

Romed[®]
HOLLAND

USER MANUAL



Fully Automatic Blood Pressure Meter

REF : BP-1000

CE
0044

Contents

A. Specifications	1
B. Safety Instructions	2
C. About Blood Pressure	3
D. Parts Identification	5
E. Battery Installation	6
F. Time Adjustment	7
G. Erase Memories	8
H. About the Touch Key	8
I. Applying the Cuff	9
J. Measurement Procedure	10
K. Take a Measurement	11
L. Recalling Memories	12
M. Troubleshooting	13
N. Maintenance	14
Q. Explanation of Symbols on Unit	15
R. Electromagnetic Compatibility Information	16

A. Specifications

Measurement Method	Oscillometric
Measurement Range	30-280mmHg
Pulse Range	40 – 199p/min
Measurement Accuracy	Pressure: ± 3 mmHg Pulse: $\pm 5\%$
Cuff Size	52 x 13.5cm (normal cuff)
Operating Condition	+10°C ~ + 40°C / 30%RH ~ 80%RH
Storage Condition	-5°C ~ +35° / 30%RH ~ 80%RH
Power Supply	4 x AA batteries
Dimensions	Approx. 150 (L) x 110 (W) x 65 (H) mm
Weight Approx.	370g not including batteries
Display	LCD, backlit
Touch pad key	Set/clock key ON/OFF key Memory key
Memory	99 measurements Can display the average of the last 2 measurements

B. Safety Instructions

1. This device is for household use only. It is not intended as a substitute for consultation with your physician.
2. For users diagnosed with common arrhythmia (atrial or ventricular premature beats or atrial fibrillation), diabetes, poor blood circulation, kidney problems, or for users who suffered from stroke, or for unconscious users, the device might not be suitable for use. Consult your physician in case of any doubt.
3. This monitor should not be operated by children to avoid possible hazardous situations.
4. The device contains high-precision assemblies. Therefore, avoid extreme temperatures, humidity and direct sunlight. Avoid dropping or strongly shocking the main unit, and protect it from dust.
5. Leaking batteries can damage the device. Remove the batteries when the device is not used for a long time.
6. Do not activate the device when the cuff is not connected or the cuff is not wrapped on your arm.
7. Do not disassemble the monitor or cuff, do not wash the cuff.
8. If the device is stored in a cold place, allow the device to acclimatize at room temperature. Also please refer to working environment.
9. Clean the device's body and the cuff carefully with a soft cloth. Do not press the LCD screen, do not clean the LCD screen with alcohol or petrol.
10. To avoid inaccurate results caused by electromagnetic interference between electrical and electronic equipment, do not use the device near a cell phone etc.

C. About Blood Pressure

What is Blood Pressure?

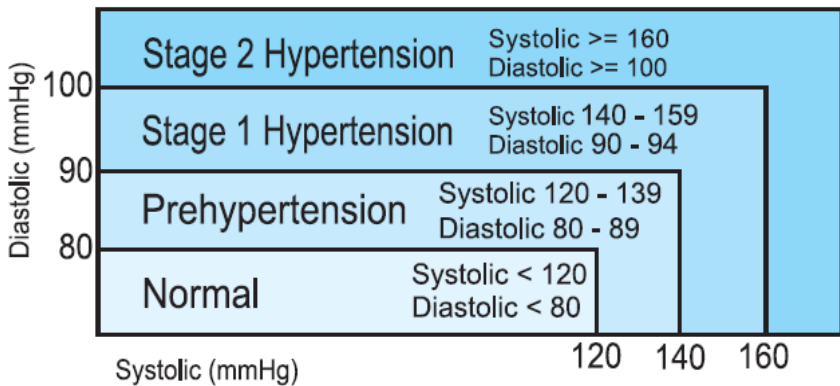
Blood pressure is the pressure exerted on the artery tube while blood flows through the arteries. The pressure measured when the heart contracts and sends blood out of the heart is systolic (high pressure). The pressure measured when the heart dilates with blood flowing back into the heart is called diastolic (low pressure).

