



# AUTOMATIC DIGITAL BLOOD PRESSURE MONITOR

DELUXE MODEL 1134
INSTRUCTION MANUAL

1134-INS-LAB-RevA23

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#### INTRODUCTION

#### **INTENDED USE**

This device is intended for the noninvasive measurement of systolic and diastolic arterial blood pressure and pulse rate in adults (ages 15 and above).

#### CONTRAINDICATIONS

This instruction manual is intended to assist the user for efficient operation of the automatic digital blood pressure monitor (hereinafter device) model 1134. The device must be used in accordance with the procedures described in the manual. Read and understand the entire manual, especially the section (Carrying Out a Measurement) on page 7.

#### PRINCIPLE OF OPERATION

This device adopts oscillometric technology with Fuzzy Algorithm to measure the arterial blood pressure and pulse rate. The cuff is wrapped around the arm and automatically inflated by an air pump. The sensor of the device catches weak fluctuation of the pressure in the cuff produced by extension and contraction of the artery of the wrist in response to each heartbeat. The amplitude of the pressure waves is measured, converted in millimeters of the mercury column, and is displayed by digital value.

#### **TECHNOLOGIES USED**

Fuzzy Algorithm is the processing algorithm taking into account the specialty of individual heartbeats which provides higher accuracy of measurement.

# IMPORTANT SAFETY PRECAUTIONS — READ BEFORE USE

The safety statements presented in this chapter refer to the basic safety information that the Blood Pressure Monitor (BPM) user shall pay attention to and abide by. There are additional safety statements in other chapters or sections, which may be the same as or similar to the following, or specific to the operations. Please note the following special statements, used throughout this manual, and their significance:

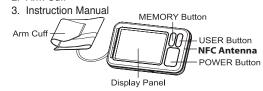
- NOTICE: Indicates a potential hazard or unsafe practice that, if not avoided, could result in product or property damage.

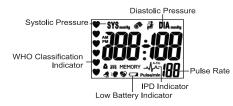
Info: Provides application recommendations or other useful information to ensure that you get the most from your product.

- MARNING: Operate the device only as intended. DO NOT use it for any other purpose.

# PRODUCT DESCRIPTION AND FEATURES COMPONENTS INCLUDED WITH PRODUCT

- 1. Blood Pressure Monitor
- 2. Arm Cuff





#### PRODUCT DESCRIPTION (SEE ABOVE)

1. Display

WHO Classification Indicator
Diastolic Pressure
Systolic Pressure
Pulse Rate
IPD Indicator

- 2. Arm Cuff
- 3. MEMORY Button
- 4. NFC Antenna
- 5 User Button
- 6. Power Button (11)

### CLASSIFICATION

- ME equipment not intended for use in an oxygen-rich environment or in the presence of flammable mixers
- · Internally powered equipment
- Type BF equipment, applied part (cuff is recognized as applied part)

#### **PRODUCT SYMBOLS**

SYMBOL	MEANING	
X	Symbol for the marking of electrical and electronics devices according to Directive 2002/96/EC. Do not dispose of the device and batteries with household waste.	
Ť	Keep dry	

Attention, co		Attention, consult accompanying documents
Туре		Type BF Applied Part
Power (ON/OFF) / Standby		Power (ON/OFF) / Standby

#### SETUP - PREPARATION FOR OPERATION

#### **BATTERY INSTALLATION / REPLACEMENT**

- Using only same type of alkaline batteries (not included) is recommended to avoid incompatibility.
- Use only fully-charged AAA alkaline batteries.
- · Always replace both batteries at the same time.
- Built-in clock may need to be reset and reading memories may be erased after battery replacement.
- 1. Remove the battery cover.
- Insert three AAA alkaline batteries into the battery compartment with polarities "+" and "-" matching correct polarity indicators.
- 3. Replace the battery cover.
- Dispose of used batteries in compliance with local laws and regulations.

#### **SETTING THE DATE AND TIME**

The Date and Time function provides an accurate time for each measurement. To get an accurate date and time, preset the date and time correctly before the first use of this device.

