

MODEL 6010

Wrist Digital Blood Pressure Monitor

INSTRUCTIONS



Specifications/Quick Reference

Weight:	1.1 lbs. (510g) without batteries
Size:	80 (H) X 124 (W) X 184 (D) mm
Storage:	Temp: 14°F~140°F / Humidity:Less than 90% RH
Operation:	Temp: 50°F~104°F / Humidity:Less than 85% RH
Indicator:	LCD display
Measuring Method:	Oscillometric method
Pressure Sensor:	Semi-Conductor
Measurement Range:	Pressure: 20~280mmHg / Pulse: 40~200 pulse/min.
Measuring Resolution:	1mmHg
Accuracy:	Pressure: within \pm 3mmHg or 2% whichever is greater Pulse: within \pm 5% of reading
Power Source:	1.5V Dry Cell Battery (UM-3, Size "AA") x 4 (not included)
Range:	• Fits wrist circumference 5.3-7.7" (13.5-19.5cm)
Accessories:	• Instruction Manual

Specifications subject to change without notice.



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1. Introduction

Congratulations on your purchase of the advanced ADC® Blood Pressure Monitor.

In hospitals and physician's offices throughout the world, where accuracy and dependability are critical, ADC® professional diagnostic products are the instruments of choice.

Now you, too, can enjoy the benefits of ADC® engineering and quality in the home. This feature rich instrument was designed to simplify the measurement of blood pressure and pulse rate at home and deliver consistent, dependable results.

Please read this booklet thoroughly before attempting to use your new ADC® Digital Blood Pressure Monitor.

Remember.....

- Only a health care professional is qualified to interpret blood pressure measurements. This device is NOT intended to replace regular medical checkups.
- It is recommended that your physician review your procedure for using this device.
- Blood pressure readings obtained by this device should be verified before prescribing or making adjustments to any medications used to control hypertension.
- This monitor is intended for use by adults only. Consult with a physician before using this instrument on a child.
- Familiarize yourself with the sections titled "*About Blood Pressure*" and "*Helpful Hints.*" They contain important information on the dynamics of blood pressure readings and will help you to obtain the best results.
- Do not attempt to service or repair this device yourself. Should a malfunction occur, refer to the back of this booklet for service information.

2. About Blood Pressure

A. What is Blood Pressure?

Simply put, arterial blood pressure is the force of blood exerted against the walls of the arteries. There are two components to blood pressure - systolic and diastolic pressure. Systolic, the higher pressure, occurs during contraction of the heart. Diastolic, the lower pressure, occurs when the heart is at "rest."

Blood pressure is traditionally measured in millimeters of mercury (mmHg). It is recorded as systolic/diastolic. For example a systolic of 120 and diastolic of 80 would be recorded 120/80.

Blood pressure is a dynamic vital sign - one that changes constantly and throughout the day. A person's "resting" blood pressure is the pressure that exists first thing in the morning while a person is still at rest and before consumption of food or drink.

B. What is a Normal Blood Pressure?

A systolic pressure of less than 130mmHg and a diastolic pressure of under 85mmHg are recognized as normal by the National Heart Lung and Blood Institute Joint National Committee, 1993. However, individual blood pressure will vary.

Note: Blood pressure does increase with age, so you must check with your doctor to find out what is "normal" for you!

C. What Influences Blood Pressure?

Blood pressure is influenced by many factors including age, weight, physical conditioning, past illness, time of day, altitude, activity, and climate, to name just a few. In general, blood pressure is lower in the morning and increases throughout the day. It is lower in warm weather, and higher in cold weather.

Physical activity can have a significant short term impact on blood pressure. Work, exercise, smoking, eating, drinking - even talking, laughing, or crying will all affect a person's blood pressure.

Your diet, including beverages containing caffeine or alcohol may all affect blood pressure. Emotional stress can have a dramatic impact on your blood pressure.

