# User Manual

Small and medium-sized weather stations

WS2040

Metoluar

Small and medium-sized weather stations

## Catalogue


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## 一. Function Declaration

## Discriptions：

1. **Calendar:**Date display format is YY-MM-DD、MM-DD- YY、DD-MM-YY（User chooses to set up）

2. **Clock display**: Time display format can be customized, set to 12 hours or 24 hours.

3. **Alarm function :**BI BI alarm sound to achieve the effect of reminding the user, alarm bell ring for 2 minutes, if cancel alarm ring ,The sound can be cancelled by pressing any key.

4. **Wireless 433MHz transmission**: The receiving distance between indoor machine and outdoor transmitter is 100 meters effective, and the data transmission frequency is 40 seconds/time.

5. **Indoor and outdoor humidity displa**y:Relative humidity ranges from 20% to 99%.

6. **Indoor and outdoor temperature display**: The display unit can be set at ℃ or ℉ (user-defined setting), the indoor temperature range is 0℃ to 60℃, and the outdoor temperature range is -40℃ to 60℃.

7. **Wind speed**: User can set display wind speed units，can independently set the wind speed high alarm value, the display unit can be set to m/s、km/h、mph、knots or bft，scope:0m/s~50m/s.

8. **Wind direction:** The wind direction is shown as E,S,W,N,SE,NE,SW and NW.

9. **Rainfall:** Rainfall can be displayed by 1H, 24H, week, month, year, display unit can be set to mm or inch (*user can customize Settings*); The total rainfall is 0 ~ 9999mm.
   The APP can set the alarm value of high hourly rainfall within the range of 0mm~400mm.

10. **Pressure**: Absolute value of atmospheric pressure, display unit can be set as hpa or Inhg or mmhg (user-defined Settings), pressure range from 300hpa to 1100hpa.

11. **Pressure trend chart**: The pressure trend shows the 24-hour change trend.
    (note: *WS1070A/WS2066 does not have this function).*

12. **Weather forecast cloud map**: It can display the corresponding ICONS of sunny, cloudy, cloudy and rainy states and weather trend *(note: WS1070A/WS2066 does not have this function).*

13. **Indoor low voltage detection:** When the display symbol of low voltage flashes, prompt the user to replace the battery *(indoor battery voltage is low about 3.2V).*

14. **Power supply mode of indoor receiver**: Alkaline battery 3*AA 1.5V, battery life of more than 2 months (battery capacity determines the use time).

15. **Indoor receiver can be external power supply**: USB power supply, DC block products can also be DC power supply, DC 5V/500mA.

16. **Backlight:** Tap the LIGHT button, and the LED backlight will be on for 36 seconds. Press the button for 3 seconds to keep it on and longer .Press 3 seconds to cancel normal light.(*long press for 3 seconds and the setting is successful*). (*note: WS1070A/WS2066 light press this button*)

17. **Buzzer:** The alarm function of all weather data can be set independently. Users can set the upper/lower limit within the range of design parameters.

18. **Local data storage**: Can store meteorological data for up to 1 year. Can connect with PC via USB and use our company's supporting software （SmartWeather ） SmartWeather Data access.

19. **Cloud data storage:** Can store weather data up to 3 years, and will be announced on the company website after opening.(*now not yet open*)

20. The LCD of the receiver is shown as follows. After the user loads the battery, all ICONS will be displayed for two seconds before the receiver enters normal operation.

**23. Indoor and outdoor connection:** First install the batteries, outdoor transmitter and indoor receiver battery, the sensor signal, the outdoor transmitter began to search in the search process, the signal icon will always shine, search to the outdoor icon after static data, such as: 3 minutes after a failed search icon disappear,( *disappear after touching any host keys, continue to open search pattern*), to ensure the effective distance of 100 meters open place, in the process of search, please don't to make any operating the indoor receiver.

