

**CITIZEN**

Micro HumanTech

INSTRUCTION MANUAL  
FOR  
DIGITAL BLOOD PRESSURE MONITOR

REF **CH-671F**



English  
Español  
Português  
Deutsch

0801

# GENERAL REMARKS

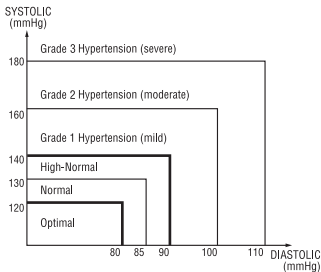
## General remarks on blood pressure and blood pressure measurement

1. If the cuff is to be deflated quickly, depress "POWER" switch.
2. The attached cuff is suited for a wrist circumference of 13.5 cm to 19.5 cm.
3. When attaching the cuff, the body of a blood pressure monitor should be placed on the inside of your wrist.
4. Self measurement is not therapy! In no case may you change the dosage of medication prescribed by your physician.
5. In preparation for blood pressure measurement, you should urinate and then remain relatively still for 10 to 15 minutes prior to measurement.
6. Exercising, eating, drinking, smoking, etc., prior to measurement may affect the results.
7. Blood pressure varies constantly throughout the day. Measurement should be made regularly at the same time each day.
8. DO NOT be too impressed by the results of one measurement. Keep a record of blood pressure variations. Many reading tell a story.
9. Emotional stress may tend to cause blood pressure to rise.

## For proper measure of blood pressure

1. Take a deep breath five or six times and then relax before measuring your blood pressure. If you are tense when taking the measurement, you will not get a valid reading.
2. Blood pressure will be elevated when you are in a worrisome or irritated state, suffering from lack of sleep or constipation, or after exercise or a meal.
3. Wrap the cuff around your wrist snugly. (See page 14)
4. DO NOT measure blood pressure after bathing or drinking.
5. When you feel like relieving yourself, you should do so before measuring your blood pressure.
6. Measure your blood pressure where the room temperature is about 20°C. DO NOT measure blood pressure when it is too cold (below 10°C) or too hot (above 40°C) in the room.

7. DO NOT try to measure blood pressure immediately after drinking coffee or tea or smoking.
8. Measure blood pressure with a relaxed and quiet posture. Keep the center of the cuff at the level of your heart, and DO NOT move your arm or talk.
9. DO NOT measure blood pressure after the cuff has been on your wrist for a few minute, as you arm will have built up higher blood pressure, and you will not get valid reading.
10. Next figure shows the classification of blood pressure according to WHO-standard.



### Remarks:

The graph is not exact, but may be used as a guide in understanding non-invasive blood pressure measurements. The device intended for use in adult population.

## Definition and Classification of Blood Pressure Levels

Measure your blood pressure at the same time on a daily basis.

- \* The blood pressure changes at all times. This means that data gathered over a long period has great significance instead of data on just one measurement. It is therefore necessary to measure your blood pressure on a daily basis. Ideally, you should measure your blood pressure daily at the same time.

# PRECAUTION FOR USE AND MAINTENANCE

## Precaution for use

1. If you suffer from heart disease, high blood pressure or other circulatory disease, please consult your doctor first.
2. If you feel abnormal pressure of the cuff during use or any other irregularity, reduce the pressure by immediately switching off the power or remove the batteries and consult the sales outlet where purchased.
3. If you think the measured value is abnormal or if measuring makes you feel unwell, discontinue use and consult your doctor.
4. Measurement of blood pressure may not be possible for someone with a weak pulse or arrhythmia.
5. If blood pressure is measured repeatedly, congestion, swelling, etc. may occur in some people.
6. If blood pressure is measured repeatedly, an accurate result will not be achieved. An interval of about 10 minutes should be allowed.
7. Consult your physician before use if you suffer a severe disorder of blood circulation in the arms. Failure to do so may cause health hazards.
8. Measurement may not be possible for someone with an insufficient blood flow in the area to be measured or frequent irregular heartbeats. Consult your physician for judgment.
9. DO NOT wrap the wrist cuff around an injured wrist.
10. DO NOT wrap the wrist cuff to the wrist where a drip (intravenous infusion) or blood transfusion under medical treatment. Failure to do so may cause an injury or a serious accident.
11. DO NOT use in the vicinity of flammable gases such as anesthetic gases because of the risk of ignition and explosion.
12. DO NOT use in enriched oxygen environments such as a hospital's hyperbaric chamber or oxygen tent because of the risk of ignition and fire.
13. DO NOT use a mobile phone near the unit. Doing so may result in malfunction.
14. The power of this blood pressure monitor may be shut off by electrostatic discharge from the human body. This is only a temporary phenomenon. You can measure the blood measure the blood correctly after pressing the POWER switch once again.

