



Scan^u

User Manual Bluetooth Wrist Blood Pressure Display

Thank you for choosing an a-rival product. A good choice.

Just in case that you are facing any problems with your device,
please call our support/service hotline +49 (0)511 / 123 83 506,

send us an e-mail to support@first-servicecenter.de or visit us on <http://a-rival.de/facebook/>

The detailed manual is also available in German on our website: www.a-rival.de

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Please read this manual carefully before you use this unit, and keep it well for further checking.

Important info for the disposal of waste

(applicable in the countries of the European Union and other European countries with separate collection systems)

On the device, the packaging or accompanying manuals for the product, the symbol of the crossed out wheeled bin indicates **that this product must not be disposed of with normal household waste!**



They also contribute to the proper disposal of the unit to protect the environment and the health of those around you. It helps protect natural resources, recycling of materials, reduce the consumption of raw materials! Disconnect electrical waste from other waste and dispose it on with your local, free return system. For recycling information, please contact your local Civic Office, your household waste disposal service, the shop where you purchased the product or the manufacturer.

Important info for disposal of batteries

(applicable in the countries of the European Union and other European countries with separate battery collection systems)



On the battery, the packaging or accompanying manuals for the product, the symbol of the crossed out wheeled bin indicates that the batteries in this product should not be disposed of with normal household waste!

The chemical symbols for lead (Pb), mercury (Hg) and Cd below the crossed out wheeled bin indicates that the lead, mercury and cadmium content of the battery is higher than those laid down in the EC Directive 2006/66 reference values. If batteries are not disposed of properly, they can cause harm to human health or the environment.

They also contribute to the proper disposal of the battery / batteries to protect the environment and the health of those around you. It helps protect natural resources, recycling of materials, reduce the consumption of raw materials! Separate batteries from other waste and dispose of it please them through your local, free battery return system. For recycling information, please contact your local Civic Office, your household waste disposal service, the shop where you purchased the product or the manufacturer.

IMPORTANT: the built-in battery in this product is **not** interchangeable. To do so, please contact the manufacturer.

Introduction

General Description

Thank you for choosing an a-rival product. The device features body function measurement, not for medical purposes, and the result storage.

This manual contains important safety and care information, and provides step by step instructions for using the product.

Please do read this user manual carefully and thoroughly before use.

FEATURES:

Systolic Blood Pressure

Diastolic Blood Pressure

Pulse Rate

Memory: Up to 60 pieces of records

Measurement Principle

This product uses the Oscillometric Measuring Method to detect blood pressure. Before every measurement, the unit establishes a “zero point” equivalent to the atmospheric pressure. Then it starts inflating the cuff. Meanwhile, the unit detects pressure oscillation generated by beat-to-beat pulsatile, which is used to determine the systolic pressure and diastolic pressure as well as pulse rate.

The device also compares the longest and the shortest intervals of detected pulse wave to with the average value, and then calculates the standard deviation. The device will light up a warning symbol when the calculated standard deviation is larger than or equal to 15.

Safety information

The below signs might be in the user manual, labeling or other components. They are the requirement of standard and using.

	Symbol for "THE OPERATION GUIDE MUST BE READ"		Symbol for "ENVIRONMENT PROTECTION - Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your local authority or retailer for recycling advice."
CE 0123	Symbol for "COMPLIES WITH MDD 93/42/EEC REQUIREMENTS"		Symbol for "DIRECT CURRENT"
	Symbol for "MANUFACTURER"		Symbol for "Authorized Representative in the European Community"
	Symbol for "MANUFACTURE DATE"	F1	T1A/250V Φ 3.6*10CCC
	Symbol for " Class II Equipment "		Symbol for indoor use only
	Symbol for "TYPE BF APPLIED PARTS"		

Indications for use

The a-rival HGBM01 is intended for use in measuring body functions of people with wrist circumference ranging from 13.5 cm to 21.5 cm (about 5-8.5 inches).

It is intended for home and indoor use and for adults only and **not** for diagnostic and/or therapeutic purposes.



CAUTION

This product is NOT a medical device! Pregnant women, pre-eclamptic people and people with severe obesity don't use the device. If you need, please consult professional doctor.

It is not intended for use on extremities other than the wrist or for functions other than obtaining an indication of the blood pressure. Please use the device under specified environment by user manual, otherwise the accuracy of the device will be influenced. Do not confuse self-monitoring with self-diagnosis. Please start or end medical treatment basing solely on physician's treatment advice.

