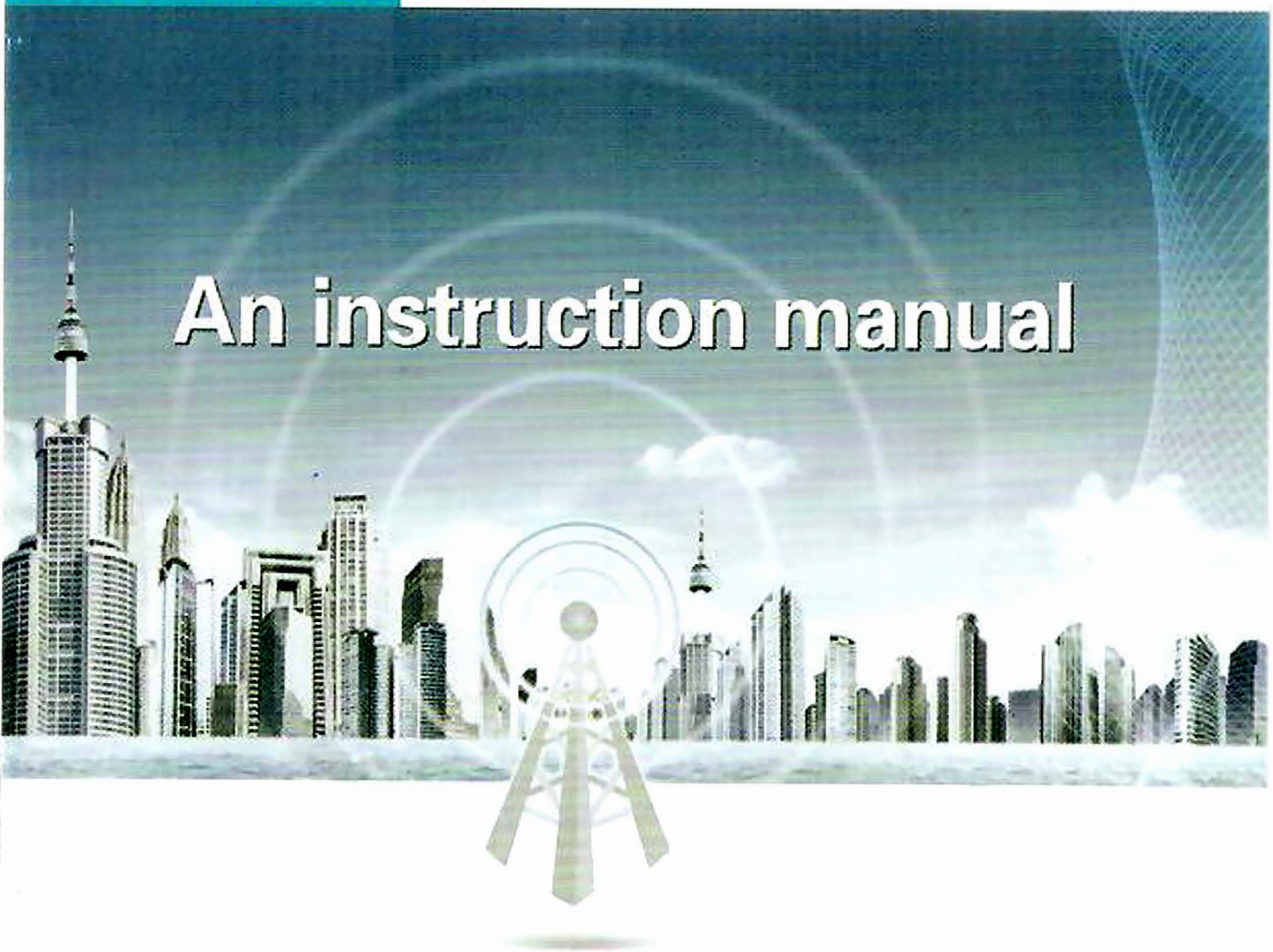
cablematic

Intelligent repeater



Our goal

- Economical and practical
- Safe and reliable
- Communication fluency

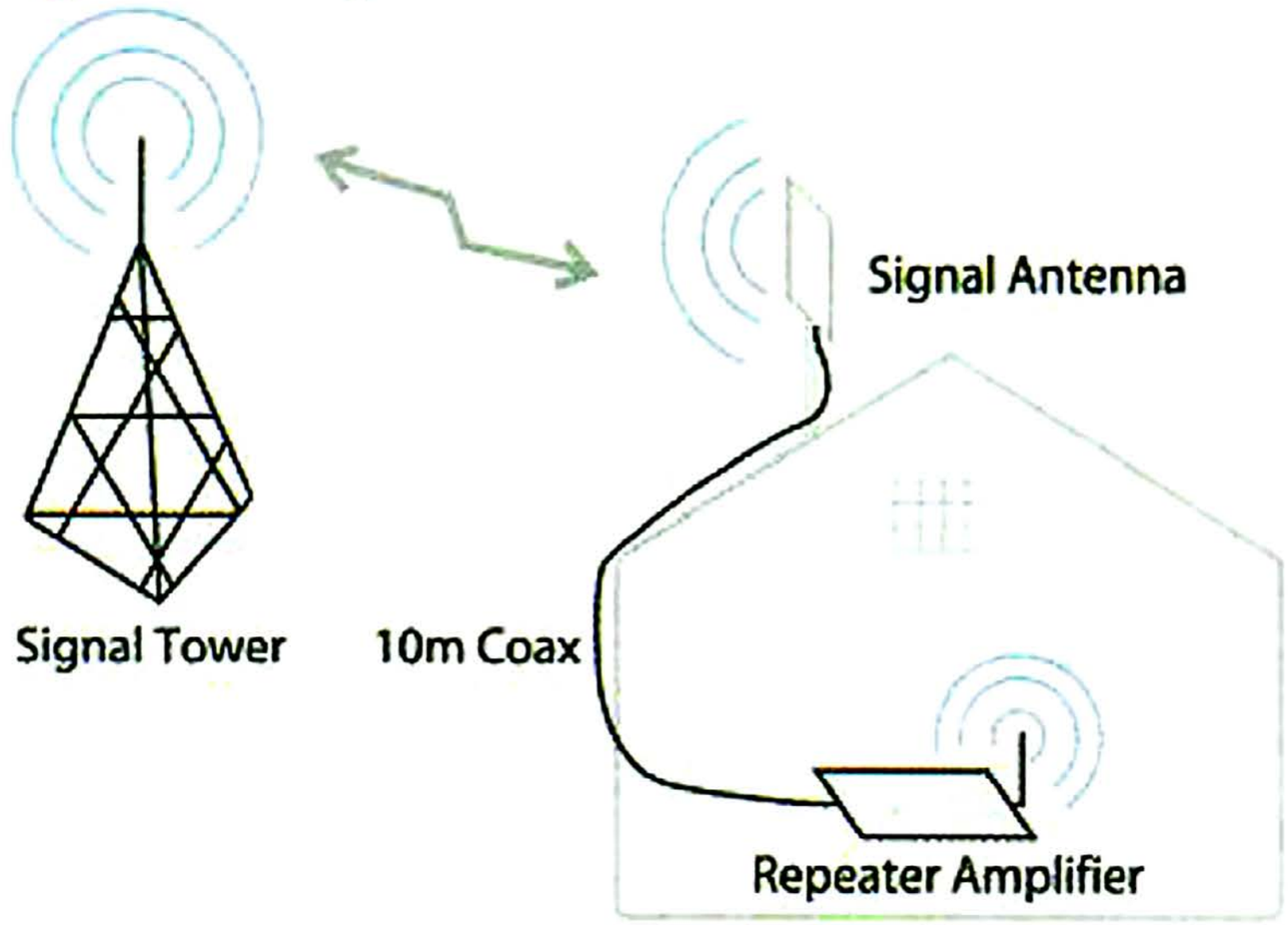
cablematic

Contents

Technique Specifications

Item	Specification		
	Up Link	Down Link	
Frequency	698-716MHz	726-747MHz	☐
	1710-1785MHz	1805-1880MHz	☐
	1920-1990MHz	2110-2180MHz	☐
	890-915MHz 1710-1785MHz	935-960MHz 1805-1880MHz	☐
	890-915MHz 1920-1990MHz	935-960MHz 2110-2180MHz	☐
	2500-2570MHz	2620-2690MHz	☐
Power	-70 ~ -40 dBm / FA(1.23MHz)		
Gain	60 ± 3DB	65 ± 3DB	
Max Output Power	+23dBm / ± 3DBM Total power	+23dBm / ± 3DB M Total power	
Impedance	50 Ω		
Seclusion	>70dB		
Power Supply	AC 110/220V(used AC/DC Adapter12V/5Vdc)		
Compact Design	Indoor Use		
Item Diemension	210 x 160 x 20 mm		

Working Principle



Wiring Diagram

Section 1: Introduction

Thank you for purchasing our Product The Small communication repeater station Kit. Our product is designed to enhance mobile phone coverage for indoor applications by capturing a signal externally, amplifying and retransmitting a clear and reliable signal within the desired coverage area. The performance of Our Mobile Repeater kit will depend on the external signal strength, which is provided as input to the repeater base unit.
This document provides a step-by-step guide to a basic installation and offers some trouble-shooting tips if you have any difficulty (in)getting your kit to work.

