User Manual 02P

HiBoost Booster – Hi10-EGSM, Hi10-3S-IOT (Hi10-EDW-IOT), Hi13-LTE800, Hi13-EGSM, Hi13-DCS, H i13-ENR700, Hi13-EW, Hi13-ED, Hi13-3S-IOT (Hi13-EDW-IOT), Hi13-3SL-IOT, Hi13-5S-IOT, Hi17-EW, Hi17-3S-IOT(Hi17-EDW-IOT), Hi17-3SL-IOT, Hi17-5S-IOT, Hi13-EL800, Hi17-EL800, Hi23-ENR700.
HiBoost Professional Signal Boosters

Manuel de l'Utilisateur 16P

HiBoost Booster – Hi10-EGSM, Hi10-3S-IOT (Hi10-EDW-IOT), Hi13-LTE800, Hi13-EGSM, Hi13-DCS, H i13-ENR700, Hi13-EW, Hi13-ED, Hi13-3S-IOT (Hi13-EDW-IOT), Hi13-3SL-IOT, Hi13-5S-IOT, Hi17-EW, Hi17-3S-IOT(Hi17-EDW-IOT), Hi17-3SL-IOT, Hi17-5S-IOT, Hi13-EL800, Hi17-EL800, Hi23-ENR700.
Amplificateurs de Puissance Professionnels HiBoost

Betriebsanleitung 32P

HiBoost Booster – Hi10-EGSM, Hi10-3S-IOT (Hi10-EDW-IOT), Hi13-LTE800, Hi13-EGSM, Hi13-DCS, Hi13-ENR700, Hi13-EW, Hi13-ED, Hi13-3S-IOT (Hi13-EDW-IOT), Hi13-3SL-IOT, Hi13-5S-IOT, Hi17-EW, Hi17-3S-IOT(Hi17-EDW-IOT), Hi17-3SL-IOT, Hi17-5S-IOT, Hi13-EL800, Hi17-EL800, Hi23-ENR700.
Professionelle HiBoost Signalverstarker

Manuale d'uso 46P

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Amplificatore di Segnale HiBoost Professional

Manual de Usuario 60P

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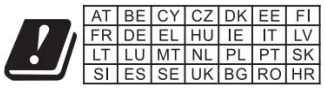
Amplificadores de serial profesionales HiBoost

Table of Content

Preface



This user manual describes design, installation, commissioning and maintenance of HiBoost consumer mobile signal boosters. Please read user manual carefully before installing and maintaining the boosters. The information in this manual is a subject to change without prior notice.

Booster Model

The user manual can be used for the following models: Hi10-EGSM, Hi10-3S-IOT (Hi10-EDW-IOT), Hi13-LTE800, Hi13-EGSM, Hi13-DCS, Hi13-ENR700, Hi13-EW, Hi13-ED, Hi13-3S-IOT (Hi13-EDW-IOT), Hi13-3SL-IOT, Hi13-5S-IOT, Hi17-EW, Hi17-3S-IOT(Hi17-EDW-IOT), Hi17-3SL-IOT, Hi17-5S-IOT, Hi13-EL800, Hi17-EL800, Hi23-ENR700.

Note: The users of repeaters should get permission from the mobile providers for the use and installation of the repeater.

Glossary of Terms

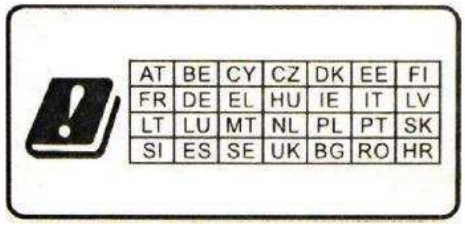
Item	Definition
700MHz	Available on LTE/NR700(703~733MHz/758~788MHz) network
800MHz	Available on LTE800(832~862MHz/791~821MHz) network
900MHz	Available on EGSM900(880~890MHz/925-935MHz) and PGSM900 (890~915MHz/935~960MHz) , WCDMA/UMTS900(880~915MHz/925~960MHz) networks
1800MHz	Available on GSM/LTE1800(1710~ 1785MHz/1805-1880MHz) networks
2100MHz	Available on 3G(WCDMA/UMTS2100)(1920-1980MHz/2110-2170MHz) networks
2600MHz	Available on LTE2600(2500-2570MHz/2620~2690MHz) network
RF	Radio Frequency
ATT	Attenuation
ALC	Automatic Level Control
AGC	Automatic Gain Control
MGC	Manual Gain Control
dB	Decibel
dBm	Decibels relative to 1 mill watt
UL	Uplink
DL	Downlink
Hz	Hertz
MHZ	Megahertz
NF	Noise Figure
RSSI	Received Signal Strength Indicator

