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GSM900/1800mhz Dual Band Mobile Phone Signal Booster ST-1090A

What is mobile phone signal booster?

Cell phone signal booster is also called repeater, amplifier, which is a products designed to solve the mobile phone blind signal. As the mobile phone signal is transmitted by electromagnetic waves to establish a communications link, the building of the barrier, in some tall buildings inside, the basement of some places such as malls, restaurants, places of entertainment such as karaoke OK sauna and massage, underground civil air defense projects, subway stations and many other places where cell phone signals can not reach and can not use the phone. Cell phone signal amplifier can solve these problems in a particular place as long as the installation of a mobile phone signal amplifier system, the entire range of mobile phone signals can be well used, staff or customers will get great convenience.

Application places of signal boosters

1. For large buildings such as stores, offices, school, company headquarters warehouse and so on
2. For small Houses that in remote place
3. For vehicle (Car, Truck, RV...)
4. For public place, for example: Metro, Tunnel, Hotel, Pub, Supermarket, etc
5. Gas Station, Gas Filled Station, Oil Field, Oil Depot



Amplifiers for Home



Amplifiers for Apartments



Amplifiers for Small Office



Amplifiers for High Rise Building



Amplifiers for Warehouse



Amplifiers for Car



Amplifiers for Truck



Amplifiers for Recreational Vehicle



Amplifiers for Boat/Yacht



Amplifiers for Emergency Vehicle



CE RoHS Signal Booster



Product Features:

- Provide quick coverage solution for small signal weak & block zones, reduce drop/off calls
- Compact size, low consumption, easy installation, high cover
- Reduce cell phone transmit power and radiation, extend cell phone battery life
- Low gain low noise figure, high linear design, low interference to BTS
- With ALC(Automatic Level Control) technical support, can protect the amplifier circuit
- With AGC(Automatic Gain Control)
- Led light display

CE RoHS Combiner



Repeater complete set:

- 1 pc yagi antenna for External using
- 1 pc ST-1090A Booster
- 1 pc power supply
- 1 pc ceiling antenna for Internal using
- 1 pc English user manual
- 10 m cables for outdoor using
- 5 m cables for indoor using

The specification

Specification	Uplink	Downlink
Frequency:	GSM-890-915mhz	GSM-935-960mhz
	1710~1785MHz	1805~1880MHz
Max Gain	$60 \pm 3\text{dB}$	$65 \pm 3\text{dB}$
Ripple in Band	$\cong 8\text{dB}$	
Output Power	$14 \pm 1\text{dBm}$	$17 \pm 1\text{dBm}$
Noise Figure @ max. gain	4.5db	8db
Return loss	$\cong -8\text{ dB}$	
Time Delay	$\cong 0.5\ \mu\text{s}$	
MTBF	$>20000\text{ hours}$	
Power Supply	AC:100-240V, 50/ 60Hz; DC: 5V 2A	
Power Consumption	4W	
Impedance	50 Ω	
RF Connector	N -Female	
Cooling	Heat sink Convection cooling	
Dimensions (D x W xH)	250*150*60 (mm)	
Weight	0.7KG	
Installation Type	Wall Installation	
Environment Conditions	IP40	
Humidity	$< 90\%$	
Operating Temperature	$-10^{\circ}\text{C} \sim 55^{\circ}\text{C}$	
Max Coverage Area	300sqm	

The introduction of AGC function

AGC means Auto Gain Control; it means the booster can control the gain by itself according to the surroundings.

- When there is a sudden strong signal input, the booster can adjust the gain accordingly to protect the booster module together BTS station, make the strong signal will not affect the BTS after adjustment.
- When the signal outside is too weak, the booster can adjust the gain to full stage to boost the signal received at most for end use.
- The AGC repeater is with LED on it, it can directly show the running state of the booster.