If you are taking medication, consult your physician to determine the most appropriate time for your measurement. Never change a prescribed medication without your physician's consent.

This unit is not suitable for continuous monitoring during medical emergencies. Otherwise, the wrist and fingers will become anaesthetic, swollen, and even purple due to a lack of blood.

If the pressure of the cuff exceeds 40 kPa (300 mmHg), the unit will automatically deflate. If the cuff don't deflate when its pressure exceeds 40 kPa (300 mmHg), detach the cuff from the wrist and press the START/STOP button to stop inflation.

Do not use the device under the conditions of strong electromagnetic field that radiates interference signal or electrical fast transient/burst signal.

The maximum temperature that the applied part can be achieved is 42.5 °C while the environmental temperature is 40°C

Please keep the unit out of reach of infants, children or pets, since inhalation or swallowing of small parts is dangerous or even fatal. Be careful to strangulation due to cables and hoses, particularly due to excessive length.

The healthy adult is the intended operator. He obtains an indication of his blood pressure, can transmit data and charge battery under normal circumstances and maintain the device to the user manual.

If you are allergic to dacron or plastic, please don't use this device.

There is a PTC current limiter in the device, which specification is 8V and 0.5A. When the voltage and current exceed the limiting value, the device will stop warning.

The device is not suitable for public use.

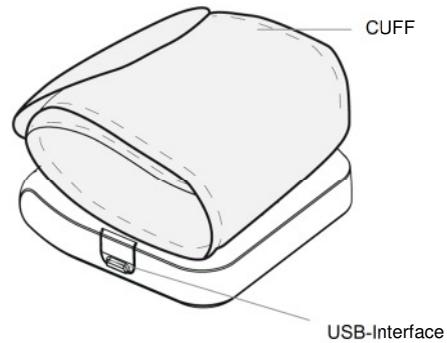
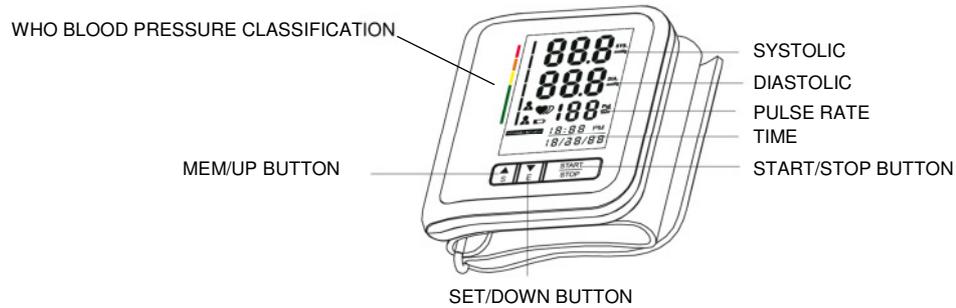
The adapter insulates the device from the main supply. Do not position the plug in a position where it is difficult to disconnect from the supply mains.

LCD Display Signal



SYMBOL	DESCRIPTION	EXPLANATION
SYS.	Systolic Blood Pressure	High blood pressure
DIA.	Diastolic Blood Pressure	Low blood pressure
PUL min	Pulse	beat/minute
+ Lo	Low Battery	Low battery and please charge the power.
mmHg	Unit	Measurement unit of blood pressure
	Irregular Heartbeat	Irregular Heartbeat Detector
	Memory	Recalling the history records
18:88 PM 18/28/88	Time	Hour:Minute (Month/Day/Year)
	Grade	The grade of the blood pressure
	Heartbeat	Heartbeat detection during the measurement

Components



Before you start

Power Supply and Charge Power

1. The battery of the device is built-in rechargeable lithium-ion battery, the battery current is 420 mAh.
2. Please use the USB cable to charge the battery, just like the following picture:



Charging the power under following circumstances:

-  +Lo displays on the LCD
- The LCD display dims
- When powering on the device, the LCD doesn't light up.



CAUTION

1. The battery of the device is built-in rechargeable lithium-ion battery, please do not disassemble it by the unauthorised maintenance personal.
2. Under the normal using, it can charge power about 300 times, if the battery cannot charge the power normally or the device cannot use normally, please connect with the authorized maintenance personal. If measured three times per day, and the battery is fully charged, it can be used for about 20 days.
3. Storage and use the device at the cool, dry and ventilated environment. Avoid to approach to the fire and the heat source, or it will cause the battery explode.
4. During the process of charging, the device displays  . When the charging is finished, please pull the plug in time.
5. When charging, shall not touch charging connector and the person simultaneously.

