

# **Digital Blood Pressure Monitor**

# Model UA-767S-W

Instruction Manual Original English Manuel d'instructions Traduction Français Manual de Instrucciones Traducción Español Manuale di Istruzioni Traduzione Italiano Manual de instruções Tradução Português Nederlands Instructiehandleiding Vertaling Dansk Betjeningsvejledning Oversættelse Svenska Bruksanvisning Översättning Norsk Bruksanvisning Oversettelse Suomi Ohjekirja Käännös 使用手冊翻譯 中文 ترجمه دليل الإستعمال عربی

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## **Dear Customers**

Congratulations on purchasing a state-of-the-art A&D blood pressure monitor, one of the most advanced monitors available today. Designed for ease of use and accuracy, this device will facilitate your daily blood pressure regimen.

We recommend that you read through this manual carefully before using the device for the first time.

## **Preliminary Remarks**

- This device conforms to the European Directive 93/42 EEC for Medical Products. This is made evident by the  $CE_{0123}$  mark of conformity. (0123: The reference number to the involved notified body)
- The device is designed for use on adults, not newborns or infants.
- □ Environment for use. The device is for use to operate by yourself in the home healthcare environment.
- □ This device is designed to measure blood pressure and pulse rate of people for diagnosis.

## **Precautions**

- Precision components are used in the construction of this device. Extremes in temperature, humidity, direct sunlight, shock or dust should be avoided.
- □ Clean the device and cuff with a dry, soft cloth or a cloth dampened with water and a neutral detergent. Never use alcohol, benzene, thinner or other harsh chemicals to clean the device or cuff.
- Avoid tightly folding the cuff or storing the hose tightly twisted for long periods, as such treatment may shorten the life of the components.
- Take care to avoid accidental strangulation of babies or infants with the hose.
- Do not twist the air hose during measurement. This may cause injury due to continuous cuff pressure.
- □ The device and cuff are not water resistant. Prevent rain, sweat and water from soiling the device and cuff.
- Measurements may be distorted if the device is used close to televisions, microwave ovens, cellular telephones, X-ray or other devices with strong electrical fields.
- Wireless communication devices, such as home networking devices, mobile phones, cordless phones and their base stations, walkie-talkies can affect this blood pressure monitor.
- Therefore, a minimum distance of 30 cm should be kept from such devices.
- □ When reusing the device, confirm that the device is clean.

