

# HCM-800N User's Manual



**NOTE:** *This equipment has been tested and found to comply with the limits for a Class B digital devices, 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 instruction manual, 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 of 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.*

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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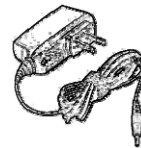
## 1. Product Overview

- 1.1 This device improves the reception rate of the wireless receiver.
- 1.2 CCTV installation effect can be made as it has the same appearance as the CCTV.
- 1.3 The LED's blinking during its operation makes the device look more like the CCTV.
- 1.4 Several units can be installed at the same time due to the response time adjusting function.

## 2. Product Components



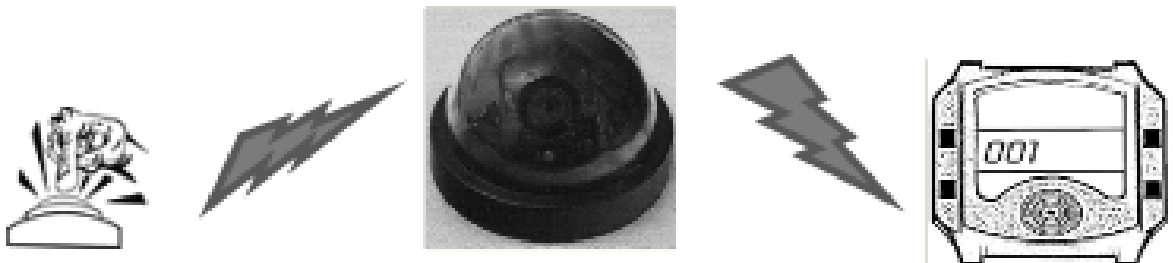
Repeater(including nails for fixing it)



Adaptor

## 3. How to use the product

- 3.1 Supply the power by connecting the adaptor to the DC plug on the back side of the Repeater
- 3.2 Once the power is supplied to the product, the LED on the front side turns on red.
- 3.3 When the calling bell is pressed, the color of the LED changes to green while emitting radio waves.



#### 4. Product Specification

Power	DC 12V / 1A
Reception Sensitivity	-105dBm
Used Frequency	433.92MHz $\pm$ 1MHz
Transmission time	Within 5 sec after receiving.
Product Size	117X117X77 mm

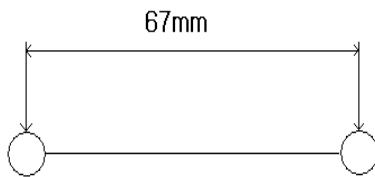
#### 5 How to operate.

1. The signal of 24 bits is inputted from transmitter(Call bell).
2. The receiving part is inputted with 433.93MHz and the signal is amplified with transistor.
3. The amplified signal becomes FM IF DETECTOR IC(TA31136FG).
4. For the IF IC in order to do BUILT-IN 2<sup>ND</sup> MIX, the receiver receive FREQUENCY(F2) of output..
5. The 2<sup>ND</sup> frequency makes difference of (F1)-(F2), 10.7MHz. To make 10.7MHz, The 10.7MHz is sending by using filter of 10.7MHz.
6. The IC which makes signal of IF is weak. So, the signal is amplifying by IF AMP..
7. The amplified IF signal is inverting for conversion of A/D.
8. This time, The 24 bits to transmitter determine pulse width.
9. IF IC passes 는 AUDIO Data,300Hz~3KHz..
10. The passed signal inputs to MCU(PIC16F54). The MCU is storing codes of transmitter by firmware. The transmitter consists of 1,000,000 codes., the inputted codes compare with software. If the codes agree each other, the correspondent data is sent to transmitter..
11. The received signal is agreed and transmitted. And then, transmission time is within 0.5sec from reception. After transmission. Automatically, the transmission becomes off.
12. The receiver of repeater receives data from various transmitter. If the data are not agree with the ones of MCU, the transmission does not happen.
13. The agreed data are received within 5 sec. But the data is not transmitted..

14. If the other signal of 24 bits continuously is inputted, the last signal only is transmitted and the signal is off after 5 sec.
15. The transmitted signal is oscillating 433.92MHz by original oscillation signal. The signal is resonating and emitting through antenna.

## **6. How to attach the Repeater**

- 6.1 Drive each enclosed nail into a ceiling or a wall keeping each other 67mm away.
- 6.2 Put the product on the nails while adjusting the holes on its back side to them and turn it counter-clockwise.



1. Since this is a precision RF device, be cautious about any external shock when handling it.
2. Only technicians authorized by the company can remodel the product.
3. When cleaning the product, use only a dry cloth. Do not use water or organic solvent.
4. Please avoid using the product around any device making a strong noise.

### **※ Warranty Service ※**

1. Free warranty service will be provided for 12 months after the purchase of the product.
2. Only product malfunctions during the normal operation caused by the product's original defects can be covered.

**※ Pay Service ※**

1. Pay service will be provided after the product warranty period.
2. In case product malfunctions are caused by the user intentionally or by mistake.

**Contact point for A/S : Store of purchase**