HiBOOST®

We Improve Your Mobile Signal

User's Manual

F08GI-5S-BTW

MADE IN HUAPTEC

Content

WHAT IS INCLUDED

1. HiBoost Mini
2. Outdoor Antenna & Cable
3. Indoor Antenna &Cable (option)
4. AC/DC Power Adapter

1 HOW IT WORKS

The cellular booster provides reliable two-way cellular coverage by improving signal strength in homes, buildings, offices, and other areas where cellular reception is weak or unreliable.

The system amplifies the signal from the nearest cellular tower and retransmits at a higher power level within a local area.

This manual provides simple installation instructions that will have your cellular booster kit running in record time.

2 TOOL REQUIRED

Phillips Screwdriver

Drill

Cellular Phone (to check signal strength)

3 HOW TO INSTALL YOUR NEW CELLULAR BOOSTER

Use the built –in antenna

Use the indoor antenna

1.booster 2.outdoor antenna

3.cabel 4. power supply

5.indoor antenna 6. cabel (the same as No.3 cabel)

3.1 Overview

This guide will help you properly install your cellular booster kit. It is important to read through all of the installation steps before installing your equipment. Thoroughly read through the instructions, visualize where all the equipment will need to be installed and do a soft installation before mounting any equipment.

The installation process shown as below :

1

- **BOOSTER – select location**
- Install the booster in an area that is protected from the weather, properly ventilated and is away from excessive heat and moisture.

2

- **DONOR ANTENNA (OUTDOOR)- select location**
- Mount the signal (outdoor) antenna in an elevated outdoor location so that it points towards the cellular tower and away from where the inside antenna will be located.

3

- **OUTDOOR COAXIAL CABLE - select location**
- The outdoor coaxial cable is used to connect the donor (outdoor) antenna to the booster.

4

- **INDOOR COAXIAL CABLE- (if used)**
- The indoor coaxial cable is used to connect the server (indoor) antenna to the booster.you can choose the indoor omni antenna or panel antenna .

5

- **SERVER ANTENNA (indoor)**
- The ideal location for the distribution antenna will be the area of your property where you need to improve the signal most.
- NOTE:The signal strength will be strongest closest to the antenna.

- **IMPORTANT**: The signal antenna (outdoor)should always be separated from the distribution antenna (indoor)by at least 20 vertical feet including the separation of a thick barrier such as a roof or a wall. Depending on the strength of your outdoor signal, the weaker the signal the less separation distance is required.

7

- **LIGHTNING SURGE PROTECTOR- (SOLD SEPARATELY)**
- The lightning surge protector connects in between the signal antenna and the booster.
- IMPORTANT: Lightning surge protector must be grounded.

8

- COMMISSIONING THE SYSTEM

3.2 Plan the layout of your system

Before you get started you will need to plan the layout of your system. This involves checking signal strength for signals coming from the cellular tower, as well as antenna, booster and cable placement.

3.3 Check for Signal Strength

Select a location on the roof of the building to install the signal antenna, by monitoring your cellular phone's signal strength (signal bars) to find the strongest signal from your carrier's cellular tower.

Mark that area as the installation location for the Donor (outdoor)

IMPORTANT: Confirm that you have at least 20 feet of vertical distance between the marked antenna location and the location where you will place the Server (indoor) antenna. To prevent the system from oscillation (feedback) you want to ensure that there is enough separation between the distribution and signal antenna or that they are shielded from each other to ensure the distribution antenna does not send a signal back into the signal antenna. If you cannot achieve these separations, either choose an alternate location for the donor (outdoor) antenna or determine if there are natural barriers in the building construction itself that will attenuate signals between the two antennas so that oscillation can be prevented.

3.4 Run coaxial cable

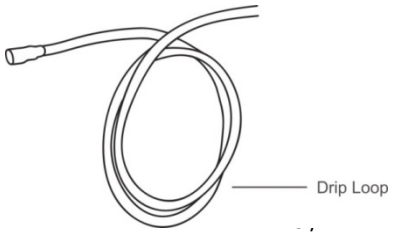
Loosely run the coaxial cable from your outdoor antenna to your booster. (After you have tested the system you can permanently secure the coaxial cable).

