GMC

Automatic
Upper Arm
Blood Pressure
Monitor

Model: X3

Introduction

Blood pressure measurements determined with X3 are equivalent to those obtained by a trained observer using cuff/stethoscope auscultation method, within the limits prescribed by the American National Standard, Electronic or Automated Sphygmomanometers. This unit is to be used by adult consumers in a home environment. The patient is an intended operator. Do not use this device on whole pediatric population. X3 is protected against manufacturing defects by an established International Warranty Program. For warranty information, you can contact the manufacturer, GMC Inc.

Attention: Consult the accompanying documents. Please read this manual carefully before use. For specific information on your own blood pressure, contact your physician. Please be sure to keep this manual.

Indications For Use

The GMC Upper Arm Automatic Blood Pressure Monitor, Model X3 is a non-invasive blood pressure measurement device that is used for measuring systolic and diastolic blood pressure and pulse rate using the oscillometric method for adults at home.
The device has an irregular heartbeat (IHB) indicator. The device detects the appearance of an irregular heartbeat during measurement, and displays an IHB symbol on the LCD with the reading once the irregular heartbeat is detected.

Real Fuzzy Measuring Technology

This unit uses the oscillometric method to detect your blood pressure. Before the cuff starts inflating, the device will establish a baseline cuff pressure equivalent to the air pressure. This unit will automatically determine the appropriate inflation level based on pressure oscillations, followed by cuff deflation.
During the deflation, the device will detect the amplitude and slope of the pressure oscillations and thereby determine your actual the systolic blood pressure, diastolic blood pressure, and pulse rate.

Preliminary Remarks

This blood pressure monitor complies with :
- ISO 81060-2 :2013 Non-invasive sphygmomanometers - Part 2: Clinical validation of automated measurement type.
- IEC 80601-2-30: 2018 Medical electrical equipment - Part 2-30: Particular requirements for the basic safety and essential performance of automated non-invasive sphygmomanometers.
- IEC 60601-1-2 : 2014 Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral Standard: Electromagnetic disturbances - Requirements and tests

This blood pressure monitor was designed for long service time. Ensure continued accuracy, it's recommended that all digital blood pressure monitors require re-calibration. This monitor (under normal usage with approx. 3 measurements a day) does not require re-calibration for 2 years. Once the unit should be re-calibrated the device will display CA. The unit should also be re-calibrated if the monitor sustains damage due to blunt force (such as dropping) or exposure to fluids and / or extreme hot or cold temperature / humidity changes. When CA appears, simply return to your nearest dealer for re-calibration service.

