

## Pro 5 Bands Signal Booster

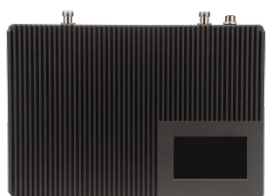
# BuildingForce 4G PRO Cellular Signal Booster User Manual

Connect the world

## Features

- Greatly reduces dropped calls, extends signal range, and increases data rates
- Allows multiple mobile devices to be used simultaneously
- Oscillation (or interference) detection and automatic shutdown with auto reset
- Overload protection circuit – protects cell towers from being overloaded
- Amplifies signals both to and from the cell tower
- Maximum 3 watts(EIRP) output power
- Works on all generations of 2G,3G and 4G
- Power control logic ensures maximum gain is within cellular standards
- Reduces radiation and extends battery life – up to 2 hours additional talk time in weak signal areas.

## Package Contents



**Booster**  
35702701-R5U08



**Inside Antenna**  
ANT050501



**Outside Antenna**  
ANT011001



**Lightning Surge Protector**  
ACC010101



**Inside cable 75feet**  
CAB017501



**Outside cable 60feet**  
CAB016001



**Power Adapter**  
ADP0101



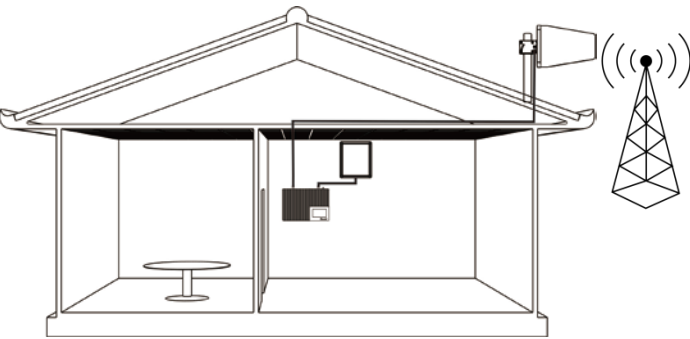
**Antenna Pole**  
ACC000101



# Installation

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## 1. How it work



Step 1: The powerful outside antenna captures a voice and data signal, and transfer it to the booster;  
 Step 2: The booster receives the signal, amplifies it and rebroadcasts it by inside antenna.  
 Step 3: Your mobile devices get a better signal, never experience dropped calls or slow data speed.

## Supported Carriers

- AT&T 2G/3G/4G (HSPA+ & LTE)
- Verizon 3G/4G
- T-Mobile 2G/3G/4G
- Sprint 3G/4G
- US Cellular 3G/4G
- Metro PCS 3G/4G
- Major Canadian Carriers 2G/3G/4G
- All other carriers using 700MHz, 750MHz, 850MHz, 1900 and 2100MHz

## Coverage Area

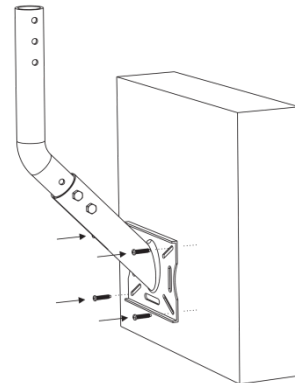
Note: cause the ability of coverage depends on output power of booster. Any boost has a limit of amplification factor, so final output power is related to received signal power level at the location of outdoor antenna.

Power level at the outdoor antenna location		Coverage Area (sq. ft.)
Strong	(5 bars on the cellphone)	100000
Medium	(3~4 bars on the cellphone)	30000
Weak	(1~2 bars on the cellphone)	10000