As you route and pull cabling, follow these general guidelines:

- Bend cables and route them smoothly, and protect the outer skin against any damage.
- Keep horizontal cables straight and fasten them with a tie every three to five feet.
- Bind and fasten vertical cables every six to eight feet.
- Waterproof all outdoor connections with silicone caulking
- Be careful when plugging the connector in so as not to damage the center pins on the connectors.

3.5 Install the Donor (Outdoor) antenna

Connect the supplied coaxial cable to the antenna. We recommend applying silicone caulking to fully waterproof the connection.
Attach the cable in such a way that a drip loop is formed.
Once mounted, connect one end of the coaxial cable to the donor (outdoor) antenna and the other end to the cellular booster where it is marked "Outdoor"



3.6 Install the Server (Indoor) antenna

If you use the built-in antenna ,please ignore this step .
Connect one end of the coaxial cable to the antenna and the other end to the cellular booster where it is marked “Indoor”.

Select the installation location of your supplied server (indoor) antenna based on the following:

Omni directional antenna

Place in the center of the area where the signal needs to be amplified.

Panel directional antenna

Place in the outer perimeter of the area the signal needs to be amplified.

3.7 Install your cellular booster

Install the cellular booster in a location that is properly ventilated and not exposed to excessive heat, moisture and/or direct sunlight. The optimal area would be on a wall located near a power outlet.

It should be mounted in an easily accessible area so it’s easy to perform general maintenance with the coaxial cable connections, dip switch settings and power adaptor.

Make sure all cables and antennas are securely connected before commissioning the system.

3.8 Power up your cellular booster

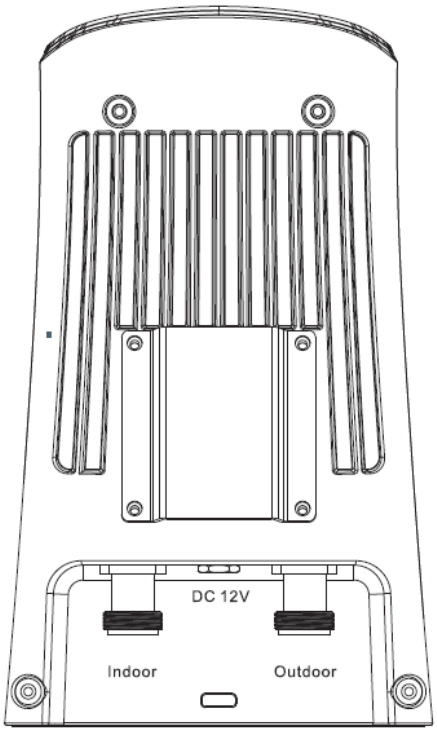
Once all the Following precautions have been taken, power on the cellular booster.

1. Verify that you have left at least 1 meter of vertical separation space between the indoor and outdoor antennas.
2. Never point the front of the yagi donor (outdoor) antenna towards the inside of the server (outdoor)antenna.
3. Verify that the supplied coaxial cables from both the donor (outdoor) antenna and the server (outdoor)antenna are properly connected to the cellular booster before powering it up.
4. Carefully plug in the supplied power adaptor into the back of the cellular booster where it is marked ‘DC 12V’ and connect the other end to a power outlet.

The LED indicator marked power should light up green.

4 UNDERSTAND THE PORTS and LED STATUS,MGC

4.1 Repeater ports



Connector	Description
Indoor	N-female connector,for connection to indoor antenna
Outdoor	N-female connector,for connection to outdoor antenna
DC 12V	Power wire port
USB	For debug connector

4.2 LED Status

LED	Status	Definition
Alarm	green	It is working properly
	red	Alarm
	off	No power input
Bluetooth	green	Normal
WIFI	green	Normal

5 UNDERSTAND THE ANTENNA

5.1 Donor (Outdoor) antenna

The Yagi Antenna

The yagi is a very precise directional antenna with a powerful reach. This antenna should be installed in an elevated position and must be pointed towards your carrier's cellular tower.

NOTE:This antenna is not meant to capture signal from multiple carriers.

The Panel Antenna

The panel is a directional antenna with a 120 degree reach and is designed to capture the signal from multiple carrier towers. This antenna should be installed in an elevated position and must be pointed towards your carrier's cellular towers.

5.2 External Server (Indoor) antenna

The Omni Antenna

The omni antenna is an omni-directional antenna with a 360 degree reach. It is designed to distribute the signal from the center of the affected area. Typically it is installed in a false or dropped ceiling.