15. If you use a cardiac pacemaker, consult your doctor before use.
16. Be sure to use this unit only for measuring blood pressure. DO NOT use it for any other purpose.
17. DO NOT use this unit on an infant.

### **Recation for maintenance**

1. DO NOT store the blood pressure monitor where it will be exposed to direct sunlight, high temperature (over 60°C), low temperature (below -20°C), high relative humidity (over 95%) or in a dusty place.
2. DO NOT drop or expose the blood pressure monitor to under force or vibration.
3. Remove the battery/batteries when not in use for a long period.
4. DO NOT disassemble the apparatus.
5. DO NOT bend the cuff or air hose unnecessarily.
6. NEVER wipe the blood pressure monitor with thinner or benzene, as they may damage it.
7. When the monitor is very dirty, wipe it clean with a cloth moistened with sterilizing alcohol or a neutral detergent, and then wipe it with a dry cloth. DO NOT use thinner or benzene.

### **Nature and frequency of maintenance:**

This product is designed for use over an extended period of time; however, it is generally recommended that it be inspected every two years to ensure proper function and performance.

### **Protect the nature environment:**

Please help protect natural environment by respecting natural and/or local recycling regulations when disposing of the batteries and the products at the end of their useful lives.

## PRECAUTION FOR USE AND MAINTENANCE

### WEEE MARK

If you want to dispose this product, do not mix with general household waste. There is a separate collection systems for used electronics products in accordance with legislation under the WEEE Directive (Directive 2002/96/EC) and is effective only within European Union.



### Reference European standard:


The blood pressure measuring device corresponds to regulation EN60601-1-2.



#### Warning

The device has been tested and homologated in accordance with EN60601-1-2 for EMC. This does not guarantee in any way that the device will not be affected by electromagnetic interference. Avoid using the device in high electromagnetic environment.



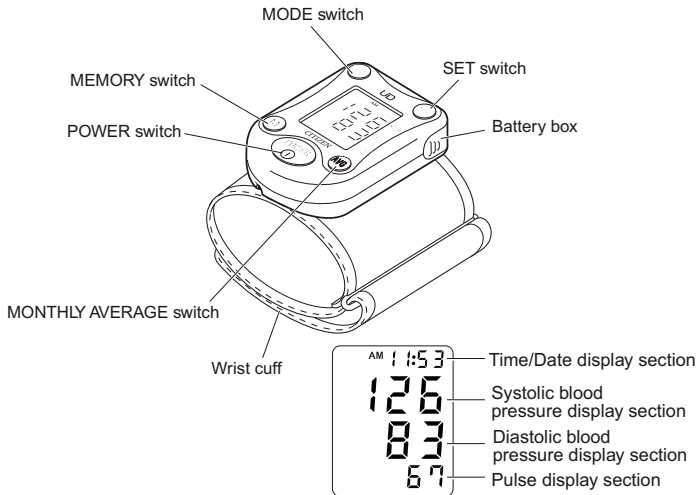
Name : **CITIZEN SYSTEMS (H.K.) LIMITED**  
Address : FLAT A-B, 4TH FLOOR, HUNG MOU INDUSTRIAL  
BUILDING, 62 HUNG TO ROAD, KWUN TONG, KOWLOON,  
HONG KONG  
(  : Manufacturer)

### European Representative:

Name : WvW elektronische Geräte Vertrieb GmbH  
Address : Fintelmanstraße 20/Eingang, Martin-Heydert-Straße,  
D-14109 Berlin, Germany



# IDENTIFICATION OF PARTS



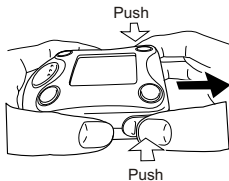
## UD UNIVERSAL DESIGN

The product has been developed through the concept of Universal Design to ensure safe and easy use for a wide range of users. The product, which is designed laying importance on Universal Design, adopts a product shape and color that conveys an image of “warmth” and “gentleness” and has functions that cope with human body, which are “easy to understand”, “safety in use” and “easy to use”.

