Instruction Manual

Bluetooth Blood Pressure Monitor for Arm



HPL-308

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Introduction

Thank you for purchasing the HPL-308 Automatic Blood Pressure Monitor with Voice Prompt for Arm.

For your safety, please be sure to read this Instruction Manual thoroughly before using the Blood Pressure Monitor. For other specific information about your own blood pressure, CONTACT YOUR PHYSICIAN.

Warning Signs & Safety Statements



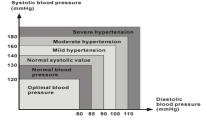
ATTENTION!! Read user's manual before use.



Type BF applied part.

Health and Blood Pressure Values

Classification of Blood Pressure by the WHO: The World Health Organization (WHO) and the Inter-national Society of Hypertension (ISH) developed the Blood Pressure Classification shown as below.



According to the blood pressure classification by the WHO/ISH (revised in 1999)

Warning

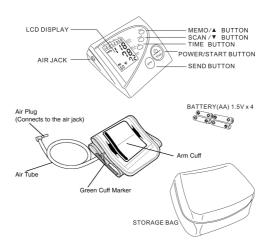
- If the event of the cuff pumping up and not stopping, please open the cuff at once.
- Do not measure repeatedly for a long period of time.
- This device is not supposed to be used if your wrist has any wound or injury.
- If locks connectors are used in the construction of tubing, there is a possibility that they might be inadvertently connected to intra-vascular fluid systems, which case may allow air to be pumped into a blood vessel.
- Take batteries out of the housing if the unit is not to be used for a long time.
- Do not use different type, date or brand-name batteries, and this may lead to an incorrect reading.
- Leaving the batteries in the blood pressure monitor for a long period and not using the device may damage the main unit.

Suggestions before Measuring Blood Pressure

- It is recommend that persons has one of the diseases as heart troubles, kidney trouble, hyper-tension, diabetes, arteriosclerosis or frustration problem of blood vessel, please consult your physician before and during using the blood pressure monitor to determine if your wrist blood pressure accurately reflects your actual blood pressure.
- 2. Please sit or lie down for at least 5-10 minutes before taking a measurement.
- Avoid eating, smoking, exercising, bathing and drinking (alcohol/caffeine/or tea) for at least 20-30 minutes before taking a measurement, and avoid talking during a measurement.
- 4. Be sure the wrist cuff is at the same level as your heart.

- 5. Stress raises blood pressure. Keep calms and relax yourself during a measurement.
- 6. Wait 2-3 minutes before taking another blood pressure measurements.
- 7. Keep the records for your physician as reference. Reminded that one measurement does not provide you with real blood pressure value, only long-term records will reveal the long-term trend of your blood pressure. Try to measure your blood pressure at the same time each day for consistency.

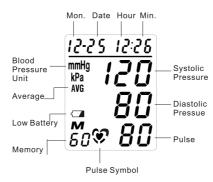
Device Descriptions



Description of Control Buttons

- POWER: To turn on or turn off the unit and Start inflating to measure blood pressure and pulse.
- SEND: Transmit data to PC(mobile phone) or turn on/turn off Bluetooth in power off mode.
- $\bullet \ \ \bigcirc$ TIME: To set the Date/Time.
- MEMO/A: To review the measured record(s) manually / To select the digit of Sate/Time.
- SCAN/▼: Automatically review all previously memorized record(s) / To select the digit of Date/Time / To delete memorized record(s).

Description of LCD Display Symbols

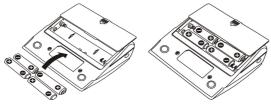


Installing/Replacing Batteries

1. Slide the battery compartment to remove it.



- Place the batteries (4 "AA" Alkaline batteries) in the compartment as indicated by the polarity symbols (+ and -) marked inside. All the display symbols appear for 1 secondand then return to standby mode.
- 3. Replace the battery compartment cover.



Note: When (Low Battery indicator) appears on the display, the batteries are weak.

Warning:

- a. Be sure to follow the instruction above when plugging the adapter and installing or replacing the batteries.
- b. We recommend you to use the **ALKALINE batteries** for the best performance and the longest device life.
- c. Use only brand new batteries of the required size and DO NOT mix using old and new or different type of batteries together.
- d. Remove the batteries if not using the blood pressure monitor for an extended period (i.e., 3 months). The

- batteries can leak chemicals then damage the electronic parts.
- e. Immediately replace run-down batteries with new ones.
- Check the batteries periodically and replace them when necessary.