Safety Warnings

Users must follow the principles stated below:

- The booster should follow system requirements of mobile signal enhancement, assure good grounding and lightning protection.
- Booster's power supply voltage should meet the standards of security requirements;
- Any operation should be carried out only after cutting off power in advance. Only the professional user is authorized for the operation.
- Do not dismantle the machine, maintain or displace accessories by yourself. In this way, the equipment can be damaged and you can even get an electric shock.
- Do not open the booster, touch the module of booster, or open the cover of module to touch the electronic component. The components will be damaged due to electrostatic.
- Keep away from heating equipment, because the booster will dissipate heat during working. And do not cover booster with anything that influences heat-dissipation.
- The device has a plug connection, the socket must be close to the device and accessible.
- During the transportation and storage process, the device should avoid the humid environment, prevent violent impact and avoid strong vibration.
- Operating Temperature range is -10 - +55 degrees Celsius.
- The Body Separation distance is 50cm by using the procedure of MPE calculation.

USAGE AND INSTALLATION RESTRICTIONS



Signal booster devices for NR700, LTE800, EGSM/PGSM/WCDMA/UMT900, GSM/LTE1800, WCDMA/UMTS2100, and LTE2600 mobile network operators, holders of the corresponding licenses and in each case within the frequencies assigned to them, since they are broadband amplifiers acts.

The new HiBoost generations are self-regulating and switch themselves off in critical situations because they are equipped with C.A.S. (automatic shutdown control). If installed incorrectly, these systems can cause serious disruptions to mobile network operators, with legal and economic consequences for the owner of the kit and the installer who installed the antennas.

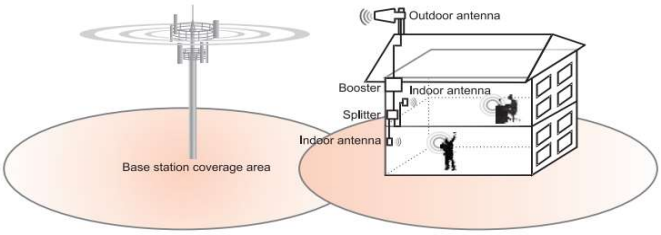
Huaptec Telecom GmbH assumes no liability for incorrect installation by inexperienced and unqualified personnel or in any case by personnel without the necessary equipment and license.

Furthermore, Huaptec Telecom GmbH also assumes no liability for improper use of the field expansion kits due to incorrect positioning and alignment of the external and internal antennas, which can cause problems for other users or disruptions to mobile network operators and providers.

Note: Mobile network boosters are not telecommunications terminal equipment, but rather radio equipment whose operation constitutes spectrum use and therefore require frequency allocation. However, since the operating frequencies in question have been allocated to mobile network operators and are no longer available, the operation of a repeater is subject to the approval of mobile network operators.

HiBoost Booster Overview

HiBoost consumer boosters are designed to amplify a weak mobile signal indoors.
The devices are bi-directional. The outdoor antenna receives the signal from the cell tower and transmits it to the signal booster, the booster amplifies the signal and the indoor antenna sends it to your mobile device. Visa versa, the signal produced by your phone is also received by the indoor antenna, amplified by the booster and then sent back to the cell tower through the outdoor antenna.



Package Contents

Hiboost Professional Signal Booster Standard Packing List

No.	Name	Description	Quantity
1	Hiboost Professional Signal Booster		1
2	Adapts	Hi10/13 Single Band 12V/3A Hi10-23 Dual Band 12V/3A Hi10-17 Triple Band 12V/3A Hi10-17 Quint Band 12V/3A	1
3	Power Cord	European Standard Plug	
4	Plastic expansion bolt	Triple Band ^8 Quintuple Band ^8	5
5	Tapping screw	Triple Band M4*25 Quintuple Band M4*25	4
6	User Manual		1
7	Outdoor Antenna	N-Female	1
8	Whip antenna (Single band/Dual band)	N-Female	1
9	Hiboost200 low-loss cable	50 feet (15mt),N-male	1

Optional Panel Kit for HiBoost Consumer Booster

No.	Name	Description	Quantity
1	Hiboost200 low-loss cable	50 feet, N-male	2
2	Indoor Wide Band Panel Antenna / Indoor Wide Band Omni Antenna	N-Female	1