The Panel Antenna

The panel is a directional antenna with a 120 degree reach and is designed to distribute the signal from a perimeter wall or ceiling.

5.3 Authorized Kitting Options

The following accessories are authorized by the FCC to be used with the Hiboost Mini Signal Booster. Outdoor antenna & cable kit options

Outdoor Antenna	Outdoor Antenna Gain				
	Lower 700MHz	Upper 700MHz	Cellular	PCS	AWS-1
Yagi antenna	5	5	5	6	6
panel antenna	5	5	6	7	7

Outdoor Cable					
Outdoor Cable	Outdoor Cable Loss				
	Lower 700MHz	Upper 700MHz	Cellular	PCS	AWS-1
HiBoost200(50 feet)	1.2	1.2	1.2	1.25	1.25
Indoor Antenna					
Indoor Antenna	Indoor Antenna Gain				
	Lower 700MHz	Upper 700MHz	Cellular	PCS	AWS-1
panel antenna	6	6	6	8	8
Omni antenna	3	3	3	3	3
Internal antenna	0	0	0	0	0
Indoor Cable					
Indoor Cable	Indoor Cable Loss				
	Lower 700MHz	Upper 700MHz	Cellular	PCS	AWS-1
HiBoost200 (50 feet)	5.2	5.3	5.3	8.0	7.6

6 TROUBLESHOOTING

Eliminate ISO warning problems:

1.Adjust the outdoor antenna direction, keeping it away from indoor antenna. Restart booster.

2.Increase the vertical or horizontal distance between the outdoor antenna and indoor antenna. Restart booster.

3.Use barriers such as walls to increase the isolation.

4.Change the indoor antenna type to an antenna with a more directional antenna pattern. Orient the indoor antenna and outdoor antenna so they point in opposite directions.

5.Reduce the booster's downlink gain via setting the gain parameter in app. Keep the uplink gain value and downlink gain value the same then restart the booster.

Note: Uplink gain must be equal to or not less than 5dB below the downlink gain,to avoid interference with the local carrier's cell site network.

Target: The ISO issues are solved when there is no ISO warning from the app.

Eliminate ALC warning problems:

1.Adjust the antennas' directions or locations to lower downlink received signal level.

2.Slowly reduce the downlink gain via setting the gain parameter in app.

3.If the above methods don't work, reduce the booster's gain with an external attenuator in line with the outdoor antenna or replace with lower gain antenna.

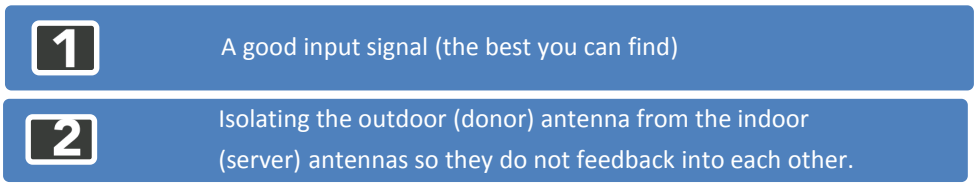
Target: The overload issues are fixed when there is no ALC warning from the app. Please note that a low gain may result in smaller coverage area. This can be improved by adjusting the outdoor antenna to receive a stronger signal.Eliminate poor coverage problems when Power or ALC is warning:

1.If the signal has not been improved, please check below:

¢The weak downlink signal leads to the low output signal level. Change thedirection or position of the outdoor antenna. You may also try replacing the outdoor antenna with a higher gain antenna to increase the incoming signal.
*Check to see if it is necessary to add more indoor antennas. Barriers such as walls can block the signal indoors. You should also check the booster to make sure the power is maximized. Try installing more indoor antennas or replace the booster with a higher powered one.
2.If the signal in a small section of the building hasn't been improved, try the following:
*Check to see if the indoor antenna is installed correctly. Try moving the antenna to improve coverage.
¢Try adjusting the direction the indoor antenna is pointing.
Check whether it is necessary to add one or more antennas to enhance the coverage of special areas.

IMPORTANT NOTES

The 2 most important things to look for when setting up your system is:



By capturing the best input signal you will be able to enjoy the maximum coverage and best quality signal inside where your Indoor antennas are located. The better the input signal, the better the output signal. In order to find the best input signal, you want to place your outdoor antenna as high as possible with the least amount of obstruction between the antenna and the cellular base tower. A clear line of site is ideal.