Program Date and Time

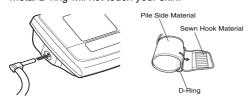
- 1. Continuously press **TIME** button for 2 seconds until "2009" shown on the screen and starts to flash.
- Press MEMO/▲ button or SCAN/▼ button to set the number representing the Year.
 (You can press and hold MEMO/▲ or SCAN/▼ buttons for about 2 seconds, the number of the Year will be displayed in the faster speed.)
- 3. Press **TIME** button to confirm the **Year** setting. Then the number representing the **Date** will flash.
- 4. In the same manner, set the **Month**, **Date**, **Hour** and **Minute**.

Note: After replacing batteries, always check the Date/Time is properly set or not first, then use the blood pressure monitor. If the batteries are removed for more than 40 seconds, you must reset the Date/Time.

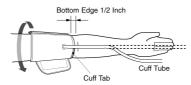
How to Apply the Arm Cuff

- Insert the air plug of the arm cuff into the air jack of the blood pressure monitor.
- The cuff should be assembled correctly when it is removed from the box. If it is not, pass the end of the cuff furthest from the tubing through the metal D-ring to form a loop. The smooth cloth should be on the inside of the cuff loop.
- 3. If the cuff is assembled correctly, the sewn hook

material will be on the outside of the cuff loop and the metal D-ring will not touch your skin.



4. Put your left arm through the cuff loop. The bottom of the cuff should be approximately 1/2" above the elbow. The cuff tubing should be positioned along the middle of the inside of your arm as shown.



Pull the cuff so that the top and bottom edges are tightened evenly around your arm.



- 6. When the cuff is positioned correctly, press the sewn hook material firmly against the pile side of the cuff.
- 7. The cuff should be wrapped so that it fits snugly and stays in place. You should be able to fit one finger

Correct Measurement Position

It is extremely important for the measure values, which that the cuff is at the same level of the heart. Higher or deeper position will give deviations from the true value.

Measurement while sitting down

- Sit in a chair with your feet flat on the floor and rest your arm on a table so that the cuff is at the same level as your heart.
- 2. Relax your arm and turn your palm upward.
- 3. Make sure there are no kinks in the air tubing.
- After taking deep breaths for several times before measurement, take a natural breath, and then relax your body.



How to Take A Measurement

Please read and follow directions in the section "Suggestions before Measuring Blood Pressure" and "How to Apply the Arm Cuff" before taking a measurement.

- Press POWER button to turn on the unit.
 All the symbols displayed for a couple seconds then the number 0 will flash.
- 2. Press POWER button again, the cuff automatically

- inflates to approximately 170mmHg. (50mmHg higher than the average systolic blood pressure reading.)
- When the cuff reaches your correct inflation level, it begins to deflate automatically with decreasing numbers shown on the display. The Heart Symbol flashes as the onset of oscillation signals.



- * If during deflation the blood pressure monitor senses that higher pressure is required to measure the user's blood pressure, the device will stop deflation and pump again to reach the workable pressure (up to the max. 280 mmHg). If the inflation continues and doesn't stop, please untie the cuff immediately or turn off the unit by pressing the **POWER** for 1 second.
- 4. The monitor exhausts the residual air when the measurement is completed. The Heart Symbol stops flashing and your blood pressure and pulse will appear on the display. In the mean time, the unit announces the measured value of Systolic, Diastolic and Pulse. After taking the measurement, the latest measured readings will always be displayed before the power is turned off.

Note:

 Wait for at least 3 minutes if you want to take another measurement. Waiting allows your blood vessels to bounce back to normal status. More rest time may be required between measurements depending on individual physiological conditions. While starting the unit each time, it will give a voice prompt. If you don't need, please off the announcement.

How to Use the Memory Features

The blood pressure and pulse measured and displayed are automatically stored in the memory. The blood pressure monitor can store up to 80 measurements. If more than 80 measurements have been taken, the earliest measurement will be erased and replaced by the most recent measurement.

Review the Average Value and previously measurements:

Press **MEMO/** ▲ button, the unit first display the average values of Systolic, Diastolic and Pulse. (Averaged from all memorized readings.) Press **MEMO/** ▲ button again to review the measurement from the latest to the earlies.