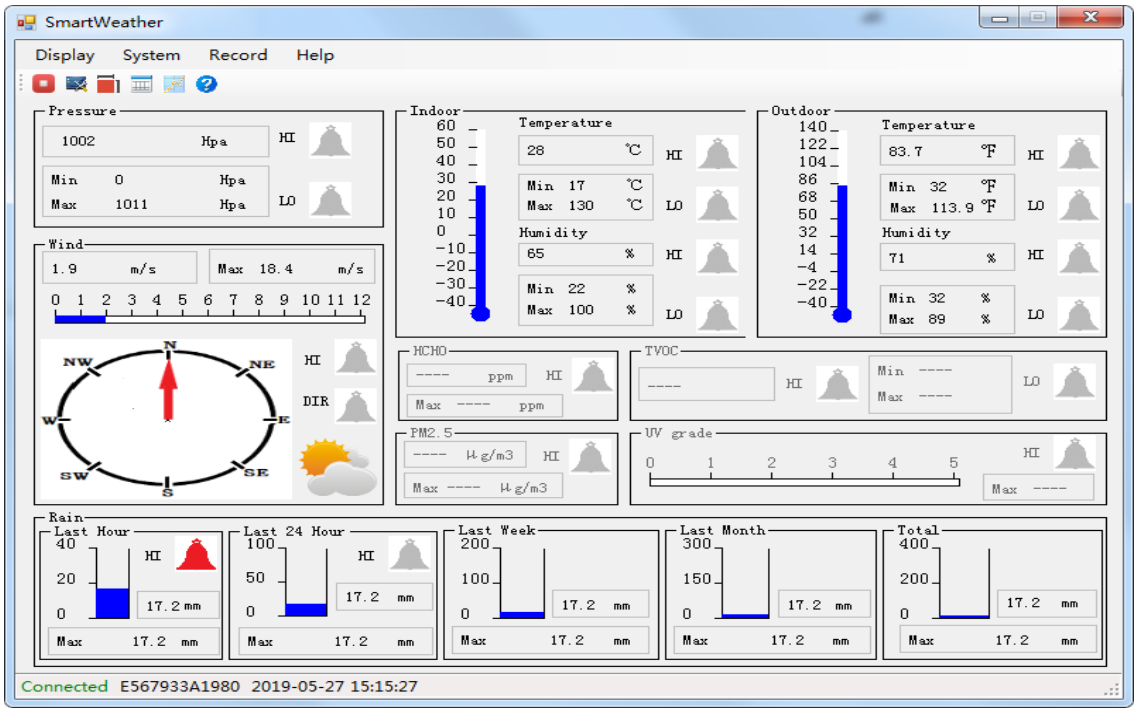
**24. Key operation**

1) In power-on **MODE**, press **MODE** button for 3s seconds to enter the key setting **MODE**. At this time, the screen time data flashes, indicating that the key setting **MODE** has been entered.
2) In the key cycle setting **MODE**, press the **MODE** key for function cycle setting, such as: switching time **MODE**, date setting **MODE**, temperature setting**MODE**, air pressure setting**MODE**, etc.
3) In the cyclic setting mode, press **NEXT** to set different digits in this mode, such as switching from hour to minute. When setting relevant parameters, the data flashes, and you can press +/- to set the data to increase or decrease.
4) In temperature setting mode, press **NEXT** to switch between units, alarm, upper and lower limits, etc., and press +/- to increase and decrease data, and to turn alarm on and off, etc. (*note: when setting alarm, press **SET** to turn alarm on and off.*)
5) Historical data search: Press **SET/HISTORY** button for 3 seconds, and when the cache icon on the product flashes, press +/- to browse the data, and 48 pieces of data are stored on a normal day. **For example:** Only turn on the machine for 1 hour to browse the data for 2 pieces data, start to turn on a day, and so on.
6) After setting related parameters, long press **MODE** key above 3s to exit the setting **MODE**, or wait for more than 2 minutes, and the product will automatically exit the setting **MODE**.