# HOW TO LOAD BATTERIES

Remove the battery box from the unit. Install two “AAA” alkaline batteries, observing the proper battery polarity (“+/-”).

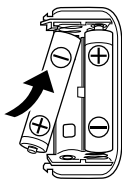
**1 While pinching the stopper tabs, pull the battery box in the direction of the arrow to remove from the unit.**




**2 Insert the batteries into the battery box, ensuring a correct match with positive (+) and negative terminals.**

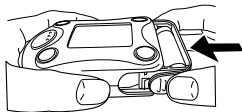
\* The battery goes in negative ⊖ side first.

**3 Re-attach the battery box to the unit with the battery's visible side facing up.**



\* Make sure not to depress the switch when you re-attach the battery box into the main unit.

\* Install the battery box properly. Improper installation may prevent proper display when the  is pressed.



\* After replacing the batteries, be sure to set the clock.

( See page 10 “HOW TO SET THE CLOCK”.)

\* The data in memory is kept after the batteries are replaced.



## HOW TO UNLOAD BATTERIES

### 1 Pull the battery box to remove from the unit.

(👉 See page 8 “HOW TO LOAD BATTERIES”.)

### 2 Push up each battery by lifting up its positive (+) end side with your fingertip.

\* Use caution when removing batteries that are held in place by the springs in the battery box. Failure to do so may cause injury to your fingernail.



### 3 Re-attach the battery box to the unit.

(👉 See page 8 “HOW TO LOAD BATTERIES”.)

#### Replacing the batteries

- Replace the batteries with two new “AAA” alkaline batteries when **BT** appears on the display, or when nothing appears on the display when the POWER switch is pressed.
- Be sure to replace both batteries with new ones.
- Use the commercial alkaline dry cells. Do not use rechargeable batteries.
- Batteries included are for demonstration purposes only. Battery life may be shorter than specified.
- Dispose of used batteries properly in accordance with local regulations.


# HOW TO SET THE CLOCK

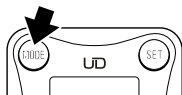
The device is equipped with a built-in clock allowing you to record your pressure readings with time and date information. Set the clock properly to keep a precise record of the time and date of your measurement results. The clock-setting procedure goes in the following order: Year/Month/Date and then Hour/Minute.

The clock has been factory preset to 12:00AM on January 1, 2004.

After batteries have been replaced, the clock will indicate the time and date of the most recent measurement data in memory.

Example: Set the clock to 08:05 PM on May 1, 2004.


- 1 After making sure that the power is turned off, press and hold  for more than a second.**



The last figure of the Year (A.D.) will appear on the pulse display section and Month/Date will appear on the Time/Date display section.

The "Year" blinks and then will be corrected.

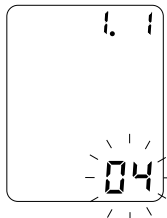
- 2 Set the "Year".**

- 1 Press  to set the current year.**

\* The "Year" can be set between 04(2004)and 33(2033).

- 2 Press .**

This will finalize the "Year" setting. The digits representing the "Month" On the date display section will flash.



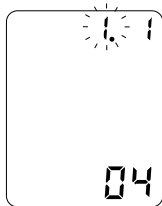
Pressing and holding **SET** will cause a rapid adjustment of years, months, days, hours, and minutes.

### 3 Set the “Month”.

1 Press **SET** to set the current month.

2 Press **MODE**.

This will finalize the “Month” setting. The digits representing the “Date” on the date display section will flash.

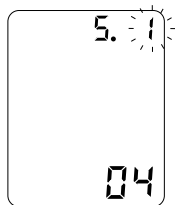


### 4 Set the “Date”.

1 Press **SET** to set the current date.

2 Press **MODE**.

This will finalize the “Date” setting. The digits representing the “Hour” on the time display section will flash.