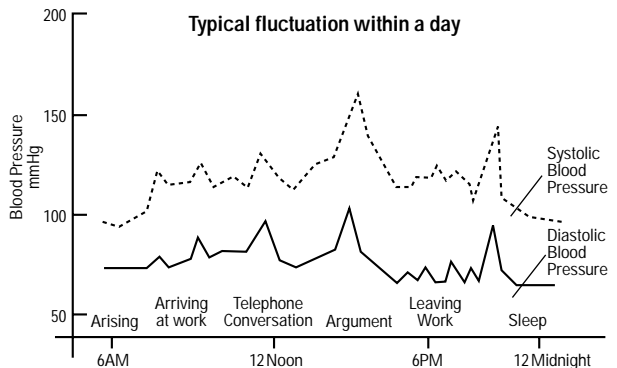
Even repeated blood pressure measurements taken without adequate rest between readings will alter your blood pressure as the vessels in your arm engorge with blood.

Many of these influences are only temporary or short term, though chronic (long term) exposure to some factors may result in permanently elevated blood pressure levels.

D. Does Blood Pressure Vary?

Constantly. An individual's blood pressure varies greatly on a daily and seasonal basis. It changes throughout one's lifetime. It is not uncommon for systolic pressure to vary by 40mmHg or more throughout the course of a single day! While generally not as volatile, diastolic pressure can still vary significantly. In hypertensive individuals, variations are even more pronounced. Normally, blood

pressure is at its lowest during sleep and rises in the morning and throughout the day. The chart to the right illustrates the fluctuations that could occur in a typical day.



E. What is Hypertension?

Hypertension (high blood pressure) is elevated systolic or diastolic levels. In 90 to 95 percent of the diagnosed cases, the specific causes are unknown, although the condition is often linked with family history, and lifestyle. This is referred to as essential hypertension. In the remaining cases, high blood pressure is a symptom of an underlying, often treatable condition, which if corrected, may normalize blood pressure. This less common type is known as secondary hypertension.

Hypertension, if left untreated, may contribute to kidney disease, heart attack, stroke, or other debilitating illnesses.

The following standards for assessment of high blood pressure (without regard to age) have been established by the National Heart Lung and Blood Institute Joint National Committee, 1993.

Category	Systolic (mmHg)	Diastolic (mmHg)
Normal	<130	<85
High Normal	130-139	85-89
Hypertension:		
Stage 1 (Mild)	140-159	90-99
Stage 2 (Moderate)	160-179	100-109
Stage 3 (Severe)	180-209	110-119
Stage 4 (Very Severe)	≥210	≥120

Remember only a physician is qualified to interpret the readings obtained from your blood pressure monitor. No attempt should ever be made at self-diagnosis or treatment.

F. Can Hypertension be Controlled?

Although essential hypertension can not be cured, it can usually be controlled by altering lifestyle (including diet), adopting a program of exercise, stress management and, where necessary, with medication under a doctor's supervision.

To help reduce the risk of hypertension, or keep it under control, the American Heart Association (AHA) recommends the following:

- Don't smoke
- Reduce salt and fat intake
- Maintain proper weight
- Exercise regularly
- Have regular physical checkups

G. Why Measure Blood Pressure at Home?

Clinical studies have shown improved detection and treatment of hypertension when regular home blood pressure monitoring is done in consultation with a physician.

Blood pressure measured in a doctor's office or hospital setting may cause anxiety and lead to an elevated reading - a condition referred to as "white coat hypertension."

Home measurements generally reduce the "outside" influences on blood pressure readings, and can provide a more comprehensive and meaningful blood pressure history.

Important Note: While it is important to keep an accurate record of your blood pressure measurements, don't be overly concerned by the results of any one measurement. Individual results may be influenced by spiking of your pressure due to diet, anxiety, or mis-measurement resulting from excessive arm movement, or misapplication of the cuff. Many readings taken at the same time each day give a more comprehensive blood pressure history. Always be sure to note the date and time when recording blood pressure and pulse measurements.

For best results, and with time permitting, 3 successive measurements may be taken daily. Make sure to allow at least 5 to 10 minute intervals between measurements. Discard any reading that appears suspect and record the average of the remaining readings.