Why Measure Your Blood Pressure?

Among the various health problems today, problems associated with high blood pressure are very common. High blood pressure's dangerously strong correlation with cardiovascular diseases has made measuring blood pressure become more important than ever.

Blood Pressure Classification Chart

The World Health Organization (WHO) has developed a blood pressure standard, according to which areas of low and high-risk blood pressure are identified. This standard, however, is a general guideline as individual's blood pressures vary among different people and age groups, etc.



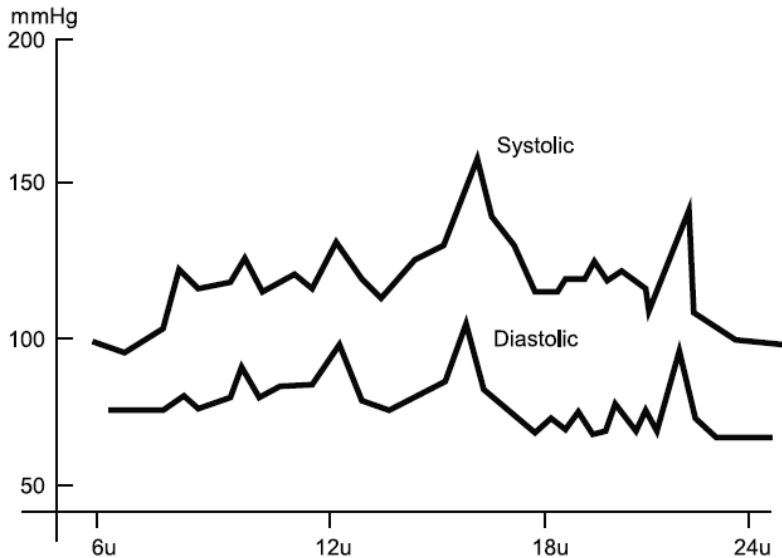
C. About Blood Pressure

It is important to consult 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.

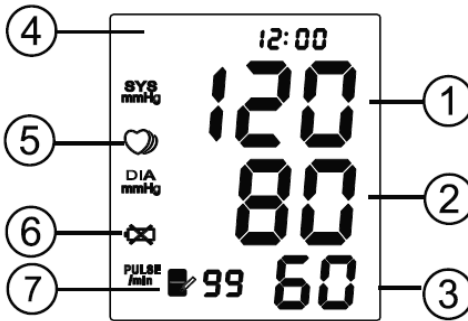
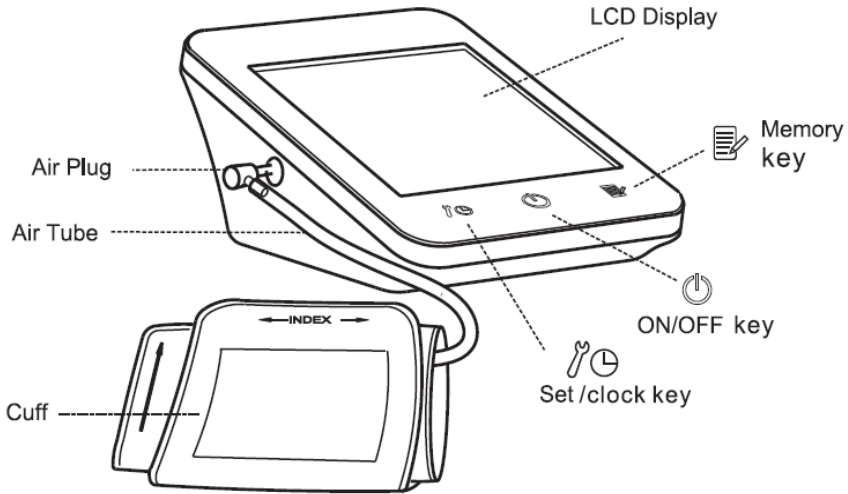
Blood Pressure Fluctuation

Blood pressure fluctuates all the time!

You should not be worried if you get two or three measurements at high levels. Blood pressure changes over the month and even throughout the day. It is also influenced by season and temperature, personal condition, etc.