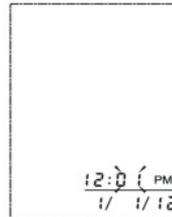
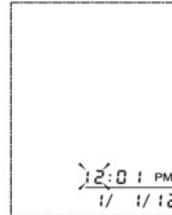
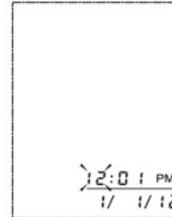
Activate Your Device

When you get the a-rival HGBM01, the first thing you must do is to activate it. Please press and hold the SET button “E” to activate it, then it will enter the setting mode.

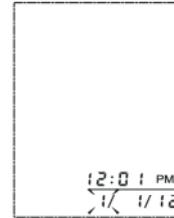
Setting Date and Time

Please proceed to time setting before your initial use so as to ensure each piece of record are labeled with a time stamp. (Year Range: 2012-2052; Time Format: 12 Hours)

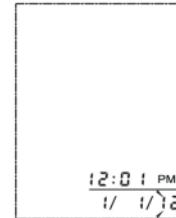
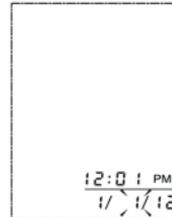
1. When the monitor is OFF, press and hold “SET” button “E” for 3 seconds to enter Time Setting Mode.
2. As pictured in the right, the blinking numeral representing [HOUR]. Press “MEM” button “S” to change the numeral. Each press will increase the numeral by one in a cycling manner.
3. Press “SET” button “E” again to confirm [HOUR]. Then the numeral representing [MINUTE] blinks.



4. Repeat step 2 and 3 to confirm [MINUTE].



5. Repeat step 2 and 3 to confirm [MONTH], [DAY], and [YEAR].



6. After confirming [YEAR], the LCD will display "DONE" and the monitor will shut off.



Measurement

Before you start measuring

Positioning the Cuff

1. Remove all accessories (watch, bracelet, etc) from your left wrist. If your physician has diagnosed you with poor circulation in your left wrist, use your right wrist.
2. Roll or push up your sleeve to expose the skin.
3. Apply the cuff to your left wrist with your palm facing up.
4. Position the edge of the cuff about 1-2 cm.
5. Fasten the wrist cuff around your wrist, leaving no extra room between the cuff and your skin. If the cuff is too loose, the measurement will not be accurate.
6. The middle of the cuff should be at the level of the heart; Before starting measurement, please sit comfortably with legs uncrossed, feet flat on the floor, back and arm supported.

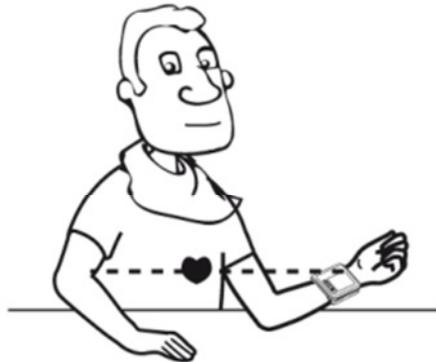
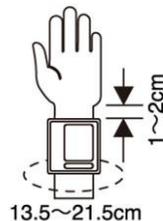
Resting for 5 minutes before measuring.

Wait at least 3 minutes between measurements.

This allows your blood circulation to recover.

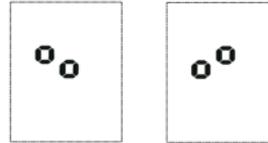
For a meaningful comparison, try to measure under similar conditions.

For example, take daily measurements at approximately the same time, on the same wrist, or as directed by a physician.



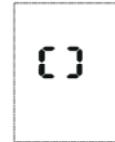
Pair-up the Device with Your Smartphone or Tablet

1. Turn on Bluetooth and the “a-rival” app. Make sure both are ON when pair-up is proceeding.



2. When the monitor is OFF, press and hold the START button to start pair-up. The symbol  and the symbol  will be shown on the LCD alternatively, indicating pair-up is proceeding.

If **SUCCEED**, symbol  will be shown on the LCD.



If **FAIL**, symbol  will be shown on the LCD.

3. The monitor will shut off.

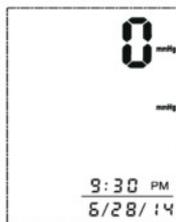


Start Measurement

1. After correctly positioning the cuff, press START button to turn on the device, and it will complete the measurement process.



Adjust to zero.