Standard Package Content		Accessories Standard Kit
 Hi13-3S/3SL/5S-IoT Hi17-3S/3SL/5S-IoT	 Hi10-EGSM, Hi13-LTE800 Hi13-EGSM, Hi13-DCS	
 Hi10-3S/5S	 Hi13/23-ENR700, Hi13-ED Hi13/17-EW, Hi10/13/17-EL800	

Note: The outdoor and indoor antennas of the booster must be connected with the appropriate RF cables. The length of the cable or other accessories needed can vary according to the size and construction materials used in the building, outdoor signal strength and layout of the structure. Please contact us for assistance in designing your system.

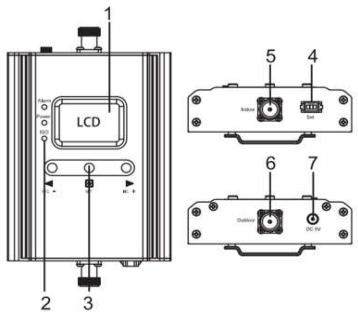
If you need to add more indoor antennas or other accessories, please contact Huaptec Support Team at the phone 044- 20-32395802 or by e-mail sales2@huaptec.eu.

Features

- ✓ Embedded CPU, self-adaptive intelligent system very easy to use and install, better performance is guaranteed even under complicated and constantly changing RF environment conditions.
- ✓ ISO: Intelligent isolation processing to avoid self-oscillation, quite wide adjusting range to stabilize the signal strength/quality for clearer voice/ higher data throughput and avoid interference with mobile networks.
- ✓ ALC: Intelligent automatic level control, quite wide adjusting range to stabilize the output power and improve the signal quality for clearer voice and higher data throughput.
- ✓ LCD Display: Displays ISO status, ALC status, actual gain and downlink output power which makes booster installation and troubleshooting much easier.
- ✓ MGC: Manual gain control buttons to adjust the gain for both uplink and downlink independently, 31dB range.
- ✓ Excellent RF performance, larger coverage area, clearer voice and higher data throughput.
- ✓ Elegant design, compact size, very low power consumption and heat dissipation.
- ✓ Bluetooth and Wi-Fi modules.

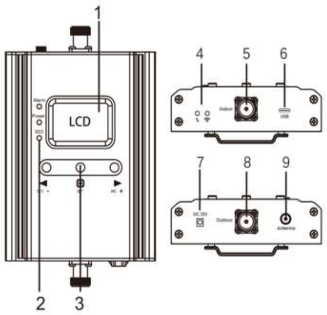
Booster Ports' Description

Single Band Booster



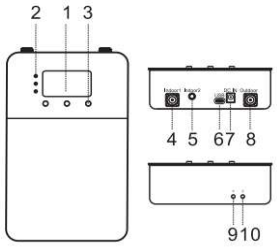
1. LCD 2. Booster's Status LED indicators
3. Control buttons 4. Set
5. Indoor antenna port 6. Outdoor antenna port
7. Power connector

Dual Band Booster



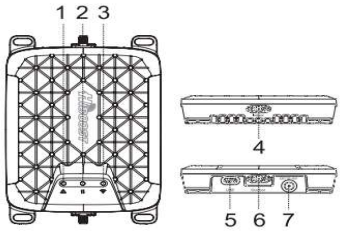
1. LCD 2. Booster's Status LED indicators
3. Control buttons 9. Whip Antenna Port
4. Bluetooth/Wi-Fi LED indicators
5. Indoor antenna port 6. USB Port
7. Power connector 8. Outdoor antenna port

Triple and Quintuple Band



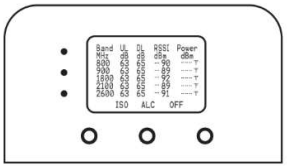
1. LCD 2. LED indicators 3. Control buttons
4. Indoor antenna port 5. Built-in antenna port*
6. Set 7. Power connector
8. Outdoor antenna port
9. Wifi led 10. Bluetooth led

Hi10-3S/5S



1. Alarm LED 2. Data LED
3. Wifi LED
4. Indoor antenna port 5. USB
6. Outdoor antenna port
7. Power connector

LCD Introduction



After the booster is on, gain and power will light up on the screen.
"**Band**"- displays the working frequency. Find below the list of frequencies displayed corresponding to the supported networks.