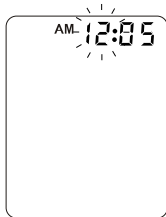
### 5 Set the “Hour”.

1 Press **SET** to set the current hour.

- The clock displays the time in 12 hour format using AM/PM.

2 Press **MODE**.

This will finalize the “Hour” setting. The digits representing the “Minute” on the time display section will flash.



### 6 Set the “Minute”.

1 Press **SET** to set the current minute.

2 Press **MODE**.

This will complete the clock setting procedure. The device automatically turns off power.

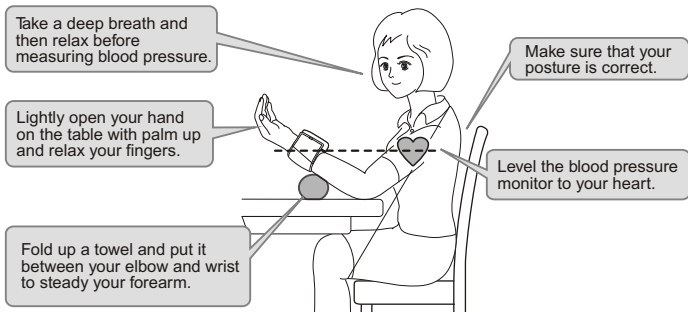
- The “Second” will be set to 00 at the moment when **MODE** is pressed.



If **POWER** is pressed during the correcting procedure for each item, the unit will automatically turn off the power. However, the corrected data are saved in this step.

# POINTS FOR ACCURATE MEASUREMENT

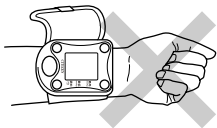
Blood pressure varies with posture, the time of day and numerous other factors. It is recommended that you measure your blood pressure at the same time each day in the same posture.



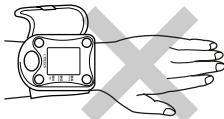
Make sure that your posture is correct.

Remain still during measurement.

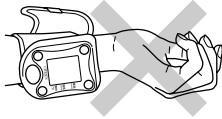
Wrap the wrist cuff properly.



**DO NOT** clench your fist tightly.



**DO NOT** place the monitor on the outside of your wrist.



Keep the device stable during measurement.

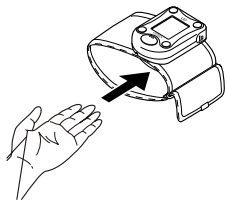
# HOW TO WRAP THE WRIST CUFF

Wrap the wrist cuff around your wrist properly. Improper wrapping of the cuff may result in measuring errors.

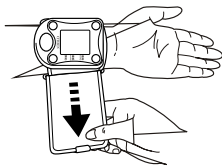
## 1 Unfasten and open the wrist cuff.

## 2 Wrap the cuff around your left wrist so that the monitor is positioned on the inside of your wrist.

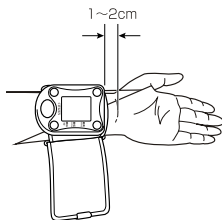
- Wrap the wrist cuff on bare skin.
- The wrist cuff is designed to fit wrists from 13.5 to 19.5 cm in circumference.



## 3 Loosely fit the wrist cuff by pulling the end of the cuff.

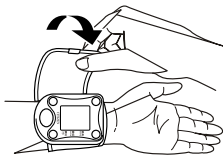


- 4** Position the top edge of the cuff approximately 1 to 2 cm away from the crease of your wrist.



- 5** Secure the wrist cuff with the Velcro.

- If the wrist cuff is wrapped too loose or tight, errors or incorrect readings may result.



# HOW TO MEASURE YOUR BLOOD PRESSURE

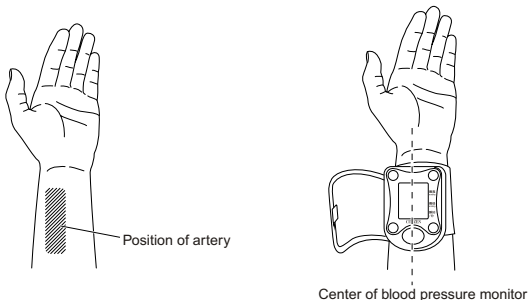
Your blood pressure can be readily measured with the push of a button.