The latest measurement (M 01) appears when you press MEMO/▲ button. M 01 is the latest reading measured. The Systolic, Diastolic, Pulse and Date/Time of the measurement will be displayed. Press MEMO/▲ button to repeatedly review other memorized readings. The readings will be displayed as M 02, M 03, M 04 ... etc. You can press SCAN/▼ button to switch to the automatic display mode.

2. Scan all previous measurements:

Press SCAN/▼ button, the unit will display all measurements one by one in one in one second interval. In the automatic display mode, You can press MEMO/ ▲ button to switch to the single display mode.

How to delete Single or All Memories

1. Delete single measurement:

You can delete the single memory just after taking the measurement. Press **SCAN/▼** button then "dEL" will appear and flash. Press **SCAN/▼** button again to confirm the delete function.

2. Delete all measurements:

Turned off the unit first then keep pressing SCAN/▼ until "dEL ALL" displayed. Press SCAN/▼ button again and all memories will be deleted when "00 ALL" shown on the screen.





Searching Bluetooth Address:

- 1. Before the using, please install the Alkaline batteries in the battery compartment. You will hear three short beep tones and turn off the device.
- 2. Press Send button and it shows "BT ON " to turn on bluetooth feature.

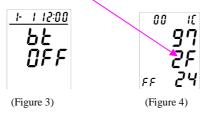




3. Press MEMO/▲ button or SCAN/▼button to turn on or turn off the bluetooth feature.

Note: Please turn off bluetooth feature to save power consumption.

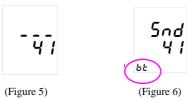
4. When turn on the bluetooth feature, please press **Send** button again and it shows the bluetooth address **(00-1C-97-2F-FF-2E)** on the display. Please type the bluetooth address from up to down and left to right and each device has different address/code.



Press Send button again. It shows "— — and 41"(41 means 41 records) and it can start pairing.

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6. When it shows "Snd 0 or (Snd xx)" and "bt" on the left lower corner, it means pairing successfully.

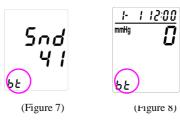


7. Press **Send** button again to transmit the data. If there is no any record, press **Send** button again to turn off the device. If no data transmission, press **Send** button to

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turn to stand by mode.

Note: During the stand by mode, it will turn off bluetooth feature if it did not complete the pairing to save power. Please press ()/Start button for one second to turn off the device and turn on the device again to pair it.



Installing BPPLINK Software:

Please ensure installing BlueSoleil application program first, the icon of "\vert_2" shows on the screen. Then HPL-308 can link the computer via Bluetooth

Next install the BPPLINK-BT application program to transfer the data from HPL-308 to PC. Follow these steps to install the program:

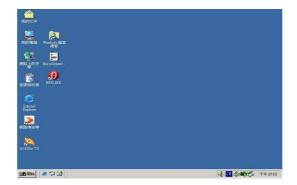
Step 1.

Please insert the installation CD and run the installation program (C:\Program File\BPPLINK-BT). Please select the destination folder and click NEXT then click FINISH to complete the installation.





Step 2. When you finish installing BPPLINK-BT program, the icon of "BPPLINK" will show on the desktop.



Using PC-Bluetooth Dongle Function:

Step 1.

When you turn on the computer, you can find the icon of "BPPLINK-BT" and "BlueSoleilon" on the screen.

Step 2.

Please connect the Bluetooth USB Adapter to the USB port on computer and turn on the HPL-308 unit.

Step 3.

Click the icon of "BPPLINK" on the screen to run the program and click the BT Setting BT Setting button to enter Bluetooth Mode.





Step 3.
Please key-in the Bluetooth ID number in the dialogue box and press **save** and press **BT** button again, the computer will connect the HPL-308 unit automatically



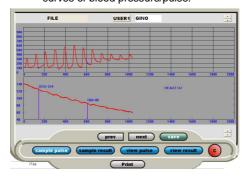
Step 4.

When PC screen shows below dialogue box, it means connecting successfully. You can start to take measurements (refer to how to take a measurement) and **transmit** the measurement results via Bluetooth.

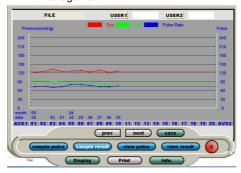


Step 4.