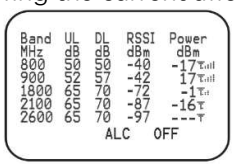
Frequency	LCD Display
NR700	700 MHz
LTE800	800 MHz
EGSM&UMTS900	900 MHz
DSM&LTE1800	1800 MHz
WCDMA/UMTS2100	2100 MHz
LTE2600	2600 MHz

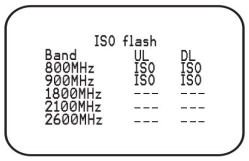
"ULdB"" DLdB"- gain indication.
The displayed value shows real-time uplink and downlink gain.

"Power dBm"- power indication.
The displayed value shows real-time power. When booster's output power is 4OdBm lower than rated output power, the value will display "---".

"ISO"_ isolation alarm indication.

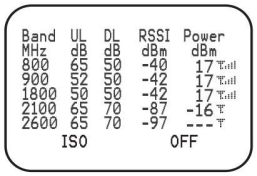
When the booster doesn't have enough isolation between the outdoor and indoor antennas, the "ISO" is flashing. Press the "SET" key and the LCD screen will display " ISO" value showing the current affected band or bands.

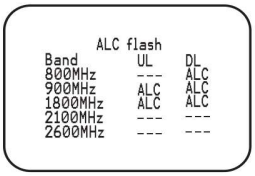




"ALC"- strong receiving power alarm indication.

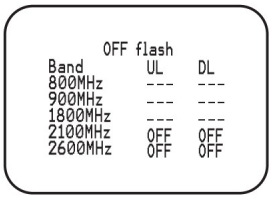
When the booster's receiving too strong signal from outside, output power gets overrated and "ALC" starts flashing. Press the "SET" key and the screen will turn on and show the affected band or bands.





"OFF"- booster shut-down alarm indication.

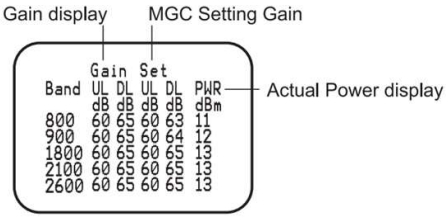
When LCD screen is in "OFF" state and the booster shuts down, LCD screen will be flashing. When LCD screen is "ON" and the booster shuts down, "OFF" is flashing.
Press the "SET" key and the screen will show the affected band or bands.



Control Button and Manual Gain Control (MGC)

There are 5 operation modes relative to the control keys:
Press the "SET" key for more than 3 seconds

- Briefly press the "SET" key
- Briefly press the "DEC-" key
- Briefly press the "INC+" key
- Simultaneously press the "DEC-" and "INC+" keys for more than 3 seconds Since the booster has a self-adaptive smart automatic level control (ALC), and isolation gain processing (ISO), most of the time manual adjustments are not required to achieve good coverage. However, in some cases when the ALC or ISO are working at a very high rate to adjust the gain and the Alarm or ISO LED is flashing more than once a second, a manual adjustment might be required. When LCD is in the fixed display mode, press the "SET" key for more than 3 seconds. It will go into the "Gain Setting Mode" and make one of the gain values start to blink.
- Press the "SET" key briefly, and the LCD will switch to the next gain value and it will start blinking. (Uplink or downlink gain for a different band).
- Press the "INC+" key once briefly and the gain will increase by 1dB, Press "DEC-" once briefly and the gain value will be reduced by 1dB.
- Press the "SET" key for more than 3 seconds, and the LCD will return to the fixed display mode.



Note: When adjusting the gain manually, please ensure that the uplink gain is equal to or not less than 5dB compared with the configured downlink gain values. This avoids interference with the local cell tower network.

When the LCD is in the fixed display mode, press the "DEC-" and "INC+" key simultaneously for more than 3 seconds, the booster will reset the gain to the default manufacturer settings. When the LCD is in the alarm display mode, press the "SET" key and the LCD screen will turn on to help with
troubleshooting and display the alarm indication showing the affected band or bands, press the "INC+" (or "DEC-") key to switch to different pages.
If none of the keys are pressed within 30 seconds, the display will return to the fixed display mode. If none of the control keys are pressed within 5 minutes, the LCD screen will turn off. Pressing any key will return the display to the fixed mode.

Install HiBoost Booster System

Before You Install

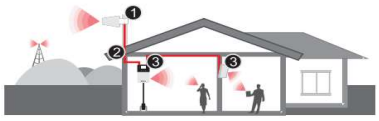
- ✓ Make sure you have sufficient cable length between the outdoor,indoor antennas and the booster in case you have not a standard kit.
- ✓ Make sure the place where you install the booster is close to one of the existing electrical outlet. It should also be well ventilated, away from excessive heat, moisture, and direct sunlight.