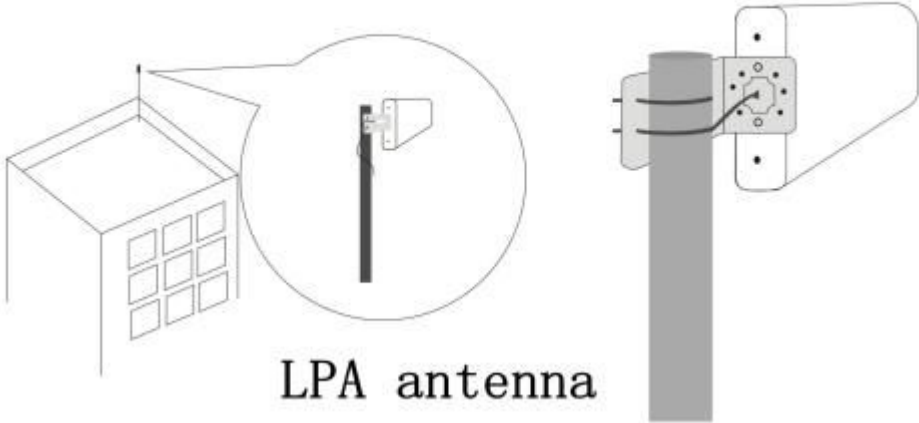
Installation of outdoor antenna

The signal strength from the outdoor antenna directly affects the efficiency of the indoor coverage, so it is very important to choose the outdoor antenna location to get the best signals.

- Select the top of building, the window or the balcony to install the outdoor antenna where there is with sound signal.
- Testing the signal strength received from outdoor antenna by mobile phone from different direction, and it shall display full bar signals where the outdoor antenna installed.
- Fix the outdoor antenna after selecting the best position, and adjust slightly its height or angles in order to get the best signals.
- The phone calls or data transmission shall be smooth and stable by 3 times testing where the outdoor antenna installed.

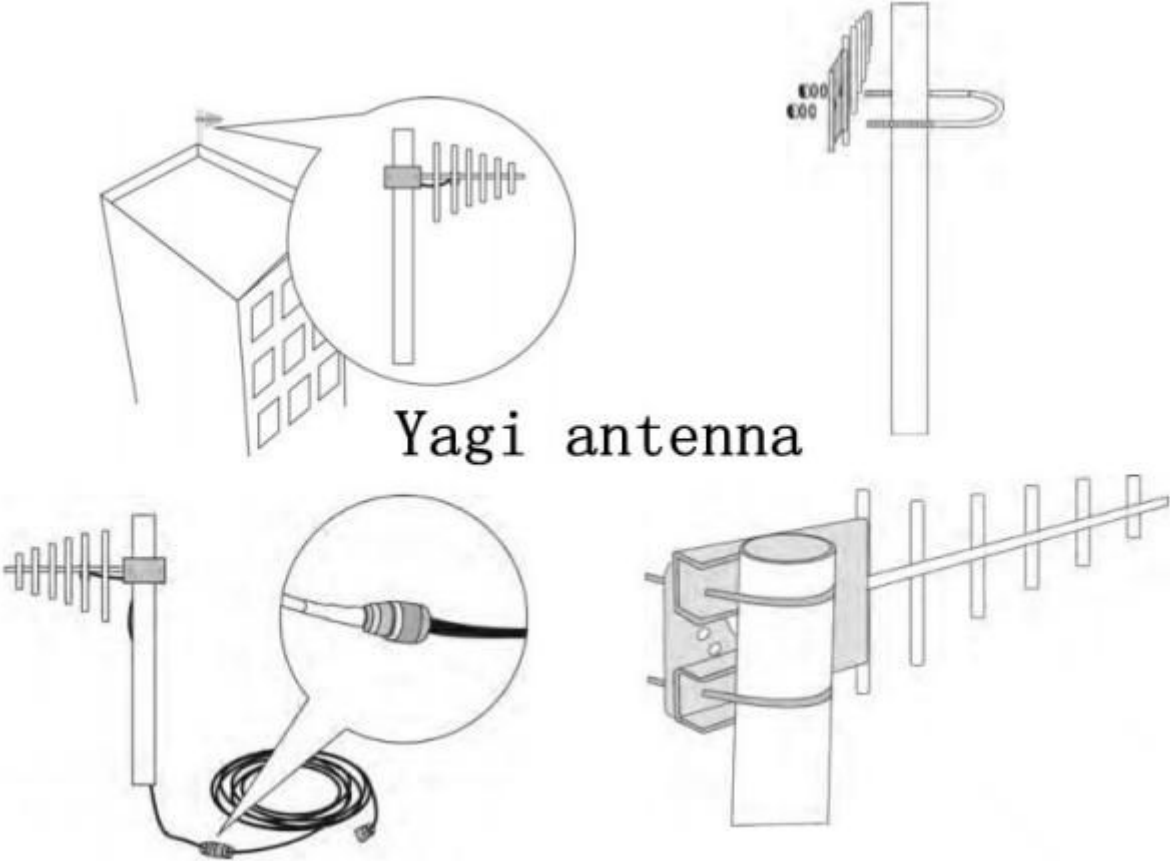
Installation of Yagi antenna as outdoor antenna