 Sample Pulse: Click the button to take a measurement on real time and show the measuring curves of blood pressure/pulse.



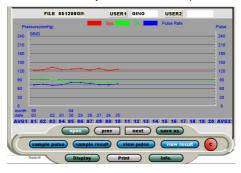
 Sample Result: Click the button to transfer the measured results of HPL-308 to PC for data statistic management.



 View Pulse: Look up the measured values that you have already stored on the computer.

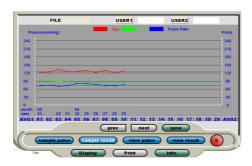


 View Result: Look up the measured curves that you have already stored on the computer.



Step 5. Manage Measured Results :

(Line Graph)



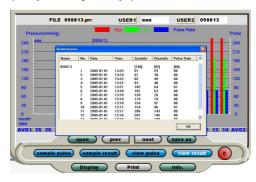
(Bar Graph)



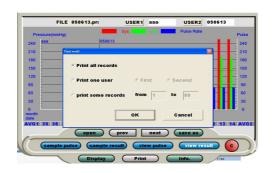
(Circle Graph)

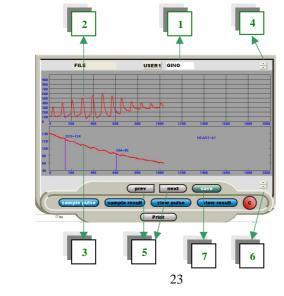


(Compare Analyze Graph)



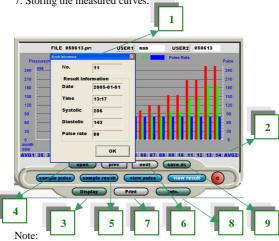
(Print the statistical graph)





Note:

- 1. Please key-in the file name before storing measured curves.
- 2. It shows measuring curves of pulse on real time.
- 3. It shows measuring curves of blood pressure on real time.
- 4. Adjusting curves of pulse in upper and lower displacement.
- 5. Adjusting curve of blood pressure in left and right sides.
- 6. Adjusting curve of blood pressure in upper and lower.
- 7. Storing the measured curves.



- 1. Listing one of the result information.
- 2. Average values of blood pressure.
- 3. Choosing the display style of the statistical graph.
- 4. Open stored file.
- 5. Checking the previous record.
- 6. Checking the next record.
- 7. Printing the statistical graph.
- 8. Listing the measured results.
- 9. Storing the measured values.

Using Mobile-Bluetooth Function:

System Requirement:

- (1) The mobile phone needs to support MIDP2.0 or JSR82 (Bluetooth Protocol).
- (2) The recommend mobile phone model No.: Nokia 7610, Sony Erisson 750.

Install and Uninstall Program:

Please see the instructions of installing and uninstalling on user manual of the mobile phone.

How to Set up the program:

1. System Setting:

Please install the BPPLINK application program on mobile phone. Please click the file: BPPLINK to enter the Bluetooth address setting in 2-3 seconds. Please key-in the correct Bluetooth address of BPM and then press "Back" to return BT list "Figure 1". Double-click back to main function list (Figure 2).





[Figure 1]

[Figure 2]

2. Operate BPPLINK program:

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If Bluetooth address is empty when operate the BPPLINK program, the program will enter Bluetooth address setting automatically (Refer to Figure 1). If there is the existed address, the BPPLINK will search Bluetooth service and establish the connection. When the LCD of mobile phone shows green icon, you can start taking measurements.

Note: You have to power off HPL-208 and then power on before operating BPPLINK program. It cannot establish blue tooth connection to power off HPL-208.

3. Bluetooth Link:

- (1) HPL-208 BPM will link the mobile phone automatically when BPPLINK program is operating.
- (2) Select "Bluetooth Link" on main function list (Refer to Figure 2), and then mobile phone will show "bluetooth service searching" (Figure 3).





[Figure 3]

[Figure 4]

(3) Figure 4: Please key-in cable soft password "12345".





[Figure 5]

[Figure 6]

- (4) Figure 5: Press YES to confirm establishing the connection.
- (5) Figure 6: Green icon indicates Bluetooth Link successfully.
- (6) Figure 7: White icon indicates the mobile phone can not find the Bluetooth service and Bluetooth Link failed.





