Instruction Manual

MODEL: GM-500W

FD C € 0482

SET

2

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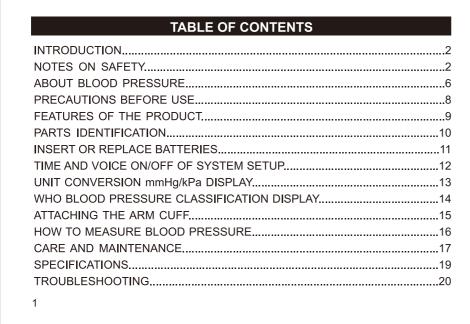
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GUARD Distributed by Generation Guard Pty Ltd 10685 Hazelhurst Dr, Houston Texas 77043 USA Made in China

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INTRODUCTION

The Monitor uses the oscillometric method of blood pressure measurement. Measurement Automatic Electronic Blood Pressure Monitor is intended for use by medical professionals or at home to monitor and display diastolic,

systolic blood pressure and pulse rate, with an air wrist cuff buckled around one's wrist according to the instructions in the "ATTACHING THE WRIST CUFF." The expected life of the product is 5 years. The product complies with the electromagnetic compatibility requirement of

EN60601-1-2 and safety standards of EN60601-1 and performance of IEC 80601-2-30 as specified in EEC directive 93/42/EEC. **NOTES ON SAFETY**

The warning signs and sample icons shown here are listed for your safe and

correct use of the unit, so as to prevent injuries or damages to the device. The icons and meanings are as follow.

The \odot icon indicates prohibitions (what you should not do). Matters involving actual prohibitions are indicated by text or

Examples of signs

pictures in or near ◊. The left icon refers to "general prohibition". The Oicon indicates something that is compulsory (what must always be observed).

Matters involving actual compulsory actions are indicated by text or pictures in or near . The left icon refers to "general compulsion". The ③ icon indicates something can't be disassembled or "Don' disassemble" Matters involving actual compulsory actions are indicated by text or pictures

in or near \(\mathbb{O} \) . The left icon refers to "general prohibition". Type BFApplied part Marking of electrical and electronic equipment in accordance with Article 11(2) of Directive 2002/96/EC (WEEE)

Attention and read before use 3

avoid any injury to patient.

otherwise will cause extravasated blood.



This device can not be used for Patient transport and surgical care .It can be used in household or fixed places only. Please press "on/off" button to stop work when you feel uncomfortable with the wrist, or if the air is inflating abnormally without stop. Do not let a child below 12 years old and the people who can't express one'

Patient must follow doctor's instruction and should not perform A Caution

The device should not be used to judge illness, first aid and continuously

self-judgment and self-treatment by the measuring result, Self-diagnosis of measured results and treatment are dangerous,

monitor measuring.

expands

s intention. When it is used by the people of 12~18 years old, it should accompanied by the Adult. May cause accident or trouble.

Do not use the unit for purpose other than measuring blood pressure. May cause accident or trouble. Please do not use mobile phone around the device. Please do not use

the device around the magnetic field.

Do not disassemble, repair, or remodel the main unit or the wrist cuff of the blood pressure monitor. Will cause the unit to function erroneously.

ABOUT BLOOD PRESSURE 1. What is blood pressure?

Blood pressure is the force exerted by blood against the walls of the arteries. Systolic pressure occurs when the heart contracts. Diastolic pressure occurs when the heart

Blood pressure is measured in millimeters of mercury (mmHg). One's natural blood

Do not apply the cuff over a wound as this can cause further injury. Do measure on the wrist which is on the side of a mastectomy, otherwise it could cause injury. Observe the air pressure value from the LCD display. When measuring, it could not exceed 299 mmHg, otherwise Please press "on/off" button to stop Do not use force to bend the wrist cuff or the air tube. Do not knock or drop the main unit.

Always use the specified accessories in the manual, the use of other parts

not approved by the manufacturer may cause faults or injuries

Requests from Manufacturer Make sure there is no connection tubing kinking before start measuring to

at least above 5 minutes of interval rest between any two measurements,

Do not measure your blood pressure over 6 times each day.