H. How is Blood Pressure Measured?

Health care professionals traditionally use a device known as a sphygmomanometer along with a stethoscope. The sphygmomanometer is a system consisting of an inflatable bladder contained within a cuff, inflation bulb with air control valve, and pressure measuring manometer (gauge). The gauge may be mechanical or mercurial.

The cuff is wrapped around the limb and inflated to constrict blood flow to the artery. As pressure is released from the cuff through the deflation valve, blood flow returns to the artery producing pulse beats known as Korotkoff sounds, which are detected with the stethoscope.

Systolic pressure is recorded at the onset of these sounds. **Diastolic** pressure is generally recorded when the sounds disappear (when blood flow to the artery returns to normal).

ADC® Digital Blood Pressure Monitors utilize the oscillometric principal. Pressure pulse waves - the vibrations caused by the blood

flow within the artery - are detected by a sensor in the main console. A microprocessor filters out external noise and other artifacts and calculates the systolic and diastolic pressure and pulse values. These values are then displayed in the LCD readout.

I. How Should I Record my Blood Pressure?

Record by setting up a simple chart in a spiral bound notebook as shown below:

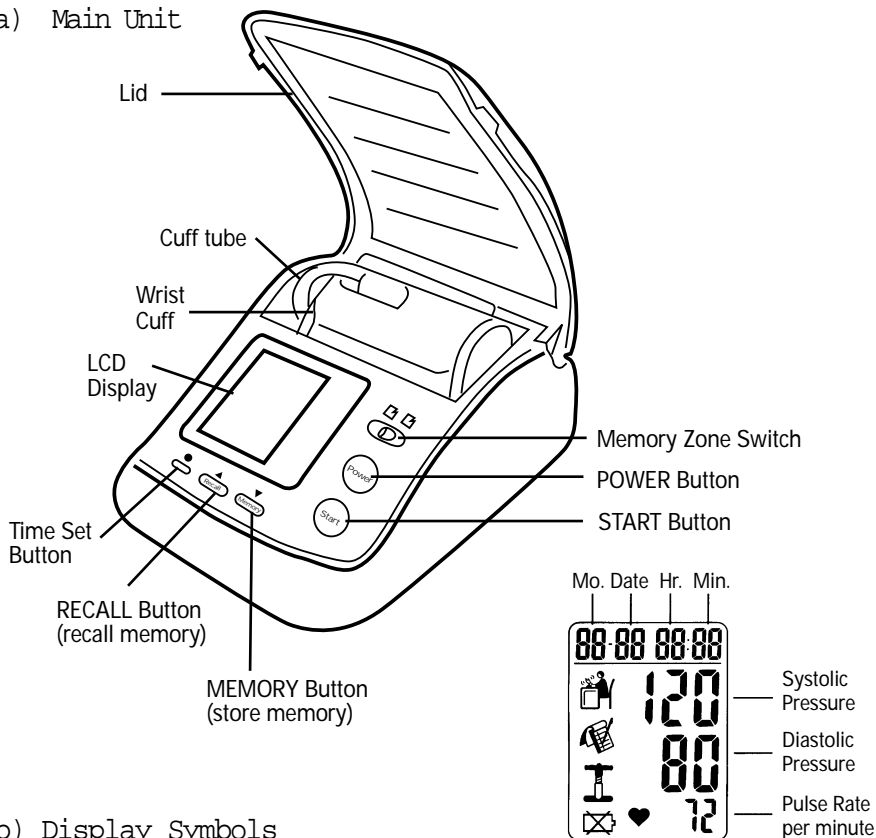
Date	Time	Reading	Pulse
4/24/98	7:50AM	128/83	72
4/25/98	8:00AM	135/77	77
4/26/98	7:45AM	130/75	71
4/27/98	2:00PM	153/89	80

If you like you can add a column for comments about your condition at the time of measurement, or a listing of any factors that may have influenced your readings (such as "had a cold", or "just returned from vacation").