Installation Overview

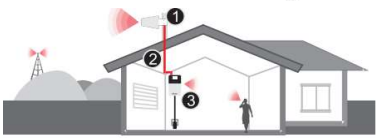
Easy Installation in 4 simple steps

1. Find the strongest received signal for the location of the outdoor antenna
2. Install the outdoor antenna on the roof to obtain the strongest downlink signal from the local cellular towers It should also be as far away as possible from where you plan to place the indoor antenna (vertical separation is more important than horizontal separation).
3. Install the indoor antennas where you want to improve the signal level
4. Mount the booster, connect the cables from the outdoor antenna and indoor antenna at the designated ports, and connect the booster to the AC supply (make sure all the cables are connected before applying power)

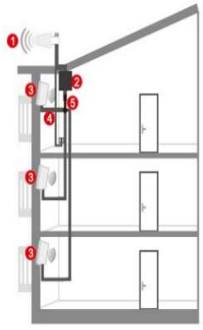
Booster System Installation Examples



1-Outdoor wide band Directional antenna
2-50ft (15.2m) Hiboost200 low-loss cable
3-You can add an indoor panel/omni antenna and 50ft (15.2 m) Hiboost200 low-loss cable to extend the coverage



1 -Outdoor wide band Directional antenna
2 -50ft (15.2m) Hiboost200 low-loss cable
3 -HiBoost booster with built-in antenna



Multi-storey building

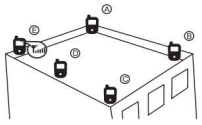
1. Outdoor Antenna 2. Booster
3. Indoor Panel Antenna 4. Power Supply
5. Splitter

Step 1. Installation of Outdoor Antenna

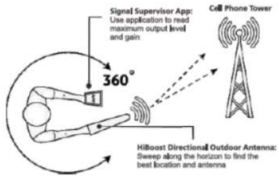
1.1 How to find the location with the strongest received signal
The booster's main function is to improve a weak RF signal inside a house, office or any other indoor area. The received outdoor downlink signal strength directly affects the efficiency of the indoor coverage. That is why it is crucially important to install the antenna at a good location and point it properly towards a tower where signal reception is the strongest. There is two
methods that can be used to find the strongest downlink signal from the local towers.

• Mobile Phone Method

You can use a mobile to test signal strength near the window or on the top of the building. The number of bars on network indicator will define the approximate strength of the received signal. Normally, the roof of the building is the best place to receive the strongest signal. As shown in the graph below, you need to test the signal in points from A to E, and select a place with the best signal strength for outdoor installation. It is recommended to use a mobile app that can display signal level, since it is more accurate than checking signal bars.

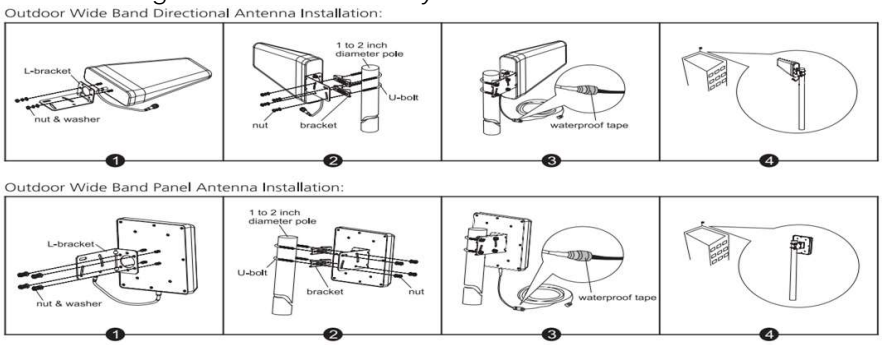


• **Signal Supervisor method**
(for Hi10 Model/Hi13 Model/Hi17 Model/Hi23 Model)
Connect your booster with your smartphone through the Signal Supervisor application. Temporarily fix the outdoor antenna on the roof and check the output power and gain values on your mobile phone. Turn the antenna slowly until the application shows maximum power. Once this is achieved, the current location is the best to maximize the performance of your amplifier.
Attention: for Hi10 models of the Hi10-EGSM, Hi10-EL800, Hi10-3S, Hi10-5S Series the downlink max output power is 10dBm, the maximum gain is 65dB; for Hi13 models of the Hi13-EGSM, Hi13-LTE800, Hi13-DCS, Hi13-ENR700, Hi13-ED, Hi13-EW, Hi13-EL800, Hi13-3S/3SL/5S-IoT Series the downlink max output power is 13dBm, the maximum gain is 65dB; for Hi17 models of the Hi17-EW, Hi17-EL800, Hi17-3S/3SL/5S-IoT Series the downlink max output power is 17dBm, the maximum gain is 65dB; for Hi23 models of the Hi23-ENR700 Series the downlink max output power is 23dBm, the maximum gain is 75dB;