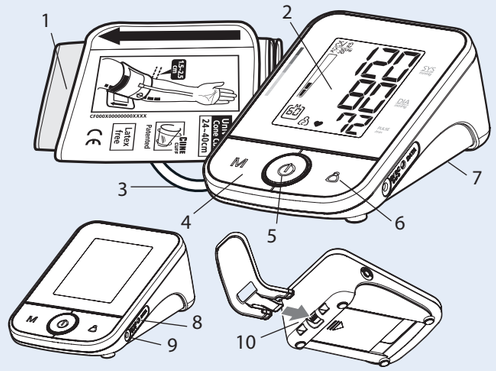
Cautionary Notes

1. DO NOT adjust medication based on measurement results from this blood pressure monitor. Take medication as prescribed by your physician. Only a physician is qualified to diagnose and treat High Blood Pressure.
2. The monitor is not intended to be a diagnostic device.
3. Consult your physician before using the device for any of the following conditions: common arrhythmias such as atrial or ventricular premature beats or atrial fibrillation, arterial sclerosis, poor perfusion, diabetes, age,pregnancy, pre-eclampsia, renal diseases.
4. Note that PATIENT motion, trembling, shivering may affect the measurement reading.
5. Do not use the device on the injured arm or the arm under medical treatment.
6. Do not apply the arm cuff on the arm while on an intravenous drip or blood transfusion.
7. Consult your physician before using the device on the arm with an arterio-venous (A-V) shunt.
8. Do not use the device with other medical electrical (ME) equipment simultaneously.
9. Do not use the device in the area of HF surgical equipment, MRI, or CT scanner, or in an oxygen rich environment.
10. The air tube or the AC adapter cable may cause accidental strangulation in infants.
11. Contains small parts that may cause a choking hazard if swallowed by infants.
12. Always consult your physician. Self-diagnosis of measurement results and self-treatment are dangerous.
13. Consult your physician before using the device for any of the following conditions:
    • If you have had a mastectomy.
    • Do not take measurements more than necessary. It may cause bruising due to blood flow interference.
    • People with severe blood flow problems or blood disorders as cuff inflation can cause bruising.
14. Remove the arm cuff if it does not start deflating during the measurement.
15. Do not use this device on infants or persons who cannot express their intentions.
16. Do not use the device for any purpose other than measuring blood pressure.
17. Use only the approved arm cuff for this device. Use of other arm cuffs may result in incorrect measurement results.
18. Do not disassemble the monitor or arm cuff. This may cause an inaccurate reading.
19. Do not use in a location with moisture, or a location where water may splash on the device. This may damage the device.
20. Do not use the device in a moving vehicle (car, airplane).
21. Leaky batteries can damage the unit. Remove the batteries when the unit is not used for a long time.
22. Do not forcibly crease the arm cuff or the air tube excessively.
23. Do not press the air tube while taking a measurement.
24. To unplug the air plug, pull on the air plug at the connection with the monitor, not the tube itself.
25. Do not drop the monitor or subject device to strong shocks or vibrations.
26. Do not inflate the arm cuff when it is not wrapped around your arm.
27. Do not use the device outside the specified environment. It may cause an inaccurate reading.
28. Dispose of the device, components and optional accessories according to applicable local regulations. Unlawful disposal may cause environmental pollution.
29. Used cuff may be contaminated medical waste and should be disposed of in accordance to your local regulations. If blood or other soil cannot be removed, the contaminated reusable cuff should be disposed. Skin contagious diseases (eg Staphylococcus aureus, vancomycin-resistant Enterococcus) that a patient possibly has, and should either follow a full disinfection process in this case before reusing it or dispose of the cuff completely without reuse.
30. This unit is not field serviceable. You should not use any tool to open the device nor should you attempt to adjust anything inside the device. If you have any problems, please contact the store or the doctor from whom you purchased this unit or please contact GMC Inc.
31. To stop operation at any time, press the ON/OFF/START key, and the air in the cuff will be rapidly exhausted.
32 Batteries can be fatal if swallowed. You should therefore store the batteries and products where they are inaccessible to small children. If a battery has been swallowed, call a doctor immediately.
33 Do not service or maintain device and cuff while in use.
34 This device should not be used adjacent to or stacked with other equipment.
35 Please do not use any other cables or accessories not approved by the manufacturer in this manual to avoid negative influence on electromagnetic compatibility.
36 This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:
1) this device may not cause harmful interference and
2) this device must accept any interference received, including interference that may cause undesired operation of the device.

Federal Communications Commission (FCC) Statement
15.105(b)
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

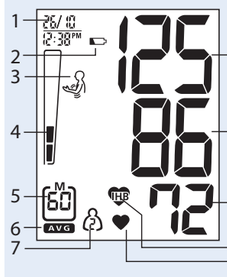
15.21
You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.
FCC RF Radiation Exposure Statement:
1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. For body worn operation, this device has been tested and meets FCC RF exposure guidelines. When used with an accessory that contains metal may not ensure compliance with FCC RF exposure guidelines.

Name/Function of Each Part



1. Arm Cuff
2. LCD Display
3. Air Tube and Connector
4. Memory Key
5. ON/OFF/START key
6. User-Switching key
7. Battery Cover
8. Data Link Socket
9. AC Adaptor Jack
10. Cuff Holder Design

Display Explanations



1. Date/Time Indication
2. Weak Battery Mark
3. Movement Mark
4. Hypertension Risk Indication
5. Memory Mark
6. Memory Average Mark
7. Memory Zone
8. Systolic Pressure
9. Diastolic Pressure
10. Pulse Rate
11. Irregular Heartbeat Detection (IHB)
12. Pulse Mark

Movement Detection

The "Movement Detection" helps reminding the user to remain still and is indicating any adverse body movement during measurement. The specified icon appears once a "body movement" has been detected during and after such a measurement.
Note: It's highly recommended that you measure again if the icon appears.