Section 2: External Antenna Installation

The most important part of the installation is the location and orientation of the external antenna. The external antenna is a square plate or Yagi antenna that has a small coax lead connected to it. The external antenna should be separated from the base repeater as much as possible to avoid potential feedback between the two units. When installing the external antenna please consider the following:

- **Physical Location**

  The external antenna should ideally be mounted as high as possible outside in order to provide the best signal input to the base repeater unit. Please find the location outside where you have the strongest signal on your phone. Please check to make sure you are able to place a call on your phone at this location.

- **Orientation**

  The panel antenna or Yagi is directional and should be installed so that it points towards to local base station for your network provider. The external antenna applies the highest amount of signal gain when pointed in the direction – The stronger the input signal to the repeater the better the indoor coverage will be.

NOTE - you can use Supplier to locate base stations in your postcode or call your network provider to check.

Please seal the connection of the cable connector of the antenna on to the end of the coax so that it is waterproof.

Section 3: Mobile Repeater Installation

Section 3-1: Location of the Mobile Repeater base unit

Standard mobile repeater station kit comes with a whip antenna in each direction or the direction of the plate or mushroom ceiling antenna connected to'Indoor' port of the repeater unit. Since the whip antenn is omni-directional, the signal broadcast is in a circular radius around the base unit. Considering this it is best to locate the base repeater unit in a central area or in a particular spot where signal is needed. The range of the indoor broadcast will depend on the strength of the signal coming from the external antenna.
Please note that the location for the repeater unit will require a standard mains power supply and the base unit should be mounted on a flat surface either ex. on a desk or cabinet or mounted on the wall The whip antenna when attached to the repeater should be oriented vertically.

Section 3-2: Cable Run to Mobile Repeater Unit

After determining the best cable route from the external antenna to the repeater connect the cable at both ends. Provide a firm connection of the coaxial cable with the outdoor antenna through the connector fixed at the cable end and connect the other side of the cable to the port on the booster base unit labeled 'Outdoor'. When routing cable ensure that the cable is supported and does not sag.

NOTE – it is extremely important that there are no coils or loops of excess cable between the outdoor antenna and the repeater. This in addition to sharp bends and kinks can cause signal oscillation on the system and a false reading of The basic unit of liquid crystal display signal. Please make sure you have no spare cable coiled or kinked. If you have excess cable you should either use it to raise the height of the external antenna, move the base repeater further away from the external antenna or take an indirect path as to not coil the cable at either end.
NOTE – Please do not remove connectors from the cable, repeater or antenna unless you have the necessary tools to do so. Mobile Repeater will not warranty any equipment that has been tampered with. If you have any concern please contact Mobile Repeater customer support.

Section 4: System Commissioning

Before turning the repeater unit on please ensure that you have the connectors for the outdoor antenna and the indoor whip antenna fastened firmly.
Connect the AC mains to the DC adapter and connect the DC adapter cord to the DC input of the repeater unit. When the liquid crystal display optical signal active. If you have a strong outdoor signal level, you will see the LCD display will light signal is also at this point you should see a signal come through on your mobile phone. Once the base unit is on you can re-boot your mobile phone and check to see if it is receiving a signal. Try to place a test-call to someone or to your voice mail to see if you can call out. If you are able to place calls out (and receive calls) your repeater is working properly. You can adjust the direction of the external antenna to try and maximize the indoor signal coverage. Mobile Repeater also supplies signal splitters and indoor coverage antenna that can be used to distribute signal over a building with heavy partition walls.
If you are not able to place calls due to a low outdoor signal level you may need a higher gain external antenna. If you are not able to place calls but you have a strong signal at the location of your external antenna please review the trouble-shooting tips below for more information or please contact Mobile Repeater customer support for technical advice.

Section 5: Trouble-Shooting Tips

If you get a signal off the repeater but coverage radius is low
If you have established that you are now able to place and receive calls when in range of the repeater and want to extend coverage inside the building it is important to ensure the proper orientation of your external antenna and to ensure that it is pointed towards the local base station for your network provider.

If the liquid crystal display signal is closed but still you can in your mobile phone signal
This is good. The normal operation of the repeater. Note that the liquid crystal display signal does not need to in order to The normal operation of the unit. Liquid crystal display is designed to activate when the relay unit receives the maximum input signal
From the external antenna. If the liquid crystal display signal closed repeater will broadcast signal but could not reach the maximum Estimated area coverage.