D. Parts identification

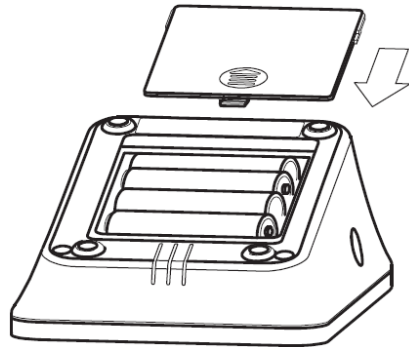


1. Systolic Pressure
2. Diastolic Pressure
3. Pulse Rate
4. Time and date
5. Heart Rate Indicator
6. Low Battery Indicator
7. Memory Number

E. Battery Installation




1. Press down and slide the battery cover in the direction of the arrow to open the battery compartment.

2. Install or replace 4 'AA' batteries in the battery compartment, taking care that the polarities (+) and (-) are correct.



3. Slide the battery cover to close the battery compartment. Do not mix old and new batteries.

4. You need to replace the batteries when:

- 1) The low battery icon  appears on display.  will not appear when battery is full.
- 2) Press the "" key but nothing appears on the display.










Caution:

1. Battery life varies with the temperature and may be shorter at low temperatures.

2. Batteries are hazardous waste. Do not dispose of them together with the household garbage.

3. Use alkaline batteries to extend the batteries life.

F. Time Adjustment

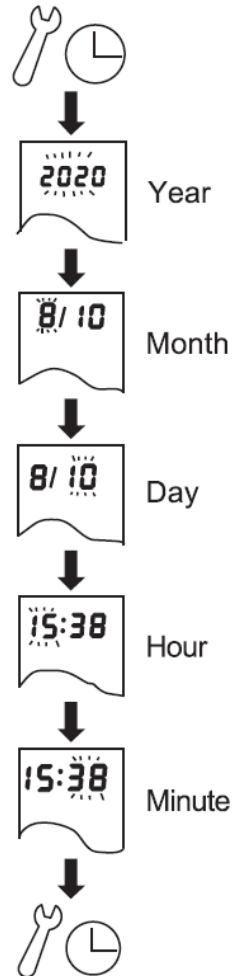
1. In the shutdown state press key “”, to display the time.
2. Press the key “” for more than 3 seconds to enter “set” mode. The display will show a blinking number showing the year. Press the key “” to get the desired year.
3. Press the key “” again, the display will show a blinking number showing the month. Press the key “” to get the desired month. Then press the key “” again to adjust the day. Press the key “” to get the desired day.
4. Press the key “”, the display will show a blinking number showing the hour/minute, operate according to “step 3” to get the desired time.
5. Press key “” during the time adjustment procedure to stop the time adjusting process directly. The adjustment result will be saved.

Note:



Time adjustment only works in the “Power Off” status
Please switch the device to the “Power Off” status before time adjustment.



About independent clock


A built-in independent clock device could guarantee the time accurately, when the device is without battery.

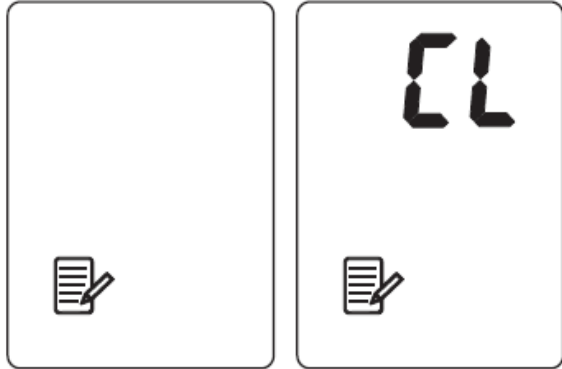


G. Erase Memories

1. In the “set” mode, after setting the time, press the key “” again to see the symbol “” appear on the LCD, blinking.

2. Long press the key “” until the LCD shows “CL”, and press the key “” again to confirm the erasing of all the measurement results

3. Press the key “” to get back to ‘Stand By’ status.



H. About the Touch Key

When installing the battery don't touch the key pad. The screen will display “**AA**”, and then it will go out later.