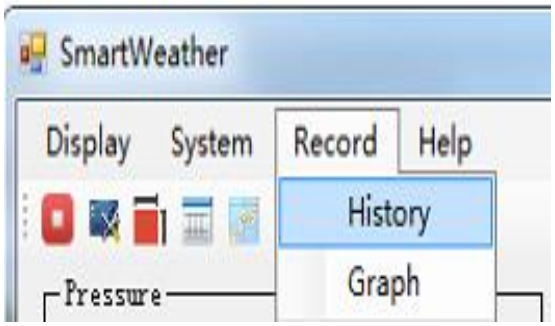
# 二、PC software operation

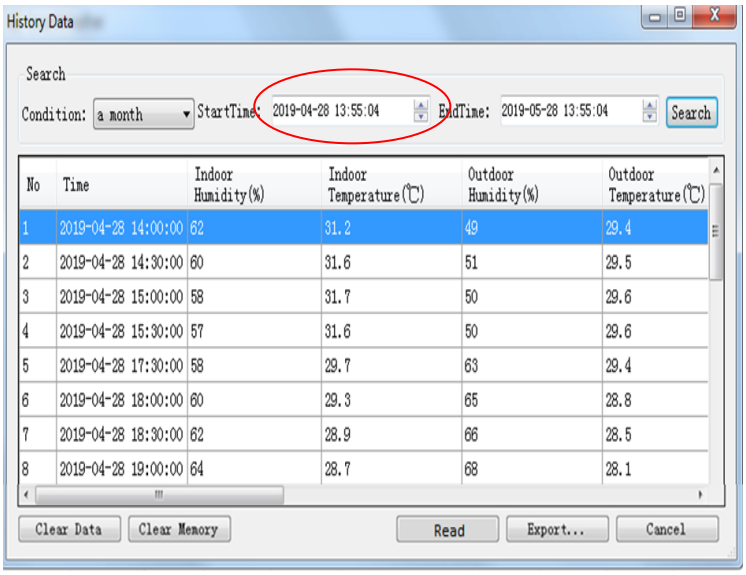
**PC data download software link site：** http://app.meteorologyhk.com:8080/pcsoft/

Click after downloading the software successfully SmartWeather.exe After running the program, jump out of the following operation interface.The diagram below:




**Data access**: select Record → History → Read → Search




| No | Time | Indoor Humidity(%) | Indoor Temperature(℃) | Outdoor Humidity(%) | Outdoor Temperature(℃) |
|---|---|---|---|---|---|
| 1 | 2019-04-28 14:00:00 | 62 | 31.2 | 49 | 29.4 |
| 2 | 2019-04-28 14:30:00 | 60 | 31.6 | 51 | 29.5 |
| 3 | 2019-04-28 15:00:00 | 58 | 31.7 | 50 | 29.6 |
| 4 | 2019-04-28 15:30:00 | 57 | 31.6 | 50 | 29.6 |
| 5 | 2019-04-28 17:30:00 | 58 | 29.7 | 63 | 29.4 |
| 6 | 2019-04-28 18:00:00 | 60 | 29.3 | 65 | 28.8 |
| 7 | 2019-04-28 18:30:00 | 62 | 28.9 | 66 | 28.5 |
| 8 | 2019-04-28 19:00:00 | 64 | 28.7 | 68 | 28.1 |

3.1.7 After the configuration is successfully connected, the APP will jump back to the Available Devices interface, as shown in the figure below:

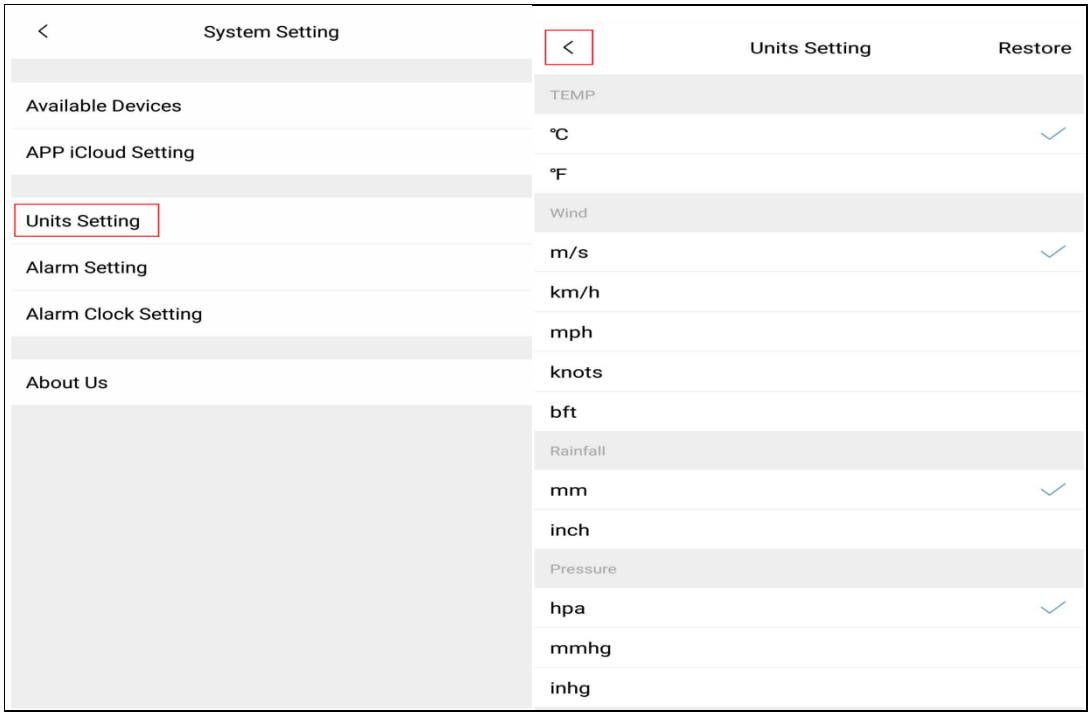
（Available Devices interface）

3.1.8 Click the product name connected in the list of Available Devices to jump to the main interface to

## 4.1 The unit setting

Click Uints Setting， the user sets the unit according to the actual needs, as shown in the figure

below:




Each data unit is displayed with the first unit value as the default unit of the system, and users can freely set and select the unit according to requirements.

Click the upper-left icon to exit, as shown above:

**5.1 Alarm setting**

Click Alarm Setting, and the user sets the upper and lower limits according to the range of design parameters, such as temperature: 0℃～60℃(32℉～140℉). After setting the alarm value, click the save icon in the upper right corner to exit.

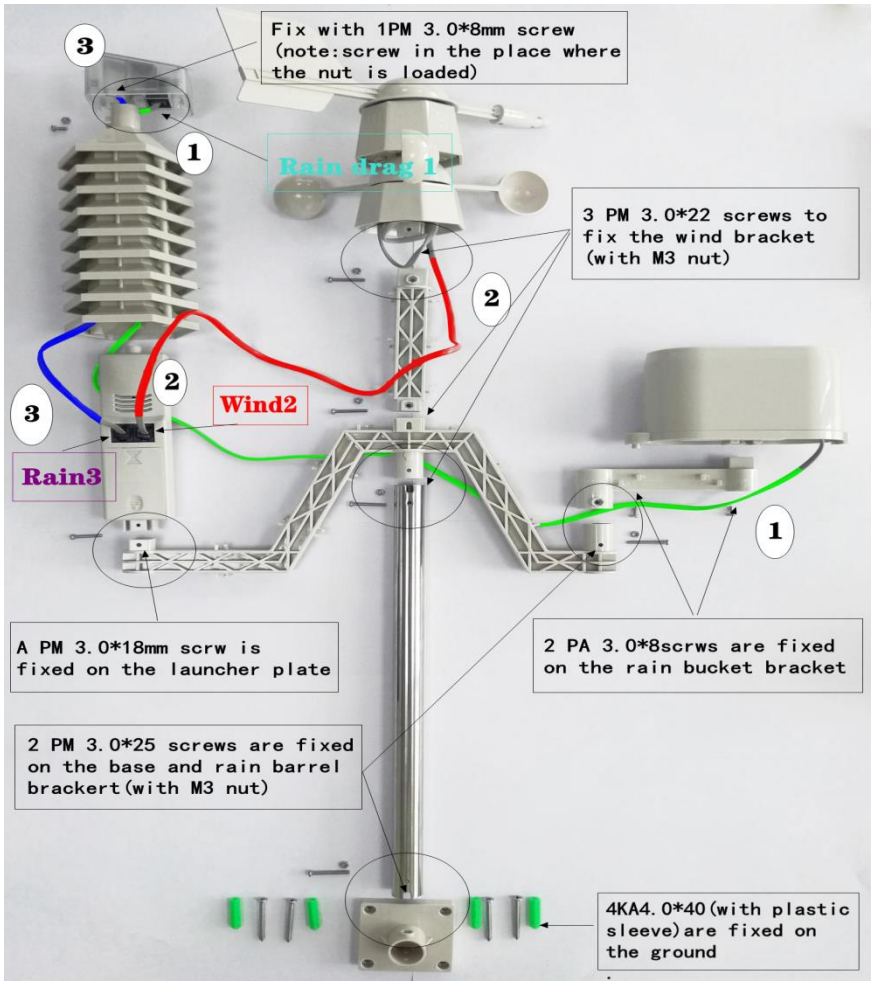
In the Alarm Setting interface, various Alarm history data can be viewed. Click the upper right corner -- -- .