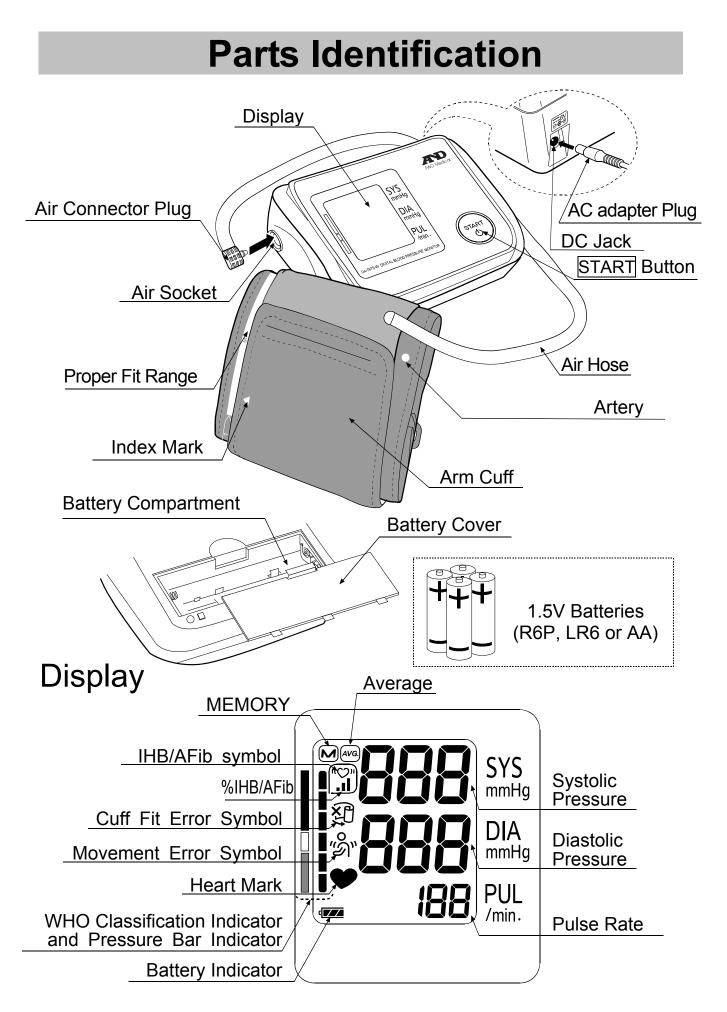
- □ Used equipment, parts and batteries are not treated as ordinary household waste, and must be disposed of according to the applicable local regulations.
- □ When the AC adapter is used, make sure that the AC adapter can be readily removed from the electrical outlet when necessary.
- Do not modify the device. It may cause accidents or damage to the device.
- To measure blood pressure, the arm must be squeezed by the cuff hard enough to temporarily stop blood flow through the artery. This may cause pain, numbness or a temporary red mark to the arm. This condition will appear especially when measurement is repeated successively. Any pain, numbness, or red marks will disappear with time.
- Measuring blood pressure too frequently may cause harm due to blood flow interference. Check that the operation of the device does not result in prolonged impairment of blood circulation, when using the device repeatedly.
- □ If you have had a mastectomy, please consult a doctor before using the device.
- Do not let children use the device by themselves and do not use the device in a place within the reach of infants. It may cause accidents or damage.
- □ There are small parts that may cause a choking hazard if swallowed by mistake by infants.
- Unplug the AC adapter when not in use during the measurement.
- Use of accessories not detailed in this manual may compromise safety.
- □ Should the battery short-circuit, it may become hot and potentially cause burns.
- Allow the device to adapt to the surrounding environment before use (about one hour).
- Clinical testing has not been conducted on newborn infants and pregnant woman. Do not use on newborn infants or pregnant woman.
- Do not touch the batteries, the DC jack, and the patient at the same time.
   That may result in electrical shock.
- Do not inflate without wrapping the cuff around the upper arm.

## Contraindications

The following are precautions for proper use of the device.

- Do not apply the cuff on an arm with another medical electrical equipment attached. The equipment may not function properly.
- People who have a severe circulatory deficit in the arm must consult a doctor before using the device, to avoid medical problems.
- Do not self-diagnose the measurement results and start treatment by yourself. Always consult your doctor for evaluation of the results and treatment.
- Do not apply the cuff on an arm with an unhealed wound.
- Do not apply the cuff on an arm receiving an intravenous drip or blood transfusion. It may cause injury or accidents.

- □ Do not use the device where flammable gases such as anesthetic gases are present. It may cause an explosion.
- Do not use the device in highly concentrated oxygen environments, such as a high-pressure oxygen chamber or an oxygen tent. It may cause a fire or explosion.



## **Symbols**

### Symbols that are printed on the device case

Symbols	Function / Meaning
ڻ ل	Standby and Turn the device on.
SYS	Systolic blood pressure in mmHg
DIA	Diastolic blood pressure in mmHg
PUL	Pulse per minute
	Battery installation guide
	Direct current
*	Type BF: Device, cuff and tubing are designed to provide special protection against electrical shocks.
<b>CE</b> 0123	EC directive medical device label
EC REP	EU-representative
	Manufacturer
2014 -	Date of manufacture
IP	International protection symbol
Ŕ	WEEE label
SN	Serial number
69	Refer to instruction manual/booklet
⊖-€-⊕	Polarity of DC jack
Ť	Keep dry

## Symbols that appear on the display

Symbols	Function / Meaning	Recommended Action
•	Appears while measurement is in progress. It blinks when the pulse is detected.	Measurement is in progress. Remain as still as possible.
(()))	IHB/AFib symbol Appears when an irregular heartbeat is detected. It may light when a very slight vibration like shivering or shaking is detected.	
نگ	Appears when a body or arm movement is detected.	The reading may yield an incorrect value. Try the measurement again. Remain still during measurement.