[Figure 7]

[Figure 8]

- (7) Figure 8: Red icon indicates the mobile find the Bluetooth service but not connect yet.
- (8) Figure 9: When the LCD displays white icon, please press "Option" (Figure 9). Please re-start to power on the HPL-208 BPM and select "service & connect" to re-connect.



[Figure 9]

※Note:

- (1) If the link is failed, please exit the BPPLINK program. Power off the HPL-208 BPM and power on again. Then re-operate the BPPLINK program.
- (2) "Disconnect" means to disconnect the link of present Bluetooth.

4. Measurement:

You can start to take measurements when Bluetooth Link set up successfully. Please select "Measure" on main function list (Figure 2), the mobile phone send the command to HPL-208 BPM to measure blood pressure. (Refer to Figure 10,11)





[Figure 10]

[Figure 11]

- (1) When start measuring, the LCD shows the mmHg increasing and the heart symbol flashing (Refer to Figure 10).
- (2) The function OPTION can switch different graphs and send the command to start or stop the measurement. (Refer to Figure 11)
- (3) Different colors indicate different results of the measurements (green, yellow, purple and red colors which represent normal, normal high, warning and dangerous)
- (4) Send a SMS to the programmed number automatically when the measurement results are over the setting value twice.

Meas.	Warning	Normal	Warning	Dangerous
SYS	0-99	100-139	140-159	160-255
DIA	0-59	60-89	90-99	100-255

5. Statistic:

(1) Please select "statistic" on main function list (Figure 12) to list measurements and select "data load" to upload the previous measurement results from HPL-208 Bluetooth BPM. Press Analyse and the LCD displays different graphs as below.





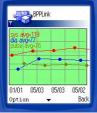
[Figure 12]

[Figure 13]





[Figure 14]





[Figure 16]

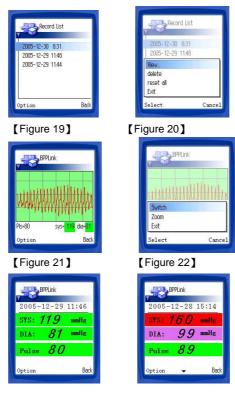


[Figure 17]

[Figure 18]

6. Historical Measurement:

Select "Historical Meas" on main function list. Different colors indicate different results of the measurements (green, yellow, purple and red colors which represent normal, normal high, warning and dangerous).



[Figure 23]

[Figure 24]

7. System setting:

Select "System setting" on main function list (Refer to Figure 2) to set following functions.



[Figure 25]

- (1) Name: Set the user name. (Refer to Figure 26)
- (2) Phone book: Set the SMS phone numbers. (Refer to Figure 27)
- (3) ALARM: Set the alarm clock to remind users to measure blood pressure. (Up to 6 times daily) (Refer to Figure 28)
- (4) BlueTooth: Manage the bluetooth address setting. (Refer to Figure 29)



[Figure 28]

[Figure 29]

Maintenance

Storage

- Always put the device in the storage box attached when not in use or during transporting.
- 2. If you won't use the device for an extended period like over 3 months, remove the batteries.
- 3. Do not store the device under direct sunlight, high temperature, humid, dusty, or corrosive environment.
- 4. Do not stretch, bend or tug the wrist cuff too hard.
- 5. Do not wet the unit.

Cleaning

- 1. Do not use an alcoholic-base, benzene, gasoline or solvent agent to clean the device.
- Wipe with a moistened cloth with clean water or a mild cleaning agent and then dry the device with a soft and dry cloth.
- The dirt on the cuff can be wiped by the moistened cloth and soap.
- 4. Do not flush the device and cuff.
- 5. Do not bend the cuff or sleeve and wrap the sleeve to the inside-out surface.
- Do not disassemble the device or dismantle the cuff or try to repair by yourself. If any problem happens, bring the device to the distributor for further examination.
- 7. Do not operate the device under the severe environment of extreme temperature or humidity, or direct sunshine.

Error Message & Troubleshooting

The unit is manufactured through the complete quality assurance system.

If the measurement is not made correctly, the following error will be displayed. Measure your blood pressure again correctly.