Inflating and measuring.



Display and save the measuring result.



2. This device will proceed to data transmission after measurement

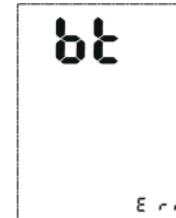
The Bluetooth symbol "bt" blinks on the LCD indicates data is transmitting.



3. If the data is successfully transmitted, the LCD will then display "bt dONE".



If the data transmission fails, the LCD will display "bt Err" instead.



4. Press STOP button to turn off the device. Otherwise it will power off.



CAUTION

1. When using this device, please pay attention to the following situation which may interrupt blood flow and influence blood circulation of the patient, thus cause harmful injury to the patient: too frequent and consecutive multiple measurements; the application of the CUFF and its pressurization on any wrist where intravascular access or therapy, or an arterio-venous (A-V) shunt, is present; Inflating the cuff on the wrist on the side of a mastectomy.
2. Do not apply the cuff over a wound, otherwise it can cause further injury.
3. Do not inflate the cuff on the same limb which other monitoring ME EQUIPMENT is applied around simultaneously, because this could cause temporary loss of function of those simultaneously-used monitoring ME EQUIPMENT.
4. Using it in case to result in prolonged impairment of the circulation of the blood of the PATIENT.
5. Don't link the connection tube, otherwise, the cuff pressure may continuously increase which can prevent blood flow and result in harmful injury to the PATIENT; Sensitive people, including pregnant women pre-eclamptic patients, patients who implanted medical electronic instruments and have atrial fibrillation (AF), premature ventricular beats and peripheral arterial disease (PAD), should avoid using the unit whenever possible.

Data Management

Recall the Records

1. Press memory button "S" to access the memory when the device is off. The device will display the value of the latest reading first.
2. Press "MEM/UP" button "S" or "SET/DOWN" button "E" to rotate the history records.
"MEM/UP" to go forward; "SET/DOWN" to go backward.



CAUTION

The most recent record (1) is shown first. Each new measurement is assigned to the first (1) record. All other records are pushed back one digit (e.g., 2 becomes 3, and so on), and the last record (60) is dropped from the list.

Delete the Records

When you did not obtain the accurate measurement, you can clear all the measuring results by following below steps.

1. Under Memory Recalling Mode, press and hold both the “MEM” button “S” and the “SET” button “E” for 3 seconds.



2. The LCD will display “dEL dONE”, indicating that memory clearing is complete. And then it will shutdown.



CAUTION

Under Memory Recalling Mode, if you wish to give up clearing, press “START/STOP” to turn off the device.

3. When there is no memory in the device if you press the “MEM” button “S” to look up history, the LCD will display as pictured to the right.



Information for User

Tips for Measurement

It can cause inaccuracy if the measurement is taken in the following circumstances.



Within 1 hour
after dinner or drinking



Immediate measurement
after tea, coffee, smoking



Within 20 minutes
after taking a bath



When talking
or moving your fingers



In a very cold environment



When you want to discharge urine



Maintenance

To obtain the best performance, please follow below instructions.



Put in a dry place and avoid the sunshine.



Avoid immersing it in the water.
Clean it with a dry cloth in case.



Avoid shaking and collision.



Avoid dusty environment and unstable temperature surrounding.



Use the slightly damp cloth to remove the dirt.



Avoid washing the cuff.





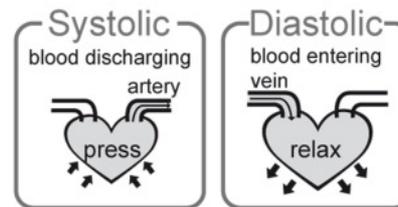
CAUTION

1. Please make sure the unit functions safely and it is in proper working conditions before use. Don't service or maintain while the device is in use.
2. If you have any problems with this device, such as setting up, maintaining or using, please contact with SERVICE PERSONNEL of a-rival. Don't open or repair the device by yourself.
3. Please report to a-rival if any unexpected operation or events occur.
4. Cleaning: Dust environment may affect the performance of the unit. Please use the soft cloth to remove the dirt of the device and cuff before and after use.
5. Calibration: The manufacturer does not require such preventive inspections or calibration by other persons and will make available on request of circuit diagrams, component part list, etc.
6. Disposal: Degraded sensors may result in inaccurate measurement while loosened electrodes may cause the device's failure to power on. Please dispose the equipment and detachable parts according to local guidelines.