For service information, parts list etc., please contact the dealer. 5

3. Why measure blood pressure at home? Blood pressure measured at a clinic or doctor's office may cause apprehension and produce an elevated reading, 25 to 30 mmHg higher than that measured at

pressure is represented by the fundamental pressure, which is measured first thing in the morning while one is still at rest and before eating.

2. What is hypertension and how is it controlled?

can cause many health problems including stroke and heart attack. Hypertension can be controlled by altering lifestyle, avoiding stress and with medication under a doctor's supervision. To prevent hypertension or keep it under control: Do not smoke Exercise regularly

Hypertension, an abnormally high arterial blood pressure, if left unattended,

 Reduce salt and fat intake Have regular physical checkups Maintain proper weight

Typical fluctuation within a day hypertensive individuals, variations are even more pronounced. Normally, the blood pressure rises while at work or play and falls to its lowest levels during sleep. So, do not be overly

Be sure to note date and time when recording your blood pressure. Consult your

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4. WHO blood pressure classification

accurate, complete blood pressure history.

Standards for assessment of high blood pressure, without regard to age, have been established by the World Health Reference Material: Journal of Hypertension Organization (WHO), and shown in 1999, Vol 17 No.2 chart below. Grade 3 hypertension (severe) 110 105 100

home, Home measurement reduces the effects of outside influences on blood pressure readings, supplements the doctor's readings and provides a more

5. Blood pressure variations An individual's blood pressure varies greatly on a daily and seasonal basis. It may vary by 30 to 50 mmHg due to various conditions during the day. In

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95 90 90 High-norma 85 80 Optimal 140 150 160 170 180 Systolic blood pressure

Grade 2 hypertension (moderate)

Grade 1 hypertension (mild)

PRECAUTIONS BEFORE USE 1. If you are taking medication, consult with your doctor to determine the most appropriate time to measure your blood pressure. NEVER change a prescribed medication without first consulting with your doctor.

concerned by the results of one

Take measurements at the same time every

Many readings give a more comprehensive

doctor to interpret your blood pressure data.

manual, and know your normal blood pressure.

day using the procedure described in this

measurement.

blood pressure history.

Accessory

Manual

3. WHO blood pressure classification display. 4. Easy to use, Press a button to automatically measure, record the measurement values and measurement time. 5. Automatically turns off (within 1 minute) to save power.

PARTS IDENTIFICATION

WHO blood pressure

SYMBOLS ON DISPLAY

SET Buttor

ON/OFF Button

mory Button

devices or turn them off. 4. Before using, should wash your hands. 5. Do not measure on the arm which simultaneously used monitoring ME Equipment, otherwise it could cause loss of function. 6. Consult your doctor if the unexpected readings are obtained, also please refer to "Trouble shooting" of the manual.

2. For people with irregular or unstable peripheral circulation problems due to

diabetes, liver disease, hardening of the arteries, etc., there may be fluctuation in

3. Measurements may be impaired if this device is used near televisions, microwave ovens, X-ray, mobile phone equipment or other devices with strong electrical fields.

To prevent such interference, use the monitor at a sufficient distance from such

blood pressure values measured at the upper arm versus at the wrist.

7. The reading is probably a little lower than measured in the hospital due to the steady mood at home. 8.Cuff pressure range 0-299mmHg FEATURES OF THE PRODUCT

1. Memory can store 90 measurements. 2. Large and clear LCD display.

INSERT OR REPLACE BATTERIES 1. Remove the battery cover. 2. Insert new batteries into the battery compartment as shown, taking care that the polarities(+) and (-)are correct. 3. Close the battery cover, Use only LR03, AAA batteries.

Disposal of empty battery to

• Battery life varies with the ambient temperature and may be shorten at low temperatures. The batteries may leak and cause a malfunction.

• Use the specified batteries only. The batteries provided with the device are for

the authorized collecting party subject to the regulation of each individual territory

CAUTION • Insert the batteries as shown in the battery compartment. If not, the device will not

device to malfunction. (LOW BATTERY mark) does not appear when the batteries run out. 11

model does not have this function, or you may choose method No.2 to set the voice

• When 🗓 (LOW BATTERY mark) blinks in the display, replace all batteries with new

ones. Do not mix old and new batteries. It may shorten the battery life, or cause the

Π̈́Π ÖΠ ΩÑ month date hour minute

Method No.2 for voice setting: Please press and hold the "MEM" button when the

testing monitor performance and may have a shorter life. Used batteries may leak and damage the main unit. Pleases observe the following * If you are not going to use the unit for a long period of time (approximately three

* Replace worn batteries with their polarities in the correct direction.