ERROR MESSAGE

Error Indicators	Cause	How to correct
Mon. Date Hour Min. 10-0 1 12:08	 Incorrect posture in measurement or the user moves or talks during measurement. There are any artificial interference and noise during measurement. User is tense and does not relax or has severe heart beat problem. 	the instructions. •Wait at least 3 minutes before taking another measurement. Repeat steps listed under "How to Take

Error Indicators	Cause	How to correct
Mon. Date Hour Min. 10-0 1 12:08	 No pulse or blood pressure sensed. Incorrect posture during measurement. Cuff is not wrapped properly. 	●Cuff is not fastened correctly or not tight enough; please fasten the cuff by following the instructions. ●Wait at least 3 minutes before taking another measurement. Please see "How to Take a Measurement" on page 15.
Mon. Date Hour Min. 10-0 1 12:08 3 E	 Insufficient or failure inflation. Cuff broken. 	●Cuff is not fastened well; please re-fasten the cuff by following the instructions. ●Pump, or venting valve or deflation valve failure, please contact the distributor.

If a trouble occurs while you are using the blood pressure monitor, check the attached Troubleshooting first. If you can not measure your blood pressure correctly even after taking the following countermeasures, the monitor may be broken. Please send the unit to the distributor for repair. Do not dismantle or try to repair the monitor by yourself.

TROUBLESHOOTING

Condition	Cause	Correction
After the batteries are	Batteries are not	Check and correct
	- 24.10.100 4.10 1.101	
installed, no	installed properly.	the battery
indication or symbol	Batteries run out	polarities.
displayed on the	the electricity.	●Remove the old
LCD. The wrong		batteries and wait
indication when		for one minute, then
power is turned on.		install the new
		batteries.
The inflation cannot	Cuff is not wrapped	●Check the arm
be done or the air	properly.	position and fasten
pressure cannot rise.		the cuff correctly
		and re-measure the
		pressure again.
	Battery low.	●In order to keep
	Battery voltage is	the previous
	excessively low.	measurements &
		date/time, ensure
		the unit is turned off
-		before replacing
		batteries.
		 Replaced with new
		"AA" Alkaline
		batteries.

Condition	Cause	Correction
The blood pressure		●Re-fasten the cuff.
cannot be taken, and		Relax yourself.
the LCD shows error		 Keep the cuff and
message or wrong		heart at the same
result.		level during the
		measurement.
		 Keep silent and still
		in measurement.
		If the patient has
		severe heart beat
		problem, and the
		blood pressure
		reading may not be
		correct.
Under normal		 Usually people feel
operating		tenser in the
circumstance, the		hospital or clinic
reading at home is		(white robe effect)
different from that of		than in their home.
the clinics.		•Record the results
		and consult with
-		your physician.
Each measurement		●The variation might
has various reading.		be due to the
		different
		environments.
		•The blood pressure
		is changing according to the
		physiological or
		psychological status
		of the human body.
		or the numan body.

Specifications

Model No.	HPL-308
Display	LCD Digital Display
Measurement	Oscillometric method
Method	
Measurement	Pressure: 20~280mmHg
Range	Pulse: 40~190 / minute
Accuracy/	Pressure:± 3mmHg or 2% of reading
Calibration	Pulse: ± 5% of reading
Memory capacity	80 sets memories
	(80x1 user
Inflation	Automatic inflation by air pump
Deflation	Automatic liner pressure deflation valve
Pressure Release	Automatic exhaust valve
Sensor	Semiconductor pressure sensor
Power Supply	6V DC (4 "AA" alkaline batteries)
Measuring Interval	1 mmHg
Operating	+10℃~+40℃ (50 °F~104 °F)
Temperature /	40%~85% R.H. maximum
Humidity	
Storage	-20℃~+50℃ (-4 °F~122 °F)
Temperature /	15%~85% R.H. maximum
Humidity	
Battery Life	Approx. 180 uses
(Alkaline batteries)	
Unit Weight	Approx. 400grams (not including bteries)
Cuff Circumference	Fits arm circumference 8.7" ~ 12.6"
Unit dimensions	Approx. 115 (I) x 125 (w) x 50 (h) mm
Accessories	Storage Case, Instruction Manual, 4 "AA"
	alkaline batteries
Diseas understand	that angolfications may be abanged

Please understand that specifications may be changed without prior notice.

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void

the user authority to operate the equipment.

This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter

NOTE: 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

needed.

Consult the dealer or an experienced radio/TV technician for help.

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