For best results, and with time permitting, 3 successive measurements may be taken daily. Make sure to allow at least 5 to 10 minute intervals between measurements. Discard any reading that appears suspect and record the average of the remaining readings. If this method is used, be sure to note that the readings are averaged.

3. Identification Of The Unit (Model # 6010)

a) Main Unit



b) Display Symbols



Remain still mark

Appears if you move your arm or wrist vigorously.



Memory mark

Appears when storing the measurement values in memory or recalling from memory.



Inflating mark

Appears when inflating or re-inflating when pressure is not enough.



Weak battery mark

Appears when batteries should be replaced.



Pulse mark

Shows pulse rate per minute.



Error mark

Occurs when a mistake was made during measurement.



Inflation error

Appears if there is a loose connection.



Movement error

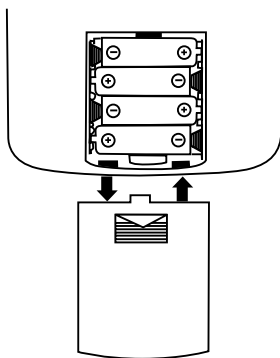
Appears if cuff is not attached properly or if movement interferes with measurement.

4. First Time Set-Up

After unpacking the instrument, you must install 4 AA (1.5 volt) batteries (not included) and set the time and date.

A. Battery Installation

1. Remove battery compartment cover located on the underside of the unit by gently pushing down on the textured grip and sliding in the direction of the arrow.
2. Place each battery in compartment making sure to observe the correct polarity. Make sure battery terminals make secure contact with compartment terminals.
3. Replace the battery cover by sliding into the compartment track and gently pressing into place.
4. To prevent loss of stored readings when changing batteries, ensure that unit is turned off and that new batteries are installed within 1 minute.



Note:

- *Replace batteries if the low battery indicator appears in the display or if nothing displays with the power on.*
- *Always replace with 4 NEW AA, 1.5 volt alkaline batteries.*
- *Do not use rechargeable batteries.*
- *Remove batteries if unit will not be used for extended periods or if being returned for factory service.*
- *Never force battery cover on or off.*
- *Battery life span with alkaline batteries is approximately 500 measurements.*

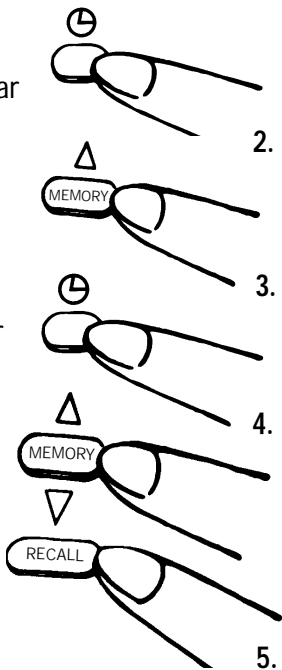
B. Setting Time and Date

This instrument provides the time and date with each measurement and with those stored in the memory. Before using your instrument for the first time, you must set time and date.

Note: Hours appear in military time. Midnight would be displayed as 0:00, noon as 12:00, and PM times from 13:00 to 23:59. For example, 2:00PM is 14:00; 5:15PM is 17:15.

To set the year, date, and time proceed as follows:

1. Turn unit on.
2. Press CLOCK button for at least 6 seconds and release when blank display appears. Blinking year will then be displayed.
3. Press MEMORY button to advance until desired year is obtained. Each press will advance display by one year. Press RECALL to reverse direction of display.
4. Press the CLOCK button once to confirm year entry and advance to the next function. The year is set, and the month will start to blink.
5. Press the MEMORY button to advance until the desired month is obtained. Each press will advance display by one month. Press RECALL to reverse direction of the display.
6. Press the CLOCK button once to confirm month entry and advance to the next function. The month is set, and the date will start to blink.
7. Press the MEMORY button to advance until the desired date is obtained. Each press will advance display by one day. Press RECALL to reverse direction of the display.
8. Press the CLOCK button once to confirm date entry and advance to the next function. The date is set, and the hour will start to blink.
5. Follow the same procedure to set hours and minutes.