## 1 Wrap the wrist cuff around your left wrist.

(👉 See page 14 "HOW TO WRAP THE WRIST CUFF".)

### If you have a weak pulse:

Take a measurement so that the center of the unit is positioned over the artery located on your wrist.

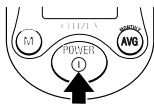



## 2 Make sure that your posture is correct.

(👉 See page 13 "POINTS FOR ACCURATE MEASUREMENT".)



**3** Press .




The  mark will light up and stay on for approximately 2 seconds.



The cuff will begin to inflate, and the date and pressure readings will appear on the display.

- Do not move your wrist or arm during inflation when measurement is in progress.
- Do not press the switch while the unit is applying pressure.



The  mark will light up when the preset pressure is reached.

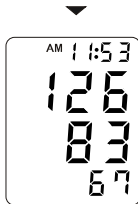


## HOW TO MEASURE YOUR BLOOD PRESSURE

When a pulse is detected, a pressure reading will shift to the diastolic pressure display section. Once the pulse is detected, the ♥ mark will flash with each pulse beat.



When measurement is complete, the cuff will automatically deflate, releasing the air in the cuff, and the systolic/diastolic pressure and pulse rate readings with time and date are displayed.



- The time and date appear alternately every 2 seconds.



### 4 Press to turn off power.

- Measurement results are automatically stored in memory.

#### Automatic Power Off Function

The device has an automatic power-down feature, which turns off the power automatically approximately three minutes after measurement is obtained.

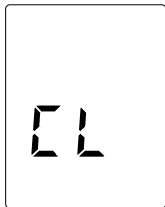
**IF YOU DO NOT WISH TO STORE MEASUREMENT RESULTS** ● ● ●

Normally, the measurement results are automatically stored. If you don't want to store the measurement results, erase them immediately after measurement according to the procedure below.

\* Once stored, measurement results cannot be cleared individually.

**1 Press and hold  for more than 2 seconds while the measurement results are displayed.**

The message for memory clearance (CL) will appear, and the device will automatically turn off the power in 2 seconds.



\* This step will permanently delete the measurement results being displayed so that you cannot undo this action to call up them later. Before proceeding, make sure that you want to delete them.

# HOW TO CALL UP DATA STORED IN MEMORY

The automatically stored data (measurement results) can be called up for reference.

- \* The data stored in memory cannot be called up during measurement.
- \* If the measurement results are not stored, the data in memory cannot be recalled.

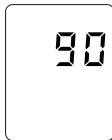
Measurements stored in memory are assigned “a memory number” in the order of measurement. This means when 90 measurements are stored in memory, the measurement having a memory number of 90 is the most recent.

The device can store up to 90 measurements in its memory.

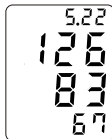
When more than 90 measurements have been taken, the oldest measurement will be erased to make room for the most recent measurement.


1 Press  .

The most recent memory number will appear on the display.



The data in memory (systolic/diastolic pressure and pulse rate readings, and the date/time of measurement) will appear on the display.



- The time and date appear alternately every 2 seconds.
- When  is pressed during display of data in memory, its monthly average data will be called up.

- To end the display of data in memory, press  .

## HOW TO CALL UP PREVIOUS MEASUREMENT RESULTS

1 Press  during display of data in memory.

Each press will move ONE memory number backward.

- To decrease memory numbers rapidly, keep pressing  .

## HOW TO CALL UP MONTHLY AVERAGE DATA

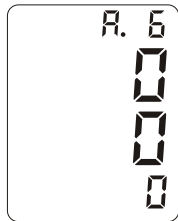
Monthly average data can be readily called up with the push of a button.

- \* If the measurements results are not stored, the monthly average data cannot be recalled.

The device can store monthly average data of up to 12 months (including the current month). This means when the current month changes from April to May, the monthly average data of last May will be automatically erased.

If there is no monthly average data of the current month, 0 (zero) will be shown on the display of the monthly average values (systolic/diastolic blood pressure, and pulse rate) for the current month.


If the monthly average data of the pulse rate is out of the measurement range (pulse rate: 39 pulses/min. or less, or 181 pulses/min. or more), the display of the pulse rate becomes blank.