- Under Power-off mode, press and hold the MEMORY button until the display shows a blinking year and press the POWER button for the adjustment. After current year is selected, set year by pressing the MEMORY button and switch to next adjustment.
- Repeat previous steps to adjust and set current month, day, hour, and minute one by one while they are blinking.
- Following the date and time setting, the clock display function can be set by pressing POWER button for adjusting ON / OFF in "CL" show status and confirmed by MEMORY button.
- Following clock function enabled, the alarm function can be set by pressing POWER button for adjusting ON / OFF.
- Press the Power button to finish setting the date and time. Follow the previous instructions to change the date and time.

Info: When in Date and Time mode, the device will automatically return to standby mode after one minute without operation.

MOMI technology is Measurement On Multiple Intelligence, the final measurement which is based on inflation and deflation measurement to calculate, the benefit is it could provide with highly accurate reading.

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#### PREPARATION FOR OPERATION

- Do not conduct any measurements if the temperature is low (below 41°F / 5°C) or high (over 104°F / 40°C), or if the relative humidity is beyond the range of 15% to 90%, as this can lead to inaccurate readings.
- Take the measurement at room temperature in a quiet and stress-free environment.
- Do not move yourself during the measurement. Do not speak during the measurement. The unit should not be moved or shaken during the measurement.
- Blood pressure varies naturally depending on the time of day and is affected by many factors. Blood pressure is usually highest at work and reaches its lowest level during sleep.
- Blood pressure measurements should be assessed by a physician or trained healthcare professional who is familiar with your medical history. If you use the unit and regularly record the results, keep your physician informed of any changes in your blood pressure.
- The performance of this device can be affected as severe arrhythmias such as atrial or ventricular premature beats or atrial fibrillation are presented during measurement.
- 7. The blood pressure measurements conducted with this unit are equivalent to measurements obtained by a trained observer in accordance with the values achieved using the cuff/stethoscope auscultation method and are within the specified EN 1060-4 standard limits.

#### **OPERATION**

#### **OPERATION SAFETY**

- ▲ NOTICE: The device is not waterproof. DO NOT immerse this device in liquid.
- MARNING: Read and follow the entire instruction manual before operating this blood pressure monitor.
- MARNING: DO NOT use this on infants, children or persons who cannot repress their own intentions.
- ⚠ WARNING: DO NOT press the POWER button if the cuff has not been properly wrapped.

- MARNING: DO NOT use this device if you have electrical implants.
- MARNING: If you have had a mastectomy, do not use this device on the arm on the side of the mastectomy.
- MARNING: DO NOT use this device simultaneously with other medical electrical equipment.
- MARNING: DO NOT use this device in the presence of HF surgical equipment, MRI, or CT scanner.
- ⚠ WARNING: Discard old batteries carefully, out of reach of children. Swallowing the battery may be fatal. If the battery or other small parts are swallowed, contact a hospital immediately to have it removed.

- MARNING: Avoid prolonged over-inflation of the bladder to prevent harmful or physical injury.

- ⚠ WARNING: This manual and the product are not substitutes for visiting the doctor. Neither the information contained herein nor this product may be used to diagnose or treat health problems, or to prescribe drugs. If you have or suspect that you have a medical problem, seek immediate advice from your doctor.
- ⚠ WARNING: Measuring too frequently may result in circulatory disorders, which can cause unpleasant sensations such as localized bleeding under the skin or temporary numbness in your arm. These symptoms do not usually last long; however, if you have not recovered quickly, consult your doctor.
- ⚠ WARNING: Take into consideration the electromagnetic compatibility of the unit (e.g. disruptions to the power supply, radio frequency interference, etc.) Only use the unit indoors. To avoid inaccurate results due to electromagnetic interference between electrical and electronic equipment, do not use the unit near mobile phones or microwave ovens. Keep devices whose maximum power exceeds 2 W at least 11 feet (3.3 meters) from the blood pressure monitor.
- NOTICE: Avoid subjecting the monitor to shocks or vibrations, such as dropping it on the floor.

#### **MEASUREMENT POSTURE**

- Sit upright in a chair in a comfortable position with your feet flat on the floor in a natural position, your elbows placed on a table, and both feet on the ground. Do not interlock your legs during the measurement.
- 2. Extend your measurement arm in front of you with the hand relaxed and the palm facing up.