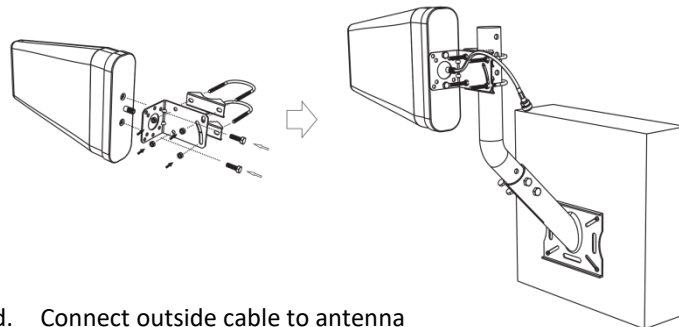
## 2. Step by step installation

### Step 1: mount the outside antenna

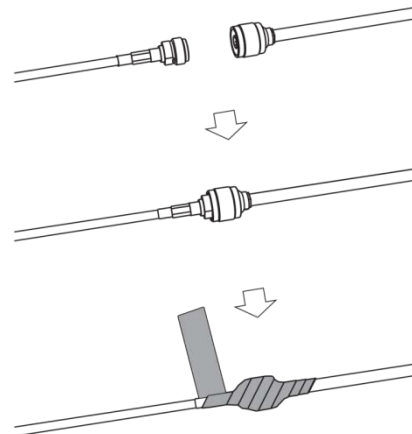
- Choose right position
  - Find the strongest signal position in the possible install locations by read your cell phone signal bar;
  - 30cm away from any other metallic objects;
  - 100cm away from any windows;
- Mount the antenna pole;



- Mount the antenna to the pole;



- Connect outside cable to antenna
  - Make sure connectors are screwed well;
  - Seal the connectors with the glued tape;

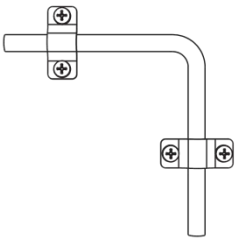
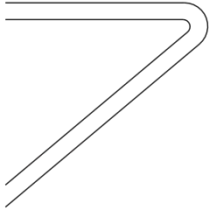




# Installation

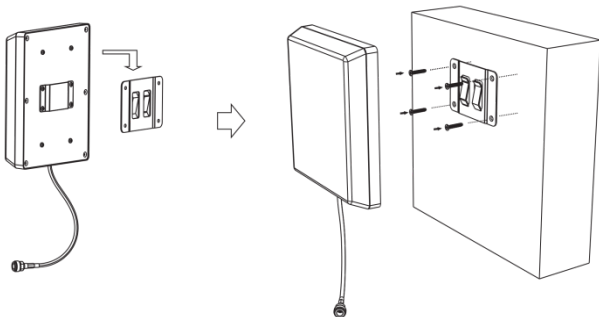
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- e. Set the outside antenna cable into the building
  - Carefully arrange the cable along the building outside and make sure don't fold it;
  - Fix the cable at each corner;



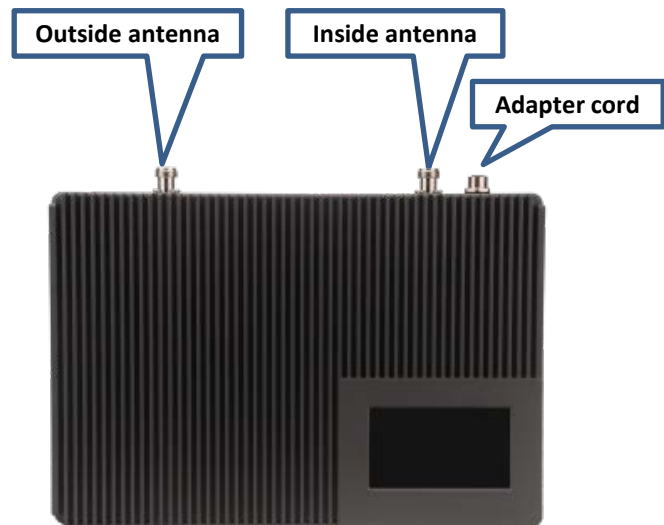
## Step 2: mount the inside antenna

- a. Choose right position
  - 20cm away from any other metallic objects;
  - 50cm away from any windows;
  - For the panel antenna the position on the end of the building is recommended;
- b. Mount the inside antenna;
- c. Connect the inside cable to the inside antenna;