**6.1 The alarm clock Settings**

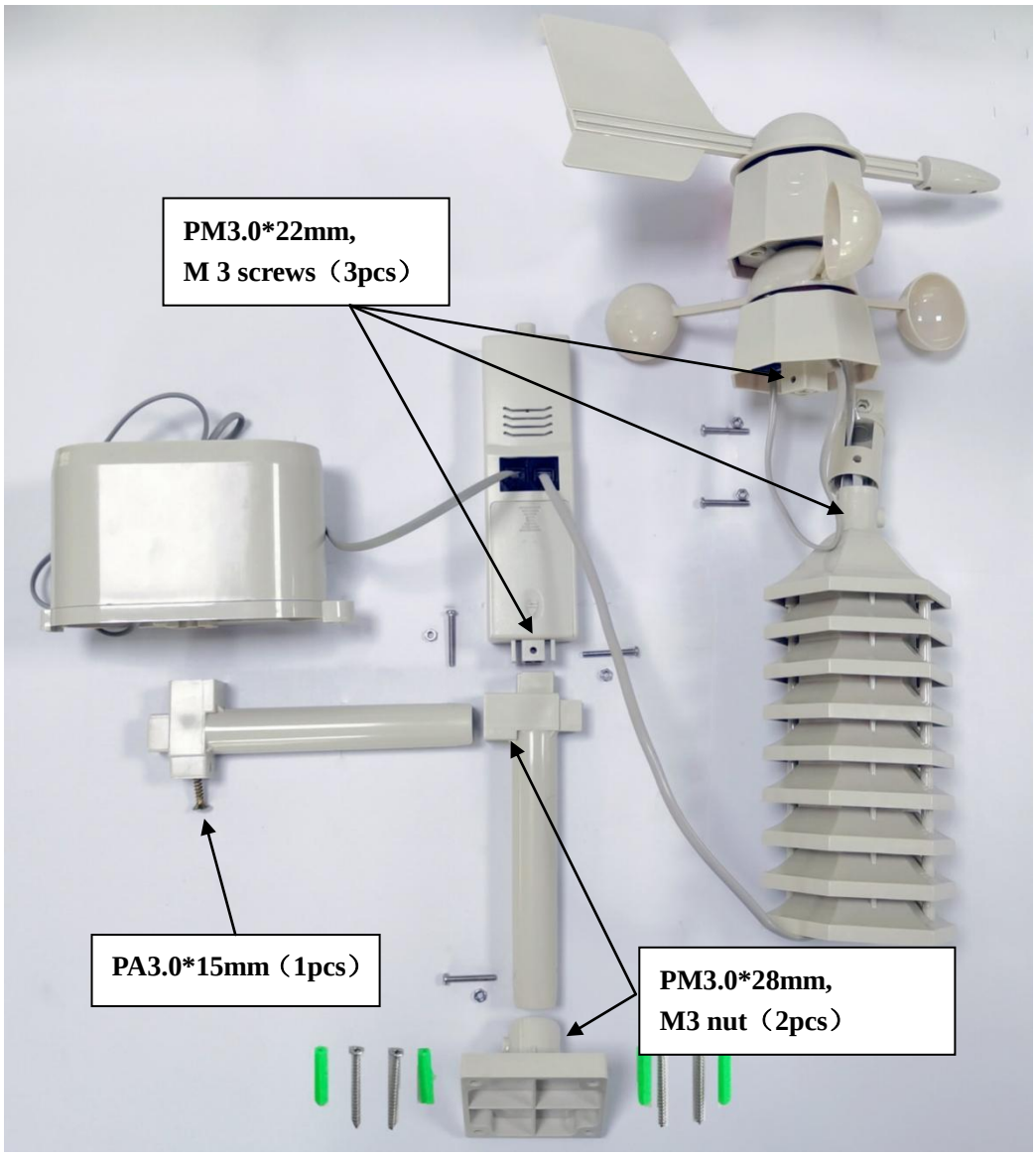
Click Alarm Clock Setting, and the user can set the Alarm according to actual needs: No set, Everyday, Weekend and workdays. After Setting the Alarm, click save icon in the upper right corner to exit.