1. Press "SET" key to turn on. 2. Press and hold "SET" key until the year number displays and flashes on LCD to enter setting mode. 3. Press "MEM" key to adjust the year, then press "SET" key again to save your setting and enter the month setting mode.

4. Press "MEM" key to adjust the month. Following the same steps to adjust date/hour/

minute/(Voice on/off) until setting completed("In" is the On, "IF" is the Off)Non-talking

The units will be chosen by the above shows mmHg/kPa after decontrol, After the

nomal boot unit values are shown as blood

Also select memory unit value changes.

pressure.

months or more), remove the batteries.

The goods have mm Hg(mmHg), kPa (kPa) two kinds of blood pressure display units(mmHg factory to express) Boots continued to press the ON/OFF button exceeding five seconds.

device is in shutdown state to enter the voice setting, please press the "MEM" button again to choose "ON" or "OF", press"ON/OFF"button to quit .

UNIT CONVERSION mmHg/kPa DISPLAY

ATTACHING THE WRIST CUFF

1) Wrap the wrist cuff around your wrist about (1-2)cm above your hand as shown

Grade 3 hypertension (severe) Diastolic blood pressure Grade 2 hypertension (moderate) Reference material: journal of Grade 1 hypertension (mild) hypertension 1999. vol 17 No.2 High-normal

2. Press the "ON/OFF" button. All icons appear two seconds on DISPLAY, then switch to

measurement, and display "0" or last measurement record.

Normal

Optimal

WHO BLOOD PRESSURE CLASSIFICATION DISPLAY

CAUTION

HOW TO MEASURE BLOOD PRESSURE 1. Fasten the wrist cuff according to the instructions in "ATTACHING THE WRIST CUFF."

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18

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Electromagnetic environment --guidance

Floors should be wood, concrete

or ceramic tile. If floors are covered

Mains power quality should be

that of a typical commercial or

hospital environment.

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1. Fastening the wrist cuff

level as your heart.

every day.

in the figure at the right.

measure on a bare wrist, 2. How to take proper measurements

2) Fasten the wrist cuff tightly by using the Velcro Strip. For proper measurements, fasten the wrist cuff tightly and

For best accuracy in blood pressure measurement: • Sit comfortably at a table. Rest your wrist on the table.

Remain still and keep quiet during measurement.

• Relax for about 5 to 10 minutes before measurement. • Raise your hand so that the wrist cuff is at the same

• Do not measure right after physical exercise or a bath. • Measure your blood pressure at about the same time

the buttons(UP). "SET" button for the memory (DOWN)

button read out the latest measurement of memory.

display "П□" has been to delete all memory.

Do not fold the arm cuff too tightly.

Indication

Dimensions:

Classification

Wrist circumference

Weight:

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Emissions

RF emissions

RF emissions

emissions IEC 61000-3-2

IEC 61000-3-3

fluctuations/flicker

CISPR 11

CISPR 11

Harmonic

Voltage

23

emissions

Voltage dips,

interruptions

and voltage

variations on

snoπ

CARE AND MAINTENANCE To keep your digital blood pressure monitor in the best condition and protect the unit from damage, follow the directions listed below: Keep the monitor in the storage case when not in use.

READ MEMORY

DELETE MEMORY The state read out the memory press the (memory) button five seconds, the LCD

Press "MEM" button, a memory reading out the latest measurements, "MEM" for

Power Measurement closure or after the end of the state .can press the "MEM"

SPECIFICATIONS Measuring Method Oscillometric Measurement Digital LCD display Pressure:(30~280)mmHg

> Atmospheric pressure:50kPa~106kPa Approx: 72(W)X67(H)X30(D)mm

Approx: 130g, excluding batteries

Type BF

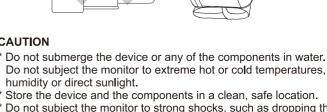
(13.5~19.5)cm Specifications may be changed without notice in the event of improvement being made.

Clean the monitor and cuff with a soft dry cloth. Do not use any abrasive or volatile cleaners

3. Start measurement, the cuff in the strap will automatically inflate.

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The mark will flash on LCD. When complete, the results will be displayed.