## Step 3: arrange the booster

- a. Choose position
  - Be sure away from heat source;
  - In ventilate dry place, temperature range should  $-5^{\circ}\text{C} \sim +50^{\circ}\text{C}$ ;
- b. Connect the outside antenna's connector to the "outside" labeled port of the booster;
- c. Connect the inside antenna's connector to the "inside" labeled port of the booster



## Step 4: power on the booster

- a. Plug the power adapter to the AC power;
- b. Attach the cord of the adapter to the booster;



# Installation

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Step 5: study GUI information

- "State" there are three statements for each link: red color for alarm, green color for normal and good condition, yellow for sleep mode;
- "Gain" is each bands' current gain state in dB;
- "Pow" for each bands' current output power in dBm;

a. state				c. Pow			
b. gain							
Band	Pow/dBm	Gain/dB	State	Band	Pow/dBm	Gain/dB	State
L700_D:	-4	62	●	L700_U:	13	62	●
U700_D:	9	62	●	U700_U:	15	62	●
Cell_D:	9	64	●	Cell_U:	10	64	●
PCS_D:	5	72	●	PCS_U:	7	72	●
AWS_D:	8	72	●	AWS_U:	10	72	●
● Alarm ● Norml ● Sleep				Setup			

Step 6: setup each bands' gain: press "Setup" then comes the next panel;

- "+" add attenuation to corresponding band;
- "-" reduce attenuation to corresponding band dB;
- "MIRROR" or "NORMAL" change vision direction;
- "ESC" no change and exist to information panel;
- "OK" save what change have been done through the panel and turn to information panel;

2016/05/03 06:04:12				
L700	U700	Cell	PCS	AWS
+	+	+	+	+
0.0dB	0.0dB	0.0dB	0.0dB	0.0dB
-	-	-	-	-
Up 698Mhz Down 728Mhz	776Mhz 746Mhz	824Mhz 869Mhz	1850Mhz 1930Mhz	1710Mhz 2110Mhz
MIRROR ESC OK				

2016/05/03 06:04:12				
L700	U700	Cell	PCS	AWS
+	+	+	+	+
0.0dB	0.0dB	0.0dB	0.0dB	0.0dB
-	-	-	-	-
Up 698Mhz Down 728Mhz	776Mhz 746Mhz	824Mhz 869Mhz	1850Mhz 1930Mhz	1710Mhz 2110Mhz
NORMAL ESC OK				



# Cautions & Spec.

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**Note1:** Some of the 12V DC lighter power sources will not shut down when the vehicle is turned off. Please switch off the adapter when you leave the car, in case the battery of the vehicle is used up.



**Note2:** Don't cover the booster body with anything, in case the power dissipation make the booster too high temperature. Booster will shut down when the temperature is too high itself.



**Note3:** Use only the power supply provided by SolidRF, any other products non-approved by SolidRF or self-made power cable may damage the booster.



## Note4: Troubleshooting

- **Properly:** The lights on the front panel indicate the condition of the booster. Every time the booster is powered on, all of the lights will be light on in green color for around 2 seconds and then lights off, this means the booster pass the self check and in good condition;
- **Wrong condition:** If any of the lights flashing in green light, than means the isolation between the outside antenna and inside antenna is lower than it should be, and self oscillate occurred. You must switch off the booster and check the outside antenna and inside antenna immediately. Make sure you have followed this installation recommended, and check every thing carefully. If you can't fix the problem please contact the technician or our distributor.

## Technical specification

Frequency (MHz)		LTE (band 12)	LTE (band 13)	Cellular ( band5)	PCS (band 25/2)	AWS (band 4)
	Uplink	698-716	776-787	824-849	1850-1910	1710-1755
	Downlink	728-746	746-757	869-894	1930-1990	2110-2155
Gain	Uplink	60±2	60±2	62±2	68±2	68±2
	Downlink	60±2	60±2	62±2	68±2	70±2
Output power	23±2dBm(Uplink)/0±2dBm(Downlink)					
Noise figure	<5dB					
In-band Flatness	<8dB					
Weight	3.5Kg					
EIRP	1W					
Gain adjustment	30dB					
Impedance	50 ohm					
Operating temperature	-5° ~60°					
Current	≤2.5A(12V DC)					
Dimension(mm)	338*230*35					