Guest Mode

This monitor has a non-stored single measurement function. Press the User-Switching key to select the memory zone of guest, and follow the Measurement Procedure to take a measurement correctly. When the measurement is completed, the measurement value will not be stored in memory zone.

Hypertension Risk Indication (HRI)

Refer to the definitions of the World Health Organization, the blood pressure ranges can be classified into 6 grades. (Ref. 1999 WHO-International Society of Hypertension Guidelines for the management of Hypertension). This blood pressure classification are based on historical data, and may not be directly applicable to any particular patient. It is important that you consult with your physician regularly. Your physician will tell you your normal blood pressure range as well as the point at which you will be considered at risk. For reliable monitoring and reference of blood pressure, keeping long- term records is recommended.
This unit is equipped with an innovative blood pressure risk indication, which visually indicates the assumed risk level (optimal / normal / high-normal/ grade 1 hypertension / grade 2 hypertension / grade 3 hypertension) of your result, making the meaning of your findings comprehensive.

Blood Pressure Standard World Health Organization (WHO) : 1999				
		Systolic Pressure (mmHg)		Diastolic Pressure (mmHg)
Optimal		<120	and	<80
Normal		120~129	or	80~84
High-normal		130~139	or	85~89
Grade 1 hypertension (mild)		140~159	or	90~99
Grade 2 hypertension (moderate)		160~179	or	100~109
Grade 3 hypertension		≥180	or	≥110

Irregular Heartbeat (IHB) Detection

This unit is equipped with an Irregular Heartbeat (IHB) Detection which allows those who have an irregular heartbeat to obtain accurate measurements alerting the user of the presence of an irregular heart beat during the measurement.
Note: It is strongly recommended that you consult your physician if the IHB icon (IHB) appears often.

Error Codes for your reference

EE / Measurement Error: Make sure the L-plug is securely connected to the air socket and calmly measure again. Wrap the cuff correctly around your arm and keep arm steady during measurement. If the error keeps occurring, return the device to your local distributor or service centre.
E1 / Air Circuit Abnormality: Make sure the L-Plug is securely connected to the air socket on the side of the unit and calmly measure again. If the errors still occur, return the device to your local distributor or service centre for help.
E2 / Pressure Exceeding 300 mmHg: Switch the unit off and measure again quietly. If the error keeps occurring, return the device to your local distributor or service centre.
E3 / Data Error: Remove the batteries, wait for 60 seconds, and reload. If the error keeps occurring, return the device to your local distributor or service centre.
Er / Exceeding Measurement Range: Measure again quietly. If the error keeps occurring, return the device to your local distributor or service centre.

Using the AC Adaptor (Optional)

1.Connect the AC adaptor with the AC adaptor jack on the right side of the unit.
2.Plug the AC adaptor into the socket. (AC adaptors with required voltage and current indicated near the AC adaptor jack.)
Caution:
1. Please unload the batteries when operating with the AC mode for a longer period of time . Leaving the batteries in the compartment for a long time may cause leakage, which may lead to damage of the unit.
2. No batteries are needed when operating with the AC mode.
3. AC adaptors are optional. Please contact the distributor for the compatible AC adaptors.
4. Use only the authorized AC Adaptor with this blood pressure monitor. Information for the authorized AC adaptor, please refer to APPENDIX 1.

Installing Batteries

1. Press down and lift the battery cover in the direction of the arrow to open the battery compartment.
2. Install or replace 4 "AA" sized batteries in the battery compartment according to the indications inside the compartment.
3. Replace the battery cover by clicking in the bottom hooks first, then push in the top end of the battery cover.
4. Replace the batteries in pairs. Remove batteries when unit is not in use for extended periods of time.