Time and date is NOW set.

Note: If a particular setting is not adjusted within 10 seconds, next function will begin to blink. Begin procedure again to complete all adjustments.

Your ADC® Digital Blood Pressure Monitor is now ready for use!

5. How to Measure Your Blood Pressure

A. About the Cuff

Your ADC® Blood Pressure Monitor is equipped with a wrist cuff that simplifies measurement. Unlike arm cuffs which need to be “sized” and precisely positioned, the wrist cuff can be used on individuals of virtually any size or weight. The wrist cuff is designed to work on wrists with a circumference of 5.3” to 7.7”.

Proper positioning is easier to achieve with a wrist cuff as well. The wrist monitor's compact size increases portability and permits easy transportation of the instrument.

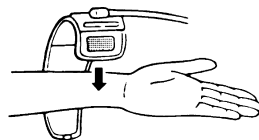
For best results it is important to apply the cuff properly and observe correct measuring posture.

Note: These are two of the factors that most often lead to measurement errors or unreliable results.

B. To Apply the Wrist Cuff:

Measurement is suggested on left wrist. If measuring on right wrist, reverse procedures as necessary.

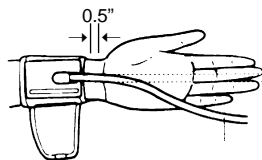
1. Roll up shirt sleeve or remove shirt to expose bare wrist. Remove any jewelry from wrist. If rolling up sleeve, make sure it doesn't bind or constrict circulation.



2. Apply wrist cuff with left hand facing palm upward and fasten hook and loop adhesive securely.

2.

3. Make sure to position the cuff correctly on the wrist with the cuff edge about 0.5” from hand. Tubing should extend across palm towards middle finger.



3.

Note: Cuff should be wrapped around bare wrist. Do not apply over shirt sleeve, or any jewelry.

4. Cuff should be wrapped snugly so that there is no space between wrist and cuff but should NOT be uncomfortable.

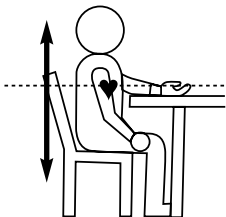
C. Correct Measuring Posture

Correct measuring posture is essential to accurate measurement of your blood pressure.

1. Sit comfortably in a chair with the measurement arm resting flat on a surface so that the wrist is at about the same height as your heart.

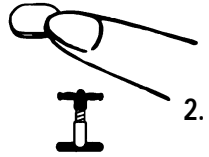
*Note: Position of wrist is **critical** for accurate measurement. If the wrist is above heart level you may obtain lower than "normal" readings. Conversely, if it is below heart level, you may obtain elevated readings.*

2. Hand of measured wrist should be palm up with fingers in relaxed position. Do not form fist with hand.
3. Sit upright with feet resting on the floor surface.
Note: Avoid leaning back or forward during measurement.
4. Relax for five to ten minutes before measurement to stabilize your pressure.



D. Operating the Instrument

1. Turn the Unit On: Press the POWER button to turn unit on. The unit will perform a display self test during which the LCD will display all symbols. It will then display a zero "0" indicating that the instrument is ready for measurement.
2. Press the START Button: The INFLATION SYMBOL will appear on the display while the built-in pump begins to inflate the cuff.
3. Sit Quietly: The REMAIN STILL symbol will appear on the display along with pressure values. The instrument will inflate to 190 mmHg and begins measurement. It is normal for the cuff to feel very tight. Unit will re-inflate automatically to approximately 220mmHg if the system detects a higher inflation level is needed for accurate measurement.



Note: If you wish to stop the measurement process at any time depress POWER button to exhaust all air in the cuff and abort the measurement.