## Warnings and Recommendations

- ⚠ Warning: This consumer booster is for Consumer use only.
- ⚠ Warning: Unauthorized antennas, cables, and/or coupling devices are prohibited by FCC regulations. Please contact FCC for details: 1-888-CALL-FCC.
- ⚠ Warning: Outside antenna orientation must be back side of inside antenna is to prevent the indoor antenna receiving the signal emitted by outside antenna. Otherwise it will cause self-oscillation of booster.
- ⚠ Warning: RF safety, any antenna used with this device must be located at 20 cm (8 inches) away from persons or by bystanders.
- ⚠ Warning: It will damage the mobile device and the booster if connect them with a cable directly.
- ⚠ Warning: Use the power supply provided by SolidRF only. Other power supplies may cause damage of the booster.
- ⚠ Warning: Antenna installation is restricted to 10 meters or less height above ground, even if the antenna is installed inside when used with a mobile device that operates in the 1710-1755 MHz band. Violation of this requirement may subject the owner of the booster to potential FCC enforcement actions.
- ⚠ Warning: Never point the front of a directional antenna toward the inside antenna. Verify that both the outside antenna and the inside antenna are connected to the booster before powering up the booster.
- ⚠ RF Exposure: The manufacturer's rated output power of this equipment is for single carrier operation. For situations when multiple carrier signals are present, the rating would have to be reduced by 3.5 dB, especially where the output is re-radiated and can cause interference to adjacent band users. This power reduction is to be by means of input power or gain reduction and not by an attenuating at the output of the device.

## Description of network protection features:

This booster including safeguards to protect the cellular network from interference. Each Signal Booster is individually tested and factory set to ensure FCC compliance.

1. The Signal Booster cannot be adjusted without factory reprogramming or disabling the hardware.
2. The Signal Booster will amplify, but **ONLY** incoming and outgoing signals in order to increase coverage of authorized frequency bands.
3. If the Signal Booster is not in use for five minutes, it will reduce gain until a signal is detected.
4. If a detected signal is too high in a frequency band, or if the Signal Booster detects an oscillation, the Signal Booster will automatically turn the power off on that band.
5. For a detected oscillation the Signal Booster will automatically resume normal operation after a minimum of 1 minute. After 5 times consecutive such automatic restarts, if the detected oscillation still remains, any problematic bands are permanently shut off until the Signal Booster has been manually restarted by reconnecting power supply to the Signal Booster.
6. Noise power, gain, and linearity are maintained by the Signal Booster's microprocessor.



**This is a CONSUMER device**

BEFORE USE, you MUST REGISTER THIS DEVICE with your wireless provider and have your provider's consent. Most wireless providers consent to the use of signal boosters. Some providers may not consent to the use of this device on their network. If you are unsure, contact your provider.

You MUST operate this device with approved antennas and cables as specified by the manufacturer. Antennas MUST be installed at least 20cm (8 inches) from any person.

You MUST cease operating this device immediately if requested by the FCC or a licensed wireless service provider.

WARNING: E911 location information may not be provided or may be inaccurate for calls served by using this device.

**This device complies with Part 15 of 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.

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 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

**Contact information for providers**

A subscriber must have the consent of a wireless provider to operate a consumer signal booster. Please register your booster with your wireless service provider, refer to contact information for providers:

Sprint:

[signalbooster@sprint.com](mailto:signalbooster@sprint.com)

T-Mobile:

[www.T-Mobile.com/BoosterRegistration](http://www.T-Mobile.com/BoosterRegistration)

<https://support.t-mobile.com/docs/DOC-9827>

Verizon:

<http://www.verizonwireless.com/wcms/consumer/register-signal-booster.html>

AT&T:

<https://securec45.secureweb session.com/attsignalbooster.com/>

U.S. Cellular:

<http://www.uscellular.com/uscellular/support/fcc-booster-registration.jsp>

Metro PCS

<https://www.metro pcs.com/support/signal-booster>