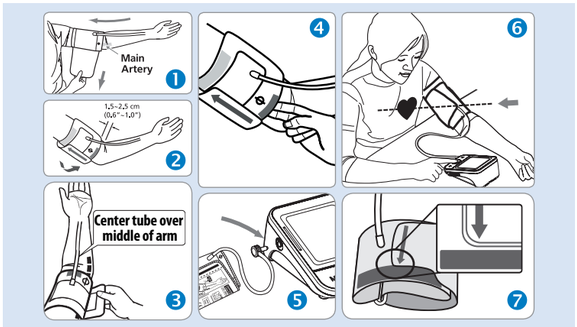
You need to replace the batteries when
1. Low battery icon appears on display.
2. The ON/OFF/START key is pressed and nothing appears on display.

Caution:
1. Batteries are hazardous waste. Do not dispose them together with the household garbage.
2. There are no user serviceable parts inside. Batteries or damage from old batteries are not covered by warranty.
3. Use exclusively brand batteries. Always replace with new batteries together. Use batteries of the same brand and same type.

Applying the Cuff

1. Unwrap the arm cuff, leaving the end of the cuff through the D-ring of the cuff.
2. Put your left arm through the cuff loop. The color strip indication should be positioned closer to you with the tube pointing in the direction of your arm (Fig. ①). Turn your left palm upward and place the edge of the arm cuff at approximately 1.5 to 2.5 cm above the inner side of the elbow joint (Fig. ②). Tighten the cuff by pulling the end of the cuff.

3. Center the tube over the middle of the arm. Press the hook and loop material together securely. Allow room for 2 fingers to fit between the cuff and your arm. Position the artery mark (Ø) over the main artery (on the inside of your arm) (Fig. ③,④). Note: Locate the main artery by pressing with 2 fingers approximately 2 cm above the bend of your elbow on the inside of your left arm. Identify where the pulse can be felt the strongest. This is your main artery.
4. Plug in the cuff connecting tube into the unit (Fig. ⑤).
5. Lay your arm on a table (palm upward) so the cuff is at the same height as your heart. Make sure the tube is not kinked (Fig. ⑥).
6. This cuff is suitable for your use if the arrow falls within the solid color line as shown on the right (Fig. ⑦). If the arrow falls outside the solid color line, you will need a cuff with other circumferences. Contact your local dealer for additional size cuffs.



Measurement Procedures

Here are a few helpful tips to help you obtain more accurate readings:
- Blood pressure changes with every heartbeat and is in constant fluctuation throughout the day.
- Blood pressure recording can be affected by the position of the user, his or her physiological condition and other factors. For greatest accuracy, wait one hour after exercising, bathing, eating, drinking beverages with alcohol or caffeine, or smoking to measure blood pressure.
- Before measurement, it's suggested that you sit quietly for at least 5 minutes as measurement taken during a relaxed state will have greater accuracy. You should not be physically tired or exhausted while taking a measurement.
- Do not take measurements if you are under stress or tension.
- Sit upright in a chair, and take 5-6 deep breaths. Avoid leaning back while the measurement is being taken.
- Do not cross the legs while sitting and keep the feet flat on the floor during measurement.
- During measurement, do not talk or move your arm or hand muscles.
- Take your blood pressure at normal body temperature. If you are feeling cold or hot, wait a while before taking a measurement.
- If the monitor is stored at very low temperature (near freezing), have it placed at a warm location for at least one hour before using it.
- Wait 5 minutes before taking the next measurement.

1. Press the User-Switching key to select memory zone 1, memory zone 2 or guest mode. After a memory zone is selected, press the ON/OFF/START key to reset the monitor so it can start measurement in the chosen memory zone.
2. Press the ON/OFF/START key. All digits will light up, checking the display functions. The checking procedure will be completed in 2 seconds.
3. After all symbols appear, the display will show a blinking "0". The monitor is ready to measure and will automatically inflate the cuff slowly to start measurement.
4. When the measurement is completed, the cuff will exhaust the pressure inside. Systolic pressure, diastolic pressure and pulse will be shown simultaneously on the LCD screen. The measurement is then automatically stored into the pre-designated memory zone.

This monitor will re-inflate automatically to approximately 220 mmHg if the system detects that your body needs more pressure to measure your blood pressure.