## Symbols

Symbols	Function / Meaning	Recommended Action
		The reading may yield an
×P	Appears during measurement when the cuff is attached loosely	
	Detected rate of IHB/AFib in memory	
	$\% IHB/AFib = \frac{\left(\begin{array}{c} Number of detected \\ IHB/AFibs in memory \end{array}\right)}{\left(\begin{array}{c} Total number \end{array}\right)} x100 [\%]$	
M	Previous measurements stored in MEMORY.	
AVG.	Average data	
	FULL BATTERY The battery power indicator during measurement.	
C 🗖	LOW BATTERY The battery is low when it blinks.	Replace all batteries with new ones when the mark blinks.
	Unstable blood pressure due to movement during measurement.	Try the measurement again. Remain very still during measurement.
Err	The systolic and diastolic values are within 10 mmHg of each other. The pressure value did not increase during the inflation.	Apply the cuff correctly, and try the measurement
Err EUF	The cuff is not applied correctly.	again.
E	PUL DISPLAY ERROR The pulse is not detected correctly.	
Err	Blood pressure monitor internal	Remove the batteries and press the START button, and then install the batteries
Errg	error	again. If the error still appears, contact the dealer.

## **Operation Mode**

### 1. Normal Measurement

Press the START button. Blood pressure is measured and the data is stored in memory. This device can store the last 60 measurements in memory.

### 2. Recalling the Data

When nothing is displayed, press and hold the START button.

Release the button when displaying the average data.

The data number and stored data are automatically displayed in order from the last measurement.

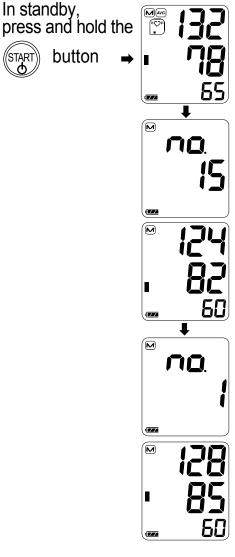
For details on recalling the data, Refer to "Recalling the Memory Data".

### 3. Deleting all Data Stored in Memory

When turning off the device, press and hold the START button until the "[Lr no " is displayed. Select "ELr SES" to clear data. Data is cleared when the  $|\mathbf{M}|$  mark blinks. The device turns off automatically.

### 4. Measurement with the Desired Systolic Pressure

Refer to page 15 for measurement with the desired systolic pressure.



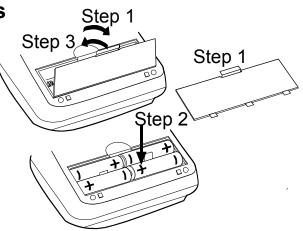
button



### Installing / Changing the Batteries

- 1. Remove the battery cover.
- Remove the used batteries and insert new batteries into the battery compartment as shown, taking care that the polarities (+ and -) are correct.
   Use only R6P, LR6 or AA batteries.