If the liquid crystal display signal is the mobile phone signal - you didn't get in you
Some cases will lead to the basic unit of liquid crystal display signal error reading, which can be a result of interference or coiled cable.

- First check to make sure you have the maximum separation possible between the external antenna and the repeater. It is very important that there is no spare cable coiled in loops at any point. If you have the cable coiled please unroll the whole cable and re-check the signal on your phone next to the repeater.
- The external antenna should not be within 5 meters of an active TV or satellite antenna

If the green lights are still ON but you cannot place calls inside or drop calls on a regular basis

Your repeater may be oscillating due to interference between the external antenna and the base repeater, due to cable problems or a short circuit. If you are experiencing this and you have already ensured that the cable run is straight and free from coils, sharp bends or kinks please contact Mobile Repeater Customer Support.

If your phone shows a strong signal but the call quality is not clear

This is either a result of coiled cable, a sharp bend or due to external antenna direction. If your cable run is straight and you have not coiled excess cable please check the direction of the external antenna and ensure that it points towards the local base station. As the antenna is directional it needs proper orientation to ensure a reliable communication channel between the external antenna and the nearest base station for your network.

If you are not able to locate the base station from the website above simply rotate the antenna in a full circle and test calls inside near the repeater unit to ensure a quality signal. Otherwise we would recommend contacting your network provider to request information on the nearest base station location.

If the liquid crystal display signal is closed, you can not accept a signal at the relay unit

This is a result of the repeater unit not receiving a strong enough signal externally

Solution – first ensure that the entire length of cable is completely uncoiled and free from any sharp bends or kinks.

Next check the coax cable between the outdoor antenna and the repeater and make sure connections and cable are intact. Next check the orientation of the external antenna and ensure it is pointed in the right direction. If necessary simply rotate the external antenna and monitor the signal level on your phone inside near the repeater to see if you are able to pick up the external signal. If you still do not receive a signal on your phone from the repeater (liquid crystal display even if the signal is closed) then you may need to consider using a higher gain and more directional external antenna that is more sensitive to capturing weak outdoor signals. V Access to supply merchants more telephone communication fittings on the antenna upgrade information.

NOTE – Please do not remove connectors from the cable, repeater or antenna unless you have the necessary tools to do so. Mobile Repeater will not warranty any equipment that has been tampered with. If you have any concern please contact Mobile Repeater customer support.

Special note

Display and control function: display and control is mainly 2 parts: the state of the display part, gain control of parts..

1. The 1 part: the status display plug-in default boot state and work and display at the maximum gain state, no signal input signal especially frame flicker  .

A signal input real time frame were lit (display full lattice input signal reaches -55DB, display time 4 lattice, the input signal to the display when the -60DB 3 lattice, the input signal to the display when the -65DB 2 lattice, the input signal to achieve -70DB display 1 lattice, when the amplifier work reached -50DB at maximum gain state input signal input signal if no signal lattice reduction will appear and flashing signal gridlines. The input signal is greater than -45DB, or noise, or self time signal Kasit Piromya frame flicker  .

The 2 control part:

1. Gain control: were click Add substract key corresponding, gain increase or decrease, point click change to 1DB, according to not move quickly to increase or reduce the gain. Due to the internal amplifier is used in 31DB step attenuator, so gain can only increase or decrease of 31DB. Adjust the gain is equal to the amplifier output signal strength adjustment, to the amplifier output signal and the input signal changes have direct relations, so the gain adjustment internal circuit is to reduce the input signal so signal lattice here is actually the examination of 2 parts, a part is to check the strength of an input signal, a part is to judge the amplifier output signal because the gain adjustment, to prevent too much and amplifier has no output, already can not phone, but the signal input also shows the full lattice, so that guests will think our amplifier is broken. The red part if wordy can not do in a specification, just tell the guest the gain adjust signal we will follow the change, originally gain adjustment function is when the input signal is too strong a worry that the amplifier output is too strong to prevent interference and self, so the gain adjustment becomes the input signal to reduce, is equal to guests why buy from us attenuator attenuator is truth, reducing amplifier input or output specifications, do today I found out why other companies gain control can only be used to dial switch without automatic switch, the problem is in this algorithm, because we gain shows that although is independent display, but the gain of the signal display, signal self amplifier input signal and the output is too strong are from the same line and displayed on the same signal lattice, in question here)
2. Switch power supply control by pressing the corresponding keyboard, will close to the corresponding amplifier respectively, after the closure of the corresponding amplifier will display 0FF, amplifier OFF, since the amplifier CPU and signal detection must also have the power to work, as well as indoor or outdoor antenna is connected to the amplifier above, there will be a weak induction signal output, but not the effects of other.

Global communication