Пο

* Do not subject the monitor to strong shocks, such as dropping the unit on the floor. * Remove the batteries if the unit will not be used for three months or longer. Always replace all the batteries with new ones at the same time. • This product is designed for use over an extended period of time; however, it is generally recommended that it be inspected and calibrated every two years to ensure proper function and performance. (* Pressure calibration is done by EU representatives)

Measuring Range: Pulse:(40~199)Beat/min Static Pressure: ± 3 mmHg Pulse: $\pm 5\%$ Accuracy: Memory: 90 Memories Power supply: 2x1.5V Batteries(LR3 or AAA) use alkaline battery, measure above 200 times. +5°C~+40°C. 15%RH~93%RH Operating condition: Atmospheric pressure: 70kPa~106kPa Storage condition: -20°C~+55°C. 0%RH~93%RH

TROUBLESHOOTING If you have trouble in using the unit please check the following points first. **ERROR DISPLAY** POSSIBLE CAUSE **HOW TO CORRECT** No battery installation Insert batteries Nothing is displayed When you push the Battery worn out Replace new batteries POWER button or The polarities of batteries Insert battery in the correct

1.MODEL GM-500W needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in

2.Portable and mobile RF communications equipment can affect MODEL

1. Warning that the use of accessories, transducers and cables other than those specified with the exception of transducers and cables sold by the manufacturer of the MODEL GM-500W as replacement parts for internal components, may result in increased EMISSIONS or decreased IMMUNITY of the MODEL

2. Warning that the MODEL GM-500W should not be used adjacent to or stacked

polarities

1. Type of protection against electric shock: INTERNALLY POWERED EQUIPMENT.

2.Degree or protection against electric shock: TYPE BF APPLIED PART.

Operating conditions: +5°C~+40°C. 15%RH~93%RH 70kPa~106kPa

placed wrongly

4. Equipment not suitable for category AP&APG equipment use in presence.

the system might not meet its performance specifications if stored or used outside

3. Mode of operation: CONTINUOUS OPERATION.

the temperature and humidity as mentioned below:

Storage conditions: -20°C~+55°C. 0%RH~93%RH

ACCOMPANYING DOCUMENTS

the ACCOMPANYING DOCUMENTS;

Battery icon flash

A.Instructions for use

B. Technical description

GM-500W.

GM-500W

Immunity test

Electrostatic

Surge

IEC 61000-4-5

E1:can't normally Increase pressure	Check your wrist cuff if any air leakage	Replace wrist cuff with new one		
E3 inflate pressure too high		Re-measurement or send back dealer for re-calibrate pressure		
E2E4:have shaking while measurement	Hand or body shaking while measurement	keeping static and correct gesture to measure again		
■ Battery icon on	Battery low power	Replace battery and measure agai		
The systolic pressure Value or diastolic	1.The wrist cuff was held lower than your heart	keeping correct position and gesture to measure again		
Pressure value too high	2.The wrist cuff was not attached properly			
les ing.	3. You moved your body or spoke during measurement			
The systolic pressure Value or diastolic	1.The wrist cuff was held higher than your heart			
Pressure value too low	2.you moved your body or Spoke during measurement			

Guidance and manufacturer's declaration – electromagnetic emissions

The MODEL GM-500W is intended for use in the electromagnetic environment

specified below. The customer or the user of the MODEL GM-500W should

<5 % UT

40 % UŤ

95 % aip in

 $(60 \% \text{ dip in U}_{\scriptscriptstyle T})$

for 0,5 cycle

for 5 cycles

Electromagnetic environment- guidance

The MODEL GM-500W uses RF energy only for

The MODEL GM-500W is suitable for use in all

establishments, including domestic establishments

and those directly connected to the public low-

Mains power quality should be

that of a typical commercial or

hospital environment. If a dips

or an interruption of mains

power occurs, the current of

an electromagnetic site survey,

should be less than the

compliance level in each

voltage power supply network that supplies

buildings used for domestic purposes.

its internal function. Therefore, its RF emissions

are very low and are not likely to cause any

interference in nearby electronic equipment.