3. Attach the battery cover.

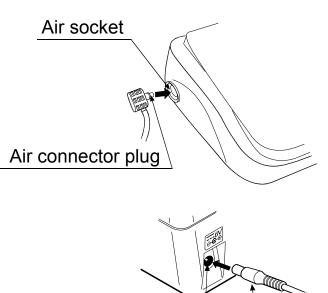


#### CAUTION

- Insert the batteries as shown in the battery compartment. If installed incorrectly, the device will not work.
- When (LOW BATTERY mark) blinks on the display, replace all batteries with new ones. Do not mix old and new batteries. It may shorten the battery life, or cause the device to malfunction.
   Replace the batteries two seconds or more after the device turns off.
   If (LOW BATTERY mark) appears even after the batteries are replaced, make a blood pressure measurement. The device may then recognize the new batteries.
- □ □ (LOW BATTERY mark) does not appear when the batteries are drained.
- The battery life varies with the ambient temperature and may be shorter at low temperatures. Generally, four new LR6 batteries will last approximately for one year when used twice for measurement each day.
- □ Use the specified batteries only. The batteries provided with the device are for testing monitor performance and may have a limited life.
- Remove the batteries if the device is not to be used for a long time.
   The batteries may leak and cause a malfunction.

#### **Connecting the Air Hose**

Insert the air connector plug into the air socket firmly.



Next, connect the AC adapter to an electrical outlet.Use the specified AC adapter.

Insert the AC adapter plug into the

**Connecting the AC Adapter** 

(Refer to page 21.)

DC jack.

AC adapter plug

DC jack

- □ When disconnecting the AC adapter from the electrical outlet, grasp and pull the AC adapter body out of the outlet.
- □ When disconnecting the AC adapter plug from the blood pressure monitor, grasp and pull the AC adapter plug out of the monitor.

### Selecting the Correct Cuff Size

Using the correct cuff size is important for an accurate reading. If the cuff is not the proper size, the reading may yield an incorrect blood pressure value.

- □ The arm size is printed on each cuff.
- □ The index ▲ and proper fit range, on the cuff, tell you if you are applying the correct cuff. (Refer to "Symbols that are printed on the cuff" on the next page)
- □ If the index ▲ points outside of the range, contact your local dealer to purchase a replacement cuff.
- □ The arm cuff is a consumable. If it becomes worn, purchase a new one.

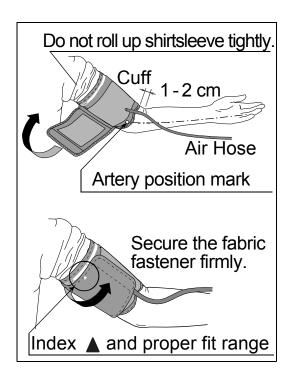
Arm Size	Recommended Cuff Size	Catalog Number
31 cm to 45 cm	Large Adult Cuff	CUF-F-LA
22 cm to 42 cm	Wide Range Cuff	CUF-I
22 cm to 32 cm	Adult Cuff	CUF-F-A

Arm size: The circumference at the biceps.

Note: The UA-767S-W is not designed for using a small cuff.

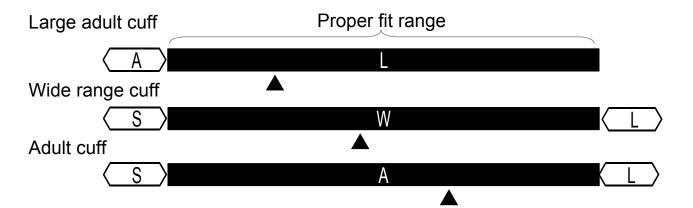
### Applying the Arm Cuff

- Wrap the cuff around the upper arm, about 1 - 2 cm above the inside of the elbow, as shown.
   Place the cuff directly against the skin, as clothing may cause a faint pulse, and result in a measurement error.
- 2. Constriction of the upper arm, caused by tightly rolling up a shirtsleeve, may prevent accurate readings.
- 3. Confirm that the index ▲ points within the proper fit range.