Installation of LPA antenna as outdoor antenna

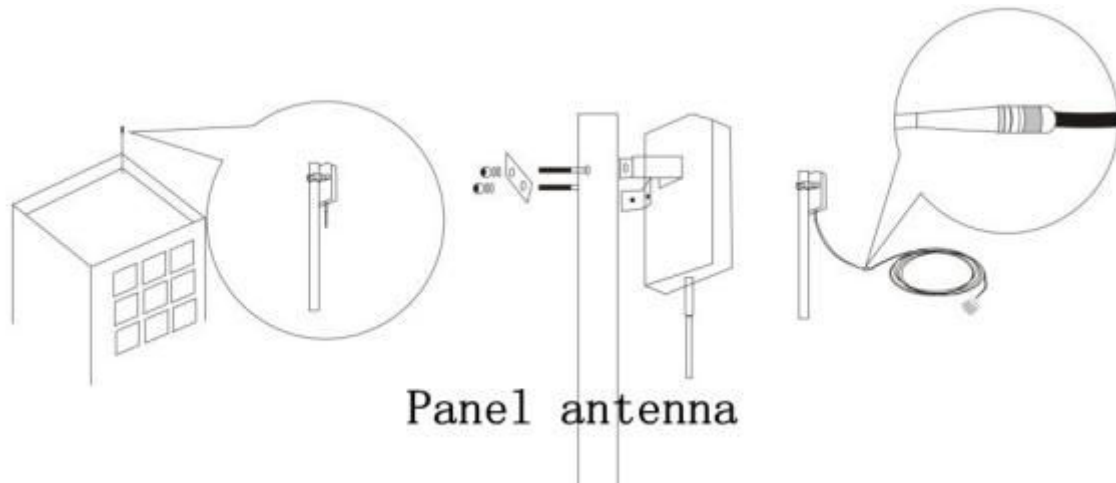


LPA antenna

Installation of Panel antenna as outdoor antenna



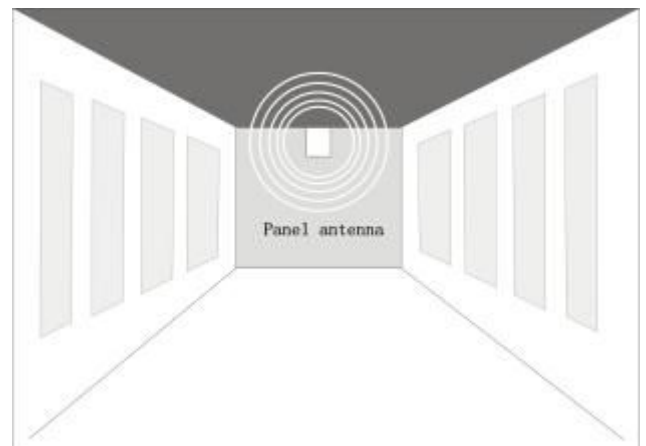
Yagi antenna



Installation of indoor antenna

Omni antenna (Indoor ceiling antenna or whip antenna), suitable for installing in the center and radiate all directions.

for the coverage shape is long and narrow, like corridors, tunnels or elevators, etc. (The directional antenna is good for isolation from outdoor antenna)