assure that it is used in such an environment

Compliance

Group 1

Class B

Class A

Complies

<5 % UT

40 % UŤ

95 % aip ir

 $(60 \% \text{ dip in U}_{\scriptscriptstyle T})$

for 0,5 cycle

for 5 cycles

with other equipment

IEC 60601

test level

±6 kV contact

±1 kV line(s)

assure that it is used in such an environment.

and neutral

Guidance and manufacturer's declaration - electromagnetic immunity The MODEL GM-500W is intended for use in the electromagnetic environment specified below. The customer or the user of the MODEL GM-500W should assure that it is used in such an environment

Compliance

level

±6 kV contact

±8 kV air

discharge ±8 kV air (ESD)IEC with synthetic material, the relative 61000-4-2 humidity should be at least 30 %. Electrical fast ±2 kV for power ±2 kV for power Mains power quality should be that transient/burst supply lines and supply lines and of a typical commercial or hospital IEC 61000-4-4 patient coupled patient coupled lines lines

±1 kV line(s)

and neutral

Guidance and manufacturer's declaration - electromagnetic immunity

The MODEL GM-500W is intended for use in the electromagnetic environment

specified below. The customer or the user of the MODEL GM-500W should

a, Field strengths from fixed transmitters, such as base stations for radio (cellular/

cordless) 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 GM-500W is used exceeds the

applicable RF compliance level above, the MODEL GM-500W should be

observed to verify normal operation. If abnormal performance is observed,

additional measures may be necessary, such as re-orienting or relocating the

b. Over the frequency range 150 kHz to 80 MHz, field strengths should be less

Compliance power supply IEC 60601 Immunity test Electromagnetic environment the MODEL GM-500W may 70 % ÚT 70 % ÚT input lines test level --quidance level be dropped off from normal (30 % dip in U_T) (30 % dip in U_⊤) IEC 61000-4for 25 cycles for 25 cycles level, it may be necessary to Portable and mobile RF Conducted RF 3 Vrms 3 Vrms <5 % UT <5 % UT use uninterruptible power 150 kHz to communications equipment IEC 61000-4-6 (>95 % dip in U (>95 % dip in U_T) supply or a battery. should be used no closer to any 80 MHz for 5s for 5s part of the MODEL GM-500W, including cables, than the Power 3 A/m 3 A/m Power frequency magnetic

frequency (50/60 Hz) magnetic field IEC 61000-4-		3AIII	fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.				recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance
NOTE UT	is the a.c. mains	vo l tage prior to	application of the test level				Recommended separation distance
25							26
Radiated RF	3 V/m	3 V/m	$d = 1.2 \sqrt{P}$	l	NOTE 1 At 80 MHz ar	ad 800 MHz th	e higher frequency range applies.
IEC 61000-4-3 80 MHz to 2.5 GHz			$d = 1.2 \sqrt{P} 80 \text{ MHz to } 800 \text{ MHz}$ $d = 2.3 \sqrt{P} 80 \text{ MHz to } 2.5 \text{ MHz}$ where P is the maximum output	NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			

27 Recommended separation distances between For transmitters rated at a maximum output power not listed above, the recommended portable and mobile RF communications equipment and the MODEL GM-500W 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 The MODEL GM-500W is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the MODEL transmitter in watts (W) according to the transmitter manufacturer. GM-500W can help prevent electromagnetic interference by maintaining a minimum NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency distance between portable and mobile RF communications equipment (transmitters) range applies. and the MODEL GM-500W as recommended below, according to the maximum NOTE 2 These guidelines may not apply in all situations. Electromagnetic

 $d = 1,2 \sqrt{P}$ $d = 1,2 \sqrt{P}$ $d = 2.3 \sqrt{P}$ 0.01 0.12 0.12 0.23 0.1 0.38 0.38 0.73 2.3 1.2 1.2 10 3.8 3.8 7.3 100 12 12 23 29

propagation is affected by absorption and reflection from structures, objects and people.

than 3 V/m.

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power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation Distance in metres (m). Field strengths from fixed RF transmitters, as determined by

frequency range. Interference may occur in the vicinity of equipment marked with the following symbol:

output power of the communications equipment. Rated maximum Separation distance according to frequency of transmitter output power of transmitter 150 kHz to 80 MHz | 80 MHz to 800 MHz | 800 MHz to 2.5 GHz

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