## Symbols that are printed on the cuff

Symbols	Function / Meaning	Recommended Action
•	Artery Position Mark	Set the ● mark on the artery of the upper arm or in line with the ring finger on the inside of the arm.
	Index	
REF	Catalog number	
Α	Proper fit range for the adult cuff. It's printed on the adult cuff.	
	Over range printed on the adult cuff and wide range cuff.	Use the large adult cuff instead of the adult cuff or wide range cuff.
W	Proper fit range for the wide range cuff. It's printed on the wide range cuff.	
L	Proper fit range for the large adult cuff. It's printed on the large adult cuff.	
$\langle S \rangle$	Under range printed on the adult cuff and wide range cuff.	
$\langle A \rangle$	Under range printed on the large adult cuff.	Use the adult cuff instead of the large adult cuff.
LOT	Lot number	



#### How to Take Accurate Measurements

For the most accurate blood pressure measurement:

- Sit comfortably on a chair. Rest your arm on the table. Do not cross your legs. Keep your feet flat on the floor and straighten your back.
- □ Relax for about five to ten minutes before measurement.
- □ Place the center of the cuff at the same level as your heart.
- □ Remain still and keep quiet during measurement.
- Do not measure right after physical exercise or a bath. Rest for twenty or thirty minutes before taking the measurement.
- □ Try to measure your blood pressure at the same time every day.

#### Measurement

During measurement, it is normal for the cuff to feel very tight. (Do not be alarmed).

#### After Measurement

After measurement, press the START button to turn the device off. Remove the cuff and record your data.

Note: The device has an automatic power shut-off function, which turns the device off approximately one minute after measurement. Allow at least three minutes between measurements on the same person.

## **Measurements**

Before measurement, refer to "Notes for Accurate Measurement" on the next page.

### **Normal Measurement**

Place the cuff on the arm (preferably the left arm). 1. At heart level Sit quietly during measurement. 2. Press the START button. All of the display segments are displayed. Press Zero (0) is displayed blinking briefly. The display changes, as indicated in the All of the display figure at the right, as the measurement segments displayed begins. The cuff starts to inflate. It is normal for the cuff to feel very tight. A pressure bar indicator is displayed, on the left edge of the display, during the inflation. Note: If you wish to stop inflation at any time, Zero display Starts inflation press the START button again. 3. When inflation is complete, deflation starts automatically and  $\bigcirc$  (heart mark) blinks, indicating that the measurement is in Pressurizing 58 progress. Once the pulse is detected, the mark blinks with each pulse beat. Note: If an appropriate pressure is not obtained, the device starts to inflate again automatically. To avoid re-inflation, refer to "Measurement with the Desired Systolic Pressure" on the next page. 4. When the measurement is complete, the Measurement systolic and diastolic pressure readings in progress and pulse rate are displayed. The cuff exhausts the remaining air and deflates completely. Systolic pressure **Diastolic pressure** Press the START button to turn the device off. 5. WHO classification After one minute of non-operation, the device will turn off automatically. Pulse rate Note: Allow at least three minutes between Exhausts remaining measurements on the same person. air automatically

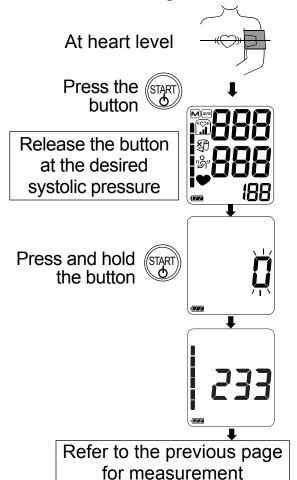
## **Measurements**

#### Measurement with the Desired Systolic Pressure

The UA-767S-W is designed to detect the pulse and to inflate the cuff to a systolic pressure level automatically.

Use this method when re-inflation occurs repeatedly or when the results are not displayed even if the pressure decreases to 20 mmHg or less.

- 1. Place the cuff on the arm at heart level (preferably the left arm).
- 2. Press the START button.
- When the zero blinks, press and hold the START button until a number about 30 to 40 mmHg higher than your expected systolic pressure appears.
- 4. When the desired number is reached, release the <u>START</u> button to start measurement. Continue to measure your blood pressure as described on the previous page.