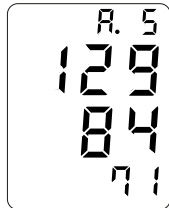
1 Press .

The current month's monthly average data will appear on the display.


- "A" represents average. For example, "A. 5" means "Average of May".

- If  is pressed during display of monthly averages of a given month, the month's most recent data in memory can be called up. If such data are not stored in memory, the display will remain unchanged.

- To end the monthly average display mode, press .



## HOW TO CALL UP PREVIOUS MONTHLY AVERAGE DATA

1 Press  during display of the current month's average data.

Each press will move ONE month backward.

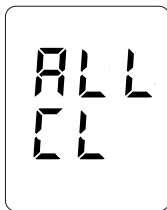
- After reaching the end of all previous months' average data, it will loop the display back to the current month's average data.

# HOW TO DELETE ALL DATA IN MEMORY

All data in memory can be deleted in one operation.

- 1 Press and hold **MODE** and **SET** simultaneously for more than 2 seconds during display of data in memory.

The message for all memory data deletion (ALL CL) will appear on the display. When the deletion process is complete, the device shuts off automatically.



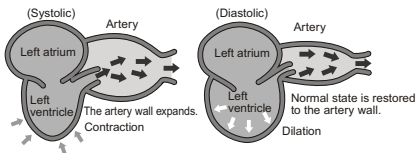
- \* This step will permanently clear all data from memory. Before proceeding, make sure you want to clear all data from memory.
- \* Do not remove the battery box while the deletion process is in progress. Incomplete deletion process may cause damage to the data memory function.



# ABOUT "BLOOD PRESSURE"

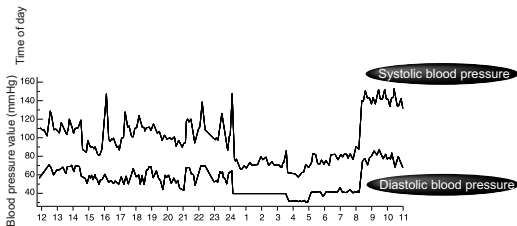
What is blood pressure?

The heart is a pump that circulates blood throughout your body. Blood is pumped from the heart into the arteries. This pressure is called the arterial blood pressure, which represents, in general, blood pressure. Blood pressure is indicated by several kinds of pressures such as: systolic pressure that occurs when the heart pumps blood; and diastolic pressure that occurs just when blood returns to the heart.



Blood pressure changes at all times.

Blood pressure differs with age, gender and other factors. Blood pressure of one person is likely to be affected by biorhythm of a day, posture, physical activities, mental activities, stress and atmospheric temperatures. It is said that blood pressure of a healthy person varies by 20 to 50 mmHg within a day.



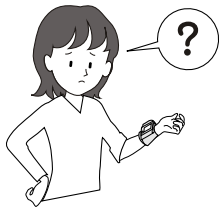
## QUESTIONS AND ANSWERS ON BLOOD PRESSURE

**Q** Why is the blood pressure measured at home different from that measured at the doctors or a hospital?

**A** When you have a doctor or nurse measure your blood pressure, the pressure value is likely to be 10 to 20 mmHg higher than usual because of concern and nervousness. To know what affects blood pressure is crucial to your health monitoring.

**Q** What is the benefit of measuring blood pressure at Home?

**A** Blood pressure measured at home is reliable since it can be measured in a stable and relaxed condition. Doctors lay importance on blood pressure measurements taken at home. It is recommended to measure your blood pressure at the same time on a daily basis and to record blood pressure variation.



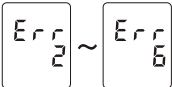

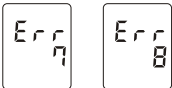





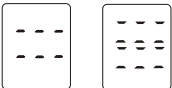



**Caution**


Always consult your physician for interpretation of your blood pressure readings and proper treatment.

\* Improper interpretation of measurement results may worsen your symptoms. Some individuals with hypertension, diabetes, kidney disorders, arteriosclerosis or peripheral vascular disease may see a significant difference in blood pressure readings taken from the wrist as compared to readings from the upper arm.