#### ATTACHING THE CUFF

- Ensure your arm circumference is within applicable cuff range.
- Plug the tube connector into the cuff socket securely.
- Put bare-skinned left arm through the cuff with the tube located at middle of your inner arm and aligned to your middle finger. Measuring with thin cloth is allowed. If it is not possible to take measurement with the left arm, use the right arm instead.
- Wrap cuff around your upper arm with the lower edge of cuff approximately .8-1.2 inch (2-3 cm) above the elbow. Ensure the cuff is not wrapped too tightly.
- 5. Sit upright in a chair with your feet flat on the floor in a natural, comfortable position and relax. Rest your

- elbow on a table with the cuff at heart level and remain still.
- Hold still and do not talk during measurement. Use a rest to support forearm if necessary.
- This device is supplied with the extra-large cuff which fits arm sizes 8.66-17.32 inch (19.9-35 cm).
- WARNING: Ensure the cuff size is appropriate for the person whose blood pressure is being taken.









## TAKING A MEASUREMENT

#### **AUTOMATIC INFLATION**

This device has four levels of inflation pressure: 190mmHg, 230mmHg, 270mmHg, and 300mmHg. When 190mmHg is insufficient, or wrist movement occurs, the device will automatically inflate to a higher pressure level to ensure successful measurement. *This is not a fault.* 

#### RAPID DEFLATION DURING MEASUREMENT

If you do not feel well during measurement, or want to stop measurement for any reason, press the Power (

button. The device will quickly release the air in the cuff and the device will return to standby mode.

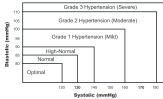
#### CARRYING OUT A MEASUREMENT

Wait 30-45 minutes after finishing a caffeinated drink or cigarette before measurement. Sit down and relax for at least 5 to 10 minutes before measurement.

- Press the USER button to choose user number for memory storage. User selection can also be made by pressing the USER button while readings are displayed after measurement is completed.
- Select preferred measuring mode, MOMI or Fuzzy Logic, by using the Mode Switch.
- Press the POWER button to start automatic measurement. The measurement can be interrupted anytime by pressing the POWER button again.
- When the measurement is completed, the systolic pressure, diastolic pressure and pulse rate will be displayed.
- Display will indicate which category your blood pressure reading belongs to according to classification define in 1999 WHO-ISH Guidelines for Management of Hypertension.
- Wait at least 3-5 minutes between repeated measurements so that your blood vessels can return to the state they were in prior to your personal physiology.
- Press POWER button to turn off the device or it will turn off automatically after 150 seconds nonoperation. Readings will be saved into memory automatically while power-off.
- Use the same arm consistently for each measurement (preferably the left) and take the measurement at about the same time every day.

### MEASUREMENT INTERPRETATION

#### WHO Blood Pressure Classification



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

For example, if your blood pressure is 145mmHG / 88mmHg (systolic / diastolic), according to the WHO standard, your blood pressure level is Mild Hypertension.

Note: If the systolic and diastolic blood pressures fall into different categories, the higher value should be taken for classification. The WHO blood pressure classification indication is only a reminder; it can not be regarded as the final diagnosis. Always consult your physician for interpretation.

The display will indicate which category your blood pressure reading belongs to according to classification defined in 1999 WHO-ISH Guidelines for Management of Hypertension, Optimal and Normal categories are indicated with green, High-Normal category is indicated with yellow, and grade 1~3 Hypertension categories are indicated with red.

#### Irregular Heartbeat Detector

This device provides a blood pressure and pulse rate measurement even when an irregular heartbeat occurs. When the device detects an irregular heartbeat or any excessive body movement during measurement, the screen shown at upper right will display.

Info: Remain relaxed and still and do not talk during measurement.

Info: Contact your physician if you see this indicator frequently.

#### IPD (Irregular Pulse Detection)

The device can detect irregular pulse (a pulse interval longer than 5/3 times the average pulse interval) during measurement. The IPD indicator will appear when more than three irregular pulses were detected during measurement. If the IPD indicator is displayed with measurement readings frequently, consult a physician for further direction.