Note: 1. This monitor automatically switches off approximately 1 minute after last key operation.
2. To interrupt the measurement, simply press the ON/OFF/START key; the cuff will deflate immediately.
3. During the measurement, do not talk or move your arm or hand muscles.

Recalling Values from Memory

1. The monitor has two memory zones (1 and 2). Each zone can store up to 60 measurements.
2. To read memory values from a selected memory zone, use the User-Switching key to select a memory zone (1 or 2) from which you want to recall values. Press the Memory key. The first reading displayed is the average of the last 3 measurements stored in memory.
3. Continue to press the Memory key to view the last previously stored measurement. Every measurement comes with an assigned memory sequence number.

Note: The memory bank can store up to 60 readings per memory zone. When the number of readings exceeds 60, the oldest data will be replaced with the new record.

Clearing Values from Memory

1. Press the User-Switching key to select memory zone 1 or memory zone 2.
2. Press and hold the Memory key for approximately 5 seconds, then the data in the memory zone can be erased automatically.

Time and Bluetooth® Adjustment

1. Adjust the date/time/Bluetooth® in the monitor by installing or replacing batteries or holding down the ON/OFF/START key for approximately 5 seconds under power off mode. The display will show a blinking number showing the year.
2. Change the year by pressing the Memory key, each press will increase the number. Press the ON/OFF/START key to confirm the entry and the screen will show a blinking number representing the date.
3. Change the date, the hour and the minute as described in Step 2 above, using the Memory key to change and the ON/OFF/START key to confirm the entries.
4. After adjusting the date/time, the Bluetooth® symbol ( ) and the blinking icon ( ) will be shown on the display simultaneously. Use the Memory key to choose whether automatic Bluetooth® data transfer is activated (Bluetooth® symbol ( )+) or deactivated (Bluetooth® symbol ( )+) and confirm with the ON/OFF/START key
5. Press the ON/OFF/START key again, "0" will reappear as the Blood Pressure Monitor is ready for measurement.

Data Transfer via Bluetooth®

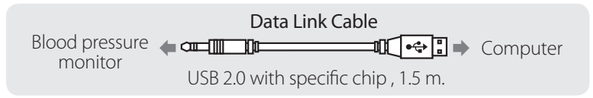
Pairing the Blood Pressure Monitor with your Smartphone.

To begin using Bluetooth® for the first time, please visit the website at http://www.rossmax.com for the initial set-up instructions.
1. Download and install the applicable APP onto your smartphone.
2. To bind this device with your smartphone, turn on the device, Bluetooth® and the App of smartphone, and follow set-up and binding instructions.
3. If the binding is successful, the Bluetooth® symbol ( ) will appear on the display and keep flashing during data transfer. The current measured value will automatically be transferred to the App when the measurement is completed.
4. If the binding has failed, the Bluetooth® symbol ( ) will not appear on the display and the current measured value will not automatically be transferred to the App. In this case, the value is saved in the selected user memory zone. Please re-bind this device with your smartphone and follow App instructions for Bluetooth® transfer.

Notes: 1. Unbinding your device will not delete the data from the App.
2. If you re-bind your smartphone with your blood pressure monitor, all prior reading history stored on the phone App will be retained.
3. Bluetooth® data transfer will reduce the battery capacity.

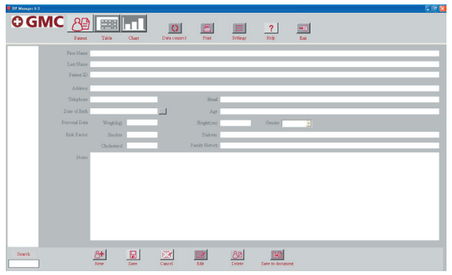
Data Transfer to PC

GMC provides a free, integrated and user-friendly blood pressure management software which can be downloaded and follow the installation instruction to install software on your computer. Computer shall compliance Pentium 800MHz or higher CPU, 512 MB RAM or more memory, 500MB or more disk space, recommended 1024 x 768 and above screen pixels, USB 1.1 or higher USB port, Microsoft Windows operating system, and Microsoft Office/Adobe/Acrobat Reader available.