1.2 Install Outdoor Antenna

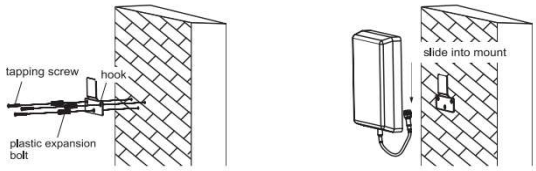
Install the outdoor antenna at the location with the strongest received signal.
IMPORTANT: Testing the signal 3 times in the desired location before installing the outdoor antenna will help ensure the smoothest and stable phone calls and data transmission. In most cases, outdoor wideband directional antenna is the best choice. You can also choose an outdoor wide- band panel antenna as an option.
Pole mounting is recommended for your convenience:



Note: Wrap waterproof tape around the connectors between outdoor antenna and feeder line to avoid water or other kind of damage.

Step2.Install the Indoor Antenna

If you choose the product's built-in antenna to cover your place, no indoor antenna installation is required. If you need to extend the booster's coverage area, you can add an external indoor panel antenna. Install the indoor panel antenna as shown on the graph below.

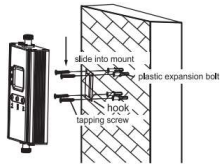


If you have an indoor Omni ceiling antenna, the best place to install it is the center of your house. Install Omni ceiling antenna as shown in the graph below.

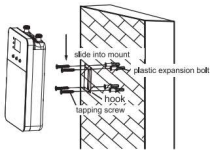
NOTE: the required distance between the indoor and outdoor antennas is 10-15 m. Step 3. Install Signal Booster

Step 3. Install the Mobile Signal Booster

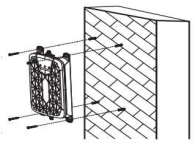
1. Select the location near a power supply on a wall.
2. Mount the booster with the screws included into the kit as shown on the graph below.



Single and Dual Band



Triple and Quintuple Band


Hi103S/Hi105S

3. Connect the outdoor antenna cable to the booster connector marked as "outdoor". Tighten the connection by hand or with a wrench.
4. Connect the indoor antenna cables to the booster connector marked as "indoor". Tighten the connection by hand or with a wrench.
5. Connect the AC power cord to the signal booster, then connect the plug to the electrical outlet to power on the booster.

Note: the required booster mounting distance above the floor is 1-1,8 m.
If it's necessary to install multiple indoor antennas solution, please contact us, We will provide you with a professional installation plan.

Step 4. Booster Commissioning

The booster has an intelligent startup system; booster commissioning is an automatic process able to guarantee an optimal system performance.
As soon as you finish the booster system installation, plug it into a power supply to start the booster. It will start working and checking the receiving signal strength and the isolation to ensure the best system performance. Automatic adjustment will take about 3-5 seconds.
After the booster starts working, check the coverage. If the signal has improved throughout your home/office, the booster commissioning is completed.

In case the coverage is not enough, please check the following issues.

1. The rated output power is reached, but the coverage is not enough or the signal in some areas has not improved:

- ✓ Check whether the indoor antenna is installed correctly or not, try to change the antenna position to improve coverage.
- ✓ Check if it is necessary to adjust the direction of the indoor antenna.
- ✓ Check whether it is necessary to add more indoor antennas since the obstructions (thick walls, reinforced fence, natural barriers like hills, mountains, etc.) block the signal.

2. The rated output power is not reached.

- ✓ Change the position or direction of the outdoor antenna to get a stronger receiving signal and higher output power (Not necessarily to reach the rated value as long as the coverage is enough).
- ✓ Check the LCD display. If the current gain is less than the rated value and "ISO" is flashing, it means the gain is reduced by ISO function for not having enough isolation.