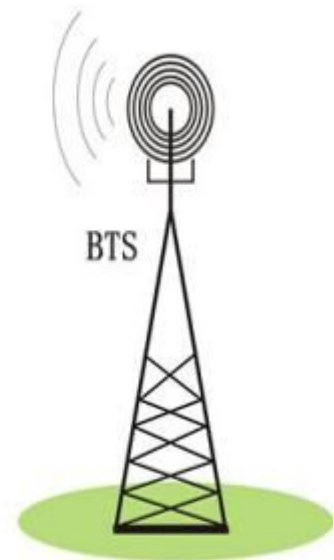
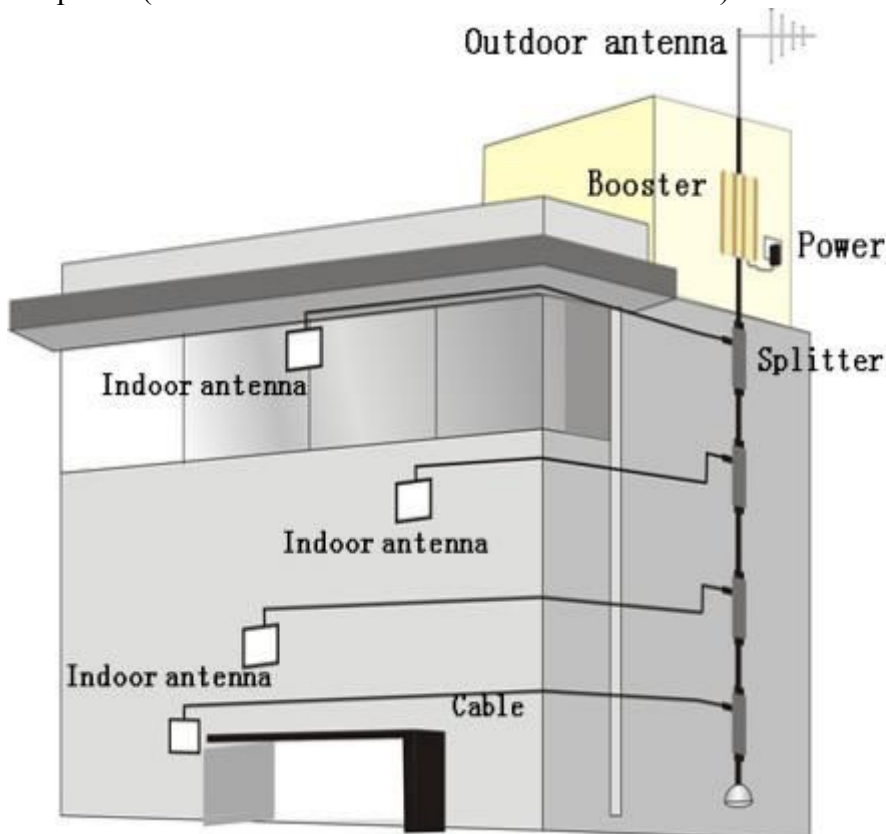


Note: Attention on the install of outdoor antenna and indoor antenna

Booster is a two-way signal amplifier, so proper isolation between outdoor antenna and indoor antenna is necessary in order to avoid self-oscillation. About the definition for self-oscillation, take MIC and Loudspeaker for example, if it is too close for each other, it could make big noise. And the minimum distance between outdoor antenna and indoor antenna shall be 5 meters. Again if the two antennas install in the same level, then the direction of outdoor antenna and indoor antennas shall be opposite (in this case, the directional antenna will be a good choice). If the isolation can't be achieved by the limited distance, the roof of the building or any other barriers can be put between two antennas to increase isolation.

Installation complete kit items

- ◆ Signal booster
- ◆ Outdoor antenna
- ◆ Indoor antenna
- ◆ Cable
- ◆ Splitter (When there are more than 2 indoor antennas)



- Step 1: Install the outdoor antenna in a suitable place
- Step 2: Connect the outdoor antenna to the booster “outdoor” side by cable and connector
- Step 3: Connect the indoor antenna to the booster “indoor” side by cable and connector
- Step 4: Connect to the power

(Please pay attention , Never plug the power supply until you make sure that everything is connected well , otherwise the repeater will may be broken.)