#### PP (Pulse Pressure) Function

This function is equal to systolic minus diastolic. If systolic is higher than diastolic 60 mmHg, LCD will display "PP" and differentiation value. If PP indicator is displayed with measurement readings frequently, consult a physician for further direction.

#### Low Blood Pressure

In general, lower blood pressure is better unless it causes some uncomfortable symptoms such as, fainting and/or light-headedness.

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#### Fluctuation and Variation of Blood Pressure

Human blood pressure has a fluctuated characteristic and will vary 24 hours a day. Measurements can be affected by position, posture, physiologic condition as well as factors such as eating, bathing, exercising, smoking, drinking alcohol, stress, mental tension, breathing, conversation, movement, temperature or humidity change, etc.

#### **How to Obtain Reliable Measurements**

- Take and record blood pressure measurements at the same time every day for consistency to establish your blood pressure pattern.
- Avoid eating, bathing, smoking, exercising, or ingesting caffeine and alcohol at least 30 minutes prior to taking measurement.
- 3. Remove constricting clothing or ornaments from your arm and make sure that the range of cuff circumference is applicable to you.
- Be seated and relax for at least 5 minutes in a quiet and comfortable place prior to taking measurement
- For repeated measurements, the rest interval between measurements shall be no less than 30 seconds. Rest interval may need to be extended according to physiological conditions.

#### **MEMORY FUNCTION**

#### **Memory Recall**

- Press the USER button to select desired user number for recalling memories.
- 2. Press the MEMORY button to recall the latest reading stored in the memory.
- 3. Press the MEMORY button repetitively to show the latest memory and also previous memories.
- 4. To delete a reading from the memory: repeat steps 1-3 and select a reading which needs to be deleted. Press and hold the POWER button for at least 3 seconds until "dEL" with the memory number appears, then press the POWER button again to delete the selected reading.
- Lastly, press POWER button to exit memory function.

#### **Recalling Memory**

Install OUcare APP from Google play or App Store successfully. OUcare not only collect temperatures but also can do graph for checking temperature's trend easily.









#### For Android mobile device:

When the device is off, put mobile device on the NFC Area, the last measure value will be read-back and show on mobile device.

#### For iPhone7 or above:

The iOS should be 11.0 or above. When the device is off, enable the NFC function of APP then close to the NFC area, the last measure value will be read-back and show on mobile device. Refer to the figure of NFC area of iPhone7 in the right.

#### **Memory Clearance**

To erase all memories: finish above steps 1-3. Press and hold the POWER button under memory mode until the display shows "dEL" appears, and press the MEMORY button to show "dEL ALL," on the display. Then press the POWER button. All readings in memory should be erased after three beeps sound.

#### **ERROR AND LOW BATTERY INFORMATION**

SYMPTOM	POSSIBLE CAUSE	REMEDY
P Err	Pumping Failure.	Ensure the upper edge of cuff is approximately 1-2 cm away from your palm line. Refasten the cuff and measure again.
UU Err	Excessive body movement detected during measurement.	Refasten the cuff and measure again.
LL Err	No sufficient pulses are detected for measurement.	Refasten the cuff and measure again.
rrErr	Detected SYS and DIA readings are not reasonable maybe due to too much interference around.	Move the unit away from mobile devices or microwave ovens. Refasten the cuff and measure again.
н	Pumping pressure is over 300 mmHG. Cuff may be blocked due to improper wrapping.	Remove cuff and re-wrap. Measure again.

#### **MAINTENANCE**

#### Maintenance, Storing, Repair, and Recycling:

- Protect this device against moisture, direct sunlight, shock, solvent, alcohol and gasoline.
- Remove the batteries if the device is being stored for a long period of time.
- WARNING: Keep the device and batteries away from children.
- Keep sharp objects away from the cuff. Do not extend or twist the cuff.
- 4. Use only soft, clean cloth to clean the device.
- Cuff is sensitive and must be handled with care. Clean cuff with a clean, damp cloth for daily maintenance.