4. Measurement Completed: When the device completes measurement, the heart symbol will appear in the display along with systolic and diastolic pressure and pulse rate.
5. Store Readings in Memory: If you wish to store readings in memory, refer to the following section titled "Memory Features."
6. Record Readings: If you wish to record the readings, make sure to note date and time.
7. Turn Instrument Off: Monitor shuts off automatically in about three minutes or may be switched off manually by pressing POWER button.
8. Remove wrist cuff and store in compartment as per the illustration on page 6.

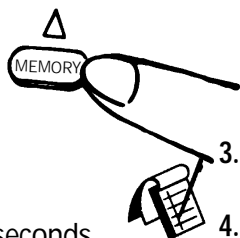
Note: If you wish to measure your blood pressure again, wait at least 5 to 10 minutes.

6. Memory Feature

The memory feature of this monitor can store and recall up to 14 successive blood pressure readings in each of two Memory Zones. You can, therefore, store 14 readings for each of two people or 28 readings for a single individual.

To Store Values in Memory:

1. When measurement is completed, instrument will display systolic and diastolic pressure and pulse rate simultaneously.
2. Select your personal memory zone.
3. Press the memory button.
4. Memory Mark Symbol will appear on display for 2 seconds. Your measurement results are now stored in memory.
5. Display will now return to stand by mode.



To Recall Values from Memory:

1. Turn unit on by pressing POWER button.
2. Select your personal memory zone.
3. Press the RECALL Button. The last stored measurement values will appear along with time and date of measurement.
4. To review previously stored readings, press RECALL button again.



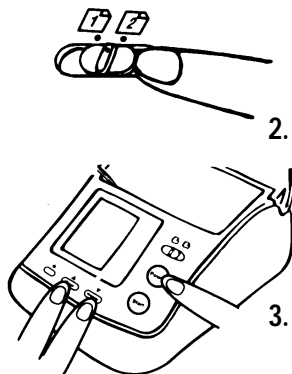
Repeat process as desired to view up to 14 readings in each zone.
Note: The memory will hold the last 14 readings stored. Oldest readings will be discarded as data beyond the 14th reading is stored in memory.

Clearing the Memory

You can clear all data in a single memory zone by following the procedure below:

1. Be sure the unit is Off.
2. Select the Memory Zone you wish to clear.
3. Press and hold the MEMORY button and RECALL button simultaneously.
4. All readings in the Memory Zone selected are now cleared.

Note: Repeat the process to clear readings in the other Memory Zone.





7. Helpful Hints

For best results, follow the tips outlined below:

- Do measure your pressure the same time each day.
- Do rest 5 to 10 minutes before measuring your blood pressure.
- Do not eat, drink, smoke, or engage in any strenuous activity immediately before measurement.
- Do allow 5 to 10 minutes rest BETWEEN subsequent measurements.
- Do record the date and time measurement was made.
- Do not talk, eat, drink, or move during the measurement process.
- Do not allow any single measurement to concern you. Your blood pressure history is far more important.
- Do not use or store the instrument in temperature extremes as it may damage the instrument and affect measurement accuracy.
- Do not apply the cuff over any article of clothing. Make sure the clothing is not binding on the wrist.

8. Trouble Shooting/Error Messages

In the chart below are some of the more common problems you may experience during measurement. Those problems that are detected by the monitor, such as low battery, are displayed in the LCD display. Refer to this chart BEFORE sending instrument in for factory repair service.

Display Symbol	Problem	Possible Solution
N/A	Unit does not turn on or displays partially when POWER switch is depressed.	<ul style="list-style-type: none"> • Check correct battery polarity • Check to be sure battery terminals are clean - clean with dry cloth if necessary • Re-install fresh batteries
N/A	The unit does not provide readings or abnormally low or high values are obtained.	<ul style="list-style-type: none"> • Make sure cuff is applied correctly and you are seated with wrist at heart level. • Make sure shirt sleeve is not constricting circulation. • Note: If patient has serious arrhythmia, or other conditions obscuring measurement, accurate results may not be possible • Make sure you are not moving excessively during measurement
N/A	Measured home values vary from those obtained at doctor. Values vary each time blood pressure measured.	Blood pressure varies enormously. Refer to the section titled "About Your Blood Pressure" for guidelines.
battery 	Battery strength is too low for monitor to work properly	Replace all batteries with new ones
EE	Appears if mistake was made during measurement.	Repeat measurement
I EE	Appears if there is an inflation error.	<ul style="list-style-type: none"> • Check for and correct any loose connections. • Repeat measurement
 EE	Appears if cuff not applied properly to wrist or if movement interfered with measurement.	<ul style="list-style-type: none"> • Re-apply cuff to wrist • After appropriate rest, repeat measurement.
HH	Appears on power up if there is air path obstruction.	<ul style="list-style-type: none"> • Check for and correct any loose obstructed connections in tubing • Repeat measurement.