When you turn on the device by using the touch keys, you should press the touch key for 1 ~ 2 seconds continuously.



If the touch key doesn't work properly, please move away your finger, wait for 4-10 seconds, it would return to correct state.

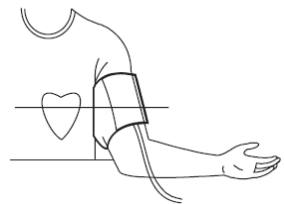
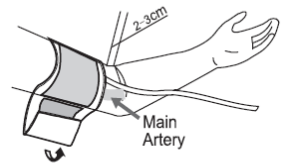
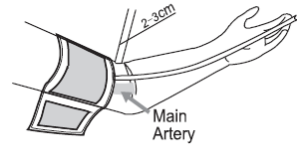
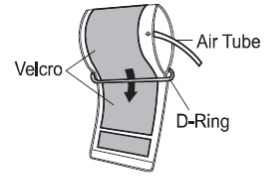
I. Applying the Cuff

1. Plug in the cuff connecting tube into the unit and unwrap the arm cuff, leaving the “Index” end of the cuff through the D-ring.
2. Put the cuff on your left arm, make sure the air tube is in the inside of the elbow.
3. Turn your left palm upward and adjust the edge of the cuff at approximately 2-3cm above the elbow.
4. Adjust your cuff’s air tube, the air tube shall lie over the brachial artery on the inside of the arm. The tube should run down the centre of the arm.
5. Tighten the cuff by pulling the ‘Index’ end of the cuff.

Note:

The “PROPER FIT RANGE”.

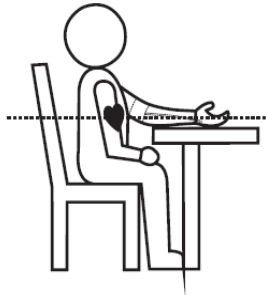
If the Index arrowhead falls within the “PROPER FIT RANGE”, it indicates that this cuff is suitable for you. If the Index arrowhead falls out of the “PROPER FIT RANGE” you may need a small/large cuff for measurement. Please consult your seller about changing cuff.



J. Measurement Procedure

Important tips for the most accurate blood pressure measurements

- Sit comfortably at a table and rest your arm on the table;
- Relax for about five to ten minutes before measurement;
- Place the centre of the cuff at the same height as your heart;
- Remain still and keep quiet during the measurement;
- Do not measure right after physical exercise or a bath;
- Rest twenty to thirty minutes before taking the measurement;
- Try to measure your blood pressure at the same time every day.




Note:

During measurement, do not be alarmed if you feel that the cuff is very tight.



An individual's blood pressure varies constantly, depending on the time of the day, and what you have eaten. What you drink can have a very strong and rapid effect on your blood pressure.

This device measures blood pressure through oscillometric method, meaning they measure the fluctuation in pressure. If you have a very weak or irregular heartbeat, the device may have difficulty determining your blood pressure.


K. Take a Measurement

1. Press the key “”. All digits will light up, checking the display functions. The checking process will be completed after about 2 seconds.

2. After all symbols appear, the display will show a blinking “0”. The monitor is now ready to measure and will automatically inflate to a settled pressure value around 180mmHg. This monitor will re-inflate automatically to approximately 210mmHg, if the system detects your body needs more pressure to take the measurement.


3. After inflating to the settled pressure, the device starts to deflate, when the heartbeat was detected, a heart symbol “” will be blinking on the display. The blinking “” mark blinks with each heartbeat.

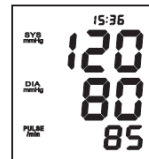
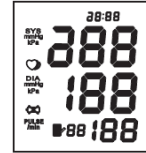
4. When the measurement is completed, the cuff will deflate automatically. Systolic, diastolic and pulse with date/time will be shown simultaneously on the LCD screen. The measurement results will be stored automatically. If a mistake was detected during the measurement, the symbol ‘E’ will display on the screen. Please refer to troubleshooting on page 16.