- 6. When sharing the cuff, sterilize the fabric cover of the cuff with a soft, clean cuff moistened with a 3% solution of hydrogen peroxide to avoid crossinfection. There will be a partial discoloration on the fabric surface of the cuff after long use. Do not launder or iron cuff.
- ▲ NOTICE: DO NOT wash the inner bladder of the cuff.
- 7. Follow your local recycling rules and dispose of device and batteries at an appropriate collection site.
- 8. We recommend having the device inspected every 2 years to ensure proper function, accuracy, and safety. Contact your distributor for maintenance.
- ▲ WARNING: DO NOT open or repair the device. Contact your distributor for maintenance.

#### **CLEANING / DISINFECTION**

#### **Cleaning Process:**

- Use a cloth moistened with water or neutral detergent to clean the device, with a solution of 5~10% mild detergent.
- Clean with cold water to avoid any chemical residues remaining on the device.
- If necessary, repeat step 1 to step 2 in order to make sure the device was clean.
- 4. A final wipe down by a clean wiper is necessary to avoid water stains.

#### **Disinfection Process:**

To disinfect the device when the cleaning process is complete, put 70 to 75% alcohol in a spray bottle and spray both sides of the cuff with the alcohol solution.

#### **Drying Process:**

After cleaning and disinfection process, place device in room temperature area to air-dry.

NOTICE: DO NOT use any abrasive or volatile cleaners, solvents, naphtha, thinner, or gasoline to clean the device.

#### **TROUBLESHOOTING**

SYMPTOM	CHECK POINT	REMEDY
No display after installing batteries.	Depleted batteries. Battery polarity incorrect. Dirty battery compartment contact.	Replace all batteries with new ones.  Correct battery polarity.  Clean battery terminal with dry cloth.
Inflation stops and starts.	Talking or moving arm or hand during measurement. Automatic inflation ensures correct measurement.	Keep quiet and still during measurement.

Is cuff at the same level as the heart?	Ensure correct posture.
Cuff may be wrapped incorrectly.	Wrap the cuff correctly.
Talking or moving arm or hand during measurement.	Relax during measurement and keep quiet and still during measurement.
Talking or moving arm or hand during measurement.	Keep quiet and still during measurement.
Was measurement taken directly after exercise?	Take measurement after resting for at least 5 minutes.
Faulty batteries.	Use new alkaline batteries of known manufactures.
Result of automatic turn-off feature.	This feature saves power consumption of the device, and it is not a fault.
	same level as the heart?  Cuff may be wrapped incorrectly.  Talking or moving arm or hand during measurement.  Talking or moving arm or hand during measurement.  Was measurement taken directly after exercise?  Faulty batteries.  Result of automatic turn-

#### PRODUCT SPECIFICATIONS

Model	1134	
Measuring Range	Pressure 20~300 mmHg Pulse Rate: 40~200 pulse/ min	
Accuracy	Pressure: ± 3 mmHG Pulse Rate: ± 5 % of reading	
Measuring Method	Oscillometric method	
Inflation Method	Electronic rolling pump	
Deflation Method	Mechanical release valve	
Rapid Exhaust	Electrical solenoid valve	
Display	Digital liquid crystal display	
Memory	2 x 99 sets	
Operation Condition	41~104°F, 15~90 % R.H.	
Storage Condition	-4~131°F, <93 % R.H.	
Power Source	AAA alkaline battery x 3 (not included)	
Battery Life	Around 250 measurements with brand new alkaline batteries	
Power Saving	Auto-off after 150 sec of non-operation	

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Size	5.98"x 3.82"x 1.07" (152 x 97 x 27.2 mm)
Weight	Approx. 224g including batteries
Cuff Size	8.66" -17.32" (19.9-35 cm)

#### LIMITED WARRANTY

#### SCOPE OF WARRANTY

GF Health Products, Inc. ("GF") warrants to the original purchaser only that it will replace or repair components, at GF's sole discretion, that are defective in material or workmanship under normal use and service. All warranties are conditioned upon the proper use of the products strictly in accordance with good commercial practice and applicable GF instructions and manuals, including proper use and maintenance. To the extent that a third party warrants a component, GF conveys all of its rights under that warranty to the original purchaser, to the extent permitted.

This limited warranty shall only apply to defects that are reported in accordance with the provisions set forth in this warranty document, within the applicable warranty period and which, upon examination by GF or its authorized representative, prove to be a warranty item (See bbtaining Warranty Service below) This limited warranty is not transferable.