#### **Notes for Accurate Measurement**

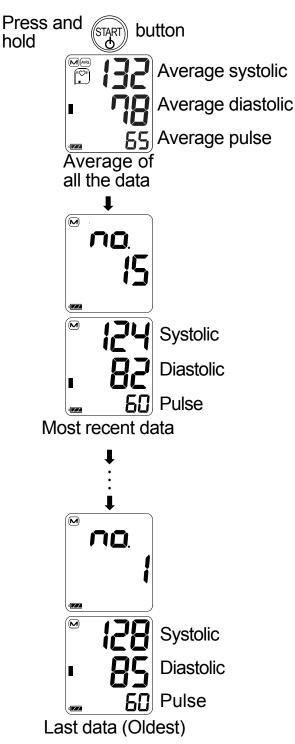
- □ Sit down in a comfortable position. Place your arm on a table with your palm facing upward and the cuff at the same level as your heart.
- □ Relax for about five to ten minutes before taking a measurement. If you are excited or depressed by emotional stress, the measurement will reflect this stress as a higher (or lower) than normal blood pressure reading and the pulse reading will usually be faster than normal.
- An individual's blood pressure varies constantly, depending on what you are doing and what you have eaten. What you drink can have a very strong and rapid effect on your blood pressure.
- □ This device bases its measurements on the heartbeat. If you have a very weak or irregular heartbeat, the device may have difficulty determining your blood pressure.
- □ Should the device detect a condition that is abnormal, it will stop the measurement and display an error symbol. Refer to page 7 for the description of symbols.

- □ This device is intended for use by adults. Consult with your physician before using this device on a child. A child should not use this device unattended.
- □ The automatic blood pressure monitor's performance may be affected by excessive temperature or humidity, or altitude.

## **Recalling the Memory Data**

Note: This device stores the last 60 measurements in memory.

- 1. When nothing is displayed, press and hold the <u>START</u> button to recall the stored data.
- 2. Release the button when displaying the average data.
- 3. The data number and stored data are automatically displayed in order from the last measurement.
- 4. The display will turn off automatically after all data is displayed.
- Note: If you press the <u>START</u> button while recalling data, the device turns off.



## What Is The IHB/AFib Indicator?

When the monitor detects an irregular rhythm during the measurements, the IHB/AFib indicator will appear on the display with the measurement values.

Note: We recommend contacting your physician if you see this <</>
IHB/AFib indicator frequently.

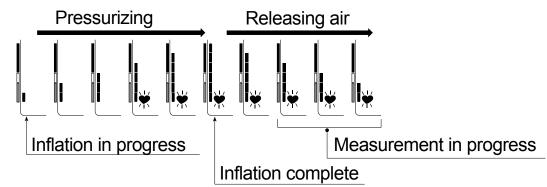
## What Is The AFib?

The heart contracts due to electrical signals occurring in heart and sends blood through the body. Atrial fibrillation (AFib) occurs when the electrical signal in the atrium becomes confused and leads to disturbances in the pulse interval. AFib can cause blood to stagnate in the heart, which can easily create clots of blood, a cause of stroke and heart attack.

## %IHB/AFib %IHB/AFib is displayed as frequency of IHB/AFib detected. IHB/AFib can detect not only noises such as physical movement but also an irregular heartbeat. Therefore, we recommend contacting your physician if %IHB/AFib level is high. Number of detected $\% IHB/AFib = \frac{(IHB/AFibs in memory)}{(Total number)} x 100 [\%]$ Display of %IHB/AFib: %IHB/AFib is displayed when displaying average values. (Refer to "2. Recalling the Data" in "Operation Mode") %IHB/AFib is not displayed when the memory number is six or less. Average value display Level 0 Level 1 Level 2 Level 3 %IHB/AFib=0 %IHB/AFib=1-9 %IHB/AFib=10-24 %IHB/AFib=25 - 100 Not displayed

## **Pressure Bar Indicator**

The indicator monitors the progress of pressure during measurement.