About Blood Pressure

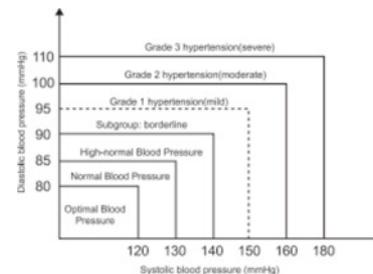
What are systolic pressure and diastolic pressure?

When ventricles contract and pump blood out of the heart, the blood pressure reaches its maximum value in the cycle, which is called systolic pressure. When the ventricles relax, the blood pressure reaches its minimum value in the cycle, which is called diastolic pressure.



What is the standard blood pressure classification?

The blood pressure classification published by World Health Organization (WHO) and International Society of Hypertension (ISH) in 1999 is as follows:



CAUTION

Only a physician can tell your normal BP range. Please contact a physician if your measuring result falls out of the range. Kindly note that only a physician could tell whether your blood pressure value has reached a dangerous point.

Level BloodPressure (mm Hg)	Optimal	Normal	High-normal	Mild	Moderate	Severe
SYS	<120	120-129	130-139	140-159	160-179	≥180
DIA	<80	80-84	85-89	90-99	100-109	≥110

Irregular Heartbeat Detector

This Blood Pressure Monitor is equipped with an intelligent function of Irregular Heartbeat (IHB) Detector. During each measurement, this equipment records the heartbeat intervals and works out the standard deviation. If the calculated value is larger than or equal to 15, this equipment will light up the IHB symbol on the screen when displaying the measuring result.



CAUTION

The appearance of the IHB icon indicates that a pulse irregularity consistent with an irregular heartbeat was detected during measurement. Usually this is NOT a cause for concern. However, if the symbol appears often, we recommend you seek medical advice. Please note that the device does not replace a cardiac examination, but serves to detect pulse irregularities at an early stage.

Why my blood pressure is varies even in one day?

1. Individual blood pressure varies every in one day, it also affected by the way you tie your cuff and the position of your measurement, so please take the measurement at the same condition.
2. The varies of the pressure is greater if the person take medicine.
3. Waiting at least 3 minutes for another measurement.



Why the blood pressure I get from the hospital is different from home?

The blood pressure is different even during 24 hour because of the weather, emotion, exercise etc, specially the “white coat” in hospital which makes the results are higher than the ones at home.

If the result is the same if measuring on the right wrist?

It is ok for both wrists, but there will be some different results for different person, so suggest you measure the same wrist every time.

The attention need to pay when you measure you blood pressure at home:

If the cuff is tied properly,

If the cuff is too tight or too loose.

If the cuff is tied on the wrist.

If you feel anxious pressured.

You had better take deep breath 2-3 times before beginning.

Advice: adjust yourself for 4-5 minutes until you calm down.

Troubleshooting

This section includes a list of error messages and frequently asked questions for problems you may encounter with your a-rival HGBM01. If the products not operating as you think it should, check here before arranging for servicing.

PROBLEM	SYMPTOM	CHECK THIS	REMEDY
No power	Display is dim or will not light up.	Power is exhausted	Charge the power
Low batteries	 + Lo Show on the display	Power is low.	Charge the power
Error message	 shows	Data communication has failed	Make sure that phone's Bluetooth is on or within the distance range.
	E 1 shows	The cuff is not secure.	Refasten the cuff and then measure again.
	E 2 shows	The cuff is very tight.	Refasten the cuff and then measure again.
	E 3 shows	The pressure of the cuff is excess.	Relax for a moment and then measure again.
	E 10 or E 11 shows	The monitor detected motion while measuring.	Movement can affect the measurement. Relax for a moment and then measure again.
	E 20 shows	The measurement process does not detect the pulse signal.	Loosen the clothing on the arm and then measure again.
	E 21 shows	Measure incorrectly.	Relax for a moment and then measure again.
	EExx shows on the display.	A calibration error occurred	Retake the measurement. If the problem persists, contact the retailer or our customer service department for further assistance. Refer to the warranty for contact information and return instructions.