The warranted components and time periods are set forth below: Digital Blood Pressure Monitor Cuff 12 months

Labor is not included in the warranty.

The warranty period is as designated above. If a part is replaced under warranty, the briginal warranty period will not be affected. All other replacement parts will be subject to the warranty period specified. The applicable warranty period shall commence from date of shipment to the original customer, unless there is an expiration date on the component in which case the warranty shall expire on the earlier of warranty period or the expiration date.

#### **OBTAINING WARRANTY SERVICE**

Customers located in the United States who wish to report a warranty issue, must contact GF directly by calling 1.770.368.4700 or by, e-mailing a request to cs@granamfield.com. Customers located outside the United States must contact the Distributor from whom they purchased the products. In both cases, further directions will be provided once the initial contact is made. This limited warranty shall only apply to defects that are reported within the applicable warranty period. Failure to abide by the specific directions will result in denial of the warranty claim.

The warranty does not cover and GF shall not be liable for the

- Defects, damage, or other conditions caused, in whole or in part, by misuse, abuse, negligence, alteration, accident, freight damage, tampering or failure to seek and obtain repair or
- replacement in a timely manner:
  Products which are not installed, used, or properly cleaned and maintained as required in the official manual for the applicable
- product;
  Products considered to be of a non-durable nature including, but not limited to: filters, fuses, gaskets, lubricants, and charts;
  Accessories or parts not provided by GF;
  Matching of color, grain or texture except to commercially acceptable standards;

Changes in color caused by natural or artificial light:
Charges by anyone for adjustments, repairs, replacement parts, installation or other work performed upon or in connection in such products which are not expressly authorized in writing, in advance, by GF;

Any labor or shipping charges incurred in the replacement part installation or repair;

Costs and expenses of regular maintenance and cleaning; and 10. Representations and warranties made by any person or entity other than GF

#### ENTIRE WARRANTY, EXCLUSIVE REMEDY AND CONSEQUENTIAL DAMAGES DISCLAIMER

THIS WARRANTY IS GF'S ONLY WARRANTY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. GF MAKES NO IMPLIED WARRANTIES OF ANY KIND INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IF ANY MODEL OR SAMPLE WAS SHOWN TO THE CUSTOMER, SUCH MODEL OR SAMPLE WAS USED MERELY TO ILLUSTRATE THE GENERAL TYPE AND QUALITY OF THE PRODUCT AND NOT TO REPRESENT THAT THE PRODUCT

WOULD NECESSARILY CONFORM TO THE MODEL OR SAMPLE IN ALL RESPECTS. THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE DEFECTIVE PARTS. GF SHALL NOT BE LIABLE FOR AND HEREBY DISCLAIMS ANY DIRECT, SPECIAL, INDIRECT, INCIDENTAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES, INCLUDING, BUT NOT LIMITED TO: DAMAGES FOR LOSS OF PROFITS OR INCOME. LOSS OF USE, DOWNTIME, COVER, OR EMPLOYEE OR INDEPENDENT CONTRACTOR WAGES, PAYMENTS AND BENEFITS. CERTAIN STATES MAY CONFER ADDITIONAL RIGHTS REGARDING WARRANTIES AND IN THOSE STATES GF'S LIABILITY AND THE LIABILITY OF GF'S SUPPLIERS, SHALL BE LIMITED TO THE FULLEST EXTENT PERMITTED

BY LAW. The warranties contained herein, together with GF's current Terms and Conditions, contain all the representations and warranties with respect to the subject matter of this document, and supersede all prior negotiations, agreements and understandings with respect thereto. The recipient of this document hereby acknowledges and represents that it has not relied on any representation, assertion, guarantee, warranty, collateral contract or other assurance, except those set out in this document.

For additional information on this product or this warranty, contact a GF Customer Service Representative.

- 1. Additional terms and conditions may apply. See GF's General Terms and Conditions on its website: www. grahamfield.com.
- Freight claims must be notated on the appropriate shipping documents and must be made with immediacy. International, federal and state regulations govern specific requirements for freight claims. Failure to abide by those regulations may result in a denial of the freight claim. GF will provide the property of the pro assist you in filing the freight claim.
- Claims for any short shipment must be made within three (3) days of the invoice date.