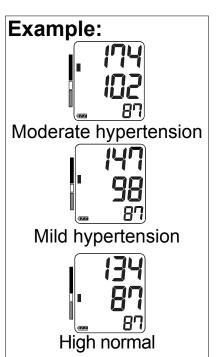


## **WHO Classification Indicator**

Each segment of the bar indicator corresponds to the WHO blood pressure classification described on the next page.

#### **WHO Classification Indicator**

- Severe hypertension
- Moderate hypertension
- Mild hypertension
- High normal
  - Normal
  - ∕ Optimal
- The indicator displays a segment, based on the current data, corresponding to the WHO classification.



## **About Blood Pressure**

### What is Blood Pressure?

Blood pressure is the force exerted by blood against the walls of the arteries. Systolic pressure occurs when the heart contracts. Diastolic pressure occurs when the heart expands. Blood pressure is measured in millimeters of mercury (mmHg). One's natural blood pressure is represented by the fundamental pressure, which is measured first thing in the morning while one is still at rest and before eating.

### What is Hypertension and How is it Controlled?

Hypertension, an abnormally high arterial blood pressure, if left unattended, can cause many health problems including stroke and heart attack. Hypertension can be controlled by altering lifestyle, avoiding stress, and with medication under a doctor's supervision.

To prevent hypertension or keep it under control:

- Do not smoke
- □ Reduce salt and fat intake
- □ Exercise regularly
- □ Have regular physical checkups
- □ Maintain proper weight

#### Why Measure Blood Pressure at Home?

Blood pressure measured at a clinic or doctor's office may cause apprehension and can produce an elevated reading, 25 to 30 mmHg higher than that measured at home. Home measurement reduces the effects of outside influences on blood pressure readings, supplements the doctor's readings and provides a more accurate, complete blood pressure history.

### WHO Blood Pressure Classification

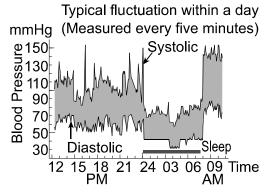
Standards to assess high blood pressure, without regard to age, have been established by the World Health Organization (WHO), as shown in the chart.

#### **Blood Pressure Variations**

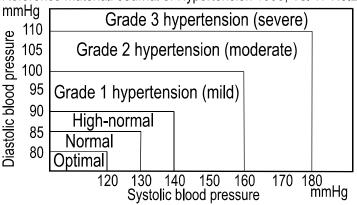
An individual's blood pressure varies greatly on a daily and seasonal basis. It

may vary by 30 to 50 mmHg due to various conditions during the day. In hypertensive individuals, variations are even more pronounced. Normally, the blood pressure rises while at work or play and falls to its lowest levels during sleep. So, do not be overly concerned by the results of one measurement.

Take measurements at the same time every day using the procedure described in this manual to get to know your normal blood pressure. Regular readings give a more comprehensive blood pressure history. Be sure to note the date and time when recording your blood pressure. Consult your doctor to interpret your blood pressure data.



Reference Material: Journal of Hypertension 1999, Vol 17 No.2



## Troubleshooting

Problem	Possible Reason	Recommended Action
Nothing appears on the display, even when the device is turned on.	Batteries are drained.	Replace all batteries with new ones.
	Battery terminals are not in the correct position.	Reinstall the batteries with negative and positive terminals matching those indicated on the battery compartment.
The cuff does not inflate.	Battery voltage is too low. (LOW BATTERY mark) blinks. If the batteries are drained completely, the mark does not appear.	Replace all batteries with new ones.
	The cuff is not applied properly.	Apply the cuff correctly.
The device doos	You moved your arm or body during measurement.	Make sure you remain very still and quiet during measurement.
The device does not measure. Readings are too high or too low.	The cuff position is not correct.	Sit comfortably and still. Place your arm on a table with your palm facing upward and the cuff at the same level as your heart.
		If you have a very weak or irregular heartbeat, the device may have difficulty in determining your blood pressure.
Other	The value is different from that measured at a clinic or doctor's office.	Refer to "Why Measure Blood Pressure at Home?".
		Remove the batteries. Place them back properly and try the measurement again.