5. Press the key “” to switch off the device. Untie the cuff and pack the device in the box to preserve the device.

Note:

This monitor will automatically switch off after 3 minutes.


To stop the measurement procedure, please press the key “” directly.







L. Recalling Memories



Note:

- This device stores eighty measurements in the memory automatically. The data is always retained in the device.
- This device is able to record systolic, diastolic and pulse simultaneously with time/data.
- This device is capable to show average results of the latest 2 measurements.


1. In the 'Stand By' status. Press the key "" to enter into memory recall function.

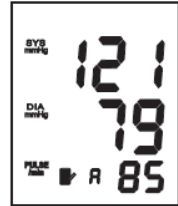
2. After press the key "", a symbol ". **A**" will displayed. The average systolic, diastolic and pulse of the last 2 measurements will display. Note: The "**A**" symbol means average.

3. Pressing the key "" again to get the latest results. By pressing the key "" to get the desired measurement results.

4. Hold the key "", the memory number will increase quickly, release the key "" to get the desired measurement results.

5. After the earliest measurement results was displayed, the number goes to "1".

6. Press key "" to finish recall memories and get back to "Stand By" status.



M. Troubleshooting

Problem	Possible Reason	Recommended Action
Nothing appears on the display, even when the power is turned on.	Batteries are drained	Replace all batteries with new ones
	Battery terminals are not in the correct position	Reinstall the batteries with negative and positive terminals matching those indicated on the battery compartment
The cuff does not inflate	Battery voltage is too low. The LOW BATTERY mark blinks. If the batteries are drained completely, the mark does not appear.	Replace all batteries with new ones
The unit does not measure	The cuff is not fastened properly.	Fasten the cuff correctly
	You moved your arm or body during the measurement.	Make sure you remain very still and quiet during the measurement
	The cuff position is not correct.	Sit comfortably and still. Raise your hand so that the cuff is at the same level as your heart
	-----	If you have a very weak or irregular heartbeat the device may have difficulty in determining your blood pressure
Measurement values appear too high or too low.	-----	Blood pressure varies constantly Many factors including stress, time of day and how you wrap the cuff may affect your blood pressure. Review the section "Taking a Measurement"
Other	The value is different from that measured at a clinic or doctor's office.	Being at a clinic may cause apprehension. The pressure may higher by 25-30 mmHg.
	-----	Remove the batteries. Place them back properly and try the measurement again

Note:















If the problem still exists, please consult the company where you purchased the device and describe the problems in detail.

Please don't disassemble the device by yourself and attempt to repair the device.

N. Maintenance

1. Do not drop this monitor or subject it to strong impact.
2. Avoid high temperature and solarization. Do not immerse the monitor in water as this will result in damage to the monitor.
3. If this monitor is stored near freezing, allow it to acclimate to room temperature before use.
4. Do not attempt to disassemble this monitor.
5. If you do not use the monitor for a long time, please remove the batteries.
6. If the monitor becomes dirty, please clear it with a soft dry cloth. Do not use any abrasive or volatile cleaners.
7. No component inside the monitor can be maintained by user.
8. After open the packing, the environmental conditions for transport and storage
 - a) Temperature and Relative humidity:
 - 20°C without relative humidity control
 - +55°C at a non-condensing relative humidity up to 93%
 - b) Atmospheric pressure: 700 hPa to 1060 hPa

O. Explanation of symbols on unit

	Probe: Type BF Applied part
	Serial number
	Batch code
	Catalogue number.
	CE Mark
	Date of manufacture
	Manufacturer
	Keep dry
	Keep away from sunlight
	Temperature limit
	Collect separately from other household waste
	Refer to user manual
	Consult instructions for use
	Caution