Specifications

Power supply	3.7V 420mAH Built-in rechargeable lithium-ion battery, 5V / 1A USB
Display mode	Digital LCD V.A.46.5x36.5mm
Measurement mode	Oscillographic testing mode
Measurement range	Rated cuff pressure: 0kpa-40kpa (0mmHg-300mmHg) Measurement pressure: 5,3 kPa- 30,7kPa (40mmHg-230mmHg) pulse value:(40-199)beat/minute
Accuracy	Pressure: 5°C – 40°C within±0.4kpa(3mmHg) pulse value:±5%
Normal working condition	Temperature: 5 °C to 40 °C Relative humidity ≤85% Atmospheric pressure: 86kPa to 106kPa
Storage & transportation condition	Temperature:-20°C to 60°C RH: 10% to 93% Atmospheric pressure: 50kPa to 106kPa
Measurement perimeter of the wrist	About 13.5cm-21.5cm
Net Weight	Approx.110g
External dimensions	Approx.79.8×72.5×13.2mm
Attachment	USB cable, user manual
Mode of operation	Continuous operation
Degree of protection	Type BF applied part
Protection against ingress of water	IP22. It means the device could protected against solid foreign objects of 12.5mm and greater, and against vertically falling water drops when ENCLOSURE tilted up to 15°
Software version	V01
Device classification	Battery Powered Mode: Internally Powered ME Equipment AC Adaptor charged Mode: Class II ME Equipment

WARNING: No modification of this equipment is allowed

Complied European Standards List

Risk management	ISO/EN 14971:2012 Medical devices — Application of risk management to medical devices
Labeling	ISO/EN 15223-1:2012 Medical devices. Symbols to be used with medical device labels, labelling and information to be supplied. General requirements
User manual	EN 1041: 2008 Medical equipment manufacturers to provide information
General Requirements for Safety	EN 60601-1:2006 Medical electrical equipment - Part 1: General requirements for basic safety and essential performance IEC/EN 60601-1-11: 2010 Medical electrical equipment -- Part 1-11: General requirements for basic safety and essential performance - Collateral standard: Requirements for medical electrical equipment and medical electrical systems used in the home healthcare environment IEC/EN 80601-2-30:2009 Medical electrical equipment - Part 2-30: Particular requirements for the basic safety and essential performance of automated noninvasive sphygmomanometers
Electromagnetic compatibility	IEC/EN 60601-1-2:2007 Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic compatibility - Requirements and tests
Performance requirements	EN 1060-1:1995+A2:2009 Non-invasive blood pressure Part 1: General requirements EN 1060-3:1997+A2:2009 Non-invasive blood pressure Part 3: Supplementary requirements for electromechanical blood pressure measuring system
Clinical investigation	EN 1060-4: 2004 Automatic Blood Pressure Monitor overall system Interventional accuracy of the testing process
Usability	IEC/EN 60601-1-6: 2010 Medical electrical equipment -- Part 1-6: General requirements for basic safety and essential performance - Collateral Standard: Usability IEC/EN 62366: 2007 Medical devices - Application of usability engineering to medical devices
Software life-cycle processes	IEC/EN 62304:2006+AC: 2008 Medical device software - Software life cycle processes

EMC Guidance

1. The Blood Pressure Monitor needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in the ACCOMPANYING DOCUMENTS
2. Wireless communications equipment such as wireless home network devices, mobile phones, cordless telephones and their base stations, walkie-talkies can affect this equipment and should be kept at least a distance $d = 3,3$ m away from the equipment.
(Note. As indicated in Table 6 of IEC 60601-1-2:2007 for ME EQUIPMENT, a typical cell phone with a maximum output power of 2 W yields $d = 3,3$ m at an IMMUNITY LEVEL of 3 V/m)

Guarantee

Please keep the proof of purchase for this device for the entire duration of the guarantee period, as it must be produced in the event of any claim.

You (as the end user) receive a **24-month** guarantee from the date of sale. The article has been manufactured using the most modern production methods and subjected to strict quality controls.

In the event of any defects during the guarantee period please contact the dealer where you purchased it or the manufacturer.

Hotline: +49 (0)511 - 123 83 506 or: support@first-servicecenter.de

The guarantee does not cover damage caused by improper use or external influence (water, falling, sunlight, breakage or impact).

Declaration of Conformity

Hereby Baros GmbH declares, that the device HGBM01 is in compliance with the essential requirements and other relevant regulations of Directive 1999/5/EC. The Declaration of Conformity can be found at: www.a-rival.de

User information/Contact

If your device has a defect or you have problems with it, please contact our Service & Support Centre.

If you need to send your device to us, please attend to the following points:

1. Use only the **original packaging**
2. Add a **detailed error description**
3. Add your **full name and address**
and a copy of your purchase receipt
4. Stamp and send the package to us (**sufficient postage**)

Address of our Service Center:

First Service Center, Kleine Düwelstr 21, DE-30171 Hannover/Germany