#### **BLOOD PRESSURE RECORD**

DATE	SYSTOLIC (mmHg)	DIASTOLIC (mmHg)	PULSE (BEATS / MINUTE)

#### MANUFACTURER'S DECLARATION

The Digital Blood Pressure Monitor is intended for use in the electromagnetic environment specified below. The customer of the user of the model Digital blood Pressure Monitor should assure that it is used in such an environment.

IMMUNITY TEST	IEC 60601 TEST LEVEL	COMPLIANCE LEVEL	ELECTROMAGNETIC ENVIRONMENT- GUIDANCE
Electrostatic discharge (ESD) IEC000-4-2	±6kV contact ±8kV air	±6kV contact ±8kV air	Floor should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%
Electrical fast transient/ burst IEC 61000- 4-4	±2 kV for power supply lines	±2 kV for power supply lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV differential mode	±1 kV differential mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input linesIEC 61000-4-11	<5% UT (>95% dip in UT) for 0.5 cycle  40% UT (60% dip in UT) for 5 cycles 70% UT (30% dip in UT) for 25 cycles <5% UT (>95% dip in UT) for 5 sec	<5% UT (>95% dip in UT) for 0.5 cycle  40% UT (60% dip in UT) for 5 cycles  70% UT (30% dip in UT) for 25 cycles  <5% UT (>95% dip in UT) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the 1134 Digital Blood Pressure Monitor Equipment requires continued operation during power mains interruptions, it is recommended that the 1134 Digital Blood Pressure Monitor Equipment be powered from an uninterruptible power supply or a battery.
Power frequency magnetic field IEC 61000- 4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

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Conducted RF IEC 61000- 4-6	3Vrms 150 kHz to 80 MHz	3 Vrms	Portable and mobile RF communications equipment should be used no closer to any part of the 1134 Digital Blood Pressure Monitor Equipment, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = \frac{3.5}{V_I} \sqrt{P}$ $d = \left[\frac{3.5}{E_I}\right] \sqrt{P}$ 80 MHz to 800 MHz $d = \frac{7}{E_I} \sqrt{P}$ 800 MHz to 2.5 GHz
Radiated RF IEC 61000-4-3	10 V/m 80 MHz to 2.5 GHz	3 V/m	where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, should be less than the compliance level in each frequency range. Interference may occur in the vicinity of equipment marked with the following symbol:

Note 1: At 80MHz and 800MHz, the higher frequency range applies.

Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

<sup>a</sup> Field strength from fixed transmitters, such as base stations for radio telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the Model 1134 Digital Blood Pressure Monitor is used exceeds the applicable RF compliance level above, the Model 1134 Digital Blood Pressure Monitor should be observed to verify normal operation. If abnormal performance is observed, additional measures may be

necessary, such as re-orienting or relocating the Model 1134 Digital Blood Pressure Monitor.

Over the frequency range 150KHz to 80MHz, field strength should be less than 3 V/m

# RECOMMENDED SEPARATION DISTANCES BETWEEN PORTABLE AND MOBILE RF COMMUNICATIONS EQUIPMENT AND THE 1134 DIGITAL BLOOD PRESSURE MONITOR

The 1134 Digital Blood Pressure Monitor is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the 1134 Digital Blood Pressure Monitor can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the 1134 Digital Blood Pressure Monitor as recommended below, according to the maximum output power of the communications equipment.

Rated maximum	Separation distance according to frequency of transmitter (m)		
output power of transmitter (W)	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2.5 GHz
	$d = \left[\frac{3.5}{V_I}\right] \sqrt{P}$	$d = \left[\frac{3.5}{E_I}\right] \sqrt{P}$	$d = \left[\frac{7}{E_I}\right] \sqrt{P}$
0.01	0.117	0.117	0.233
0.1	0.369	0.369	0.738
1	1.767	1.167	2.333
10	3.689	3.689	7.379
100	11.667	11.667	23.333

For transmitters rated at a maximum output power not listed above, the recommended separation distance (d) in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.



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Made in China

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