Note: If the actions described above do not solve the problem, contact the dealer. Do not attempt to open or repair this product, as any attempt to do so will make your warranty invalid.

## Maintenance

Do not open the device. It uses delicate electrical components and an intricate air unit that could be damaged. If you cannot fix the problem using the troubleshooting instructions, contact the authorized dealer in your area or our customer service department. The A&D customer service will provide technical information, spare parts and units to authorized dealers. The device was designed and manufactured for a long service life. However it is generally recommended to have the device inspected every 2 years, to ensure proper functioning and accuracy. Please contact the authorized dealer in your area or A&D for maintenance.

Technical	Data

Туре	UA-767S-W
Measurement method	Oscillometric measurement
Measurement range	Pressure: 0 - 299 mmHg Systolic pressure: 60 - 279 mmHg Diastolic pressure: 40 - 200 mmHg Pulse: 40 - 180 beats / minute
Measurement accuracy	Pressure: ±3 mmHg Pulse: ±5%
Power supply	4 x 1.5V batteries (R6P, LR6 or AA) or AC adapter (TB-233C) (Not included)
Number of measurements	Approx. 700 timesLR6 (alkaline batteries)Approx. 200 timesR6P (manganese batteries)With pressure value180 mmHg, room temperature23 °C.
Classification	Internally powered ME equipment (Supplied by batteries) / Class II (Supplied by adapter) Continuous operation mode
Clinical test	According to ISO81060-2 : 2013
EMD	IEC 60601-1-2: 2014
Memory	Last 60 measurements
Operating conditions	+10 to +40 °C / 15 to 85%RH / 800 to 1060 hPa
Transport / Storage conditions	-20 to +60 °C / 10 to 95%RH / 700 to 1060 hPa
Dimensions	Approx. 140 [W] x 60 [H] x 105 [D] mm
Weight	Approx. 245 g, excluding the batteries
Ingress protection	Device: IP20
Applied part	Cuff Type BF 🛕

Useful life

Device:5 years (when used six times a day)Cuff:2 years (when used six times a day)AC adapter:5 years (when used six times a day)

Accessory AC adapter

The adapter is to connect the device to a power source at home. Please contact your local A&D dealer for purchasing. The AC adapter is required to be inspected or replaced periodically.

TB-233C

Please contact your local A&D dealer for purchasing.

The AC adapter is required to be inspected or replaced periodically.

Symbols that are printed on the AC adapter

Symbols	Function / Meaning
	For indoor use only
	Class II device
	Thermal fuse
Ф	Fuse
Œ	EC directive device label
EAC	EAC certification device label
⊖ <b>€</b> ⊕	Polarity of AC adapter plug

Accessories sold separately

J		
Catalog Number	Cuff Size	Arm Size
CUF-F-LA	Large adult cuff	31 cm to 45 cm
CUF-I	Wide range cuff	22 cm to 42 cm
CUF-F-A	Adult cuff	22 cm to 32 cm
	CUF-F-LA CUF-I	CUF-F-LALarge adult cuffCUF-IWide range cuff

Arm size: The circumference at the biceps.

AC	adapter	,
----	---------	---

Catalog Number	Plug (Outlet type)
TB-233C	Туре С

Note: Specifications are subject to change without prior notice. IP classification is the degrees of protection provided by enclosures in accordance with IEC 60529. This device is protected against solid foreign objects of 12 mm diameter and greater such as a fingers. This device is not protected against water.



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