# ERROR INDICATIONS

DISPLAY MARK	CONDITION/CAUSE	CORRECTIVE ACTION
	Appears when the wrist cuff is wrapped too loose.	Re-wrap the wrist cuff snugly. Take another reading, making sure you remain still. (  See page 14 "HOW TO WRAP THE WRIST CUFF".)
	Appears when your wrist moved during the measurement.; or Appears when the cuff is not wrapped correctly.	Re-wrap the wrist cuff correctly. Take another reading, making sure you remain perfectly still.(  See page 14 "HOW TO WRAP THE WRIST CUFF".)
	Appears when the blood pressure could not be measured accurately.	Contact the store where it was purchased or your local service center. (  See page 30 "BEFORE ASKING FOR REPAIR/INSPECTION".)
	Appears when the pulse rate falls outside the measuring range (below 39 beats/min. or above 181 beats/min.)	Re-wrap the wrist cuff properly. Take deep breaths to relax, and measure again. (  See page 13 "POINTS FOR ACCURATE MEASUREMENT".)
	Appears when the batteries have run out.	Replace two alkaline batteries with new ones. (  See page 9 "HOW TO UNLOAD BATTERIES ".)
	The unit does not function properly.	Contact the store where it was purchased or your local service center. (  See page 30 "BEFORE ASKING FOR REPAIR/INSPECTION".)

# SPECIFICATIONS



Model Number		CH-671F
Measurement Principle		Oscillometric Method
Measurement Localization		Left Wrist
Cuff		Soft cuff
Wrist Circumference Range		13.5 to 19.5 cm
Measuring Range	Pressure	0 - 280 mmHg
	Pulse	40 - 180 Pulse / Min.
Accuracy	Pressure	±3 mmHg
	Pulse	±5 % of reading
LCD Indication	Pressure	3 digits
	Pulse	3 digits
	Date / Time	4digit with AM/PM mark
	Marks	♥ :Measuring  :Battery mark
LCD	Viewing Size	34.5(H) x 29.0(W) mm
	Digit Size	SYS/DIA:9.4(H) x 6.5(W) mm / Pulse:5.0(H) x 3.5(W) mm
Switch		5 pcs. (Power, Memory, Monthly Average, Mode, Set)
Inflation		Automatic inflation by internal pump
Exhaust		Electromagnetic quick exhaust valve
Rated Voltage		3 V DC
Power Source		2 "AAA" (LR03) Alkaline batteries
Power Consumption		1 W (During inflation)
Battery Life		Approx. 300 times (180 mmHg, 1 time/day, 22°C)

Auto Power off Function		Approx. 3 min.
Memory Function		Up to 90 measurements (blood pressure / pulse rate / time & date)
		Monthly average data of up to 12 months (blood pressure / pulse rate)
Clock Display		Year / Month / Date / Hour(AM/PM) / Minute (Month / Date / Hour / Minute to be displayed during measurement)
Dimensions		80.5(H) x 58.7(W) x 23.5(T) mm (not including the wrist cuff)
Weight		Approx. 100g (not including batteries)
Operating Environment	Temperature	10 to 40°C
	Humidity	30 to 85%RH
Storage Environment	Temperature	-20 to 60°C
	Humidity	10 to 95%RH
Electric Shock Protection		Type B equipment
Accessories		2 "AAA" Alkaline batteries, Instruction manual and Storage Case

\* Specifications and design may be changed without any notice in the event of improvements being made.

# BEFORE ASKING FOR REPAIR/INSPECTION

Be sure to check the following before sending your blood pressure monitor for repair/inspection.

Phenomenon	Point to be checked	How to repair
Display gives no indication even when you press Power switch.	Check whether batteries are dead.	Replace all batteries with new ones.
	Check whether batteries are installed with incorrect polarity (+ $\ominus$ ).	Load the batteries with correct polarity.
No measurement is possible.	Check if the ♥ mark has come on.	Wrap the wrist cuff properly.
	Check if the wrist cuff is wrapped properly.	
	Did you stay calm during measurement?	Measure again, making sure to remain still.
	Note that measurement of blood pressure may not be possible for someone with an extremely weak pulse or cardiac arrhythmia (irregular pulses).	
If your blood pressure readings are abnormally higher or lower than those taken in hospital:	 See page 26.	
If your blood pressure readings are abnormally high or low:	 See pages 13 and 16.	

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