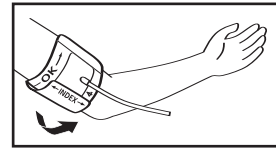


Fig. 3

7. Reaching underneath your left arm with your right hand, pull the end of the cuff towards your body to tighten the cuff, *Fig. 4*. Wrap and secure the cuff making sure that the (Ψ) mark remains as shown, *Fig. 2*.

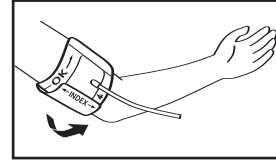


Fig. 4

8. The cuff should fit comfortably, yet snugly around your arm. You should be able to insert one finger between your arm and the cuff.

NOTE: The cuff size is suitable for use when the vertical 'index' mark is within the horizontal 'OK' range. A different sized cuff is needed if the 'index' mark is outside the 'OK' range.

Taking Your Blood Pressure Reading

Proceed only after reading the previous sections of this manual.

1. Position the monitor on a flat, stable surface with the digital display in view. Insert the cuff tubing connector into the left side of the monitor, *Fig. 1*.
2. Rest your elbow on a solid surface with your palm facing upward. Elevate your arm so that the cuff is at the same level as your heart, *Fig. 2*. Relax your left hand.
3. Press the POWER Button. The unit will run a self-test, *Fig. 3*.
4. After the self-test, the values for the last reading will appear on the display, *Fig. 4*.
5. The cuff will automatically begin to inflate, with the display showing the increasing pressure in the cuff. As the pressure increases, an arrow pointing up will appear on the display, *Fig. 5*.
6. Upon reaching the optimum level, the display will show the decreasing pressure, *Fig. 6*, by displaying an arrow pointing down.

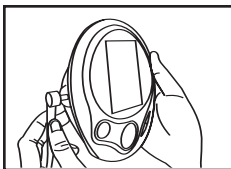


Fig. 1

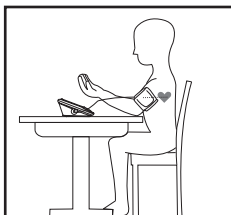


Fig. 2

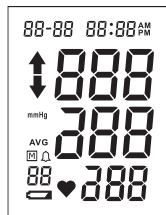


Fig. 3



Fig. 4

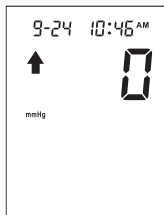


Fig. 5



Fig. 6

7. Once the systolic pressure is reached, the cuff will exhaust all air.
8. Your blood pressure (systolic and diastolic) measurement and pulse rate will be simultaneously displayed, *Fig. 7*.
9. Your reading will be automatically stored in memory.
10. The WHO Indicator, located to the right of the digital display, *Fig. 8*, will indicate your reading in a range (normal, high-normal, high) in accordance with standards set by the World Health Organization (WHO), (see chart below).
11. To conserve energy, press the POWER Button to turn the unit off. Otherwise, the unit will automatically shut off after approximately 2 minutes.

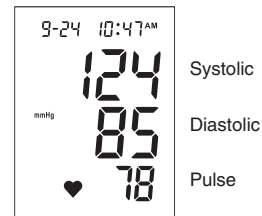


Fig. 7

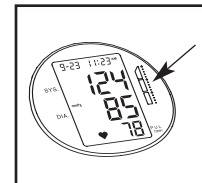
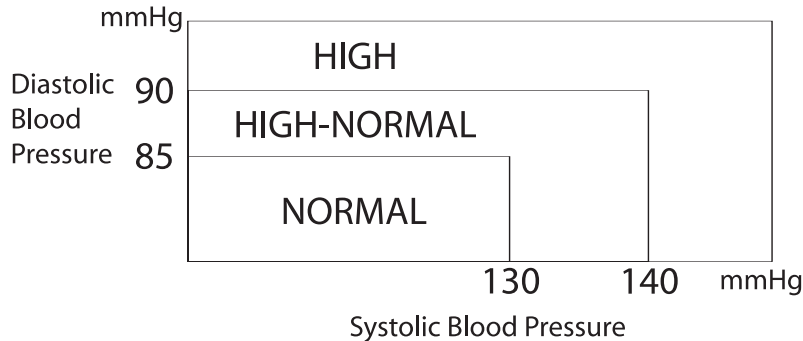


Fig. 8



Recalling Measurements in Memory

You can recall up to 60 measurements plus an average of all currently stored measurements in memory to share with your physician or trained healthcare professional.