P. Electromagnetic compatibility information

MANUFACTURER'S DECLARATION - ELECTROMAGNETIC EMISSIONS

The Romed Automatic Digital Blood Pressure Monitor is intended for use in the electromagnetic environments specified below. The customer or the user of the Romed Automatic Digital Blood Pressure Monitor should assure that it is used in such an environment.		
Emission test	Compliance	Electromagnetic environment-guidance
RF emissions CISPR 11	Group 1	The Romed Automatic Digital Blood Pressure Monitor 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 Romed Automatic Digital Blood Pressure Monitor 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	Complies	


MANUFACTURER'S DECLARATION - ELECTROMAGNETIC IMMUNITY

The Romed Automatic Digital Blood Pressure Monitor is intended for use in the electromagnetic environment specified below. The customer or the user of The Romed Automatic 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) IEC 61000-4-2	±6 kV contact ± 8 kV air	±6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrostatic transient / burst IEC 61000-4-4	±2kV for power supply lines ±1kV for input/output lines	Not applicable	Not applicable
Surge IEC 61000-4-5	±1kV differential mode ±2kV common mode	Not applicable	Not applicable
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	< 5% UT (>95% dip in UT) for 5 sec	Not applicable	Not applicable
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE UT is the AC mains voltage prior to application of the test level.			

P. Electromagnetic compatibility information

MANUFACTURER'S DECLARATION - ELECTROMAGNETIC IMMUNITY

For EQUIPMENT and SYSTEMS that are not LIFE -SUPPORTING

The Romed Automatic Digital Blood Pressure Monitor is intended for use in the electromagnetic environment specified below. The customer or the user of The Romed Automatic 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				
Radiated RF IEC 61000-4-3	3V/m 80MHz to 2.5GHz	3V/m 80MHz to 2.5GHz	<p>Portable and mobile RF communications equipment should be used no closer to any part of The Romed Automatic Digital Blood Pressure Monitor , including cables, than the recommended separation distance calculated from the equation application to the frequency of the transmitter.</p> <p>Recommended separation distance</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>$d = 1.2 \sqrt{P}$</td> <td>80 MHz to 800 MHz</td> </tr> <tr> <td>$d = 2.3 \sqrt{P}$</td> <td>800 MHz to 2,5 GHz</td> </tr> </table> <p>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).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey (a) should be less than the compliance level in each frequency range (b) Interference may occur in the vicinity of equipment marked with the following symbol:</p> <div style="text-align: center;">  </div>	$d = 1.2 \sqrt{P}$	80 MHz to 800 MHz	$d = 2.3 \sqrt{P}$	800 MHz to 2,5 GHz
$d = 1.2 \sqrt{P}$	80 MHz to 800 MHz						
$d = 2.3 \sqrt{P}$	800 MHz to 2,5 GHz						
<p>NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.</p> <p>NOTE 2 These guidelines may not apply in all situations. Electromagnetic is affected by absorption and reflection from structures, objects and people.</p>							
<p>a Field strengths from 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 Romed Automatic Digital Blood Pressure Monitor is used exceeds the applicable RF compliance level above, the Romed Automatic Digital Blood Pressure Monitor should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the Romed Automatic Digital Blood Pressure Monitor.</p> <p>b Over the frequency range 150kHz to 80 MHz, filed strengths should be less than 3V/m.</p>							

P. Electromagnetic compatibility information

MANUFACTURER'S DECLARATION - ELECTROMAGNETIC IMMUNITY

For EQUIPMENT and SYSTEMS that are not LIFE -SUPPORTING

Recommended separation distances between portable and mobile RF communications equipment and the Romed Automatic Digital Blood Pressure Monitor			
The Romed Automatic 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 Romed Automatic Digital Blood Pressure Monitor can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the Romed Automatic Digital Blood Pressure Monitor as recommended below, according to the maximum output power of the communications equipment.			
Rated maximum output of transmitter (W)	Separation distance according to frequency of transmitter (m)		
	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2.5 GHz
	$d = 1.2 \sqrt{P}$	$d = 1.2 \sqrt{P}$	$d = 2.3 \sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23
For transmitters rated at a maximum output power not listed above the recommended separation distance d in meters (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.			

The instructions for use are available on our website in different languages.



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