Isolating the signal from the antennas is done by ensuring that the antennas are not pointing to each other and by having enough distance or barrier shielding in between them. The signals travel like rays of sunlight, a directional antenna will send the signal in the direction that it is pointing. An omni directional antenna will send the signal in every direction around it. So depending on your equipment it’s important to be sure that your Indoor antenna is not sending the signal back into the outdoor antenna.

THINGS TO CHECK WHEN EXPERIENCING WEAK CELLULAR SIGNAL

1. Ensure the outdoor antenna is pointing in the correct direction and is capturing adequate signal for the booster.
2. Check all connections on the cable, antennas, and booster.
3. Check cable for bends and or cuts.
4. All LED lights on the booster should be green or there are not “ALC” and “ISO” indication on LCD.
5. Outdoor antenna and the indoor antennas have adequate separation and are not causing feedback.

7 FREQUENTLY ASKED QUESTIONS

WHY ARE THE LED LIGHTS TURNING FLASHING GREEN, FLASHING RED OR SHUTTING OFF?

There are certain cases where your system could be experiencing oscillation. This can be attributed to either the quality of your input signal or having your outdoor antenna and indoor antenna too close together. Please review the following guidelines to help resolve this issue:

1. Adjust the direction of the outdoor antenna. If the system is receiving a very high input signal, you can point your outdoor antenna away from the cellular tower to reduce the strength of the input signal and therefore, reduce the oscillation. Alternatively if your system is receiving a very poor quality signal (weak and unusable signal), you can point your outdoor antenna more directly towards the cellular tower to increase the strength of the input signal. Sometimes this may require completely repositioning the antenna to a location where you can achieve a line of site to the tower.

2. Increase the separation between the outdoor antenna and the indoor antenna. This can be achieved by increasing the distance between the two antennas or by placing barriers between them, such as moving the indoor antenna to an adjacent room where there would be an additional wall separating them from the outdoor antenna.

3. Manual Gain Control. Adjust the gain with the manual gain control function using the dip switches on the side of the booster.

8 FCC RF Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instruction for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

9 Warning and Statement

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.

In Canada, **BEFORE USE**, you must meet all requirements set out in ISED CPC-2-1-05.

You **MUST** operate this device with approved antennas and cables as specified by the manufacturer. Antennas **MUST** be installed least 20 cm (8 inches) from (i.e., **MUST NOT** be installed within 20 cm of) any person.

You **MUST** cease operating this device immediately if requested by the FCC (or ISED in Canada) 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 may be operated ONLY in a fixed location (i.e., may operate in a fixed location only) for in-building use.

Note: 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.

Changes or modifications not expressly approved by Huaptec could void the user's authority to operate the equipment.

Note: For a complete list of antennas and cables approved for use with these boosters see **5.3 Authorized Kitting Options** pages 13&14&15&16.

FCC 27.50(d)(4)Statement: Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band are limited to 1 watt EIRP. Fixed stations operating in the 1710-1755 MHz band are limited to a maximum antenna height of 10 meters above ground.

FURTHER INFORMATION ON SIGNAL BOOSTER END-USE REGISTRATION

The following is currently active contact of US wireless provider for booster register.

https://www.uscellular.com/uscellular/support/fcc-booster-registration.jsp
https://www.sprint.com/legal/fcc_boosters.html
https://www.verizonwireless.com/solutions-and-services/accessories/register-signal-booster/
https://support.t-mobile.com/docs/DOC-9827
https://securec45.securewebsession.com/attsignalbooster.com/

IC Statement

This device complies with Innovation, Science and Economic Development Canada ICES-003 Compliance Label: CAN ICES-3 (B)/ NMB-3(B).
Le présent appareil est conforme Innovation, science et développement économique Canada ICES-003 Étiquette de conformité: CAN ICES-3 (B) / NMB-3 (B).
Link to CPC-2-1-05
http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08942.html

- **IC RF EXPOSURE STATEMENT**
  The device is compliance with RF exposure limits. The minimum distance from body to use the device is 20 CM.
  Le present appareil est conforme c凵x conformite ou aux Ii mites d'intensite de champ RF. La distance minima le du corps a utiliser le dispositif est de 20 CM.

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