1. Press the 'M' Button. The first reading displayed is the average of all measurements stored in memory. The letters 'AVG' will appear on the display, *Fig. 1*.
2. Continue to press the 'M' Button to view the next previously stored measurement, *Figs. 2-3*.

NOTE: The memory bank can store up to 60 readings. When the number of readings exceeds 60, the oldest data will be replaced with the new record.

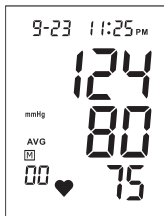


Fig. 1

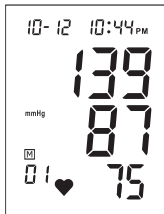








Fig. 2



Fig. 3

Description of Display Symbols

SYMBOL	CONDITION	ACTION
	Appears when pulse reading is displayed.	Record pulse reading.
	Appears when recalling a measurement from memory.	Memory recall function in progress.
	Appears when battery voltage is excessively low.	Replace batteries with new ones.
	Appears when alarm is set.	Alarm function active.
	Appears when cuff is inflating.	Measurement in progress.
	Appears when cuff is deflating.	Measurement in progress.

Troubleshooting

If any abnormality occurs during use, please check and correct the following:

Condition	Correction
Display is blank when power is on.	Check and correct the polarity of the installed batteries. Reinstall or replace batteries.
Measurement incomplete or abnormally low or high values displayed.	Review and follow 'Applying Your Blood Pressure Cuff' and 'Taking Your Blood Pressure Reading' sections. Replace the batteries.
Measurements are different from those typically measured by physician or every measurement reading is different.	Remember, blood pressure readings are influenced by physical and mental conditions and/or even the time of day. Daily measurement recordings should be interpreted by your physician.

Error Codes

Err 0	No pulse is detected
Err 1	Inflation rate is too low
Err 2	Systolic reading unattainable
Err 3	Cuff pressure is too high
Err 4	Diastolic pressure is outside of operation range
Err 5	Cuff deflated too fast
Err 6	Cuff deflated too slow
Err 7	Systolic pressure is outside of operation range
Err 8	Overall pressure is outside of operation range
Err 9	Cuff is unable to inflate to the necessary pressure level

Care and Maintenance

1. Disconnect the cuff tubing from the monitor prior to storing.
2. Only use a soft, dry cloth to clean your blood pressure monitor.
3. Avoid using any types of liquids on the monitor or cuff.
4. Do not store the unit where it will be exposed to direct sunlight, dust or humidity.
5. Avoid extreme temperatures.
6. Never disassemble the monitor or cuff.
7. Dropping or subjecting your blood pressure monitor to strong shocks should be avoided.

Product Specifications

Name and Model Number	MABIS Deluxe SmartRead® <i>Plus</i> Automatic Digital Blood Pressure Monitor, 04-278-001, 04-278-006
Display System	Digital display/LCD
Measuring Method	Oscillometric
Power Source	4 AA batteries
Measuring Range	Pressure: 30 to 280 mmHg Pulse: 40-200 beats/minute
Accuracy	Pressure: ± 3 mmHg Pulse: $\pm 4\%$ of reading
Pressurization	Automatic pressurization by pump
Deflation	Automatic pressure release valve
Memory	Built-in memory enabling display of up to 60 measurements plus average of all currently stored measurements
Alarm Clock Tone	Monitor will sound three times per day if activated
WHO Indicator	Indicator light illuminates
Automatic Power Off	Approximately 2 minutes after last button operation
Battery Life	Approximately 300 measurements
Operation	
Temperature	50°F – 104°F (10°C – 40°C)
Humidity	15% to 95% RH (non-condensing)
Storage	
Temperature	-4°F – 122°F (-20°C – 50°C)
Humidity	15% to 95% RH (non-condensing)
Weight	9.2 oz. (without batteries)
Dimensions	5-1/2" x 5" x 2-1/2"
Arm Circumference Range	Adult size fits arm circumference: 9" – 13" (23-33 cm) Large adult size fits arm circumference: 13" – 17" (33-43 cm)
Accessories	Cuff, Detailed Guidebook, four AA batteries, Quick Start Guides
Options (sold separately)	Adult size cuff, Large Adult size cuff, AC adapter

Specifications are subject to change without notice.