More about "ISO" legend indication

ISO status indicates if the booster has enough isolation between the outdoor and indoor antennas in order to avoid loop back or so-called self-oscillation. HiBoost is equipped with a smart AGC function to avoid interference with mobile networks. "ISO" flashing on the LCD display means that ISO function is working great and self-oscillation has been eliminated.

LCD	Status	Meaning	Solution
ISO Status	Remain still	No loop back or no self-oscillation.	NO action is needed.
	Flashing but actual gain is not more than 30dB and less than rated gain.	Slight loop back or no self-oscillation	NO action is needed.
	Flashing but actual gain is more than 30dB.	Deep loop back or no self-oscillation	Please check the Troubleshooting section to get solutions.

More about "ALC" legend indication

ALC indicates the strength of receiving power of the booster. Flashing ALC means that the booster has strong receiving power.

LCD	Status	Meaning	Solution
ALC Status	Remain still	Output power is not weak or just suitable.	Check coverage, leave it as it is if it's good. Please check the Troubleshooting section to get solutions if coverage is not good.
	Flashing but current gain is not more than 30 dB and less than rated gain.	Full output power	Working Properly
	Flashing but actual gain is more than 30dB.	Too strong receiving signal	Working properly, but the signal is too strong. Please check the Troubleshooting section to get solutions.

More about LCD indication：

LCD	Status	Meaning	Solution
"- - -" status		Output power is lower 40dBm than rated output power.	Check coverage, leave it as it is if it's good; Please check the Troubleshooting section to get solutions if coverage is not good.
"OFF" status Flashing LCD screen	Actual gain is more than 32dB less than rated gain.	Severe loop back or self- oscillation or output power is heavily overrated which leads to booster break down.	Not working properly. Please check the Troubleshooting section to get a solutions.

When the ISO or ALC indicators are flashing, please check the ISO and Alarm LED colors.
ISO LED flashing means that ISO function is working well and self- oscillation has been eliminated. ISO LED will remain "Green" or will be "Slow Flashing Green". Note: This improvement won't increase the coverage, but is mandatory to avoid causing interference to local carrier's cell site towers.

LED	Status	Meaning	Solution Methods
ISO LED	Green	No loop back or no self-oscillation	NO action is needed.
	Slow Flashing Green	Slight loop back or self-oscillation	NO action is needed.
	Quick Flashing Green	Deep loop back or self-oscillation	Not working properly. Check coverage. Leave it as is if it's good. Please check the Troubleshooting section to get a solutions if coverage is not good.
	Quick Flashing Red	Severe loop back or self-oscillation	Not working properly. Please check the Troubleshooting section to get a solutions.
	OFF	The booster auto shuts off for protection due to very severe self- oscillation.	

Alarm LED: Indicates the strength of the received signal from the cell tower. Flashing Alarm means that the booster is receiving a strong signal on one or more bands. Alarm LED shall remain "Green" or "Slow Flashing Green". Slow flashing green indicates that everything is working well and the booster is working at nearly the optimum output power to achieve the best possible coverage.

LED	Status	Meaning	Solution Metods
Alarm LED	Green	Output power is not maximum	Check coverage, if it is good, leave it as it is; if coverage is not good, increase the receiving signal level.
	Slow Flashing Green	Full output power	Working Properly
	Quick Flashing Green	Output power is too high	Not working properly. Check coverage, leave it as it is if it's good; actions must be taken if coverage is not good or you don't feel comfortable about Alarm LED quick flashing green.

	Quick Flashing Red	The booster automatically shuts off for protection from excessive downlink signal from tower.	Not working properly, actions must be taken.

Troubleshooting

Problem	Solution Metods
The signal booster has no power.	Check that the AC outlet is working.
The booster's power is on but the phone is not connected to the network and still cannot communicate with the signal.	Try to fasten the connections between the different parts of the system. Change the direction of donor antenna or its installation position.
Good downlink signal with poor communication quality.	Check whether there's interference. Consult the operator whether the signal source base station works well.
The power is on but the coverage is not good.	Check "ISO", "ALC" or other LCD or LED indications. Take the actions mentioned below.

Eliminate flashing ISO legend and quick flashing green, quick flashing red ISO LED problems:

1. Adjust the outdoor antenna direction, keeping it away from the indoor antenna. Restart the booster.
2. Increase the vertical or horizontal distance between the outdoor antenna and indoor antenna. Restart the booster.3. Use barriers such as walls to increase the isolation.
4. Change the indoor antenna type to another one with a more directional pattern. Orient the indoor antenna and outdoor antenna so that they point in opposite directions.
5. Reduce the booster's downlink gain using the manual gain control. 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 network.