⚠ Note:
1. Please download the software on the computer which uses a firewall.
2. The measurement data is stored in the device, even if the data is revised after data transmission from computer, you are still able to access the right data, please follow the "Recalling Values from Memory" section to operate.

The software includes patient information establishment, measurement data sorting and calculating, and measurement data diagram functions, please read the user guide from clicking " Help" before use it.



Maintenance(Cleaning/Disinfection)

1. Do not use any abrasive or volatile cleaners.
2. Do not wash the device and any components or immerse them in water.
3. Do not use gasoline, thinners or similar solvents to clean the device.
4. Use a soft and dry cloth, or a soft and moistened cloth and neutral soap to clean on the monitor and the arm cuff.
5. If necessary, gently wipe the cuff with a soft cloth dampened with the 70% isopropanol and rinse again with distilled water. Inspect the cuff after cleaning to ensure it is visibly clean and allow cuff air dry . If soil is observed, repeat this step or replace a new cuff is recommended.
6. Changes or modification not approved by the manufacturer will void the user warranty. Do not disassemble or attempt to repair the device or components.

Troubleshooting

If any abnormality will arise during use, please check the following points.

Symptoms	Check Points	Correction
No display when the ON/OFF/START key is pressed	Have the batteries run down?	Replace them with four new batteries.
	Have the batteries' polarities been positioned incorrectly?	Re-insert the batteries in the correct positions.
EE mark shown on display or the blood pressure value is displayed excessively low (high)	Is the cuff placed correctly?	Wrap the cuff properly so that it is positioned correctly.
	Did you talk or move during measurement?	Measure again. Keep wrist steady during measurement.
	Did you vigorously shake the cuff during measurement?	

Note: If the unit still does not work, return it to your dealer. Under no circumstance should you disassemble and repair the unit by yourself.

Specifications

Measurement Method	Oscillometric
Measurement Range	Pressure: 30~260 mmHg; Pulse: 40~199 beats/minute
Pressure Sensor	Semi conductor
Accuracy	Pressure: ± 3 mmHg; Pulse: ± 5% of reading
Inflation	Pump Driven
Deflation	Automatic Air Release Valve
Memory capacity	60 memories for each zone x 2 zones
Auto-shut-off	1 minute after last key operation
Permissible Operating Temperature and Humidity	10°C~40°C (50°F~104°F); 15%~85% RH; 700~1060 hPa
Permissible Transport and Storage Temperature and Humidity	-10°C~60°C (14°F~140°F); 10%~90% RH; 700~1060 hPa
DC Power Source	DC 6V four AAA Batteries
AC Power Source	DC 6V, ≥600mA (Plug size: outer(-) is Ø4.0, inner(+) is Ø1.7)
Dimensions	96 (L) X 139.7 (W) X 63.2 (H) mm
Weight	246.0g (G.W.) (w/o Batteries)
Arm circumference	Adult: 24~40 cm (9.4"~15.7")
Limited Users	Adult users
	Type BF: Device and cuff are designed to provide special protection against electrical shocks.
IP Classification	IP21: Protection against harmful ingress of water and particulate matter
* Specifications are subject to change without notice.	

Electromagnetic Compatibility Information

1. This device needs to be installed and put into service in accordance with the information provided in the user manual.
2. The Essential Performance of this unit is the accuracy of pressure(± 3 mmHg) which is to meet the clause 201.12.1.101, 201.12.1.102, 201.12.1.107 of IEC 80601-2-30:2009+AMD1:2013 Medical electrical equipment – Part 2-30: Particular requirements for the basic safety and essential performance of automated non-invasive sphygmomanometers.
3. WARNING: Portable RF communications equipment (including peripherals such as antenna cables, external antennas), diathermy, electrocautery, and RFID for HOME Environment: security systems (e.g., electromagnetic anti-theft systems and metal detectors should be used no closer than 30 cm (12 inches) to any part of the X3, including cables specified by the manufacturer. Otherwise, degradation of the performance of this device could result.

If higher IMMUNITY TEST LEVELS than those specified in Table 9 are used, the minimum separation distance may be lowered. Lower minimum separation distances shall be calculated using the equation specified in 8.10.