9. Care and Maintenance



Clean the monitor with a soft cloth very slightly moistened with water or mild detergent. Wipe dry.



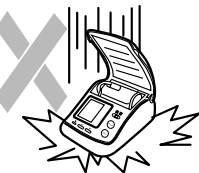
Never clean cuff or monitor with alcohol, hydrogen peroxide, thinners, or any other harsh chemicals.



Avoid exposure to extremes in temperature, humidity, direct sunlight, or dust.



Remove batteries when instrument will not be used for an extended period of time or when returning for service.



Do not inflate the instrument unless the cuff is applied to the wrist



Take care when storing the cuff and tubing to avoid kinking or damage.

Do not drop the instrument or subject to strong vibration.



Do not attempt to disassemble the main unit or cuff.

Do not attempt to bend the cuff in a direction opposite its natural curvature.

10. Service

Should your instrument require factory service, return to the factory service center listed below. Be sure to include a note containing:

- Your name and return address
- Daytime phone number
- Symptoms of the malfunction
- Proof of purchase (copy of receipt) for warranty coverage

Remove batteries from electronic items and pack unit in either the original carton or a sturdy carton. Make sure to stuff with newspaper or other loose fill to prevent damage during shipment. Ship by insured parcel post, UPS, RPS or other small package carrier.

Allow 3-4 weeks to receive your serviced instrument.

**ADC® Service Dept.
55 Commerce Drive
Hauppauge, NY 11788
www.adctoday.com**

11. Warranty

ADC® warrants to the owner of this ADC® Blood Pressure Monitor that it is free from defects in materials and workmanship for a period of two years from the original date of consumer purchase. This warranty does not cover damage to the product as a result of misuse or accident. The warranty does not apply if maintenance instructions are not followed. IT IS YOUR OBLIGATION TO DISCHARGE THE BATTERY PERIODICALLY. IN NO EVENT SHALL ADC® BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

If the product becomes defective in warranty (2 years from date shown on receipt) or out of warranty, call 1-800-ADC-2670 9AM - 5PM EST. When returning your Blood Pressure Monitor in or out of warranty, add \$5.00 for postage and handling.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

California Residents Only

California law provides that for In-Warranty Service, California residents have the option of returning a nonconforming product (A) to the store where it was purchased or (B) to another retail store which sells products of the same type. The retail store shall then, at its choice, either repair the product, refer the consumer to an independent repair facility, replace the product, or refund the purchase price less the amount directly attributable to the consumer's prior usage of the product. If either of the above two options do not result in the appropriate relief to the consumer, the consumer may then take the product to an independent repair facility if service or repair can be economically accomplished. * ADC® and not the consumer will be responsible for the reasonable cost of such service, repair, replacement, or refund for nonconforming products under warranty.

California residents may also, at their preference, return nonconforming products directly to ADC® for repair or, if necessary, replacement by calling our Consumer Service Center toll-free at 1-800-ADC-2670. ADC® is not responsible for the cost of the repair, replacement, and shipping and handling for such nonconforming products under warranty.

*IMPORTANT: If the nonconforming product is to be serviced by someone other than ADC's Authorized Service Center, please remind the servicer to call our Consumer Service Center to ensure that the problem is properly diagnosed, the product serviced with the correct parts, and to ensure that the product is still under warranty.