## 四、Assembly instructions（*the following two transmitters can be selected for matching*）：

## TX4050A-0


Fix with 1PM 3.0*8mm screw (note:screw in the place where the nut is loaded)
3
1
Rain drag 1
3 PM 3.0*22 screws to fix the wind bracket (with M3 nut)
2
2
Wind2
3
Rain3
1
A PM 3.0*18mm scrw is fixed on the launcher plate
2 PA 3.0*8scrws are fixed on the rain bucket bracket
2 PM 3.0*25 screws are fixed on the base and rain barrel brackert(with M3 nut)
4KA4.0*40(with plastic sleeve)are fixed on the ground

**TX4050A-1**


PM3.0*22mm,
M 3 screws（3pcs）
PA3.0*15mm（1pcs）
PM3.0*28mm,
M3 nut（2pcs）

# 五. Product parameters

## （一）Receiver

1. Temperature range: 0 ℃~60 ℃(32℉~140℉), resolution: 0.1℃, accuracy: ±1℃.
2. Humidity range: 20%~99%, resolution: 1%, accuracy : ±5%.
3. Pressure range: 300-1100hpa, resolution: 0.1 hpa, accuracy: ±3 hpa.(700-1100 hpa interval)
4. Alarm clock: lasts 2 minutes.
5. Working voltage: 3* AA1.5V voltage.
6. Battery life: About 12 months (battery quality and capacity determine the service time of the product).
7. External DC power supply or MINI USB power supply, DC block products can also supply DC power: DC 5V/500mA.
8. Low voltage detection: Battery icon flashes (battery voltage is lower 3.2V).

## （二）Transmitter

9. Temperature range: -40 ° C ~60 °C (-40 ° F ~140 °F), resolution: 0.1 ° C, accuracy: ±1 ° C.
10. Humidity range: 20%~99%, resolution: 1%, accuracy rate: ±5%.
11. Wind speed range: 0~50m/s, resolution: 0.1m /s, accuracy : 1 m/s (at wind speed <10m/s).
12. Rainfall range: 0~9999mm, rainfall resolution: 0.4mm(rainfall <1000mm), 1mm(rainfall >1000mm).
13. Data update: 40 seconds/time.
14. Working voltage: 2* AA1.5V voltage.
15. Battery life: Over 12 months.
16. Low voltage detection: Battery icon flashes (battery voltage is less than 2.4 V).
17. Waterproof level: IPX3

# 六、Attention

1) When the battery appears low voltage warning, it will cause flashing alarm, touch the button does not work, data received signal, please replace the battery in time.
   (Indoor machine: battery voltage is lower than 3.2V or so.
   Outdoor machine: battery voltage is lower than 2.4V or so)
2) **No outdoor transmitter data can be received:** Outdoor confirm product range, 433 MHZ wireless transmission to 100 meters can be measured without interference without sunscreen, check the battery, whether on the indoor and outdoor battery symbol flashing said electricity shortage, check whether outdoor fire board 40 seconds lamp

shining time, RAIN and WIND line check board is wrong, not receive data in 3 minutes, power electricity repeated check.

3) **Outdoor solar power energy description:** Solar panels do not charge the battery, when the solar panel collects enough electricity, to provide electricity to the transmitter to increase the battery life for a long time.

# FCC Statement

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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

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.

RF Exposure Information

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.