Target: The ISO issues are solved when the ISO LED is "Green" or " Slow Flashing Green" or no flashing ISO legend.

Eliminate Flashing ALC legend and Quick Flashing Green, Quick Flashing Red Alarm LED problems:

1. Adjust the antennas' direction or position to lower downlink received signal level.
2. Slowly reduce the downlink gain using the Manual Gain Control.
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 it with a lower gain antenna.

Target: The overload issues are fixed when the Alarm LED is " Green" or "Slow Flashing Green" or no flashing ALC
legend. Please note that a " Green" LED indication 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 "-" legend on LCD and Alarm LED is Green:

1. If the signal has not been improved, please check below:
- ✓ The weak downlink signal leads to the low output signal level. Change the direction 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 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 one of higher power.

2. If the signal in some part of the house/building hasn't been improved, try the following:
- ✓ Check if the indoor antenna is installed correctly. Try moving the antenna position to improve the coverage.
- ✓ Try adjusting the direction of the indoor antenna.

Remark:
- ✓ When increasing the downlink gain make sure the isolation is adequate to prevent system oscillation.

Note: The flashing ISO and Alarm status indicates that ISO and ALC functions are working properly and the problems of self-oscillation and strong downlink signals are fixed. In most cases, there is no need to take any additional measures except for deep self-oscillation or excessively strong signals from the cell tower. The self-adaptive ALC and isolation gain processing system automatically solve most problems.

Main Specification

RF Parameter		UL	DL
Frequency Range	700 MHz	703-733 MHz	758-788 MHZ
	800 MHz	832-862 MHz	791-821 MHZ
	900 MHz	880-915 MHz	925-960 MHZ
	1800 MHz	1710-1785 MHz	1805-1880 MHZ
	2100 MHz	1920-1980 MHz	2110-2170 MHZ
	2600 MHZ	2500-2570 MHZ	2620-2690 MHZ
Max. Gain	Hi10 Model	60 dB	63 dB
	Hi13 Model	60 dB	65 dB
	Hi17 Model	65 dB	65 dB
	Hi23 Model	70 dB	75dB
Max. output power	Hi10 Model	17dBm	10dBm
	Hi13 Model	17dBm	13dBm
	Hi17 Model	17dBm	17dBm
	Hi23 Model	20dBm	23dBm
MGC (Step Attenuation)	>31 dB/1 dB step		
Intelligent AGC*	ALC	>42 dB	
	ISO	>42 dB	
Electrical Parameter			
Power Supply	Single Band	Input AC 90-264V, 50/60 Hz, Output DC 12V/3A	
	Dual Band	Input AC 90-264V, 50/60 Hz, Output DC 12V/3A	
	Triple & Quint Band	Input AC 90-264V, 50/60 Hz, Output DC 12V/3A	
Power Consumption	Single Band	<5W	
	Dual Band	<10W	
	Triple & Quint Band	<15W	
Input & Output Impedance	50 ohm		
Mechanical Parameter			
1 /O Port Type	N-Female		
Dimensions	Single Band	120*198*34 mm	
	Dual Band	120*198*34 mm	
	Triple & Quint Band	153*246*36 mm	
Weights	Single Band	<1 kg	
	Dual Band	<1 kg	
	Triple & Quint Band	<1.8 kg	
Environment Parameter			
Operating Temperature	- 10ºC ~ +55ºC		
Relative Humidity	5%-95%		
Barometric Pressure	55 kPa -106 kPa		
Environment Conditions	IP40		

Product Warranty

30-Day Money-Back Guarantee
All HiBoost products are protected by 30-day money-back guarantee. If for any reason the
performance of the received product is not acceptable, the client can return the product within30-day period and get spent money back.
2-Year Warranty
HiBoost signal boosters are covered with 2-year warranty. Huaptec offers two options for the
products under warranty: repair or replace.
This warranty does not apply to HiBoost signal boosters or kits that have been subjected to
misuse, abuse, neglect or mishandling and that have its physical or electronic properties altered or damaged. Failure to use surge protected AC power strip with at least a 1000 Joule
rating will void your warranty.
All HiBoost products that are packaged with HiBoost accessory products are intended for use and resale as a single unit, and such product kits are required to be sold to the end users
or subsequent reseller as packaged.
For any questions or suggestions do not hesitate to contact Huaptec Support Team on the
phone 044- 20-3239 5802 or by e-mail sales2@huaptec.eu

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