Manufacturer's declaration-electromagnetic emissions		
The X3 is intended for use in the electromagnetic environment (for home healthcare) specified below. The customer or the user of the X3 should assure that it is used in such an environment.		
Emission test	Compliance	Electromagnetic environment-guidance (for home healthcare environment)
RF emissions CISPR 11	Group 1	The X3 uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The X3 is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/flicker emissions IEC 61000-3-3	Compliance	

Manufacturer's declaration-electromagnetic immunity			
The X3 is intended for use in the electromagnetic environment (for home healthcare) specified below. The customer or the user of the X3 should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment-guidance (for home healthcare environment)
Electrostatic discharge (ESD) IEC 61000-4-2	Contact:±8 kV Air±2 kV,±4 kV,±8 kV,±15 kV	Contact:±8 kV Air±2 kV,±4 kV,±8 kV,±15 kV	Floors 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	+ 2kV for power supply lines + 1kV for input/output lines	+ 2kV for power supply lines Not applicable	Mains power quality should be that of a typical home healthcare environment.
Surge IEC 61000-4-5	+ 0.5kV, +1kV line(s) to line(s) + 0.5kV, +1kV,+ 2kV line(s) to earth	+ 0.5kV, +1kV line(s) to line(s) Not applicable	Mains power quality should be that of a typical home healthcare environment.
Voltage Dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	Voltage dips: 0 % UT; 0.5 cycle 0 % UT; 1 cycle 70 % UT; 25/30 cycles Voltage interruptions: 0 % UT; 250/300 cycle	Voltage dips: 0 % UT; 0.5 cycle 0 % UT; 1 cycle 70 % UT; 25/30 cycles Voltage interruptions: 0 % UT; 250/300 cycle	Mains power quality should be that of a typical home healthcare environment. If the user of the X3 requires continued operation during power mains interruptions, it is recommended that the X3 be powered from an uninterruptible power supply or a battery.
Power frequency(50, 60 Hz) magnetic field IEC 61000-4-8	30 A/m 50 Hz or 60 Hz	30 A/m 50 Hz	The X3 power frequency magnetic fields should be at levels characteristic of a typical location in a typical home healthcare environment.
NOTE UT is the a.c. mains voltage prior to application of the test level.			

Manufacturer's declaration-electromagnetic immunity			
The X3 is intended for use in the electromagnetic environment (for home healthcare) specified below. The customer or the user of the X3 should assure that is used in such and environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment-guidance (for home healthcare environment)
Conducted RF IEC 61000-4-6	3 Vrms: 0.15 MHz – 80 MHz 6 Vrms: in ISM and amateur radio bands between 0.15 MHz and 80 MHz 80 % AM at 1 kHz	3 Vrms: 0.15 MHz – 80 MHz 6 Vrms: in ISM and amateur radio bands between 0.15 MHz and 80 MHz 80 % AM at 1 kHz	Portable and mobile RF communications equipment should be used no closer to any part of the X3 including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance: d = 1.2, d = 1.2 80MHz to 800 MHz, d = 2.3 800MHz to 2.7 GHz, 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 metres (m). Interference may occur in the vicinity of equipment marked with the following symbol:
Radiated RF IEC 61000-4-3	10 V/m 80 MHz – 2.7 GHz 80 % AM at 1 kHz	10 V/m 80 MHz – 2.7 GHz 80 % AM at 1 kHz	
NOTE1 At 80 MHz and 800 MHz, the higher frequency range applies. NOTE2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			

More information on EMC compliance of the device may be obtained from GMC using the contacts shown in this manual.

Warranty Card

This instrument is covered by a 2 year guarantee from the date of purchase. The guarantee is valid only on presentation of the warranty card completed or stamped by the seller/dealer confirming date of purchase or the receipt. Batteries, cuff and accessories are not included. Opening or altering the instrument invalidates the guarantee. The guarantee does not cover damage, accidents or non-compliance with the instruction manual. Please contact your local seller/dealer or GMC Inc.

Customer Name: _____

Address: _____

Telephone: _____

E-mail address: _____

Product Information

Date of purchase: _____

Store where purchased:

_____

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GMC Inc.
No. 686, Su Chu Rd., Chuzhou, Anhui, China

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